Draft - Lake to Sound Trail - Segment C Wetland and Stream Discipline Report

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CITATION

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ACRONYMS AND ABBREVIATIONS

AASHTO American Association of State Highway and Transportation Officials

BMC Burien Municipal Code

Corps U.S. Army Corps of Engineers

DNR Washington State Department of Natural Resources

Ecology Washington State Department of Ecology

EPA U.S. Environmental Protection Agency

FAC Facultative

FACW Facultative Wetland

FGDC Federal Geographic Data Committee

FHWA Federal Highway Administration

HPA Hydraulic Project Approval

HGM hydrogeomorphic classification

NEPA National Environmental Policy Act

NRCS Natural Resources Conservation Service

NWI National Wetlands Inventory

OBL Obligate

OHWM ordinary high water mark

RM River Mile

Sea-Tac Seattle-Tacoma

SMC SeaTac Municipal Code

SMP Shoreline Master Program

SR State Route

U.S. Fish and Wildlife Service

USDA U.S. Department of Agriculture

WAC Washington Administrative Code

WDFW Washington Department of Fish and Wildlife

WRIA Water Resource Inventory Area

WSDOT Washington State Department of Transportation

1. INTRODUCTION

This Wetland and Stream Discipline Report is intended to provide information in support of an environmental checklist pursuant to the State Environmental Policy Act. The report will also assist with project planning and facilitate regulatory approvals and permitting for the Lake to Sound Trail—Segment C.

This report describes wetlands and streams in the study area for the Lake to Sound Trail—Segment C project, which extends from the northern terminus of the proposed trail alignment at the intersection of Des Moines Memorial Drive S and S Normandy Road to the southern terminus of Segment C, located at Des Moines Creek Trail Park.

The study area comprises two components: a core area and a peripheral area. The core area includes all land within 100 feet of the trail alignment centerline, within which on-the-ground field investigations were conducted. The peripheral area is a zone between 100 and 300 feet from the centerline, within which wetland and stream locations were estimated based on aerial photography or vantages from public rights-of-way and/or the core study area.

In addition, this report evaluates potential impacts on wetlands, streams, and their buffers that may result from the proposed project. Fish and wildlife habitat conservation areas, frequently flooded areas, geological hazards, and critical aquifer recharge areas were not evaluated as part of this investigation.

A total of eight wetlands (Wetlands A, B, C, D, E, F, G, and H) were identified in the study area. One stream (Des Moines Creek) and one tributary stream (West Branch of Des Moines Creek) were identified within the study area. Biologists identified four ditches (Ditch A, B, C, and D) in the study area, none of which were determined to be jurisdictional (Parametrix 2017).

A high priority was placed on designing the project to include measures and features that avoid and minimize adverse effects on wetlands, streams, and their buffers. The wetlands and streams in the study area have been avoided to the greatest extent feasible while still achieving the project's purpose and need. Nonetheless, project-related construction activities will directly impact Wetland A, B, E, G, and H, and the West Branch of Des Moines Creek. In addition, project-related construction activities will impact the associated buffer of Wetland A, B, C, E, F, G, and H, and the West Branch of Des Moines Creek. Conceptual restorative or compensatory mitigation actions for unavoidable impacts are discussed.

1.1 Project Overview

King County, together with the Cities of Burien and SeaTac, and WSDOT are proposing to develop an approximately 3.1-mile (16,500 linear feet) segment (Segment C) of what will ultimately be part of the 16-mile Lake to Sound Trail. Segment C would connect the southern terminus of Lake to Sound Trail—Segment B (located near the southwest corner of the Seattle-Tacoma [Sea-Tac] International Airport) with the Des Moines Creek Trail, located at S 200th Street. Segment C would be built with county and state funding.

Lake to Sound Trail—Segment C is part of a Regional Trail System that provides non-motorized, alternative transportation and a recreational corridor for multiple trail users, including bicyclists, pedestrians, skaters, and others. A goal of the Lake to Sound Trail is to provide non-motorized transportation facilities to economically disadvantaged communities in southwest King County that have been historically underserved by such facilities. Once complete, Segment C would become part of a larger planned system that would serve employment and residential centers in South King County and connect to regional trails in Seattle and the greater Regional Trail System network.

1.2 Project Features

Segment C will have a typical width of approximately 12 feet of asphalt pavement bounded by two 2-foot-wide shoulders and 1-foot-wide clear zones, in accordance with American Association of State Highway and Transportation Officials (AASHTO) guidelines. The project includes:

- Constructing a 12-foot-wide asphalt pavement trail with soft-surface (gravel) shoulders
- Performing minor grading to construct the trail
- Constructing a boardwalk for the trail through Wetland A to minimize the impact to streams and wetlands
- Vacating S 196th Street and 18th Avenue S
- Installing pedestrian-actuated signal crossings
- Installing drainage improvements
- Installing split-rail fencing and plantings to minimize the potential for disturbance to sensitive areas and wildlife

1.3 Study Area and Setting

1-2

The Segment C study area is a linear corridor that occurs mostly within the existing road rights-of-way for State Route (SR) 509 and Des Moines Memorial Drive. Segment C is located in Sections 4 and 5, Township 22 North, Range 4 East, and Section 32, Township 23, Range 4 East Willamette Meridian. To the northwest of SR 509, the proposed trail alignment will be within the city of Burien; to the southeast of SR 509, the proposed trail alignment is within the city of SeaTac. The study area is described from north to south below.

The northern terminus of the proposed trail alignment would connect to the Lake to Sound Trail—Segment B southern terminus at the intersection of Des Moines Memorial Drive S and S Normandy Road. Here, the trail would parallel Des Moines Memorial Drive S in Burien for approximately 2,400 linear feet before entering SeaTac at the SR 509 WSDOT right-of-way near Des Moines Memorial Drive S and 8th Avenue S. This section of the trail will be constructed in the road right-of-way over roadside fill, roadway shoulders, and roadside ditches. Areas immediately adjacent to the existing roadside that would be affected consist of paved and gravel shoulders, non-native grasses, Japanese knotweed and Himalayan blackberry, and small areas of native shrubs.

Within the city of SeaTac, the proposed trail alignment enters the WSDOT undeveloped right-of-way for the proposed SR 509 highway extension and heads south before reconnecting to the Des Moines Memorial Drive right-of-way, north of the intersection with S 190th Street. This approximately 0.75-mile (4,000 linear feet) section of the proposed trail alignment is undeveloped and contains wetlands and streams, as well as uplands.

Continuing south along the west shoulder of Des Moines Memorial Drive, the proposed trail alignment runs adjacent to an industrial zone for approximately 0.66 mile (3,500 linear feet) before turning east onto S 196th Street. The route then travels approximately 1.1 miles (6,000 linear feet) along 18th Avenue S before reentering the SR 509 right-of-way, crossing the vacated Tyee Valley Golf Course and S 200th Street to reach the southern terminus of the proposed trail alignment at Des Moines Creek Trail Park trailhead.

1.4 Project Purpose and Need

The purpose of the Lake to Sound Trail—Segment C project is to design and construct a non-motorized transportation corridor and multi-use recreational trail from the southern terminus of the Lake to Sound Trail—Segment B, located at the intersection of Des Moines Memorial Drive S and S Normandy Road, to Des Moines Creek Trail Park, in the cities of Burien and SeaTac.

The multi-use Lake to Sound Trail—Segment C would provide non-motorized access to recreation and employment centers and complete a link in the Regional Trail System network. The trail is intended to safely accommodate a variety of user groups such as bicyclists, pedestrians, runners, wheelchair users, and skaters. Trail design standards will safely accommodate different ages and skill levels within those groups.

The Lake to Sound Trail—Segment C would:

- Serve local and regional non-motorized transportation needs and provide access to the trail for local communities
- Help satisfy the regional need for recreational trails and provide safe recreational opportunities to a wide variety of trail users
- Provide a critical link in the Regional Trail System
- Provide economic and health benefits to communities along the trail

1.5 Regulatory Setting

Critical areas (i.e., wetlands and streams) in Burien (northwest of SR 509) are regulated under Burien Municipal Code (BMC) 19.40, and critical areas in SeaTac (southeast of SR 509) are regulated under SeaTac Municipal Code (SMC) 15.700. Wetlands, streams, and other sensitive resources in the project vicinity are also subject to federal and state regulations. At the federal level, wetlands and streams are regulated by the Clean Water Act, Section 404, which regulates placement of fill in waters of the United States. The U.S. Army Corps of Engineers (Corps) is responsible for issuing permits for approved activities under Section 404. Activities that affect wetlands and streams may also require a water quality certification (Section 401 of the Clean Water Act), which is administered at the federal level by the U.S. Environmental Protection Agency (EPA) and implemented at the state level by Washington State Department of Ecology (Ecology). Ecology reviews projects for compliance with state water quality standards and makes permitting and mitigation decisions based on the nature and extent of impacts, as well as the type and quality of wetlands or streams being affected. Activities that use, divert, obstruct, or change the flow of a Water of the State, including some wetlands, typically require a Hydraulic Project Approval (HPA) permit. The Washington Department of Fish and Wildlife (WDFW) is responsible for implementing HPAs under the State Hydraulic Code.

2. METHODOLOGY

This report is based on a review of existing information and field investigations. The goal of these efforts is to document existing information and collect new information to characterize current site conditions.

2.1 Review of Existing Information

Prior to conducting fieldwork, biologists reviewed maps and materials including, but not limited to:

- Natural Resources Conservation Service (NRCS) Web Soil Survey (U.S. Department of Agriculture [USDA], NRCS 2016a)
- National Wetlands Inventory (NWI), online interactive mapper (U.S. Fish and Wildlife Service [USFWS] 2016)
- City of Burien Critical Areas Map (City of Burien 2016a)
- City of SeaTac Wetland, Stream, and Shoreline Classification Map (City of SeaTac 2010)
- King County iMap (King County 2016)
- Washington State Department of Natural Resources (DNR) Forest Practices Application Mapping Tool (DNR 2016)
- WDFW Priority Habitats and Species database (WDFW 2016a)
- WDFW SalmonScape fish database and mapping application (WDFW 2016b)
- Wetland Delineation Report, Master Plan Update Improvements, Seattle-Tacoma International Airport (Parametrix 2000)
- SR 509 Extension Environmental Impact Statement (WSDOT 2003), Wetland Mitigation Report (WSDOT 2006), and permit documents (WSDOT 2007)

2.2 Field Investigations

The following sections describe the technical criteria used in the field to identify and characterize potential wetlands and streams within the study area (Figure 2-1).

Field investigations were conducted by two field biologists, Josh Wozniak (Professional Wetland Scientist #1478) and Trey Parry (Wetland Professional in Training), during multiple site visits in September, October, and November. The majority of work was conducted during September 12 to 15, with additional site visits on October 18, November 11, and November 14, 2016. This schedule allowed field biologists to examine the critical areas under various seasonal climatic conditions, including the dry season (September) and wet season (November).

Weather during the dry season field investigation consisted of clear skies and partially overcast skies with daytime average temperatures near 63 degrees Fahrenheit (°F). According to NRCS Climate Analysis for Wetlands Tables (WETS tables) and climate data recorded at Sea-Tac Airport, periods prior to the September field investigation were determined to be drier than normal (ACIS 2016). Wet season field investigations were conducted after rainfall events, with partially overcast skies and daytime average temperatures near 55°F. Periods immediately prior to the October and November field visits were described as normal, using a WETS table and climate data from Sea-Tac Airport (ACIS 2016).

2.2.1 Wetland Identification and Delineation

The methods specified in the *Corps of Engineers Wetlands Delineation Manual* (Corps 1987) and indicators specified in the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region* (Corps 2010) were used by project biologists to delineate on-site wetlands.

Wetlands are defined as those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. An area must have at least one positive indicator of wetland vegetation, soils, and hydrology to be considered a wetland. The delineated wetlands were instrument-surveyed by professional land surveyors. Wetland determination data forms from the Regional Supplement (Corps 2010) were completed for each wetland (Appendix A).

2.2.1.1 Vegetation

The dominant plants and their wetland indicator status were evaluated to determine if the vegetation was hydrophytic. Hydrophytic vegetation is generally defined as vegetation adapted to prolonged saturated soil conditions. To meet the hydrophytic vegetation criterion, more than 50 percent of the dominant plants must be Facultative (FAC), Facultative Wetland (FACW), or Obligate (OBL), based on the plant indicator status category assigned to each plant species by the USFWS (Reed 1988, 1993). Table 2-1 lists the definitions of the indicator status categories.

Scientific and common plant names follow currently accepted nomenclature. Most names are consistent with the PLANTS Database (USDA, NRCS 2016b), and the National Wetland Plant List (Lichvar et al. 2016). During the field investigations, dominant plant species were observed and recorded on data forms for each sampling point (see Appendix A).

Table 2-1. Key to Plant Indicator Status Categories

Plant Indicator Status Category	Symbol	Definition
Obligate Wetland Plants	OBL	Plants that almost always (> 99% of the time) occur in wetlands, but which may rarely (< 1% of the time) occur in non-wetlands.
Facultative Wetland Plants	FACW	Plants that often (67% to 99% of the time) occur in wetlands, but sometimes (1% to 33% of the time) occur in non-wetlands.
Facultative Plants	FAC	Plants with a similar likelihood (33% to 66% of the time) of occurring in both wetlands and non-wetlands.
Facultative Upland Plants	FACU	Plants that sometimes (1% to 33% of the time) occur in wetlands, but occur more often (67% to 99% of the time) in non-wetlands.
Upland Plants	UPL	Plants that rarely (< 1% of the time) occur in wetlands, and almost always (> 99% of the time) occur in non-wetlands.

Source: Corps 1987

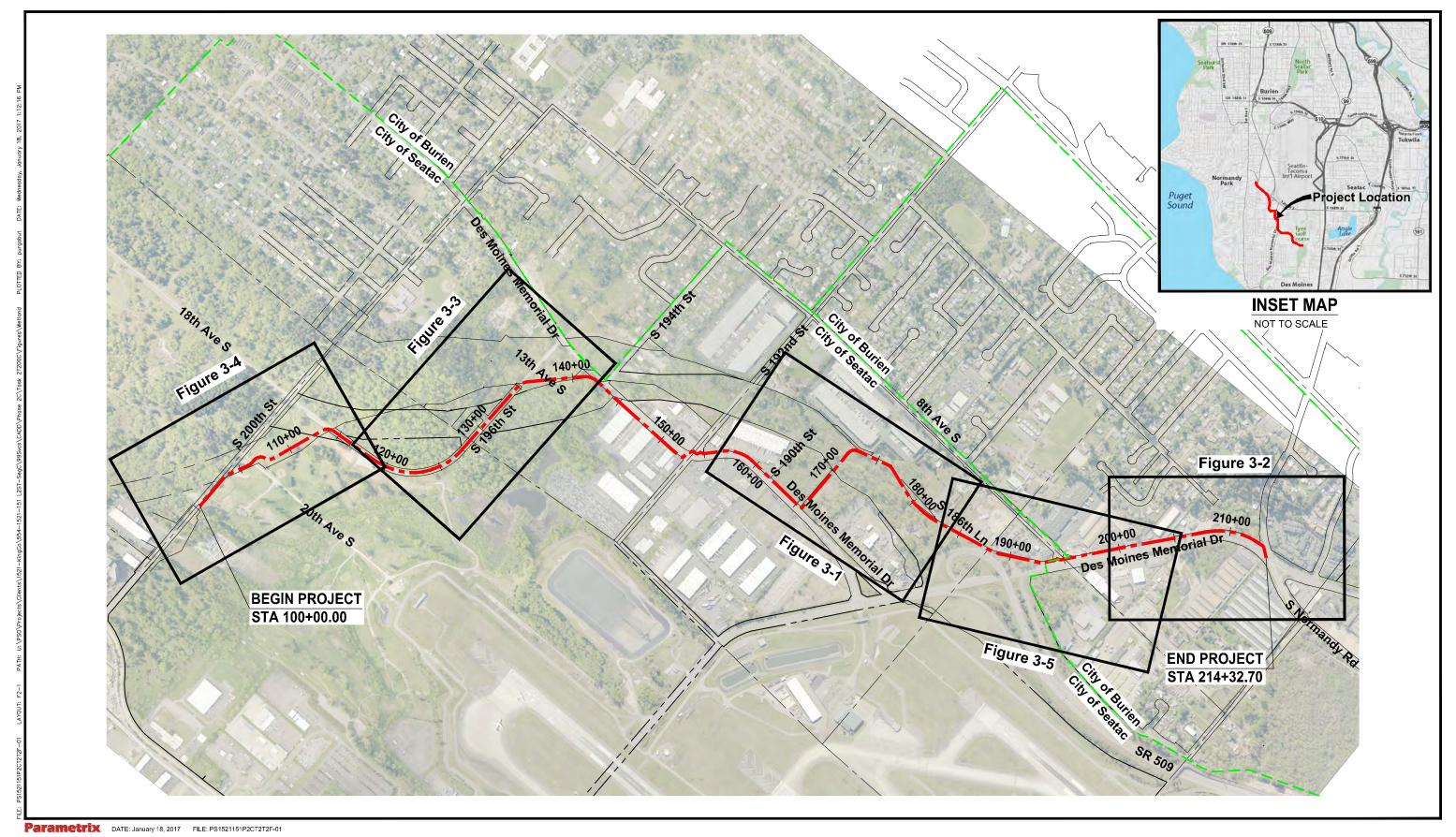




Figure 2-1 Wetlands and Streams Lake to Sound Trail Segment C

2.2.1.2 Soils

Generally, an area must have hydric soils to be a wetland. Hydric soil forms when soils are saturated, flooded, or ponded long enough during the growing season to develop anaerobic conditions. Biological activities in saturated soil deplete oxygen concentrations that result in a preponderance of organisms using anaerobic processes for metabolism. Over time, anaerobic biological processes result in certain soil color patterns, which are used as indicators of hydric soil (Corps 2010). Typically, low-chroma colors and concentrations of brightly-colored redoximorphic features are common indicators in mineral soils. Other important hydric soil indicators include organic matter accumulations in the surface horizon, reduced sulfur odors, and organic matter staining in the subsurface. Soils were examined by excavating sample plots to a depth of 18 inches or more to observe soil profiles, colors, and textures. The depths of the sample plots ranged between 18 and 20 inches deep. Munsell color charts (Munsell Color 2015) are used as objective standards to describe soil colors.

2.2.1.3 Hydrology

The study area was examined for evidence of wetland hydrology. An area is considered to have wetland hydrology when soils are ponded or saturated consecutively 12.5 percent (sometimes 5 to 12.5 percent) of the growing season. In King County (Sea-Tac Airport station), the growing season generally lasts from early March (March 9) to mid-November (November 17) (ACIS 2016); therefore, ponding or saturation must be present for approximately 32 consecutive days. Wetland hydrology field indicators include the observation of surface water, a water table near the surface, and/or saturated soils, as well as evidence of current or recent inundation and soil saturation, and evidence from other site conditions or hydrologic data (Corps 2010).

2.2.2 Wetland Classification and Rating

Delineated wetlands were classified according to the USFWS Classification of Wetlands and Deepwater Habitats of the United States (Federal Geographic Data Committee [FGDC] 2013). Hydrogeomorphic classifications were assigned to wetlands using Corps methods established in a Hydrogeomorphic Classification for Wetlands (Brinson 1993). Wetlands were rated according to SMC 15.700.275, BMC 19.40.300, and the Washington State Wetland Rating System for Western Washington: 2014 Update (Hruby 2014). Table 2-2 summarizes the state and local jurisdiction wetland rating criteria for each wetland category. Buffer widths assigned to wetlands in the study area reflect requirements of the City of SeaTac (SMC 15.700.285(B)) and the City of Burien (BMC 19.40.310(2)(B)).

Table 2-2. Criteria for Wetland Rating Categories as Specified by Ecology^a and adopted by the Cities of Burien^b and SeaTac^c

	Ecology ^a
Category I	Wetlands of exceptional value in terms of protecting water quality, storing flood water and stormwater, and/or providing habitat for wildlife as indicated by a rating system score of 23 points or more. These are wetland communities of infrequent occurrence that often provide documented habitat for sensitive, threatened, or endangered species, and/or have other attributes that are very difficult or impossible to replace if altered.
Category II	Wetlands that have very important resources as indicated by a rating system score of between 20 and 22 points. These wetlands occur more commonly than Category 1 wetlands but still require a high level of protection.
Category III	Wetlands that have important resource value as indicated by a rating system score of between 16 and 19 points.
Category IV	Wetlands that are of limited resource value as indicated by a rating system score of 9 to 15 points. They typically have vegetation of similar age and class, lack special habitat features, and/or are isolated or disconnected from other aquatic systems or high-quality upland habitats.

a Hruby 2014

2.2.3 Wetland Functional Assessment

Functions of individual wetlands were assessed using *Washington State Wetland Rating System for Western Washington: 2014 Update* (Hruby 2014). This method evaluates three key functions that wetlands perform—water quality, hydrologic, and habitat functions. Each function is assessed in three environmental contexts: 1) if the wetland has the potential to perform a function, 2) landscape factors that influence the functions in the wetland, and 3) whether the wetland performs functions valuable to society.

The rating system uses a series of questions to score the various functions, resulting in a high, moderate, and low rating for each function. Thus, a total of nine scores is used to produce an overall rating for the wetlands. These function scores are useful to qualitatively compare functions across the study area wetlands. These function scores also can be used as a basis for estimating wetland function impacts as well as the adequacy of proposed wetland mitigation (Hruby 2012).

2.2.4 Stream Identification

The City of Burien critical areas ordinance (BMC 19.40.340) defines streams as follows:

"Streams" means those areas where water is contained within a channel, either perennial or intermittent, and classified according to WAC 222-16-030 or WAC 222-16-031 and as listed under "water typing system." Streams also include natural watercourses modified by man. Streams do not include irrigation ditches, waste ways, drains, outfalls, operational spillways, channels, storm water runoff facilities or other wholly artificial watercourses, except those that directly result from the modification to a natural watercourse.

The City of SeaTac critical areas ordinance (SMC 15.700.015) defines streams as follows:

"Streams" means a course or route, formed by nature, including those modified by man, generally consisting of a channel with a bed, banks, or sides substantially throughout its length, along which surface waters naturally and normally flow in draining from higher to lower lands.

b BMC 19.40.300

c SMC 15.700.275

Study area streams were identified and classified using the applicable jurisdiction's definitions. Streams were also classified according to the DNR water typing system (DNR 2016; Washington Administrative Code [WAC] 222-16-030). The classifications were applied to the stream reaches located within the study area.

The ordinary high water mark (OHWM) of waterbodies in the study area were identified in the field following the definitions and standards established in WAC 220-110-020(31). The code defines OHWM as follows:

"Ordinary high water line" means the mark on the shores of all waters that will be found by examining the bed and banks and ascertaining where the presence and action of waters are so common and usual and so long continued in ordinary years, as to mark upon the soil or vegetation a character distinct from that of the abutting upland..."

As provided in SMC 15.700.330(A), stream buffers shall be established and measured landward horizontally from the OHWM.

3. RESULTS

This section describes the existing conditions of wetlands and streams within the study area based on background research of existing information and field investigations. For a detailed description of jurisdictional ditches within the study area, refer to the *Lake to Sound Trail—Segment C Jurisdictional Ditch Analysis* (Parametrix 2017).

3.1 Review of Existing Information

Characteristics of the study area based on a review of existing information, including the watershed, land use, topography, soils, vegetation, and fish and wildlife, are described below.

3.1.1 Watershed

The study area is in the Des Moines Creek Basin, within the Duwamish-Green Water Resource Inventory Area (WRIA) 09. Des Moines Basin is 5.8 square miles and has two branches, the West and East Branches of Des Moines Creek, and three distinct reaches. Both branches of Des Moines Creek flow approximately 1.3 miles before converging at River Mile (RM) 2.5 within the vacated Tyee Valley Golf Course (King County 1997). From here, Des Moines Creek travels approximately 2.3 miles west before draining into Puget Sound.

The three distinct reaches are characterized as plateau, ravine, and lower (King County 2003). The study area (West Fork of Des Moines Creek) is located in the plateau reach. According to King County (2003), the plateau reach contains an existing wetland system, including multiple, large (20 acres or more) headwater wetlands within the study area. Downstream of the study area, Des Moines Creek becomes much more incised and simplified, with limited pools, associated wetlands, and wood debris in the ravine reach. Additional problems include downstream flooding, reduced summer base flow, degraded water quality, and impaired fish habitat (King County 2003).

3.1.2 Land Use

At the north end of the study area, the primary land uses in the areas surrounding the project are industrial and commercial (City of Burien 2016b). Within SeaTac, land use includes commercial, industrial, and airport facilities (King County 2016). The airport facilities along S 196th Street and 18th Avenue S were once zoned for residential housing, but have since been vacated to accommodate the development of Sea-Tac Airport. Overall, King County (2001) maps the study area as urban/high density and mixed urban/low density using land cover classification.

In contrast to adjacent developed areas and regional trends, much of the proposed project footprint is dominated by native trees (north), dense thickets of shrubby wetland (middle), and open grass fields (south).

3.1.3 Topography

The terrain in the study area generally slopes from the north to the south. This trend is interrupted south of S 186th Lane where a steep eastward slope borders the trail alignment, and east of 18th Avenue S where the study area slopes eastward toward Des Moines Creek. Elevations along the proposed trail alignment range from approximately 260 feet at the northern terminus to 240 feet at the southern terminus.

3.1.4 Soils

The dominant soil types mapped in the south end of the study area are *urban soils* and *Indianola loamy sand*. *Indianola loamy sand* is made up of somewhat excessively drained soils formed under conifers in sandy, recessional, stratified glacial drift and located on 5 to 15 percent slopes. The permeability is rapid and runoff is slow to medium (USDA 1973). *Urban soils* include heavily disturbed and impacted soils, including imported fill material. *Indianola loamy sand* and *urban soils* are listed as non-hydric (USDA, NRCS 2015).

Soils in the north end of the study area (north of S 192nd Street) have not been previously mapped by the NRCS (USDA, NRCS 2016a). Based on mapped adjacent areas in similar geomorphic positions, soils in the northern study area are assumed to be *Bellingham silt loam*, *Alderwood gravelly sandy loam*, and *Everett gravelly sandy loam*. *Bellingham silt loam* is made up of poorly drained soils that formed in alluvium, under grass and sedges. These soils are nearly level and are mostly in depressions on the upland glacial till plain. Permeability is slow. *Alderwood gravelly sandy loam* is made up of moderately well drained soils that have a weakly consolidated to strongly consolidated substratum at a depth of 24 to 30 inches. Permeability is moderately rapid to moderately slow. The series formed under conifers in glacial deposits (USDA 1973). *Everett gravelly sandy loam* is made up of somewhat excessively drained soils that are underlain by very gravelly sand at a depth of 18 to 36 inches. Permeability is rapid and runoff is slow. These soils are formed in very gravelly glacial outwash deposits and under conifers (USDA 1973). *Bellingham silt loam* is characterized as hydric while *Alderwood gravelly sandy loam* and *Everett gravelly sandy loam* are characterized as non-hydric (USDA, NRCS 2015). NRCS soil mapping for the study area is presented in Figure B-1 and Figure B-2, Appendix B.

Information on soils observed during field investigations is provided in Section 3.2.1.

3.1.5 Wetlands

No wetlands have been previously mapped within the Burien study area (City of Burien 2016a; King County 2016 USFWS 2016). Four wetlands (Wetlands A, C, D, and E) were previously mapped and characterized within the SeaTac study area. Previously mapped wetlands in the study area are presented in Figures B-3, B-4, and B-5 in Appendix B.

The City of SeaTac's (2010) Wetland, Stream, and Shoreline Classifications map identifies two Category I wetlands (hereafter referred to as Wetland A and Wetland C for comparison to field results). Wetland A is positioned south of S 186th Lane, and between 8th Avenue S and Des Moines Memorial Drive. WDFW (2016a) and USFWS (2016) characterize this wetland as a freshwater forested/shrub wetland. Aerial imagery indicates dense vegetation throughout the extent of the wetland and areas of ponded water (King County 2015). The SR 509 Environmental Impact Statement (WSDOT 2003) characterizes this wetland as a 6.6-acre Category II (SMC 15.700) depressional wetland (Brinson 1993) with palustrine forested, palustrine scrub-shrub, and palustrine emergent habitats (FGDC 2013).

Wetland C is positioned in an area informally referred to as the Northwest Ponds. The Northwest Ponds are positioned north of S 196th Street and east of Des Moines Memorial Drive. WDFW (2016a) and USFWS (2016) characterize this wetland as freshwater forested/shrub wetland and freshwater ponds. The SR 509 Environmental Impact Statement (WSDOT 2003) characterizes the Northwest Ponds wetland system as a 28.8-acre Category II wetland associated with the West Branch of Des Moines Creek. It contains palustrine forested, palustrine scrub-shrub, palustrine emergent, and palustrine open water habitats (FGDC 2013; WSDOT 2003). A 54-inch culvert installed under a service road to the east of the

wetland separates this wetland system from the downstream riverine wetland associated with Des Moines Creek (WSDOT 2003; Brinson 1993).

The Environmental Impact Statement identified two additional wetlands, referred to as Wetland H and Wetland S, within and adjacent to the study area (see Figure B-4, Appendix B) (WSDOT 2003). Wetland H, identified as Wetland E in this report, is an isolated 0.09-acre Category IV depressional wetland positioned north of S 200th Street and adjacent to Des Moines Creek (WSDOT 2003). The wetland has palustrine open water and palustrine emergent habitats (FGDC 2013). Wetland S, identified as Wetland F in this report, is an isolated 0.5-acre Category IV slope wetland positioned between S 200th Street and 20th Avenue S (WSDOT 2003). The wetland contains palustrine emergent habitat (FGDC 2013).

Wetlands H and S were delineated by WSDOT project personnel while the Tyee Golf Course was still in operation. Since then, Tyee Golf Course has been vacated and is now managed by the Port of Seattle.

3.1.6 Streams

No streams were previously identified along the proposed trail alignment in the city of Burien (City of Burien 2016a; King County 2016; USFWS 2016).

The City of SeaTac's (2010) Wetland, Stream, and Shoreline Classifications map identifies one stream (Des Moines Creek) and one tributary stream (West Branch of Des Moines Creek) within the study area (see Figure B-5, Appendix B).

Des Moines Creek is a perennial stream that flows over a low-gradient plateau adjacent to the southern end of the study area before descending steeply through a ravine (City of SeaTac 2010; King County 1997). The creek has two main tributaries, known as the West Branch and the East Branch, that converge at RM 2.5, approximately 3,000 linear feet (0.57 mile) downstream of the point of discharge in Wetland C (King County 1997). WDFW (2016a) identifies the presence of resident coastal cutthroat trout (*Oncorhynchus clarki*) downstream of Wetland C (see Figure B-6, Appendix B).

Des Moines Creek and the segment of the West Branch have four Category 5—303(d) listings (temperature, pH, bacteria, and dissolved oxygen) according to Ecology (2016); see Figure B-7, Appendix B. DNR (2016) classifies Des Moines Creek as a "Type F Water" according to WAC 222-16-031 – Interim Water Typing System.

The West Branch, as mapped by the City of SeaTac, is a Class 3 intermittent stream that flows from the source at 8th Avenue S and S 186th Lane approximately 400 linear feet to the east before taking a 90-degree turn and heading south, approximately 200 linear feet, before flowing into Wetland A (City of SeaTac 2010); see Figure B-5, Appendix B.

King County (2015) extends the mapped length of the West Branch south through Wetland A before entering one approximately 54-inch culvert below Des Moines Memorial Drive, which is piped approximately 0.3 mile (1,800 linear feet) to the Northwest Ponds. King County (1997) describes this upper watershed and stream system as greatly altered with little evidence of a stream system. The West Branch is not likely to contain fish due to intermittent flow and the presence of fish barriers (WDFW 2016a, 2016b).

3.1.7 Fish and Wildlife

Data from WDFW (2016a, 2016b) indicate that no priority species are present within the study area. Resident coastal cutthroat trout are mapped (WDFW 2016a) in Des Moines Creek, 300 feet east of the southern terminus of the Lake to Sound Trail—Segment C (see Figure B-6, Appendix B). Historically, coho

salmon (*Oncorhynchus kisutch*), chum salmon (*O. keta*), and rainbow trout (*O.* mykiss) had access to Des Moines Creek, but fish access was limited by the culvert crossing under Marine View Drive (1.9 miles downstream of the study area) and weirs at the treatment plant (1.25 miles downstream) (King County 2003). Extensive habitat restoration has been completed throughout Des Moines Creek in an attempt to restore fish populations, but salmonid use upstream of S 200th Street remains undetermined (City of SeaTac 2010).

3.2 Field Investigation

Characteristics of the study area wetlands and streams are described below. Photographs of wetlands, streams, and the adjacent uplands are included in Appendix B.

3.2.1 Wetlands

Biologists identified and delineated Wetlands D, F, G, and H in their entirety and delineated the portions of four larger wetlands (Wetland A, B, C, and E) that occur within the core study area (Figures B-2 through B-6 in Appendix B). Outside the core study area, the boundaries and characteristics of Wetlands A, B, C, and D were estimated and mapped using field observations, aerial imagery (King County 2016), and information from the SR 509 Environmental Impact Statement (WSDOT 2003), associated permit documents (WSDOT 2007), and wetland mitigation plan (WSDOT 2006). The locations and extents of wetlands delineated in the field roughly match previous mapping of aquatic resources. One exception is the site of the former Tyee Golf Course where there has been a long history of hydrologic alterations, including extensive subsurface drains. Wetland extents in this area appear to have changed over time, as evidenced by the failure of large restoration areas planted with hydrophytic plants (primarily willow stakes). Mortality was over 95% in these areas. Classifications of the delineated wetlands are provided in Table 3-1, and wetland functions are summarized in Table 3-2. General wetland characteristics are discussed below. Also included is specific information for each of the sample plots as recorded on the wetland delineation data forms (Appendix A), site photographs (Appendix C), and wetland rating forms (Appendix D).

Vegetation within the study area consists of both wetland and upland species. Wetlands in the study area contain herbaceous, shrub, and forested habitats. Dominant wetland-associated vegetation in the herbaceous stratum includes reed canarygrass (*Phalaris arundinacea*), great horsetail (*Equisetum telmateia*), yellow skunk cabbage (*Lysichiton americanus*), hedge bindweed (*Calystegia sepium*), bittersweet nightshade (*Solanum dulcamara*), fowl mannagrass (*Glyceria elata*), Kentucky bluegrass (*Poa pratensis*), creeping bentgrass (*Agrostis stolonifera*), common velvetgrass (*Holcus lanatus*), perennial ryegrass (*Lolium perenne*), quackgrass (*Elymus repens*), spotted lady's thumb (*Polygonum persicaria*), and creeping buttercup (*Ranunculus repens*).

In the scrub-shrub stratum, dominant vegetation includes salmonberry (*Rubus spectabilis*), red-osier dogwood (*Cornus sericea = C. alba*), Himalayan blackberry (*Rubus armeniacus*), Pacific willow (*Salix lucida*), and Scouler's willow (*Salix scouleriana*). The tree stratum includes black cottonwood (*Populus balsamifera*), red alder (*Alnus rubra*), Scouler's willow, and Pacific willow.

Upland plant communities within the study area consist primarily of upland forest and herbaceous vegetation. Vegetation includes red alder, beaked hazel (*Corylus cornuta*), Indian plum (*Oemleria cerasiformis*), salmonberry (*Rubus spectabilis*), reed canarygrass, Himalayan blackberry, hedge bindweed, Japanese knotweed (*Polygonum cuspidatum*), black cottonwood, western sword fern (*Polystichum munitum*), bigleaf maple (*Acer macrophyllum*), Kentucky bluegrass, common velvetgrass,

hairy cat's ear (*Hypochaeris radicata*), cherry laurel (*Prunus laurocerasus*), and red elderberry (*Sambucus racemosa*).

Table 3-1. Summary of Wetlands in the Lake to Sound Trail—Segment C Study area

Wetland	Area (acres)	City Category	Standard Buffer Width (feet)	Ecology Rating ^c	USFWS Classification ^d	HGM Classification
Α	10.46	II ^a	22 5 ^c	II	PFO	Depressional
В	0.22	IV ^b	50 ^d	IV	PFO	Slope
С	30.06	l _a	165 ^c	I	PFO	Depressional/Slope
D	0.50	IIIa	60°	III	PEM	Depressional/Slope
E	0.76	ΙΙ ^a	165°	II	PFO	Depressional
F	0.01	IV ^a	40°	IV	PFO	Slope
G	0.06	IV ^a	40°	IV	PSS	Slope
Н	0.13	IV ^a	40°	IV	PSS	Slope

a SMC 15.700.275(B)

PEM = palustrine emergent; PFO = palustrine forested; PSS = palustrine scrub-shrub

Table 3-2. Summary of Wetland Functions for Wetlands in the Lake to Sound Trail—Segment C Study area

	Water Quality			Hydrologic			Habitat		
Wetland	Site Potential	Landscape Potential	Value	Site Potential	Landscape Potential	Value	Site Potential	Landscape Potential	Value
Α	Moderate	Moderate	Moderate	Moderate	High	High	High	Moderate	High
В	Low	Moderate	High	Low	Moderate	High	Low	Low	Low
С	Moderate	Moderate	High	High	High	High	High	Low	High
D	Moderate	Moderate	High	Low	Moderate	High	Low	Moderate	Low
E	Moderate	Moderate	High	Moderate	Moderate	High	Moderate	Moderate	High
F	Low	Low	Moderate	Low	Low	Moderate	Low	Moderate	Low
G	Low	Medium	High	Medium	Medium	Medium	Low	Low	Low
Н	Low	Medium	High	Medium	Medium	Medium	Low	Low	Low

Note: Functions assessed using Ecology Wetland Rating System (Hruby 2014)

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b BMC 19.40.300(3)

C SMC 15.700.285(B)

d BMC 19.40.310(2)

e Hruby 2014

f FGDC 2013

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3.2.1.1 Wetland A

Size: 10.46 acres

City of SeaTac Rating: Category II Ecology Rating: Category II

Buffer: 225 feet

USFWS Classification: Palustrine Forested

HGM Classification: Depressional with Sloped and Riverine Features

Wetland Sample Plots: SP-2, SP-4, SP-6, SP-8, SP-24

Associated Upland Sample Plots: SP-1, SP-3, SP-5, SP-7, SP-25

Wetland A is an approximately 10.46-acre wetland that is hydrologically connected to Wetland C and Des Moines Creek (Figure 3-1). This large, wetland is generally a depressional wetland, according to the HGM classification system (Brinson 1993), positioned in a slight depression. Additional slope components occur with gentle (1 to 5 percent) slopes along the east edge, and steeper (5 to 10 percent) slopes along the west edge. Narrow riverine classes occur along the banks of the West Branch of Des Moines Creek (hereafter referred to as the West Branch) from annual overflow.

Wetland A contains palustrine forested, scrub-shrub, and emergent habitats (FGDC 2013). The site includes large black cottonwood trees, but no patches large enough to qualify as a special characteristics Category I (mature forested) wetland. Wetland vegetation is dominated by black cottonwood, red alder, Pacific willow, red-osier dogwood, red elderberry, salmonberry, Himalayan blackberry, reed canarygrass, giant horsetail, western sword fern, and Japanese knotweed.

Soil was sampled near the north (SP-2), west (SP-8), and east (SP-4 and SP-6) edges of Wetland A. The wetland soils on the north end had three horizons. The top horizon (0 to 8 inches) was a black (10YR 2/1) loam layer with light gray (10YR 7/1) depletions throughout the matrix. The middle horizon (8 to 14 inches) was dark grayish brown (10YR 4/2) loam with yellowish brown (10YR 5/6) concentrations and light gray (10YR 7/1) depletions throughout the matrix. The bottom horizon (14 to 20 inches) was light brownish gray (10YR 6/2) clay loam with yellowish brown concentrations throughout the matrix. On the west side of Wetland A, soils are black (10YR 2/1) clay loam with varying yellowish brown (10YR 5/6) depletions and light gray (10YR 7/1) concentrations throughout the matrix. On the south end of Wetland A, surface soils (0 to 10 inches) are very dark gray (10YR 3/1) silt loam with dark yellowish brown (10YR 4/4) concentrations and grayish brown (10YR 5/2) depletions throughout the matrix. This surface layer overlays gray (10YR 6/1) clay with brownish yellow (10YR 6/6) concentrations and grayish brown (10YR 5/2) depletions throughout the matrix (Munsell Color 2015). These soils met the hydric soil criteria for these indicators: F3 (Depleted Matrix), F6 (Redox Dark Surface), F7 (Depleted Dark Surface), and A11 (Depleted Below Dark Surface).

Wetland hydrology is supported by groundwater discharge, precipitation, and in some areas along the banks of the West Branch, overbank flooding of the intermittent West Branch. On all site visits, biologists observed standing water in the central portions, a high water table, and saturation throughout the remainder of the wetland. Geomorphic position, oxidized rhizospheres along living roots, and the FAC-neutral test were also used as wetland hydrology indicators.



Wetland Area

Estimated Wetland Boundary

Culvert Outlet

Concentration of Flow (Undefined Channel) West Branch of Des Moines Creek Channel Wetland Buffer

Wetlands and Streams Lake to Sound Trail Segment C

Within Wetland A, water in the wetland system moves from the north to the south; in some areas, flow is concentrated into the stream course of the West Branch. During the wet season and following rainfall events, Wetland A drains at the southern end, below Des Moines Memorial Drive, through one approximately 54-inch-diameter culvert and one highly constricted 12-inch culvert positioned approximately 330 feet to the south (see Figure 3-1). During the dry season, there was no evidence of recent discharge through the 54-inch-diameter and 12-inch-diameter culverts. In fact, the 54-inch culvert was perched approximately 18 inches above the surface of the standing water. The West Branch is then piped approximately 0.3 mile (1,800 linear feet) before discharging into ponds within Wetland C.

Wetland A has likely been previously filled in several locations for industrial land uses and these fill pads form the wetland boundary in multiple locations. The surrounding upland areas include disturbed vegetation on fill or in clearings. Disturbed areas are dominated by Himalayan blackberry and contain Japanese knotweed, English ivy (*Hedera helix*), red alder, Douglas-fir, and western red cedar.

Wetland A was rated according to the 2014 Washington State Wetland Rating System for Western Washington (Hruby 2014), as specified in SMC 15.700.275(B). The wetland scored 22 points using the Ecology 2014 method (6 points for water quality functions, 8 points for hydrologic functions, and 8 points for habitat functions), thereby qualifying as a Category II wetland (see Appendix D). The SMC requires a standard wetland buffer width of 225 feet for Category II wetlands with a habitat score of 8 to 9 points.

3.2.1.2 Wetland B

Size: 0.22 acre

City of Burien Rating: Category IV Ecology Rating: Category IV

Buffer: 50 feet

USFWS Classification: Palustrine Forested

HGM Classification: Slope Wetland Sample Plot: SP-9

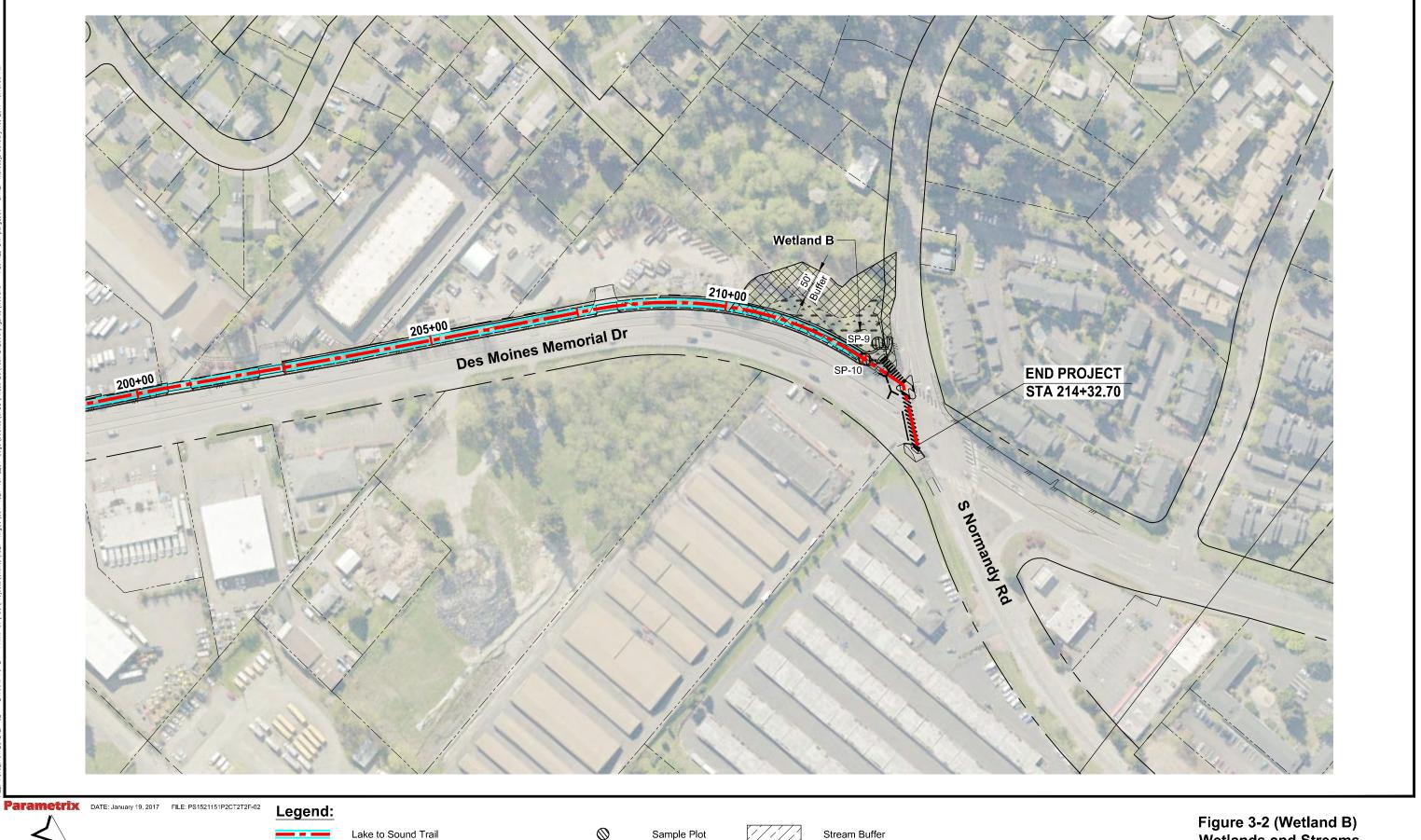
Associated Upland Sample Plot: SP-10

Wetland B is a 0.22-acre wetland positioned near the intersection of Des Moines Memorial Drive S and S Normandy Road (Figure 3-2). This wetland is sloped, according to the HGM classification system (Brinson 1993), and angled from west to east.

Wetland B contains palustrine forested habitat (FGDC 2013). The wetland is dominated by red alder, Pacific willow, Himalayan blackberry, creeping buttercup, fowl mannagrass, and reed canarygrass.

Surface soils (0 to 5 inches) are black (10YR 2/1) silt loam over very dark gray (10YR 3/1) silt loam with strong brown (7.5YR 4/6) concentrations and gray (2.5Y 6/1) depletions in the matrix. From 8 to 16 inches, soils are dark gray (7.5YR 4/1) silt loam with yellowish red concentrations and gray (2.5Y 6/1) depletions throughout the matrix (Munsell Color 2015). These soils met the hydric soil criteria for these indicators: F3 (Depleted Matrix) and A11 (Depleted Below Dark Surface).

Wetland hydrology is supported by groundwater, precipitation, and overland flow. Primary hydrology indicators were observed during the dry season (September) and wet season (November). Saturation was observed at a depth of 5 inches below the soil surface during the dry season while surface water was observed during the wet season. Drainage patterns, geomorphic position, and the FAC-neutral test provide secondary wetland hydrology indicators. The sloped nature of Wetland B directs water within the wetland system from the south to north before draining through an approximately 24-inch culvert under the intersection of Des Moines Memorial Drive S and S Normandy Road.



Lake to
Delinea

Lake to Sound Trail
Delineated Wetland Boundary
Estimated Wetland Boundary



Sample Plot
Wetland Area



Wetland Buffer

Figure 3-2 (Wetland B)
Wetlands and Streams
Lake to Sound Trail Segment C

Surrounding upland areas include roadside fill, mowed ditches, and areas of disturbed vegetation. Disturbed vegetation includes red alder, Pacific willow, Himalayan blackberry, creeping buttercup, and dense thickets of Japanese knotweed. Some upland areas contain greater than 50 percent hydrophytic plants; however, these areas do not have hydric soils or wetland hydrology and are therefore not wetland.

Wetland B was rated according to Hruby (2014), as specified in BMC 19.40.300(3)(A). The wetland scored 15 points using the Ecology 2014 method (6 points for water quality functions, 6 points for hydrologic functions, and 3 points for habitat functions), thereby qualifying as a Category IV wetland. The BMC requires a standard wetland buffer width of 50 feet for Category IV wetlands with a habitat score of 3 to 4 points.

3.2.1.3 Wetland C

Size: 30.05 acres

City of SeaTac Rating: Category I Ecology Rating: Category I

Buffer: 165 feet

USFWS Classification: Palustrine Forested, Scrub-Shrub, Emergent, and Open Water

HGM Classification: Depressional with Sloped and Riverine Features

Wetland Sample Plots: SP-11 Associated Sample Plots: SP-12

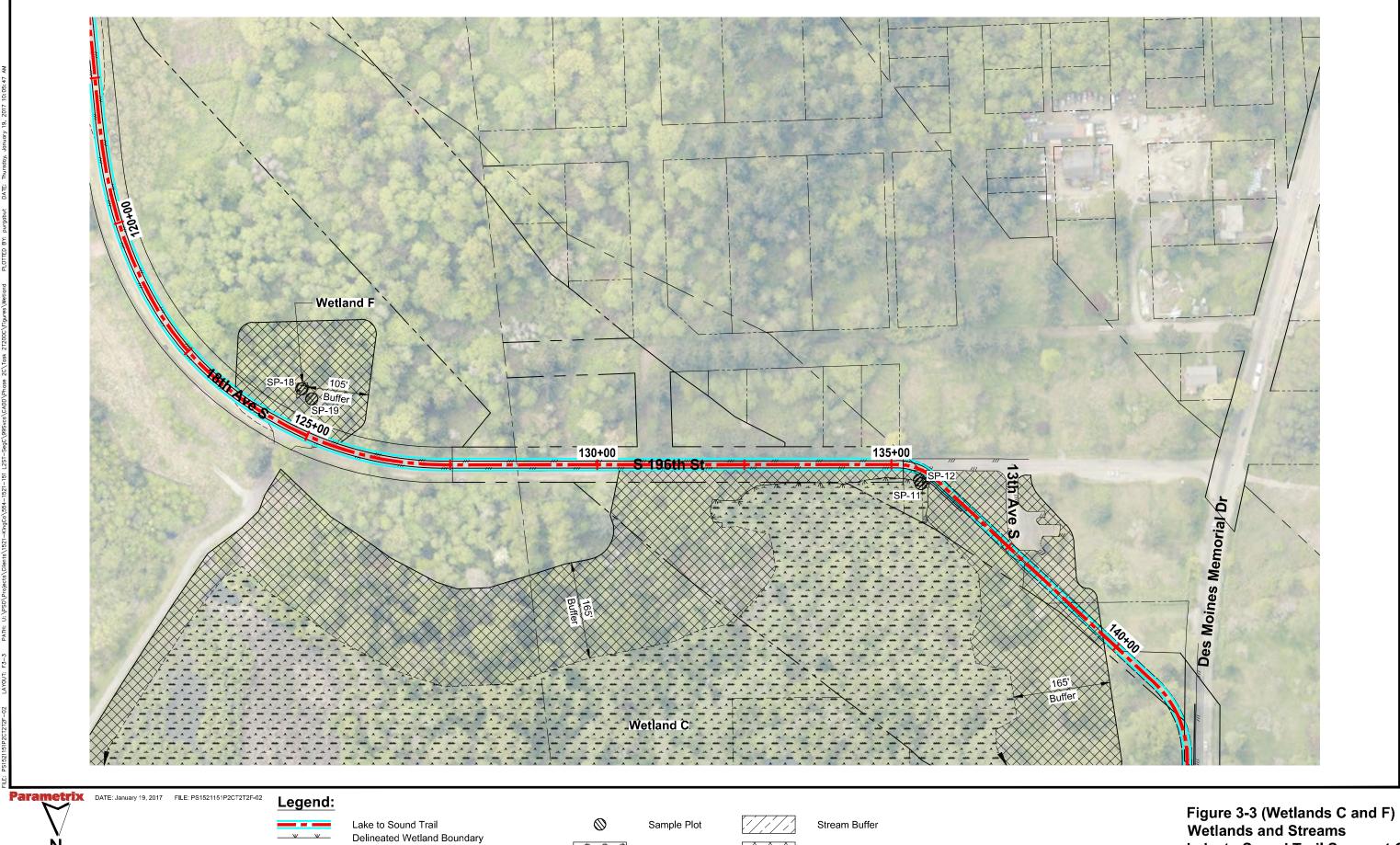
Wetland C is an approximately 30-acre wetland system to the north of S 196th Street and to the east of Des Moines Memorial Drive (Figure 3-3). Because of the limited study area of Segment C, only a portion of this wetland was investigated. To complement the investigation, information from the Environmental Impact Statement (WSDOT 2003) was used.

Wetland C is depressional, according to the HGM classification system, with some sloped and riverine components (Brinson 1993).

Wetland C contains palustrine forested, scrub-shrub, emergent, and open water habitat (FGDC 2013). The forested component is dominated by red alder and black cottonwood. Scouler's willow, Himalayan blackberry, hedge bindweed, and yellow skunk cabbage occur in the shrub stratum. Emergent areas are dominated by creeping buttercup, bittersweet nightshade, giant horsetail, and non-native golf course grass (WSDOT 2003).

The wetland soils had four horizons. The surface soils are very dark brown (10YR 2/2) loamy sand with yellowish red (5YR 4/6) concentrations in the matrix from 5 to 9 inches. Below 9 inches, the soil is very dark grayish brown (10YR 3/2) loamy sand with dark reddish gray (5YR 4/2) concentrations above dark gray (10YR 4/2) loamy sand with strong brown (7.5YR 4/6) concentrations throughout the matrix (Munsell Color 2015). These soils met the hydric soil criteria for indicator F6 (Redox Dark Surface).

Wetland hydrology is supported by a culvert entering from the northwest (discharging from Wetland A) carrying the flow from the West Branch, groundwater, precipitation, and overland flow. Inundation is visible on aerial imagery along the north side of Wetland C and water-stained leaves were present throughout the wetland. Geomorphic position and the FAC-neutral test further support the presence of wetland hydrology.



Wetland Area

Estimated Wetland Boundary

Wetland Buffer

Wetlands and Streams Lake to Sound Trail Segment C

Surrounding upland areas include vacated neighborhoods, commercial lots, roadside fill, and vegetated buffers. Neighborhoods were vacated to accommodate the expansion of Sea-Tac Airport and have since been demolished and removed. In their place, ornamental and invasive species, including, but not limited to, English Ivy, Himalayan blackberry, and Japanese knotweed, have established. More intact buffers are dominated by red alder, cherry laurel, and bigleaf maple.

Wetland C was rated according to Hruby (2014), as specified in SMC 15.700.275(B). The wetland scored 23 points based on functions using the Ecology 2014 method (7 points for water quality functions, 9 points for hydrologic functions, and 7 points for habitat functions) and met the mature forest special characteristic of a wetland, thereby qualifying as a Category I wetland (see Appendix D). The SMC requires a standard wetland buffer width of 165 feet for Category I wetlands with a habitat score of 6 to 7 points.

3.2.1.4 Wetland D

Size: 0.50 acre

City of SeaTac Rating: Category III Ecology Rating: Category III

Buffer: 60 feet

USFWS Classification: Palustrine Emergent HGM Classification: Depressional/Slope

Wetland Sample Plots: SP-13

Associated Sample Plots: SP-14, SP-15

Wetland D is a 0.50-acre wetland located at the southern end of the study area in the vacated Tyee Valley Golf Course, north of S 200th Street and west of 20th Avenue S (Figure 3-4). The wetland has slope and depressional components, as characterized using the HGM classification system (Brinson 1993).

This wetland contains palustrine emergent habitat (FGDC 2013). Dominant vegetation includes Kentucky bluegrass with scattered Scouler's willow and Scotch broom.

The wetland soils have two horizons. The surface horizon (0 to 6 inches) is dark brown (7.5YR 3/2) sandy loam with brown (7.5YR 5/2) depletions and strong brown (7.5YR 4/6) concentrations throughout the matrix. The bottom horizon is very dark grayish brown (10YR 3/2) sandy loam with strong brown (7.5YR 4/6) concentrations throughout the matrix and redoximorphic concretions at a depth of 6 to 16 inches (Munsell Color 2015). These soils met the hydric soil criteria for indicator F6 (Redox Dark Surface).

Wetland hydrology is supported by groundwater seeps. Additional hydrologic inputs include precipitation. Downslope of the seep, the water does not pool or run off site. Instead, the water enters the vacated golf course's drainage system (WSDOT 2003). No surface water, high water table, or soil saturation was present on site. However, oxidized rhizospheres along living roots and drainage patterns indicate the presence of wetland hydrology during the early growing season. Hydrology is supported by groundwater expression emerging from the hillside as a seep.

The associated upland areas include non-native grasses that are legacies from the golf course operation, a planted corridor intended to support pollinator habitat, and roadside fill. The soils have been heavily disturbed and/or imported and consist of an approximately 12-inch layer of sandy loam over what appear to be less-disturbed native soils. Plant communities are similar to Wetland D. However, these upland areas lack hydric soils and wetland hydrology and are therefore not considered wetlands.



Legend:

Lake to Sound Trail

Delineated Wetland Boundary

Estimated Wetland Boundary

Wetland Area

Wetland Area

Wetland Area

Figure 3-4 (Wetlands D and E)

Wetlands and Streams

Lake to Sound Trail

Wetlands D and E)

Wetland D was rated according to Hruby (2014), as specified in SMC 15.700.275(B). The wetland scored 17 points using the Ecology 2014 method (7 points for water quality functions, 6 points for hydrologic functions, and 4 points for habitat functions), thereby qualifying as a Category III wetland. The SMC requires a standard wetland buffer width of 60 feet for Category III wetlands with a habitat score of 3 to 4 points.

3.2.1.5 Wetland E

Size: 0.76 acre

City of SeaTac Rating: Category II Ecology Rating: Category II

Buffer: 165 feet

USFWS Classification: Palustrine Scrub-Shrub and Emergent

HGM Classification: Slope/Depressional

Wetland Sample Plots: SP-16 Associated Sample Plots: SP-17

Wetland E is a 0.76-acre wetland at the southern end of the study area positioned north of S 200th Street (see Figure 3-4). The wetland has depressional and slope components, as characterized using the HGM classification system (Brinson 1993), and is positioned adjacent to, but hydrologically distinct from, the Des Moines Creek riparian area by fill material and a culvert connection.

This wetland contains palustrine scrub-shrub and emergent habitats (FGDC 2013). Dominant vegetation in Wetland E includes red alder, cattail (*Typha latifolia*), reed canarygrass, and Kentucky bluegrass.

The wetland soils have three horizons. The surface horizon (0 to 4 inches) is very dark brown (10YR 2/2) silt loam above very dark gray (10YR 3/1) clay loam with strong brown concentrations from 4 to 16 inches and gray depletions throughout the matrix. The bottom horizon (16 to 20 inches) is gray (2.5Y 5/1) clay loam with very dark gray (10YR 3/1) and strong brown (7.5YR 4/6) concentrations throughout the matrix (Munsell Color 2015). These soils met the hydric soil criteria for indicator F6 (Redox Dark Surface).

Wetland hydrology in the slope component of Wetland E is supported by precipitation, and the depressional component is supported by groundwater and precipitation. Water collects against a road-like berm and forms an area of standing water. During a major rainfall event, water may exit this wetland system through an approximately 8-inch-diameter PVC pipe positioned 3 to 4 feet above the water surface, draining to the east into Des Moines Creek. Drainage patterns and geomorphic positioning further support the presence of wetland hydrology.

Wetland E was rated according to Hruby (2014), as specified in SMC 15.700.275(B). The wetland scored 21 points using the Ecology 2014 method (7 points for water quality functions, 7 points for hydrologic functions, and 7 points for habitat functions), thereby qualifying as a Category II wetland (see Appendix D). The SMC requires a standard wetland buffer width of 165 feet for Category II wetlands with a habitat score of 6 to 7 points.

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3.2.1.6 Wetland F

Size: 0.01 acre

City of SeaTac Rating: Category IV Ecology Rating: Category IV

Buffer: 40 feet

USFWS Classification: Palustrine Forested

HGM Classification: Slope Wetland Sample Plots: SP-18 Associated Sample Plots: SP-19

Wetland F is an approximately 0.01-acre wetland located at the south end of the study area, south of S 196th Street and west of 18th Avenue S (see Figure 3-3). The site is a slope wetland, as characterized using the HGM classification system (Brinson 1993).

The wetland contains palustrine forested habitat (FGDC 2013), and the dominant vegetation includes Scouler's willow, salmonberry, and red-twig dogwood.

The wetland soils have two horizons. The surface horizon (0 to 8 inches) is very dark brown (10 YR 2/2) loam with strong brown (7.5 YR 4/6) redoximorphic features. The lower horizon is gray (10 YR 6/1) loam with yellowish brown (10 YR 5/6) redoximorphic concentrations throughout the matrix (Munsell Color 2015). These soils met the hydric soil criteria for these indicators: F3 (Depleted Matrix) and F6 (Redox Dark Surface).

Wetland hydrology is supported by groundwater seeps. Downslope, the water is not impounded and does not pool or run off the site; instead, water infiltrates into adjacent upland areas.

The associated upland is forested with a variety of native and non-native trees. The understory is a mixture of native plants with large populations of invasive species including Himalayan blackberry, English holly, and English ivy.

Wetland F was rated according to Hruby (2014), as specified in SMC 15.700.275(B). The wetland scored 12 points using the Ecology 2014 method (4 points for water quality functions, 4 points for hydrologic functions, and 4 points for habitat functions), thereby qualifying as a Category IV wetland (see Appendix D). The SMC requires a standard wetland buffer width of 40 feet for Category IV wetlands. However, Wetland F is allowed a limited exemption, according to SMC 15.700.280, because it is a Category IV wetland of less than 1,000 square feet.

3.2.1.7 Wetland G

Size: 0.06 acre

City of SeaTac Rating: Category IV Ecology Rating: Category IV

Buffer: 40 feet

USFWS Classification: Palustrine Emergent

HGM Classification: Depressional Wetland Sample Plot: SP-20 Associated Sample Plot: SP-21

Wetland G is a 0.06-acre wetland positioned between the SR 509 interchange and 8th Avenue S (Figure 3-5). The wetland is depressional, as characterized by the HGM classification system (Brinson 1993).

The wetland has palustrine scrub-shrub habitat (FGDC 2013). Dominant species include Himalayan blackberry and spotted lady's thumb.

The surface soils (0 to 7 inches) were black (10YR 2/1) sandy loam above very dark brown (10YR 2/2) sandy loam with strong brown (7.5YR 4/6) concentrations and dark grayish brown depletions throughout the matrix (Munsell Color 2015). These soils met the hydric soil criteria for indicator F6 (Redox Dark Surface).

Wetland G occurs in a shallow closed depression that is seasonally inundated in the center and saturated throughout. The wetland hydrology is supported by precipitation and local runoff of the adjacent parking areas and the SR 509 interchange.

Surrounding upland areas include disturbed vegetation on fill and disturbed buffers. In all areas, Himalayan blackberry occurs in dense thickets and bigleaf maple creates an open canopy.

Wetland G was rated according to Hruby (2014), as specified in SMC 15.700.275(B). The wetland scored 15 points using the Ecology 2014 method (6 points for water quality functions, 6 points for hydrologic functions, and 3 points for habitat functions), thereby qualifying as a Category IV wetland (see Appendix D). The SMC requires a standard wetland buffer width of 40 feet for Category IV wetlands.

3.2.1.8 Wetland H

Size: 0.13 acre

City of SeaTac Rating: Category IV Ecology Rating: Category IV

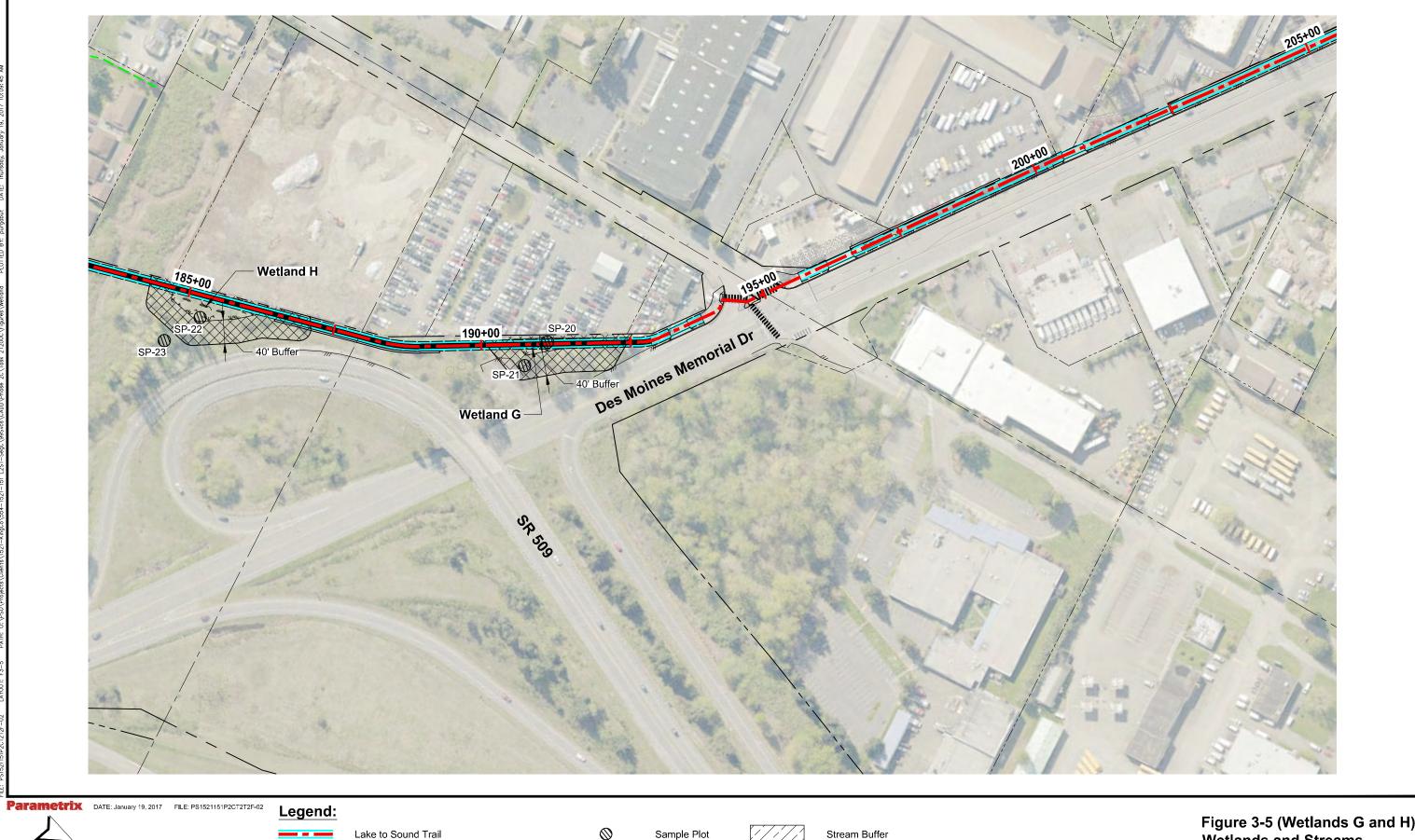
Buffer: 40 feet

USFWS Classification: Palustrine Scrub-Shrub

HGM Classification: Depressional Wetland Sample Plot: SP-22 Associated Sample Plot: SP-23

Wetland H is a 0.13-acre wetland approximately 150 feet south of Wetland G, positioned between the SR 509 interchange and 8th Avenue S (see Figure 3-5). The wetland is depressional, as characterized by the HGM classification system (Brinson 1993), and is hydrologically separated from Wetland G by a slight topographic break.

The wetland has palustrine scrub-shrub habitats (FGDC 2013) and dominant species include Himalayan blackberry and spiraea (*Spiraea douglasii*).



Delineated Wetland Boundary

Estimated Wetland Boundary

Sample Plot
Wetland Area
Wetland Area
Stream Buffer
Wetland Buffer
Figure 3-5 (Wetlands G and H)
Wetlands and Streams
Lake to Sound Trail Segment C

The wetland soils have two horizons. The surface horizon (0 to 9.5 inches) is black (10YR 2/1) sandy loam. The second horizon (9.5 to 16+ inches) is very dark brown (10YR 2/2) sandy loam with distinctly contrasted dark yellowish brown (10YR 3/4) concentrations throughout the matrix (Munsell Color 2015). These soils met the hydric soil criteria for indicator F6 (Redox Dark Surface).

The associated upland is similar to the upland surrounding Wetland G (see description above).

Wetland H was rated according to Hruby (2014), as specified in SMC 15.700.275(B). The wetland scored 15 points using the Ecology 2014 method (6 points for water quality functions, 6 points for hydrologic functions, and 3 points for habitat functions), thereby qualifying as a Category IV wetland (see Appendix D). The SMC requires a standard wetland buffer width of 40 feet for Category IV wetlands.

3.2.2 Streams

3.2.2.1 West Branch of Des Moines Creek

The West Branch, which originates near 8th Avenue S and S 186th Lane, is a 6- to 8-foot-wide (OHWM) intermittent stream that runs southward along gradual slopes through dense shrubs under a mature forested canopy (see Figure 3-1 and Wetland A description above). The stream channel has been heavily altered and ditched upstream of the intersection of S 186th Lane and the proposed trail. Downstream of this location, the West Branch flows into Wetland A where it loses stream characteristics (according to definitions established in SMC 15.700.015). Those segments lacking a defined channel are mapped as "concentrations of flow" in Figure 3-1.

The defined channel of the West Branch reforms at an outlet of Wetland A before entering an approximately 54-inch culvert below Des Moines Memorial Drive. The West Branch is then piped approximately 0.3 mile (1,800 linear feet) before discharging into the Northwest Ponds, contained within Wetland C. These blockages, and the seasonal nature of the stream, prevent upstream use of the West Branch by fish.

The intermittent section of the West Branch within Wetland A (the only section within the study area) is classified as a "Type Ns Water" according to WAC 222-16-031 – Interim Water Typing System, and meets the definition of a Class 3 stream which, according to SMC 15.700.015, requires a 25-foot buffer.

3.2.2.2 Des Moines Creek

Downstream of the Northwest Ponds and Wetland C, the West Branch meets the East Branch of Des Moines Creek and forms the main stem of Des Moines Creek within the vacated Tyee Valley Golf Course, north of S 200th Street. Here, Des Moines Creek is an approximately 15- to 20-foot-wide (OHWM) perennial stream. Des Moines Creek in the study area is shown on Figure 3-1.

Based on the channel width and gradient, as well as the presence of resident coastal cutthroat trout (salmonid), Des Moines Creek is classified as a "Type F Water" according to WAC 222-16-031 – Interim Water Typing System (see Figure B-8, Appendix B) (DNR 2016). This perennial section of the West Branch of Des Moines Creek meets the definition of a Class 2 stream used by salmonids which, according to SMC 15.700.015, requires a 100-foot buffer.

4. IMPACTS

Impacts on wetlands, streams, and their buffers were avoided through design changes wherever possible. However, design constraints such as safety concerns, trail grades, and property ownership resulted in potential unavoidable impacts on wetlands, streams, and the associated buffers. Project impacts would consist of:

- Grading within wetlands, including the placement of fill
- Permanent removal of wetland and buffer vegetation
- Temporary removal of wetland and buffer vegetation
- Indirect effects on habitat as a result of added lighting, and shading of vegetation under boardwalk areas

Table 4-1 summarizes the impacts anticipated for the project. Table 4-2 aggregates these values into total project impacts.

Table 4-1. Estimated Impacts on Wetlands, Streams, and their Buffers from the Lake to Sound Trail—Segment C Project

			Resource Imp	act Area (acres)	a (acres)	Impact	
Aquatic Resource	Jurisdicti on	Rating	Temporary	Permanent	Temporary	Permanent	Location (Project Station)
Wetland A	SeaTac	II	0.10	Fill = 0 Veg removal and shading = 0.29	0.08	0.58	161-182
Wetland B	Burien	IV	0.01	0.05	Less than 0.01	0.09	210-213
Wetland C	SeaTac	I	0	0	0.06	0.23	135-140
Wetland D	SeaTac	III	0	0	0	0	110
Wetland E	SeaTac	II	Less than 0.01	0.02	0.03	0.25	100-105
Wetland F	SeaTac	IV	0	0	0	0	125
Wetland G	SeaTac	IV	Less than 0.01	0.06	0.02	0.05	190- 192+50
Wetland H	SeaTac	IV	0.01	0.07	0.02	0.05	184- 187+50
Total Wetland Impacts			0.12	0.20 (plus 0.29 shading)	0.21	1.25	
West Branch Des Moines Creek	SeaTac		0	0.01 (shading)	N/A (buffer area would be within Wetland A – impacts are calculated for the wetland	N/A	170

Lake to Sound Seg C alternative Impacts Presentation

Table 4-2. Aggregate Impacts on Wetlands, Streams, and Buffers from the Lake to Sound Trail— Segment C Project

Resource Impacted	Jurisdiction	Permanent Impact Area—Grading and Fill (acres)	Permanent Impact Area—Vegetation Removal and Shading (acres)	Temporary Impact Area (acres)
Wetland	SeaTac	0.15 (0.02 Type II, 0.13 Type IV)	0.29 (Type II)	0.12
	Burien	0.05 (<i>Type IV</i>)	0	Less than 0.01
Stream (West Branch Des Moines Creek)	SeaTac	0	0.01	0
Wetland Buffer	SeaTac	1.16	0	0.21
	Burien	0.09	0	Less than 0.01

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5. MITIGATION

The project design team has adhered to the preferred mitigation sequence for the cities of SeaTac and Burien, as well as county (King County Title 21A.24.340) and state guidance (Ecology et al. 2006). The preferred mitigation sequence is to avoid impacts; minimize impacts, rectify temporary impacts, reduce project impacts over time through preservation and maintenance, and compensate for unavoidable impacts.

The project team avoided impacts on wetlands in several areas by design changes. Most resources near the project were avoided by designing the trail to occur on already paved or unvegetated surfaces (road shoulders [e.g., Station 195 to 210], roadways to be abandoned [e.g., Station 113 to 135]). In areas where wetlands, streams, or their buffers were located, the project made every attempt to limit impacts on these resources by realignment to avoid impacts (e.g., Wetland D, Station 110), and design upgrades such as elevated boardwalks (Wetland A, Station 166 to 178) to limit impact areas and fill volumes.

All areas where temporary vegetation removal is required for project construction will be restored to their original condition (if native plants), or a suitable native plant community as part of the project. There would be 0.01 acre of temporary impacts on wetlands and 0.21 acre of temporary impacts on wetland and stream buffers. Those areas would be restored as part of the project.

The project will reduce impacts over time by preserving and maintaining areas that are restored.

After completing this mitigation sequencing process, there will still be permanent grading and fill impacts on 0.20 acre of wetlands and stream, permanent shading impacts on 0.29 acre of wetland and stream (in boardwalk areas), and 1.25 acres of wetland and stream buffer. Permanent impacts on wetlands, streams, and their buffers will require compensatory mitigation.

No mitigation bank serves the SeaTac area and is not available for the project. The King County In-Lieu – Fee program may be a potential mitigation option.

The project proposes to construct permittee-responsible compensatory mitigation to create or re-establish 0.20 acre of wetland, enhance 4.02 acres of wetland, and enhance 1.51 acres of wetland and stream buffer in the same watershed for these unavoidable impacts. A summary of the compensatory mitigation obligations for permanent wetland and stream impacts is summarized in Table 5-1. A screening of potential mitigation locations near the study area is summarized in Appendix E.

Table 5-1. Proposed Compensatory Mitigation for Permanent Wetland and Stream Impacts for the Lake to Sound Trail—Segment C Project

Resource Impacted	Jurisdiction	Impact Area (acres)	Impacts	Туре	Compensatory Mitigation Approach (ratio)	Compensatory Mitigation Area (acres)
Wetland B	Burien	0.05	Vegetation removal and grading	IV	Enhancement (6:1)	0.30
Wetland E	SeaTac	0.02	Vegetation removal and grading	II	Enhancement (12:1)	0.24
Wetland G	SeaTac	0.06	Vegetation removal and grading	IV	Creation/ Re-establishment (1.5:1)	0.09
Wetland H	SeaTac	0.07	Vegetation removal and grading	IV	Creation/ Re-establishment (1.5:1)	0.11
Wetland A	SeaTac	0.29	Vegetation removal and permanent shading	II	Enhancement (12:1)	3.48
Total Wetland	Mitigation Area	a (acres)				4.80
West Branch Des Moines Creek	SeaTac	0.01	Vegetation removal and permanent shading	Non- significant	Riparian enhancement (no prescribed ratio)	0.25
Buffer Areas	SeaTac and Burien	1.26	Vegetation removal and grading	N/A	Buffer enhancement (1:1)	1.26
Total Enhance	ement Area					6.31

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Appendix A

Wetland Data Forms

Project/Site: L2ST Segment C	City/County: SeaTac/ King Sampling Date:9/12/2016						
Applicant/Owner: WSDOT	State: WA Sampling Point: SP-1						
Investigator(s): <u>Josh Wozniak and Trey Parry</u> Section, Township, Range: <u>32, 23N, 04E</u>							
Landform (hillslope, terrace, etc.): Hillslope		Local relie	ef (concave,	convex, none): none	Slope (%): <u>10-20</u>		
Subregion (LRR): A							
				-	tion: <u>Unmapped</u>		
Are climatic / hydrologic conditions on the site typical for this							
Are Vegetation, Soil, or Hydrology sign	-			ormal Circumstances" pres	ent? Yes⊠ No □		
Are Vegetation, Soil, or Hydrology natu				ed, explain any answers in	- -		
SUMMARY OF FINDINGS – Attach site map							
Hydrophytic Vegetation Present? Yes ☐ No ☒		1- 41	. 0				
Hydric Soil Present? Yes ☐ No ☒			e Sampled in a Wetlar		• M		
Wetland Hydrology Present? Yes ☐ No ☒		With	iii a vvetiai	id: 165 140	, <u> </u>		
Remarks: This sample point was positioned on the side-slo	ope of a fill p	ad. It is the	e associated	d upland sample point for S	3P-2.		
VEGETATION – Use scientific names of plan	ts.						
Tree Stratum (Plot size: 30X10 ft. along contour)	Absolute <u>% Cover</u>			Dominance Test works			
1. none				Number of Dominant Spe That Are OBL, FACW, or			
2							
3.				Total Number of Domina Species Across All Strata			
4							
	0	= Total C		Percent of Dominant Spe That Are OBL, FACW, or	ecies r FAC: <u>40</u> (A/B)		
Sapling/Shrub Stratum (Plot size: 15X10 ft. along the con							
1. Corylus cornuta				Prevalence Index work			
2. Oemleria cerasiformis							
3. Rubus armeniacus					x = 0 x = 10		
4. 5.					$x = \frac{10}{10}$		
·		= Total C		*	x 4 = 104		
Herb Stratum (Plot size: 5X3 ft. along contour)					x 5 = 0		
1. Ranunculus repens	8	Yes	FAC	Column Totals: 48	(A) <u>165</u> (B)		
2. Holcus mollis		Yes	FACW	Daniel a sa la dan	D/A 0.40		
3. <u>Calystegia sepium</u>			FAC	Prevalence Index			
4. Galium aparine			FACU	Hydrophytic Vegetation Rapid Test for Hydro			
5. <u>Cirsium vulgare</u>			FACU	Dominance Test is >			
6 7				☐ Prevalence Index is:			
8				☐ Morphological Adapt	tations ¹ (Provide supporting		
9.					or on a separate sheet)		
10				☐ Wetland Non-Vascul			
11				— , ,	nytic Vegetation ¹ (Explain)		
		= Total C		¹ Indicators of hydric soil be present, unless distur	and wetland hydrology must		
Woody Vine Stratum (Plot size: $r = 15 \text{ ft.}$)				be present, unless distar	bod of problematic.		
1. none				Hydrophytic			
2				Vegetation	□ N- □		
% Bare Ground in Herb Stratum 60	<u>U</u>	= Total C	over	Present? Yes	s □ No ⊠		
Remarks: Neither the Dominance Test or Prevalence Inde.	x hydrophyti	c indicator	s were met.	I			

Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. *Location: PL=Pore Lining, M=Matrix *Coation: PL=Pore Lining, M	Depth	Matrix		aspui ill		ment the indicator ox Features	J. JOHN!!	c al		oaioatoio.j
Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. Total Calculation			%	Colc			Loc ²	Textu	re	<u>Remarks</u>
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils Indicators for Problematic Hydrice Soil Problematic Hydrice	0-20	10 YR 3/2	100					Gr Lm	Sand	
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Histosol (A1)							ed Sand Gi			6.
Islatic Epipedon (A2)	-		cable to							•
Black Histic (A3)	•	•							_	` '
Hydrogen Sulfide (A4)						• •	t MLRA 1)	Ē		• •
Depleted Below Dark Surface (A11)		` '					,		-	
☐ Thick Dark Surface (A12) ☐ Redox Dark Surface (F6) aIndicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. ☐ Sandy Mucky Mineral (S1) ☐ Redox Depressions (F8) unless disturbed or problematic. Restrictive Layer (if present): Type: Depth (inches): Hydric Soil Present? Yes ☐ No ☒ APYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (2 or more required): ☐ Surface Water (A1) ☐ Water-Stained Leaves (B9) (except MLRA ☐ Water-Stained Leaves (B9) (MLRA ☐ High Water Table (A2) 1, 2, 4A, and 4B) 4A, and 4B) ☐ Saturation (A3) ☐ Salt Crust (B11) ☐ Drainage Patterns (B10) ☐ Water Marks (B1) ☐ Dry-Season Water Table (C2) ☐ Sadiment Deposits (B2) ☐ Hydrogen Sulfide Odor (C1) ☐ Saturation Visible on Aerial Imager ☐ Irin Deposits (B3) ☐ Oxidized Rhizospheres along Living Roots (C3) ☐ Geomorphic Position (D2) ☐ Irin Deposits (B5) ☐ Recent Iron Reduction in Tilled Soils (C6) ☐ FAC-Neutral Test (D5) ☐ Inundation Visible on Aerial Imagery (B7) ☐ Other (Explain in Remarks) ☐ Frost-Heave Hummocks (D7)		, ,	ce (A11)					_	_	
Sandy Gleyed Matrix (S4)	☐ Thick Dar	k Surface (A12)	, ,		Redox Dark Sui	rface (F6)		3	Indicato	rs of hydrophytic vegetation and
Remarks: Sampled during the dry season HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Surface Water (A1) Salt Crust (B11) Saturation (A3) Salt Crust (B11) Secondary Indicators (2 or more required; heaves (B9) (except MLRA 4A, and 4B) A4A, and 4B) Drainage Patterns (B10) Water Marks (B1) Aquatic Invertebrates (B13) Drift Deposits (B2) Hydrogen Sulfide Odor (C1) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface (B8) Field Observations: Surface Vater Present? Yes No Depth (inches): Wetland Hydrology Present? Yes No Depth (inches): Wetland Hydrology Present? Yes No Depth (inches): Wetland Hydrology Present? Yes No Depth (inches): Wetland Hydrology Present? Yes No Depth (inches): Wetland Hydrology Present? Yes No Depth (inches): Wetland Hydrology Present? Yes No Depth (inches): Wetland Hydrology Present? Yes No Depth (inches): Wetland Hydrology Present? Yes No Depth (inches): Wetland Hydrology Present? Yes No Depth (inches): Wetland Hydrology Present? Yes No Depth (inches): Wetland Hydrology Present? Yes No Depth (inches): Wetland Hydrology Present? Yes No Depth (inches): Wetland Hydrology Present? Yes No Depth (inches): Wetland Hydrology Present? Yes No Depth (inches): Wetland Hydrology Present? Yes No Depth (inches): Wetland Hydrology Present? Yes No Depth (inches): Wetland Hydrology Present? Yes No Depth (inches):	☐ Sandy Mu	icky Mineral (S1)			Depleted Dark S	Surface (F7)			wetla	nd hydrology must be present,
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Remarks: Sampled during the dry season Application Secondary Indicators Secondary Secondary										
Remarks: Sampled during the dry season AyDROLOGY	,,				_					
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Surface Water (A1) Surface Water (A2) Saturation (A3) Salt Crust (B11) Aquatic Invertebrates (B13) Drainage Patterns (B10) Dry-Season Water Table (C2) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Surface Soil Cracks (B6) Recent Iron Reduction in Tilled Soils (C6) Squirace Soil Cracks (B6) Squirace Soil Cracks (B8) Squirace Soil Cracks (B8) Field Observations: Surface Water Present? Yes No Depth (inches): Water Alphotos, previous inspections), if available: Wetland Hydrology Present? Yes No Depth (inches): Wetland Hydrology Present? Yes No Depth (inches): Comparison of the equired provious inspections), if available:	Depth (inc	nes):			-			Hydı	ric Soil	Present? Yes ☐ No ☒
Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (2 or more required; check all that apply) Water-Stained Leaves (B9) (except MLRA High Water Table (A2) 1, 2, 4A, and 4B) Saturation (A3) Salt Crust (B11) Water Marks (B1) Aquatic Invertebrates (B13) Drianage Patterns (B10) Pry-Season Water Table (C2) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Saturation Visible on Aerial Imager In Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes No Depth (inches): Saturation Present? Yes No Depth (inches): Secondary Indicators (2 or more required. Water All Hadams) Water-Stained Leaves (B9) (MLRA 4A, and 4B) Drainage Patterns (B10) Drainage Patterns (B10)	HYDROLOG	SY Y								
Surface Water (A1)	_									
High Water Table (A2)	-		one requ	ired; ch		* *			_	
Saturation (A3)		` ,					xcept MLF	RA	☐ W	
Water Marks (B1) ☐ Aquatic Invertebrates (B13) ☐ Dry-Season Water Table (C2) ☐ Sediment Deposits (B2) ☐ Hydrogen Sulfide Odor (C1) ☐ Saturation Visible on Aerial Imager ☐ Drift Deposits (B3) ☐ Oxidized Rhizospheres along Living Roots (C3) ☐ Geomorphic Position (D2) ☐ Algal Mat or Crust (B4) ☐ Presence of Reduced Iron (C4) ☐ Shallow Aquitard (D3) ☐ Iron Deposits (B5) ☐ Recent Iron Reduction in Tilled Soils (C6) ☐ FAC-Neutral Test (D5) ☐ Surface Soil Cracks (B6) ☐ Stunted or Stressed Plants (D1) (LRR A) ☐ Raised Ant Mounds (D6) (LRR A) ☐ Inundation Visible on Aerial Imagery (B7) ☐ Other (Explain in Remarks) ☐ Frost-Heave Hummocks (D7) ☐ Sparsely Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes ☐ No ☑ Depth (inches): Water Table Present? Yes ☐ No ☑ Depth (inches): Saturation Present? Yes ☐ No ☑ Depth (inches): Gincludes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	_					•			_	•
Sediment Deposits (B2)		` '				` ,				, ,
□ Drift Deposits (B3) □ Oxidized Rhizospheres along Living Roots (C3) □ Geomorphic Position (D2) □ Algal Mat or Crust (B4) □ Presence of Reduced Iron (C4) □ Shallow Aquitard (D3) □ Iron Deposits (B5) □ Recent Iron Reduction in Tilled Soils (C6) □ FAC-Neutral Test (D5) □ Surface Soil Cracks (B6) □ Stunted or Stressed Plants (D1) (LRR A) □ Raised Ant Mounds (D6) (LRR A) □ Inundation Visible on Aerial Imagery (B7) □ Other (Explain in Remarks) □ Frost-Heave Hummocks (D7) □ Sparsely Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes □ No □ Depth (inches): □ Water Table Present? Yes □ No □ Depth (inches): □ Wetland Hydrology Present? Yes □ No □ Includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		` '			•	, ,				•
□ Algal Mat or Crust (B4) □ Presence of Reduced Iron (C4) □ Shallow Aquitard (D3) □ Iron Deposits (B5) □ Recent Iron Reduction in Tilled Soils (C6) □ FAC-Neutral Test (D5) □ Surface Soil Cracks (B6) □ Stunted or Stressed Plants (D1) (LRR A) □ Raised Ant Mounds (D6) (LRR A) □ Inundation Visible on Aerial Imagery (B7) □ Other (Explain in Remarks) □ Frost-Heave Hummocks (D7) □ Sparsely Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes □ No ☑ Depth (inches): □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □										
□ Iron Deposits (B5) □ Recent Iron Reduction in Tilled Soils (C6) □ FAC-Neutral Test (D5) □ Surface Soil Cracks (B6) □ Stunted or Stressed Plants (D1) (LRR A) □ Raised Ant Mounds (D6) (LRR A) □ Inundation Visible on Aerial Imagery (B7) □ Other (Explain in Remarks) □ Frost-Heave Hummocks (D7) □ Sparsely Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes □ No ☑ Depth (inches): □ □ Wetland Hydrology Present? Yes □ No ☑ Depth (inches): □ □ Other (Explain in Remarks) □ Frost-Heave Hummocks (D7) □ Sparsely Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes □ No ☑ Depth (inches): □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □							-	ts (C3)		• • • • • • • • • • • • • • • • • • • •
Surface Soil Cracks (B6)	_ •	` '								. , ,
□ Inundation Visible on Aerial Imagery (B7) □ Other (Explain in Remarks) □ Frost-Heave Hummocks (D7) □ Sparsely Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes □ No ☑ Depth (inches): □ □ □ □ Water Table Present? Yes □ No ☑ Depth (inches): □ □ □ □ □ □ Saturation Present? Yes □ No ☑ Depth (inches): □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □							•			
Sparsely Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes □ No ☒ Depth (inches): Water Table Present? Yes □ No ☒ Depth (inches): Saturation Present? Yes □ No ☒ Depth (inches): (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:			lme	(DZ)			(LKK A))		, , , ,
Field Observations: Surface Water Present? Yes No Depth (inches): Water Table Present? Yes No Depth (inches): Saturation Present? Yes No Depth (inches): (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:					☐ Otner (Exp	oram in Kemarks)			⊔ Fr	usi-пеave ниттоскѕ (D/)
Surface Water Present? Yes No Depth (inches): Water Table Present? Yes No Depth (inches): Saturation Present? Yes No Depth (inches): (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:			e Suriac	e (Do)						
Water Table Present? Yes No Depth (inches):			Vac □	No ⊠	Denth (inches	z)·				
Saturation Present? Yes No Depth (inches): Wetland Hydrology Present? Yes No Concludes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:										
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:							\A/	am -1 11	ا مرام	v.Dracout2 V D N- M
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:			res ∐	NO 🖂	Depth (inches	s):	Wetl	and Hy	arolog	y Present? Yes ∐ No ⊠
Remarks: Dry Season, Sample point is perched 2.3 feet above the associated wetland surface on the edge of a fill had	Describe Rec	orded Data (stream	m gauge,	monito	ring well, aerial	photos, previous in	spections),	if availa	able:	
	Remarks: Dr.	Season Sample	noint is n	erched	2-3 feet ahove t	the associated wot	and surface	on the	edae o	f a fill nad
Tromatics. Dry Coason. Cample point is percined 2.5 reet above the associated wetland surface on the edge of a fill pad.	rtemarks. Dry	Coason. Cample	ρυπι ιο μ	oroneu .		ano associated Well	and sunact	, on the	cuye 0	i a iii paa.

