# **Federal Way Link Extension**

## Final Environmental Impact Statement

## ECOSYSTEMS TECHNICAL REPORT

Appendix G2



Central Puget Sound Regional Transit Authority



U.S. Department of Transportation Federal Transit Administration



### Federal Way Link Extension

Ecosystems Technical Report

Prepared for: Sound Transit

Prepared by: HDR Engineering, Inc. CH2M HILL

November 2016

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## **Acronyms and Abbreviations**

BMP	best management practice
CFR	Code of Federal Regulations
Ecology	Washington State Department of Ecology
EFH	essential fish habitat
EIS	environmental impact statement
EO	Executive Order
ESA	Endangered Species Act
FTA	Federal Transit Administration
FWLE	Federal Way Link Extension
GIS	geographic information system
GPS	global positioning system
I-5	Interstate 5
LWD	large woody debris
MBTA	Migratory Bird Treaty Act
NA	not applicable
NEPA	National Environmental Policy Act
NOAA	National Oceanic and Atmospheric Administration
NPDES	National Pollutant Discharge Elimination System
NRCS	U.S. Department of Agriculture Natural Resources Conservation Service
NWI	National Wetlands Inventory
OHWM	ordinary high water mark
РАВ	palustrine aquatic bed
PEM	palustrine emergent
PFO	palustrine forested
POW	open water
PSS	palustrine scrub-shrub
SR	State Route

SS	scrub-shrub
TPSS	traction power substation
USACE	U.S. Army Corps of Engineers
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
WAC	Washington Administrative Code
WDFW	Washington Department of Fish and Wildlife
WDNR	Washington Department of Natural Resources
WRIA	Water Resource Inventory Area
WSDOT	Washington State Department of Transportation

# 1.0 Introduction

An ecosystem is the complex of a community of organisms and its environment functioning as an ecological unit (Merriam Webster Dictionary, 2013). Ecosystems are composed of living organisms, and the environment they inhabit. This Ecosystems Technical Report identifies existing natural resources in the project vicinity and documents the ecosystem components along and near the alternatives for the Federal Way Link Extension (FWLE). The resources evaluated include wetlands, aquatic species and habitat, threatened and endangered species, vegetation, wildlife, and wildlife habit.

Following the release of the Draft Environmental Impact Statement (EIS) for the FWLE (Sound Transit and Federal Transit Administration, 2015), the Sound Transit Board identified the I-5 Alternative as the Preferred Alternative. Updates in this technical report reflect changes in ecosystem regulations and listed species, refinements of the project design, and the results of wetlands delineation and field surveys for the Biological Assessment prepared for the FWLE. It also addresses long-term and construction impacts for the Preferred Alternative and the other FWLE alternatives.

### 1.1 Data Gathered

Sound Transit conducted a literature and data review to identify and characterize potentially affected resources in the project vicinity. Existing documentation and information was compiled and reviewed first, so that the field reconnaissance effort could focus on filling information gaps. Existing ecosystem information was gathered from local, state, and federal agencies. This information included published and unpublished reports, maps, web sites, aerial photographs, and communications from agency staff familiar with resources within the project vicinity. The data sources are listed in the following subsections and in Chapter 6, References.

#### 1.1.1 Agency and Public Contacts

Sound Transit contacted the following federal, state, and county agencies, tribes, and local jurisdictions for current information related to ecosystems resources:

- U.S. Army Corps of Engineers (USACE)
- U.S. Environmental Protection Agency (USEPA)
- Confederated Tribes and Bands of the Yakama Nation
- Muckleshoot Indian Tribe
- Puyallup Tribe of Indians
- Snoqualmie Indian Tribe
- Stillaguamish Tribe of Indians of Washington
- Suquamish Tribe of the Port Madison Reservation

- Duwamish Tribe (not federally recognized)<sup>1</sup>
- Snohomish Tribe (not federally recognized)<sup>1</sup>
- Washington State Department of Ecology (Ecology)
- Washington Department of Fish and Wildlife (WDFW)
- Washington Department of Transportation (WSDOT)
- King County
- City of SeaTac
- City of Des Moines
- City of Kent
- City of Federal Way

#### 1.1.2 Maps and Existing Documentation

The following maps and other existing documents were reviewed to identify ecosystem features within the project vicinity:

- U.S. Fish and Wildlife Service (USFWS) National Wetland Inventory web site (USFWS, 2013)
- U.S. Department of Agriculture Natural Resources Conservation Service (NRCS) soil survey maps (NRCS, 2013)
- Critical areas maps from local jurisdictions
  - City of SeaTac Municipal Code Title 15, Zoning Code
  - City of Des Moines Critical Area Map Series (2010)
  - City of Kent City Code Chapter 11.06, Critical Areas
  - City of Federal Way Critical Areas Map (2013)
  - King County Code Title 21A.24, Critical Areas
- King County (1991) Wetlands Inventory
- USFWS (2016) Information for Planning and Conservation (IPaC) system
- National Oceanic and Atmospheric Administration (NOAA Fisheries) (2013) Endangered Species Act Status of West Coast Salmon and Steelhead List
- StreamNet (2014) online data for Pacific Northwest salmonid and critical habitat distribution
- WDFW Salmonscape (WDFW, 2016)
- WDFW (2015) Priority Habitat and Species database
- Washington Department of Natural Resources (WDNR) Forest Practice Applications Review Stream Typing Online Mapper (2014a)
- WDNR Natural Heritage Information Request Self-Service System (WDNR, 2014b)
- Project aerial photography

<sup>&</sup>lt;sup>1</sup> The Duwamish Tribal Organization and Snohomish Tribe of Indians currently are not recognized by the United States as Indian tribes under the meaning of U.S. law.

- Water Resource Inventory Area (WRIA) 9 Limiting Factors analysis and appendix maps (Kerwin and Nelson, 2000)
- Mapping information from sources such as wetland delineation reports and stream studies conducted for other projects, as available

### 1.2 Related Laws, Regulations, and Guidelines

Wetlands, aquatic species and habitat, vegetation, wildlife and their habitat, and threatened and endangered species that may be affected by project activities are subject to the following regulations, programs, plans, and policies.

#### 1.2.1 Federal

- Bald and Golden Eagle Protection Act
- Sections 401, 402, and 404 of the Clean Water Act
- Corps of Engineers Wetland Delineation Manual (USACE, 1987)
- Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region Version 2.0 (USACE, 2010)
- Final Rule on Compensatory Mitigation for Losses of Aquatic Species and Habitat (USACE and USEPA, 2008)
- Coastal Zone Management Act
- Section 7 of the Endangered Species Act (ESA)
- Magnuson-Stevens Fishery Conservation and Management Act
- Migratory Bird Treaty Act
- National Environmental Policy Act
- Protection of Wetlands, Presidential Executive Order (EO) 11990

#### 1.2.2 State

- Washington State Environmental Policy Act
- Hydraulic code (Washington Administrative Code [WAC] Chapter 220-110)
- Shoreline Management Act
- Washington State Growth Management Act
- Protection of Wetlands, Governor's EO 89-10
- Protection of Wetlands, Governor's EO 90-04
- Water Pollution Control Act, Chapter 90.48 Revised Code of Washington
- Wetland Mitigation in Washington State (Ecology et al., 2006)

#### 1.2.3 Local

Since the publication of the FWLE Draft EIS, several local jurisdictions in the project vicinity have updated their critical areas ordinances. The Final EIS reflects codes current as of July 2016.

- Critical Area Ordinance City of SeaTac (Chapter 15.700, Environmentally Sensitive Areas)
- Critical Area Ordinance City of Des Moines (Chapter 16.10, Environmentally Critical Areas)
- Critical Area Ordinance City of Kent (Chapter 11.06, Critical Areas)
- Critical Area Ordinance City of Federal Way (Chapter 19.145, Critical Areas)
- Critical Area Ordinance King County (Title 21A.24, Critical Areas)
- King County In-Lieu Fee Mitigation Program
- Sound Transit Environmental Policy (2004)
- Sound Transit Sustainability Plan (2015)

#### 1.3 Study Areas

#### 1.3.1 Wetlands

The study area for wetlands encompasses the area within 300 feet of the edge of the long-term operational footprint. The footprint includes the physical footprint of the light rail guideway, stations, permanent road improvements, and other project facilities. This distance was selected to match the typical largest applicable wetland buffer width in the area and encompasses potential effects from short-term construction impacts and long-term operational impacts. Wetlands evaluated for the Final EIS include wetlands that are wholly or partly in the study area. Maps are included in Section 3.0.

#### 1.3.2 Aquatic Species and Habitat

Aquatic habitat includes streams and other non-wetland waters such as ponds and lakes. The study area for aquatic species and habitat is defined as:

- 100 feet upstream and 300 feet downstream of each stream that would cross the long-term operational footprint and short-term construction footprint, and
- The entire stretch of any stream paralleling the long-term footprint or stream habitat features within 200 feet of the edge of the long-term footprint

#### 1.3.3 Vegetation and Wildlife Resources

The study area for vegetation and wildlife habitat is defined as areas in the long-term operational and short-term construction footprint where clearing, grading, and operating construction machinery would occur, and the areas 200 feet beyond the edge of the long-term footprint. To analyze wildlife potentially affected by project-related noise and human activity, biologists also reviewed documented occurrences of sensitive wildlife species within 0.25 mile of the alternatives.

Appendices (on CD and the FWLE website) provide additional information supporting the ecosystems resources evaluation. Appendix A describes the wetland delineation methodology. Appendices B and C provide wetland determination data forms and Ecology wetland rating forms. Appendix D presents photographs of the wetland and streams discussed, and Appendix E summarizes wetland and stream impacts within the study area. Appendix F describes best management practices for ecosystems resources. Appendix G includes maps of upland habitat in the study area. Appendix H summarizes long-term ecosystem impacts by subbasin. Appendix I includes the Biological Assessment and concurrence from the USFWS on FTA's finding under the Endangered Species Act.

# 2.0 Study Objectives and Methods

This chapter describes the objectives and methods used to study wetlands, aquatic species and habitat, threatened and endangered species, vegetation, terrestrial wildlife, and wildlife habitat, as well as impact assessment methods and assumptions. Sound Transit and the Federal Transit Administration (FTA) prepared and circulated a draft *Sound Transit Federal Way Link Extension Technical Analysis Methodologies* report in September 2013, and invited cooperating and participating agencies to review and comment. The discussion in this chapter is based on the approach defined in the *Sound Transit Federal Way Link Extension Technical Analysis Methodologies* (CH2M HILL, 2014), and incorporates further detail from field surveys and documentation that were performed or became available after publication of the Draft EIS.

#### 2.1 Wetlands

#### 2.1.1 Study Objectives

Available data from previous reconnaissance surveys show that there are wetlands in the project limits of all build alternatives. The specific objectives of this study include the following:

- Identify, map, and describe the wetlands and wetland buffers within 300 feet of the FWLE alternatives
- Determine potential impacts on wetlands associated with each alternative or option
- Describe potential measures to avoid, minimize, or compensate for impacts

#### 2.1.2 Methods

This section summarizes the methods used to identify, evaluate, and assess impacts on wetlands.

#### 2.1.2.1 Review of Existing Maps and Documentation

Biologists reviewed existing maps and other documentation to identify known wetlands in the study area and vicinity (see Section 1.1.2). Existing geographic information system (GIS) data were gathered from the USFWS National Wetlands Inventory; the cities of SeaTac, Des Moines, Kent, and Federal Way; and King County. These databases were the primary mapping tools used to inform field reconnaissance efforts.

#### 2.1.2.2 Agency Coordination

Sound Transit contacted staff from the cities of SeaTac, Des Moines, Kent, and Federal Way, and King County for their critical area maps and information on any wetlands that may have been identified subsequent to finalization of these maps. This search included documentation associated with recent permit applications or code violations.

#### 2.1.2.3 Wetland Delineation and Field Reconnaissance

After collecting and reviewing existing information, biologists first conducted field reconnaissance surveys within the study area to identify, map, and describe wetlands that could be affected by the

FWLE. Wetland field reconnaissance surveys were conducted during March 2013, January through March 2014, and December 2015.

Because wetlands in the study area are generally outside of the public right-of-way, most wetlands were visually surveyed from the public right-of-way—in most cases from the nearest road or sidewalk. Rights-of-entry were obtained for access to the following publicly-owned sites where direct impacts on wetlands could occur:

- City of Kent-owned parcels at the Massey Creek Wetland complex south of Kent-Des Moines Road
- City of Des Moines-owned parcel north of S 263rd Street and west of State Route (SR) 99
- City of Federal Way-owned parcels between Redondo Way S and SR 99
- Segments of WSDOT-administered right-of-way on the west side of Interstate 5 (I-5) between S 221st and S 224th Streets, south of S 240th Street, south of S 260th Street, south of 272nd Street, north and south of S 288th Street, north and south of S 296th Street, and south of Military Road South

Parcels and right-of-way segments that were accessed during the field reconnaissance surveys are shown on maps in Appendix E. At these sites, biologists documented vegetation, soil, and hydrology conditions at representative wetland and upland sample plots using methods outlined in the *Corps of Engineers Wetland Delineation Manual* (USACE, 1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual*: *Western Mountains, Valleys, and Coast Region* Version 2.0 (USACE, 2010). Detailed information on methods used for wetland identification and delineation is provided in Appendix A. Wetland determination data forms for all wetlands that were directly accessed during field reconnaissance surveys are included in Appendix B. General observations of existing conditions and characteristics were also recorded for each wetland and associated buffer.

Potential wetlands in areas not directly accessible during field reconnaissance surveys were assessed to the extent possible based on visual observations from public areas; current local, state, and federal habitat maps and reports; and the examination of aerial photographs. Areas outside of the WSDOT or other public rights-of-way that appeared to possess wetland indicators for vegetation, soil, and hydrology were included in the analysis to estimate each alternative's impacts.

#### 2.1.2.4 Mapping

Each wetland identified in the study area received a unique identifier that was tracked in a GIS database. As new information was collected on project wetlands, data were recorded in an Excel spreadsheet and linked to the GIS data. Wetland delineation data sample plots described in Section 2.1.2.3 and wetland boundaries that were documented at sites accessed during the field reconnaissance were mapped in the field using a global positioning system (GPS). Wetlands that were not accessible during field reconnaissance surveys were mapped based on documentation and surveys from other sources. Only those wetlands within the Preferred Alternative study area, where right of entry was granted to Sound Transit, were delineated during the preparation of the Final EIS.

#### 2.1.2.5 Rating and Classification of Wetlands

Wetlands identified in the study area during the March 2013 and January through March 2014 field reconnaissance surveys were rated and the hydrogeomorphic classification system was determined using the *Washington State Wetland Rating System for Western Washington, Revised* (Hruby, 2004), which was the current rating system at the time of field investigations. Wetlands identified in the study area during December 2015 surveys were rated using *Washington State Wetland Rating System for Western Washington: 2014 Update* (Hruby, 2014), which became effective January 1, 2015. Both Ecology wetland rating systems define three main wetland functions: water quality treatment, hydrologic support, and habitat. The degree to which multiple functions are performed by a wetland (e.g., enhancing water quality, reducing floods, and providing fish and wildlife habitat) results in category assignment, with Category I offering the highest function and Category IV offering the lowest.

With the exception of the City of SeaTac, which uses its own wetland rating system, the local jurisdictions in the study area have adopted Ecology's rating system without modification. Wetlands in the city of SeaTac were evaluated using the Ecology rating system to provide uniform criteria for evaluating wetland functions in the study area. Wetlands in the city of SeaTac were also assigned ratings based on local critical area requirements for the applicable local jurisdiction in order to determine prescriptive buffers. A summary of the rating systems and criteria is provided in Table 2-1.

Biologists assigned preliminary wetland buffers to the identified wetlands in the study area based on the local wetland rating systems and utilized Ecology (2015) guidance to convert wetland function scores between the 2004 and 2014 rating systems, as applicable by jurisdiction. A summary of the buffer width requirements for each of the affected jurisdictions is presented in Table 2-2.

Wetland habitats in the study area were classified using the system outlined by the USFWS in *Classification of Wetlands and Deepwater Habitats of the United States* (Cowardin et al., 1979), typically referred to as the Cowardin Classification System. The Cowardin system classifies wetlands based on the dominant vegetation structure and water regime. Table 2-3 shows the definitions of Cowardin habitat classes present in the study area.

### 2.2 Aquatic Species and Habitat

#### 2.2.1 Study Objectives

The purpose of this investigation was to describe the aquatic resources and habitat in the FWLE study area and evaluate the potential impacts of each project alternative and option. Specific objectives of this study include the following:

• Identify fisheries resources, such as anadromous and resident species reported to inhabit water bodies within the study area.

#### TABLE 2-1

#### Summary of Wetland Rating Systems by Municipality

Regulatory	Wetland Category								
Agency	I	II	ш	IV					
Washington State Department of Ecology <sup>a</sup> City of Kent <sup>b</sup> City of Des Moines <sup>c</sup> City of Federal Way <sup>d</sup> King County <sup>e</sup>	<ul> <li>Category I wetlands:</li> <li>Represent a unique or rare wetland type; or</li> <li>Are more sensitive to disturbance than most wetlands; or</li> <li>Are relatively undisturbed and contain ecological attributes that are impossible to replace within a human lifetime; or</li> <li>Provide a high level of functions.</li> <li>Specific wetlands that meet the Category I criteria include:</li> <li>Relatively undisturbed estuarine wetlands over one acre in size</li> <li>Natural Heritage Wetlands, specifically, wetlands identified by the Washington Natural Heritage Program/Department of Natural Resources as high quality relatively undisturbed wetlands; and wetlands that support state-listed threatened or endangered plants</li> <li>Bogs</li> <li>Mature and old-growth forested wetlands over one acre in size</li> <li>Wetlands that perform many functions very well, as indicated by a score of 70 or more points out of 100 on the 2004 wetland rating form or 23 or more points out of 27 on the 2014 wetland rating form</li> </ul>	Category II wetlands are difficult, though not impossible, to replace, and provide high levels of some functions. Specific wetlands that meet the Category II criteria include: 1. Estuarine wetlands less than one acre in size, or disturbed estuarine wetlands larger than one acre 2. Interdunal wetlands greater than one acre 3. Wetlands scoring between 51 and 69 points out of 100 on the 2004 wetland rating form or wetlands scoring between 20 and 22 points out of 27 on the 2014 form	Category III wetlands provide a moderate level of functions. Specific wetlands that meet the Category III criteria include: 1. Interdunal wetlands between 0.1 acre and 1.0 acre in size 2. Wetlands scoring between 30 and 50 points out of 100 on the 2004 wetland rating form or wetlands scoring between 16 and 19 points out of 27 on the 2014 form	Category IV wetlands have the lowest levels of functions and are heavily disturbed. Specific wetlands that meet the Category IV criteria include: 1. Wetlands scoring less than 30 points out of 100 on the 2004 wetland rating form or wetlands scoring less than 16 points out of 27 on the 2014 form					
City of SeaTac <sup>f</sup>	<ul> <li>Class I Wetland.</li> <li>Only includes wetlands assigned the Unique/Outstanding #1 rating in the 1983 King County Wetlands Inventory (or the most recent City inventory) or which meet any of the following criteria:</li> <li>1. Are wetlands which have present species listed by the federal or state government as endangered or threatened or outstanding actual habitat for those</li> <li>2. Are wetlands which have 40% to 60% permanent open water in dispersed patches with two or more classes of vegetation</li> <li>3. Are wetlands equal to or greater than 10 acres in size and have three or more wetland classes, one of which is open water</li> <li>4. Are wetlands which have present plant associations of infrequent occurrence</li> <li>5. Sphagnum or peat wetlands</li> <li>6. Forested wetlands equal to or greater than 1 acre in size</li> </ul>	<ul> <li>Class II Wetland.</li> <li>Only includes wetlands assigned the Significant #2 rating in the 1983 King County Wetlands Inventory (or the most recent City inventory) or which meet any of the following criteria:</li> <li>1. Are wetlands greater than 1 acre in size</li> <li>2. Are wetlands equal to or less than 1 acre in size and have three or more wetland classes</li> <li>3. Are forested wetlands less than 1 acre in size but are larger than 2,500 square feet</li> <li>4. Are wetlands which have present heron rookeries or raptor nesting trees</li> </ul>	Class III Wetland. Only includes wetlands assigned the Lesser Concern #3 rating in the 1983 King County Wetlands Inventory (or most recent City inventory) or which are wetlands equal to or less than 1 acre in size and have two or fewer wetland classes. This does not include drainage ditches used as part of an approved public storm drainage system that may support wetland vegetation, or retention/detention systems.	Not used					

<sup>a</sup> Hruby (2004, 2014).
<sup>b</sup> Kent City Code 11.06.580.
<sup>c</sup> City of Des Moines Municipal Code 18.04.663.
<sup>d</sup> City of Federal Way Revised Code 19.145.420.

<sup>e</sup> King County Critical Areas Ordinance, King County Code 21A.24.318. <sup>f</sup> City of SeaTac Municipal Code 15.10.675.

#### TABLE 2-2

Summary of Wetland Buffer Widths by Municipality

WetlandCity of SeaTacClassificationBuffer Width (feet) <sup>a</sup>				City of Federal Way Buffer Width (feet) <sup>d</sup>	King County Buffer Width (feet) <sup>e</sup>	
I	100	100-300	125-225	75-225	125-215	
I	50	100-300	75-200	75-225	100-200	
III	35	80-150	60-110	60-225	75-125	
IV	NA	50	40-50	40	50	

<sup>a</sup> City of SeaTac Municipal Code 15.700.280. Additional buffer may apply in steep slope areas. Additional building setbacks apply.

<sup>b</sup> City of Des Moines Municipal Code 16.10.120. Buffer widths vary with wetland function scores for habitat and water quality.

° City of Kent City Code 11.06.600. Buffer width varies with habitat score.

<sup>d</sup> City of Federal Way Revised Code 19.145.420; no wetland buffer is required for those isolated wetlands 1,000 square feet or less in total area

<sup>e</sup> King County Code 21A.24.325.

NA = not applicable

#### TABLE 2-3

Summary of the Cowardin Classification System

System	Class	Symbol
Palustrine	Forested	PFO
All non-tidal wetlands dominated by	Characterized by woody vegetation that is 20 feet or taller.	
trees, shrubs, 2-5 emergent, mosses, or lichens	Scrub-Shrub	PSS
	Areas dominated by woody vegetation less than 20 feet tall. Species include true shrubs, young trees (saplings), and trees or shrubs that are small or stunted.	
	Emergent Characterized by erect, rooted, herbaceous hydrophytes present for most of the growing season in most years. Usually dominated by perennial plants.	PEM
	Open Water Unvegetated, open water, typically 6.6 feet or more in depth.	POW

Source: Cowardin et al., 1979.

- Identify any federal- or state-listed endangered, threatened, or candidate aquatic species reported to inhabit water bodies within the study area
- Conduct a reconnaissance-level physical habitat survey of water bodies within the study area that could be affected by project alternatives to describe fish habitats and riparian conditions
- Identify any barriers to fish passage within the streams that intersect the project alternatives in the study area as well as downstream
- Describe potential impacts on aquatic resources that may result from the project alternatives and options
- Describe potential measures to avoid, minimize, or compensate for adverse impacts

#### 2.2.2 Methods

#### 2.2.2.1 Review of Existing Maps and Documentation

Biologists reviewed existing maps and documentation to identify known streams and water bodies in the study area and vicinity (see Section 1.1.2). When applicable, documentation of aquatic species and habitat was analyzed from WRIA, county, and subbasin reports. These streams were then verified and evaluated in the field within the field reconnaissance survey area. Existing GIS data were gathered from the cities of SeaTac, Des Moines, Kent, and Federal Way, and King County. Streams that extend beyond the field reconnaissance survey area and other previously mapped streams outside of the WSDOT or other public rights-of-way were also incorporated into the GIS database.

#### 2.2.2.2 Field Reconnaissance

A detailed field reconnaissance survey was conducted to identify, map, and describe streams and other waters and aquatic habitat within the WSDOT or other public rights-of-way in the study area. Other publicly-owned property that could be accessed was also surveyed. Reconnaissance-level aquatic habitat surveys were conducted 300 feet downstream and 100 feet upstream of each stream crossing and on the entire stretch of any stream paralleling the project alternatives within 200 feet from the edge of the alternative, where access was allowed. These surveys included qualitative characterization of general channel morphology, substrate, bank conditions, slope, and measurements of bankfull width. The ordinary high water mark (OHWM) was also delineated and mapped using GPS. For the Preferred Alternative, the OHWMs of all streams affected by construction were delineated, flagged, and surveyed by a professional survey crew. The width of the riparian area alongside the streams that was included in the field reconnaissance was typically restricted to 50 feet or less and was determined by the edges of roadways and development, as well as by right-of-way access and property boundaries. These surveys were accomplished on all streams, except McSorley Creek where property access was not obtained. McSorley Creek was observed and characterized by what could be seen from the SR 99 right-of-way and culvert, and further details of channel dimensions and locations were obtained from a 2001 Biological Assessment that was produced for the addition of HOV lanes on Pacific Highway (Jones and Stokes, 2001). At the southernmost end of the study area, the upper reach of the West Fork Hylebos Creek is conveyed under I-5 and the S 320th Park-and-Ride south of S 320th Street through a culvert that is considered a fish passage barrier. The entire reach within the study area is piped underground and therefore it was not assessed in the field.

Aquatic habitat conditions and functional status were evaluated based on fish life histories, spawning and rearing habitat requirements, seasonal use, and field observations. Habitat was assessed with the assumption that anadromous fish might one day be able to access the area even if they presently cannot due to man-made barriers. To the extent information is currently available or could be ascertained in the field, downstream fish passage obstructions, including types of impediments to fish passage, were also identified for each stream reach.

Stream classification determinations, in accordance with WAC 222-16-031 and local jurisdictions' critical areas ordinances, were determined from field observations of stream characteristics. Stream type terminology varies between jurisdictions, but all are based on the size of the stream and its ability

to support fish. Under the WAC 222-16-031 interim water typing system, streams are classified as Types 1 through 5, with Type 1 being shorelines of the state, Type 2 having high fish and wildlife use, Type 3 having moderate fish use, and Types 4 and 5 being non-fish-habitat streams that are perennial or intermittent, respectively. All streams in the study area are either Type 3 or Type 5 waters, with the exception of Hylebos Creek which is piped within the study area. Type 3 waters are defined as segments of natural waters that have a moderate to slight fish, wildlife, or human use. If fish use has not been determined, stream segments having a defined channel of 2 feet or greater within the bankfull width and having a gradient of 16 percent or less are presumed to have fish. Type 5 waters are defined as natural waters within the bankfull width of defined channels that are seasonal, non-fishhabitat streams in which surface flow is not present for at least some portion of the year and are not located downstream from any stream reach that is a Type 4 Water.

The City of Kent defines Type 3 streams as "nonsalmonid segments of natural waters not classified as Type 1 or 2 Water. These are stream segments within the bankfull width of defined channels that are perennial and intermittent nonsalmonid habitat streams" (Kent City Code 11.06.670). The City of Des Moines classifies streams based on salmonid and potential salmonid use. Type F streams are defined as "streams that are salmonid-bearing or have the potential to support salmonids" (Des Moines Municipal Code 16.10.160). Type F streams under Federal Way jurisdiction are streams that contain fish habitat. Type Ns streams are seasonal non-fish-habitat streams.

Bingaman Creek is the only stream channel that the Preferred Alternative would impact and was further assessed for the Final EIS. The OHWM was delineated for the entire channel north and south of 288th Street within the Preferred Alternative footprint. The creek downstream of I-5 was qualitatively assessed for general habitat characteristics and connectivity between the study reach and areas downstream in the Green River Valley where there is documented fish use. Property access was obtained for an apartment complex and King County-owned Bingaman Pond Natural Area downstream (east) of I-5. Potential fish passage barriers between the Green River Valley, Bingaman Pond, and the reach within the study area west of I-5 were investigated and qualitatively assessed to determine potential fish use in the affected reach. Habitat and stream channel conditions were assessed throughout the accessible reaches during multiple field visits in September 2015 when the creek channel was dry, and during December 2015 when there was a small amount of flow.

### 2.3 Upland Vegetation and Wildlife Resources

### 2.3.1 Study Objectives

The purpose of this investigation was to provide information on the vegetation and wildlife resources in the project study area and evaluate the potential impacts of each project alternative. Specific objectives of this study include the following:

• Identify, map, and describe the existing conditions of the vegetation communities and wildlife habitat resources within 200 feet of each side of the project alternatives

- Determine each alternative's impacts on wildlife, habitat, and vegetation
- Describe potential measures to avoid, minimize, or compensate for adverse impacts

#### 2.3.2 Methods

#### 2.3.2.1 Review of Existing Materials

Biologists reviewed maps, aerial photographs, and documents to determine vegetation communities, wildlife, and wildlife habitat in the study area as well as the greater project vicinity for context (see Section 1.1.2). The potential presence of wildlife species in the study area was determined by the presence of suitable habitat and through existing data sources from literature and online resources such as the WDFW Priority Habitats and Species database (WDFW, 2015), and the tree survey prepared for the Preferred Alternative. Priority species in Washington include all state endangered, threatened, sensitive, and candidate species, as well as federal endangered, threatened, and candidate species and species of concern.

#### 2.3.2.2 Field Investigation

Information on plant species and wildlife habitat was obtained concurrently during the wetland and aquatic resources field reconnaissance surveys. Upland habitat field reconnaissance surveys were conducted within WSDOT and other public rights-of-way along the I-5 and SR 99 corridors. No protocol wildlife surveys were conducted for this report. Field investigation consisted of reconnaissance-level visual observation of vegetation characteristics in the areas within 200 feet of the long-term footprints of the build alternatives. Reconnaissance also occurred on publicly owned property where Sound Transit received right-of-entry. The general types of vegetation cover, such as mixed coniferous forest, and the prevalent species of trees, shrubs, and other vegetation that occur and the size and relative stand age of the vegetation within the surveyed study areas were recorded in the field. Vegetation was not sampled quantitatively.

Upland forest habitat was further characterized to assess its relative value for wildlife habitat in the study areas. Data from the field surveys were used to classify forest habitat using methods adapted from the *Bellevue Urban Wildlife Habitat Functional Assessment Model* (The Watershed Company, 2010). This model is based on a comprehensive literature review of wildlife use of urban habitat and assesses habitat functions at local and landscape levels within an urbanized setting. Sound Transit classified the patches of upland forest habitat within the study areas into four categories—Class A, B, C, or D—representing the functional wildlife habitat value of each patch based on scoring from the assessment model. Scoring was based on factors such as patch size, proximity and connectivity to critical areas, plant species richness, and prevalence of invasive species, with Class A patches providing relatively higher habitat functions and values, and Class D patches providing relatively lower habitat functions and values. A "maintained vegetation" category was also used for upland vegetation. This communities in the study areas that contain ornamental trees and landscaped vegetation. This community type provides little to no wildlife habitat value and is subject to high levels of human activity.

#### 2.4 Impact Assessment Methods and Assumptions

#### 2.4.1 Impact Assessment Methods

This ecosystems impact assessment describes the projected extent, magnitude, duration, and character of impacts on ecosystems resources for each alternative and option. Impacts were quantified where quantitative data were available (e.g., the area of wetland and upland vegetation impacts).

#### 2.4.1.1 Long-Term Impacts

Potential long-term impacts on wetlands, wetland buffers, streams, associated buffers, and wildlife habitat and vegetation were assessed first by overlaying project alternatives on base maps of existing ecosystem resources. The impact analyses for all alternatives and options assumed the complete loss of each affected resource in the long-term footprint, regardless of the guideway profile (at-grade, trench, or elevated).

Based on factors such as the width and height of elevated guideways, some of the areas identified as impacted may not experience long-term impacts. During the Final EIS preparation, Sound Transit performed a more detailed assessment of long-term impacts for the Preferred Alternative and refined temporary construction limits to distinguish which resources could be restored following construction. This is discussed below under "Construction Impacts."

Potential long-term impacts on wetlands were assessed qualitatively by evaluating project footprint impacts on wetland hydrologic, water quality, and wildlife functions. Converting forested wetlands to scrub-shrub or emergent wetlands within the vegetation clear zone may be considered a long-term loss of forested wetland habitat by regulatory agencies. If a contiguous wetland lies partially within and partially outside the project limits, then best professional judgment was used to determine any long-term project impacts on the portion of the wetland outside the project footprint. If the remaining wetland functions would be substantially degraded by project construction or operation and could not be restored after construction, then it was assumed that all wetland functions would be lost, and the entire wetland acreage was included as a permanent impact. Functional impacts that extend beyond the area of long-term wetland impacts were also qualitatively assessed.

A qualitative assessment of long-term impacts on aquatic species considered such factors as the regional significance of the resident and anadromous fish species, fish habitat value (such as its role as a migration corridor or spawning area), degree of connectivity and loss of habitat following project implementation, overall habitat quality, and the potential for enhancing or restoring aquatic habitat or connectivity. Operational impacts on aquatic species from water quality degradation and loss of habitat were also qualitatively assessed.

Long-term impacts on wildlife and wildlife habitat were assessed qualitatively by considering such factors as the regional significance of the resource, wildlife habitat value (such as its role as a wildlife movement corridor), degree of fragmentation and loss of the habitat following project implementation, overall upland forest habitat quality based on the functional assessment model (The Watershed Company, 2010), and the potential for enhancing or restoring wildlife habitat or connectivity. Long-term operational impacts on wildlife, including disturbances from increases in human access, noise, and light, and on migratory birds were also assessed. In addition to the long-term operational footprint of the FWLE alternatives, a vegetation clear zone would need to be maintained to keep tree branches off of the guideways. This area would extend up to 11 feet beyond the guideway and would preclude establishing trees within this zone. For the wildlife and wildlife habitat analysis, because forested vegetation cover would not be allowed to regenerate in the vegetation clear zone, it is considered a long-term impact on wildlife habitat.

Long-term impacts on vegetation were determined by evaluating the acreage of each habitat functional category and major vegetation type that would be removed. Impacts were also assessed qualitatively by considering such factors as the regional significance of the resource and the potential for enhancing or restoring unique plant communities. Additionally, the potential for the project to increase or decrease the spread of noxious or invasive plant species was qualitatively analyzed.

Potential long-term impacts on threatened and endangered species (aquatic and terrestrial) include direct mortality, disturbance and displacement effects, and loss or degradation of habitat. Sound Transit prepared a Biological Assessment to serve as the basis for the consultation (Appendix I). The assessment also includes a review of potential effects on essential fish habitat (EFH), as required by the Magnuson-Stevens Fishery Conservation and Management Act.

#### 2.4.1.2 Construction Impacts

Construction impacts would be temporary and limited to the period during and following project construction. The conceptual design assumes most construction would occur within the long-term operational footprint, but some additional areas beyond the long-term operational footprint would also be needed and are identified in a separate construction footprint. For the analysis of wetland and stream buffers, the vegetation clear zone that extends up to 11 feet from the guideway is included in the construction footprint because it would be revegetated with native shrubs and groundcover after construction, and therefore would be restored to functioning buffer. Most impacts to wetlands, streams, and their associated buffers in the construction footprint are considered temporary. The overall construction period would be up to 4 years in a given area, with heavy construction lasting about 6 to 8 months. Estimated areas of construction impacts on ecosystems resources are summarized in Section 4.0.

#### 2.4.1.3 Indirect Impacts

Indirect impacts can be positive or negative. They may be caused by the project, but occur later in time or at a distance, but are reasonably foreseeable. These may include station area development impacts by others, which could change the pattern of land use, population density, or water quality. Indirect impacts may also occur through the implementation of mitigation measures for other environmental impacts, or through supporting projects that are not yet defined or part of the project alternatives. Indirect impacts on ecosystems resources were analyzed qualitatively and are discussed in Section 4.0.

#### 2.4.2 Impact Assessment Assumptions

The impact assessment used the following assumptions regarding impact avoidance, minimization, restoration and compensatory mitigation to inform the anticipated magnitude, duration, and extent of long-term and short-term project impacts.

#### 2.4.2.1 Avoiding and Minimizing Impacts on Sensitive Natural Resources

The FWLE will be designed to conform to all federal, state, and local regulations. Adverse impacts will be avoided or minimized through careful design, rectifying temporary impacts, and compensating for unavoidable adverse impacts. Impact avoidance is discussed in greater detail in Section 5.0, Potential Mitigation Measures. A list of best management practices (BMPs) was developed that identifies measures that could be implemented to avoid or reduce adverse impacts on ecosystems resources during construction and operation. The Final EIS summarizes ESA requirements and/or agreements established during ESA consultation with USFWS and NOAA Fisheries.

#### 2.4.2.2 Site Restoration

For purposes of analysis, affected areas outside of the permanent project footprint that support upland, riparian, or wetland vegetation or other vegetation would be restored to good condition following construction. The length of time required for recovery of ecological functions for different habitats would vary depending upon the intensity of the temporary impact (e.g., vegetation clearing vs. temporary fill), and agency input regarding recovery times for the resources that they regulate. Therefore, the impact is considered temporary.

#### 2.4.2.3 Compensatory Mitigation

Potential mitigation measures were refined during preparation of the Final EIS for the Preferred Alternative. Proposed mitigation measures would include specific goals and objectives and specify monitoring criteria against which potential mitigation measures can be compared, and would consider compensatory opportunities for advance mitigation, mitigation banks, and in-lieu fee programs. Proposed compensatory mitigation measures and location(s) will be developed so that reviewing agencies can determine the likelihood of meeting all stated objectives. Conservation measures will be finalized during permitting. This page intentionally left blank.

# **3.0 Affected Environment**

### 3.1 Wetlands

The FWLE corridor is on the broad, relatively flat terrace between Puget Sound and the Green River Valley. The plateau includes landforms such as depressions, slope and seep areas, and stream valleys that may support wetlands. Much of this area was developed in the 1960s following construction of I-5 and ongoing development at Seattle-Tacoma International Airport. The current land uses in the project vicinity include a mixture of commercial and office uses (primarily along the major roadways), and single- and multi-family residential. Parks and open-space parcels are distributed across the area. As a result, wetlands now present in the area may represent fragments of larger historic wetland systems or they may be recently formed wetlands that have developed as a result of changes in land use and surface water drainage patterns.

Sound Transit identified a total of 40 wetlands for the Final EIS, which have been organized in the discussion below by their occurrence in the I-5 and SR 99 corridors. Of the 40 wetlands identified in the two study areas, 15 were able to be accessed and delineated during field surveys to collect wetland hydrology, soils, and vegetation data. Detailed wetland determination data forms for the 15 wetlands are provided in Appendix B. Rating forms for all 40 wetlands assessed in the corridors are in Appendix C. Photographs of wetlands accessed during the field reconnaissance survey and from public rights-of-way are included in Appendix D. Appendix E presents maps showing locations of individual wetlands and buffers that would be directly affected by the FWLE.

#### 3.1.1 Wetland Descriptions

#### 3.1.1.1 I-5 Corridor

Twenty-seven wetlands were identified within the I-5 corridor. Wetlands 1-1, 2-1, 2-2, and 12-1 occur in both the I-5 and SR 99 corridors. Of the 27 wetlands, 11 were accessed during the field reconnaissance surveys. The remaining 16 wetlands were on private parcels and were not accessible during the field reconnaissance surveys; they were evaluated using existing documentation and public vantage points. Details for each of these wetlands are provided in Table 3-1, and the locations are shown on Exhibits 3-1 through 3-3. Wetland determination data for wetlands identified during the field reconnaissance survey are in Appendix B.

Sound Transit rated wetlands in the study area using Ecology's 2004 wetland rating system for those wetlands initially identified in the Draft EIS, prior to January 1, 2015. Wetlands identified after January 1, 2015, for the Final EIS, were rated using Ecology's 2014 rating system.

#### TABLE 3-1

Wetlands in the I-5 Corridor Study Area

Wetland Name	Hydrogeomorphic Classification	Cowardin Classification <sup>a</sup>	Dominant Species	Approximate Wetland Acreage in Study Area (Total Wetland Acreage)	Wetland Rating (Ecology/Local) <sup>b</sup>	Jurisdiction	Buffer Width (feet)	Identified in Field Reconnaissance Surveys <sup>c</sup>
1-1 <sup>b</sup>	Slope	PSS	Willows	0.3 (0.3)	IV/III	City of SeaTac	35	No
1-2	Depressional	PFO/POW	Black cottonwood, willows	0.3 (0.6)	III	City of SeaTac	35	No
2-1 <sup>d</sup>	Depressional	PEM	Reed canarygrass, cattail	0.4 (0.4)	111	City of SeaTac	35	No
2-2 <sup>d</sup>	Depressional	PEM	Reed canarygrass	<0.1 (<0.1)	III	City of SeaTac	35	No
5-1	Depressional	PSS	Willow, salmonberry	0.1 (0.1)	III	City of Des Moines/City of SeaTac	80/35	Yes
12-1 <sup>d</sup>	Depressional	PFO/SS	Red alder, black cottonwood, Sitka spruce, willows, dogwood	12.5 (108.1)	II	City of Kent	125	Yes
12-4	Depressional	PFO	Black cottonwood, salmonberry	0.1 (0.6)	III	City of Kent	75	No
20-1	Depressional	PEM/PSS	Alder, willows, reed canarygrass	2.2 (2.5)	IV	City of Kent	50	No
20-2	Depressional	PSS/PEM	Willows, cattail, reed canarygrass	0.6 (0.6)	III	City of Kent	75	No <sup>e</sup>
20-3	Depressional	PSS	Dogwood	<0.1 (<0.1)	III	City of Kent	75	Yes
23-1	Depressional	PFO/PSS	Red alder	<0.1 (1.2)	III	City of Kent	75	No
24-2	Depressional	PFO/PSS	Red alder, salmonberry, slough sedge	0.1 (0.1)	III	City of Kent	75	Yes
25-1	Depressional	PFO	Red alder, salmonberry, sedges	0.6 (4.4)	III	City of Federal Way	60	No

#### TABLE 3-1

Wetlands in the I-5 Corridor Study Area
-----------------------------------------

Wetland Name	Hydrogeomorphic Classification	Cowardin Classificationª	Dominant Species	Approximate Wetland Acreage in Study Area (Total Wetland Acreage)	Wetland Rating (Ecology/Local) <sup>b</sup>	Jurisdiction	Buffer Width (feet)	ldentified in Field Reconnaissance Surveys⁰
25-2	Depressional	PFO	Red alder, salmonberry, sedges	0.7 (0.7)	Ш	City of Federal Way	60	No
25-2a	Depressional	PSS	Red alder	0.1 (0.1)	IV	City of Federal Way	40	No
25-4	Depressional	PFO	Red alder, salmonberry, soft rush	<0.1 (4.0)	111	City of Federal Way/ Unincorporated King County	75/75	No
25-5	Depressional	PEM	Reed canarygrass	0.4 (0.4)	IV	City of Federal Way	40	Yes
26-1	Depressional	PEM/PSS	Spirea, Sitka willow, reed canarygrass	0.3 (0.3)	111	City of Federal Way	60	Yes
27-1	Depressional	PFO/PSS	Red alder, black cottonwood, willows, spirea	0.3 (0.3)	111	City of Federal Way	60	Yes
27-2	Depressional	PSS	Salmonberry, slough sedge, reed canarygrass	<0.1 (<0.1)	111	City of Federal Way	60	Yes
27-3	Slope	PEM	Reed canarygrass, soft rush	0.5 (0.5)	IV	City of Federal Way	40	Yes
28-1	Lake fringe	PFO/PSS/PEM /POW	Red alder, willows, dogwood, spirea, reed canarygrass, cattail	0.2 (11.6)	II	Unincorporated King County/ City of Federal Way	125/105	No
28-2	Slope	PSS/PFO	Salmonberry	<0.1 (<0.1)	IV	City of Federal Way	40	Yes
28-3	Depressional	PEM/PSS	Red alder, spirea, reed canarygrass	0.6 (0.6)	111	City of Federal Way	60	Yes
28-4	Depressional	PFO	Black cottonwood, willows	<0.1 (0.1)	111	City of Federal Way	60	No
29-2	Riverine	PEM	Reed canarygrass	<0.1 (<0.1)	111	City of Federal Way	60	No

#### TABLE 3-1

#### Wetlands in the I-5 Corridor Study Area

Wetland Name	Hydrogeomorphic Classification	Cowardin Classificationª	Dominant Species	Approximate Wetland Acreage in Study Area (Total Wetland Acreage)	Wetland Rating (Ecology/Local)⁵	Jurisdiction	Buffer Width (feet)	Identified in Field Reconnaissance Surveys°
30-3	Depressional	PFO	Red alder	0.1	111	City of Federal	60	No
				(0.1)		Way		

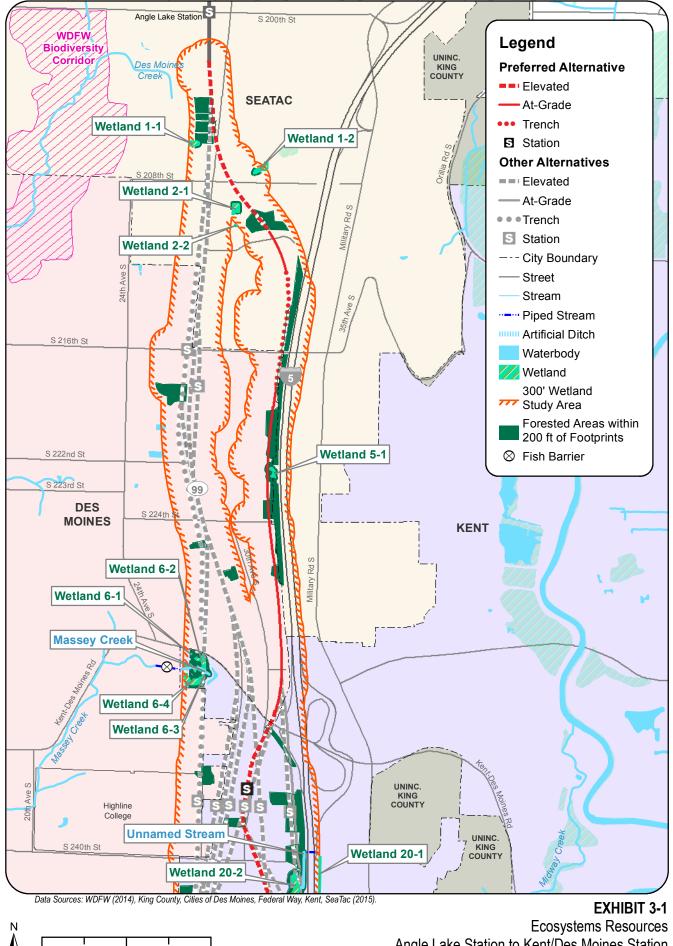
<sup>a</sup> PEM = palustrine emergent; PFO = palustrine forested; POW = open water; PSS = palustrine scrub-shrub; SS = scrub-shrub (Cowardin et al., 1979)

<sup>b</sup> Dual ratings are presented for wetlands occurring in the city of SeaTac, which uses its own wetland rating system. Wetlands with the same rating under SeaTac and Ecology are reported once.

<sup>c</sup> Wetlands not accessed during surveys were mapped and assessed based on National Wetlands Inventory (NWI), local maps, aerial photos, and GIS data.

<sup>d</sup> Wetlands identified in both I-5 and SR 99 corridors.

<sup>e</sup> Field-verified that Wetland 20-2 does not extend east into WSDOT I-5 right-of-way.

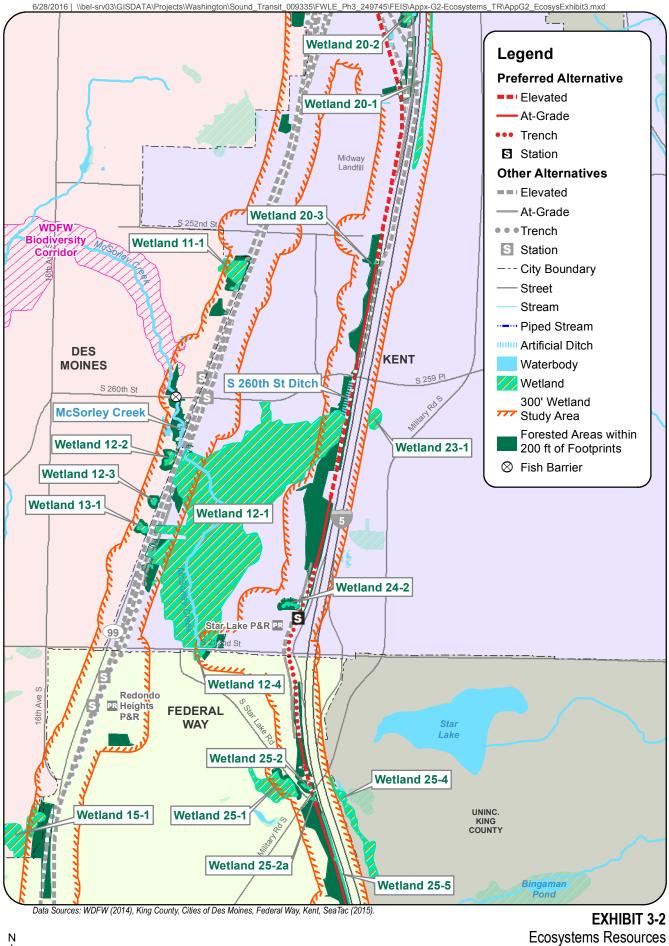


0.5 Miles

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0.25

Angle Lake Station to Kent/Des Moines Station Federal Way Link Extension



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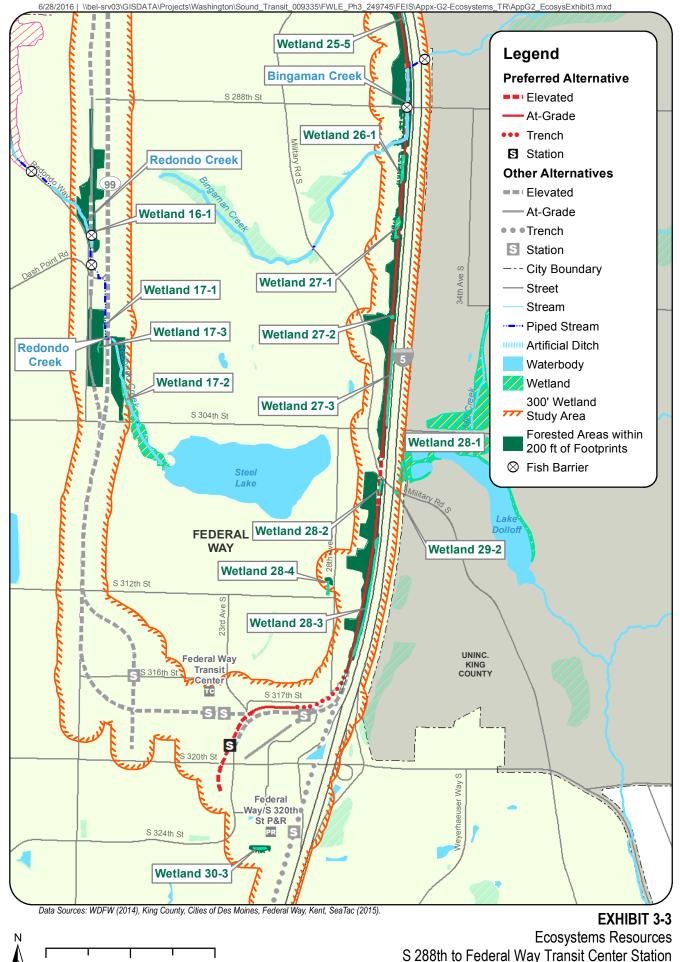
0.25

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0.5 Miles

Kent/Des Moines Station to S 272nd Station Federal Way Link Extension



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0.25

0.5 Miles

Federal Way Link Extension

The identified wetlands vary in size from less than 0.1 acre to more than 108 acres. Wetland 12-1 (McSorley Creek Wetland) is the largest wetland in the I-5 study area. Approximately 4.5 acres of the 108.1 acres of McSorley Creek Wetland fall within the I-5 study area. Other wetlands in the I-5 study area are generally small, isolated features adjoining I-5. Vegetation present in these wetlands varies, but most of the wetlands consist of one vegetation community type. According to ratings assigned to the wetlands using the Ecology rating system, Wetlands 12-1 and 28-1 are Category II wetlands due to their larger size, mature vegetation, habitat structure, and greater connectivity and support to other habitats. Two wetlands fall into the higher function (Category II) group, six wetlands fall into the lower functioning (Category IV) group, and the remaining 19 wetlands provide low to moderate functional scores in between Category II and Category IV, and were rated Category III. The Ecology rating system also categorizes wetlands based on "their sensitivity to disturbance, their significance, their rarity, our ability to replace them, and the functions they provide" (Hruby, 2004, 2014). These wetlands with special characteristics may receive a Category I or II rating independent of the functions the wetlands provide. None of the wetlands met Ecology's criteria for wetlands with special characteristics. All wetland categories are subject to verification with the local jurisdiction and Ecology.