Project/Site: L2ST Segment C	City/County: SeaTac/ King Sampling Date: 9/12/2016					
Applicant/Owner: WSDOT	State: WA Sampling Point: SP - 2					
Investigator(s): Josh Wozniak and Trey Parry			Section, To	ownship, Range: <u>32, 23N, (</u>)4E	
Landform (hillslope, terrace, etc.): Shallow depression		Local rel	lief (concave,	, convex, none): Concave	Slope (%): <u>1-2</u>	
Subregion (LRR): A	_ Lat:			Long:	Datum:	
Soil Map Unit Name: NOTCOM				NWI classification	tion: Unmapped	
Are climatic / hydrologic conditions on the site typical for this						
Are Vegetation, Soil, or Hydrology sign	-			ormal Circumstances" pres	ent? Yes ⊠ No □	
Are Vegetation, Soil, or Hydrology natu				ed, explain any answers in	- -	
SUMMARY OF FINDINGS – Attach site map						
Hydrophytic Vegetation Present? Yes ☒ No ☐						
Hydric Soil Present? Yes ⊠ No □			the Sampled thin a Wetlar		. П	
Wetland Hydrology Present? Yes ⊠ No □						
Remarks: The sample point meets the criterion for hydroph wetland. This sample point is positioned at the toe of a fill part a depressional wetland. VEGETATION – Use scientific names of plant	pad at the no	tion, hydri orth end c	ic soil, and work work wetland A.	etland hydrology; thus, the The site is characterized a	site is determined to be a as PFO habitat and is rated as	
[Dominar	nt Indicator	Dominance Test works	heet:	
<u>Tree Stratum</u> (Plot size: $\underline{r} = 30 \text{ ft}$)	% Cover			Number of Dominant Sp	ecies	
1. Populus balsamifera				That Are OBL, FACW, o	r FAC: <u>4</u> (A)	
2. Alnus rubra				Total Number of Domina		
3				Species Across All Strate	a: <u>5</u> (B)	
4	65			Percent of Dominant Spe That Are OBL, FACW, o	ecies r FAC: <u>80%</u> (A/B)	
1. Cornus alba	80	Yes	FACW	Prevalence Index work	sheet:	
Rubus spectabilis					Multiply by:	
3					x 1 =	
4.					x 2 =	
5				FAC species	x 3 =	
	85			FACU species	x 4 =	
Herb Stratum (Plot size: $\underline{r} = 5 \text{ ft}$)				UPL species	x 5 =	
1. Polystichum munitum			FACU	Column Totals:	(A) (B)	
2. Equisetum telmateia				Prevalence Index	= B/A =	
3				Hydrophytic Vegetation		
4				☐ Rapid Test for Hydro		
6.				☐ Dominance Test is >		
7				☐ Prevalence Index is	≤3.0 ¹	
8.					ations ¹ (Provide supporting	
9					or on a separate sheet)	
10				☐ Wetland Non-Vascul		
11				_ , ,	nytic Vegetation¹ (Explain)	
Woody Vine Stratum (Plot size: $\underline{r} = 15 \text{ ft}$)	7	= Total	Cover	be present, unless distur	and wetland hydrology must bed or problematic.	
1. none				Hydrophytic		
2				Vegetation		
% Bare Ground in Herb Stratum <u>30</u>	0	= Total	Cover	Present? Yes	⊠ No □	
Remarks: Leaf litter and downed branches/trees explains t	he percenta	ge of bar	e ground.			
	,	-	-			

	cription: (Describ		depth n				or confir	m the abs	sence	of indicators.)
Depth (inches)	Matrix Color (moist)	%	Cold	or (moist)	ox Featu %	r <u>es</u> Type¹	Loc ²	Textur	е	Remarks
0-8	10YR 2/1	97		R 7/1	3	 D	M	Loam		
8-14	10YR 4/2	94	10Y	R 5/6	3	С	М	Loam		Prominent contrast
				R 7/1	3	 D	M			Distinct contrast
14-20+	10YR 6/2	95	_	R 5/6	 5		M	Clay Lo		
14-20+	1011 6/2	95	101	K 3/0	_ 5		IVI	Clay LC	alli	Prominent contrast
	-									
	-									-
	oncentration, D=D Indicators: (App						ed Sand G			cation: PL=Pore Lining, M=Matrix. prs for Problematic Hydric Soils ³ :
Histosol		ilcable to		Sandy Redox (oleu.)				n Muck (A10)
	oipedon (A2)			Stripped Matrix						Parent Material (TF2)
	stic (A3)			Loamy Mucky	` '	-1) (excep	t MLRA 1)	,		/ Shallow Dark Surface (TF12)
	en Sulfide (A4)			Loamy Gleyed			,			er (Explain in Remarks)
	d Below Dark Surfa	ace (A11)		Depleted Matri		,				,
	ark Surface (A12)			Redox Dark Su	urface (F6	6)		³ lr	ndicate	ors of hydrophytic vegetation and
	lucky Mineral (S1)			Depleted Dark		,				and hydrology must be present,
-	Bleyed Matrix (S4)			Redox Depress	sions (F8)			unles	ss disturbed or problematic.
	Layer (if present)									
Type:	 iches):			_						
. `				•				Hydri	c Soil	Present? Yes 🛛 No 🗌
Remarks: Di	ry Season									
HYDROLO	GY									
Wetland Hy	drology Indicator	s:								
Primary Indi	cators (minimum o	f one requ	uired; ch	eck all that app	oly)				Seco	ndary Indicators (2 or more required)
☐ Surface	Water (A1)			☐ Water-Sta	ained Lea	ves (B9) (xcept ML	RA	□ V	/ater-Stained Leaves (B9) (MLRA 1, 2,
☐ High Wa	ater Table (A2)			1, 2, 4	A, and 4	В)				4A, and 4B)
☐ Saturation	on (A3)			☐ Salt Crust	(B11)					rainage Patterns (B10)
☐ Water M	larks (B1)			☐ Aquatic In	vertebrat	es (B13)				ry-Season Water Table (C2)
☐ Sedimer	nt Deposits (B2)			☐ Hydrogen	Sulfide (Odor (C1)			□ S	aturation Visible on Aerial Imagery (C9)
☐ Drift Dep	posits (B3)			Oxidized	Rhizosph	eres along	Living Roo	ots (C3)	⊠G	eomorphic Position (D2)
☐ Algal Ma	at or Crust (B4)			☐ Presence	of Reduc	ed Iron (C	4)		□ s	hallow Aquitard (D3)
☐ Iron Dep	oosits (B5)			☐ Recent Ire	on Reduc	tion in Tille	d Soils (C	6)	⊠ F	AC-Neutral Test (D5)
☐ Surface	Soil Cracks (B6)			☐ Stunted o	r Stresse	d Plants (D	01) (LRR A	()		aised Ant Mounds (D6) (LRR A)
☐ Inundation	on Visible on Aeria	I Imagery	(B7)	☐ Other (Ex	plain in R	temarks)			□ F	rost-Heave Hummocks (D7)
	Vegetated Conca	ve Surfac	e (B8)							
Field Obser	rvations:									
Field Obser Surface Wat		Yes 🗌	No ⊠	Depth (inche	es):					
	ter Present?	Yes Yes	No ⊠ No ⊠	Depth (inche						
Surface Wat Water Table Saturation P	ter Present? Present? Present?				es):		Wet	tland Hyd	lrolog	y Present? Yes ⊠ No □
Surface Wat Water Table Saturation P (includes ca	ter Present? Present? Present? pillary fringe)	Yes Yes	No ⊠ No ⊠	Depth (inche	es): es):					y Present? Yes ⊠ No □
Surface Wat Water Table Saturation P (includes ca	ter Present? Present? Present?	Yes Yes	No ⊠ No ⊠	Depth (inche	es): es):					y Present? Yes ⊠ No □
Surface Wat Water Table Saturation P (includes ca Describe Re	ter Present? Present? Present? pillary fringe)	Yes ☐ Yes ☐ am gauge	No ⊠ No ⊠ , monito	Depth (inche Depth (inche ring well, aerial	es):es):					y Present? Yes ⊠ No □
Surface Wat Water Table Saturation P (includes ca Describe Re	ter Present? Present? Present? pillary fringe) ecorded Data (strea	Yes ☐ Yes ☐ am gauge	No ⊠ No ⊠ , monito	Depth (inche Depth (inche ring well, aerial	es):es):					y Present? Yes ⊠ No □
Surface Wat Water Table Saturation P (includes ca Describe Re	ter Present? Present? Present? pillary fringe) ecorded Data (strea	Yes ☐ Yes ☐ am gauge	No ⊠ No ⊠ , monito	Depth (inche Depth (inche ring well, aerial	es):es):					y Present? Yes ⊠ No □

Project/Site: L2ST Segment C	C	City/County	y: <u>SeaTac/ Ki</u>	ing Sa	Sampling Date: 9/12/2016		
Applicant/Owner: WSDOT				State: WA Sa	mpling Point: <u>SP - 3</u>		
nvestigator(s): <u>Josh Wozniak and Trey Parry</u>					-		
andform (hillslope, terrace, etc.): Hillslope				· -			
Subregion (LRR): <u>A</u>							
Soil Map Unit Name: NOTCOM							
Are climatic / hydrologic conditions on the site typical for this					Оппаррец		
, ,	•		_ `	,	NATE NATE		
Are Vegetation, Soil, or Hydrology sign				mal Circumstances" present?			
re Vegetation, Soil, or Hydrology natu	ırally problem	natic?	(If needed	d, explain any answers in Rei	narks.)		
SUMMARY OF FINDINGS – Attach site map	showing s	samplin	g point lo	cations, transects, im	portant features, etc.		
Hydrophytic Vegetation Present? Yes ☐ No ☒]		46 - 0 1 - 4	1.4			
Hydric Soil Present? Yes ☐ No ⊠	_		the Sampled		-7		
Wetland Hydrology Present? Yes ☐ No ⊠]	Wit	thin a Wetlar	nd? Yes ☐ No [<u>N</u>		
Remarks: This sample point is positioned in what appear planting efforts. It is the associated upland for SP-4 and /EGETATION – Use scientific names of plan	Wetland A.						
<u>Tree Stratum</u> (Plot size: <u>r = 30 ft.</u>)	Absolute % Cover		nt Indicator S? Status	Dominance Test workshe Number of Dominant Spec			
1. Alnus rubra	80	Yes	FAC	That Are OBL, FACW, or F			
2. Tsuga heterophylla	30	Yes	<u>FACU</u>	Total Number of Dominant			
3. Thuja plicata	20	No	FAC	Species Across All Strata:	<u>3</u> (B)		
Pseudotsuga menziesii	10	No	FACU	Percent of Dominant Speci	100		
Sapling/Shrub Stratum (Plot size: r = 15 ft.)	140	_ = Total	Cover	That Are OBL, FACW, or F			
1. Prunus laurocerasus	70	_ Yes	N/L	Prevalence Index worksh			
2. <u>Oemleria cerasiformis</u>			<u>FACU</u>	Total % Cover of:			
3. <u>Sambucus racemosa</u>			FACU	OBL species			
4				FACW species			
5					x 3 = <u>300</u>		
Herb Stratum (Plot size: r = 5 ft.)	95	_ = Total	Cover	FACU species 65			
1. <u>none</u>					x = 350		
2				Column Totals: 235	(A) <u>910</u> (B)		
3.				Prevalence Index = I	B/A = 3.87		
4.				Hydrophytic Vegetation I	ndicators:		
5				☐ Rapid Test for Hydroph	ytic Vegetation		
6				☐ Dominance Test is >50	1%		
7				☐ Prevalence Index is ≤3	.01		
8				☐ Morphological Adaptati data in Remarks or	ions ¹ (Provide supporting on a separate sheet)		
9				☐ Wetland Non-Vascular	Plants ¹		
10.				☐ Problematic Hydrophyt	ic Vegetation1 (Explain)		
11.		= Total	Cover	¹ Indicators of hydric soil an be present, unless disturbe			
Woody Vine Stratum (Plot size: $r = 15 \text{ ft}$)							
1. none				Hydrophytic			
				Vegetation	7 N 5 N 7		
2			^				
2		_ = Total	Cover	Present? Yes] No ⊠		

Depth (inches)	Color (moist)	%	_ Cold	or (moist)	%	Type'	Loc ²	Texture	<u>Remarks</u>
)-4	7.5 YR 3/2	90	7.5 `	YR 3/3	10	С	M	Sandy Loam	Faint contrast
l-16	7.5 YR 3/2	90	7.5 `	YR 3/3	10	С	М	Sandy Loam	More compacted and less roots
			_						
								-	
									-
Type: C=Co	ncentration, D=D	epletion.	RM=Red	luced Matrix. C	S=Covere	ed or Coat	ed Sand G	rains. ² Lo	ocation: PL=Pore Lining, M=Matrix.
	ndicators: (App								ors for Problematic Hydric Soils ³ :
Histosol (A1)		□ :	Sandy Redox ((S5)			☐ 2 cr	m Muck (A10)
☐ Histic Epi	pedon (A2)			Stripped Matrix					d Parent Material (TF2)
Black His	. ,			Loamy Mucky			t MLRA 1)		y Shallow Dark Surface (TF12)
	Sulfide (A4)			Loamy Gleyed		2)		☐ Oth	er (Explain in Remarks)
•	Below Dark Surfa	ace (A11)		Depleted Matri Redox Dark Su				31001:0-4	ore of hydrophytic vegetation and
	rk Surface (A12) ucky Mineral (S1)			Redox Dark St Depleted Dark					ors of hydrophytic vegetation and and hydrology must be present,
-	eyed Matrix (S4)			Redox Depress		',			ss disturbed or problematic.
	ayer (if present)	:			(/				
Type:				-					
emarks: Sai	mpled during the							Hydric Soi	il Present? Yes □ No ⊠
Remarks: Sai	mpled during the	dry seaso						Hydric Soi	il Present? Yes □ No ☑
Remarks: Sar DROLOG Wetland Hyd	mpled during the	dry seaso	n.		oly)				il Present? Yes No 🖂
Remarks: Sar DROLOG Vetland Hyd Primary Indica	mpled during the Y Irology Indicator ators (minimum o	dry seaso	n.	eck all that app	•	ves (B9) (€	except MLI	Seco	ondary Indicators (2 or more required)
DROLOG Vetland Hyd Crimary Indicator	mpled during the Y Irology Indicator ators (minimum o	dry seaso	n.	eck all that app	•		except MLI	Seco	ondary Indicators (2 or more required)
DROLOG Vetland Hyd Crimary Indicate Surface V	Y Irology Indicator ators (minimum o Vater (A1) er Table (A2)	dry seaso	n.	eck all that app	ained Leav		except MLI	Seco	ondary Indicators (2 or more required) Vater-Stained Leaves (B9) (MLRA 1, 2,
DROLOG Vetland Hyd Timary Indica Surface V High Wate	Y Irology Indicator ators (minimum o Vater (A1) er Table (A2) n (A3)	dry seaso	n.	eck all that app Water-Sta	ained Leav A, and 4E (B11)	3)	except MLI	Seco	ondary Indicators (2 or more required) Vater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
DROLOG Vetland Hyd Primary Indica Surface V High Wate Saturation Water Ma	Y Irology Indicator ators (minimum o Vater (A1) er Table (A2) n (A3)	dry seaso	n.	eck all that app Water-Sta 1, 2, 4	ained Leav A, and 4E (B11) overtebrate	B) es (B13)	except MLI	Secc	ondary Indicators (2 or more required) Vater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Orainage Patterns (B10) Ory-Season Water Table (C2)
DROLOG Vetland Hyd Primary Indica Surface V High Wate Saturation Water Ma	Y Irology Indicator ators (minimum o Vater (A1) er Table (A2) n (A3) arks (B1) t Deposits (B2)	dry seaso	n.	eck all that app Water-Sta 1, 2, 4 Salt Crust Aquatic In Hydrogen	ained Leaver A, and 4E (B11) avertebrate Sulfide O	es (B13) dor (C1)	except MLI	Secc	ondary Indicators (2 or more required) Vater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Orainage Patterns (B10) Ory-Season Water Table (C2)
DROLOG Vetland Hyde Surface V High Wate Saturation Water Ma Sediment Drift Depo	Y Irology Indicator ators (minimum o Vater (A1) er Table (A2) n (A3) arks (B1) t Deposits (B2)	dry seaso	n.	eck all that app Water-Sta 1, 2, 4 Salt Crust Aquatic In Hydrogen	ined Leaver A, and 4E (B11) Invertebrate Sulfide O	es (B13) dor (C1) eres along	Living Roc	Secc RA V	ondary Indicators (2 or more required) Vater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Orainage Patterns (B10) Ory-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9
DROLOG Vetland Hyd Surface V High Wate Saturation Water Ma Sediment Drift Depo	Y Irology Indicator ators (minimum o Vater (A1) er Table (A2) n (A3) arks (B1) t Deposits (B2) posits (B3) or Crust (B4) posits (B5)	dry seaso	n.	eck all that app Water-Sta 1, 2, 4 Salt Crust Aquatic In Hydrogen Oxidized I	A, and 4E t (B11) overtebrate Sulfide O Rhizosphe of Reduce	es (B13) dor (C1) eres along ed Iron (C ion in Tille	Living Roc 4) d Soils (C6	Seccent Seccen	ondary Indicators (2 or more required) Vater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Orainage Patterns (B10) Ory-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9 Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5)
DROLOG Vetland Hyd Primary Indica Surface V High Water Saturation Water Ma Sediment Drift Depo	Y Irology Indicator ators (minimum or Vater (A1) er Table (A2) n (A3) arks (B1) t Deposits (B2) posits (B3) or Crust (B4) posits (B5) Goil Cracks (B6)	rs:	uired; che	eck all that app Water-Sta 1, 2, 4 Salt Crust Aquatic In Hydrogen Oxidized Presence Recent Iro Stunted o	Ained Leave AA, and 4E t (B11) Invertebrate Sulfide O Rhizosphe of Reduce on Reducti r Stressed	es (B13) dor (C1) eres along ed Iron (C ion in Tille I Plants (D	Living Roo 4)	Secondary Second	ondary Indicators (2 or more required) Vater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Orainage Patterns (B10) Ory-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)
DROLOG Wetland Hyde Primary Indicate Surface V High Water Saturation Water Ma Sediment Drift Depo	Y Irology Indicator ators (minimum or Vater (A1) er Table (A2) n (A3) arks (B1) t Deposits (B2) posits (B3) or Crust (B4) posits (B5) Soil Cracks (B6) n Visible on Aeria	rs: one requal Imagery	uired; che	eck all that app Water-Sta 1, 2, 4 Salt Crust Aquatic In Hydrogen Oxidized I	Ained Leave AA, and 4E t (B11) Invertebrate Sulfide O Rhizosphe of Reduce on Reducti r Stressed	es (B13) dor (C1) eres along ed Iron (C ion in Tille I Plants (D	Living Roc 4) d Soils (C6	Secondary Second	ondary Indicators (2 or more required) Vater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Orainage Patterns (B10) Ory-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9 Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5)
DROLOG Vetland Hyd Surface V High Water Saturation Water Ma Sediment Drift Depo Algal Mat Iron Depo Surface S Inundation	Y Irology Indicator ators (minimum o Vater (A1) er Table (A2) n (A3) arks (B1) t Deposits (B2) osits (B3) or Crust (B4) osits (B5) Soil Cracks (B6) n Visible on Aeria Vegetated Conca	rs: one requal Imagery	uired; che	eck all that app Water-Sta 1, 2, 4 Salt Crust Aquatic In Hydrogen Oxidized Presence Recent Iro Stunted o	Ained Leave AA, and 4E t (B11) Invertebrate Sulfide O Rhizosphe of Reduce on Reducti r Stressed	es (B13) dor (C1) eres along ed Iron (C ion in Tille I Plants (D	Living Roc 4) d Soils (C6	Secondary Second	ondary Indicators (2 or more required) Vater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Orainage Patterns (B10) Ory-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)
DROLOG Vetland Hyd Primary Indica Surface V High Water Saturation Water Ma Sediment Drift Depo Algal Mat Iron Depo Surface S Inundation Sparsely	Y Irology Indicator ators (minimum or Vater (A1) er Table (A2) n (A3) arks (B1) t Deposits (B2) posits (B3) or Crust (B4) posits (B5) Soil Cracks (B6) n Visible on Aeria Vegetated Concar vations:	rs: of one requal Imagery	uired; che	eck all that app Water-Sta 1, 2, 4 Salt Crust Aquatic In Hydrogen Oxidized Presence Recent Irc Stunted o Other (Ex	nined Leave A, and 4E (B11) avertebrate Sulfide O Rhizosphe of Reduction Reduction r Stressed	es (B13) dor (C1) eres along ed Iron (C ion in Tille I Plants (D emarks)	Living Roc 4) d Soils (C6	Secondary Second	ondary Indicators (2 or more required) Vater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Orainage Patterns (B10) Ory-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)
DROLOG Vetland Hyd Primary Indica Surface V High Water Saturation Water Ma Sediment Drift Depo Algal Mat Iron Depo Surface S Inundation Sparsely Field Observe	Y Irology Indicator ators (minimum or Vater (A1) er Table (A2) n (A3) arks (B1) arks (B1) cr Crust (B4) posits (B3) or Crust (B4) posits (B5) or Cracks (B6) n Visible on Aeria Vegetated Conca vations: er Present?	rs: of one requare Surface Yes	uired; che (B7) ee (B8)	eck all that app Water-Sta 1, 2, 4 Salt Crust Aquatic In Hydrogen Oxidized Presence Recent Inc Stunted o Other (Ex	ained Leav A, and 4E (B11) avertebrate Sulfide O Rhizosphe of Reduce on Reducti r Stressed plain in Re	es (B13) dor (C1) eres along ed Iron (C ion in Tille I Plants (D emarks)	Living Roc 4) d Soils (C6	Secondary Second	ondary Indicators (2 or more required) Vater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Orainage Patterns (B10) Ory-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)
DROLOG Wetland Hyde Primary Indicate Surface V High Water Saturation Water Ma Sediment Drift Depoil Iron Depoil Surface S Inundation Sparsely Field Observ Surface Water	Y Irology Indicator ators (minimum or Vater (A1) er Table (A2) n (A3) arks (B1) t Deposits (B2) posits (B3) t or Crust (B4) posits (B5) Soil Cracks (B6) n Visible on Aeria Vegetated Conca Vations: er Present? Present?	al Imagery ave Surface Yes Yes	(B7) ie (B8) No 🖂	eck all that app Water-Sta 1, 2, 4 Salt Crust Aquatic In Hydrogen Oxidized Presence Recent Irc Stunted o Other (Ex	ained Leaven A, and 4E (B11) avertebrate Sulfide O Rhizosphe of Reduction Reduction Reduction Regularing in Research Stressed Splain in Research Splain in Researc	es (B13) dor (C1) eres along ed Iron (C ion in Tille I Plants (D emarks)	Living Roo 4) d Soils (C6 11) (LRR A	Seccent Seccen	ondary Indicators (2 or more required) Vater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Orainage Patterns (B10) Ory-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)
DROLOG Wetland Hyde Primary Indicate Surface V High Water Saturation Water Ma Sediment Drift Depo Algal Mat Iron Depo Surface S Inundation Sparsely Field Observ Surface Water Water Table R Saturation Pre-	Y Irology Indicator ators (minimum or Vater (A1) er Table (A2) in (A3) arks (B1) is Deposits (B2) posits (B3) for Crust (B4) posits (B5) Soil Cracks (B6) in Visible on Aeria Vegetated Conca Vations: er Present? Present?	rs: of one requare Surface Yes	uired; che (B7) ee (B8)	eck all that app Water-Sta 1, 2, 4 Salt Crust Aquatic In Hydrogen Oxidized Presence Recent Inc Stunted o Other (Ex	ained Leaven A, and 4E (B11) avertebrate Sulfide O Rhizosphe of Reduction Reduction Reduction Regularing in Research Stressed Splain in Research Splain in Researc	es (B13) dor (C1) eres along ed Iron (C ion in Tille I Plants (D emarks)	Living Roo 4) d Soils (C6 11) (LRR A	Seccent Seccen	ondary Indicators (2 or more required) Vater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Orainage Patterns (B10) Ory-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)
DROLOG Vetland Hyd Primary Indica Surface V High Water Saturation Vater Ma Sediment Drift Depo Algal Mat Iron Depo Surface S Inundation Sparsely Field Observ Surface Water Vater Table If Saturation Princludes cap	Y Irology Indicator ators (minimum or Vater (A1) er Table (A2) in (A3) arks (B1) is Deposits (B2) posits (B3) for Crust (B4) posits (B5) Soil Cracks (B6) in Visible on Aeria Vegetated Conca Vations: er Present? Present?	rs: If one required ave Surface Yes Yes Yes Yes Yes Yes Yes Ye	uired; che (B7) ee (B8) No 🌣 No 🔯	eck all that app Water-Sta 1, 2, 4 Salt Crust Aquatic In Hydrogen Oxidized Presence Recent Irc Stunted o Other (Ex Depth (inched Depth (inched)	ained Leave A, and 4E (B11) avertebrate Sulfide O Rhizosphe of Reduction r Stressed plain in Re	es (B13) dor (C1) eres along ed Iron (C ion in Tille I Plants (D emarks)	Living Roc 4) d Soils (C6 11) (LRR A	Secondary Second	ondary Indicators (2 or more required) Vater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Orainage Patterns (B10) Ory-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)
DROLOG Vetland Hyd Primary Indica Surface V High Water Saturation Vater Ma Sediment Drift Depo Algal Mat Iron Depo Surface S Inundation Sparsely Field Observ Surface Water Vater Table If Saturation Proincludes cap Describe Reco	Y Irology Indicator ators (minimum or Vater (A1) er Table (A2) in (A3) arks (B1) is Deposits (B2) posits (B3) is or Crust (B4) posits (B5) Soil Cracks (B6) in Visible on Aeria Vegetated Conca vations: er Present? Present? esent? esent? esent? esent?	al Imagery ave Surface Yes Yes Yes Amagery Ares Amagery	(B7) ie (B8) No No No No No No No No No No	eck all that app Water-Sta 1, 2, 4 Salt Crust Aquatic In Hydrogen Oxidized Presence Recent Irc Stunted o Other (Ex Depth (inched Depth (inched)	ained Leave A, and 4E (B11) avertebrate Sulfide O Rhizosphe of Reduction r Stressed plain in Re	es (B13) dor (C1) eres along ed Iron (C ion in Tille I Plants (D emarks)	Living Roc 4) d Soils (C6 11) (LRR A	Secondary Second	ondary Indicators (2 or more required) Vater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Orainage Patterns (B10) Ory-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)
DROLOG Vetland Hyd Primary Indica Surface V High Water Saturation Vater Ma Sediment Drift Depo Algal Mat Iron Depo Surface S Inundation Sparsely Field Observ Surface Water Vater Table If Saturation Proincludes cap Describe Reco	Y Irology Indicator ators (minimum or Vater (A1) er Table (A2) in (A3) arks (B1) arks (B1) arks (B3) arc Crust (B4) arc Crust (B4) arc Crust (B4) arc Crust (B6) in Visible on Aeria Vegetated Conca Vations: ar Present? Present? esent? esent? eillary fringe)	al Imagery ave Surface Yes Yes Yes Amagery Ares Amagery	(B7) ie (B8) No No No No No No No No No No	eck all that app Water-Sta 1, 2, 4 Salt Crust Aquatic In Hydrogen Oxidized Presence Recent Irc Stunted o Other (Ex Depth (inched Depth (inched)	ained Leave A, and 4E (B11) avertebrate Sulfide O Rhizosphe of Reduction r Stressed plain in Re	es (B13) dor (C1) eres along ed Iron (C ion in Tille I Plants (D emarks)	Living Roc 4) d Soils (C6 11) (LRR A	Secondary Second	ondary Indicators (2 or more required) Vater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Orainage Patterns (B10) Ory-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: L2ST Segment C	(ity: <u>SeaTac/ I</u>	King	Sampling Date: 9/12/2016	
Applicant/Owner: WSDOT				State: WA	Sampling Point: <u>SP - 4</u>
Investigator(s): Josh Wozniak and Trey Parry			Section, To	ownship, Range: <u>32, 23N, (</u>	D4E
Landform (hillslope, terrace, etc.): Depression		Local rel	lief (concave,	convex, none): Concave	Slope (%): <u>5-10</u>
Subregion (LRR): A	_ Lat:			Long:	Datum:
Soil Map Unit Name: NOTCOM				NWI classification	tion: Unmapped
Are climatic / hydrologic conditions on the site typical for this					
Are Vegetation, Soil, or Hydrology sign	-			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					
Hydrophytic Vegetation Present? Yes ☒ No ☐				A	
Hydric Soil Present? Yes ⊠ No □			the Sampled thin a Wetlar		<u>,</u> П
Wetland Hydrology Present? Yes ⊠ No □		WIL	illii a vvetiai	id: Tes 🗌 Tid	, L
Remarks: This sample point is positioned on a slope at the Wetland A. At the base of the slope is a depression that is season. The sample plot is characterized as a PFO habitat VEGETATION – Use scientific names of plant	saturated d				
		Dominar	nt Indicator	Dominance Test works	sheet:
<u>Tree Stratum</u> (Plot size: $\underline{r} = 30 \text{ ft.}$)	% Cover			Number of Dominant Sp	
1. Alnus rubra	50	Yes	FAC		r FAC: <u>5</u> (A)
Populus balsamifera 3.				Total Number of Domina Species Across All Strate	
4				Percent of Dominant Spe	ecies
Sapling/Shrub Stratum (Plot size: r = 15 ft.)	00	= Total	Oover	That Are OBL, FACW, o	r FAC: <u>100</u> (A/B)
1. Salix lucida	20	Yes	FACW	Prevalence Index work	
2. Rubus spectabilis	<u>15</u>	Yes	FAC		Multiply by:
3. Acer platanoides					x 1 =
4					x 2 =
5					x 3 =
Herb Stratum (Plot size: r = 5 ft.)	40	= Total	Cover	UPL species	x 4 =
1. Equisetum telmateia	60	Yes	FACW		(A) (B)
2. Athyrium cyclosorum	15	No	FAC	Column Fotalo.	(N) (D)
3. Polystichum munitum	10	No	FACU	Prevalence Index	= B/A =
4. Ranunculus repens	5	No	FAC	Hydrophytic Vegetation	
5				Rapid Test for Hydro	· · ·
6				Dominance Test is >	
7				☐ Prevalence Index is	
8					tations ¹ (Provide supporting or on a separate sheet)
9				☐ Wetland Non-Vascul	, ,
10				☐ Problematic Hydroph	nytic Vegetation¹ (Explain)
11	90		Cover	¹ Indicators of hydric soil be present, unless distur	and wetland hydrology must rbed or problematic.
Woody Vine Stratum (Plot size: <u>r = 15 ft.</u>) 1. <u>none</u>					
2				Hydrophytic	
% Bare Ground in Herb Stratum <u>5</u>	0			Vegetation Present? Yes	No □
Remarks:				<u> </u>	

Depth	cription: (Describ Matrix		lepth ne		ument th lox Featu		r or con	firm the al	osence	of indicators.)
(inches)	Color (moist)	%	Colo	r (moist)	<u> </u>	Type ¹	Loc ²	Textu	ire	Remarks
0-6	10 YR 2/1	98	10 Y	R 5/6	2	D	М	Clay lo	oam	Prominent Contrast
6-10	10 YR 2/1	95	10 Y	R 7/1	3	D	М	Clay lo	oam	Prominent Contrast
				R 5/6	<u>-</u>	 D	М			Prominent Contrast
10-16	10YR 2/1	93		R 7/1	3	D	М	Clay L	oam	Prominent Contrast
10 10	1011(2)1			R 5/6	<u></u>	<u></u> D	M	<u> </u>	Journ	Prominent Contrast
	-			/R 5/6	<u>2</u> 2	<u>Б</u> D	M			
			7.3 1	IK 3/0			IVI			Prominent Contrast
	-									
	oncentration, D=D Indicators: (App						ted Sand			cation: PL=Pore Lining, M=Matrix. prs for Problematic Hydric Soils ³ :
Histosol		iloable to		Sandy Redox		oteu.,				n Muck (A10)
	pipedon (A2)			Stripped Matri:				_		Parent Material (TF2)
☐ Black Hi				_oamy Mucky	. ,	F1) (evcen	+ MI RA	_		/ Shallow Dark Surface (TF12)
	n Sulfide (A4)			_oamy Gleyed		. ,	I WILINA		-	er (Explain in Remarks)
	d Below Dark Surfa	ce (Δ11)		Depleted Matr		2)		L	_ 0	or (Explain in Nomana)
	ark Surface (A12)	icc (A11)		Redox Dark S		6)		3	Indicate	ors of hydrophytic vegetation and
	lucky Mineral (S1)			Depleted Dark						and hydrology must be present,
-	Gleyed Matrix (S4)			Redox Depres						ss disturbed or problematic.
	Layer (if present)	:				-,				
_										
Depth (in	ches):							Hyd	ric Soil	Present? Yes ⊠ No □
Remarks:										
HYDROLO	GY									
Wetland Hy	drology Indicator	s:								
Primary Indi	cators (minimum o	f one requ	ired; che	eck all that ap	ply)				Seco	ndary Indicators (2 or more required)
☐ Surface	Water (A1)			☐ Water-Sta	ained Lea	aves (B9) (except N	/ILRA	Пν	/ater-Stained Leaves (B9) (MLRA 1, 2,
	iter Table (A2)				4A, and 4	. , ,				4A, and 4B)
				☐ Salt Crus	•	,			Πп	rainage Patterns (B10)
	arks (B1)			☐ Aquatic Ir	` '	tes (R13)				ry-Season Water Table (C2)
	nt Deposits (B2)					Odor (C1)				aturation Visible on Aerial Imagery (C9)
	posits (B3)					neres along	L ivina E	Pooto (C3)	_	eeomorphic Position (D2)
-					•	-	-	10015 (03)		, , ,
_	at or Crust (B4)					ced Iron (C		(00)		hallow Aquitard (D3)
-	osits (B5)					ction in Tille		` ,		AC-Neutral Test (D5)
l —	Soil Cracks (B6)		(DT)			ed Plants (D)1) (LKK	(A)		aised Ant Mounds (D6) (LRR A)
_	on Visible on Aeria	0,	` '	Other (Ex	cplain in F	Remarks)			∐ F	rost-Heave Hummocks (D7)
	Vegetated Conca	ve Surface	e (B8)				-			
Field Obser										
Surface Wat	ter Present?	Yes 🗌	No 🛛	Depth (inche	es):					
Water Table	Present?	Yes 🛛	No 🗌	Depth (inche	es): <u>11"</u>	•				
Saturation P		Yes 🛛	No 🗌	Depth (inche	es): <u>6"</u>		W	etland Hy	drolog	y Present? Yes ⊠ No □
	pillary fringe) corded Data (strea	am dalide	monitor	ing well aeria	l photos	previous in	spection	ns), if avails	able.	
2000IDC IV	Jonada Data (Sties	gaage,		9, acila	p. 10103,	provious III	.5000101	.5,, a availe		
Remarks: Sa	ampled during the	dry seasor	n. FAC-N	Neutral Test: 2	2:0					
	. 5	,,								

Project/Site: L2ST Segment C	(City/Cour	nty: <u>SeaTac/ k</u>	King	Sampling Date: 9/12/2016	
Applicant/Owner: WSDOT				State: WA	Sampling Point: SP - 5	
Investigator(s): Josh Wozniak and Trey Parry			_ Section, To	wnship, Range: <u>32, 23N,</u>	04E	
Landform (hillslope, terrace, etc.): Hillslope		Local re	lief (concave,	convex, none): none	Slope (%): <u>3-8</u>	
Subregion (LRR): A	Lat:			Long: Datum:		
Soil Map Unit Name: NOTCOM						
Are climatic / hydrologic conditions on the site typical for this						
Are Vegetation, Soil, or Hydrology sign	-			ormal Circumstances" pres		
Are Vegetation, Soil, or Hydrology natur			(If neede	ed, explain any answers ir	n Remarks.)	
SUMMARY OF FINDINGS – Attach site map s			`		,	
Hydrophytic Vegetation Present? Yes ☐ No ☒		la.	tha Camania d	A		
Hydric Soil Present? Yes ☐ No ☒			the Sampled thin a Wetlan		10 M	
Wetland Hydrology Present? Yes ☐ No ☒						
Remarks: This upland sample point is positioned on the sic native species.	le of a cons	tructed b	erm surround	ing Wetland A. The site is	dry and is dominated by non-	
VEGETATION – Use scientific names of plant	s.					
			nt Indicator	Dominance Test works	sheet:	
Tree Stratum (Plot size: 10 X 30 along contour) 1. none				Number of Dominant Sp That Are OBL, FACW, o		
3				Total Number of Domina Species Across All Stra		
4	0			Percent of Dominant Sp That Are OBL. FACW. o	pecies or FAC: <u>50</u> (A/B)	
Sapling/Shrub Stratum (Plot size: 10 X 15 along contour)						
1. Rubus armeniacus				Prevalence Index work	sheet: Multiply by:	
2					x 1 =	
4					x 2 =	
5					x 3 = 45	
	15			FACU species 100	x 4 = <u>400</u>	
Herb Stratum (Plot size: 5 X 10 along contour)					x 5 =	
	100			Column Totals: 115	(A) <u>445</u> (B)	
2				Prevalence Index	= B/A = 3.86	
3				Hydrophytic Vegetatio		
5.				☐ Rapid Test for Hydro	ophytic Vegetation	
6				☐ Dominance Test is :	>50%	
7.				☐ Prevalence Index is	≤3.0 ¹	
8					tations ¹ (Provide supporting s or on a separate sheet)	
9 10				☐ Wetland Non-Vascu	lar Plants ¹	
11.				☐ Problematic Hydrop	hytic Vegetation ¹ (Explain)	
Woody Vine Stratum (Plot size: 10 X 15 along contour)	100			¹ Indicators of hydric soil be present, unless distu	and wetland hydrology must rbed or problematic.	
1. none				Usalnomberatio		
2				Hydrophytic Vegetation		
9/ Rara Ground in Harb Stratum 50	0	= Total	Cover		s □ No ⊠	
% Bare Ground in Herb Stratum 60 Remarks:						

	-		epth n				or confir	m the al	bsence of indicators.)
Depth (inches)	Matrix Color (moist)	<u>. </u>	Cold	r (moist)	x Features %		Loc ²	Textu	ure Remarks
0-20	10 YR 3/2	100		, ()		.,,,,,			y loam
0-20	10 11(3/2							Sandy	y loant
							'		
					-		-	-	
					-		-		
	oncentration, D=D						ed Sand C		² Location: PL=Pore Lining, M=Matrix.
-	Indicators: (App	licable to				:a.)			Indicators for Problematic Hydric Soils ³ :
Histosol	, ,			Sandy Redox (S Stripped Matrix (L	☐ 2 cm Muck (A10) ☐ Red Parent Material (TF2)
Black His	oipedon (A2)			Suipped Matrix Loamy Mucky M	` '	(evcent	MI DA 1	. L	☐ Very Shallow Dark Surface (TF12)
	n Sulfide (A4)			Loamy Gleyed N		(except	. IVILIVA I	_	☐ Other (Explain in Remarks)
	Below Dark Surfa	ace (A11)		Depleted Matrix	, ,				- Culor (Explain in Romano)
	ark Surface (A12)	,		Redox Dark Sur	. ,			3	Indicators of hydrophytic vegetation and
	lucky Mineral (S1)			Depleted Dark S	, ,	')			wetland hydrology must be present,
-	leyed Matrix (S4)			Redox Depressi	ons (F8)				unless disturbed or problematic.
Restrictive	Layer (if present)	:							
7. —				_					
Depth (in	ches):			-				Hyd	Iric Soil Present? Yes □ No ⊠
Remarks: Sa	ampled during the	dry seasor	١.						
HYDROLO	CV								
-	drology Indicator	·e:							
_	cators (minimum c		red ch	eck all that apply	v)				Secondary Indicators (2 or more required)
	Water (A1)	n ono roqu	100, 011	☐ Water-Stair		s (RQ) (a	vcent MI	RΔ	☐ Water-Stained Leaves (B9) (MLRA 1, 2,
	ter Table (A2)				A, and 4B)		Accpt ML		4A, and 4B)
☐ Flight Wa	` '			☐ Salt Crust (☐ Drainage Patterns (B10)
	arks (B1)			☐ Aquatic Inv	. ,	(B13)			☐ Dry-Season Water Table (C2)
	it Deposits (B2)			☐ Hydrogen S		, ,			☐ Saturation Visible on Aerial Imagery (C9)
	osits (B3)			☐ Oxidized R			Livina Ro	ots (C3)	
-	t or Crust (B4)			☐ Presence of		_		013 (03)	☐ Shallow Aquitard (D3)
	osits (B5)			☐ Recent Iron				6)	FAC-Neutral Test (D5)
-	Soil Cracks (B6)			☐ Stunted or			`	,	Raised Ant Mounds (D6) (LRR A)
	on Visible on Aeria	l Imagery	(B7)	☐ Other (Exp			1) (L IXIX)	•)	☐ Frost-Heave Hummocks (D7)
	Vegetated Conca			- Other (Exp	iaiii iii ittoii	narko)			Trest ricave riaminoons (27)
Field Obser			(20)						
Surface Wat		Yes □	No 🏻	Depth (inches	٠)٠				
Water Table			No 🖾	Depth (inches					
							Ma	tional Liv	udralagy Bracant? Vac 🗆 Na 🕅
Saturation P (includes car		Yes ∐	No 🛚	Depth (inches			we	папо пу	ydrology Present? Yes ☐ No ⊠
	corded Data (stream	am gauge,	monito	ring well, aerial p	ohotos, pre	evious ins	spections)	, if availa	able:
Remarks: Sa	ampled during the	dry seasor	١.						

Project/Site: L2ST Segment C		/: <u>SeaTac/ I</u>	King	Sampling Date: 9/12/2016			
Applicant/Owner: WSDOT	ant/Owner: WSDOT						
Investigator(s): Josh Wozniak and Trey Parry			Section, To	ownship, Range: <u>32, 23N, 0</u>)4E		
Landform (hillslope, terrace, etc.): Depression		Local relie	ef (concave,	, convex, none): Concave	Slope (%): <u>0-1</u>		
Subregion (LRR): A							
Soil Map Unit Name: NOTCOM				=			
Are climatic / hydrologic conditions on the site typical for this							
Are Vegetation, Soil, or Hydrology sign	-			ormal Circumstances" pres	ent? Yes⊠ No □		
Are Vegetation, Soil, or Hydrology natu				ed, explain any answers in			
SUMMARY OF FINDINGS – Attach site map							
Hydrophytic Vegetation Present? Yes ⊠ No □							
Hydric Soil Present? Yes ☒ No ☐			e Sampled				
Wetland Hydrology Present? Yes ⊠ No □		with	in a Wetlar	nd? Yes ⊠ No) [
Remarks: This sample point is positioned in WL-A at the ba	ase of a con	structed be	erm.				
VEGETATION II : ::							
VEGETATION – Use scientific names of plant							
Tree Stratum (Plot size: r = 30 ft.)	Absolute <u>% Cover</u>	Dominant Species?		Dominance Test works Number of Dominant Spe			
1. Populus balsamifera				That Are OBL, FACW, or			
2				Total Number of Domina	nt		
3				Species Across All Strata			
4				Percent of Dominant Spe	ecies		
Sapling/Shrub Stratum (Plot size: r = 15 ft.)	40	= Total C	over		r FAC: <u>75%</u> (A/B)		
1. Rubus armeniacus	75	Yes	FAC	Prevalence Index works	sheet:		
2				Total % Cover of:	Multiply by:		
3				OBL species	x 1 =		
4				FACW species			
5					x 3 =		
Herb Stratum (Plot size: <u>r = 5 ft.</u>)	<u>75 </u>	= Total C	over		x 4 =		
1. Reynoutria x bohemica	30	Yes	FACU		x 5 =		
Phalaris arundinacea			FACW	Column Totals:	(A) (B)		
3.				Prevalence Index :	= B/A =		
4				Hydrophytic Vegetation	n Indicators:		
5				☐ Rapid Test for Hydro	. , .		
6				□ Dominance Test is > □			
7				Prevalence Index is			
8				☐ Morphological Adapta data in Remarks	ations ¹ (Provide supporting or on a separate sheet)		
9				☐ Wetland Non-Vascul			
10				☐ Problematic Hydroph	nytic Vegetation¹ (Explain)		
11		= Total C			and wetland hydrology must		
Woody Vine Stratum (Plot size: $r = 15$ ft.)	00	= Total C	ovei	be present, unless distur	bed or problematic.		
1. none				Uradrambia			
2				Hydrophytic Vegetation			
0/ Para Cround in Harb Strature 20	0	= Total C	over		No □		
% Bare Ground in Herb Stratum <u>30</u> Remarks:							

Depth	Matrix	x		Re	dox Featu	res			sence of indicators.)
(inches)	Color (moist)	<u>%</u>	Cold	or (moist)	%		Loc ²	Texture	e Remarks
<u>0-7</u>	10 YR 3/1	98	<u>10 \</u>	/R 4/4	2	<u>C</u>	<u>M</u>	Silt loan	n Distinct contrast
<u>7-10</u>	10 YR 3/1	<u>75</u>	<u>10 \</u>	/R 5/2	20	D	M	Silt loan	n Faint contrast
			7.5	YR 4/4	5	<u>C</u>	<u>M</u>		Prominent contrast
10-20	10 YR 6/1	80	<u>10 \</u>	/R 6/6	10	С	M	Clay	Prominent contrast
			<u>10 Y</u>	′R 5/2	10	D	M		Faint contrast
			_						
¹Type: C=C	Concentration, D=D	Depletion,	RM=Rec	duced Matrix,	CS=Cove	red or Coa	ted Sand G	Grains.	² Location: PL=Pore Lining, M=Matrix.
Hydric Soil	Indicators: (App	olicable to	all LRR	s, unless ot	herwise n	oted.)		Inc	dicators for Problematic Hydric Soils ³ :
☐ Histosol	. ,			Sandy Redox					2 cm Muck (A10)
	pipedon (A2)			Stripped Mati	` '				` ,
	istic (A3)			Loamy Mucky	•		ot MLRA 1)		Very Shallow Dark Surface (TF12)
	en Sulfide (A4)			Loamy Gleye		⁻ 2)			Other (Explain in Remarks)
•	d Below Dark Surf	ace (A11)		Depleted Mat	, ,			0.	
	ark Surface (A12)			Redox Dark S	•	•		³ln	dicators of hydrophytic vegetation and
-	Mucky Mineral (S1)			Depleted Dar					wetland hydrology must be present,
	Gleyed Matrix (S4)		Ш	Redox Depre	ssions (F8	5)		1	unless disturbed or problematic.
	Layer (if present								
	nches):							l	
	ampled during the			-				Hydric	c Soil Present? Yes ⊠ No □
HYDROLO	ngy								
		rs:							
Wetland Hy	OGY ydrology Indicato		uired; ch	eck all that a	oply)				Secondary Indicators (2 or more required)
Wetland Hy	drology Indicato		uired; ch			aves (B9) (except ML		· · · · · · · · · · · · · · · · · · ·
Wetland Hy Primary Indi ☐ Surface	ydrology Indicato icators (minimum o Water (A1)		uired; ch	☐ Water-S	tained Lea	. , ,	except ML		☐ Water-Stained Leaves (B9) (MLRA 1, 2,
Wetland Hy Primary Ind Surface High Wa	ydrology Indicato icators (minimum o Water (A1) ater Table (A2)		uired; ch	☐ Water-S	tained Lea	. , ,	except ML	RA	☐ Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
Wetland Hy Primary Ind Surface High Wa Saturati	ydrology Indicato icators (minimum o Water (A1) ater Table (A2) on (A3)		uired; ch	☐ Water-S 1, 2, ☐ Salt Cru	tained Lea 4A, and 4 st (B11)	·B)	except ML	RA	 Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) ☑ Drainage Patterns (B10)
Wetland Hy Primary Ind Surface High Wa Saturati Water M	ydrology Indicato icators (minimum o Water (A1) ater Table (A2) on (A3) Marks (B1)		uired; ch	☐ Water-S 1, 2, ☐ Salt Cru ☐ Aquatic	tained Lea 4A, and 4 st (B11) Invertebra	tes (B13)	except ML	RA	 Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) ☑ Drainage Patterns (B10) ☑ Dry-Season Water Table (C2)
Wetland Hy Primary Ind Surface High Wa Saturati Water M Sedimer	ydrology Indicato icators (minimum o Water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2)		uired; ch	☐ Water-S 1, 2, ☐ Salt Cru ☐ Aquatic ☐ Hydroge	tained Lea 4A, and 4 st (B11) Invertebra	tes (B13) Odor (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 Indi Surface High Wa Saturati Water M Sedimed	wdrology Indicatoricators (minimum of Water (A1) ater Table (A2) on (A3) Marks (B1) at Deposits (B2) posits (B3)		uired; ch	Water-S 1, 2, Salt Cru Aquatic Hydroge Oxidized	tained Lea 4A, and 4 st (B11) Invertebraten Sulfide (I Rhizosph	tes (B13) Odor (C1) neres along	յ Living Ro	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 Indi Surface High Wa Saturati Water M Sedime Drift De	wdrology Indicatoricators (minimum of Water (A1) ater Table (A2) on (A3) Marks (B1) and Deposits (B2) posits (B3) at or Crust (B4)		uired; ch	Water-S 1, 2, Salt Cru Aquatic Hydroge Oxidized Presend	tained Lea 4A, and 4 st (B11) Invertebrate Sulfide (Rhizosph e of Reduct	tes (B13) Odor (C1) neres along ced Iron (C	J Living Ro	RA ots (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 Indi Surface High Wa Saturati Water M Sedimel Drift De Algal Ma	wdrology Indicatoricators (minimum of Water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5)		uired; ch	Water-S 1, 2, Salt Cru Aquatic Hydroge Oxidized Presend	tained Lea 4A, and 4 st (B11) Invertebrate Sulfide (Rhizosph e of Reduction Reduction	tes (B13) Odor (C1) heres along ced Iron (C	g Living Roo (4) ed Soils (Co	RA ots (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 Ind Surface High Wa Saturati Water M Sedimer Drift De Algal Ma Iron Dep Surface	wdrology Indicatoricators (minimum of Water (A1) ater Table (A2) on (A3) warks (B1) at Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6)	of one requ		Water-S 1, 2, Salt Cru Aquatic Hydroge Oxidized Presend Recent Stunted	tained Lea 4A, and 4 st (B11) Invertebrate Sulfide (Rhizosph e of Reduct ron Reduct or Stresse	tes (B13) Odor (C1) heres along ced Iron (C ction in Tille d Plants (I	J Living Ro	RA ots (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 Ind Surface High Wa Saturati Water M Sedimer Drift Der Algal Ma Iron Der Surface	wdrology Indicatoricators (minimum of Water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) ion Visible on Aerica	of one requ	(B7)	Water-S 1, 2, Salt Cru Aquatic Hydroge Oxidized Presend Recent Stunted	tained Lea 4A, and 4 st (B11) Invertebrate Sulfide (Rhizosph e of Reduction Reduction	tes (B13) Odor (C1) heres along ced Iron (C ction in Tille d Plants (I	g Living Roo (4) ed Soils (Co	RA ots (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 Indi Surface High Wa Saturati Water M Sedime Drift De Algal Ma Iron Dep Surface Inundati Sparsel	wdrology Indicatoricators (minimum of water (A1) ater Table (A2) on (A3) warks (B1) at Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) ion Visible on Aericy Vegetated Concar	of one requ	(B7)	Water-S 1, 2, Salt Cru Aquatic Hydroge Oxidized Presend Recent Stunted	tained Lea 4A, and 4 st (B11) Invertebrate Sulfide (Rhizosph e of Reduct ron Reduct or Stresse	tes (B13) Odor (C1) heres along ced Iron (C ction in Tille d Plants (I	g Living Roo (4) ed Soils (Co	RA ots (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 Indi Surface High Wa Saturati Water M Sedimel Drift Del Algal Ma Iron Dep Surface Inundati Sparsel	wdrology Indicatoricators (minimum of Water (A1) atter Table (A2) on (A3) warks (B1) atter Deposits (B2) posits (B3) atter Crust (B4) posits (B5) Soil Cracks (B6) ion Visible on Aericato	of one requ al Imagery ave Surfac	(B7) be (B8)	Water-S 1, 2, Salt Cru Aquatic Hydroge Oxidized Presend Recent Stunted Other (E	tained Lea 4A, and 4 st (B11) Invertebrate In Sulfide (In Rhizosphae of Reduction Reduction Stresse Explain in Reserved.	tes (B13) Odor (C1) heres along ced Iron (C ction in Tille d Plants (I	g Living Roo (4) ed Soils (Co	RA ots (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 Ind Surface High Wa Saturati Water M Sedimer Drift De Algal Ma Iron Dep Surface Inundati Sparsel: Field Obset	wdrology Indicatoricators (minimum of Water (A1) ater Table (A2) on (A3) warks (B1) at the Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) ion Visible on Aericatory Vegetated Concertations:	of one requal limagery ave Surface	(B7) te (B8) No 🗵	Water-S 1, 2, Salt Cru Aquatic Hydroge Oxidized Presend Recent Stunted Other (E	tained Lea 4A, and 4 st (B11) Invertebrate In Sulfide (In Reduction Reduction Reduction Report Stresse (Explain in Figure 1): hes):	tes (B13) Odor (C1) heres along ced Iron (C ction in Tille d Plants (I Remarks)	g Living Roo (4) ed Soils (Co	RA ots (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 Ind Surface High Wa Saturati Water M Sedimer Algal Ma Iron Dep Surface Inundati Sparsely Field Obset Surface Wa Water Table	wdrology Indicatoricators (minimum of water (A1) ater Table (A2) on (A3) warks (B1) at or Crust (B4) posits (B5) Soil Cracks (B6) ion Visible on Aeria y Vegetated Concarvations:	al Imagery ave Surfac Yes Yes	(B7) te (B8) No ⊠ No ⊠	Water-S 1, 2, Salt Cru Aquatic Hydroge Oxidized Presend Recent Stunted Other (E	tained Lea 4A, and 4 st (B11) Invertebration Sulfide (In Sulfid	tes (B13) Odor (C1) neres along ced Iron (C ction in Tille d Plants (I Remarks)	J Living Roo (4) ed Soils (Co (1) (LRR A	RA ots (C3) 6)	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 Ind Surface High Wa Saturati Water M Sedimer Drift De Algal Ma Iron Dep Surface Inundati Sparsel Field Obset Saturation F (includes ca	wdrology Indicatoricators (minimum of water (A1) ater Table (A2) on (A3) warks (B1) at the Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) ion Visible on Aericatory Vegetated Concertations: ater Present? Present? apillary fringe)	al Imagery ave Surfac Yes Yes Yes Yes Yes	No 🖂	Water-S 1, 2, Salt Cru Aquatic Hydroge Oxidized Presend Recent Stunted Other (E	tained Lea 4A, and 4 st (B11) Invertebrate In Sulfide (In Reduction Reduction Reduction Reduction Report	tes (B13) Odor (C1) heres along ced Iron (C ction in Tille d Plants (I Remarks)	J Living Roo (4) ed Soils (Co (1) (LRR A	RA ots (C3) 6) 1)	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) rology Present? Yes ☑ No □
Primary Indi Surface High Wa Saturati Water M Sedimel Drift Del Algal Ma Iron Dep Surface Inundati Sparsel Field Obset Surface Wa Water Table Saturation F (includes ca	wdrology Indicatoricators (minimum of Water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) ion Visible on Aeria y Vegetated Concarvations: ater Present?	al Imagery ave Surface Yes Yes Yes Yes Yes	No 🖂	Water-S 1, 2, Salt Cru Aquatic Hydroge Oxidized Presend Recent Stunted Other (E	tained Lea 4A, and 4 st (B11) Invertebrate In Sulfide (In Reduction Reduction Reduction Reduction Report	tes (B13) Odor (C1) heres along ced Iron (C ction in Tille d Plants (I Remarks)	J Living Roo (4) ed Soils (Co (1) (LRR A	RA ots (C3) 6) 1)	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) rology Present? Yes ☑ No □
Wetland Hy Primary Indi Surface High Wa Saturati Water M Sedimel Algal Ma Iron Dep Surface Inundati Sparsel Field Obsel Surface Wa Water Table Saturation F (includes ca	wdrology Indicatoricators (minimum of water (A1) ater Table (A2) on (A3) warks (B1) at the Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) ion Visible on Aericatory Vegetated Concertations: ater Present? Present? apillary fringe)	al Imagery ave Surfac Yes Yes Yes am gauge	(B7) se (B8) No No No No No No No No No No	Water-S 1, 2, Salt Cru Aquatic Hydroge Oxidized Presend Recent Stunted Other (E	tained Lea 4A, and 4 st (B11) Invertebrate In Sulfide (In Reduction Reduction Reduction Reduction Report	tes (B13) Odor (C1) heres along ced Iron (C ction in Tille d Plants (I Remarks)	J Living Roo (4) ed Soils (Co (1) (LRR A	RA ots (C3) 6) 1)	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) rology Present? Yes ☑ No □
Wetland Hy Primary Indi Surface High Wa Saturati Water M Sedimen Algal Ma Iron Dep Surface Inundati Sparsel Field Obset Surface Wa Water Table Saturation F (includes ca	wdrology Indicatoricators (minimum of Water (A1) atter Table (A2) on (A3) Marks (B1) attornorm (B4) posits (B3) attornorm (B4) posits (B5) Soil Cracks (B6) ion Visible on Aericy Vegetated Concervations: atter Present? Application (B4) posits (B6) ion Visible on Aericy Vegetated Concervations: atter Present? Application (B4) posits (B6) ion Visible on Aericy Vegetated Concervations: atter Present? Application (B4) posits (B6) ion Visible on Aericy Vegetated Concervations: atter Present? Application (B4) posits (B6) ion Visible on Aericy Vegetated Concervations: atter Present? Application (B4) posits (B6) ion Visible on Aericy Vegetated Concervations: atter Present? Application (B4) posits (B6) ion Visible on Aericy Vegetated Concervations: atter Present? Application (B4) posits (B6) ion Visible on Aericy Vegetated Concervations: atter Present? Application (B4) posits (B6) ion Visible on Aericy Vegetated Concervations: atter Present? Application (B4) posits (B6) ion Visible on Aericy Vegetated Concervations: atter Present? Application (B4) posits (B6) ion Visible on Aericy Vegetated Concervations: atter Present? Application (B4) posits (B6) ion Visible on Aericy Vegetated Concervations: atter Present? Application (B4) posits (B6) ion Visible on Aericy Vegetated Concervations: atter Present?	al Imagery ave Surfac Yes Yes Yes am gauge	(B7) se (B8) No No No No No No No No No No	Water-S 1, 2, Salt Cru Aquatic Hydroge Oxidized Presend Recent Stunted Other (E	tained Lea 4A, and 4 st (B11) Invertebrate In Sulfide (In Reduction Reduction Reduction Reduction Report Stresse (Explain in Figures): Ines): Ines): Ines):	tes (B13) Odor (C1) heres along ced Iron (C ction in Tille d Plants (I Remarks)	J Living Roo (4) ed Soils (Co (1) (LRR A	RA ots (C3) 6) 1)	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) rology Present? Yes ☑ No □
Wetland Hy Primary Indi Surface High Wa Saturati Water M Sedimen Algal Ma Iron Dep Surface Inundati Sparsel Field Obset Surface Wa Water Table Saturation F (includes ca	wdrology Indicatoricators (minimum of Water (A1) atter Table (A2) on (A3) Marks (B1) attornorm (B4) posits (B3) attornorm (B4) posits (B5) Soil Cracks (B6) ion Visible on Aericy Vegetated Concervations: atter Present? Application (B4) posits (B6) ion Visible on Aericy Vegetated Concervations: atter Present? Application (B4) posits (B6) ion Visible on Aericy Vegetated Concervations: atter Present? Application (B4) posits (B6) ion Visible on Aericy Vegetated Concervations: atter Present? Application (B4) posits (B6) ion Visible on Aericy Vegetated Concervations: atter Present? Application (B4) posits (B6) ion Visible on Aericy Vegetated Concervations: atter Present? Application (B4) posits (B6) ion Visible on Aericy Vegetated Concervations: atter Present? Application (B4) posits (B6) ion Visible on Aericy Vegetated Concervations: atter Present? Application (B4) posits (B6) ion Visible on Aericy Vegetated Concervations: atter Present? Application (B4) posits (B6) ion Visible on Aericy Vegetated Concervations: atter Present? Application (B4) posits (B6) ion Visible on Aericy Vegetated Concervations: atter Present? Application (B4) posits (B6) ion Visible on Aericy Vegetated Concervations: atter Present? Application (B4) posits (B6) ion Visible on Aericy Vegetated Concervations: atter Present?	al Imagery ave Surfac Yes Yes Yes am gauge	(B7) se (B8) No No No No No No No No No No	Water-S 1, 2, Salt Cru Aquatic Hydroge Oxidized Presend Recent Stunted Other (E	tained Lea 4A, and 4 st (B11) Invertebrate In Sulfide (In Reduction Reduction Reduction Reduction Report Stresse (Explain in Figures): Ines): Ines): Ines):	tes (B13) Odor (C1) heres along ced Iron (C ction in Tille d Plants (I Remarks)	J Living Roo (4) ed Soils (Co (1) (LRR A	RA ots (C3) 6) 1)	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) rology Present? Yes ☑ No □

Project/Site: L2ST Segment C		City/County	/: <u>SeaTac/ I</u>	King	Sampling Date: 9/13/2016	6
Applicant/Owner: WSDOT				State: WA	Sampling Point: SP - 7	
Investigator(s): Josh Wozniak and Trey Parry			Section, To	ownship, Range: <u>32, 23 N,</u>	04 E	
Landform (hillslope, terrace, etc.): Hillslope		Local relie	ef (concave,	, convex, none): convex	Slope (%): <u>3</u>	30-35
Subregion (LRR): A						
				NWI classificat		
Are climatic / hydrologic conditions on the site typical for this					•	
Are Vegetation, Soil, or Hydrology sign	-			ormal Circumstances" pres	ent? Yes⊠ No □	
Are Vegetation, Soil, or Hydrology natu				ed, explain any answers in		
SUMMARY OF FINDINGS – Attach site map			•	•	,	, etc.
Hydrophytic Vegetation Present? Yes ⊠ No □						
Hydric Soil Present? Yes ☐ No ☒			e Sampled		- M	
Wetland Hydrology Present? Yes ☐ No ☒		with	in a Wetlar	nd? Yes □ No) M	
Remarks: This sample point is positioned to the east of Cra	ane Worldw	ide. It is the	e associated	d upland plot for SP-8 and	Wetland A.	
VEGETATION – Use scientific names of plant						
Tree Stratum (Plot size: 20 X 30 ft along contour)	Absolute % Cover	Dominant Species?		Dominance Test works		
1. Alnus rubra				Number of Dominant Spo That Are OBL, FACW, or		(A)
Pseudotsuga menziesii	20		FACU			. ,
3				Total Number of Domina Species Across All Strata		В)
4				Percent of Dominant Spe	acias	
Sapling/Shrub Stratum (Plot size: 10 X 5 along contour)	<u>55</u>	= Total C	over		r FAC: <u>75%</u> (<i>F</i>	A/B)
1. Rubus armeniacus	70	Yes	FAC	Prevalence Index work		
2. Rosa nutkana	<u>15</u>				Multiply by:	
3. Alnus rubra (s)					x 1 =	
4					x 2 =	
5					x 3 = x 4 =	
Herb Stratum (Plot size: 3 X 10 along contour)	100	= Total C	over		x 5 =	
1. Ranunculus repens	5	Yes	FAC		(A)	
2						(-)
3					= B/A =	
4				Hydrophytic Vegetation		
5				Rapid Test for Hydro	. , ,	
6				☑ Dominance Test is >☐ Prevalence Index is :		
7					ations ¹ (Provide supportin	na
8				data in Remarks	or on a separate sheet)	19
9 10				☐ Wetland Non-Vascul	ar Plants1	
11.				☐ Problematic Hydroph	nytic Vegetation¹ (Explain))
		= Total C		¹ Indicators of hydric soil be present, unless distur	and wetland hydrology mu	ust
Woody Vine Stratum (Plot size: $r = 15 \text{ ft.}$)				be present, unless distur		
1. none				Hydrophytic		
2				Vegetation	Na 🗆	
% Bare Ground in Herb Stratum 85	0	= Total C	over	Present? Yes	⊠ No □	
Remarks:				l		

			epth n	eeded to document the in		or confirr	m the absen	ce of indicators.)
Depth (inches)	Matrix Color (moist)	%	Colo	Redox Features or (moist) %	Type ¹	_Loc²	Texture	Remarks
0-2	10 YR 3/2	100			-7,		Loamy Sar	
2-14	10 YR 5/2	100					-	nd Gravelly
							-	
14-20+	10 YR 5/2	100					Loanly Sar	nd Not gravelly
				· · · · · · · · · · · · · · · · · · ·			-	<u> </u>
							-	_
<u> </u>								
¹Type: C=C	oncentration, D=D	epletion, R	M=Rec	luced Matrix, CS=Covered	or Coate	ed Sand G	irains. ²L	Location: PL=Pore Lining, M=Matrix.
Hydric Soil	Indicators: (App	licable to	all LRR	s, unless otherwise note	ed.)		Indica	ators for Problematic Hydric Soils³:
Histosol	` '			Sandy Redox (S5)				cm Muck (A10)
	pipedon (A2)			Stripped Matrix (S6)				ed Parent Material (TF2)
☐ Black His	, ,			Loamy Mucky Mineral (F1)		MLRA 1)		ery Shallow Dark Surface (TF12)
	n Sulfide (A4) I Below Dark Surfa	200 (411)		Loamy Gleyed Matrix (F2) Depleted Matrix (F3)			∐ O:	ther (Explain in Remarks)
· ·	irk Surface (A12)	ace (ATT)		Redox Dark Surface (F6)			3Indic:	ators of hydrophytic vegetation and
	lucky Mineral (S1)		_	Depleted Dark Surface (F7	7)			tland hydrology must be present,
-	leyed Matrix (S4)			Redox Depressions (F8)	,			less disturbed or problematic.
Restrictive	Layer (if present)	:						
Type:				-				
Depth (in	ches):						Hydric S	oil Present? Yes ☐ No ⊠
Remarks: Sa	ampled during the	dry seasor	n. The s	oil test point is positioned	under a t	hick black	berry canopy	,
HYDROLO	GV							
	drology Indicator							
_	cators (minimum o		ired: ch	eck all that apply)			Sec	condary Indicators (2 or more required)
	Water (A1)	TOTIC TCQU	iicu, cii	☐ Water-Stained Leave	s (R9) (a	vcent MI I		Water-Stained Leaves (B9) (MLRA 1, 2,
	ter Table (A2)			1, 2, 4A, and 4B)		Accet ML		4A, and 4B)
☐ Saturation	` ,			☐ Salt Crust (B11)			П	Drainage Patterns (B10)
☐ Water M	` '			☐ Aquatic Invertebrates	(B13)			Dry-Season Water Table (C2)
	t Deposits (B2)			☐ Hydrogen Sulfide Od	. ,			Saturation Visible on Aerial Imagery (C9)
	osits (B3)			☐ Oxidized Rhizospher		Living Roc		Geomorphic Position (D2)
-	t or Crust (B4)			☐ Presence of Reduced	_	_		Shallow Aquitard (D3)
	osits (B5)			☐ Recent Iron Reduction				FAC-Neutral Test (D5)
-	Soil Cracks (B6)			☐ Stunted or Stressed I		,	,	Raised Ant Mounds (D6) (LRR A)
	on Visible on Aeria	l Imagery	(B7)	☐ Other (Explain in Rer		., (=		Frost-Heave Hummocks (D7)
	Vegetated Conca			— (,		_	(= 1)
Field Obser								
Surface Wat	er Present?	Yes 🗌	No 🖂	Depth (inches):				
Water Table	Present?	Yes 🗌	No 🛛	Depth (inches):				
Saturation P			No 🗵	Depth (inches):		Wet	land Hydrol	ogy Present? Yes □ No ⊠
(includes car	oillary fringe)							
Describe Re	corded Data (strea	am gauge,	monito	ring well, aerial photos, pre	evious in	spections),	, if available:	
Daniel C	and de total	d						
Remarks: Sa	ampled during the	ary seasor	١.					
İ								

Project/Site: L2ST Segment C		City/County	y: <u>SeaTac/ I</u>	King	Sampling Date: 9/13/2016
Applicant/Owner: WSDOT				State: WA	Sampling Point: SP - 8
Investigator(s): Josh Wozniak and Trey Parry			Section, To	ownship, Range: <u>32, 23 N,</u>	04 E
Landform (hillslope, terrace, etc.): Depression		Local relie	ef (concave,	, convex, none): none	Slope (%): <u>0-1</u>
Subregion (LRR): A					
Soil Map Unit Name: NOTCOM					
Are climatic / hydrologic conditions on the site typical for this					
Are Vegetation, Soil, or Hydrology sign	-			ormal Circumstances" pres	ent? Yes⊠ No □
Are Vegetation, Soil, or Hydrology natu				ed, explain any answers in	- -
SUMMARY OF FINDINGS – Attach site map					
Hydrophytic Vegetation Present? Yes ⊠ No □					
Hydric Soil Present? Yes ⊠ No □			e Sampled		
Wetland Hydrology Present? Yes ⊠ No □		with	in a Wetlar	nd? Yes⊠ N	〕 □
Remarks: This sample point meets the criterion for hydrople	nytic vegeta	tion, hydric	soil, and w	vetland hydrology; thus, the	sample point is determined to
be a wetland. The sample point is positioned east of Crane	e vvoria in vv	etiand A.	i ne associa	ited upiand sample point is	SP-7.
VEGETATION – Use scientific names of plant	ts.				
	Absolute			Dominance Test works	heet:
Tree Stratum (Plot size: $\underline{r} = 30 \text{ ft.}$)	% Cover			Number of Dominant Sp	
1. Alnus rubra				That Are OBL, FACW, o	r FAC: <u>4</u> (A)
2				Total Number of Domina	
4				Species Across All Strat	a: <u>5</u> (B)
Sapling/Shrub Stratum (Plot size: r = 15 ft.)		= Total C		Percent of Dominant Sp That Are OBL, FACW, o	ecies r FAC: <u>80%</u> (A/B)
1. Sambucus racemosa	15	Yes	FACII	Prevalence Index work	sheet:
Rubus armeniacus					Multiply by:
3					x 1 =
4.					x 2 =
5				FAC species	x 3 =
		= Total C		FACU species	x 4 =
Herb Stratum (Plot size: $\underline{r} = 5 \text{ ft.}$)					x 5 =
1. Phalaris arundinacea	50			Column Totals:	(A) (B)
2. Equisetum telmateia	30	Yes	FAC	Prevalence Index	= B/A =
Athyrium cyclosorum Solanum dulcamara	<u>20</u> <u>10</u>	No.	FAC FAC	Hydrophytic Vegetation	
Spiraea douglasii	10		FACW	☐ Rapid Test for Hydro	
6				☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐	
7				☐ Prevalence Index is	≤3.0¹
8.					tations ¹ (Provide supporting or on a separate sheet)
9				☐ Wetland Non-Vascul	
10				-	nytic Vegetation¹ (Explain)
11				_ , ,	and wetland hydrology must
Woody Vine Stratum (Plot size: <u>r= 15 ft.</u>)	120	= Total C	over	be present, unless distu	
1. none				Hydrophytic	
2				Vegetation	
% Bare Ground in Herb Stratum 0	0	= Total C	over	Present? Yes	No □
Remarks:					

Depth	Matrix	~.			dox Featu			_	ъ .
(inches)	Color (moist)	%	Cold	or (moist)	%_	Type ¹	Loc ²	Texture	Remarks
0-4.5	7.5 YR 2.5/1	100						Loam	A lot of roots
4.5-8	7.5 YR 2.5/1	93	<u>10 Y</u>	'R 5/3	5	<u>D</u>	<u>M</u>	Loam	Distinct contrast
			<u>7.5 `</u>	YR 4/6	2	<u>C</u>	<u>M</u>		Prominent contrast
8-20+	10 YR 4/2	<u>75</u>	<u>7.5 `</u>	YR 4/6	<u>25</u>	<u>C</u>	<u>M</u>	Sandy Loa	m Prominent contrast
Type: C=C	oncentration, D=De	epletion,	 RM=Red	luced Matrix,	CS=Cove	red or Coat	ted Sand G	irains. ²	Location: PL=Pore Lining, M=Matrix.
Hydric Soil	Indicators: (Appl	icable to	all LRR	s, unless ot	herwise n	oted.)		Indic	ators for Problematic Hydric Soils ³ :
Histosol	` '			Sandy Redox					cm Muck (A10)
	pipedon (A2)			Stripped Mati	` '				ed Parent Material (TF2)
☐ Black His	, ,			Loamy Mucky			ot MLRA 1)		ery Shallow Dark Surface (TF12)
	n Sulfide (A4)	(044)		Loamy Gleye		-2)			ther (Explain in Remarks)
	d Below Dark Surfa ark Surface (A12)	ce (A11)		Depleted Mat Redox Dark \$. ,	6)		3India	ators of hydrophytic vegetation and
	lucky Mineral (S1)			Depleted Dar	,	•			etland hydrology must be present,
	Gleyed Matrix (S4)			Redox Depre					less disturbed or problematic.
	Layer (if present):	:		. todox 2 opio		• /		<u> </u>	
Type:				_					
								Hydric S	oil Present? Yes ⊠ No □
	ches): nderlaid by clay			-					оптисосии. Тео да тао д
Remarks: Ui	nderlaid by clay								on resent. Tes Z No L
Remarks: Ur IYDROLO Wetland Hy	nderlaid by clay GY drology Indicator	s:			ylaga				condary Indicators (2 or more required)
Remarks: Ur IYDROLO Wetland Hy Primary India	oGY drology Indicator cators (minimum o	s:				aves (B9) (•	except ML	Se	condary Indicators (2 or more required)
Remarks: Un IYDROLO Wetland Hy Primary India Surface	orderlaid by clay OGY Ordrology Indicator cators (minimum or	s:		eck all that a		. , ,	except ML	Se	
YDROLO Wetland Hy Primary India Surface High Wa	oGY drology Indicator cators (minimum o Water (A1) hter Table (A2)	s:		eck all that a	tained Lea	. , ,	except ML	<u>Se</u>	condary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2
IYDROLO Wetland Hy Primary India Surface High Wa Saturatio	oGY drology Indicator cators (minimum o Water (A1) hter Table (A2)	s:		eck all that a Water-S	tained Lead 4A, and 4 st (B11)	IB)	except ML	Se	condary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Drainage Patterns (B10)
IYDROLO Wetland Hy Primary India Surface High Wa Saturatio Water M	oGY drology Indicator cators (minimum or Water (A1) tter Table (A2) on (A3)	s:		eck all that al Water-S 1, 2,	tained Lea 4A, and 4 st (B11) Invertebra	4B) ttes (B13)	except ML	<u>Se</u>	condary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B)
IYDROLO Wetland Hy Primary India Surface High Wa Saturatio Water M Sedimer	oGY drology Indicator cators (minimum or Water (A1) Inter Table (A2) on (A3) larks (B1)	s:		eck all that al Water-S 1, 2, Salt Cru Aquatic	stained Lea 4A, and 4 est (B11) Invertebra en Sulfide (tes (B13) Odor (C1)	·	RA □	condary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2)
IYDROLO Wetland Hy Primary India Surface High Wa Saturatio Water M Sedimer Drift Dep	drology Indicator cators (minimum or Water (A1) tter Table (A2) on (A3) larks (B1) nt Deposits (B2)	s:		eck all that al	stained Lea 4A, and 4 st (B11) Invertebra en Sulfide of d Rhizosph	tes (B13) Odor (C1) neres along	յ Living Roo	RA □	condary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C
Remarks: Ur IYDROLO Wetland Hy Primary India Surface High Wa Saturatio Water M Sedimer Drift Dep Algal Ma	drology Indicator cators (minimum or Water (A1) arter Table (A2) on (A3) arks (B1) arks (B2) posits (B2) posits (B3)	s:		eck all that all Water-S 1, 2, Salt Cru Aquatic Hydroge Oxidized	Atained Lea 4A, and 4 ast (B11) Invertebra en Sulfide (d Rhizosph ee of Redu	tes (B13) Odor (C1) neres along	g Living Roo (4)	SeRA □	condary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C Geomorphic Position (D2)
IYDROLO Wetland Hy Primary India Surface High Wa Saturatio Water M Sedimer Drift Dep Algal Ma	drology Indicator cators (minimum of Water (A1) atter Table (A2) on (A3) arks (B1) att Deposits (B2) oosits (B3) at or Crust (B4)	s:		eck all that a Water-S 1, 2, Salt Cru Aquatic Hydroge Oxidized Presend	AA, and 4 ast (B11) Invertebra en Sulfide 6 d Rhizosph ee of Redu Iron Redu	tes (B13) Odor (C1) neres along ced Iron (C	g Living Roo (4) ed Soils (Cé	Se RA	condary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C Geomorphic Position (D2) Shallow Aquitard (D3)
IYDROLO Wetland Hy Primary India Surface High Wa Saturatio Water M Sedimer Drift Dep Algal Ma Iron Dep Surface	drology Indicator cators (minimum of Water (A1) ater Table (A2) on (A3) arks (B1) at Deposits (B2) posits (B3) at or Crust (B4) posits (B5)	s: f one req	uired; che	eck all that al Water-S 1, 2, Salt Cru Aquatic Hydroge Oxidized Presend Recent	AA, and 4 ast (B11) Invertebra en Sulfide 6 d Rhizosph ee of Redu Iron Redu	ttes (B13) Odor (C1) heres along ced Iron (C ction in Tille ed Plants (E	g Living Roo (4) ed Soils (Cé	Se RA	condary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5)
Remarks: Un IYDROLO Wetland Hy Primary India Surface High Wa Saturatio Water M Sedimen Drift Dep Algal Ma Iron Dep Surface Inundation	drology Indicator cators (minimum or Water (A1) tter Table (A2) on (A3) arks (B1) at Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6)	s: f one req	uired; che	eck all that al Water-S 1, 2, Salt Cru Aquatic Hydroge Oxidized Presend Recent	tained Lea 4A, and 4 st (B11) Invertebra en Sulfide of d Rhizosphase of Redu- iron Reductor Stresse	ttes (B13) Odor (C1) heres along ced Iron (C ction in Tille ed Plants (E	g Living Roo (4) ed Soils (Cé	Se RA	condary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
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Remarks: Un IYDROLO Wetland Hy Primary India Surface High Wa Saturatio Water M Sedimer Drift Dep Algal Ma Iron Dep Surface Inundatio Sparsely Field Obser	derlaid by clay derology Indicator cators (minimum of Water (A1) ater Table (A2) on (A3) darks (B1) at Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) on Visible on Aeria at Vegetated Conca	s: f one req	uired; che	eck all that al Water-S 1, 2, Salt Cru Aquatic Hydroge Oxidized Presend Recent	AA, and 4 st (B11) Invertebra en Sulfide e d Rhizosph ee of Redu Iron Reduc or Stresse	ttes (B13) Odor (C1) neres along ced Iron (C ction in Tille ed Plants (E Remarks)	g Living Roo (4) ed Soils (Cé	Se RA	condary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
Remarks: Un IYDROLO Wetland Hy Primary India Surface High Wa Saturatio Water M Sedimer Drift Dep Algal Ma Iron Dep Surface Inundatio Sparsely Field Obser Surface Water	drology Indicator cators (minimum or Water (A1) ter Table (A2) on (A3) larks (B1) at Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) on Visible on Aeria vegetated Concarvations:	s: f one req	uired; cho	eck all that a Water-S 1, 2, Salt Cru Aquatic Hydroge Oxidized Presend Recent Stunted Other (E	AA, and 4 ast (B11) Invertebra en Sulfide of Reduction Reduction Reduction Stresse explain in F	ttes (B13) Odor (C1) neres along ced Iron (C ction in Tille ed Plants (E Remarks)	g Living Roo (4) ed Soils (Cé	Se RA	condary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
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Remarks: Un IYDROLO Wetland Hy Primary India Surface High Wa Saturatio Water M Sedimen Drift Dep Algal Ma Iron Dep Surface Inundatio Sparsely Field Obser Surface Water Table Saturation P (includes cal	drology Indicator cators (minimum or Water (A1) ter Table (A2) on (A3) tarks (B1) to Deposits (B2) to osits (B3) at or Crust (B4) to osits (B5) Soil Cracks (B6) on Visible on Aeria v Vegetated Concarvations: ter Present?	s: f one req I Imagery ve Surface Yes Yes Yes Yes Yes Yes	uired; che (B7) ce (B8) No 🖂 No 🖂	eck all that al Water-S 1, 2, Salt Cru Aquatic Hydroge Oxidized Presend Recent Stunted Other (E	AA, and 4 st (B11) Invertebra en Sulfide of Reduction Reduction Reduction Reduction Research (September 2): hes): hes):	ttes (B13) Odor (C1) neres along ced Iron (C ction in Tille ed Plants (E Remarks)	J Living Roo (4) ed Soils (Ce (D1) (LRR A	SeRA	condary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
Remarks: Un IYDROLO 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 (includes cap Describe Re	drology Indicator cators (minimum or water (A1) atter Table (A2) on (A3) arks (B1) at or Crust (B4) cosits (B5) Soil Cracks (B6) on Visible on Aeria vegetated Concarvations: ter Present? Present? Present? Present? Present? Present? Present?	s: f one req Ves \(\text{Yes} \) Yes \(\text{Yes} \) Yes \(\text{Tes} \)	uired; cho	eck all that al Water-S 1, 2, Salt Cru Aquatic Hydroge Oxidized Presend Recent Stunted Other (E	AA, and 4 st (B11) Invertebra en Sulfide of Reduction Reduction Reduction Reduction Research (September 2): hes): hes):	ttes (B13) Odor (C1) neres along ced Iron (C ction in Tille ed Plants (E Remarks)	J Living Roo (4) ed Soils (Ce (D1) (LRR A	SeRA	condary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)

Project/Site: <u>L2ST Segment C</u>		City/C	ounty	/: <u>SeaTac/ </u>	King	Samp	oling Date:01/	/11/2017
Applicant/Owner: WSDOT					State: WA	Samp	oling Point: S	P - 24
Investigator(s): Trey Parry				Section, To	wnship, Range: <u>32, 23 N,</u>	04 E		
Landform (hillslope, terrace, etc.): Hillslope		Loca	ıl relie	ef (concave,	convex, none): none		Slope	e (%): <u>2-5</u>
Subregion (LRR): A	Lat:				Long:		Datum:	
					NWI classifica			
Are climatic / hydrologic conditions on the site typical for this								
Are Vegetation, Soil, or Hydrology sign	•			,	ormal Circumstances" pres	ent?	Yes⊠ No.	П
Are Vegetation, Soil, or Hydrology natu					ed, explain any answers ir		_	
SUMMARY OF FINDINGS – Attach site map				`			,	turos otc
Solvinia T In Pings - Attach site map	Silowing	Saiii	РШ	g point it	ocations, transects,	Щ	Ortant leat	iures, etc.
Hydrophytic Vegetation Present? Yes ⊠ No □			Is th	e Sampled	Area			
Hydric Soil Present? Yes ☐ No ☒			with	in a Wetlan	nd? Yes □ N	o 🛛		
Wetland Hydrology Present? Yes ☐ No ☒	and trail alia		+ * 0 0	ntoro Motlo	and A cost of Crops Morld	It in th	h a a a a a a a i a ta a	المساميين
Remarks: This sample point is positioned where the propo plot for SP-24 and Wetland A. The area appears to have be								
VEGETATION – Use scientific names of plan	ts.							
	Absolute			Indicator	Dominance Test works	heet:		
Tree Stratum (Plot size: <u>r = 20 ft</u>) 1. <u>none</u>	% Cover				Number of Dominant Sp That Are OBL, FACW, o		: <u>1</u>	(A)
2					Total Number of Domina	ant		
3					Species Across All Strat		1	(B)
4					Percent of Dominant Sp	acias		
Carling/Charle Ctrature (Distainer 40 th)	0	= To	otal C	over	That Are OBL, FACW, o		: <u>100%</u>	(A/B)
Sapling/Shrub Stratum (Plot size: r = 10 ft) 1. Rubus armeniacus	100	Voc		EAC	Prevalence Index work	shoot	•	
2				· · · · · · · · · · · · · · · · · · ·	Total % Cover of:			ov:
3					OBL species			
4					FACW species			
5.					FAC species			
	100				FACU species		x 4 =	
Herb Stratum (Plot size: $\underline{r} = 5 \text{ ft}$)					UPL species		x 5 =	
1. none					Column Totals:		(A)	(B)
2					Prevalence Index	– R/Δ	_	
3					Hydrophytic Vegetatio			
4. 5.					Rapid Test for Hydro			
6					Dominance Test is		g	
7					☐ Prevalence Index is	≤3.0¹		
8.					☐ Morphological Adap	tations	1 (Provide su	pporting
9.					data in Remarks		•	neet)
10					Wetland Non-Vascu			
11					Problematic Hydrop	•	•	. ,
Woody Vine Stratum (Plot size: <u>r = 15 ft.</u>)					¹ Indicators of hydric soil be present, unless distu			
1. <u>none</u>								
2					Hydrophytic Vegetation			
	0	= To	otal C	over		i⊠ I	No 🗌	
% Bare Ground in Herb Stratum <u>50</u>								
Remarks:								

Depth	nption: (Describ Matrix		uepin n		ox Feature		Or COIIIII	n the abser	nce of indicators.)
	Color (moist)	%	Cold	or (moist)	%		Loc ²	Texture	<u>Remarks</u>
0-5	10 YR 2/2	100						Sandy Lo	<u>am</u>
5-12	10 YR 3/3	75	10Y	R 4/6	25	С	M	Sandy Lo	am
12-22+	7.5YR 4/6	60	10Y	R 3/3	40	С	M	Sandy Lo	am Bright soil
									
								-	
									
	ncentration, D=Dendicators: (Appl						ed Sand G		² Location: PL=Pore Lining, M=Matrix. cators for Problematic Hydric Soils ³ :
☐ Histosol (A		il cable to		Sandy Redox (cu.,			2 cm Muck (A10)
•	pedon (A2)			Stripped Matrix					Red Parent Material (TF2)
☐ Black Histi			_	Loamy Mucky I	` '	1) (except	MLRA 1)		/ery Shallow Dark Surface (TF12)
	Sulfide (A4)			Loamy Gleyed			,		Other (Explain in Remarks)
☐ Depleted B	Below Dark Surfa	ice (A11)		Depleted Matri	x (F3)				
	k Surface (A12)		_	Redox Dark Su	, ,				cators of hydrophytic vegetation and
-	ucky Mineral (S1)			Depleted Dark		7)			etland hydrology must be present,
	eyed Matrix (S4)			Redox Depress	sions (F8)			uı	nless disturbed or problematic.
	ayer (if present):								
• •	hes):								
. `	mpled during the								Soil Present? Yes ☐ No ☒
HYDROLOG	GY .								
Wetland Hydr	rology Indicator								
Wetland Hydr			uired; ch	eck all that app	oly)				econdary Indicators (2 or more required)
Wetland Hydromary Indicated Surface W	rology Indicators ators (minimum of Vater (A1)		uired; ch	☐ Water-Sta	ined Leav		xcept MLI		Water-Stained Leaves (B9) (MLRA 1, 2,
Wetland Hydromary Indicated Surface William High Water	rology Indicator: ators (minimum of Vater (A1) er Table (A2)		uired; ch	☐ Water-Sta	ined Leav A, and 4E		xcept MLF		Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
Wetland Hydr Primary Indica Surface W High Wate Saturation	rology Indicators ators (minimum of Vater (A1) er Table (A2) n (A3)		uired; ch	☐ Water-Sta 1, 2, 4 ☐ Salt Crust	ined Leav A, and 4E (B11)	3)	xcept MLI	RA [Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10)
Wetland Hydr Primary Indica Surface W High Wate Saturation Water Mar	rology Indicators ators (minimum of Vater (A1) er Table (A2) n (A3) rrks (B1)		uired; ch	☐ Water-Sta 1, 2, 4 ☐ Salt Crust ☐ Aquatic In	A, and 4E (B11) vertebrate	s) s (B13)	xcept MLI	RA [Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2)
Wetland Hydr Primary Indica Surface W High Wate Saturation Water Mar Sediment	rology Indicators ators (minimum of Vater (A1) er Table (A2) n (A3) rks (B1) Deposits (B2)		uired; ch	☐ Water-Sta 1, 2, 4 ☐ Salt Crust ☐ Aquatic In ☐ Hydrogen	A, and 4E (B11) vertebrate Sulfide O	s) s (B13) dor (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 Hydromary Indicated Surface Work High Water Saturation Water Mart Sediment Drift Depos	vater (A1) er Table (A2) n (A3) rks (B1) Deposits (B2) osits (B3)		uired; ch	Water-Sta 1, 2, 4 Salt Crust Aquatic In Hydrogen Oxidized I	A, and 4E (B11) vertebrate Sulfide O	es (B13) dor (C1) res along	Living Roc	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 Hydromary Indication Surface Wordship High Water Saturation Water Mar Sediment Drift Deposition Algal Mat (1)	rology Indicators ators (minimum of Vater (A1) er Table (A2) n (A3) rks (B1) Deposits (B2) osits (B3) or Crust (B4)		uired; ch	Water-Sta 1, 2, 4 Salt Crust Aquatic In Hydrogen Oxidized I Presence	A, and 4E (B11) vertebrate Sulfide O Rhizosphe of Reduce	s (B13) dor (C1) res along ed Iron (C4	Living Roc 1)	RA C	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 Hydr Primary Indica Surface W High Wate Saturation Water Mar Sediment Drift Depor	rology Indicators ators (minimum of Vater (A1) er Table (A2) n (A3) rks (B1) Deposits (B2) osits (B3) or Crust (B4)		uired; ch	Water-Star 1, 2, 4 1, 2, 4 Salt Crust Aquatic In Hydrogen Oxidized I Presence Recent Iro	A, and 4E (B11) vertebrate Sulfide Or Rhizosphe of Reduce on Reducti	s (B13) dor (C1) res along ed Iron (C4 on in Tille	Living Roc 4) d Soils (C6	ots (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 Hydromary Indicators Surface Water Mare Saturation Sediment Drift Deposition Durant Surface Sourface So	rology Indicators ators (minimum of Vater (A1) er Table (A2) in (A3) irks (B1) Deposits (B2) posits (B3) or Crust (B4) posits (B5) foil Cracks (B6)	f one requ		Water-Star 1, 2, 4 Salt Crust Aquatic In Hydrogen Oxidized I Presence Recent Irc	A, and 4E (B11) vertebrate Sulfide Or Rhizosphe of Reduce on Reducti r Stressed	es (B13) dor (C1) res along ed Iron (C4 on in Tille Plants (D	Living Roc 4) d Soils (C6	ots (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 Hydromary Indicators Surface W High Water Saturation Water Mart Sediment Drift Depost Algal Mat of Iron Depost Surface Sot Inundation	rology Indicators ators (minimum of Vater (A1) er Table (A2) n (A3) rks (B1) Deposits (B2) osits (B3) or Crust (B4) osits (B5) soil Cracks (B6) n Visible on Aeria	f one requ	(B7)	Water-Star 1, 2, 4 1, 2, 4 Salt Crust Aquatic In Hydrogen Oxidized I Presence Recent Iro	A, and 4E (B11) vertebrate Sulfide Or Rhizosphe of Reduce on Reducti r Stressed	es (B13) dor (C1) res along ed Iron (C4 on in Tille Plants (D	Living Roc 4) d Soils (C6	ots (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 Hydromary Indication Surface Work High Water Saturation Water Mar Sediment Drift Deposition Algal Mater Iron Deposition Surface Sort Inundation Sparsely Wetland Sparsely Wet	rology Indicator: ators (minimum of Vater (A1) er Table (A2) n (A3) rks (B1) Deposits (B2) posits (B3) or Crust (B4) posits (B5) doil Cracks (B6) n Visible on Aerial Vegetated Concar	f one requ	(B7)	Water-Star 1, 2, 4 Salt Crust Aquatic In Hydrogen Oxidized I Presence Recent Irc	A, and 4E (B11) vertebrate Sulfide Or Rhizosphe of Reduce on Reducti r Stressed	es (B13) dor (C1) res along ed Iron (C4 on in Tille Plants (D	Living Roc 4) d Soils (C6	ots (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 Hydromary Indicators Surface Work High Water Mart Sediment Drift Deposition Incomplete Surface Solution Sparsely Wetland High Sparsely Work Street Solution Deposition Sparsely Wetland Sparsely Wetland High Sparsely Wetland High Sparsely Wetland Sparsely Wetland High Sparsely We	rology Indicators ators (minimum of vater (A1) er Table (A2) n (A3) rks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) soil Cracks (B6) n Visible on Aeria Vegetated Concar vations:	I Imagery ve Surfac	(B7) e (B8)	Water-Star 1, 2, 4 1, 2, 4 Salt Crust Aquatic In Hydrogen Oxidized I Presence Recent Irc Stunted o Other (Ex	A, and 4E (B11) vertebrate Sulfide Or Rhizosphe of Reduce on Reducti r Stressed	s (B13) dor (C1) res along ed Iron (C4 on in Tille Plants (D emarks)	Living Roc 4) d Soils (C6	ots (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 Hydromary Indicators Surface Water Mare Sediment Drift Deposition Surface Solution Sparsely Version Field Observation Primary Indicators Surface Water Mare Primary Surface Water Market Surface Water Primary Indicators Water P	rology Indicators ators (minimum of Vater (A1) er Table (A2) n (A3) rks (B1) Deposits (B2) posits (B3) or Crust (B4) posits (B5) poil Cracks (B6) n Visible on Aeria Vegetated Concar rations:	I Imagery ve Surfac	(B7) te (B8)	Water-Star 1, 2, 4 1, 2, 4 Salt Crust Aquatic In Hydrogen Oxidized I Presence Recent Irc Stunted o Other (Ex	A, and 4E (B11) vertebrate Sulfide Or Rhizosphe of Reduce on Reducti r Stressed plain in Re	es (B13) dor (C1) res along ed Iron (C4 on in Tille Plants (D emarks)	Living Roc 4) d Soils (C6	ots (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 Hydromary Indicators Surface Water Mart Sediment Drift Deposition Surface Solution Surface Solution Sparsely Water Table Point Surface Water Table Point Surface Programmer Surface Water Table Point Surface Water Table Point Surface Water Table Point Surface Water Surface Wa	rology Indicators ators (minimum of Vater (A1) er Table (A2) n (A3) rks (B1) Deposits (B2) posits (B3) or Crust (B4) posits (B5) soil Cracks (B6) n Visible on Aeria Vegetated Concar ations: er Present?	I Imagery ve Surface Yes Yes Yes	(B7) te (B8) No ⊠ No ⊠	Water-Sta 1, 2, 4 Salt Crust Aquatic In Hydrogen Oxidized I Presence Recent Irc Stunted o Other (Ex	A, and 4E (B11) vertebrate Sulfide Or Rhizosphe of Reduce on Reducti r Stressed plain in Re s):	es (B13) dor (C1) res along ed Iron (C4) on in Tille Plants (D4) emarks)	Living Roo 4) d Soils (C6 1) (LRR A	cots (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 Hydromary Indicators Surface Water Mare Sediment Drift Deposition Surface Solution Sparsely Version Field Observation Primary Indicators Surface Water Mare Primary Surface Water Market Surface Water Primary Indicators Water P	rology Indicators ators (minimum of Vater (A1) er Table (A2) n (A3) rks (B1) Deposits (B2) posits (B3) or Crust (B4) posits (B5) soil Cracks (B6) n Visible on Aeria Vegetated Concar ations: er Present? Present?	I Imagery ve Surfac	(B7) te (B8)	Water-Star 1, 2, 4 1, 2, 4 Salt Crust Aquatic In Hydrogen Oxidized I Presence Recent Irc Stunted o Other (Ex	A, and 4E (B11) vertebrate Sulfide Or Rhizosphe of Reduce on Reducti r Stressed plain in Re s):	es (B13) dor (C1) res along ed Iron (C4) on in Tille Plants (D4) emarks)	Living Roo 4) d Soils (C6 1) (LRR A	cots (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 Hydromary Indicators Surface Water Mart Sediment Drift Deposion Surface Some Inundation Sparsely Water Table P Saturation Pre (includes capill	rology Indicators ators (minimum of Vater (A1) er Table (A2) n (A3) rks (B1) Deposits (B2) posits (B3) or Crust (B4) posits (B5) soil Cracks (B6) n Visible on Aeria Vegetated Concar ations: er Present? Present?	I Imagery ve Surfac Yes Yes Yes Yes Yes Yes	(B7) ee (B8) No 🗵 No 🗵 No 🖾	Water-Star 1, 2, 4 1, 2, 4 Salt Crust Aquatic In Hydrogen Oxidized I Presence Recent Irc Stunted o Other (Ex	A, and 4E (B11) vertebrate Sulfide Or Rhizosphe of Reduce on Reducti r Stressed plain in Re s):	s (B13) dor (C1) res along ed Iron (C4 on in Tille Plants (Demarks)	Living Roc 4) d Soils (C6 1) (LRR A	ots (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 Hydromary Indicators Surface Water Mart Sediment Drift Deposion Surface Score Inundation Sparsely Version Precedence Saturation Precedence Second Describe Recore Surface Score Saturation Precedence Second Describe Recore Surface Second Describe Recore Surface Score Saturation Precedence Second Describe Recore Surface Score Saturation Precedence Second Surface Score Surface Saturation Precedence Second Surface	rology Indicators ators (minimum of vater (A1) er Table (A2) n (A3) rks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) soil Cracks (B6) n Visible on Aeria Vegetated Concar vations: er Present? Present? esent? elilary fringe) orded Data (strea	I Imagery ve Surfac Yes Yes Yes Yes am gauge	(B7) le (B8) No ⊠ No ⊠ No ⊠ No ⊠	Water-Star 1, 2, 4 1, 2, 4 Salt Crust Aquatic In Hydrogen Oxidized I Presence Recent Irc Stunted o Other (Ex	A, and 4E (B11) vertebrate Sulfide Or Rhizosphe of Reduce on Reducti r Stressed plain in Re s):	s (B13) dor (C1) res along ed Iron (C4 on in Tille Plants (Demarks)	Living Roc 4) d Soils (C6 1) (LRR A	ots (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 Hydromary Indicators Surface Water Mart Sediment Drift Deposion Surface Score Inundation Sparsely Version Precedence Saturation Precedence Second Describe Recore Surface Score Saturation Precedence Second Describe Recore Surface Second Describe Recore Surface Score Saturation Precedence Second Describe Recore Surface Score Saturation Precedence Second Surface Score Surface Saturation Precedence Second Surface	rology Indicators ators (minimum of vater (A1) er Table (A2) in (A3) irks (B1) Deposits (B2) isits (B3) or Crust (B4) isits (B5) isits (B5) in Visible on Aeria Vegetated Concar vations: ir Present? Present? esent? elilary fringe)	I Imagery ve Surfac Yes Yes Yes Yes am gauge	(B7) le (B8) No ⊠ No ⊠ No ⊠ No ⊠	Water-Star 1, 2, 4 1, 2, 4 Salt Crust Aquatic In Hydrogen Oxidized I Presence Recent Irc Stunted o Other (Ex	A, and 4E (B11) vertebrate Sulfide Or Rhizosphe of Reduce on Reducti r Stressed plain in Re s):	s (B13) dor (C1) res along ed Iron (C4 on in Tille Plants (Demarks)	Living Roc 4) d Soils (C6 1) (LRR A	ots (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 Hydromary Indicators Surface W High Water Saturation Water Mart Sediment Drift Deposition Algal Mater Iron Deposition Sparsely Water Table P Saturation Precedent Saturation Precedent Describe Recommendation Describe Recommendation Saturation Precedent Saturati	rology Indicators ators (minimum of vater (A1) er Table (A2) n (A3) rks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) soil Cracks (B6) n Visible on Aeria Vegetated Concar vations: er Present? Present? esent? elilary fringe) orded Data (strea	I Imagery ve Surfac Yes Yes Yes Yes am gauge	(B7) le (B8) No ⊠ No ⊠ No ⊠ No ⊠	Water-Star 1, 2, 4 1, 2, 4 Salt Crust Aquatic In Hydrogen Oxidized I Presence Recent Irc Stunted o Other (Ex	A, and 4E (B11) vertebrate Sulfide Or Rhizosphe of Reduce on Reducti r Stressed plain in Re s):	s (B13) dor (C1) res along ed Iron (C4 on in Tille Plants (Demarks)	Living Roc 4) d Soils (C6 1) (LRR A	ots (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: L2ST Segment C		City/Count	ty: <u>SeaTac/</u>	King	Sampling Date: 01/11/2017
Applicant/Owner: WSDOT				State: WA	Sampling Point: SP - 25
Investigator(s): <u>Trey Parry</u>			Section, To	ownship, Range: <u>32, 23 N,</u>	04 E
Landform (hillslope, terrace, etc.): Toe-of-slope		Local reli	ef (concave	, convex, none): none	Slope (%): <u>1-2</u>
Subregion (LRR): A	_ Lat:			_ Long:	Datum:
Soil Map Unit Name: NOTCOM					
Are climatic / hydrologic conditions on the site typical for this					
Are Vegetation, Soil, or Hydrology sign	-			ormal Circumstances" pres	
Are Vegetation, Soil, or Hydrology natu				ed, explain any answers ir	
SUMMARY OF FINDINGS – Attach site map			•		•
Hydrophytic Vegetation Present? Yes ⊠ No □				<u> </u>	
Hydrophytic Vegetation Present? Yes ⊠ No ☐ Hydric Soil Present? Yes ⊠ No ☐			he Sampled		_
Wetland Hydrology Present? Yes ⊠ No □		witl	hin a Wetlaı	nd? Yes □ N	0 🗵
Remarks: This sample point is positioned where the propo					
for hydrophytic vegetation, hydric soils, and wetland hydro sample point contains PFO habitat and is considered a de					he area surrounding the
					_
VEGETATION – Use scientific names of plan	ts.				
Tree Stratum (Plot size: r = 20 ft)	Absolute % Cover		t Indicator	Dominance Test works	sheet:
1. Alnus rubra				Number of Dominant Sp	pecies or FAC: <u>3</u> (A)
2					
3.				Total Number of Domina Species Across All Strat	
4.					
Sapling/Shrub Stratum (Plot size: r = 10 ft)	40			Percent of Dominant Sp That Are OBL, FACW, o	pecies or FAC: <u>100%</u> (A/B)
1. Rubus armeniacus	8	Yes	FAC	Prevalence Index work	sheet:
2.				Total % Cover of:	Multiply by:
3.				OBL species	x 1 =
4				FACW species	x 2 =
5			·	FAC species	x 3 =
Harb Otratura (Distrains a 5 th)	8	= Total (Cover		x 4 =
Herb Stratum (Plot size: <u>r = 5 ft</u>)	00	Voo	EAC\\\	UPL species	
1. Phalaris arundinacea				Column Totals:	(A) (B)
2				Prevalence Index	= B/A =
4				Hydrophytic Vegetatio	
5				☐ Rapid Test for Hydro	ophytic Vegetation
6.				□ Dominance Test is >	>50%
7.				☐ Prevalence Index is	≤3.0 ¹
8				☐ Morphological Adap	tations ¹ (Provide supporting
9					or on a separate sheet)
10			. <u></u>	☐ Wetland Non-Vascu	hytic Vegetation¹ (Explain)
11					and wetland hydrology must
Woody Vino Stratum (Plot cize: r = 45 th)		= Total 0	Cover	be present, unless distu	
Woody Vine Stratum (Plot size: r = 15 ft.) 1. Hedera helix	2	No	EACH		
				Hydrophytic	
2	2			Vegetation Yes	s⊠ No□
% Bare Ground in Herb Stratum <u>50</u>					
Remarks: HEHE and the woody vine stratum do not meet	the 5% total	plant cov	er; thus, it do	oes not qualify as a domina	ant species.

Profile Des	cription: (Describ Matrix		depth ne		ument the dox Featu		or confirn	n the abser	nce of indicators.)
(inches)	Color (moist)	%	Colo	or (moist)	<u> </u>		Loc ²	Texture	Remarks
0-4	10 YR 2/1	100						Sandy Loa	am Lots of small/fine roots
4-9.5	10 YR 2/2	95	10Y	R 3/3	5	С	М	Sandy Loa	am_ Faint contrast
9.5-18	2.5Y 4/2	65	10Y	R 3/3	25	С	М	Sandy Loa	am Faint Contrast
	_		7.5Y	'R 4/6	10		M+PL	<u> </u>	Prominent Contrast
			1.01	11 1/0			<u> </u>		- Tommone Contract
									_
	-								
								-	
71	oncentration, D=D Indicators: (Appl						ed Sand G		Location: PL=Pore Lining, M=Matrix. ators for Problematic Hydric Soils ³ :
☐ Histosol		iloubic to		Sandy Redox		olcu.,			cm Muck (A10)
	oipedon (A2)			Stripped Matri					Red Parent Material (TF2)
☐ Black Hi				_oamy Mucky		F1) (excep	t MLRA 1)		ery Shallow Dark Surface (TF12)
	en Sulfide (A4)			_oamy Gleye			,		Other (Explain in Remarks)
	d Below Dark Surfa	ace (A11)		Depleted Mati		,			,
☐ Thick Da	ark Surface (A12)			Redox Dark S	surface (F6	6)		³ Indic	cators of hydrophytic vegetation and
-	lucky Mineral (S1)			Depleted Dark	s Surface	(F7)		We	etland hydrology must be present,
	Bleyed Matrix (S4)			Redox Depres	ssions (F8	5)		ur	nless disturbed or problematic.
	Layer (if present)								
Type:	-h\-								
Depth (in	ches):							Hydric S	Soil Present? Yes ⊠ No □
HYDROLO Wetland Hy	GY drology Indicator	s:							
Primary Indi	cators (minimum o	f one requ	uired; ch	eck all that ap	ply)			Se	econdary Indicators (2 or more required)
Surface	Water (A1)			☐ Water-St	ained Lea	ves (B9) (except MLF	RA 🗆	Water-Stained Leaves (B9) (MLRA 1, 2,
☐ High Wa	iter Table (A2)			1, 2,	4A, and 4	В)			4A, and 4B)
☐ Saturation	on (A3)			☐ Salt Crus	st (B11)				Drainage Patterns (B10)
☐ Water M	larks (B1)			☐ Aquatic I	nvertebrat	tes (B13)			Dry-Season Water Table (C2)
☐ Sedimer	nt Deposits (B2)			☐ Hydroge	n Sulfide (Odor (C1)			Saturation Visible on Aerial Imagery (C9)
☐ Drift Dep	oosits (B3)				Rhizosph	eres along	Living Roo	ts (C3)	Geomorphic Position (D2)
☐ Algal Ma	at or Crust (B4)			☐ Presence	e of Reduc	ced Iron (C	4)		Shallow Aquitard (D3)
☐ Iron Dep	osits (B5)			☐ Recent I	ron Reduc	tion in Tille	ed Soils (C6	i) 🛛	FAC-Neutral Test (D5)
☐ Surface	Soil Cracks (B6)			☐ Stunted	or Stresse	d Plants (D	01) (LRR A)) 🗆	Raised Ant Mounds (D6) (LRR A)
☐ Inundation	on Visible on Aeria	I Imagery	(B7)	☐ Other (E	xplain in R	Remarks)			Frost-Heave Hummocks (D7)
☐ Sparsely	/ Vegetated Conca	ve Surfac	e (B8)						
Field Obser	vations:								
Surface Wat	ter Present?	Yes 🗌	No 🖂	Depth (inch	es):				
Water Table	Present?	Yes 🗌	No 🏻	Depth (inch	es):				
Saturation F		Yes 🗌	No 🛛	Depth (inch	es):		Wetl	and Hydrol	logy Present? Yes ⊠ No □
	pillary fringe) corded Data (strea	am gauge	, monitor	ing well, aeria	al photos,	previous in	spections),	if available:	
Remarks: Sa	ampled during the	wet seaso	on. The s	ample point r	net one pr	rimary indic	ator and tw	o secondar	y wetland hydrology indicators,

Project/Site: L2ST Segment C		City/Cou	nty: <u>Burien/ K</u> i	ing	Sampling Date: 9/13/2016
Applicant/Owner: WSDOT				State: WA	Sampling Point: SP - 9
Investigator(s): Josh Wozniak and Trey Parry			_ Section, To	ownship, Range: <u>32, 23 N,</u>	04 E
Landform (hillslope, terrace, etc.): Depression at toe of slope	9	Local re	elief (concave,	, convex, none): Concave	Slope (%): <u>12-17</u>
Subregion (LRR): A					
Soil Map Unit Name: NOTCOM				_	
Are climatic / hydrologic conditions on the site typical for this					
Are Vegetation, Soil, or Hydrology sign	-			ormal Circumstances" pres	ent? Yes⊠ No□
Are Vegetation, Soil, or Hydrology natu				ed, explain any answers in	
SUMMARY OF FINDINGS – Attach site map s					
Hudraphytia Vagatation Bracant?					
Hydrophytic Vegetation Present? Yes ⊠ No ☐ Hydric Soil Present? Yes ⊠ No ☐			the Sampled		_
Wetland Hydrology Present? Yes ⊠ No □		Wi	ithin a Wetlar	nd? Yes⊠ No	o 📙
Remarks: The sample points meets the criterion for hydrop					e sample point is determined
to be a wetland. This sample point is positioned in Wetland	B, located	adjacent	to Des Moine	es Memorial Drive.	
VEGETATION . He a scientific manner of plant					
VEGETATION – Use scientific names of plant		Damina	at ladiants	Daminana Taat washa	
Tree Stratum (Plot size: r = 30 ft.)			int Indicator s? Status	Dominance Test works Number of Dominant Sp	
1. Alnus rubra	80	Yes	FAC		r FAC: <u>6</u> (A)
2. Salix lucida	20	Yes	FACW	Total Number of Domina	ant
3				Species Across All Strat	
4				Percent of Dominant Sp	ecies
Sapling/Shrub Stratum (Plot size: r = 15 ft.)	100	= Total	Cover		r FAC: <u>100%</u> (A/B)
1. Rubus armeniacus	45	Yes	FAC	Prevalence Index work	sheet:
2. Alnus rubra (s)				Total % Cover of:	Multiply by:
3				OBL species	x 1 =
4				FACW species	x 2 =
5					x 3 =
Herb Stratum (Plot size: r = 5 ft.)	65	= Total	Cover		x 4 =
1. Ranunculus repens	60	Yes	FAC		x 5 =
Clyceria elata	20	Yes	OBL	Column Totals:	(A) (B)
3. Phalaris arundinacea	15			Prevalence Index	= B/A =
4. Carex obnupta	5	No	OBL	Hydrophytic Vegetation	n Indicators:
5				☐ Rapid Test for Hydro	phytic Vegetation
6				Dominance Test is >	
7				☐ Prevalence Index is	
8					tations ¹ (Provide supporting or on a separate sheet)
9				☐ Wetland Non-Vascul	
10				☐ Problematic Hydroph	nytic Vegetation¹ (Explain)
11	100				and wetland hydrology must
Woody Vine Stratum (Plot size: r = 15 ft.)	100	= 10(a)	Cover	be present, unless distu	rbed or problematic.
1. none				Districtly	
2				Hydrophytic Vegetation	
9/ Para Cround in Horb Stratum 5	0	= Total	Cover		s⊠ No □
% Bare Ground in Herb Stratum <u>5</u> Remarks:					

Profile Des Depth	Matrix	(Re	dox Featur	es			•
(inches)	Color (moist)	%	Cold	or (moist)	<u>%</u>		Loc ²	Texture	<u>Remarks</u>
0-5	10 YR 2/1	100						Silt Loam	Roots
5-8	10 YR 3/1	78	7.5	YR 4/6	20	<u>C</u>	M	Silt Loam	Prominent contrast. Few roots.
			2.5	Y 5/1	2	D	M		Distinct contrast
8-16	7.5 YR 4/1	75	5 YF	R 4/6	15	С	М		Prominent contrast
				Y 6/1	10	 D	M	Silt Loam	
-									
¹Type: C=C	Concentration, D=D	Depletion,	RM=Rec	duced Matrix,	CS=Cover	ed or Coat	ed Sand G	Grains.	² Location: PL=Pore Lining, M=Matrix.
	Indicators: (App	_							cators for Problematic Hydric Soils ³ :
☐ Histosol	(A1)			Sandy Redox	(S5)				2 cm Muck (A10)
	pipedon (A2)		_	Stripped Matr	` '				Red Parent Material (TF2)
	istic (A3)			Loamy Mucky	•		t MLRA 1)		Very Shallow Dark Surface (TF12)
	en Sulfide (A4)			Loamy Gleye		2)			Other (Explain in Remarks)
•	d Below Dark Surf	ace (A11)		Depleted Mat	` '	٠,		31	inatore of hydrophytic versitation and
	ark Surface (A12) Mucky Mineral (S1)		_	Redox Dark S	`	,			icators of hydrophytic vegetation and vetland hydrology must be present,
-	Gleyed Matrix (S4)			Depleted Darl Redox Depres					inless disturbed or problematic.
-	Layer (if present			redux Depres	3310113 (1 0)	1			inicas disturbed of problematic.
Type:				_					
Depth (in	nches):			_				Hydric	Soil Present? Yes ⊠ No □
Remarks:								1.7	
Wetland Hy	/drology Indicato								
Wetland Hy Primary Indi	drology Indicato		uired; ch						econdary Indicators (2 or more required)
Wetland Hy Primary Indi	/drology Indicato icators (minimum o Water (A1)		uired; ch	☐ Water-St	tained Lea	, , ,	except ML		Water-Stained Leaves (B9) (MLRA 1, 2,
Wetland Hy Primary Indi ☐ Surface ☐ High Wa	ydrology Indicato icators (minimum o Water (A1) ater Table (A2)		uired; ch	☐ Water-St	tained Lea	, , ,	except ML	RA [Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
Wetland Hy Primary Indi ☐ Surface ☐ High Wa	ydrology Indicato icators (minimum o Water (A1) ater Table (A2) on (A3)		uired; ch	☐ Water-Si 1, 2, ☐ Salt Crus	tained Lear 4A, and 4I st (B11)	В)	except ML	RA [Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10)
Wetland Hy Primary Indi ☐ Surface ☐ High Wa ☐ Saturation ☐ Water M	rdrology Indicato icators (minimum o Water (A1) ater Table (A2) on (A3) farks (B1)		uired; ch	☐ Water-Si 1, 2, ☐ Salt Crus ☐ Aquatic I	tained Lear 4A, and 4 st (B11) Invertebrat	B) es (B13)	except ML	RA D	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2)
Wetland Hy Primary Indi ☐ Surface ☐ High Wa ☐ Saturati ☐ Water M ☐ Sedimen	vdrology Indicato icators (minimum of Water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2)		uired; ch	Water-Si 1, 2, Salt Crus Aquatic I Hydroge	tained Lear 4A, and 4I st (B11) Invertebrat n Sulfide C	es (B13) Odor (C1)	·	RA E	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 Indi ☐ Surface ☐ High Wa ☐ Saturati ☐ Water M ☐ Sedimer ☐ Drift Dep	water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2) posits (B3)		uired; ch	Water-Si 1, 2, Salt Crus Aquatic I Hydroge Oxidized	tained Lear 4A, and 4lest (B11) Invertebrate In Sulfide Colors Rhizosphe	es (B13) Odor (C1) eres along	Living Ro	RA E	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 Indi ☐ Surface ☐ High Wa ☐ Saturatio ☐ Water M ☐ Sedimed ☐ Drift Dep ☐ Algal Ma	rdrology Indicatoricators (minimum of Water (A1) ater Table (A2) on (A3) Marks (B1) and Deposits (B2) posits (B3) at or Crust (B4)		uired; ch	Water-Si 1, 2, Salt Crus Aquatic I Hydroge Oxidized Presence	tained Lear 4A, and 4I st (B11) Invertebrat in Sulfide C I Rhizosphi e of Reduc	es (B13) Odor (C1) eres along ed Iron (C	Living Roo 4)	RA E	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 Indi ☐ Surface ☐ High Wa ☐ Saturatic ☐ Water M ☐ Sedimen ☐ Drift Dep ☐ Algal Ma ☐ Iron Dep	vdrology Indicatoricators (minimum of Water (A1) ater Table (A2) on (A3) Marks (B1) at Deposits (B2) posits (B3) at or Crust (B4) posits (B5)		uired; ch	Water-Si 1, 2, Salt Crus Aquatic I Hydroge Oxidized Presence Recent I	tained Leat 4A, and 4l st (B11) Invertebrat in Sulfide C I Rhizosphi e of Reduct ron Reduct	es (B13) Odor (C1) eres along ed Iron (Cotion in Tille	Living Roo 4) d Soils (Co	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) Shallow Aquitard (D3) FAC-Neutral Test (D5)
Wetland Hy Primary Indi ☐ Surface ☐ High Wa ☐ Saturatio ☐ Water M ☐ Sedimen ☐ Drift Dep ☐ Algal Ma ☐ Iron Dep ☐ Surface	vdrology Indicatoricators (minimum of Water (A1) ater Table (A2) on (A3) Marks (B1) at Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6)	of one requ		Water-Si 1, 2, Salt Crus Aquatic I Hydroge Oxidized Presence Recent I Stunted	tained Leat 4A, and 4l st (B11) Invertebrat in Sulfide C I Rhizosphi e of Reduct ron Reduct or Stresser	es (B13) Dodor (C1) eres along ed Iron (C- tion in Tille d Plants (D	Living Roo 4) d Soils (Co	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) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
Wetland Hy Primary Indi Surface High Wa Saturati Water M Sedimel Drift Dep Algal Ma Iron Dep Surface	widrology Indicator icators (minimum of Water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) ion Visible on Aeria	of one requal	r (B7)	Water-Si 1, 2, Salt Crus Aquatic I Hydroge Oxidized Presence Recent I Stunted	tained Leat 4A, and 4l st (B11) Invertebrat in Sulfide C I Rhizosphi e of Reduct ron Reduct	es (B13) Dodor (C1) eres along ed Iron (C- tion in Tille d Plants (D	Living Roo 4) d Soils (Co	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) Shallow Aquitard (D3) FAC-Neutral Test (D5)
Wetland Hy Primary Indi □ Surface □ High Wa □ Saturati □ Water M □ Sedimet □ Drift Det □ Algal Ma □ Iron Det □ Surface □ Inundati □ Sparset	rdrology Indicatoricators (minimum of Water (A1) ater Table (A2) on (A3) Marks (B1) at Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) ion Visible on Aeria y Vegetated Concar	of one requal	r (B7)	Water-Si 1, 2, Salt Crus Aquatic I Hydroge Oxidized Presence Recent I Stunted	tained Leat 4A, and 4l st (B11) Invertebrat in Sulfide C I Rhizosphi e of Reduct ron Reduct or Stresser	es (B13) Dodor (C1) eres along ed Iron (C- tion in Tille d Plants (D	Living Roo 4) d Soils (Co	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) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
Wetland Hy Primary Indi Surface High Wa Saturati Water M Sedimer Drift Dep Algal Ma Iron Dep Surface Inundati Sparsely	wdrology Indicatoricators (minimum of Water (A1) ater Table (A2) on (A3) Marks (B1) at the Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) fon Visible on Aeria y Vegetated Concarrvations:	of one requal Imagery	r (B7) be (B8)	Water-Si 1, 2, Salt Crus Aquatic I Hydroge Oxidized Presence Recent I Stunted Other (E	tained Lear 4A, and 4I st (B11) Invertebrat in Sulfide C I Rhizosphi e of Reduct ron Reduct or Stressed xplain in R	es (B13) Ddor (C1) eres along ed Iron (Cition in Tille d Plants (Demarks)	Living Roo 4) d Soils (Co	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) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
Wetland Hy Primary Indi Surface High Wa Saturati Water M Sedimer Drift Der Algal Ma Iron Der Surface Inundati Sparsely Field Obset	widrology Indicator icators (minimum of Water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) ion Visible on Aeria y Vegetated Concar rvations: ter Present?	of one requal Imagery ave Surface Yes □	e (B7) ce (B8) No 🗵	Water-Si 1, 2, Salt Crus Aquatic I Hydroge Oxidized Presence Recent I Stunted Other (E	tained Leat 4A, and 4l st (B11) Invertebrat in Sulfide C I Rhizosphi e of Reduct ron Reduct or Stresset xplain in R	es (B13) Dodor (C1) eres along ed Iron (C- tion in Tille d Plants (D emarks)	Living Roo 4) d Soils (Co	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) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
Wetland Hy Primary Indi Surface High Wa Saturati Water M Sedimer Drift Der Algal Ma Iron Der Surface Inundati Sparsely Field Obser Surface Wa Water Table	widrology Indicator icators (minimum of Water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) ion Visible on Aeria y Vegetated Concarvations: ter Present?	of one requal Imagery ave Surface Yes □ Yes □	(B7) te (B8) No 🖂 No 🖂	Water-Si 1, 2, Salt Crus Aquatic I Hydroge Oxidized Presence Recent I Stunted Other (E	tained Leat 4A, and 4l st (B11) Invertebrat in Sulfide C I Rhizosphi e of Reduct ron Reduct or Stresset xplain in R nes):	es (B13) Dodor (C1) eres along ed Iron (C- tion in Tille d Plants (D emarks)	Living Roo 4) d Soils (Co 11) (LRR A	PRA	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 Indi Surface High Wa Saturati Water M Sedimel Drift Del Algal Ma Iron Dep Surface Inundati Sparsely Field Obsel Saturation F	widrology Indicator icators (minimum of Water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) ion Visible on Aeria y Vegetated Concarvations: ter Present? Present?	of one requal Imagery ave Surface Yes □	e (B7) ce (B8) No 🗵	Water-Si 1, 2, Salt Crus Aquatic I Hydroge Oxidized Presence Recent I Stunted Other (E	tained Leat 4A, and 4l st (B11) Invertebrat in Sulfide C I Rhizosphi e of Reduct ron Reduct or Stresset xplain in R nes):	es (B13) Dodor (C1) eres along ed Iron (C- tion in Tille d Plants (D emarks)	Living Roo 4) d Soils (Co 11) (LRR A	PRA	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 Indi Surface High Wa Saturati Water M Sedimer Algal Ma Iron Dep Surface Inundati Sparsely Field Obset Saturation F (includes ca	widrology Indicator icators (minimum of Water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) ion Visible on Aeria y Vegetated Concarvations: ter Present?	al Imagery ave Surfac Yes □ Yes □ Yes ⊠	(B7) ce (B8) No ⊠ No ⊠ No □	Water-Si 1, 2, Salt Crus Aquatic I Hydroge Oxidized Presence Recent I Stunted Other (E	tained Leat 4A, and 4I st (B11) Invertebrat in Sulfide C I Rhizosphi e of Reduct ron Reduct or Stresset xplain in R nes): nes): nes): 1	es (B13) Odor (C1) eres along ed Iron (C- tion in Tille d Plants (D emarks)	Living Roo 4) d Soils (Co 01) (LRR A	RA Dots (C3) Dot	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)
Primary Indi Surface High Wa Saturatio Water M Sedimer Drift Der Algal Ma Iron Der Surface Inundati Sparsely Field Obser Surface Wa Water Table Saturation F (includes ca	rdrology Indicatoricators (minimum of Water (A1) eter Table (A2) on (A3) Marks (B1) eter Crust (B4) eter Crust (B4) eter Crust (B5) eter Crust (B6) eter Crust	al Imagery ave Surfac Yes □ Yes □ Yes ⊠ am gauge	No 🖂 No 🖂 No 🖂 No 🗔	Water-Si 1, 2, Salt Crus Aquatic I Hydroge Oxidized Presence Recent I Stunted Other (E Depth (inch Depth (inch	tained Lear 4A, and 4I st (B11) Invertebrat in Sulfide C I Rhizosphi e of Reduct ron Reduct or Stressed xplain in R nes): nes): nes): 1	es (B13) Odor (C1) eres along ed Iron (C- tion in Tille d Plants (D emarks)	Living Roo 4) d Soils (Co 01) (LRR A	RA Dots (C3) Dot	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 Indi Surface High Wa Saturati Water M Sedimer Algal Ma Iron Dep Surface Inundati Sparsely Field Obser Surface Wa Water Table Saturation F (includes ca	rdrology Indicatoricators (minimum of Water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) ion Visible on Aeria y Vegetated Concarvations: ter Present? e Present? publications (Marks (Ma	al Imagery ave Surfac Yes □ Yes □ Yes ⊠ am gauge	No 🖂 No 🖂 No 🖂 No 🗔	Water-Si 1, 2, Salt Crus Aquatic I Hydroge Oxidized Presence Recent I Stunted Other (E Depth (inch Depth (inch	tained Lear 4A, and 4I st (B11) Invertebrat in Sulfide C I Rhizosphi e of Reduct ron Reduct or Stressed xplain in R nes): nes): nes): 1	es (B13) Odor (C1) eres along ed Iron (C- tion in Tille d Plants (D emarks)	Living Roo 4) d Soils (Co 01) (LRR A	RA Dots (C3) Dot	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 Indi Surface High Wa Saturati Water M Sedimer Algal Ma Iron Dep Surface Inundati Sparsely Field Obser Surface Wa Water Table Saturation F (includes ca	rdrology Indicatoricators (minimum of Water (A1) eter Table (A2) on (A3) Marks (B1) eter Crust (B4) eter Crust (B4) eter Crust (B5) eter Crust (B6) eter Crust	al Imagery ave Surfac Yes □ Yes □ Yes ⊠ am gauge	No 🖂 No 🖂 No 🖂 No 🗔	Water-Si 1, 2, Salt Crus Aquatic I Hydroge Oxidized Presence Recent I Stunted Other (E Depth (inch Depth (inch	tained Lear 4A, and 4I st (B11) Invertebrat in Sulfide C I Rhizosphi e of Reduct ron Reduct or Stressed xplain in R nes): nes): nes): 1	es (B13) Odor (C1) eres along ed Iron (C- tion in Tille d Plants (D emarks)	Living Roo 4) d Soils (Co 01) (LRR A	RA Dots (C3) Dot	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: L2ST Segment C		City/Count	y: <u>Burien/ K</u>	ing	Sampling Date: 9/13/2016
Applicant/Owner: WSDOT				State: WA	Sampling Point: SP - 10
Investigator(s): Josh Wozniak and Trey Parry			Section, To	ownship, Range: <u>32, 23 N,</u>	04 E
Landform (hillslope, terrace, etc.): Hillslope		Local reli	ef (concave	, convex, none): none	Slope (%): <u>80</u>
Subregion (LRR): A					
Soil Map Unit Name: NOTCOM				=	
Are climatic / hydrologic conditions on the site typical for this					
Are Vegetation <u>yes</u> , Soil, or Hydrology signific	-			nal Circumstances" presen	t? Yes ⊠ No □
Are Vegetation, Soil, or Hydrology natu				ed, explain any answers in	
SUMMARY OF FINDINGS – Attach site map					
Hydrophytic Vegetation Present? Yes ☒ No ☐					
Hydric Soil Present? Yes ☐ No ☒			he Sampled nin a Wetlar		o M
Wetland Hydrology Present? Yes ⊠ No □					
Remarks: This sample point is the associated upland for S marked by the edge of road-side fill, which is frequently matter than the sample point is the associated upland for S marked by the edge of road-side fill, which is frequently matter than the sample point is the associated upland for S marked by the edge of road-side fill, which is frequently matter than the sample point is the associated upland for S marked by the edge of road-side fill, which is frequently matter than the sample point is the associated upland for S marked by the edge of road-side fill, which is frequently matter than the sample point is the associated upland for S marked by the edge of road-side fill, which is frequently matter than the sample point is the associated upland for S marked by the edge of road-side fill, which is frequently matter than the sample point is the associated upland for S marked by the edge of road-side fill, which is frequently matter than the sample point is the sample point in the sample point is the sample point in the sample point is the sample point in the sample point in the sample point is the sample point in the sample point in the sample point is the sample point in the sample point in the sample point is the sample point in the sample p	aintained an		egetation is	significantly disturbed see	ng as the edge of the WL is
		Dominan	t Indicator	Dominance Test works	sheet:
<u>Tree Stratum</u> (Plot size: $\underline{r} = 30 \text{ ft}$)	% Cover			Number of Dominant Sp	
1. Salix lucida	40			That Are OBL, FACW, o	r FAC: <u>6</u> (A)
2. Alnus rubra	35			Total Number of Domina	
3				Species Across All Strat	a: <u>6</u> (B)
Sapling/Shrub Stratum (Plot size: r = 15 ft.)	<u>75</u>		· ·	Percent of Dominant Sp That Are OBL, FACW, o	ecies r FAC: <u>100%</u> (A/B)
1. Rubus armeniacus	35	Yes	FAC	Prevalence Index work	sheet:
2. Salix lucida (s)	15	Yes	FACW	Total % Cover of:	Multiply by:
3				OBL species	x 1 =
4				•	x 2 =
5					x 3 =
Herb Stratum (Plot size: r = 5 ft.)	50	= Total C	Cover		x 4 =
Ranunculus repens	60	Yes	FAC		x 5 =
Phalaris arundinacea			FACW	Column Totals:	(A) (B)
Taraxacum officinale			FACU	Prevalence Index	= B/A =
4. Convolvulus arvensis				Hydrophytic Vegetatio	n Indicators:
5				☐ Rapid Test for Hydro	phytic Vegetation
6				☐ Dominance Test is >	·50%
7				☐ Prevalence Index is	≤3.0 ¹
8 9				☐ Morphological Adapt data in Remarks	tations ¹ (Provide supporting or on a separate sheet)
10				☐ Wetland Non-Vascu	ar Plants ¹
11.				☐ Problematic Hydroph	nytic Vegetation ¹ (Explain)
Woody Vine Stratum (Plot size: <u>r = 15 ft.</u>)	91			¹ Indicators of hydric soil be present, unless distu	and wetland hydrology must rbed or problematic.
1. none				Lhadron bardio	
2				Hydrophytic Vegetation	
	0				s⊠ No □
% Bare Ground in Herb Stratum 15 Remarks: herbacious and roadside ditch vegetation is moved.	vn/maintain	ed frequer	ntly		
The state of the s	, manitani	54 11 5 4 4 6 1			

Profile Desc	cription: (Describe	e to the c	lepth ne			or confirm	the ab	sence	of indicators.)
Depth	Matrix				x Features				
(inches)	Color (moist)	%	Colc	or (moist)	<u>%</u> Type ¹	Loc²	Textur	<u>e</u>	Remarks
0-20	10 YR 3.2	100					<u>VG SL</u>		roadside fill (very gravelly)l
		_							
					-				
·		_					-		
		_							
		<u> </u>							
	oncentration, D=De					ed Sand Gr			cation: PL=Pore Lining, M=Matrix.
Hydric Soil	Indicators: (Appli	cable to	all LRR	s, unless other	rwise noted.)		In	dicato	rs for Problematic Hydric Soils ³ :
☐ Histosol	• •			Sandy Redox (S				_	Muck (A10)
-	ipedon (A2)			Stripped Matrix	` '			_	Parent Material (TF2)
☐ Black His					fineral (F1) (excep	t MLRA 1)		-	Shallow Dark Surface (TF12)
	n Sulfide (A4)	(4.4.4)		Loamy Gleyed N] Othe	er (Explain in Remarks)
-	Below Dark Surface	ce (A11)		Depleted Matrix Redox Dark Sur	• •		31.	. d: t .	ure of budges budge vegetation and
	rk Surface (A12) ucky Mineral (S1)			Depleted Dark Sur	` '		-11		ors of hydrophytic vegetation and nd hydrology must be present,
	leyed Matrix (S4)			Redox Depressi	, ,				s disturbed or problematic.
-	Layer (if present):			redex Depressi	10113 (1 0)			unico	o distarbed of problematic.
Type:	-wyo: (p. occ).								
, ,	ches):			_			Hydr	انہ کے منا	Present? Yes □ No ⊠
. `				-			пуш	ic Soii	Fresent: Tes No
Remarks: Ro	badside tili								
HYDROLO	GY								
	drology Indicators								
_	cators (minimum of		irod: ch	ock all that and	W			Socor	ndary Indicators (2 or more required)
		one requ	iieu, ciii		**	was not MI D			
	Water (A1)				ned Leaves (B9) (except wich	KA	<u></u>	ater-Stained Leaves (B9) (MLRA 1, 2,
_	ter Table (A2)				A, and 4B)			□ □	4A, and 4B)
☐ Saturation	` ,			☐ Salt Crust	` ,			_	rainage Patterns (B10)
☐ Water Mater Mat	` '				vertebrates (B13)				ry-Season Water Table (C2)
	t Deposits (B2)				Sulfide Odor (C1)	Listen Dee	ı- (OO)		aturation Visible on Aerial Imagery (C9)
	osits (B3)				thizospheres along	•	ts (C3)		eomorphic Position (D2)
_	t or Crust (B4)				of Reduced Iron (C				nallow Aquitard (D3)
-	osits (B5)				n Reduction in Tille	•	•		AC-Neutral Test (D5)
	Soil Cracks (B6)		(5-1)		Stressed Plants (E)1) (LRR A)	1		aised Ant Mounds (D6) (LRR A)
	on Visible on Aerial			☐ Other (Exp	lain in Remarks)			∐ Fr	ost-Heave Hummocks (D7)
	Vegetated Concav	e Surface	e (B8)			<u> </u>			
Field Obser									
Surface Wat	er Present?	Yes 🗌	No 🛚	Depth (inches	s):				
Water Table	Present?	Yes 🗌	No 🛛	Depth (inches	s):				
Saturation P		Yes 🗌	No 🛛	Depth (inches	s):	Wetl	and Hyd	drolog	y Present? Yes 🛛 No 🗌
(includes cap	oillary fringe) corded Data (strear	m dalido	monitor	ring well serial	nhotos previous in	enactione)	if availa	hla:	
Describe Ke	corucu Daia (Siiedi	ıı yauye,	HIOHIIOI	mig well, aelial	photos, previous in	apecii0118),	ıı avalla	ы с .	
Remarks: Sa	ampled during the d	ry seasoi	Դ.						
1									

Project/Site: L2ST Segment C		City/Count	y: <u>SeaTac/</u>	King	Sampling Date: 9/13/2016
Applicant/Owner: WSDOT				State: WA	Sampling Point: SP - 11
Investigator(s): Josh Wozniak and Trey Parry			Section, To	ownship, Range: <u>05, 23 N,</u>	04 E
Landform (hillslope, terrace, etc.): <u>Toe of slope/depression</u>		_Local reli	ef (concave	, convex, none): <u>none</u>	Slope (%): <u>5-10</u>
Subregion (LRR): A	_ Lat:			_ Long:	Datum:
Soil Map Unit Name: Indianola loamy sand, 5 to 15 percent					
Are climatic / hydrologic conditions on the site typical for this					
Are Vegetation, Soil, or Hydrology sign	-			ormal Circumstances" pres	ent? Yes⊠ No □
Are Vegetation, Soil, or Hydrology natu				ed, explain any answers in	
SUMMARY OF FINDINGS – Attach site map s					
Hydrophytic Vegetation Present? Yes ⊠ No □		1- 4	0 !	1.4	
Hydric Soil Present? Yes ⊠ No □			he Sampled nin a Wetlai		<u>,</u> П
Wetland Hydrology Present? Yes ⊠ No □		With	iiii a vvetiai	nd? Yes⊠ No	о
Remarks: The sample points meets the criterion for hydrop to be a wetland. The sample point is positioned at the toe of wetlands mapped nearby. In addition, an EIS from 2003 ide VEGETATION – Use scientific names of plant	of slope with entified this	nin Wetlan	d C. NWI ha		
VEGETATION OSC SCIONATIO NATICES OF Plant	Absolute	Dominan	t Indicator	Dominance Test works	
Tree Stratum (Plot size: 10 X 30 ft. along contour)	% Cover			Number of Dominant Sp	
1. Salix scouleriana	60	yes	FAC	That Are OBL, FACW, o	
2				Total Number of Domina	ant
3				Species Across All Strat	a: <u>5</u> (B)
4	60	= Total C		Percent of Dominant Sports That Are OBL, FACW, o	
Sapling/Shrub Stratum (Plot size: 10 X 15 ft. along contou		.,			
1. Salix scouleriana				Prevalence Index work	
2. Rubus armeniacus					Multiply by:
3					x 1 =
4					x 2 = x 3 =
5	65				x 4 =
<u>Herb Stratum</u> (Plot size: $\underline{r} = 5$ ft.)	<u> </u>	- rotar c	20101	UPL species	
Lysichiton americanus	<u>15</u>	Yes	OBL		(A) (B)
2. Calystegia sepium	5	Yes	FAC		
3					= B/A =
4				Hydrophytic Vegetation	
5				☐ Rapid Test for Hydro ☐ Dominance Test is >	
6				☑ Dominance Test is >☐ Prevalence Index is	
7					tations ¹ (Provide supporting
8					or on a separate sheet)
9 10				☐ Wetland Non-Vascul	lar Plants ¹
11				☐ Problematic Hydroph	hytic Vegetation ¹ (Explain)
Woody Vine Stratum (Plot size: r = 15 ft.)	20	= Total C	Cover	¹ Indicators of hydric soil be present, unless distur	and wetland hydrology must rbed or problematic.
1. none					
2				Hydrophytic Vegetation	
	0				s⊠ No □
% Bare Ground in Herb Stratum <u>65</u>					
Remarks:					

Depth (inches) C	Color (moist)	%	Colo	r (moist)	%	Type ¹	Loc ²	Texture	Remarks
	0 YR 2/2	100	00101	(moist)		<u> 1900 </u>			Large pieces of gravel
5-9 1	0 YR 2/2	95	<u>5 YR</u>		5	<u>C</u>	<u>M</u>	Loamy Sand	Prominent contrast
9-11.5 <u>1</u>	0 YR 3/2	98	<u>5 YR</u>	4/2	_ 2	<u>C</u>	<u>M</u>	Loamy Sand	Distinct contrast
11.5-19 1	0 YR 4/2	85	7.5 Y	'R 4/6	15	<u>C</u>	M	Loamy Sand	Prominent contrast
		_						•	
								-	
, ,	centration, D=De			· · · · · · · · · · · · · · · · · · ·			ed Sand G		ocation: PL=Pore Lining, M=Matrix.
-	dicators: (Appl	icable to				otea.)			ors for Problematic Hydric Soils ³ :
☐ Histosol (A [·]	•			Sandy Redox (Stripped Matrix					m Muck (A10) d Parent Material (TF2)
Black Histic				oamy Mucky	. ,	F1) (excen	t MI RA 1)		ry Shallow Dark Surface (TF12)
☐ Hydrogen S	` '			oamy Gleyed			t IIILIXA 1)		ner (Explain in Remarks)
	Below Dark Surfa	ce (A11)		Depleted Matri		_,		_ 0	(Explain in Nomano)
	Surface (A12)	,		Redox Dark Su	` '	6)		³ Indicat	tors of hydrophytic vegetation and
☐ Sandy Muc	cky Mineral (S1)			epleted Dark				wetl	and hydrology must be present,
	yed Matrix (S4)		□ F	Redox Depres	sions (F8	3)		unle	ess disturbed or problematic.
	yer (if present):								
Depth (inche	es):							Hydric So	il Present? Yes ⊠ No □
emarks:									
Remarks:	Y								
Remarks: YDROLOG Wetland Hydro	Y ology Indicators	S:	ired: che	eck all that app	olv)			Seco	ondary Indicators (2 or more required)
YDROLOG Vetland Hydro	Y ology Indicators tors (minimum of	S:			•	aves (B9) (e	except M L		ondary Indicators (2 or more required) Vater-Stained Leaves (B9) (MLRA 1. 2.
YDROLOG Vetland Hydro Primary Indicat Surface Wa	Y ology Indicators tors (minimum of	S:		Water-Sta	ained Lea		except MLI		Vater-Stained Leaves (B9) (MLRA 1, 2,
YDROLOG Vetland Hydro Primary Indicat Surface Wa	Y ology Indicators tors (minimum of ater (A1) r Table (A2)	S:		Water-Sta	ained Lea		except MLI	RA 🛛 🖂 V	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
YDROLOG Vetland Hydro Trimary Indicat Surface Wa High Water Saturation	Y ology Indicators tors (minimum of ater (A1) r Table (A2) (A3)	S:		Water-Sta 1, 2, 4 □ Salt Crusi	ained Lea IA, and 4 t (B11)	IB)	except MLI	RA ⊠ V	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Orainage Patterns (B10)
POROLOG Vetland Hydro Indicate Water High Water Saturation of Water Mark	Y ology Indicators tors (minimum of ater (A1) r Table (A2) (A3)	S:			ained Lea IA, and 4 t (B11) nvertebra	tes (B13)	except MLI	RA 🗆 V	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
YDROLOG Vetland Hydro Primary Indicat Surface Wa High Water Saturation of	Y ology Indicators tors (minimum of ater (A1) r Table (A2) (A3) ks (B1) Deposits (B2)	S:		Water-Sta 1, 2, 4 ☐ Salt Crusi ☐ Aquatic Ir ☐ Hydrogen	ained Lea A, and 4 t (B11) nvertebra Sulfide (tes (B13)		RA 🗆 V	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2)
YDROLOG Vetland Hydro Primary Indicat Surface Wa High Water Saturation of Water Mark Sediment D Drift Depos	Y ology Indicators tors (minimum of ater (A1) r Table (A2) (A3) ks (B1) Deposits (B2)	S:		Water-Sta 1, 2, 4 Salt Crusi Aquatic Ir Hydrogen Oxidized	AA, and 4 t (B11) nvertebra Sulfide (Rhizosph	tes (B13) Odor (C1)	Living Roo	RA	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Orainage Patterns (B10) Ory-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9
YDROLOG Vetland Hydro Trimary Indicat Surface Wa High Water Saturation Water Mark Sediment D Drift Depos Algal Mat o	Y ology Indicators tors (minimum of ater (A1) r Table (A2) (A3) ks (B1) Deposits (B2) sits (B3) or Crust (B4)	S:		Water-Sta 1, 2, 4 Salt Crusi Aquatic Ir Hydrogen Oxidized Presence	And 4	tes (B13) Odor (C1) neres along	Living Roo 4)	RA	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Orainage Patterns (B10) Ory-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9 Geomorphic Position (D2)
YDROLOG Vetland Hydro Surface Wa High Water Saturation Water Mark Sediment D Drift Depos Algal Mat o	Y ology Indicators tors (minimum of ater (A1) r Table (A2) (A3) ks (B1) Deposits (B2) sits (B3) or Crust (B4)	S:		Water-Sta 1, 2, 4 Salt Crusi Aquatic Ir Hydrogen Oxidized Presence Recent Ire	Ained Lead A, and A t (B11) Invertebra Sulfide (Rhizosph of Reduction Reduction	tes (B13) Odor (C1) neres along ced Iron (C	Living Roo 4) ed Soils (C6	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) Shallow Aquitard (D3)
YDROLOG Vetland Hydro Primary Indicat Surface Wa High Water Saturation of Water Mark Sediment D Drift Depos Algal Mat of Iron Deposi Surface So	Y ology Indicators tors (minimum of ater (A1) r Table (A2) (A3) ks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5)	s: one requ		Water-Sta 1, 2, 4 Salt Crusi Aquatic Ir Hydrogen Oxidized Presence Recent Ire	Ained Lead A, and A t (B11) nvertebrat a Sulfide (Rhizosph of Reduct on Reduct r Stresse	tes (B13) Odor (C1) neres along ced Iron (C ction in Tille ed Plants (E	Living Roo 4) ed Soils (C6	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) Shallow Aquitard (D3) FAC-Neutral Test (D5)
YDROLOG Yetland Hydro Primary Indicat Surface Wa High Water Saturation (Water Mark Sediment D Drift Depos Algal Mat o Iron Deposi Surface So Inundation	ology Indicators tors (minimum of ater (A1) r Table (A2) (A3) ks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) sil Cracks (B6)	s: one requ	(B7)	Water-Sta 1, 2, 4 Salt Crusi Aquatic Ir Hydrogen Oxidized Presence Recent Ir Stunted o	Ained Lead A, and A t (B11) nvertebrat a Sulfide (Rhizosph of Reduct on Reduct r Stresse	tes (B13) Odor (C1) neres along ced Iron (C ction in Tille ed Plants (E	Living Roo 4) ed Soils (C6	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) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
YDROLOG Vetland Hydro Surface Wa High Water Saturation (Water Mark Sediment D Drift Depos Algal Mat o Iron Deposi Surface So Inundation Sparsely Ve	Y ology Indicators tors (minimum of ater (A1) r Table (A2) (A3) ks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) oil Cracks (B6) Visible on Aerial egetated Concav	s: one requ	(B7)	Water-Sta 1, 2, 4 Salt Crusi Aquatic Ir Hydrogen Oxidized Presence Recent Ir Stunted o	Ained Lead A, and A t (B11) nvertebrat a Sulfide (Rhizosph of Reduct on Reduct r Stresse	tes (B13) Odor (C1) neres along ced Iron (C ction in Tille ed Plants (E	Living Roo 4) ed Soils (C6	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) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
YDROLOG Vetland Hydro Primary Indicat Surface Wa High Water Saturation Water Mark Sediment D Drift Depos Algal Mat o Iron Deposi Surface So Inundation Sparsely Vo	ology Indicators tors (minimum of ater (A1) r Table (A2) (A3) ks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) vii Cracks (B6) Visible on Aerial regetated Concavitions:	s: one requ Imagery ve Surface	(B7)	Water-Sta 1, 2, 4 Salt Crusi Aquatic Ir Hydrogen Oxidized Presence Recent Ir Stunted o	ained Lea 14, and 4 t (B11) avertebra Sulfide (Rhizosph of Reduction	tes (B13) Odor (C1) neres along ced Iron (C ction in Tille d Plants (E Remarks)	Living Roo 4) ed Soils (C6	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) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
YDROLOG Vetland Hydro Primary Indicat Surface Wa High Water Saturation Water Mark Sediment D Drift Depos Algal Mat o Iron Deposi Surface So Inundation Sparsely Verield Observar	ology Indicators tors (minimum of ater (A1) r Table (A2) (A3) ks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) oil Cracks (B6) Visible on Aerial egetated Concav tions: Present?	s: one required in the second	(B7) e (B8)	Water-Sta 1, 2, 4 Salt Crusi Aquatic Ir Hydrogen Oxidized Presence Recent Ir Stunted o Other (Ex	Ained Leadined Leadin	tes (B13) Odor (C1) neres along ced Iron (C ction in Tille ed Plants (E Remarks)	Living Roo 4) ed Soils (C6	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) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
YDROLOG Wetland Hydro Primary Indicat Surface Wa High Water Saturation Water Mark Sediment D Drift Depos Algal Mat o Iron Deposi Surface So Inundation Sparsely Vo Field Observar Surface Water Vater Table Presentation Presentation	yology Indicators tors (minimum of ater (A1) r Table (A2) (A3) ks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) oil Cracks (B6) Visible on Aerial egetated Concav tions: Present? sent?	Imagery ve Surface Yes Yes Yes	(B7) e (B8) No ⊠	Water-Sta 1, 2, 4 Salt Crusi Aquatic Ir Hydrogen Oxidized Presence Recent Ir Stunted o Other (Ex	Ained Leadined Leadin	tes (B13) Odor (C1) neres along ced Iron (C ction in Tille ed Plants (E Remarks)	Living Roo 4) ed Soils (Co 01) (LRR A	PRA	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)
YDROLOG Vetland Hydro Primary Indicat Surface Wa High Water Saturation Water Mark Sediment D Drift Depos Algal Mat o Iron Deposi Surface So Inundation Sparsely Vo Field Observat Surface Water Vater Table Pr Saturation Presincludes capilla	yology Indicators tors (minimum of ater (A1) r Table (A2) (A3) ks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) oil Cracks (B6) Visible on Aerial degetated Concav tions: Present? resent? sent? lary fringe)	Imagery /e Surface Yes Yes Yes Yes Yes Yes Yes Yes	(B7) e (B8) No ⊠ No ⊠ No ⊠	Water-Sta 1, 2, 4	And	tes (B13) Odor (C1) neres along ced Iron (C ction in Tille ed Plants (E Remarks)	Living Roo 4) ed Soils (C6 01) (LRR A	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) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
YDROLOG Vetland Hydro Primary Indicat Surface Wa High Water Saturation Water Mark Sediment D Drift Depos Algal Mat o Iron Deposi Surface So Inundation Sparsely Vo Field Observat Surface Water Vater Table Pr Saturation Presincludes capilla	yology Indicators tors (minimum of ater (A1) r Table (A2) (A3) ks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) oil Cracks (B6) Visible on Aerial egetated Concav tions: Present? sent?	Imagery /e Surface Yes Yes Yes Yes Yes Yes Yes Yes	(B7) e (B8) No ⊠ No ⊠ No ⊠	Water-Sta 1, 2, 4	And	tes (B13) Odor (C1) neres along ced Iron (C ction in Tille ed Plants (E Remarks)	Living Roo 4) ed Soils (C6 01) (LRR A	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) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
YDROLOG Vetland Hydro Primary Indicat Surface Wa High Water Saturation Water Mark Sediment D Drift Depos Algal Mat o Iron Deposi Surface So Inundation Sparsely Vo Field Observar Surface Water Vater Table Pr Saturation Presincludes capilla Describe Record	yology Indicators tors (minimum of ater (A1) r Table (A2) (A3) ks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) vir Cracks (B6) Visible on Aerial regetated Concav stions: Present? resent? sent? ary fringe) urded Data (strea	Imagery ve Surface Yes Yes Yes Yes Yes Managery	(B7) e (B8) No ⊠ No ⊠ No ⊠ monitori	Water-Sta 1, 2, 4	And	tes (B13) Odor (C1) neres along ced Iron (C ction in Tille ed Plants (E Remarks)	Living Roo 4) ed Soils (Ce 01) (LRR A Wet	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) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
YDROLOG Vetland Hydro Primary Indicat High Water Saturation Water Mark Sediment D Drift Depos Algal Mat o Iron Deposi Surface So Inundation Sparsely Vo Vetland Observar Surface Water Vater Table Presencludes capilla Describe Record	yology Indicators tors (minimum of ater (A1) r Table (A2) (A3) ks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) oil Cracks (B6) Visible on Aerial degetated Concav tions: Present? resent? sent? lary fringe)	Imagery ve Surface Yes Yes Yes Yes Yes Managery	(B7) e (B8) No ⊠ No ⊠ No ⊠ monitori	Water-Sta 1, 2, 4	And	tes (B13) Odor (C1) neres along ced Iron (C ction in Tille ed Plants (E Remarks)	Living Roo 4) ed Soils (Ce 01) (LRR A Wet	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) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)

Project/Site: L2ST Segment C	(City/Cour	nty: <u>SeaTac/ l</u>	King	Sampling Date: 9/13/2016
Applicant/Owner: WSDOT				State: WA	Sampling Point: SP - 12
Investigator(s): Josh Wozniak and Trey Parry			_ Section, To	ownship, Range: <u>05, 23 N,</u>	04 E
Landform (hillslope, terrace, etc.): Hillslope		Local re	lief (concave	, convex, none): none	Slope (%): <u>10-12</u>
Subregion (LRR): A	_ Lat:			Long:	Datum:
Soil Map Unit Name: Indianola loamy sand, 5 to 15 percent	slopes			NWI classifica	ition: <u>Unmapped</u>
Are climatic / hydrologic conditions on the site typical for this					
Are Vegetation, Soil, or Hydrology sign	-			ormal Circumstances" pres	
Are Vegetation, Soil, or Hydrology natu			(If need	ed, explain any answers ir	Remarks.)
SUMMARY OF FINDINGS – Attach site map s					
Hydrophytic Vegetation Present? Yes ⊠ No □		la d	tha Camplad	Araa	
Hydric Soil Present? Yes ☐ No ☒			the Sampled thin a Wetlar		o 🕅
Wetland Hydrology Present? Yes ☐ No ☒					
Remarks: The sample point is positioned on a hillslope ext The soil is native, yet not hydric. NWI has wetlands mappe non-WL. VEGETATION – Use scientific names of plant	ed in the dep				
VEGETATION OSC SCIONATIO NATICES OF Plant		Domina	nt Indicator	Dominance Test works	
Tree Stratum (Plot size: 10 X 30 ft. along contour)	% Cover			Number of Dominant Sp	
1. none					or FAC: <u>2</u> (A)
2				Total Number of Domina	ant
3				Species Across All Strat	ta: <u>3</u> (B)
4	0			Percent of Dominant Sp That Are OBL, FACW, o	ecies or FAC: <u>66%</u> (A/B)
Sapling/Shrub Stratum (Plot size: 10 X 15 ft.along contou		.,	540		
1. Rubus armeniacus				Prevalence Index work	Multiply by:
2. Salix scouleriana (s)					x 1 =
3					x 2 =
4				*	x 3 = <u>285</u>
·	85				x 4 = <u>20</u>
Herb Stratum (Plot size: 5 X 10 ft. along contour)				UPL species	
Calystegia sepium	10	Yes	FAC		(A) <u>305</u> (B)
2. Polystichum munitum					D/4 0.05
3				Prevalence Index	
4				Hydrophytic Vegetatio	
5				☐ Rapid Test for Hydro ☐ Dominance Test is >	• •
6				☐ Prevalence Index is	
7					tations ¹ (Provide supporting
8. 9.					or on a separate sheet)
10				☐ Wetland Non-Vascu	lar Plants ¹
11				_ , ,	hytic Vegetation ¹ (Explain)
Woody Vine Stratum (Plot size: <u>r</u> = 15 ft.)	15			¹ Indicators of hydric soil be present, unless distu	and wetland hydrology must rbed or problematic.
1. <u>none</u>				Hadronkod'	
2				Hydrophytic Vegetation	
0/ Page Cround in Heat Stratum CO	0	= Total	Cover		s⊠ No□
% Bare Ground in Herb Stratum 60 Remarks: Fails the Prevalence Index hydrophytic vegetation	on indicator				
Testing in a revalence index hydrophytic vegetatic	maioatol.				

	-		lepth n				or confir	m the a	bsence of indicators.)
Depth (inches)	Matrix Color (moist)	%	Cold	Redo: or (moist)	x Features %	Type ¹	Loc ²	Text	ure Remarks
0-16	10 YR 3/2	100							y Sand
0-10	10 11(3/2	100						Loam	y Sand
	-						-	· -	
								<u> </u>	
					. ———		-		
							-	· —	
	oncentration, D=D						ed Sand (² Location: PL=Pore Lining, M=Matrix.
_	Indicators: (App	licable to				u.)			Indicators for Problematic Hydric Soils ³ :
☐ Histosol	` '			Sandy Redox (S Stripped Matrix (☐ 2 cm Muck (A10) ☐ Red Parent Material (TF2)
Black Hi	pipedon (A2)			Loamy Mucky M	` '	(excent	MIRA 1	ا ا	☐ Very Shallow Dark Surface (TF12)
	n Sulfide (A4)			Loamy Gleyed N		(except	. WILKA I		☐ Other (Explain in Remarks)
	d Below Dark Surfa	ace (A11)		Depleted Matrix				•	_ Caner (Exprair in Hernand)
	ark Surface (A12)	` ,		Redox Dark Sur	. ,			3	³ Indicators of hydrophytic vegetation and
☐ Sandy M	lucky Mineral (S1)			Depleted Dark S	Surface (F7	·)			wetland hydrology must be present,
-	leyed Matrix (S4)			Redox Depressi	ons (F8)				unless disturbed or problematic.
_	Layer (if present)								
1				_					
Depth (in	ches):			-				Hyd	Iric Soil Present? Yes ☐ No 🏻
Remarks: Na	ative soil near the	edge of the	roadw	<i>i</i> ay				•	
HYDROLO	ic.								
-	drology Indicator	·e•							
•	cators (minimum o		ired: ch	eck all that apply	/)				Secondary Indicators (2 or more required)
-	Water (A1)	TONC TOQU	iioa, on	☐ Water-Stair		s (BQ) (a	vcent MI	РΛ	☐ Water-Stained Leaves (B9) (MLRA 1, 2,
=	ter Table (A2)				, and 4B)	s (D9) (e	vceht MI	-1\A	4A, and 4B)
☐ Flight Wa				☐ Salt Crust (•				☐ Drainage Patterns (B10)
	arks (B1)			☐ Aquatic Inv		(B13)			☐ Dry-Season Water Table (C2)
	nt Deposits (B2)			☐ Hydrogen S		, ,			☐ Saturation Visible on Aerial Imagery (C9)
	oosits (B3)			☐ Oxidized R			Livina Ro	note (C3)	
	at or Crust (B4)			☐ Presence of		_		ioto (00)	☐ Shallow Aquitard (D3)
	osits (B5)			☐ Recent Iron				:6)	FAC-Neutral Test (D5)
	Soil Cracks (B6)			☐ Stunted or			`	,	Raised Ant Mounds (D6) (LRR A)
	on Visible on Aeria	l Imagery	(R7)	☐ Other (Expl			1) (L IXIX)	••)	Frost-Heave Hummocks (D7)
	Vegetated Conca			_ Other (Exp	iaiii iii ittoii	iaino)			Trost ricave Hammooks (27)
Field Obser			(=0)						
Surface Wat		Yes □	No 🏻	Depth (inches):				
Water Table			No 🏻	Depth (inches					
Saturation P			No 🖾	Depth (inches			Wo	tland Us	ydrology Present? Yes ☐ No ⊠
	pillary fringe)	res 🖂	INO 🖂	Deptil (inches)		we	uanu ny	ydrology Present? Yes ∐ No ⊠
Describe Re	corded Data (stream	am gauge,	monito	ring well, aerial p	photos, pre	vious ins	spections), if avail	able:
Remarks: Sa	ampled during the	dry seasor	٦.						

Project/Site: L2ST Segment C	(City/Cour	nty: <u>SeaTac/ I</u>	King	Sampling Date: 9/14/2016
Applicant/Owner: WSDOT				State: WA	Sampling Point: SP - 13
Investigator(s): Josh Wozniak and Trey Parry			_ Section, To	ownship, Range: <u>04, 22 N,</u>	04 E
Landform (hillslope, terrace, etc.): Hillslope depression		Local re	lief (concave,	convex, none): concave	Slope (%): <u>0-2</u>
Subregion (LRR): A	_ Lat:			Long:	Datum:
Soil Map Unit Name: <u>Urban land</u>					
Are climatic / hydrologic conditions on the site typical for this					
Are Vegetation, Soil, or Hydrology sign	-			ormal Circumstances" pres	sent? Yes ⊠ No □
Are Vegetation, Soil, or Hydrology natu				ed, explain any answers in	- -
SUMMARY OF FINDINGS – Attach site map					
Hydrophytic Vegetation Present? Yes ⊠ No □					
Hydric Soil Present? Yes ⊠ No □			the Sampled		• —
Wetland Hydrology Present? Yes ⊠ No □		Wit	thin a Wetlar	nd? Yes ⊠ N	D 🗀
Remarks: The sample points meets the criterion for hydron to be a wetland. The sample point is positioned in Wetland since planting. Specifically, approximately 2% of the Salix: VEGETATION – Use scientific names of plant	D and what sp. were abl	t appears	to be a mitig	ation site. The mitigation v	regetation/plantings have failed
VEGETATION – Ose scientific flames of plant		Domino	nt Indicator	Dominance Test works	ahaati.
Tree Stratum (Plot size: r = 30 ft.)	% Cover			Number of Dominant Sp	
1. none					or FAC: <u>2</u> (A)
2				Total Number of Domina	ant
3				Species Across All Strat	
4				Percent of Dominant Sp	ecies
Sapling/Shrub Stratum (Plot size: r = 15 ft.)	0	= Total	Cover		or FAC: <u>66</u> (A/B)
1. Salix scouleriana (s)	3	Yes	FAC	Prevalence Index work	sheet:
Cytisus scoparius					Multiply by:
3					x 1 =
4.					x 2 =
5					x 3 = <u>384</u>
	5			FACU species	x 4 =
Herb Stratum (Plot size: <u>r = 5 ft.</u>)				UPL species 2	x 5 = <u>10</u>
1. Poa pratensis	<u>100</u>	Yes	<u>FAC</u>	Column Totals: 130	(A) <u>395</u> (B)
2. Holcus lanatus				Prevalence Index	= B/A = 3.03
3				Hydrophytic Vegetation	
4				☐ Rapid Test for Hydro	
6.				☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐	
7				☐ Prevalence Index is	≤3.0 ¹
8.				<u> </u>	tations ¹ (Provide supporting
9					or on a separate sheet)
10				☐ Wetland Non-Vascu	
11				_ , ,	hytic Vegetation¹ (Explain)
<u>Woody Vine Stratum</u> (Plot size: $\underline{r} = 15 \text{ ft.}$)	105	= Total	Cover	be present, unless distu	and wetland hydrology must rbed or problematic.
1. none				Hydrophytic	
2				Vegetation	. M . N . D
% Bare Ground in Herb Stratum <u>0</u>	0	= Total	Cover	Present? Yes	s⊠ No □
Remarks: Fails the FAC-Neutral Test and the Prevalence I	ndex hydror	ohytic ved	getation indica	l ator.	
	, ,		-		

Depth (inches)	Matrix Color (moist)	%	Colc	or (moist)	%	Type ¹	Loc ²	Texture	<u>Remarks</u>
	7.5 YR 3/2	94	7.5 `	YR 5/2	2	D	М		Faint Contrast
		95		YR 4/6	4		PL+M		Prominent contrast.
6-16 1	10 YR 3/2	95		YR 4/6	<u>-</u> 5		M	Sandy Loam	Redox concretions. Prom contrast.
								•	
<u>16-20+</u> <u>1</u>	10 YR 3/2	<u>95</u>	<u>/.5</u>	YR 4/6	5	<u>C</u>	<u>M</u>	Sandy Loan	No concretions. Prominent contrast.
									· -
			- —						
									<u> </u>
¹Type: C=Con	ncentration, D=D	epletion, I	RM=Red	luced Matrix, (CS=Covere	ed or Coat	ed Sand G	rains. ² Lo	ocation: PL=Pore Lining, M=Matrix.
	ndicators: (App								ors for Problematic Hydric Soils ³ :
☐ Histosol (A	A1)		□ ;	Sandy Redox	(S5)			□ 2 c	m Muck (A10)
☐ Histic Epip				Stripped Matri	` '				d Parent Material (TF2)
☐ Black Histi	. ,			Loamy Mucky			t MLRA 1)		ry Shallow Dark Surface (TF12)
	Sulfide (A4)	(8.4.4)		Loamy Gleyed		2)		∐ Oth	ner (Explain in Remarks)
	Below Dark Surfa k Surface (A12)	ace (A11)		Depleted Matr Redox Dark S		`		3Indica:	tors of hydrophytic vegetation and
	icky Mineral (S1)			Depleted Dark					and hydrology must be present,
	eyed Matrix (S4)			Redox Depres	•	,			ess disturbed or problematic.
•	ayer (if present)	:			, ,				·
Туре:				_					
Depth (inch	hes):			•				Hydric So	il Present? Yes ⊠ No □
Remarks:								<u>'</u>	
	SY.								
HYDROLOG	SY rology Indicator	rs:							
HYDROLOG Wetland Hydr			uired; che	eck all that ap	ply)			Seco	ondary Indicators (2 or more required)
HYDROLOG Wetland Hydr	rology Indicator ators (minimum o		uired; che	eck all that ap		/es (B9) (e	except MLI		ondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2,
HYDROLOG Wetland Hydr Primary Indica Surface W	rology Indicator ators (minimum o		uired; che	☐ Water-St			except MLI		
HYDROLOG Wetland Hydr Primary Indica Surface W	rology Indicator ators (minimum o Vater (A1) er Table (A2)		uired; che	☐ Water-St	ained Leav		except MLI	RA 🗆 \	Water-Stained Leaves (B9) (MLRA 1, 2,
HYDROLOG Wetland Hydr Primary Indica Surface W High Wate	rology Indicator ators (minimum o /ater (A1) er Table (A2) n (A3)		uired; che	☐ Water-St	ained Leav 4A, and 4I st (B11)	3)	except MLI	RA 🗆 \	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
HYDROLOG Wetland Hydr Primary Indica Surface W High Wate Saturation Water Mar	rology Indicator ators (minimum o /ater (A1) er Table (A2) n (A3)		uired; ch	☐ Water-St 1, 2, 4	ained Leaven AA, and 4I (B11) and the contraction of the contraction o	3) es (B13)	except ML	RA □ \ □ \ □ □	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10)
HYDROLOG Wetland Hydr Primary Indica Surface W High Wate Saturation Water Mar	rology Indicator ators (minimum o /ater (A1) er Table (A2) n (A3) rks (B1) Deposits (B2)		uired; cho	☐ Water-St 1, 2, 4 ☐ Salt Crus ☐ Aquatic I	ained Leaven AA, and 4I at (B11) and all at (B11) and all at (B15) and all	es (B13) Odor (C1)		RA	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2)
HYDROLOG Wetland Hydr Primary Indica Surface W High Wate Saturation Water Mar Sediment I Drift Depos	rology Indicator ators (minimum o /ater (A1) er Table (A2) n (A3) rks (B1) Deposits (B2)		uired; che	Water-St 1, 2, 4 ☐ Salt Crus ☐ Aquatic li ☐ Hydroger ☒ Oxidized	ained Leaven AA, and 4I at (B11) and all at (B11) and all at (B15) and all	es (B13) odor (C1) eres along	Living Roo	RA Signal Control (C3) Sig	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)
HYDROLOG Wetland Hydr Primary Indica Surface W High Wate Saturation Water Mar Sediment I Drift Depos	rology Indicator ators (minimum of later (A1) er Table (A2) n (A3) rks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5)		uired; ch	Water-St 1, 2, 4 Salt Crus Aquatic II Hydroger Oxidized Presence Recent Ir	ained Leaver AA, and 4I at (B11) anvertebrate an Sulfide Control Rhizospher of Reduction Reduction Reduction	es (B13) Odor (C1) eres along ed Iron (Cotion in Tille	Living Roo 4) d Soils (C6	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) Shallow Aquitard (D3) FAC-Neutral Test (D5)
HYDROLOG Wetland Hydr Primary Indica Surface W High Wate Saturation Water Mar Sediment I Drift Depos Algal Mat of Iron Depos	rology Indicator ators (minimum of later (A1) er Table (A2) n (A3) rks (B1) Deposits (B2) esits (B3) or Crust (B4) sits (B5) oil Cracks (B6)	f one requ		Water-St 1, 2, 4 Salt Crus Aquatic II Hydroger Oxidized Presence Recent Ir	ained Leaver AA, and 4I at (B11) Invertebrate In Sulfide Con Rhizospher of Reduction Stressed	es (B13) odor (C1) eres along ed Iron (C- tion in Tille d Plants (D	Living Roo 4)	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) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
HYDROLOG Wetland Hydr Primary Indica Surface W High Wate Saturation Water Mar Sediment I Drift Depos Algal Mat o Iron Depos Surface So Inundation	rology Indicator ators (minimum of vater (A1) er Table (A2) n (A3) rks (B1) Deposits (B2) esits (B3) or Crust (B4) sits (B5) oil Cracks (B6) n Visible on Aeria	f one requ	(B7)	Water-St 1, 2, 4 Salt Crus Aquatic II Hydroger Oxidized Presence Recent Ir	ained Leaver AA, and 4I at (B11) anvertebrate an Sulfide Control Rhizospher of Reduction Reduction Reduction	es (B13) odor (C1) eres along ed Iron (C- tion in Tille d Plants (D	Living Roo 4) d Soils (C6	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) Shallow Aquitard (D3) FAC-Neutral Test (D5)
HYDROLOG Wetland Hydr Primary Indica Surface W High Wate Saturation Water Mar Sediment I Drift Depos Algal Mat o Iron Depos Surface So Inundation Sparsely V	rology Indicator ators (minimum of vater (A1) er Table (A2) n (A3) rks (B1) Deposits (B2) osits (B3) or Crust (B4) sits (B5) oil Cracks (B6) n Visible on Aeria Vegetated Conca	f one requ	(B7)	Water-St 1, 2, 4 Salt Crus Aquatic II Hydroger Oxidized Presence Recent Ir	ained Leaver AA, and 4I at (B11) Invertebrate In Sulfide Con Rhizospher of Reduction Stressed	es (B13) odor (C1) eres along ed Iron (C- tion in Tille d Plants (D	Living Roo 4) d Soils (C6	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) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
HYDROLOG Wetland Hydr Primary Indica Surface W High Wate Saturation Water Mar Sediment I Drift Depos Algal Mat o Iron Depos Surface So Inundation Sparsely V Field Observa	rology Indicator ators (minimum of later (A1) er Table (A2) n (A3) rks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) oil Cracks (B6) n Visible on Aeria Vegetated Conca	il Imagery	(B7) e (B8)	Water-St 1, 2, 4 Salt Crus Aquatic II Hydroger Oxidized Presence Recent Ir Stunted € Other (Ex	ained Leaver AA, and 4I st (B11) envertebrate an Sulfide Control Reduction R	es (B13) dor (C1) eres along ed Iron (C- cion in Tille d Plants (D- emarks)	Living Roo 4) d Soils (C6	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) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
HYDROLOG Wetland Hydr Primary Indica Surface W High Wate Saturation Water Mar Sediment I Drift Depos Algal Mat o Iron Depos Iron Depos Inundation Sparsely V Field Observa Surface Water	rology Indicator ators (minimum of vater (A1) er Table (A2) n (A3) rks (B1) Deposits (B2) esits (B3) or Crust (B4) esits (B5) oil Cracks (B6) n Visible on Aeria vegetated Conca ations: r Present?	one requal Imagery ove Surface	(B7) e (B8) No ⊠	Water-St 1, 2, 4 Salt Crus Aquatic II Hydroger Oxidized Presence Recent Ir Stunted C Other (Ex	ained Leaver 4A, and 4I of (B11) invertebrate in Sulfide Con Reduction Reduction Stressed explain in Reduction Stressed explain Stressed explain Stressed explain Stressed explain Stressed explain Stressed explain Str	es (B13) bdor (C1) eres along ed Iron (C- cion in Tille d Plants (D- emarks)	Living Roo 4) d Soils (C6	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) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
HYDROLOG Wetland Hydr Primary Indica Surface W High Wate Saturation Water Mar Sediment I Drift Depos Algal Mat o Iron Depos Surface So Inundation Sparsely V Field Observa Water Table P	rology Indicator ators (minimum of vater (A1) er Table (A2) n (A3) rks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) oil Cracks (B6) n Visible on Aeria vegetated Conca ations: r Present?	Il Imagery ve Surface Yes Yes	(B7) e (B8) No ⊠ No ⊠	Water-St 1, 2, 4 Salt Crus Aquatic II Hydroger Oxidized Presence Recent Ir Stunted C Other (Ex	ained Leaver 4A, and 4I st (B11) envertebrate in Sulfide Control Reduction R	es (B13) clor (C1) eres along ed Iron (C- clon in Tille d Plants (D- emarks)	Living Roo 4) d Soils (Co 1) (LRR A	PRA	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)
HYDROLOG Wetland Hydr Primary Indica Surface W High Wate Saturation Water Mar Sediment I Drift Depos Algal Mat o Iron Depos Surface So Inundation Sparsely V Field Observa Surface Water Water Table P Saturation Pre	rology Indicator ators (minimum of vater (A1) er Table (A2) n (A3) rks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) oil Cracks (B6) n Visible on Aeria vegetated Conca ations: r Present? ersent?	one requal Imagery ove Surface	(B7) e (B8) No ⊠	Water-St 1, 2, 4 Salt Crus Aquatic II Hydroger Oxidized Presence Recent Ir Stunted C Other (Ex	ained Leaver 4A, and 4I st (B11) envertebrate in Sulfide Control Reduction R	es (B13) clor (C1) eres along ed Iron (C- clon in Tille d Plants (D- emarks)	Living Roo 4) d Soils (Co 1) (LRR A	PRA	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)
HYDROLOG Wetland Hydr Primary Indica Surface W High Wate Saturation Water Mar Sediment I Drift Depos Algal Mat o Iron Depos Iron Depos Inundation Sparsely V Field Observa Surface Water Water Table P Saturation Pre (includes capill	rology Indicator ators (minimum of vater (A1) er Table (A2) n (A3) rks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) oil Cracks (B6) n Visible on Aeria vegetated Conca ations: r Present? ersent?	Il Imagery ve Surfac Yes Yes Yes Yes Yes Yes	(B7) e (B8) No ⊠ No ⊠ No ⊠	Water-St 1, 2, 4 Salt Crus Aquatic II Hydroger Oxidized Presence Recent Ir Stunted C Other (Ex	ained Leav 4A, and 4I at (B11) nvertebrate n Sulfide C Rhizosphe e of Reduct ron Reduct or Stressed xplain in Reduct es): es): es):	es (B13) bdor (C1) eres along ed Iron (C- cion in Tille d Plants (D- emarks)	Living Roo 4) d Soils (C6 1) (LRR A	RA Since the second sec	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)
HYDROLOG Wetland Hydr Primary Indica Surface W High Wate Saturation Water Mar Sediment I Drift Depos Algal Mat o Iron Depos Surface So Inundation Sparsely V Field Observa Surface Water Water Table P Saturation Pre (includes capill Describe Reco	rology Indicator ators (minimum of ators (A2) or (A3) rks (B1) Deposits (B2) orits (B3) or Crust (B4) orits (B5) oil Cracks (B6) orits (B5) orits (B6) orits	Il Imagery Ive Surfac Yes Yes Yes Yes am gauge	(B7) e (B8) No ⊠ No ⊠ No ⊠	Water-St 1, 2, 4 Salt Crus Aquatic II Hydroger Oxidized Presence Recent Ir Stunted C Other (Ex	ained Leav 4A, and 4I at (B11) nvertebrate n Sulfide C Rhizosphe e of Reduct ron Reduct or Stressed xplain in Reduct es): es): es):	es (B13) bdor (C1) eres along ed Iron (C- cion in Tille d Plants (D- emarks)	Living Roo 4) d Soils (C6 1) (LRR A	RA Since the second sec	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 Hydr Primary Indica Surface W High Wate Saturation Water Mar Sediment I Drift Depos Algal Mat o Iron Depos Surface So Inundation Sparsely V Field Observa Surface Water Water Table P Saturation Pre (includes capil	rology Indicator ators (minimum of later (A1) er Table (A2) n (A3) rks (B1) Deposits (B2) esits (B3) or Crust (B4) esits (B5) oil Cracks (B6) n Visible on Aeria legetated Conca ations: r Present? Present? esent?	Il Imagery Ive Surfac Yes Yes Yes Yes am gauge	(B7) e (B8) No ⊠ No ⊠ No ⊠	Water-St 1, 2, 4 Salt Crus Aquatic II Hydroger Oxidized Presence Recent Ir Stunted C Other (Ex	ained Leav 4A, and 4I at (B11) nvertebrate n Sulfide C Rhizosphe e of Reduct ron Reduct or Stressed xplain in Reduct es): es): es):	es (B13) bdor (C1) eres along ed Iron (C- cion in Tille d Plants (D- emarks)	Living Roo 4) d Soils (C6 1) (LRR A	RA Since the second sec	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 Hydr Primary Indica Surface W High Wate Saturation Water Mar Sediment I Drift Depos Algal Mat o Iron Depos Surface So Inundation Sparsely V Field Observa Surface Water Water Table P Saturation Pre (includes capil	rology Indicator ators (minimum of ators (A2) or (A3) rks (B1) Deposits (B2) orits (B3) or Crust (B4) orits (B5) oil Cracks (B6) orits (B5) orits (B6) orits	Il Imagery Ive Surfac Yes Yes Yes Yes am gauge	(B7) e (B8) No ⊠ No ⊠ No ⊠	Water-St 1, 2, 4 Salt Crus Aquatic II Hydroger Oxidized Presence Recent Ir Stunted C Other (Ex	ained Leav 4A, and 4I at (B11) nvertebrate n Sulfide C Rhizosphe e of Reduct ron Reduct or Stressed xplain in Reduct es): es): es):	es (B13) bdor (C1) eres along ed Iron (C- cion in Tille d Plants (D- emarks)	Living Roo 4) d Soils (C6 1) (LRR A	RA Since the second sec	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: L2ST Segment C		City/Co	unty: <u>SeaTac/</u>	King	Sampling Date:9/14/2016
Applicant/Owner: WSDOT				State: WA	Sampling Point: <u>SP - 14</u>
Investigator(s): Josh Wozniak and Trey Parry			Section, To	ownship, Range: <u>04, 22 N</u> ,	04 E
Landform (hillslope, terrace, etc.): Swale		Local	relief (concave	, convex, none): None	Slope (%): <u>0-2</u>
Subregion (LRR):	Lat:			_ Long:	Datum:
Soil Map Unit Name: <u>Urban land</u>					
Are climatic / hydrologic conditions on the site typical for thi					
Are Vegetation, Soil, or Hydrology sig	-			ormal Circumstances" pres	
Are Vegetation, Soil, or Hydrology natu				ed, explain any answers in	
SUMMARY OF FINDINGS – Attach site map					
Hydrophytic Vegetation Present? Yes ⊠ No □					
Hydrophytic Vegetation Present? Yes ⊠ No ☐ Hydric Soil Present? Yes ☐ No ☒			s the Sampled		_
Wetland Hydrology Present? Yes ☐ No ☒		\ \	vithin a Wetla	nd? Yes □ N	o 🛚
Remarks: The upland sample point is positioned in a swal compensatory mitigation.		loned go	olf course. Nea	arby areas appear to have	been used for wetland
VEGETATION – Use scientific names of plan					
Tree Stratum (Plot size: <u>r = 30 ft.</u>)	Absolute % Cover		ant Indicator es? Status	Dominance Test works	
1. none				Number of Dominant Sp That Are OBL, FACW, of	pecies or FAC: <u>3</u> (A)
2.					
3.				Total Number of Domina Species Across All Stra	
4				,	
Sapling/Shrub Stratum (Plot size: $r = 15 \text{ ft.}$)	0			Percent of Dominant Sp That Are OBL, FACW, o	or FAC: 100 (A/B)
1. Cytisus scoparius	3	No	NL	Prevalence Index worl	rsheet:
2				Total % Cover of:	Multiply by:
3				OBL species	x 1 =
4				-	x 2 =
5				*	x 3 =
Herb Stratum (Plot size: r = 5 ft.)	3	= Tota	al Cover		x 4 =
1. Lolium perenne	60	Yes	FAC		x 5 =
Poa pratensis	40	Yes	FAC	Column Totals:	(A) (B)
3. Holcus lanatus				Prevalence Index	= B/A =
4. Ranunculus repens		No		Hydrophytic Vegetation	n Indicators:
5.				☐ Rapid Test for Hydro	ophytic Vegetation
6				□ Dominance Test is :	>50%
7				☐ Prevalence Index is	≤3.0 ¹
8 9					tations ¹ (Provide supporting or on a separate sheet)
10				☐ Wetland Non-Vascu	lar Plants ¹
11				☐ Problematic Hydrop	hytic Vegetation ¹ (Explain)
Woody Vine Stratum (Plot size: r = 15 ft.)	133			¹ Indicators of hydric soil be present, unless distu	and wetland hydrology must rbed or problematic.
1. <u>none</u>				Hydrophytic	
2				Vegetation	
% Bare Ground in Horh Stratum 0	0	= Tota	al Cover		s ⊠ No □
% Bare Ground in Herb Stratum <u>0</u> Remarks: The sapling/shrub stratum has less than 5% tot	al plant cove	r: there	fore is not con	sidered to be a stratum for	r sampling purposes
5 5		,	2, 12		

	cription: (Describ		depth ne				or confirn	n the abs	sence	of indicators.)
Depth (inches)	Matrix Color (moist)	%	Colo	r (moist)	dox Featu %		Loc ²	Textur	е	Remarks
0-5	10 YR 2/1	100								
5-20+	7.5YR 4/4		5VP	4/6	5		M			
3-20 +	7.51K 4/4	32								
	-		<u>5YR</u>	5/2	3	<u>D</u>	<u>M</u>			
1Type: C=C	Concentration, D=D	enletion	- RM-Rad	luced Matrix (S-Cove	ed or Coat	ed Sand G	raine	2l oc	cation: PL=Pore Lining, M=Matrix.
	Indicators: (App						eu Sanu O			rs for Problematic Hydric Soils ³ :
☐ Histosol				Sandy Redox		,				Muck (A10)
	pipedon (A2)			Stripped Matri						Parent Material (TF2)
	istic (A3)		_ i	Loamy Mucky	Mineral (F1) (excep	t MLRA 1)		Very	Shallow Dark Surface (TF12)
☐ Hydroge	en Sulfide (A4)		□ I	Loamy Gleyed	l Matrix (F	2)			Othe	r (Explain in Remarks)
	d Below Dark Surfa	ace (A11)		Depleted Matr	. ,					
	ark Surface (A12)			Redox Dark S		,		³ lr		rs of hydrophytic vegetation and
	Mucky Mineral (S1)			Depleted Dark		` '				nd hydrology must be present,
-	Gleyed Matrix (S4) Layer (if present)		<u> </u>	Redox Depres	sions (F8)			unles	s disturbed or problematic.
_	Layer (ii present)									
· · ·	nches):							I Is calmi	- 0-!!	December 1
Remarks:	101100)			•				Hyari	c Soli	Present? Yes ☐ No ☒
HYDROLO										
•	drology Indicator icators (minimum o		iirod: ob	aak all that an	(برام				Sacar	adory Indicators (2 or more required)
		i one requ	alleu, chi	eck all triat ap Water-St		,,oo (DO) (e	waant MI F			ndary Indicators (2 or more required) ater-Stained Leaves (B9) (MLRA 1, 2,
☐ Surface	ater Table (A2)				4A, and 4		xcept with	XΑ	vv.	4A, and 4B)
☐ Saturati	` '			□ Salt Crus	•	D)				rainage Patterns (B10)
	Marks (B1)			Aquatic li	` '	es (R13)				y-Season Water Table (C2)
	nt Deposits (B2)			☐ Hydroger						aturation Visible on Aerial Imagery (C9)
	posits (B3)			☐ Oxidized			Living Roo			eomorphic Position (D2)
	at or Crust (B4)			☐ Presence		-	•	7.5 (00)		nallow Aquitard (D3)
_	posits (B5)			☐ Recent Ir		,	•	3)		AC-Neutral Test (D5)
	Soil Cracks (B6)						01) (LRR A	,		aised Ant Mounds (D6) (LRR A)
<u> </u>	ion Visible on Aeria	l Imagery	(B7)	Other (E)			(=::::7:,	,		ost-Heave Hummocks (D7)
	y Vegetated Conca		. ,		CPICIII III I	iomanio)				oot ricave riammoone (51)
Field Obse			- (- /							
	4 D40	Yes □	No 🛛	Depth (inch	es):					
Surface Wa	iter Present?			-1 - (-	,					
		_	No 🏻	Depth (inche	es):					
Water Table	e Present?	Yes 🗌	No ⊠ No ⊠	Depth (inch			Wetl	land Hyd	rology	v Present? Yes □ No ⊠
Water Table Saturation F (includes ca	e Present? Present? apillary fringe)	Yes Yes	No 🛛	Depth (inche	es):					y Present? Yes □ No ⊠
Water Table Saturation F (includes ca	e Present? Present?	Yes Yes	No 🛛	Depth (inche	es):					y Present? Yes □ No ⊠
Water Table Saturation F (includes ca Describe Re	e Present? Present? apillary fringe)	Yes ☐ Yes ☐ am gauge	No 🖾	Depth (inche	es):					y Present? Yes □ No ⊠
Water Table Saturation F (includes ca Describe Re	e Present? Present? apillary fringe) ecorded Data (strea	Yes ☐ Yes ☐ am gauge	No 🖾	Depth (inche	es):					y Present? Yes □ No ⊠
Water Table Saturation F (includes ca Describe Re	e Present? Present? apillary fringe) ecorded Data (strea	Yes ☐ Yes ☐ am gauge	No 🖾	Depth (inche	es):					y Present? Yes □ No ⊠

Project/Site: L2ST Segment C	(City/Cou	nty: <u>SeaTac/ I</u>	King	Sampling Date: 9/14/2016
Applicant/Owner: WSDOT				State: WA	Sampling Point: <u>SP - 15</u>
Investigator(s): Josh Wozniak and Trey Parry			_ Section, To	ownship, Range: <u>04, 22 N,</u>	04 E
Landform (hillslope, terrace, etc.): Hillslope depression		Local re	lief (concave,	, convex, none): concave	Slope (%): <u>0-2</u>
Subregion (LRR): A	_ Lat:			Long:	Datum:
Soil Map Unit Name: <u>Urban land</u>					
Are climatic / hydrologic conditions on the site typical for this					
Are Vegetation, Soil, or Hydrology sign	•		•	ormal Circumstances" pres	ent? Yes⊠ No□
Are Vegetation, Soil, or Hydrology natu				ed, explain any answers in	<u> </u>
SUMMARY OF FINDINGS – Attach site map					
Hydrophytic Vegetation Present? Yes ⊠ No □					
Hydric Soil Present? Yes ☐ No ☒			the Sampled thin a Wetlar		. 🔽
Wetland Hydrology Present? Yes ☐ No ☒		WI	tnin a wetiar	nd? Yes ☐ No) <u>N</u>
Remarks: This sample point is the associated upland for S	SP-13 and W	etland D).		
VEGETATION – Use scientific names of plant	ts.				
T 0 (D			nt Indicator	Dominance Test works	heet:
Tree Stratum (Plot size: <u>r = 30 ft.</u>) 1. <u>none</u>	% Cover			Number of Dominant Sports That Are OBL, FACW, or	
2				Total Number of Domina	nt
3				Species Across All Strata	
4				Percent of Dominant Spe	ecies
Sapling/Shrub Stratum (Plot size: r = 15 ft.)	0	= Total	Cover	That Are OBL, FACW, or	FAC: <u>100</u> (A/B)
1. none				Prevalence Index work	
2					Multiply by:
3					x 1 =
4				FACW species	
5				· · · · · · · · · · · · · · · · · · ·	x 3 = 120 x 4 = 36
Herb Stratum (Plot size: r = 5 ft.)	0	= Total	Cover	· ·	x 5 =
1. Poa pratensis	25	Yes	FAC	Column Totals: 49	
2. Hypochaeris radicata	15	Yes	FAC	Goldmin Foldis. 45	(A) 100 (D)
3. Taraxacum officinale	5	No	FACU	Prevalence Index	= B/A = <u>3.18</u>
4. Erigeron canadensis	5	No	FACU	Hydrophytic Vegetation	ı Indicators:
5. Lactuca serriola	3	No	FACU	☐ Rapid Test for Hydro	· · ·
6. Plantago lanceolata	1	No	FACU	□ Dominance Test is > □	
7				☐ Prevalence Index is:	
8					ations ¹ (Provide supporting or on a separate sheet)
9				☐ Wetland Non-Vascul	ar Plants ¹
10				☐ Problematic Hydroph	ytic Vegetation¹ (Explain)
11					and wetland hydrology must
Woody Vine Stratum (Plot size: r = 15 ft.)	49	= 10(8)	COVEI	be present, unless distur	bed or problematic.
1. none				Distant d	
2				Hydrophytic Vegetation	
	0				⊠ No □
% Bare Ground in Herb Stratum <u>30</u>	toile the D	ovole = r :	المناسط المعامل	hytio vogototice is discus-	
Remarks: The vegetation satisfies the Dominance Test but	i ialis the Pre	evalence	inaex nydrop	onytic vegetation indicator.	