#### Wetlands 1-1, 1-2, 2-1, and 2-2

Wetlands 1-1, 1-2, 2-1, and 2-2 are in the north portion of the I-5 corridor, near the edge of the study area. These wetlands are less than 0.5 acre to 0.6 acres in size and primarily support emergent plant communities dominated by non-native reed canarygrass (*Phalaris arundinacea*), as well as some scrubshrub vegetation consisting of willows (*Salix* spp.) and deciduous forest comprised of black cottonwood (*Populus balsamifera*). Wetland 1-1 is a slope wetland with limited potential to provide hydrologic or water quality functions; it also provides low habitat function, and thus is a Category IV wetland under the Ecology rating system and a Category III wetland under the SeaTac rating system. Wetlands 1-2, 2-1, and 2-2 received Category III ratings under both Ecology and SeaTac rating systems, as they are closed depressional wetlands that have moderate potential to provide hydrologic and water quality functions, although they also provide low habitat function. Wetland 1-2 consists of both palustrine open water and forested wetland communities, which is a relatively rare wetland habitat type in a developed corridor.

#### Wetland 5-1

Wetland 5-1 is a depressional wetland on the west side of I-5 between S 221st Street and S 224th Street. It is approximately 0.8 acre, and vegetation is dominated by willow, salmonberry (*Rubus spectabilis*), and Himalayan blackberry (*Rubus procerus*), with a smaller emergent component. Mowed lawn and an electrical substation are along the western buffer, and the eastern buffer is in the I-5 right-of-way. A dense fringe of Himalayan blackberry is present on the east side of the wetland. Wetland 5-1 scored high for water quality functions; however, it provides limited hydrologic and habitat function due to the small size, lack of habitat features, and absence of connection to other habitats, resulting in a wetland rating of Category III.

#### Wetland 12-1

The McSorley Creek Wetland (Wetland 12-1) is the largest wetland in the study area at approximately 108.1 acres, and predominantly consists of forest, and shrub communities. Mature red alder (*Alnus* 

*rubra*), Sitka spruce (*Picea sitchensis*), and black cottonwood trees are common in the interior of the wetland. Willows, dense young red alder stands, and redosier dogwood (*Cornus sericea*) were all observed on the margins near adjoining development. The wetland's location at the headwaters of McSorley Creek, potential to store floodwaters, and the presence of multiple habitats and native plant species diversity support higher wetland function, resulting in a Category II rating. Communications with City of Kent staff indicated that past development activities have encroached into the wetland, but areas of older, less disturbed forest are present in the interior, which would result in a higher rating.

#### Wetland 12-4

Wetland 12-4 is a depressional wetland south of Wetland 12-1 and S 272nd Street. Wetland 12-4 was likely historically connected to Wetland 12-1, as the proximity of the wetlands and the location of S 272nd suggest that this was a single wetland complex that was bisected by the construction of the roadway. This forested wetland is dominated by black cottonwood and redosier dogwood. This wetland was rated Category III for moderate water quality, hydrologic, and habitat functions.

#### Wetland 20-1

Wetland 20-1 is a depressional wetland on the east side of I-5 across from the Midway Landfill near the edge of the 300-foot study area. Wetland 20-1 is a linear wetland feature of approximately 2.5 acres that drains water from I-5 and discharges to the north into a ravine in the Green River drainage basin. This emergent and scrub-shrub wetland is dominated by red alders, willow, and reed canarygrass. Because of its moderately large size and proximity to I-5, Wetland 20-1 provides moderate water quality function. However, it provides low hydrologic and habitat functions, and thus was rated Category IV.

#### Wetland 20-2

Wetland 20-2 is west of the I-5 right-of-way and south of S 240th Street. Wetland 20-2 is a depressional wetland approximately 0.6 acre, and supports scrub-shrub and emergent vegetation communities. The north portion of the wetland appears to only be seasonally saturated and is mowed reed canarygrass, whereas the south portion of the wetland appears to be a permanently inundated, excavated area dominated by common cattail (*Typha latifolia*) with a fringe of willows around the perimeter of the inundated area. Wetland 20-2 discharges to an unnamed stream in the I-5 right-of-way (south of Kent-Des Moines Road), which flows north under I-5 (refer to section 3.2.2 for a discussion of this stream). Wetland 20-2 provides moderate water quality function and low hydrologic and habitat function, and thus was rated Category III.

#### Wetland 20-3

Wetland 20-3 is a small slope wetland south of the Midway Landfill dominated by redosier dogwood. Surface water from this wetland infiltrates to the west; no surface water outlet was observed. Wetland 20-3 is a Category III wetland based on low to moderate water quality and hydrologic function, and low habitat function.

#### Wetland 23-1

Wetland 23-1 is part of the larger McSorley Creek wetland complex. It is on the east side of I-5 near the edge of the study area. This 1.2-acre depressional, forested/shrub wetland likely was contiguous with Wetland 12-1 prior to the construction of I-5. Wetland 23-1 was rated as a Category III wetland because of its moderately low potential to perform water quality and hydrologic functions and limited potential and opportunity to perform habitat functions.

#### Wetland 24-2

Wetland 24-2 is a depressional wetland west of the I-5 right-of-way and north of 26th Avenue S. Wetland 24-2 is approximately 0.1 acre, and supports a forested vegetation community with scrubshrub and emergent understory. This wetland is in a native growth protection easement in the Greenfield Park residential development, platted in 1997. Over half of the wetland appears to be seasonally inundated and is dominated by slough sedge (*Carex obnupta*) and redosier dogwood; the saturated perimeter of the wetland is dominated by salmonberry and red alder. Surface water from Wetland 24-2 discharges through a culvert at the western side. The culvert runs westerly under a private parcel with unknown discharge location. Wetland 24-2 provides moderate water quality and hydrologic function, and low habitat function, and thus was rated Category III.

## Wetlands at I-5, Star Lake Road, and Military Road Intersection (25-1, 25-2, 25-2a, 25-4, and 25-5)

Four depressional wetlands (25-1, 25-2, 25-2a, and 25-4) are associated with the intersection of I-5, Star Lake Road, and Military Road (Exhibit 3-2). Three of these wetlands (25-1, 25-2, 25-2a) are on the west side of I-5 and one (25-4) is on the east side of I-5. These wetlands likely represent a former single wetland divided by the construction of Military Road, Star Lake Road, and I-5. The largest wetland (25-4) may drain to an unnamed tributary to Bingaman Pond outside the study area. The wetlands vary in size from 0.1 acre to 4.4 acres. Three wetlands (25-1, 25-2, and 25-4) are dominated by forest habitats. Red alder, salmonberry, soft rush (*Juncus effusus*), and slough sedge were observed in the wetlands. Wetlands 25-1, 25-2a, and 25-4 provide moderate to high functions, and received a Category III rating.

Wetland 25-2 is a closed depression that was likely connected to Wetlands 25-1 and 25-4 prior to the construction of Star Lake and Military Road S. Wetland 25-2 is a WSDOT-owned wetland mitigation site that was last planted in 2002. Surface water currently enters the wetland from a culvert to the southwest that conveys drainage from Wetland 25-2a and surrounding uplands. Surface water flows west and north through Wetland 25-2, and then flows through a 24-inch concrete culvert located under Star Lake Road, discharging into Wetland 25-1. Surface water flow from Wetland 25-2 to Wetland 25-1 is unidirectional, and plan sheets from the Military Road at Star Lake Road Roadway and Traffic Signal Design project (City of Federal Way Department of Public Works, 1998) indicate that there is greater than half a foot difference in elevation between the culvert inlet and outlet. Therefore, Wetland 25-2 and Wetland 25-1 are considered separate wetlands per the guidance in the Ecology rating manuals (Hruby, 2004; 2014). Vegetation consists of a red alder canopy with an understory of salmonberry and sparse cover of slough sedge. This wetland provides moderate function and was rated Category III.

Wetland 25-2a is 0.1 acre and consists of a shallow roadside depression on the south side of Military Road just west of I-5. Wetland 25-2a also is a WSDOT wetland mitigation site that was established in 2003 to compensate for the loss of less than 0.1 acre of wetland from the replacement of a culvert under I-5 at the Military Road South underpass and construction of a new storm drain that discharges to Wetland 25-2 (WSDOT, 2006; 2007). This wetland is dominated by red alder saplings, and was rated as Category IV due to its limited functional capacity. Wetland 25-5 is a depressional, emergent wetland that adjoins the shoulder of I-5 that was rated as a Category IV wetland.

# Wetlands 26-1, 27-1, 27-2, and 27-3

Wetlands 26-1, 27-2, and 27-3 are depressional wetlands within the I-5 corridor that are moderately disturbed by development in the I-5 right-of-way. Wetland 26-1 is palustrine scrub-shrub and emergent wetland, Wetland 27-3 is emergent, and Wetland 27-2 is palustrine scrub-shrub wetland. Wetlands 26-1 and 27-2 are Category III wetlands, and Wetland 27-3 is a Category IV wetland.

Wetland 27-1 is a closed depressional wetland approximately 0.3 acre located on the west side of the I-5 right-of-way, adjoining the Camelot Square Mobile Home Park (Exhibit 3-3). This wetland was likely much larger prior to the construction of the mobile home park, as evidenced by fill along the west side of the wetland abutting the I-5 right-of-way boundary. Currently the wetland supports forested and scrub-shrub vegetation communities dominated by red alder, black cottonwood, willows, hardhack spirea (*Spirea douglasii*), and slough sedge. Wetland 27-1 received a high score for water quality since it is a closed depression that treats runoff from the trailer park and I-5. It received low hydrologic and habitat function scores due to its relatively small size, limited habitat structure, isolation in the drainage basin, and lack of connectivity to other habitats. This wetland provides moderate function and was rated Category III.

# Lake Dolloff Wetlands (28-1 and 29-2)

Two wetlands are associated with Lake Dolloff (28-1 and 29-2; Exhibit 3-3) on the east side of I-5. These wetlands total approximately 11.6 acres. The largest wetland (28-1) is on the shores of Lake Dolloff and is approximately 11.6 acres. Wetland 28-1 is a lake fringe wetland that includes multiple vegetation classes and has greater diversity of habitat niches. Vegetation present in Wetland 28-1 includes red alder, various willows, redosier dogwood, hardhack spirea, reed canarygrass, and common cattail. Wetland 28-1 provides moderate to high water quality and moderate habitat function; this is reflected in a rating of Category II.

Wetland 29-2 is a shallow swale along the south side of Military Road, and is connected to Wetland 28-1 by a culvert under Military Road. This wetland is dominated by reed canarygrass. It has a single habitat type and more limited function, resulting in lower functional scores and a rating of Category III.

# Wetlands 28-2, 28-3, and 28-4

Wetlands 28-2, 28-3, and 28-4 are in the southern portion of the I-5 right-of-way. Wetland 28-2 is a palustrine, scrub-shrub slope Category IV wetland. Wetland 28-3 is a palustrine emergent and scrub-shrub depressional Category III wetland. Wetland 28-4 is a depressional palustrine forested, Category III wetland.

## South I-5 Corridor Wetland (30-3)

One depressional wetland (Wetland 30-3) is in the southernmost portion of the I-5 corridor study area (Exhibit 3-3). Wetland 30-3 is approximately 0.1 acre and is a forested wetland dominated by red alder. This small, isolated depression appears to be a remnant of a larger wetland that has been filled in from surrounding development. It received a Category III rating for its moderate water quality score and low hydrologic and habitat function scores.

# 3.1.1.2 SR 99 Corridor

Seventeen wetlands were identified within the study area of the SR 99 corridor. Of these 17, 6 wetlands were accessed during the field reconnaissance surveys. The remaining 11 are on private parcels and were not accessible during the field reconnaissance surveys; they were evaluated using existing documentation and observations from public vantage points. Details for each of these wetlands are provided in Table 3-2, and their locations are shown on Exhibits 3-1 through 3-3.

The identified wetlands vary in overall size from less than 0.1 acre to more than 108 acres (McSorley Creek Wetland [Wetland 12-1]). Thirteen wetlands are less than one acre in overall size, and the remaining four wetlands range from 2.6 to 108.1 acres. The McSorley Creek Wetland is the largest wetland in the FWLE corridor; it is relatively undisturbed and forms the headwaters of McSorley Creek. Approximately 8 acres of the 108.1 acres of McSorley Creek Wetland fall within the SR 99 study area. Fourteen of the wetlands are located in depressions, and three are associated with slope/seep areas. Wetlands in the study area are primarily deciduous forested wetlands, although the vegetation cover in wetlands immediately adjoining SR 99 is disturbed and dominated by invasive species.

According to ratings assigned to the wetlands using the Ecology rating system (Hruby, 2004 and 2014), wetlands in the SR 99 corridor vary in functional capacity from relatively low functioning to wetlands that provide higher-level functions. Two wetlands (12-1 and 15-1) fall in the higher functioning group (Category II) due to their larger size, diverse vegetation and habitat structure, and greater connectivity to other habitats. Eight wetlands fall into the lower functioning (Category IV) group due to their small size, limited habitat structure, low plant species diversity, and lack of connectivity to other habitats. The remaining seven wetlands provide low to moderate functional scores and were rated Category III. Wetland 1 has a dual rating of Category IV and Category III under the SeaTac and Ecology rating systems, respectively. None of the wetlands in the SR 99 study area received a Category I or II wetlands based on Ecology's criteria for wetlands with special characteristics (Hruby, 2004). Wetlands in the SR 99 corridor are discussed in more detail below.

# Wetlands 1-1, 2-1, and 2-2

Wetlands 1-1, 2-1, and 2-2 are in the north portion of the SR 99 corridor, near the edge of the study area. These wetlands are described in Section 3.1.1.1, I-5 Corridor.

# TABLE 3-2 Wetlands in the SR 99 Corridor Study Area

Wetland Name	Hydro- geomorphic Classification	Cowardin Classificationª	Dominant Species	Approximate Wetland Acreage in Study Area (Total Wetland Acreage)	Wetland Rating (Ecology/ Local) <sup>b</sup>	Jurisdiction	Buffer Width (feet)	Accessed During Field Reconnaissance Surveys <sup>c</sup>
1-1 <sup>d</sup>	Slope	PSS	Willows	0.3 (0.3)	IV/III	City of SeaTac	35	No
2-1 <sup>d</sup>	Depressional	PEM	Reed canarygrass, cattail	0.4 (0.4)	III	City of SeaTac	35	No
2-2 <sup>d</sup>	Depressional	PEM	Reed canarygrass	<0.1 (<0.1)	III	City of SeaTac	35	No
6-1	Depressional	PSS	Salmonberry	<0.1 (<0.1)	IV	City of Kent	50	Yes
6-2	Slope	PFO	Red alder, black cottonwood, salmonberry	0.7 (0.7)	IV	City of Kent	50	Yes
6-3	Depressional	PSS	Blackberry, creeping buttercup	<0.1 (<0.1)	IV	City of Kent	50	Yes
6-4	Slope	PFO	Red alder, black cottonwood, salmonberry	0.7 (0.7)	IV	City of Kent	50	Yes
11-1	Depressional	PFO/SS	Red alder, western red cedar, willows, dogwood	2.3 (2.6)	III	City of Des Moines	80	No
12-1 <sup>d</sup>	Depressional	PFO/SS	Red alder, black cottonwood, Sitka spruce, willows, dogwood	12.5 (108.1)	II	City of Kent	125	Yes
12-2	Depressional	PFO/SS	Red alder, willows, some soft rush	0.5 (0.5)	III	City of Des Moines	80	Yes
12-3	Depressional	PFO	Red alder	0.2 (0.2)	IV	City of Des Moines	50	No
13-1	Depressional	PFO	Willows	0.4 (0.4)	IV	City of Des Moines	50	No
15-1	Depressional	PFO/PSS/PEM/ PAB	Black cottonwood, red alder, cattail	1.7 (7.3)	II	City of Des Moines/ City of Federal Way	100/75	No

#### TABLE 3-2 Wetlands in the SR 99 Corridor Study Area

Wetland Name	Hydro- geomorphic Classification	Cowardin Classificationª	Dominant Species	Approximate Wetland Acreage in Study Area (Total Wetland Acreage)	Wetland Rating (Ecology/ Local) <sup>5</sup>	Jurisdiction	Buffer Width (feet)	Accessed During Field Reconnaissance Surveys <sup>c</sup>
16-1	Depressional	PEM	Reed canarygrass	0.1 (0.1)	IV	City of Federal Way	40	No
17-1	Depressional	PFO	Red alder	<0.1 (<0.1)	Ш	City of Federal Way	NA	No
17-2	Depressional	PFO	Willow, salmonberry, some red alder saplings	0.8 (4.8)	III	City of Federal Way	60	No
17-3	Depressional	PSS	Red alder saplings	<0.1 (<0.1)	III	City of Federal Way	NA	No

<sup>a</sup> PAB = palustrine aquatic bed; PEM = palustrine emergent; PFO = palustrine forested; PSS = palustrine scrub-shrub; SS = scrub-shrub (Cowardin et al., 1979)

<sup>b</sup> Dual ratings are presented for wetlands in the city of SeaTac, which uses its own wetland rating system. Wetlands with the same rating under SeaTac and Ecology are reported once. <sup>c</sup> Wetlands not accessed during surveys were mapped and assessed based on NWI, local maps, and aerial photos.

<sup>d</sup> Wetlands identified in both I-5 and SR 99 corridors.

NA = not applicable

# Massey Creek Wetlands (Wetlands 6-1, 6-2, 6-3, and 6-4)

Four wetlands in the headwaters of Massey Creek—Wetlands 6-1 through 6-4—are located south of Kent-Des Moines Road and west of SR 99. They are primarily slope wetlands that drain directly into Massey Creek. They primarily consist of deciduous forest communities dominated by red alder and black cottonwood. Salmonberry and slough sedge are common understory plants found in the wetlands. Aggressive invasive species including Himalayan blackberry and English ivy (*Hedera helix*) are codominant in several of these wetlands, particularly in the east portions adjoining a constructed stormwater pond offsite to the east. These wetlands all received Category IV ratings. All four wetlands scored low for hydrology and water quality functions since they are slope wetlands or are small (less than 0.1 acre); however, because these wetlands occur in the headwaters of Massey Creek, they provide additional hydrologic support by reducing the effects of peak flood flows that enter Massey Creek. The wetlands scored low for habitat functions due to limited diversity in structure and isolation from other habitats.

# Wetland 11-1

Wetland 11-1 is a depressional wetland that adjoins the west side of SR 99 (Exhibit 3-2). It is a forested and scrub-shrub wetland dominated by red alder and western red cedar (*Thuja plicata*) trees with an understory of willows and redosier dogwood. Wetland 11-1 provides moderate water quality functions because incidental surface runoff from SR 99 flows to the wetland, providing opportunity for the wetland to perform this function. Wetland 11-1 has moderate potential for hydrologic and habitat functions; however, it lacks opportunity to provide these functions as it is a relatively isolated wetland, and thus received a Category III rating.

# McSorley Creek Wetlands (Wetlands 12-1, 12-2, 12-3, and 13-1)

The McSorley Creek wetlands are primarily in Kent, with a small portion in Des Moines. The complex consists of four depressional wetlands in the SR 99 corridor (12-1, 12-2, 12-3, and 13-1). Wetland 12-1 is also in the I-5 corridor and is discussed in Section 3.1.1.1. The McSorley Creek wetland complex totals approximately 110 acres and is the largest group of wetlands in the SR 99 corridor study area (Exhibit 3-2). The contributing basin for the McSorley Creek wetlands east of I-5 and west to just beyond SR 99, and forms the headwaters of McSorley Creek. The proximity of the wetlands to each other and the intervening roadways suggests that these wetlands likely represent a single wetland complex that was divided by construction of I-5 and SR 99, and further encroached upon by the surrounding development.

Three other depressional wetlands (12-2, 12-3, and 13-1) are smaller wetlands (no more than 0.5 acre) that have been cut off from Wetland 12-1 by development. Based on direct field observations of Wetland 12-2, observations from SR 99 right-of-way, and available stormwater utility GIS data, there do not appear to be any culverts under SR 99 that would allow bidirectional flow between Wetlands 12-1, 12-2, 12-3, and 13-1. Because of their smaller size and isolation from other habitat, their potential to perform wetland functions and opportunity is generally limited, and thus they are rated as Categories III and IV wetlands.

# Wetland 15-1

Wetland 15-1 is a large (7.3-acre) depressional wetland west of SR 99, near the edge of the 300-foot study area. Wetland 15-1 is a headwater wetland in the Redondo Creek drainage basin. It is a structurally diverse wetland comprised of aquatic bed, emergent, scrub-shrub, and forested vegetation communities. Dominant vegetation includes black cottonwood, red alder, and common cattail. According to the King County (1991) Wetlands Inventory, a portion of the wetland was a peat bog dredged by the property owner. Wetland 15-1 receives a Category II rating as it has high potential for all three wetland functions. Wetland 15-1 is surrounded by residential development and thus has opportunity to provide water quality functions. It also adjoins Wooten Park, a relatively undisturbed block of forest, which provides opportunity for habitat functions.

# Wetland 16-1

Wetland 16-1 is a small (0.1-acre) excavated depression that discharges to Redondo Creek in a utility corridor located west of SR 99. It appears to receive stormwater from an apartment building complex upslope and to the east. It is a sparsely vegetated emergent wetland dominated by reed canarygrass. Wetland 16-1 received a Category IV rating due to its small size in relation to the contributing watershed and very limited structural potential to provide habitat functions.

# Steel Lake/Redondo Creek Wetlands (17-1, 17-2, and 17-3)

The second largest group of wetlands in the SR 99 corridor is associated with a tributary of Steel Lake. This group consists of three wetlands (17-1, 17-2, and 17-3) located in Federal Way. The three wetlands total approximately 5 acres (Exhibit 3-3). Wetlands 17-1, 17-2, and 17-3 are associated with Redondo Creek, a small stream that drains from Star Lake. Based on 2013 and 2014 field observations, the reach of Redondo Creek near these wetlands has seasonal flow. These three wetlands likely represent the remnants of a single wetland system divided by the construction of SR 99.

The largest wetland (17-2) is 4.8 acres and is in the shallow valley of Redondo Creek east of SR 99, extending south to the edge of Steel Lake outside of the SR 99 study area. Vegetation in this wetland is dominated by shrub habitat (predominantly willow, salmonberry, and red alder saplings). Wetland 17-2 is a relatively large wetland in its watershed, supports water quality and hydrologic function in Redondo Creek, and has relatively intact buffers to the east, resulting in a Category III rating. Wetlands 17-1 and 17-3 are smaller wetlands (0.1 acre or less) immediately to the west of SR 99, where the road prism has formed shallow depressions in the slope. These fragmented wetlands do have natural buffers to the south, but provide somewhat lower function due to their small size, limited potential to store floodwater and improve water quality, and limited structural diversity and habitat features. They were rated Category III.

# 3.1.2 Jurisdictional Determination

During the permitting phase of this project, Sound Transit may request jurisdictional determinations by the USACE for those wetlands and non-wetland waterbodies that are likely to be affected by the project the Sound Transit Board selects to build.

# 3.2 Aquatic Species and Habitat

# 3.2.1 Drainage Basin

The FWLE corridor is primarily in WRIA 9 (Duwamish – Green River Basin), with a small portion of the southern extent of the study area in WRIA 10 (Puyallup-White). The portion within WRIA 10 is south of Steel Lake in Federal Way and has no surface water streams that intersect the study area. The FWLE corridor is situated between two major drainages, the Green River to the east and Puget Sound to the west. These water bodies contain Pacific Northwest salmonid species including stocks that are listed under the ESA. The I-5 and SR 99 corridors (up to 300 feet from the project footprint) contain headwater streams that drain to the Green River and Puget Sound; stream flows from the project study area travel at least 1/2 mile before discharging to these major water bodies. Drainage sub-basins that the FWLE could pass through are Des Moines Creek, Lower Green River West, Massey Creek, McSorley Creek, Woodmont Creek, Bingaman Creek, Redondo Creek Cold Creek, and Hylebos Creek.

# 3.2.2 Streams in the Study Area

This section describes the streams that are present in the study area and provides information about fish use, fish habitat quality, and riparian habitat conditions in these streams. Table 3-3 summarizes the streams in the study area and their jurisdictional classifications. Stream classifications according to WAC 222-16-031 are also provided and are based on definitions for the physical characteristics of the streams where fish use has not been determined. The locations of the streams in the study area are shown on Exhibits 3-1 through 3-3. Appendix D includes photographs of the streams, and Appendix E includes detailed maps of streams in relation to the FWLE alternatives. The streams in the study area are are described from north to south, and by the project corridor that they intersect.

Five named creeks and one unnamed stream intersect the FWLE alternatives. There is also a small drainage ditch south of S 260th Street along an old gravel road bed to the west of the I-5 embankment (Exhibit 3-2). This is an artificial drainage channel lined with rip rap and spall that conveys water for approximately 600 feet from a 2-foot-diameter concrete culvert under S 260th Street to where it dissipates in the northern portion of the McSorley Creek Wetland area. The channel is straight with a fairly uniform width of 2 to 3 feet along its length. The ditch is unlikely to be regulated by the USACE because it has intermittent flow, is not a relocated tributary, is not excavated in a tributary, and does not drain wetlands (33 Code of Federal Regulations [CFR] Part 328). This channel does not provide suitable habitat for fish, nor is it connected to any fish-habitable waters and will not be further discussed in this report.

Bingaman Creek is located along the I-5 corridor and flows eastward into the Green River watershed. Massey Creek, McSorley Creek, and Redondo Creek flow through the SR 99 corridor and westward to Puget Sound. The upper reach of Hylebos Creek is conveyed underground through culverts that span the southern end of the I-5 corridor study area, and does not provide any usable fish habitat and consequently was not assessed in the field. No other surface water bodies are known to occur or were observed in either corridor during the field visits. There are mapped drainages along the I-5 corridor that convey stormwater underground along Military Road S and are therefore not fish habitat and do not support fish passage.

Streams in the study area were assigned classifications based on the systems used by the cities of Kent, Des Moines, and Federal Way as described in Section 2.2.2. Each city classifies and assigns protective buffers to streams based on the presence of fish and whether water flow is perennial or seasonal. No buffer is applicable to the reach of Hylebos Creek in the study area as it is conveyed through a pipe (Federal Way Revised Code 19.145.270). Table 3-3 lists the streams and associated buffers in the study area.

There is limited biological information available on the small creeks that intersect the study area (described below by corridor). In general, these are low-gradient streams typical of Puget Sound lowland drainages that receive their flow from springs, seeps, lake outlets, rainfall, and groundwater runoff. Habitat degradation associated with industrial development and/or urbanization has occurred in all of these creeks, and much of the area is currently covered with impervious surfaces (Kerwin and Nelson, 2000).

#### TABLE 3-3

Streams and Associated Buffers in the Federal Way Link Extension Study Area

Stream Name	Project Corridor	Stream Type in Study Areaª	Jurisdiction	Local Jurisdiction Stream Buffer Width (feet)	Stream Type based on WAC 222-16-031 <sup>b</sup>	Documented Salmonid Presence in Study Area
Bingaman Creek (north of S 288th Street)	I-5	F	Federal Way	100	3	No
Bingaman Creek (south of S 288th Street)	I-5	F	Federal Way	100	3	No
Unnamed stream in I-5 Right-of- Way (north of S 240th St)°	I-5	3	Kent	40	5	No
Massey Creek	SR 99	3	Kent	40	3	No
McSorley Creek (west of SR 99)	SR 99	F	Des Moines	115	3	No
McSorley Creek (east of SR 99)	SR 99	3	Kent	40	3	No
Redondo Creek (downstream of Dash Point Road)	SR 99	F	Federal Way	100	3	No
Redondo Creek (east side of SR 99)	SR 99	F	Federal Way	100	3	No

Note: Hylebos Creek is not included because it is piped in the project area.

<sup>a</sup> Stream type terminology varies between jurisdictions, but all are based on the size of the stream and its ability to support fish. In Kent, Type 3 streams are segments of natural waters within bankfull width of defined channels that are perennial or intermittent streams within the portion of the channel where there is no documented salmonid use. In Des Moines, Type F streams are those that are salmonid bearing or (as is the case here) have the potential to support salmonids. Type F streams under Federal Way jurisdiction are streams that contain fish habitat.

<sup>b</sup> Under the WAC 222-16-031 interim water typing system, Type 3 waters are defined as segments of natural waters that have a moderate to slight fish, wildlife, or human use. If fish use has not been determined, stream segments having a defined channel of 2 feet or greater within the bankfull width and having a gradient of 16 percent or less are presumed to have fish. Type 5 waters are defined as natural waters within the bankfull width of defined channels that are seasonal, non-fish-habitat streams in which surface flow is not present for at least some portion of the year and are not located downstream from any stream reach that is a Type 4 Water.

<sup>°</sup> The City of Kent does not regulate activities in artificial drainages intentionally created from nonwetland sites, including, but not limited to, grass-lined swales, irrigation and drainage ditches, retention or detention facilities, and landscape features (Kent City Code 11.06.040).

Riparian plant species present in the study area include red alder, bigleaf maple (*Acer macrophyllum*), and Douglas-fir (*Pseudotsuga menziesii*), with madrone (*Arbutus menziesii*), spruce (*Picea* spp.), and western red cedar present in smaller quantities. Shrub species present typically include Indian plum (*Oemleria cerasiformis*) and Himalayan blackberry. The limited quantity of riparian area and the lack of large trees can effectively limit the supply of organic matter and terrestrial insects delivered to the stream system (Kerwin and Nelson, 2000). The short- and long-term potential for large woody debris (LWD) recruitment in these small stream drainages is poor because land use activities effectively preclude the maturation of riparian stands. With the exception of McSorley Creek, the riparian habitat in the study area is generally limited and confined to relatively narrow corridors by urban development.

Roadways and development in the area have resulted in all of the streams being conveyed through culverts and pipes for at least some portion of their length. This alters flow patterns and natural stream processes, and can pose passage barriers for fish. Impaired passage to larger, more productive streams due to extensive culverts and stormwater connections is another major limiting factor affecting these small streams' capacity to support fish populations in the vicinity. All of the streams present in the study area have fish passage barriers located at some point downstream of the project corridor. These barriers are listed in Table 3-4 and described in the following sections for each stream.

#### TABLE 3-4

Stream	Structure	Barrier	Location
Massey Creek	Vertical drain and piped section	Complete	East of 25th Ave S
McSorley Creek	Culvert	Complete	S 260th Street crossing
McSorley Creek	Culvert	Partial	SR 99
Bingaman Creek	Culvert	Complete	I-5 north of S 288th Street
Bingaman Creek	Syphon culvert	Complete	S 288th Street crossing
Redondo Creek	Piped section	Complete	Under SR 99 by Dash Point Rd
Redondo Creek	Culvert	Complete	Utility corridor off Redondo Way S
Redondo Creek	Vertical drain and piped section	Complete	Under Redondo Way S
Hylebos Creek	Culvert and piped	Complete	Under park-and-ride south of S 320th Street

Fish Passage Barriers in the Study Area

The northern extent of the project vicinity is within the Des Moines Creek drainage basin. North of S 204th Street, an unnamed tributary to Des Moines Creek is mapped to the west, outside of the study area. No surface water channels are present within this portion of the project study area north of Kent-Des Moines Road.

### I-5 Corridor Bingaman Creek

Bingaman Creek flows roughly northeast from wetlands west of Military Road and south of S 288th Street, then bends north along I-5, then passes under I-5 and continues east to Bingaman Pond (Exhibits 3-2 and 3-3, and Appendix E: Sheet 10). Downstream of Bingaman Pond, the creek continues

down into the Green River Valley where it flows under S 277th Street and flows north to enter the Green River north of Kent-Des Moines Road (SR 516).

The reach of the creek within the project study area is upstream of several fish passage barriers and therefore does not currently provide useable stream habitat for fish. It enters the I-5 right-of-way from a mobile home park approximately 500 feet south of S 288th Street, and then runs north along the western edge of the right-of-way, parallel to I-5. It crosses under S 288th Street in an inverted siphon culvert that conveys water under the roadway at a lower elevation than the bed of the stream channel north and south of the culvert. It then continues north along the right-of-way for approximately 540 feet, where it enters a culvert under I-5. Both culverts are considered barriers to fish passage by WSDOT (2016). Culverts in reaches downstream of I-5 are also in poor condition and pose at least partial barriers to fish passage.

# Upstream of S 288th

Habitat quality in the stream reach on the south side (upstream) of S 288th Street is much more degraded than the reach on the north side due to the eroding banks, silt and mud substrate, the proximity of a residential mobile home park and frequent human disturbance, and the presence of accumulated trash in the stream channel. The channel banks in the area between the mobile home park and the sound wall are eroding. The west bank is vegetated and 10 to 15 feet high, while the east bank is much lower and slopes up to the base of the WSDOT concrete sound wall. The stream channel is approximately 15 feet wide at its downstream end near a trash rack and siphon culvert entrance, and narrows upstream to 8 to 10 feet wide at bankfull. The substrate of the channel in this reach is silt and sand with organic debris, and the stream flow is very slow with a 1 percent slope or less. The stream flows through the 10-foot-wide trash rack before crossing under S 288th Street via the siphon culvert. This culvert is considered a barrier to fish passage by WSDOT and WDFW. During a field visit in December 2015, when flows were relatively high, the trash rack at the culvert entrance was partially clogged with woody debris and trash, causing backwatering in the creek channel upstream.

# Between S 288th and I-5

On the north side of S 288th Street, Bingaman Creek flows north alongside the I-5 road embankment. The channel substrate is gravel and cobble. The banks are approximately 18 inches high to the OHWM, are steep and vegetated, and have some low scour. The channel was almost dry during an initial visit in January 2014, and was completely dry during a subsequent visit in September 2015. In December 2015 after a prolonged period of rain, the creek in this reach had relatively high flows to around the OHWM level and depths of 8 to 18 inches or more, and in March 2015 the water depth was 4 to 5 inches. The channel is fairly straight and uniform, and ranges from 7 to 9 feet wide at the OHWM. The stream gradient is low at around 1 percent with some small riffle areas approximately half way along the reach where the slope changes to approximately 2 percent. Approximately 540 feet north of S 288th Street, the creek flows east through a 3-foot-diameter concrete culvert under I-5. Based on survey data of the entrance and exit structures, the culvert under I-5 has a slope of approximately 6 percent and poses a complete barrier to fish passage.

Riparian habitat along this reach consists of mature coniferous forest with some shrub understory, and the forested corridor perpendicular to the stream is roughly 300 feet wide, covering the property between 30th Avenue S and I-5. This vegetation provides cover and shade to the stream channel, as well as LWD input. The natural gravel stream bed, vegetated banks, and mature riparian cover provide good fish habitat in this reach. The channel is fairly uniform and seems to have been artificially straightened to run alongside the base of the I-5 road prism.

### Downstream of I-5

The channel downstream of the I-5 culvert passes through a wooded area on property occupied by an apartment complex. A culvert under a private drive in the apartment complex is in poor condition and poses a partial barrier to fish passage. The channel in this reach is 4 to 8 feet wide with gravel and some cobble in the substrate and was completely dry at the time of the field visit in September 2015. The channel widens as it progresses downstream to the Bingaman Pond Natural Area, a conservation area owned and managed by King County. Scour and bank erosion in this reach indicate that fast flows pass through this section of the creek channel during high flow periods. Stormwater inputs add to the flow downstream of the apartment driveway and parking area.

The connection of Bingaman Creek to Bingaman Pond on the upstream (west) side of the pond is tenuous with respect to fish passage, with no defined channel and heavy vegetation in a large wetland. The channel dissipates into small braids in the forested area to the west of the pond that may provide some passage during periods of high flow. During a subsequent field visit in December 2015, flow was observed in the channel throughout its length and several small branches of the creek were observed flowing through shallow channels in the forested area west of the Bingaman Pond wetland. Although heavily vegetated, no definitive obstructions were observed between the water pooled in the wetland and the braided channels of this reach of Bingaman Creek.

Although habitat features in the creek create the potential for fish to occur, lack of fish-passable connectivity to perennial and fish-inhabited reaches in the watershed currently preclude the use of the reach in the project area at the west side of I-5 by fish. WDFW PHS data (accessed in 2015) show cutthroat trout (*Oncorhynchus clarki*) presence in Bingaman Creek, including the project area. WDFW Salmonscape and Kerwin and Nelson (2000) report Bingaman Creek as having the potential to support coho salmon (*Oncorhynchus kisutch*) if barriers downstream of Bingaman Pond were not present. Because Bingaman Creek goes completely dry during summer and downstream connectivity to wet areas (i.e., Bingaman Pond) is lacking, fish that may inhabit the pond do not return to the creek channel upstream during periods of flow. In addition to the culvert under I-5, sections of steep gradients and cascades at the east side of I-5 create natural barriers to small and juvenile fish and prevent them from moving upstream into the reach in the project area. Therefore, although cutthroat trout and other resident species, such as sculpin, likely inhabit areas of Bingaman Creek downstream, they are not likely to be present in the reach within the project footprint. Fish including coho and steelhead (*Oncorhynchus mykiss*) are documented to inhabit the reach of Bingaman Creek downstream of 55th Avenue to where it connects with the Green River in the valley (WDFW, 2016).

# Unnamed Stream in I-5 Right-of-Way (South of Kent-Des Moines Road)

There is a small stream channel that originates in Wetland 20-2 on the west side of I-5 just south of the Kent-Des Moines Road southbound on-ramp (Exhibit 3-1 and Appendix E: Sheet 3). This small channel flows north alongside I-5 for approximately 600 feet, then through a 24-inch-diameter metal culvert that conveys it east under I-5.

The channel is low-gradient at less than 1 percent, and flow is very slow. There is a small area near the culvert entrance where the gradient slightly increases and the streambed is composed of small gravel, but the rest of the channel bed is composed of a thick layer of silt and organic material. This reach is slow moving, and some aquatic vegetation is also present throughout the channel. The channel is 5 to 7 feet wide at the OHWM and there was 3 to 8 inches of water in the channel during a March 2014 field visit. The banks are 6 to 14 inches high and are engineered on the east side from the highway embankment materials and where recently cleared of vegetation. This channel has been at least partially excavated and routed to make a 90 degree turn to follow the edge of the I-5 road prism. Two small pipes convey water under a small berm that crosses the channel approximately 75 feet south of the culvert, which impede flow. This channel does not provide suitable habitat for salmonids and other fish and is isolated from streams that are known to contain fish.

# **Hylebos Creek**

The upper reach of the west fork of Hylebos Creek is conveyed under I-5 and the S 320th Park-and-Ride south of S 320th Street through a culvert that is considered a fish passage barrier. The entire reach within the study area and further east under The Commons Mall parking lot is piped underground and therefore does not provide any usable fish habitat. The creek also flows through ditches and multiple culverts and piped sections through developments downstream. Salmon are documented in Hylebos Creek, including coho, Chinook, and steelhead, but in stream reaches over 2.5 miles downstream.

#### SR 99 Corridor Massey Creek

On the west side of the intersection of SR 99 and Kent-Des Moines Road is a stormwater retention pond that collects runoff from the surrounding roadways and business plaza and is the headwater for Massey Creek (Exhibit 3-1). This small creek flows west from the stormwater pond through a forested depressional area for approximately 500 feet. The creek originates from an 18-inch-diameter pipe culvert near the base of the stormwater pond embankment. At the western end of the reach, the creek flows into a vertical drain structure and into a pipe that conveys it westward under an apartment complex and road. This culvert and drain constitutes a complete passage barrier and isolates the reach within the study area from the rest of Massey Creek downstream.

The creek flows over several small cascades comprised of spall from the base of the stormwater pond. The creek then levels out to a low gradient of 1 percent or less as it spreads out into several slowflowing branches within the wetland. The creek channel in the study area is very shallow and poorly defined with some standing water and side channels through the wetland. Wetted depths at the time of the March 2014 field visits after days of substantial rain ranged from 2 to 4 inches. The eastern half of the reach within the project footprint consists of several braided channels within the wetland, interconnecting multiple areas of shallow standing water. The riparian areas are comprised of a small, forested wetland area with red alder, black cottonwood, and salmonberry. There were a few pieces of LWD within the braided reach in the wetland, but the low flow and shallow water do not allow for the creation of scour pools or cover from this structure. The western half of the reach consists of a single channel approximately 4 feet wide, which was also shallow with low, poorly defined banks. The stream bed consists of sand and organic material. Fish habitat in this reach is poor and the creek would not support salmonids.

### **McSorley Creek**

The south fork of McSorley Creek flows northwest from its headwaters in a large wetland area (Wetland 12-1) east of SR 99 (Exhibit 3-2). The stream channel through this wetland is approximately 7 feet wide with bank heights around 2 feet. The channel meanders at a low gradient of 1 percent with water depths of a few inches to a foot. The substrate in the wetland portion is silt and fines. At SR 99, the channel turns north to follow the toe of the road embankment. At this point, the channel is straightened and narrows to 4 feet at OHWM and approximately 2 to 3 feet deep at bankfull. The flows increase slightly in this narrower section and the substrate changes to gravel and some cobble. The creek parallels the roadway for approximately 125 feet before making a sharp bend to enter a 4-footwide concrete box culvert that conveys the stream under SR 99. This culvert is listed as a partial barrier to fish passage (WDFW, 2016).

The stream channel within the wetland contains good conditions for fish habitat, with a large riparian area of mixed forest. The riparian buffer vegetation in the overstory averages 20 to 30 feet in height and is dominated by Sitka spruce and black cottonwood, as well as dense stands of young red alder saplings. The shrub layer is dominated by hardhack spirea and sapling Oregon ash (*Fraxinus latifolia*), with common horsetail (*Equisetum arvense*) and creeping buttercup (*Ranunculus repens*) in the herbaceous layer.

On the west side of SR 99 the creek emerges from the culvert into a 20- to 25-foot-wide engineered drainage swale that flows north between a hotel parking lot and SR 99 at a 1 percent gradient. The swale is predominantly vegetated by reed canarygrass and Himalayan blackberry and is bounded to the east and west by paved areas. The stream channel in this reach averages 5 feet in width at the OHWM and has a gravel and cobble substrate (Jones and Stokes, 2001). Flows in this reach were less than a foot deep at the time of the field visit in April 2014 and the water passes over a series of shallow steps of cobble and vegetation debris at a 2 to 3 percent gradient. This segment travels parallel to the highway for approximately 110 feet before passing through an approximately 5-foot-diameter pipe culvert under a gravel drive (Exhibit 3-2 and Appendix E: Sheet 19). Fish habitat conditions in this short reach are poor due to the abundance of vegetation within the channel and the proximity to anthropogenic factors such as impervious surfaces and debris from the roadside and parking lot.

The creek continues north from the exit of the culvert and meanders through a small, forested ravine area between the gravel drive and S 260th Street. A small pool is located at the outflow of the culvert that is likely the result of scouring at high flows. An additional channel enters this drainage near the culvert from the east, carrying stormwater flows from SR 99 and headcutting back into the east slope

above the south fork of McSorley Creek. North of the scoured pool, McSorley Creek continues northwest with an OHWM width of approximately 7 to 8 feet, and channel substrate consisting of gravels, cobbles, and sands with a 2 percent gradient. The channel is located at the bottom of a wooded ravine, approximately 30 feet below the elevation of SR 99 and S 260th Street. Stream habitat in this reach consists of some riffle areas and slower-flowing runs, with water depths less than one foot in most areas during the time of the field visit.

Riparian vegetation is dominated by red alder, salmonberry, and buttercup. Upland buffer vegetation in the canopy is a mix of mature red alder and bigleaf maple and, in the understory, trailing blackberry (*Rubus ursinus*), Himalayan blackberry, and sword fern (*Polystichum munitum*) (Jones and Stokes, 2001). The mature tree canopy provides shade and LWD recruitment to the stream channel in this reach. However, the proximity of urban development and roadways detracts from the habitat quality of this reach, and trash and human disturbance was evident throughout most of the small ravine.

At S 260th Street, the creek is conveyed through another pipe culvert near the base of the high roadway embankment. The culvert exit on the north side of S 260th Street is hanging approximately 2 feet above the stream bed and is listed as a complete passage barrier to fish (WDFW, 2016). Beyond this, the south fork of McSorley Creek continues westward through forested areas and merges with the north fork to become McSorley Creek, which continues through Saltwater State Park, where it enters Puget Sound. McSorley Creek's riparian corridor is mostly intact and the corridor is the least urbanized of the four streams in the study area. Cutthroat trout and coho salmon are documented to occur in McSorley Creek from the mouth at Puget Sound upstream to at least 16th Avenue S (WDFW, 2015 and 2016). The reach of the south fork of McSorley Creek in the study area is mapped as non-fish-bearing (WDNR, 2014b). However, observations during field visits indicate that although this reach of McSorley Creek is isolated to fish downstream by passage barriers, the reach contains habitat that could support fish.

# **Redondo Creek**

Redondo Creek originates at Steel Lake and passes under S 304th Street and through Wetland 17-2 on the east side of SR 99 (Exhibit 3-3). The stream flows into a 2-foot-diameter pipe culvert at the base of the retaining wall on the east side of SR 99, where it is then conveyed in the stormwater system under SR 99. The stream channel through this wetland and forested area appears to be intermittent since during the field visit in January 2014, surface water dissipated into the ground in roughly the middle of this reach and the culvert entrance under the retaining wall was dry. The presence of a defined channel and vegetation debris deposited by flowing water on the surrounding vegetation and culvert entrance indicates that surface water flows through this channel during wetter months and provides a continuous connection between the outlet of Steel Lake and the culvert system under SR 99. Steel Lake contains largemouth bass (*Micropterus salmoides*) and yellow perch (*Perca flavescens*), and is stocked each spring with rainbow trout (*Oncorhynchus mykiss*) (WDFW, 2013). Due to this intermittent connection with Redondo Creek, it is therefore possible that some of the fish from Steel Lake may make their way downstream into Redondo Creek east of SR 99 during periods of high flows.

Redondo Creek is conveyed underneath SR 99 in the stormwater system for approximately 2,000 feet before emerging from a culvert near the intersection of Dash Point Road (Exhibit 3-3 and Appendix E: Sheets 22 and 23). The stream flows down a steep cascade of rip rap and cobble at the bottom of a steep ravine alongside Redondo Way S. The stream channel in this cascade section is approximately 10 feet wide at bankfull and 60 feet in length, after which the stream gradient lessens to a shallow riffle. The stream bed becomes dominated by gravels and narrows to approximately 6 feet wide. The steep hillsides along both banks of this reach are vegetated with sparse undergrowth and mature conifer trees, and scour along both banks was evident.

Approximately 160 feet downstream of the culvert exit, the stream enters a high-gradient 36-inchdiameter pipe culvert that conveys it under a utility corridor drive. At the culvert exit on the north side of the utility drive, the stream then cascades down rip rap and cobble on the steep road embankment. The hanging exit, high gradient, and undersized configuration of this culvert pose a passage barrier to fish.

The stream continues generally northward along the bottom of a forested ravine parallel to Redondo Way S. The stream in this reach is generally at a 3 to 4 percent gradient and consists mostly of shallow riffle habitat with gravel substrate and steep vegetated banks, with scour present along both banks. The channel is fairly uniform in width at about 7 to 8 feet at OHWM, and a water depth of 4 to 8 inches during the time of the field visit. The lack of habitat complexity including pools and other areas of refuge detract from the quality of potential fish habitat in this reach. The stream roughly follows the toe of the roadway embankment through mixed second-growth Douglas-fir and bigleaf maple forest with shrub understory of Indian plum, red elderberry (*Sambucus racemosa*), sword fern, and salal (*Gaultheria shallon*).

Approximately 600 feet downstream of the culvert under the utility corridor road, Redondo Creek enters another culvert that conveys it under Redondo Way S. This culvert entrance is a vertical drain structure and creates a complete passage barrier to fish. Further downstream, the creek re-emerges on the west side of Redondo Way S and follows the roadway northwest toward Puget Sound. Another passage barrier exists approximately 1,000 feet from the shoreline of Puget Sound where the creek is again conveyed into a vertical drain structure beside a parking area next to Redondo Way S. This last 1,000 feet of the creek is then conveyed through a pipe that emerges on the seawall on the shoreline of Puget Sound.

Available resources indicate coho salmon are or have been present in the lower reach of Redondo Creek downstream of S 291st Place to Puget Sound (WDFW, 2016; StreamNet, 2014). A shoreline report for the City of Des Moines states that Redondo Creek has the habitat to support coho salmon and cutthroat trout, although none have been observed (Adolfson Associates, 2004). Habitat within the study reach was observed to be good riffle habitat; however, pools and flow refugia were lacking. The riparian areas surrounding the study reach are of adequate size to provide shade and cover as well as LWD recruitment. The culvert under the utility road provides a complete fish passage barrier and isolates the upper and lower reaches of the stream within the study area. At the downstream end of the study reach, approximately 750 feet downstream of the culvert under SR 99 and Dash Point Road, Redondo Creek enters a vertical drain structure that poses a complete passage barrier to fish leaving or returning to the study area reach during wet periods. During the field visit in January 2014, the stream reach in the study area was dry and therefore not inhabited by fish species. Field observations also confirmed that Redondo Creek downstream of the study area passes through several pipe systems, and its confluence with Puget Sound is also from within a pipe. The configuration of the vertical drain structures in these piped sections precludes fish passage between the study reach and Puget Sound.

# 3.2.3 Tribal Fishing

Judicial decisions have affirmed that federally recognized tribes have treaty rights that include, but are not limited to, the rights to harvest fish free of state interference (subject to conservation principles) and to co-manage the fishery resource. The Green River and Puget Sound are among the usual and accustomed fishing areas of the federally recognized Muckleshoot Indian Tribe. Project impacts on tributaries of these water bodies could affect the productivity of tribal fisheries, and thereby harm the fishing interests of the Muckleshoot and other tribes. Sound Transit is therefore addressing potential downstream effects on fish and fish habitat in this report and coordinating with the Muckleshoot Indian Tribe Fisheries Division regarding these potential effects.