Depth	Matrix				dox Featu			_			
(inches)	Color (moist)	%	Colo	or (moist)	%	<u>lype'</u>	Loc ²			<u>Remarks</u>	
<u>0-3</u>	10 YR 2/2	100						Sandy L	<u>oam</u>		
<u>3-13</u>	7.5 YR 3/3	90	7.5 \	YR 5/6	<u>5</u>	<u>C</u>	<u>M</u>	Loamy S	Sand _		
			<u>10 Y</u>	'R 5/2	5	<u>D</u>	M				
13-20	2.5 Y 4/2	95	2.5 \	Y 4/4	%	С	M	Loamy S	Sand _		
	•										
	-										
	•										
	Concentration, D=D						ed Sand G			tion: PL=Pore Lining, M=Matri	
-	Indicators: (App	licable to				oted.)				for Problematic Hydric Soil	S³:
Histosol	, ,			Sandy Redox						Muck (A10)	
	pipedon (A2) istic (A3)			Stripped Matri _oamy Mucky	. ,	(E1) (avean	4 MI D A 4\			arent Material (TF2) hallow Dark Surface (TF12)	
	en Sulfide (A4)			_oamy Mucky _oamy Gleyed			t WILKA 1)) <u> </u>	-	(Explain in Remarks)	
	d Below Dark Surfa	ace (A11)		Depleted Matr		172)		Ь	Other	(Explain in Nemarks)	
	ark Surface (A12)	200 (7111)		Redox Dark S	. ,	6)		³ ln	dicators	of hydrophytic vegetation and	
	/lucky Mineral (S1)			Depleted Dark						hydrology must be present,	
☐ Sandy C	Gleyed Matrix (S4)		☐ F	Redox Depres	ssions (F8	3)			unless	disturbed or problematic.	
Restrictive	Layer (if present)	:									
Type:				_							
Depth (ir	nches):							Hydrid	Soil P	resent? Yes 🗌 No 🛛	
Remarks:											
	201/										
Wetland Hy	drology Indicator										
Wetland Hy Primary Indi	drology Indicator		iired; che	-						ary Indicators (2 or more requi	
Wetland Hy Primary Indi ☐ Surface	vdrology Indicator icators (minimum o Water (A1)		ired; che	☐ Water-St	ained Lea	, , ,	except ML		☐ Wat	er-Stained Leaves (B9) (MLR	
Wetland Hy Primary Indi Surface High Wa	rdrology Indicator icators (minimum o Water (A1) ater Table (A2)		iired; che	☐ Water-St	ained Lea	, , ,	except MLI	RA	☐ Wat	er-Stained Leaves (B9) (MLRA	
Wetland Hy Primary Indi ☐ Surface ☐ High Wa ☐ Saturation	rdrology Indicator icators (minimum o Water (A1) ater Table (A2) on (A3)		iired; che	☐ Water-St 1, 2,	ained Lea 4A, and 4 st (B11)	4B)	except MLI	RA	□ Wat 2 ☑ Drai	er-Stained Leaves (B9) (MLR A 4A, and 4B) nage Patterns (B10)	
Wetland Hy Primary Indi Surface High Wa Saturati Water M	rdrology Indicator icators (minimum of Water (A1) ater Table (A2) on (A3) farks (B1)		iired; che	☐ Water-St 1, 2, 4 ☐ Salt Crus ☐ Aquatic I	ained Lea 4A, and 4 st (B11) nvertebra	4B) ates (B13)	except MLI	RA	□ Wat Δ □ Drai □ Dry-	er-Stained Leaves (B9) (MLRA 4A, and 4B) nage Patterns (B10) Season Water Table (C2)	A 1, 2,
Wetland Hy Primary Indi Surface High Wa Saturati Water M Sedimen	rdrology Indicator icators (minimum of Water (A1) ater Table (A2) on (A3) farks (B1) nt Deposits (B2)		ired; che	☐ Water-St 1, 2, 4 ☐ Salt Crus ☐ Aquatic I ☐ Hydroger	ained Lea 4A, and 4 st (B11) nvertebra n Sulfide	4B) ates (B13) Odor (C1)	·	RA	☐ Wat Drai Dry- Satu	er-Stained Leaves (B9) (MLR A 4 A, and 4B) nage Patterns (B10) Season Water Table (C2) uration Visible on Aerial Image	A 1, 2,
Wetland Hy Primary Indi Surface High Wa Saturati Water M Sedimer Drift De	rdrology Indicator icators (minimum of Water (A1) ater Table (A2) on (A3) farks (B1) nt Deposits (B2) posits (B3)		nired; che	Water-St 1, 2, Salt Crus Aquatic I Hydroger Oxidized	ained Lea 4A, and 4 st (B11) nvertebra n Sulfide Rhizosph	ates (B13) Odor (C1) heres along	Living Roo	ots (C3)	☐ Wat ☑ Drai ☐ Dry- ☐ Satu ☐ Geo	er-Stained Leaves (B9) (MLRA 4A, and 4B) nage Patterns (B10) Season Water Table (C2) uration Visible on Aerial Image emorphic Position (D2)	A 1, 2,
Wetland Hy Primary Indi Surface High Wa Saturati Water M Sedimet Drift Dep Algal Ma	rdrology Indicator icators (minimum of Water (A1) ater Table (A2) on (A3) farks (B1) ant Deposits (B2) posits (B3) at or Crust (B4)		ired; che	Water-St 1, 2, 4 Salt Crus Aquatic I Hydroger Oxidized Presence	eained Lea 4A, and 4 st (B11) nvertebra n Sulfide Rhizosph e of Redu	ates (B13) Odor (C1) heres along ced Iron (C	Living Roo 4)	RA ots (C3)	☐ Wat ☐ Drai ☐ Dry- ☐ Satu ☐ Geo ☐ Sha	er-Stained Leaves (B9) (MLRA 4A, and 4B) nage Patterns (B10) Season Water Table (C2) uration Visible on Aerial Image emorphic Position (D2) Illow Aquitard (D3)	A 1, 2,
Wetland Hy Primary Indi Surface High Wa Saturati Water M Sedimer Drift Dep Algal Ma	rdrology Indicator icators (minimum of Water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5)		nired; che	Water-St 1, 2, 4 Salt Crus Aquatic I Hydrogel Oxidized Presence	eained Lea 4A, and 4 st (B11) nvertebra n Sulfide Rhizosph e of Redu	ates (B13) Odor (C1) heres along ced Iron (C ction in Tille	Living Roo 4) ed Soils (Ce	RA ots (C3)	☐ Wat ☐ Drai ☐ Dry- ☐ Satu ☐ Geo ☐ Sha ☐ FAC	er-Stained Leaves (B9) (MLRA 4A, and 4B) nage Patterns (B10) Season Water Table (C2) tration Visible on Aerial Image throughic Position (D2) llow Aquitard (D3) c-Neutral Test (D5)	A 1, 2,
Wetland Hy Primary Indi Surface High Wa Saturati Water M Sedimer Drift Der Algal Ma Iron Der Surface	vdrology Indicator icators (minimum of Water (A1) ater Table (A2) on (A3) flarks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6)	of one requ		Water-St 1, 2, 4 Salt Crus Aquatic I Hydrogei Oxidized Presence Recent Ir	ained Lea 4A, and 4 st (B11) nvertebra n Sulfide Rhizosph e of Reductor on Reductor or Stresse	ates (B13) Odor (C1) heres along ced Iron (C ction in Tille ed Plants (E	Living Roo 4) ed Soils (Ce	RA ots (C3)	☐ Wat ☐ Drai ☐ Dry- ☐ Satu ☐ Geo ☐ Sha ☐ FAC ☐ Rais	er-Stained Leaves (B9) (MLRA 4A, and 4B) nage Patterns (B10) Season Water Table (C2) aration Visible on Aerial Image amorphic Position (D2) Illow Aquitard (D3) C-Neutral Test (D5) sed Ant Mounds (D6) (LRR A)	A 1, 2,
Wetland Hy Primary Indi Surface High Wa Saturati Water M Sedimel Drift Dep Algal Ma Iron Dep Surface	rdrology Indicator icators (minimum of Water (A1) ater Table (A2) on (A3) flarks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) on Visible on Aeria	of one requ	(B7)	Water-St 1, 2, 4 Salt Crus Aquatic I Hydrogel Oxidized Presence	ained Lea 4A, and 4 st (B11) nvertebra n Sulfide Rhizosph e of Reductor on Reductor or Stresse	ates (B13) Odor (C1) heres along ced Iron (C ction in Tille ed Plants (E	Living Roo 4) ed Soils (Ce	RA ots (C3)	☐ Wat ☐ Drai ☐ Dry- ☐ Satu ☐ Geo ☐ Sha ☐ FAC ☐ Rais	er-Stained Leaves (B9) (MLRA 4A, and 4B) nage Patterns (B10) Season Water Table (C2) tration Visible on Aerial Image throughic Position (D2) llow Aquitard (D3) c-Neutral Test (D5)	A 1, 2,
Wetland Hy Primary Indi Surface High Wa Saturati Water M Sedimel Drift Dep Algal Ma Iron Dep Surface Inundati Sparsely	rdrology Indicator icators (minimum of Water (A1) ater Table (A2) on (A3) farks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) on Visible on Aeria y Vegetated Conca	of one requ	(B7)	Water-St 1, 2, 4 Salt Crus Aquatic I Hydrogei Oxidized Presence Recent Ir	ained Lea 4A, and 4 st (B11) nvertebra n Sulfide Rhizosph e of Reductor on Reductor or Stresse	ates (B13) Odor (C1) heres along ced Iron (C ction in Tille ed Plants (E	Living Roo 4) ed Soils (Ce	RA ots (C3)	☐ Wat ☐ Drai ☐ Dry- ☐ Satu ☐ Geo ☐ Sha ☐ FAC ☐ Rais	er-Stained Leaves (B9) (MLRA 4A, and 4B) nage Patterns (B10) Season Water Table (C2) aration Visible on Aerial Image amorphic Position (D2) Illow Aquitard (D3) C-Neutral Test (D5) sed Ant Mounds (D6) (LRR A)	A 1, 2,
Wetland Hy Primary Indi Surface High Wa Saturati Water M Sedimel Drift Dep Algal Ma Iron Dep Surface	rdrology Indicator icators (minimum of Water (A1) ater Table (A2) on (A3) farks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) on Visible on Aeria y Vegetated Conca	of one requ	(B7) e (B8)	Water-St 1, 2, 4 Salt Crus Aquatic I Hydrogei Oxidized Presence Recent Ir	ained Lea 4A, and 4 st (B11) nvertebra n Sulfide Rhizosph e of Reductor on Reductor or Stresse	ates (B13) Odor (C1) heres along ced Iron (C ction in Tille ed Plants (E	Living Roo 4) ed Soils (Ce	RA ots (C3)	☐ Wat ☐ Drai ☐ Dry- ☐ Satu ☐ Geo ☐ Sha ☐ FAC ☐ Rais	er-Stained Leaves (B9) (MLRA 4A, and 4B) nage Patterns (B10) Season Water Table (C2) aration Visible on Aerial Image amorphic Position (D2) Illow Aquitard (D3) C-Neutral Test (D5) sed Ant Mounds (D6) (LRR A)	A 1, 2,
Wetland Hy Primary Indi Surface High Wa Saturati Water M Sedimer Drift Der Algal Ma Iron Der Surface Inundati Sparsely	rdrology Indicator icators (minimum of Water (A1) ater Table (A2) on (A3) farks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) on Visible on Aeria y Vegetated Conca	of one requ	(B7)	Water-St 1, 2, 4 Salt Crus Aquatic I Hydrogei Oxidized Presence Recent Ir	ained Lea 4A, and 4 st (B11) nvertebra n Sulfide Rhizosph e of Redu ron Reductor Stresse xplain in F	ates (B13) Odor (C1) heres along ced Iron (C ction in Tille ed Plants (E Remarks)	Living Roo 4) ed Soils (Ce	RA ots (C3)	☐ Wat ☐ Drai ☐ Dry- ☐ Satu ☐ Geo ☐ Sha ☐ FAC ☐ Rais	er-Stained Leaves (B9) (MLRA 4A, and 4B) nage Patterns (B10) Season Water Table (C2) aration Visible on Aerial Image amorphic Position (D2) Illow Aquitard (D3) C-Neutral Test (D5) sed Ant Mounds (D6) (LRR A)	A 1, 2,
Wetland Hy Primary Indi Surface High Wa Saturati Water M Sedimer Drift Der Algal Ma Iron Der Surface Inundati Sparsely	rdrology Indicator icators (minimum of Water (A1) ater Table (A2) on (A3) flarks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) on Visible on Aeria y Vegetated Conca	al Imagery ave Surface	(B7) e (B8)	Water-St 1, 2, 4 Salt Crus Aquatic I Hydrogel Oxidized Presence Recent Ir Stunted o	ained Lea 4A, and 4 st (B11) nvertebra n Sulfide Rhizosph e of Redu ron Redu or Stresse xplain in F	ates (B13) Odor (C1) heres along ced Iron (C ction in Tille ed Plants (E Remarks)	Living Roo 4) ed Soils (Ce	RA ots (C3)	☐ Wat ☐ Drai ☐ Dry- ☐ Satu ☐ Geo ☐ Sha ☐ FAC ☐ Rais	er-Stained Leaves (B9) (MLRA 4A, and 4B) nage Patterns (B10) Season Water Table (C2) aration Visible on Aerial Image amorphic Position (D2) Illow Aquitard (D3) C-Neutral Test (D5) sed Ant Mounds (D6) (LRR A)	A 1, 2,
Wetland Hy Primary Indi Surface High Wa Saturati Water M Sedimel Drift Del Algal Ma Iron Der Surface Inundati Sparsely Field Obsel Saturation F	rdrology Indicator icators (minimum of Water (A1) ater Table (A2) on (A3) flarks (B1) int Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) on Visible on Aeria by Vegetated Conca rvations: ter Present? Present?	al Imagery ave Surface Yes Yes Yes	(B7) e (B8) No ⊠	Water-St 1, 2, 4 Salt Crus Aquatic I Hydrogel Oxidized Presence Recent Ir Stunted C Other (Ex	ained Lea 4A, and 4 st (B11) nvertebra n Sulfide Rhizosph e of Redu fron Reduct or Stresse explain in F	ates (B13) Odor (C1) heres along ced Iron (C ction in Tille ed Plants (E Remarks)	Living Roo 4) dd Soils (Ce 01) (LRR A	ots (C3) 6)	Wat Drai Dry- Satu Geo Sha FAC Rais	er-Stained Leaves (B9) (MLRA 4A, and 4B) nage Patterns (B10) Season Water Table (C2) aration Visible on Aerial Image amorphic Position (D2) Illow Aquitard (D3) C-Neutral Test (D5) sed Ant Mounds (D6) (LRR A)	A 1, 2,
Wetland Hy Primary Indi Surface High Wa Saturati Water M Sedimer Drift Der Algal Ma Iron Der Surface Inundati Sparsely Field Obser Surface Wa Water Table Saturation F (includes ca	rdrology Indicator icators (minimum of Water (A1) ater Table (A2) on (A3) flarks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) on Visible on Aeria by Vegetated Conca rvations: ter Present? Present? publicators (minimum of present (A2) posits (B3) at or Crust (B4) posits (B5) soil Cracks (B6) on Visible on Aeria by Vegetated Conca rvations: ter Present? Present?	al Imagery ave Surface Yes Yes Yes Yes Yes Yes	(B7) e (B8) No ⊠ No ⊠ No ⊠	Water-St 1, 2, 4 Salt Crus Aquatic I Hydrogel Oxidized Presence Recent Ir Stunted C Other (Ex	ained Lea 4A, and 4 st (B11) nvertebra n Sulfide Rhizosph e of Redu ron Redu or Stresse xplain in F es): es):	ates (B13) Odor (C1) heres along ced Iron (C ction in Tille ed Plants (E Remarks)	Living Roo 4) ed Soils (Ce 01) (LRR A	ots (C3) 6) A)	Wat □ Drai □ Dry- □ Satu □ Geo □ Sha □ FAC □ Rais □ Fros	er-Stained Leaves (B9) (MLRA 4A, and 4B) nage Patterns (B10) Season Water Table (C2) uration Visible on Aerial Image emorphic Position (D2) Illow Aquitard (D3) S-Neutral Test (D5) sed Ant Mounds (D6) (LRR A) st-Heave Hummocks (D7)	A 1, 2,
Wetland Hy Primary Indi Surface High Wa Saturati Water M Sedimer Drift Der Algal Ma Iron Der Surface Inundati Sparsely Field Obser Surface Wa Water Table Saturation F (includes ca	rdrology Indicator icators (minimum of Water (A1) ater Table (A2) on (A3) flarks (B1) int Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) on Visible on Aeria by Vegetated Conca rvations: ter Present? Present?	al Imagery ave Surface Yes Yes Yes Yes Yes Yes	(B7) e (B8) No ⊠ No ⊠ No ⊠	Water-St 1, 2, 4 Salt Crus Aquatic I Hydrogel Oxidized Presence Recent Ir Stunted C Other (Ex	ained Lea 4A, and 4 st (B11) nvertebra n Sulfide Rhizosph e of Redu ron Redu or Stresse xplain in F es): es):	ates (B13) Odor (C1) heres along ced Iron (C ction in Tille ed Plants (E Remarks)	Living Roo 4) ed Soils (Ce 01) (LRR A	ots (C3) 6) A)	Wat □ Drai □ Dry- □ Satu □ Geo □ Sha □ FAC □ Rais □ Fros	er-Stained Leaves (B9) (MLRA 4A, and 4B) nage Patterns (B10) Season Water Table (C2) uration Visible on Aerial Image emorphic Position (D2) Illow Aquitard (D3) S-Neutral Test (D5) sed Ant Mounds (D6) (LRR A) st-Heave Hummocks (D7)	A 1, 2,
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Wetland Hy Primary Indi Surface High Wa Saturati Water M Sedimer Algal Ma Iron Dep Surface Inundati Sparsely Field Obser Surface Wa Water Table Saturation F (includes ca	rdrology Indicator icators (minimum of Water (A1) ater Table (A2) on (A3) flarks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) on Visible on Aeria by Vegetated Conca rvations: ter Present? Present? publicators (minimum of present (A2) posits (B3) at or Crust (B4) posits (B5) soil Cracks (B6) on Visible on Aeria by Vegetated Conca rvations: ter Present? Present?	al Imagery ave Surface Yes Yes Yes Yes am gauge,	(B7) e (B8) No No No No No Mo Mo Mo Mo Mo Mo Mo Mo Mo M	Water-St 1, 2, 4 Salt Crus Aquatic I Hydrogel Oxidized Presence Recent Ir Stunted C Other (Ex	ained Lea 4A, and 4 st (B11) nvertebra n Sulfide Rhizosph e of Redu ron Redu or Stresse xplain in F es): es):	ates (B13) Odor (C1) heres along ced Iron (C ction in Tille ed Plants (E Remarks)	Living Roo 4) ed Soils (Ce 01) (LRR A	ots (C3) 6) A)	Wat □ Drai □ Dry- □ Satu □ Geo □ Sha □ FAC □ Rais □ Fros	er-Stained Leaves (B9) (MLRA 4A, and 4B) nage Patterns (B10) Season Water Table (C2) uration Visible on Aerial Image emorphic Position (D2) Illow Aquitard (D3) S-Neutral Test (D5) sed Ant Mounds (D6) (LRR A) st-Heave Hummocks (D7)	A 1, 2,
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Wetland Hy Primary Indi Surface High Wa Saturati Water M Sedimer Algal Ma Iron Dep Surface Inundati Sparsely Field Obser Surface Wa Water Table Saturation F (includes ca	rdrology Indicator icators (minimum of Water (A1) ater Table (A2) on (A3) flarks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) on Visible on Aeria by Vegetated Concarvations: ter Present? Present? Present? pillary fringe) ecorded Data (streat	al Imagery ave Surface Yes Yes Yes Yes am gauge,	(B7) e (B8) No No No No No Mo Mo Mo Mo Mo Mo Mo Mo Mo M	Water-St 1, 2, 4 Salt Crus Aquatic I Hydrogel Oxidized Presence Recent Ir Stunted C Other (Ex	ained Lea 4A, and 4 st (B11) nvertebra n Sulfide Rhizosph e of Redu ron Redu or Stresse xplain in F es): es):	ates (B13) Odor (C1) heres along ced Iron (C ction in Tille ed Plants (E Remarks)	Living Roo 4) ed Soils (Ce 01) (LRR A	ots (C3) 6) A)	Wat □ Drai □ Dry- □ Satu □ Geo □ Sha □ FAC □ Rais □ Fros	er-Stained Leaves (B9) (MLRA 4A, and 4B) nage Patterns (B10) Season Water Table (C2) uration Visible on Aerial Image emorphic Position (D2) Illow Aquitard (D3) S-Neutral Test (D5) sed Ant Mounds (D6) (LRR A) st-Heave Hummocks (D7)	A 1, 2,

Project/Site: L2ST Segment C	(City/Cou	unty: <u>SeaTac/</u>	King	Sampling Date: 9/14/2016
Applicant/Owner: WSDOT				State: WA	Sampling Point: SP - 16
Investigator(s): Josh Wozniak and Trey Parry			Section, To	ownship, Range: <u>04, 22 N,</u>	04 E
Landform (hillslope, terrace, etc.): Hillslope depression		Local re	elief (concave	, convex, none): Concave	Slope (%): <u>0-3</u>
Subregion (LRR): A	_ Lat:			_ Long:	Datum:
Soil Map Unit Name: <u>Urban land</u>	_				
Are climatic / hydrologic conditions on the site typical for this					
Are Vegetation, Soil, or Hydrology sign	•		`	ormal Circumstances" pres	ent? Yes ⊠ No □
Are Vegetation, Soil, or Hydrology natu				ed, explain any answers in	- -
SUMMARY OF FINDINGS – Attach site map					
Hydrophytic Vegetation Present? Yes ⊠ No □				1.4	
Hydric Soil Present? Yes ⊠ No □			the Sampled within a Wetla		<u>,</u> П
Wetland Hydrology Present? Yes ⊠ No □		W	illilli a vvella	iiu: ies⊠ ivi	у П
Remarks: The sample points meets the criterion for hydrop to be a wetland. The sample point is positioned in a hillslop wetland in the 2003 EIS and appears to be some form of c	pe depression ompensator	n (Wetl	and E) in an a		
		Domina	ant Indicator	Dominance Test works	
<u>Tree Stratum</u> (Plot size: $\underline{r} = 30 \text{ ft.}$)			es? Status	Number of Dominant Sp	
1. none					r FAC: <u>1</u> (A)
2				Total Number of Domina	ant
3				Species Across All Strat	a: <u>1</u> (B)
4	0			Percent of Dominant Sport Are ORL FACW of	ecies r FAC: <u>100</u> (A/B)
Sapling/Shrub Stratum (Plot size: $r = 15 \text{ ft.}$)	<u> </u>		0010.	That Are OBL, FACVV, 0	TFAC: 100 (A/B)
1. none				Prevalence Index work	
2					Multiply by:
3					x 1 =
4				*	x 2 =
5					x 3 =
Herb Stratum (Plot size: r = 5 ft.)	0	= Tota	il Cover	UPL species	x 4 =
1. Poa pratensis	95	Yes	FAC		(A) (B)
2. Schedonorus arundinaceus		No	FAC	Column Totals.	(A) (B)
3					= B/A =
4				Hydrophytic Vegetation	
5				Rapid Test for Hydro	
6				Dominance Test is >	
7				☐ Prevalence Index is	
8					tations ¹ (Provide supporting or on a separate sheet)
9				☐ Wetland Non-Vascul	
10				☐ Problematic Hydroph	nytic Vegetation¹ (Explain)
11	115			¹ Indicators of hydric soil be present, unless distu	and wetland hydrology must rbed or problematic.
Woody Vine Stratum (Plot size: $r = 15 \text{ ft.}$)					
1. none				Hydrophytic	
2	0			Vegetation Present? Yes	s⊠ No □
% Bare Ground in Herb Stratum <u>0</u>		_ 10ta	50701		_
Remarks: The site used to be part of a maintained golf cou	ırse.				

Depth	<u>Matri</u>				edox Featu	res					
(inches)	Color (moist)	%_	Cold	or (moist)	%	Type ¹	Loc ²	<u>Textu</u>	re	Rem	<u>arks</u>
0-4	10YR 2/2	100						Silt Loa	am		
4-12	10YR 3/1	95	<u>7.5Y</u>	′R 4/6	5	<u>C</u>	M	Clay Lo	oam_		
12-16	10YR 3/1	95	<u>7.5</u> Y	′R 4/6	3	<u>C</u>	M	Clay Lo	oam		
	-		<u>10Y</u>	R 5/1	2	D	M				
16-20	2.5Y 5/1	88%	<u>10Y</u>	R 3/1	10	С	M	Clay Lo	oam		
			7.5Y	′R 4/6	2	С	M				
											_
¹Type: C=C	concentration, D=I	Depletion,	RM=Red	luced Matrix,	CS=Cove	red or Coat	ted Sand (Grains.	² Loc	ation: PL=Pore L	ining, M=Matrix.
	Indicators: (App										ic Hydric Soils ³ :
☐ Histosol	(A1)			Sandy Redox	x (S5)] 2 cm	Muck (A10)	
☐ Histic Ep	oipedon (A2)			Stripped Mat	rix (S6)				Red	Parent Material (1	ΓF2)
☐ Black Hi	stic (A3)			Loamy Muck	y Mineral (F1) (excep	t MLRA 1) [] Very	Shallow Dark Su	rface (TF12)
	en Sulfide (A4)			Loamy Gleye	ed Matrix (F	⁼ 2)			Othe	r (Explain in Rem	arks)
	d Below Dark Sur	, ,		Depleted Ma	trix (F3)						
☐ Thick Da	ark Surface (A12)			Redox Dark	Surface (F	6)		³	ndicato	rs of hydrophytic	vegetation and
-	lucky Mineral (S1			Depleted Dai						nd hydrology mus	
	Bleyed Matrix (S4)			Redox Depre	essions (F8	3)			unless	s disturbed or pro	blematic.
	Layer (if present										
	iches):										-
. `	,									Present? Yes	
ora aramago	e devise left over f		course op		to a piaoti	с ріре шас	runs tnrou	igii tile pre	eviousiy	described wetlar	· ·
IYDROLO			course op		to a place.	С ріре шаг	runs tnrou	ign the pre	eviousiy	described wettal	
IYDROLO		rom gold o	course op		to a place	с ріре шаг	runs throu	gn the pre	eviousiy	described wetta	
IYDROLO Wetland Hy	OGY	rom gold o		perations.		о ріре шаг	runs throu	gri the pre			or more required)
HYDROLO Wetland Hy Primary Indi	OGY rdrology Indicato cators (minimum Water (A1)	rom gold o		perations.	pply)				Secon	dary Indicators (á	
HYDROLO Wetland Hy Primary Indi Surface High Wa	OGY Idrology Indicator cators (minimum Water (A1) ater Table (A2)	rom gold o		eck all that a	pply) Stained Lea	aves (B9) (•			Secon Wa	dary Indicators (2 ater-Stained Leav 4A, and 4B)	es (B9) (MLRA 1, 2,
HYDROLO Wetland Hy Primary Indi	OGY Idrology Indicator cators (minimum Water (A1) ater Table (A2)	rom gold o		eck all that a Water-S 1, 2,	pply) Stained Lea , 4A, and 4 ust (B11)	aves (B9) (6			Secon Wa	dary Indicators (2 ater-Stained Leav	es (B9) (MLRA 1, 2,
HYDROLO Wetland Hy Primary Indi Surface High Wa	ody rdrology Indicato cators (minimum Water (A1) ater Table (A2) on (A3)	rom gold o		eck all that a	pply) Stained Lea , 4A, and 4 ust (B11)	aves (B9) (6			Secon ☐ Wa	dary Indicators (2 ater-Stained Leav 4A, and 4B)	2 or more required) res (B9) (MLRA 1, 2, B10)
HYDROLO Wetland Hy Primary India Surface High Wa Saturatio Water M	ody rdrology Indicato cators (minimum Water (A1) ater Table (A2) on (A3)	rom gold o		eck all that a Water-S 1, 2,	pply) Stained Lea , 4A, and 4 ust (B11) Invertebra	aves (B9) (6			Secon Wa	dary Indicators (2 ater-Stained Leav 4A, and 4B) ainage Patterns (y-Season Water	2 or more required) res (B9) (MLRA 1, 2, B10)
HYDROLO Wetland Hy Primary India Surface High Wa Saturatio Water M Sedimer	ody drology Indicato cators (minimum Water (A1) ater Table (A2) on (A3) larks (B1)	rom gold o		eck all that a Water-S 1, 2, Salt Cru Aquatic Hydroge	pply) Stained Lea , 4A, and 4 ust (B11) Invertebra en Sulfide (aves (B9) (6	except ML	_RA	Secon Wa Dra Dry Sa	dary Indicators (2 ater-Stained Leav 4A, and 4B) ainage Patterns (y-Season Water	es (B9) (MLRA 1, 2, B10) Table (C2) n Aerial Imagery (C9)
Wetland Hy Primary India Surface High Wa Saturatic Water M Sedimer Drift Dep	oddy rdrology Indicator cators (minimum Water (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2)	rom gold o		eck all that a Water-S 1, 2, Salt Cru Aquatic Hydroge Oxidized	pply) Stained Lea , 4A , and 4 ust (B11) Invertebra en Sulfide (d Rhizosph	aves (B9) (6 IB) tes (B13) Odor (C1)	except ML	_RA	Secon Wa Dra Dra Sa Gee	dary Indicators (2 ater-Stained Leav 4A, and 4B) ainage Patterns (y-Season Water turation Visible o	2 or more required) res (B9) (MLRA 1, 2, B10) Table (C2) n Aerial Imagery (C9) n (D2)
Wetland Hy Primary India Surface High Wa Saturatio Water M Sedimer Drift Dep Algal Ma	order of the control	rom gold o		eck all that a Water-S 1, 2, Salt Cru Aquatic Hydroge Oxidizer	pply) Stained Lea , 4A , and 4 ust (B11) Invertebra en Sulfide (d Rhizosph	aves (B9) (e IB) tes (B13) Odor (C1) neres along	except ML J Living Ro	_RA	Secon Wa Dra Dra Dra Ge Sa Ge Sh	dary Indicators (2 ater-Stained Leav 4A, and 4B) ainage Patterns (y-Season Water turation Visible o	es (B9) (MLRA 1, 2, B10) Table (C2) In Aerial Imagery (C9) In (D2)
HYDROLO Wetland Hy Primary India Surface High Wa Saturatio Water M Sedimer Drift Dep Algal Ma	or cators (minimum) Water (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2) oosits (B3) at or Crust (B4)	rom gold o		eck all that a Water-S 1, 2, Salt Cru Aquatic Hydroge Oxidized Presend	pply) Stained Lea , 4A, and 4 ust (B11) Invertebra en Sulfide 0 d Rhizosph ce of Reduc	aves (B9) (B) tes (B13) Odor (C1) neres along ced Iron (C	except ML J Living Ro 14) ed Soils (C		Secon Wa Dra Dra Sa Gee Sh FA	dary Indicators (2 ater-Stained Leav 4A, and 4B) ainage Patterns (y-Season Water turation Visible of comorphic Positionallow Aquitard (D	Por more required) res (B9) (MLRA 1, 2, B10) Table (C2) In Aerial Imagery (C9) In (D2) In (D2) In (D5)
Wetland Hy Primary India Surface High Wa Saturatio Water M Sedimer Drift Dep Algal Ma Iron Dep Surface	drology Indicate cators (minimum Water (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5)	ors:	uired; ch	eck all that a Water-S 1, 2, Salt Cru Aquatic Hydroge Oxidizee Presence Recent Stunted	pply) Stained Lea , 4A, and 4 ust (B11) Invertebra en Sulfide 0 d Rhizosph ce of Reduc	aves (B9) (e IB) tes (B13) Odor (C1) neres along ced Iron (C ction in Tille ed Plants (E	except ML J Living Ro 14) ed Soils (C		Secon Wa Dra Dra Sa Ge Sh FA	dary Indicators (2 ater-Stained Leav 4A, and 4B) ainage Patterns (y-Season Water turation Visible o comorphic Positionallow Aquitard (D allow Aquitard (D	Por more required) res (B9) (MLRA 1, 2, B10) Table (C2) In Aerial Imagery (C9) In (D2) In (D2) In (D5) In (D6) (LRR A)
Wetland Hy Primary India Surface High Wa Saturatio Water M Sedimer Drift Dep Algal Ma Iron Dep Surface Inundatio	oddy rdrology Indicator cators (minimum) Water (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2) cosits (B3) at or Crust (B4) cosits (B5) Soil Cracks (B6)	ors: of one req	uired; ch	eck all that a Water-S 1, 2, Salt Cru Aquatic Hydroge Oxidizee Presence Recent Stunted	pply) Stained Lea , 4A, and 4 ust (B11) Invertebra en Sulfide 0 d Rhizosph ce of Reduc	aves (B9) (e IB) tes (B13) Odor (C1) neres along ced Iron (C ction in Tille ed Plants (E	except ML J Living Ro 14) ed Soils (C		Secon Wa Dra Dra Sa Ge Sh FA	dary Indicators (2 ater-Stained Leav 4A, and 4B) ainage Patterns (y-Season Water turation Visible o comorphic Positio allow Aquitard (D C-Neutral Test (I dised Ant Mounds	Por more required) res (B9) (MLRA 1, 2, B10) Table (C2) In Aerial Imagery (C9) In (D2) In (D2) In (D5) In (D6) (LRR A)
HYDROLO Wetland Hy Primary India Surface High Wa Saturatio Water M Sedimer Drift Dep Algal Ma Iron Dep Surface Inundatio	order of the control	ors: of one req	uired; ch	eck all that a Water-S 1, 2, Salt Cru Aquatic Hydroge Oxidizee Presence Recent Stunted	pply) Stained Lea , 4A, and 4 ust (B11) Invertebra en Sulfide 0 d Rhizosph ce of Reduc	aves (B9) (e IB) tes (B13) Odor (C1) neres along ced Iron (C ction in Tille ed Plants (E	except ML J Living Ro 14) ed Soils (C		Secon Wa Dra Dra Sa Ge Sh FA	dary Indicators (2 ater-Stained Leav 4A, and 4B) ainage Patterns (y-Season Water turation Visible o comorphic Positio allow Aquitard (D C-Neutral Test (I dised Ant Mounds	Por more required) Yes (B9) (MLRA 1, 2, B10) Table (C2) In Aerial Imagery (C9) In (D2) In (D2) In (D6) (LRR A)
Wetland Hy Primary India Surface High Wa Saturatic Water M Sedimer Drift Dep Algal Ma Iron Dep Surface Inundatic	drology Indicator cators (minimum Water (A1) ater Table (A2) on (A3) darks (B1) at Deposits (B2) cosits (B3) at or Crust (B4) cosits (B5) Soil Cracks (B6) on Visible on Aericy Vegetated Concretations:	ors: of one req	uired; ch	eck all that a Water-S 1, 2, Salt Cru Aquatic Hydroge Oxidizee Presence Recent Stunted	pply) Stained Lea , 4A , and 4 ust (B11) Invertebra en Sulfide (d Rhizosph ce of Reduction Reduction Stresse Explain in F	tes (B13) Odor (C1) neres along ced Iron (C ction in Tille ed Plants (E Remarks)	except ML J Living Ro 14) ed Soils (C		Secon Wa Dra Dra Sa Ge Sh FA	dary Indicators (2 ater-Stained Leav 4A, and 4B) ainage Patterns (y-Season Water turation Visible o comorphic Positio allow Aquitard (D C-Neutral Test (I dised Ant Mounds	Por more required) res (B9) (MLRA 1, 2, B10) Table (C2) In Aerial Imagery (C9) In (D2) In (D2) In (D5) In (D6) (LRR A)
Wetland Hy Primary India Surface High Wa Saturatio Water M Sedimer Drift Dep Algal Ma Iron Dep Surface Inundatia Sparsely	drology Indicated cators (minimum) Water (A1) Ater Table (A2) On (A3) Alarks (B1) Int Deposits (B2) Oosits (B3) At or Crust (B4) Oosits (B5) Soil Cracks (B6) On Visible on Aericy Vegetated Concervations: Ater Present?	ors: of one requal al Imagery	uired; ch	eck all that a Water-S 1, 2, Salt Cru Aquatic Hydroge Oxidizee Presence Recent Stunted Other (E	pply) Stained Lea , 4A, and 4 ust (B11) Invertebra en Sulfide of d Rhizosph ce of Reduc Iron Reduc or Stresse Explain in F	aves (B9) (ce (B13)) Odor (C1) Deres along ced Iron (Ce (Ction in Tille (BRemarks))	except ML J Living Ro 14) ed Soils (C		Secon Wa Dra Dra Sa Ge Sh FA	dary Indicators (2 ater-Stained Leav 4A, and 4B) ainage Patterns (y-Season Water turation Visible o comorphic Positio allow Aquitard (D C-Neutral Test (I dised Ant Mounds	es (B9) (MLRA 1, 2, B10) Table (C2) In Aerial Imagery (C9) In (D2) In (D2) In (D6) (LRR A)
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YDROLO 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 Concludes cal Describe Re	drology Indicator cators (minimum) Water (A1) ater Table (A2) on (A3) larks (B1) on Deposits (B2) osits (B3) at or Crust (B4) osits (B5) Soil Cracks (B6) on Visible on Aeri of Vegetated Concevations: ter Present? Present? pillary fringe) ecorded Data (streen	al Imagery ave Surface Yes Yes Yes Area am gauge	uired; che (B7) ce (B8) No 🖾 No 🖾 e, monitor	eck all that a Water-S 1, 2, Salt Cru Aquatic Hydroge Oxidizee Presence Recent Stunted Other (E) Depth (incl Depth (incl Depth (incl	pply) Stained Lea , 4A, and 4 ast (B11) Invertebra en Sulfide (d Rhizosph ce of Reduc Iron Reduc or Stresse Explain in F	aves (B9) (e IB) tes (B13) Odor (C1) neres along ced Iron (C ction in Tille ed Plants (E Remarks) previous in	Living Ro	LRA Doots (C3) C6) A) Stland Hydeliand Hyd	Secon Wa Dra Dra Sa Ge Sh FA Ra Fro drology ble:	dary Indicators (2 ater-Stained Leave 4A, and 4B) ainage Patterns (2 y-Season Water aturation Visible of the comorphic Positionallow Aquitard (D.C-Neutral Test (I bised Ant Mounds post-Heave Humm	es (B9) (MLRA 1, 2, B10) Table (C2) In Aerial Imagery (C9) In (D2) In (D6) (LRR A) In (D6) (LRR A) In (D6) (LRR A) In (D7) In (D8) (LRR A)

Project/Site: <u>L2ST Segment C</u>	(City/County	y: <u>SeaTac/ I</u>	King	Sampling Date: 9/14/2016
Applicant/Owner: WSDOT				State: WA	Sampling Point: SP - 17
Investigator(s): Josh Wozniak and Trey Parry			Section, To	ownship, Range: <u>04, 22 N,</u>	04 E
Landform (hillslope, terrace, etc.): Hillslope depression		Local relie	ef (concave,	convex, none): Concave	Slope (%): <u>0-3</u>
Subregion (LRR): A	Lat:			Long:	Datum:
Soil Map Unit Name: <u>Urban land</u>				-	
Are climatic / hydrologic conditions on the site typical for this					
Are Vegetation, Soil, or Hydrology sign	•		_ `	ormal Circumstances" pres	ent? Yes⊠ No □
Are Vegetation, Soil, or Hydrology natu				ed, explain any answers in	- -
SUMMARY OF FINDINGS – Attach site map					
Hydrophytic Vegetation Present? Yes ⊠ No □					
Hydric Soil Present? Yes ☐ No ☒			e Sampled		o 57
Wetland Hydrology Present? Yes ☐ No ☒		With	in a Wetlar	nd? Yes □ No) M
Remarks: This sample point is the associated upland sam golf course. This site was identified as upland in the 2003	EIS.	SP-16 and	l Wetland E	, positioned in a hillslope d	epression in an abandoned
VEGETATION – Use scientific names of plan		Daminant	la dia atau	Daminana Tasturala	h a a t
Tree Stratum (Plot size: <u>r = 30 ft.</u>) 1. <u>none</u>	Absolute <u>% Cover</u>	Species?	Status	Number of Dominant Sp That Are OBL, FACW, o	ecies
2				Total Number of Domina Species Across All Strat	ant
4					
Sapling/Shrub Stratum (Plot size: r = 15 ft.)		= Total C		Percent of Dominant Sports Are OBL, FACW, o	ecies r FAC: <u>100%</u> (A/B)
1. none				Prevalence Index work	sheet:
2					Multiply by:
3					x 1 =
4				*	x 2 =
5					x 3 =
Herb Stratum (Plot size: $r = 5$ ft.)	<u>U</u>	= Total C	over		x 4 = x 5 =
1. Poa pratensis	40	Yes	FAC		(A) (B)
2. Elymus repens	35	Yes	FAC		
Hypochaeris radicata	8	No	FACU		= B/A =
4. Cirsium vulgare	5	No	FACU	Hydrophytic Vegetation	
5. <u>Tanacetum vulgare</u>			<u>FACU</u>	Rapid Test for Hydro	
6				☐ Dominance Test is >	
7				☐ Prevalence Index is	sations ¹ (Provide supporting
8				data in Remarks	or on a separate sheet)
9				☐ Wetland Non-Vascul	ar Plants ¹
10 11				☐ Problematic Hydroph	nytic Vegetation ¹ (Explain)
Woody Vine Stratum (Plot size: r = 15 ft.)		= Total C		¹ Indicators of hydric soil be present, unless distu	and wetland hydrology must rbed or problematic.
1. none				Hadaad C	
2				Hydrophytic Vegetation	
% Bare Ground in Herb Stratum 0		= Total C			No □
Remarks: The site used to be part of a maintained golf cou	ırse.			1	

Depth	Matrix				lox Feature			_	
(inches)	Color (moist)	%	<u>Colo</u>	or (moist)	%	Type ¹	Loc ²	Texture	Remarks
<u>0-6.5</u>	10YR 2/2	100						Sandy Loam	A lot of grass roots
6.5-8.0	10YR 2/2	100						Sandy Loam	Absent of roots
9-17.0	10YR 3/2	98%	7.5Y	'R 5/8	22	<u>C</u>	<u>M</u>	Sandy Loam	<u> </u>
									· -
								-	·
									<u> </u>
	-								
	oncentration, D=D						ed Sand G		ocation: PL=Pore Lining, M=Matrix.
Hydric Soil	Indicators: (App	licable to	all LRR	s, unless oth	erwise no	ted.)		Indicat	ors for Problematic Hydric Soils ³ :
Histosol	· ,			Sandy Redox					m Muck (A10)
-	pipedon (A2)			Stripped Matrix	. ,	.4) (d Parent Material (TF2)
☐ Black His	en Sulfide (A4)			_oamy Mucky _oamy Gleyed	•		t MLRA 1)		y Shallow Dark Surface (TF12) er (Explain in Remarks)
	d Below Dark Surf	ace (A11)		Depleted Matri		2)			er (Explain in Remarks)
	ark Surface (A12)	acc (/ /		Redox Dark Si	. ,)		³ Indicat	ors of hydrophytic vegetation and
	Mucky Mineral (S1))		Depleted Dark					and hydrology must be present,
	Sleyed Matrix (S4)		☐ F	Redox Depres	sions (F8)			unle	ss disturbed or problematic.
	Layer (if present								
Deptn (in	iches):							Hydric So	il Present? Yes ☐ No ☒
Remarks: Pr	reviously disturbed	d site.							
HYDROLO)GY								
		rs:							
Wetland Hy	drology Indicato		iired; che	eck all that ap	ply)			Seco	ondary Indicators (2 or more required)
Wetland Hy Primary India	rdrology Indicato		iired; che			/es (B9) (e	except MLF		ondary Indicators (2 or more required) Vater-Stained Leaves (B9) (MLRA 1, 2,
Wetland Hy Primary India ☐ Surface	rdrology Indicato cators (minimum o Water (A1)		iired; che	☐ Water-Sta	ained Leav		xcept MLF		Vater-Stained Leaves (B9) (MLRA 1, 2,
Wetland Hy Primary India ☐ Surface	rdrology Indicato cators (minimum o Water (A1) ater Table (A2)		iired; che	☐ Water-Sta	ained Leav		xcept MLF	RA U	
Wetland Hy Primary India Surface High Wa	rdrology Indicato cators (minimum o Water (A1) ater Table (A2) on (A3)		iired; che	☐ Water-Sta	ained Leav 1A, and 4E t (B11)	3)	xcept MLF	RA U	Vater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
Wetland Hy Primary India Surface High Wa Saturatio Water M	rdrology Indicato cators (minimum o Water (A1) ater Table (A2) on (A3)		nired; che	☐ Water-Sta 1, 2, 4 ☐ Salt Crus	ained Leav 1A, and 4E t (B11) nvertebrate	3) es (B13)	xcept MLF	RA V	Vater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Orainage Patterns (B10)
Wetland Hy Primary India Surface High Wa Saturatio Water M Sedimen	rdrology Indicato cators (minimum o Water (A1) ater Table (A2) on (A3) larks (B1)		nired; che	Water-Sta 1, 2, 4 Salt Crus Aquatic Ir Hydroger	ained Leaven A.	es (B13) Odor (C1)	xcept MLF	RA V	Vater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Orainage Patterns (B10) Ory-Season Water Table (C2)
Wetland Hy Primary India Surface High Wa Saturatio Water M Sedimen	rdrology Indicato cators (minimum of Water (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2)		tired; che	Water-Sta 1, 2, 4 Salt Crus Aquatic Ir Hydroger Oxidized	ained Leaven A.	es (B13) Odor (C1) eres along	Living Roo	RA	Vater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Orainage Patterns (B10) Ory-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9)
Wetland Hy Primary India Surface High Wa Saturatio Water M Sedimen Drift Dep Algal Ma	rdrology Indicato cators (minimum of Water (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2) posits (B3)		iired; che	Water-Sta 1, 2, 4 Salt Crus Aquatic Ir Hydroger Oxidized Presence	ained Leaver 4A, and 4E t (B11) envertebrate on Sulfide ORNIZOSPhere of Reduce	es (B13) odor (C1) eres along ed Iron (C	Living Roo	RA	Vater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Orainage Patterns (B10) Ory-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	rdrology Indicato cators (minimum of Water (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2) posits (B3) at or Crust (B4)		iired; che	Water-Sta 1, 2, 4 Salt Crus Aquatic Ir Hydroger Oxidized Presence Recent Ir	ained Leaver 44, and 48 to (B11) invertebrate in Sulfide O Rhizospher of Reduction Reduction Reduction	es (B13) odor (C1) eres along ed Iron (Co	Living Roo 4)	RA	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Orainage Patterns (B10) Ory-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 Sedimen Drift Dep Algal Ma Iron Dep Surface	rdrology Indicator cators (minimum of Water (A1) ater Table (A2) on (A3) ater Below (B1) at Deposits (B2) cosits (B3) at or Crust (B4) cosits (B5) Soil Cracks (B6) on Visible on Aerica	of one requ	(B7)	Water-Sta 1, 2, 4 Salt Crus Aquatic Ir Hydroger Oxidized Presence Recent Ir	ained Leaver 44, and 48 to (B11) invertebrate in Sulfide O Rhizospher of Reduction Reduction Reduction	es (B13) odor (C1) eres along ed Iron (C- tion in Tille d Plants (D	Living Roo 4) d Soils (C6	RA	Vater-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 Sedimen Drift Dep Algal Ma Iron Dep Surface Inundatio	rdrology Indicator cators (minimum of Water (A1) ater Table (A2) on (A3) ater (B1) ater (B2) oosits (B3) at or Crust (B4) oosits (B5) Soil Cracks (B6) on Visible on Aeria of Vegetated Conca	of one requ	(B7)	Water-Sta 1, 2, 4 Salt Crus Aquatic Ir Hydroger Oxidized Presence Recent Ir	ained Leaven A., and 4E t (B11) envertebrate on Sulfide OR Rhizosphere of Reductor Stresseo	es (B13) odor (C1) eres along ed Iron (C- tion in Tille d Plants (D	Living Roo 4) d Soils (C6	RA	Vater-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 Inundatic Sparsely	rational indicator cators (minimum of water (A1) ater Table (A2) on (A3) ater Table (B1) at Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) on Visible on Aeria v Vegetated Concarrations:	of one requ	(B7) e (B8)	Water-Sta 1, 2, 4 Salt Crus Aquatic Ir Hydroger Oxidized Presence Recent Ir Stunted of	ained Leav 14, and 4E t (B11) nvertebrate n Sulfide O Rhizosphe e of Reduct on Reduct or Stressec xplain in Re	es (B13) dor (C1) eres along ed Iron (C- cion in Tille d Plants (D- emarks)	Living Roo 4) d Soils (C6	RA	Vater-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 Inundatio Sparsely	rational indicator cators (minimum of water (A1) ater Table (A2) on (A3) ater Table (B1) at Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) on Visible on Aeria v Vegetated Concarrations:	of one requ	(B7)	Water-Sta 1, 2, 4 Salt Crus Aquatic Ir Hydroger Oxidized Presence Recent Ir	ained Leav 14, and 4E t (B11) nvertebrate n Sulfide O Rhizosphe e of Reduct on Reduct or Stressec xplain in Re	es (B13) dor (C1) eres along ed Iron (C- cion in Tille d Plants (D- emarks)	Living Roo 4) d Soils (C6	RA	Vater-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 Inundatic Sparsely	rdrology Indicator cators (minimum of Water (A1) ater Table (A2) on (A3) ater Below (B1) at Deposits (B2) cosits (B3) at or Crust (B4) cosits (B5) Soil Cracks (B6) on Visible on Aeria Vegetated Concarvations:	of one requ al Imagery ave Surfac	(B7) e (B8)	Water-Sta 1, 2, 4 Salt Crus Aquatic Ir Hydroger Oxidized Presence Recent Ir Stunted of	ained Leaven And AR, a	es (B13) bdor (C1) eres along ed Iron (C- cion in Tille d Plants (D- emarks)	Living Roo 4) d Soils (C6	RA	Vater-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 Inundatio Sparsely Field Obser Surface Water Table Saturation P	rdrology Indicator cators (minimum of Water (A1) ater Table (A2) on (A3) ater Table (B1) on (B3) at or Crust (B4) posits (B5) soil Cracks (B6) on Visible on Aeric Vegetated Concarvations: ter Present?	al Imagery ave Surfac	(B7) e (B8) No ⊠	Water-Sta 1, 2, 4 Salt Crus Aquatic Ir Hydroger Oxidized Presence Recent Ir Stunted of Other (Ex	ained Leaver And A	es (B13) clor (C1) eres along ed Iron (C- clon in Tille d Plants (D- emarks)	Living Roo 4) d Soils (C6 1) (LRR A)		Vater-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 Inundatio Sparsely Field Obser Surface Water Table Saturation P (includes cal	rdrology Indicator cators (minimum of Water (A1) ater Table (A2) on (A3) ater Table (B1) on (B3) at or Crust (B4) posits (B5) soil Cracks (B6) on Visible on Aeria v Vegetated Concarvations: ter Present? Present? Present? Present? Present? pillary fringe)	al Imagery ave Surface Yes Yes Yes Yes Yes	(B7) e (B8) No ⊠ No ⊠ No ⊠	Water-Sta 1, 2, 4 Salt Crus Aquatic Ir Hydroger Oxidized Presence Recent Ir Stunted of Other (Ex	ained Leaven And AR, a	es (B13) bdor (C1) eres along ed Iron (C- cion in Tille d Plants (D- emarks)	Living Roo 4) d Soils (C6 1) (LRR A)	RA	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Orainage Patterns (B10) Ory-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 Sedimen Drift Dep Algal Ma Iron Dep Surface Inundatio Sparsely Field Obser Surface Water Table Saturation P (includes cal	rdrology Indicator cators (minimum of Water (A1) ater Table (A2) on (A3) ater Table (B1) on (B3) at or Crust (B4) posits (B5) soil Cracks (B6) on Visible on Aeric Vegetated Concarvations: ter Present?	al Imagery ave Surface Yes Yes Yes Yes Yes	(B7) e (B8) No ⊠ No ⊠ No ⊠	Water-Sta 1, 2, 4 Salt Crus Aquatic Ir Hydroger Oxidized Presence Recent Ir Stunted of Other (Ex	ained Leaven And AR, a	es (B13) bdor (C1) eres along ed Iron (C- cion in Tille d Plants (D- emarks)	Living Roo 4) d Soils (C6 1) (LRR A)	RA	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Orainage Patterns (B10) Ory-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 cap Describe Re	rdrology Indicato cators (minimum of Water (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2) cosits (B3) at or Crust (B4) cosits (B5) Soil Cracks (B6) on Visible on Aeria of Vegetated Concar rvations: ter Present? Present? pillary fringe) ecorded Data (stre	al Imagery ave Surface Yes Yes Yes am gauge,	(B7) e (B8) No ⊠ No ⊠ No ⊠	Water-Sta 1, 2, 4 Salt Crus Aquatic Ir Hydroger Oxidized Presence Recent Ir Stunted of Other (Ex	ained Leaven And AR, a	es (B13) bdor (C1) eres along ed Iron (C- cion in Tille d Plants (D- emarks)	Living Roo 4) d Soils (C6 1) (LRR A)	RA	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Orainage Patterns (B10) Ory-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 (includes cap Describe Re	rdrology Indicator cators (minimum of Water (A1) ater Table (A2) on (A3) ater Table (B1) on (B3) at or Crust (B4) posits (B5) soil Cracks (B6) on Visible on Aeria v Vegetated Concarvations: ter Present? Present? Present? Present? Present? pillary fringe)	al Imagery ave Surface Yes Yes Yes am gauge,	(B7) e (B8) No ⊠ No ⊠ No ⊠	Water-Sta 1, 2, 4 Salt Crus Aquatic Ir Hydroger Oxidized Presence Recent Ir Stunted of Other (Ex	ained Leaven And AR, a	es (B13) bdor (C1) eres along ed Iron (C- cion in Tille d Plants (D- emarks)	Living Roo 4) d Soils (C6 1) (LRR A)	RA	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Orainage Patterns (B10) Ory-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 (includes cap Describe Re	rdrology Indicato cators (minimum of Water (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2) cosits (B3) at or Crust (B4) cosits (B5) Soil Cracks (B6) on Visible on Aeria of Vegetated Concar rvations: ter Present? Present? pillary fringe) ecorded Data (stre	al Imagery ave Surface Yes Yes Yes am gauge,	(B7) e (B8) No ⊠ No ⊠ No ⊠	Water-Sta 1, 2, 4 Salt Crus Aquatic Ir Hydroger Oxidized Presence Recent Ir Stunted of Other (Ex	ained Leaven And AR, a	es (B13) bdor (C1) eres along ed Iron (C- cion in Tille d Plants (D- emarks)	Living Roo 4) d Soils (C6 1) (LRR A)	RA	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Orainage Patterns (B10) Ory-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: L2ST Segment C	(City/County	y: <u>SeaTac/ I</u>	King	Sampling Date: 11/30/2016
Applicant/Owner: WSDOT				State: WA	Sampling Point: SP - 18
Investigator(s): Josh Wozniak and Trey Parry			Section, To	ownship, Range: <u>05, 23 N,</u>	04 E
Landform (hillslope, terrace, etc.): Hillslope		Local relie	ef (concave,	convex, none): none	Slope (%): <u>1-3</u>
Subregion (LRR): A					
Soil Map Unit Name: Alderwood gravelly sandy loam, 8 to 1				-	
Are climatic / hydrologic conditions on the site typical for this					
Are Vegetation, Soil, or Hydrology sign	-			ormal Circumstances" pres	ent? Yes⊠ No□
Are Vegetation, Soil, or Hydrology natu				ed, explain any answers in	
SUMMARY OF FINDINGS – Attach site map s					
Hydrophytic Vegetation Present? Yes ⊠ No □	-				
Hydric Soil Present? Yes No			e Sampled		_
Wetland Hydrology Present? Yes ⊠ No □		with	in a Wetlar	nd? Yes⊠ No	> □
Remarks: The sample points meets the criterion for hydrop		ation, hydri	c soil, and v	vetland hydrology; thus, th	e sample point is determined
to be a wetland. The sample point is positioned in Wetland	F.				
VEGETATION – Use scientific names of plant	ts.				
Tree Stratum (Plat size r 20 ft)	Absolute % Cover			Dominance Test works	heet:
Tree Stratum (Plot size: r = 30 ft) 1. Salix scouleriana	30			Number of Dominant Sp That Are OBL, FACW, o	
Prunus emarginata	30				
3.		•		Total Number of Domina Species Across All Strat	
4					、,
Sapling/Shrub Stratum (Plot size: r = 15 ft)	60	= Total C	over	Percent of Dominant Sports Are OBL, FACW, o	r FAC: 60% (A/B)
1. Rubus spectabilis	40	Yes	FAC	Prevalence Index work	sheet:
2. Salix scouleriana	20	Yes	FAC		Multiply by:
3. <u>Ilex aquifolium</u>	10				x 1 =
4. Cornus alba	10			*	x 2 =
5. Rubus ursinus	10				x 3 =
Herb Stratum (Plot size: r = 5 ft.)	90	= Total C	over		x 4 =
1. Polystichum munitum	15	Yes	FACU		x 5 = (A) (B)
2.				Column rotals.	(A) (D)
3				Prevalence Index	= B/A =
4				Hydrophytic Vegetation	n Indicators:
5				☐ Rapid Test for Hydro	phytic Vegetation
6				□ Dominance Test is >	50%
7				☐ Prevalence Index is	
8				☐ Morphological Adapt data in Remarks	tations ¹ (Provide supporting or on a separate sheet)
9				☐ Wetland Non-Vascul	
10				☐ Problematic Hydroph	nytic Vegetation¹ (Explain)
11					and wetland hydrology must
Woody Vine Stratum (Plot size: r = 15 ft.)	15	= Total C	over	be present, unless distu	bed or problematic.
1. none				The december of a	
2				Hydrophytic Vegetation	
		= Total C			No □
% Bare Ground in Herb Stratum <u>65</u> Remarks:					
romano.					

	cription: (Descri		depth n				or confirr	n the abs	sence	of indicators.)
Depth (inches)	Matrix Color (moist)	%	Cold	or (moist)	lox Featur %		_Loc ²	Texture	Э	Remarks
0-8	10YR 2/2	95	7.5	YR 4/6	5	С	M	Loam		Prominent Contrast
8-20+		90		R 5/6	10		M	Loam		Prominent Contrast
0-20 +	10110/1	90	101	N 3/0	10		IVI	LUAIII		rioninient Contrast
										
			_							
								_		
	-		_							
	Concentration, D=D Indicators: (App			•			ed Sand G			cation: PL=Pore Lining, M=Matrix. ors for Problematic Hydric Soils ³ :
☐ Histosol		ilcable to				ieu.)				n Muck (A10)
	oipedon (A2)			Sandy Redox Stripped Matrix				H		Parent Material (TF2)
	istic (A3)			Loamy Mucky	` '	1) (excep	t MLRA 1)	H		Shallow Dark Surface (TF12)
	en Sulfide (A4)			Loamy Gleyed	•		,			er (Explain in Remarks)
	d Below Dark Surfa	ace (A11)		Depleted Matri	•	,				,
☐ Thick Da	ark Surface (A12)			Redox Dark Si	urface (F6)		³ In	dicato	ors of hydrophytic vegetation and
	Mucky Mineral (S1)		_	Depleted Dark	,	,				nd hydrology must be present,
	Bleyed Matrix (S4)			Redox Depres	sions (F8)				unles	s disturbed or problematic.
	Layer (if present)									
Type:				_						
Depth (in	nches):			-				Hydric	c Soil	Present? Yes ⊠ No □
UVDBOLO	NCV									
HYDROLC	drology Indicator	***								
	cators (minimum c		iired: ch	eck all that an	olv)				Secor	ndary Indicators (2 or more required)
☐ Surface	•	ono roge	anou, on	☐ Water-Sta		/AS (RQ) (vcent MI			ater-Stained Leaves (B9) (MLRA 1, 2,
	ater Table (A2)				IA, and 4	, , ,	Accept ML	\A	⊔ ′′	4A, and 4B)
☐ Saturation	` '			☐ Salt Crus	•	٥,			Пр	rainage Patterns (B10)
<u> </u>	larks (B1)			☐ Aquatic Ir	` '	es (B13)				ry-Season Water Table (C2)
	nt Deposits (B2)			☐ Hydroger		. ,				aturation Visible on Aerial Imagery (C9)
	posits (B3)			Oxidized			Livina Roc			eomorphic Position (D2)
	at or Crust (B4)			☐ Presence		_	_			hallow Aquitard (D3)
_ •	oosits (B5)			☐ Recent Ir						AC-Neutral Test (D5)
	Soil Cracks (B6)						01) (LRR A			aised Ant Mounds (D6) (LRR A)
☐ Inundati	on Visible on Aeria	al Imagery	(B7)	☐ Other (Ex					☐ Fr	ost-Heave Hummocks (D7)
☐ Sparsely	y Vegetated Conca	ave Surfac	e (B8)							
Field Obser	rvations:									
Surface Wa	ter Present?	Yes 🗌	No 🛛	Depth (inche	es):					
Water Table	Present?	Yes 🗌	No ⊠	Depth (inche	es):					
Saturation F	Present?	Yes ⊠	No 🗌	Depth (inche	es): <u>11</u>		Wet	land Hydi	rolog	y Present? Yes ⊠ No □
	pillary fringe)							., ., .,		
Describe Re	ecorded Data (strea	am gauge,	, monito	ring well, aeria	l photos, p	orevious in	spections),	, if availab	ole:	
Remarks: Ti	he field investigation	on was cor	nducted	during the wet	season.					

Applicant/Owner: WSDOT Investigator(s): Josh Wozniak and Trey Parry Section, Township, Range: 05, 23 N, 04 E Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): none Slope (%) Subregion (LRR): A Lat: Long: Datum: Soil Map Unit Name: Alderwood gravelly sandy loam, 8 to 15 percent slopes Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)	: <u>1-3</u>
Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): none Slope (%) Subregion (LRR): A Lat: Long: Datum: Soil Map Unit Name: Alderwood gravelly sandy loam, 8 to 15 percent slopes NWI classification: Unmapped Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☑ No ☐ (If no, explain in Remarks.)	: <u>1-3</u>
Subregion (LRR): A Lat: Long: Datum: Soil Map Unit Name: Alderwood gravelly sandy loam, 8 to 15 percent slopes NWI classification: Unmapped Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)	
Soil Map Unit Name: Alderwood gravelly sandy loam, 8 to 15 percent slopes NWI classification: Unmapped Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)	
Soil Map Unit Name: Alderwood gravelly sandy loam, 8 to 15 percent slopes NWI classification: Unmapped Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)	
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ⊠ No ☐ (If no, explain in Remarks.)	
Are Vegetation, Soil, or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes 🗵 No 🗌	
Are Vegetation, Soil, or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)	
SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important feature	s, etc.
Hydrophytic Vegetation Present? Yes ☐ No ☒ Is the Sampled Area	
Hydric Soil Present? Yes \(\text{No } \text{N} \)	
Wetland Hydrology Present? Yes □ No □	
Remarks: The sample point is the associated upland site for SP-18 and Wetland F. This sample point does not meet the criteria for hydrophyti vegetation, hydric soils, and wetland hydrology.	<u> </u>
VEGETATION – Use scientific names of plants.	
Absolute Dominant Indicator Tree Stratum (Plot size: r = 30 ft) Absolute Dominant Indicator Species? Status Number of Dominant Species	
1. <u>Salix scouleriana</u> 40 <u>yes FAC</u> That Are OBL, FACW, or FAC: <u>3</u>	(A)
2. <u>Prunus emarginata</u> <u>40</u> <u>yes</u> <u>FACU</u> Total Number of Dominant	
3 Species Across All Strata: 8	(B)
4 Percent of Dominant Species	
$\frac{80}{\text{Sapling/Shrub Stratum}} = \text{Total Cover}$ $\frac{80}{\text{Sapling/Shrub Stratum}} = \text{Total Cover}$ That Are OBL, FACW, or FAC: $\frac{38\%}{\text{Sapling/Shrub Stratum}}$	(A/B)
1. Cornus alba <u>30 Yes FACW</u> Prevalence Index worksheet:	
2. Symphoricarpus albus 30 Yes FACU Total % Cover of: Multiply by:	
3. <u>Rubus spectabilis</u> <u>20</u> <u>Yes</u> <u>FAC</u> OBL species x 1 =	
4. <u>Ilex aquifolium</u> 20 Yes FACU FACW species 30 x 2 = 60	
5 FAC species 60 x 3 = 180	
Herb Stratum (Plot size: r = 5 ft.) A 100 = Total Cover FACU species 140	
X3 X3 X3 X3 X3 X3 X3 X3	
1. Polystichum munitum 30 Yes FACU Column Totals: 230 (A) 800 2. Pteridium aquilinum 20 Yes FACU	(B)
3. Prevalence Index = B/A = <u>3.48</u>	
4. Hydrophytic Vegetation Indicators:	
5 Rapid Test for Hydrophytic Vegetation	
6 Dominance Test is >50%	
7 Prevalence Index is ≤3.0¹	
8 Morphological Adaptations¹ (Provide suppor	
9	
10. Problematic Hydrophytic Vegetation ¹ (Expla	in)
11	must
Woody Vine Stratum (Plot size: r = 15 ft.) 50 = Total Cover be present, unless disturbed or problematic.	
1. none	
2. Hydrophytic Vegetation	
<u>0</u> = Total Cover Present? Yes □ No ⊠	
% Bare Ground in Herb Stratum <u>40</u> Remarks:	
Tomano.	

12-20+ 10YR 3/2 97 10YR 2/2 3 C M Loam Faint Contrast	oth ches) Cold	Matrix or (moist)	<u>%</u>	Color	(moist)	x Feature %		Loc ²	Texture	<u> </u>		Remarks	
12-20+ 10YR 3/2	2 10Y	R 2/2	100						Loam				
Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.	20+ 10Y	R 3/2	97					M	Loam				
Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. Total Carlos Indicators: (Applicable to all LRs, unless otherwise noted.) Indicators for Problematic Histosol (A1) Sandy Redox (S5) 2 cm Muck (A10) Histic Epipedon (A2) Shardy Redox (S5) Redox Park Sunface (F6) Redox Park Sunface (F7) Redox Park Sunface (F7) Redox Dark Surface (F7	.01 101	11 0/2	<u> </u>	10111					Loam		r anic con	iraot	
Indicators (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Histosol (A1) Sandy Redox (S5) 2 cm Muck (A10) Histosol (A1) Sandy Redox (S5) 2 cm Muck (A10) Histosol (A1) User Stripped Matrix (S6) Red Parent Material (TF) Black Histic (A3) Loamy Mucky Mineral (F1) (except MLRA 1) Very Shallow Dark Surface (A12) Depleted Below Dark Surface (A11) Depleted Below Dark Surface (A12) Depleted Matrix (F3) Thick Dark Surface (A12) Redox Dark Surface (F6) Indicators of hydrophytic vertical expert (If present) Redox Dark Surface (F7) wetland hydrology must unless disturbed or problestrictive Layer (If present): Type: Depth (inches): Hydric Soil Present? Yes Persent (A3) Hydric Soil Present? Yes Present (A3) Salt Crust (B11) Present (B13) Dry-Season Water Ta (B14) Presence of Reduced Iron (C4) Salturation (Vsible on Aprail Imagery (B7) Salturation (Vsible on Applications (B3) Dry-Season Water Ta (B4) Presence of Reduced Iron (C4) Shallow Aquitard (D3) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) FAC-Neutral Test (D5) Surface Soil Cracks (B6) Stunied or Stressed Plants (D1) (LRR A) Raised Ant Mounds (Inundation Vsible on April Imagery (B7) Sparsely Vegetated Concave Surface (B8) Depth (inches): 20 Wetland Hydrology Present? Yes No Depth (inches): 20 Wetland Hydrology Present? Yes Inundation (Present? Yes No Depth (inches): 22 Wetland Hydrology Present? Yes Inundation (Present? Yes No Depth (inches): 22 Wetland Hydrology Present? Yes Inundation (Present? Yes No Depth (inches): 22 Wetland Hydrology Present? Yes Inundation (Present? Yes No Depth (inches): 22 Wetland Hydrology Present? Yes Inundation (Present? Yes No Depth (inches): 22 Wetland Hydrology Present? Yes Inundation (Present? Yes No Depth (inches): 22 Wetland Hydrology Present? Yes Inundation (Present? Yes No Depth (inches): 22 Wetland Hydrology Present? Y			- ——	-									
Indicators (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Histosol (Art) Sandy Redox (S5) 2 cm Muck (Art) Histic Epipedon (A2) Stripped Matrix (S6) Red Parent Material (TF Black Histic (A3) Loamy Mucky Mineral (F1) (except MLRA 1) Very Shallow Dark Surface (A11) Depleted Below Dark Surface (A11) Depleted Below Dark Surface (A11) Depleted Below Dark Surface (A12) Depleted Matrix (F3) Thick Dark Surface (A12) Redox Dark Surface (F6) Indicators of hydrophytic veweltand hydrology must unless disturbed or problesstrictive Layer (if present): Type: Pepth (inches): Hydric Soil Present? Yes [Pemarks: Hydric Soil Present? Yes [Presence (A2) Salt Crust (B1) Presence (B9) (except MLRA A4, and 4B) A4, and 4B) A4, and 4B A4, and						_							
Indicators (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Histos (IA1) Sandy Redox (S5) 2 cm Muck (A10) Histic Epipedon (A2) Stripped Matrix (S6) Red Parent Material (TF Black Histic (A3) Loamy Mucky Mineral (F1) (except MLRA 1) Very Shallow Dark Surface (H1) Depleted Below Dark Surface (A11) Depleted Below Dark Surface (A12) Depleted Matrix (F3) Thick Dark Surface (A12) Redox Dark Surface (F6) Indicators of hydrophytic very Shallow Mucky Mineral (S1) Depleted Dark Surface (F7) wetland hydrology must unless disturbed or problestrictive Layer (if present): Type: Pepth (inches): Hydric Soil Present? Yes [Permarks: Hydric Soil Present? Yes [Present (A3) Pres													
Indicators (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Histos (IA1) Sandy Redox (S5) 2 cm Muck (A10) Histic Epipedon (A2) Stripped Matrix (S6) Red Parent Material (TF Black Histic (A3) Loamy Mucky Mineral (F1) (except MLRA 1) Very Shallow Dark Surfice (A17) Depleted Below Dark Surface (A11) Depleted Below Dark Surface (A12) Depleted Matrix (F3) Thick Dark Surface (A12) Redox Dark Surface (F6) Indicators of hydrophytic very sandy Mucky Mineral (S1) Depleted Dark Surface (F7) wetland hydrology must unless disturbed or problematic very sandy Mucky Mineral (S1) Redox Dark Surface (F7) wetland hydrology must unless disturbed or problematic very sandy Mucky Mineral (S1) Redox Depressions (F8) Present? Yes [Permarks: Verland Hydrology Indicators: Verland Hydrology													
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Histosol (A1)								ed Sand G					
Histic Epipedon (A2)		ators. (Applic	able to a				ieu.)					-	yuric 30lis .
Black Histic (A3)		on (A2)									•	,	
Hydrogen Sulfide (A4)						. ,	1) (excep	t MLRA 1)				, ,	(TF12)
Thick Dark Surface (A12)	•	•						,		-			
Sandy Mucky Mineral (S1)	Depleted Belo	w Dark Surface	e (A11)		epleted Matrix	(F3)							
Sandy Gleyed Matrix (S4)													
Part					•	,	,						
Type:				∐ R	edox Depress	ions (F8)			1	unles	s disturbed	or problem	atic.
Perpendiction (As) Mater Mater Mater Mater Mater													
## Apply Secondary Indicators: Portiand Hydrology Indicators:													
### Presence of Reduced Iron (C4) Surface Water (B3) Oxidized Rhizospheres along Living Roots (C3) Surface Water (A1) Water-Stained Leaves (B9) (except MLRA Water-Stained Leaves (B9) (except MLRA Water-Stained Leaves (B9) (except MLRA Water-Stained Leaves (B1) Water Table (A2) High Water Table (A2)	Jepui (iliches)	•							Hydrid	c Soil	Present?	Yes ∐	No 🗵
Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (2 of Surface Water (A1)													
Surface Water (A1)	ROLOGY												
High Water Table (A2) Saturation (A3) Salt Crust (B11) Aquatic Invertebrates (B13) Dry-Season Water Table (A2) Hydrogen Sulfide Odor (C1) Saturation Visible on Drift Deposits (B3) Cother (Explain in Remarks) Prost-Heave Hummon Depth (inches): Surface Water Present? Yes No Depth (inches): ≥20 Nescribe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	land Hydrolo	-											
Saturation (A3) Salt Crust (B11) Drainage Patterns (B Water Marks (B1) Aquatic Invertebrates (B13) Dry-Season Water Tater (B Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Saturation Visible on Drift Deposits (B3) Oxidized Rhizospheres along Living Roots (C3) Geomorphic Position Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Shallow Aquitard (D3 Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) FAC-Neutral Test (D5 Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) Frost-Heave Hummon Sparsely Vegetated Concave Surface (B8) Selface Water Present? Yes No Depth (inches): Vater Table Present? Yes No Depth (inches): Surface Soil Cracks (B7) Depth (inches): Selface Water Present? Yes No Depth (inches): Selface Soil Cracks (B7) Depth (inches): Selface Soil Cracks (B7) Depth (inches): Selface Water Present? Yes No Depth (inches): Selface Soil Cracks (B7) Depth (inches): Selface Soil Cracks (B7) Selface Water Present? Yes No Depth (inches): Selface Soil Cracks (B7) Selface Soil Cracks (land Hydrolo	-		ed; ched	ck all that appl	ly)				Secon	dary Indica	ators (2 or n	nore required)
Water Marks (B1)	tland Hydrolo nary Indicators Surface Water	s (minimum of c r (A1)			☐ Water-Stai	ined Leav		except MLI			ater-Staine	d Leaves (E	
Sediment Deposits (B2)	tland Hydrolo nary Indicators Surface Water High Water Ta	s (minimum of c r (A1) able (A2)		[☐ Water-Stai	ined Leav A, and 4E		except MLI	RA	□ W	ater-Staine	d Leaves (E	39) (MLRA 1, 2
Drift Deposits (B3)	tland Hydrolo nary Indicators Surface Water High Water Ta Saturation (A3	s (minimum of on the control of the]	☐ Water-Stai 1, 2, 4/ ☐ Salt Crust	ined Leav A, and 4E (B11)	3)	except MLI	RA	 W: Dr	ater-Staine 4A, and ainage Pat	d Leaves (E IB) terns (B10)	39) (MLRA 1, 2
Algal Mat or Crust (B4)	tland Hydrolo nary Indicators Surface Water High Water Ta Saturation (A3 Water Marks (s (minimum of c r (A1) able (A2) B) (B1)]]]	☐ Water-Stai 1, 2, 4, ☐ Salt Crust ☐ Aquatic Inv	ined Leav A, and 4E (B11) vertebrate	B) es (B13)	except MLI	RA	☐ W:	ater-Staine 4A, and 4 ainage Pat y-Season \	d Leaves (E IB) terns (B10) Vater Table	B9) (MLRA 1, 2
□ Iron Deposits (B5) □ Recent Iron Reduction in Tilled Soils (C6) □ FAC-Neutral Test (D5 □ Surface Soil Cracks (B6) □ Stunted or Stressed Plants (D1) (LRR A) □ Raised Ant Mounds (□ Inundation Visible on Aerial Imagery (B7) □ Other (Explain in Remarks) □ Frost-Heave Hummon □ Sparsely Vegetated Concave Surface (B8) Frost-Heave Hummon □ Frost	tland Hydrolo nary Indicators Surface Water High Water Ta Saturation (A3 Water Marks (Sediment Dep	r (A1) able (A2) (B1) posits (B2)]]]	Water-Stai 1, 2, 4, Salt Crust Aquatic Inv Hydrogen	ined Leav A, and 4E (B11) vertebrate Sulfide O	es (B13) dor (C1)		AA	☐ Wa	ater-Staine 4A, and 4 ainage Pat y-Season Vi	d Leaves (B IB) terns (B10) Water Table sible on Ae	39) (MLRA 1, 2 e (C2) rial Imagery (C
Surface Soil Cracks (B6)	tland Hydrolo nary Indicators Surface Water High Water Ta Saturation (A3 Water Marks (Sediment Dep Drift Deposits	s (minimum of c r (A1) able (A2) B) (B1) posits (B2) (B3)]]]	Water-Stai 1, 2, 4,/ Salt Crust Aquatic Inv Hydrogen Oxidized R	ined Leav A, and 4E (B11) vertebrate Sulfide O Rhizosphe	es (B13) dor (C1) eres along	Living Roc	AA	☐ Ware	ater-Staine 4A, and 4 ainage Pate y-Season Vinturation Vinceomorphic	d Leaves (B HB) terns (B10) Water Table sible on Ae Position (D2	39) (MLRA 1, 2 e (C2) rial Imagery (C
☐ Inundation Visible on Aerial Imagery (B7) ☐ Other (Explain in Remarks) ☐ Frost-Heave Hummon Sparsely Vegetated Concave Surface (B8) Sparsely Vegetated Concave Surface (B8) Frost-Heave Hummon Sparsely Vegetated Concave Surface (B8) Surface Water Present? Yes ☐ No ☒ Depth (inches):	tland Hydrolo nary Indicators Surface Water High Water Ta Saturation (A3 Water Marks (Sediment Dep Drift Deposits Algal Mat or C	s (minimum of c r (A1) able (A2) B) (B1) posits (B2) (B3) crust (B4)]]]	Water-Stai 1, 2, 4, Salt Crust Aquatic Inv Hydrogen Oxidized R Presence of	ined Leaven A, and 4E (B11) vertebrate Sulfide ORhizosphe of Reduce	es (B13) dor (C1) eres along ed Iron (C	Living Roo 4)	RA ots (C3)	☐ W: ☐ Dr ☐ Dr ☐ Sa ☐ Ge	ater-Staine 4A, and 4 ainage Pat y-Season V aturation Vi eomorphic allow Aqui	d Leaves (E BB) terns (B10) Water Table sible on Ael Position (D2 tard (D3)	39) (MLRA 1, 2 e (C2) rial Imagery (C
Sparsely Vegetated Concave Surface (B8) Sparsely Vegetated Concave Surface (B8) Sparsely Vegetated Concave S	tland Hydrolo nary Indicators Surface Water High Water Ta Saturation (A3 Water Marks (Sediment Dep Drift Deposits Algal Mat or C Iron Deposits	(B1) cosits (B2) (B3) crust (B4) (B5)]]]	Water-Stai 1, 2, 4 Salt Crust Aquatic Inv Hydrogen Oxidized R Presence o	ined Leaven A, and 4E (B11) vertebrate Sulfide ORhizosphe of Reductin Reduction	es (B13) dor (C1) eres along ed Iron (C- ion in Tille	Living Roc 4) d Soils (C6	RA ots (C3)	☐ W: ☐ Dr ☐ Dr ☐ Sa ☐ Ge	ater-Staine 4A, and 4 ainage Pat y-Season Vituration Viteomorphic allow Aqui AC-Neutral	d Leaves (E IB) terns (B10) Water Table sible on Ae Position (D2 tard (D3) Test (D5)	39) (MLRA 1, 2 e (C2) rial Imagery (C:
Field Observations: Surface Water Present? Yes □ No ☒ Depth (inches): Vater Table Present? Yes □ No ☒ Depth (inches): ≥20 Saturation Present? Yes □ No ☒ Depth (inches): ≥20 Saturation Present? Yes □ No ☒ Depth (inches): ≥20 Secribe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	tland Hydrolo nary Indicators Surface Water High Water Ta Saturation (A3 Water Marks (Sediment Dep Drift Deposits Algal Mat or C Iron Deposits Surface Soil C	(B1) crust (B4) (B5) cracks (B6)	one requir]]]]]]	Water-Stai 1, 2, 4/ Salt Crust Aquatic Inv Hydrogen Oxidized R Presence of Recent Iro Stunted or	ined Leaven A, and 4E (B11) vertebrate Sulfide ORhizosphe of Reduce Reducer Stressed	es (B13) dor (C1) eres along ed Iron (Ci ion in Tille d Plants (D	Living Roc 4) d Soils (C6	RA ots (C3)	☐ W: ☐ Dr ☐ Dr ☐ Sa ☐ Ge ☐ Sh ☐ FA	ater-Staine 4A, and 4 ainage Pat y-Season Valuration Via comorphic allow Aqui AC-Neutral	d Leaves (E IB) terns (B10) Water Table sible on Ae Position (D2) tard (D3) Test (D5) lounds (D6)	39) (MLRA 1, 2 e (C2) rial Imagery (C2)) (LRR A)
Surface Water Present? Yes ☐ No ☒ Depth (inches): Vater Table Present? Yes ☐ No ☒ Depth (inches): >20 Saturation Present? Yes ☐ No ☒ Depth (inches): >20 Security Wetland Hydrology Present? Yes [includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	tland Hydrolo nary Indicators Surface Water High Water Ta Saturation (A3 Water Marks (Sediment Dep Drift Deposits Algal Mat or C Iron Deposits Surface Soil C Inundation Vis	s (minimum of or (A1) able (A2) B) (B1) cosits (B2) (B3) Crust (B4) (B5) Cracks (B6) sible on Aerial I	one requir	[Water-Stai 1, 2, 4/ Salt Crust Aquatic Inv Hydrogen Oxidized R Presence of Recent Iro Stunted or	ined Leaven A, and 4E (B11) vertebrate Sulfide ORhizosphe of Reduce Reducer Stressed	es (B13) dor (C1) eres along ed Iron (Ci ion in Tille d Plants (D	Living Roc 4) d Soils (C6	RA ots (C3)	☐ W: ☐ Dr ☐ Dr ☐ Sa ☐ Ge ☐ Sh ☐ FA	ater-Staine 4A, and 4 ainage Pat y-Season Valuration Via comorphic allow Aqui AC-Neutral	d Leaves (E IB) terns (B10) Water Table sible on Ae Position (D2) tard (D3) Test (D5) lounds (D6)	39) (MLRA 1, 2 e (C2) rial Imagery (C2)) (LRR A)
Vater Table Present? Yes ☐ No ☒ Depth (inches): >20 Saturation Present? Yes ☐ No ☒ Depth (inches): >20 Security Wetland Hydrology Present? Yes ☐ Includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	tland Hydrolo nary Indicators Surface Water High Water Ta Saturation (A3 Water Marks (Sediment Dep Drift Deposits Algal Mat or C Iron Deposits Surface Soil C Inundation Vis Sparsely Vege	r (A1) able (A2) B) (B1) cosits (B2) (B3) crust (B4) (B5) Cracks (B6) sible on Aerial I	one requir	[Water-Stai 1, 2, 4/ Salt Crust Aquatic Inv Hydrogen Oxidized R Presence of Recent Iro Stunted or	ined Leaven A, and 4E (B11) vertebrate Sulfide ORhizosphe of Reduce Reducer Stressed	es (B13) dor (C1) eres along ed Iron (Ci ion in Tille d Plants (D	Living Roc 4) d Soils (C6	RA ots (C3)	☐ W: ☐ Dr ☐ Dr ☐ Sa ☐ Ge ☐ Sh ☐ FA	ater-Staine 4A, and 4 ainage Pat y-Season Valuration Via comorphic allow Aqui AC-Neutral	d Leaves (E IB) terns (B10) Water Table sible on Ae Position (D2) tard (D3) Test (D5) lounds (D6)	39) (MLRA 1, 2 e (C2) rial Imagery (C2)) (LRR A)
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Project/Site: L2ST Segment C	City/County: SeaTac/ King Sampling Date: 11/14/2					
Applicant/Owner: WSDOT			State: WA	Sampling Point: SP - 20		
Investigator(s): Josh Wozniak and Trey Parry			_ Section, To	ownship, Range: <u>32, 23 N,</u>	04 E	
Landform (hillslope, terrace, etc.): depression		Local rel	lief (concave,	convex, none): concave	Slope (%): <u>0-2</u>	
Subregion (LRR): A	_ Lat:			Long:	Datum:	
Soil Map Unit Name: NOTCOM				_		
Are climatic / hydrologic conditions on the site typical for this						
Are Vegetation, Soil, or Hydrology sign	•	_	`	ormal Circumstances" pres	sent? Yes⊠ No□	
Are Vegetation, Soil, or Hydrology natu				ed, explain any answers in	- -	
SUMMARY OF FINDINGS - Attach site map						
Hydrophytic Vegetation Present? Yes ☒ No ☐						
Hydric Soil Present? Yes ⊠ No □			the Sampled		- - -	
Wetland Hydrology Present? Yes ⊠ No □		Wit	thin a Wetlar	nd? Yes ⊠ N	D 🗀	
Remarks: The sample points meets the criterion for hydron to be a wetland. SP-20 is positioned in Wetland G and occ shrub habitat and a depressional wetland. VEGETATION – Use scientific names of plant	urs in a dep					
		Dominar	nt Indicator	Dominance Test works	sheet	
<u>Tree Stratum</u> (Plot size: $\underline{r} = 30 \text{ ft}$)	% Cover			Number of Dominant Sp		
1. none				That Are OBL, FACW, o		
2				Total Number of Domina	ant	
3				Species Across All Strat	a: <u>4</u> (B)	
4				Percent of Dominant Sp		
Sapling/Shrub Stratum (Plot size: $r = 15 \text{ ft}$)	0	= Total	Cover	That Are OBL, FACW, o	or FAC: <u>100%</u> (A/B)	
1. Rubus armeniacus	80	Yes	FAC	Prevalence Index work	sheet:	
2. Populus balsamifera (s)				Total % Cover of:	Multiply by:	
3				OBL species	x 1 =	
4				FACW species	x 2 =	
5				FAC species	x 3 =	
		= Total	Cover	· ·	x 4 =	
Herb Stratum (Plot size: $r = 5 \text{ ft}$)	00	V	EA C)A/	UPL species		
Polygonum persicaria Salasum dulasmara	60	Yes Yes	FACW_	Column Totals:	(A) (B)	
Solanum dulcamara Agrostis stolonifera	<u>20</u> 20	Yes Yes	FAC FAC	Prevalence Index	= B/A =	
4				Hydrophytic Vegetation		
5				☐ Rapid Test for Hydro	ophytic Vegetation	
6.					·50%	
7				☐ Prevalence Index is	≤3.0 ¹	
8					tations ¹ (Provide supporting	
9					or on a separate sheet)	
10				Wetland Non-Vascu		
11				_ , ,	hytic Vegetation ¹ (Explain) and wetland hydrology must	
Woody Vine Stratum (Plot size: $\underline{r} = 15 \text{ ft}$)				be present, unless distu		
1. none				Hydrophytic		
2				Vegetation	. M No □	
% Bare Ground in Herb Stratum <u>0</u>	0	= Fotal	Cover	Present? Yes	s⊠ No □	
Remarks:				<u> </u>		

Depth (inches) Matrix (one) Redox Features (one) Type¹ Loc² Texture Remarks 0-7 10YR 2/1 100 Sandy Loam							
0-7 10YR 2/1 100 Sandy Loam 7-14 10YR 2/2 95 7.5YR 4/6 3 C M Sandy Loam 14-18 10YR 2/2 90 7.5YR 4/6 7 C M Sandy Loam "Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. *Location: PL=Pore Lining, M=Matrix. Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils*: Indicators for Problematic Hydric Soils* Histic Epipedon (A2) Stripped Matrix (S6) 2 cm Muck (A10) Hydrogen Sulfide (A4) Loamy Mucky Mineral (F1) (except MLRA 1) Very Shallow Dark Surface (TF12) Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F3) Other (Explain in Remarks) Depleted Below Dark Surface (A11) Depleted Matrix (F3) Sandy Mucky Mineral (S1) Other (Explain in Remarks) Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if present): Type: Depth (inches): Hydric Soil Present? Yes No □							
7-14 10YR 2/2 95 7.5YR 4/6 3 C M Sandy Loam 14-18 10YR 2/2 90 7.5YR 4/6 7 C M Sandy Loam 10YR 4/2 3 D M 10Idicators: PL=Pore Lining, M=Matrix. 10Idicators for Problematic Hydric Soils³: Histosol (A1)							
14-18 10YR 2/2 90 7.5YR 4/6 7 C M Sandy Loam 10YR 4/2 3 D M 10YR 4/2 1 D Location: PL=Pore Lining, M=Matrix. 10REATION: PL=Pore Lining, M=Matrix. 10REATION: PLepore Lining, M=Matrix. 10REAT							
Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils³:							
Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. Pydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Histosol (A1)							
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Histosol (A1)							
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Histosol (A1)							
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Histosol (A1)							
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Histosol (A1)							
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Histosol (A1)							
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Histosol (A1)							
Histic Epipedon (A2)							
Histic Epipedon (A2) Stripped Matrix (S6) Red Parent Material (TF2) Black Histic (A3) Loamy Mucky Mineral (F1) (except MLRA 1) Very Shallow Dark Surface (TF12) Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Other (Explain in Remarks) Depleted Below Dark Surface (A11) Depleted Matrix (F3) Thick Dark Surface (A12) Redox Dark Surface (F6) ³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Sandy Gleyed Matrix (S4) Redox Depressions (F8) unless disturbed or problematic. Restrictive Layer (if present): Type: Depth (inches): Hydric Soil Present? Yes No □							
□ Black Histic (A3) □ Loamy Mucky Mineral (F1) (except MLRA 1) □ Very Shallow Dark Surface (TF12) □ Hydrogen Sulfide (A4) □ Loamy Gleyed Matrix (F2) □ Other (Explain in Remarks) □ Depleted Below Dark Surface (A11) □ Depleted Matrix (F3) □ Thick Dark Surface (A12) □ Redox Dark Surface (F6) ³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. □ Sandy Gleyed Matrix (S4) □ Redox Depressions (F8) unless disturbed or problematic. Restrictive Layer (if present): Type: Depth (inches): Hydric Soil Present? Yes ☑ No □							
Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) ○ Other (Explain in Remarks) Depleted Below Dark Surface (A11) ○ Depleted Matrix (F3) Thick Dark Surface (A12) ○ Redox Dark Surface (F6) ³Indicators of hydrophytic vegetation and ○ Sandy Mucky Mineral (S1) ○ Depleted Dark Surface (F7) wetland hydrology must be present, ○ Sandy Gleyed Matrix (S4) ○ Redox Depressions (F8) unless disturbed or problematic. Restrictive Layer (if present): Type: Depth (inches): Hydric Soil Present? Yes ○ No ○							
□ Depleted Below Dark Surface (A11) □ Depleted Matrix (F3) □ Thick Dark Surface (A12) □ Redox Dark Surface (F6) ³Indicators of hydrophytic vegetation and □ Sandy Mucky Mineral (S1) □ Depleted Dark Surface (F7) wetland hydrology must be present, □ Sandy Gleyed Matrix (S4) □ Redox Depressions (F8) unless disturbed or problematic. Restrictive Layer (if present): Type: □ Depth (inches): Hydric Soil Present? Yes □ No □							
□ Thick Dark Surface (A12) □ Redox Dark Surface (F6) ³Indicators of hydrophytic vegetation and □ Sandy Mucky Mineral (S1) □ Depleted Dark Surface (F7) wetland hydrology must be present, □ Sandy Gleyed Matrix (S4) □ Redox Depressions (F8) unless disturbed or problematic. Restrictive Layer (if present): Type: Depth (inches): Hydric Soil Present? Yes □ No □							
□ Sandy Mucky Mineral (S1) □ Depleted Dark Surface (F7) wetland hydrology must be present, unless disturbed or problematic. Sandy Gleyed Matrix (S4) □ Redox Depressions (F8) unless disturbed or problematic. Restrictive Layer (if present): Type: Depth (inches): Hydric Soil Present? Yes ☑ No □							
Sandy Gleyed Matrix (S4) Redox Depressions (F8) unless disturbed or problematic. Restrictive Layer (if present): Type: Depth (inches): Hydric Soil Present? Yes No							
Restrictive Layer (if present): Type: Lydric Soil Present? Yes ☑ No ☐							
Depth (inches): Hydric Soil Present? Yes ⊠ No □							
nyane con reconn. Tee Za Ne Za							
Remarks: Water is ponded 3"+,							
HYDROLOGY							
Wetland Hydrology Indicators:							
Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (2 or more required)							
 ✓ Surface Water (A1) ✓ Water-Stained Leaves (B9) (except MLRA ✓ Water-Stained Leaves (B9) (MLRA 1, 2, 							
□ Water Marks (B1) □ Aquatic Invertebrates (B13) □ Dry-Season Water Table (C2) □ Sediment Deposits (B2) □ Hydrogen Sulfide Odor (C1) □ Saturation Visible on Aerial Imagery (C9)							
☐ Algal Mat or Crust (B4) ☐ Presence of Reduced Iron (C4) ☐ Shallow Aquitard (D3)							
☐ Iron Deposits (B5) ☐ Recent Iron Reduction in Tilled Soils (C6) ☐ FAC-Neutral Test (D5)							
□ Surface Soil Cracks (B6) □ Stunted or Stressed Plants (D1) (LRR A) □ Raised Ant Mounds (D6) (LRR A)							
☐ Inundation Visible on Aerial Imagery (B7) ☐ Other (Explain in Remarks) ☐ Frost-Heave Hummocks (D7)							
Sparsely Vegetated Concave Surface (B8)							
Field Observations:							
Surface Water Present? Yes ⊠ No ☐ Depth (inches): 3"							
Water Table Present? Yes ⊠ No ☐ Depth (inches): Surface							
Saturation Present? Yes No Depth (inches): Surface Wetland Hydrology Present? Yes No (includes capillary fringe)							
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:							
2000.000 . 1000.000 Data (ottodin gaago, monitoling work, actial priotod, proviodo mopeotiono), il availabilo.							
2000.20 1.000.202 2.22 (ottodin gaago, montaning work acres, provided hopodions), il available.							
Remarks: Field investigation was conducted during the wet season.							

Project/Site: L2ST Segment C		City/Coun	ty: <u>SeaTac/ I</u>	King	Sampling Date: 11/14/2	2016	
Applicant/Owner: WSDOT				State: WA Sampling Point: SP - 21			
Investigator(s): Josh Wozniak and Trey Parry			Section, To	ownship, Range: <u>32, 23 N,</u>	04 E		
Landform (hillslope, terrace, etc.):		Local reli	ef (concave,	convex, none): concave	Slope (%)): <u>0-2</u>	
Subregion (LRR): A	_ Lat:			Long:	Datum:		
Soil Map Unit Name: NOTCOM							
Are climatic / hydrologic conditions on the site typical for this							
Are Vegetation, Soil, or Hydrology sign	-			ormal Circumstances" pres	ent? Yes ⊠ No □		
Are Vegetation, Soil, or Hydrology natu				ed, explain any answers in			
SUMMARY OF FINDINGS – Attach site map s						es, etc.	
Hydrophytic Vegetation Present? Yes ☐ No ☒		lo 4	ha Camplad	Avan			
Hydric Soil Present? Yes ☐ No ☒			he Sampled hin a Wetlar	nd? Yes ☐ No	n M		
Wetland Hydrology Present? Yes ☐ No ☒					<u> </u>		
Remarks: SP-21 is positioned next to Wetland G and is the	associated	l upland s	ample point f	for SP-20.			
VEGETATION – Use scientific names of plant	ts.						
	Absolute	Dominan	t Indicator	Dominance Test works	heet:		
Tree Stratum (Plot size: $r = 30 \text{ ft}$)	% Cover			Number of Dominant Spe			
1. Acer macrophyllum				That Are OBL, FACW, or	r FAC: 1	(A)	
2				Total Number of Domina			
3				Species Across All Strata	a: <u>3</u>	(B)	
4	75			Percent of Dominant Spe			
Sapling/Shrub Stratum (Plot size: $r = 15 \text{ ft}$)	<u>/3</u>	= Total C	Jovei	That Are OBL, FACW, or	r FAC: <u>33</u>	(A/B)	
1. Rubus armeniacus	<u>45</u>	Yes	FAC	Prevalence Index work	sheet:		
2				Total % Cover of:	Multiply by:		
3			<u> </u>	OBL species	x 1 =	_	
4				FACW species			
5				FAC species			
Herb Stratum (Plot size: <u>r = 5 ft</u>)	<u>45</u>	= Total (Cover	FACU species			
1. Galium aparine	15	Yes	FACU	UPL species			
Pteridium aquilinum				Column Totals:	(A)	(B)	
3				Prevalence Index	= B/A =		
4				Hydrophytic Vegetation	n Indicators:		
5				☐ Rapid Test for Hydro	phytic Vegetation		
6			<u> </u>	Dominance Test is >			
7				Prevalence Index is:			
8				☐ Morphological Adapt data in Remarks	ations1 (Provide suppor or on a separate sheet)		
9				☐ Wetland Non-Vascul	•	,	
10				☐ Problematic Hydroph	nytic Vegetation1 (Expla	iin)	
11				¹ Indicators of hydric soil		must	
Woody Vine Stratum (Plot size: r = 15 ft)	18	= rotar (Jover	be present, unless distur	bed or problematic.		
1. none							
2				Hydrophytic Vegetation			
N.B. O. I. I. O. O. O. O. O	0	= Total (Cover		□ No ⊠		
% Bare Ground in Herb Stratum 60 Remarks:							
INGINAINS.							

Profile Descr							, , , , , , , , , , , , , , , , , , ,
Depth	Matrix	%		Redox Features	-1 12	T	Domonto.
	Color (moist)		Cold	or (moist)	e ¹ Loc ²		<u> </u>
<u>0-5</u>	10YR 2/1	100				Sandy	Loam
<u>5-18</u>	10YR 2/2	100				<u>Sandy</u>	<u>Loam</u>
-							
			_				
				uced Matrix, CS=Covered or C	Coated Sand G		² Location: PL=Pore Lining, M=Matrix.
Hydric Soil Ir	ndicators: (Appli	cable to	all LRR	s, unless otherwise noted.)		Ir	ndicators for Problematic Hydric Soils ³ :
Histosol (A	•			Sandy Redox (S5)			2 cm Muck (A10)
	pedon (A2)			Stripped Matrix (S6)			Red Parent Material (TF2)
☐ Black Hist	, ,			_oamy Mucky Mineral (F1) (exc	cept MLRA 1)		Very Shallow Dark Surface (TF12)
	Sulfide (A4)	- (011)		Loamy Gleyed Matrix (F2)		L	Other (Explain in Remarks)
	Below Dark Surfac k Surface (A12)	e (ATT)		Depleted Matrix (F3) Redox Dark Surface (F6)		3	ndicators of hydrophytic vegetation and
	icky Mineral (S1)		_	Depleted Dark Surface (F7)		Į	wetland hydrology must be present,
-	eyed Matrix (S4)			Redox Depressions (F8)			unless disturbed or problematic.
-	ayer (if present):						
_				-			
Depth (incl	hes):					Hvdr	ric Soil Present? Yes □ No ⊠
Remarks: San	mple point is position	oned on	the side	/edge of fill.			
	, . , ,						
HYDROLOG	GY .						
Wetland Hyd	rology Indicators						
Wetland Hyd	rology Indicators ators (minimum of		uired; che				Secondary Indicators (2 or more required)
Wetland Hydromary Indicators ☐ Surface W	rology Indicators ators (minimum of water (A1)		uired; che	☐ Water-Stained Leaves (BS	e) (except ML	RA	☐ Water-Stained Leaves (B9) (MLRA 1, 2,
Wetland Hydromary Indicated Surface Working High Water	rology Indicators ators (minimum of evater (A1) er Table (A2)		uired; che	Water-Stained Leaves (BS 1, 2, 4A, and 4B)	9) (except ML	RA	☐ Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
Wetland Hydromary Indicators ☐ Surface W	rology Indicators ators (minimum of evater (A1) er Table (A2)		uired; che	☐ Water-Stained Leaves (BS	9) (except ML	RA	☐ Water-Stained Leaves (B9) (MLRA 1, 2,
Wetland Hyding Primary Indicated Surface William High Water Saturation Water Main	rology Indicators ators (minimum of water (A1) er Table (A2) n (A3) rks (B1)		uired; che	☐ Water-Stained Leaves (BS 1, 2, 4A, and 4B) ☐ Salt Crust (B11) ☐ Aquatic Invertebrates (B13)	3)	RA	 Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) □ Drainage Patterns (B10) □ Dry-Season Water Table (C2)
Wetland Hydromatics Primary Indicator Surface World High Water Saturation Water Mar	rology Indicators ators (minimum of water (A1) er Table (A2) n (A3) rks (B1) Deposits (B2)		uired; che	☐ Water-Stained Leaves (BS 1, 2, 4A, and 4B) ☐ Salt Crust (B11) ☐ Aquatic Invertebrates (B13 ☐ Hydrogen Sulfide Odor (C	3) 1)		 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 Hyding Primary Indicated Windows Williams Water Market Ma	rology Indicators ators (minimum of a Vater (A1) er Table (A2) n (A3) rks (B1) Deposits (B2) osits (B3)		uired; che	Water-Stained Leaves (BS 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13 Hydrogen Sulfide Odor (C Oxidized Rhizospheres ald	3) 1) ong Living Ro		 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 Hydi Primary Indica Surface W High Wate Saturation Water Mai Sediment Drift Depo Algal Mat	rology Indicators ators (minimum of exter (A1) er Table (A2) n (A3) rks (B1) Deposits (B2) osits (B3) or Crust (B4)		uired; che	Water-Stained Leaves (BS 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13 Hydrogen Sulfide Odor (C Oxidized Rhizospheres ald Presence of Reduced Iron	3) 1) ong Living Ro ı (C4)	ots (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 Hydi Primary Indica Surface W High Wate Saturation Water Mai Sediment Drift Depo Algal Mat Iron Depo	rology Indicators ators (minimum of a Vater (A1) er Table (A2) n (A3) rks (B1) Deposits (B2) osits (B3) or Crust (B4) ssits (B5)		uired; che	Water-Stained Leaves (BS 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C Oxidized Rhizospheres ald Presence of Reduced Iron Recent Iron Reduction in	3) 1) ong Living Ro n (C4) Tilled Soils (C	ots (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 Hydi Primary Indica Surface W High Wate Saturation Water Mai Sediment Drift Depo Algal Mat Iron Depo Surface S	rology Indicators ators (minimum of a Vater (A1) er Table (A2) er (A3) erks (B1) Deposits (B2) esits (B3) or Crust (B4) esits (B5) eoil Cracks (B6)	one requ		Water-Stained Leaves (BS 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C Oxidized Rhizospheres ald Presence of Reduced Iron Recent Iron Reduction in Stunted or Stressed Plant	3) 1) ong Living Ro n (C4) Tilled Soils (Cas (D1) (LRR A	ots (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 Hydi Primary Indica Surface W High Wate Saturation Water Man Sediment Drift Depo Algal Mat Iron Depo Surface S Inundation	rology Indicators ators (minimum of a Vater (A1) er Table (A2) n (A3) rks (B1) Deposits (B2) posits (B3) or Crust (B4) posits (B5) coil Cracks (B6) n Visible on Aerial	one requ	(B7)	Water-Stained Leaves (BS 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C Oxidized Rhizospheres ald Presence of Reduced Iron Recent Iron Reduction in	3) 1) ong Living Ro n (C4) Tilled Soils (Cas (D1) (LRR A	ots (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 Hydi Primary Indica Surface W High Wate Saturation Water Mai Sediment Drift Depo Algal Mat Iron Depo Surface S Inundation Sparsely W	rology Indicators ators (minimum of exter (A1) er Table (A2) n (A3) rks (B1) Deposits (B2) posits (B3) or Crust (B4) posits (B5) foil Cracks (B6) n Visible on Aerial Vegetated Concave	one requ	(B7)	Water-Stained Leaves (BS 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C Oxidized Rhizospheres ald Presence of Reduced Iron Recent Iron Reduction in Stunted or Stressed Plant	3) 1) ong Living Ro n (C4) Tilled Soils (Cas (D1) (LRR A	ots (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 Hydi Primary Indica Surface W High Water Saturation Water Mai Sediment Drift Depo Algal Mat Iron Depo Surface S Inundation Sparsely W	rology Indicators ators (minimum of exter (A1) er Table (A2) n (A3) rks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) foil Cracks (B6) n Visible on Aerial Vegetated Concaverations:	one requ	(B7) e (B8)	Water-Stained Leaves (BS 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13 Hydrogen Sulfide Odor (C Oxidized Rhizospheres ald Presence of Reduced Iron Recent Iron Reduction in Stunted or Stressed Plant Other (Explain in Remarks	3) 1) ong Living Roo n (C4) Tilled Soils (C6) s (D1) (LRR A6)	ots (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 Hydi Primary Indica Surface W High Water Saturation Water Man Sediment Drift Depo Algal Mat Iron Depo Surface S Inundation Sparsely W Field Observer	rology Indicators ators (minimum of a Vater (A1) er Table (A2) n (A3) rks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) noil Cracks (B6) n Visible on Aerial Vegetated Concave ations: r Present?	one requ	(B7) e (B8) No ⊠	Water-Stained Leaves (BS 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C Oxidized Rhizospheres ald Presence of Reduced Iron Recent Iron Reduction in Stunted or Stressed Plant Other (Explain in Remarks	3) 1) ong Living Roo n (C4) Tilled Soils (Ci s (D1) (LRR A	ots (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 Hydi Primary Indica Surface W High Water Saturation Water Mai Sediment Drift Depo Algal Mat Iron Depo Surface S Inundation Sparsely W	rology Indicators ators (minimum of a Vater (A1) er Table (A2) n (A3) rks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) noil Cracks (B6) n Visible on Aerial Vegetated Concave ations: r Present?	one requ Imagery e Surfac	(B7) e (B8)	Water-Stained Leaves (BS 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13 Hydrogen Sulfide Odor (C Oxidized Rhizospheres ald Presence of Reduced Iron Recent Iron Reduction in Stunted or Stressed Plant Other (Explain in Remarks	3) 1) ong Living Roo n (C4) Tilled Soils (Ci s (D1) (LRR A	ots (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 Hyding Primary Indicated Water Mark Saturation Water Mark Mark Drift Depoment Drift D	rology Indicators ators (minimum of water (A1) er Table (A2) n (A3) rks (B1) Deposits (B2) posits (B3) or Crust (B4) posits (B5) poil Cracks (B6) n Visible on Aerial Vegetated Concave ations: r Present?	Imagery e Surfac	(B7) e (B8) No ⊠	Water-Stained Leaves (BS 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C Oxidized Rhizospheres ald Presence of Reduced Iron Recent Iron Reduction in Stunted or Stressed Plant Other (Explain in Remarks	3) 1) ong Living Roo (C4) Tilled Soils (Cos (D1) (LRR Ass)	ots (C3) 6) \	 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 Hydi Primary Indica Surface W High Water Saturation Water Mai Sediment Drift Depo Algal Mat Iron Depo Surface S Inundation Sparsely W Field Observer Surface Water Water Table F Saturation Pre (includes capi	rology Indicators ators (minimum of a Vater (A1) er Table (A2) n (A3) rks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) soil Cracks (B6) n Visible on Aerial Vegetated Concave ations: r Present?	Imagery e Surfac Yes Yes Yes Yes Yes	(B7) e (B8) No ⊠ No ⊠ No ⊠	Water-Stained Leaves (BS 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C Oxidized Rhizospheres ald Presence of Reduced Iron Recent Iron Reduction in Stunted or Stressed Plant Other (Explain in Remarks Depth (inches): Depth (inches):	3) 1) ong Living Roo n (C4) Tilled Soils (Ci s (D1) (LRR A	ots (C3) 6) A)	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 Hydi Primary Indica Surface W High Water Saturation Water Mai Sediment Drift Depo Algal Mat Iron Depo Surface S Inundation Sparsely W Field Observer Surface Water Water Table F Saturation Pre (includes capi	rology Indicators ators (minimum of a Vater (A1) er Table (A2) n (A3) rks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) soil Cracks (B6) n Visible on Aerial Vegetated Concave ations: r Present?	Imagery e Surfac Yes Yes Yes Yes Yes	(B7) e (B8) No ⊠ No ⊠ No ⊠	Water-Stained Leaves (BS 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C Oxidized Rhizospheres ald Presence of Reduced Iron Recent Iron Reduction in Stunted or Stressed Plant Other (Explain in Remarks) Depth (inches):	3) 1) ong Living Roo n (C4) Tilled Soils (Ci s (D1) (LRR A	ots (C3) 6) A)	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 Hyding Primary Indicated Mydiand Mydia	rology Indicators ators (minimum of orwater (A1) er Table (A2) n (A3) rks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) soil Cracks (B6) n Visible on Aerial Vegetated Concave ations: r Present? Present? esent? esent? elilary fringe) orded Data (stream	Imagery e Surfac Yes Yes Yes n gauge,	(B7) e (B8) No ⊠ No ⊠ No ⊠ no ⊠	Water-Stained Leaves (BS 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C Oxidized Rhizospheres ald Presence of Reduced Iron Recent Iron Reduction in Stunted or Stressed Plant Other (Explain in Remarks Depth (inches): Depth (inches): Depth (inches):	3) 1) ong Living Roo n (C4) Tilled Soils (Ci s (D1) (LRR A	ots (C3) 6) A)	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 Hyding Primary Indicated Mydiand Mydia	rology Indicators ators (minimum of orwater (A1) er Table (A2) n (A3) rks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) soil Cracks (B6) n Visible on Aerial Vegetated Concave ations: r Present? Present? esent? esent? elilary fringe) orded Data (stream	Imagery e Surfac Yes Yes Yes n gauge,	(B7) e (B8) No ⊠ No ⊠ No ⊠ no ⊠	Water-Stained Leaves (BS 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C Oxidized Rhizospheres ald Presence of Reduced Iron Recent Iron Reduction in Stunted or Stressed Plant Other (Explain in Remarks Depth (inches): Depth (inches):	3) 1) ong Living Roo n (C4) Tilled Soils (Ci s (D1) (LRR A	ots (C3) 6) A)	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 Hyding Primary Indicated Mydiand Mydia	rology Indicators ators (minimum of orwater (A1) er Table (A2) n (A3) rks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) soil Cracks (B6) n Visible on Aerial Vegetated Concave ations: r Present? Present? esent? esent? elilary fringe) orded Data (stream	Imagery e Surfac Yes Yes Yes n gauge,	(B7) e (B8) No ⊠ No ⊠ No ⊠ no ⊠	Water-Stained Leaves (BS 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C Oxidized Rhizospheres ald Presence of Reduced Iron Recent Iron Reduction in Stunted or Stressed Plant Other (Explain in Remarks Depth (inches): Depth (inches): Depth (inches):	3) 1) ong Living Roo n (C4) Tilled Soils (Ci s (D1) (LRR A	ots (C3) 6) A)	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: L2ST Segment C	City/County: SeaTac/ King Sampling Date:11/14/20					
Applicant/Owner: WSDOT			State: WA	Sampling Point: SP - 22		
Investigator(s): Josh Wozniak and Trey Parry			_ Section, To	ownship, Range: <u>32, 23 N,</u>	04 E	
Landform (hillslope, terrace, etc.): gentle hillslope		Local re	lief (concave,	convex, none): concave	Slope (%): <u>0-2</u>	
Subregion (LRR): A						
Soil Map Unit Name: NOTCOM				_		
Are climatic / hydrologic conditions on the site typical for this						
Are Vegetation, Soil, or Hydrology sign	•		`	ormal Circumstances" pres	sent? Yes ⊠ No □	
Are Vegetation, Soil, or Hydrology natu				ed, explain any answers in	- -	
SUMMARY OF FINDINGS – Attach site map			`		,	
Hydrophytic Vegetation Present? Yes ⊠ No □						
Hydric Soil Present? Yes ⊠ No □			the Sampled		. . .	
Wetland Hydrology Present? Yes ⊠ No □		WII	thin a Wetlar	nd? Yes ⊠ N	D 🗀	
Remarks: This sample points meets the criterion for hydror to be a wetland. SP-22 is a depressional and palustrine sc	ub shrub we	ation, hyd tland sar	dric soil, and wanted	wetland hydrology; thus, th ositioned within Wetland H	e sample point is determined f.	
VEGETATION – Use scientific names of plant	ts.					
Tree Stratum (Plot size: <u>r</u> = 30 ft)	Absolute % Cover		nt Indicator	Dominance Test works		
1. none				Number of Dominant Sp That Are OBL, FACW, o		
2				, ,		
3				Total Number of Domina Species Across All Strat		
4					、,	
Sapling/Shrub Stratum (Plot size: r = 15 ft)	0	= Total	Cover	Percent of Dominant Sp That Are OBL, FACW, o	ecies or FAC: <u>100%</u> (A/B)	
1. Rubus armeniacus	45	Yes	FAC	Prevalence Index work		
2. Spiraea douglasii	35	Yes	FACW		Multiply by:	
3					x 1 =	
4				· ·	x 2 =	
5					x 3 =	
Herb Stratum (Plot size: <u>r = 5 ft</u>)	80	= Total	Cover		x 4 =	
1. none					x 5 = (A) (B)	
2.				Column rotals.	(A) (B)	
3				Prevalence Index	= B/A =	
4				Hydrophytic Vegetatio	n Indicators:	
5				☐ Rapid Test for Hydro	ophytic Vegetation	
6				□ Dominance Test is >	·50%	
7				Prevalence Index is		
8 9				Morphological Adapt data in Remarks	tations ¹ (Provide supporting or on a separate sheet)	
10				☐ Wetland Non-Vascu	lar Plants ¹	
11.				☐ Problematic Hydroph	hytic Vegetation ¹ (Explain)	
	0			¹ Indicators of hydric soil be present, unless distu	and wetland hydrology must rbed or problematic.	
Woody Vine Stratum (Plot size: $r = 15 \text{ ft}$)				, , , , , , , ,		
1. none			= 	Hydrophytic		
2	0			Vegetation Present? Yes	s⊠ No □	
% Bare Ground in Herb Stratum <u>50</u>	U	= 10tal	Covei	. 1000111: 163		
Remarks:						

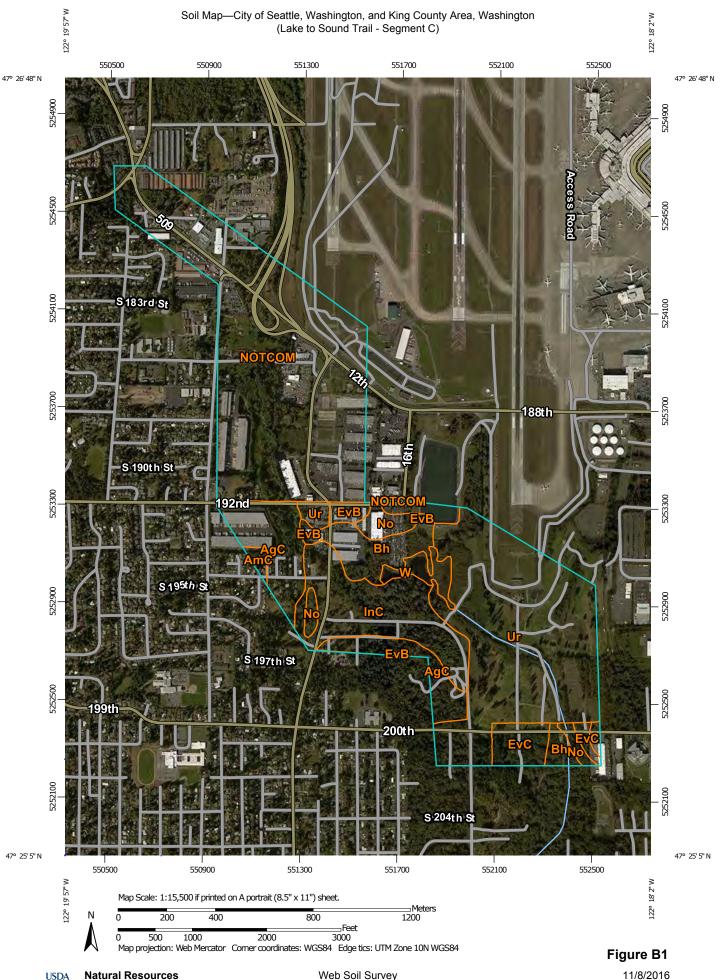
<u>0-9.5</u> <u>1</u>	Color (moist)	%	Color (moist)	dox Featur		1 oc^2	Texture	Remarks
			Color (moist)		Type	LUC		
9.5-16+ 1	0YR 2/1	100					Sandy Loam	
	0YR 2/2	85	10YR 3/4	15	<u>C</u>	<u>M</u>	Sandy Loan	Distinct Contrast
			-					
			-					
							•	
							-	<u> </u>
			M=Reduced Matrix,			ed Sand Gı		ocation: PL=Pore Lining, M=Matrix.
-		cable to a	I LRRs, unless ot		oted.)			ors for Problematic Hydric Soils ³ :
Histosol (A			☐ Sandy Redox					m Muck (A10)
☐ Histic Epipe			Stripped Mati	` ,	- 4) /	(NAI D A 4)		d Parent Material (TF2)
☐ Black Histic	. ,		☐ Loamy Mucky☐ Loamy Gleye			t WLKA 1)		ry Shallow Dark Surface (TF12) ner (Explain in Remarks)
	Selow Dark Surfac	ce (A11)	☐ Depleted Mat		۷)			iei (Expiaiii iii Keiliaiks)
	Surface (A12)	50 (7111)	☐ Redox Dark S	. ,	6)		³ Indica	tors of hydrophytic vegetation and
	ky Mineral (S1)		☐ Depleted Dar					and hydrology must be present,
☐ Sandy Gley	yed Matrix (S4)		☐ Redox Depre	ssions (F8)		unle	ess disturbed or problematic.
Restrictive La	yer (if present):							
,,								
Depth (inche	es):						Hydric So	il Present? Yes ⊠ No 🗌
HYDROLOG	Y							
Wetland Hydro	ology Indicators	5 :						
Primary Indicat	tors (minimum of	one require	ed; check all that ap	ply)			Sec	ondary Indicators (2 or more required)
☐ Surface Wa	ater (A1)		☐ Water-S	tained Lea	ves (B9) (xcept MLF	RA 🗆 \	Water-Stained Leaves (B9) (MLRA 1, 2,
☐ High Water	Table (A2)		1, 2,	4A, and 4	В)	-		4A, and 4B)
	(A3)		☐ Salt Cru	st (B11)				Orainage Patterns (B10)
☐ Water Mark	ks (B1)		☐ Aquatic	Invertebrat	es (B13)			Dry-Season Water Table (C2)
☐ Sediment □	Deposits (B2)		☐ Hydroge	n Sulfide C	Odor (C1)			Saturation Visible on Aerial Imagery (C9)
□ Drift Depos	sits (B3)		☐ Oxidized	l Rhizosph	eres along	Living Roo	ts (C3)	Geomorphic Position (D2)
	or Crust (B4)				ced Iron (C			Shallow Aquitard (D3)
						d Soils (C6	•	FAC-Neutral Test (D5)
☐ Iron Depos	il Cracks (B6)		☐ Stunted	or Stresse	•	1) (LRR A)) F	Raised Ant Mounds (D6) (LRR A)
☐ Iron Depos ☐ Surface So								
☐ Iron Depos ☐ Surface So ☐ Inundation	Visible on Aerial			xplain in R	temarks)		☐ F	Frost-Heave Hummocks (D7)
☐ Iron Depos ☐ Surface So ☐ Inundation ☐ Sparsely Volume	egetated Concav			xplain in R	temarks)		_ I	Frost-Heave Hummocks (D7)
☐ Iron Depos ☐ Surface So ☐ Inundation ☐ Sparsely Vol Field Observa	egetated Concav	re Surface	(B8)				- I	Frost-Heave Hummocks (D7)
☐ Iron Depos ☐ Surface So ☐ Inundation ☐ Sparsely Volation ☐ Surface Water	egetated Concav tions: Present?	re Surface	(B8)	nes):			1	Frost-Heave Hummocks (D7)
☐ Iron Depos ☐ Surface So ☐ Inundation ☐ Sparsely Volation ☐ Surface Water ☐ Water Table Pr	egetated Concav tions: Present? resent?	re Surface Yes	(B8) lo Depth (inch	nes):				
☐ Iron Depos ☐ Surface So ☐ Inundation ☐ Sparsely Vo Field Observa Surface Water Water Table Pr Saturation Pres	egetated Concav tions: Present? resent? sent?	re Surface Yes	(B8)	nes):		Wetl		gy Present? Yes ⊠ No □
☐ Iron Depos ☐ Surface So ☐ Inundation ☐ Sparsely Vorield Observa Surface Water Water Table Pr Saturation Pres (includes capillate)	egetated Concav tions: Present? resent? sent? ary fringe)	Yes	(B8) lo Depth (inch	nes): nes): nes): <u>11"</u>			and Hydrolo	
☐ Iron Depos ☐ Surface So ☐ Inundation ☐ Sparsely Vo Field Observa Surface Water Water Table Pr Saturation Pres (includes capill: Describe Reco	egetated Concav tions: Present? resent? sent? ary fringe) rded Data (strear	Yes ☐ N Yes ☐ N Yes ☐ N Yes ⊠ N	(B8) lo Depth (inch lo Depth (inch lo Depth (inch nonitoring well, aeri	nes): nes): nes): 11" al photos,			and Hydrolo	
☐ Iron Depos ☐ Surface So ☐ Inundation ☐ Sparsely Vo Field Observa Surface Water Water Table Pr Saturation Pres (includes capill: Describe Reco	egetated Concav tions: Present? resent? sent? ary fringe) rded Data (strear	Yes ☐ N Yes ☐ N Yes ☐ N Yes ⊠ N	(B8) lo Depth (inchilo Depth (inchi	nes): nes): nes): 11" al photos,			and Hydrolo	

Project/Site: L2ST Segment C	City/County: <u>SeaTac/ King</u> Sampling Date: <u>11/14/201</u>						
Applicant/Owner: WSDOT				State: WA Sampling Point: SP - 23			
Investigator(s): Josh Wozniak and Trey Parry			Section, To	ownship, Range: <u>32, 23 N,</u>	04 E		
Landform (hillslope, terrace, etc.): gentle hillslope		Local relie	ef (concave,	convex, none): none	Slope (%): <u>0-1</u>		
		: Long: Datum:					
Soil Map Unit Name: NOTCOM				-			
Are climatic / hydrologic conditions on the site typical for this							
Are Vegetation, Soil, or Hydrology sign	-			ormal Circumstances" pres	ent? Yes⊠ No□		
Are Vegetation, Soil, or Hydrology natu				ed, explain any answers in			
SUMMARY OF FINDINGS – Attach site map s			•	•	,		
Livedranks tip Variation Present			<u></u>	<u> </u>			
Hydrophytic Vegetation Present? Yes ☐ No ☐ Hydric Soil Present? Yes ☐ No ☐ N			e Sampled				
Wetland Hydrology Present? Yes ☐ No ☒		with	in a Wetlar	nd? Yes ☐ No	○		
Remarks: SP-23 is the associated upland for SP-22 and W	etland H.						
·							
VEGETATION – Use scientific names of plant	s.						
Tree Stratum (Plot size: <u>r</u> = 30 ft)	Absolute % Cover			Dominance Test works			
1. Betula pendula				Number of Dominant Sp That Are OBL, FACW, o			
2							
3				Total Number of Domina Species Across All Strats			
4					` ` '		
Sapling/Shrub Stratum (Plot size: r = 15 ft)		= Total C		Percent of Dominant Spe That Are OBL, FACW, o	r FAC: 33% (A/B)		
1. Rubus armeniacus	<u>45</u>	Yes	FAC	Prevalence Index work	sheet:		
2. Betula pendula	30	Yes	FACU	Total % Cover of:	Multiply by:		
3. Berberis aquifolium	5	No	FACU	OBL species	x 1 =		
4				· ·	x 2 =		
5					x 3 =		
Herb Stratum (Plot size: <u>r = 5 ft</u>)	80	= Total C	over		x 4 =		
1. none					x 5 = (A) (B)		
2				Column Totals:	(A) (D)		
3.				Prevalence Index	= B/A =		
4				Hydrophytic Vegetation	n Indicators:		
5				☐ Rapid Test for Hydro	phytic Vegetation		
6				Dominance Test is >			
7				☐ Prevalence Index is			
8					ations ¹ (Provide supporting or on a separate sheet)		
9				☐ Wetland Non-Vascul			
10				☐ Problematic Hydroph	nytic Vegetation¹ (Explain)		
11		= Total C			and wetland hydrology must		
Woody Vine Stratum (Plot size: $r = 15 \text{ ft}$)	<u>U</u>	= Total C	ovei	be present, unless distur	bed or problematic.		
1. none							
2				Hydrophytic Vegetation			
	0	= Total C	over		□ No ⊠		
% Bare Ground in Herb Stratum <u>75</u> Remarks:					_		
Remarks.							

Depth	Matrix			Red	lox Feature	<u>s</u>				·	
(inches)	Color (moist)	%	Colo	r (moist)	%	Type ¹	Loc ²				_
<u>0-5</u>	10YR 2/2	100						Sandy L	oam		
<u>5-18+</u>	10YR 3/6	100						Sandy L	oam		
											_
¹Type: C=Ce	oncentration, D=D	epletion, R	M=Redu	uced Matrix, (CS=Covere	d or Coate	d Sand Gr	rains.	² Location:	PL=Pore Lin	ing, M=Matrix.
	Indicators: (Appl										Hydric Soils ³ :
☐ Histosol	(A1)			Sandy Redox	(S5)				2 cm Muck	(A10)	
	ipedon (A2)			Stripped Matri	. ,					Material (TF	•
☐ Black His				oamy Mucky	,		MLRA 1)		•	w Dark Surfa	` '
	n Sulfide (A4)	(0.4.4)		oamy Gleyed)		Ц	Other (Expl	ain in Remar	ks)
	Below Dark Surfark Surface (A12)	ice (A11)		Depleted Matr Redox Dark S				3Inc	licators of h	ydrophytic ve	aetation and
	ucky Mineral (S1)			edox bark o		7)				rology must b	-
-	leyed Matrix (S4)			Redox Depres		.,				rbed or probl	
	_ayer (if present)			· · · · · ·	. ,						
Type:											
Depth (in	ches):							Hydric	Soil Prese	nt? Yes ☐	No ⊠
Remarks:											
HYDROLO	GY										
Wetland Hy	drology Indicator	s:									
Primary India	cators (minimum o	f one requi	red; che	ck all that ap	ply)				Secondary I	ndicators (2 c	r more required)
☐ Surface \	Water (A1)			☐ Water-Sta	ained Leave	es (B9) (e :	cept MLR	RA [☐ Water-St	ained Leaves	s (B9) (MLRA 1, 2,
☐ High Wa	ter Table (A2)			1, 2,	4A, and 4B)			4A, a	ınd 4B)	
☐ Saturation	` '			☐ Salt Crus	` ,				_	Patterns (B	•
☐ Water Mater Mat				Aquatic II				_		son Water Ta	
	t Deposits (B2)			☐ Hydroger		, ,					Aerial Imagery (C9)
	osits (B3)				Rhizosphe	_	_	ts (C3)		hic Position	
	t or Crust (B4)				of Reduce	,	•	. L		Aquitard (D3)	
	osits (B5)				on Reduction		•	,		utral Test (D5	
	Soil Cracks (B6)		(D.Z.)		or Stressed		1) (LRR A)) <u>[</u>		int Mounds (I	, , ,
	on Visible on Aeria	• .	. ,	U Other (E)	plain in Re	marks)		L	_ Frost-He	ave Hummod	KS (D7)
Field Obser	Vegetated Conca	ve Suriace	; (D0)								
Surface Wat		V00 🎞	No 🏻	Donth (inch	20):						
				Depth (inch							
Water Table			No ⊠	Depth (inch			NA7-41		. I B		J. N. 57
Saturation P (includes car		Yes 🗌	No 🛚	Depth (inch	es):		Weti	and Hydr	ology Pres	ent? Yes L	」 No ⊠
	corded Data (strea	ım gauge,	monitori	ng well, aeria	l photos, pr	evious ins	pections),	if availabl	e:		
Down and a											
Remarks:											
İ											

Appendix B

Review of Existing Information on Wetlands and Streams



MAP LEGEND

Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Map Unit Polygons



Soil Map Unit Lines



Soil Map Unit Points

Special Point Features





Borrow Pit Clay Spot



Closed Depression



Gravel Pit



Gravelly Spot



Landfill Lava Flow



Marsh or swamp



Mine or Quarry



Perennial Water

Miscellaneous Water



Rock Outcrop



Saline Spot



Sandy Spot



Severely Eroded Spot



Sinkhole



Slide or Slip



Sodic Spot

Spoil Area



Stony Spot



Very Stony Spot



Wet Spot Other



Special Line Features

Water Features

Streams and Canals

Transportation



Rails Interstate Highways



US Routes



Major Roads



Local Roads

Background



Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at scales ranging from 1:24,000 to 1:124,000.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service Web Soil Survey URL: http://websoilsurvey.nrcs.usda.gov Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: City of Seattle, Washington Survey Area Data: Version 2, Dec 5, 2013

Soil Survey Area: King County Area, Washington Survey Area Data: Version 11, Sep 14, 2015

Your area of interest (AOI) includes more than one soil survey area. These survey areas may have been mapped at different scales, with a different land use in mind, at different times, or at different levels of detail. This may result in map unit symbols, soil properties, and interpretations that do not completely agree across soil survey area boundaries.

Soil map units are labeled (as space allows) for map scales 1:50.000 or larger.

Date(s) aerial images were photographed: Aug 31, 2013—Oct 6, 2013

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

City of Seattle, Washington (WA775)			
Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
NOTCOM	No Digital Data Available	170.0	39.0%
Subtotals for Soil Survey Area		170.0	39.0%
Totals for Area of Interest		435.6	100.0%

King County Area, Washington (WA633)			
Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
AgC	Alderwood gravelly sandy loam, 8 to 15 percent slopes	38.4	8.8%
AmC	Arents, Alderwood material, 6 to 15 percent slopes	1.9	0.4%
Bh	Bellingham silt loam	21.5	4.9%
EvB	Everett very gravelly sandy loam, 0 to 8 percent slopes	9.1	2.1%
EvC	Everett very gravelly sandy loam, 8 to 15 percent slopes	12.0	2.8%
InC	Indianola loamy sand, 5 to 15 percent slopes	44.8	10.3%
No	Norma sandy loam	10.1	2.3%
Ur	Urban land	121.3	27.8%
W	Water	6.6	1.5%
Subtotals for Soil Survey Area		265.6	61.0%
Totals for Area of Interest		435.6	100.0%

MAP LEGEND MAP INFORMATION The soil surveys that comprise your AOI were mapped at scales Area of Interest (AOI) Transportation ranging from 1:24,000 to 1:124,000. Area of Interest (AOI) Rails Please rely on the bar scale on each map sheet for map Soils Interstate Highways measurements. Soil Rating Polygons **US Routes** Hydric (100%) Source of Map: Natural Resources Conservation Service Major Roads Web Soil Survey URL: http://websoilsurvey.nrcs.usda.gov Hydric (66 to 99%) Coordinate System: Web Mercator (EPSG:3857) Local Roads \sim Hydric (33 to 65%) Maps from the Web Soil Survey are based on the Web Mercator Background Hydric (1 to 32%) projection, which preserves direction and shape but distorts Aerial Photography distance and area. A projection that preserves area, such as the Not Hydric (0%) Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required. Not rated or not available Soil Rating Lines This product is generated from the USDA-NRCS certified data as of the version date(s) listed below. Hydric (100%) Soil Survey Area: City of Seattle, Washington Hydric (66 to 99%) Survey Area Data: Version 2, Dec 5, 2013 Hydric (33 to 65%) Soil Survey Area: King County Area, Washington Hydric (1 to 32%) Survey Area Data: Version 11, Sep 14, 2015 Not Hydric (0%) Your area of interest (AOI) includes more than one soil survey area. These survey areas may have been mapped at different scales, with Not rated or not available a different land use in mind, at different times, or at different levels **Soil Rating Points** of detail. This may result in map unit symbols, soil properties, and Hydric (100%) interpretations that do not completely agree across soil survey area boundaries. Hydric (66 to 99%) Soil map units are labeled (as space allows) for map scales 1:50.000 Hydric (33 to 65%) or larger. Hydric (1 to 32%) Date(s) aerial images were photographed: Aug 31, 2013—Oct 6, Not Hydric (0%) 2013 Not rated or not available The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background **Water Features** imagery displayed on these maps. As a result, some minor shifting Streams and Canals of map unit boundaries may be evident.

Hydric Rating by Map Unit

Hydric Rating by Map Unit— Summary by Map Unit — City of Seattle, Washington (WA775)				
Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
NOTCOM	No Digital Data Available	0	170.0	39.0%
Subtotals for Soil Survey Area		170.0	39.0%	
Totals for Area of Intere	st		435.6	100.0%

Hydric Rating by Map Unit— Summary by Map Unit — King County Area, Washington (WA633)				
Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
AgC	Alderwood gravelly sandy loam, 8 to 15 percent slopes	5	38.4	8.8%
AmC	Arents, Alderwood material, 6 to 15 percent slopes	0	1.9	0.4%
Bh	Bellingham silt loam	90	21.5	4.9%
EvB	Everett very gravelly sandy loam, 0 to 8 percent slopes	0	9.1	2.1%
EvC	Everett very gravelly sandy loam, 8 to 15 percent slopes	0	12.0	2.8%
InC	Indianola loamy sand, 5 to 15 percent slopes	2	44.8	10.3%
No	Norma sandy loam	96	10.1	2.3%
Ur	Urban land	0	121.3	27.8%
W	Water	0	6.6	1.5%
Subtotals for Soil Surv	vey Area		265.6	61.0%
Totals for Area of Inte	rest		435.6	100.0%

Description

This rating indicates the percentage of map units that meets the criteria for hydric soils. Map units are composed of one or more map unit components or soil types, each of which is rated as hydric soil or not hydric. Map units that are made up dominantly of hydric soils may have small areas of minor nonhydric components in the higher positions on the landform, and map units that are made up dominantly of nonhydric soils may have small areas of minor hydric components in the lower positions on the landform. Each map unit is rated based on its respective components and the percentage of each component within the map unit.

The thematic map is color coded based on the composition of hydric components. The five color classes are separated as 100 percent hydric components, 66 to 99 percent hydric components, 33 to 65 percent hydric components, 1 to 32 percent hydric components, and less than one percent hydric components.

In Web Soil Survey, the Summary by Map Unit table that is displayed below the map pane contains a column named 'Rating'. In this column the percentage of each map unit that is classified as hydric is displayed.

Hydric soils are defined by the National Technical Committee for Hydric Soils (NTCHS) as soils that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part (Federal Register, 1994). Under natural conditions, these soils are either saturated or inundated long enough during the growing season to support the growth and reproduction of hydrophytic vegetation.

The NTCHS definition identifies general soil properties that are associated with wetness. In order to determine whether a specific soil is a hydric soil or nonhydric soil, however, more specific information, such as information about the depth and duration of the water table, is needed. Thus, criteria that identify those estimated soil properties unique to hydric soils have been established (Federal Register, 2002). These criteria are used to identify map unit components that normally are associated with wetlands. The criteria used are selected estimated soil properties that are described in "Soil Taxonomy" (Soil Survey Staff, 1999) and "Keys to Soil Taxonomy" (Soil Survey Staff, 2006) and in the "Soil Survey Manual" (Soil Survey Division Staff, 1993).

If soils are wet enough for a long enough period of time to be considered hydric, they should exhibit certain properties that can be easily observed in the field. These visible properties are indicators of hydric soils. The indicators used to make onsite determinations of hydric soils are specified in "Field Indicators of Hydric Soils in the United States" (Hurt and Vasilas, 2006).

References:

Federal Register. July 13, 1994. Changes in hydric soils of the United States.

Federal Register. September 18, 2002. Hydric soils of the United States.

Hurt, G.W., and L.M. Vasilas, editors. Version 6.0, 2006. Field indicators of hydric soils in the United States.

Soil Survey Division Staff. 1993. Soil survey manual. Soil Conservation Service. U.S. Department of Agriculture Handbook 18.

Soil Survey Staff. 1999. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. 2nd edition. Natural Resources Conservation Service. U.S. Department of Agriculture Handbook 436.

Soil Survey Staff. 2006. Keys to soil taxonomy. 10th edition. U.S. Department of Agriculture, Natural Resources Conservation Service.

Rating Options

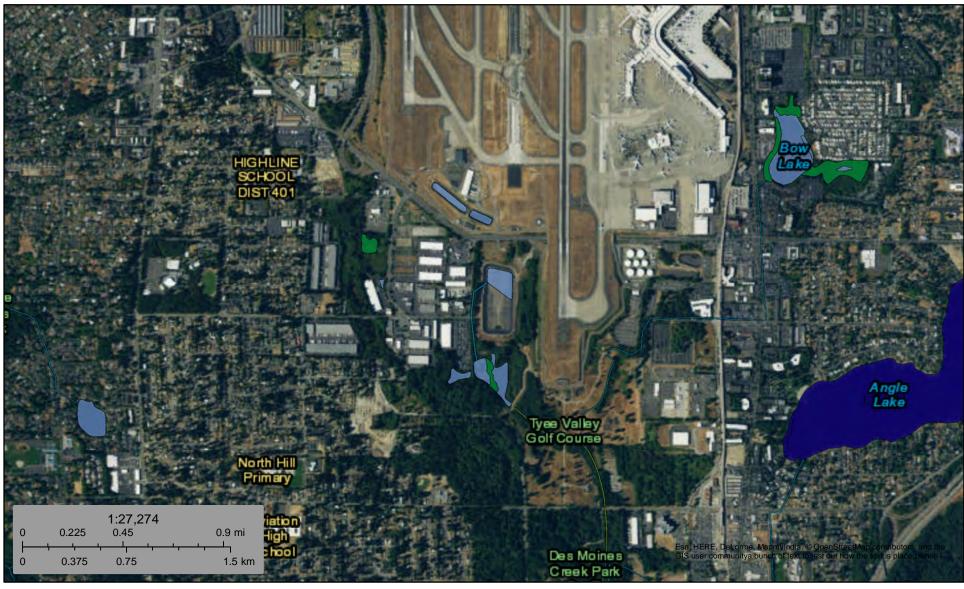
Aggregation Method: Percent Present

Component Percent Cutoff: None Specified

Tie-break Rule: Lower

U.S. Fish and Wildlife Service National Wetlands Inventory

Wetlands



August 9, 2016

Estuarine and Marine Deepwater

Estuarine and Marine Wetland

Freshwater Emergent Wetland

Freshwater Forested/Shrub Wetland

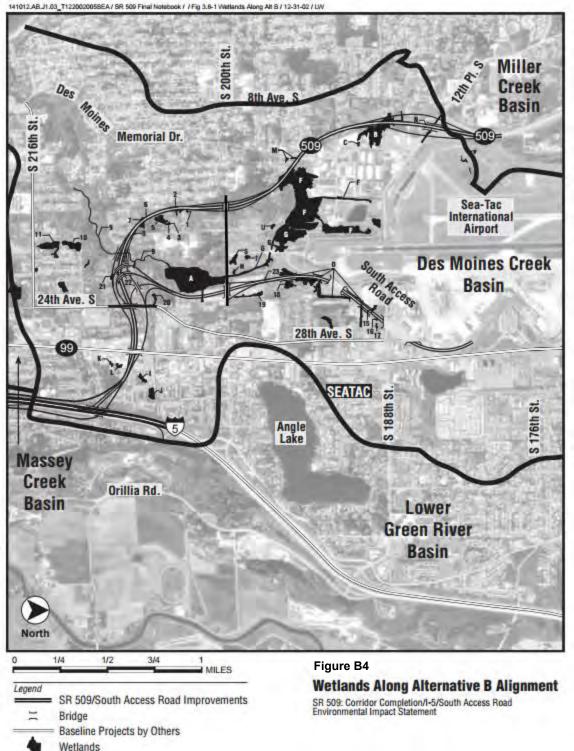
Lake

Freshwater Pond

Riverine

Other

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.



Basin Boundary

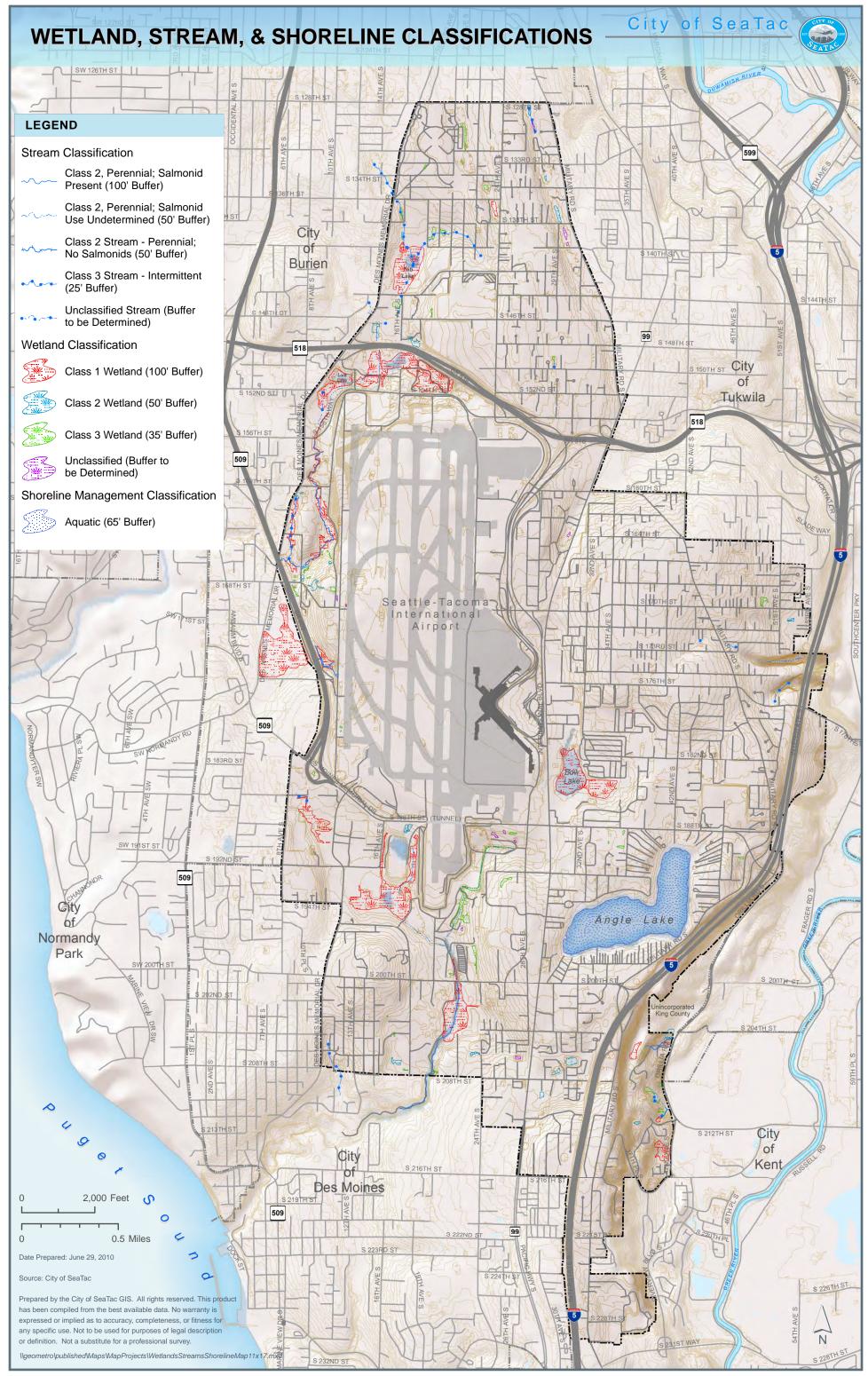


Figure B5

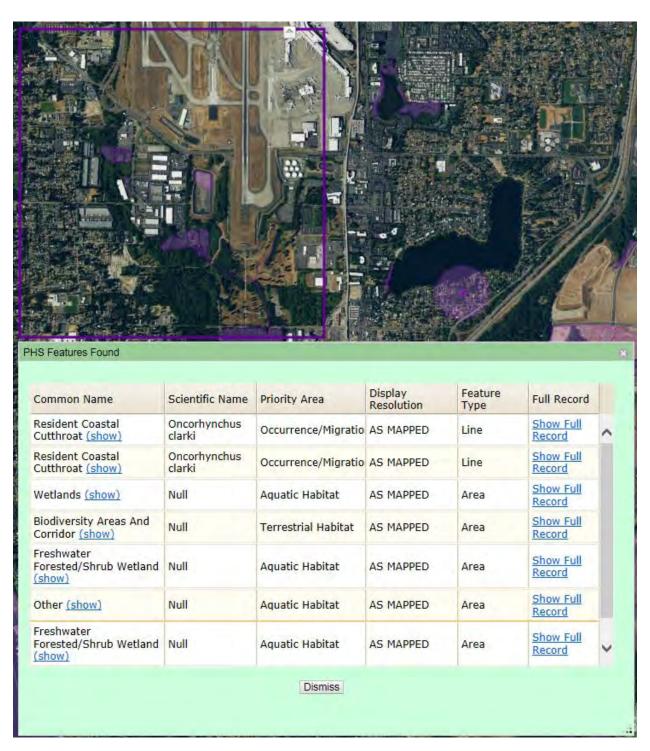
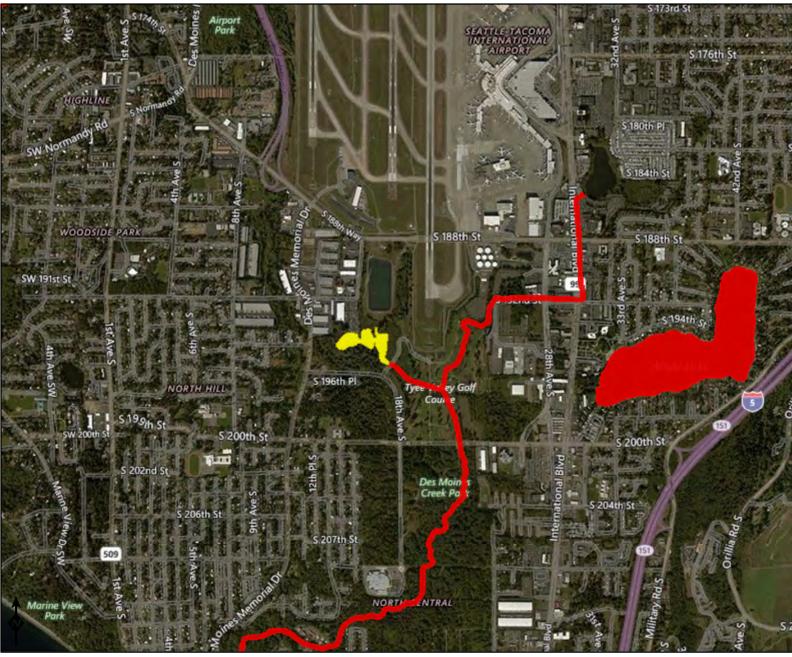


Figure B6

Water Quality Atlas Map



Assessed Waters/Sediment

Water

- Category 5 303d
- Category 4C
- Category 4B
- Category 4A
- Category 2
- Category 1

Sediment

- Category 5 303d
- Category 4C
- ZZZ Category 4B
- ZZZ Category 4A
- Category 2
- ZZZ Category 1



TOWNSHIP 22 NORTH HALF 0, RANGE 04 EAST (W.M.) HALF 0, SECTION 4 Application #: _ 32 33 400 +1717902 1716984 17 6982 5 No 1776966 1716962 3) 1716946

1716944

Please use the legend from the FPA Instruction or provide a list of symbols used.

200.

Date: 8/9/2016

Time: 11:23:20 AM

NAD 83 Contour Interval: 40 Feet

TOWNSHIP 22 NORTH HALF 0, RANGE 04 EAST (W.M.) HALF 0, SECTION 5

Please use the legend from the FPA Instruction or provide a list of symbols used.

Date: 8/9/2016

Time: 11:04:44 AM

1,000

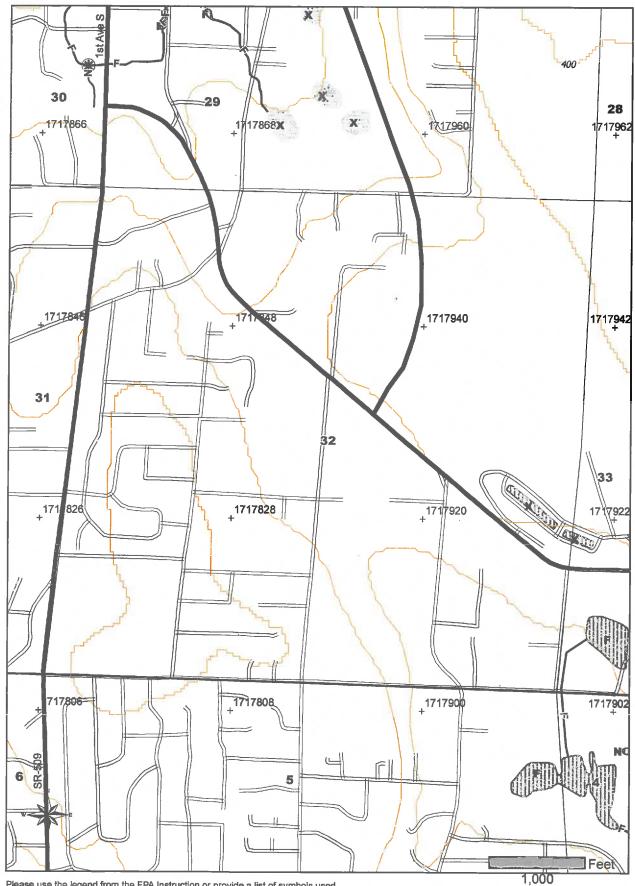
Feet

NAD 83

Contour Interval: 40 Feet

TOWNSHIP 23 NORTH HALF 0, RANGE 04 EAST (W.M.) HALF 0, SECTION 32

Application #: _



Please use the legend from the FPA Instruction or provide a list of symbols used.

Date: 8/9/2016

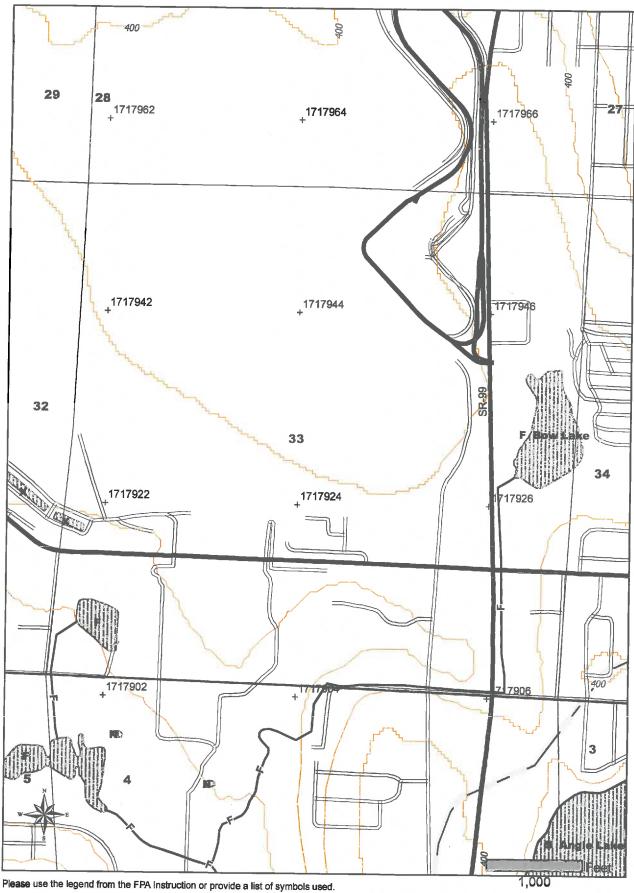
Time: 11:03:17 AM

NAD 83

Contour Interval: 40 Feet

TOWNSHIP 23 NORTH HALF 0, RANGE 04 EAST (W.M.) HALF 0, SECTION 33

Application #: _



Date: 8/9/2016

Time: 11:03:27 AM

NAD 83

Contour Interval: 40 Feet

Appendix C

Representative Photographs of the Project



Photograph 1: Wetland A facing south from northern PFO/PSS end of the wetland.



Photograph 2: Wetland A facing north from the center of the wetland, near the storm water ponds.



Photograph 3: Wetland A facing west from the southern PEM end of the wetland.



Photograph 4: West Branch of Des Moines Creek flowing from the north to south through Wetland A as pictured of November 9, 2016.



Photograph 5: Wetland B facing southwest from the intersection of Des Moines Memorial Drive and South Normandy Road.



Photograph 6: Wetland C facing north from the southern edge of the wetland.



Photograph 7: Wetland D facing southwest from the northeast corner of the wetland.



Photograph 8: Wetland E facing east from the center of the wetland.



Photograph 9: Wetland E facing west from the center of the wetland.



Photograph 10: Wetland F facing southwest from 18th Avenue South.



Photograph 11: Wetland G facing north from the western boundary of the wetland.



Photograph 12: Wetland H facing north from the center of the wetland.