# 3.2.4 Federal and State Threatened, Endangered, and Candidate Species

No ESA-listed or state-listed fish species or critical habitat are known to occur within the study area (WDFW, 2015 and 2016; Kerwin and Nelson 2000). Several species of salmonids such as Puget Sound Chinook (Oncorhynchus tshawytscha) and Puget Sound steelhead are listed as threatened and inhabit the Green River and Puget Sound. These water bodies are well outside the study area, although they are hydrologically connected to the stream reaches within the FWLE study area. Consequently, pollutants in runoff and stormwater generated by the proposed action could eventually make their way downstream into areas where these listed species and habitats occur. Stormwater analysis described in the Biological Assessment prepared for this project (Appendix I) determined however, that runoff from the FWLE would not reach any waterbodies that contain listed species or their designated habitats. Northwest of the study area, Des Moines Creek is a fish-bearing stream and is used by coho salmon and cutthroat trout (WDNR, 2014b; WDFW, 2016; Kerwin and Nelson, 2000), but it is situated approximately 1/2 mile to the west, well outside the study area. Coho salmon, a federal species of concern, is known to inhabit the Green River, Des Moines Creek, and the lower reaches of McSorley Creek, as well as the downstream reaches of Bingaman Creek where it enters the Green River, outside the study area. Coastal-Puget Sound bull trout (Salvelinus confluentus) is a federal threatened/state candidate species found in the Green River and Puget Sound. Critical habitat is designated for Puget Sound and in the Green River, but there is none designated in the study area.

The Magnuson-Stevens Fishery Conservation and Management Act protects EFH for federally managed species of Pacific salmon, specifically Chinook, pink (*Oncorhynchus gorbuscha*), and coho salmon. EFH includes "those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity" (Magnuson-Stevens Act, 16 United States Code §1855(b)(2)). These species are not present

within the study area; however, EFH also includes historic distribution and waters formerly accessible to salmon. Coho were likely present in Redondo, Bingaman, and McSorley creeks within the study area before development. Consequently, these water bodies are included in EFH.

# 3.3 Upland Vegetation and Wildlife Resources

# 3.3.1 Land Cover Types

The FWLE corridor is within the western hemlock (*Tsuga heterophylla*) forest zone (Franklin and Dyrness, 1988). Western hemlock and western red cedar are the dominant forest species in this zone, although Douglas-fir is also very common. Deciduous species occur primarily in disturbed areas and along rivers and streams.

Due to the heavily developed nature of the project corridor, most of the vegetation present in the study area reflects landscaping practices for urban and suburban areas, with remnant tree canopy retained for shade or aesthetics. Within the maintained road rights-of-way, the vegetation includes a mixture of trees at the rights-of-way margins, native and non-native shrubs, landscaped areas, mowed grasses, and disturbance-tolerant forbs.

Most vegetated areas in the project vicinity are on parcels that are either unsuitable or marginal for development for various reasons (for example, open space needs, steep slopes, presence of wetlands). Vegetation in these parcels typically includes a mixture of native and introduced species.

# 3.3.2 Upland Forest Habitat

The undeveloped areas west of I-5 and the I-5 right-of-way are predominantly vegetated by non-native species. The I-5 median is maintained clear of trees and the vegetation consists of mowed areas with mixed domestic and invasive grass species and disturbance-tolerant forbs, and small patches of non-native shrubs. Three larger patches of contiguous forest cover were identified along the west side of I-5: one extending from Military Road/Star Lake Road to S 288th Street; one extending from approximately S 292nd Street to S 301st Street; and one extending from Military Road near S 304th Street to approximately S 311th Street. The stand located north of S 288th Street is dominated by native species, while the remaining stands are predominantly non-native.

Several relatively large patches of upland vegetation are present within the study area in the SR 99 corridor (Exhibits 3-1, 3-2, and 3-3). The majority of these areas consist of mixed deciduous and coniferous forest with a disturbed understory (not a native upland classification). Canopy species present in these areas include red alder, bigleaf maple, and Douglas-fir with Pacific madrone, spruce, and western red cedar present in smaller quantities. Shrub species typically include Indian plum and Himalayan blackberry. The largest remnant of native upland forest in the study area is in the McSorley Creek riparian corridor to the west of SR 99.

Sound Transit assessed upland forested habitat within the I-5 and SR 99 corridors and categorized forested areas that were not part of a managed landscape into one of four categories based on scoring adapted from a functional assessment model as described in Section 2.3.2.2. Each habitat patch was delineated based on presence of forest cover and natural vegetation outside maintained vegetated

areas, including wetland and stream buffers. Forested wetland and stream buffers are also described separately in Section 3.3.2.1 below. These are regulated features that are subject to development standards and mitigation under applicable municipal codes.

The four categories denote relative habitat function for use by wildlife:

- Category A habitat has the highest relative quality and is where wildlife use, including species of local importance such as migratory birds, can be expected both on the site and in the surrounding area. This habitat consists of relative large areas with mature conifer or mixed forest canopy, with an abundance of native shrub understory.
- Category B habitat provides slightly less habitat quality than Category A, but provides the likely opportunity for wildlife to use habitat on the site. This type of habitat occupies smaller patch sizes with mature conifer or mixed forest canopy and more invasive species within the understory than Category A habitats.
- Category C habitat represents forested areas where potential for wildlife to use the site is likely low, and patch size is relatively small and lacks connectivity, with less canopy cover and invasive species prevalent within the understory.
- Category D represents areas with little or no functional wildlife habitat and low potential for use, largely based on small patch size, isolation from other habitats, prevalence of invasive species cover, and low plant species richness.

The relative abundance of each of upland forest habitat category within the I-5 and SR 99 corridors is presented in Table 3-5 below.

Category	Category I-5	
А	45.8	11.5
В	48.6	9.7
С	14.1	26.4
D	9.7	5.4
Total Acreage	118.2	53.0

Acreage of Upland Forest Habitat Categories Assessed in the Preferred

TABLE 3-5

Using the functional assessment model, Sound Transit categorized 118.2 acres of upland forest habitat in the I-5 corridor and 53.0 acres in the SR 99 corridor. The I-5 corridor has 217.1 acres of maintained vegetated areas, including landscaped trees and groundcover, and the SR 99 corridor contains 146.5 acres of maintained vegetated areas.

The I-5 corridor contains a much greater area of upland forested habitat than the SR 99 corridor, and a greater component of higher quality habitat (Categories A and B). However, much of this habitat is

configured in a linear strip that parallels the freeway (Appendix G). This creates a lot of edge habitat relative to the total amount of forest available. Interior core areas are less susceptible to negative edge effects, and relatively round forest tracts with small edge-to-interior ratios are more secure for wildlife. Thin, elongated forests (such as those along I-5) may have very little or no core area and can be highly vulnerable to edge effects. Human-modified areas surrounding a forest fragment are usually altered into younger, smaller stands of trees. These edge areas are attractive to invasive species that colonize several hundred meters into the adjacent forest fragment and alter the plant species composition and relative abundance, which in turn affects the suitability of the habitat for various wildlife species.

Connectivity and proximity to other important habitats are also key features in higher value habitat, and the areas that scored the highest (Category A) all adjoin large wetland areas with forested buffers, the main one being the McSorley Creek Wetland. Many species of birds, mammals, reptiles, and amphibians feed or breed in wetlands but also need access to surrounding uplands to fulfill all of their life-sustaining requirements.

Upland forested areas in the I-5 corridor were mostly categorized as B and C (Table 3-5) and represent moderate wildlife habitat value. Forest canopy cover and large conifers are prevalent, and an abundant shrub layer and relatively few invasive species characterize many of these areas. The two areas that scored the lowest in terms of functional habitat quality are patches near the Midway Landfill site that have sparse canopy and abundant invasive species cover.

The upland forest patches along the SR 99 corridor tend to be small and isolated from other habitat areas by urban development and roadways (Appendix G). The two areas that scored the highest in the SR 99 corridor adjoin much larger tracts that include a large forested area adjoining Wetland 15-1 and the Redondo Creek riparian corridor. The forested areas alongside SR 99 in the McSorley Creek corridor and McSorley Creek wetlands are included in the upland habitat assessment and are also accounted for as part of riparian and wetland buffer areas considered in the impacts analysis.

# 3.3.2.1 Wetland Buffers

Wetland buffers along the I-5 and SR 99 corridors vary in composition and connectivity to higherquality upland habitat. The acreage of wetland buffers by upland forest habitat category the I-5 and SR 99 corridors is presented in Table 3-6 below.

#### TABLE 3-6

Acreage of Wetland Buffer by Upland Forest Habitat Category Assessed in the I-5 and SR 99 Alternative Study Areas

Category	I-5	SR 99
А	9.3	5.4
В	7.5	0.3
С	4.1	6.2
D	0	0
Total Acreage	20.9	11.9

In the I-5 corridor, wetland buffers are predominantly Category A habitat. The buffers for Wetland 12-1 (McSorley Creek Wetland) and the Star Lake/Military Road wetland complex (25-1, 25-2, 25-2a, 25-4, and 25-5) are Category A because they have more diverse native plant species composition and habitat features, and have connectivity with larger tracts of undeveloped forest and wetland habitat. Wetland buffers that are Category B habitat have lesser-quality forest composition but still have connectivity to other undeveloped habitat. Category C wetland buffers are relatively small, isolated areas of degraded forest habitat that are isolated by development from larger tracts of undeveloped forest.

In the SR 99 corridor, Category A wetland buffers are associated with McSorley Creek Wetland and Wetland 15-1. Most of the wetland buffers along the SR 99 corridor have limited upland habitat function because they are isolated from larger tracts of undeveloped lands. The buffer for Wetland 15-1 provides higher habitat functions as it has features comparable to adjoining Category A upland habitat and is connected to the Dash Point/Poverty Bay Open Space Area, which is designated as a Biodiversity Area and Corridor by WDFW (2015).

# 3.3.2.2 Stream Buffers

Stream buffers in the I-5 corridor are composed of riparian areas along Bingaman Creek north and south of S 288th Street. Approximately 2.6 acres of forested habitat north of S 288th Street is high-quality conifer-dominated mature forest with a well developed shrub layer and low amounts of invasive species, and is therefore classified as Category A. The 2.9 acres of riparian habitat south of 288th is smaller and less functional due to higher levels of disturbance and lower native species richness, and is classified as Category B habitat. The small unnamed stream channel south of Kent-Des Moines Road contains riparian forest vegetation on the west side, but has mowed vegetation between the channel and the I-5 shoulder. This habitat provides low functional value and was scored as Category D.

Stream buffers in the SR 99 corridor consist of 2.6 acres of Category B habitat and 5.5 acres of Category C habitat and generally provide lower quality habitat than the Bingaman Creek area due to being isolated by surrounding development and having poorer vegetation composition. The habitat around the Massey Creek and associated wetlands, and around McSorley Creek west of SR 99 was assessed as Category C. These patches of forest are small, isolated areas with few mature conifers. The Redondo Creek stream buffer contains a much larger area and has a mature conifer and mixed forest canopy; consequently, it scored higher and was rated as a Category B.

# 3.3.3 Terrestrial Wildlife Species

In urban environments such as the FWLE corridor, where natural habitats are fragmented and isolated, habitat reserves consist of designated areas, such as wildlife refuges, and undesignated areas, such as parks and open spaces. Wildlife habitat corridors may be vegetated slopes, riparian corridors, or fence rows. Patches of native vegetation, such as riparian areas, canyons, cliffs, and lake edges, are often left undeveloped within urban zones. Wildlife corridors are remnant habitat, regenerated habitat, or artificially created habitat that links larger areas of wildlife habitat. Corridors provide opportunity for animals to move between larger areas that they inhabit by providing patches or pathways of vegetation cover and habitat through which animals can move within otherwise developed and

urbanized areas. Wildlife found in and around these remnant habitats are usually a subset of the wildlife normally expected for each habitat. The species assemblages in these areas are often determined by the size of the remnant patch, as well as the degree and amount of urbanization surrounding it (Ferguson et al., 2001). Wildlife corridors can reduce or moderate some of the adverse effects of habitat fragmentation by facilitating the dispersal of individuals between areas of remaining habitat.

Throughout the length of the project area, I-5 poses an impediment to wildlife movements between the Green River Valley in the east (with natural areas including McSorley Creek) and the Puget Sound shoreline to the west. Underpasses can provide potential crossing points for terrestrial animals, particularly where tracts of natural vegetation occur on each side and along roadways, such as at Military Road and S 288th Street. Connectivity between the McSorley Creek wetlands and the riparian corridor downstream is also impeded by SR 99, which separates the forested wetland from a corridor of tree cover and vegetation that connects to park areas and the Puget Sound shoreline to the west. The forested areas along the west side of I-5, including the Preferred Alternative corridor, also provide for north-south movements of wildlife along the west side of I-5. Although intersected by cross streets, this forested strip can provide a movement corridor that connects larger areas of natural cover, such as forested areas around Military Road and McSorley Creek. These forested slopes would mostly be used by migratory songbirds and small mammals, such as squirrels.

The study area lies within a mapped medium-density urban habitat zone having 30 to 59 percent impervious surface (Chappell et al., 2001). The McSorley Creek riparian and wetlands area between SR 99 and I-5 has the largest tract of forested habitat in the study area. This area contains a relatively large amount of undeveloped habitats that support small mammals, reptiles, amphibians, and birds, in greater abundance than typically found in highly urbanized areas. Wetland and riparian areas can support reptiles and amphibians, such as garter snakes and frogs. No frogs or snakes were observed during the field survey, but the common garter snake (*Thamnophins sirtalis*), Pacific treefrog (*Hyla regilla*), bullfrog (*Rana catesbeiana*), and possibly northern red-legged frog (*Rana aurora*) may inhabit wetland areas, such as those around McSorley Creek.

Small mammal species that inhabit medium-density urban habitats include rat (*Rattus* spp.), mouse (*Peromyscus* spp.), vole (*Microtus* spp.), raccoon (*Procyon lotor*), opossum (*Didelphis virginiana*), Eastern gray squirrel (*Sciurus carolinensis*), and possibly skunk (*Mephitis mephitis*). Several bat species, including big brown bat (*Eptesicus fuscus*), hoary bat (*Lasiurus cinereus*), and little brown bat (*Myotis lucifugus*), are also present and inhabit forested, riparian, as well as urban and suburban areas. No evidence of beaver was observed during the field visit. Some larger mammals that are likely present but were not observed during the field visit include Columbian black-tailed deer (*Odocoileus hemonius columbianus*) and coyote (*Canis latrans*).

The FWLE alternatives lie within the Pacific Flyway, a migratory corridor consisting of the western coastal areas of South, Central, and North America. Wetlands, lakes, and vegetated areas in the project vicinity serve as foraging or resting grounds for migratory and resident bird species. Birds can transit developed areas and use the forested areas in the project corridor for roosting and cover. The

McSorley Creek forested wetland is large area with varied tree species and shrubs and can provide nesting habitat for some bird species, primarily songbirds. Numerous bird species that are known to use the study area or were observed during the field visit include house sparrow (*Passer domesticus*), white-crowned sparrow (*Zonotichia leucophrys*), song sparrow (*Melospiza melodia*), common yellowthroat (*Geothlypis trichas*), yellow warbler (*Dendroica petechial*), northern flicker (*Colaptes auratus*), American robin (*Turdus migratorius*), American crow (*Corvus brachyrhynchos*), dark-eyed junco (*Junco hyemalis*), black-capped chickadee (*Poecile atricapillus*), and marsh wren (*Cistothorus palustris*). Several species of waterfowl were observed using the stormwater ponds in the project vicinity at Kent-Des Moines Road and alongside McSorley Creek by S 260th Street. These included several pairs of mallards (*Anas platyrhynchos*), a pair of buffleheads (*Bucephala albeola*), and two common goldeneye (*Bucephala clangula*). These species are fairly common throughout the region and are not listed federally or in Washington state. No bald eagle (*Haliaeetus leucocephalus*) nests were observed during the field visits, but several individual bald eagles were observed flying overhead during the wetland and upland surveys.

Many bird species that may occur in the study area are protected under the Migratory Bird Treaty Act (MBTA), and habitats in the study area support migratory birds at some time in their life cycle. The MBTA, administered by the USFWS, makes it unlawful for anyone "at any time, by any means, or in any manner, to pursue, hunt, take, capture, kill, attempt to take, capture, or kill, [or] possess" migratory birds or their nests or eggs except in accordance with regulations of USFWS." The law also applies to feathers, eggs, nests, and products made from migratory birds.

# 3.3.4 Threatened, Endangered, and Candidate Species

Listed terrestrial species in the region include the marbled murrelet, streaked horned lark, yellowbilled cuckoo, and Oregon spotted frog. None of these species are documented to occur in the project study area (WDFW, 2015 and 2016), and neither individuals nor suitable habitat were observed during field assessments for the project.

Marbled murrelets are diving seabirds that nest in old-growth forest stands. There is very limited mature forest in the project corridor or surrounding urban environment, and therefore the type of breeding habitat required by marbled murrelets is lacking in the action area. The WDFW PHS data (2015) also indicate that there are no marbled murrelets or their habitat in the action area. There was a single murrelet presence detection documented from 1974 at the southern end of the action area near Federal Way. Given the project location between Puget Sound and inland nesting areas in the Cascades to the east, there is the potential that a few marbled murrelets could fly over the action area while transiting between marine foraging areas and inland nesting sites.

The streaked horned lark is a rare subspecies of horned lark that nests on grasslands and sparsely vegetated areas at airports, sandy islands, and coastal spits in Washington. The only area of potential suitable streaked horned lark habitat in the project corridor is at the Midway Landfill site, which consists of about 70 acres of open grassy land cover. Although typical habitat patches for streaked horned lark are considered to be 300 or more acres, they have been known to occupy smaller areas less than 100 acres (Anderson and Pearson, 2015). Streaked horned larks have not been documented

at the landfill or in surveys at Seattle-Tacoma International Airport north of the action area (Martha Jensen, USFWS, personal communication, March 2016) and their presence in the action area is unlikely.

The western yellow-billed cuckoo breeds in large blocks of riparian habitat, particularly woodlands with cottonwoods and willows. The western yellow-billed cuckoo was widespread and locally common in portions of Washington (USFWS, 2013), including the Puget Sound lowlands and along the lower Columbia River in Washington (USFWS, 2013). The species used to be widespread in King County, but the latest detection was in the late 1990s when a dead yellow-billed cuckoo was detected in a peregrine falcon nest on the Washington Mutual Tower in Seattle (Emily Teachout, USFWS, personal communication, March 2016). The WDFW PHS database has no record of yellow-billed cuckoo in the action area (WDFW, 2015). However, potential migratory habitat, which includes secondary growth woodland and hedgerows (Hughes, 1999), is present. Additionally, migrating yellow-billed cuckoo may shelter or feed in urbanized settings, so the urbanized surroundings and the presence of the highway do not preclude them from using forests along I-5 (Emily Teachout, USFWS, personal communication, March 2016). Therefore, although their presence is unlikely, there is the potential that yellow-billed cuckoo may transit or rest in the project corridor during their migratory season.

Oregon spotted frog is considered to be present in the Green River watershed in Kent. McSorley Creek Wetland is outside the Green River Valley watershed and lacks extensive emergent habitat with good sun exposure suitable for egg-laying, and it lies in a highly urbanized watershed (Germaine and Cosentino, 2004). The headwater wetlands for Bingaman Creek are within the Green River watershed, but do not provide suitable habitat and are inaccessible from areas in the Green River Valley.

The western toad (*Bufo boreas*) is a state candidate and federal species of concern that is found in Lake Washington and other water bodies in the area, but is unlikely to occur within the study area for the project. The lack of surface water ponds and the extent of human disturbance and developed areas likely preclude the presence of this species in the study area. WDFW has also identified the McSorley Creek Biodiversity Area and Corridor, located approximately 300 feet west of SR 99 at the west edge of the study area, as a priority habitat area (WDFW, 2015). More detailed biological information on species that inhabit this area would likely be required if the S 260th West Station Option is selected as part of the project to be built.

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# 4.0 Environmental Consequences

This chapter describes the potential impacts of the FWLE alternatives on wetlands; aquatic species and habitat; vegetation; and terrestrial wildlife and wildlife habitat. The discussion of project impacts assumes that the BMPs described in Appendix F would be implemented and perform as expected to avoid and minimize certain impacts during construction.

# 4.1 Wetlands

# 4.1.1 Long-Term Impacts

# 4.1.1.1 Impacts Common to All Alternatives

The FWLE build alternatives would have direct, long-term impacts on wetlands where the project footprint would cross wetlands or buffers. Filling or excavating within wetlands for column placement, at-grade guideways, trenched guideways, and retaining or sound walls would result in loss of wetland function through the loss of area, changes to surface or subsurface water flows, or long-term changes to vegetation. Along elevated alignments, grading and filling to install support columns and bridge support structures would result in long-term loss of wetland and wetland buffer area where such structures are placed, resulting in loss of wetland functions, although to a lesser extent than at-grade alignments. Shading effects would occur in areas under the elevated guideway where structures are not placed and would affect the type and quantity of vegetation that could be established in these areas. For these reasons, the impacts analysis considered wetland areas located under elevated guideways as permanently impacted. Where possible, Sound Transit would design stormwater systems on guideways over wetlands to not divert stormwater runoff away from the wetlands. At-grade and trench profiles would also result in long-term loss of wetland and buffer acreage due to creation of new guideways in cuts or on fill with fill and retaining and sound walls. Stormwater facilities for all types of profiles could affect wetland buffers. All of these activities can permanently change the capacity of a wetland to perform particular functions such as detention of stormwater, filtering pollutants, protecting stream banks, and providing habitat for wildlife. As discussed above, elevated alignments would result in a smaller long-term footprint, allowing for retention of more wetland area and regeneration of vegetation under elevated structures, whereas at-grade or trench alignments would permanently convert wetlands to a developed condition.

# 4.1.1.2 Impacts by Alternative

Table 4-1 summarizes potential direct impacts of the build alternatives on wetlands and wetland buffers because of grading or filling those areas. Impacts are described by alternative. Station or alignment options are described or quantified as an increase or decrease relative to the alternative(s) with which they are associated. See Appendix E for the locations of potential long-term impacts of the build alternatives and options on wetlands and wetland buffers. Table 4-2 quantifies wetland buffer impacts by upland forest habitat categories.

Summary of Potential Long-Term Direct Impacts on Wetlands by FWLE Alternative and Option

Alternative	Total Wetland Impacts (acres)	Wetland Impact by Ecology Category (acres) <sup>a,b</sup>	Wetland Buffer Impacts (acres)	Wetland ID <sup>c</sup>
Preferred Alternative	1.3	Category II: <0.1 Category III: 1.1 Category IV: 0.1	6.6	5-1, 12-1, 20-3, 24-2 25-2, 25-2a, 25-5, 26-1, 27-1, 27-2, 27-3, 28-2, 28-3
Kent/Des Moines Station Options				
Kent/Des Moines At-Grade Station Option	+0.6	Category III: +0.6	+1.2	Also impacts: 20-2
Kent/Des Moines I-5 Station Option	+0.6	Category III: +0.6	+0.2	Also impacts: 20-2
Landfill Median Alignment Option			-0.2	
S 272nd Star Lake Elevated Station Option				
S 317th Elevated Alignment Option				
Federal Way City Center Station Options				
Federal Way I-5 Station Option			-<0.1	
Federal Way S 320th Park-and-Ride Station Option	+0.1	Category III: +0.1	+0.3	Also impacts: 30-3
SR 99 Alternative	< 0.1	Category II: <0.1 Category III: <0.1	0.2	11-1, 12-1, 12-2, 12-3, 17-1
S 216th Station Options				
S 216th West Station Option				
S 216th East Station Option				
Kent/Des Moines Station Options				
Kent/Des Moines HC Campus Station Option	+0.2	Category IV: +0.2	+0.2	Also impacts 6-2, 6-4
Kent/Des Moines HC from S 216th West Station Option	+0.1	Category IV: +0.1	+0.2	Also impacts: 6-2, 6-3, 6-4
Kent/Des Moines SR 99 Median Station Option				
Kent/Des Moines SR 99 East Station Option				
S 260th Station Options				
S 260th West Station Option	+0.1	Category II: +<0.1 Category III: +0.1	+0.3	
S 260th East Station Option	+0.4	Category II: +0.4	+0.2	Avoids: 12-2 and 12-3
S 272nd Redondo Trench Station Option	+0.4	Category II: +0.4 Category IV: +<0.1	+0.4	Also impacts: 15-1 and 16-1 Avoids: 12-2,12-3, and 17-1
Federal Way SR 99 Station Option				
SR 99 to I-5 Alternative	0.7	Category II: <0.1 Category III: 0.6 Category IV: 0.1	4.1	5-1, 12-1, 20-3, 24-2, 25-2, 25-2a, 25-5, 26-1, 27-1, 27-2, 27-3, 28-2, 28-3
S 216th Station Options				
S 216th West Station Option				
S 216th East Station Option				

Summary of Potential Long-Term Direct Impacts on Wetlands by FWLE Alternative and Option

Alternative	Total Wetland Impacts (acres)	Wetland Impact by Ecology Category (acres) <sup>a,b</sup>	Wetland Buffer Impacts (acres)	Wetland ID <sup>c</sup>
Landfill Median Alignment Option				
Federal Way City Center Station Options				
Federal Way I-5 Station Option				
Federal Way S 320th Park-and-Ride Station Option	+0.1	Category III: +0.1	+0.3	Also impacts: 30-3
I-5 to SR 99 Alternative	< 0.1	Category II: <0.1 Category III: <0.1	0.4	5-1, 11-1, 12-1, 12-2, 12-3, 17-1
S 260th Station Options				
S 260th West Station Option	+0.1	Category II: +<0.1 Category III: +0.1	+0.3	
S 260th East Station Option	+0.4	Category II: +0.4	+0.2	Avoids: 12-2 and 12-3
S 272nd Redondo Trench Station Option	+0.4	Category II: +0.4 Category IV: +<0.1	+0.4	Also impacts 15-1 and 16-1 Avoids: 12-2,12-3, and 17-1
Federal Way SR 99 Station Option				

<sup>a</sup> All wetland ratings are Ecology ratings. One wetland, Wetland 5-1, occurs in SeaTac but is rated as Category III under both Ecology and SeaTac rating systems. <sup>b</sup> Totals may vary from the sum of individual numbers due to rounding.

<sup>c</sup> Long-term footprints would bisect Wetlands 16-1, 20-2, 20-3, 24-2, 25-2a, 26-1, 27-1, 27-2, and 28-3. Because of the small size of these wetlands (under one acre) and likely substantial degradation of wetland functions, the entirety of these wetlands was included in impact calculations.

#### TABLE 4-2

Summary of Potential Long-Term Impacts on Wetland Buffers as Categorized by the Upland Habitat Assessment Model

Alternative	Habitat Category A Impacts (acres)	Habitat Category B Impacts (acres)	Habitat Category C Impacts (acres)	Habitat Category D Impacts (acres)	Total Habitat Impacts (acres)ª		
Preferred Alternative	2.8	2.2	1.6	-	6.6		
Kent/Des Moines Station Options							
Kent/Des Moines At-Grade Station Option		+1.2			+1.2		
Kent/Des Moines I-5 Station Option		+0.2			+0.2		
Landfill Median Alignment Option		-0.2			-0.2		
S 272nd Star Lake Elevated Station Option							
S 317th Elevated Alignment Option							
Federal Way City Center Station Opt	ions						
Federal Way I-5 Station Option							
Federal Way S 320th Park-and-Ride Station Option			+0.3		+0.3		
SR 99 Alternative	0.2		0.1		0.3		
S 216th Station Options							
S 216th West Station Option							

Summary of Potential Long-Term Impacts on Wetland Buffers as Categorized by the Upland Habitat Assessment Model

Alternative	Habitat Category A Impacts (acres)	Habitat Category B Impacts (acres)	Habitat Category C Impacts (acres)	Habitat Category D Impacts (acres)	Total Habitat Impacts (acres)ª
S 216th East Station Option					
Kent/Des Moines Station Options					
Kent/Des Moines HC Campus Station Option			+0.2		+0.2
S 216th West Station Option to KDM HC Campus Station Option			+0.2		+0.2
Kent/Des Moines SR 99 Median Station Option					
Kent/Des Moines SR 99 East Station Option					
S 260th Station Options					
S 260th West Station Option			+0.3		+0.3
S 260th East Station Option	+0.2				+0.2
S 272nd Redondo Trench Station Option	+0.3	+0.1			+0.4
Federal Way SR 99 Station Option					
SR 99 to I-5 Alternative	1.6	1.3	1.1		4.0
S 216th Station Options					
S 216th West Station Option		-0.1			-0.1
S 216th East Station Option		-			
Landfill Median Alignment Option		-0.1		-	-0.1
Federal Way City Center Station Opt	ions				
Federal Way I-5 Station Option					
Federal Way S 320th Park-and-Ride Station Option		-	+0.3		+0.3
I-5 to SR 99 Alternative	0.2	0.2	0.1		0.5
S 260th Station Options					
S 260th West Station Option			+0.3		+0.3
S 260th East Station Option	+0.2				+0.2
S 272nd Redondo Trench Station Option	+0.3	+0.1			+0.4
Federal Way SR 99 Station Option					

<sup>a</sup> Totals may vary from the sum of individual numbers due to rounding.

### Preferred Alternative

The Preferred Alternative would primarily be at-grade, with the exception of elevated guideway structures at crossings of major arterials. The at-grade profile would permanently convert existing vegetated land cover and wetland types to a developed condition within the project footprint. The Preferred Alternative would have 1.25 acres of long-term impacts on 11 wetlands, and 6.6 acres of impacts on 12 wetland buffers, 2.8 acres of which would be upland habitat Category A. The less than 0.1-acre direct impact on the McSorley Creek Wetland (Wetland 12-1) would be avoided and impacts

on this wetland buffer would be slightly reduced if the alignment of the Preferred Alternative were to shift closer to I-5.

### Station and Alignment Options

The Kent/Des Moines I-5 At-Grade and I-5 Station options would each have an additional 0.6 acre of wetland impact since the alignment would cross an additional wetland (Wetland 20-2) south of Kent-Des Moines Road. Federal Way S 320th Park-and-Ride Station Option would have an additional 0.1 acre of wetland impacts since the alignment would cross an additional wetland (Wetland 30-3) in the south portion of the corridor. The other station and alignment options would not change wetland impacts.

# SR 99 Alternative

The SR 99 Alternative would primarily be elevated in the SR 99 median, except for crossings of Kent-Des Moines Road and S 272nd Street. Although elevated structures could minimize the amount of permanent ground disturbance, the amount of water and sunlight available to the vegetation underneath may still be reduced.

Elevated guideway structures would be relatively narrow (approximately 40 feet wide) and more than 15 feet above the ground surface in most places; the extent of impacts caused by shading on wetland vegetation would depend on the final elevation of the guideway, the slope aspect of the ground surface, and shade tolerance of existing vegetation that would be retained under the guideway. Therefore, it was assumed that wetlands under the guideway would be permanently impacted. The SR 99 alternative would have less than 0.1 acre of long-term impacts on two wetlands and 0.2 acre of long-term impacts on four wetland buffers, 0.2 acre of which is Category A upland habitat.

# Station Options

The Kent/Des Moines HC Campus Station Option from S 216th West Station Option and the Kent/Des Moines HC Campus Station Option would cross three wetlands in the headwaters of Massey Creek, resulting in an additional 0.1 and 0.2 acre of direct wetland impact, respectively. The S 260th West Station Option would have an additional 0.1 acre of direct impacts on Wetlands 11-1 and 12-2. The S 260th East Station Option would cross the McSorley Creek Wetland (Wetland 12-1) at several locations along the east side of SR 99, resulting in 0.4 acre of additional wetland impact. The S 272nd Redondo Trench Station Option would have the same impacts on McSorley Creek as the S 260th East Station Option, but would also result in additional impacts to Wetland 16-1.

# SR 99 to I-5 Alternative

All wetlands impacts from the SR 99 to I-5 Alternative would occur in the I-5 corridor. This alignment would have 0.7 acre of long-term impacts on 8 wetlands, and 4.1 acres of long-term impacts on 12 wetland buffers, 1.6 acres of which would be Category A upland habitat. South of S 252nd Street, the SR 99 to I-5 Alternative would generally follow the same alignment as the Preferred Alternative, permanently impacting less than 0.1 acre along the northeast edge of McSorley Creek Wetland (Wetland 12-1) adjoining I-5. Impacts from station and alignment options would be the same as for these options with the SR 99 or Preferred alternatives.

# I-5 to SR 99 Alternative

The I-5 to SR 99 Alternative would have less than 0.1 acre of long-term impacts on two wetlands, and 0.4 acre of long-term impacts on five wetland buffers, 0.2 acre of which would be Category A upland habitat. The I-5 to SR 99 Alternative generally follows the same alignment as the Preferred Alternative north of Kent-Des Moines Road and would result in long-term impacts on the buffer of one low-quality wetland (Wetland 5-1) in this area. South of Kent-Des Moines Road, the I-5 to SR 99 Alternative would generally follow the same alignment as the SR 99 Alternative, impacting less than 0.1 acre of wetland along the west edge of McSorley Creek Wetland (Wetland 12-1). Impacts from station and alignment options would be the same as for these options with the SR 99 or Preferred alternatives.

# 4.1.2 Construction Impacts

Although detailed construction limits are not defined at this phase in the project design, potential project construction limits have been estimated near wetlands and wetland buffers. These impact areas are in addition to the long-term direct impacts described in Section 4.1.1.

# 4.1.2.1 Impacts Common to All Alternatives

Construction impacts that would result in temporary loss of wetlands or wetland buffers include areas that would be cleared of vegetation or temporarily affected while grading occurred, which may temporarily decrease or alter wetland area, soil, hydrology, vegetation, or type. Temporary impacts may result from the use of staging areas, temporary work areas, access roads, stream relocations, cofferdams, clearing, stockpiles, erosion and sediment controls, or other temporary structures necessary to complete construction of the permanent facilities. Wetland and wetland buffer functions could also be impacted by soil compaction, accidental spills of hazardous substances, noise and other human-caused disturbances, sedimentation, and introduction of invasive species. Trench and retained fill construction would require dewatering activities, which could temporarily alter groundwater discharge to wetlands. While temporary impacts are not of the same temporal magnitude as long-term impacts, they may result in short-term decline in wetland functions that lasts for more than one growing season. Prior to construction, best management practices for protecting and minimizing impacts on wetland areas would be identified and implemented during construction. Proposed best management practices are discussed in Appendix F.

For this analysis, the vegetation clear zone is considered a temporary impact on wetlands because it would not require permanent fill in wetlands. However, converting forested wetlands to scrub-shrub or emergent wetlands within the vegetation clear zone may be considered a long-term loss of forested wetland habitat by regulatory agencies.

# 4.1.2.2 Impacts by Alternative

Table 4-3 summarizes temporary impacts on wetlands and wetland buffers that could potentially occur during construction for each build alternative. See Appendix E for the locations of these impacts.

Summary of Temporary Construction Impacts on Wetlands by FWLE Alternative and Option

	<u>,</u>	Alternative and Option	
Alternative	Wetland Impacts (acres)	Wetland Buffer Impacts (acres)	Wetland ID
Preferred Alternative	0.8	4.0	5-1, 12-1, 20-3, 24-2, 25-2, 25-2a, 25-5, 26-1, 27-1, 27-2, 27-3, 28-2, 28-3
Kent/Des Moines Station Options			
Kent/Des Moines I-5 At-Grade Station Option		+0.2	Also impacts: 20-2
Kent/Des Moines I-5 Station Option		+0.3	Also impacts: 20-2
Landfill Median Alignment Option		+<0.1	Also impacts: 20-2
S 272nd Star Lake Elevated Station Option			
S 317th Elevated Alignment Option			
Federal Way City Center Station Options			
Federal Way I-5 Station Option			
Federal Way S 320th Park-and-Ride Station Option			
SR 99 Alternative	<0.1	0.2	11-1, 12-1, 12-2, 12-3, 13-1, 15-1
S 216th Station Options			
S 216th West Station Option			
S 216th East Station Option			
Kent/Des Moines Station Options			
Kent/Des Moines HC Campus Station Option	+<0.1	+0.1	Also impacts: 6-2, 6-3, and 6-4
Kent/Des Moines HC from S 216th West Station Option	+.01	+0.1	Also impacts: 6-2, 6-3, and 6-4
Kent/Des Moines SR 99 Median Station Option			
Kent/Des Moines SR 99 East Station Option			
S 260th Station Options			
S 260th West Station Option	+0.1	-<0.1	
S 260th Station East Option	+0.2	+0.2	Avoids: 12-2, 12-3, 13-1
S 272nd Redondo Trench Station Option	+0.2	+0.1	Avoids: 12-2, 12-3, 13-1
Federal Way SR 99 Station Option			
SR 99 to I-5 Alternative	0.6	5.3	12-1, 20-3, 24-2, 25-2, 25-2a, 25-5, 26-1, 27-1, 27-2, 27-3, 28-2, 28-3
S 216th Station Options			
S 216th West Station Option			
S 216th East Station Option			
Landfill Median Alignment Option			

Summary of Temporary Construction Impacts on Wetlands by FWLE Alternative and Option

Alternative	Wetland Impacts (acres)	Wetland Buffer Impacts (acres)	Wetland ID			
Federal Way City Center Station Options						
Federal Way I-5 Station Option			-			
Federal Way S 320th Park-and-Ride Station Option						
I-5 to SR 99 Alternative	<0.1	0.3	5-1, 11-1, 12-1, 12-2, 12-3, 13-1, 15-1, 17-1			
S 260th Station Options						
S 260th West Station Option	+0.1	-<0.1				
S 260th Station East Option	+0.2	+0.2	Avoids: 12-2, 12-3, and 13-1			
S 272nd Redondo Trench Station Option	+0.2	+0.1	Avoids: 12-2, 12-3, and 13-1			
Federal Way SR 99 Station Option						

### Preferred Alternative

The Preferred Alternative would have 0.8 acre of temporary impacts on 6 wetlands and 4.0 acres of temporary impacts on 13 wetland buffers. The Kent/Des Moines I-5 Station Option would add up to 0.3 acre of temporary impacts. The Landfill Median Alignment would temporarily impact less than 0.1 acre of the edge of the buffer of Wetland 20-2.

#### SR 99 Alternative

The SR 99 alternative would have less than 0.1 acre of temporary construction impacts on three wetlands and 0.2 acre of temporary impacts on five wetland buffers. The Kent/Des Moines HC Campus Station Option would temporarily impact three wetlands in the headwaters of Massey Creek, resulting in less than 0.1 acre of additional temporary wetland impact. The Kent/Des Moines HC Campus Station Option from S 216th West Station Option would temporarily impact three wetlands in the headwaters of Massey Creek, resulting in 0.1 acre additional impact. The S 260th West Station Option would result in 0.1 acre of additional temporary impacts on Wetlands 11-1 and 12-2. The S 260th East Station Option would temporarily impact McSorley Creek Wetland (Wetland 12-1) at several additional locations along SR 99, resulting in 0.2 acre of additional temporary wetland impact. The S 272nd Redondo Trench Station Option would avoid temporary impacts on four wetlands, but would result in 0.2 acre of additional temporary wetland impacts on one other wetland (Wetland 16-1). Construction of the S 272nd Redondo Trench Station Option may require direct dewatering in small portions of the Wetland 16-1 adjoining the east side of SR 99. However, the effect of dewatering is anticipated to be localized and temporary because the duration of groundwater drawdown would be less than 8 weeks, and groundwater levels are anticipated to recover quickly in the McSorley Creek Wetland, which is a large basin with a high groundwater table throughout the wetland.

# SR 99 to I-5 Alternative

The SR 99 to I-5 Alternative alignment would have 0.6 acre of temporary impacts on 7 wetlands and 5.3 acres of temporary impacts on 12 wetland buffers. South of Kent-Des Moines Road, the SR 99 to I-5 Alternative would follow an alignment similar to the I-5 Kent/ Des Moines SR 99 East Station Option, temporarily impacting less than 0.1 acre of the northeast edge of McSorley Creek Wetland that adjoins I-5.

# I-5 to SR 99 Alternative

The I-5 to SR 99 Alternative alignment would result in less than 0.1 acre of temporary impacts on three wetlands and 0.3 acre of temporary impacts on six wetland buffers. This alignment would result in less than 0.1 acre of temporary impact on a portion of the McSorley Creek Wetland (Wetland 12-1) adjoining SR 99. The S 260th West and East Station Options would affect an additional 0.1 and 0.2 acre of wetland, respectively, whereas the S 272nd Redondo Trench Station Option would result in 0.2 acre additional temporary impacts.

# 4.2 Aquatic Species and Habitat

# 4.2.1 Long-Term Impacts

This section describes the long-term impacts from the FWLE alternatives on streams and aquatic habitat in the study area.

# 4.2.1.1 Impacts Common to All Alternatives

Potential long-term impacts from the FWLE alternatives include increases in the amount of impervious surface in the study area, which can increase stormwater runoff rates and volumes and affect stream flows, as well as increase pollutant loads, potentially affecting stream water quality. In general, converting natural groundcover to impervious surface can lead to higher peak flows and create flashiness in stream flows, which can increase erosion and alter sediment and substrate distributions downstream. New impervious areas would include new tracks and guideways, stations, park-and-ride lots, and roads. In cases where the elevated guideway would be over existing roadways, these segments are not counted as new impervious surface in order to avoid double counting the guideway and the road underneath.

Streams within the study area are all fairly small and range in width from 4 to 15 feet at the OHWM. In cases where an elevated alignment crosses perpendicular to the stream channel, the structure would span the stream with the support columns placed on either side beyond the stream banks and outside the OHWM of the stream and, therefore, would not directly impact the bed and bank of streams or result in long-term impacts on in-stream habitat. For elevated guideways, columns are generally placed every 100 to 125 feet. The spacing and location of columns on either side of a creek crossing would be designed to maximize the distance between the creek and these columns to the extent practicable. The exception to this is Bingaman Creek, where the guideway structure runs parallel to and over the existing stream channel. In this case, spanning the stream is not possible, and the stream would need to be relocated under the guideway structure as described later for the Preferred Alternative. Sound

Transit would coordinate with WSDOT to ensure that the FWLE provides adequate space for any future replacement of culverts that are currently barriers to fish passage.

At all stream crossings the riparian areas would be impacted by the loss of forested vegetation within the long-term footprint. Forest habitat would not regenerate in the footprint or vegetation clear zone. However, low shrubs and groundcover vegetation could still regenerate under the guideway after construction. The riparian areas within the long-term project footprint would consequently lose functionality by reducing the potential for the recruitment of large woody material, cover, and nutrient inputs to the stream channel within the impacted area. Almost all LWD input to streams from riparian areas is recruited from the areas within a distance approximately equal to half the height of the typical tallest trees in the area (Murphy and Koski, 1989; McDade et al., 1990). Construction of at-grade facilities outside of regulatory buffers, therefore, would likely result in minimal reductions in wood recruitment along streams in the study area. Elevated guideways would reduce the amount of water the vegetation under the guideway receives from precipitation and may limit sunlight. In some areas, vegetation cleared from beneath elevated guideways may not grow back. The presence of elevated guideways would also preclude the development of mature forest riparian habitat within the project footprint.

Where the guideway would cross stream channels perpendicularly, impacts would be limited to the riparian areas in the project footprint and would not directly affect riparian areas upstream and downstream. The streams in the study area are in highly urbanized environments and next to existing transportation corridors. The addition of the overhead structure and light rail noise would likely have minimal impacts. Operation of the FLWE would not be expected to increase nighttime illumination of fish-bearing waters (which could increase the risk of predation on juvenile salmonids) because the tracks would have no overhead lighting and the train headlights would be directed parallel to the tracks.

# 4.2.1.2 Impacts by Alternative

This section describes the potential long-term impacts on aquatic resources for each of the FWLE alternatives and options. Calculated impact areas for streams and stream buffers are summarized in Tables 4-4 and 4-5.

Alternative	Stream Channel Impact Length (linear feet)	Stream Impact Area (acres)	Stream Buffer Impact (acres)				
Preferred Alternative	Bingaman Creek: 1,015	Bingaman Creek: 0.2	Bingaman Creek: 2.5				
Kent/Des Moines Station Options							
Kent/Des Moines At-Grade Station Option							
Kent/Des Moines I-5 Station Option							
Landfill Median Alignment Option							
S 272nd Star Lake Elevated Station Option							
S 317th Elevated Alignment Option							

#### TABLE 4-4

Summary of Potential Long-Term Impacts on Streams and Stream Buffers by FWLE Alternative and Option

Summary of Potential Long-Term Impacts on Streams and Stream Buffers by FWLE Alternative and Option

Alternative	Stream Channel Impact Length (linear feet)	Stream Impact Area (acres)	Stream Buffer Impact (acres)	
Federal Way City Center Station Options				
Federal Way I-5 Station Option				
Federal Way S 320th Park-and-Ride Station Option				
SR 99 Alternative			McSorley Creek: <0.1 Redondo Creek: <0.1	
S 216th Station Options				
S 216th West Station Option				
S 216th East Station Option				
Kent/Des Moines Station Options				
Kent/Des Moines HC Campus Station Option			Massey Creek +<0.1	
Kent/Des Moines SR 99 Median Station Option				
Kent/Des Moines SR 99 East Station Option				
S 260th Station Options		•		
S 260th West Station Option			McSorley Creek: +0.3	
S 260th East Station Option			McSorley Creek: +0.1	
S 272nd Redondo Trench Station Option			McSorley Creek: +0.1 Redondo Creek: +0.4	
Federal Way SR 99 Station Option				
SR 99 to I-5 Alternative	Bingaman Creek: 1,015	Bingaman Creek: 0.2	Bingaman Creek: 1.4	
S 216th Station Options				
S 216th West Station Option				
S 216th East Station Option				
Landfill Median Alignment Option				
Federal Way City Center Station Options				
Federal Way I-5 Station Option				
Federal Way S 320th Park-and-Ride Station Option				
I-5 to SR 99 Alternative			McSorley Creek: <0.1 Redondo Creek: <0.1	
S 260th Station Options				
S 260th West Station Option			McSorley Creek: +0.3	
S 260th East Station Option			McSorley Creek: +0.1	
S 272nd Redondo Trench Station Option			McSorley Creek: +0.1 Redondo Creek: +0.4	
Federal Way SR 99 Station Option				

Summary of Potential Long-Term Impacts on Stream Buffers as Categorized by the Upland Habitat Assessment Model

Alternative	Habitat Category A Impacts (acres)	Habitat Category B Impacts (acres)	Habitat Category C Impacts (acres)	Habitat Category D Impacts (acres)	Total Habitat Impacts (acres)ª			
Preferred Alternative	1.9	0.6			2.5			
Kent/Des Moines Station Options	Kent/Des Moines Station Options							
Kent/Des Moines At-Grade Station Option								
Kent/Des Moines I-5 Station Option								
Landfill Median Alignment Option								
S 272nd Star Lake Elevated Station Option								
S 317th Elevated Alignment Option								
Federal Way City Center Station Options								
Federal Way I-5 Station Option								
Federal Way S 320th Park-and-Ride Station Option								
SR 99 Alternative				<0.1	<0.1			
S 216th Station Options								
S 216th West Station Option								
S 216th East Station Option								
Kent/Des Moines Station Options								
Kent/Des Moines HC Campus Station Option	-							
S 216th West Station Option to KDM HC Campus Station Option	-							
Kent/Des Moines SR 99 Median Station Option	-							
Kent/Des Moines SR 99 East Station Option	-							
S 260th Station Options								
S 260th West Station Option			+0.3		+0.3			
S 260th East Station Option	-							
S 272nd Redondo Trench Station Option		+0.3			+0.3			
Federal Way SR 99 Station Option								
SR 99 to I-5 Alternative	+0.8	+0.6			1.4			
S 216th Station Options								
S 216th West Station Option			+0.5		+0.5			
S 216th East Station Option								
Landfill Median Alignment Option								
Federal Way City Center Station Options								
Federal Way I-5 Station Option								
Federal Way S 320th Park-and-Ride Station Option								
I-5 to SR 99 Alternative				<0.1	<0.1			

Summary of Potential Long-Term Impacts on Stream Buffers as Categorized by the Upland Habitat Assessment Model

Alternative	Habitat Category A Impacts (acres)	Habitat Category B Impacts (acres)	Habitat Category C Impacts (acres)	Habitat Category D Impacts (acres)	Total Habitat Impacts (acres)ª
S 260th Station Options					
S 260th West Station Option			+0.3		+0.3
S 260th East Station Option					
S 272nd Redondo Trench Station Option		+0.3		-	+0.3
Federal Way SR 99 Station Option					

<sup>a</sup> Totals may vary from the sum of individual numbers due to rounding.

#### **Preferred Alternative**

The Preferred Alternative would be on the west side of I-5 and would be within WSDOT right-of-way south of Kent-Des Moines Road to S 317th Street. The profile would be elevated, trench, or at-grade depending on topography. Bingaman Creek, where it crosses S 288th Street, is the only stream channel that is directly impacted by the Preferred Alternative.

The Preferred Alternative would be elevated over Bingaman Creek both north and south of S 288th Street. The stream channel of Bingaman Creek within the footprint would be routed to meander around the guideway columns to maintain an open channel (Exhibit E: Sheet 10). Changing the physical characteristics of a stream, however, could affect its hydrology and sedimentation downstream, and the impacts are considered permanent because the site would not be returned to its previous condition. The new channel would be designed to maintain flows and water quality conditions. Substrate and bank conditions in the realigned channel would be improved from existing conditions.

North of S 288th Street, Bingaman Creek flows north parallel to and west of I-5 within a wooded area approximately 300 feet wide (Exhibit 4-1, Sheet 2). The project would be directly over the creek, permanently impacting about 540 feet of the stream channel and 1.9 acres of the riparian forest buffer along this reach. South of S 288th Street, Bingaman Creek lies between an I-5 sound wall to the east and a narrow band (up to 50 feet wide) of forested area to the west next to a mobile home park. The project would permanently impact about 475 feet of stream channel and 0.6 acre of riparian buffer in this reach.

Sound Transit would place columns to span as much of the existing stream channel as possible and would realign portions of the creek channel around the columns to minimize impacts by maintaining an open channel throughout with replanted native riparian vegetation. Sound Transit has coordinated with WSDOT, WDFW, and the Muckleshoot Indian Tribe to identify any culverts that are fish passage barriers along the Preferred Alternative. As a result of the coordination, Sound Transit modified the Preferred Alternative near Bingaman Creek to not preclude WSDOT's ability to replace state-owned barrier culverts, including the one under I-5, with stream-simulation-designed culverts for fish passage. Additional guideway design work would occur during final design and project permitting. If it is determined that the state-owned culverts would not be made fish-passable in the future, Sound

Transit may modify the design of the Preferred Alternative near Bingaman Creek. The modified design could include rerouting and permanently piping a portion of the creek and would have impacts similar to those described in the Draft EIS.

The Preferred Alternative would have long-term impacts on a total of 1,015 feet of the existing stream channel as well as 2.5 acres of the existing forested riparian buffer along this reach (Table 4-4). A buffer of at least 115 feet would be maintained north of S 288th Street, except where the emergency access road and traction power substation (TPSS) on this property would encroach on this buffer. South of S 288th Street, the buffer would be maintained to the extent possible within the WSDOT right-of-way.

A small unnamed stream on the west side of I-5, just south of the southbound on-ramp from Kent-Des Moines Road, lies outside the project footprint (Exhibit 3-1) and the stream channel, and its small riparian buffer would not be impacted by the project. This stream does not provide fish habitat, and the surrounding riparian buffer is minimally functional because it has been heavily modified and vegetation has been completely removed along the east side of the channel next to I-5.

The Federal Way S 320th Park-and-Ride Station Option could conflict with a culvert containing Hylebos Creek that travels under the park-and-ride lot. Sound Transit would coordinate closely with WSDOT, WDFW, and the Muckleshoot Indian Tribe on the culvert during final design if this option were selected as part of the project to be built. All other station and alignment options for the Preferred Alternative are all outside areas where stream channels exist, and would therefore have no impacts on streams or riparian buffer.

#### SR 99 Alternative

Massey, McSorley, and Redondo creeks would intersect the SR 99 Alternative. This alternative would not impact existing stream channels because all three channels are in culverts under SR 99 (Table 4-4). It would have very small impacts on stream buffers along the edges of the existing roadway where the existing roadway would be widened (Appendix E). There would be no impacts on the Massey Creek buffer, less than 0.1 acre on the McSorley Creek stream buffer, and less than 0.1 acre on the Redondo Creek stream buffer.

#### **Kent/Des Moines Station Options**

The elevated guideway of the Kent/Des Moines HC Campus Station Option would cross the uppermost section of Massey Creek immediately south of Kent-Des Moines Road. The creek channel lies approximately 200 feet south of the foot of the roadway embankment and flows perpendicular to the guideway. The guideway would span the stream, and the columns would be constructed outside of the channel, avoiding stream impacts. This option would have less than 0.1 acre of impact on the forested riparian buffer surrounding Massey Creek in this reach. The riparian and surrounding vegetated area along Massey Creek is within a wetland, so impacts on the riparian buffer for this reach are captured in the wetlands analysis (Table 4-1). Other station options for the Kent/Des Moines HC Campus Station Option would not have any additional impacts.

#### S 260th Station Options

The S 260th West Station Option would span McSorley Creek west of SR 99, where the south fork of McSorley Creek flows west and then north for approximately 300 feet immediately west of the

highway after exiting a culvert under SR 99. Approximately halfway along this segment the stream passes through a culvert under a 40-foot-wide unpaved utility access road (Appendix E). Special guideway spans of 250 feet north of the access road and a second span 160 feet south of the access road would avoid directly impacting the stream channel. However, the riparian vegetation surrounding this reach of the creek would be impacted by the guideway. This option would result in a loss of 0.3 acre of this forested riparian corridor between an existing stormwater pond access road and S 260th Street (Table 4-4).

The only culvert passing under SR 99 that is identified by WSDOT (2016) as a potential culvert replacement in the future is the McSorley Creek culvert. The design of either S 260th station option (West or East) would place guideway columns so that the project would not preclude a future culvert replacement by WSDOT. If either S 260th station option is selected by the Sound Transit Board as part of the project to build, additional information would be prepared to further define the space needed for such a replacement.

## S 260th East Station Option

The S 260th East Station Option would span the south fork of McSorley Creek on the east side of SR 99 on an elevated guideway. The guideway columns would be outside the OHWM for the creek, and no direct impacts on the creek channel itself would occur. This option would, however, have long-term impacts on 0.1 acre of riparian vegetation in the McSorley Creek Wetland along the east side of SR 99 (captured in the wetlands analysis, Table 4-1).

### S 272nd Redondo Trench Station Option

This option would impact the portion of Redondo Creek that emerges from a culvert on the west side of SR 99, just north of Dash Point Road. A short distance north of Redondo Way S, this station option would follow an existing dirt road that runs on the east side of the ravine carrying Redondo Creek. A portion of the alignment would lie directly above the uppermost section of the creek for approximately 150 feet to where it emerges from the pipe system under SR 99 and Dash Point Road (Appendix E). The stream in this reach consists of a shallow channel with a gravel and cobble stream bed approximately 4 feet wide with steep banks, at the base of a ravine. Both sides are steep hill slopes with mature mixed forest cover. The alignment would span this area and avoid column placement in or adjacent to the stream channel, and also be designed to avoid future replacement of the Redondo Creek culvert under the utility road, which is identified as a fish passage barrier. The alignment north of the gravel access road would follow the existing utility corridor and would completely avoid the stream channel and minimize impacts on riparian vegetation. Overall, this option would result in a loss of 0.4 acre of the forested riparian corridor in this reach (Table 4-4).

### SR 99 to I-5 Alternative

Like the Preferred Alternative, this alternative would avoid most of the stream crossings in the study area. The alignment would head east to I-5 north of Massey Creek, avoiding the three streams that intersect the SR 99 corridor. The only surface water stream crossing is Bingaman Creek. North of S 288th Street, the creek would be relocated next to the alignment. South of S 288th Street, the stream would be piped under the guideway. If this alternative were selected as the project to be built, the alignment in this area could be redesigned similar to the Preferred Alternative to reduce impacts on the stream. The Federal Way S 320th Park-and-Ride Station Option could conflict with a culvert containing Hylebos Creek that travels under the park-and-ride lot. Sound Transit would coordinate closely with WSDOT, WDFW, and the Muckleshoot Indian Tribe on the culvert during final design if this option were selected as part of the project to be built. The other SR 99 to I-5 Alternative station options would not have any additional impacts on streams or stream buffers.

#### I-5 to SR 99 Alternative

The I-5 to SR 99 Alternative would avoid impacts on Massey Creek and Bingaman Creek, and would span McSorley Creek and Redondo Creek, similar to the SR 99 Alternative. As described above for the SR 99 Alternative, there would be no direct impacts on in-stream habitat in the stream channels and less than 0.1 acre of impact on stream buffers. Impacts would be greater with station and alignment options, with up to 0.7 acre of stream buffer impact if both the S 260th West Station Option and the S 272nd Redondo Trench Station Option were selected (Table 4-4).

#### 4.2.2 Construction Impacts

The expected project construction limits have been estimated near streams and stream buffers. These impact areas are in addition to the long-term direct impacts described in Section 4.2.1.

#### 4.2.2.1 Impacts Common to All Alternatives

Temporary construction impacts on streams and their associated buffers are listed in Table 4-6. These impact areas account for a small fringe of disturbance along the project corridors outside the long-term footprint. Stream crossings would be elevated and construction would be outside the stream channel itself. However, temporary culverts or pipe bypasses for the stream may be used in order to prevent impacts on the stream and water quality during construction. Work over or in any water bodies would require a Hydraulic Project Approval from WDFW, and any in-water work would be required to occur during work windows established through agency consultation to encompass periods of the year when fish would be minimally impacted. After construction, these temporary culverts or bypasses would be removed and the stream restored to its original location. Some work would occur below the OHWM of Bingaman Creek, which would be planned to take place as much as possible during the summer months when the creek channel is dry. It is unlikely that construction would be completed within a single seasonally dry period, in which case a temporary piped bypass would be used to convey any flows in Bingaman Creek around the construction site.

The vegetation clear zone that extends up to 11 feet beyond the footprint of the track is considered a temporary impact on stream buffers. Although small segments of forested stream corridor would not be allowed to regenerate forested vegetation cover in riparian corridors, shrub cover would be allowed to regenerate; therefore, stream buffer functions, such as shading and input of organic material from overhanging and stream margin vegetation to streams, would be allowed to reestablish.

Summary of Temporary Construction Impacts on Streams by FWLE Alternative and Option

Alternative	Stream Channel Impact Length (linear feet) <sup>a</sup>	Stream Impact Area (acres)ª	Stream Buffer Impact (acres) <sup>a</sup>
Preferred Alternative			Bingaman Creek 0.8
Kent/Des Moines Station Options			
Kent/Des Moines At-Grade Station Option			
Kent/Des Moines I-5 Station Option			
Landfill Median Alignment Option			
S 272nd Star Lake Elevated Station Option			
S 317th Elevated Alignment Option			
Federal Way City Center Station Options			
Federal Way I-5 Station Option			
Federal Way S 320th Park-and-Ride Station Option			
SR 99 Alternative		-	McSorley Creek: <0.1 Redondo Creek: <0.1
S 216th Station Options			
S 216th West Station Option			
S 216th East Station Option			
Kent/Des Moines Station Options			
Kent/Des Moines HC Campus Station Option	Massey Creek: +60	Massey Creek: +<0.1	Massey Creek: +<0.1
Kent/Des Moines SR 99 Median Station Option			
Kent/Des Moines SR 99 East Station Option			
S 260th Station Options			
S 260th West Station Option	McSorley Creek: +250	McSorley Creek: + <0.1	McSorley Creek: +0.1
S 260th Station East Option	McSorley Creek: +152	McSorley Creek: + <0.1	McSorley Creek: +0.1
S 272nd Redondo Trench Station Option	McSorley Creek: +148 Redondo Creek: +180	McSorley Creek: + <0.1 Redondo Creek: + <0.1	McSorley Creek: +<0.1 Redondo Creek: +0.1
Federal Way SR 99 Station Option			
SR 99 to I-5 Alternative			Bingaman Creek 1.0
S 216th Station Options			
S 216th West Station Option			
S 216th East Station Option			
Landfill Median Alignment Option			
Federal Way City Center Station Options			
Federal Way I-5 Station Option			
Federal Way S 320th Park-and-Ride Station Option			

Summary of Temporary Construction Impacts on Streams by FWLE Alternative and Option

Alternative	Stream Channel Impact Length (linear feet)ª	Stream Impact Area (acres)ª	Stream Buffer Impact (acres)ª
I-5 to SR 99 Alternative	-	-	McSorley Creek <0.1 Redondo Creek <0.1
S 260th Station Options			
S 260th West Station Option	McSorley Creek: +250	McSorley Creek: + <0.1	McSorley Creek: +0.1
S 260th Station East Option	McSorley Creek: +152	McSorley Creek: + <0.1	McSorley Creek: +0.1
S 272nd Redondo Trench Station Option	McSorley Creek: +148 Redondo Creek: +180	McSorley Creek: + <0.1 Redondo Creek: + <0.1	McSorley Creek: +<0.1 Redondo Creek: +0.1
Federal Way SR 99 Station Option			

<sup>a</sup> Work over Redondo Creek and McSorley Creek would require temporary piping of open stream segments to protect stream from temporary construction impacts.

Construction impacts on water resources would be minimized by implementing BMPs and conforming to conditions of the National Pollutant Discharge Elimination System (NPDES) Stormwater Construction permit that will be obtained for the project. Within the construction footprint, aquatic resources would potentially be at risk during construction based largely on the amount of ground-disturbing activity within each basin. Any earthwork conducted within or in close proximity to a stream channel without BMPs installed or being maintained has the potential to cause turbidity and sedimentation that would adversely affect fish and habitat downstream of the work. Increases in suspended sediment levels can reduce light penetration, inhibit primary production, abrade and clog fish gills, prevent feeding by sight feeders, stop migration, and cause any fish in the area to avoid the disturbed reaches of the river. Increased sedimentation can alter stream bed characteristics and habitat for invertebrates and fish. Streams in the study area are in an urbanized environment and connected to local stormwater systems. Existing stormwater systems without stormwater treatment degrade water quality in the streams from pollution runoff and sedimentation.

Removal of vegetation along the stream banks during construction would increase the erosion hazard for the stream bank and result in the temporary loss of potential LWD recruitment until vegetation becomes reestablished. Planting of native vegetation and the addition of LWD would improve stream habitat within the impacted areas after construction. For aquatic species and habitat, earthwork and project construction equipment could introduce sediment and contaminants (e.g., fuel or hydraulic fluids) to streams that could also be carried downstream of the project.

Under all alternatives, the potential for adverse impacts on aquatic species and habitat would be minimized by ensuring that work conditions and activities comply with the required project permits and by implementing BMPs designed to avoid or minimize the delivery of construction-related sediment and contaminants to streams. Impacts on water resources from construction would be minimized by implementing BMPs required by the NPDES General Stormwater Construction Permit.

#### 4.2.2.2 Impacts by Alternative

This section describes the potential temporary construction-related impacts on aquatic resources for each of the FWLE alternatives. Impact areas for streams and stream buffers are summarized in Table 4-4.

#### **Preferred Alternative**

Construction activities for the Preferred Alternative would temporarily impact approximately 0.8 acre of Bingaman Creek stream buffer along with 1,015 feet of the existing stream channel. Although this length would be impacted during construction, it is considered a permanent impact and not quantified as a temporary impact in Table 4-6. Some work would occur below the OHWM of Bingaman Creek. Where possible, work would occur during the summer months when the creek channel is dry. It is unlikely that construction would be complete within a single seasonally dry period, in which case a temporary piped bypass would convey any flows in Bingaman Creek around the construction site and into the existing I-5 culvert to continue downstream. Bypassing the construction area would prevent introduction of sediments into the creek flow, avoiding effects on water quality downstream. Because the entire Bingaman Creek channel within or adjacent to the Preferred Alternative footprint would need to be modified to meander around the guideway columns, all impacts on the creek channel are considered long-term and are addressed in Section 4.2.1.2.

Riparian vegetation along Bingaman Creek would be cleared for site access to construct sections of the guideway. Short-term clearing may result in reduced shading and subsequent higher stream temperatures during the construction period. Removal of vegetation along the stream banks during construction would increase the erosion hazard for the stream bank and result in the temporary loss of potential LWD recruitment until vegetation becomes reestablished. North of S 288th Street, Sound Transit would try to preserve as much of the existing buffer as possible while constructing the stream realignment as well as the stormwater pond, emergency access road, and TPSS planned on this property.

#### SR 99 Alternative

Construction activities for the SR 99 Alternative would temporarily impact less than 0.1 acre of stream buffer and are not expected to temporarily impact streams unless the contractor chooses to use temporary culverts. In these cases, the length of the stream channel within the project footprint would be temporarily impacted during construction activities. The linear feet of stream channel impact numbers in Table 4-4 reflect this scenario for all stream crossings. The Kent/Des Moines HC Campus Station Option from S 216th West Station Option, Kent/Des Moines HC Campus Station Option, the S 260th Station options, and the S 272nd Redondo Trench Station Option would increase temporary impacts, but total impacts would remain under half an acre (Table 4-4).

#### SR 99 to I-5 Alternative

The portion of this alignment along I-5 would affect Bingaman Creek north and south of S 288th Street similar to the Preferred Alternative. Construction activities would affect 1.0 acre of the riparian buffer and a total of 1,015 feet of the existing stream channel. A temporary piped bypass would convey any flows in Bingaman Creek around the construction site and into the existing I-5 culvert. Riparian vegetation would be cleared for site access and guideway construction, resulting in reduced shading as

described above for the Preferred Alternative. The station options for this alternative would not change these impacts (Table 4-4).

#### I-5 to SR 99 Alternative

Construction activities for the I-5 to SR 99 Alternative would temporarily impact less than 0.1 acre of stream buffer and are not expected to temporarily impact streams unless the contractor chooses to use temporary culverts. The S 260th Station options and the S 272nd Redondo Trench Station Option would increase temporary impacts, but total impacts would remain under 1/2 acre (Table 4-4).

## 4.3 Upland Vegetation and Wildlife Resources

### 4.3.1 Long-Term Impacts

This section describes the long-term impacts from the FWLE on vegetation and wildlife resources in the study area. For this analysis, the amount of upland forest habitat impacted by each build alternative is used to indicate the potential for long-term adverse impacts on both vegetation and wildlife. Impacts on pervious vegetated areas outside upland forest are also quantified. These areas include managed vegetation and grassy areas that do not constitute wildlife habitat. Direct long-term impacts described in this section would occur where the light rail crosses land cover types that support vegetation or upland forested wildlife habitat features.

#### 4.3.1.1 Impacts Common to All Alternatives

The impacts of project operation on vegetation and wildlife habitat would vary, depending on the land cover type within the project limits. The impacts on the medium density urban habitat in the study area, for example, would be minimal. Little or no vegetation is present in areas classified as urban; therefore, the replacement of existing impervious surface and man-made structures with guideways or other facilities would constitute a minimal change in the characteristics of such areas or their ability to support wildlife.

For this analysis, the vegetation clear zone that extends 11 feet beyond the footprint of the track is considered a long-term impact on forested vegetation and forested wildlife habitat because forest would not be allowed to regenerate in this area. The vegetation clear zone could retain native shrubs and groundcover, but not trees tall enough to fall onto the overhead catenary system lines or guideway. The surrounding grass and low-height vegetation along the alignment would provide some habitat for ground-dwelling small mammals, such as mice and voles. These species inhabiting open grassy areas provide foraging opportunities for raptors such as red-tailed hawks.

Removing trees, snags, and understory vegetation for the project would result in the loss of nesting and foraging sites for many species of birds, as well as reduced availability of hiding cover for small mammal, and roosting and forging sites for bats. The portions of the alternatives that would be atgrade or in a trench would result in long-term loss of all vegetation within the project footprint.

Potential impacts of alternatives that pass through forested areas would include habitat loss and disturbance to wildlife. All alternatives are near existing highways and urban developed areas and have lower habitat value than less disturbed, more rural areas. However, remnant patches of natural vegetation can provide refugia and/or corridors that connect larger undisturbed areas and are

important for animals and birds transiting through urban areas. Some remnant forest patches along I-5, particularly along Bingaman Creek and surrounding the McSorley Creek Wetland, potentially act as roosts and nest sites for birds, as well as provide habitat for small mammals and cover for larger animals that move between areas of greater habitat importance.

Where the rail structure is elevated, ground-dwelling animals would be able to pass underneath. In places where the guideway would be built at-grade or in a trench, impacts on vegetation and wildlife would be greater due to complete loss of vegetated groundcover. Any wildlife inhabiting these areas is already living near human disturbance, and project impacts on existing wildlife would consequently be low. The portions of track built at-grade or in a trench through areas of wildlife habitat would be fenced, thereby minimizing the risk of potential collisions with ground-dwelling animals. These fenced portions could however, have the potential to impede movements of animals. The FWLE corridor is highly urbanized and alongside existing roadways and consequently, the potential for further fragmentation of wildlife habitat is minimal to nil.

#### 4.3.1.2 Impacts by Alternative

This section describes the long-term impacts on vegetation and wildlife resources from the FWLE alternatives. The acres of long-term impacts on vegetation were categorized based on the functional assessment described in section 3.3.2 and used to reflect the impacts on wildlife habitat. Impacts on Category A, B, C, and D upland forest habitat, as well as managed vegetation pervious areas, are presented in Table 4-7. Table 4-8 presents vegetation clear zone impacts by habitat category.

#### TABLE 4-7

Alternative	Habitat Category A Impacts (acres)	Habitat Category B Impacts (acres) Habitat Category Impacts (acres)		Habitat Category D Impacts (acres)	Total Habitat Impacts (acres)ª	
Preferred Alternative	14.6	13.8	5.5	1.1	35.0	
Kent/Des Moines Station Options	•					
Kent/Des Moines At-Grade Station Option		+1.2	-0.6	+0.9	+1.5	
Kent/Des Moines I-5 Station Option		+3.0	-0.7	+0.6	+2.9	
Landfill Median Alignment Option		-1.7		- +0.6		
S 272nd Star Lake Elevated Station Option	+0.3		+0.3		+0.6	
S 317th Elevated Alignment Option						
Federal Way City Center Station Option	ons					
Federal Way I-5 Station Option			-0.3		-0.3	
Federal Way S 320th Park-and-Ride Station Option			+0.4		+0.4	
SR 99 Alternative	0.3	0.3 0.1 1.1		1.4	2.9	
S 216th Station Options						
S 216th West Station Option			+0.5		+0.5	
S 216th East Station Option						

Summary of Potential Long-Term Impacts on Vegetation and Wildlife Resources as Categorized by the Upland Habitat Assessment Model

Summary of Potential Long-Term Impacts on Vegetation and Wildlife Resources as Categorized by the Upland Habitat Assessment Model

Summary of Potential Long-Term impacts on vegetation and wildlife Resources as Categorized by the optand Habitat Assessment Mc					
Alternative	Habitat Category A Impacts (acres)	Habitat Category B Impacts (acres)	Habitat Category C Impacts (acres)	Habitat Category D Impacts (acres)	Total Habitat Impacts (acres)ª
Kent/Des Moines Station Options					
Kent/Des Moines HC Campus Station Option			+0.2	-0.4	-0.2
S 216th West Station Option to KDM HC Campus Station Option			+0.6	-0.4	+0.2
Kent/Des Moines SR 99 Median Station Option				-0.9	-0.9
Kent/Des Moines SR 99 East Station Option				-1.0	-1.0
S 260th Station Options	·				
S 260th West Station Option			+0.5		+0.5
S 260th East Station Option	+0.2				+0.2
S 272nd Redondo Trench Station Option	+1.3	+1.5	+1.1		+3.9
Federal Way SR 99 Station Option					
SR 99 to I-5 Alternative	9.8	7.6	3.2	1.1	21.7
S 216th Station Options					
S 216th West Station Option			+0.5		+0.5
S 216th East Station Option					
Landfill Median Alignment Option		-0.7		+0.7	
Federal Way City Center Station Opti	ons				
Federal Way I-5 Station Option			-0.1		-0.1
Federal Way S 320th Park-and-Ride Station Option			+0.6		+0.6
I-5 to SR 99 Alternative	0.3	1.7	1.3	0.2	3.5
S 260th Station Options	-				
S 260th West Station Option			+0.5		+0.5
S 260th East Station Option	+0.5				
S 272nd Redondo Trench Station Option	+1.3	+1.5	+1.1		+3.9
Federal Way SR 99 Station Option		-		-	

<sup>a</sup> Totals may vary from the sum of individual numbers due to rounding.

Summary of Potential Vegetation Clear Zone Impacts on Vegetation and Wildlife Resources as Categorized by the Upland Habitat Assessment Model

Category A Habitat Category C Category D Clear Zone	Summary of Potential Vegetation Clear Zon	ie impacts on vegetat	Ion and whome Resource	es as Calegonzeu i	y the opianu nabita	LASSESSITIETIT MODEL
Ken/Des Moines Station Options	Alternative	Category A Impacts	B Impacts	Category C Impacts	Category D Impacts	Total Vegetation Clear Zone Habitat Impacts (acres) <sup>a</sup>
Kent/Des Moines At-Grade Station Option          +0.3           +0.3           Kent/Des Moines I-S Station Option          40.3          40.3         40.8           Landfill Median Alignment Option          40.5          40.3         40.8           S 272nd Star Lake Elevated Station Option                                                                                -	Preferred Alternative	1.9	1.6	0.7	0.2	4.5
Oplion         ···         ···         ···         ···         ···         ···         ···         ···         ···         ···         ···         ···         ···         ···         ···         ···         ···         ···         ···         ···         ···         ···         ···         ···         ···         ···         ···         ···         ···         ···         ···         ···         ···         ···         ···         ···         ···         ···         ···         ···         ···         ···         ···         ···         ···         ···         ···         ···         ···         ···         ···         ···         ···         ···         ···         ···         ···         ···         ···         ···         ···         ···         ···         ···         ···         ···         ···         ···         ···         ···         ···         ···         ···         ···         ···         ···         ···         ···         ···         ···         ···         ···         ···         ···         ···         ···         ···         ···         ···         ···         ···         ···         ····         ···         ···         ···	Kent/Des Moines Station Options		•			•
Landfill Median Alignment Option          ++0.5          ++0.3         ++0.3           S 272nd Star Lake Elevated Station Option         -0.1          -0.2          -0.3           S 377th Elevated Alignment Option                Federal Way I-S Station Option           +0.2          +0.2           Federal Way I-S Station Option                S 320th Park-and-Ride Station Option           0.3         0.3           S 216th Station Option           0.3         0.3           S 216th West Station Option           0.3         0.3           S 216th West Station Option           0.3         0.3           S 216th West Station Option to KDM HC Campus Station Option               Kent/Des Moines SR 99 Median Station Option                S 216th West Station Option to KDM HC Campus Station Option			+0.3			+0.3
S 272nd Star Lake Elevated Station Option         -0.1         -         -         -         -         0.3           S 317th Elevated Alignment Option         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -	Kent/Des Moines I-5 Station Option		+0.3		+0.5	+0.8
OptionImage: constraint of the station of	Landfill Median Alignment Option		+0.5		+0.3	+0.8
Federal Way Lity Center Station Options           Federal Way Lit Station Option           +0.2          +0.2           Federal Way S 320th Park-and-Ride		-0.1		-0.2		-0.3
Federal Way I-5 Station Option          +0.2          +0.2           Federal Way S 320th Park-and-Ride                                                                                                    -	S 317th Elevated Alignment Option					
Federal Way S 320th Park-and-Ride	Federal Way City Center Station Option	ons				
Station Option············SR 99 Alternative·········0.30.3S 216th Station Options···············S 216th West Station Option···············S 216th West Station Option··················Kent/Des Moines Station Option······················································································································································································································································································································································································· </td <td>Federal Way I-5 Station Option</td> <td></td> <td></td> <td>+0.2</td> <td></td> <td>+0.2</td>	Federal Way I-5 Station Option			+0.2		+0.2
S 216th Station Options          +0.1          +0.1           S 216th West Station Option               Kent/Des Moines Station Options           +0.2            Kent/Des Moines Station Option to KDM Option           +0.3          +0.2           S 216th West Station Option to KDM PC Campus Station Option to KDM CC ampus Station Option          +0.3          +0.3           Kent/Des Moines SR 99 Median Station Option                Kent/Des Moines SR 99 East Station Option                 S 260th Station Option                 S 260th Station Option           +0.3          +0.3            S 260th East Station Option         +0.7         +0.7         +0.3          +0.3           S 272nd Redond Trench Station Option         +0.7         +0.7         +0.5          +1.9           S 216th Station Option						
S 216th West Station Option        +0.1        +0.1         S 216th East Station Option             Kent/Des Moines Station Options             Kent/Des Moines HC Campus Station Option         +0.2        +0.2         S 216th West Station Option to KDM HC Campus Station Option         +0.3        +0.3         Kent/Des Moines SR 99 Median Station Option               Kent/Des Moines SR 99 Median Station Option	SR 99 Alternative		<0.1		0.3	0.3
S 216th East Station Option              Kent/Des Moines Station Options         +0.2        +0.2         Kent/Des Moines HC Campus Station Option to KDM         +0.2        +0.2         S 216th West Station Option to KDM         +0.3        +0.2         S 216th West Station Option to KDM         +0.3        +0.3         Kent/Des Moines SR 99 Median         +0.3                                                                   <	S 216th Station Options	L				
Kent/Des Moines Station OptionsKent/Des Moines HC Campus Station Option+0.2+0.2S 216th West Station Option to KDM HC Campus Station Option+0.3+0.3Kent/Des Moines SR 99 Median Station Option+0.3+0.3Kent/Des Moines SR 99 East Station OptionS 260th Station OptionS 260th Station Option+0.3+0.3+0.3S 260th East Station Option+0.3+0.3+0.3S 260th East Station Option+0.7+0.7+0.5+0.3S 272nd Redondo Trench Station Option+0.7+0.7+0.5+1.9OptionS 29 to 1-5 Alternative2.82.60.40.66.4S 216th West Station OptionS 216th Mest Station Option<	S 216th West Station Option			+0.1		+0.1
Kent/Des Moines HC Campus Station Option+0.2+0.2S 216th West Station Option to KDM HC Campus Station Option+0.3+0.3Kent/Des Moines SR 99 Median Station OptionKent/Des Moines SR 99 East Station OptionS 260th Station Option Option+0.3+0.3+0.3S 260th Station Option Option+0.3+0.3+0.3S 260th West Station Option Option+0.3+0.3+0.3S 260th East Station Option Option+0.7+0.7+0.5+0.3+0.3S 272nd Redondo Trench Station Option+0.7+0.7+0.5+1.9Federal Way SR 99 Station OptionS 216th Station OptionS 216th Mest Station OptionS 216th Mest Station OptionS 216th Mest Station OptionS 216th Mest Station OptionS 216th Media Alignment OptionS 216th Media Alignment OptionFederal Way I-S Station Option<	S 216th East Station Option					
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S 260th East Station Option         +0.3            +0.3           S 272nd Redondo Trench Station Option         +0.7         +0.7         +0.5          +1.9           Federal Way SR 99 Station Option             +1.9           Federal Way SR 99 Station Option                  SR 99 to 1-5 Alternative         2.8         2.6         0.4         0.6         6.4           S 216th Station Options           +0.1          +0.1           S 216th West Station Option           +0.1          +0.1           S 216th East Station Option           +0.1          +0.1           S 216th East Station Option	S 260th Station Options		·			•
S 272nd Redondo Trench Station Option+0.7+0.7+0.5+1.9Federal Way SR 99 Station OptionSR 99 to I-5 Alternative2.82.60.40.66.4S 216th Station Options+0.1+0.1S 216th West Station Option+0.1+0.1S 216th East Station Option+0.1S 216th East Station Option+0.5+0.3+0.8Federal Way City Center Station Options+0.5+0.3+0.2Federal Way I-5 Station Option+0.2+0.2Federal Way S 320th Park-and-Ride+0.3+0.3	S 260th West Station Option			+0.3		+0.3
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SR 99 to I-5 Alternative         2.8         2.6         0.4         0.6         6.4           S 216th Station Options           +0.1          +0.1           S 216th West Station Option           +0.1          +0.1           S 216th East Station Option             +0.1           S 216th East Station Option             +0.1           S 216th East Station Option                Landfill Median Alignment Option          +0.5          +0.3         +0.8           Federal Way City Center Station Option           +0.2          +0.2           Federal Way I-5 Station Option           +0.3          +0.3		+0.7	+0.7	+0.5		+1.9
S 216th Station OptionsS 216th West Station Option+0.1+0.1S 216th East Station Option+0.1S 216th East Station OptionLandfill Median Alignment Option+0.5+0.3+0.8Federal Way City Center Station Options+0.2+0.2Federal Way I-5 Station Option+0.2+0.2Federal Way S 320th Park-and-Ride+0.3+0.3	Federal Way SR 99 Station Option					
S 216th West Station Option        +0.1        +0.1         S 216th East Station Option             Landfill Median Alignment Option        +0.5        +0.3       +0.8         Federal Way City Center Station Options        +0.5        +0.3       +0.8         Federal Way I-5 Station Option         +0.2        +0.2         Federal Way S 320th Park-and-Ride         +0.3        +0.3	SR 99 to I-5 Alternative	2.8	2.6	0.4	0.6	6.4
S 216th East Station OptionLandfill Median Alignment Option+0.5+0.3+0.8Federal Way City Center Station Options+0.2+0.2Federal Way I-5 Station Option+0.2+0.2Federal Way S 320th Park-and-Ride+0.3+0.3	S 216th Station Options					
Landfill Median Alignment Option+0.5+0.3+0.8Federal Way City Center Station Options+0.2+0.2Federal Way I-5 Station Option+0.2+0.2Federal Way S 320th Park-and-Ride+0.3+0.3	S 216th West Station Option			+0.1		+0.1
Federal Way City Center Station Options     Image: Content of the station option     Image: Content of the station option       Federal Way I-5 Station Option       +0.2       Federal Way S 320th Park-and-Ride       +0.3	S 216th East Station Option					
Options         Image: Constraint of the second	Landfill Median Alignment Option		+0.5		+0.3	+0.8
Federal Way S 320th Park-and-Ride          +0.3          +0.3						
	Federal Way I-5 Station Option			+0.2		+0.2
				+0.3		+0.3
I-5 to SR 99 Alternative 0.7 0.2 0.2 1.1	I-5 to SR 99 Alternative		0.7	0.2	0.2	1.1

Summary of Potential Vegetation Clear Zone Impacts on Vegetation and Wildlife Resources as Categorized by the Upland Habitat Assessment Model

Alternative	Habitat Category A Impacts (acres)	Habitat Category B Impacts (acres)	Habitat Category C Impacts (acres)	Habitat Category D Impacts (acres)	Total Vegetation Clear Zone Habitat Impacts (acres) <sup>a</sup>
S 260th Station Options					
S 260th West Station Option			+0.3		+0.3
S 260th East Station Option	+0.3				+0.3
S 272nd Redondo Trench Station Option	+0.7	+0.7	+0.5		+1.9
Federal Way SR 99 Station Option			-		

<sup>a</sup> Totals may vary from the sum of individual numbers due to rounding.

#### **Preferred Alternative**

Much of the Preferred Alternative would be constructed at-grade or in a trench, and therefore would result in long-term vegetation loss within the footprint of the project. All affected habitat areas for the Preferred Alternative would be immediately adjacent to I-5. Loss of trees along the west side of I-5 would reduce upland forested habitat by 35.0 acres. There are several patches of relatively high quality upland forest habitat along the corridor. The largest and highest ranked habitat is surrounding the McSorley Creek Wetland. Forested riparian area along Bingaman Creek also provides a relatively large habitat area within the I-5 corridor. The mature trees and shrubs provide roosting and potential nesting habitat for birds, as well as forest cover for small mammals. The Preferred Alternative would impact 14.6 acres of Category A habitat (Table 4-7). The vegetation clear zone would affect approximately 4.5 acres of forested cover, 1.9 acres of which is Category A habitat (Table 4-8).

The forested habitat in the Preferred Alternative footprint is bounded by roadways and residential development, but can provide refuge for animals transiting from the forested areas east of I-5 along Bingaman Creek if they pass through the culvert when the creek is dry (much of the year), or along the margins of S 288th Street that passes under I-5 and bisects the Bingaman Creek reach. Forested habitat north and south of the Military Road underpass includes long, narrow patches of upland forest habitat between developed areas to the west and I-5 to the east. This habitat contains mature forest canopy and a well developed shrub layer, but has less wildlife value than areas around McSorley Creek wetlands due to the narrow width and proximity of I-5.

Most of the Preferred Alternative station and alignment options would increase the impacts on various habitat categories. The Kent/Des Moines At-Grade Station Option would have the greatest increase in upland habitat impacts (Table 4-7).

#### SR 99 Alternative

The SR 99 Alternative would have 2.9 acres of long-term impacts on existing upland forest habitat. Of the SR 99 Alternative station options, the S 272nd Redondo Trench Station Option would have the most impacts from traversing forested areas on the west side of SR 99 in Federal Way in the vicinity of Redondo Creek. The Kent/Des Moines SR 99 East Station Option would have the least impact on upland forested vegetation and wildlife habitat, although this option would affect several forested

wetlands surrounding Massey Creek. None of the options would directly impact the McSorley Creek Biodiversity Area and Corridor mapped by WDFW west of SR 99. Therefore, the impact of this alternative on vegetation and wildlife habitat would be limited.

The vegetation clear zone would affect approximately 0.3 acre of forested cover, nearly all of which is Category D habitat. The S 272nd Redondo Trench Station Option would increase these impacts by 1.9 acre. The S 216th West Station Option, Kent/Des Moines HC Campus Station Option, Kent/Des Moines SR 99 Median Station Option, S 260th West Station Option, and S 260th East Station Option would increase these impacts from 0.1 to 0.3 acre.

#### SR 99 to I-5 Alternative

The SR 99 to I-5 Alternative would have 21.7 acres of long-term impacts on upland forested habitat. The impacts on wildlife would be the same as the SR 99 Alternative north of Kent-Des Moines Road and the same as the Preferred Alternative south of S 240th Street. There would be some vegetation lost between Kent-Des Moines Road and S 240th Street. The naturally vegetated areas in the I-5 corridor north of S 240th Street would be avoided. The vegetation clear zone would affect approximately 6.4 acres of forested cover. Impacts from station and alignment options for the SR 99 to I-5 Alternative would be the same as described above for the Preferred and SR 99 alternatives.

#### I-5 to SR 99 Alternative

The I-5 to SR 99 alternative would have 3.5 acres of long-term impacts on forested cover. The impacts on vegetation and wildlife habitat for this alternative would be similar to those described above for the SR 99 Alternative, with the exception of north of S 240th Street, it is located along the I-5 corridor. With this alternative there would not be the vegetation loss associated with the Preferred Alternative in the portion of the alignment south of S 240th Street. The I-5 to SR 99 vegetation clear zone would affect approximately 1.1 acres of forested cover. Impacts from station options for the I-5 to SR 99 Alternatives.

### 4.3.2 Construction Impacts

### 4.3.2.1 Impacts Common to All Alternatives

Vegetation and wildlife habitat would be temporarily impacted by clearing for temporary access roads, construction equipment storage areas, and other necessary construction activities.

Wildlife species near the project corridor could be impacted by construction noise, vibration, dust, dirt, light, and the clearing and grubbing of the landscape along the alignment. There would be a low risk of disturbance to wildlife from contractor access to construction sites, noise, and light during construction because the impacted areas currently have high noise levels from traffic and surrounding roads and urban areas. Clearing vegetation for project construction could potentially impact bird nesting sites and could result in the "take" of migratory bird nests and/or their eggs protected under the MBTA if the clearing were conducted during the breeding and nesting season. Vegetation clearing would also increase the risk of introducing or contributing to the spread of noxious or invasive weed species, although the risk would be low and minimized by replanting and by implementing BMPs during project construction to avoid, reduce, and control new infestations of noxious weeds. Vegetation losses due to construction outside the long-term footprints would be temporary, as construction would be followed

by site restoration and vegetation reestablishment. Vegetation plantings and restoration would only include native species.

After construction, vegetation would be replanted and would reestablish in areas surrounding the rail structure, although areas within the vegetation clear zone would be replanted with non-tree species of limited height to maintain proper clearance for guideways and tracks.

# 4.4 Threatened and Endangered Fish and Wildlife Species, Species of Concern, and WDFW Priority Species

Potential long-term impacts on threatened and endangered species (aquatic and terrestrial) include direct mortality, disturbance and displacement effects, and loss or degradation of habitat. Project effects that may potentially affect threatened and endangered species would most likely occur where habitat is affected by construction. No threatened and endangered species or their habitats are known to occur within the areas impacted by the FWLE. Sound Transit prepared a Biological Assessment to serve as the basis for consultation concerning the potential effects of the Preferred Alternative on ESA-listed species and critical habitat. Based on the analysis in that document, and on the implementation of proposed mitigation measures, FTA determined that construction of the FWLE Preferred Alternative may affect, but is not likely to adversely affect, yellow-billed cuckoo and streaked horned lark, and would have no effect on fish species, Oregon spotted frog, marbled murrelet, or any critical habitat. USFWS concurred with this determination in September 2016 (see Appendix I). The Biological Assessment includes a determination of "no adverse effect" on essential fish habitat protected under the Magnuson-Stevens Fishery Conservation and Management Act.

# 4.5 Indirect Impacts

Indirect impacts from the FWLE may result in long-term wetland degradation from stormwater discharges and alterations in wetland hydrology; however, stormwater detention and treatment activities would minimize long-term indirect impacts on wetlands.

For aquatic species and habitat, indirect impacts would be minimal because the surrounding areas are already heavily developed. The FWLE is not expected to interfere with future projects that may provide habitat improvements such as road projects that may improve fish passage, or projects that may enhance vegetated and wetland areas in the project corridor. The FWLE would be designed to ensure that it would not preclude future culvert replacement(s) by WSDOT to provide fish passage.

Long-term indirect impacts on vegetation, wildlife, and wildlife habitat may include disturbance due to increased human access or contributions to the spread of noxious or invasive plant species.

The FWLE is projected to be used for approximately 36,500 person-trips per day in 2035, reducing vehicular traffic on the roadways in the region by 160,000 vehicle miles traveled and 10,000 vehicle hours traveled. This would reduce greenhouse gas emissions, energy consumption, and contaminated stormwater runoff from roadways. The FWLE may contribute to existing market forces that can increase the potential for transit-oriented development. The experience of other U.S. communities has shown that, although light rail transit may not by itself create new development, with transit-

supporting plans and policies in place, it can influence where development would occur and the types of development that occur. The FWLE would provide mobility options that could help achieve higher land use densities, thereby encouraging reduction of land development area in ways that are consistent with regional and local plans and policies. Densities will increase without light rail; however, light rail will help achieve goals that encourage high-density, transit-oriented development. Development by others would be subject to review under applicable federal, state, and local regulations. This review would trigger the implementation of measures and practices aimed at avoiding or minimizing impacts on wetlands, aquatic species and habitat, vegetation, wildlife, and other natural resources. This page intentionally left blank.

# 5.0 Potential Mitigation Measures

Sound Transit's policy [Executive Order No. 1, Establishing a Sustainability Initiative for Sound Transit (2007)] on ecosystem mitigation is to avoid impacts on environmentally sensitive resources as much as possible, and to provide adequate mitigation for unavoidable impacts to ensure no net loss of ecosystem function and acreage as a result of agency projects. The FWLE would mitigate impacts on ecosystems in accordance with the mitigation sequencing requirements established by the National Environmental Policy Act (NEPA), the Clean Water Act, and local critical areas ordinances.

According to NEPA (40 CFR 1508.20), the sequence of mitigation is as follows:

- 1) Avoiding the impact altogether by not taking a certain action or parts of an action
- 2) Minimizing impacts by limiting the degree or magnitude of the action and its implementation
- 3) Rectifying the impact by repairing, rehabilitating, or restoring the affected environment
- 4) Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action
- 5) Compensating for the impact by replacing or providing substitute resources or environments

Appendix F (Best Management Practices for Ecosystems Resources) identifies the typical regulatory requirements for avoidance and minimization of impacts on ecosystems resources during design and construction. Sound Transit may also take additional measures to avoid and minimize impacts on sensitive natural resources as needed.

To the extent that impacts cannot be avoided or minimized through BMPs, Sound Transit would implement the potential compensatory mitigation measures discussed in the following sections.

## 5.1 Wetland Resources Potential Compensatory Mitigation Measures

For long-term impacts on wetlands and wetland buffers that could not be avoided, Sound Transit would replace wetland area and function through compensatory mitigation. Compensatory mitigation would be conducted during the permitting phase in accordance with applicable federal, state, and local requirements and guidelines. These include the federal Final Compensatory Mitigation Rule (40 CFR Part 230); interagency guidance (*Wetland Mitigation in Washington State*; Ecology et al., 2006); and local critical areas ordinances for the cities of Kent and Federal Way (as appropriate to the Preferred Alternative). Sound Transit plans to use the King County in-lieu fee program to mitigate long-term impacts on wetlands and wetland buffers. However, Sound Transit could also use the other methods listed below if available.

#### 5.1.1 **Approved Mitigation Bank**

Currently, there are no approved mitigation banks with service areas that include the subbasins in which wetland impacts would occur from the project. Mitigation banking accreditation takes considerable lead time for planning and approval, so it is unlikely that a mitigation bank could become certified to serve the project.

#### 5.1.2 King County In-Lieu Fee Program (Mitigation Reserves Program)

King County has developed an in-lieu fee program called the Mitigation Reserves Program, which was approved by USACE in March 2012 (King County, 2015). The program includes service areas within the watersheds affected by the FWLE (i.e., Green River and Central Puget Sound) that are in King County. The City of Kent and City of Federal Way updated critical areas ordinances allow for compensatory mitigation to be provided through a certified in-lieu fee program.

#### 5.1.3 **Project-Specific Mitigation Developed by Sound Transit**

Sound Transit might be required to mitigate for unavoidable impacts through permittee-responsible, project-specific mitigation in accordance with the mitigation ratios specified by the cities of Kent and Federal Way and in accordance with the procedures outlined by Ecology and USACE for selecting mitigation sites using a watershed approach (Hruby et al., 2009).

As shown on Tables 5-1, 5-2, and 5-3, the Wetland Mitigation in Washington State guidance (Ecology et al., 2006) and cities of Kent and Federal Way codes require that wetland mitigation be completed at specific replacement ratios relative to the category of the wetland affected and the type of mitigation proposed (i.e., wetland creation, restoration, enhancement, or preservation). To determine the appropriate mitigation ratios for this project, the project team may propose adjustments to these guidelines to consider unique project circumstances.

Recommended Wet Category of Wetland Impacts <sup>a</sup>	land Mitigation Ratios fo Reestablishment or Creation	r Projects in Wester Rehabilitation Only	n Washington Reestablishment or Creation (R/C) and Rehabilitation (RH)	Reestablishment or Creation (R/C) and Enhancement (E)	Enhancement Only
II	3:1	6:1	1:1 R/C and 4:1 RH	1:1 R/C and 8:1 E	12:1
111	2:1	4:1	1:1 R/C and 2:1 RH	1:1 R/C and 4:1 E	8:1
IV	1.5:1	3:1	1:1 R/C and 1:1 RH	1:1 R/C and 2:1 E	6:1

TABLE 5-1

<sup>a</sup> Category 1 wetlands are not present in the vicinity of the Preferred Alternative. Source: Ecology et al. (2006).

#### TABLE 5-2

City of Kent Wetland Mitigation Ratios

Category and Type of Wetland Impacts	Reestablishment or Creation	Reestablishment or Creation (RIC) and Enhancement (E)
Category II	3:1	1:1 RIC and 4:1 E
Category III	2:1	1:1 RIC and 2:1 E
Category IV	1.5:1	1:1 RIC and 1:1 E

Source: Kent City Code 11.06.660.

#### TABLE 5-3 City of Federal Way Wetland Mitigation Ratios

Category and Type of Wetland Impacts	Reestablishment or Creation	Rehabilitation	Enhancement
Category II	3:1	6:1	12:1
Category III	2:1	4:1	8:1
Category IV	1.5:1	3:1	6:1

Source: City of Federal Way Revised Code 19.145.430.

Sound Transit anticipates using Ecology's credit/debit tool, in conjunction with the local jurisdiction's mitigation site selection and critical area mitigation ratio requirements, to determine the appropriate location, amount, and types of compensatory mitigation to compensate for the specific type and degree of functions affected by the FWLE (Hruby, 2012). The credit/debit tool considers mitigation site selection relative to consistency with a basin plan and the potential for temporal loss of wetland function due to the timing of the mitigation compared with the impact.

Compensatory mitigation would be provided for construction impacts lasting more than one growing season, and for permanent conversion of wetlands from one vegetation type to another (e.g., forested wetland to emergent or scrub-shrub wetland). Generally, compensation for long-term temporary impacts is 1/4 of the typical ratio for long-term permanent impacts and 1/2 for conversion of wetlands. Impacts on buffers would generally be replaced at a minimum ratio of 1:1 using buffer enhancement.

Opportunities for wetland mitigation may occur in the study area and within the greater project vicinity. In cooperation with resource agencies, Sound Transit would develop plans to mitigate the effects of the project on wetlands and buffers. Site selection would emphasize a watershed approach. To the extent possible, compensatory mitigation sites would be identified and compensate for lost values in-kind. It may be necessary to use several sites and mitigation approaches given the project size, the variety of impacts, complexity of identifying mitigation opportunities, and mitigation requirements.

Potential project-specific mitigation sites would be selected according to the federal Final Compensatory Mitigation Rule (40 CFR Part 230) and joint guidance developed by Ecology, USACE, and USEPA (Hruby et al., 2009), which discuss the implementation of a watershed approach to selecting mitigation sites. This approach allows for a greater degree of flexibility in selecting mitigation sites and potentially greater value created for the watershed than the previous regulatory focus on onsite mitigation. Potential sites currently under consideration for project-specific mitigation for impacts on wetlands and wetland buffers are described below.

Publicly owned portions of the McSorley Creek Wetland may provide opportunities for mitigation through wetland enhancement; however, the extent of potentially available enhancement is limited because most degraded wetland areas have already been planted with native vegetation as part of earlier enhancement projects. Wetland creation or reestablishment could be implemented by removing fill material along the perimeter of the wetland to match elevations of undisturbed adjoining wetland, thus reestablishing wetland acreage and function. Several private properties around the perimeter of McSorley Creek Wetland could provide this opportunity.

# 5.2 Aquatic Resources Potential Compensatory Mitigation Measures

Sound Transit would design and construct permanent stormwater treatment facilities and flow-control measures to minimize impacts on stream water quality and flow. Existing stream channels and culverts would be largely avoided by the project alternatives with the exception of Bingaman Creek and the Hylebos Creek culvert at the Federal Way S 320th Park-and-Ride Station Option. The Preferred Alternative would be elevated over Bingaman Creek, but the channel would be realigned around the columns to minimize impacts on the creek and to not preclude replacement of the I-5 and S 288th Street culverts by WSDOT. Some unavoidable impacts on stream riparian areas would be mitigated by improving stream habitat and riparian function by replanting affected areas with native shrub species. Mitigation for impacts on Bingaman Creek will be approved by the appropriate permitting agencies and jurisdictions prior to construction. Sound Transit would coordinate closely with WSDOT, WDFW, and the Muckleshoot Indian Tribe on the Hylebos culvert during final design if the S 320th Park-and-Ride station option were selected as part of the project to be built.

## 5.3 Upland Vegetation and Wildlife Resources Potential Compensatory Mitigation Measures

Project impacts on vegetation, wildlife, and wildlife habitat would be avoided and minimized to the extent practicable by minimizing the footprint of light rail alignments through large blocks of forests and connected riparian corridors, and by siting the alignment close to the edge of these habitats to the extent feasible in order to minimize loss of habitat connectivity. Measures would be implemented before and during project construction to avoid or minimize impacts on upland vegetation and wildlife resources. Examples of these strategies are minimizing vegetation clearing, restoring temporarily impacted areas, and preparing and implementing a revegetation plan.

Sound Transit would mitigate for impacts on forested vegetation using applicable state and local policies and regulations. Tree removal within the I-5 corridor would be mitigated according to the WSDOT *Roadside Policy Manual* (WSDOT, 2015). Tree removal outside of WSDOT right-of-way would be mitigated to comply with local jurisdictions' tree replacement requirements.

Clearing vegetation for project construction could affect bird nesting sites. To comply with the MBTA, Sound Transit would

#### Roadside Policy Manual

Sound Transit must restore or replace impacted vegetation in the highway right-of-way in accordance with the WSDOT *Roadside Policy Manual* (WSDOT, 2015). Specific types, amounts, and locations for replanting are identified in consultation with WSDOT and through development of a roadside master plan.

establish schedule restrictions for clearing activities. Clearing would occur outside the active bird nesting period, to the extent possible. If avoidance scheduling is infeasible, Sound Transit would work with staff at the U.S. Department of Agriculture to conduct preconstruction surveys to determine the presence or absence of nesting migratory birds in the corridor and assist Sound Transit in complying with the MBTA.

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Appendix A Wetland Delineation Methodology

# Appendix A Wetland Delineation Methodology

Wetlands are areas saturated or inundated by surface water or groundwater at a frequency and duration sufficient to support, and which under normal circumstances do support, a prevalence of vegetation adapted for life in saturated soil conditions. The methods used to delineate the onsite wetlands conform to methods described in the *Washington State Wetlands Identification and Delineation Manual* (Washington State Department of Ecology [Ecology], 1997), the U.S. Army Corps of Engineers (USACE) Wetland Delineation Manual (USACE, 1987), and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region* (USACE, 2010). To be considered a wetland, an area must have hydrophytic vegetation, hydric soils, and wetland hydrology. Sound Transit collected data on these parameters in areas representative of typical site conditions. Staff collected additional data in associated uplands, as needed, to confirm wetland and stream boundaries. Wetland boundaries and wetland data plot locations in the study area were marked with sequentially numbered flagging. All delineated wetlands were instrument-surveyed and mapped on project base maps.

# A.1 Vegetation

The dominant plants and their wetland indicator status were evaluated to determine if the vegetation was hydrophytic. To determine which plants were dominant at a sample plot, biologists applied the 50/20 rule per USACE recommendations. Under this guidance, absolute cover estimates were made for each species found rooted within the sample plot, for each vegetative stratum found in the habitat (tree, sapling/shrub, herb, and woody vine). The species that had the most cover was included along with the next species until the absolute cover of these totaled more than 50 percent of the total absolute cover was also included as a dominant species for that vegetative stratum.

Sample plots varied in size depending on site topography and habitat complexity. The objective of establishing a plot was to depict particular plant associations that reflect specific water regimes or other ecological factors. For example, on steep-sided riparian areas a plot may consist of a narrow strip along the water's edge, and within a floodplain a plot may be a 30-foot circle.

Hydrophytic vegetation is defined as vegetation adapted to wetland conditions. To meet the hydrophytic vegetation criterion, more than 50 percent of the dominant plants in each stratum must be Facultative, Facultative Wetland, or Obligate, based on the wetland indicator category assigned to each plant species by the USACE (USACE, 2014). Table A-1 lists the definitions of the indicator categories.

#### TABLE A-1

Definitions of Wetland Plant Indicator Categories to Determine the Presence of Hydrophytic Vegetation

Wetland Indicator 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 (34 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: Lichvar et al. (2012).