Appendix D

Wetland Rating Forms

RATING SUMMARY – Western Was	hington
Name of wetland (or ID #): Welland	Date of site visit: 9/12/2016
Rated by OSh WORMAN Trained by Ecology? Tyes No	Date of training $9/2015$
HGM Class used for rating Deflesional Wetland has multiple	e HGM classes? Yes □ No
NOTE: Form is not complete with out the figures requested (figures can a Source of base aerial photo/map	be combined).
OVERALL WETLAND CATEGORY (based on functions for special	characteristics)
1. Category of wetland based on FUNCTIONS	
	Score for each
	unction based
	on three
Category IV - Total score = 9 - 15	atings

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
List appropriate rating (H, M, L)				1
Site Potential	M	/N		
Landscape Potential	M	Н	M	1
Value	M	H	'U	Total
Score Based on Ratings	6	8	8	22 0

Score for each function based on three ratings (order of ratings is not important)

9 = H, H, H
8 = H, H, M
7 = H, H, L
7 = H, M, M
6 = H, M, L
6 = M, M, M
5 = H, L, L
5 = M, M, L
4 = M, L, L
3 = L, L, L

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	Category
Estuarine	
Wetland of High Conservation Value	
Bog	
Mature Forest	
Old Growth Forest	
Coastal Lagoon	
Interdunal	
None of the above	X

Maps and Figures required to answer questions correctly for Western Washington

Depressional Wetlands

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

Riverine Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	H 1.1, H 1.4	
Hydroperiods	H 1.2	
Ponded depressions	R 1.1	
Boundary of area within 150 ft of the wetland (can be added to another figure)	R 2.4	
Plant cover of trees, shrubs, and herbaceous plants	R 1.2, R 4.2	
Width of unit vs. width of stream (can be added to another figure)	R 4.1	
Map of the contributing basin	R 2.2, R 2.3, R 5.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	R 3.1	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	R 3.2, R 3.3	

Lake Fringe Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	L 1.1, L 4.1, H 1.1, H 1.4	
Plant cover of trees, shrubs, and herbaceous plants	L 1.2	
Boundary of area within 150 ft of the wetland (can be added to another figure)	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	L 3.1, L 3.2	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	L 3.3	

Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	H 1.1, H 1.4	
Hydroperiods	H 1.2	
Plant cover of dense trees, shrubs, and herbaceous plants	S 1.3	
Plant cover of dense, rigid trees, shrubs, and herbaceous plants	S 4.1	
(can be added to another figure)		
Boundary of area within 150 ft of the wetland (can be added to another figure)	S 2.1, S 5.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	S 3.3	

HGM Classification of Wetland in Western Washington

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

1. Are t	he water levels in the entire unit us	ually controlled by tides except during floods?			
Þ	NO - go to 2	☐ YES - the wetland class is Tidal Fringe - go to 1.1			
1.1	Is the salinity of the water during	periods of annual low flow below 0.5 ppt (parts per thousand)?			
	NO - Saltwater Tidal Fringe (Es If your wetland can be classified a If it is Saltwater Tidal Fringe it is a used to score functions for estuar	as a Freshwater Tidal Fringe use the forms for Riverine wetlands. In Estuarine wetland and is not scored. This method cannot be			
2. The e Groundy	ntire wetland unit is flat and precipit vater and surface water runoff are I	tation is the only source (>90%) of water to it. NOT sources of water to the unit.			
×	NO - go to 3 If your wetland can be classified a	☐ YES - The wetland class is Flats as a Flats wetland, use the form for Depressional wetlands.			
	3. Does the entire wetland unit meet all of the following criteria? The vegetated part of the wetland is on the shores of a body of permanent open water (without any plants on the surface at any time of the year) at least 20 ac (8 ha) in size; At least 30% of the open water area is deeper than 6.6 ft (2 m).				
Þ	(NO - go to 4	☐ YES - The wetland class is Lake Fringe (Lacustrine Fringe)			
	the entire wetland unit meet all of the wetland is on a slope (slope of the water flows through the wetland it may flow subsurface, as sheetfle the water leaves the wetland with	can be very gradual), and in one direction (unidirectional) and usually comes from seeps. bw, or in a swale without distinct banks.			
	NO - go to 5	☐ YES - The wetland class is Slope			
NOTE: S depression	urface water does not pond in thes ons or behind hummocks (depressi	e type of wetlands except occasionally in very small and shallow ions are usually <3 ft diameter and less than 1 ft deep).			
	he entire wetland unit meet all of the The unit is in a valley, or stream clarom that stream or river, The overbank flooding occurs at least	nannel, where it gets inundated by overbank flooding			
	.NO - go to 6				
•	INO - go to 6	☐ YES - The wetland class is Riverine			

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

6. Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, a some time during the year? This means that any outlet, if present, is higher than the interior of the wetland.			
□ NO - go to 7	YES - The wetland class is Depressional		
7. Is the entire wetland unit located in a very flat area with no obvious depression and no overbank flooding? The unit does not pond surface water more than a few inches. The unit seems to be maintained by high groundwater in the area. The wetland may be ditched, but has no obvious natural outlet.			
□ NO - go to 8	☐ YES - The wetland class is Depressional		
8 Your wetland unit seems to be difficult t	to classify and probably contains several different HGM classes. For		

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

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

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

Slephel+Reviewed
Represent

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

NOTES and FIELD OBSERVATIONS:

DEPRESSIONAL AND FLATS WETL	ANDS	
Water Quality Functions - Indicators that the site functions to in	nprove water quality	
D 1.0. Does the site have the potential to improve water quality?	U PHEN TOWN	Marie Control
D 1.1. Characteristics of surface water outflows from the wetland:		
Wetland is a depression or flat depression (QUESTION 7 on key)		
with no surface water leaving it (no outlet).	points = 3	
₩ Wetland has an intermittently flowing stream or ditch, OR highly	1	
constricted permanently flowing outlet.	points = 2	7
☐ Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing	:	_
☐ Wetland is a flat depression (QUESTION 7 on key), whose outlet is	points = 1	
a permanently flowing ditch.	points = 1	
D 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic		
(use NRCS definitions).	Yes = 4 (No = 0)	\bigcirc
D 1.3. Characteristics and distribution of persistent plants (Emergent, Scrub-sh	rub, and/or	
Forested Cowardin classes):	,	
Wetland has persistent, ungrazed, plants > 95% of area	points = 5	> _
Wetland has persistent, ungrazed, plants > 1/2 of area	points = 3	5
Wetland has persistent, ungrazed plants > 1/10 of area	points = 1	
Wetland has persistent, ungrazed plants < 1/10 of area	points = 0	
D 1.4. Characteristics of seasonal ponding or inundation:		
This is the area that is ponded for at least 2 months. See description	in manual.	
Area seasonally ponded is > 1/2 total area of wetland	points = 4	7
Area seasonally ponded is > 1/4 total area of wetland	points = 2	> _
Area seasonally ponded is < 1/4 total area of wetland	points = 0	
Total for D 1 Add the points	in the boxes above	0,9
Rating of Site Potential If score is: 12-16 = H	Record the rating on t	he first page
D 2 0. Does the landscape have the potential to support the water quality funct	ion of the pite?	
D 2.1. Does the wetland unit receive stormwater discharges?		
D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that	Yes = 1 No = 0	
generate pollutants?	Voc 1) No 0	1
D 2.3. Are there septic systems within 250 ft of the wetland?	Yes = 1 No = 0	
D 2.4. Are there other sources of pollutants coming into the wetland that are	Yes = 1 No = 0	
not listed in questions D 2.1 - D 2.3?		0
Source	Yes = 1 No = 0)	. 0
Total for D 2 Add the points	in the boxes above	`0.7_
	Record the rating on t	
D 2.0 Is the water quality improvement are aded by the city value laborates		
D 3.0. Is the water quality improvement provided by the site valuable to society	Andread A Physical Co.	
D 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list?	V 4 (1)	
D 3.2. Is the wetland in a basin or sub-basin where an aquatic resource is on the	Yes = 1 (No = 0)	
D 0.2. Is the welland in a pasit of sub-basin where an aquatic resource is on the	Yes = 1) No = 0	1
D 3.3. Has the site been identified in a watershed or local plan as important	169 = 1) 110 = 0	
for maintaining water quality (answer YES if there is a TMDL for the basin in		
which the unit is found)?	Yes = 2 No = 0	
	in the boxes above	20
Rating of Value If score is: 2-4=H X1=M 0=L	Record the rating on the	he first nage

DEPRESSIONAL AND FLATS WETLANDS	
Hydrologic Functions - Indicators that the site functions to reduce flooding and stream degrada	ation
D 4.0. Does the site have the potential to reduce flooding and erosion?	
D 4.1. Characteristics of surface water outflows from the wetland:	
Wetland is a depression or flat depression with no surface water	
leaving it (no outlet) points = 4	
Wetland has an intermittently flowing stream or ditch, OR highly	
constricted permanently flowing outlet Westless the depression (OUESTION Z on key) whose outlet is	
Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch points = 1	4
a permanently flowing ditch Wetland has an unconstricted, or slightly constricted, surface outlet	·
that is permanently flowing points = 0	
D 4.2. Depth of storage during wet periods: Estimate the height of ponding above the bottom of	
the outlet. For wetlands with no outlet, measure from the surface of permanent water or if dry, the	
deepest part.	
Marks of ponding are 3 ft or more above the surface or bottom of outlet points = 7	
Marks of ponding between 2 ft to < 3 ft from surface or bottom of outlet points = 5	
Marks are at least 0.5 ft to < 2 ft from surface or bottom of outlet	フ
☐ The wetland is a "headwater" wetland points = 3	
Wetland is flat but has small depressions on the surface that trap water points = 1	
Marks of ponding less than 0.5 ft (6 in) points = 0	
D 4.3. Contribution of the wetland to storage in the watershed: Estimate the ratio of the area of	
upstream basin contributing surface water to the wetland to the area of the wetland unit itself.	_
☐ The area of the basin is less than 10 times the area of the unit The area of the basin is 10 to 100 times the area of the unit points = 5 points = 5	5
The area of the basin is 10 to 100 times the area of the unit The area of the basin is more than 100 times the area of the unit points = 3 points = 0	
☐ Entire wetland is in the Flats class points = 5 Total for D 4 Add the points in the boxes above	10
Rating of Site Potential If score is: 12 - 16 = H 26 - 11 = M 0 - 5 = L Record the rating on the	
The state of the s	a mst page
D 5.0 Does the landscape have the potential to support hydrologic function of the site?	Inst page
D 5.0 Does the landscape have the potential to support hydrologic function of the site? D 5.1 Does the wetland unit receive stormwater discharges?	1
D 5.0 Does the landscape have the potential to support hydrologic function of the site?	1 1
D 5.0 Does the landscape have the potential to support hydrologic function of the site? D 5.1. Does the wetland unit receive stormwater discharges? D 5.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate excess runoff? (es = 1) No = 0	1 1
D 5.0 Does the landscape have the potential to support hydrologic function of the site? D 5.1. Does the wetland unit receive stormwater discharges? D 5.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate excess runoff? Yes = 1 No = 0 D 5.3. Is more than 25% of the contributing basin of the wetland covered with intensive human	1 1
D 5.0 Does the landscape have the potential to support hydrologic function of the site? D 5.1. Does the wetland unit receive stormwater discharges? D 5.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate excess runoff? (es = 1) No = 0	1 1 1
D 5.0 Does the landscape have the potential to support hydrologic function of the site? D 5.1 Does the wetland unit receive stormwater discharges? D 5.2 Is > 10% of the area within 150 ft of the wetland in land uses that generate excess runoff? Ves = 1 No = 0 D 5.3 Is more than 25% of the contributing basin of the wetland covered with intensive human land uses (residential at >1 residence/ac, urban, commercial, agriculture, etc.)?	1 1 2 3
D 5.0 Does the landscape have the potential to support hydrologic function of the site? D 5.1. Does the wetland unit receive stormwater discharges? D 5.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate excess runoff? (Yes = 1) No = 0 D 5.3. Is more than 25% of the contributing basin of the wetland covered with intensive human land uses (residential at >1 residence/ac, urban, commercial, agriculture, etc.)?	1 1 2 83
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D 5.0 Does the landscape have the potential to support hydrologic function of the site? D 5.1 Does the wetland unit receive stormwater discharges? D 5.2 Is > 10% of the area within 150 ft of the wetland in land uses that generate excess runoff? Solution of the area within 150 ft of the wetland in land uses that generate excess runoff? Solution of the area within 150 ft of the wetland in land uses that generate excess runoff? Solution of the area within 150 ft of the wetland in land uses that generate excess runoff? Solution of the area within 150 ft of the wetland covered with intensive human land uses (residential at >1 residence/ac, urban, commercial, agriculture, etc.)? Total for D 5 Add the points in the boxes above Record the rating on the landscape Potential If score is: D 6.0 Are the hydrologic functions provided by the site valuable to society? D 6.1 The unit is in a landscape that has flooding problems. Choose the description that best matches conditions around the wetland unit being rated. Do not add points. Choose the highest score if more than one condition is met. The wetland captures surface water that would otherwise flow down-gradient into areas where flooding has damaged human or natural resources (e.g., houses or salmon redds): Flooding occurs in a sub-basin that is immediately down-gradient. Surface flooding problems are in a sub-basin farther down-gradient. Flooding from groundwater is an issue in the sub-basin. The existing or potential outflow from the wetland is so constrained by human or natural conditions that the water stored by the wetland cannot reach areas that flood. Explain why	1 1 2 83
D 5.0 Does the landscape have the potential to support hydrologic function of the site? D 5.1. Does the wetland unit receive stormwater discharges? D 5.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate excess runoff? (es = 1) No = 0 D 5.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate excess runoff? (es = 1) No = 0 D 5.3. Is more than 25% of the contributing basin of the wetland covered with intensive human land uses (residential at >1 residence/ac, urban, commercial, agriculture, etc.)? (es = 1) No = 0 D 5.3. Is more than 25% of the contributing basin of the wetland covered with intensive human land uses (residential at >1 residence/ac, urban, commercial, agriculture, etc.)? (es = 1) No = 0 D 6.0. Are the hydrologic functions provided by the site valuable to society? D 6.1. The unit is in a landscape that has flooding problems. Choose the description that best matches conditions around the wetland unit being rated. Do not add points. Choose the highest score if more than one condition is met. The wetland captures surface water that would otherwise flow down-gradient into areas where flooding has damaged human or natural resources (e.g., houses or salmon redds): (a) Flooding occurs in a sub-basin that is immediately down-gradient. (b) Flooding from groundwater is an issue in the sub-basin farther down-gradient. (c) Flooding from groundwater is an issue in the sub-basin. (d) Flooding from groundwater is an issue in the sub-basin. (e) Flooding from groundwater is an issue in the sub-basin. (e) Flooding from groundwater is an issue in the sub-basin. (e) Flooding from groundwater is an issue in the sub-basin. (e) Flooding from groundwater is an issue in the sub-basin. (e) Flooding from groundwater is an issue in the sub-basin. (e) Flooding from groundwater is an issue in the sub-basin. (e) Flooding from groundwater is an issue in the sub-basin. (e) Flooding from groundwater is an issue in the sub-basin. (e) Flooding from groundwat	1 1 2 83
D 5.0 Does the landscape have the potential to support hydrologic function of the site? D 5.1. Does the wetland unit receive stormwater discharges? D 5.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate excess runoff? (ss = 1) No = 0 D 5.3. Is more than 25% of the contributing basin of the wetland covered with intensive human land uses (residential at >1 residence/ac, urban, commercial, agriculture, etc.)? Total for D 5 Add the points in the boxes above Rating of Landscape Potential If score is:	1 1 2 83
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These questions apply to wetlands of all HGM classes.	
HABITAT FUNCTIONS - Indicators that site functions to provide important habitat	
H 1.0. Does the site have the potential to provide habitat?	
H 1.1. Structure of plant community: Indicators are Cowardin classes and strata within the	
Forested class. Check the Cowardin plant classes in the wetland. Up to 10 patches may be	
combined for each class to meet the threshold of ¼ ac or more than 10% of the unit if it is smaller	
than 2.5 ac. Add the number of structures checked.	
Aquatic bed 4 structures or more: points = 4	
Emergent 3 structures: points = 2	
Scrub-shrub (areas where shrubs have > 30% cover) 2 structures: points - 1	
Forested (areas where trees have > 30% cover) 1 structure: points = 0	
The Forested class has 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous,	
moss/ground-cover) that each cover 20% within the Forested polygon	
H 1.2. Hydroperiods	
Check the types of water regimes (hydroperiods) present within the wetland. The water regime	
has to cover more than 10% of the wetland or ¼ ac to count (see text for descriptions of	
hydroperiods).	
Permanently flooded or inundated 4 or more types present; points = 3	
Seasonally flooded or inundated 4 or more types present: points = 3 3 types present: points = 2	> >
Occasionally flooded or inundated 2 types present: points = 1	5
Saturated only 1 types present: points = 0	
☐ Permanently flowing stream or river in, or adjacent to, the wetland	
Seasonally flowing stream in, or adjacent to, the wetland	
☐ Lake Fringe wetland 2 points	
☐ Freshwater tidal wetland 2 points H 1.3. Richness of plant species	
Count the number of plant species in the wetland that cover at least 10 th ²	
Count the number of plant species in the wetland that cover at least 10 ft ² . Different patches of the same species can be combined to meet the size threshold and you do	
not have to name the species. Do not include Eurasian milfoil, reed canarygrass, purple	
loosestrife, Canadian thistle	7
If you counted: > 19 species	
E 10 enesies	> _
5 - 19 species points = 1 < 5 species points = 0	
H 1.4. Interspersion of habitats	
Decide from the diagrams below whether interspersion among Cowardin plants classes	
(described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats)	
is high, moderate, low, or none. If you have four or more plant classes or three classes and open	
water, the rating is always high.	
	7
None = 0 points Low = 1 point Moderate = 2 points	3
None = 0 points	
All three diagrams	
in this row are	
HIGH = 3 points	

H 1.5. Special habitat features:	
Check the habitat features that are present in the wetland. The number of checks is the number	
of points.	
Large, downed, woody debris within the wetland (> 4 in diameter and 6 ft long)	
Standing snags (dbh > 4 in) within the wetland	
Undercut banks are present for at least 6.6 ft (2 m) and/or overhanging plants extends	\neg
at least 3.3 ft (1 m) over a stream (or ditch) in, or contiguous with the wetland, for at	3
least 33 ft (10 m)	
Stable steep banks of fine material that might be used by beaver or muskrat for denning	
(> 30 degree slope) OR signs of recent beaver activity are present (<i>cut shrubs or trees</i>	
that have not yet weathered where wood is exposed)	
At least ¼ ac of thin-stemmed persistent plants or woody branches are present in areas	1
that are permanently or seasonally inundated (structures for egg-laying by amphibians)	
☐ Invasive plants cover less than 25% of the wetland area in every stratum of plants (see	
H 1.1 for list of strata)	1000
Total for H 1 Add the points in the boxes above	
Rating of Site Potential If Score is: \$\infty 15 - 18 = H 7 - 14 = M 0 - 6 = L Record the rating on	the first page
H 2.0. Does the landscape have the potential to support the habitat function of the site?	
H 2.1 Accessible habitat (include only habitat that directly abuts wetland unit).	
Calculate:	
% moderate & low intensity land uses / 2) =	1
TO NOTICE TO THE PARTY OF THE P	
If total accessible habitat is:	_
u alata 0	1 1
> /3 (33.376) of 1 kill 1 olygon	_
20 - 55 % Of 1 kill 1 blygon	L I
10-13/801 1 Kill 1 Olygon	P I
H 2.2. Undisturbed habitat in 1 km Polygon around the wetland.	
Calculate:	
% undisturbed habitat + (% moderate & low intensity land uses / 2) =	
Undisturbed habitat > 50% of Polygon points = 3	
Undistance napitat > 0070 01 1 0173011	54
Olidisturbed Habitat To Good and III . S parteries	
Undistribed habitat to 00% and 20 paterios	
Undisturbed habitat < 10% of 1 km Polygon points = 0	
H 2.3 Land use intensity in 1 km Polygon: If	1 -
> 50% of 1 km Polygon is high intensity land use	
≤ 50% of 1km Polygon is high intensity points = 0	
Total for H 2 Add the points in the boxes above	
Rating of Landscape Potential If Score is: 4-6=H 1-3=M <1=L Record the rating of	n the first page
H 3.0. Is the habitat provided by the site valuable to society?	
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? Choose	
only the highest score that applies to the wetland being rated.	
Site meets ANY of the following criteria:	
X It has 3 or more priority habitats within 100 m (see next page)	
It provides habitat for Threatened or Endangered species (any plant	
or animal on the state or federal lists)	1
☐ It is mapped as a location for an individual WDFW priority species	1
☐ It is a Wetland of High Conservation Value as determined by the	
Department of Natural Resources	
☐ It has been categorized as an important habitat site in a local or	
regional comprehensive plan, in a Shoreline Master Plan, or in a	1
watershed plan	1
Site has 1 or 2 priority habitats (listed on next page) with in 100m points = 1	
Site does not meet any of the criteria above points = 0	
Rating of Value If Score is: 2 = H 1 = M 0 = L Record the rating of	n the first page

WDFW Priority Habitats

<u>Priority habitats listed by WDFW</u> (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp.

http://wdfw.wa.gov/publications/00165/wdfw00165.pdf or access the list from here: http://wdfw.wa.gov/conservation/phs/list/

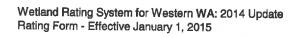
Count how many of the following priority habitats are within 330 ft (100 m) of the wetland unit: NOTE: This question is independent of the land use between the wetland unit and the priority habitat. Aspen Stands: Pure or mixed stands of aspen greater than 1 ac (0.4 ha). ☐ Biodiversity Areas and Corridors: Areas of habitat that are relatively important to various species of native fish and wildlife (full descriptions in WDFW PHS report). Herbaceous Baids: Variable size patches of grass and forbs on shallow soils over bedrock. Old-growth/Mature forests: Old-growth west of Cascade crest - Stands of at least 2 tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) > 32 in (81 cm) dbh or > 200 years of age. Mature forests - Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west of the Cascade crest. Oregon White Cak: Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (full descriptions in WDFW PHS report p. 158 - see web link above). Riparian: The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other. Westside Prairies: Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (full descriptions in WDFW PHS report p. 161 - see web link above). ☐ Instream: The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources. ☐ Nearshore: Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. (full descriptions of habitats and the definition of relatively undisturbed are in WDFW report - see web link on previous page). Caves: A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human. Cliffs: Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation. ☐ Talus: Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs. Snags and Logs: Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 20 in (51 cm) in western Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.

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

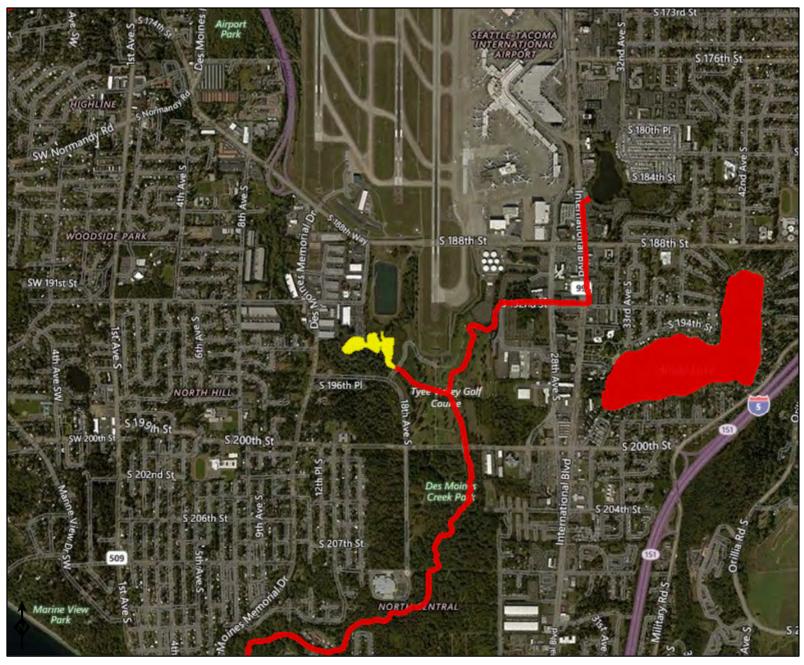
CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Wetland	Type	Category
Check off	any criteria that apply to the wetland. List the category when the appropriate criteria are met.	
SC 1.0. E	stuarine Wetlands Does the wetland meet the following criteria for Estuarine wetlands?	
	The dominant water regime is tidal,	I NISENI
	Vegetated, and	
	With a salinity greater than 0.5 ppt	
	☐ Yes - Go to SC 1.1 ☐ No = Not an estuarine wetland	
SC 1.1.	Is the wetland within a National Wildlife Refuge, National Park, National Estuary	
	Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific	
	Reserve designated under WAC 332-30-151?	
SC 1.2.	Is the wetland unit at least 1 ac in size and meets at least two of the following three conditions?	
	The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing,	
	and has less than 10% cover of non-native plant species. (If non-native species are	
	Sparting see page 25)	Ì
	At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-	1
_	grazed or un-mowed grassland.	
	The wetland has at least two of the following features: tidal channels, depressions with	
	open water, or contiguous freshwater wetlands.	
SC 2 0 V	Wetlands of High Conservation Value (WHCV)	
SC 2.1.	Has the WA Department of Natural Resources updated their website to include the list	
	of Wetlands of High Conservation Value?	
	☐ Yes - Go to SC 2.2 ☐ No - Go to SC 2.3	
SC 2.2.	Is the wetland listed on the WDNR database as a Wetland of High Conservation Value? Yes = Category I	,[
SC 2.3.	Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf	1
	□ Yes - Contact WNHP/WDNR and to SC 2.4 □ No = Not WHCV	r[
SC 2.4.	Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation	
00 2.4.	Value and listed it on their website?	
	☐ Yes = Category I ☐ No = Not WHCV	<u> </u>
SC 3.0.	Bogs to the state of the college and regretation	
	Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation	
	in bogs? Use the key below. If you answer YES you will still need to rate the	
0001	wetland based on its functions. Does an area within the wetland unit have organic soil horizons, either peats or mucks,	1
SC 3.1.	that compose 16 in or more of the first 32 in of the soil profile?	
1	☐ Yes - Go to SC 3.3 ☐ No - Go to SC 3.2	
SC 3.2.	Does an area within the wetland unit have organic soils, either peats or mucks, that are	
	less than 16 in deep over bedrock, or an impermeable hardpan such as clay or voicanic	;
	ash, or that are floating on top of a lake or pond?	_
	Yes - Go to SC 3.3 No = Is not a bog	3
SC 3.3.	Does an area with peats or mucks have more than 70% cover of mosses at ground	
	level, AND at least a 30% cover of plant species listed in Table 4?	4
	NOTE: If you are uncertain about the extent of mosses in the understory, you may	
	substitute that criterion by measuring the pH of the water that seeps into a hole dug at	
	least 16 in deep. If the pH is less than 5.0 and the plant species in Table 4 are present,	
	the wetland is a hog	
SC 3.4.	Is an area with peats or mucks forested (> 30% cover) with Sitka spruce, subalpine fir,	
	western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann	4
	spruce, or western white pine, AND any of the species (or combination of species) lister in Table 4 provide more than 30% of the cover under the canopy?	<u> </u>
	☐ Yes = is a Category I bog ☐ No = is not a bo	g

SC 4.0	Forested Wetlands	
36 4.0.		Ì
	Does the wetland have at least 1 contiguous acre of forest that meets one of these	
1	criteria for the WA Department of Fish and Wildlife's forests as priority habitats? If you	
	answer YES you will still need to rate the wetland based on its functions.	
] 🗆	o tallocation of all out two fice species,	
	forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac	
	(20 trees/ha) that are at least 200 years of age OR have a diameter at breast height	
_	(dbh) of 32 in (81 cm) or more.	
	the largest ties alle out	
	200 years old OR the species that make up the canopy have an average diameter (dbh)	1
	exceeding 21 in (53 cm).	
	☐ Yes = Category I ☐ No = Not a forested wetland for this section	
SC 5.0.	Wetlands in Coastal Lagoons	
	Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?]
	The wetland lies in a depression adjacent to marine waters that is wholly or partially	
	separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently,	
	rocks	
	The lagoon in which the wetland is located contains ponded water that is saline or	
	brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (needs to	
	be measured near the bottom)	
	☐ Yes - Go to SC 5.1 ☐ No = Not a wetland in a coastal lagoon	
SC 5.1.	Does the wetland meet all of the following three conditions?	
	The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing),	
	and has less than 20% cover of aggressive, opportunistic plant species (see list of	
	species on p. 100).	
	At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-	j i
	grazed or un-mowed grassland.	
	The wetland is larger than $\frac{1}{10}$ ac (4350 ft ²)	
SCED	☐ Yes = Category I ☐ No = Category II	
30 0.0. I		
	Is the wetland west of the 1889 line (also called the Western Boundary of Upland	
	Ownership or WBUO)? If you answer yes you will still need to rate the wetland	
	based on its habitat functions.	
	In practical terms that means the following geographic areas:	
님	Long Beach Peninsula: Lands west of SR 103	
. 📙	Grayland-Westport: Lands west of SR 105	
. 🗆	Ocean Shores-Copalis: Lands west of SR 115 and SR 109	
00.04	☐ Yes - Go to SC 6.1 ☐ No = Not an interdunal wetland for rating	Ì
SC 6.1.	Is the wetland 1 ac or larger and scores an 8 or 9 for the habitat functions on the form	
	(rates H,H,H or H,H,M for the three aspects of function)?	
0000	☐ Yes = Category I ☐ No - Go to SC 6.2	
SC 6.2.	Is the wetland 1 ac or larger, or is it in a mosaic of wetlands that is 1 ac or larger?	
00.5	☐ Yes = Category II ☐ No - Go to SC 6.3	l
SC 6.3.	Is the unit between 0.1 and 1 ac, or is it in a mosaic of wetlands that is between 0.1 and	
	1 ac?	
	☐ Yes = Category III ☐ No = Category IV	
	y of wetland based on Special Characteristics	
f vou ans	swered No for all types, enter "Not Applicable" on Summary Form	



Water Quality Atlas Map



Assessed Waters/Sediment

Water

- Category 5 303d
- Category 4C
- Category 4B
- Category 4A
- Category 2
- Catagony 1
- 💜 Category 1

Sediment

- Category 5 303d
- ZZZ Category 4C
- ZZZ Category 4B
- ZZZ Category 4A
- Category 2
- ZZZ Category 1



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APPROXIMATE CONTRIBUTING BASIN

L2ST Seg. C 554-1521-151



Legend



Feet 87.5 175 350

Wetland A POW PSS PEM

Concentration_of_Flow

L2ST Seg. C 554-1521-151



Feet 175 350

87.5

Wetland A Perm. Flooded or Inundated

Seasonally Flooded or Inundated Occasionally Flooded or Inundated

Saturated Only

Concentration_of_Flow

L2ST Seg. C 554-1521-151



1,500

750

Legend

L2ST Seg. C 554-1521-151

Wetland A A_150ft

A_1km

Feet 3,000

	DAIING SI	DIVINA	I Y - V	restel	rn was	nington	
Name of wetland (or	· ID #): Letlar	id B				Date of site visit:	9/13/2010
Rated by	1 Worniak	T	rained by E	cology?	∄Yes □No	Date of training	9/2015
HGM Class used fo	or rating	lope		Wetlan	d has multiple	e HGM classes?	Yes No
NOTE: F	orm is not complet Source of base ae	te with out the rial photo/map	e figures r	equested	(figures can l	be combined).	
OVERALL WETLA	AND CATEGORY	IV	(based on	functions	Or special	characteristics □)	
1. Category of	wetland based or	n FUNCTION	IS				
	Category	I - Total score	= 23 - 27		5	Score for each	
	Category	II - Total score	e = 20 - 22		f	unction based	
		III - Total sco		9	0	on three	
	Category	IV - Total scor	re = 9 - 15		r	atings	
					10	order of ratings	
FUNCTION	Improving Water Quality	Hydrologic	Habitat			s not mportant)	
	List app	propriate rating	(H, M, L)				
Site Potential	L		7		9) = H, H, H	
Landscape Potential	M	M	1		8	8 = H, H, M	
Value	H	<i>H</i>	4	Total] 7	' = H, H, L	
Score Based on Ratings	6	6	3.	/5ª		' = H, M, M 5 = H, M, L	

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	Category
Estuarine	
Wetland of High Conservation Value	
Bog	
Mature Forest	
Old Growth Forest	
Coastal Lagoon	
Interdunal	
None of the above	1

6 = M, M, M5 = H, L, L5 = M, M, L4 = M, L, L3 = L, L, L

Maps and Figures required to answer questions correctly for Western Washington

Depressional Wetlands

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

Riverine Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	H 1.1, H 1.4	
Hydroperiods	H 1.2	
Ponded depressions	R 1.1	
Boundary of area within 150 ft of the wetland (can be added to another figure)	R 2.4	
Plant cover of trees, shrubs, and herbaceous plants	R 1.2, R 4.2	
Width of unit vs. width of stream (can be added to another figure)	R 4.1	
Map of the contributing basin	R 2.2, R 2.3, R 5.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	R 3.1	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	R 3.2, R 3.3	

Lake Fringe Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	L 1.1, L 4.1, H 1.1, H 1.4	
Plant cover of trees, shrubs, and herbaceous plants	L 1.2	
Boundary of area within 150 ft of the wetland (can be added to another figure)	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	L 3.1, L 3.2	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	L 3.3	

Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	H 1.1, H 1.4	
Hydroperiods	H 1.2	
Plant cover of dense trees, shrubs, and herbaceous plants	S 1.3	
Plant cover of dense , rigid trees, shrubs, and herbaceous plants	S 4.1	
(can be added to another figure)		
Boundary of area within 150 ft of the wetland (can be added to another figure)	S 2.1, S 5.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	S 3.3	

HGM Classification of Wetland in Western Washington

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

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

1. Are the water levels in the entire unit usua	lly controlled by tides except during floods?
NO - go to 2	☐ YES - the wetland class is Tidal Fringe - go to 1.1
1.1 Is the salinity of the water during per	riods of annual low flow below 0.5 ppt (parts per thousand)?
☐ NO - Saltwater Tidal Fringe (Estua If your wetland can be classified as If it is Saltwater Tidal Fringe it is an used to score functions for estuaring	a Freshwater Tidal Fringe use the forms for Riverine wetlands. Estuarine wetland and is not scored. This method cannot be
2. The entire wetland unit is flat and precipitat Groundwater and surface water runoff are NC	ion is the only source (>90%) of water to it. OT sources of water to the unit.
NO - go to 3 If your wetland can be classified as	☐ YES - The wetland class is Flats a Flats wetland, use the form for Depressional wetlands.
☐ The vegetated part of the wetland is	on the shores of a body of permanent open water (without any the year) at least 20 ac (8 ha) in size;
NO - go to 4	☐ YES - The wetland class is Lake Fringe (Lacustrine Fringe)
4. Does the entire wetland unit meet all of the The wetland is on a slope (slope car The water flows through the wetland It may flow subsurface, as sheetflow The water leaves the wetland without	n be very gradual), in one direction (unidirectional) and usually comes from seeps.
□ NO - go to 5	YES - The wetland class is Slope
NOTE: Surface water does not pond in these to depressions or behind hummocks (depression	type of wetlands except occasionally in very small and shallow as are usually <3 ft diameter and less than 1 ft deep).
 5. Does the entire wetland unit meet all of the The unit is in a valley, or stream cha from that stream or river, The overbank flooding occurs at least 	nnel, where it gets inundated by overbank flooding
□ NO - go to 6	☐ YES - The wetland class is Riverine
NOTE: The Riverine unit can contain depressi	ons that are filled with water when the river is not flooding.

6. Is the entire wetland unit in a topograph some time during the year? This means the	nic depression in which water ponds, or is saturated to the surface, at hat any outlet, if present, is higher than the interior of the wetland.
□ NO - go to 7	☐ YES - The wetland class is Depressional
The unit does not pond surface water mor	ery flat area with no obvious depression and no overbank flooding? re than a few inches. The unit seems to be maintained by high y be ditched, but has no obvious natural outlet.
□ NO - go to 8	☐ YES - The wetland class is Depressional
8. Your wetland unit seems to be difficult to	to classify and probably contains several different HGM classes. For

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

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

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

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

SLOPE WETLANDS Water Quality Functions - Indicators that the site functions to in	nprove water quality	
S 1.0. Does the site have the potential to improve water quality?		
S 1.1. Characteristics of the average slope of the wetland: (a 1% slope has a	1 ft vertical drop in	
elevation for every 100 ft of horizontal distance)		
Slope is 1% or less	points = 3	
Slope is > 1% - 2%	points = 2	1
Slope is > 2% - 5%	points = 1	>-
Slope is greater than 5%	points = 0	
S 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic		_
(use NRCS definitions):	Yes = 3 (No.= 0)	
S 1.3. Characteristics of the plants in the wetland that trap sediments and pollu	itants:	
Choose the points appropriate for the description that best fits the plants in the	wetland. Dense	
means you have trouble seeing the soil surface (>75% cover), and uncut mean	ns not grazed or	=
mowed and plants are higher than 6 in.		
Dense, uncut, herbaceous plants > 90% of the wetland area	points = 6	3
Dense, uncut, herbaceous plants > ½ of area	points = 3	, ,
Dense, woody, plants > ½ of area	points = 2	
Dense, uncut, herbaceous plants > 1/4 of area	points = 1	
Does not meet any of the criteria above for plants	points = 0	
	in the boxes above	48
Rating of Site Potential If score is: 12 = H 6-11 = M 8-5 = L	December with a section of the	Alone Elman Linear and
	Record the rating on	tne tirst page
S 2.0. Does the landscape have the potential to support the water quality functi		tne tirst page
S 2.0. Does the landscape have the potential to support the water quality function S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in	ion of the site?	the first page
S 2.0. Does the landscape have the potential to support the water quality function S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?		
S 2.0. Does the landscape have the potential to support the water quality function S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants? S 2.2. Are there other sources of pollutants coming into the wetland that are	ion of the site?	
S 2.0. Does the landscape have the potential to support the water quality function S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants? S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?	ves = 1 No = 0	1
S 2.0. Does the landscape have the potential to support the water quality function S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants? S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1? Other Sources	ion of the site? Yes = 1 No = 0 Yes = 1 No = 0	1 1
S 2.0. Does the landscape have the potential to support the water quality function S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants? S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1? Other Sources Total for S 2 Add the points	Yes = 1 No = 0 Yes = 1 No = 0 in the boxes above	1 28
S 2.0. Does the landscape have the potential to support the water quality function S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants? S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1? Other Sources Total for S 2 Add the points Rating of Landscape Potential If score is:	Yes = 1 No = 0 Yes = 1 No = 0 in the boxes above Record the rating on the site?	1 28
S 2.0. Does the landscape have the potential to support the water quality function S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants? S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1? Other Sources Total for S 2 Add the points Rating of Landscape Potential If score is: S 3.0. Is the water quality improvement provided by the site valuable to society	Yes = 1 No = 0 Yes = 1 No = 0 in the boxes above Record the rating on the site?	1 28
S 2.0. Does the landscape have the potential to support the water quality function S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants? S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1? Other Sources Total for S 2 Add the points Rating of Landscape Potential If score is: S 3.0. Is the water quality improvement provided by the site valuable to society S 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river,	Yes = 1 No = 0 Yes = 1 No = 0 in the boxes above Record the rating on the site?	1 28
S 2.0. Does the landscape have the potential to support the water quality function S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants? S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1? Other Sources Total for S 2 Add the points Rating of Landscape Potential If score is: 1-2 = M	Yes = 1 No = 0 Yes = 1 No = 0 in the boxes above Record the rating on the site?	1 28
S 2.0. Does the landscape have the potential to support the water quality function S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants? S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1? Other Sources Total for S 2 Add the points Rating of Landscape Potential If score is: S 3.0. Is the water quality improvement provided by the site valuable to society S 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list? S 3.2. Is the wetland in a basin or sub-basin where water quality is an issue?	Yes = 1 No = 0 Yes = 1 No = 0 in the boxes above Record the rating on the second th	1 28
S 2.0. Does the landscape have the potential to support the water quality function S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants? S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1? Other Sources Total for S 2 Add the points Rating of Landscape Potential If score is: S 3.0. Is the water quality improvement provided by the site valuable to society S 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list? S 3.2. Is the wetland in a basin or sub-basin where water quality is an issue? At least one aquatic resource in the basin is on the 303(d) list.	Yes = 1 No = 0 Yes = 1 No = 0 in the boxes above Record the rating on a Yes = 1 No = 0	1 28
S 2.0. Does the landscape have the potential to support the water quality function in S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants? S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1? Other Sources Total for S 2 Add the points Rating of Landscape Potential If score is: S 3.0. Is the water quality improvement provided by the site valuable to society S 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list? S 3.2. Is the wetland in a basin or sub-basin where water quality is an issue? At least one aquatic resource in the basin is on the 303(d) list. S 3.3. Has the site been identified in a watershed or local plan as important for	Yes = 1 No = 0 Yes = 1 No = 0 in the boxes above Record the rating on a Yes = 1 No = 0	1 28
S 2.0. Does the landscape have the potential to support the water quality function S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants? S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1? Other Sources Total for S 2 Add the points Rating of Landscape Potential If score is: S 3.0. Is the water quality improvement provided by the site valuable to society S 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list? S 3.2. Is the wetland in a basin or sub-basin where water quality is an issue? At least one aquatic resource in the basin is on the 303(d) list.	Yes = 1 No = 0 Yes = 1 No = 0 in the boxes above Record the rating on the second th	1 28
S 2.0. Does the landscape have the potential to support the water quality functions 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants? S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1? Other Sources Total for S 2 Add the points Rating of Landscape Potential If score is: At 1 - 2 = M □0 = L S 3.0. Is the water quality improvement provided by the site valuable to society S 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list? S 3.2. Is the wetland in a basin or sub-basin where water quality is an issue? At least one aquatic resource in the basin is on the 303(d) list. S 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality? Answer YES if there is a TMDL for the basin in which the unit is found?	Yes = 1 No = 0 Yes = 1 No = 0 in the boxes above Record the rating on a Yes = 1 No = 0 Yes = 1 No = 0	1 2 st the first page 1 1 2
S 2.0. Does the landscape have the potential to support the water quality functions 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants? S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1? Other Sources Total for S 2 Add the points Rating of Landscape Potential If score is: At 1 - 2 = M □0 = L S 3.0. Is the water quality improvement provided by the site valuable to society S 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list? S 3.2. Is the wetland in a basin or sub-basin where water quality is an issue? At least one aquatic resource in the basin is on the 303(d) list. S 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality? Answer YES if there is a TMDL for the basin in which the unit is found?	Yes = 1 No = 0 Yes = 1 No = 0 in the boxes above Record the rating on the second th	1 2 g the first page 1 1 2 30

SLOPE WETLANDS		
Hydrologic Functions - Indicators that the site functions to reduce floor	oding and stream ero	osion
S 4.0. Does the site have the potential to reduce flooding and stream erosion?		
S 4.1. Characteristics of plants that reduce the velocity of surface flows during	storms: Choose	
the points appropriate for the description that best fits conditions in the wetland	. Stems of plants	
should be thick enough (usually > $^{1}/_{8}$ in), or dense enough, to remain erect do	uring surface flows.	()
Dense, uncut, rigid plants cover > 90% of the area of the wetland	points = 1	
All other conditions	points = 0)
Rating of Site Potential If score is: 1 = M D = L	Record the rating on	the first page
S 5.0. Does the landscape have the potential to support hydrologic functions of	f the site?	
S 5.1. Is more than 25% of the area within 150 ft upslope of wetland in land	and a second or second or second	1
uses or cover that generate excess surface runoff?	Yes = 1 No = 0	1
Rating of Landscape Potential If score is: 1 = M 0 = L	Record the rating on	the first page
		, •
S 6.0. Are the hydrologic functions provided by the site valuable to society?		
(
S 6.0. Are the hydrologic functions provided by the site valuable to society? S 6.1. Distance to the nearest areas downstream that have flooding problems:		
S 6.0. Are the hydrologic functions provided by the site valuable to society?		
S 6.0. Are the hydrologic functions provided by the site valuable to society? S 6.1. Distance to the nearest areas downstream that have flooding problems: The sub-basin immediately down-gradient of site has flooding	points = 2	> 2
S 6.0. Are the hydrologic functions provided by the site valuable to society? S 6.1. Distance to the nearest areas downstream that have flooding problems: The sub-basin immediately down-gradient of site has flooding problems that result in damage to human or natural resources (e.g., houses or salmon redds)		> 2
S 6.0. Are the hydrologic functions provided by the site valuable to society? S 6.1. Distance to the nearest areas downstream that have flooding problems: The sub-basin immediately down-gradient of site has flooding problems that result in damage to human or natural resources (e.g., houses or salmon redds) Surface flooding problems are in a sub-basin farther down-gradient	points = 2 points = 1	> 2
S 6.0. Are the hydrologic functions provided by the site valuable to society? S 6.1. Distance to the nearest areas downstream that have flooding problems: The sub-basin immediately down-gradient of site has flooding problems that result in damage to human or natural resources (e.g., houses or salmon redds) Surface flooding problems are in a sub-basin farther down-gradient No flooding problems anywhere downstream	points = 2 points = 1 hohes points = 0	> 2
S 6.0. Are the hydrologic functions provided by the site valuable to society? S 6.1. Distance to the nearest areas downstream that have flooding problems: The sub-basin immediately down-gradient of site has flooding problems that result in damage to human or natural resources (e.g., houses or salmon redds) Surface flooding problems are in a sub-basin farther down-gradient	points = 2 points = 1 hohes points = 0	> 2
S 6.0. Are the hydrologic functions provided by the site valuable to society? S 6.1. Distance to the nearest areas downstream that have flooding problems: The sub-basin immediately down-gradient of site has flooding problems that result in damage to human or natural resources (e.g., houses or salmon redds) Surface flooding problems are in a sub-basin farther down-gradient No flooding problems anywhere downstream No flooding problems anywhere downstream S 6.2. Has the site been identified as important for flood storage or flood	points = 2 points = 1 hohes points = 0 implified.	> 2

NOTES and FIELD OBSERVATIONS:

These questions apply to wetlands of all HGM classes.	
HABITAT FUNCTIONS - Indicators that site functions to provide important habitat	
H 1.0. Does the site have the potential to provide habitat?	
H 1.1. Structure of plant community: Indicators are Cowardin classes and strata within the	
Forested class. Check the Cowardin plant classes in the wetland. Up to 10 patches may be	
combined for each class to meet the threshold of ¼ ac or more than 10% of the unit if it is smaller	
than 2.5 ac. Add the number of structures checked.	
☐ Aquatic bed 4 structures or more: points = 4	1
T = 1	1
☐ Emergent 3 structures: points = 2 ☐ Scrub-shrub (areas where shrubs have > 30% cover) 2 structures: points = 1	
Forested (areas where trees have > 30% cover) 2 structures. points = 1 1 structure: points = 0	
If the unit has a Forested class, check if:	
The Forested class has 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous,	
moss/ground-cover) that each cover 20% within the Forested polygon	
H 1.2. Hydroperiods Check the types of water regimes (hydroperiods) present within the water d. The water d.	
Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or ¼ ac to count (see text for descriptions of	
hydroperiods).	
, , , a sportodo j.	
Permanently flooded or inundated 4 or more types present: points = 3	1
☐ Seasonally flooded or inundated 3 types present; points = 2	/
Occasionally flooded or inundated types present: points = 1	5-
Saturated only 1 types present: points = 0	
Permanently flowing stream or river in, or adjacent to, the wetland	
☐ Seasonally flowing stream in, or adjacent to, the wetland ☐ Lake Fringe wetland 2 points	
H 1.3. Richness of plant species	
Count the number of plant species in the wetland that cover at least 10 ft ² . Different patches of the same species can be combined to meet the size threshold and you do	
not have to name the species. Do not include Eurasian milfoil, reed canarygrass, purple	
loosestrife, Canadian thistle	1
If you counted: > 19 species points = 2	
points – Z	
5 - 19 species <u>points = 1</u> < 5 species points = 0	'
H 1.4. Interspersion of habitats	
Decide from the diagrams below whether interspersion among Cowardin plants classes	
(described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats)	
is high, moderate, low, or none. If you have four or more plant classes or three classes and open	
water, the rating is always high.	
None Oneith	
None = 0 points	
All three diagrams	
in this row are	
HIGH = 3 points	

Wetland Rating System for Western WA: 2014 Update Rating Form - Effective January 1, 2015

WDFW Priority Habitats

<u>Priority habitats listed by WDFW</u> (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp.

http://wdfw.wa.gov/publications/00165/wdfw00165.pdf_or access the list from here: http://wdfw.wa.gov/conservation/phs/list/

Count how many of the following priority habitats are within 330 ft (100 m) of the wetland unit: NOTE: This question is independent of the land use between the wetland unit and the priority habitat. Aspen Stands: Pure or mixed stands of aspen greater than 1 ac (0.4 ha). ☐ Biodiversity Areas and Corridors: Areas of habitat that are relatively important to various species of native fish and wildlife (full descriptions in WDFW PHS report). Herbaceous Balds: Variable size patches of grass and forbs on shallow soils over bedrock. Old-growth/Mature forests: Old-growth west of Cascade crest - Stands of at least 2 tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) > 32 in (81 cm) dbh or > 200 years of age. Mature forests - Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west of the Cascade crest. Oregon White Oak: Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (full descriptions in WDFW PHS report p. 158 - see web link above). Riparian: The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other. ☐ Westside Prairies: Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (full descriptions in WDFW PHS report p. 161 – see web link above). ☐ Instream: The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources. ☐ Nearshore: Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. (full descriptions of habitats and the definition of relatively undisturbed are in WDFW report - see web link on previous page). ☐ Caves: A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human. ☐ Cliffs: Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation. ☐ Talus: Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs. ☐ Snags and Logs: Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 20 in (51 cm) in western Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.

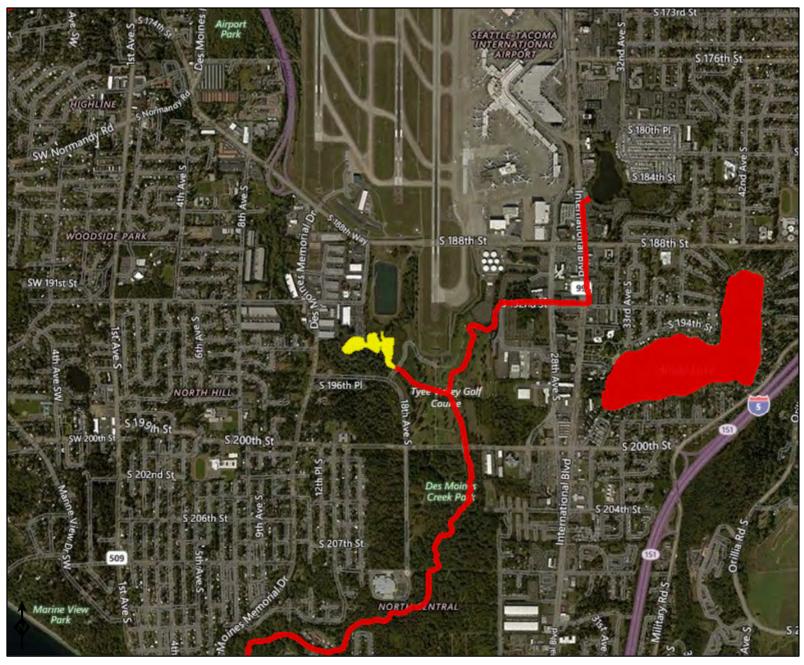
Note: All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Wetland	Type	Category
		والماري والمراجع
Check off	any criteria that apply to the wetland. List the category when the appropriate criteria are met.	
SC 1.0. E	Estuarine Wetlands	
	Does the wetland meet the following criteria for Estuarine wetlands?	
	The dominant water regime is tidal,	
	Vegetated, and With a salinity greater than 0.5 ppt	in Saul June ?
	Yes - Go to SC 1.1 \square No = Not an estuarine wetland	e i con li li
SC 1.1.	Is the wetland within a National Wildlife Refuge, National Park, National Estuary	
30 1.1.	Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific	
	Reserve designated under WAC 332-30-151?	
	☐ Yes = Category I ☐ No - Go to SC 1.2	
SC 1.2.	Is the wetland unit at least 1 ac in size and meets at least two of the following three conditions?	
	The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing,	
_	and has less than 10% cover of non-native plant species. (If non-native species are	
	Spartina, see page 25)	
	At least 34 of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-	
	grazed or un-mowed grassland.	
	The wetland has at least two of the following features: tidal channels, depressions with	
	open water, or contiguous freshwater wetlands.	
	☐ Yes = Category I ☐ No = Category II	
SC 2.0. \	Wetlands of High Conservation Value (WHCV)	
SC 2.1.	Has the WA Department of Natural Resources updated their website to include the list	
	of Wetlands of High Conservation Value?	
	☐ Yes - Go to SC 2.2 ☐ No - Go to SC 2.3	
SC 2.2.	Is the wetland listed on the WDNR database as a Wetland of High Conservation Value? \[\subseteq \text{Yes} = \text{Category I} \subseteq \text{No} = \text{Not WHCV} \]	
SC 2.3.	Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland?	
	http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf Ves - Contact WNHP/WDNR and to SC 2.4 No = Not WHCV	
0004	☐ Yes - Contact WNHP/WDNR and to SC 2.4 ☐ No = Not WHCV Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation	
SC 2.4.	Value and listed it on their website?	
	Yalue and listed it on their website: ☐ Yes = Category I ☐ No = Not WHCV	
0000		
SC 3.0. I	Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation	
	in bogs? Use the key below. If you answer YES you will still need to rate the	
	wetland based on its functions.	
SC 3.1.	Does an area within the wetland unit have organic soil horizons, either peats or mucks,	
00 0.1.	that compose 16 in or more of the first 32 in of the soil profile?	
	☐ Yes - Go to SC 3.3 ☐ No - Go to SC 3.2	1
SC 3.2.	Does an area within the wetland unit have organic soils, either peats or mucks, that are	
	less than 16 in deep over bedrock, or an impermeable hardpan such as clay or volcanic	
	ash, or that are floating on top of a lake or pond?	
	☐ Yes - Go to SC 3.3 ☐ No = Is not a bog	İ
SC 3.3.	Does an area with peats or mucks have more than 70% cover of mosses at ground	
	level, AND at least a 30% cover of plant species listed in Table 4?	
	☐ Yes = is a Category i bog ☐ No - Go to SC 3.4	
	NOTE: If you are uncertain about the extent of mosses in the understory, you may	
	substitute that criterion by measuring the pH of the water that seeps into a hole dug at	
	least 16 in deep. If the pH is less than 5.0 and the plant species in Table 4 are present,	
	the wetland is a bog.	
SC 3.4.	Is an area with peats or mucks forested (> 30% cover) with Sitka spruce, subalpine fir,	
	western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann	
	spruce, or western white pine, AND any of the species (or combination of species) listed	1
	in Table 4 provide more than 30% of the cover under the canopy?	
1	☐ Yes = Is a Category I bog ☐ No = Is not a bog	<u> </u>

SC 4.0.	Forested Wetlands	
	Does the wetland have at least 1 contiguous acre of forest that meets one of these	
	criteria for the WA Department of Fish and Wildlife's forests as priority habitats? If you	
	answer YES you will still need to rate the wetland based on its functions.	
	Old-growth forests (west of Cascade crest): Stands of at least two tree species,	
	forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac	
	(20 trees/ha) that are at least 200 years of age OR have a diameter at breast height	
	(dbh) of 32 in (81 cm) or more.	
	Mature forests (west of the Cascade Crest): Stands where the largest trees are 80-	
_	200 years old OR the species that make up the canopy have an average diameter (dbh)	
	exceeding 21 in (53 cm).	
	☐ Yes = Category I ☐ No = Not a forested wetland for this section	167
SC 5.0.	Wetlands in Coastal Lagoons	
	Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?	
	The wetland lies in a depression adjacent to marine waters that is wholly or partially	
"	separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently,	
	rocks	
	The lagoon in which the wetland is located contains ponded water that is saline or	
	brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (needs to	
	be measured near the bottom)	
	☐ Yes - Go to SC 5.1 ☐ No = Not a wetland in a coastal lagoon	
SC 5.1	Does the wetland meet all of the following three conditions?	
	The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing),	
	and has less than 20% cover of aggressive, opportunistic plant species (see list of	
	species on p. 100).	
	At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-	
	grazed or un-mowed grassland.	-
	The wetland is larger than $^{1}/_{10}$ ac (4350 ft ²)	
	" ' _ '	
00.00	☐ Yes = Category I ☐ No = Category II	
SC 6.0.	Interdunal Wetlands	
	Is the wetland west of the 1889 line (also called the Western Boundary of Upland	
	Ownership or WBUO)? If you answer yes you will still need to rate the wetland	
	based on its habitat functions.	
	In practical terms that means the following geographic areas:	
	Long Beach Peninsula: Lands west of SR 103	
	Grayland-Westport: Lands west of SR 105	
	Ocean Shores-Copalis: Lands west of SR 115 and SR 109	
	☐ Yes - Go to SC 6.1 ☐ No = Not an interdunal wetland for rating	
SC 6.1.	Is the wetland 1 ac or larger and scores an 8 or 9 for the habitat functions on the form	
	(rates H,H,H or H,H,M for the three aspects of function)?	
	☐ Yes = Category I ☐ No - Go to SC 6.2	
SC 6.2.	Is the wetland 1 ac or larger, or is it in a mosaic of wetlands that is 1 ac or larger?	
JU J.L.		-
0000	☐ Yes = Category II ☐ No - Go to SC 6.3	
SC 6.3.	Is the unit between 0.1 and 1 ac, or is it in a mosaic of wetlands that is between 0.1 and	i
	1 ac?	
	☐ Yes = Category III ☐ No = Category IV	
Categor	y of wetland based on Special Characteristics	
	swered No for all types, enter "Not Applicable" on Summary Form	
,		

Water Quality Atlas Map



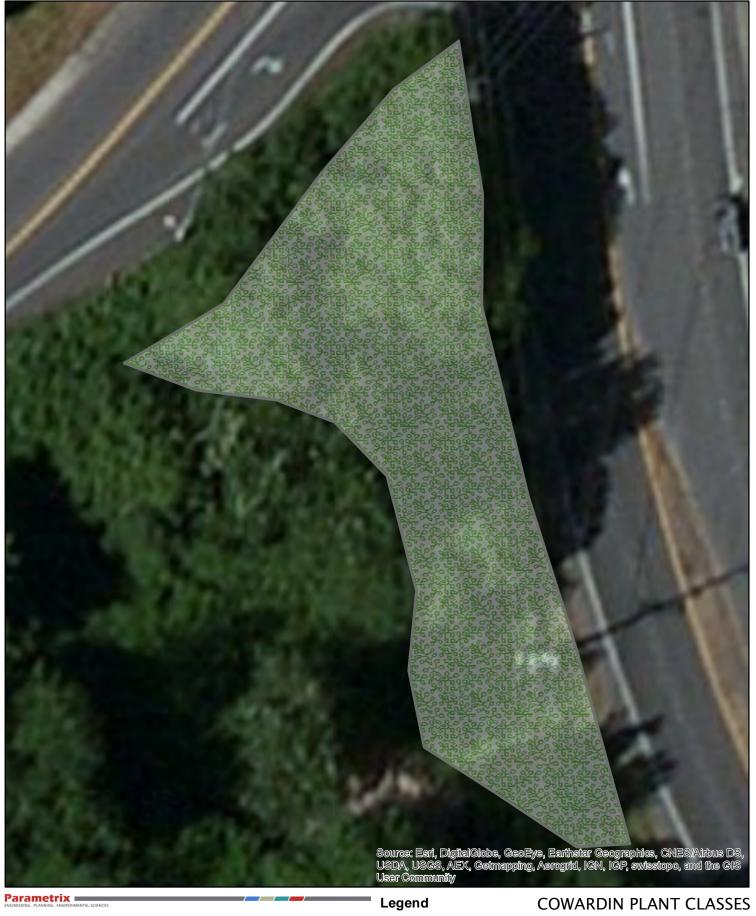
Assessed Waters/Sediment

Water

- Category 5 303d
- Category 4C
- Category 4B
- Category 4A
- Category 2
- Catagony 1
- 💜 Category 1

Sediment

- Category 5 303d
- ZZZ Category 4C
- ZZZ Category 4B
- ZZZ Category 4A
- Category 2
- ZZZ Category 1



Feet 15 30 60

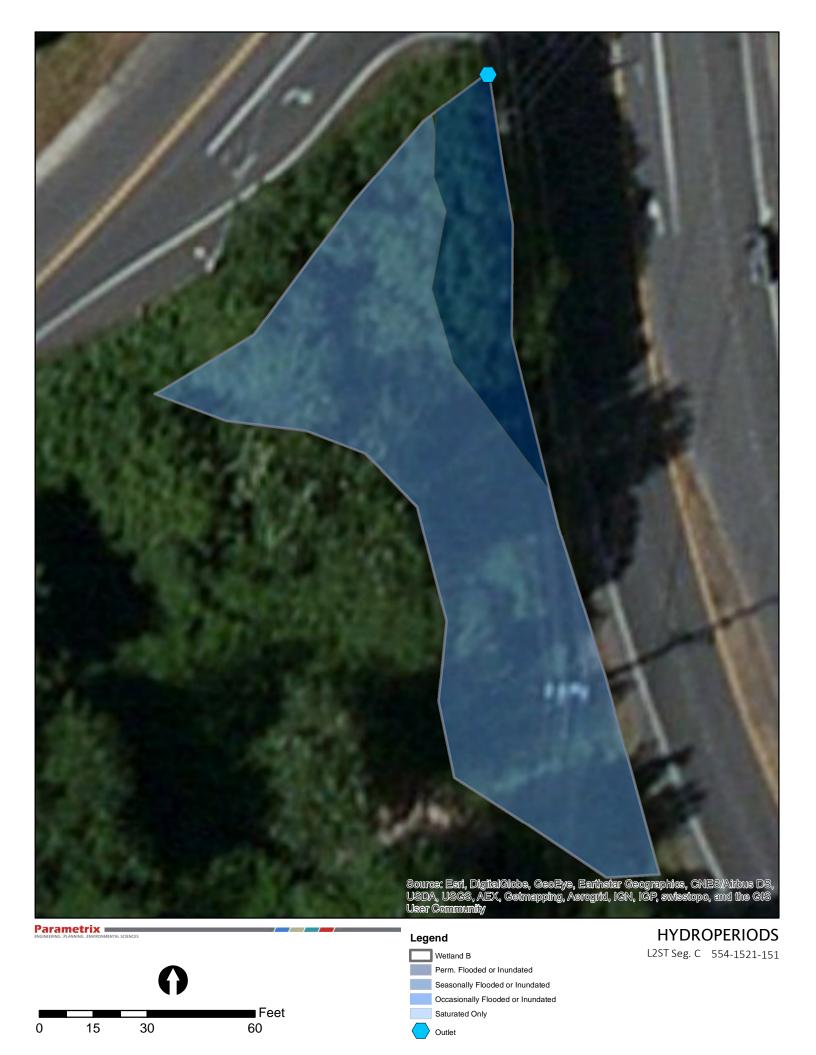
Wetland B

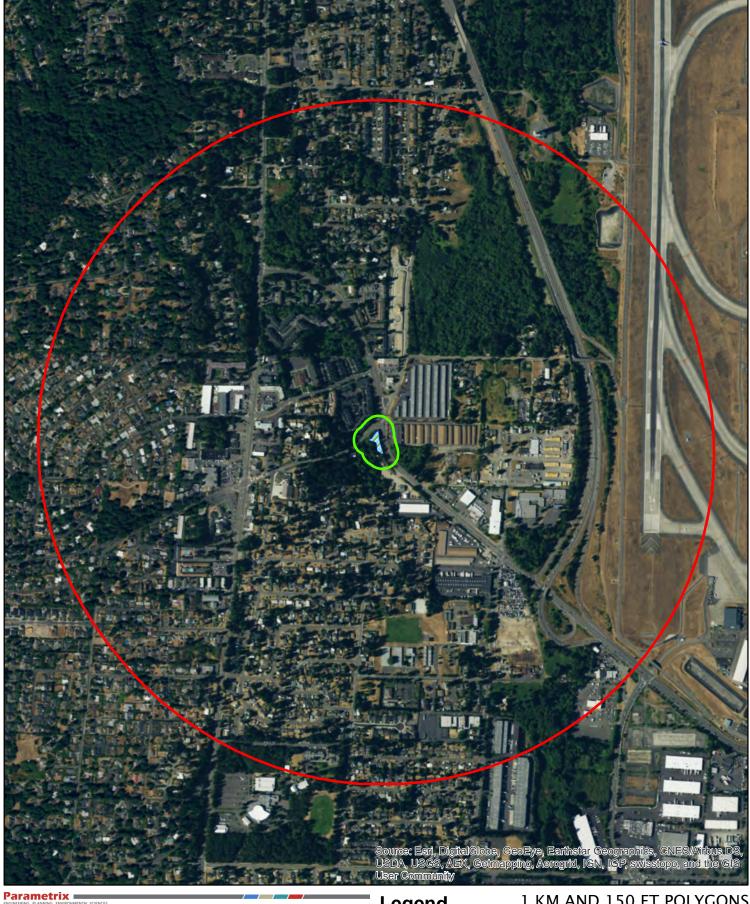
PFO

PSS PEM

POW

L2ST Seg. C 554-1521-151





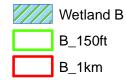
650

Legend

1 KM AND 150 FT POLYGONS

L2ST Seg. C 554-1521-151





	RATING S	UMMA	RY - V	Vestern	Washington	
Name of wetland (or	1 61	and C			Date of site visit:	1/2
Rated by	Wornigh	_	Trained by I	Ecology? (Yes	□ No Date of training	<u>/20</u>
HGM Class used fo	r rating <u>Defless</u>	ilmal		_ Wetland has	s multiple HGM classes?]No
NOTE: Fo	orm is not complete Source of base ae	te with out rial photo/m	the figures r	equested (figu	res can be combined).	
OVERALL WETLA				functions 🗆 o	r special characteristics (X)	
i. Category of v	vetland based or Category		ONS ore = 23 - 27		Score for each	
			ore = 20 - 22		function based	
			core = 16 - 19		on three	
	Category	IV - Total so	core = 9 - 15		ratings (order of ratings	
FUNCTION	improving Water Quality	Hydrolog			is not important)	
21. 5	List app	propriate rat	ing (H, M, L)			
Site Potential	W	H	1 11		9 = H, H, H	
andscape Potential	W	#	1/-		8 = H, H, M	
Score Based on	PA .	H	H.	Total	7 = H, H, L	
Ratings	7	9	17	272	7 = H, M, M	
90				6)	6 = H, M, L	
					6 = M , M, M	
					5 = H, L, L 5 = M, M, L	
					4 = M, L, L	
					3=1	

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	Category
Estuarine	
Wetland of High Conservation Value	
Bog	
Mature Forest	X
Old Growth Forest	
Coastal Lagoon	
Interdunal	
None of the above	·

Maps and Figures required to answer questions correctly for Western Washington

Depressional Wetlands

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

Riverine Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	H 1.1, H 1.4	
Hydroperiods	H 1.2	
Ponded depressions	R 1.1	
Boundary of area within 150 ft of the wetland (can be added to another figure)	R 2.4	
Plant cover of trees, shrubs, and herbaceous plants	R 1.2, R 4.2	
Width of unit vs. width of stream (can be added to another figure)	R 4.1	
Map of the contributing basin	R 2.2, R 2.3, R 5.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	R 3.1	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	R 3.2, R 3.3	

Lake Fringe Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	L 1.1, L 4.1, H 1.1, H 1.4	
Plant cover of trees, shrubs, and herbaceous plants	L 1.2	
Boundary of area within 150 ft of the wetland (can be added to another figure)	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	L 3.1, L 3.2	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	L 3.3	

Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	H 1.1, H 1.4	
Hydroperiods	H 1.2	
Plant cover of dense trees, shrubs, and herbaceous plants	S 1.3	
Plant cover of dense, rigid trees, shrubs, and herbaceous plants	S 4.1	
(can be added to another figure)		
Boundary of area within 150 ft of the wetland (can be added to another figure)	S 2.1, S 5.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	\$ 3.3	

HGM Classification of Wetland in Western Washington

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

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

1. Are the water levels in the entire t	unit usually controlled by tides except during floods?
NO - go to 2	☐ YES - the wetland class is Tidal Fringe - go to 1.1
1.1 Is the salinity of the water of	luring periods of annual low flow below 0.5 ppt (parts per thousand)?
☐ NO - Saltwater Tidal Fring If your wetland can be class If it is Saltwater Tidal Frings used to score functions for	sified as a Freshwater Tidal Fringe use the forms for Riverine wetlands to it is an Estuarine wetland and is not scored. This method cannot be
2. The entire wetland unit is flat and p Groundwater and surface water runo	precipitation is the only source (>90%) of water to it. If are NOT sources of water to the unit.
NO - go to 3 If your wetland can be class	☐ YES - The wetland class is Flats sified as a Flats wetland, use the form for Depressional wetlands.
 Does the entire wetland unit meet and the vegetated part of the weglants on the surface at any 	all of the following criteria? etland is on the shores of a body of permanent open water (without any time of the year) at least 20 ac (8 ha) in size; ater area is deeper than 6.6 ft (2 m).
NO - go to 4	☐ YES - The wetland class is Lake Fringe (Lacustrine Fringe)
4. Does the entire wetland unit meet a The wetland is on a slope (s The water flows through the It may flow subsurface, as s The water leaves the wetlan	slope can be very gradual), wetland in one direction (unidirectional) and usually comes from seeps. heetflow, or in a swale without distinct banks
□ NO - go to 5	YES - The wetland class is Slope
NOTE: Surface water does not pond i depressions or behind hummocks (de	n these type of wetlands except occasionally in very small and shallow pressions are usually <3 ft diameter and less than 1 ft deep).
 5. Does the entire wetland unit meet a The unit is in a valley, or street from that stream or river, The overbank flooding occur 	eam channel, where it gets inundated by overbank flooding
NO - go to 6	☐ YES - The wetland class is Riverine
NOTE: The Discoulant county of	l de la companya de l

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

6. Is the entire wetland unit in a topographic some time during the year? This means the	c depression in which water ponds, or is saturated to the surface, at any outlet, if present, is higher than the interior of the wetland.
□ NO - go to 7	YES - The wetland class is Depressional
The unit does not pond surface water more	y flat area with no obvious depression and no overbank flooding? than a few inches. The unit seems to be maintained by high be ditched, but has no obvious natural outlet.
□ NO - go to 8	☐ YES - The wetland class is Depressional
8. Your wetland unit seems to be difficult to	classify and probably contains several different HGM classes. For

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

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

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

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

NOTES and FIELD OBSERVATIONS:

DEPRESSIONAL AND FLATS WETL	ANDS	
Water Quality Functions - Indicators that the site functions to in	mprove water quality	
D 1.0. Does the site have the potential to improve water quality?		
D 1.1. Characteristics of surface water outflows from the wetland:		
Wetland is a depression or flat depression (QUESTION 7 on key)		
with no surface water leaving it (no outlet).	points = 3	
Wetland has an intermittently flowing stream or ditch, OR highly		
constricted permanently flowing outlet.	points = 2	> 7
☐ Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing		_
	points = 1	
☐ Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch.		
D 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic	points = 1	
(use NRCS definitions).		\sim
D 1.3. Characteristics and distribution of persistent plants (Emergent, Scrub-sl	Yes = 4 No = 0	
Forested Cowardin classes):	irub, and/or	
Wetland has persistent, ungrazed, plants > 95% of area	points = 5	
Wetland has persistent, ungrazed, plants > ½ of area	points = 3	7
Wetland has persistent, ungrazed plants > 1/10 of area	points = 1	5
Wetland has persistent, ungrazed plants < 1/10 of area	points = 0	
D 1.4. Characteristics of seasonal ponding or inundation:	points = 0	
This is the area that is ponded for at least 2 months. See description	in manual	
Area seasonally ponded is > ½ total area of wetland		
Area seasonally ponded is > 1/4 total area of wetland	points = 4	\mathcal{O}
portable in the first and of World in	points = 2	
Area seasonally pended is < 1/4 total area of wetland	Coints - O	
Area seasonally ponded is < ¼ total area of wetland Total for D 1 Add the points	jn the boxes above	72 h
Total for D 1 Add the points	in the boxes above	7- b
Total for D 1 Rating of Site Potential If score is: ☐ 12 - 16 = H Add the points Add the points G-11 = M ☐ 0-5 = L	in the boxes above Record the rating on	
Total for D 1 Rating of Site Potential If score is: \Box 12 - 16 = H D 2 0. Does the landscape have the potential to support the water quality funct	in the boxes above Record the rating on	
Total for D 1 Rating of Site Potential If score is: □ 12 - 16 = H D 2 0. Does the landscape have the potential to support the water quality funct D 2.1. Does the wetland unit receive stormwater discharges?	in the boxes above Record the rating on	
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Total for D 1 Rating of Site Potential If score is: □12-16=H □6-11=M □0-5=L D 2 0. Does the landscape have the potential to support the water quality funct D 2.1. Does the wetland unit receive stormwater discharges? D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants? D 2.3. Are there septic systems within 250 ft of the wetland? D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions D 2.1 - D 2.3? Source Total for D 2 Add the points Rating of Landscape Potential If score is: □3.or 4 = H □1 or 2 = M □0 = L D 3 0. is the water quality improvement provided by the site valuable to society D 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list? D 3.2. Is the wetland in a basin or sub-basin where an aquatic resource is on the D 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (answer YES if there is a TMDL for the basin in	in the boxes above Record the rating on ion of the site? (es = 1) No = 0 Yes = 1 No = 0 Yes = 1 No = 0 in the boxes above Record the rating on a site of the rating of th	the first page 1 2 2 2 3 0
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Total for D 1 Rating of Site Potential If score is: □12-16 = H □6-11 = M □0-5 = L D 2 0. Does the landscape have the potential to support the water quality funct D 2.1. Does the wetland unit receive stormwater discharges? D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants? D 2.3. Are there septic systems within 250 ft of the wetland? D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions D 2.1 - D 2.3? Source Total for D 2 Add the points Rating of Landscape Potential If score is: □3 or 4 = H □1 or 2 = M □0 = L D 3 0. is the water quality improvement provided by the site valuable to society D 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list? D 3.2. Is the wetland in a basin or sub-basin where an aquatic resource is on the D 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (answer YES if there is a TMDL for the basin in which the unit is found)?	in the boxes above Record the rating on ion of the site? (es = 1) No = 0 Yes = 1 No = 0 Yes = 1 No = 0 in the boxes above Record the rating on ? Yes = 1 No = 0 in the boxes above Record the rating on ? Yes = 1 No = 0 In the boxes above Record the rating on ?	the first page 1 2 3 0 the first page 1 2 2 0 2.8

DEPRESSIONAL AND FLATS WETLANDS	
Hydrologic Functions - Indicators that the site functions to reduce flooding and stream degra	dation
D 4.0. Does the site have the potential to reduce flooding and erosion?	
D 4.1 Characteristics of surface water outflows from the wetland:	
Wetland is a depression or flat depression with no surface water	
//eaving it (no outlet) points = 4	
Wetland has an intermittently flowing stream or ditch, OR highly	1
constricted permanently flowing outlet points = 2	· /_
Wetland is a flat depression (QUESTION 7 on key), whose outlet is	
a permanently flowing ditch points = 1	
Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing points = 0	
that is permanently flowing points = 0 D 4.2. Depth of storage during wet periods: Estimate the height of ponding above the bottom of	
the outlet. For wetlands with no outlet, measure from the surface of permanent water or if dry, the	
deepest part. Marks of ponding are 3 ft or more above the surface or bottom of outlet points = 7	
Marks of ponding between 2 ft to < 3 ft from surface or bottom of outlet points = 5	7
Marks are at least 0.5 ft to < 2 ft from surface or bottom of outlet	5 5
The wetland is a "headwater" wetland points = 3	
Wetland is flat but has small depressions on the surface that trap water points = 1	
Marks of ponding less than 0.5 ft (6 in)	
D 4.3. Contribution of the wetland to storage in the watershed: Estimate the ratio of the area of	
upstream basin contributing surface water to the wetland to the area of the wetland unit itself.	
☐ The area of the basin is less than 10 times the area of the unit points = 5	7
The area of the basin is 10 to 100 times the area of the unit	5
The area of the basin is more than 100 times the area of the unit points = 0	
☐ Entire wetland is in the Flats class points = 5	
Total for D 4 Add the points in the boxes above	8 0
Rating of Site Potential If score is: 12 - 16 = H 6 - 11 = M 0 - 5 = L Record the rating on	the first page
D 5.0 Does the landscape have the potential to support hydrologic function of the site?	
D 5 1 Does the wetland unit receive stormwater discharges? (Yes = 1) No = 0	
D 5.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate excess runoff?	1
Yes = D No = 0	
D 5.3. Is more than 25% of the contributing basin of the wetland covered with intensive human	
land uses (residential at >1 residence/ac, urban, commercial, agriculture, etc.)?	1
(Yes = D No = 0)	
Total for D 5 Add the points in the boxes above	3.0
Rating of Landscape Potential If score is: 3 = H 1 or 2 = M 0 = L Record the rating on	the first page
D 6.0. Are the hydrologic functions provided by the site valuable to society?	
D 6.1. The unit is in a landscape that has flooding problems. Choose the description that best	
matches conditions around the wetland unit being rated. Do not add points. Choose the highest	
matches conditions around the wetland unit being rated. Do not add points. <u>Choose the highest</u> score if more than one condition is met.	
matches conditions around the wetland unit being rated. Do not add points. Choose the highest score if more than one condition is met. The wetland captures surface water that would otherwise flow down-gradient into areas	
matches conditions around the wetland unit being rated. Do not add points. Choose the highest score if more than one condition is met. The wetland captures surface water that would otherwise flow down-gradient into areas where flooding has damaged human or natural resources (e.g., houses or salmon redds):	
matches conditions around the wetland unit being rated. Do not add points. Choose the highest score if more than one condition is met. The wetland captures surface water that would otherwise flow down-gradient into areas where flooding has damaged human or natural resources (e.g., houses or salmon redds): Flooding occurs in a sub-basin that is immediately down-	1
matches conditions around the wetland unit being rated. Do not add points. Choose the highest score if more than one condition is met. The wetland captures surface water that would otherwise flow down-gradient into areas where flooding has damaged human or natural resources (e.g., houses or salmon redds): Flooding occurs in a sub-basin that is immediately down-gradient of unit.	7
matches conditions around the wetland unit being rated. Do not add points. Choose the highest score if more than one condition is met. The wetland captures surface water that would otherwise flow down-gradient into areas where flooding has damaged human or natural resources (e.g., houses or salmon redds): Flooding occurs in a sub-basin that is immediately down-gradient of unit. Surface flooding problems are in a sub-basin farther down-	2
matches conditions around the wetland unit being rated. Do not add points. Choose the highest score if more than one condition is met. The wetland captures surface water that would otherwise flow down-gradient into areas where flooding has damaged human or natural resources (e.g., houses or salmon redds): Flooding occurs in a sub-basin that is immediately down-gradient of unit. Surface flooding problems are in a sub-basin farther down-gradient. points = 1	2
matches conditions around the wetland unit being rated. Do not add points. Choose the highest score if more than one condition is met. The wetland captures surface water that would otherwise flow down-gradient into areas where flooding has damaged human or natural resources (e.g., houses or salmon redds): Flooding occurs in a sub-basin that is immediately down-gradient of unit. Surface flooding problems are in a sub-basin farther down-gradient. Flooding from groundwater is an issue in the sub-basin.	2
matches conditions around the wetland unit being rated. Do not add points. Choose the highest score if more than one condition is met. The wetland captures surface water that would otherwise flow down-gradient into areas where flooding has damaged human or natural resources (e.g., houses or salmon redds): Flooding occurs in a sub-basin that is immediately down-gradient of unit. Surface flooding problems are in a sub-basin farther down-gradient. Flooding from groundwater is an issue in the sub-basin. The existing or potential outflow from the wetland is so constrained	2
matches conditions around the wetland unit being rated. Do not add points. Choose the highest score if more than one condition is met. The wetland captures surface water that would otherwise flow down-gradient into areas where flooding has damaged human or natural resources (e.g., houses or salmon redds): Flooding occurs in a sub-basin that is immediately down-gradient of unit. Surface flooding problems are in a sub-basin farther down-gradient. Flooding from groundwater is an issue in the sub-basin. Flooding or potential outflow from the wetland is so constrained by human or natural conditions that the water stored by the wetland	2
matches conditions around the wetland unit being rated. Do not add points. Choose the highest score if more than one condition is met. The wetland captures surface water that would otherwise flow down-gradient into areas where flooding has damaged human or natural resources (e.g., houses or salmon redds): Flooding occurs in a sub-basin that is immediately down-gradient of unit. Surface flooding problems are in a sub-basin farther down-gradient. Flooding from groundwater is an issue in the sub-basin. The existing or potential outflow from the wetland is so constrained by human or natural conditions that the water stored by the wetland cannot reach areas that flood. Explain why	2
matches conditions around the wetland unit being rated. Do not add points. Choose the highest score if more than one condition is met. The wetland captures surface water that would otherwise flow down-gradient into areas where flooding has damaged human or natural resources (e.g., houses or salmon redds): Flooding occurs in a sub-basin that is immediately down-gradient of unit. Surface flooding problems are in a sub-basin farther down-gradient. Flooding from groundwater is an issue in the sub-basin. The existing or potential outflow from the wetland is so constrained by human or natural conditions that the water stored by the wetland cannot reach areas that flood. Explain why There are no problems with flooding downstream of the wetland.	2
matches conditions around the wetland unit being rated. Do not add points. Choose the highest score if more than one condition is met. The wetland captures surface water that would otherwise flow down-gradient into areas where flooding has damaged human or natural resources (e.g., houses or salmon redds): Flooding occurs in a sub-basin that is immediately down-gradient of unit. Surface flooding problems are in a sub-basin farther down-gradient. Flooding from groundwater is an issue in the sub-basin. Flooding from groundwater is an issue in the sub-basin. The existing or potential outflow from the wetland is so constrained by human or natural conditions that the water stored by the wetland cannot reach areas that flood. Explain why There are no problems with flooding downstream of the wetland. D 6.2. Has the site been identified as important for flood storage or flood	2
matches conditions around the wetland unit being rated. Do not add points. Choose the highest score if more than one condition is met. The wetland captures surface water that would otherwise flow down-gradient into areas where flooding has damaged human or natural resources (e.g., houses or salmon redds): Flooding occurs in a sub-basin that is immediately down-gradient of unit. Surface flooding problems are in a sub-basin farther down-gradient. Flooding from groundwater is an issue in the sub-basin. The existing or potential outflow from the wetland is so constrained by human or natural conditions that the water stored by the wetland cannot reach areas that flood. Explain why There are no problems with flooding downstream of the wetland. D 6.2. Has the site been identified as important for flood storage or flood	2

These questions analy to water de	of all HOM alarma	
These questions apply to wetlands		
HABITAT FUNCTIONS - Indicators that site functions to provide impo	irtant habitat	
H 1.0. Does the site have the potential to provide habitat? H 1.1. Structure of plant community: Indicators are Cowardin class		11111
Forested class. Check the Cowardin plant classes in the wetlan	asses and strata within the	
combined for each class to meet the threshold of ¼ ac or more	than 10% of the unit if it is smaller	
than 2.5 ac. Add the number of structures checked.	indir 1070 of the drift if it is smaller	
V.		,
Aquatic bed	# structures or more: points = 4	
Emergent	3 structures: points = 2	7
Scrub-shrub (areas where shrubs have > 30% cover) Forested (areas where trees have > 30% cover)	2 structures: points - 1	,
If the unit has a Forested class, check if:	1 structure: points = 0	
The Forested class has 3 out of 5 strata (canopy, sub	-canopy, shrubs, herbaceous.	
moss/ground-cover) that each cover 20% within the Fo	prested polygon	
H 1.2. Hydroperiods Check the types of water regimes (hydroperiods) present within	the westernd. The western	
Check the types of water regimes (hydroperiods) present within has to cover more than 10% of the wetland or ¼ ac to count (se	the wetland. The water regime	
hydroperiods).	e text for descriptions of	
Permanently flooded or inundated	or more types present: points = 3	> 7
Seasonally flooded or inundated Occasionally flooded or inundated	3 types present: points = 2	5
Saturated only	2 types present: points = 1	
Permanently flowing stream or river in, or adjacent to,	1 types present: points = 0	
Seasonally flowing stream in, or adjacent to, the wetlar	nd	
☐ Lake Fringe wetland	2 points	
☐ Freshwater tidal wetland	2 points	
H 1.3. Richness of plant species		
Count the number of plant species in the wetland that cover at le Different patches of the same species can be combined to meet	ast 10 ft ^c .	
not have to name the species. Do not include Eurasian milfoi	reed canarvarass, purple	
loosestrife, Canadian thistle	,	
If you counted: > 19 species		7
17 you counted: \$\frac{5}{5} - 19 \text{ species}\$	points = 2	· —
< 5 species	points = 1 points = 0	
H 1.4. Interspersion of habitats		
Decide from the diagrams below whether interspersion among C	owardin plants classes	
(described in H 1.1), or the classes and unvegetated areas (can	include open water or mudflats)	
is high, moderate, low, or none. If you have four or more plant clawater, the rating is always high.	asses or three classes and open	
ration, the rating is aways riight.		
		·~
None = 0 points Low = 1 point	Moderate = 2 points	5
All three diagrams		
in this row are		
HIGH = 3 points		
		i

H 1.5. Special habitat features: Check the habitat features that are present in the wetland. <i>The number of che</i>	ecks is the number	
of points.		
Large, downed, woody debris within the wetland (> 4 in diameter an	d 6 ft long)	
Standing snags (dbh > 4 in) within the wetland		
Undercut banks are present for at least 6.6 ft (2 m) and/or overhan	ging plants extends	
at least 3.3 ft (1 m) over a stream (or ditch) in, or contiguous with th	e wetland, for at	11
least 33 ft (10 m)		4
Stable steep banks of fine material that might be used by beaver or	muskrat for denning	
(> 30 degree slope) OR signs of recent beaver activity are present (cut shrubs or trees	
that have not yet weathered where wood is exposed)	are present in areas	
At least ¼ ac of thin-stemmed persistent plants or woody branches that are permanently or seasonally inundated (structures for egg-lay	vina by amphihians	
☐ Invasive plants cover less than 25% of the wetland area in every str	ratum of plants (see	
H 1.1 for list of strata)	aram or promise (
Total for H 1 Add the point	s in the boxes above	16 0
Rating of Site Potential If Score is: 15-18 = H 7-14 = M 0-6 = L	Record the rating on	the first pag
H 2.0. Does the landscape have the potential to support the habitat function of	of the site?	
H 2.1 Accessible habitat (include only habitat that directly abuts wetland unit)	1-	
Calculate:	.md upop / 0) —	
% undisturbed habitat + (% moderate & low intensity la	nd uses / Z) =	
If total according hebitation		40
If total accessible habitat is:	points = 3	
> ¹ / ₃ (33.3%) of 1 km Polygon	points = 2	
20 - 33% of 1 km Polygon	points = 1	
10 - 19% of 1 km Polygon < 10 % of 1 km Polygon	points = 0	b
H 2.2. Undisturbed habitat in 1 km Polygon around the wetland.		
	0506	
Calculate:% undisturbed habitat + (% moderate & low intensity la	ind uses / 2) = 2540	
Undisturbed habitat > 50% of Polygon	points = 3	1
Undisturbed habitat 10 - 50% and in 1-3 patches	points = 2	>-
Undisturbed habitat 10 - 50% and > 3 patches	points = 1	Ţ
Undisturbed habitat < 10% of 1 km Polygon	points = 0	
H 2.3 Land use intensity in 1 km Polygon: If		1
> 50% of 1 km Polygon is high intensity land use	points = (-2)	
≤ 50% of 1km Polygon is high intensity	points = 0	
Total for H 2 Add the poin	ts in the boxes above	a the first poor
Rating of Landscape Potential If Score is: 4-6=H 1-3=M <1=	L Hecord the rating or	ı ıne ınsı pay
H 3.0. Is the habitat provided by the site valuable to society?		
H 3.1. Does the site provide habitat for species valued in laws, regulations, o	r policies? Choose	
only the highest score that applies to the wetland being rated.		
Site meets ANY of the following criteria:	points = 2	
It has 3 or more priority habitats within 100 m (see next p	age)	
lt provides habitat for Threatened or Endangered species	; (any plant	
or animal on the state or federal lists)	u encolos	
☐ It is mapped as a location for an individual WDFW priorit	y species	1
☐ It is a Wetland of High Conservation Value as determined	a by tile	
Department of Natural Resources It has been categorized as an important habitat site in a l	ocal or	
regional comprehensive plan, in a Shoreline Master Plan	or in a	
regional comprehensive plan, in a Shoreline Master Plan watershed plan	, or iii w	
Site has 1 or 2 priority habitats (listed on next page) with in 100m	points = 1	
Site does not meet any of the criteria above	points = 0	
Rating of Value If Score is: 2 = H 1 = M 0 = L	Record the rating of	n the first pa
italing of falloon 100010 to part - 11 - 1 - 1 - 1 - 1	•	-

WDFW Priority Habitats

<u>Priority habitats listed by WDFW</u> (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp.

http://wdfw.wa.gov/publications/00165/wdfw00165.pdf or access the list from here: http://wdfw.wa.gov/conservation/phs/list/

Count how many of the following priority habitats are within 330 ft (100 m) of the wetland unit: NOTE: This question is independent of the land use between the wetland unit and the priority habitat. Aspen Stands: Pure or mixed stands of aspen greater than 1 ac (0.4 ha). ☐ Biodiversity Areas and Corridors: Areas of habitat that are relatively important to various species of native fish and wildlife (full descriptions in WDFW PHS report). Herbaceous Balds: Variable size patches of grass and forbs on shallow soils over bedrock. Old-growth/Mature forests: Old-growth west of Cascade crest - Stands of at least 2 tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) > 32 in (81 cm) dbh or > 200 years of age. Mature forests - Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west of the Cascade crest. ☐ Oregon White Oak: Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (full descriptions in WDFW PHS report p. 158 - see web link above). Riparian: The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other. ☐ Westside Prairies: Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (full descriptions in WDFW PHS report p. 161 - see web link above). Instream: The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources. Nearshore: Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. (full descriptions of habitats and the definition of relatively undisturbed are in WDFW report - see web link on previous page). Caves: A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human. ☐ Cliffs: Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation. Talus: Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs. Snags and Logs: Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 20 in (51 cm) in western Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.

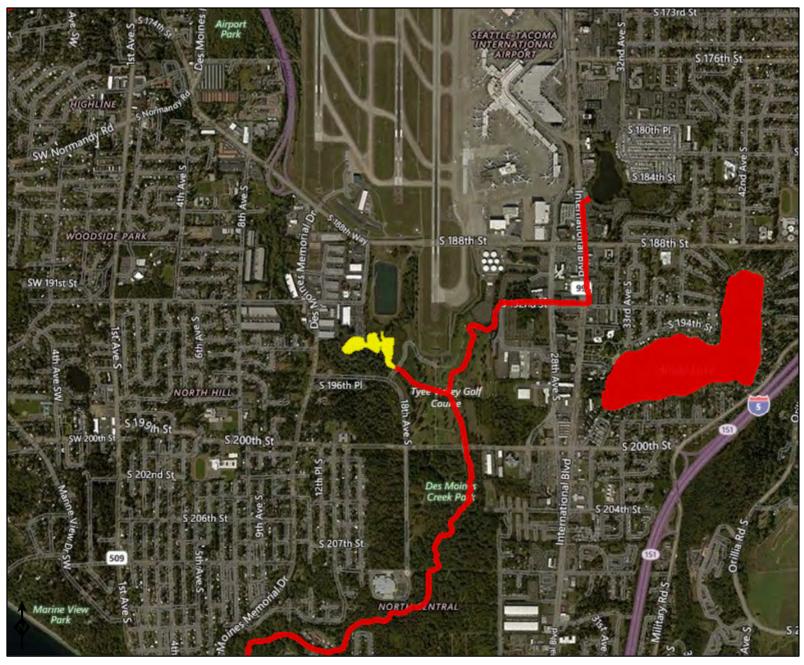
Note: All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Wetland	Type	Category
	7 Miles and 1 of the 1 of the 1 of the 2 of the	
Check off	any criteria that apply to the wetland. List the category when the appropriate criteria are met.	
SC 1.0. E	stuarine Wetlands	
	Does the wetland meet the following criteria for Estuarine wetlands?	
	The dominant water regime is tidal, Vegetated, and	
	With a salinity greater than 0.5 ppt	
	Yes - Go to SC 1.1 No = Not an estuarine wetland	3411 Pimi
SC 1.1.	Is the wetland within a National Wildlife Refuge, National Park, National Estuary	
	Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific	
	Reserve designated under WAC 332-30-151?	
	☐ Yes = Category I ☐ No - Go to SC 1.2	
SC 1.2.	Is the wetland unit at least 1 ac in size and meets at least two of the following three conditions?	
, 🗆	The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing,	l
	and has less than 10% cover of non-native plant species. (If non-native species are	
	Spartina, see page 25) At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-	
	grazed or un-mowed grassland. The wetland has at least two of the following features: tidal channels, depressions with	
	open water, or contiguous freshwater wetlands.	l
	☐ Yes = Category I ☐ No = Category II	İ
SC 2 0 1	Metlands of High Conservation Value (WHCV)	
SC 2.1.	Has the WA Department of Natural Resources updated their website to include the list	1
	of Wetlands of High Conservation Value?	ļ
	☐ Yes - Go to SC 2.2 ☐ No - Go to SC 2.3	
SC 2.2.	Is the wetland listed on the WDNR database as a Wetland of High Conservation Value?	
	☐ Yes = Category I ☐ No = Not WHCV	Ļ
SC 2.3.	Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland?	1
	http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf	,
	☐ Yes - Contact WNHP/WDNR and to SC 2.4 ☐ No = Not WHCV Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation	
SC 2.4.	Value and listed it on their website?	
	Yaiue and listed it on their website: ☐ Yes = Category I ☐ No = Not WHCV	,
SC 3.0.	= 100 - 0410301,1	
30 3.0.	Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation	
	in bogs? Use the key below. If you answer YES you will still need to rate the	
	wetland hased on its functions.	
SC 3.1.	Does an area within the wetland unit have organic soil horizons, either peats or mucks,	
	that compose 16 in or more of the first 32 in of the soil profile?	
	☐ Yes - Go to SC 3.3 ☐ No - Go to SC 3.2	
SC 3.2.	Does an area within the wetland unit have organic soils, either peats or mucks, that are	
1	less than 16 in deep over bedrock, or an impermeable hardpan such as clay or volcanic	1
	ash, or that are floating on top of a lake or pond? \[\sum \text{Yes} - \text{Go to SC 3.3} \] \[\sum \text{No} = \text{Is not a bog} \]	.
0000	Does an area with peats or mucks have more than 70% cover of mosses at ground	'l
SC 3.3.	level, AND at least a 30% cover of plant species listed in Table 4?	
	Yes = Is a Category I bog □ No - Go to SC 3.4	ı
	NOTE: If you are uncertain about the extent of mosses in the understory, you may	
	substitute that criterion by measuring the pH of the water that seeps into a hole dug at	
	least 16 in deep. If the pH is less than 5.0 and the plant species in Table 4 are present,	
	the wetland is a bog.	
SC 3.4.	Is an area with peats or mucks forested (> 30% cover) with Sitka spruce, subalpine fir,	
	western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann	.]
	spruce, or western white pine, AND any of the species (or combination of species) listed	기
	in Table 4 provide more than 30% of the cover under the canopy?	_
	☐ Yes = Is a Category I bog ☐ No = Is not a boo	31

60.40	Format J.W. J	
36 4.0.	Forested Wetlands	
	Does the wetland have at least 1 contiguous acre of forest that meets one of these	
	criteria for the WA Department of Fish and Wildlife's forests as priority habitats? If you	
_	answer YES you will still need to rate the wetland based on its functions	
	a least two the species.	
	forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac	
	(20 trees/ha) that are at least 200 years of age OR have a diameter at breast height	
	(dbh) of 32 in (81 cm) or more.	
	Mature forests (west of the Cascade Crest): Stands where the largest trees are 80-	
	200 years old OR the species that make up the canopy have an average diameter (dbh	1
l	exceeding 21 in (53 cm).	'
	☐ Yes = Category I ☐ No = Not a forested wetland for this section	n
SC 5.0.	Wetlands in Coastal Lagoons	
	Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?	
	The wetland lies in a depression adjacent to marine waters that is wholly or partially	
	separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently,	
	rocks	
	The lagoon in which the wetland is located contains ponded water that is saline or	
	brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (needs to	
	be measured near the bottom)	
	☐ Yes - Go to SC 5.1 ☐ No = Not a wetland in a coastal lagoor	
SC 5.1. I	Does the wetland meet all of the following three conditions?	'
	The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing),	
	and has less than 20% cover of aggressive, opportunistic plant species (see list of	'
	species on p. 100).	
		Ì
	grazed or un-mowed grassland.]
	The wetland is larger than $^{1}/_{10}$ ac (4350 ft ²)	
SC S O I	☐ Yes = Category I ☐ No = Category II	[
SC 6.0. I		
	Is the wetland west of the 1889 line (also called the Western Boundary of Upland	
	Ownership or WBUO)? If you answer yes you will still need to rate the wetland	
	based on its habitat functions.	
	In practical terms that means the following geographic areas:	
닏	Long Beach Peninsula: Lands west of SR 103	
	Grayland-Westport: Lands west of SR 105	
	Ocean Shores-Copalis: Lands west of SR 115 and SR 109	
	☐ Yes - Go to SC 6.1 ☐ No = Not an interdunal wetland for rating	
SC 6.1.	is the wetland 1 ac or larger and scores an 8 or 9 for the habitat functions on the form	1
	(rates H,H,H or H,H,M for the three aspects of function)?	1
	☐ Yes = Category I ☐ No - Go to SC 6.2	
SC 6.2.	Is the wetland 1 ac or larger, or is it in a mosaic of wetlands that is 1 ac or larger?	
	\square Yes = Category II \square No - Go to SC 6.3	
SC 6.3.	is the unit between 0.1 and 1 ac, or is it in a mosaic of wetlands that is between 0.1 and	
	1 ac?	
	☐ Yes = Category III ☐ No = Category IV	
Category	of wetland based on Special Characteristics	
f you ans	swered No for all types, enter "Not Applicable" on Summary Form	

Water Quality Atlas Map



Assessed Waters/Sediment

Water

- Category 5 303d
- Category 4C
- Category 4B
- Category 4A
- Category 2
- Catagony 1
- 💜 Category 1

Sediment

- Category 5 303d
- ZZZ Category 4C
- ZZZ Category 4B
- ZZZ Category 4A
- Category 2
- ZZZ Category 1



Parametrix
ENGINEERING PLANNING ENVIRONMENTAL SCIENCES

APPROXIMATE CONTRIBUTING BASIN

L2ST Seg. C 554-1521-151



Legend

Approximate_Contributing_Basin



Wetland C

500 1,000 2,000



225

L2ST Seg. C 554-1521-151

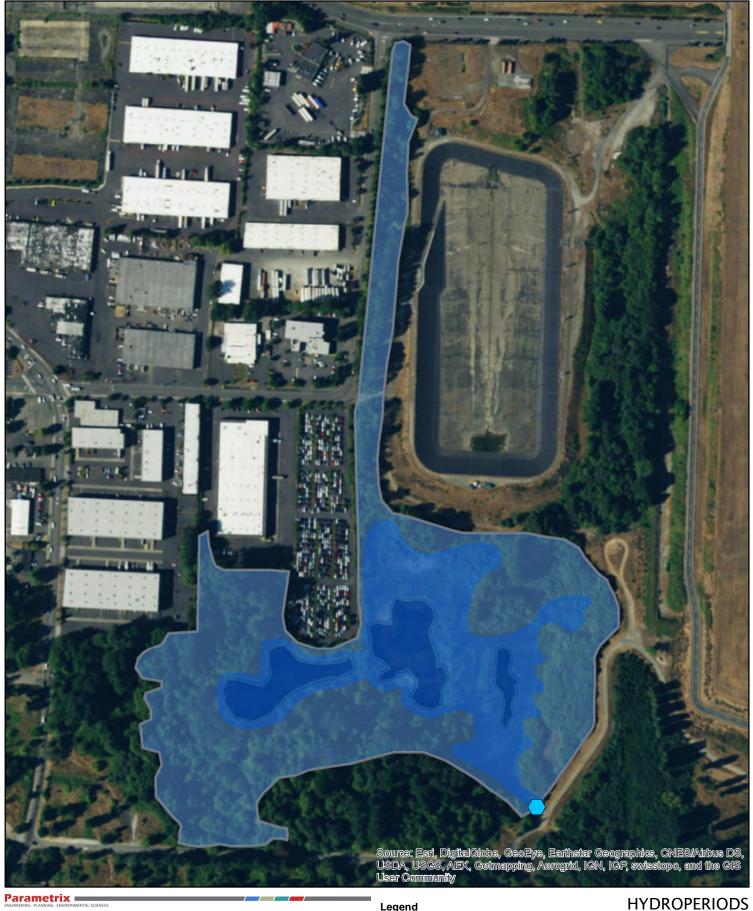
Wetland C

PFO

PSS

PEM POW

Feet 450 900



Feet 900 450

225

Legend

Wetland C

Outlet

Perm. Flooded or Inundated

Seasonally Flooded or Inundated Occasionally Flooded or Inundated

Saturated Only

L2ST Seg. C 554-1521-151



Feet 1,600 3,200

800

L2ST Seg. C 554-1521-151

Wetland C
C_150ft

C_150π
C_1km

E	RATING SI	JMMA R	Y – W	estern/	Washington
Name of wetland (or	ID #): 10+1/1	nd D			Date of site visit:
Rated by	Llozniak	_ т	rained by E	cology? (Ye	s □No Date of training <u>9</u> /10
HGM Class used for	rating <u> </u>	ssional		Wetland ha	as multiple HGM classes? Yes \(\square\)
	rm is not complet Source of base ae			equested (figu	ures can be combined).
OVERALL WETLA	ND CATEGORY	Ш	(based on	functions	or special characteristics □)
1. Category of w					
		I - Total score			Score for each
		II - Total score			function based
	Category)	on three
	Category	IV - Total sco	re = 9 - 15		ratings
			11.12.1		(order of ratings
FUNCTION	Improving	Hydrologic	Habitat		is not
	Water Quality	nya malaka makin	- (11 M 11)		important)
Site Potential	List apj	propriate rating) (H, M, L)		
Landscape Potential	//!	40	dia .		9 = H, H, H
Value		177	//	Total	8 = H, H, M
Score Based on	H	H		Total	7 = H, H, L
Ratings	7	6	4	0/7	7 = H, M, M 6 = H, M, L
i caningo	•	1	,		6 = M, M, M
					6 = M, M, M 5 = H, L, L
					5 = H, L, L 5 = M, M, L
					5 = IVI, IVI, L

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	Category
Estuarine	
Wetland of High Conservation Value	
Bog	
Mature Forest	
Old Growth Forest	
Coastal Lagoon	
Interdunal	
None of the above	X

Maps and Figures required to answer questions correctly for Western Washington

Depressional Wetlands

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

Riverine Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	H 1.1, H 1.4	
Hydroperiods	H 1.2	
Ponded depressions	R 1.1	
Boundary of area within 150 ft of the wetland (can be added to another figure)	R 2.4	
Plant cover of trees, shrubs, and herbaceous plants	R 1.2, R 4.2	
Width of unit vs. width of stream (can be added to another figure)	R 4.1	
Map of the contributing basin	R 2.2, R 2.3, R 5.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	R 3.1	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	R 3.2, R 3.3	

Lake Fringe Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	L 1.1, L 4.1, H 1.1, H 1.4	
Plant cover of trees, shrubs, and herbaceous plants	L 1.2	
Boundary of area within 150 ft of the wetland (can be added to another figure)	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	L 3.1, L 3.2	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	L 3.3	

Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	H 1.1, H 1.4	
Hydroperiods	H 1.2	
Plant cover of dense trees, shrubs, and herbaceous plants	S 1.3	
Plant cover of dense, rigid trees, shrubs, and herbaceous plants	S 4.1	
(can be added to another figure)		
Boundary of area within 150 ft of the wetland (can be added to another figure)	S 2.1, S 5.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	S 3.3	

HGM Classification of Wetland in Western Washington

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

1. Are the water levels in the entire unit usually	controlled by tides except during floods?
NO - go to 2	☐ YES - the wetland class is Tidal Fringe - go to 1.1
1.1 Is the salinity of the water during period	ds of annual low flow below 0.5 ppt (parts per thousand)?
☐ NO - Saltwater Tidal Fringe (Estuari If your wetland can be classified as a If it is Saltwater Tidal Fringe it is an Estuarine weet to score functions for estuarine weet.	Freshwater Tidal Fringe use the forms for Riverine wetlands. stuarine wetland and is not scored. This method cannot be
2. The entire wetland unit is flat and precipitation Groundwater and surface water runoff are NOT	n is the only source (>90%) of water to it. sources of water to the unit.
NO - go to 3 If your wetland can be classified as a l	☐ YES - The wetland class is Flats Flats wetland, use the form for Depressional wetlands.
3. Does the entire wetland unit meet all of the fo	ollowing criteria? In the shores of a body of permanent open water (without any eyear) at least 20 ac (8 ha) in size;
NO - go to 4	YES - The wetland class is Lake Fringe (Lacustrine Fringe)
4. Does the entire wetland unit meet all of the form the wetland is on a slope (slope can be a through the wetland in the water flows through the wetland in the water flow subsurface, as sheetflow, on the water leaves the wetland without	ne very gradual), none direction (unidirectional) and usually comes from seeps. For in a swale without distinct banks.
□ NO - go to 5	XYES - The wetland class is Slope
NOTE: Surface water does not pond in these type depressions or behind hummocks (depressions	pe of wetlands except occasionally in very small and shallow are usually <3 ft diameter and less than 1 ft deep).
 5. Does the entire wetland unit meet all of the form the unit is in a valley, or stream channed from that stream or river, The overbank flooding occurs at least of the unit is a stream or river. 	el, where it gets inundated by overbank flooding
NO - go to 6	☐ YES - The wetland class is Riverine
NOTE: The Riverine unit can contain depression	s that are filled with water when the river is not flooding.