Sound Transit identified plants to the species level in the field and estimated percent cover of dominant plants. Scientific and common plant names follow currently accepted nomenclature. Most names are consistent with *Flora of the Pacific Northwest* (Hitchcock and Cronquist, 1973) and the PLANTS Database (U.S. Department of Agriculture Natural Resources Conservation Service [NRCS], 2013). During the field investigation, staff observed and recorded the dominant plant species on data sheets (Appendix B) for each data plot.

# A.2 Soils

Generally, an area must contain 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 in the upper 12 inches. Biological activities in saturated soil result in reduced oxygen concentrations and organisms turn to anaerobic processes for metabolism. Over time, anaerobic biological processes result in certain soil color patterns, which are used as indicators of hydric soil. Typically, low-chroma colors are formed in the soil matrix, and bright-colored redoximorphic features form within the matrix. Other important hydric soil indicators include organic matter accumulations in the surface horizon, reduced sulfur odors, and organic matter staining in the subsurface (NRCS, 2010).

Sound Transit examined soils by excavating sample pits to a depth of 20 inches to observe soil profiles, colors, and textures. In some cases, a shallower soil pit was adequate to document hydric soil indicators. Munsell color charts (Munsell Color Company, 2009) were used to describe soil colors.

# A.3 Hydrology

Project staff examined the potential wetland areas for evidence of hydrology. Wetland hydrology criteria were considered satisfied if it appeared that the soil was seasonally inundated or saturated to the surface for a consecutive number of days greater than or equal to 12.5 percent of the growing season. The growing season for the area was determined based on the period in which temperatures are above 28 degrees Fahrenheit for 5 out of 10 years (Ecology, 1997) using the long-term climatological data collected by the NRCS (2014). Using the NRCS (2002) WETS table for the nearest

station (Sea-Tac Airport, Washington), the growing season was approximated to be typically between February 6 and December 9, or a total of 305 days.

Wetland hydrology indicators are divided into two categories, primary and secondary indicators (USACE, 2010). Primary indicators of hydrology include surface inundation, high water table, and saturated soils. The presence of one primary indicator is sufficient to conclude that wetland hydrology is present. In the absence of a primary indicator, observation of two or more secondary indicators is required to conclude that wetland hydrology is present. Secondary indicators of hydrology include drainage patterns, water-stained leaves, and geomorphic setting (USACE, 2010).

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Appendix B Wetland Determination Data Forms

WETLAN	D DETERMINATION DAT				-		-			
Project/Site: FWLE / I-5		City/Coun	ty:	Bellevue		Sampling	Date:	3/11/20	14	
Applicant/Owner: Sound 1	ransit			State	WA	Sampling	Point:	SP 05-	1-1	
Investigators: Lisa Daniel	ski Dangelei F	ox		Section, Tow	nship, Range	S S 28	T T 22	NRF	२ 4 E	
Landform (hillslope, terrace, et	tc.): Depression	L	ocal Relief (co	ncave, conv	ex, none): Co	oncave		Slope	e(%) <	1%
Subregion (LRR): A	Lat: 47.	403173	Long:	-122.2931	34	Da	tum: N	IAD83		
Soil Map Unit Name: Aren	ts, Alderwood material, 6-15 perc	ent slopes			NWI Classifica	ition:				
Are climatic / hydrologic condit	tions on the site typical for this tim	ne of year?	Yes X	No	(If No, expl	ain in Rem	arks)			
Are Vegetation, Soil _	, Hydrology, significar	ntly disturbed?	A	re "Normal (	Circumstances	present?	Yes	Х	No	
Are Vegetation, Soil _	, Hydrology, naturally	problematic?		(If needed,	explain any an	swers in R	emarks	.)		
SUMMARY OF FINDIN	IGS - Attach a site map sl	howing sar	npling poir	nt locatio	ns, transec	ts, impo	rtant	featur	·es, et	с.
Hydrophytic Vegetation Pres	ent? Yes No X									
Hydric Soil Present?	Yes No X		ampled Area							
Wetland Hydrology Present?	Yes X No	within a	Wetland?		Yes	No	X			
wetland delineation) resulted	orth of Wetland 5-1. Record rainfa in wetland hydrology indicators; h					ver 3 inche	s in the	week p	rior to	
VEGETATION_ Use so	cientific names of plants.	<u>% Cover</u>	Species	Status	Dominance	Test Worl	(sheet:			
Tree Stratum (Plo	ot size: <u>30 Ft</u> )				Number of E	Dominant S	pecies			(
Acer macrophyllum		50	Y	FACU	That Are OE	BL, FACW,	or FAC	:	0	(A)
		50	=Total Cover		Total Numbe	er of Domin	ant			
	ot size: <u>50 Ft</u> )				Species Acro	oss all Stra	ta:		3	(B)
Symphoricarpos albus		2	Y	FACU	Percent of D	ominant Si	nacias			
		2	=Total Cover		That Are OB			:	0.0%	(A/B)
Herb Stratum					Prevalence	Index Wo	ksheet	::		
Vine Stratum (Plo	ot size: <u>30 Ft</u> )				Total %	Cover of:		Multir	ply by:	
Ilex Aquifolium		1	Ν		OBL species	6	0	x 1 =	0	
		1	=Total Cover		FACW speci	es	0	x 2 =	0	
					FAC species	6	0	x 3 =	0	
					FACU spec		62	x 4 =	248	
					UPL species		0	x 5 =	0	
					Column Tota	als:	62	(A)	248	(B)
					Preval	ence Index	( = B/A=	=	4.00	
					Hydrophytic	Vegetatio	n Indic	ators:		
					Rapid T	est for Hyd	rophytic	c Vegeta	ation	
					Domina	nce Test >	50%			
					Prevaler	nce Index ≤	3.0			
						ogical Ada Remarks oi				orting
					Problem	atic Hydro	ohytic V	/egetatic	on (Ex	plain)
					Indicators o must be pre					
% Bare Ground in Herb Stratu	um				Hydroph Vegetation	•	Yes		No 2	x
	pers here or on a separate sheet.)	)								
This sample does not meet a	ny vegetative indicators.									



#### SOIL

(inches) Color (moist)	%	Color (moist)	%	Type <sup>1</sup> Loc <sup>2</sup>	Texture	Remarks
to 13 7.5YR 3/2	100				Gravely Sandy Loam	
3 to 19 10YR 3/4	100		· ·		Gravely Sandy Loam	
ype: C=Concentration, D=Deplet	ion, RM=Reduc	ed Martix, CS=Co	overed or C	Coated Sand Grai	ns. <sup>2</sup> Location: PL=Pore Li	ining, M=Matrix.
ydric Soil Indicators:					Indicators for Problema	tic Hydric Soils: <sup>3</sup>
] Histosol (A1)		Sandy Redox (St	5)		2 cm Muck (A10)	
Histic Epipedon (A2)		Stripped Matrix (	,		Red Parent Material (TF:	2)
Black Histic (A3)		Loamy Mucky Mi	neral (F1) (e	except MLRA 1)	Very Shallow Dark Surfa	
Hydrogen Sulfide (A4)		Loamy Gleyed M	atrix (F2)		Other (Explain in Remark	
Depleted Below Dark Surface (A11	)	Depleted Matrix (	(F3)			
Thick Dark Surface (A12)		Redox Dark Surf	ace (F6)		<sup>3</sup> Indicators of hydrophytic v	egetation and wetland
Sandy Mucky Mineral (S1)		Depleted Dark S	urface (F7)		hydrology must be present	., ,
Sandy Gleyed Matrix (S4)		Redox Depression	ons (F8)		unless disturbed or probler	natic.
Restrictive Layer (if obser	ved):					
Туре:					Hudrie Cell Dressert?	Vee Nr
Depth (inches):					Hydric Soil Present?	Yes No
DROLOGY						
(DROLOGY /etland Hydrology Indicators:		neck all that apply	y)		Secondary Indicators	(minimum of two require
ZDROLOGY Zetland Hydrology Indicators:		Water-Stair	ned Leaves	(B9) (except MLRA		(minimum of two require aves (B9) (MLRA 1, 2,
<b>(DROLOGY</b> <b>(etland Hydrology Indicators:</b> rrimary Indicators (minimum of on		Water-Stair 1, 2, 4A an	ned Leaves d 4B)	(B9) (except MLRA		· ·
YDROLOGY Yetland Hydrology Indicators: Primary Indicators (minimum of on Surface Water (A1)		Water-Stair 1, 2, 4A an Salt Crust (	ned Leaves d 4B) (B11)		Water-Stained Le	aves (B9) (MLRA 1, 2,
YDROLOGY Yetland Hydrology Indicators: Primary Indicators (minimum of on Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1)		Water-Stair 1, 2, 4A an Salt Crust ( Aquatic Inv	ned Leaves d 4B) (B11) ertebrates (B	B13)	Water-Stained Le 4A, and 4B)	aves (B9) (MLRA 1, 2,
YDROLOGY         Yetland Hydrology Indicators:         Primary Indicators (minimum of on         Surface Water (A1)         High Water Table (A2)         Saturation (A3)         Water Marks (B1)         Sediment Deposits (B2)		Water-Stair 1, 2, 4A an Salt Crust ( Aquatic Inv Hydrogen S	ned Leaves d 4B) (B11) ertebrates (E Sulfide Odor	B13) (C1)	Water-Stained Le 4A, and 4B) Drainage Patterns Dry-Season Wate	aves (B9) (MLRA 1, 2,
YDROLOGY         Vetland Hydrology Indicators:         Primary Indicators (minimum of on         Surface Water (A1)         High Water Table (A2)         Saturation (A3)         Water Marks (B1)         Sediment Deposits (B2)         Drift Deposits (B3)		Water-Stain 1, 2, 4A an Salt Crust ( Aquatic Inv Hydrogen S Oxidized R	ned Leaves d 4B) (B11) ertebrates (E Sulfide Odor hizospheres	B13) (C1) s along Living Roots	Water-Stained Le 4A, and 4B) Drainage Patterns Dry-Season Wate	aves (B9) (MLRA 1, 2, s (B10) r Table (C2) on Aerial Imag.(C9)
YDROLOGY         Vetland Hydrology Indicators:         Primary Indicators (minimum of on         Surface Water (A1)         High Water Table (A2)         Saturation (A3)         Water Marks (B1)         Sediment Deposits (B2)         Drift Deposits (B3)         Algal Mat or Crust (B4)		Water-Stain 1, 2, 4A an Salt Crust ( Aquatic Invi Hydrogen S Oxidized R Presence c	ned Leaves d 4B) (B11) ertebrates (E Sulfide Odor hizospheres of Reduced I	B13) (C1) s along Living Roots ron (C4)	(C3)	aves (B9) (MLRA 1, 2, s (B10) r Table (C2) on Aerial Imag.(C9) tion (D2)
YDROLOGY         Vetland Hydrology Indicators:         Primary Indicators (minimum of on         Surface Water (A1)         High Water Table (A2)         Saturation (A3)         Water Marks (B1)         Sediment Deposits (B2)         Drift Deposits (B3)         Algal Mat or Crust (B4)         Iron Deposits (B5)		Water-Stain 1, 2, 4A an Salt Crust ( Aquatic Inv Hydrogen S Oxidized R Presence c Recent Iron	ned Leaves d 4B) (B11) ertebrates (E Sulfide Odor hizospheres of Reduced I n Reduction i	B13) (C1) a along Living Roots ron (C4) in Tilled Soils (C6)	(C3) Water-Stained Le 4A, and 4B) Drainage Patterns Dry-Season Wate Saturation Visible Geomorphic Posit	aves (B9) (MLRA 1, 2, s (B10) r Table (C2) on Aerial Imag.(C9) ion (D2) (D3)
<ul> <li>High Water Table (A2)</li> <li>Saturation (A3)</li> <li>Water Marks (B1)</li> <li>Sediment Deposits (B2)</li> <li>Drift Deposits (B3)</li> <li>Algal Mat or Crust (B4)</li> <li>Iron Deposits (B5)</li> <li>Surface Soil Cracks (B6)</li> </ul>	e is required; cl	Water-Stain         1, 2, 4A and         Salt Crust (         Aquatic Invo         Hydrogen S         Oxidized R         Presence c         Recent Iron         Stunted or	ned Leaves d 4B) (B11) ertebrates (E Sulfide Odor hizospheres of Reduced I a Reduction i Stressed Pla	B13) (C1) s along Living Roots ron (C4) in Tilled Soils (C6) ants (D1) (LRR A)	(C3) Water-Stained Le 4A, and 4B) Drainage Patterns Dry-Season Wate Saturation Visible Geomorphic Posit Shallow Aquitard	aves (B9) (MLRA 1, 2, s (B10) r Table (C2) on Aerial Imag.(C9) ion (D2) (D3) (D5)
YDROLOGY         Vetland Hydrology Indicators:         Primary Indicators (minimum of on         Surface Water (A1)         High Water Table (A2)         Saturation (A3)         Water Marks (B1)         Sediment Deposits (B2)         Drift Deposits (B3)         Algal Mat or Crust (B4)         Iron Deposits (B5)         Surface Soil Cracks (B6)         Inundation Visible on Aerial Imager	e is required; cl	Water-Stain         1, 2, 4A and         Salt Crust (         Aquatic Invo         Hydrogen S         Oxidized R         Presence c         Recent Iron         Stunted or	ned Leaves d 4B) (B11) ertebrates (E Sulfide Odor hizospheres of Reduced I n Reduction i	B13) (C1) s along Living Roots ron (C4) in Tilled Soils (C6) ants (D1) (LRR A)	(C3) Water-Stained Le 4A, and 4B) Drainage Patterns Dry-Season Wate Saturation Visible Geomorphic Posit Shallow Aquitard FAC-Neutral Test	aves (B9) (MLRA 1, 2, s (B10) r Table (C2) on Aerial Imag.(C9) ion (D2) (D3) (D5) ds (D6) (LRR A)
YDROLOGY         Yetland Hydrology Indicators:         trimary Indicators (minimum of on         Surface Water (A1)         High Water Table (A2)         Saturation (A3)         Water Marks (B1)         Sediment Deposits (B2)         Drift Deposits (B3)         Algal Mat or Crust (B4)         Iron Deposits (B5)         Surface Soil Cracks (B6)         Inundation Visible on Aerial Imager         Sparsely Vegetated Concave Surfation	e is required; cl	Water-Stain         1, 2, 4A and         Salt Crust (         Aquatic Invo         Hydrogen S         Oxidized R         Presence c         Recent Iron         Stunted or	ned Leaves d 4B) (B11) ertebrates (E Sulfide Odor hizospheres of Reduced I a Reduction i Stressed Pla	B13) (C1) s along Living Roots ron (C4) in Tilled Soils (C6) ants (D1) (LRR A)	(C3) Water-Stained Le 4A, and 4B) Drainage Patterns Dry-Season Wate Saturation Visible Geomorphic Posit Shallow Aquitard FAC-Neutral Test Paised Ant Mound	aves (B9) (MLRA 1, 2, s (B10) r Table (C2) on Aerial Imag.(C9) ion (D2) (D3) (D5) ds (D6) (LRR A)
A DROLOGY         Yetland Hydrology Indicators:         trimary Indicators (minimum of on         Surface Water (A1)         High Water Table (A2)         Saturation (A3)         Water Marks (B1)         Sediment Deposits (B2)         Drift Deposits (B3)         Algal Mat or Crust (B4)         Iron Deposits (B5)         Surface Soil Cracks (B6)         Inundation Visible on Aerial Imager         Sparsely Vegetated Concave Surface         eld Observations:	e is required; cl y (B7) ce (B8)	Water-Stain         1, 2, 4A and         Salt Crust (         Aquatic Invo         Hydrogen S         Oxidized R         Presence c         Recent Iron         Stunted or         Other (Expl	ned Leaves d 4B) (B11) ertebrates (E Sulfide Odor hizospheres of Reduced I n Reduction i Stressed Pla lain in Rema	B13) (C1) s along Living Roots ron (C4) in Tilled Soils (C6) ants (D1) (LRR A)	(C3) Water-Stained Le 4A, and 4B) Drainage Patterns Dry-Season Wate Saturation Visible Geomorphic Posit Shallow Aquitard FAC-Neutral Test Paised Ant Mound	aves (B9) (MLRA 1, 2, s (B10) r Table (C2) on Aerial Imag.(C9) ion (D2) (D3) (D5) ds (D6) (LRR A)
Xorrestand Hydrology Indicators:         Irrimary Indicators (minimum of on         Surface Water (A1)         High Water Table (A2)         Saturation (A3)         Water Marks (B1)         Sediment Deposits (B2)         Drift Deposits (B3)         Algal Mat or Crust (B4)         Iron Deposits (B5)         Surface Soil Cracks (B6)         Inundation Visible on Aerial Imager         Sparsely Vegetated Concave Surface         eld Observations:         Surface Water Present?	e is required; cl y (B7) ce (B8) Yes No	Water-Stain         1, 2, 4A and         Salt Crust (         Aquatic Invo         Hydrogen S         Oxidized R         Presence c         Recent Iron         Stunted or         Other (Expl	(inches):	B13) (C1) s along Living Roots ron (C4) in Tilled Soils (C6) ants (D1) (LRR A) arks)	(C3) Water-Stained Le 4A, and 4B) Drainage Patterns Dry-Season Wate Saturation Visible Geomorphic Posit Shallow Aquitard FAC-Neutral Test Paised Ant Mound	s (B10) r Table (C2) on Aerial Imag.(C9) tion (D2) (D3) (D5) ds (D6) (LRR A)
X       DROLOGY         Yetland Hydrology Indicators:         trimary Indicators (minimum of on         Surface Water (A1)         High Water Table (A2)         Saturation (A3)         Water Marks (B1)         Sediment Deposits (B2)         Drift Deposits (B3)         Algal Mat or Crust (B4)         Iron Deposits (B5)         Surface Soil Cracks (B6)         Inundation Visible on Aerial Imager         Sparsely Vegetated Concave Surface         eld Observations:         Surface Water Present?         Water Table Present?	e is required; cl y (B7) ce (B8) Yes No Yes No	Water-Stain         1, 2, 4A and         Salt Crust (         Aquatic Inv         Hydrogen S         Oxidized R         Presence c         Recent Iron         Stunted or         Other (Expl         X       Depth         Depth	ined Leaves d 4B) (B11) ertebrates (E Sulfide Odor hizospheres of Reduced I a Reduction i Stressed Pla lain in Rema (inches): (inches):	B13) (C1) s along Living Roots ron (C4) in Tilled Soils (C6) ants (D1) (LRR A) arks)	(C3) Water-Stained Le 4A, and 4B) Drainage Patterns Dry-Season Wate Saturation Visible Geomorphic Posit Shallow Aquitard FAC-Neutral Test Paised Ant Mound Frost-Heave Hum	aves (B9) (MLRA 1, 2, s (B10) r Table (C2) on Aerial Imag.(C9) ion (D2) (D3) (D5) ds (D6) (LRR A) mocks (D7)
YDROLOGY         Vetland Hydrology Indicators:         Primary Indicators (minimum of on         Surface Water (A1)         High Water Table (A2)         Saturation (A3)         Water Marks (B1)         Sediment Deposits (B2)         Drift Deposits (B3)         Algal Mat or Crust (B4)         Iron Deposits (B5)         Surface Soil Cracks (B6)         Inundation Visible on Aerial Imager         Sparsely Vegetated Concave Surface         ield Observations:         Surface Water Present?         Water Table Present?         Saturation Present?	e is required; cl y (B7) ce (B8) Yes No	Water-Stain         1, 2, 4A and         Salt Crust (         Aquatic Inv         Hydrogen S         Oxidized R         Presence c         Recent Iron         Stunted or         Other (Expl         X       Depth         Depth	(inches):	B13) (C1) s along Living Roots ron (C4) in Tilled Soils (C6) ants (D1) (LRR A) arks)	(C3) Water-Stained Le 4A, and 4B) Drainage Patterns Dry-Season Wate Saturation Visible Geomorphic Posit Shallow Aquitard FAC-Neutral Test Paised Ant Mound	aves (B9) (MLRA 1, 2, s (B10) r Table (C2) on Aerial Imag.(C9) ion (D2) (D3) (D5) ds (D6) (LRR A) mocks (D7)
YDROLOGY         Vetland Hydrology Indicators:         Primary Indicators (minimum of on         Surface Water (A1)         High Water Table (A2)         Saturation (A3)         Water Marks (B1)         Sediment Deposits (B2)         Drift Deposits (B3)         Algal Mat or Crust (B4)         Iron Deposits (B5)         Surface Soil Cracks (B6)         Inundation Visible on Aerial Imager         Sparsely Vegetated Concave Surfated Co	e is required; cl y (B7) ce (B8) Yes No YesX_ No YesX_ No	Water-Stain         1, 2, 4A and         Salt Crust (         Aquatic Inv         Hydrogen S         Oxidized R         Presence c         Recent Iron         Stunted or         Other (Expl         X       Depth         Depth	ned Leaves d 4B) (B11) ertebrates (E Sulfide Odor hizospheres of Reduced I a Reduction i Stressed Pla lain in Rema (inches): (inches): (inches):	B13) (C1) s along Living Roots ron (C4) in Tilled Soils (C6) ants (D1) (LRR A) arks)	(C3) Water-Stained Le 4A, and 4B) Drainage Patterns Dry-Season Wate Saturation Visible Geomorphic Posit Shallow Aquitard FAC-Neutral Test Paised Ant Mound Frost-Heave Hum	aves (B9) (MLRA 1, 2, s (B10) r Table (C2) on Aerial Imag.(C9) ion (D2) (D3) (D5) ds (D6) (LRR A) mocks (D7)
XDROLOGY         Yetland Hydrology Indicators:         trimary Indicators (minimum of on         Surface Water (A1)         High Water Table (A2)         Saturation (A3)         Water Marks (B1)         Sediment Deposits (B2)         Drift Deposits (B3)         Algal Mat or Crust (B4)         Iron Deposits (B5)         Surface Soil Cracks (B6)         Inundation Visible on Aerial Imager         Sparsely Vegetated Concave Surface         eld Observations:         Surface Water Present?         Water Table Present?         Saturation Present?         Saturation Present?	e is required; cl y (B7) ce (B8) Yes No YesX_ No YesX_ No	Water-Stain         1, 2, 4A and         Salt Crust (         Aquatic Inv         Hydrogen S         Oxidized R         Presence c         Recent Iron         Stunted or         Other (Expl         X       Depth         Depth	ned Leaves d 4B) (B11) ertebrates (E Sulfide Odor hizospheres of Reduced I a Reduction i Stressed Pla lain in Rema (inches): (inches): (inches):	B13) (C1) s along Living Roots ron (C4) in Tilled Soils (C6) ants (D1) (LRR A) arks)	(C3) Water-Stained Le 4A, and 4B) Drainage Patterns Dry-Season Wate Saturation Visible Geomorphic Posit Shallow Aquitard FAC-Neutral Test Paised Ant Mound Frost-Heave Hum	aves (B9) (MLRA 1, 2, s (B10) r Table (C2) on Aerial Imag.(C9) ion (D2) (D3) (D5) ds (D6) (LRR A) mocks (D7)

Project/Site: FWLE / I-5	TERMINATION DATA	City/County:	Bellevue	• •	mpling Date:		4
Applicant/Owner: Sound Transit			State	e: WA Sa	mpling Point:	SP 05-1-	-2
Investigators: Lisa Danielski	Dangelei Fo	x	Section, To	wnship, Range S	28 T 22 N	R 4 E	Ξ
Landform (hillslope, terrace, etc.):	Depression	Local R	elief (concave, con	vex, none): Conc	ave	Slope(	%) <1
Subregion (LRR): A	Lat: 47.4	03233	Long: -122.293	178	Datum: N	AD83	
Soil Map Unit Name: Arents, Alde	erwood material, 6 to 15 per	cent slopes		NWI Classification	n: None		
Are climatic / hydrologic conditions on	the site typical for this time	of year? Yes	No X	(If No, explain	in Remarks)		
Are Vegetation, Soil, H	lydrology, significant	ly disturbed?	Are "Normal	Circumstances" pr	esent? Yes	Х	No
Are Vegetation, Soil, H	łydrology, naturally p	problematic?	(If needed.	explain any answe	ers in Remarks	.)	
SUMMARY OF FINDINGS -	Attach a site man sh	owing samplir	· · ·			,	s atc
Hydrophytic Vegetation Present?	Yes No X	owing samplin			mportant	reature	3, 610.
Hydric Soil Present?	Yes No X	Is the Sample	ed Area				
Wetland Hydrology Present?	Yes X No	within a Wetl		Yes	No X		
VEGETATION Use scientifien <u>Tree Stratum</u> (Plot size: Populus balsamifera		<u>% Cover</u> <u>Spe</u>	<u>inant</u> <u>ecies</u> <u>Status</u> <u>Y</u> FAC	Dominance Te Number of Dom That Are OBL,	ninant Species	:	<u>1</u> (A
Shrub Stratum (Plot size:	<u>50 Ft</u> )	=101	al Cover	Total Number of Species Across			2 (B
Symphoricarpos albus			Y FACU		in ant On a sin a		
Cornus sericea		<u>15</u>	N FACW	Percent of Dom That Are OBL, F		5	0.0% (A
Harb Stratum		=Tot	al Cover	Prevalence Ind	ex Worksheet		
<u>Herb Stratum</u> Vine Stratum				Total % Co		Multiply	v bv:
				OBL species	0	x 1 =	0
				FACW species	15	x 2 =	30
				FAC species	50	x 3 =	150
				FACU species	65	x 4 =	260
				UPL species	0	x 5 =	0
				Column Totals:	130	(A)	440 (E
				Prevalenc	e Index = B/A=	= 3	3.38
				Hydrophytic Ve	getation Indica	ators:	
				Rapid Test	for Hydrophytic	: Vegetati	on

Remarks: (Include photo numbers here or on a separate sheet.)

This sample does not meet any vegetative indicators.

% Bare Ground in Herb Stratum



Dominance Test > 50% Prevalence Index  $\leq$  3.0

Hydrophytic Vegetation Present?

Morphological Adaptations (Provide supporting data in Remarks or on a separate sheet) Problematic Hydrophytic Vegetation (Explain)

Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Yes

No

Х

	ption: (Des	cribe to the Matrix	depth ne	eeded to do	ocument	<b>the indi</b> Redox F		onfirm	the absence of Indicators.)	
Depth (inches)	Color	(moist)	%	Color (	moist)	%	Type 1	Loc <sup>2</sup>	Texture	Remarks
0 to 11	10YR	2/2	100	Nor	ne				Gravely Sandy Loam	
11 to 18	7.5YR	3/4	100	Nor	-				Gravely Sandy Loam	
<sup>1</sup> Type: C=Conc					-	overed or	Coated S	and Gra		=Matrix.
Hydric Soil Im Histosol (A1 Histic Epipee Black Histic Hydrogen St Depleted Be Thick Dark S Sandy Muck Sandy Gleve	hdicators: ) don (A2) (A3) ulfide (A4) elow Dark Surf Surface (A12) sy Mineral (S1 ed Matrix (S4) ve Layer (i	iace (A11)		Sandy F Strippec Loamy f Loamy f Depleter Redox C Depleter	Redox (S5 d Matrix (S Mucky Mir Gleyed Ma d Matrix (I Dark Surfa	) S6) heral (F1) ( atrix (F2) F3) ace (F6) irface (F7)	(except ML		ins. 2Location: PL=Pore Lining, Main Structure State S	ric Soils: <sup>3</sup> ) and wetland
HYDROLOGY Wetland Hydr Primary Indica	rology Indi		s required	: check all th	nat apply	·)			Cocordon : Indicators (minimu	
Surface Wat	,		roquirou		,	,	s (B9) (exc	ent MI RA	_ Secondary Indicators (minimu	. ,
High Water	. ,				2, 4A and		5 (D3) (EXC		Water-Stained Leaves (B9) 4A, and 4B)	) (MLRA 1, 2,
Saturation (A	. ,			Sa	alt Crust (I	B11)				
Water Marks	,			Ac	quatic Inve	ertebrates	(B13)		Drainage Patterns (B10)	20)
Sediment De	. ,			🗌 Ну	/drogen S	ulfide Odo	r (C1)		Dry-Season Water Table (	,
Drift Deposit				O:	xidized Rh	nizosphere	s along Liv	ing Roots	(C3) Saturation Visible on Aeria	Timag.(C9)
Algal Mat or				Pr	esence of	f Reduced	Iron (C4)		Geomorphic Position (D2)	
Iron Deposit	. ,			🗌 Re	ecent Iron	Reduction	in Tilled S	ioils (C6)	Shallow Aquitard (D3)	
_ ·	Cracks (B6)			🗌 St	unted or S	Stressed P	Plants (D1)	(LRR A)	FAC-Neutral Test (D5) Paised Ant Mounds (D6) (L	
	/isible on Aeri	al Imagery (B	37)	Ot	ther (Expla	ain in Rem	arks)		Frost-Heave Hummocks (D	
	getated Conc		,				,			,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
Field Observa										
Surface Water		Yes		No X	Depth	(inches):				
Water Table P		Yes			-	(inches):		0		
Saturation Pre			X		-	(inches):		0	Wetland Hydrology Present?	Yes X No
(includes capil						( /				
Describe Record		am gauge, mo	onitoring we	ell, aerial phot	tos, previo	ous inspec	tions), if av	ailable:		
Remarks: Wetland hydrolog	av meets india	ators for high	n water tabl	le (A2) and sa	aturation (	A3) Note	there was	record an	tecedent rainfall	
	g, 110010 inult	atoro for high		, unu se				. soora an		

# WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, and Coast Region

Project/Site:	FWL	E / I-5			City/Co	unty:		Bell	evue	•	Samp	ling D	ate:	3/11/20	14	
Applicant/Owner	:	Sound Transi	t						State:	WA	Samp	oling F	Point:	SP 05-	-1-3	
Investigators:	Lisa	a Danielski		Dang	elei Fox		Se	ectior	n, Tow	nship, Range	S 28	3 7	T 22 N	R 4	4 E	
Landform (hillslo	pe, te	rrace, etc.):	Depression			Local Re	elief (con	cave	, conve	ex, none): 0	Concave	Э		Slope	e(%)	
Subregion (LRR)	): A			Lat:	47.403158		Long:	-122	2.2931	84		Datu	um: N	AD83		
Soil Map Unit Na	ime:	Arents, Ale	derwood materia	l, 6 to	15 percent slope	s			1	WI Classific	ation:	PSS	1 / PF	D1		
Are climatic / hyd	drolog	ic conditions of	on the site typica	I for th	nis time of year?	Yes		No	Х	(If No, ex	olain in	Rema	arks)			
Are Vegetation		_, Soil,	Hydrology	_, sigr	nificantly disturbe	d?	Ar	e "No	rmal C	Circumstance	s" pres	ent?	Yes	Х	No	
Are Vegetation		_, Soil,	Hydrology	, nat	urally problemation	c?	(	If nee	eded, e	explain any a	nswers	in Re	marks	.)		

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

Hydrophytic Vegetation Present?	Yes	Х	No				
Hydric Soil Present?	Yes	Х	No	Is the Sampled Area			
Wetland Hydrology Present?	Yes	Х	No	within a Wetland?	Yes	Х	No

#### Remarks:

This plot meets the criteria for a wetland. Sample plot located in Wetland 5-1. Record rainfall during previous month (6.5 inches in February and over 3 inches in the week prior to wetland delineation).

<b>VEGETATION</b> Use scientific names of plants.	Absolute <u>% Cover</u>	Dominant Species	Indicator Status	Dominance Test V	Vorksheet:			
<u>Tree Stratum</u> (Plot size: <u>30 Ft</u> ) Populus balsamifera	55	Y	FAC	Number of Domina That Are OBL, FAC	nt Species		2	(A)
	55	=Total Cover		-				-
Shrub Stratum (Plot size: 50 Ft )				Total Number of Do Species Across all			3	(B)
Cornus alba	60	Y	FACW					_ ` `
	5	N		Percent of Dominar That Are OBL, FAC			66.7%	(A/B)
	65	=Total Cover		Prevalence Index				
Herb Stratum				Total % Cover			ply by:	
<u>Vine Stratum</u> (Plot size: <u>30 Ft</u> )				OBL species	0	x 1 =	0 piy by.	
Rubus armeniacus	10	Y	FACU	FACW species	60	x 2 =	120	
	10	=Total Cover		FAC species	55	x 3 =	165	
				FACU species	10	x 4 =	40	
				UPL species	0	x 5 =	0	
				Column Totals:	125	(A)	325	(B)
				Prevalence Ir	ndex = B/A=		2.60	
				Hydrophytic Vegeta	ation Indica	itors:		
				Rapid Test for	Hydrophytic	Vegeta	ation	
				X Dominance Tes	st > 50%			
				X Prevalence Ind	ex ≤ 3.0			
				Morphological				orting
				data in Remark		•	,	
				Problematic Hy		0	· ·	,
				Indicators of hydric must be present, u				
% Bare Ground in Herb Stratum				Hydrophytic Vegetation Presen	t? Yes	x	No	
Remarks: (Include photo numbers here or on a separate sheet.)	)							
Vegetation meets the dominance test for hydrophytic vegetatio	n.							



nches) Color (m	noist)	%	Color (mois	st) %	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
to 7 10YR	2/1	100	none				FINE SANDY LOAM	
7 to 16 10YR 2	2.5/2	85	7.5YR 4/6	15	С	М	FINE SANDY LOAM	
ype: C=Concentration, D=D	Depletion, F	RM=Rec	duced Martix, CS	=Covered or	Coated S	Sand Gra	ins. <sup>2</sup> Location: PL=Pore Lining, M=	=Matrix.
ydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4)			Loamy Gleye	rix (S6) y Mineral (F1) ( ed Matrix (F2)	(except ML	.RA 1)	Indicators for Problematic Hydr         2 cm Muck (A10)         Red Parent Material (TF2)         Very Shallow Dark Surface (TF12)         Other (Explain in Remarks)	
Depleted Below Dark Surface Thick Dark Surface (A12) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4)			Depleted Ma     Redox Dark      Depleted Dark     Depleted Dark     Redox Depre	Surface (F6) rk Surface (F7)			<sup>3</sup> Indicators of hydrophytic vegetation hydrology must be present, unless disturbed or problematic.	and wetland
J Restrictive Layer (if c     Type:     Depth (inches):	observed	):					Hydric Soil Present? Yes	X No
YDROLOGY Vetland Hydrology Indica	tors:							
his area meets hydric soil indica  YDROLOGY  Vetland Hydrology Indica  Primary Indicators (minimum  Surface Water (A1)  High Water Table (A2)	tors:		l; check all that a	pply) Stained Leaves A and 4B)	s (B9) (exc	ept MLRA	Secondary Indicators (minimu Water-Stained Leaves (B9) 4A, and 4B)	
YDROLOGY Yetland Hydrology Indica Primary Indicators (minimum Surface Water (A1) High Water Table (A2)	tors:		l; check all that a Water-1 1, 2, 4# Salt Cr Aquatic Hydrog Oxidize Presen	Stained Leaves A and 4B) ust (B11) Invertebrates ( en Sulfide Odor ed Rhizosphere ce of Reduced	(B13) or (C1) es along Liv I Iron (C4)	ving Roots	Water-Stained Leaves (B9) 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C	) (MLRA 1, 2,
YDROLOGY         Vetland Hydrology Indicators         Primary Indicators (minimum         Surface Water (A1)         High Water Table (A2)         Saturation (A3)         Water Marks (B1)         Sediment Deposits (B2)         Drift Deposits (B3)	tors: of one is r magery (B7)	equired	l; check all that a Water- 1, 2, 44 Salt Cr Aquatic Hydrog Oxidize Presen Recent Stunted	Stained Leaves A and 4B) ust (B11) Invertebrates ( en Sulfide Odor ed Rhizosphere	(B13) or (C1) os along Liv I ron (C4) o in Tilled S Plants (D1)	ving Roots Soils (C6)	Water-Stained Leaves (B9) 4A, and 4B Drainage Patterns (B10) Dry-Season Water Table (C Saturation Visible on Aerial Geomorphic Position (D2)	(MLRA 1, 2, C2) I Imag.(C9) RR A)
YDROLOGY         Vetland Hydrology Indicators         Primary Indicators (minimum         Surface Water (A1)         High Water Table (A2)         Saturation (A3)         Water Marks (B1)         Sediment Deposits (B2)         Drift Deposits (B3)         Algal Mat or Crust (B4)         Iron Deposits (B5)         Surface Soil Cracks (B6)         Inundation Visible on Aerial I         Sparsely Vegetated Concave	tors: of one is r magery (B7)	equired	l; check all that a Water- 1, 2, 44 Salt Cr Aquatic Hydrog Oxidize Presen Recent Stunted	Stained Leaves A and 4B) ust (B11) Invertebrates ( en Sulfide Odor ed Rhizosphere ce of Reduced Iron Reduction d or Stressed P	(B13) or (C1) os along Liv I ron (C4) o in Tilled S Plants (D1)	ving Roots Soils (C6)	Water-Stained Leaves (B9) 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C Saturation Visible on Aerial Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Paised Ant Mounds (D6) (L	(MLRA 1, 2, C2) I Imag.(C9) RR A)
YDROLOGY         Vetland Hydrology Indicators         primary Indicators (minimum         Surface Water (A1)         High Water Table (A2)         Saturation (A3)         Water Marks (B1)         Sediment Deposits (B2)         Drift Deposits (B3)         Algal Mat or Crust (B4)         Iron Deposits (B5)         Surface Soil Cracks (B6)         Inundation Visible on Aerial I         Sparsely Vegetated Concave	tors: of one is r magery (B7)	required	l; check all that a Water-1, 2, 44 Salt Cr Aquatic Hydrog Oxidize Presen Recent Stunted Other (	Stained Leaves A and 4B) ust (B11) Invertebrates ( en Sulfide Odor ed Rhizosphere ce of Reduced Iron Reduction d or Stressed P	(B13) or (C1) os along Liv I ron (C4) o in Tilled S Plants (D1)	ving Roots Soils (C6)	Water-Stained Leaves (B9) 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C Saturation Visible on Aerial Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Paised Ant Mounds (D6) (L	(MLRA 1, 2, C2) I Imag.(C9) RR A)
YDROLOGY         Yetland Hydrology Indicators         Primary Indicators (minimum         Surface Water (A1)         High Water Table (A2)         Saturation (A3)         Water Marks (B1)         Sediment Deposits (B2)         Drift Deposits (B3)         Algal Mat or Crust (B4)         Iron Deposits (B5)         Surface Soil Cracks (B6)         Inundation Visible on Aerial I         Sparsely Vegetated Concave	tors: a of one is r magery (B7) a Surface (B Yes	required	I; check all that a Water- 1, 2, 44 Salt Cr Aquatic Hydrog Oxidize Presen Recent Stunted Other (	Stained Leaves A and 4B) ust (B11) Invertebrates ( en Sulfide Odor ed Rhizosphere ce of Reduced Iron Reduction d or Stressed P Explain in Rem	(B13) or (C1) os along Liv I ron (C4) o in Tilled S Plants (D1)	ving Roots Soils (C6)	Water-Stained Leaves (B9) 4A, and 4B Drainage Patterns (B10) Dry-Season Water Table (C Saturation Visible on Aerial Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Paised Ant Mounds (D6) (L Frost-Heave Hummocks (D	(MLRA 1, 2, C2) I Imag.(C9) .RR A) 07)
YDROLOGY         Vetland Hydrology Indicators         Primary Indicators (minimum         Surface Water (A1)         High Water Table (A2)         Saturation (A3)         Water Marks (B1)         Sediment Deposits (B2)         Drift Deposits (B3)         Algal Mat or Crust (B4)         Iron Deposits (B5)         Surface Soil Cracks (B6)         Inundation Visible on Aerial I         Sparsely Vegetated Concave         Yield Observations:         Surface Water Present?	tors: of one is r magery (B7) e Surface (B Yes Yes Yes Yes	) 8) X X	I; check all that a Water 1, 2, 44 Salt Cr Aquatic Hydrog Oxidize Presen Recent Stunted Stunted Other ( No <u>X</u> De No <u>De</u> No <u>De</u>	Stained Leaves A and 4B) ust (B11) Invertebrates ( en Sulfide Odor ed Rhizosphere ce of Reduced Iron Reduction d or Stressed P Explain in Rem epth (inches): epth (inches):	(B13) or (C1) es along Liv l Iron (C4) o in Tilled S Plants (D1) marks)	Ving Roots Soils (C6) (LRR A)	Water-Stained Leaves (B9) 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C Saturation Visible on Aerial Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Paised Ant Mounds (D6) (L	(MLRA 1, 2, C2) I Imag.(C9) RR A)

	WETLAND D	ETERMINAT	ION DATA	FORM	- Wes	stern N	lountains,	, Valleys	, and Co	oast Reg	ion		
Project/Site:	FWLE / I-5			City/Co	ounty:		Bellevue		Samp	ling Date:	3/26/20	14	
Applicant/Owne	r: Sound Transi	t					State	: WA	Samp	ling Point:	SP 05-	1E-1	
Investigators:	Lisa Danielski		Brendan Ba	ughn			Section, Tov	vnship, Ran	ige S 9	T 22 N	R 4	ŧΕ	
Landform (hillsl	ope, terrace, etc.):	Toe of Slope			Local	Relief (c	oncave, conv	vex, none):	Concave	9	Slope	€(%)	
Subregion (LRF	R): A		Lat: 47.4	02896		Long	g: -122.293′	134		Datum: N	AD83		
Soil Map Unit N	ame: Arents, Al	derwood materia	l, 6 to 15 per	cent slope	es			NWI Classi	fication:	PEM1			
Are climatic / hy	drologic conditions	on the site typica	I for this time	of year?	Yes	s	No X	(If No, e	explain in	Remarks)			
Are Vegetation	, Soil,	Hydrology	_, significant	tly disturbe	ed?		Are "Normal	Circumstan	ces" prese	ent? Yes	Х	No	
Are Vegetation	, Soil,	Hydrology	_, naturally p	oroblemati	c?		(If needed,	explain any	answers	in Remarks	)		
SIIMMADV		. Attach a sit	o man ch	owing	amnl	ina noi						ios ot	<b>^</b>
	egetation Present?		No	owing s	ampi	ing poi		<u>115, trans</u>	<u>bects, ii</u>	iiportant	Icalui	<u>es, er</u>	<b>.</b>
Hydric Soil Pro	•		No	Is the	a Samp	led Area	,						
Wetland Hydro	ology Present?		No		n a We		-	Yes	х	No			
	during previous mon ria for a wetland.	nth (6.5 inches ir	n February ar				-	tland deline	eation) Ed	ge of wetlar	d 5-1. T	his plot	
VEGETATIO	<b>DN</b> – Use scienti	fic names of	plants.	Absolute <u>% Cove</u>		<u>minant</u> pecies	Indicator Status	Dominar	nce Test \	Norksheet:			
Tree Stratun	<u>n</u>									ant Species			
Shrub Stratu	ım									CW, or FAC	:	2	(A)
Herb Stratur	<u>n</u> (Plot size	e:5Ft)						Total Nur	mber of D	ominant			
Rumex	obtusifolius	,		5	5	Y	FAC		Across all			3	(B)
Veronica	a americana			5	5	Y	OBL	Percent	of Domina	nt Species			
				1	0=T	otal Cover	r	That Are	OBL, FAC	CW, or FAC	: —	66.7%	(A/B)
Vine Stratun	n (Plot size	e: <u>30 Ft</u> )						Prevalen	ice Index	Worksheet	:		
Rubus a	irmeniacus			2		Y	FACU	Tota	l % Cover	of:	Multip	oly by:	
				2	<sup>5</sup> _=T	otal Cover	r	OBL spe	cies	5	x 1 =	5	
								FACW sp	pecies	0	x 2 =	0	
								FAC spe	cies	5	x 3 =	15	
								FACU s	pecies	25	x 4 =	100	
								UPL spe	cies	0	x 5 =	0	
								Column T	Fotals:	35	(A)	120	(B)
								Pre	evalence l	ndex = B/A=	=	3.43	
								Hydrophy	tic Veget	ation Indic	ators:		
								Rapi	d Test for	Hydrophytic	: Vegeta	ation	
								X Dom	inance Te	est > 50%			
								Prev	alence Inc	dex ≤ 3.0			
										Adaptations			orting
								Prob	lematic H	ydrophytic \	egetatio	on (Exp	olain)
										c soil and w unless distu			
									ophytic on Preser	nt?		NI -	
	d in Herb Stratum		and the state					veyetatio	011-1626	it? Yes	X	No	
Remarks: (Inclu	de photo numbers h	ere or on a sepa	irate sheet.)										

This sample plot meets dominance test



Profile Descri	ption: (Desc		depth need	ded to documen			onfirm t	he absence of Indicators.)	
Depth		Matrix		<u> </u>	Redox F			<u> </u>	<b>.</b> .
(inches)		(moist)	<u>%</u>	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0 to 8	10YR	2/2	100	None				Gravely Sandy Loam	
8 to 15	10YR	2/4.5	90	7.5YR 4/6	10	С	Μ	FINE SANDY LOAM	
15 to 18	10YR	4/3	90	7.5YR 4/6	10	С	М	FINE SANDY LOAM	
<sup>1</sup> Type: C=Cond	centration, D	=Depletion,	RM=Reduc	ed Martix, CS=C	overed or	Coated S	and Grai	ins. <sup>2</sup> Location: PL=Pore Lining, N	I=Matrix.
Hydric Soil In				] Sandy Redox (S	5)			Indicators for Problematic Hyd	<u>lric Soils:</u> <sup>3</sup>
Histic Epipe	don (A2)			Stripped Matrix (	S6)			2 cm Muck (A10)	
Black Histic	(A3)			Loamy Mucky M	ineral (F1) (	except ML	RA 1)	Red Parent Material (TF2)	
Hydrogen S	ulfide (A4)			Loamy Gleyed N	latrix (F2)			Very Shallow Dark Surface (TF12	2)
Depleted Be	elow Dark Surf	ace (A11)		Depleted Matrix	(F3)			✓ Other (Explain in Remarks)	
Thick Dark	Surface (A12)			Redox Dark Surf	ace (F6)			<sup>3</sup> Indicators of hydrophytic vegetation	n and watland
Sandy Muck	ky Mineral (S1	)		Depleted Dark S	urface (F7)			hydrology must be present,	
Sandy Gley	ed Matrix (S4)			Redox Depression	ons (F8)			unless disturbed or problematic.	
Restricti	ve Layer (i	f observed	d):						
Туре:									
Depth (inch	es):							Hydric Soil Present? Yes	s_X_No
Remarks: Soils do not tech vegetation indica HYDROLOG	ate hydric soils		ria; no redox	imorphic features o	bserved in u	upper 8", li	kely since	soils were saturated. Presence of wetland h	iydrology and hydrophytic
Wetland Hyd	rology Indi		required; c	heck all that appl	y)			Secondary Indicators (minim	um of two required)
Surface Wa	. ,			Water-Stai 1, 2, 4A an	ned Leaves Id 4B)	(B9) (exc	ept MLRA	Water-Stained Leaves (BS 4A, and 4B)	) (MLRA 1, 2,
Saturation (				Salt Crust	(B11)				
Water Mark	,			Aquatic Inv	vertebrates (	(B13)		Drainage Patterns (B10)	
	eposits (B2)			Hydrogen S	Sulfide Odor	r (C1)		Dry-Season Water Table (	
Drift Deposi				Oxidized R	hizosphere	s along Liv	ing Roots	(C3) Saturation Visible on Aeria	
Algal Mat or				Presence of	of Reduced	Iron (C4)		Geomorphic Position (D2)	
Iron Deposit				Recent Iror	n Reduction	in Tilled S	oils (C6)	Shallow Aquitard (D3)	
	l Cracks (B6)			Stunted or	Stressed Pl	lants (D1)	(LRR A)	FAC-Neutral Test (D5)	
	visible on Aeri	al Imagery (B7	7)	_	lain in Rema		. ,	Paised Ant Mounds (D6) (	
	egetated Conc		,	• · · · · · (_ · · F		)		Frost-Heave Hummocks (	(10
Field Observa	ations:								
Surface Wate	r Present?	Yes	No	X Depth	(inches):				
Water Table F	Present?	Yes	X No	Depth	(inches):		5		
Saturation Pre	esent?	Yes	X No	Depth	(inches):		3	Wetland Hydrology Present?	Yes <u>X</u> No
(includes capi Describe Record		ım gauge, mo	nitoring well,	aerial photos, prev	ious inspect	tions), if av	ailable:		
Remarks: Wetland hydrolo	gy meets indic	ators for high	water table (	A2) and saturation	(A3).				

WE	TLAND DETERMINAT	TION DATA	FORM - V	Nestern Me	ountains,	Valleys, an	d Coast	Regic	'n		
Project/Site: FWLE	/ I-5		City/Count	ty:	SeaTac	Ş	Sampling D	ate: 3	/26/20	14	
Applicant/Owner:	Sound Transit				State	WA	Sampling P	oint:	SP 05-	1E-2	
Investigators: Lisa	Danielski	Brendan Bau	ghn		Section, Tow	vnship, Range	S9 T	Г 22 N	R 4	E	
Landform (hillslope, ter	race, etc.): Depression		Lo	ocal Relief (co	ncave, conv	rex, none): Co	ncave		Slope	:(%)	
Subregion (LRR): A		Lat: 47.40	2860	Long:	-122.2931	109	Datu	um: NA	D83		
Soil Map Unit Name:	Arents, Alderwood materi	al, 6 to 15 perc	ent slopes			NWI Classificat	ion:				
Are climatic / hydrologi	c conditions on the site typic	al for this time	of year?	Yes	No X	(If No, expla	ain in Rema	arks)			
Are Vegetation	, Soil, Hydrology	, significantly	y disturbed?	A	re "Normal (	Circumstances"	present?	Yes	Х	No	
Are Vegetation	, Soil, Hydrology	, naturally pr	oblematic?		(If needed,	explain any ans	wers in Re	marks.)			
SUMMARY OF F	INDINGS - Attach a si	ite map sho	wing san	nplina poir	nt locatio	ns. transect	ts. impor	tant f	eatur	es. et	c.
Hydrophytic Vegetatio		No X	<b>v</b>								
Hydric Soil Present?	Yes	No X		ampled Area							
Wetland Hydrology P	resent? Yes	No X	within a	Wetland?		Yes	No	Х			
	previous month (6.5 inches pland sample plot south of W		d over 3 inch	nes in the weel	k prior to we	tland delineatio	n). This plo	t does r	ot mee	¥t all	
VEGETATION_ L	Jse scientific names of	plants.	Absolute % Cover	<u>Dominant</u> Species	Indicator Status	<b>_</b>		• •			
Tree Stratum			<u>/8 COVEL</u>	<u>opecies</u>	otatus	Dominance					
Shrub Stratum						Number of D That Are OB				0	(A)
Herb Stratum	(Plot size: <u>5 Ft</u>	١				Total Number	r of Domina				
Taraxacum offici		)	1	Y	FACU	Total Number Species Acro				2	(B)
			1	=Total Cover							_
Vine Stratum	(Plot size: 30 Ft	)				Percent of Do That Are OBL				0.0%	(A/B)
Rubus armeniac	· · · · · · · · · · · · · · · · · · ·	,	50	Y	FACU	Prevalence I	ndex Work	sheet:			
			50	=Total Cover		Total % (			Multir	bly by:	
						OBL species		0	x 1 =	0	
						FACW specie		0	x 2 =	0	
						FAC species		0	x 3 =	0	
						FACU specie	,	51	x 4 =	204	
						UPL species		0	x 5 =	0	
						Column Total	ls:	51 (	A)	204	(B)
						Prevale	ence Index :	= B/A=		4.00	
						Hydrophytic	Vegetation	Indicat	ors:		
						Rapid Te	est for Hydro	ophytic '	√egeta	tion	
						Dominan	ce Test > 5	0%			
						Prevalen	ce Index ≤	3.0			
							ogical Adap emarks or o				orting
						Problema	atic Hydropl	hytic Ve	getatio	n (Exp	olain)
						Indicators of must be pres					
% Bare Ground in Her	b Stratum					Hydroph Vegetation P		Yes	I	No X	(
	to numbers here or on a sep	arate sheet.)				1					
This sample does not	meet any vegetative indicate	ors.									



	Matrix	depth nee	ded to documen	<b>t the indi</b> Redox F		onfirm t	the absence of Indicators.)	
Depth (inches) Color (i		%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0 to 7 10YR	3/2	100	None				FINE SANDY LOAM	
7 to 15 2.5Y	4/2	99	10YR 5/8	1	С	М	Very Gravely Sandly Loam	Compacted layer
<sup>1</sup> Type: C=Concentration, D=				overed or				· · · ·
Hydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Depleted Below Dark Surfa Thick Dark Surface (A12) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Restrictive Layer (if Type: Gravel Depth (inches): 15" Remarks: This sample does not meet any	observed		Sandy Redox (S Stripped Matrix ( Loamy Mucky M Depleted Matrix Redox Dark Surt Depleted Dark S Redox Depression	S6) ineral (F1) ( 1atrix (F2) (F3) face (F6) urface (F7)		RA 1)	Indicators for Problematic H         2 cm Muck (A10)         Red Parent Material (TF2)         Very Shallow Dark Surface (TI         Other (Explain in Remarks) <sup>3</sup> Indicators of hydrophytic vegetar hydrology must be present, unless disturbed or problematic.         Hydric Soil Present?	F12) tion and wetland
HYDROLOGY Wetland Hydrology Indica Primary Indicators (minimur Surface Water (A1) High Water Table (A2)		required; c	_				Secondary Indicators (mini	imum of two reauired)
High Water Table (A2)					s (B9) (exc	ept MLRA	Water-Stained Leaves	. ,
Seturation (A2)			1, 2, 4A ar	id 4B)	s (B9) (exc	ept MLRA	4A, and 4B)	(B9) (MLRA 1, 2,
Saturation (A3)			1, 2, 4A ar	id 4B)	. , .	ept MLRA	4A, and 4B)	(B9) (MLRA 1, 2,
Water Marks (B1)			1, 2, 4A ar Salt Crust	id 4B) (B11)	(B13)	ept MLRA	4A, and 4B) Drainage Patterns (B10 Dry-Season Water Tabl	(B9) (MLRA 1, 2, )) le (C2)
Water Marks (B1) Sediment Deposits (B2)			1, 2, 4A ar	d 4B) (B11) vertebrates	(B13) r (C1)		Water-Starred Leaves ( 4A, and 4B)     Drainage Patterns (B10     Dry-Season Water Table     Saturation Visible on Ae	(B9) (MLRA 1, 2, )) le (C2) erial Imag.(C9)
Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3)			1, 2, 4A ar Salt Crust Aquatic Inv Hydrogen S	id 4B) (B11) rertebrates Sulfide Odo	(B13) r (C1) es along Liv		(C3)     (C3)     (C3)     (C3)     (Valer-Starred Leaves ( 4A, and 4B)     (Drainage Patterns (B10 Dry-Season Water Table Saturation Visible on Ae Geomorphic Position (E	(B9) (MLRA 1, 2, )) le (C2) erial Imag.(C9)
Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4)			1, 2, 4A ar Salt Crust Aquatic Inv Hydrogen S Oxidized R	id 4B) (B11) rertebrates Sulfide Odo thizosphere	(B13) r (C1) es along Liv Iron (C4)	ring Roots	(C3)	(B9) (MLRA 1, 2, )) le (C2) erial Imag.(C9)
Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5)				d 4B) (B11) vertebrates Sulfide Odo thizosphere of Reduced n Reduction	(B13) r (C1) es along Liv Iron (C4) n in Tilled S	ring Roots coils (C6)	(C3) (C3) (C3) (C3) (C3) (C3) (C3) (C3)	(B9) (MLRA 1, 2, )) le (C2) erial Imag.(C9) D2)
<ul> <li>Water Marks (B1)</li> <li>Sediment Deposits (B2)</li> <li>Drift Deposits (B3)</li> <li>Algal Mat or Crust (B4)</li> <li>Iron Deposits (B5)</li> <li>Surface Soil Cracks (B6)</li> </ul>	lmogon (D	7)	1, 2, 4A ar Salt Crust Aquatic Inv Hydrogen S Oxidized R Presence o Recent Iron Stunted or	d 4B) (B11) rertebrates Sulfide Odo thizosphere of Reduced n Reduction Stressed P	(B13) r (C1) es along Liv Iron (C4) n in Tilled S Plants (D1)	ring Roots coils (C6)	(C3) Valer-Starred Leaves ( 4A, and 4B) Drainage Patterns (B10 Dry-Season Water Table Saturation Visible on Ae Geomorphic Position (D Shallow Aquitard (D3) FAC-Neutral Test (D5) Paised Ant Mounds (D6)	(B9) (MLRA 1, 2, )) le (C2) erial Imag.(C9) D2) S) (LRR A)
<ul> <li>Water Marks (B1)</li> <li>Sediment Deposits (B2)</li> <li>Drift Deposits (B3)</li> <li>Algal Mat or Crust (B4)</li> <li>Iron Deposits (B5)</li> <li>Surface Soil Cracks (B6)</li> <li>Inundation Visible on Aerial</li> </ul>			1, 2, 4A ar Salt Crust Aquatic Inv Hydrogen S Oxidized R Presence o Recent Iron Stunted or	d 4B) (B11) vertebrates Sulfide Odo thizosphere of Reduced n Reduction	(B13) r (C1) es along Liv Iron (C4) n in Tilled S Plants (D1)	ring Roots coils (C6)	(C3) (C3) (C3) (C3) (C3) (C3) (C3) (C3)	(B9) (MLRA 1, 2, )) le (C2) erial Imag.(C9) D2) S) (LRR A)
Water Marks (B1)         Sediment Deposits (B2)         Drift Deposits (B3)         Algal Mat or Crust (B4)         Iron Deposits (B5)         Surface Soil Cracks (B6)         Inundation Visible on Aerial         Sparsely Vegetated Concast			1, 2, 4A ar Salt Crust Aquatic Inv Hydrogen S Oxidized R Presence o Recent Iron Stunted or	d 4B) (B11) rertebrates Sulfide Odo thizosphere of Reduced n Reduction Stressed P	(B13) r (C1) es along Liv Iron (C4) n in Tilled S Plants (D1)	ring Roots coils (C6)	(C3) Valer-Starred Leaves ( 4A, and 4B) Drainage Patterns (B10 Dry-Season Water Table Saturation Visible on Ae Geomorphic Position (D Shallow Aquitard (D3) FAC-Neutral Test (D5) Paised Ant Mounds (D6)	(B9) (MLRA 1, 2, )) le (C2) erial Imag.(C9) D2) S) (LRR A)
Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Sparsely Vegetated Concav Field Observations:	ve Surface (E	38)		d 4B) (B11) vertebrates Sulfide Odo thizosphere of Reduced n Reduction Stressed P lain in Rem	(B13) r (C1) es along Liv Iron (C4) n in Tilled S Plants (D1)	ring Roots coils (C6)	(C3) Valer-Starred Leaves ( 4A, and 4B) Drainage Patterns (B10 Dry-Season Water Table Saturation Visible on Ae Geomorphic Position (D Shallow Aquitard (D3) FAC-Neutral Test (D5) Paised Ant Mounds (D6)	(B9) (MLRA 1, 2, )) le (C2) erial Imag.(C9) D2) S) (LRR A)
Water Marks (B1)         Sediment Deposits (B2)         Drift Deposits (B3)         Algal Mat or Crust (B4)         Iron Deposits (B5)         Surface Soil Cracks (B6)         Inundation Visible on Aerial         Sparsely Vegetated Concast         Field Observations:         Surface Water Present?	ve Surface (E Yes	38) No		d 4B) (B11) rertebrates Sulfide Odo thizosphere of Reduced in Reduction Stressed P lain in Rem	(B13) r (C1) es along Liv Iron (C4) n in Tilled S Plants (D1)	ring Roots coils (C6)	(C3) Valer-Statied Leaves ( 4A, and 4B) Drainage Patterns (B10 Dry-Season Water Table Saturation Visible on Ae Geomorphic Position (D Shallow Aquitard (D3) FAC-Neutral Test (D5) Paised Ant Mounds (D6)	(B9) (MLRA 1, 2, )) le (C2) erial Imag.(C9) D2) S) (LRR A)
Water Marks (B1)         Sediment Deposits (B2)         Drift Deposits (B3)         Algal Mat or Crust (B4)         Iron Deposits (B5)         Surface Soil Cracks (B6)         Inundation Visible on Aerial         Sparsely Vegetated Concast         Field Observations:         Surface Water Present?         Water Table Present?	ve Surface (I Yes Yes	38) No No	1, 2, 4A ar       Salt Crust       Aquatic Inv       Hydrogen 3       Oxidized R       Presence a       Recent Iron       Stunted or       Other (Exp	d 4B) (B11) rertebrates Sulfide Odo thizosphere of Reduced n Reduction Stressed P lain in Rem (inches): (inches):	(B13) r (C1) es along Liv Iron (C4) n in Tilled S Plants (D1)	ring Roots coils (C6)	(C3) Geomorphic Position (E S (C3) FAC-Neutral Test (D5) Paised Ant Mounds (D6) Frost-Heave Hummock	(B9) (MLRA 1, 2, )) le (C2) erial Imag.(C9) D2) 6) (LRR A) s (D7)
Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Sparsely Vegetated Concav Field Observations: Surface Water Present? Water Table Present? Saturation Present?	ve Surface (E Yes	38) No	1, 2, 4A ar       Salt Crust       Aquatic Inv       Hydrogen 3       Oxidized R       Presence a       Recent Iron       Stunted or       Other (Exp	d 4B) (B11) rertebrates Sulfide Odo thizosphere of Reduced in Reduction Stressed P lain in Rem	(B13) r (C1) es along Liv Iron (C4) n in Tilled S Plants (D1)	ring Roots coils (C6)	(C3) Valer-Statied Leaves ( 4A, and 4B) Drainage Patterns (B10 Dry-Season Water Table Saturation Visible on Ae Geomorphic Position (D Shallow Aquitard (D3) FAC-Neutral Test (D5) Paised Ant Mounds (D6)	(B9) (MLRA 1, 2, )) le (C2) erial Imag.(C9) D2) S) (LRR A)
Water Marks (B1)         Sediment Deposits (B2)         Drift Deposits (B3)         Algal Mat or Crust (B4)         Iron Deposits (B5)         Surface Soil Cracks (B6)         Inundation Visible on Aerial         Sparsely Vegetated Concast         Field Observations:         Surface Water Present?         Water Table Present?         Saturation Present?         (includes capillary fringe)	ve Surface (I Yes Yes Yes	38) No No No	1, 2, 4A ar         Salt Crust         Aquatic Inv         Hydrogen 3         Oxidized R         Presence a         Recent Iron         Stunted or         Other (Exp         X       Depth         X       Depth         X       Depth	d 4B) (B11) rertebrates Sulfide Odo thizosphere of Reduced in Reduction Stressed P lain in Rem (inches): (inches): (inches):	(B13) r (C1) es along Liv Iron (C4) n in Tilled S Plants (D1) marks)	ing Roots ioils (C6) (LRR A)	(C3) Geomorphic Position (E S (C3) FAC-Neutral Test (D5) Paised Ant Mounds (D6) Frost-Heave Hummock	(B9) (MLRA 1, 2, )) le (C2) erial Imag.(C9) D2) 6) (LRR A) s (D7)
Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Sparsely Vegetated Concav Field Observations: Surface Water Present? Water Table Present? Saturation Present?	ve Surface (I Yes Yes Yes	38) No No No	1, 2, 4A ar         Salt Crust         Aquatic Inv         Hydrogen 3         Oxidized R         Presence a         Recent Iron         Stunted or         Other (Exp         X       Depth         X       Depth         X       Depth	d 4B) (B11) rertebrates Sulfide Odo thizosphere of Reduced in Reduction Stressed P lain in Rem (inches): (inches): (inches):	(B13) r (C1) es along Liv Iron (C4) n in Tilled S Plants (D1) marks)	ing Roots ioils (C6) (LRR A)	(C3) Geomorphic Position (E S (C3) FAC-Neutral Test (D5) Paised Ant Mounds (D6) Frost-Heave Hummock	(B9) (MLRA 1, 2, )) le (C2) erial Imag.(C9) D2) 6) (LRR A) s (D7)
Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Sparsely Vegetated Concay Field Observations: Surface Water Present? Water Table Present? Saturation Present? Saturation Present? Cincludes capillary fringe) Describe Recorded Data (stream Remarks:	ve Surface (E Yes Yes Yes n gauge, mo	38) No No nitoring well,	1, 2, 4A ar         Salt Crust         Aquatic Inv         Hydrogen 3         Oxidized R         Presence a         Recent Iron         Stunted or         Other (Exp         X       Depth         X       Depth         X       Depth	d 4B) (B11) rertebrates Sulfide Odo thizosphere of Reduced in Reduction Stressed P lain in Rem (inches): (inches): (inches):	(B13) r (C1) es along Liv Iron (C4) n in Tilled S Plants (D1) marks)	ing Roots ioils (C6) (LRR A)	(C3) Geomorphic Position (E S (C3) FAC-Neutral Test (D5) Paised Ant Mounds (D6) Frost-Heave Hummock	(B9) (MLRA 1, 2, )) le (C2) erial Imag.(C9) D2) 6) (LRR A) s (D7)
Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Sparsely Vegetated Concav Field Observations: Surface Water Present? Water Table Present? Saturation Present? (includes capillary fringe) Describe Recorded Data (stream	ve Surface (E Yes Yes Yes n gauge, mo	38) No No nitoring well,	1, 2, 4A ar         Salt Crust         Aquatic Inv         Hydrogen 3         Oxidized R         Presence a         Recent Iron         Stunted or         Other (Exp         X       Depth         X       Depth         X       Depth	d 4B) (B11) rertebrates Sulfide Odo thizosphere of Reduced n Reduction Stressed P lain in Rem (inches): (inches):	(B13) r (C1) es along Liv Iron (C4) n in Tilled S Plants (D1) marks)	ing Roots ioils (C6) (LRR A)	(C3) Geomorphic Position (E S (C3) FAC-Neutral Test (D5) Paised Ant Mounds (D6) Frost-Heave Hummock	(B9) (MLRA 1, 2, )) le (C2) erial Imag.(C9) D2) 6) (LRR A) s (D7)

Project/Site: FWLE / I-5	City/Coun		Bellevue	•	ampling Date:	-	14	
Applicant/Owner: Sound Transit			State		Sampling Point:			
Investigators: Lisa Danielski Dangelei F	Fox	Ş	Section, Tov	nship, Range	S 28 T 22	NR4	Е	
Landform (hillslope, terrace, etc.): Depression	L	ocal Relief (co	ncave, conv	ex, none): Cor	ncave	Slope	(%)	
Subregion (LRR): A Lat: 47			-122.2972		Datum:	NAD83		
Soil Map Unit Name: Arents, Alderwood material, 6 to 15 p	ercent slopes	0		NWI Classificati	-			
Are climatic / hydrologic conditions on the site typical for this tin	•	Yes	No X		in in Remarks)			
Are Vegetation, Soil, Hydrology, significa	ntly disturbed?		re "Normal	 Circumstances"		s X	No	
Are Vegetation, Soil, Hydrology, naturally							_	
				explain any ans				_
SUMMARY OF FINDINGS - Attach a site map s Hydrophytic Vegetation Present? Yes X No	nowing sar	npling poli	it locatio	ns, transect	s, Importan	t featur	es, et	C.
Hydric Soil Present? Yes X No	ls the S	ampled Area						
Wetland Hydrology Present? Yes X No		Wetland?		Yes X	No			
<b>VEGETATION</b> Use scientific names of plants.	Absolute	Dominant	Indicator					
<b>VEGETATION</b> – Use scientific names of plants.	<u>% Cover</u>	Species	Status	Dominance T	est Workshee	t:		
Tree Stratum					ominant Specie			( • )
<u>Shrub Stratum</u> (Plot size: <u>50 Ft</u> )				That Are OBL	., FACW, or FA	C:	1	(A)
Rubus spectabilis	5	Y	FAC	Total Number	of Dominant			
	5	=Total Cover		Species Acros	ss all Strata:		2	(B)
<u>Herb Stratum</u> <u>Vine Stratum</u> (Plot size: 30 Ft )					minant Species , FACW, or FA0		50.0%	(A/B)
Rubus armeniacus	60	Y	FACU	Prevalence Ir	ndex Workshee	et:		
Hedera helix	5	Ν	FACU	Total % C	over of:	Multip	oly by:	
	65	=Total Cover		OBL species	0	x 1 =	0	
				FACW specie	s0	x 2 =	0	
				FAC species	5	x 3 =	15	
				FACU specie	s _ 65	x 4 =	260	
				UPL species	0	x 5 =	0	
				Column Totals	s:70	(A)	275	(B)
				Prevale	nce Index = B/A	<b>1</b> =	3.93	
				Hydrophytic V	egetation Indi	cators:		

% Bare Ground in Herb Stratum

Remarks: (Include photo numbers here or on a separate sheet.)

Himalayan blackberry is acting as an aggressive invasive. Presence of hydric soils and hydrology indicate hydrophytic vegetation.



Rapid Test for Hydrophytic Vegetation

Morphological Adaptations (Provide supporting<br/>data in Remarks or on a separate sheet)XProblematic Hydrophytic Vegetation (Explain)Indicators of hydric soil and wetland hydrology<br/>must be present, unless disturbed or problematic.

Yes

X No

Dominance Test > 50%Prevalence Index  $\leq 3.0$ 

Hydrophytic Vegetation Present?

Depth		Matrix	depth r	neede	ed to document	t <b>the indica</b> Redox Fe		onfirm	the absence of Indicators.)	
(inches)	Color	(moist)	%		Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0 to 13	10YR	2/2	100		. ,				FINE SANDY LOAM	
13 to 17	10YR	5/2	95		10YR 3/4	5	С	М	LOAMY SAND	
				duce	d Martix, CS=Co				ins. <sup>2</sup> Location: PL=Pore Lining, M=	Matrix.
Thick Dark S Sandy Muck Sandy Gleye	1) edon (A2) : (A3) Sulfide (A4) elow Dark Sur Surface (A12) ky Mineral (S1 ve Matrix (S4) ve Layer (i es):	) ) if observed		Nobel State	Stripped Matrix ( Loamy Mucky Mi Loamy Gleyed M Depleted Matrix ( Redox Dark Suff Depleted Dark Si Redox Depressio	S6) neral (F1) (e atrix (F2) (F3) ace (F6) urface (F7)	except ML	RA 1)	Indicators for Problematic Hydr         2 cm Muck (A10)         Red Parent Material (TF2)         Very Shallow Dark Surface (TF12)         Other (Explain in Remarks) <sup>3</sup> Indicators of hydrophytic vegetation hydrology must be present, unless disturbed or problematic.         Hydric Soil Present?       Yes	
<ul> <li>Surface Wat</li> <li>High Water</li> <li>Saturation (<i>i</i>)</li> <li>Water Marks</li> </ul>	Irology Indi ators (minim tter (A1) Table (A2) A3) ts (B1)		require	d; che	1, 2, 4A an Salt Crust ( Aquatic Inv	ned Leaves ( d 4B)	313)	ept MLRA	Secondary Indicators (minimum Water-Stained Leaves (B9) 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C	(MLRA 1, 2,
Sediment D Drift Deposi Algal Mat or Iron Deposit	its (B3) r Crust (B4) ts (B5) il Cracks (B6)	ial Imagery (B	7)		Oxidized R Oxidized R Recent Iron Stunted or	Sulfide Odor hizospheres of Reduced II n Reduction i Stressed Pla ain in Rema	along Liv ron (C4) in Tilled S ants (D1)	oils (C6)	(C3)     Saturation Visible on Aerial     Geomorphic Position (D2)     Shallow Aquitard (D3)     FAC-Neutral Test (D5)     Paised Ant Mounds (D6) (L1     Frost-Heave Hummocks (D7)	RR A)
Inundation \	egetated Conc	ave Surface (I	B8)							
Inundation \	•	ave Surface (I	B8)							
Inundation \	ations:	ave Surface (I Yes	,	No	_X_ Depth	(inches):				
Inundation \ Sparsely Ve Field Observa	ations: er Present?	Yes	,			(inches): (inches):		5"		
Inundation \ Sparsely Ve Field Observa Surface Wate	ations: er Present? Present?	Yes	X	No	Depth		Su	5" Irface	Wetland Hydrology Present?	Yes _X_ No
Inundation \     Sparsely Ve     Field Observa     Surface Water     Water Table F     Saturation Pre     (includes capi	ations: Present? Present? esent? illary fringe)	Yes Yes Yes	X X	No No	Depth	(inches): (inches):		ırface	Wetland Hydrology Present?	Yes <u>X</u> No

Project/Site: FWLE / I-5	City/0	County:	Bellevue	Bellevue Sampling Date: 3/11/2014				
Applicant/Owner: Sound Transit			State	: WA S	Sampling Point:	SP 06-2-2		
Investigators: Lisa Danielski	Dangelei Fox		Section, Tov	vnship, Range	S 28 T 22 N	R4E		
Landform (hillslope, terrace, etc.): De	epression	Local Relief (co	oncave, conv	vex, none): Cor	icave	Slope(%)		
Subregion (LRR): A	Lat: 47.394837	Long	: -122.297 <sup>2</sup>	177	Datum: N	IAD83		
Soil Map Unit Name: Arents, Alderwo	ood material, 6 to 15 percent slo	pes		NWI Classificati	on:			
Are climatic / hydrologic conditions on the	e site typical for this time of year	? Yes	No X	(If No, expla	in in Remarks)			
Are Vegetation, Soil, Hyd	rology, significantly distur	bed?	Are "Normal	Circumstances"	present? Yes	X No		
Are Vegetation, Soil, Hyd			(If needed	explain any ans	wars in Romarks	<u> </u>		
SUMMARY OF FINDINGS - Att			· · ·	, ,		,	40	
	res No X	sampling por		ns, transect	<u>s, important</u>	<u>lealures, e</u>	16.	
		he Sampled Area						
Watland Hydrology Bragant?		hin a Wetland?		Yes	No X			
Remarks:					<u> </u>			
Record rainfall during previous month (6 criteria to be classified as a wetland. Pa	aired upland plot for Wetland 6-2			tland delineatior	ı). This site does	not meet the		
VEGETATION Use scientific n	names of plants. Absolution		Indicator Status	Dominance T	est Worksheet:			
Tree Stratum (Plot size: 3					ominant Species			
Alnus rubra		40 Y	FAC		, FACW, or FAC		(A)	
		40 =Total Cover		Total Number	of Dominant			
Shrub Stratum (Plot size: 50	<u>0 Ft</u> )			Species Acros		3	(B)	
Polygonum cuspidatum		45 Y	FACU					
		45 =Total Cover			minant Species , FACW, or FAC	33.3%	(A/B)	
Herb Stratum				Prevalence Ir	ndex Worksheet	t:		
Vine Stratum (Plot size: 3	<u>0 Ft )</u>			Total % C		Multiply by:		
Rubus armeniacus		45 Y	FACU	OBL species	0	$\frac{1}{x 1 = 0}$		
		45 =Total Cover		FACW species	s 0	x 2 = 0		
				FAC species	40	x 3 = 120	)	
				FACU specie	s 90	x 4 = 360	)	
				UPL species	0	x 5 = 0		
					. 130	(A) 480	(B)	
				Column Totals			(=)	
				Prevale	nce Index = B/A	= 3.69		
				Hydrophytic V	egetation Indic	ators:		
				Rapid Tes	st for Hydrophyti	c Vegetation		
				Dominanc	ce Test > 50%			
				Prevalenc	e Index ≤ 3.0			
					gical Adaptations			
				Problema	tic Hydrophytic \	/egetation (E:	xplain)	
					hydric soil and w ent, unless distu			
				Hydrophy Vegetation Pr		No	x	
% Bare Ground in Herb Stratum Remarks: (Include photo numbers here c	or on a senarate sheat )			•	103		<u></u>	
This sample does not meet any vegetati								
The sample accondition any vegetal	no maloatoro.							

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



Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of Indicators.)														
Depth	Matri	х			Redox F	eatures								
(inches)	Color (moist)	%	Colo	r (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks					
0 to 18	10YR 3/	3 100	Ν	lone				LOAMY SAND						
<sup>1</sup> Type: C=Cond	centration, D=Deple	etion, RM=Re	educed Mar	tix, CS=Co	overed or	Coated S	and Grai	ins. <sup>2</sup> Location: PL=Pore Lining, N	<i>I</i> =Matrix.					
<sup>1</sup> Type: C=Concentration, D=Depletion, RM=Reduced Martix, CS=Covered or Coated Sand Grains. <sup>2</sup> Location: PL=Pore Lining, M=Matrix.         Hydric Soil Indicators:       Indicators for Problematic Hydric Soils: <sup>3</sup> Histosol (A1)       Sandy Redox (S5)         Histic Epipedon (A2)       Stripped Matrix (S6)         Black Histic (A3)       Loamy Mucky Mineral (F1) (except MLRA 1)         Hydrogen Sulfide (A4)       Loamy Gleyed Matrix (F2)         Depleted Below Dark Surface (A11)       Depleted Matrix (F3)         Thick Dark Surface (A12)       Redox Dark Surface (F6)         Sandy Gleyed Matrix (S4)       Redox Depressions (F8)         Hydric Soil Present?       Yes         No       X         Remarks:       This sample does not meet any hydric soil indicators.														
•	rology Indicators													
Primary Indica	ators (minimum of o	ne is require	ed; check al	I that apply	/)			_ Secondary Indicators (minim	um of two required)					
Surface Wa	ter (A1)			Water-Stair		s (B9) (exc	ept MLRA	Water-Stained Leaves (B9) (MLRA 1, 2,						
High Water	Table (A2)			1, 2, 4A and	,			4A, and 4B)						
Saturation (	43)			Salt Crust (	. ,	(5.4.6)		Drainage Patterns (B10)						
Water Mark	s (B1)			Aquatic Invo				Dry-Season Water Table	(C2)					
Sediment D	,			Hydrogen S		. ,		Saturation Visible on Aeri	al Imag.(C9)					
Drift Deposi	ts (B3)			Oxidized R		-	ing Roots	(C3) Geomorphic Position (D2	)					
Algal Mat or	Crust (B4)			Presence o				Shallow Aquitard (D3)						
Iron Deposit	s (B5)			Recent Iron			. ,	FAC-Neutral Test (D5)						
Surface Soi	Cracks (B6)			Stunted or	Stressed P	lants (D1)	(LRR A)	Paised Ant Mounds (D6)	(LRR A)					
Inundation \	isible on Aerial Image	ery (B7)		Other (Expl	ain in Rem	arks)		Frost-Heave Hummocks						
Sparsely Ve	getated Concave Sur	face (B8)												
Field Observa	<u>itions:</u>													
Surface Wate	r Present?	Yes	No X	Depth	(inches):									
Water Table F	Present?	Yes X	No	Depth	(inches):		17"							
Saturation Pre	esent?	Yes	No X	Depth	(inches):			Wetland Hydrology Present?	Yes No_X					
(includes capi	llary fringe) ed Data (stream gaug	e mente-la	well end	hataa '	ouo 1==== -	tiona) if								
Remarks:								on and record antecedent rainfall						

	WETLAND DETERMINATION DATA	A FORM - We	stern Mountains, V	alleys,	on		
Project/Site:	FWLE / I-5	City/County:	Bellevue		Sampling Date:	3/11/2014	
Applicant/Owne	r: Sound Transit		State:	WA	Sampling Point:	SP 06-3-1	

Applicant/Owner:	Sound Transit						Stat	te:	WA	Samplin	g Point:	SP 06-	3-1
Investigators:	Lisa Danielski		Dange	elei Fox		S	ection, To	ownsh	ip, Range	S 28	T 22 N	R 4	E
Landform (hillslop	e, terrace, etc.):	Depression			Local Rel	ief (con	cave, coi	nvex,	none): Co	oncave		Slope	(%)
Subregion (LRR):	А		Lat:	47.394419		Long:	-122.29	7155		C	Datum: N	AD83	
Soil Map Unit Nan	ne: Arents, Alc	lerwood materia	al, 6 to 1	15 percent slope	es			NW	l Classifica	ation:			
Are climatic / hydr	ologic conditions o	on the site typic	al for thi	s time of year?	Yes		No X	(	(If No, expl	lain in Re	emarks)		
Are Vegetation	, Soil,	Hydrology	_, sign	ificantly disturb	ed?	Ar	e "Norma	al Circ	umstances	" presen	t? Yes	Х	No
Are Vegetation	, Soil,	Hydrology	_, natu	rally problemat	ic?	(	If needeo	d, expl	ain any an	swers in	Remarks	.)	
SUMMARY C	<b>OF FINDINGS</b> -	Attach a si	te ma	p showing s	sampling	poin	t locati	ons,	transec	ts, imp	ortant	featur	es, etc.
Hydrophytic Veg	getation Present?	Yes X	No										
Hydric Soil Pres	ent?	Yes	No	X Is th	e Sampled	Area							

within a Wetland?

Wetland Hydrology Present?
Remarks:

Record rainfall during previous month (6.5 inches in February and over 3 inches in the week prior to wetland delineation). This site does not meet the criteria to be classified as a wetland. Paired upland plot for Wetland 6-3.

Yes

No

Х

VEGETATION_ Us	e scientific names of plants.	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test	Norkshoot:			
Tree Stratum	(Plot size: <u>30 Ft</u> )	<u></u>							
Alnus rubra	(	25	Y	FAC	Number of Domina That Are OBL, FA			2	(A)
		25	=Total Cover		-				
Shrub Stratum	(Plot size: 50 Ft )				Total Number of D Species Across all			3	(B)
Rubus spectabilis	(	85	Y	FAC					_ (=)
llex aquifolium L.		5	N		Percent of Domina			66.7%	(A/B)
		90	=Total Cover		That Are OBL, FAC	SW, or FAC:			_``´
Herb Stratum					Prevalence Index	Worksheet:			
Vine Stratum	(Plot size: 30 Ft )				Total % Cover			oly by:	
Rubus armeniacus	(FIOUSIZE. <u>5011</u> )	5	Y	FACU	OBL species	0	x 1 =	0	
		5	=Total Cover		FACW species	0	x 2 =	0	
					FAC species	110	x 3 =	330	
					FACU species	5	x 4 =	20	
					UPL species	0	x 5 =	0	
					Column Totals:	115	(A)	350	(B)
					Prevalence I	ndex = B/A=		3.04	
					Hydrophytic Vege	ation Indica	tors:		
					Rapid Test for	Hydrophytic	Vegeta	ition	
					X Dominance Te	est > 50%			
					Prevalence Inc	dex ≤ 3.0			
					Morphological				orting
					Problematic H		•	,	alain)
					Indicators of hydri	c soil and we	etland h	ydrolog	y
					must be present,	uniess disturi	bed of p		auc.
% Bare Ground in Herb \$	Stratum				Hydrophytic Vegetation Preser	nt? Yes	X	No	
Remarks: (Include photo	numbers here or on a separate sheet.)				1		_		
Vegetation meets the do	minance test for hydrophytic vegetatio	n.							



Х

No

Yes

Profile Descri	Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of Indicators.)													
Depth	Mat	rix			Redox F	eatures								
(inches)	Color (mois	t) %	6	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks					
0 to 18	10YR 3/	3 100	<u> </u>	None				FINE SANDY LOAM						
<sup>1</sup> Type: C=Con	centration, D=Depl	etion, RM=R	Reduce	ed Martix, CS=C	Covered or	Coated S	and Grai	ins. <sup>2</sup> Location: PL=Pore Lin	ing, M=Matrix.					
Hydric Soil I	ndicators:							Indicators for Problematic	e Hydric Soils: <sup>3</sup>					
Histosol (A	1)			Sandy Redox (S	S5)			2 cm Muck (A10)						
Histic Epipe	edon (A2)			Stripped Matrix	. ,			Red Parent Material (TF2)						
Black Histic	. ,			Loamy Mucky M	lineral (F1)	(except MLI	RA 1)	Very Shallow Dark Surface						
Hydrogen S				Loamy Gleyed N	Matrix (F2)			Other (Explain in Remarks						
	elow Dark Surface (A	11)		Depleted Matrix	. ,									
_	Surface (A12)			Redox Dark Sur	. ,			<sup>3</sup> Indicators of hydrophytic vegetation and wetland						
	ky Mineral (S1)			Depleted Dark S	)	hydrology must be present, unless disturbed or problematic.								
Sandy Gley	ed Matrix (S4)			Redox Depressi	ions (F8)			unless disturbed of problema	auc.					
Restricti	ve Layer (if obs	erved):												
Туре:								Undrie Seil Present?	Vac Na V					
Depth (inch	es):							Hydric Soil Present?	Yes No X					
Remarks:		11 ( 11 4												
This sample doe	es not meet any hydri	c soil indicator	5.											
	<b>X</b> 7													
HYDROLOG	Y													
Wetland Hyd	rology Indicators	s:												
Primary Indica	ators (minimum of	one is requir	ed; ch	eck all that app	ly)			Secondary Indicators (r	minimum of two required)					
Surface Wa	ter (A1)					s (B9) (exce	pt MLRA	Water-Stained Leav	ves (B9) (MLRA 1, 2,					
High Water	Table (A2)			1, 2, 4A a				4A, and 4B)						
Saturation (	A3)			Salt Crust	. ,	(5.4.6)		Drainage Patterns (B10)						
Water Mark	s (B1)				vertebrates	. ,		Dry-Season Water	Table (C2)					
	eposits (B2)			_ · ·	Sulfide Odo	. ,		Saturation Visible o	n Aerial Imag.(C9)					
Drift Depos				_		es along Livi	ng Roots	(C3) Geomorphic Positio	n (D2)					
Algal Mat o					of Reduced	. ,		Shallow Aquitard (D	3)					
Iron Deposi						n in Tilled S	. ,	FAC-Neutral Test (	)5)					
	l Cracks (B6)					Plants (D1) (	LRR A)	Paised Ant Mounds	(D6) (LRR A)					
	Visible on Aerial Imag			Other (Exp	plain in Rem	narks)		Frost-Heave Humm	ocks (D7)					
-	egetated Concave Su	rface (B8)												
Field Observ														
Surface Wate		Yes	No		n (inches):									
Water Table I		Yes	No		n (inches):			Wetland Hydrology Presen	t? Yes No X					
Saturation Pr		Yes	No	X Depti	n (inches):			wettand Hydrology Fresen						
(includes cap	illary fringe) led Data (stream gau	ae monitoring	ı well a	erial photos prev	ious inspec	tions) if av	ailable:							
	lou Dulu (oliouni guu	go, montoning	<i>y mon</i> , c	ional priotoo, prot		, in av								
Remarks:														
This sample doe	es not meet any hydro	logy indicator	s.											

	WETLAND D	ETERMINA	TION DA	TA FORM - V	Western M	lountains	, Valleys,	and Coa	ast Reg	ion		
Project/Site:	FWLE / I-5			City/Coun	ty:	Bellevue		Samplin	ng Date:	3/11/20	14	
Applicant/Owne	r: Sound Trans	it				State	: WA	Samplir	ng Point:	SP 06-	-3-2	
Investigators:	Lisa Danielski		Dangelei	Fox		Section, Tov	wnship, Rang	je S 28	T 22 N	IR4	ŧΕ	
Landform (hillslo	ope, terrace, etc.):	Depression	l	L	ocal Relief (co	oncave, conv	vex, none):	Concave		Slope	<b>∍(%)</b>	
Subregion (LRR	R): A		Lat: 4	7.394430	Long	g: -122.297	119		Datum: N	IAD83		
Soil Map Unit N	ame: Arents, Al	Iderwood mate	rial, 6 to 15 p	percent slopes			NWI Classif	ication: F	°SS1			
Are climatic / hy	drologic conditions	on the site typi	ical for this ti	me of year?	Yes	No X	(If No, e	xplain in R	emarks)			
Are Vegetation	, Soil,	, Hydrology	, signific	antly disturbed?		Are "Normal	Circumstanc	es" preser	nt? Yes	Х	No	
Are Vegetation	, Soil,	, Hydrology _	, natural	ly problematic?		(If needed,	explain any	answers in	Remarks	.)		
SUMMARY	OF FINDINGS	- Attach a s	site map s	showing sar	nplina poi	int locatio	ons, trans	ects. im	portant	featur	es. et	с.
	egetation Present?	Yes X	-		<u></u>		<u></u>	<u></u>	portant	louiui	<u>,</u>	
Hydric Soil Pre	esent?	Yes X	No	Is the S	ampled Area	1						
Wetland Hydro	ology Present?	Yes X	No	within a	Wetland?		Yes	X N	o			
	during previous mo le plot in Wetland 6		s in February	and over 3 inch	nes in the wee	ek prior to we	etland delinea	ation) This	site meets	s the crit	eria for	a
VEGETATIO	<b>DN</b> _ Use scient	ific names c	of plants.	<u>Absolute</u> % Cover	Dominant Species	Indicator Status	Dominon		e rico he o tu			
Tree Stratun	<u>n</u>			<u>/// 00701</u>	openeo	otatas		<b>ce Test W</b> o of Dominan				
Shrub Stratu	IM (Plot siz	e: <u>50</u> Ft	)					OBL, FAC			1	(A)
	pectabilis	.c. <u>5011</u>	. /	80	Y	FAC	Total Nur	nber of Dor	ninant			
				80	=Total Cover	r		Across all S			2	(B)
<u>Herb Stratur</u> Vine Stratur	1	e: 30 Ft	)					f Dominant OBL, FACV		:	50.0%	(A/B)
Rubus a	irmeniacus			10	Y	FACU	Prevalence	ce Index W	/orksheet	t:		
				10	_=Total Cover	r	Total	% Cover o	f:	Multip	ply by:	
							OBL spec	ies _	0	x 1 =	0	
							FACW sp	ecies _	0	x 2 =	0	
							FAC spec	ies _	80	x 3 =	240	
							FACU sp	ecies _	10	x 4 =	40	
							UPL spec	ies _	0	x 5 =	0	
							Column T	otals:	90	(A)	280	(B)
							Pre	valence Ind	dex = B/A:	=	3.11	
							Hydrophyt	tic Vegeta	tion Indic	ators:		
							Rapid	d Test for H	lydrophyti	c Vegeta	ation	
							Domir	nance Test	t > 50%			
							Preva	alence Inde	x ≤ 3.0			
								hological A				orting
								ematic Hyd		•	,	olain)
								s of hydric present, un				
								ophytic				
	d in Herb Stratum						vegetatio	on Present	? Yes	X	No	
Remarks: (Inclu	de photo numbers h	nere or on a se	parate shee	t.)								

Himalayan blackberry is aggressive invasive in the sample plot.



	ption: (Des	cribe to the Matrix	depth r	need	ed to document	the india		confirm	the absence of Indicators.)	
Depth (inches)	Color	(moist)	%		Color (moist)	%	Type 1	Loc <sup>2</sup>	Texture	Remarks
0 to 14	10YR	2/1	100		None				Silty loam	
14 to 17	10YR	2/1	100		None				SANDY LOAM	
				duce	ed Martix, CS=Co	overed or	Coated S	and Gra	ains. <sup>2</sup> Location: PL=Pore Lining, N	/I=Matrix.
Hydric Soil In Histosol (A1 Histic Epipe Black Histic Hydrogen S Depleted Bc	1) edon (A2) : (A3)	face (A11)			Sandy Redox (S5 Stripped Matrix (S Loamy Mucky Mi Loamy Gleyed M Depleted Matrix (	56) neral (F1) atrix (F2)	(except ML	RA 1)	Indicators for Problematic Hyd         2 cm Muck (A10)         Red Parent Material (TF2)         Very Shallow Dark Surface (TF1         ✓         Other (Explain in Remarks)	
Thick Dark Sandy Mucl Sandy Gley	Surface (A12) ky Mineral (S1 ed Matrix (S4	) 1)	-0-		Redox Depressio	ace (F6) urface (F7)			<sup>3</sup> Indicators of hydrophytic vegetatio hydrology must be present, unless disturbed or problematic.	n and wetland
Type: Depth (inch		if observe	a):						Hydric Soil Present? Ye	s_X_ No
HYDROLOG Wetland Hyd	Y rology Ind	icators:			· · · · · · · · · · · · · · · · · · ·				ased on presence of wetland hydrology/hydro	
Primary Indica	ators (minim	um of one is	require	d; ch	eck all that apply	/)			Secondary Indicators (minim	num of two required)
<ul> <li>☐ Surface Wa</li> <li>✓ High Water</li> <li>✓ Saturation (</li> </ul>	Table (A2)				Water-Stair 1, 2, 4A and Salt Crust (	d 4B)	s (B9) (exc	ept MLRA	4A, and 4B)	9) (MLRA 1, 2,
Water Mark	s (B1) eposits (B2)				Aquatic Inve	ulfide Odo hizosphere	r (C1) es along Liv	ving Roots	C3)     Drainage Patterns (B10)     Dry-Season Water Table     Saturation Visible on Aeri     Geomorphic Position (D2	al Imag.(C9)
Algal Mat of Iron Deposi					Presence o Recent Iron Stunted or	Reductior	n in Tilled S	. ,	Shallow Aquitard (D3) FAC-Neutral Test (D5) Paised Ant Mounds (D6)	(LRR A)
		ial Imagery (B cave Surface (	-		Other (Expl	ain in Rem	arks)		Frost-Heave Hummocks (	(D7)
Field Observa	0		,							
Surface Wate		Yes		No	X Depth	(inches):				
Water Table F		Yes	Х		·	(inches):	S	urface	-	
Saturation Pro		Yes	X			(inches):		urface	Wetland Hydrology Present?	Yes X No
(includes capi	illary fringe)				aerial photos, previo					
Remarks: Wetland hydrolo	gy meets indi	cators for high	water ta	ble (A	2) and saturation (	A3).				

	WETLAND D	DETERMIN	IATION DA	TA FORM -	Western M	ountains	, Valleys, ar	nd Coast R	egion		
Project/Site:	FWLE / I-5			City/Cour	nty:	Kent		Sampling Date	e: 3/26/2	2014	
Applicant/Owne	er: Sound Trans	sit				State	: WA	Sampling Poi	nt: SP (	)6-3-3	
Investigators:	Lisa Danielski		Brendan	Baughn		Section, Tov	vnship, Range	S 16 T 2	22 N F	R 4 E	
Landform (hillsl	ope, terrace, etc.):	Depressi	on	L	ocal Relief (co	oncave, conv	/ex, none): Co	oncave	Slc	ope(%)	
Subregion (LRF	R): A		Lat: 4	7.394415	Long	: -122.296	996	Datum	: NAD83	\$	
Soil Map Unit N	lame: Arents, A	lderwood ma	aterial, 6 to 15 p	percent slopes			NWI Classifica	tion: PFO1			
Are climatic / hy	/drologic conditions	on the site ty	pical for this ti	me of year?	Yes	No X	(If No, expl	ain in Remark	s)		
Are Vegetation	, Soil	, Hydrology	, signific	antly disturbed?	?	Are "Normal	Circumstances	" present?	Yes X	( No	
Are Vegetation	, Soil	, Hydrology	, natural	ly problematic?		(If needed.	explain any ans	swers in Rema	arks.)		
SUMMARY	OF FINDINGS	- Attach a	a sita man a	showing sa	mpling poi				,	ures of	<b>`</b> C
	egetation Present?		X No	silowing sa	inping por		115, transec	<u>15, importa</u>	int leat	<u>ures, er</u>	<u>.</u>
Hydric Soil Pr	0		X No	Is the S	ampled Area						
-	ology Present?	—	X No		a Wetland?		Yes >	X No			
	l during previous mo ple Plot located in V		nes in February	and over 3 inc	hes in the wee	k prior to we	etland delineatio	אי). This plot n	neets the	criteria for	ra
VEGETATI	<b>ON</b> _ Use scien	tific names	s of plants.	<u>Absolute</u> <u>% Cover</u>	Dominant Species	Indicator Status	Dominance	Test Worksh	eet:		
Tree Stratur	<u>n</u> (Plot siz	ze: <u>30 Ft</u>	)					Dominant Spec			
Alnus ru	ubra			65	Y	FAC		BL, FACW, or F		2	(A)
Populus	s balsamifera			25	Y	FAC	Total Numbe	er of Dominant			
Shrub Stratu	<u>um</u>			90	=Total Cover			oss all Strata:	-	3	(B)
<u>Herb Stratur</u>								ominant Speci L, FACW, or F		66.7%	(A/B)
Vine Stratur	n (Plot siz	2e: 30 Ft	)				Prevalence	Index Worksh	neet:		
Rubus	armeniacus			50	Y	FACU	Total %	Cover of:	Μu	Itiply by:	
				50	=Total Cover		OBL species	9 0	x 1 :	= 0	
							FACW speci	0	x 2	= 0	
							FAC species	00	x 3	= 270	
							FACU speci		x 4	= 200	
							UPL species	0	x 5	= 0	
							Column Tota	14	0 (A)	470	(B)
							Preval	ence Index = l	B/A=	3.36	
							Hydrophytic	Vegetation In	dicators	:	
							Rapid Te	est for Hydropl	hytic Vege	etation	
							X Dominar	nce Test > 50%	%		
							Prevaler	nce Index $\leq 3.0$	D		
								ogical Adaptat Remarks or on			orting
							Problem	atic Hydrophy	tic Vegeta	ation (Exp	plain)
								f hydric soil an esent, unless d			
% Bare Ground	d in Herb Stratum						Hydroph Vegetation F		res X	No	

Remarks: (Include photo numbers here or on a separate sheet.)

Vegetation meets the dominance test for hydrophytic vegetation.

Profile Descr	iption: (Desc	ribe to the	depth nee	ded to document	the indi	cator or o	onfirm t	he absence of Indicators.)	
Depth		Matrix				Features			
(inches)	Color	(moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0 to 6	10YR	3/2	100	None				SANDY LOAM	
6 to 12	10YR	4/2	85	7.5YR 4/6	15	С	М	SANDY LOAM	
12 to 16	2.5YR	5/2	100					Gravely Loamy Sand	
<sup>1</sup> Type: C=Cor	centration, D	=Depletion,	RM=Reduo	ced Martix, CS=C	overed or	Coated S	and Grai	ns. <sup>2</sup> Location: PL=Pore Linir	ıg, M=Matrix.
Hydric Soil I	indicators:							Indicators for Problematic	Hydric Soils: <sup>3</sup>
Histosol (A	1)			Sandy Redox (S	5)			2 cm Muck (A10)	
Histic Epip	edon (A2)			Stripped Matrix (	S6)			Red Parent Material (TF2)	
Black Histie	c (A3)			Loamy Mucky Mi	neral (F1)	(except ML	RA 1)	Very Shallow Dark Surface	(TE12)
Hydrogen S	Sulfide (A4)			Loamy Gleyed M	atrix (F2)			Other (Explain in Remarks)	(11 12)
Depleted B	elow Dark Surf	ace (A11)		Depleted Matrix (	F3)				
Thick Dark	Surface (A12)			Redox Dark Surf	ace (F6)			<sup>3</sup> Indicators of hydrophytic vege	tation and wetland
Sandy Muc	ky Mineral (S1)		L	Depleted Dark S	urface (F7)	)		hydrology must be present,	
Sandy Gley	yed Matrix (S4)			Redox Depression	ons (F8)			unless disturbed or problemat	ic.
Restrict	ive Layer (if	observed	ł):						
Туре:			·						
Depth (incl	nes):							Hydric Soil Present?	Yes X No
Remarks:									
This sample do	es not meet any	hydric soil ir	dicators.						
HYDROLOG	Ϋ́Υ								
Wetland Hyd	Irology Indi	otore							
-			required: c	check all that apply	Z)				
Surface Wa			required, e	Water-Stai	,	s (B9) (exc		Secondary Indicators (m	. ,
High Water	. ,			1, 2, 4A an		e (20) (ene	sprinzior	Water-Stained Leave 4A, and 4B)	s (B9) (MLRA 1, 2,
Saturation				Salt Crust	B11)				40)
Water Marl				Aquatic Inv	ertebrates	(B13)		Drainage Patterns (B	
	Deposits (B2)			Hydrogen S	Sulfide Odd	or (C1)		Dry-Season Water Ta	( )
Drift Depos				Oxidized R	hizosphere	es along Liv	ing Roots	(C3) Saturation Visible on	
	or Crust (B4)			Presence of	f Reduced	l Iron (C4)		Geomorphic Position	
Iron Depos				Recent Iror	Reduction	n in Tilled S	oils (C6)	Shallow Aquitard (D3	
· _ ·	oil Cracks (B6)			Stunted or	Stressed F	Plants (D1)	(LRR A)	FAC-Neutral Test (D	
	Visible on Aeria	al Imagery (B	7)	Other (Exp			. ,	Paised Ant Mounds (	
	egetated Conca	0,1	,			ianto)		Frost-Heave Hummo	CKS (D7)
Field Observ			-,						
Surface Wate	er Present?	Yes	No	X Depth	(inches):				
Water Table	Present?	Yes	X No		(inches):		14		
Saturation Pr		Yes	X No		(inches):		10	Wetland Hydrology Present	? Yes <u>X</u> No
(includes cap					( /				
		m gauge, mo	nitoring well,	, aerial photos, previ	ous inspec	ctions), if av	ailable:		
Pomorko:									
Remarks: Meets A2 and A	43								



WETLAND DETERMINATION DAT			ountains	, Valleys, an	d Coast	Regio	on		
Project/Site: FWLE / I-5	City/Coun	ty:	Kent		Sampling Da	ate: 3	/26/20	14	
Applicant/Owner: Sound Transit			State	: WA	Sampling P	oint:	SP 06-	3-4	
Investigators: Lisa Danielski Brendan B	aughn		Section, Tov	vnship, Range	S 16 T	22 N	R 4	١E	
Landform (hillslope, terrace, etc.): Toe of Slope	L	ocal Relief (co	ncave, conv	vex, none): Co	ncave		Slope	≥(%)	
Subregion (LRR): A Lat: 47.	394445	Long:	-122.2969	989	Datu	m: NA	\D83		
Soil Map Unit Name: Arents, Alderwood material, 6 to 15 pe	ercent slopes			NWI Classificat	tion:				
Are climatic / hydrologic conditions on the site typical for this time	e of year?	Yes	No X	(If No, expla	ain in Rema	rks)			
Are Vegetation, Soil, Hydrology, significant	ntly disturbed?	A	re "Normal	Circumstances'	present?	Yes	Х	No	
Are Vegetation, Soil, Hydrology, naturally	problematic?		(If needed,	explain any ans	swers in Rer	narks.)			
SUMMARY OF FINDINGS - Attach a site map sl	nowing sar	npling poir	nt locatio	ns, transec	ts, impor	tant f	eatur	es, et	C.
Hydrophytic Vegetation Present? Yes No X									
Hydric Soil Present? Yes X No		ampled Area							
Wetland Hydrology Present? Yes No X	within a	Wetland?		Yes	No	Х			
Remarks: Record precipitation in region. This plot does not meet all wetla	and indicators	. Paired uplan	d plot for W	etland 6-3.					
				1					
VEGETATION Use scientific names of plants.	<u>Absolute</u> <u>% Cover</u>	Dominant Species	Indicator Status	Deminence		h = = 4.			
Tree Stratum (Plot size: <u>30 Ft</u> )	<u>/// 00101</u>	0,000,000	otatuo	Dominance					
Alnus rubra	10	Y	FAC	That Are OB				1	(A)
	10	=Total Cover		Total Numbe	r of Domino	nt			
Shrub Stratum				Species Acro				2	(B)
Herb Stratum									_
Vine Stratum (Plot size: <u>30 Ft</u> )				Percent of Do That Are OBI				50.0%	(A/B)
Rubus armeniacus	65	Y	FACU	Prevalence I	ndex Work	sheet:			
	65	=Total Cover		Total % (		Sheet.	Multi	ply by:	
				OBL species		0	x 1 =	0 0	
				FACW species		0	x 2 =	0	
				FAC species		0	x 3 =	30	
				FACU specie	0	65	x 4 =	260	
				UPL species		0	x 5 =	0	
				Column Tota	ls:	75	(A)	290	(B)
				Prevale	ence Index =	= B/A=		3.87	
				Hydrophytic	Vegetation	Indica	tors:		
				Rapid Te	est for Hydro	phytic	Vegeta	ation	
				Dominar	ice Test > 50	0%			
				Prevalen	ce Index ≤ 3	3.0			
					ogical Adapt emarks or c				orting
				Problema	atic Hydroph	ıytic V€	getatio	on (Exp	plain)
				Indicators of must be pre-					
% Bare Ground in Herb Stratum				Hydroph Vegetation F	•	Yes		No X	x
Remarks: (Include photo numbers here or on a separate sheet.)									
This sample plot does not meet dominance or prevalence tests	i.								