6. Is the entire wetland unit in a topographic deposome time during the year? This means that an	pression in which water ponds, or is saturated to the surface, a by outlet, if present, is higher than the interior of the wetland.
□ NO - go to 7	YES - The wetland class is Depressional
7. Is the entire wetland unit located in a very flat The unit does not pond surface water more that groundwater in the area. The wetland may be d	t area with no obvious depression and no overbank flooding? n a few inches. The unit seems to be maintained by high litched, but has no obvious natural outlet.

□ NO - go to 8
 □ YES - The wetland class is Depressional
 8. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a

Depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-7 APPLY TO DIFFERENT AREAS IN THE UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within the wetland unit being scored.

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

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

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

NOTES and FIELD OBSERVATIONS:

1

DEPRESSIONAL AND FLATS WETL	ANDS	
Water Quality Functions - Indicators that the site functions to it	mprove water quality	
D 1.0. Does the site have the potential to improve water quality?		
D 1.1. Characteristics of surface water outflows from the wetland:		
Wetland is a depression or flat depression (QUESTION 7 on key)		
/ with no surface water leaving it (no outlet).	points = 3	
Wetland has an intermittently flowing stream or ditch, OR highly		
constricted permanently flowing outlet.	points = 2	> 7
☐ Wetland has an unconstricted, or slightly constricted, surface outlet		
that is permanently flowing	points = 1	
☐ Wetland is a flat depression (QUESTION 7 on key), whose outlet is		
a permanently flowing ditch.	points = 1	
D 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic		(2)
(use NRCS definitions).	Yes = 4 (No = 0)	
D 1.3. Characteristics and distribution of persistent plants (Emergent, Scrub-s	hrub, and/or	
Forested Cowardin classes):		
Wetland has persistent, ungrazed, plants > 95% of area	points = 5	> ~
Wetland has persistent, ungrazed, plants > ½ of area	points = 3	5
Wetland has persistent, ungrazed plants > 1/10 of area	points = 1	
Wetland has persistent, ungrazed plants < 1/10 of area	points = 0	
D 1.4. Characteristics of seasonal ponding or inundation:		
This is the area that is ponded for at least 2 months. See description		
Area seasonally ponded is > ½ total area of wetland	points = 4	15
Area seasonally ponded is > 1/4 total area of wetland	points = 2	\bigcirc
Area seasonally ponded is < 1/4 total area of wetland	points = 0)
	in the boxes above	70
	D 1.4 .1	
Rating of Site Potential If score is: 12-16 = H 6-11 = M 0-5 = L	Record the rating on	the first page
		the first page
D 2 0. Does the landscape have the potential to support the water quality func	tion of the site?	AF (Epech P)
D 2.0. Does the landscape have the potential to support the water quality function D 2.1. Does the wetland unit receive stormwater discharges?		AF FERRATE
D 2 0. Does the landscape have the potential to support the water quality func	Yes = 1 No = 0	AF FERRATE
D 2.0. Does the landscape have the potential to support the water quality function D 2.1. Does the wetland unit receive stormwater discharges? D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants?	Yes = 1 No = 0	AF (Epech P)
D 2.0. Does the landscape have the potential to support the water quality function D 2.1. Does the wetland unit receive stormwater discharges? D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that	Yes = 1 No = 0	AF (Epech P)
D 2.0. Does the landscape have the potential to support the water quality function D 2.1. Does the wetland unit receive stormwater discharges? D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants? D 2.3. Are there septic systems within 250 ft of the wetland?	Yes = 1 No = 0	AF (Epech P)
D 2.0. Does the landscape have the potential to support the water quality function D 2.1. Does the wetland unit receive stormwater discharges? D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants? D 2.3. Are there septic systems within 250 ft of the wetland? D 2.4. Are there other sources of pollutants coming into the wetland that are	Yes = 1 No = 0	AF FERRATE
D 2 0 Does the landscape have the potential to support the water quality function D 2.1. Does the wetland unit receive stormwater discharges? D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants? D 2.3. Are there septic systems within 250 ft of the wetland? D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions D 2.1 - D 2.3? Source	Yes = 1 No = 0 Yes = 1 No = 0 Yes = 1 No = 0	AF (Epech P)
D 2.0. Does the landscape have the potential to support the water quality function D 2.1. Does the wetland unit receive stormwater discharges? D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants? D 2.3. Are there septic systems within 250 ft of the wetland? D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions D 2.1 - D 2.3? Source Total for D 2 Add the points	Yes = 1 No = 0 Yes = 1 No = 0 Yes = 1 No = 0 Yes = 1 No = 0	0 0 0 0 0 2 9
D 2.0. Does the landscape have the potential to support the water quality function D 2.1. Does the wetland unit receive stormwater discharges? D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants? D 2.3. Are there septic systems within 250 ft of the wetland? D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions D 2.1 - D 2.3? Source Total for D 2 Add the points Rating of Landscape Potential If score is:	Yes = 1 No = 0 Yes = 1 No = 0 Yes = 1 No = 0 Yes = 1 No = 0 Yes = 1 No = 0 in the boxes above Record the rating on the	0 0 0 0 0 2 9
D 2.0. Does the landscape have the potential to support the water quality function D 2.1. Does the wetland unit receive stormwater discharges? D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants? D 2.3. Are there septic systems within 250 ft of the wetland? D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions D 2.1 - D 2.3? Source Total for D 2 Add the points Rating of Landscape Potential If score is: 3 or 4 = H 1 or 2 = M 0 = L	Yes = 1 No = 0 Yes = 1 No = 0 Yes = 1 No = 0 Yes = 1 No = 0 Yes = 1 No = 0 in the boxes above Record the rating on the	0 0 0 0 0 2 9
D 2.0. Does the landscape have the potential to support the water quality function D 2.1. Does the wetland unit receive stormwater discharges? D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants? D 2.3. Are there septic systems within 250 ft of the wetland? D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions D 2.1 - D 2.3? Source Total for D 2 Add the points Rating of Landscape Potential If score is:	Yes = 1 No = 0 Yes = 1 No = 0 Yes = 1 No = 0 Yes = 1 No = 0 Yes = 1 No = 0 Yes = 1 No = 0 An in the boxes above Record the rating on the second the rating on the second the rating on the second the rating on the second the rating on the second the rating on the second the rating on the second the rating on the second the rating on the second t	0 0 0 0 0 2 9
D 2.0. Does the landscape have the potential to support the water quality function D 2.1. Does the wetland unit receive stormwater discharges? D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants? D 2.3. Are there septic systems within 250 ft of the wetland? D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions D 2.1 - D 2.3? Source Total for D 2 Add the points Rating of Landscape Potential If score is:	Yes = 1 No = 0 Yes = 1 No = 0 Yes = 1 No = 0 Yes = 1 No = 0 Yes = 1 No = 0 Yes = 1 No = 0 In the boxes above Record the rating on the second the rating on the second the rating on the second the rating on the second the rating on the second the rating on the second the rating on the second the rating on the second the rating on the second the rating on the second the second the rating on the second the secon	0 0 0 0 0 2 9
D 2.0. Does the landscape have the potential to support the water quality function D 2.1. Does the wetland unit receive stormwater discharges? D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants? D 2.3. Are there septic systems within 250 ft of the wetland? D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions D 2.1 - D 2.3? Source Total for D 2 Add the points Rating of Landscape Potential If score is:	Yes = 1 No = 0 Yes = 1 No = 0 Yes = 1 No = 0 Yes = 1 No = 0 Yes = 1 No = 0 Yes = 1 No = 0 In the boxes above Record the rating on the second the rating on the second the rating on the second the rating on the second the rating on the second the rating on the second the rating on the second the rating on the second the rating on the second the rating on the second the second the rating on the second the secon	0 0 0 0 0 2 9
D 2.0. Does the landscape have the potential to support the water quality function D 2.1. Does the wetland unit receive stormwater discharges? D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants? D 2.3. Are there septic systems within 250 ft of the wetland? D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions D 2.1 - D 2.3? Source Total for D 2 Add the points Rating of Landscape Potential If score is:	Yes = 1 No = 0 Yes = 1 No = 0 Yes = 1 No = 0 Yes = 1 No = 0 Yes = 1 No = 0 in the boxes above Record the rating on the 303(d) list?	0 0 0 0 0 2 9
D 2 0. Does the landscape have the potential to support the water quality function D 2.1. Does the wetland unit receive stormwater discharges? D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants? D 2.3. Are there septic systems within 250 ft of the wetland? D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions D 2.1 - D 2.3? Source Total for D 2 Add the points Rating of Landscape Potential If score is:	Yes = 1 No = 0 Yes = 1 No = 0 Yes = 1 No = 0 Yes = 1 No = 0 Yes = 1 No = 0 in the boxes above Record the rating on the 303(d) list?	2 Q the first page
D 2 0. Does the landscape have the potential to support the water quality function D 2.1. Does the wetland unit receive stormwater discharges? D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants? D 2.3. Are there septic systems within 250 ft of the wetland? D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions D 2.1 - D 2.3? Source Total for D 2 Add the points Rating of Landscape Potential If score is:	Yes = 1 No = 0 Yes = 1 No = 0 Yes = 1 No = 0 Yes = 1 No = 0 Yes = 1 No = 0 in the boxes above Record the rating on the 303(d) list? Yes = No = 0	0 0 0 0 0 2 9
D 2 0. Does the landscape have the potential to support the water quality function D 2.1. Does the wetland unit receive stormwater discharges? D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants? D 2.3. Are there septic systems within 250 ft of the wetland? D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions D 2.1 - D 2.3? Source Total for D 2 Add the points Rating of Landscape Potential If score is:	Yes = 1 No = 0 Yes = 1 No = 0 Yes = 1 No = 0 Yes = 1 No = 0 Yes = 1 No = 0 in the boxes above Record the rating on the 303(d) list?	2 Q the first page

DEPRESSIONAL AND FLATS WETLANDS	
Hydrologic Functions - Indicators that the site functions to reduce flooding and stream degra	adation
D 4.0. Does the site have the potential to reduce flooding and erosion?	
D 4.1. Characteristics of surface water outflows from the wetland:	
Wetland is a depression or flat depression with no surface water	
leaving it (no outlet) points = 4	
Wetland has an intermittently flowing stream or ditch, OR highly	
constricted permanently flowing outlet points = 2	
Wetland is a flat depression (QUESTION 7 on key), whose outlet is	
a permanently flowing ditch points = 1	
Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing points = 0	
D 4.2. Depth of storage during wet periods: Estimate the height of ponding above the bottom of	
the outlet. For wetlands with no outlet, measure from the surface of permanent water or if dry, the	
deepest part.	
Marks of ponding are 3 ft or more above the surface or bottom of outlet points = 7	
Marks of ponding between 2 ft to < 3 ft from surface or bottom of outlet points = 5	
☐ Marks are at least 0.5 ft to < 2 ft from surface or bottom of outlet points = 3	()
☐ The wetland is a "headwater" wetland points = 3	
Wetland is flat but has small depressions on the surface that trap water points = 1	
Marks of ponding less than 0.5 ft (6 in) points = 0	_
D 4.3. Contribution of the wetland to storage in the watershed: Estimate the ratio of the area of	
upstream basin contributing surface water to the wetland to the area of the wetland unit itself.	
☐ The area of the basin is less than 10 times the area of the unit points = 5	2
The area of the basin is 10 to 100 times the area of the unit	
The area of the basin is more than 100 times the area of the unit points = 0 Fortige wetland is in the Flats class points = 5	
	79.5
	the mst page
D 5.0. Does the landscape have the potential to support hydrologic function of the site?	0
D 5.1. Does the wetland unit receive stormwater discharges? Yes = 1 No = 0	0
D 5.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate excess runoff? Yes = 1 No = 0	1
ID 5.3. Is more than 25% of the contributing basin of the wetland covered with intensive numari.	
D 5.3. Is more than 25% of the contributing basin of the wetland covered with intensive human land uses (residential at >1 residence/ac, urban, commercial, agriculture, etc.)?	^
D 5.3. Is more than 25% of the contributing basin of the wetland covered with intensive numan land uses (residential at >1 residence/ac, urban, commercial, agriculture, etc.)? Yes = 1 No = 0	0
land uses (residential at >1 residence/ac, urban, commercial, agriculture, etc.)? Yes = 1 No = 0	
land uses (residential at >1 residence/ac, urban, commercial, agriculture, etc.)? Yes = 1 Total for D 5 Add the points in the boxes above	Ø 1
land uses (residential at >1 residence/ac, urban, commercial, agriculture, etc.)? Yes = 1 Total for D 5 Add the points in the boxes above Rating of Landscape Potential If score is: □3 = H 1 or 2 = M □0 = L Record the rating on	Ø 1
land uses (residential at >1 residence/ac, urban, commercial, agriculture, etc.)? Yes = 1 Yes = 1 No = 0 Total for D 5 Add the points in the boxes above Rating of Landscape Potential If score is: □3 = H D 6.0. Are the hydrologic functions provided by the site valuable to society?	Ø 1
land uses (residential at >1 residence/ac, urban, commercial, agriculture, etc.)? Yes = 1 Yes = 1 No = 0 Total for D 5 Add the points in the boxes above Rating of Landscape Potential If score is: □3 = H D 6.0. Are the hydrologic functions provided by the site valuable to society? D 6.1. The unit is in a landscape that has flooding problems. Choose the description that best	Ø 1
land uses (residential at >1 residence/ac, urban, commercial, agriculture, etc.)? Yes = 1 Yes = 1 No = 0 Total for D 5 Add the points in the boxes above Rating of Landscape Potential If score is: □3 = H D 6.0. Are the hydrologic functions provided by the site valuable to society? D 6.1. The unit is in a landscape that has flooding problems. Choose the description that best matches conditions around the wetland unit being rated. Do not add points. Choose the highest	Ø 1
land uses (residential at >1 residence/ac, urban, commercial, agriculture, etc.)? Yes = 1 Yes = 1 No = 0 Total for D 5 Add the points in the boxes above Rating of Landscape Potential If score is: □3 = H D 6.0. Are the hydrologic functions provided by the site valuable to society? D 6.1. The unit is in a landscape that has flooding problems. Choose the description that best matches conditions around the wetland unit being rated. Do not add points. Choose the highest score if more than one condition is met.	Ø 1
land uses (residential at >1 residence/ac, urban, commercial, agriculture, etc.)? Yes = 1 Yes = 1 No = 0 Total for D 5 Add the points in the boxes above Rating of Landscape Potential If score is: □3 = H D 6.0. Are the hydrologic functions provided by the site valuable to society? D 6.1. The unit is in a landscape that has flooding problems. Choose the description that best matches conditions around the wetland unit being rated. Do not add points. Choose the highest score if more than one condition is met. The wetland captures surface water that would otherwise flow down-gradient into areas	Ø 1
land uses (residential at >1 residence/ac, urban, commercial, agriculture, etc.)? Yes = 1 Yes = 1 No = 0 Total for D 5 Add the points in the boxes above Rating of Landscape Potential If score is: □3 = H D 6.0. Are the hydrologic functions provided by the site valuable to society? D 6.1. The unit is in a landscape that has flooding problems. Choose the description that best matches conditions around the wetland unit being rated. Do not add points. Choose the highest score if more than one condition is met. The wetland captures surface water that would otherwise flow down-gradient into areas where flooding has damaged human or natural resources (e.g., houses or salmon redds): Flooding occurs in a sub-basin that is immediately down-	Ø 1
land uses (residential at >1 residence/ac, urban, commercial, agriculture, etc.)? Yes = 1 Yes = 1 No = 0 Total for D 5 Add the points in the boxes above Rating of Landscape Potential If score is: □3 = H D 6.0. Are the hydrologic functions provided by the site valuable to society? D 6.1. The unit is in a landscape that has flooding problems. Choose the description that best matches conditions around the wetland unit being rated. Do not add points. Choose the highest score if more than one condition is met. The wetland captures surface water that would otherwise flow down-gradient into areas where flooding has damaged human or natural resources (e.g., houses or salmon redds): Flooding occurs in a sub-basin that is immediately down-gradient of unit.	Ø 1
land uses (residential at >1 residence/ac, urban, commercial, agriculture, etc.)? Yes = 1 Yes = 1 No = 0 Total for D 5 Add the points in the boxes above Rating of Landscape Potential If score is: □3 = H D 6.0. Are the hydrologic functions provided by the site valuable to society? D 6.1. The unit is in a landscape that has flooding problems. Choose the description that best matches conditions around the wetland unit being rated. Do not add points. Choose the highest score if more than one condition is met. The wetland captures surface water that would otherwise flow down-gradient into areas where flooding has damaged human or natural resources (e.g., houses or salmon redds): Flooding occurs in a sub-basin that is immediately down-gradient of unit. Surface flooding problems are in a sub-basin farther down-	Ø 1
land uses (residential at >1 residence/ac, urban, commercial, agriculture, etc.)? Yes = 1 No = 0 Total for D 5 Add the points in the boxes above Rating of Landscape Potential If score is:	Ø 1
land uses (residential at >1 residence/ac, urban, commercial, agriculture, etc.)? Yes = 1 No = 0 Total for D 5	Ø 1
land uses (residential at >1 residence/ac, urban, commercial, agriculture, etc.)? Yes = 1 No = 0 Yes = 1 No = 0 Total for D 5 Add the points in the boxes above	ø 1
land uses (residential at >1 residence/ac, urban, commercial, agriculture, etc.)? Yes = 1	Ø 1
Induses (residential at >1 residence/ac, urban, commercial, agriculture, etc.)? Yes = 1 Yes = 1 No = 0 Total for D 5 Add the points in the boxes above Rating of Landscape Potential If score is: 3 = H 1 or 2 = M 0 = L Record the rating on	ø 1
land uses (residential at >1 residence/ac, urban, commercial, agriculture, etc.)? Yes = 1 Yes = 1 No = 0 Total for D 5 Add the points in the boxes above Rating of Landscape Potential If score is:	the first page
land uses (residential at >1 residence/ac, urban, commercial, agriculture, etc.)? Yes = 1 No = 0 Total for D 5 Add the points in the boxes above Rating of Landscape Potential If score is: □3 = H D 6.0. Are the hydrologic functions provided by the site valuable to society? D 6.1. The unit is in a landscape that has flooding problems. Choose the description that best matches conditions around the wetland unit being rated. Do not add points. Choose the highest score if more than one condition is met. The wetland captures surface water that would otherwise flow down-gradient into areas where flooding has damaged human or natural resources (e.g., houses or salmon redds): Flooding occurs in a sub-basin that is immediately down-gradient. Surface flooding problems are in a sub-basin farther down-gradient. Flooding from groundwater is an issue in the sub-basin. The existing or potential outflow from the wetland is so constrained by human or natural conditions that the water stored by the wetland cannot reach areas that flood. Explain why There are no problems with flooding downstream of the wetland. D 6.2. Has the site been identified as important for flood storage or flood	the first page
land uses (residential at >1 residence/ac, urban, commercial, agriculture, etc.)? Yes = 1 Yes = 1 No = 0 Total for D 5 Add the points in the boxes above Rating of Landscape Potential If score is:	the first page

These questions apply to wetlands of all HGM classes.	
HABITAT FUNCTIONS - Indicators that site functions to provide important habitat	
H 1.0. Does the site have the potential to provide habitat?	
H 1.1. Structure of plant community: Indicators are Cowardin classes and strata within the Forested class. Check the Cowardin plant classes in the wetland. Up to 10 patches may be combined for each class to meet the threshold of ¼ ac or more than 10% of the unit if it is smaller than 2.5 ac. Add the number of structures checked.	
Aquatic bed Emergent Scrub-shrub (areas where shrubs have > 30% cover) Forested (areas where trees have > 30% cover) If the unit has a Forested class, check if: The Forested class has 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover) that each cover 20% within the Forested polygon H 1.2. Hydroperiods	> ()
Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or ¼ ac to count (see text for descriptions of hydroperiods).	
☐ Permanently flooded or inundated 4 or more types present: points = 3 ☐ Seasonally flooded or inundated 3 types present: points = 2 ☐ Occasionally flooded or inundated 2 types present: points = 1 ☐ Saturated only 1 types present: points = 0 ☐ Permanently flowing stream or river in, or adjacent to, the wetland ☐ Seasonally flowing stream in, or adjacent to, the wetland ☐ Lake Fringe wetland 2 points	
 ☐ Lake Fringe wetland ☐ Freshwater tidal wetland 2 points 2 points 	
H 1.3. Richness of plant species Count the number of plant species in the wetland that cover at least 10 ft². Different patches of the same species can be combined to meet the size threshold and you do not have to name the species. Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Canadian thistle If you counted: > 19 species 5 - 19 species < 5 species points = 0	1
H 1.4. Interspersion of habitats Decide from the diagrams below whether interspersion among Cowardin plants classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, moderate, low, or none. If you have four or more plant classes or three classes and open water, the rating is always high.	
None = 0 points Low = 1 point Moderate = 2 points	
All three diagrams in this row are HIGH = 3 points	

H 1.5. Special habitat features: Check the habitat features that are present in the wetland. The number of checks is the number	
of points.	
☐ Large, downed, woody debris within the wetland (> 4 in diameter and 6 ft long)	
☐ Standing snags (dbh > 4 in) within the wetland	
Undercut banks are present for at least 6.6 ft (2 m) and/or overhanging plants extends	
at least 3.3 ft (1 m) over a stream (or ditch) in, or contiguous with the wetland, for at	
least 33 ft (10 m)	
Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 30 degree slope) OR signs of recent beaver activity are present (cut shrubs or trees	\cup
that have not yet weathered where wood is exposed)	
☐ At least ¼ ac of thin-stemmed persistent plants or woody branches are present in areas	
that are permanently or seasonally inundated (structures for egg-laying by amphibians)	
☐ Invasive plants cover less than 25% of the wetland area in every stratum of plants (see	
H 1.1 for list of strata)	, a
Total for H 1 Add the points in the boxes above	2 a
Rating of Site Potential If Score is: 15 - 18 = H 7 - 14 = M 0 - 6 = L Record the rating on	the first page
LLC C. D It. Leads are the retential to support the hebitet function of the gite?	
H 2.0. Does the landscape have the potential to support the habitat function of the site? H 2.1 Accessible habitat (include only habitat that directly abuts wetland unit).	
Coloulate	
$\frac{\text{Calculate:}}{2}$ % undisturbed habitat + ($\frac{5}{2}$ % moderate & low intensity land uses / 2) = $\frac{35}{2}$	
// moderate a form memory tand asser 2 / 5,5	
If total accessible habitat is:	
$> \frac{1}{3} (33.3\%) \text{ of 1 km Polygon}$ points = 3	()
20 - 33% of 1 km Polygon points = 2	
10 - 19% of 1 km Polygon points = 1	
< 10 % of 1 km Polygon onumber 19 % of 1 km Polygon points = 0	
H 2.2. Undisturbed habitat in 1 km Polygon around the wetland.	
Calculato:	
30 % undisturbed habitat + ($\frac{25}{100}$ % moderate & low intensity land uses /2) = $\frac{475}{100}$,
Undisturbed habitat > 50% of Polygon points = 3	_ /_
Undisturbed habitat 10 - 50% and in 1-3 patches points = 2	
Undisturbed habitat 10 - 50% and > 3 patches points = 1	
Undisturbed habitat < 10% of 1 km Polygon points = 0	
H 2.3 Land use intensity in 1 km Polygon: If > 50% of 1 km Polygon is high intensity land use points = (-2)	
	5.0
	02
Total for H 2 Rating of Landscape Potential If Score is: ☐ 4-6=H ☐ 1-3=M ☐ <1=L Record the rating on	
Hauling of Landscape Potential in Score is.	u.o.mo.pago
H 3.0. Is the habitat provided by the site valuable to society?	
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? Choose	
only the highest score that applies to the wetland being rated.	
Site meets ANY of the following criteria: points = 2	
☐ It has 3 or more priority habitats within 100 m (see next page)	
☐ It provides habitat for Threatened or Endangered species (any plant	
or animal on the state or federal lists)	~~
 ☐ It is mapped as a location for an individual WDFW priority species ☐ It is a Wetland of High Conservation Value as determined by the 	() -
Department of Natural Resources	
☐ It has been categorized as an important habitat site in a local or	
regional comprehensive plan, in a Shoreline Master Plan, or in a	ı
watershed plan	
Site has 1 or 2 priority habitats (listed on next page) with in 100m points = 1	
Site does not meet any of the criteria above peints = 0	>
Rating of Value If Score is: 2 = H 1 = M 20 = L Record the rating on	the first page

WDFW Priority Habitats

<u>Priority habitats listed by WDFW</u> (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp.

http://wdfw.wa.gov/publications/00165/wdfw00165.pdf or access the list from here: http://wdfw.wa.gov/conservation/phs/list/

Count how many of the following priority habitats are within 330 ft (100 m) of the wetland unit: NOTE: This question is independent of the land use between the wetland unit and the priority habitat. Aspen Stands: Pure or mixed stands of aspen greater than 1 ac (0.4 ha). ☐ Biodiversity Areas and Corridors: Areas of habitat that are relatively important to various species of native fish and wildlife (full descriptions in WDFW PHS report). Herbaceous Balds: Variable size patches of grass and forbs on shallow soils over bedrock. Old-growth/Mature forests: Old-growth west of Cascade crest - Stands of at least 2 tree species. forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) > 32 in (81 cm) dbh or > 200 years of age. Mature forests - Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth: 80-200 years old west of the Cascade crest. ☐ Oregon White Oak: Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (full descriptions in WDFW PHS report p. 158 - see web link above). Riparian: The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other. ☐ Westside Prairies: Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (full descriptions in WDFW PHS report p. 161 - see web link above). Instream: The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources. Nearshore: Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. (full descriptions of habitats and the definition of relatively undisturbed are in WDFW report - see web link on previous page). ☐ Caves: A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human. ☐ Cliffs: Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation. ☐ Talus: Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs. Snags and Logs: Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 20 in (51 cm) in western Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and-> 20 ft (6 m) long.

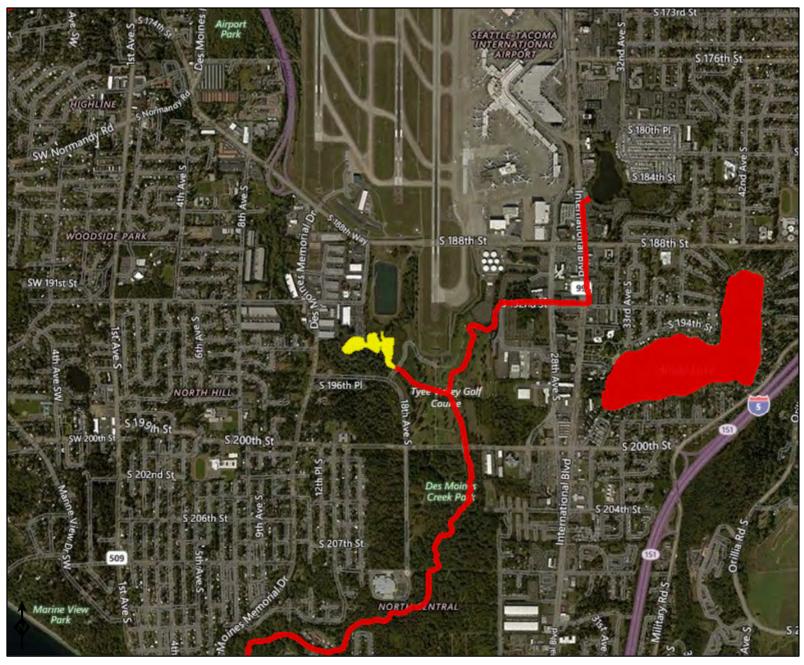
Note: All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Wetland	Туре	Category
01	t the standard to the westland to the consequence when the conventions extend are met	
Check off	any criteria that apply to the wetland. List the category when the appropriate criteria are met.	
SC 1.0. I	Estuarine Wetlands Does the wetland meet the following criteria for Estuarine wetlands?	
	The dominant water regime is tidal,	
	Vegetated, and With a salinity greater than 0.5 ppt	BURNES SELECT
	Yes - Go to SC 1.1 No = Not an estuarine wetland	P. St. Cheer .
SC 1.1.	Is the wetland within a National Wildlife Refuge, National Park, National Estuary	
30 1.1.	Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific	
	Reserve designated under WAC 332-30-151?	
	☐ Yes = Category I ☐ No - Go to SC 1.2	
SC 1.2.	Is the wetland unit at least 1 ac in size and meets at least two of the following three conditions?	
	The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing,	
	and has less than 10% cover of non-native plant species. (If non-native species are	
	Spartina, see page 25)	
	At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-	
	grazed or un-mowed grassland.	
	The wetland has at least two of the following features: tidal channels, depressions with	
	open water, or contiguous freshwater wetlands.	
	☐ Yes = Category I ☐ No = Category II	
SC 2.0.	Wetlands of High Conservation Value (WHCV)	
SC 2.1.	Has the WA Department of Natural Resources updated their website to include the list	
	of Wetlands of High Conservation Value?	
	☐ Yes - Go to SC 2.2 ☐ No - Go to SC 2.3	I
SC 2.2.	Is the wetland listed on the WDNR database as a Wetland of High Conservation Value?	
	☐ Yes = Category I ☐ No = Not WHCV	1
SC 2.3.	Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland?	
	http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf	
	☐ Yes - Contact WNHP/WDNR and to SC 2.4 ☐ No = Not WHCV	
SC 2.4.	Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation	
	Value and listed it on their website? ☐ Yes = Category I ☐ No = Not WHCV	
22.2.2		
SC 3.0.	Bogs Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation	
1	in bogs? Use the key below. If you answer YES you will still need to rate the	
1	wetland based on its functions .	
SC 3.1.	Does an area within the wetland unit have organic soil horizons, either peats or mucks,	
30 3.1.	that compose 16 in or more of the first 32 in of the soil profile?	
	☐ Yes - Go to SC 3.3 ☐ No - Go to SC 3.2	
SC 3.2.	Does an area within the wetland unit have organic soils, either peats or mucks, that are	
0.2.	less than 16 in deep over bedrock, or an impermeable hardpan such as clay or volcanic	
1	ash, or that are floating on top of a lake or pond?	
	☐ Yes - Go to SC 3.3 ☐ No = Is not a bog	1
SC 3.3.	Does an area with peats or mucks have more than 70% cover of mosses at ground	
2.2.	level, AND at least a 30% cover of plant species listed in Table 4?	
1	☐ Yes = Is a Category I bog ☐ No - Go to SC 3.4	1
	NOTE: If you are uncertain about the extent of mosses in the understory, you may	
	substitute that criterion by measuring the pH of the water that seeps into a hole dug at	
	least 16 in deep. If the pH is less than 5.0 and the plant species in Table 4 are present,	
	the wetland is a bod.	
SC 3.4.	Is an area with peats or mucks forested (> 30% cover) with Sitka spruce, subalpine fir,	
	western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann	j
	spruce, or western white pine, AND any of the species (or combination of species) listed	
1	in Table 4 provide more than 30% of the cover under the canopy?	
1	☐ Yes = is a Category I bog ☐ No = is not a bog	

SC 40	Forested Wetlands	
30 4.0.		
	Does the wetland have at least 1 contiguous acre of forest that meets one of these	
	criteria for the WA Department of Fish and Wildlife's forests as priority habitats? If you	
	answer YES you will still need to rate the wetland based on its functions.	
	o at local two troubles,	1
	forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac	
	(20 trees/ha) that are at least 200 years of age OR have a diameter at breast height	
l _	(dbh) of 32 in (81 cm) or more.	
	the state of the s	
	200 years old OR the species that make up the canopy have an average diameter (dbh)	
	exceeding 21 in (53 cm).	}
	☐ Yes = Category I ☐ No = Not a forested wetland for this section	
SC 5.0.	Wetlands in Coastal Lagoons	
	Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?	
	The wetland lies in a depression adjacent to marine waters that is wholly or partially	
	separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently,	
	rocks	
	The lagoon in which the wetland is located contains ponded water that is saline or	
	brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (needs to	
	be measured near the bottom)	
	☐ Yes - Go to SC 5.1 ☐ No = Not a wetland in a coastal lagoon	
SC 5.1.	Does the wetland meet all of the following three conditions?	1
	The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing),] =
	and has less than 20% cover of aggressive, opportunistic plant species (see list of	
	species on p. 100).	l :
П	At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-	
	grazed or un-mowed grassland.]
	The wetland is larger than $^{1}/_{10}$ ac (4350 ft ²)	
_		
0000	☐ Yes = Category I ☐ No = Category II	
SC 6.0.	Interdunal Wetlands	
	Is the wetland west of the 1889 line (also called the Western Boundary of Upland	
	Ownership or WBUO)? If you answer yes you will still need to rate the wetland	
	based on its habitat functions.	
_	In practical terms that means the following geographic areas:	
	Long Beach Peninsula: Lands west of SR 103	
	Grayland-Westport: Lands west of SR 105	
	Ocean Shores-Copalis: Lands west of SR 115 and SR 109	
	☐ Yes - Go to SC 6.1 ☐ No = Not an interdunal wetland for rating]
SC 6.1.	Is the wetland 1 ac or larger and scores an 8 or 9 for the habitat functions on the form	
	(rates H,H,H or H,H,M for the three aspects of function)?	
	☐ Yes = Category I ☐ No - Go to SC 6.2	
SC 6.2.	Is the wetland 1 ac or larger, or is it in a mosaic of wetlands that is 1 ac or larger?	
	☐ Yes = Category II ☐ No - Go to SC 6.3	
SC 6.3.	Is the unit between 0.1 and 1 ac, or is it in a mosaic of wetlands that is between 0.1 and	
	1 ac?	-
	☐ Yes = Category III ☐ No = Category IV	
Categor	y of wetland based on Special Characteristics	
	swered No for all types, enter "Not Applicable" on Summary Form	
	the state of the s	

Water Quality Atlas Map



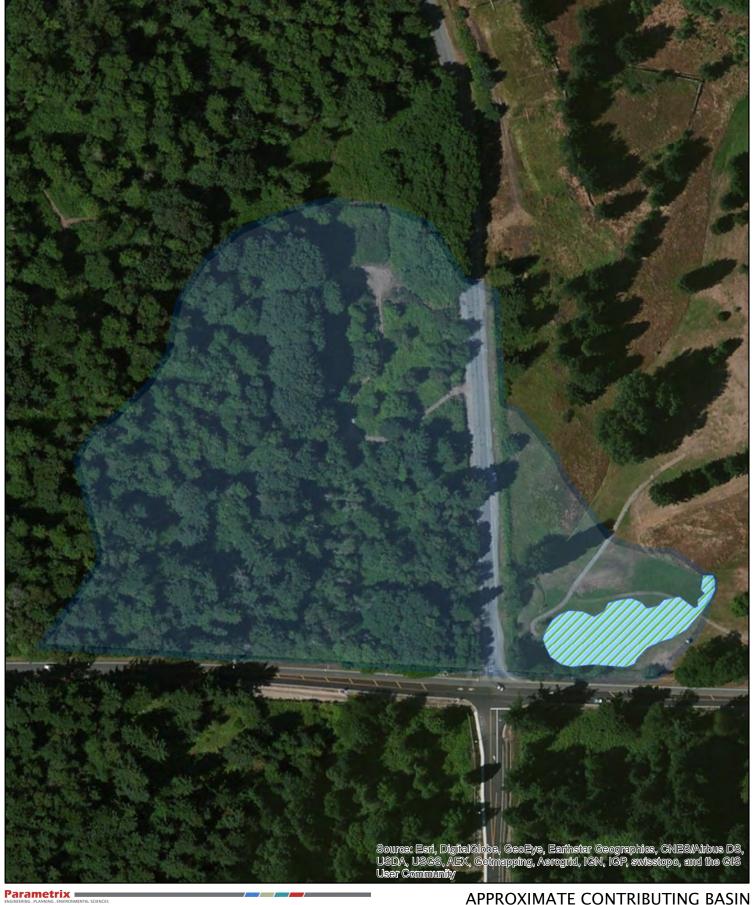
Assessed Waters/Sediment

Water

- Category 5 303d
- Category 4C
- Category 4B
- Category 4A
- Category 2
- Catagony 1
- 💜 Category 1

Sediment

- Category 5 303d
- ZZZ Category 4C
- ZZZ Category 4B
- ZZZ Category 4A
- Category 2
- ZZZ Category 1



APPROXIMATE CONTRIBUTING BASIN

L2ST Seg. C 554-1521-151



Legend



PFO PSS

PEM

POW

Feet 50 100

25

L2ST Seg. C 554-1521-151



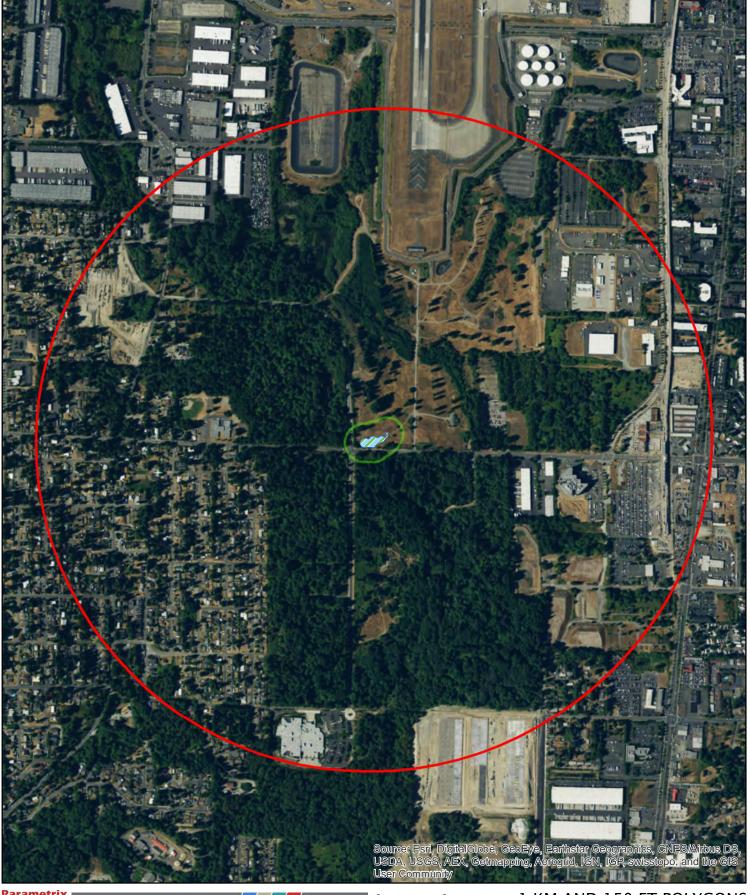
Feet 25 50 100

Perm. Flooded or Inundated

Seasonally Flooded or Inundated

Occasionally Flooded or Inundated Saturated Only

Outlet



Parametrix

EMICHAGEBRING DI ANNING ENVIRONMENTAL SCIENCES

Legend

1 KM AND 150 FT POLYGONS

L2ST Seg. C 554-1521-151



Wetland D D_150ft

D_1km

Feet 650 1,300 2,600

F	RATING SI	JMMAF	RY – W	estern \	Washington
Name of wetland (or	ID #):	and I			Date of site visit: 9/15
Rated by	WOTHIN	2 7	rained by E	cology? Xes	□ No Date of training <u>09/2</u>
HGM Class used fo	r rating ()0 (10	Sava		Wetland has	multiple HGM classes? Yes No
NOTE: Fo	orm is not complet Source of base ae			equested (figur	es can be combined).
OVERALL WETLA	IND CATEGORY	I	_(based on	functions Der	/ special characteristics □)
1. Category of v	vetland based or	TUNCTIO	NS		
		I - Total score			Score for each
,		II - Total sco			function based
,		III - Total sco			on three
	Category	IV - Total sco	ore = 9 - 15		ratings
		122			(order of ratings
FUNCTION	Improving	Hydrologic	Habitat		is not
	Water Quality		(1.14.1)		important)
Site Potential	List app	propriate ratin	g (H, M, L) /VI-		
Landscape Potential	10	00	1//		9 = H, H, H
Value	14	#	1//	Total	8 = H, H, M
Score Based on		-		Total	7 = H, H, L
Ratings	7	1 +	1 + 1	1159	7 = H, M, M
				, , , ,	6 = H, M, L 6 = M, M, M
					5 = M, M, M 5 = H, L, L
					5 = M, M, L
					4 = M, L, L
					3 = L, L, L
					U — L, L, L

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	Category
Estuarine	
Wetland of High Conservation Value	
Bog	
Mature Forest	
Old Growth Forest	
Coastal Lagoon	
Interdunal	. /
None of the above	TX

Maps and Figures required to answer questions correctly for Western Washington

Depressional Wetlands

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

Riverine Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	H 1.1, H 1.4	
Hydroperiods	H 1.2	
Ponded depressions	R 1.1	
Boundary of area within 150 ft of the wetland (can be added to another figure)	R 2.4	
Plant cover of trees, shrubs, and herbaceous plants	R 1.2, R 4.2	
Width of unit vs. width of stream (can be added to another figure)	R 4.1	
Map of the contributing basin	R 2.2, R 2.3, R 5.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	R 3.1	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	R 3.2, R 3.3	

Lake Fringe Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	L 1.1, L 4.1, H 1.1, H 1.4	
Plant cover of trees, shrubs, and herbaceous plants	L 1.2	
Boundary of area within 150 ft of the wetland (can be added to another figure)	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	L 3.1, L 3.2	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	L 3.3	

Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	H 1.1, H 1.4	
Hydroperiods	H 1.2	
Plant cover of dense trees, shrubs, and herbaceous plants	S 1.3	
Plant cover of dense , rigid trees, shrubs, and herbaceous plants	S 4.1	
(can be added to another figure)		
Boundary of area within 150 ft of the wetland (can be added to another figure)	S 2.1, S 5.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	S 3.3	

HGM Classification of Wetland in Western Washington

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

1. Are the water levels in the entire unit	usually controlled by tides except during floods?
NO - go to 2	☐ YES - the wetland class is Tidal Fringe - go to 1.1
1.1 Is the salinity of the water duri	ng periods of annual low flow below 0.5 ppt (parts per thousand)?
NO - Saltwater Tidal Fringe (If your wetland can be classifie If it is Saltwater Tidal Fringe it used to score functions for est	ed as a Freshwater Floai Fringe use the forms for Hiverine wetlands. is an Estuarine wetland and is not scored. This method cannot be
2. The entire wetland unit is flat and pred Groundwater and surface water runoff a	cipitation is the only source (>90%) of water to it. are NOT sources of water to the unit.
NO - go to 3 If your wetland can be classifie	☐ YES - The wetland class is Flats ed as a Flats wetland, use the form for Depressional wetlands.
 Does the entire wetland unit meet all ☐ The vegetated part of the wetland 	of the following criteria? and is on the shores of a body of permanent open water (without any me of the year) at least 20 ac (8 ha) in size;
NO - go to 4	☐ YES - The wetland class is Lake Fringe (Lacustrine Fringe)
	pe can be very gradual), retland in one direction (unidirectional) and usually comes from seeps. retflow, or in a swale without distinct banks.
NO - go to 5	☐ YES - The wetland class is Slope
NOTE: Surface water does not pond in t depressions or behind hummocks (depr	these type of wetlands except occasionally in very small and shallow essions are usually <3 ft diameter and less than 1 ft deep).
5. Does the entire wetland unit meet allThe unit is in a valley, or streat from that stream or river,The overbank flooding occurs	m channel, where it gets inundated by overbank flooding
NO - go to 6	☐ YES - The wetland class is Riverine
NOTE: The Riverine unit can contain de	pressions that are filled with water when the river is not flooding

6. Is the entire wetland unit in a topographi some time during the year? This means the	ic depression in which water ponds, or is saturated to the surface, at any outlet, if present, is higher than the interior of the wetland.	
□ NO - go to 7	YES - The wetland class is Depressional	
7. Is the entire wetland unit located in a very flat area with no obvious depression and no overbank flooding? The unit does not pond surface water more than a few inches. The unit seems to be maintained by high groundwater in the area. The wetland may be ditched, but has no obvious natural outlet.		
☐ NO - go to 8	☐ YES - The wetland class is Depressional	

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

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

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

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

NOTES and FIELD OBSERVATIONS:

DEPRESSIONAL AND FLATS WETLANDS	
Water Quality Functions - Indicators that the site functions to improve water quality	
D 1.0. Does the site have the potential to improve water quality?	Parameter Land
D 1.1. Characteristics of surface water outflows from the wetland:	
Wetland is a depression or flat depression (QUESTION 7 on key)	
with no surface water leaving it (no outlet). points = 3	
Wetland has an intermittently flowing stream or ditch, OR highly	
constricted permanently flowing outlet.	P //
☐ Wetland has an unconstricted, or slightly constricted, surface outlet	_
that is permanently flowing points = 1	
☐ Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch.	
a permanently flowing ditch. D 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic	
(use NRCS definitions). Yes = $4 No = 0$	L ()
D 1.3. Characteristics and distribution of persistent plants (Emergent, Scrub-shrub, and/or	<u> </u>
Forested Cowardin classes):	
Wetland has persistent, ungrazed, plants > 95% of area points = 5	b =
Wetland has persistent, ungrazed, plants > ½ of area points = 3	
Wetland has persistent, ungrazed plants > $\frac{1}{10}$ of area points = 1	
Wetland has persistent, ungrazed plants $< \frac{1}{10}$ of area points $= 0$	
D 1.4. Characteristics of seasonal ponding or inundation:	
This is the area that is ponded for at least 2 months. See description in manual.	
Area seasonally ponded is > ½ total area of wetland points = 4	~
Area seasonally ponded is > 1/4 total area of wetland points = 2	
Area seasonally ponded is < 1/4 total area of wetland points = 0	
Total for D 1 Add the points in the boxes above	67
Rating of Site Potential If score is: 12 - 16 = H 26 - 11 = M 0 - 5 = L Record the rating on	the first page
D 2.0. Does the landscape have the potential to support the water quality function of the site?	
D 2.1. Does the wetland unit receive stormwater discharges? Yes = 1 (No = 0)	20
D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that	1
generate pollutants? Yes = 1 No = 0	
D 2.3. Are there septic systems within 250 ft of the wetland? Yes = 1 No = 0	20_
D 2.4. Are there other sources of pollutants coming into the wetland that are	
not listed in questions D 2.1 - D 2.3?	1
Source $Yes = 1$ No = 0 Total for D 2 Add the points in the boxes above	
	# 7 T
Rating of Landscape Potential If score is: 3 or 4 = H 1 or 2 = M 0 = L Record the rating on	tne tirst page
D 3.0. Is the water quality improvement provided by the site valuable to society?	OL HALL
D 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river,	1
lake, or marine water that is on the 303(d) list? $Yes = 1$ No = 0	7
D 3.2. Is the wetland in a basin or sub-basin where an aquatic resource is on the 303(d) list?	1
Yes = 1 No = 0	
D 3.3. Has the site been identified in a watershed or local plan as important	
for maintaining water quality (answer YES if there is a TMDL for the basin in	
for maintaining water quality (answer YES if there is a TMDL for the basin in which the unit is found)? Yes = 2	0
for maintaining water quality (answer YES if there is a TMDL for the basin in	28

DEPRESSIONAL AND FLATS WETLANDS			
Hydrologic Functions - Indicators that the site functions to reduce flooding and stream degradation			
D 4.0. Does the site have the potential to reduce flooding and erosion?			
D 4.1. Characteristics of surface water outflows from the wetland:			
Wetland is a depression or flat depression with no surface water			
leaving it (no outlet) points = 4			
Wetland has an intermittently flowing stream or ditch, OR highly	7		
constricted permanently flowing outlet			
Wetland is a flat depression (QUESTION 7 on key), whose outlet is			
a permanently flowing ditch points = 1			
Wetland has an unconstricted, or slightly constricted, surface outlet			
that is permanently flowing points = 0 D 4.2. Depth of storage during wet periods: Estimate the height of ponding above the bottom of			
the outlet. For wetlands with no outlet, measure from the surface of permanent water or if dry, the			
deepest part. Marks of ponding are 3 ft or more above the surface or bottom of outlet points = 7)		
Marks of ponding between 2 ft to < 3 ft from surface or bottom of outlet points = 5	7		
☐ Marks are at least 0.5 ft to < 2 ft from surface or bottom of outlet points = 3	7		
☐ The wetland is a "headwater" wetland points = 3			
Wetland is flat but has small depressions on the surface that trap water points = 1			
Marks of ponding less than 0.5 ft (6 in)			
D 4.3. Contribution of the wetland to storage in the watershed: Estimate the ratio of the area of			
upstream basin contributing surface water to the wetland to the area of the wetland unit itself.			
☐ The area of the basin is less than 10 times the area of the unit points = 5			
The area of the basin is 10 to 100 times the area of the unit points = 3			
The area of the basin is more than 100 times the area of the unit $\frac{100}{100}$	>		
☐ Entire wetland is in the Flats class points = 5	- 100		
Total for D 4 Add the points in the boxes above	ø9		
Rating of Site Potential If score is: 12 - 16 = H 6 - 11 = M 0 - 5 = L Record the rating on the	ha first naga		
7	ie ilisi paye		
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These questions apply to wetlands of all HGM classes.	
HABITAT FUNCTIONS - Indicators that site functions to provide important habitat	
H 1.0. Does the site have the potential to provide habitat?	
H 1.1. Structure of plant community: Indicators are Cowardin classes and strata within the Forested class. Check the Cowardin plant classes in the wetland. Up to 10 patches may be combined for each class to meet the threshold of ¼ ac or more than 10% of the unit if it is smaller than 2.5 ac. Add the number of structures checked.	
Aquatic bed Emergent Scrub-shrub (areas where shrubs have > 30% cover) Forested (areas where trees have > 30% cover) If the unit has a Forested class, check if: The Forested class has 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover) that each cover 20% within the Forested polygon	> Z
H 1.2. Hydroperiods Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or ¼ ac to count (see text for descriptions of hydroperiods).	
☐ Permanently flooded or inundated ☐ Seasonally flooded or inundated ☐ Occasionally flooded or inundated ☐ Occasionally flooded or inundated ☐ Saturated only ☐ Permanently flowing stream or river in, or adjacent to, the wetland ☐ Seasonally flowing stream in, or adjacent to, the wetland	: 1
☐ Lake Fringe wetland 2 points ☐ Freshwater tidal wetland 2 points	
H 1.3. Richness of plant species Count the number of plant species in the wetland that cover at least 10 ft ² . Different patches of the same species can be combined to meet the size threshold and you do not have to name the species. Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Canadian thistle If you counted: > 19 species	1
H 1.4. Interspersion of habitats Decide from the diagrams below whether interspersion among Cowardin plants classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, moderate, low, or none. If you have four or more plant classes or three classes and open water, the rating is always high.	
None = 0 points Low = 1 point Moderate = 2 points	2
All three diagrams in this row are HIGH = 3 points	*

WDFW Priority Habitats

<u>Priority habitats listed by WDFW</u> (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp.

http://wdfw.wa.gov/publications/00165/wdfw00165.pdf or access the list from here: http://wdfw.wa.gov/conservation/phs/list/

Co. que	unt ho estion	ow many of the following priority habitats are within 330 ft (100 m) of the wetland unit: NOTE : This is independent of the land use between the wetland unit and the priority habitat.
		Aspen Stands: Pure or mixed stands of aspen greater than 1 ac (0.4 ha).
	X	Biodiversity Areas and Corridors : Areas of habitat that are relatively important to various species of native fish and wildlife (<i>full descriptions in WDFW PHS report</i>).
		Herbaceous Balds: Variable size patches of grass and forbs on shallow soils over bedrock.
		Old-growth/Mature forests: Old-growth west of Cascade crest — Stands of at least 2 tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) > 32 in (81 cm) dbh or > 200 years of age. Mature forests — Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west of the Cascade crest.
		Oregon White Oak: Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (full descriptions in WDFW PHS report p. 158 – see web link above).
	×	Riparian: The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.
		Westside Prairies: Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (full descriptions in WDFW PHS report p. 161 – see web link above).
	X	Instream: The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.
		Nearshore : Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. (<i>full descriptions of habitats and the definition of relatively undisturbed are in WDFW report – see web link on previous page</i>).
		Caves: A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.
		Cliffs: Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.
		Talus : Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.
		Snags and Logs : Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 20 in (51 cm) in western Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.

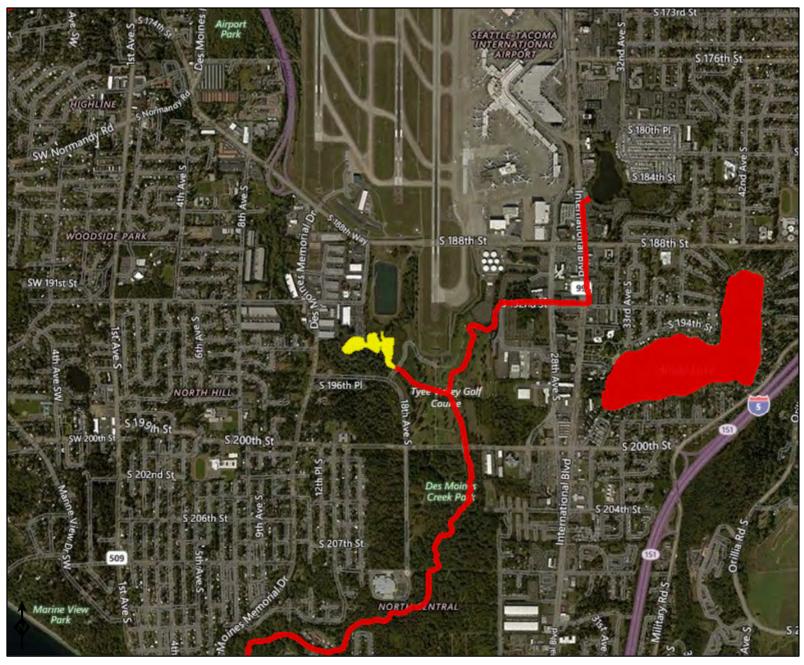
Note: All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Wetland	Туре	Category
	any criteria that apply to the wetland. List the category when the appropriate criteria are met.	
SC 1.0. I	Estuarine Wetlands	
	Does the wetland meet the following criteria for Estuarine wetlands?	
	The dominant water regime is tidal,	
	Vegetated, and	American State of
	With a salinity greater than 0.5 ppt ☐ Yes - Go to SC 1.1 ☐ No = Not an estuarine wetland	de la constant de
SC 1.1.	Is the wetland within a National Wildlife Refuge, National Park, National Estuary	
30 1.1.	Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific	
	Reserve designated under WAC 332-30-151?	
	☐ Yes = Category I ☐ No - Go to SC 1.2	
SC 1.2.	Is the wetland unit at least 1 ac in size and meets at least two of the following three conditions?	
D	The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing,	
"	and has less than 10% cover of non-native plant species. (If non-native species are	
	Spartina, see page 25)	
	At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-	-
_	grazed or un-mowed grassland.	
	The wetland has at least two of the following features: tidal channels, depressions with	
	open water, or contiguous freshwater wetlands.	
	☐ Yes = Category I ☐ No = Category II	
SC 2.0. \	Wetlands of High Conservation Value (WHCV)	
SC 2.1.	Has the WA Department of Natural Resources updated their website to include the list	
	of Wetlands of High Conservation Value?	
	☐ Yes - Go to SC 2.2 ☐ No - Go to SC 2.3	
SC 2.2.	Is the wetland listed on the WDNR database as a Wetland of High Conservation Value?	
	☐ Yes = Category I ☐ No = Not WHCV	
SC 2.3.	Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland?	
	http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf	
	☐ Yes - Contact WNHP/WDNR and to SC 2.4 ☐ No = Not WHCV	
SC 2.4.	Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation	
	Value and listed it on their website?	
0000	☐ Yes = Category I ☐ No = Not WHCV	
SC 3.0. I	Bogs Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation	
	in bogs? Use the key below. If you answer YES you will still need to rate the	
1	wetland based on its functions .	
SC 3.1.	Does an area within the wetland unit have organic soil horizons, either peats or mucks,	
30 3.1.	that compose 16 in or more of the first 32 in of the soil profile?	
	☐ Yes - Go to SC 3.3 ☐ No - Go to SC 3.2	
SC 3.2.	Does an area within the wetland unit have organic soils, either peats or mucks, that are	
0.2.	less than 16 in deep over bedrock, or an impermeable hardpan such as clay or volcanic	
	ash, or that are floating on top of a lake or pond?	ŀ
	☐ Yes - Go to SC 3.3 ☐ No = Is not a bog	
SC 3.3.	Does an area with peats or mucks have more than 70% cover of mosses at ground	
,	level, AND at least a 30% cover of plant species listed in Table 4?	1
	☐ Yes = Is a Category I bog ☐ No - Go to SC 3.4	
	NOTE: If you are uncertain about the extent of mosses in the understory, you may	
	substitute that criterion by measuring the pH of the water that seeps into a hole dug at	
	least 16 in deep. If the pH is less than 5.0 and the plant species in Table 4 are present,	
	the wetland is a bog.	[
SC 3.4.	Is an area with peats or mucks forested (> 30% cover) with Sitka spruce, subalpine fir,	
	western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann	le le
	spruce, or western white pine, AND any of the species (or combination of species) listed	_ = =
	in Table 4 provide more than 30% of the cover under the canopy?	
	☐ Yes = Is a Category I bog ☐ No = Is not a bog	

SC 4.0.	Forested Wetlands	
	Does the wetland have at least 1 contiguous acre of forest that meets one of these	
	criteria for the WA Department of Fish and Wildlife's forests as priority habitats? If you	
	answer YES you will still need to rate the wetland based on its functions.	
	Old-growth forests (west of Cascade crest): Stands of at least two tree species,	
	forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac	
	(20 trees/ha) that are at least 200 years of age OR have a diameter at breast height	
	(dbh) of 32 in (81 cm) or more.	
	200 years old OR the species that make up the canopy have an average diameter (dbh)	1
	exceeding 21 in (53 cm).	
	choosaling 21 iii (oo oiii).	
	☐ Yes = Category I ☐ No = Not a forested wetland for this section	
SCEO		
SC 5.0.	Wetlands in Coastal Lagoons	
	Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?	
	The wetland lies in a depression adjacent to marine waters that is wholly or partially	
	separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently,	
	rocks	
	The lagoon in which the wetland is located contains ponded water that is saline or	
	brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (needs to	
	be measured near the bottom)	
	☐ Yes - Go to SC 5.1 ☐ No = Not a wetland in a coastal lagoon	
SC 5.1.	Does the wetland meet all of the following three conditions?	
	The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing),	
_	and has less than 20% cover of aggressive, opportunistic plant species (see list of	
	species on p. 100).	
	grazed or un-mowed grassland.	
	The wetland is larger than $^{1}/_{10}$ ac (4350 ft ²)	
	☐ Yes = Category I ☐ No = Category II	
SC 6.0.	Interdunal Wetlands	
	Is the wetland west of the 1889 line (also called the Western Boundary of Upland	
	Ownership or WBUO)? If you answer yes you will still need to rate the wetland	
	based on its habitat functions.	
	In practical terms that means the following geographic areas:	
	Long Beach Peninsula: Lands west of SR 103	
	Grayland-Westport: Lands west of SR 105	
$\overline{\Box}$	Ocean Shores-Copalis: Lands west of SR 115 and SR 109	
ب	☐ Yes - Go to SC 6.1 ☐ No = Not an interdunal wetland for rating	
SC 6.1.	Is the wetland 1 ac or larger and scores an 8 or 9 for the habitat functions on the form	
00 0.1.	(rates H,H,H or H,H,M for the three aspects of function)?	,
	<u>-</u>	
SC 6.2.	☐ Yes = Category I ☐ No - Go to SC 6.2	
JU 0.2.	Is the wetland 1 ac or larger, or is it in a mosaic of wetlands that is 1 ac or larger?	
0000	☐ Yes = Category II ☐ No - Go to SC 6.3	
SC 6.3.	Is the unit between 0.1 and 1 ac, or is it in a mosaic of wetlands that is between 0.1 and	
	1 ac?	
	☐ Yes = Category III ☐ No = Category IV	
	y of wetland based on Special Characteristics	
lf you an	swered No for all types, enter "Not Applicable" on Summary Form	

Water Quality Atlas Map



Assessed Waters/Sediment

Water

- Category 5 303d
- Category 4C
- Category 4B
- Category 4A
- Category 2
- Catagony 1
- 💜 Category 1

Sediment

- Category 5 303d
- ZZZ Category 4C
- ZZZ Category 4B
- ZZZ Category 4A
- Category 2
- ZZZ Category 1



.

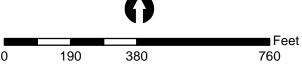
Wetland E

L2ST Seg. C 554-1521-151

Legend

Approximate_Contributing_Basin

Wetland D





Wetland E PFO PSS

PEM

POW

Feet 30 60 120

L2ST Seg. C 554-1521-151

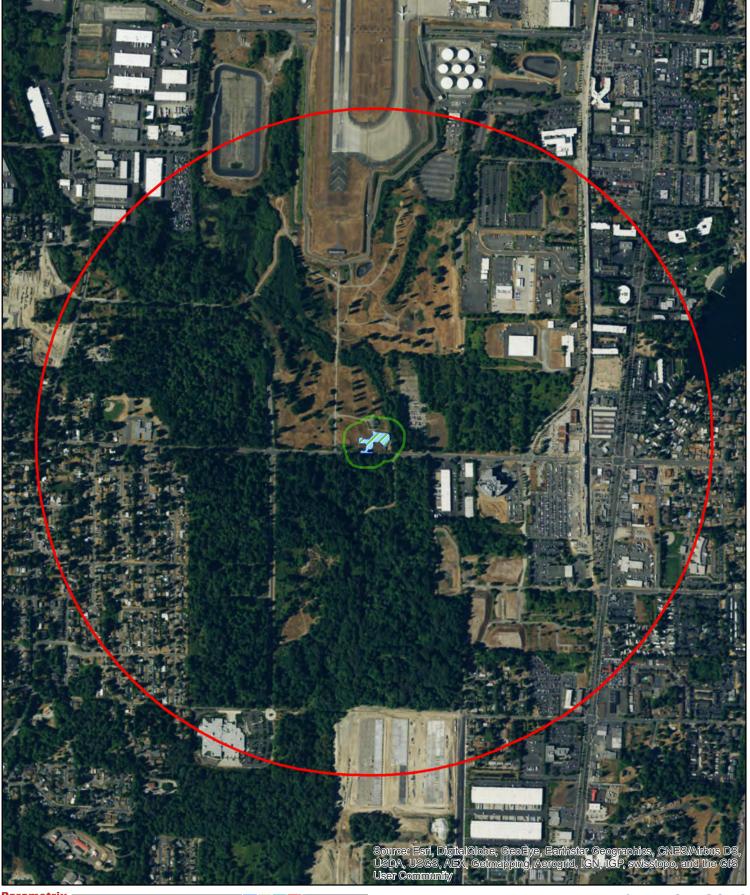


Feet 0 30 60 120

Occasionally Flooded or Inundated

Saturated Only

Outlet



Parametrix

Legend

1 KM AND 150 FT POLYGONS

L2ST Seg. C 554-1521-151



Wetland E

E_150ft E_1km

Feet 650 1,300 2,600

Rated by

LIST-F

Date of training

RATING SUMMARY – Western Washington

Name of wetland (or ID #):

Date of site visit: 10/18/20

Trained by Ecology? No □No

HGM Class used for rating _____ Wetland has multiple HGM classes? ☐ Yes ☒No

NOTE: Form is not complete with out the figures requested (figures can be combined).

Source of base aerial photo/map

OVERALL WETLAND CATEGORY _____ (based on functions \(\subseteq \) or special characteristics \(\subseteq \)

1. Category of wetland based on FUNCTIONS

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

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
	List ap	propriate rating	(H, M, L)	
Site Potential	L	6	1.	
Landscape Potential	L	4	M	
Value	M	m	/_	Total
Score Based on Ratings	4	4	4	612

Score for each function based on three ratings (order of ratings is not important) 9 = H, H, H8 = H, H, M7 = H, H, L7 = H, M, M6 = H, M, L6 = M, M, M5 = H, L, L5 = M, M, L4 = M, L, L3 = L, L, L

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	Category
Estuarine	Jakogory
Wetland of High Conservation Value	
Bog	
Mature Forest	
Old Growth Forest	
Coastal Lagoon	
Interdunal	
None of the above	X

Maps and Figures required to answer questions correctly for Western Washington

Depressional Wetlands

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

Riverine Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	H 1.1, H 1.4	
Hydroperiods	H 1.2	·
Ponded depressions	R 1.1	
Boundary of area within 150 ft of the wetland (can be added to another figure)	R 2.4	
Plant cover of trees, shrubs, and herbaceous plants	R 1.2, R 4.2	
Width of unit vs. width of stream (can be added to another figure)	R 4.1	
Map of the contributing basin	R 2.2, R 2.3, R 5.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	R 3.1	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	R 3.2, R 3.3	

Lake Fringe Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	L 1.1, L 4.1, H 1.1, H 1.4	
Plant cover of trees, shrubs, and herbaceous plants	L 1.2	
Boundary of area within 150 ft of the wetland (can be added to another figure)	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	L 3.1, L 3.2	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	L 3.3	

Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	H 1.1, H 1.4	
Hydroperiods	H 1.2	
Plant cover of dense trees, shrubs, and herbaceous plants	S 1.3	
Plant cover of dense , rigid trees, shrubs, and herbaceous plants	S 4.1	
(can be added to another figure)		
Boundary of area within 150 ft of the wetland (can be added to another figure)	S 2.1, S 5.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	S 3.3	

HGM Classification of Wetland in Western Washington

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

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

1. Are the water levels in the entire unit	usually controlled by tides except during floods?
NO - go to 2	☐ YES - the wetland class is Tidal Fringe - go to 1.1
1.1 Is the salinity of the water duri	ng periods of annual low flow below 0.5 ppt (parts per thousand)?
If your wetland can be classifie	(Estuarine)
2. The entire wetland unit is flat and pred Groundwater and surface water runoff a	cipitation is the only source (>90%) of water to it. re NOT sources of water to the unit.
NO - go to 3 If your wetland can be classifie	☐ YES - The wetland class is Flats ed as a Flats wetland, use the form for Depressional wetlands.
3. Does the entire wetland unit meet all The vegetated part of the wetla	of the following criteria? and is on the shores of a body of permanent open water (without any ne of the year) at least 20 ac (8 ha) in size:
NO - go to 4	☐ YES - The wetland class is Lake Fringe (Lacustrine Fringe)
4. Does the entire wetland unit meet all the wetland is on a slope (slope). The water flows through the wetland water flow subsurface, as she water leaves the wetland water leaves the wetland water leaves.	pe can be very gradual), etland in one direction (unidirectional) and usually comes from seeps. etflow, or in a swale without distinct banks.
□ NO - go to 5	YES - The wetland class is Slope
NOTE: Surface water does not pond in the depressions or behind hummocks (depressions)	hese type of wetlands except occasionally in very small and shallow essions are usually <3 ft diameter and less than 1 ft deep).
 5. Does the entire wetland unit meet all our or the unit is in a valley, or stream from that stream or river, The overbank flooding occurs and the control of the contro	n channel, where it gets inundated by overbank flooding
□ NO - go to 6	☐ YES - The wetland class is Riverine
NOTE: The Riverine unit can contain dep	pressions that are filled with water when the river is not flooding.

6. Is the entire wetland unit in a topographic some time during the year? This means the	c depression in which water ponds, or is saturated to the surface, a at any outlet, if present, is higher than the interior of the wetland.
□ NO - go to 7	☐ YES - The wetland class is Depressional
The unit does not pond surface water more	y flat area with no obvious depression and no overbank flooding? than a few inches. The unit seems to be maintained by high be ditched, but has no obvious natural outlet.
□ NO - go to 8	☐ YES - The wetland class is Depressional
8. Your wetland unit seems to be difficult to	classify and probably contains several different HGM classes. Fo

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

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

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

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

SLOPE WETLANDS Water Quality Functions - Indicators that the site functions to im	nrous water	Guality	
S 1.0. Does the site have the potential to improve water quality?	PIOAR METER	quanty	
S 1.1. Characteristics of the average slope of the wetland: (a 1% slope has a 1	# warting! dr	on in	
elevation for every 100 ft of horizontal distance)	n vertical un	op in	
Slope is 1% or less	poi	nts = 3	
Slope is > 1% - 2%	poir	nts = 2	•
Slope is > 2% - 5%		nts = 1	7
Slope is greater than 5%	poir	nts = 0	
S 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic			
(use NRCS definitions):	Yes = 3	No = 0	0
S 1.3. Characteristics of the plants in the wetland that trap sediments and pollu	tants:		
Choose the points appropriate for the description that best fits the plants in the	wetland. Der	nse	
means you have trouble seeing the soil surface (>75% cover), and uncut mean	s not grazed	or	
mowed and plants are higher than 6 in.		-	
Dense, uncut, herbaceous plants > 90% of the wetland area	poir	nts = 6	
Dense, uncut, herbaceous plants > ½ of area		nts = 3	
Dense, woody, plants > ½ of area	poir	nts = 2	7 1
Dense, uncut, herbaceous plants > 1/4 of area	poir	nts = 1	=
Does not meet any of the criteria above for plants		nts = 0	
Total for S 1 Add the points	in the boxes	above	9
Rating of Site Potential If score is: 12 = H	Record the ra		he first page
S 2.0. Does the landscape have the potential to support the water quality function			he first page
S 2.0. Does the landscape have the potential to support the water quality function			he first page
	on of the site	?	he first page
S 2.0. Does the landscape have the potential to support the water quality function S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?	on of the site		he first page
S 2.0. Does the landscape have the potential to support the water quality function S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in	on of the site	?	he first page
S 2.0. Does the landscape have the potential to support the water quality function S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants? S 2.2. Are there other sources of pollutants coming into the wetland that are	on of the site Yes = 1	? No = 0	he first page
S 2.0. Does the landscape have the potential to support the water quality function S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants? S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1? Other Sources	Yes = 1 N	? No = 0	he first page
S 2.0. Does the landscape have the potential to support the water quality functions 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants? S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1? Other Sources Total for S 2	Yes = 1 N	? No = 0 No = 0 above	0
S 2.0. Does the landscape have the potential to support the water quality functions 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants? S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1? Other Sources Total for S 2 Rating of Landscape Potential If score is: \[\begin{align*} \text{1-2=M} \text{\text{\text{0=L}}} \end{align*}	Yes = 1 N Yes = 1 N in the boxes a Record the ra	? No = 0 No = 0 above	0
S 2.0. Does the landscape have the potential to support the water quality functions 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants? S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1? Other Sources Total for S 2 Rating of Landscape Potential If score is:	Yes = 1 N Yes = 1 N in the boxes a Record the ra	? No = 0 No = 0 above	0
S 2.0. Does the landscape have the potential to support the water quality functions 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants? S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1? Other Sources Total for S 2 Rating of Landscape Potential If score is:	Yes = 1 N Yes = 1 N in the boxes a Record the ra	? No = 0 No = 0 above tting on the	0
S 2.0. Does the landscape have the potential to support the water quality functions 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants? S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1? Other Sources Total for S 2 Rating of Landscape Potential If score is:	Yes = 1 N Yes = 1 N in the boxes a Record the ra	? No = 0 No = 0 above	O / he first page
S 2.0. Does the landscape have the potential to support the water quality functions 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants? S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1? Other Sources Total for S 2 Rating of Landscape Potential If score is:	Yes = 1 N Yes = 1 N in the boxes a Record the ra	No = 0 No = 0 above tting on the	O / he first page
S 2.0. Does the landscape have the potential to support the water quality functions 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants? S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1? Other Sources Total for S 2 Rating of Landscape Potential If score is:	Yes = 1 N Yes = 1 N in the boxes a Record the ra	? No = 0 No = 0 above tting on the	O / he first page
S 2.0. Does the landscape have the potential to support the water quality functions 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants? S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1? Other Sources Total for S 2 Rating of Landscape Potential If score is:	Yes = 1 N Yes = 1 N in the boxes a Record the ra	No = 0 No = 0 above tting on the	O / he first page
S 2.0. Does the landscape have the potential to support the water quality functions 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants? S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1? Other Sources Total for S 2 Add the points is sating of Landscape Potential If score is: 1 - 2 = M S 3.0. Is the water quality improvement provided by the site valuable to society? S 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list? S 3.2. Is the wetland in a basin or sub-basin where water quality is an issue? At least one aquatic resource in the basin is on the 303(d) list. S 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality? Answer YES if there is a TMDL for the basin in	Yes = 1 N Yes = 1 N in the boxes a Record the rai	? No = 0 No = 0 above tting on the standard of	O / he first page
S 2.0. Does the landscape have the potential to support the water quality functions 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants? S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1? Other Sources Total for S 2 Rating of Landscape Potential If score is:	Yes = 1 N Yes = 1 N In the boxes of Record the ran Yes = 1 N Yes = 1 N		o o/ o/ o/ o/ o/ o/ o/ o/ o/ o/ o/ o/ o/
S 2.0. Does the landscape have the potential to support the water quality functions 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants? S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1? Other Sources Total for S 2 Add the points Add the points S 3.0. Is the water quality improvement provided by the site valuable to society? S 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list? S 3.2. Is the wetland in a basin or sub-basin where water quality is an issue? At least one aquatic resource in the basin is on the 303(d) list. S 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality? Answer YES if there is a TMDL for the basin in which the unit is found? Total for S 3 Add the points in	Yes = 1 N Yes = 1 N In the boxes of Record the ran Yes = 1 N Yes = 1 N	? No = 0 above ting on the state of the stat	O o/ the first page

SLOPE WETLANDS		nion.
Hydrologic Functions - Indicators that the site functions to reduce floor	oding and stream ero	osion
S 4.0. Does the site have the potential to reduce flooding and stream erosion?	-t	
S 4.1. Characteristics of plants that reduce the velocity of surface flows during	storms: Choose	
the points appropriate for the description that best fits conditions in the wetland	. Stems of plants	
should be thick enough (usually > $^{1}/_{8}$ in), or dense enough, to remain erect du		
Dense, uncut, rigid plants cover > 90% of the area of the wetland	points = 1	O
All other conditions	points = 0	
Rating of Site Potential If score is: 1 = M 0 = 1	Record the rating on	the first page
S 5.0. Does the landscape have the potential to support hydrologic functions of	f the site?	
S 5.1. Is more than 25% of the area within 150 ft upslope of wetland in land		7
uses or cover that generate excess surface runoff?	Yes = 1 No = 0	0
	Record the rating on	the first nega
Rating of Landscape Potential If score is: 1 = M 0 = L	necold the fathing off	ine mai page
	necold the rating on	the mst page
S 6.0. Are the hydrologic functions provided by the site valuable to society? S 6.1. Distance to the nearest areas downstream that have flooding problems:		the mat page
S 6.0. Are the hydrologic functions provided by the site valuable to society? S 6.1. Distance to the nearest areas downstream that have flooding problems:		ine mai page
S 6.0. Are the hydrologic functions provided by the site valuable to society? S 6.1. Distance to the nearest areas downstream that have flooding problems: The sub-basin immediately down-gradient of site has flooding		ine mai page
S 6.0. Are the hydrologic functions provided by the site valuable to society? S 6.1. Distance to the nearest areas downstream that have flooding problems:	nilleselle on de	ine mai page
S 6.0. Are the hydrologic functions provided by the site valuable to society? S 6.1. Distance to the nearest areas downstream that have flooding problems: The sub-basin immediately down-gradient of site has flooding problems that result in damage to human or natural resources (e.g., houses or salmon redds)		ine inst page
S 6.0. Are the hydrologic functions provided by the site valuable to society? S 6.1. Distance to the nearest areas downstream that have flooding problems: The sub-basin immediately down-gradient of site has flooding problems that result in damage to human or natural resources (e.g., houses or salmon redds) Surface flooding problems are in a sub-basin farther down-gradient	points = 2	line iiisi page
S 6.0. Are the hydrologic functions provided by the site valuable to society? S 6.1. Distance to the nearest areas downstream that have flooding problems: The sub-basin immediately down-gradient of site has flooding problems that result in damage to human or natural resources (e.g., houses or salmon redds) Surface flooding problems are in a sub-basin farther down-gradient No flooding problems anywhere downstream	points = 2 points = 1	line inst page
S 6.0. Are the hydrologic functions provided by the site valuable to society? S 6.1. Distance to the nearest areas downstream that have flooding problems: The sub-basin immediately down-gradient of site has flooding problems that result in damage to human or natural resources (e.g., houses or salmon redds) Surface flooding problems are in a sub-basin farther down-gradient No flooding problems anywhere downstream S 6.2. Has the site been identified as important for flood storage or flood	points = 2 points = 1	
S 6.0. Are the hydrologic functions provided by the site valuable to society? S 6.1. Distance to the nearest areas downstream that have flooding problems: The sub-basin immediately down-gradient of site has flooding problems that result in damage to human or natural resources (e.g., houses or salmon redds) Surface flooding problems are in a sub-basin farther down-gradient No flooding problems anywhere downstream S 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan?	points = 2 points = 1 points = 0	0

NOTES and FIELD OBSERVATIONS:

These questions apply to watley do of all HOM.	
These questions apply to wetlands of all HGM classes.	
HABITAT FUNCTIONS - Indicators that site functions to provide important habitat	
H 1.0. Does the site have the potential to provide habitat?	
H 1.1. Structure of plant community: Indicators are Cowardin classes and strata within the	
Forested class. Check the Cowardin plant classes in the wetland. Up to 10 patches may be	
combined for each class to meet the threshold of ¼ ac or more than 10% of the unit if it is smaller than 2.5 ac. Add the number of structures checked.	
than 2.5 ac. Add the number of structures checked.	
☐ Aquatic bed 4 structures or more: points = 4	
Emergent 3 structures: points = 2	
Scrub-shrub (areas where shrubs have > 30% cover) 2 structures: points = 1	
Forested (areas where trees have > 30% cover) 1 structure: points = 0	
f the unit has a Forested class, check if:	٨
The Forested class has 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous,	∫¹ ≈
moss/ground-cover) that each cover 20% within the Forested polygon H 1.2. Hydroperiods	J
Check the types of water regimes (hydroperiods) present within the wetland. The water regime	
has to cover more than 10% of the wetland or ¼ ac to count (see text for descriptions of	
hydroperiods).	
☐ Permanently flooded or inundated 4 or more types present: points = 3	
☐ Seasonally flooded or inundated 3 types present: points = 2	
☐ Occasionally flooded or inundated 2 types present: points = 1	
Saturated only Permanently flowing stream or river in, or adjacent to, the wetland	>
Seasonally flowing stream in, or adjacent to, the wetland	
☐ Lake Fringe wetland 2 points	0
☐ Freshwater tidal wetland 2 points	
H 1.3. Richness of plant species	
Count the number of plant species in the wetland that cover at least 10 ft ² . Different patches of the same species can be combined to meet the size threshold and you do	
not have to name the energies. The not include Europian militail must be seen the energies.	
not have to name the species. Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Canadian thistle	
Todossino, Gundalun inistig	
If you counted: > 19 species points = 2	
5 - 19 species points = 1	O
< 5 species points = 0	<u> </u>
H 1.4. Interspersion of habitats	
Decide from the diagrams below whether interspersion among Cowardin plants classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats)	
is high, moderate, low, or none. If you have four or more plant classes or three classes and open	
water, the rating is always high.	
None = 0 points Low = 1 point Moderate = 2 points	
All three diagrams	
in this row are	
HIGH = 3 points	

Worker trains of trains of	.47
H 1.5. Special habitat features:	
Check the habitat features that are present in the wetland. The number of checks is the number	
of points.	
☐ Large, downed, woody debris within the wetland (> 4 in diameter and 6 ft long)	
☐ Standing snags (dbh > 4 in) within the wetland	
Undercut banks are present for at least 6.6 ft (2 m) and/or overhanging plants extends	1
at least 3.3 ft (1 m) over a stream (or ditch) in, or contiguous with the wetland, for at	
least 33 ft (10 m)	
Stable steep banks of fine material that might be used by beaver or muskrat for denning	
(> 30 degree slope) OR signs of recent beaver activity are present (cut shrubs or trees	
that have not yet weathered where wood is exposed)	
☐ At least ¼ ac of thin-stemmed persistent plants or woody branches are present in areas	
that are permanently or seasonally inundated (structures for egg-laying by amphibians)	1 1
Invasive plants cover less than 25% of the wetland area in every stratum of plants (see	
H 1.1 for list of strata)	-
Total for H 1 Add the points in the boxes above	
Rating of Site Potential If Score is: 15-18 = H 7-14 = M 0-6 = L Record the rating of	n the first page
H 2.0. Does the landscape have the potential to support the habitat function of the site?	
H 2.1 Accessible habitat (include only habitat that directly abuts wetland unit).	
Calculate: ———————————————————————————————————	7
% undisturbed habitat + (% moderate & low intensity land uses / 2) = 7. 1	1
5	
If total accessible habitat is:	
$> \frac{1}{3}$ (33.3%) of 1 km Polygon points = 3	
20 - 33% of 1 km Polygon points = 2	2
10 - 19% of 1 km Polygon points =:	1
< 10 % of 1 km Polygon points = 0	
H 2.2. Undisturbed habitat in 1 km Polygon around the wetland.	
Calculate:	
% undisturbed habitat + (% moderate & low intensity land uses / 2) = 43.5 %	q
75°n	
Undisturbed habitat > 50% of Polygon points = 3	3 //
Undisturbed habitat 10 - 50% and in 1-3 patches points = 2	2
Undisturbed habitat 10 - 50% and > 3 patches points =	
Undisturbed habitat < 10% of 1 km Polygon points =	0
H 2.3 Land use intensity in 1 km Polygon: If	
> 50% of 1 km Polygon is high intensity land use points = (-2	
≤ 50% of 1km Polygon is high intensity points =	<u>)</u>
Total for H 2 Add the points in the boxes above	e 0/1
Rating of Landscape Potential If Score is: 4-6=H 171-3=M -<1=L Record the rating of	on the first page
H 3.0 Is the habitat provided by the site valuable to society?	
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? Choose	
only the highest score that applies to the wetland being rated.	ا
Site meets ANY of the following criteria: points =	2
☐ It has 3 or more priority habitats within 100 m (see next page)	1
☐ It provides habitat for Threatened or Endangered species (any plant	
or animal on the state or federal lists)	1
☐ It is mapped as a location for an individual WDFW priority species	
☐ It is a Wetland of High Conservation Value as determined by the	
Department of Natural Resources	1
☐ It has been categorized as an important habitat site in a local or	
regional comprehensive plan, in a Shoreline Master Plan, or in a	
watershed plan	4
Site has 1 or 2 priority habitats (listed on next page) with in 100m points =	- 1
Site does not meet any of the criteria above points = Reting of Value If Score is:	
Reting of Value If Score is: $\square 2 = H$ $\square 1 = M$ $\square 0 = L$ Record the rating 0	ın une mist vade

WDFW Priority Habitats

<u>Priority habitats listed by WDFW</u> (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp.

http://wdfw.wa.gov/publications/00165/wdfw00165.pdf or access the list from here: http://wdfw.wa.gov/conservation/phs/list/

Co que	unt h estio	now many of the following priority habitats are within 330 ft (100 m) of the wetland unit: NOTE : This in it is independent of the land use between the wetland unit and the priority habitat.
		Aspen Stands: Pure or mixed stands of aspen greater than 1 ac (0.4 ha).
		Biodiversity Areas and Corridors : Areas of habitat that are relatively important to various species of native fish and wildlife (<i>full descriptions in WDFW PHS report</i>).
		Herbaceous Balds: Variable size patches of grass and forbs on shallow soils over bedrock.
		Old-growth/Mature forests: Old-growth west of Cascade crest — Stands of at least 2 tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) > 32 in (81 cm) dbh or > 200 years of age. Mature forests — Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west of the Cascade crest.
		Oregon White Oak: Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (full descriptions in WDFW PHS report p. 158 – see web link above).
		Riparian: The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.
		Westside Prairies : Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (<i>full descriptions in WDFW PHS report p. 161 – see web link above</i>).
		Instream : The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.
		Nearshore : Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. (<i>full descriptions of habitats and the definition of relatively undisturbed are in WDFW report – see web link on previous page</i>).
		Caves: A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.
		Cliffs: Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.
		Talus : Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.
		Snags and Logs: Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 20 in (51 cm) in western Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.