Profile Descr	iption: (Des	cribe to the	depth nee	eded to document	the indi	cator or o	onfirm t	he absence of Indicators.)	
Depth		Matrix			Redox I	eatures			
(inches)	Color	(moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0 to 2	10YR	3/2	100					Gravely Sandy Loam	
2 to 5	10YR	4/2	98	2.5YR 4/6	2	С	М	Gravely Sandy Loam	
5 to 11	10YR	4/2	95	2.5YR 4/6	5	С	М	LOAMY SAND	
11 to 16	10YR	4/3	2	7.5YR 4/6	20	С	М	Gravely sand	
<sup>1</sup> Type: C=Con	centration, D	=Depletion, I	RM=Redu	uced Martix, CS=Co	overed or	Coated S	and Grai	ins. <sup>2</sup> Location: PL=Pore Lini	ing, M=Matrix.
Thick Dark Sandy Muc Sandy Gley	1) edon (A2) c (A3) Sulfide (A4) velow Dark Surf Surface (A12) sky Mineral (S1 yed Matrix (S4) ive Layer (i nes): s hydric soil ind	) If observed	I):	Sandy Redox (S5         Stripped Matrix (\$         Loamy Mucky Mii         Loamy Gleyed M.         ✓         Depleted Matrix (\$         Redox Dark Suffa         Depleted Dark Strip         Redox Depressio	S6) neral (F1) atrix (F2) F3) ace (F6) urface (F7)		RA 1)	Indicators for Problematic         2 cm Muck (A10)         Red Parent Material (TF2)         Very Shallow Dark Surface         Other (Explain in Remarks) <sup>3</sup> Indicators of hydrophytic veg hydrology must be present, unless disturbed or problemation         Hydric Soil Present?	e (TF12) ) getation and wetland
Primary Indic Surface Wa High Water Saturation Water Mark Sediment D Drift Depos Algal Mat c Iron Depos Surface So Inundation	ators (minimu ater (A1) r Table (A2) (A3) ks (B1) Deposits (B2) sits (B3) or Crust (B4)	um of one is al Imagery (B7	)	check all that apply Water-Stair 1, 2, 4A and Salt Crust ( Aquatic Inve Hydrogen S Oxidized RI Presence o Recent Iron Stunted or Other (Expl	ned Leave d 4B) B11) ertebrates sulfide Odd hizosphere f Reduced Reduction Stressed F	(B13) or (C1) es along Liv I Iron (C4) n in Tilled S Plants (D1)	ring Roots coils (C6)	Water-Stained Leav 4A, and 4B) Drainage Patterns ( Dry-Season Water	Table (C2) n Aerial Imag.(C9) n (D2) 33) D5) (D6) (LRR A)
Field Observ	ations:								
Surface Wate	er Present?	Yes	N	o X Depth	(inches):				
Water Table	Present?	Yes	N	o X Depth	(inches):				
Saturation Pr	resent?	Yes	N	o X Depth	(inches):			Wetland Hydrology Presen	t? Yes <u>No X</u>
(includes cap									
Remarks: This sample door				II, aerial photos, previ		aon <i>s)</i> , ii av	מוומטוש.		



	WETLAND DETERMINATION DAT	A FORM - We	stern Mountains, Valleys, a	and Coast Reg	ion
t/Site:	FWLE / I-5	City/County:	Bellevue	Sampling Date:	3/12/2014
	0 17 "		<b>6</b>		

Project/Site: FWLE / I-5	City/County:		Bellevue	Samplin	g Date:	3/12/201	14	
Applicant/Owner: Sound Transit			State	WA Samplin	ng Point:	SP 06-4	4-1	
Investigators: Lisa Danielski Dangelei	Fox	S	Section, Tov	vnship, Range S 28	T 22 N	R 4	E	
Landform (hillslope, terrace, etc.): Hillslope	Loca	al Relief (cor	ncave, conv	ex, none): Convex		Slope	(%)	
Subregion (LRR): A Lat: 47	7.394205	Long:	-122.2973	340 E	Datum: N	AD83		
Soil Map Unit Name:Arents, Alderwood material, 6 to 15 p	ercent slopes			NWI Classification: P	FO1			
Are climatic / hydrologic conditions on the site typical for this tin	me of year? Ye	es	No X	(If No, explain in Re	emarks)			
Are Vegetation, Soil, Hydrology, significa	antly disturbed?	A	re "Normal	Circumstances" presen	t? Yes	Х	No	
Are Vegetation, Soil, Hydrology, naturall	y problematic?		(If needed,	explain any answers in	Remarks	.)		
SUMMARY OF FINDINGS - Attach a site map s         Hydrophytic Vegetation Present?       Yes       No       X         Hydric Soil Present?       Yes       X       No       X         Wetland Hydrology Present?       Yes       X       No       X		l <mark>ing poin</mark> pled Area			oortant	,	<u>es, et</u>	<b>C.</b>
Remarks: Record precipitation in region. Area meets criteria for wetland VEGETATION Use scientific names of plants.	Absolute Do	ominant_	Indicator					
Tree Stratum (Plot size: <u>30 Ft</u> )	<u>% Cover</u>	<u>Species</u>	<u>Status</u>	Dominance Test Wo				
Alnus rubra	45	Y	FAC	Number of Dominant That Are OBL, FACV			2	(A)
	45	Total Cover		,	.,			_
Shrub Stratum (Plot size: 50 Ft )				Total Number of Dom Species Across all St			3	(B)
Oemleria cerasiformis	5	Y	FACW		i ulu.			_ (D)
	5_	Total Cover		Percent of Dominant That Are OBL, FACW		6	66.7%	(A/B)
Herb Stratum								-
Vine Stratum (Plot size: <u>30 Ft</u> )				Prevalence Index W				
Hedera helix	2	Y	FACU	Total % Cover of	: 0	$\frac{\text{Multip}}{x \ 1 =}$	ly by: 0	
	2 =	Total Cover		OBL species	5	x 2 =	10	
				FACW species	45	x 3 =	135	
				FAC species	2	x 4 =	8	
				FACU species	0	x 5 =	0	
				UPL species				(D)
				Column Totals:	52	(A)	153	(B)
				Prevalence Ind	ex = B/A=	•	2.94	
				Hydrophytic Vegetat	ion Indica	ators:		
				Rapid Test for H	ydrophytic	: Vegetat	tion	
				X Dominance Test	> 50%			
				X Prevalence Index	k ≤ 3.0			
				Morphological Ac				orting
				X Problematic Hyd	rophytic V	egetatio	n (Exp	olain)
				Indicators of hydric s must be present, un				
				Hydrophytic				
% Bare Ground in Herb Stratum				Vegetation Present?	Yes	<u> </u>	No X	(
Remarks: (Include photo numbers here or on a separate sheet	.)							

Vegetation meets dominance and prevalence test.



rofile Description: (Describ	<b>Aatrix</b>			Redox F	eatures			
Depth (inches) Color (m		%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
to 8 10YR		100	None		76-		FINE SANDY LOAM	
to 22 10YR		60	2.5Y 4/3	20	С	М	Gravely sandy loam	
to 22	/	00	2.5Y 5/6	20	<u> </u>	M	Gravely Sandy Loam	
ype: C=Concentration, D=D	epletion RM	I=Reduc						ning M=Matrix
	op:ouo:i, :				e calca e			
ydric Soil Indicators:		_	_				Indicators for Problemat	ic Hydric Soils: <sup>3</sup>
Histosol (A1)			Sandy Redox (St	-			2 cm Muck (A10)	
Histic Epipedon (A2)		Ĺ	Stripped Matrix (	,			Red Parent Material (TF2	2)
Black Histic (A3)		L	Loamy Mucky Mi	ineral (F1) (	except ML	RA 1)	Very Shallow Dark Surfac	,
Hydrogen Sulfide (A4)		Ĺ	Loamy Gleyed M				Other (Explain in Remark	
Depleted Below Dark Surface	e (A11)		Depleted Matrix (	. ,				
Thick Dark Surface (A12)			Redox Dark Surf	· · /			<sup>3</sup> Indicators of hydrophytic ve	egetation and wetland
Sandy Mucky Mineral (S1)			Depleted Dark S				hydrology must be present,	,
Sandy Gleyed Matrix (S4)		L	Redox Depressio	ons (F8)			unless disturbed or problen	nauc.
Restrictive Layer (if o	bserved):							
Туре:	,							
Depth (inches):							Hydric Soil Present?	Yes X No
DROLOGY	0751							
eets redox dark surface indicato YDROLOGY /etland Hydrology Indicat Primary Indicators (minimum		quired; c					Secondary Indicators	(minimum of two required
YDROLOGY Yetland Hydrology Indicat rimary Indicators (minimum Surface Water (A1)		quired; c	Water-Stair	ned Leaves	s (B9) (exc	ept MLRA	Water-Stained Lea	(minimum of two required aves (B9) (MLRA 1, 2,
YDROLOGY         Vetland Hydrology Indicat         Primary Indicators (minimum         Surface Water (A1)         High Water Table (A2)		quired; c	Water-Stair 1, 2, 4A an	ned Leaves d 4B)	6 (B9) (exc	ept MLRA		
YDROLOGY         Vetland Hydrology Indicat         Primary Indicators (minimum         Surface Water (A1)         High Water Table (A2)         Saturation (A3)		quired; c	Water-Stair 1, 2, 4A an Salt Crust (	ned Leaves d 4B) (B11)		ept MLRA	Water-Stained Lea	aves (B9) (MLRA 1, 2,
YDROLOGY         Vetland Hydrology Indicat         Immary Indicators (minimum)         Surface Water (A1)         High Water Table (A2)         Saturation (A3)         Water Marks (B1)		quired; c	Water-Stair 1, 2, 4A an Salt Crust ( Aquatic Inv	ned Leaves d 4B) (B11) ertebrates (	(B13)	əpt MLRA	Water-Stained Lea 4A, and 4B) Drainage Patterns Dry-Season Water	aves (B9) (MLRA 1, 2, (B10) Table (C2)
Yetland Hydrology Indicat         trimary Indicators (minimum         Surface Water (A1)         High Water Table (A2)         Saturation (A3)         Water Marks (B1)         Sediment Deposits (B2)		quired; c	Water-Stain 1, 2, 4A an Salt Crust ( Aquatic Inv Hydrogen S	ned Leaves d 4B) (B11) ertebrates ( Sulfide Odor	(B13) r (C1)		(C3)	(B10) Table (C2) on Aerial Imag.(C9)
Yetland Hydrology Indicat         Primary Indicators (minimum)         Surface Water (A1)         High Water Table (A2)         Saturation (A3)         Water Marks (B1)         Sediment Deposits (B2)         Drift Deposits (B3)		quired; c	Water-Stair 1, 2, 4A an Salt Crust ( Aquatic Inv	ned Leaves d 4B) (B11) ertebrates ( Sulfide Odor hizosphere	(B13) r (C1) s along Liv		(C3) Water-Stained Lea 4A, and 4B) Drainage Patterns Dry-Season Water Saturation Visible Geomorphic Positi	(B10) Table (C2) on Aerial Imag.(C9) ion (D2)
ZDROLOGY         Yetland Hydrology Indicat         Irimary Indicators (minimum)         Surface Water (A1)         High Water Table (A2)         Saturation (A3)         Water Marks (B1)         Sediment Deposits (B2)         Drift Deposits (B3)         Algal Mat or Crust (B4)		quired; c	Water-Stain 1, 2, 4A an Salt Crust ( Aquatic Inv Hydrogen S Oxidized R	ned Leaves d 4B) (B11) ertebrates ( Sulfide Odor hizosphere of Reduced	(B13) r (C1) s along Liv Iron (C4)	ring Roots	(C3) Water-Stained Lea 4A, and 4B) Drainage Patterns Dry-Season Water Saturation Visible Geomorphic Positi Shallow Aquitard (	aves (B9) (MLRA 1, 2, (B10) Table (C2) on Aerial Imag.(C9) ion (D2) D3)
ZDROLOGY         Zetland Hydrology Indicat         trimary Indicators (minimum)         Surface Water (A1)         High Water Table (A2)         Saturation (A3)         Water Marks (B1)         Sediment Deposits (B2)         Drift Deposits (B3)         Algal Mat or Crust (B4)         Iron Deposits (B5)		quired; c	Water-Stain 1, 2, 4A an Salt Crust ( Aquatic Invo Hydrogen S Oxidized R Presence c Recent Iron	ned Leaves d 4B) (B11) ertebrates ( Sulfide Odor hizosphere of Reduced n Reduction	(B13) r (C1) s along Liv Iron (C4) i in Tilled S	ring Roots ioils (C6)	(C3) Water-Stained Lea 4A, and 4B) Drainage Patterns Dry-Season Water Saturation Visible Geomorphic Positi Shallow Aquitard ( FAC-Neutral Test	(B10) Table (C2) on Aerial Imag.(C9) ion (D2) D3) (D5)
A Contract         Yetland Hydrology Indicat         rimary Indicators (minimum)         Surface Water (A1)         High Water Table (A2)         Saturation (A3)         Water Marks (B1)         Sediment Deposits (B2)         Drift Deposits (B3)         Algal Mat or Crust (B4)         Iron Deposits (B5)         Surface Soil Cracks (B6)	of one is rec	quired; c	Water-Stain 1, 2, 4A and Salt Crust ( Aquatic Inv Hydrogen S Oxidized R Presence c Recent Iron Stunted or	ned Leaves d 4B) (B11) ertebrates ( Sulfide Odor hizosphere of Reduced h Reduction Stressed P	(B13) r (C1) s along Liv Iron (C4) i in Tilled S lants (D1)	ring Roots ioils (C6)	(C3) Water-Stained Lea 4A, and 4B) Drainage Patterns Dry-Season Water Saturation Visible Geomorphic Positi Shallow Aquitard ( FAC-Neutral Test Paised Ant Mound	(B10) Table (C2) on Aerial Imag.(C9) ion (D2) D3) (D5) Is (D6) (LRR A)
Yetland Hydrology Indicat         trimary Indicators (minimum         Surface Water (A1)         High Water Table (A2)         Saturation (A3)         Water Marks (B1)         Sediment Deposits (B2)         Drift Deposits (B3)         Algal Mat or Crust (B4)         Iron Deposits (B5)         Surface Soil Cracks (B6)         Inundation Visible on Aerial Ir	of one is rec	quired; c	Water-Stain 1, 2, 4A an Salt Crust ( Aquatic Invo Hydrogen S Oxidized R Presence c Recent Iron	ned Leaves d 4B) (B11) ertebrates ( Sulfide Odor hizosphere of Reduced h Reduction Stressed P	(B13) r (C1) s along Liv Iron (C4) i in Tilled S lants (D1)	ring Roots ioils (C6)	(C3) Water-Stained Lea 4A, and 4B) Drainage Patterns Dry-Season Water Saturation Visible Geomorphic Positi Shallow Aquitard ( FAC-Neutral Test	(B10) Table (C2) on Aerial Imag.(C9) ion (D2) D3) (D5) Is (D6) (LRR A)
YDROLOGY         Yetland Hydrology Indicat         Primary Indicators (minimum)         Surface Water (A1)         High Water Table (A2)         Saturation (A3)         Water Marks (B1)         Sediment Deposits (B2)         Drift Deposits (B3)         Algal Mat or Crust (B4)         Iron Deposits (B5)         Surface Soil Cracks (B6)         Inundation Visible on Aerial Ir         Sparsely Vegetated Concave	of one is rec	quired; c	Water-Stain 1, 2, 4A and Salt Crust ( Aquatic Inv Hydrogen S Oxidized R Presence c Recent Iron Stunted or	ned Leaves d 4B) (B11) ertebrates ( Sulfide Odor hizosphere of Reduced h Reduction Stressed P	(B13) r (C1) s along Liv Iron (C4) i in Tilled S lants (D1)	ring Roots ioils (C6)	(C3) Water-Stained Lea 4A, and 4B) Drainage Patterns Dry-Season Water Saturation Visible Geomorphic Positi Shallow Aquitard ( FAC-Neutral Test Paised Ant Mound	(B10) Table (C2) on Aerial Imag.(C9) ion (D2) D3) (D5) Is (D6) (LRR A)
YDROLOGY         Yetland Hydrology Indicat         Primary Indicators (minimum         Surface Water (A1)         High Water Table (A2)         Saturation (A3)         Water Marks (B1)         Sediment Deposits (B2)         Drift Deposits (B3)         Algal Mat or Crust (B4)         Iron Deposits (B5)         Surface Soil Cracks (B6)         Inundation Visible on Aerial Ir	of one is rec	quired; c	Water-Stain         1, 2, 4A and         Salt Crust (         Aquatic Invo         Hydrogen S         Oxidized R         Presence c         Recent Iron         Stunted or         Other (Expl	ned Leaves d 4B) (B11) ertebrates ( Sulfide Odor hizosphere of Reduced h Reduction Stressed P	(B13) r (C1) s along Liv Iron (C4) i in Tilled S lants (D1)	ring Roots ioils (C6)	(C3) Water-Stained Lea 4A, and 4B) Drainage Patterns Dry-Season Water Saturation Visible Geomorphic Positi Shallow Aquitard ( FAC-Neutral Test Paised Ant Mound	(B10) Table (C2) on Aerial Imag.(C9) ion (D2) D3) (D5) Is (D6) (LRR A)
YDROLOGY         Yetland Hydrology Indicat         Primary Indicators (minimum         Surface Water (A1)         High Water Table (A2)         Saturation (A3)         Water Marks (B1)         Sediment Deposits (B2)         Drift Deposits (B3)         Algal Mat or Crust (B4)         Iron Deposits (B5)         Surface Soil Cracks (B6)         Inundation Visible on Aerial Ir         Sparsely Vegetated Concave	of one is rec nagery (B7) Surface (B8) Yes		Water-Stain         1, 2, 4A and         Salt Crust (         Aquatic Invo         Hydrogen S         Oxidized R         Presence c         Recent Iron         Stunted or         Other (Expl	ned Leaves d 4B) (B11) ertebrates ( Sulfide Odor hizosphere of Reduced n Reduction Stressed P lain in Rem	(B13) r (C1) s along Liv Iron (C4) i in Tilled S lants (D1)	ring Roots ioils (C6)	(C3) Water-Stained Lea 4A, and 4B) Drainage Patterns Dry-Season Water Saturation Visible Geomorphic Positi Shallow Aquitard ( FAC-Neutral Test Paised Ant Mound	(B10) Table (C2) on Aerial Imag.(C9) ion (D2) D3) (D5) Is (D6) (LRR A)
YDROLOGY         Vetland Hydrology Indicat         Primary Indicators (minimum         Surface Water (A1)         High Water Table (A2)         Saturation (A3)         Water Marks (B1)         Sediment Deposits (B2)         Drift Deposits (B3)         Algal Mat or Crust (B4)         Iron Deposits (B5)         Surface Soil Cracks (B6)         Inundation Visible on Aerial Ir         Sparsely Vegetated Concave         etd Observations:         Surface Water Present?	of one is rec magery (B7) Surface (B8) Yes Yes	No	Water-Stain         1, 2, 4A and         Salt Crust (         Aquatic Inv         Hydrogen S         Oxidized R         Presence c         Recent Iron         Stunted or         Other (Expl         X       Depth         Depth	(inches):	(B13) r (C1) s along Liv Iron (C4) i in Tilled S lants (D1)	ing Roots ioils (C6) (LRR A)	(C3) Water-Stained Lea 4A, and 4B) Drainage Patterns Dry-Season Water Saturation Visible Geomorphic Positi Shallow Aquitard ( FAC-Neutral Test Paised Ant Mound	(B10) Table (C2) on Aerial Imag.(C9) ion (D2) D3) (D5) Is (D6) (LRR A) mocks (D7)
YDROLOGY         Vetland Hydrology Indicat         Primary Indicators (minimum         Surface Water (A1)         High Water Table (A2)         Saturation (A3)         Water Marks (B1)         Sediment Deposits (B2)         Drift Deposits (B3)         Algal Mat or Crust (B4)         Iron Deposits (B5)         Surface Soil Cracks (B6)         Inundation Visible on Aerial Ir         Sparsely Vegetated Concave         idd Observations:         Surface Water Present?         Water Table Present?         Saturation Present?	of one is rec magery (B7) Surface (B8) Yes Yes	No No	Water-Stain         1, 2, 4A and         Salt Crust (         Aquatic Inv         Hydrogen S         Oxidized R         Presence c         Recent Iron         Stunted or         Other (Expl         X       Depth         Depth	(inches): (inches):	(B13) r (C1) s along Liv Iron (C4) i in Tilled S lants (D1)	ing Roots ioils (C6) (LRR A)	(C3) Water-Stained Lea 4A, and 4B) Drainage Patterns Dry-Season Water Saturation Visible Geomorphic Positi Shallow Aquitard ( FAC-Neutral Test Paised Ant Mound Frost-Heave Humr	aves (B9) (MLRA 1, 2, (B10) • Table (C2) on Aerial Imag.(C9) ion (D2) D3) (D5) Is (D6) (LRR A) mocks (D7)
YDROLOGY         Yetland Hydrology Indicat         Primary Indicators (minimum         Surface Water (A1)         High Water Table (A2)         Saturation (A3)         Water Marks (B1)         Sediment Deposits (B2)         Drift Deposits (B3)         Algal Mat or Crust (B4)         Iron Deposits (B5)         Surface Soil Cracks (B6)         Inundation Visible on Aerial Ir         Sparsely Vegetated Concave         teld Observations:         Surface Water Present?         Water Table Present?	of one is rec nagery (B7) Surface (B8) Yes Yes Yes	No X No X No	Water-Stain         1, 2, 4A and         Salt Crust (         Aquatic Inv         Hydrogen S         Oxidized R         Presence c         Recent Iron         Stunted or         Other (Expl         X       Depth         Depth	(inches): (inches):	(B13) r (C1) s along Liv Iron (C4) n in Tilled S lants (D1) arks)	ing Roots ioils (C6) (LRR A) <u>10"</u> 2"	(C3) Water-Stained Lea 4A, and 4B) Drainage Patterns Dry-Season Water Saturation Visible Geomorphic Positi Shallow Aquitard ( FAC-Neutral Test Paised Ant Mound Frost-Heave Humr	aves (B9) (MLRA 1, 2, (B10) • Table (C2) on Aerial Imag.(C9) ion (D2) D3) (D5) Is (D6) (LRR A) mocks (D7)
YDROLOGY         Yetland Hydrology Indicat         Yimary Indicators (minimum         Surface Water (A1)         High Water Table (A2)         Saturation (A3)         Water Marks (B1)         Sediment Deposits (B2)         Drift Deposits (B3)         Algal Mat or Crust (B4)         Iron Deposits (B5)         Surface Soil Cracks (B6)         Inundation Visible on Aerial Ir         Sparsely Vegetated Concave         teld Observations:         Surface Water Present?         Water Table Present?         Saturation Present?         (includes capillary fringe)	of one is rec nagery (B7) Surface (B8) Yes Yes Yes	No X No X No	Water-Stain         1, 2, 4A and         Salt Crust (         Aquatic Inv         Hydrogen S         Oxidized R         Presence c         Recent Iron         Stunted or         Other (Expl         X       Depth         Depth	(inches): (inches):	(B13) r (C1) s along Liv Iron (C4) n in Tilled S lants (D1) arks)	ing Roots ioils (C6) (LRR A) <u>10"</u> 2"	(C3) Water-Stained Lea 4A, and 4B) Drainage Patterns Dry-Season Water Saturation Visible Geomorphic Positi Shallow Aquitard ( FAC-Neutral Test Paised Ant Mound Frost-Heave Humr	aves (B9) (MLRA 1, 2, (B10) • Table (C2) on Aerial Imag.(C9) ion (D2) D3) (D5) Is (D6) (LRR A) mocks (D7)
Yordiand Hydrology Indicate         Primary Indicators (minimum         Surface Water (A1)         High Water Table (A2)         Saturation (A3)         Water Marks (B1)         Sediment Deposits (B2)         Drift Deposits (B3)         Algal Mat or Crust (B4)         Iron Deposits (B5)         Surface Soil Cracks (B6)         Inundation Visible on Aerial Ir         Sparsely Vegetated Concave         Keld Observations:         Surface Water Present?         Water Table Present?         Water Table Present?         Saturation Present?         Mater Table Present?         Saturation Present?         Water Table Present?         Water Table Present?         Water Table Present?         Water Table Present?         Saturation Present?         Water Table Present?         Water Table Present?         Saturation Present?         Mater Table Present?         Saturation Present?         Water Table Present?         Saturation Present?         Mater Table Present?         Saturation Present?         Water Table Present?	of one is red nagery (B7) Surface (B8) Yes Yes gauge, monito	No X No X No ring well,	Water-Stain         1, 2, 4A an         Salt Crust (         Aquatic Inv         Hydrogen S         Oxidized R         Presence c         Recent Iron         Stunted or         Other (Expl         X       Depth         Depth         aerial photos, previ	(B11) ertebrates ( Sulfide Odor hizosphere of Reduced on Reduction Stressed P lain in Rem (inches): (inches): (inches):	(B13) r (C1) s along Liv Iron (C4) n in Tilled S lants (D1) arks)	ing Roots ioils (C6) (LRR A) <u>10"</u> 2"	(C3) Water-Stained Lea 4A, and 4B) Drainage Patterns Dry-Season Water Saturation Visible Geomorphic Positi Shallow Aquitard ( FAC-Neutral Test Paised Ant Mound Frost-Heave Humr	aves (B9) (MLRA 1, 2, (B10) • Table (C2) on Aerial Imag.(C9) ion (D2) D3) (D5) Is (D6) (LRR A) mocks (D7)
YDROLOGY         Yetland Hydrology Indicat         Primary Indicators (minimum         Surface Water (A1)         High Water Table (A2)         Saturation (A3)         Water Marks (B1)         Sediment Deposits (B2)         Drift Deposits (B3)         Algal Mat or Crust (B4)         Iron Deposits (B5)         Surface Soil Cracks (B6)         Inundation Visible on Aerial Ir         Sparsely Vegetated Concave         teld Observations:         Surface Water Present?         Water Table Present?         Saturation Present?         Saturation Present?         Saturation Present?         Saturation Present?         Saturation Present?	of one is red nagery (B7) Surface (B8) Yes Yes gauge, monito	No X No X No ring well,	Water-Stain         1, 2, 4A an         Salt Crust (         Aquatic Inv         Hydrogen S         Oxidized R         Presence c         Recent Iron         Stunted or         Other (Expl         X       Depth         Depth         aerial photos, previ	(B11) ertebrates ( Sulfide Odor hizosphere of Reduced on Reduction Stressed P lain in Rem (inches): (inches): (inches):	(B13) r (C1) s along Liv Iron (C4) n in Tilled S lants (D1) arks)	ing Roots ioils (C6) (LRR A) <u>10"</u> 2"	(C3) Water-Stained Lea 4A, and 4B) Drainage Patterns Dry-Season Water Saturation Visible Geomorphic Positi Shallow Aquitard ( FAC-Neutral Test Paised Ant Mound Frost-Heave Humr	aves (B9) (MLRA 1, 2, (B10) • Table (C2) on Aerial Imag.(C9) ion (D2) D3) (D5) Is (D6) (LRR A) mocks (D7)

# WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, and Coast Region

Project/Site:	FWLE	/ I-5			City/Co	unty:		Bell	evue	•	Sampling	g Date:	3/11/20	14	
Applicant/Owner:	S	Sound Transit	t						State:	WA	Samplin	g Point:	SP 06-	-4-2	
Investigators:	Lisa	Danielski		Dange	elei Fox		Se	ectior	, Towns	hip, Range	S 28	T 22 N	IR4	4 E	
Landform (hillslop	pe, terr	race, etc.):	Depression			Local Re	elief (con	cave,	convex	, none): C	oncave		Slope	e(%)	
Subregion (LRR)	: A			Lat:	47.394177		Long:	-122	.297307	,	D	atum: N	IAD83		
Soil Map Unit Na	me:	Arents, Alo	derwood materia	l, 6 to	15 percent slope	S			NV	VI Classifica	ation:				
Are climatic / hyd	Irologic	conditions c	on the site typica	al for th	nis time of year?	Yes	I	No	Х	(If No, exp	lain in Re	marks)			
Are Vegetation	,	Soil,	Hydrology	_, sigr	nificantly disturbe	⊧d?	Are	e "No	rmal Cir	cumstances	" present	? Yes	Х	No	
Are Vegetation	,	Soil,	Hydrology	_, nati	urally problemation	c?	(1	lf nee	ded, ex	olain any an	swers in	Remarks	.)		

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

Hydrophytic Vegetation Present?	Yes	No X				
Hydric Soil Present?	Yes	No X	Is the Sampled Area			
Wetland Hydrology Present?	Yes	No X	within a Wetland?	Yes	No	X

Remarks:

Record rainfall during previous month (6.5 inches in February and over 3 inches in the week prior to wetland delineation). Area does not meet criteria for wetland indicators. Paired upland plot for Wetland 6-4.

VEGETATION_ U	se scientific names of plants.	<u>Absolute</u> <u>% Cover</u>	Dominant Species	Indicator Status	Dominance Test V	Vorksheet:			
Tree Stratum	(Plot size: <u>30 Ft</u> )				Number of Domina				
Alnus rubra		80	Y	FAC	That Are OBL, FAC		:	2	(A)
		80	=Total Cover						
Shrub Stratum	(Plot size: <u>50 Ft</u> )				Total Number of Do Species Across all			4	(B)
Oemleria cerasifo		10	Y	FACU			—		_ (=)
Rubus spectabilis		10	Y	FAC	Percent of Dominal			50.0%	(A/B)
		20	=Total Cover		That Are OBL, FAC	SW, or FAC:			_ ( ' ' /
Herb Stratum					Prevalence Index	Worksheet	:		
Vine Stratum					Total % Cover	of:	Multi	ply by:	
	(Plot size: <u>30 Ft</u> )	10		51011	OBL species	0	x 1 =	0	
Rubus armeniacu	S	10	Y	FACU	FACW species	0	x 2 =	0	
		10	=Total Cover		FAC species	90	x 3 =	270	
					FACU species	20	x 4 =	80	
					UPL species	0	x 5 =	0	
					•	440		250	(D)
					Column Totals:	110	(A)	350	<u>(</u> B)
					Prevalence li	ndex = B/A=	:	3.18	
					Hydrophytic Veget	ation Indica	ators:		
					Rapid Test for	Hydrophytic	: Vegeta	ation	
					Dominance Te	et > 50%			
					Prevalence Ind	ex ≤ 3.0			
					Morphological				orting
					data in Remark	is or on a se	eparate	sheet)	
					Problematic Hy	drophytic V	egetatio	on (Exp	olain)
					Indicators of hydrid must be present, u				
% Bare Ground in Herb	Stratum				Hydrophytic Vegetation Presen	it? Yes		No >	ĸ
	numbers here or on a separate sheet	.)			<u> </u>				
This sample does not m	neet any vegetative indicators.								



	ption: (Des	<b>cribe to the</b> Matrix	depth nee	eded to document		i <b>cator or d</b> Features	onfirm t	he absence of Indicators.)	
Depth (inches)	Color	(moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0 to 5	10YR	3/2	100	None		.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		FINE SANDY LOAM	
5 to 10	10YR	3/2	93	10YR 3/6	7	С	М	Gravely Sandy Loam	
10 to 18	10YR	4/4	100	None	<u> </u>			Very Gravely sandy loam	
				iced Martix, CS=Co	vered or	r Coated S	and Grai		M=Matrix
		-Boplotion,				obuida			
Hydric Soil I	ndicators:							Indicators for Problematic Hy	ydric Soils: <sup>3</sup>
Histosol (A	-		l	Sandy Redox (S5	)			2 cm Muck (A10)	
Histic Epipe				Stripped Matrix (S	,			Red Parent Material (TF2)	
Black Histic	. ,		l	Loamy Mucky Mir		(except ML	RA 1)	Very Shallow Dark Surface (TF	-12)
Hydrogen S		( ( ) )	l	Loamy Gleyed Ma				Other (Explain in Remarks)	,
	elow Dark Sur		[	Depleted Matrix (					
	Surface (A12) ky Mineral (S1		l	Redox Dark Surfa     Depleted Dark Su	. ,	<b>`</b>		<sup>3</sup> Indicators of hydrophytic vegetat	ion and wetland
	red Matrix (S4	-	l ſ	Redox Depression		)		hydrology must be present, unless disturbed or problematic.	
	eu Matrix (34	)	l		IIS (FO)				
Restricti	ve Laver (	if observe	d):						
Type:	, ,		,						
Depth (inch	es):							Hydric Soil Present? Y	es No X
Remarks:									
HYDROLOG         Wetland Hyd         Primary Indic         Surface Wa         High Water	I <b>rology Ind</b> i ators (minim tter (A1)		required;	check all that apply	ed Leave 4B)	es (B9) (exc	ept MLRA	Secondary Indicators (mini Water-Stained Leaves ( 4A, and 4B)	. ,
Saturation (	(A3)			Salt Crust (I	,			Drainage Patterns (B10)	)
Water Mark	is (B1)			Aquatic Inve		. ,		Dry-Season Water Table	e (C2)
_	eposits (B2)			Hydrogen S		· · /	in a Da ata	Saturation Visible on Ae	rial Imag.(C9)
Drift Depos	. ,			Oxidized Rh	-	-	ing Roots	Geomorphic Position (D	2)
	r Crust (B4)			Recent Iron		. ,		Shallow Aquitard (D3)	
Iron Deposi				Stunted or S			. ,	FAC-Neutral Test (D5)	
	il Cracks (B6)						(LKK A)	Paised Ant Mounds (D6	) (LRR A)
		ial Imagery (B	,	Other (Expla	ain in Ren	narks)		Frost-Heave Hummocks	; (D7)
	-	ave Surface (	Бо)						
Field Observ					<i>.</i>				
Surface Wate		Yes			(inches):				
Water Table		Yes			(inches):			Wetland Hydrology Present?	Yes No_X_
Saturation Pr (includes cap		Yes	N	o <u>X</u> Depth	(inches):				
		am gauge, mo	nitoring well	l, aerial photos, previo	ous inspec	ctions), if av	ailable:		
Remarks:									

	WET	LAND DE	ETERMIN/	ATION	DATA		Western N	lountains	, Valleys,	, and Co	ast Regi	on		
Project/Site:	FWLE /	′ <b>I-5</b>				City/Cour	nty:	Bellevue	)	Sampli	ng Date:	3/11/201	14	
Applicant/Owne	er: So	ound Transit	:					State	e: WA	Sampl	ing Point:	SP 06-	5-1	
Investigators:	Lisa D	Danielski		Dang	gelei Fox			Section, To	wnship, Ran	ge S 28	T 22 N	R 4	E	
Landform (hillslo	ope, terra	ace, etc.):	Hillslope				Local Relief (c	oncave, con	vex, none):	Convex		Slope	(%)	
Subregion (LRR	R): A			Lat	: 47.39	3882	Long	g: <u>-122.298</u>	389		Datum: N	AD83		
Soil Map Unit N	ame:	Arents, Alc	derwood mate	erial, 6 to	15 perc	ent slopes			NWI Classi	fication:				
Are climatic / hy	drologic	conditions c	on the site typ	oical for th	his time	of year?	Yes	No X	(If No, e	explain in F	Remarks)			
Are Vegetation	,	Soil,	Hydrology _	, sig	nificantly	y disturbed	?	Are "Normal	Circumstan	ces" prese	nt? Yes	Х	No	
Are Vegetation	,	Soil,	Hydrology _	, nat	turally pr	oblematic?	?	(If needed.	explain any	answers i	n Remarks.	.)		
SUMMARY			Attach a	site m	an sho	wina sa	molina poi					,	os ot	r
Hydrophytic V			Yes		X	wing so			///3, trails	50013, III	portant	Icatur		0.
Hydric Soil Pre	0			( No		Is the s	Sampled Area							
Wetland Hydro	ology Pre	esent?		( No			a Wetland?	-	Yes	XN	lo			
Remarks:														
Record rainfall indicators. Plo							ches in the wee	ek prior to w	etland deline	eation). Thi	s plot meet	s wetlan	d	
VEGETATIO	ON_ U	se scienti	fic names	of plant	ts.	Absolute		Indicator						
Tree Stratun					-	<u>% Cover</u>	Species	<u>Status</u>	Dominar	nce Test W	orksheet:			
										of Dominal OBL FAC	nt Species W, or FAC		1	(A)
Shrub Stratu		(Plot size	:: <u>50 Ft</u>	_ )		20	Y	FAC		022, 0	,			_
Rubus s	spectabilis					20				mber of Do Across all \$			2	(B)
Herb Stratur	n					20	=Total Cover	r	Opecies /		Juana.		2	_(D)
Vine Stratun		(Plot size	e: 30 Ft	)						of Dominan OBL, FAC	it Species W, or FAC:		50.0%	(A/B)
Hedera	helix					85	Y	FACU	Prevalen	ce Index \	Norksheet	:		
Rubus a	armeniacu	S				2	N	FACU	Total	% Cover of	of:	Multip	ly by:	
						87	=Total Cover	r	OBL spec	cies	0	x 1 =	0	
									FACW sp	becies	0	x 2 =	0	
									FAC spec	cies	20	x 3 =	60	
									FACU sp	pecies	87	x 4 =	348	
									UPL spec	cies	0	x 5 =	0	
									Column T	Fotals:	107	(A)	408	(B)
									Pre	evalence In	dex = B/A=	:	3.81	
									Hydrophy	tic Vegeta	ation Indica	ators:		
									Rapie	d Test for H	Hydrophytic	Vegeta	tion	
									Dom	inance Tes	st > 50%			
									Preva	alence Inde	ex ≤ 3.0			
											Adaptations s or on a se			orting
											drophytic V	•	,	olain)
											soil and winless distu			
										ophytic on Present	·2 ··			
% Bare Ground	d in Herb	Stratum							veyetatio	on mesen	Yes	N	No )	<u> </u>

Remarks: (Include photo numbers here or on a separate sheet.)

H.helix is acting as an aggressive invasive plant causing problematic vegetation. Vegetation does not meet dominance or prevalence test, however is considered hydrophytic because hydric soil and hydrology are present.



r rome besonpt	tion: (Desc	<b>ribe to the</b> Matrix	depth I	neede	ed to document	t <b>the indi</b> Redox F		confirm	the absence of Indicators.)	
Depth (inches)	Color	(moist)	%		Color (moist)	Keu0x r %	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0 to 8	10YR	2/2	100				.,,,,,		FINE SANDY LOAM	
8 to 16	2.5Y	4/2	85		10YR 4/6	15	С	М	Very gravelly loamy sand	
										Lining M-Matrix
1Type: C=Conce Hydric Soil Ind Histosol (A1) Histic Epipedo Black Histic (A Hydrogen Sull Depleted Belo Thick Dark Su Sandy Mucky Sandy Gleyed Restrictive Type: Depth (inches Remarks: This area meets hy	dicators: on (A2) A3) Ifide (A4) ow Dark Surf urface (A12) Mineral (S1) d Matrix (S4) e Layer (i	ace (A11) ) f observed	1):		Sandy Redox (S& Stripped Matrix ( Loamy Mucky Mi Loamy Gleyed M Depleted Matrix ( Redox Dark Suff Depleted Dark Si Redox Depressio	5) S6) neral (F1) ( latrix (F2) (F3) ace (F6) urface (F7)	(except ML		Autors: PL=Pore	natic Hydric Soils: <sup>3</sup> TF2) urface (TF12) narks) c vegetation and wetland ent,
HYDROLOGY Wetland Hydro Primary Indicato	ology Indi		require	d; ch	eck all that apply	y)			Secondary Indicato	ors (minimum of two required)
<ul> <li>✓ Surface Water</li> <li>✓ High Water Ta</li> <li>✓ Saturation (A3</li> <li>✓ Water Marks (</li> <li>Sediment Dep</li> <li>Drift Deposits</li> <li>Algal Mat or C</li> <li>Iron Deposits</li> <li>Surface Soil C</li> <li>Inundation Vis</li> <li>Sparsely Vege</li> </ul>	er (A1) able (A2) 3) (B1) posits (B2) 5 (B3) Crust (B4) (B5) Cracks (B6) sible on Aeria	al Imagery (B	7)		Water-Stain 1, 2, 4A an Salt Crust ( Aquatic Invi Hydrogen S Oxidized R Presence c Recent Iron Stunted or Other (Expl	ned Leaves d 4B) (B11) ertebrates Sulfide Odo hizosphere of Reduced n Reduction Stressed P	(B13) r (C1) es along Liv Iron (C4) n in Tilled S Plants (D1)	ving Roots Goils (C6)	Water-Stained 4A, and 4B)     Drainage Patter Dry-Season W. Saturation Visil Geomorphic Po Shallow Aquita FAC-Neutral To	Leaves (B9) (MLRA 1, 2, erns (B10) ater Table (C2) ble on Aerial Imag.(C9) osition (D2) urd (D3) est (D5) unds (D6) (LRR A)
Field Observati		Yes	<u> </u>	No No		(inches): (inches):	-	11 urface	Wetland Hydrology Pre	
Surface Water F Water Table Pre Saturation Prese		Yes Yes	X X	No	Depth	(inches):	SI	urface		esent? Yes X No

WETLAND D	DETERMINATION	DATA FORM	I - Western	Mountains	, Valleys, and C	oast Regi	on	
Project/Site: FWLE / I-5		City/Co	ounty:	Bellevue	Sam	pling Date:	3/11/2014	
Applicant/Owner: Sound Trans	sit			State	: WA Sam	pling Point:	SP 06-5-2	
Investigators: Lisa Danielski	Dan	igelei Fox		Section, To	wnship, Range S 2	8 T 22 N	R 4 E	
Landform (hillslope, terrace, etc.):	Hillslope		Local Relie	f (concave, con	vex, none): Conve	(	Slope(%)	
Subregion (LRR): A	La	it: 47.393876	۔ ل	ong: -122.298	246	Datum: NA	AD83	
Soil Map Unit Name: Arents, A	Iderwood material, 6 to	o 15 percent slope	es		NWI Classification:	None		
Are climatic / hydrologic conditions	on the site typical for	this time of year?	Yes	No X	(If No, explain ir	Remarks)		
Are Vegetation, Soil	, Hydrology, si	gnificantly disturb	ed?	Are "Normal	Circumstances" pres	sent? Yes	X No	
Are Vegetation, Soil	, Hydrology, na	aturally problemat	ic?	(If needed	explain any answers	s in Remarks	) –	
SUMMARY OF FINDINGS	- Attach a site m	an showing	samnling r	,	1 2	,	,	Ċ
Hydrophytic Vegetation Present?		X	samping p				ieatures, et	0.
Hydric Soil Present?	Yes No	X Is th	e Sampled A	rea				
Wetland Hydrology Present?	Yes No		in a Wetland		Yes	No X		
Remarks:								
Area does not meet wetland indic delineation). Paired upland plot for				es in February	and over 3 inches in	the week prio	or to wetland	
VEGETATION_ Use scien	tific names of plar	nts. <u>Absolut</u>						
Tree Stratum		<u>% Cove</u>	er <u>Specie</u> s	<u>s Status</u>	Dominance Test			
					Number of Domir That Are OBL, FA		1	(A)
	ze: <u>50 Ft</u> )		40 Y	FAC				_
Rubus spectabilis			10		<ul> <li>Total Number of I Species Across a</li> </ul>		2	(B)
Herb Stratum			40 =Total Co	over	opecies Acioss a	li Oliala.	Z	_(D)
Vine Stratum	ze: 30 Ft )				Percent of Domin That Are OBL, FA		50.0%	(A/B)
Hedera helix	,	Ę	55 Y	FACU	Prevalence Index	x Worksheet:		
llex aquifulium			5 N	FACU	Total % Cove	er of:	Multiply by:	
		6	<sup>60</sup> =Total Co	over	OBL species	0	x 1 = 0	
					FACW species	0	x 2 = 0	
					FAC species	40	x 3 = 120	
					FACU species	60	x 4 = 240	
					UPL species	0	x 5 = 0	
					Column Totals:	100	(A) 360	(B)
					Prevalence	Index = B/A=	3.60	
					Hydrophytic Vege	atation Indica	itors:	
					Rapid Test fo	r Hydrophytic	Vegetation	
					Dominance T	est > 50%		
					Prevalence Ir	ndex ≤ 3.0		
							(Provide supp eparate sheet)	orting
					Problematic H	Hydrophytic Ve	egetation (Exp	plain)
					Indicators of hyd must be present,			
					Hydrophytic Vegetation Prese	ent? Yes	No )	x
% Bare Ground in Herb Stratum Remarks: (Include photo numbers	here or on a senarato	sheet )						<u>`</u>
This sample does not meet any ve	•	0.1000.)						
The sumple aces not meet any w	systative indicators.							