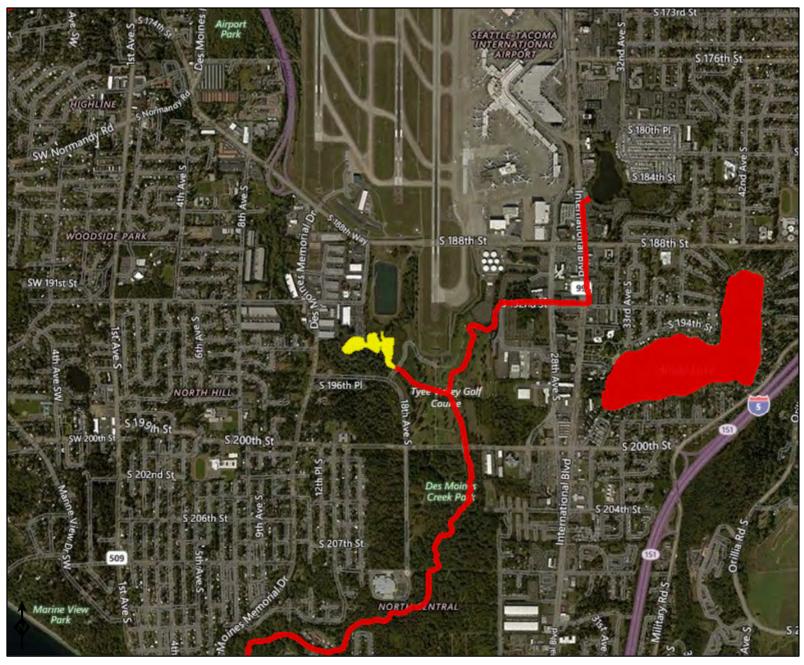
Note: All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Wetland	Type	Category
	any criteria that apply to the wetland. List the category when the appropriate criteria are met.	
SC 1.0. E	Estuarine Wetlands Does the wetland meet the following criteria for Estuarine wetlands?	
	The dominant water regime is tidal,	2011
	Vegetated, and	
	With a salinity greater than 0.5 ppt	
	☐ Yes - Go to SC 1.1 ☐ No = Not an estuarine wetland	
SC 1.1.	Is the wetland within a National Wildlife Refuge, National Park, National Estuary	-
	Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific	
	Reserve designated under WAC 332-30-151?	
	☐ Yes = Category I ☐ No - Go to SC 1.2	
SC 1.2.	Is the wetland unit at least 1 ac in size and meets at least two of the following three conditions?	
	The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing,	
	and has less than 10% cover of non-native plant species. (If non-native species are	
	Spartina, see page 25) At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-	
	grazed or un-mowed grassland.	
	The wetland has at least two of the following features: tidal channels, depressions with	
	open water, or contiguous freshwater wetlands.	
	☐ Yes = Category I ☐ No = Category II	
SC 2.0. V	Vetlands of High Conservation Value (WHCV)	
SC 2.1.	Has the WA Department of Natural Resources updated their website to include the list	
	of Wetlands of High Conservation Value?	
	☐ Yes - Go to SC 2.2 ☐ No - Go to SC 2.3	
SC 2.2.	Is the wetland listed on the WDNR database as a Wetland of High Conservation Value?	
	☐ Yes = Category I ☐ No = Not WHCV	ļ
SC 2.3.	Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland?	
	http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf Yes - Contact WNHP/WDNR and to SC 2.4 No = Not WHCV	
0004	☐ Yes - Contact WNHP/WDNR and to SC 2.4 ☐ No = Not WHCV Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation	
SC 2.4.	Value and listed it on their website?	
	Yaiue and listed it on their website: ☐ Yes = Category I ☐ No = Not WHCV	
SC 3.0. I		
30 3.0. 1	Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation	
	in bogs? Use the key below. If you answer YES you will still need to rate the	
	wetland based on its functions.	
SC 3.1.	Does an area within the wetland unit have organic soil horizons, either peats or mucks,	
	that compose 16 in or more of the first 32 in of the soil profile?	
ļ	☐ Yes - Go to SC 3.3 ☐ No - Go to SC 3.2	il .
SC 3.2.	Does an area within the wetland unit have organic soils, either peats or mucks, that are	
	less than 16 in deep over bedrock, or an impermeable hardpan such as clay or volcanic	
	ash, or that are floating on top of a lake or pond? \[\subseteq \text{Yes} - \text{Go to SC 3.3} \] \[\subseteq \text{No = Is not a bog} \]	=
SC 3.3.	Does an area with peats or mucks have more than 70% cover of mosses at ground	
	level, AND at least a 30% cover of plant species listed in Table 4?	
	NOTE: If you are uncertain about the extent of mosses in the understory, you may	
	substitute that criterion by measuring the pH of the water that seeps into a hole dug at	
1	least 16 in deep. If the pH is less than 5.0 and the plant species in Table 4 are present,	
	the wetland is a bog.	
SC 3.4.	Is an area with peats or mucks forested (> 30% cover) with Sitka spruce, subalpine fir,	
	western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann	
	spruce, or western white pine, AND any of the species (or combination of species) listed	1
1	in Table 4 provide more than 30% of the cover under the canopy?	
	☐ Yes = Is a Category I bog ☐ No = Is not a bog	

SC 4.0.	Forested Wetlands	
	Does the wetland have at least 1 contiguous acre of forest that meets one of these	
	criteria for the WA Department of Fish and Wildlife's forests as priority habitats? If you	
	answer YES you will still need to rate the wetland based on its functions.	
	Old-growth forests (west of Cascade crest): Stands of at least two tree species,	
	forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac	
	(20 trees/ha) that are at least 200 years of age OR have a diameter at breast height	
	(dbh) of 32 in (81 cm) or more.	
	200 years old OR the species that make up the canopy have an average diameter (dbh)	
	exceeding 21 in (53 cm).	'
	7	
	☐ Yes = Category I ☐ No = Not a forested wetland for this section	
SC 5.0.	Wetlands in Coastal Lagoons	
1	Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?	
	The wetland lies in a depression adjacent to marine waters that is wholly or partially	
	separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently,	
	rocks	
	The lagoon in which the wetland is located contains ponded water that is saline or	
	brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (needs to	
	be measured near the bottom)	
	☐ Yes - Go to SC 5.1 ☐ No = Not a wetland in a coastal lagoon	
SC 5.1. I	Does the wetland meet all of the following three conditions?	
	The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing),	
	and has less than 20% cover of aggressive, opportunistic plant species (see list of	
	species on p. 100).	
	At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-	
	grazed or un-mowed grassland.	
	The wetland is larger than $^{1}/_{10}$ ac (4350 ft ²)	
	☐ Yes = Category I ☐ No = Category II	1
SC 6.0. I	nterdunal Wetlands	
	Is the wetland west of the 1889 line (also called the Western Boundary of Upland	
	Ownership or WBUO)? If you answer yes you will still need to rate the wetland	i I
	based on its habitat functions.	
	In practical terms that means the following geographic areas:	
	Long Beach Peninsula: Lands west of SR 103	
	Grayland-Westport: Lands west of SR 105	
	Ocean Shores-Copalis: Lands west of SR 115 and SR 109	
	☐ Yes - Go to SC 6.1 ☐ No = Not an interdunal wetland for rating	1
SC 6.1.	Is the wetland 1 ac or larger and scores an 8 or 9 for the habitat functions on the form	
	(rates H,H,H or H,H,M for the three aspects of function)?	
	☐ Yes = Category I ☐ No - Go to SC 6.2	
SC 6.2.	Is the wetland 1 ac or larger, or is it in a mosaic of wetlands that is 1 ac or larger?	
	☐ Yes = Category II ☐ No - Go to SC 6.3	ľ
SC 6.3.	Is the unit between 0.1 and 1 ac, or is it in a mosaic of wetlands that is between 0.1 and	
	1 ac?	
	y of wetland based on Special Characteristics	
t you ans	swered No for all types, enter "Not Applicable" on Summary Form	

Water Quality Atlas Map



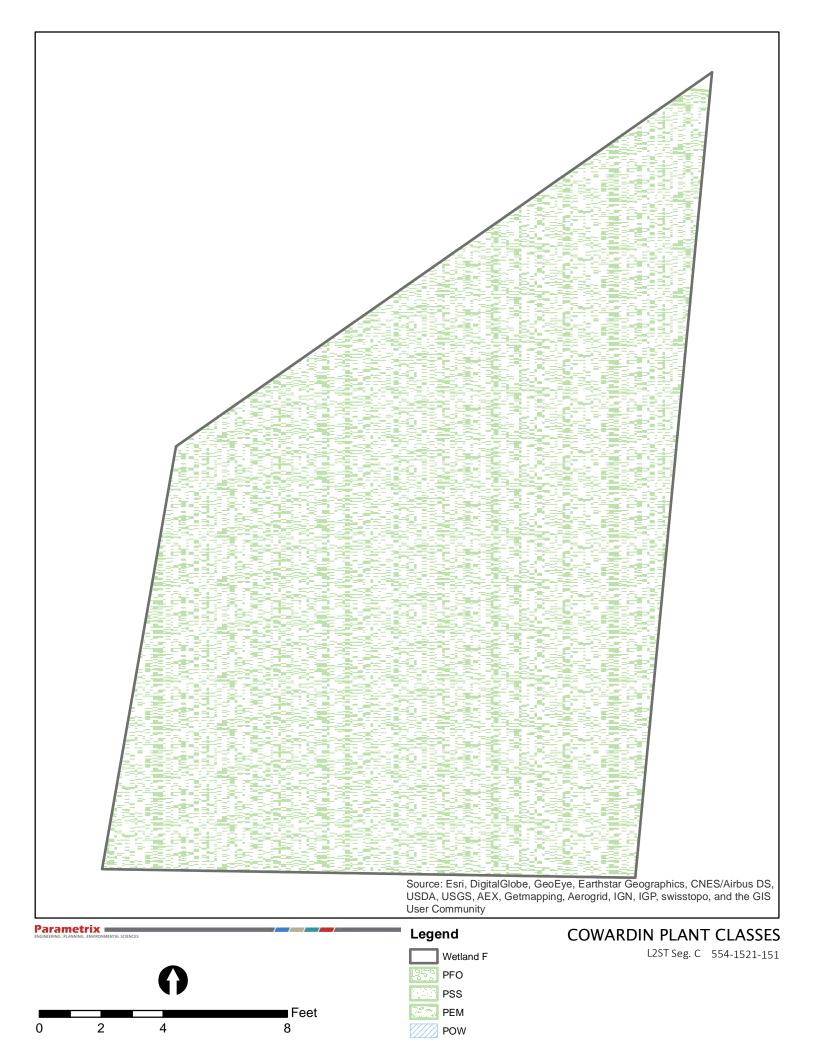
Assessed Waters/Sediment

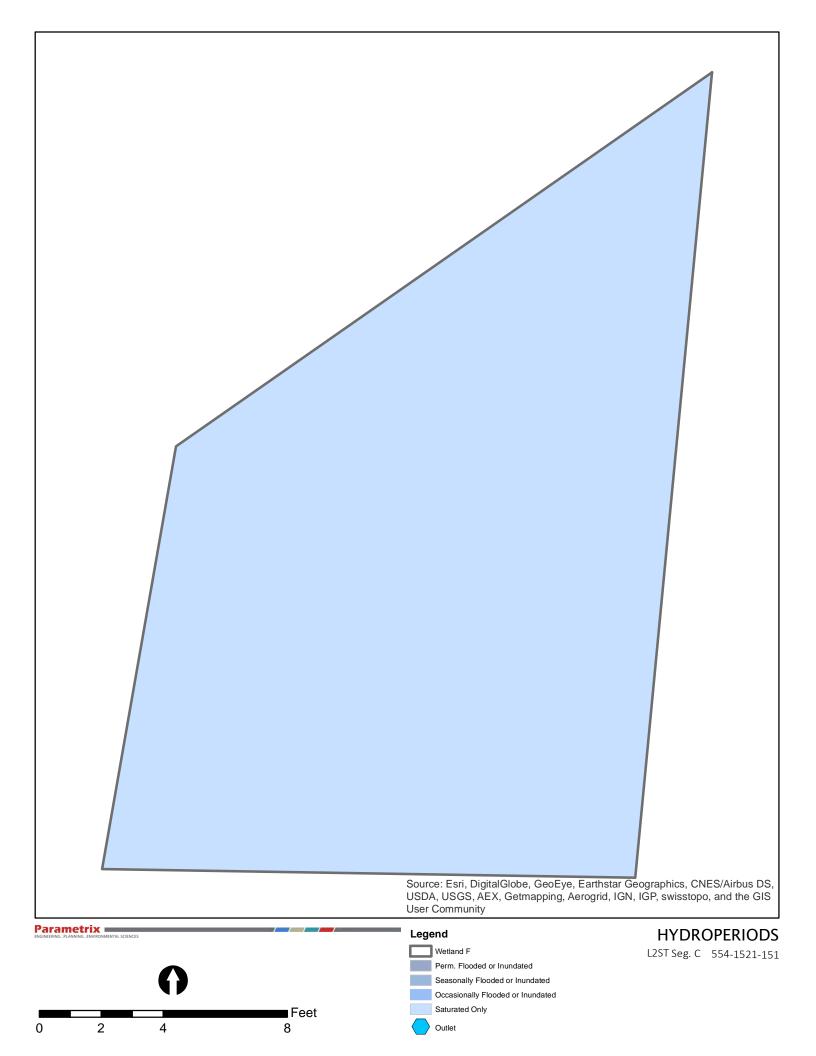
Water

- Category 5 303d
- Category 4C
- Category 4B
- Category 4A
- Category 2
- Catagony 1
- 💜 Category 1

Sediment

- Category 5 303d
- ZZZ Category 4C
- ZZZ Category 4B
- ZZZ Category 4A
- Category 2
- ZZZ Category 1







Legend

1 KM AND 150 FT POLYGONS

L2ST Seg. C 554-1521-151



Wetland F F_150ft

F_1km

■ Feet 650 1,300 2,600

F	RATING S	UMMAR	Y – W	estern/	ı Was	shington	, ,
Name of wetland (or	110	und (я			Date of site visit:	11/14/2010
Rated by	Pary	_ т	ained by E	cology? 🗆 Y	′es □No	Date of training	09/2016
HGM Class used for	rating	re		. Wetland h	nas multip	le HGM classes?	Yes No
	rm is not complet Source of base ae			equested (fig	gures can	be combined).	
OVERALL WETLA	ND CATEGORY	IV	(based on	functions [or specia	al characteristics)
1. Category of w	retland based or	n FUNCTION	IS				
	Category	I - Total score	= 23 - 27			Score for each	
	Category	II - Total score	e = 20 - 22			function based	
	Category	III - Total sco	re = 16 - 19)	1	on three	
	Category	IV - Total scor	e = 9 - 15			ratings	
					-	(order of ratings	
FUNCTION	Improving	Hydrologic	Habitat			is not	
PONCTION	Water Quality				- 1	important)	
	List ap	propriate rating	(H, M, L)				
Site Potential		M	L			9 = H, H, H	
Landscape Potential	M	M	L			8 = H, H, M	
Value	H	M	L	Total		7 = H, H, L	
Score Based on Ratings	6	6	3	18		7 = H, M, M 6 = H, M, L	
-						6 = M, M, M	

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	Category
Estuarine	
Wetland of High Conservation Value	
Bog	
Mature Forest	
Old Growth Forest	
Coastal Lagoon	
Interdunal	. ,
None of the above	X

1

5 = H, L, L 5 = M, M, L 4 = M, L, L 3 = L, L, L

Maps and Figures required to answer questions correctly for Western Washington

Depressional Wetlands

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

Riverine Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	H 1.1, H 1.4	
Hydroperiods	H 1.2	
Ponded depressions	R 1.1	
Boundary of area within 150 ft of the wetland (can be added to another figure)	R 2.4	
Plant cover of trees, shrubs, and herbaceous plants	R 1.2, R 4.2	
Width of unit vs. width of stream (can be added to another figure)	R 4.1	
Map of the contributing basin	R 2.2, R 2.3, R 5.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	R 3.1	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	R 3.2, R 3.3	

Lake Fringe Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	L 1.1, L 4.1, H 1.1, H 1.4	
Plant cover of trees, shrubs, and herbaceous plants	L 1.2	
Boundary of area within 150 ft of the wetland (can be added to another figure)	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	L 3.1, L 3.2	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	L 3.3	

Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	H 1.1, H 1.4	
Hydroperiods	H 1.2	
Plant cover of dense trees, shrubs, and herbaceous plants	S 1.3	
Plant cover of dense, rigid trees, shrubs, and herbaceous plants	S 4.1	
(can be added to another figure)		
Boundary of area within 150 ft of the wetland (can be added to another figure)	S 2.1, S 5.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	S 3.3	

HGM Classification of Wetland in Western Washington

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

1. Are the water levels in the entire	unit usually controlled by tides except during floods?
DNO - go to 2	☐ YES - the wetland class is Tidal Fringe - go to 1.1
1.1 Is the salinity of the water	during periods of annual low flow below 0.5 ppt (parts per thousand)?
☐ NO - Saltwater Tidal Friendler If your wetland can be classified it is Saltwater Tidal Friendler Included to score functions for the second second second included to score functions for the second secon	assified as a Freshwater Tidal Fringe use the forms for Riverine wetlands ge it is an Estuarine wetland and is not scored. This method cannot be
2. The entire wetland unit is flat and Groundwater and surface water rur	I precipitation is the only source (>90%) of water to it. noff are NOT sources of water to the unit.
NO - go to 3 If your wetland can be cla	☐ YES - The wetland class is Flats as a Flats wetland, use the form for Depressional wetlands.
plants on the surface at a	et all of the following criteria? wetland is on the shores of a body of permanent open water (without any ny time of the year) at least 20 ac (8 ha) in size; water area is deeper than 6.6 ft (2 m).
X NO - go to 4	☐ YES - The wetland class is Lake Fringe (Lacustrine Fringe)
it may flow subsurface, as	
☐ NO - go to 5	YES - The wetland class is Slope
NOTE: Surface water does not pond depressions or behind hummocks (d in these type of wetlands except occasionally in very small and shallow depressions are usually <3 ft diameter and less than 1 ft deep).
from that stream or river,	t all of the following criteria? tream channel, where it gets inundated by overbank flooding curs at least once every 2 years.
☐ NO - go to 6	☐ YES - The wetland class is Riverine
NOTE: The Riverine unit can contain	n depressions that are filled with water when the river is not fleeding

6. Is the entire wetland unit in a topographic some time during the year? This means the	c depression in which water ponds, or is saturated to the surface, a at any outlet, if present, is higher than the interior of the wetland.
□ NO - go to 7	☐ YES - The wetland class is Depressional
The unit does not pond surface water more	y flat area with no obvious depression and no overbank flooding? than a few inches. The unit seems to be maintained by high be ditched, but has no obvious natural outlet.
□ NO - go to 8	☐ YES - The wetland class is Depressional
8. Your wetland unit seems to be difficult to	classify and probably contains several different HGM classes. For

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

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

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

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

SLOPE WETLANDS	
Water Quality Functions - Indicators that the site functions to	mprove water quality
S 1.0. Does the site have the potential to improve water quality?	
S 1.1. Characteristics of the average slope of the wetland: (a 1% slope has a	1 ft vertical drop in
elevation for every 100 ft of horizontal distance)	
Slope is 1% or less	points = 3
Slope is > 1% - 2%	points = 2
Slope is > 2% - 5%	points = 1
Slope is greater than 5%	points = 0
S 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic	
(use NRCS definitions):	Yes = 3 No = 0
S 1.3. Characteristics of the plants in the wetland that trap sediments and pol Choose the points appropriate for the description that best fits the plants in th	lutants:
means you have trouble seeing the soil surface (>75% cover), and uncut mea	e welland. <i>Dense</i>
mowed and plants are higher than 6 in.	ans not grazed or
Dense, uncut, herbaceous plants > 90% of the wetland area	points = 6
Dense, uncut, herbaceous plants > ½ of area	points = 3
Dense, woody, plants > 1/2 of area	points = 2
Dense, uncut, herbaceous plants > 1/4 of area	points = 1
Does not meet any of the criteria above for plants	points = 0
	s in the boxes above
Rating of Site Potential If score is: 12 = H 16 - 11 = M 20 - 5 = L	Record the rating on the first page
Rating of Site Potential If score is: 12 = H 16 - 11 = M 20 - 5 = L	Record the rating on the first page
Rating of Site Potential If score is: 12 = H 16 - 11 = M 20 - 5 = L S 2.0. Does the landscape have the potential to support the water quality fund	Record the rating on the first page
Rating of Site Potential If score is: 12 = H 6-11 = M 0-5 = L S 2.0. Does the landscape have the potential to support the water quality fund S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in	Record the rating on the first page
Rating of Site Potential If score is: 12 = H 16 - 11 = M 20 - 5 = L S 2.0. Does the landscape have the potential to support the water quality function S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?	Record the rating on the first page
Rating of Site Potential If score is: 12 = H	Record the rating on the first page
Rating of Site Potential If score is: 12 = H	Record the rating on the first page stion of the site? Yes = 1 No = 0 1
Rating of Site Potential If score is: 12 = H 6-11 = M 0-5 = L S 2.0. Does the landscape have the potential to support the water quality fund S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants? S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1? Other Sources	Record the rating on the first page stion of the site? Yes = 1 No = 0 Yes = 1 No = 0
Rating of Site Potential If score is: 12 = H 6-11 = M 0-5 = L S 2.0. Does the landscape have the potential to support the water quality fund S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants? S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1? Other Sources Total for S 2	Record the rating on the first page stion of the site? Yes = $1 \text{ No} = 0$ Yes = $1 \text{ No} = 0$ In the boxes above 26
Rating of Site Potential If score is: 12 = H 6-11 = M 0-5 = L S 2.0. Does the landscape have the potential to support the water quality fund S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants? S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1? Other Sources	Record the rating on the first page stion of the site? Yes = 1 No = 0 Yes = 1 No = 0
Rating of Site Potential If score is: 12 = H 6-11 = M 0-5 = L S 2.0. Does the landscape have the potential to support the water quality fund S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants? S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1? Other Sources Total for S 2	Record the rating on the first page stion of the site? Yes = 1 No = 0 Yes = 1 No = 0 The sin the boxes above $\frac{1}{2}$ Record the rating on the first page
Rating of Site Potential If score is: 12 = H 6 - 11 = M 0 - 5 = L S 2.0. Does the landscape have the potential to support the water quality fund S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants? S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1? Other Sources Total for S 2 Add the points Rating of Landscape Potential If score is: 1 - 2 = M 0 = L	Record the rating on the first page ition of the site? Yes = 1 No = 0 Yes = 1 No = 0 In the boxes above
Rating of Site Potential If score is: \(\begin{align*} 12 = H \\ \begin{align*} 16 - 11 = M \\ \begin{align*} 0 - 5 = L \\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	Record the rating on the first page stion of the site? Yes = 1 No = 0 Yes = 1 No = 0 The single single shows above single shows above single shows above shows
Rating of Site Potential If score is:	Record the rating on the first page stion of the site? Yes = 1 No = 0 Yes = 1 No = 0 S in the boxes above Record the rating on the first page $\frac{1}{2}$ Yes = 1 No = 0
Rating of Site Potential If score is:	Record the rating on the first page stion of the site? Yes = 1 No = 0 Yes = 1 No = 0 S in the boxes above 26 Record the rating on the first page 36 Yes = 1 No = 0 Yes = 1 No = 0
Rating of Site Potential If score is:	Record the rating on the first page Ition of the site? Yes = 1 No = 0 Yes = 1 No = 0 In the boxes above
S 2.0. Does the landscape have the potential to support the water quality functions 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants? S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1? Other Sources Total for S 2 Add the points Rating of Landscape Potential If score is:	Record the rating on the first page Ition of the site? Yes = 1 No = 0 Yes = 1 No = 0 In the boxes above
S 2.0. Does the landscape have the potential to support the water quality functions 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants? S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1? Other Sources Total for S 2 Add the points Rating of Landscape Potential If score is: Add the points S 3.0. Is the water quality improvement provided by the site valuable to society S 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list? S 3.2. Is the wetland in a basin or sub-basin where water quality is an issue? At least one aquatic resource in the basin is on the 303(d) list. S 3.3. Has the site been identified in a watershed or local plan as important formaintaining water quality? Answer YES if there is a TMDL for the basin in which the unit is found?	Record the rating on the first page stion of the site? Yes = 1 No = 0 Yes = 1 No = 0 S in the boxes above 26 Record the rating on the first page 36 Yes = 1 No = 0 Yes = 1 No = 0 Yes = 1 No = 0
S 2.0. Does the landscape have the potential to support the water quality functions 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants? S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1? Other Sources Total for S 2 Add the points Rating of Landscape Potential If score is: Add the points S 3.0. Is the water quality improvement provided by the site valuable to society S 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list? S 3.2. Is the wetland in a basin or sub-basin where water quality is an issue? At least one aquatic resource in the basin is on the 303(d) list. S 3.3. Has the site been identified in a watershed or local plan as important formaintaining water quality? Answer YES if there is a TMDL for the basin in which the unit is found?	Record the rating on the first page Ition of the site? Yes = 1 No = 0 Yes = 1 No = 0 In the boxes above

SLOPE WETLANDS		
Hydrologic Functions - Indicators that the site functions to reduce floor	oding and stream ero	sion
S 4.0. Does the site have the potential to reduce flooding and stream erosion?		
S 4.1. Characteristics of plants that reduce the velocity of surface flows during	storms: Choose	
the points appropriate for the description that best fits conditions in the wetland	. Stems of plants	
should be thick enough (usually $> 1/8$ in), or dense enough, to remain erect du	uring surface flows.	. 1
Dense, uncut, rigid plants cover > 90% of the area of the wetland	opoints = 1	
All other conditions	points = 0	
Rating of Site Potential If score is: \(\sum 1 = M \) \(\sum 0 = L \)	Record the rating on	the first page
S 5.0. Does the landscape have the potential to support hydrologic functions of	the site?	
S 5.1. Is more than 25% of the area within 150 ft upslope of wetland in land		1
uses or cover that generate excess surface runoff?	Yes = 1) No = 0	
Rating of Landscape Potential If score is: 1 = M 10 = L	Record the rating on	the first page
	Record the rating on	the first page
S 6.0. Are the hydrologic functions provided by the site valuable to society?		the first page
, , , , , , , , , , , , , , , , , , ,		the first page
S 6.0. Are the hydrologic functions provided by the site valuable to society?		the first page
S 6.0. Are the hydrologic functions provided by the site valuable to society? S 6.1. Distance to the nearest areas downstream that have flooding problems:		the first page
S 6.0. Are the hydrologic functions provided by the site valuable to society? S 6.1. Distance to the nearest areas downstream that have flooding problems: The sub-basin immediately down-gradient of site has flooding		the first page
S 6.0. Are the hydrologic functions provided by the site valuable to society? S 6.1. Distance to the nearest areas downstream that have flooding problems: The sub-basin immediately down-gradient of site has flooding problems that result in damage to human or natural resources (e.g.,		the first page
S 6.0. Are the hydrologic functions provided by the site valuable to society? S 6.1. Distance to the nearest areas downstream that have flooding problems: The sub-basin immediately down-gradient of site has flooding problems that result in damage to human or natural resources (e.g., houses or salmon redds)	points = 2	the first page
S 6.0. Are the hydrologic functions provided by the site valuable to society? S 6.1. Distance to the nearest areas downstream that have flooding problems: The sub-basin immediately down-gradient of site has flooding problems that result in damage to human or natural resources (e.g., houses or salmon redds) Surface flooding problems are in a sub-basin farther down-gradient	points = 2 points = D	the first page
S 6.0. Are the hydrologic functions provided by the site valuable to society? S 6.1. Distance to the nearest areas downstream that have flooding problems: The sub-basin immediately down-gradient of site has flooding problems that result in damage to human or natural resources (e.g., houses or salmon redds) Surface flooding problems are in a sub-basin farther down-gradient No flooding problems anywhere downstream S 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan?	points = 2 points = D points = 0 Yes = 2 No = 0	1
S 6.0. Are the hydrologic functions provided by the site valuable to society? S 6.1. Distance to the nearest areas downstream that have flooding problems: The sub-basin immediately down-gradient of site has flooding problems that result in damage to human or natural resources (e.g., houses or salmon redds) Surface flooding problems are in a sub-basin farther down-gradient No flooding problems anywhere downstream S 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan?	points = 2 points = D points = 0	the first page

NOTES and FIELD OBSERVATIONS:

These questions apply to wetlands of all HGM classes.	
HABITAT FUNCTIONS - Indicators that site functions to provide important habitat	
H 1.0. Does the site have the potential to provide habitat?	
H 1.1. Structure of plant community: Indicators are Cowardin classes and strata within the	
Forested class. Check the Cowardin plant classes in the wetland. Up to 10 patches may be	
combined for each class to meet the threshold of ¼ ac or more than 10% of the unit if it is smaller than 2.5 ac. Add the number of structures checked.	
triair 2.5 ac. Add the number of structures checked.	
Aquatic bed 4 structures or more: points = 4	1
Emergent 3 structures: points = 2	7
Scrub-shrub (areas where shrubs have > 30% cover)	, —
☐ Forested (areas where trees have > 30% cover) ☐ 1 structure: points = 0	
If the unit has a Forested class, check if:	
☐ The Forested class has 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous,	
moss/ground-cover) that each cover 20% within the Forested polygon H 1.2. Hydroperiods	
Check the types of water regimes (hydroperiods) present within the wetland. The water regime	
has to cover more than 10% of the wetland or 1/4 ac to count (see text for descriptions of	
hydroperiods).	
☐ Permanently flooded or inundated 4 or more types present: points = 3	1
☐ Seasonally flooded or inundated flooded or inundated flooded or inun	/
Saturated only 2 types present: points = 7 1 types present: points = 0	
Permanently flowing stream or river in, or adjacent to, the wetland	
☐ Seasonally flowing stream in, or adjacent to, the wetland	
☐ Lake Fringe wetland 2 points	
☐ Freshwater tidal wetland 2 points	
H 1.3. Richness of plant species	
Count the number of plant species in the wetland that cover at least 10 ft ² . Different patches of the same species can be combined to meet the size threshold and you do	
not have to name the species. Do not include Eurasian milfoil, reed canarygrass, purple	
loosestrife, Canadian thistle	1
If you counted: > 19 species points = 2	
5 - 19 species points = 1	>
< 5 species points = 0 H 1.4. Interspersion of habitats	
Decide from the diagrams below whether interspersion among Cowardin plants classes	
(described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats)	
is high, moderate, low, or none. If you have four or more plant classes or three classes and open	
water, the rating is always high.	
	7
None = 0 points	
All three diagrams	
in this row are	
HIGH = 3 points	

WDFW Priority Habitats

<u>Priority habitats listed by WDFW</u> (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp.

http://wdfw.wa.gov/publications/00165/wdfw00165.pdf or access the list from here: http://wdfw.wa.gov/conservation/phs/list/

Count how many of the following priority habitats are within 330 ft (100 m) of the wetland unit: NOTE: This question is independent of the land use between the wetland unit and the priority habitat. Aspen Stands: Pure or mixed stands of aspen greater than 1 ac (0.4 ha). ☐ Biodiversity Areas and Corridors: Areas of habitat that are relatively important to various species of native fish and wildlife (full descriptions in WDFW PHS report). Herbaceous Balds: Variable size patches of grass and forbs on shallow soils over bedrock. Old-growth/Mature forests: Old-growth west of Cascade crest - Stands of at least 2 tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) > 32 in (81 cm) dbh or > 200 years of age. Mature forests - Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west of the Cascade crest. ☐ Oregon White Oak: Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (full descriptions in WDFW PHS report p. 158 - see web link above). Riparian: The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other. ☐ Westside Prairies: Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (full descriptions in WDFW PHS report p. 161 - see web link above). Instream: The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources. Nearshore: Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. (full descriptions of habitats and the definition of relatively undisturbed are in WDFW report - see web link on previous page). Caves: A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human. ☐ Cliffs: Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation. Talus: Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs. ☐ Snags and Logs: Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 20 in (51 cm) in western Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.

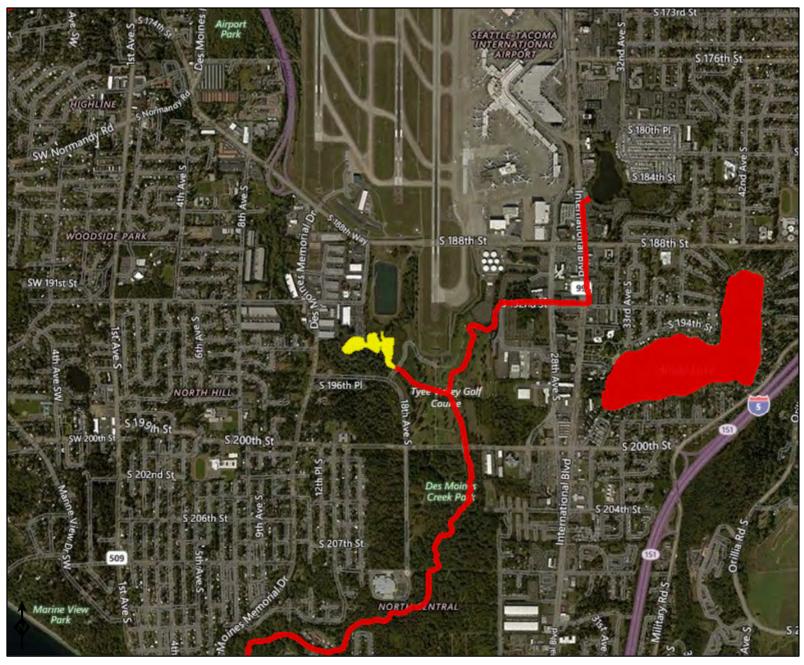
Note: All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Wetland	Туре	Category
	any criteria that apply to the wetland. List the category when the appropriate criteria are met.	
SC 1.0. I	Estuarine Wetlands	
	Does the wetland meet the following criteria for Estuarine wetlands?	
	The dominant water regime is tidal,	
	Vegetated, and With a salinity greater than 0.5 ppt	A STATE OF THE PARTY.
"	Yes - Go to SC 1.1 \square No = Not an estuarine wetland	I to the spirit
SC 1.1.	Is the wetland within a National Wildlife Refuge, National Park, National Estuary	
30 1.1.	Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific	
	Reserve designated under WAC 332-30-151?	
	☐ Yes = Category I ☐ No - Go to SC 1.2	
SC 1.2.		-
JSC 1.2.	The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing,	
	and has less than 10% cover of non-native plant species. (If non-native species are	
	Spartina, see page 25)	
	At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-	
	grazed or un-mowed grassland.	
	The wetland has at least two of the following features: tidal channels, depressions with	
_	open water, or contiguous freshwater wetlands.	
	☐ Yes = Category I ☐ No = Category II	
SC 2.0. V	Wetlands of High Conservation Value (WHCV)	
SC 2.1.	Has the WA Department of Natural Resources updated their website to include the list	
	of Wetlands of High Conservation Value?	
	☐ Yes - Go to SC 2.2 ☐ No - Go to SC 2.3	
SC 2.2.	Is the wetland listed on the WDNR database as a Wetland of High Conservation Value?	
	☐ Yes = Category I ☐ No = Not WHCV	
SC 2.3.	Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland?	
	http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf	
	☐ Yes - Contact WNHP/WDNR and to SC 2.4 ☐ No = Not WHCV	
SC 2.4.	Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation	
1	Value and listed it on their website?	
	☐ Yes = Category I ☐ No = Not WHCV	
SC 3.0.1	Bogs	
	Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation	
	in bogs? Use the key below. If you answer YES you will still need to rate the	
	wetland based on its functions.	
SC 3.1.	Does an area within the wetland unit have organic soil horizons, either peats or mucks,	
	that compose 16 in or more of the first 32 in of the soil profile?	
	☐ Yes - Go to SC 3.3 ☐ No - Go to SC 3.2	
SC 3.2.	Does an area within the wetland unit have organic soils, either peats or mucks, that are	
ļ	less than 16 in deep over bedrock, or an impermeable hardpan such as clay or volcanic	
	ash, or that are floating on top of a lake or pond? ☐ Yes - Go to SC 3.3 ☐ No = Is not a bog	
0000	Does an area with peats or mucks have more than 70% cover of mosses at ground	
SC 3.3.	level, AND at least a 30% cover of plant species listed in Table 4?	
	☐ Yes = Is a Category I bog ☐ No - Go to SC 3.4	
	NOTE: If you are uncertain about the extent of mosses in the understory, you may	
	substitute that criterion by measuring the pH of the water that seeps into a hole dug at	
	least 16 in deep. If the pH is less than 5.0 and the plant species in Table 4 are present,	
	the wetland is a bog.	
SC 3.4.	Is an area with peats or mucks forested (> 30% cover) with Sitka spruce, subalpine fir,	1
0.7	western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann	
	spruce, or western white pine, AND any of the species (or combination of species) listed	
	in Table 4 provide more than 30% of the cover under the canopy?	1
1	☐ Yes = is a Category I bog ☐ No = is not a bog	

SC 4.0.	Forested Wetlands	
	Does the wetland have at least 1 contiguous acre of forest that meets one of these	ļ
	criteria for the WA Department of Fish and Wildlife's forests as priority habitats? If you	
1	answer YES you will still need to rate the wetland based on its functions.	
	Old-growth forests (west of Cascade crest): Stands of at least two tree species,	
	forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac	
	(20 trees/ha) that are at least 200 years of age OR have a diameter at breast height	
ł	(dbh) of 32 in (81 cm) or more.	
	Mature forests (west of the Cascade Crest): Stands where the largest trees are 80-	
	200 years old OR the species that make up the canopy have an average diameter (dbh)	
	exceeding 21 in (53 cm).	
	☐ Yes = Category I ☐ No = Not a forested wetland for this section	
SC 5.0.	Wetlands in Coastal Lagoons	
	Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?	
	The wetland lies in a depression adjacent to marine waters that is wholly or partially	
İ	separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently,	
	rocks	
	The lagoon in which the wetland is located contains ponded water that is saline or	
	brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (needs to	
	be measured near the bottom)	i
	☐ Yes - Go to SC 5.1 ☐ No = Not a wetland in a coastal lagoon	
SC 5.1.	Does the wetland meet all of the following three conditions?	
	The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing),	
	and has less than 20% cover of aggressive, opportunistic plant species (see list of	
	species on p. 100).	
	At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-	
	grazed or un-mowed grassland.	
	The wetland is larger than $^{1}/_{10}$ ac (4350 ft ²)	
	☐ Yes = Category I ☐ No = Category II	
SC 6.0. I	nterdunal Wetlands	
	Is the wetland west of the 1889 line (also called the Western Boundary of Upland	
	Ownership or WBUO)? If you answer yes you will still need to rate the wetland	
	based on its habitat functions.	
	In practical terms that means the following geographic areas:	
님	Long Beach Peninsula: Lands west of SR 103	
	Grayland-Westport: Lands west of SR 105	
Ц	Ocean Shores-Copalis: Lands west of SR 115 and SR 109	
0004	☐ Yes - Go to SC 6.1 ☐ No = Not an interdunal wetland for rating	
SC 6.1.	Is the wetland 1 ac or larger and scores an 8 or 9 for the habitat functions on the form	
	(rates H,H,H or H,H,M for the three aspects of function)?	
00.00	☐ Yes = Category I ☐ No - Go to SC 6.2	
SC 6.2.	Is the wetland 1 ac or larger, or is it in a mosaic of wetlands that is 1 ac or larger?	
20.60	☐ Yes = Category II ☐ No - Go to SC 6.3	
SC 6.3.	Is the unit between 0.1 and 1 ac, or is it in a mosaic of wetlands that is between 0.1 and	
	1 ac?	
Cotoss	☐ Yes = Category III ☐ No = Category IV	
Category	y of wetland based on Special Characteristics	
<u>ıı you ans</u>	swered No for all types, enter "Not Applicable" on Summary Form	

Water Quality Atlas Map



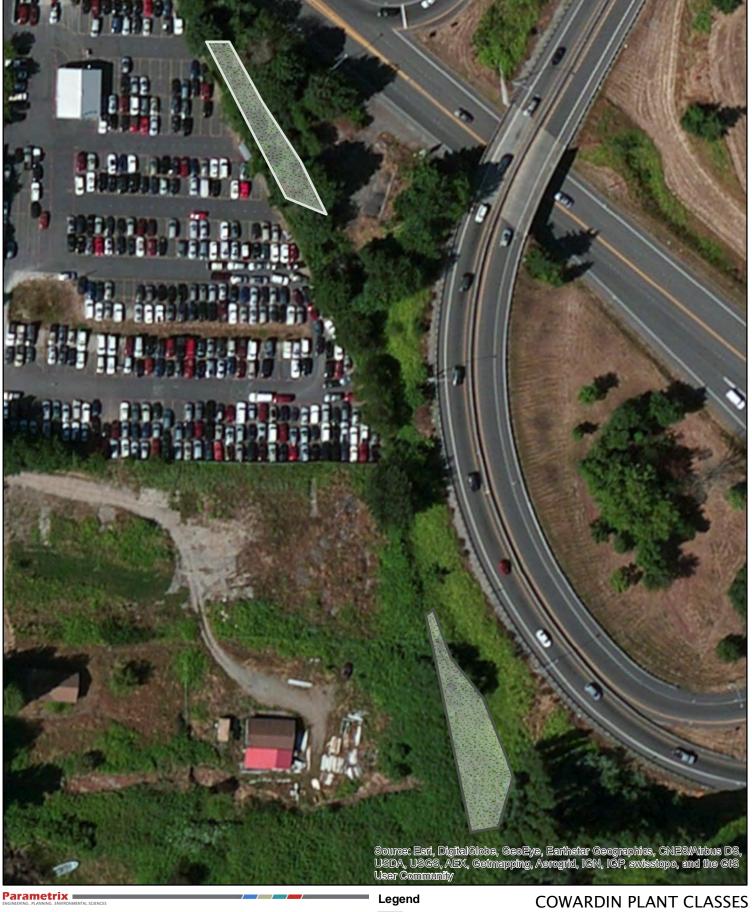
Assessed Waters/Sediment

Water

- Category 5 303d
- Category 4C
- Category 4B
- Category 4A
- Category 2
- Catagony 1
- 💜 Category 1

Sediment

- Category 5 303d
- ZZZ Category 4C
- ZZZ Category 4B
- ZZZ Category 4A
- Category 2
- ZZZ Category 1



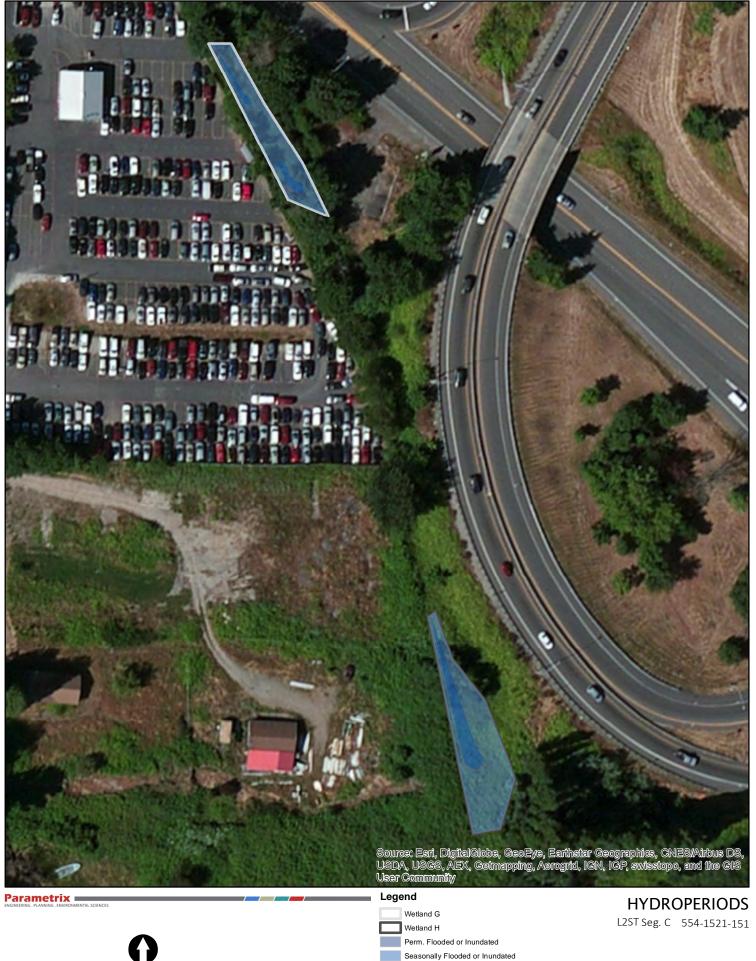
Feet 55 110 220

Wetland G
Wetland H

PFO PSS

PEM POW

L2ST Seg. C 554-1521-151



Occasionally Flooded or Inundated

Saturated Only

Outlet

Feet 0 55 110 220



Legend

1 KM AND 150 FT POLYGONS

L2ST Seg. C 554-1521-151



Wetland G G_150ft

G_1km

Feet 1,300 650 2,600

F	RATING SI	UMMAF	3 Y - M	esterr/	า Was	hington	
Name of wetland (or	ID #): \\delta	and H				Date of site visit	11/14/
Rated by //	Pamy	_ т	rained by E	Ecology?	∕es □No	Date of training	09/20
HGM Class used for	r rating	V.		Wetland	has multipl	e HGM classes?	l Yes □No
NOTE: Fo	orm is not complet Source of base ae			equested (fi	gures can	be combined).	_
OVERALL WETLA	IND CATEGORY	IV	_(based on	functions [∃or specia	I characteristics)
1. Category of v	vetland based o	n FUNCTION	NS				
	Category	I - Total score	= 23 - 27			Score for each	
	Category	II - Total scor	e = 20 - 22			function based	
	Category	III - Total sco	re = 16 - 19	9		on three	
	Category	IV - Total sco	re = 9 - 15			ratings	
			7			order of ratings	
FUNCTION	Improving	Hydrologic	Habitat			is not]
	Water Quality					important)	
o:	List ap	propriate rating	g (H, M, L)				
Site Potential		M	1			9 = H, H, H	
Landscape Potential		/n	4			B = H, H, M	=
Value	<u> </u>	M	_	Total		7 = H, H, L	
Score Based on	6	6	7	às		7 = H, M, M	
Ratings				رود		6 = H, M, L	
						6 = M, M, M	
						5 = H, L, L	
						5 = M, M, L	1

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	Category
Estuarine	
Wetland of High Conservation Value	
Bog	
Mature Forest	
Old Growth Forest	
Coastal Lagoon	
interdunal	1
None of the above	TX

4 = M, L, L 3 = L, L, L

Maps and Figures required to answer questions correctly for Western Washington

Depressional Wetlands

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

Riverine Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	H 1.1, H 1.4	
Hydroperiods	H 1.2	
Ponded depressions	R 1.1	
Boundary of area within 150 ft of the wetland (can be added to another figure)	R 2.4	
Plant cover of trees, shrubs, and herbaceous plants	R 1.2, R 4.2	
Width of unit vs. width of stream (can be added to another figure)	R 4.1	
Map of the contributing basin	R 2.2, R 2.3, R 5.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	R 3.1	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	R 3.2, R 3.3	

Lake Fringe Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	L 1.1, L 4.1, H 1.1, H 1.4	
Plant cover of trees, shrubs, and herbaceous plants	L 1.2	
Boundary of area within 150 ft of the wetland (can be added to another figure)	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	L 3.1, L 3.2	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	L 3.3	

Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	H 1.1, H 1.4	
Hydroperiods	H 1.2	
Plant cover of dense trees, shrubs, and herbaceous plants	S 1.3	
Plant cover of dense, rigid trees, shrubs, and herbaceous plants	S 4.1	
(can be added to another figure)		
Boundary of area within 150 ft of the wetland (can be added to another figure)	S 2.1, S 5.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	S 3.3	

HGM Classification of Wetland in Western Washington

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

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

1. Are the water levels in the entire unit usua	ally controlled by tides except during floods?
NO - go to 2	☐ YES - the wetland class is Tidal Fringe - go to 1.1
1.1 Is the salinity of the water during pe	eriods of annual low flow below 0.5 ppt (parts per thousand)?
☐ NO - Saltwater Tidal Fringe (Estu If your wetland can be classified as If it is Saltwater Tidal Fringe it is an used to score functions for estuaring	s a Freshwater Tidal Fringe use the forms for Riverine wetlands. • Estuarine wetland and is not scored. This method cannot be
2. The entire wetland unit is flat and precipital Groundwater and surface water runoff are NO	
NO - go to 3 If your wetland can be classified as	☐ YES - The wetland class is Flats is a Flats wetland, use the form for Depressional wetlands.
plants on the surface at any time of At least 30% of the open water area	s on the shores of a body of permanent open water (without any the year) at least 20 ac (8 ha) in size:
NO - go to 4	TYES - The wetland class is Lake Fringe (Lacustrine Fringe)
4. Does the entire wetland unit meet all of the X The wetland is on a slope (slope cath X) The water flows through the wetland it may flow subsurface, as sheetflow The water leaves the wetland without the control of the water leaves the wetland without the control of the water leaves the wetland without the control of the water leaves the wetland without the control of the water leaves the wetland without the control of the water leaves the wetland without the control of the water leaves the wetland without the control of the water leaves the wetland without the control of the water leaves the wetland without the water leaves the wetland without the water leaves the wetland without the water leaves the water leaves the wetland without the water leaves the wetland without the water leaves leaves the water leaves the water leaves leaves leaves leaves leaves leaves leaves leaves leaves leaves leav	un be very gradual), d in one direction (unidirectional) and usually comes from seeps. w, or in a swale without distinct banks.
□ NO - go to 5	YES - The wetland class is Slope
NOTE: Surface water does not pond in these depressions or behind hummocks (depression	type of wetlands except occasionally in very small and shallow ans are usually <3 ft diameter and less than 1 ft deep).
 5. Does the entire wetland unit meet all of the The unit is in a valley, or stream chafrom that stream or river, The overbank flooding occurs at lea 	annel, where it gets inundated by overbank flooding
□ NO - go to 6	☐ YES - The wetland class is Riverine
NOTE: The Riverine unit can contain depress	sions that are filled with water when the river is not flooding.

6. Is the entire wetland unit in a topographic do some time during the year? This means that a	epression in which water ponds, or is saturated to the surface, at any outlet, if present, is higher than the interior of the wetland.
□ NO - go to 7	☐ YES - The wetland class is Depressional
7. Is the entire wetland unit located in a very fl The unit does not pond surface water more th groundwater in the area. The wetland may be	at area with no obvious depression and no overbank flooding? an a few inches. The unit seems to be maintained by high ditched, but has no obvious natural outlet.
□ NO - go to 8	\square YES - The wetland class is Depressional
example, seeps at the base of a slope may gr	assify and probably contains several different HGM classes. For ade into a riverine floodplain, or a small stream within a along its sides. GO BACK AND IDENTIFY WHICH OF THE

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

HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-7 APPLY TO DIFFERENT AREAS IN THE UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for

the rating system if you have several HGM classes present within the wetland unit being scored.

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

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

SLOPE WETLANDS	
Water Quality Functions - Indicators that the site functions to improve water quality	
S 1.0. Does the site have the potential to improve water quality?	
S 1.1. Characteristics of the average slope of the wetland: (a 1% slope has a 1 ft vertical drop in	
elevation for every 100 ft of horizontal distance)	
Slope is 1% or less	> -
Slope is > 1% - 2% points = 2	<
Slope is > 2% - 5% points = 1	
Slope is greater than 5% points = 0	
S 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic	
(use NRCS definitions): Yes = 3 No = 0	> 0
S 1.3. Characteristics of the plants in the wetland that trap sediments and pollutants:	
Choose the points appropriate for the description that best fits the plants in the wetland. Dense	
means you have trouble seeing the soil surface (>75% cover), and uncut means not grazed or	
mowed and plants are higher than 6 in.	"!! :: 1
Dense, uncut, herbaceous plants > 90% of the wetland area points = 6	
Dense, uncut, herbaceous plants > ½ of area points = 3	7
Dense, woody, plants > ½ of area	>
Dense, uncut, herbaceous plants > 1/4 of area points = 1	
Does not meet any of the criteria above for plants points = 0	
Total for S 1 Add the points in the boxes above	85
Rating of Site Potential If score is: 12 = H 16 - 11 = M 0 - 5 = L Record the rating on	the first page
S 2.0. Does the landscape have the potential to support the water quality function of the site?	
S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in	1
land uses that generate pollutants? Yes = 1 No = 0	
S 2.2. Are there other sources of pollutants coming into the wetland that are	
	<u></u>
not listed in question S 2.1?	1
Other Sources Homeloss Coma. Around noticine let. Contractors (Yes = 1) No = 0	2
Other Sources Homeless Comp. Argun policies let, Confedence Yes = 1 No = 0 Total for S 2 Add the points in the boxes above	2
Other Sources Homeloss Coma. Around noticine let. Contractors (Yes = 1) No = 0	2 %Z the first page
Other Sources Homeless Comp. Argun policies let, Confedence Yes = 1 No = 0 Total for S 2 Add the points in the boxes above	2 the first page
Other Sources Home loss Comp, Argun policies les, Confections Yes = 1 No = 0 Total for S 2 Rating of Landscape Potential If score is: 21 - 2 = M	2 the first page
Other Sources Howeless Comp. Aroun policies by Competings (Yes = 1) No = 0 Total for S 2 Add the points in the boxes above Rating of Landscape Potential If score is: 21 - 2 = M	2 the first page
Other Sources Hameless Comp, Argun policies less Ves = 1 No = 0 Total for S 2 Rating of Landscape Potential If score is: 21 - 2 = M	2 the first page
Other Sources Hameless Comp. As pull policies for S 2 Rating of Landscape Potential If score is: 21 - 2 = M	2 the first page
Other Sources Hambles, Comp. Aroun policies by Ces = 1 No = 0 Total for S 2 Add the points in the boxes above Rating of Landscape Potential If score is: 21 - 2 = M	2 the first page
Other Sources Hambles, Comp. Aroun policies Inf. Confections. Yes = 1 No = 0 Total for S 2 Rating of Landscape Potential If score is: 1 - 2 = M	2
Other Sources Hamiles, Comp. Arount policies, Inf. Confections, Yes = 1 No = 0 Total for S 2 Rating of Landscape Potential If score is: 1 - 2 = M	the first page 2 the first page
Other Sources Hambles, Comp. Aroun policies Inf. Confections. Yes = 1 No = 0 Total for S 2 Add the points in the boxes above Rating of Landscape Potential If score is: 1 - 2 = M	0 2

SLOPE WETLANDS				
Hydrologic Functions - Indicators that the site functions to reduce flooding and stream erosion				
S 4.0 Does the site have the potential to reduce flooding and stream erosion				
S 4.1. Characteristics of plants that reduce the velocity of surface flows during	g storms: Choose			
the points appropriate for the description that best fits conditions in the wetlar				
should be thick enough (usually $> 1/8$ in), or dense enough, to remain erect of	during surface flows.			
Dense, uncut, rigid plants cover > 90% of the area of the wetland	points = 1			
All other conditions	points = 0			
Rating of Site Potential If score is: D = M D = L	Record the rating on the first page			
S 5.0. Does the landscape have the potential to support hydrologic functions	of the site?			
S 5.1. Is more than 25% of the area within 150 ft upslope of wetland in land				
uses or cover that generate excess surface runoff?	Yes = 1) No = 0			
	5 1.0 0 0 0			
Rating of Landscape Potential If score is: 1 = M 0 = L	Record the rating on the first page			
Rating of Landscape Potential If score is:	Hecord the rating on the first page			
S 6.0. Are the hydrologic functions provided by the site valuable to society?	Hecord the rating on the first page			
	grammed Application pro-			
S 6.0. Are the hydrologic functions provided by the site valuable to society?	grammed Application pro-			
S 6.0. Are the hydrologic functions provided by the site valuable to society? S 6.1. Distance to the nearest areas downstream that have flooding problems	s:			
S 6.0. Are the hydrologic functions provided by the site valuable to society? S 6.1. Distance to the nearest areas downstream that have flooding problems The sub-basin immediately down-gradient of site has flooding	s:			
S 6.0. Are the hydrologic functions provided by the site valuable to society? S 6.1. Distance to the nearest areas downstream that have flooding problems The sub-basin immediately down-gradient of site has flooding problems that result in damage to human or natural resources (e.g. houses or salmon redds)	points = 2			
S 6.0. Are the hydrologic functions provided by the site valuable to society? S 6.1. Distance to the nearest areas downstream that have flooding problems The sub-basin immediately down-gradient of site has flooding problems that result in damage to human or natural resources (e.g.	points = 2			
S 6.0. Are the hydrologic functions provided by the site valuable to society? S 6.1. Distance to the nearest areas downstream that have flooding problems The sub-basin immediately down-gradient of site has flooding problems that result in damage to human or natural resources (e.g. houses or salmon redds) Surface flooding problems are in a sub-basin farther down-gradient	points = 2 points = 1			
S 6.0. Are the hydrologic functions provided by the site valuable to society? S 6.1. Distance to the nearest areas downstream that have flooding problems The sub-basin immediately down-gradient of site has flooding problems that result in damage to human or natural resources (e.g. houses or salmon redds) Surface flooding problems are in a sub-basin farther down-gradient No flooding problems anywhere downstream	points = 2 points = 1			
S 6.0. Are the hydrologic functions provided by the site valuable to society? S 6.1. Distance to the nearest areas downstream that have flooding problems The sub-basin immediately down-gradient of site has flooding problems that result in damage to human or natural resources (e.g. houses or salmon redds) Surface flooding problems are in a sub-basin farther down-gradient No flooding problems anywhere downstream S 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan?	points = 2 points = 1 points = 0			

NOTES and FIELD OBSERVATIONS:

These questions apply to wetlands of all HGM classes.	
HABITAT FUNCTIONS - Indicators that site functions to provide important habitat	
H 1.0. Does the site have the potential to provide habitat?	
H 1.1. Structure of plant community: Indicators are Cowardin classes and strata within the Forested class. Check the Cowardin plant classes in the wetland. Up to 10 patches may be	
combined for each class to meet the threshold of ¼ ac or more than 10% of the unit if it is smaller	
than 2.5 ac. Add the number of structures checked.	
Aquatic bed 4 structures or more: points = 4	
Emergent 3 structures: points = 2 Scrub-shrub (areas where shrubs have > 30% cover) 2 structures: points - 1	()
Scrub-shrub (areas where shrubs have > 30% cover) 2 structures: points - 1 Forested (areas where trees have > 30% cover) 1 structure: points = 0	
If the unit has a Forested class, check if:	
☐ The Forested class has 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous,	
moss/ground-cover) that each cover 20% within the Forested polygon	
H 1.2. Hydroperiods Check the types of water regimes (hydroperiods) present within the wetland. The water regime	
has to cover more than 10% of the wetland or ¼ ac to count (see text for descriptions of	
hydroperiods).	
D Democrath flooded enjoyed the	
Permanently flooded or inundated 4 or more types present: points = 3 Seasonally flooded or inundated 3 types present: points = 2	1
Seasonally flooded or inundated 3 types present: points = 2 Coccasionally flooded or inundated 2 types present: points = 1	
Saturated only 1 types present: points = 0	
Permanently flowing stream or river in, or adjacent to, the wetland	
☐ Seasonally flowing stream in, or adjacent to, the wetland	
☐ Lake Fringe wetland 2 points ☐ Freshwater tidal wetland 2 points	
☐ ☐ Freshwater tidal wetland 2 points ☐ H 1.3. Richness of plant species	_
Count the number of plant species in the wetland that cover at least 10 ft ² . Different patches of the same species can be combined to meet the size threshold and you do	
not have to name the species. Do not include Eurasian milfoil, reed canarygrass, purple loosestrife. Canadian thistle	
Cosesume, Camadian Unistre	1
If you counted: > 19 species points = 2	_
5 - 19 species points = 1	
< 5 species points = 0 H 1.4. Interspersion of habitats	
Decide from the diagrams below whether interspersion among Cowardin plants classes	
(described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats)	
is high, moderate, low, or none. If you have four or more plant classes or three classes and open	
water, the rating is always high.	
	1
	\cup
None = 0 points Low = 1 point Moderate = 2 points	
Tients o points initiative 2 points	
All three discusses	
All three diagrams in this row are	
HIGH = 3 points	

H 1.5. Special habitat features:	
Check the habitat features that are present in the wetland. The number of checks is the number	
of points.	
☐ Large, downed, woody debris within the wetland (> 4 in diameter and 6 ft long)	
☐ Standing snags (dbh > 4 in) within the wetland	
☐ Undercut banks are present for at least 6.6 ft (2 m) and/or overhanging plants extends	
at least 3.3 ft (1 m) over a stream (or ditch) in, or contiguous with the wetland, for at	1
least 33 ft (10 m)	//
☐ Stable steep banks of fine material that might be used by beaver or muskrat for denning	
(> 30 degree slope) OR signs of recent beaver activity are present (cut shrubs or trees	
that have not yet weathered where wood is exposed)	
At least ¼ ac of thin-stemmed persistent plants or woody branches are present in areas	
that are permanently or seasonally inundated (structures for egg-laying by amphibians)	
☐ Invasive plants cover less than 25% of the wetland area in every stratum of plants (see	
H 1.1 for list of strata)	
Total for H 1 Add the points in the boxes above	03
Rating of Site Potential If Score is: 15 - 18 = H 7 - 14 = M 36 - 6 = L Record the rating on	the first page
Training of one to contain in cools to the first term of the first	
H 2.0. Does the landscape have the potential to support the habitat function of the site?	
H 2.1 Accessible habitat (include only habitat that directly abuts wetland unit).	
Calculate:	
35° % undisturbed habitat + (% moderate & low intensity land uses / 2) = 35	
% undisturbed habitat + (
(fitted accessible hebitet in	
If total accessible habitat is:	(')
$> \frac{1}{3}$ (33.3%) of 1 km Polygon points = 3	
20 - 33% of 1 km Polygon points = 2	
10 - 19% of 1 km Polygon <u>points = 1</u>	
< 10 % of 1 km Polygon points = 0	>
H 2.2. Undisturbed habitat in 1 km Polygon around the wetland.	
Cal <u>c</u> ulate:	
7.5 % undisturbed habitat + (% moderate & low intensity land uses / 2) = //	
	1
Undisturbed habitat > 50% of Polygon points = 3	
Undisturbed habitat 10 - 50% and in 1-3 patches points = 2	
Undisturbed habitat 10 - 50% and > 3 patches Doints = 1	•
Undisturbed habitat < 10% of 1 km Polygon points = 0	
H 2.3 Land use intensity in 1 km Polygon: If	
> 50% of 1 km Polygon is high intensity land use	>-フ
≤ 50% of 1km Polygon is high intensity points = 0	_
Total for H 2 Add the points in the boxes above	6-7
Rating of Landscape Potential If Score is: 4-6=H 1-3=M X<1=L Record the rating on	
nating of Landscape Fotential in Score is.	ano mot pago
H 3.0. Is the habitat provided by the site valuable to society?	
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? <i>Choose</i>	
only the highest score that applies to the wetland being rated.	
Site meets ANY of the following criteria: points = 2	
☐ It has 3 or more priority habitats within 100 m (see next page)	
☐ It has 3 of more priority habitats within 100 m (see hext page) ☐ It provides habitat for Threatened or Endangered species (any plant	
or animal on the state or federal lists)	
☐ It is mapped as a location for an individual WDFW priority species	
☐ It is mapped as a location for an individual WDFW priority species ☐ It is a Wetland of High Conservation Value as determined by the	(')
Department of Natural Resources	
☐ It has been categorized as an important habitat site in a local or	
regional comprehensive plan, in a Shoreline Master Plan, or in a	
watershed plan Site has 1 or 2 priority habitats (listed on next page) with in 100m points = 1	
Site has 1 or 2 priority habitats (listed on next page) with in 100m Site does not meet any of the criteria aboye points = 1 points = 0	7
Rating of Value If Score is: \square 2 = H \square 1 = M \square 0 = L Record the rating on	

WDFW Priority Habitats

<u>Priority habitats listed by WDFW</u> (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp.

http://wdfw.wa.gov/publications/00165/wdfw00165.pdf or access the list from here: http://wdfw.wa.gov/conservation/phs/list/

Count how many of the following priority habitats are within 330 ft (100 m) of the wetland unit: NOTE: This question is independent of the land use between the wetland unit and the priority habitat. Aspen Stands: Pure or mixed stands of aspen greater than 1 ac (0.4 ha). ☐ Biodiversity Areas and Corridors: Areas of habitat that are relatively important to various species of native fish and wildlife (full descriptions in WDFW PHS report). Herbaceous Balds: Variable size patches of grass and forbs on shallow soils over bedrock. Old-growth/Mature forests: Old-growth west of Cascade crest - Stands of at least 2 tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) > 32 in (81 cm) dbh or > 200 years of age. Mature forests - Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west of the Cascade crest. ☐ Oregon White Oak: Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (full descriptions in WDFW PHS report p. 158 - see web link above). Riparian: The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other. ☐ Westside Prairies: Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (full descriptions in WDFW PHS report p. 161 - see web link above). Instream: The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources. Nearshore: Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. (full descriptions of habitats and the definition of relatively undisturbed are in WDFW report - see web link on previous page). Caves: A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human. Cliffs: Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation. □ Talus: Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs. ☐ Snags and Logs: Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 20 in (51 cm) in western Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.

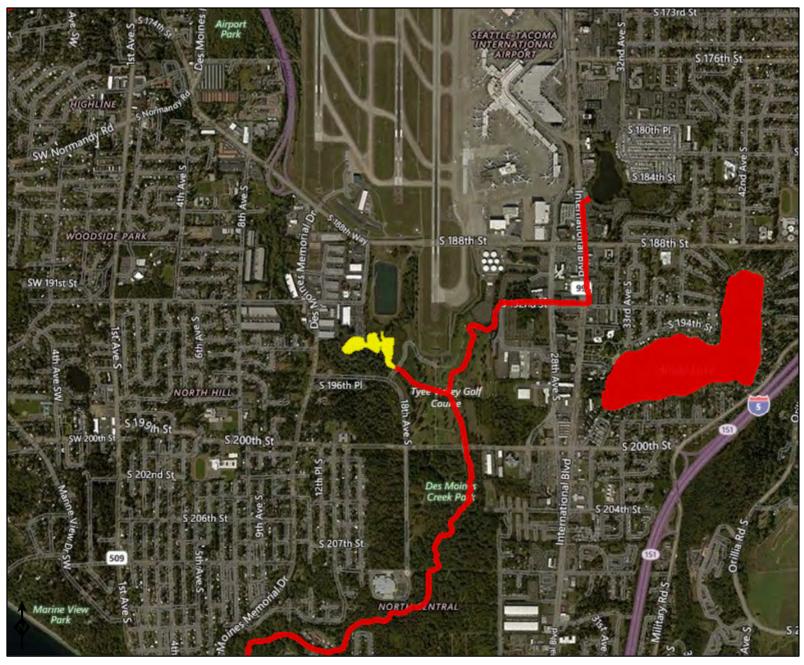
Note: All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Wetland	Туре	Category
Check of	any criteria that apply to the wetland. List the category when the appropriate criteria are met.	
SC 1.0.	Estuarine Wetlands	
1 _	Does the wetland meet the following criteria for Estuarine wetlands?	
片	The dominant water regime is tidal,	
	Vegetated, and	a destroyed
	With a salinity greater than 0.5 ppt ☐ Yes - Go to SC 1.1 ☐ No = Not an estuarine wetland	
00.4.4	☐ Yes - Go to SC 1.1 ☐ No = Not an estuarine wetland Is the wetland within a National Wildlife Refuge, National Park, National Estuary	
SC 1.1.	Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific	
	Reserve designated under WAC 332-30-151?	
	Yes = Category I □ No - Go to SC 1.2	
SC 1.2.	Is the wetland unit at least 1 ac in size and meets at least two of the following three conditions?	
SC 1.2.	The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing,	
	and has less than 10% cover of non-native plant species. (If non-native species are	
	Spartina, see page 25)	
	At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-	
"	grazed or un-mowed grassland.	
	The wetland has at least two of the following features: tidal channels, depressions with	
	open water, or contiguous freshwater wetlands.	
	☐ Yes = Category I ☐ No = Category II	
SC 2 D	Wetlands of High Conservation Value (WHCV)	
SC 2.1.	Has the WA Department of Natural Resources updated their website to include the list	
	of Wetlands of High Conservation Value?	
	☐ Yes - Go to SC 2.2 ☐ No - Go to SC 2.3	
SC 2.2.	Is the wetland listed on the WDNR database as a Wetland of High Conservation Value?	
	☐ Yes = Category I ☐ No = Not WHCV	
SC 2.3.	Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland?	
	http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf	
	☐ Yes - Contact WNHP/WDNR and to SC 2.4 ☐ No = Not WHCV	
SC 2.4.	Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation	
	Value and listed it on their website?	
	☐ Yes = Category I ☐ No = Not WHCV	
SC 3.0.	Bogs	
	Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation	
Ĭ	in bogs? Use the key below. If you answer YES you will still need to rate the	
	wetland based on its functions.	
SC 3.1.	Does an area within the wetland unit have organic soil horizons, either peats or mucks,	
	that compose 16 in or more of the first 32 in of the soil profile?	
	☐ Yes - Go to SC 3.3 ☐ No - Go to SC 3.2	
SC 3.2.	Does an area within the wetland unit have organic soils, either peats or mucks, that are	
	less than 16 in deep over bedrock, or an impermeable hardpan such as clay or volcanic	
	ash, or that are floating on top of a lake or pond?	
	☐ Yes - Go to SC 3.3 ☐ No = Is not a bog	
SC 3.3.	Does an area with peats or mucks have more than 70% cover of mosses at ground	
	level, AND at least a 30% cover of plant species listed in Table 4?	
	☐ Yes = Is a Category I bog ☐ No - Go to SC 3.4	
	NOTE: If you are uncertain about the extent of mosses in the understory, you may	
	substitute that criterion by measuring the pH of the water that seeps into a hole dug at	
	least 16 in deep. If the pH is less than 5.0 and the plant species in Table 4 are present,	
l	the wetland is a bog.	
SC 3.4.	Is an area with peats or mucks forested (> 30% cover) with Sitka spruce, subalpine fir,	
	western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann	1
	spruce, or western white pine, AND any of the species (or combination of species) listed	
	in Table 4 provide more than 30% of the cover under the canopy?	
	☐ Yes = Is a Category I bog ☐ No = Is not a bog	

SC 4.0	Forested Wetlands	
30 4.0.	Does the wetland have at least 1 contiguous acre of forest that meets one of these	
	pritorio for the WA Department of Fish and Wildlifele forests as priority by the A.M.	
	criteria for the WA Department of Fish and Wildlife's forests as priority habitats? If you	
	answer YES you will still need to rate the wetland based on its functions.	
	Old-growth forests (west of Cascade crest): Stands of at least two tree species,]
	forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac	
	(20 trees/ha) that are at least 200 years of age OR have a diameter at breast height	
_	(dbh) of 32 in (81 cm) or more.	-
	Mature forests (west of the Cascade Crest): Stands where the largest trees are 80-	
	200 years old OR the species that make up the canopy have an average diameter (dbh)	
	exceeding 21 in (53 cm).	
	Ven Cotogonia C No. Not a forested and for this and	
CCEA	Yes = Category I No = Not a forested wetland for this section	
SC 5.0.	Wetlands in Coastal Lagoons	
	Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?	
	The wetland lies in a depression adjacent to marine waters that is wholly or partially	
	separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently,	
_	rocks	
	The lagoon in which the wetland is located contains ponded water that is saline or	
	brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (needs to	= =
	be measured near the bottom)	
	☐ Yes - Go to SC 5.1 ☐ No = Not a wetland in a coastal lagoon	
SC 5.1.	Does the wetland meet all of the following three conditions?	
	The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing),	
	and has less than 20% cover of aggressive, opportunistic plant species (see list of	
	species on p. 100).	
	At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-	
	grazed or un-mowed grassland.	= =
	The wetland is larger than $^{1}/_{10}$ ac (4350 ft ²)	
	☐ Yes = Category I ☐ No = Category II	
SC 6.0.	Interdunal Wetlands	
0.000	Is the wetland west of the 1889 line (also called the Western Boundary of Upland	
	Ownership or WBUO)? If you answer yes you will still need to rate the wetland	
	based on its habitat functions.	
	In practical terms that means the following geographic areas:	
П	Long Beach Peninsula: Lands west of SR 103	
	Grayland-Westport: Lands west of SR 105	
	·	
	Ocean Shores-Copalis: Lands west of SR 115 and SR 109 Ves - Go to SC 6.1 No = Not an interdunal wetland for rating	
SC 6.1.		
JU 0.1.	Is the wetland 1 ac or larger and scores an 8 or 9 for the habitat functions on the form (rates H,H,H or H,H,M for the three aspects of function)?	
	<u>∸</u>	
SC 6.2.	☐ Yes = Category I ☐ No - Go to SC 6.2 Is the wetland 1 ac or larger, or is it in a mosaic of wetlands that is 1 ac or larger?	
JU 0.Z.	_	
SC 6.3.	☐ Yes = Category II ☐ No - Go to SC 6.3	
JU 0.3.	Is the unit between 0.1 and 1 ac, or is it in a mosaic of wetlands that is between 0.1 and	
	1 ac?	
Cotoss	☐ Yes = Category III ☐ No = Category IV	
Categor	y of wetland based on Special Characteristics	
ıı you an:	swered No for all types, enter "Not Applicable" on Summary Form	

Water Quality Atlas Map



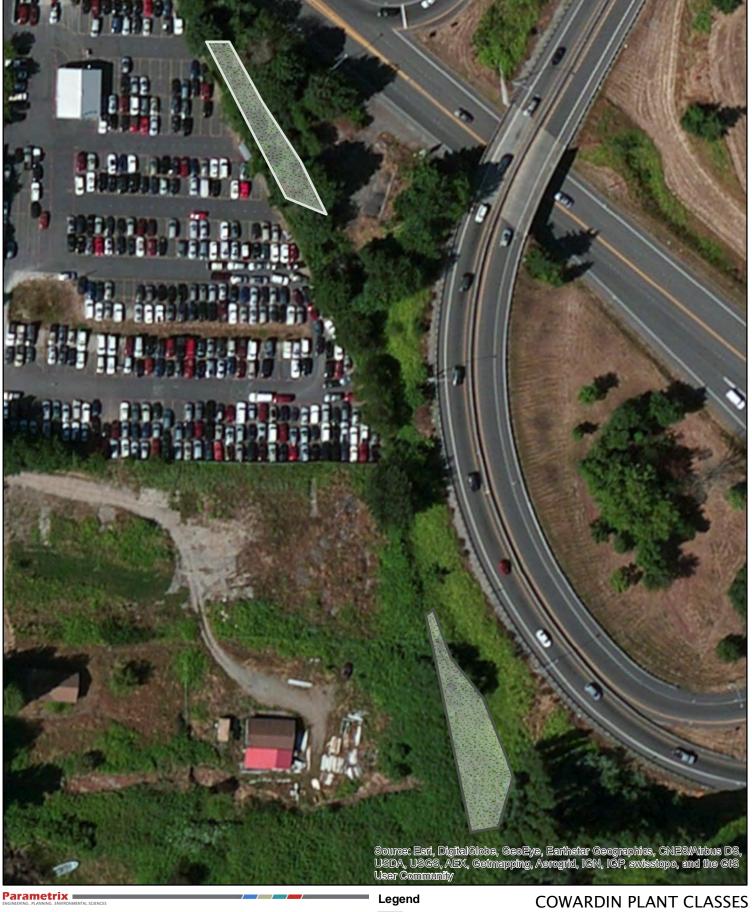
Assessed Waters/Sediment

Water

- Category 5 303d
- Category 4C
- Category 4B
- Category 4A
- Category 2
- Catagony 1
- 💜 Category 1

Sediment

- Category 5 303d
- ZZZ Category 4C
- ZZZ Category 4B
- ZZZ Category 4A
- Category 2
- ZZZ Category 1



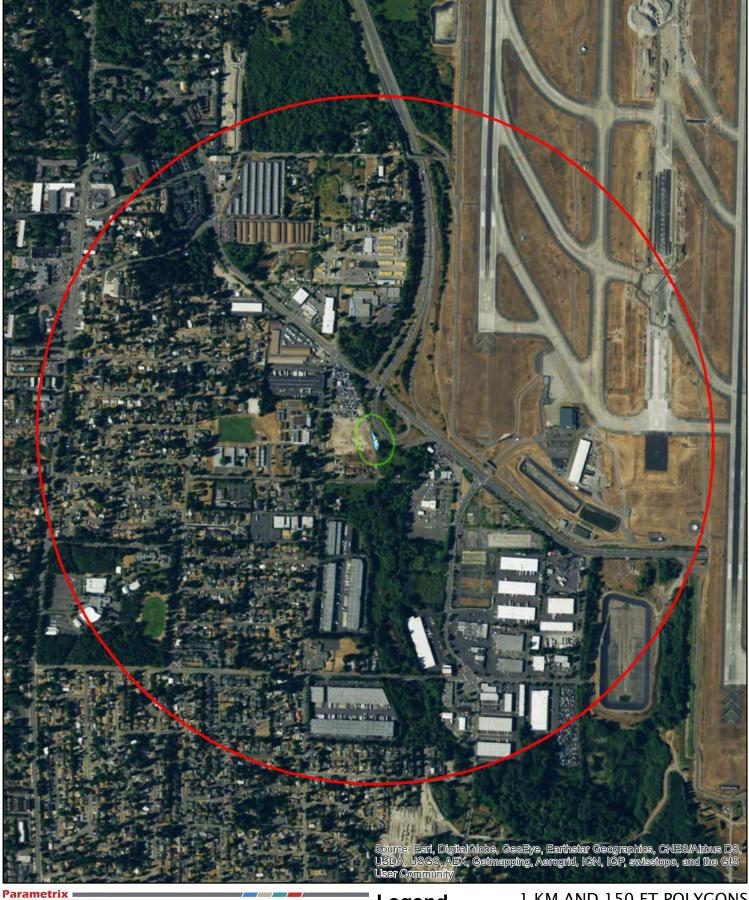
Feet 55 110 220

Wetland G
Wetland H

PFO PSS

PEM POW

L2ST Seg. C 554-1521-151



Legend

1 KM AND 150 FT POLYGONS

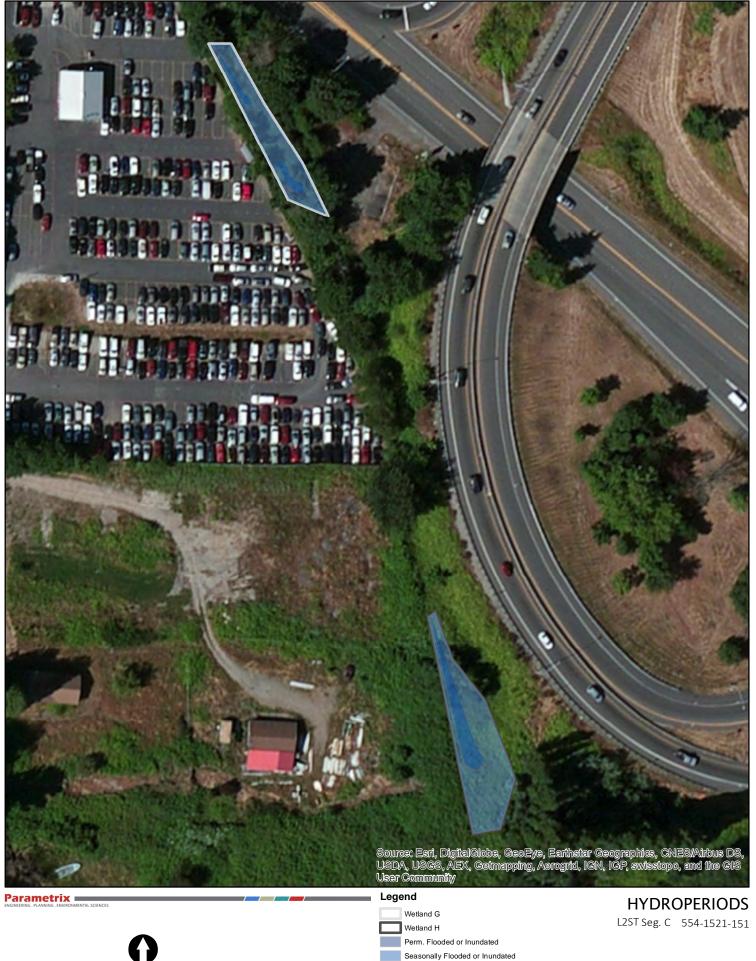
L2ST Seg. C 554-1521-151



Wetland H H_150ft

H_1km

Feet 650 1,300 2,600



Occasionally Flooded or Inundated

Saturated Only

Outlet

Feet 0 55 110 220

Appendix E

Mitigation Site Screening Memorandum



TECHNICAL MEMORANDUM

DATE: October 22, 2016

TO: Jason Rich

King County Parks and Recreation Division

FROM: Josh Wozniak, PWS

SUBJECT: Lake to Sound Trail--Segment C: Wetland Mitigation Opportunities

CC: Jenny Bailey PROJECT NUMBER: 554-1521-151

PROJECT NAME: Lake to Sound Trail: Segment C

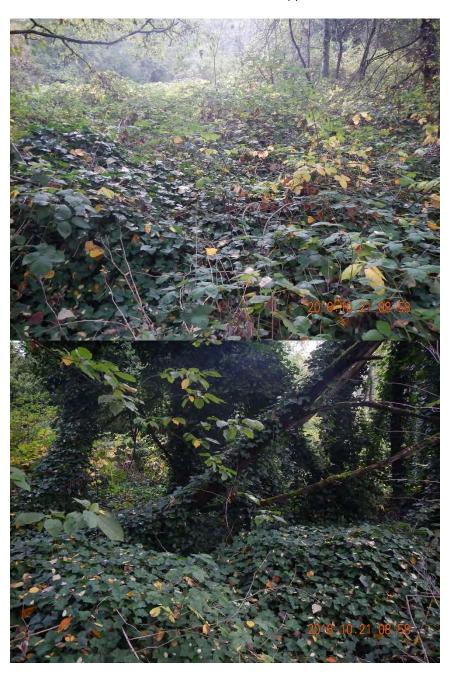
Mr. Rich:

Parametrix biologists conducted a site visit on October 21, 2016 looking for wetland and buffer mitigation opportunities for the Lake to Sound Trail, Segment C project. We focused our search on areas within the Washington State Department of Transportation (WSDOT) right-of-way for the State Route (SR) 509 extension that were outside of those areas planned for roadway construction. We reviewed five sites. Attributes and limitations for each site are summarized in Table 1 and discussed in the sections below.

Table 1. Summary of Mitigation Opportunities for the Lake to Sound Trail: Segment C

Site	Location	Wetland Creation Potential	Wetland Enhancement Potential	Buffer Enhancement Potential	Limitations
1	NE of Des Moines Memorial Drive and S 196th Street Intersection	None	Extensive; at least 1 acre	Extensive; several acres	Topography not suitable for creation
2	West of Des Moines Memorial Drive and north of S 196th Street	None	Present; at least 0.5 acre	Extensive; at least 1 acre	Within or near SR 509 footprint
3	Above and south of S 196th Street, west of 18th Avenue S	Limited and problematic	Very limited due to small wetland areas	Some potential; likely less than 1 acre of buffer areas	Might not be any wetlands (and therefore no regulated buffers on this site)
4	Northeast of the intersection of 18th Avenue S and S 200th Street	Possibly 0.5 acre	None (no wetland in this area)	Would be extensive opportunities if wetland was created	WSDOT right-of- way occurs mid- slope, well away from potential wetland areas
5	West of Des Moines Memorial Drive, south of S 188th Street	Up to 0.25 acre. Limited to areas outside of WSDOT right-of-way, mainly road fill removal	Extensive; several acres	Extensive; several acres	Portions not WSDOT right-of- way (private property)

This site is located northeast of the intersection of Des Moines Memorial Drive and S 196th Street. This is the location where the proposed bicycle trail alignment makes a diagonal cut from Des Moines Memorial Drive to meet S 196th Street. A large wetland complex (Wetland C in our wetland discipline report) occurs downslope of the proposed trail. The buffer of the wetland in this area is heavily infested with several invasive species. Several acres of buffer enhancement opportunities are present here. In addition, the wetland has large patches of invasive plants. Although we saw only a small portion of the wetland, it is assumed that at least an acre of wetland enhancement is present here. A more thorough investigation of this wetland may reveal more infestation areas that could be enhanced. No wetland creation opportunities were observed in this area.



This is a WSDOT-fenced property located across Des Moines Memorial Drive (to the west) from Site 1. The site contains forested wetland, including fairly uncommon aspen stands. The wetland and buffer are heavily infested with invasive species. Further investigation is needed to determine if there are wetland creation opportunities here. This site is very close to (and may be within) the proposed SR 509 footprint and may not be viable from a WSDOT property management standpoint.



This site is a forested hill above S 196th Street and 18th Avenue S. The site is primarily upland, with some small wetland pockets near 18th Avenue S. The wetland areas include very small pockets supported by groundwater seeps. The upland buffer (and uplands outside of the buffer) contain mature native trees, an understory heavily infested with invasive species, lots of garbage, and a network of informal 4WD trails. There are some small areas where wetland creation is possible, pending groundwater studies, but overall this site appears to be too dry to support reliable wetland creation.



This is part of the Port of Seattle property, which formerly was a golf course. The WSDOT right-of-way occurs near and northeast of the intersection of 18th Avenue S and S 200th Street. The site is dominated by non-native grasses and contains areas where willow stakes were installed, but not maintained. Many of the stakes did not successfully establish and the reasons for the failure are not clear. It is our understanding that the site was planned as a mitigation site, then abandoned when mitigation was determined not to be required. However, given the presence of groundwater seeps on the hillside near this area, this site appears to have strong potential. If considered for a mitigation opportunity, a more complete analysis of the site would be required. Namely, a groundwater study is needed to determine the location and depth of groundwater, and to advise if any grading is needed. At the time of the investigation, the site does not appear to be a jurisdictional wetland, and literature review did not previously identify the site as a wetland. Therefore, this would have wetland creation opportunities, with at least ½ acre of wetland creation likely to be feasible within the right-of-way.



This site is west of Des Moines Memorial Drive, south of S 188th Street. It is part of the large wetland complex that the trail alignment passes through. It is constrained by having the proposed SR 509 footprint within a part of the area. However, in areas away from the proposed road footprint, there are abundant wetland and buffer enhancement opportunities. Within the right-of-way, there are large parts of the wetland and buffer with extensive cover of invasive species. No wetland creation opportunities were observed.

Within the private property (Hertz), there are extensive wetland and buffer enhancement opportunities, in addition to potential creation opportunities (removal of road fill). Wetlands here are dominated by reed canarygrass and Himalayan blackberry.