Profile Descri	-	-	n need	ed to doo			confirm t	he absence of Indicators.)	
Depth (inches)		trix	0/	Color		Features	1002	Touturo	Domostra
(inches)	Color (moi	<i>,</i>	<u>%                                    </u>	Color (n	101St) %	Type <sup>1</sup>	LOC 2	Texture	Remarks
0 to 19		/ 2 100		None				FINE SANDY LOAM	
<sup>1</sup> Type: C=Cond	centration, D=Dep	oletion, RM=F	Reduce	ed Martix,	CS=Covered or	Coated S	Sand Grai	ins. <sup>2</sup> Location: PL=Pore Lining	g, M=Matrix.
Hydric Soil In	ndicators:							Indicators for Problematic	Hydric Soils: <sup>3</sup>
Histosol (A1	)			] Sandy R	edox (S5)			2 cm Muck (A10)	
Histic Epipe	don (A2)				Matrix (S6)			Red Parent Material (TF2)	
Black Histic	. ,			Loamy M	ucky Mineral (F1)	(except ML	_RA 1)	Very Shallow Dark Surface (	TF12)
Hydrogen S				Loamy G	leyed Matrix (F2)			Other (Explain in Remarks)	
	elow Dark Surface (	A11)			Matrix (F3)				
	Surface (A12)			-	ark Surface (F6)			<sup>3</sup> Indicators of hydrophytic veget	ation and wetland
	ky Mineral (S1)				Dark Surface (F7)			hydrology must be present,	
Sandy Gley	ed Matrix (S4)			] Redox D	epressions (F8)			unless disturbed or problemati	5.
Restricti	ve Layer (if ob	served):							
Туре:			-					Hydric Soil Present?	Yes No X
Depth (inch	es):		-					Tryune Son Tresent:	
Remarks: This sample doe	s not meet any hydi	ic soil indicato	ire						
This sample due	s not meet any nyu		13.						
HYDROLOG	v								
Wetland Hyd	rology Indicator ators (minimum of		red; ch	eck all th	at apply)			Secondary Indicators (mi	nimum of two required)
Surface Wa	ter (A1)			🗌 Wa	ter-Stained Leave	s (B9) (exc	ept MLRA	Water-Stained Leaves	<u>· · · ·</u>
High Water	. ,				2, 4A and 4B)	- ( -) (		4A, and 4B)	(D9) (WILKA 1, 2,
Saturation (	A3)				t Crust (B11)			Drainage Patterns (B	10)
Water Mark	*			🗌 Aqı	atic Invertebrates	(B13)		Dry-Season Water Ta	*
Sediment D	eposits (B2)			Hyd	Irogen Sulfide Odo	or (C1)		Saturation Visible on A	
Drift Deposi	ts (B3)				dized Rhizosphere	-	ving Roots	(C3) Geomorphic Position	0 ( )
Algal Mat or	Crust (B4)				sence of Reduced			Shallow Aquitard (D3)	
Iron Deposi	ts (B5)			Red	cent Iron Reduction	n in Tilled S	Soils (C6)	FAC-Neutral Test (D5	
Surface Soi	l Cracks (B6)			└ Stu	nted or Stressed F	Plants (D1)	(LRR A)	Paised Ant Mounds (I	
Inundation \	/isible on Aerial Ima	igery (B7)		Oth	er (Explain in Rem	narks)		Frost-Heave Hummoo	ks (D7)
Sparsely Ve	getated Concave S	urface (B8)							
Field Observa	ations:								
Surface Wate	r Present?	Yes	No	Х	Depth (inches):				
Water Table F	Present?	Yes	No	X	Depth (inches):				
Saturation Pre		Yes	No	X	Depth (inches):			Wetland Hydrology Present?	? Yes No_X
(includes capi	llary fringe) ed Data (stream ga		a woll a			tions) if a	vailable:		
Describe Record	eu Data (Stream ga	uge, monitoring	y wen, a		s, previous inspec	10113), ii a	valiable.		
Remarks:									
Moist, but not sa	turated. This sample	e does not mee	et any h	nydrology ir	dicators.				
ι									

WETLAND DETERMINATION	N DATA FORM - W	Nestern M	ountains,	Valleys, an	d Coas	t Regi	on		
Project/Site: FWLE / I-5	City/Count	y:	Bellevue		Sampling I	Date:	3/12/201	14	
Applicant/Owner: Sound Transit			State	WA	Sampling	Point:	SP 06-	5-3	
Investigators: Lisa Danielski Da	ngelei Fox		Section, Tow	vnship, Range	S 28	T 22 N	R 4	E	
Landform (hillslope, terrace, etc.): Hillslope	Lo	ocal Relief (co	ncave, conv	rex, none): Co	nvex		Slope	:(%)	
Subregion (LRR): A L	at: 47.393966	Long	-122.2974	138	Da	tum: N	AD83		
Soil Map Unit Name: Arents, Alderwood material, 6	to 15 percent slopes			NWI Classificat	ion:				
Are climatic / hydrologic conditions on the site typical for	this time of year?	Yes	No X	(If No, expla	ain in Rem	arks)			
Are Vegetation, Soil, Hydrology, s	ignificantly disturbed?	A	re "Normal	Circumstances"	present?	Yes	Х	No	
Are Vegetation, Soil, Hydrology, r	naturally problematic?		(If needed,	explain any ans	wers in R	emarks.	.)	_	
SUMMARY OF FINDINGS - Attach a site r	nan showing san	nnlina noii						es et	c
Hydrophytic Vegetation Present? Yes No	•	<u></u>			. <u>.,</u> ,	- turit	Journal		<u>v.</u>
Hydric Soil Present? Yes No	X Is the Sa	ampled Area							
Wetland Hydrology Present? Yes No	within a	Wetland?		Yes	No	х			
Remarks: Record precipitation in region. This site does not meet (merged with 6-4)				n upland plot. F	Paired upla	and plot	for Wet	land 6-	5
VEGETATION Use scientific names of pla	nts. <u>Absolute</u> <u>% Cover</u>	Dominant Species	Indicator Status	Dominance -	Test Work	sheet:			
Tree Stratum (Plot size: <u>30 Ft</u> )				Number of D					
Alnus rubra	10	Y	FAC	That Are OB	L, FACW,	or FAC	:	1	(A)
	10	_=Total Cover		Total Numbe	r of Domin	ant			
Shrub Stratum				Species Acro				2	(B)
Herb Stratum				Percent of Do	ominant Si	nacias			
Vine Stratum (Plot size: <u>30 Ft</u> )				That Are OBL				50.0%	(A/B)
Rubus armeniacus	80	Y	FACU	Prevalence I	ndex Wor	ksheet	:		
	80	=Total Cover		Total % (	Cover of:		Multip	oly by:	
				OBL species		0	x 1 =	0	
				FACW specie	es	0	x 2 =	0	
				FAC species		10	x 3 =	30	
				FACU specie	es	80	x 4 =	320	
				UPL species		0	x 5 =	0	
				Column Tota	ls:	90	(A)	350	(B)
				Prevale	ence Index	c = B/A=	:	3.89	
				Hydrophytic	Vegetatio	n Indica	ators:		
				Rapid Te	st for Hyd	rophytic	: Vegeta	tion	
				Dominan	ce Test >	50%			
				Prevalen	ce Index ≤	≦ 3.0			
					ogical Ada emarks or				orting
				Problema	atic Hydroj	phytic V	egetatio	n (Exp	plain)
				Indicators of must be pres					
% Bare Ground in Herb Stratum				Hydroph Vegetation P		Yes		No X	x
Remarks: (Include photo numbers here or on a separate	e sheet.)								
This sample does not meet any vegetative indicators.	-								



Profile Descrip	otion: (Describe to	o the depth	neede	d to documen	t the indi	cator or o	confirm	the absence of Indicators.)	
Depth	Matr				Redox F				
(inches)	Color (moist	) %	<u> </u>	Color (moist)	%	Type 1	Loc <sup>2</sup>	Texture	Remarks
0 to 17	10YR 4/	3 100	_	None				Gravelly Loamy Sand	
<sup>1</sup> Type: C=Conc	entration, D=Deple	etion, RM=R	educed	I Martix, CS=C	overed or	Coated S	Sand Gra	ains. <sup>2</sup> Location: PL=Pore Lining, N	<i>I</i> =Matrix.
Hydric Soil In	dicators:							Indicators for Problematic Hy	dric Soils: <sup>3</sup>
Histosol (A1)	)			Sandy Redox (S	5)			2 cm Muck (A10)	
Histic Epiped	don (A2)			Stripped Matrix (	S6)			Red Parent Material (TF2)	
Black Histic	(A3)			Loamy Mucky Mi	ineral (F1)	(except ML	.RA 1)		2)
Hydrogen Su	ulfide (A4)			Loamy Gleyed M	latrix (F2)			Very Shallow Dark Surface (TF1 Other (Explain in Remarks)	2)
Depleted Be	low Dark Surface (A1	1)		Depleted Matrix	(F3)				
Thick Dark S	Surface (A12)			Redox Dark Surf	ace (F6)			<sup>3</sup> Indicators of hydrophytic vegetatic	n and wetland
Sandy Muck	y Mineral (S1)			Depleted Dark S	urface (F7)			hydrology must be present,	
Sandy Gleye	ed Matrix (S4)			Redox Depressio	ons (F8)			unless disturbed or problematic.	
Restrictiv	/e Layer (if obse	erved):							
Type: Roo	ck								- N- V
Depth (inche	es): <u>17</u> "							Hydric Soil Present? Ye	s <u>No X</u>
Hit an impassable	e rock at 17". This sa	mple does no	t meet a	ny hydric soil ind	icators; soi	l chroma o	f 3 is too	bright to meet any criteria for hydric soils.	
HYDROLOGY	7								
	rology Indicators tors (minimum of c		ed; che	ck all that apply	y)			Secondary Indicators (minim	num of two required)
Surface Wat	er (A1)			Water-Stai		s (B9) (exc	ept MLRA	Water-Stained Leaves (B	9) (MLRA 1, 2,
High Water	Table (A2)			1, 2, 4A an	,			<sup>4</sup> A, and 4B)	
Saturation (A	A3)			Salt Crust	. ,			Drainage Patterns (B10)	
Water Marks	s (B1)			Aquatic Inv				Dry-Season Water Table	(C2)
Sediment De	eposits (B2)			Hydrogen S		. ,		Saturation Visible on Aeri	al Imag.(C9)
Drift Deposit	s (B3)			Oxidized R	-	-	/ing Root	s (C3) Geomorphic Position (D2	)
Algal Mat or				Presence of				Shallow Aquitard (D3)	
Iron Deposite				Recent Iror			. ,	FAC-Neutral Test (D5)	
Surface Soil				Stunted or	Stressed P	Plants (D1)	(LRR A)	Paised Ant Mounds (D6)	(LRR A)
	isible on Aerial Imag	, ,		Other (Exp	lain in Rem	arks)		Frost-Heave Hummocks	(D7)
	getated Concave Sur	face (B8)							
Field Observa									
Surface Water		Yes	No		(inches):			-	
Water Table P		Yes X			(inches):		15	Wetland Hydrology Present?	Yes No_X
Saturation Pre		Yes X	No	Depth	(inches):		14		
	ary minge) ed Data (stream gaug	je, monitoring	well, ae	rial photos, previ	ous inspec	tions), if av	vailable:		
Remarks: This sample does	s not meet any hydrol	ogy indicators	. Satura	ation/water table	too deep a	fter heavy	rainfall to	meet primary hydrologic indicators.	

## WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, and Coast Region

Project/Site:	FWLE / I-5		City/County:	Bellevue		Sampling Date:	3/11/2014
Applicant/Owner	: Sound Transit			State:	WA	Sampling Point:	SP 06-5-4
Investigators:	Lisa Danielski	Dangelei F	ox	Section, Towns	ship, Range	S 28 T 22 N	R 4 E
Landform (hillslo	ppe, terrace, etc.):	Depression	Local Re	elief (concave, convex	, none): Co	oncave	Slope(%)
Subregion (LRR)	): A	Lat: 47.	393963	Long: -122.297440	)	Datum: N	IAD83
Soil Map Unit Na	ame: Arents, Ald	erwood material, 6 to 15 pe	ercent slopes	NV	WI Classifica	tion: PFO1	
Are climatic / hyd	drologic conditions o	n the site typical for this tim	e of year? Yes	No X	(If No, expl	ain in Remarks)	
Are Vegetation	, Soil, I	Hydrology, significar	ntly disturbed?	Are "Normal Cir	cumstances	present? Yes	X No
Are Vegetation	, Soil,	Hydrology, naturally	problematic?	(If needed, ex	plain any ans	swers in Remarks	.)

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

Hydrophytic Vegetation Present?	Yes	Х	No	
Hydric Soil Present?	Yes	Х	No	Is the Sampled Area
Wetland Hydrology Present?	Yes	Х	No	within a Wetland? Yes X No

#### Remarks:

Record rainfall during previous month (6.5 inches in February and over 3 inches in the week prior to wetland delineation). This plot meets the criteria for a wetland. Located in Wetland 6-5 (merged with Wetland 6-4).

VEGETATION_ U	se scientific names of plants.	Absolute <u>% Cover</u>	Dominant Species	Indicator Status	Dominance Test	Worksheet:			
Tree Stratum	(Plot size: <u>30 Ft</u> )				Number of Domin				
Alnus rubra		50	Y	FAC	That Are OBL, FA		:	2	(A)
		50	=Total Cover		Total Number of D	ominant			
Shrub Stratum					Species Across al			3	(B)
Herb Stratum	(Plot size: <u>5 Ft</u> )								_
Carex obnupta		10	Y	OBL	Percent of Domina That Are OBL, FA		:	66.7%	(A/B)
		10	=Total Cover		Prevalence Index	Worksheet			
Vine Stratum	(Plot size: <u>30 Ft</u> )				Total % Cover			ply by:	
Rubus armeniacu	s	30	Y	FACU	- OBL species	10	x 1 =	10 pry by.	
		30	=Total Cover		FACW species	0	x 2 =	0	
					FAC species	50	x 3 =	150	
					FACU species	30	x 4 =	120	
					UPL species	0	x 5 =	0	
					Column Totals:	90	(A)	280	(B)
					Prevalence	Index – B/A-	_	3.11	
					Hydrophytic Vege			5.11	
					Rapid Test for			ation	
					· ·		, vegeta		
					X Dominance Te	est > 50%∢			
					Prevalence In	dex ≤ 3.0			
					Morphological				orting
					data in Remar	ks or on a s	eparate	sheet)	
					Problematic H	ydrophytic V	/egetatio	on (Exp	plain)
					Indicators of hydr must be present,				
					Hydrophytic	m42			
% Bare Ground in Herb					Vegetation Prese	nt? Yes	X	No	
	numbers here or on a separate sheet.)								
Vegetation meets the d	ominance test for hydrophytic vegetatio	n.							



Profile Descri	ption: (Des	scribe to the	depth i	neede	ed to document	t the indi	cator or o	confirm t	the absence of Indicators.)	
Depth		Matrix				Redox F	eatures			
(inches)	Colo	r (moist)	%		Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0 to 7	10YR	2/2	100						Gravelly sandy lam	
7 to 16	2.5Y	5/3	80		10YR 4/6	20			LOAMY SAND	
<sup>1</sup> Type: C=Con	centration,	D=Depletion,	RM=Re	educe	d Martix, CS=Co	overed or	Coated S	and Gra	ins. <sup>2</sup> Location: PL=Pore Lining, I	M=Matrix.
Thick Dark	1) edon (A2) : (A3)	2) 1)			Sandy Redox (St Stripped Matrix (S Loamy Mucky Mi Loamy Gleyed M Depleted Matrix ( Redox Dark Surfa Depleted Dark Surfa Redox Depressio	S6) neral (F1) ( atrix (F2) (F3) ace (F6) urface (F7)		RA 1)	Indicators for Problematic Hy         2 cm Muck (A10)         Red Parent Material (TF2)         Very Shallow Dark Surface (TF <sup>2</sup> )         Other (Explain in Remarks) <sup>3</sup> Indicators of hydrophytic vegetation hydrology must be present, unless disturbed or problematic.	12)
Restricti     Type:     Depth (inch Remarks:	ve Layer	(if observe		orphic			ned based	on presen	Hydric Soil Present? Ye	
HYDROLOG Wetland Hyd Primary Indica	rology Ind		require	d; che	eck all that apply	y)			_ Secondary Indicators (minin	num of two required)
Surface Wa	iter (A1)		roquiro		Water-Stair 1, 2, 4A and	ned Leaves	s (B9) (exc	ept MLRA		<u>, , , , , , , , , , , , , , , , , </u>
Drift Depos Algal Mat o Iron Deposi Surface So Inundation	is (B1) Deposits (B2) its (B3) r Crust (B4) its (B5) il Cracks (B6) Visible on Ae	) rial Imagery (B cave Surface (			Salt Crust ( Aquatic Invo Hydrogen S Oxidized R Presence o Recent Iron Stunted or Other (Expl	ertebrates Sulfide Odo hizosphere of Reduced N Reductior Stressed P	r (C1) es along Liv Iron (C4) n in Tilled S Plants (D1)	oils (C6)	Drainage Patterns (B10)     Dry-Season Water Table     Saturation Visible on Aer     Geomorphic Position (D2     Shallow Aquitard (D3)     FAC-Neutral Test (D5)     Paised Ant Mounds (D6)     Frost-Heave Hummocks	e (C2) rial Imag.(C9) 2) (LRR A)
Field Observ	ations:									
Surface Wate	er Present?	Yes		No	X Depth	(inches):				
Water Table I	Present?	Yes	Х	No	Depth	(inches):		4"	_	
Saturation Pr (includes cap		Yes	<u>    X</u>	No	Depth	(inches):	SI	urface	Wetland Hydrology Present?	Yes <u>X</u> No
Describe Record	ded Data (stre			-	erial photos, previ		tions), if av	ailable:		

## WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, and Coast Region

Project/Site:	FWL	_E / I-5			City/Co	unty:		Belle	evue		Sam	pling	Date:	1/28/20	14
Applicant/Owner	:	Sound Transit							State:	WA	Sam	npling	g Point:	SP 12	-1-1
Investigators:	Lis	sa Danielski		lan We	elch		Sec	ction	, Town	ship, Rang	e S2	28	T 22 N	R 4	4 E
Landform (hillslo	pe, te	errace, etc.):	Toe of Slope			Local Re	elief (conca	ave,	conve	x, none):	Conca	ve		Slope	e(%)
Subregion (LRR)	: A	Ą		Lat:	47.368142		Long:	-122	.29477	7	_	D	atum: N	AD83	
Soil Map Unit Na	me:	Arents, Ald	erwood material	, 6 to 1	5 percent slope	S			N	WI Classifi	cation:				
Are climatic / hyc	drolog	gic conditions o	n the site typical	for this	s time of year?	Yes	N	lo	Х	(If No, ex	plain i	n Rer	marks)		
Are Vegetation		_, Soil,	Hydrology	, sign	ificantly disturbe	ed?	Are	"No	rmal Ci	ircumstance	es" pre	sent	? Yes	Х	No
Are Vegetation		_, Soil,	Hydrology	, natu	rally problemation	c?	(If	nee	ded, ex	kplain any a	answer	s in I	Remarks	.)	

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

Hydrophytic Vegetation Present?	Yes	Х	No						
Hydric Soil Present?	Yes		No	Х	Is the Sampled Area				
Wetland Hydrology Present?	Yes		No	Х	within a Wetland?	Yes	 No	X	

#### Remarks:

Upland sample plot east of Wetland 12-1. Below-normal rainfall in November and December (3.79 and 1.66 inches, respectively). Rainfall nearly below normal in January (3.7 inches). This site does not meet the criteria to be classified as a wetland.

<b>VEGETATION</b> - Use scientific names of plants.	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test	Worksheet.			
Tree Stratum				Number of Domina				
Shrub Stratum (Plot size: <u>50 Ft</u> )				That Are OBL, FA		:	2	(A)
Rubus spectabilis	10	Y	FAC	Total Number of D	ominant			
	10	=Total Cover		Species Across all			3	(B)
Herb Stratum (Plot size: 5 Ft )								-
Ranunculus repens	50	Y	FAC	Percent of Domina That Are OBL, FA		:	66.7%	(A/B)
	50	=Total Cover		Prevalence Index	Worksheet	:		
Vine Stratum (Plot size: <u>30 Ft</u> )				Total % Cover	of:	Multi	ply by:	
Rubus armeniacus	10	Y	FACU	OBL species	0	x 1 =	0	
	10	=Total Cover		FACW species	0	x 2 =	0	
				FAC species	60	x 3 =	180	
				FACU species	10	x 4 =	40	
				UPL species	0	x 5 =	0	
				Column Totals:	70	(A)	220	(B)
				Prevalence l	Index = B/A=	=	3.14	
				Hydrophytic Vege	tation Indic	ators:		
				Rapid Test for			ation	
				X Dominance Te	est > 50%			
				Prevalence Ind	dex ≤ 3.0			
				Morphological	Adaptations	(Provi	de supp	ortina
				data in Remar				orang
				Problematic H	ydrophytic V	egetatio	on (Exp	olain)
				Indicators of hydri must be present,				
				Hydrophytic				
% Bare Ground in Herb Stratum				Vegetation Prese	nt? Yes	X	No	
Remarks: (Include photo numbers here or on a separate sheet.	)							
Vegetation meets the dominance test for hydrophytic vegetation	n							

	Aatrix				Features			
(inches) Color (m	oist)	%	Color (mois	) %	Type 1	Loc <sup>2</sup>	Texture	Remarks
0 to 10 10YR	2/1	100	None				very gravely sandy loam	
0 to 22 2.5YR	3/2	97	10YR 4/6	30	С	М	Gravely loamy sand	
Type: C=Concentration, D=D	epletion,	RM=Reduce	ed Martix, CS	=Covered o	r Coated S	Sand Gra	ins. <sup>2</sup> Location: PL=Pore Lining,	M=Matrix.
Iydric Soil Indicators:							Indicators for Problematic H	ydric Soils: <sup>3</sup>
Histosol (A1)			Sandy Redox	(S5)			2 cm Muck (A10)	
Histic Epipedon (A2)			Stripped Matr	( )			Red Parent Material (TF2)	
Black Histic (A3)			Loamy Mucky	Mineral (F1)	) (except MI	_RA 1)	Very Shallow Dark Surface (TF	-12)
Hydrogen Sulfide (A4)			Loamy Gleye				Other (Explain in Remarks)	
Depleted Below Dark Surface	e (A11)		Depleted Mat					
_ Thick Dark Surface (A12)			Redox Dark S				<sup>3</sup> Indicators of hydrophytic vegetat	ion and wetland
Sandy Mucky Mineral (S1)			Depleted Dar	-	7)		hydrology must be present,	
Sandy Gleyed Matrix (S4)			Redox Depre	ssions (F8)			unless disturbed or problematic.	
Restrictive Layer (if o	bserved	d):						
Туре:							Hydric Soil Present? Y	es No X
Depth (inches):							Tryane boil resent?	
YDROLOGY Vetland Hydrology Indicat Primary Indicators (minimum		required; ch	neck all that a	oply)			Secondary Indicators (mini	mum of two required)
Vetland Hydrology Indicat		required; ch	Water-S	Stained Leave	es (B9) (exc	ept MLRA	Secondary Indicators (mini	
Vetland Hydrology Indicat Primary Indicators (minimum		required; ch	Water-S	Stained Leave and 4B)	es (B9) (exc	ept MLRA		
Vetland Hydrology Indicat Primary Indicators (minimum Surface Water (A1)		required; ch	Water-S 1, 2, 4A	Stained Leave and 4B) Ist (B11)	. , .	cept MLRA	Water-Stained Leaves (	B9) (MLRA 1, 2,
Vetland Hydrology Indicat Primary Indicators (minimum Surface Water (A1) High Water Table (A2)		required; ch	☐ Water-S 1, 2, 4A ☐ Salt Cru ☐ Aquatic	Stained Leave and 4B) Ist (B11) Invertebrates	s (B13)	ept MLRA	Water-Stained Leaves ( 4A, and 4B)	B9) (MLRA 1, 2,
Vetland Hydrology Indicat Primary Indicators (minimum Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2)		required; ch	Water-S 1, 2, 4A	Stained Leave and 4B) Ist (B11) Invertebrates	s (B13) lor (C1)		Water-Stained Leaves ( 4A, and 4B) Drainage Patterns (B10 Dry-Season Water Tabl	B9) (MLRA 1, 2, ) e (C2)
Vetland Hydrology Indicat Primary Indicators (minimum Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3)		required; ch	Water-S 1, 2, 4A Salt Cru Aquatic Hydroge Oxidize	Stained Leave and 4B) Ist (B11) Invertebrates In Sulfide Od d Rhizospher	s (B13) lor (C1) res along Li		Water-Stained Leaves ( 4A, and 4B) Drainage Patterns (B10 Dry-Season Water Tabl	B9) (MLRA 1, 2, ) e (C2) srial Imag.(C9)
Vetland Hydrology Indicat         Primary Indicators (minimum         Surface Water (A1)         High Water Table (A2)         Saturation (A3)         Water Marks (B1)         Sediment Deposits (B2)         Drift Deposits (B3)         Algal Mat or Crust (B4)		required; ch	Water-S 1, 2, 4A Salt Cru Aquatic Hydroge Oxidize Present	Stained Leave and 4B) Ist (B11) Invertebrates In Sulfide Od d Rhizospher ce of Reduce	s (B13) lor (C1) res along Li <sup>,</sup> d Iron (C4)	ving Roots	Water-Stained Leaves ( 4A, and 4B) Drainage Patterns (B10 Dry-Season Water Tabl Saturation Visible on Ae	B9) (MLRA 1, 2, ) e (C2) srial Imag.(C9)
Vetland Hydrology Indicat Primary Indicators (minimum Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5)		required; ch	Water-5 1, 2, 4A Salt Cru Aquatic Hydroge Oxidize Present Recent	Stained Leave and 4B) ist (B11) Invertebrates en Sulfide Od d Rhizospher ce of Reduce Iron Reductio	s (B13) lor (C1) res along Li d Iron (C4) on in Tilled S	ving Roots Soils (C6)	Water-Stained Leaves ( 4A, and 4B) Drainage Patterns (B10 Dry-Season Water Tabl Saturation Visible on Ae Geomorphic Position (D	B9) (MLRA 1, 2, ) e (C2) srial Imag.(C9)
Wetland Hydrology Indicat         Primary Indicators (minimum         Surface Water (A1)         High Water Table (A2)         Saturation (A3)         Water Marks (B1)         Sediment Deposits (B2)         Drift Deposits (B3)         Algal Mat or Crust (B4)         Iron Deposits (B5)         Surface Soil Cracks (B6)	of one is		Water-S 1, 2, 4A Salt Cru Aquatic Hydroge Oxidize Presend Recent Stunted	Stained Leave and 4B) ist (B11) Invertebrates en Sulfide Od d Rhizospher ce of Reduce ron Reductic or Stressed	s (B13) lor (C1) res along Lir d Iron (C4) on in Tilled S Plants (D1)	ving Roots Soils (C6)	Water-Stained Leaves ( 4A, and 4B)     Drainage Patterns (B10     Dry-Season Water Tabl     Saturation Visible on Ae     Geomorphic Position (D     Shallow Aquitard (D3)     FAC-Neutral Test (D5)     Paised Ant Mounds (D6)	B9) (MLRA 1, 2, ) e (C2) trial Imag.(C9) 2) ) (LRR A)
Vetland Hydrology Indicat Primary Indicators (minimum Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial In	of one is	7)	Water-S 1, 2, 4A Salt Cru Aquatic Hydroge Oxidize Presend Recent Stunted	Stained Leave and 4B) ist (B11) Invertebrates en Sulfide Od d Rhizospher ce of Reduce Iron Reductio	s (B13) lor (C1) res along Lir d Iron (C4) on in Tilled S Plants (D1)	ving Roots Soils (C6)	Water-Stained Leaves ( 4A, and 4B) Drainage Patterns (B10 Dry-Season Water Tabl Saturation Visible on Ae Geomorphic Position (D Shallow Aquitard (D3) FAC-Neutral Test (D5)	B9) (MLRA 1, 2, ) e (C2) trial Imag.(C9) 2) ) (LRR A)
Wetland Hydrology Indicat         Primary Indicators (minimum         Surface Water (A1)         High Water Table (A2)         Saturation (A3)         Water Marks (B1)         Sediment Deposits (B2)         Drift Deposits (B3)         Algal Mat or Crust (B4)         Iron Deposits (B5)         Surface Soil Cracks (B6)         Inundation Visible on Aerial In         Sparsely Vegetated Concave	of one is	7)	Water-S 1, 2, 4A Salt Cru Aquatic Hydroge Oxidize Presend Recent Stunted	Stained Leave and 4B) ist (B11) Invertebrates en Sulfide Od d Rhizospher ce of Reduce ron Reductic or Stressed	s (B13) lor (C1) res along Lir d Iron (C4) on in Tilled S Plants (D1)	ving Roots Soils (C6)	Water-Stained Leaves ( 4A, and 4B)     Drainage Patterns (B10     Dry-Season Water Tabl     Saturation Visible on Ae     Geomorphic Position (D     Shallow Aquitard (D3)     FAC-Neutral Test (D5)     Paised Ant Mounds (D6)	B9) (MLRA 1, 2, ) e (C2) trial Imag.(C9) 2) ) (LRR A)
Wetland Hydrology Indicat         Primary Indicators (minimum         Surface Water (A1)         High Water Table (A2)         Saturation (A3)         Water Marks (B1)         Sediment Deposits (B2)         Drift Deposits (B3)         Algal Mat or Crust (B4)         Iron Deposits (B5)         Surface Soil Cracks (B6)         Inundation Visible on Aerial In         Sparsely Vegetated Concave         ield Observations:	of one is nagery (B7 Surface (E	7) 38)	Water-5         1, 2, 4A         Salt Cru         Aquatic         Hydroge         Oxidize         Presend         Recent         Stunted         Other (free	Stained Leave and 4B) ist (B11) Invertebrates an Sulfide Od d Rhizospher ce of Reduce Iron Reductic or Stressed Explain in Rei	s (B13) lor (C1) res along Lir d Iron (C4) on in Tilled S Plants (D1) marks)	ving Roots Soils (C6)	Water-Stained Leaves ( 4A, and 4B)     Drainage Patterns (B10     Dry-Season Water Tabl     Saturation Visible on Ae     Geomorphic Position (D     Shallow Aquitard (D3)     FAC-Neutral Test (D5)     Paised Ant Mounds (D6)	B9) (MLRA 1, 2, ) e (C2) trial Imag.(C9) 2) ) (LRR A)
Wetland Hydrology Indicat         Primary Indicators (minimum         Surface Water (A1)         High Water Table (A2)         Saturation (A3)         Water Marks (B1)         Sediment Deposits (B2)         Drift Deposits (B3)         Algal Mat or Crust (B4)         Iron Deposits (B5)         Surface Soil Cracks (B6)         Inundation Visible on Aerial In         Sparsely Vegetated Concave	of one is	7) 38) No	Water-S         1, 2, 4A         Salt Cru         Aquatic         Hydroge         Oxidize         Present         Stunted         Other (f	Stained Leave and 4B) ist (B11) Invertebrates an Sulfide Od d Rhizospher ce of Reduce fron Reduction or Stressed Explain in Rei pth (inches):	s (B13) lor (C1) res along Lir d Iron (C4) on in Tilled S Plants (D1) marks)	ving Roots Soils (C6)	Water-Stained Leaves ( 4A, and 4B)     Drainage Patterns (B10     Dry-Season Water Tabl     Saturation Visible on Ae     Geomorphic Position (D     Shallow Aquitard (D3)     FAC-Neutral Test (D5)     Paised Ant Mounds (D6)	B9) (MLRA 1, 2, ) e (C2) trial Imag.(C9) 2) ) (LRR A)
Wetland Hydrology Indicat         Primary Indicators (minimum         Surface Water (A1)         High Water Table (A2)         Saturation (A3)         Water Marks (B1)         Sediment Deposits (B2)         Drift Deposits (B3)         Algal Mat or Crust (B4)         Iron Deposits (B5)         Surface Soil Cracks (B6)         Inundation Visible on Aerial In         Sparsely Vegetated Concave         ield Observations:         Surface Water Present?	of one is nagery (B7 Surface (E Yes	7) 38)	Water-S       1, 2, 4A       Salt Cru       Aquatic       Hydroge       Oxidize       Presend       Recent       Stunted       Other (f       X     De	Stained Leave and 4B) ist (B11) Invertebrates an Sulfide Od d Rhizospher ce of Reduce Iron Reductic or Stressed Explain in Rei	s (B13) lor (C1) res along Li d Iron (C4) on in Tilled S Plants (D1) marks)	ving Roots Soils (C6)	Water-Stained Leaves ( 4A, and 4B)     Drainage Patterns (B10     Dry-Season Water Tabl     Saturation Visible on Ae     Geomorphic Position (D     Shallow Aquitard (D3)     FAC-Neutral Test (D5)     Paised Ant Mounds (D6)	B9) (MLRA 1, 2, ) e (C2) erial Imag.(C9) (2) ) (LRR A) s (D7)
Wetland Hydrology Indicat         Primary Indicators (minimum         Surface Water (A1)         High Water Table (A2)         Saturation (A3)         Water Marks (B1)         Sediment Deposits (B2)         Drift Deposits (B3)         Algal Mat or Crust (B4)         Iron Deposits (B5)         Surface Soil Cracks (B6)         Inundation Visible on Aerial In         Sparsely Vegetated Concave         Yeidd Observations:         Surface Water Present?         Water Table Present?	nagery (B7 Surface (E Yes Yes	7) 38) No	X       Water-S         1, 2, 4A       Salt Cru         Aquatic       Hydroge         Oxidize       Presend         Recent       Stunted         Other (f         X       De         X       De	Stained Leave and 4B) ist (B11) Invertebrates in Sulfide Od d Rhizospher ee of Reduce fron Reductic or Stressed Explain in Rei pth (inches): pth (inches):	s (B13) lor (C1) res along Li d Iron (C4) on in Tilled S Plants (D1) marks)	ving Roots Soils (C6)	Water-Stained Leaves ( 4A, and 4B) Drainage Patterns (B10 Dry-Season Water Tabl Saturation Visible on Ae Geomorphic Position (D Shallow Aquitard (D3) FAC-Neutral Test (D5) Paised Ant Mounds (D6 Frost-Heave Hummocks	B9) (MLRA 1, 2, ) e (C2) trial Imag.(C9) 2) ) (LRR A)
Vetland Hydrology Indicat Primary Indicators (minimum Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial In Sparsely Vegetated Concave Tield Observations: Surface Water Present? Water Table Present? Saturation Present?	nagery (B7 Surface (E Yes Yes Yes	7) 38) No No No	X       Deg         X       Deg	Stained Leave and 4B) ist (B11) Invertebrates in Sulfide Od d Rhizospher ise of Reduce fron Reductic or Stressed Explain in Rei pth (inches): pth (inches):	s (B13) lor (C1) res along Li d Iron (C4) on in Tilled S Plants (D1) marks)	ving Roots Soils (C6) (LRR A)	Water-Stained Leaves ( 4A, and 4B) Drainage Patterns (B10 Dry-Season Water Tabl Saturation Visible on Ae Geomorphic Position (D Shallow Aquitard (D3) FAC-Neutral Test (D5) Paised Ant Mounds (D6 Frost-Heave Hummocks	B9) (MLRA 1, 2, ) e (C2) erial Imag.(C9) (2) ) (LRR A) s (D7)
Vetland Hydrology Indicat Primary Indicators (minimum Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial In Sparsely Vegetated Concave Vegetated Concave Surface Water Present? Surface Water Present? Water Table Present? Saturation Present? (includes capillary fringe)	nagery (B7 Surface (E Yes Yes Yes	7) 38) No No No	X       Deg         X       Deg	Stained Leave and 4B) ist (B11) Invertebrates in Sulfide Od d Rhizospher ise of Reduce fron Reductic or Stressed Explain in Rei pth (inches): pth (inches):	s (B13) lor (C1) res along Li d Iron (C4) on in Tilled S Plants (D1) marks)	ving Roots Soils (C6) (LRR A)	Water-Stained Leaves ( 4A, and 4B) Drainage Patterns (B10 Dry-Season Water Tabl Saturation Visible on Ae Geomorphic Position (D Shallow Aquitard (D3) FAC-Neutral Test (D5) Paised Ant Mounds (D6 Frost-Heave Hummocks	B9) (MLRA 1, 2, ) e (C2) erial Imag.(C9) (2) ) (LRR A) s (D7)
Vetland Hydrology Indicat Primary Indicators (minimum Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial In Sparsely Vegetated Concave Vegetated Concave Surface Water Present? Surface Water Present? Water Table Present? Saturation Present? (includes capillary fringe)	nagery (B7 Surface (E Yes Yes Yes	7) 38) No No No	X       Deg         X       Deg	Stained Leave and 4B) ist (B11) Invertebrates in Sulfide Od d Rhizospher ise of Reduce fron Reductic or Stressed Explain in Rei pth (inches): pth (inches):	s (B13) lor (C1) res along Li d Iron (C4) on in Tilled S Plants (D1) marks)	ving Roots Soils (C6) (LRR A)	Water-Stained Leaves ( 4A, and 4B) Drainage Patterns (B10 Dry-Season Water Tabl Saturation Visible on Ae Geomorphic Position (D Shallow Aquitard (D3) FAC-Neutral Test (D5) Paised Ant Mounds (D6 Frost-Heave Hummocks	B9) (MLRA 1, 2, ) e (C2) erial Imag.(C9) (2) ) (LRR A) s (D7)

# WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, and Coast Region

Project/Site:	FWLE /	I-5			City/Co	unty:		Bell	evue		Samplin	g Date:	1/28/20	14
Applicant/Owner	r: So	und Transit							State:	WA	Samplir	g Point:	SP 12-	-1-2
Investigators:	Lisa D	anielski		lan We	elsh		Se	ection	n, Towr	nship, Range	e S 28	T 22 N	IR4	4 E
Landform (hillslo	ope, terra	ce, etc.):	Hillslope			Local R	elief (cond	cave,	conve	ex, none): C	Concave		Slope	e(%)
Subregion (LRR)	): A			Lat:	47.366344		Long:	-122	.29539	97		Datum: N	IAD83	
Soil Map Unit Na	ame:	Alderwood	gravelly sandy	loam, 1	5 to 30 percent	slopes			N	WI Classific	ation:			
Are climatic / hyd	drologic o	conditions o	on the site typica	al for thi	is time of year?	Yes	1	No	Х	(If No, exp	olain in Re	emarks)		
Are Vegetation	, S	Soil,	Hydrology	_, sign	ificantly disturbe	d?	Are	e "No	rmal C	ircumstance	s" presen	t? Yes	Х	No
Are Vegetation	, \$	Soil,	Hydrology	_, natu	arally problemation	??	(1	lf nee	eded, e	xplain any a	nswers in	Remarks	.)	

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

Hydrophytic Vegetation Present?	Yes	Х	No					
Hydric Soil Present?	Yes		No	х	Is the Sampled Area			
Wetland Hydrology Present?	Yes		No	Х	within a Wetland?	Yes	No	X

Below-normal rainfall in November and December (3.79 and 1.66 inches, respectively). Rainfall nearly below normal in January (3.7 inches). Upland sample point on down slope on east side of Wetland 12-1. This site does not meet the criteria to be classified as a wetland.

<b>VEGETATION</b> Use scientific names of plants.	<u>Absolute</u> <u>% Cover</u>	Dominant Species	Indicator Status	Dominance Test	Norkshoot			
Tree Stratum				Number of Domina				
Shrub Stratum (Plot size: <u>50 Ft</u> )				That Are OBL, FA		: _	2	(A)
Sambucus racemosa	10	Y	FACU	Total Number of D	ominant			
	10	=Total Cover		Species Across all			3	(B)
Herb Stratum (Plot size: 5 Ft )				_				-
Urtica dioica	3	Y	FAC	Percent of Domina That Are OBL, FAC		:	66.7%	(A/B)
	3	=Total Cover		Prevalence Index	Worksheet	:		
Vine Stratum (Plot size: <u>30 Ft</u> )				Multiply by:				
Rubus spectabilis	25	Y	FAC	OBL species	0	x 1 =	0	
	25	=Total Cover		FACW species	0	x 2 =	0	
				FAC species	28	x 3 =	84	
				FACU species	10	x 4 =	40	
				UPL species	0	x 5 =	0	
				Column Totals:	38	(A)	124	<u>(</u> B)
				Prevalence I	ndex = B/A=	=	3.26	
				Hydrophytic Vegetation Indicators:				
				Rapid Test for Hydrophytic Vegetation				
				X Dominance Test > 50%				
				Prevalence Inc	dex ≤ 3.0			
				Morphological Adaptations (Provide supporting			orting	
				data in Remarks or on a separate sheet)				
				Problematic Hydrophytic Vegetation (Explain			,	
				Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.				
				Hydrophytic Vegetation Preser	a#2			
% Bare Ground in Herb Stratum	<b>N</b>			vegetation Frese	Yes	X	No	
Remarks: (Include photo numbers here or on a separate sheet.	, ,							
Vegetation meets the dominance test for hydrophytic vegetation	on.							



Remarks:

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of Indicators.)  Depth Matrix Redox Features											
(inches) Color (moist) %	Color (moist)			Loc <sup>2</sup>	Texture	Remarks					
		70	Турс Ц								
0 to 20 10YR 2/1 100	None				FINE SANDY LOAM	NA NAstrice					
<sup>1</sup> Type: C=Concentration, D=Depletion, RM=Re	educed Martix, CS=Co	vered or C	oated Sal	and Grains	s. <sup>2</sup> Location: PL=Pore Lining	, M=Matrix.					
Hydric Soil Indicators:					Indicators for Problematic I	Hydric Soils: <sup>3</sup>					
Histosol (A1)	Sandy Redox (S5	)			2 cm Muck (A10)						
Histic Epipedon (A2)	Stripped Matrix (S	6)			Red Parent Material (TF2)						
Black Histic (A3)	Loamy Mucky Mir	eral (F1) (ex	kcept MLR	:A 1)	Very Shallow Dark Surface (*	<b>FF1</b> 2)					
Hydrogen Sulfide (A4)	Loamy Gleyed Ma	trix (F2)			Other (Explain in Remarks)						
Depleted Below Dark Surface (A11)	Depleted Matrix (F	,			• (,						
Thick Dark Surface (A12)	Redox Dark Surfa				<sup>3</sup> Indicators of hydrophytic veget	ation and wetland					
Sandy Mucky Mineral (S1) Depleted Dark Surface (F7)				hydrology must be present,							
Sandy Gleyed Matrix (S4)	Redox Depression	ns (F8)			unless disturbed or problemation	2.					
Restrictive Layer (if observed):											
Туре:					Hudela Call Descard	Vee No V					
Depth (inches):					Hydric Soil Present?	Yes <u>No X</u>					
Remarks: This sample does not meet any hydric soil indicators											
HYDROLOGY											
Wetland Hydrology Indicators:											
Primary Indicators (minimum of one is require	d; check all that apply	)			Secondary Indicators (mir	nimum of two required)					
Surface Water (A1)	Water-Stain	ed Leaves (E	B9) (excep	ot MLRA	Water-Stained Leaves						
High Water Table (A2)	1, 2, 4A and	4B)			4A, and 4B)	(D9) (MEIXA 1, 2,					
Saturation (A3)	Salt Crust (E	,			Drainage Patterns (B1	0)					
Water Marks (B1)	Aquatic Inve	rtebrates (B	13)		Dry-Season Water Tal						
Sediment Deposits (B2)	Hydrogen Su		,		Saturation Visible on A						
Drift Deposits (B3)	_	izospheres a	-	ng Roots (C	C3) Geomorphic Position (	D2)					
Algal Mat or Crust (B4)	_	Reduced Iro	. ,		Shallow Aquitard (D3)						
Iron Deposits (B5)	Recent Iron			. ,	FAC-Neutral Test (D5)	)					
Surface Soil Cracks (B6)	Stunted or S	Stressed Plan	nts (D1) (L	_RR A)	Paised Ant Mounds (D	06) (LRR A)					
Inundation Visible on Aerial Imagery (B7)	Other (Expla	ain in Remar	ks)		Frost-Heave Hummoc	ks (D7)					
Sparsely Vegetated Concave Surface (B8)											
Field Observations:											
Surface Water Present? Yes	No X Depth (	inches):									
Water Table Present? Yes		inches):			Watland Hydrology Dresent?	Vac Na V					
Saturation Present? Yes	No X Depth (	inches):			Wetland Hydrology Present?	Yes No_X					
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring	well, aerial photos, previo	us inspectio	ons), if avail	ilable:							
Remarks:											

Project/Site:	FWLE / I-5		City/Cou	unty:	Bell	evue		Sampling	g Date:	1/28/20	14	
Applicant/Owner	: Sound Transi	t				State:	WA	Samplin	g Point:	SP 12-	1-3	
Investigators:	Lisa Danielski		lan Welch		Section	n, Towns	ship, Range	S 28	T 22 N	R 4	E	
Landform (hillslo	pe, terrace, etc.):	Hillslope		Local Re	elief (concave,	convex	, none): Co	oncave		Slope	(%)	
Subregion (LRR)	): A		Lat: 47.366491		Long: -122	2.295092	2	D	atum: N	AD83		
Soil Map Unit Na	ame: Arents, Ale	derwood materi	al, 6 to 15 percent slopes	3		N	NI Classifica	ition:				
Are climatic / hyd	drologic conditions of	on the site typic	al for this time of year?	Yes	No	Х	(If No, exp	lain in Re	marks)			
Are Vegetation	, Soil,	Hydrology	, significantly disturbed	d?	Are "No	rmal Ci	rcumstances	" present	? Yes	Х	No	
Are Vegetation	, Soil,	Hydrology	, naturally problematic	?	(If nee	eded, ex	plain any an	swers in	Remarks	.)		
						_		_				

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

Hydrophytic Vegetation Present?	Yes	Х	No						
Hydric Soil Present?	Yes		No	Х	Is the Sampled Area				
Wetland Hydrology Present?	Yes		No	Х	within a Wetland?	Yes	No	X	

#### Remarks:

Below-normal rainfall in November and December (3.79 and 1.66 inches, respectively). Rainfall nearly below normal in January (3.7 inches). Upland sample plot in suspicious PHAR/RUSP community east of Wetland 12-1.

<b>VEGETATION</b> – Use scientific names of plants.	Absolute % Cover	Dominant Species	Indicator Status	Deminence Test	Nerkohooti			
Tree Stratum	<u>/// 00701</u>	000000	<u>otatas</u>	Dominance Test V				
Shrub Stratum (Plot size: <u>50 Ft</u> )				Number of Domina That Are OBL, FA			3	(A)
Rubus spectabilis	10	Y	FAC	Total Number of De	ominant			
	10	=Total Cover		Species Across all			3	(B)
Herb Stratum (Plot size: 5 Ft )								_
Phalaris arundinacea	80	Y	FACW	Percent of Domina That Are OBL, FAC			100.0%	(A/B)
Urtica dioica	2	Y	FAC					
	82	=Total Cover		Prevalence Index				
Vine Stratum				Total % Cover			ply by:	
				OBL species	0	x 1 =	0	
				FACW species	80	x 2 =	160	
				FAC species	12	x 3 =	36	
				FACU species	0	x 4 =	0	
				UPL species	0	x 5 =	0	
				Column Totals:	92	(A)	196	(B)
				Prevalence I	ndex = B/A=		2.13	
				Hydrophytic Veget	ation Indica	ators:		
				Rapid Test for	Hydrophytic	Vegeta	ation	
				X Dominance Te	st > 50%			
				<u> </u>				
				X Prevalence Inc	lex ≤ 3.0			
				Morphological				orting
				data in Remarl			,	
				Problematic Hy		0	· ·	,
				Indicators of hydri must be present, u				
				Hydrophytic				
% Bare Ground in Herb Stratum				Vegetation Preser	nt? Yes	X	No	
Remarks: (Include photo numbers here or on a separate sheet.)								

Remarks: (Include photo numbers here of on a separate sheet.)

Vegetation meets the dominance test and prevalence index for hydrophytic vegetation.



Profile Descrip	-	-	th neede	ed to do	cument			onfirm	the absence of Indicators.)	
Depth (inchoo)	Ma Color (moi:		%	Color (n	noint)	Redox F %	Type 1	Loc <sup>2</sup>	Texture	Remarks
(inches)		<u> </u>		`	,	70	Туре	LOC 2		Remarks
0 to 20			00	Non					FINE SANDY LOAM	
<sup>1</sup> Type: C=Conc	entration, D=Dep	letion, RM	=Reduce	d Martix,	CS=Co	vered or	Coated S	and Gra	ins. <sup>2</sup> Location: PL=Pore Lining, I	√=Matrix.
Hydric Soil In	dicators:								<b>Indicators for Problematic Hy</b>	dric Soils: <sup>3</sup>
Histosol (A1)				Sandy R	edox (S5)	)			2 cm Muck (A10)	
Histic Epiped				Stripped	Matrix (S	6)			Red Parent Material (TF2)	
Black Histic (				Loamy N	lucky Min	eral (F1) (	except ML	RA 1)	Very Shallow Dark Surface (TF <sup>2</sup>	12)
Hydrogen Su				Loamy G	leyed Ma	trix (F2)			Other (Explain in Remarks)	
_	ow Dark Surface (	A11)		•	l Matrix (F	,				
Thick Dark S					ark Surfa	. ,			<sup>3</sup> Indicators of hydrophytic vegetation	on and wetland
Sandy Mucky						rface (F7)			hydrology must be present,	
Sandy Gleye	d Matrix (S4)			Redox D	epressior	ns (F8)			unless disturbed or problematic.	
Restrictiv	e Layer (if ob	served):								
Туре:										
Depth (inche	s):								Hydric Soil Present? Ye	es <u>No X</u>
Remarks:	sample does not m	oot any hydr	ic coil indi	icatore: de	les not m	oot thick d	ark surface	<b>`</b>		
	ology Indicator									
Primary Indicat	tors (minimum of	one is req	uired; che	eck all th	at apply	)			_ Secondary Indicators (minin	num of two required)
Surface Wate	er (A1)						(B9) (exce	ept MLRA	Water-Stained Leaves (B	
High Water T	able (A2)			· · ·	2, 4A and	,			4A, and 4B)	
Saturation (A	3)				lt Crust (E	,			Drainage Patterns (B10)	
Water Marks	(B1)					rtebrates			Dry-Season Water Table	(C2)
Sediment De	posits (B2)				-	ulfide Odo			Saturation Visible on Aer	ial Imag.(C9)
Drift Deposits	s (B3)					-	s along Liv	ing Roots	Geomorphic Position (D2	2)
Algal Mat or	Crust (B4)					Reduced	. ,		Shallow Aquitard (D3)	
Iron Deposits							in Tilled S	. ,	FAC-Neutral Test (D5)	
Surface Soil	Cracks (B6)			∐ Stu	inted or S	Stressed P	lants (D1)	(LRR A)	Paised Ant Mounds (D6)	(LRR A)
	sible on Aerial Ima			Oth	ner (Expla	ain in Rem	arks)		Frost-Heave Hummocks	(D7)
Sparsely Veg	etated Concave S	urface (B8)								
Field Observa	<u>tions:</u>									
Surface Water	Present?	Yes	No	X	Depth (	inches):				
Water Table P	resent?	Yes	No	X	Depth (	inches):				
Saturation Pres	sent?	Yes	No	_X	Depth (	inches):			Wetland Hydrology Present?	Yes No_X_
(includes capill Describe Recorde	ary fringe) d Data (stream ga	uge, monitor	ing well, a	erial photo	os, previo	us inspec	tions), if av	ailable:		
		-	-				-			
Remarks:										
	not meet any hydr	ology indicat	tors.							

Project/Site: FWLE / I-	5	City/Cour	nty:	Bellevue		Sampling I	Date:	1/28/20	14	
Applicant/Owner: Sour	nd Transit			State	WA	Sampling	Point:	SP 12-	1-4	
Investigators: Lisa Da	nielski lan Welsh			Section, Tov	vnship, Range	S 28	T 22 N	R 4	Е	
Landform (hillslope, terrace	e, etc.): Toe of Slope	L	ocal Relief (co	ncave, conv	vex, none): C	oncave		Slope	(%)	
Subregion (LRR): A	Lat: 47	.366846	Long	-122.295	243	Dat	tum: N	AD83		
Soil Map Unit Name: A	Iderwood gravelly sandy loam, 15 to	30 percent slo	opes		NWI Classifica	ation:				
Are climatic / hydrologic co	nditions on the site typical for this tin	ne of year?	Yes	No X	(If No, exp	lain in Rem	arks)			
Are Vegetation, Sc	il, Hydrology, significa	ntly disturbed?	? 4	re "Normal	Circumstances	s" present?	Yes	Х	No	
Are Vegetation, Sc	il, Hydrology, naturally	problematic?		(If needed,	explain any ar	nswers in R	emarks	.)		
SUMMARY OF FIND	NNGS - Attach a site map s	howing sa	mplina poi	nt locatio	ns. transed	cts. impo	ortant	, featur	es. et	c.
Hydrophytic Vegetation P	•	<b>j</b> =				, <b>p</b>			,	
Hydric Soil Present?	Yes No X	Is the S	ampled Area							
Wetland Hydrology Prese	nt? Yes X No	within a	a Wetland?		Yes	No	Х	_		
	scientific names of plants.	<u>Absolute</u> <u>% Cover</u>	Dominant Species	Indicator Status	Dominance	e Test Work	sheet:			
Tree Stratum		<u>/// 00461</u>	Opecies	<u>otatus</u>	Number of					
Shrub Stratum					That Are Ol			:	1	(A)
Herb Stratum	Plot size: <u>5 Ft</u> )				Total Numb					
Athyrium filix-femina		5	Y	FAC	Species Acr	oss all Stra	ta:		2	(B)
Vine Stratum	Plot size: 30 Ft )	5	=Total Cover		Percent of D That Are OB				50.0%	(A/B)
Rubus ursinus	,	5	Y	FACU	Prevalence	Index Wor	ksheet	:		
		5	=Total Cover		Total %	Cover of:		Multip	ly by:	
					OBL specie	s	0	x 1 =	0	
					FACW spec	ies	0	x 2 =	0	
					FAC species	s	5	x 3 =	15	
					FACU spec	ies	5	x 4 =	20	
					UPL species		0	x 5 =	0	
					Column Tot	als:	10	(A)	35	(B)
					Preva	lence Index	: = <i>B</i> /A=		3.50	
					Hydrophytic	Vegetatio	n Indica	ators:		

% Bare Ground in Herb Stratum

Remarks: (Include photo numbers here or on a separate sheet.)

This sample does not meet any vegetative indicators.



Rapid Test for Hydrophytic Vegetation

Morphological Adaptations (Provide supporting data in Remarks or on a separate sheet) Problematic Hydrophytic Vegetation (Explain) Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Yes

No

Х

Dominance Test > 50% Prevalence Index  $\leq$  3.0

Hydrophytic Vegetation Present?

Profile Description: (Describe to th	e depth n	eeded to documen			the absence of Indicators.)	
Depth <u>Matrix</u> (inches) Color (moist)	%	Color (moist)	Redox Fea	Type <sup>1</sup> Loc <sup>2</sup>	Texture	Remarks
0 to 11 10YR 2/1	100				FINE SANDY LOAM	
11 to 17 10YR 4/1	100				gravely Sandy Loam	
<sup>1</sup> Type: C=Concentration, D=Depletion		luced Martix, CS=C	overed or C	oated Sand Gra		M=Matrix.
Hydric Soil Indicators:					Indicators for Problematic Hy	dric Soils: <sup>3</sup>
<ul> <li>Histosol (A1)</li> <li>Histic Epipedon (A2)</li> <li>Black Histic (A3)</li> <li>Hydrogen Sulfide (A4)</li> <li>Depleted Below Dark Surface (A11)</li> <li>Thick Dark Surface (A12)</li> <li>Sandy Mucky Mineral (S1)</li> <li>Sandy Gleyed Matrix (S4)</li> </ul>		<ul> <li>Sandy Redox (S</li> <li>Stripped Matrix (</li> <li>Loamy Mucky M</li> <li>Loamy Gleyed N</li> <li>Depleted Matrix</li> <li>Redox Dark Sur</li> <li>Depleted Dark S</li> <li>Redox Depression</li> </ul>	(S6) lineral (F1) (ex Matrix (F2) (F3) face (F6) Surface (F7)	ccept MLRA 1)	<ul> <li>2 cm Muck (A10)</li> <li>Red Parent Material (TF2)</li> <li>Very Shallow Dark Surface (TF4)</li> <li>Other (Explain in Remarks)</li> <li><sup>3</sup> Indicators of hydrophytic vegetatic hydrology must be present, unless disturbed or problematic.</li> </ul>	
Restrictive Layer (if observe Type: Depth (inches):	ed):				Hydric Soil Present? Ye	esNo_X
HYDROLOGY Wetland Hydrology Indicators:						
Primary Indicators (minimum of one	is required	; check all that appl	y)		Secondary Indicators (minin	num of two required)
<ul><li>Surface Water (A1)</li><li>High Water Table (A2)</li></ul>		Water-Stai 1, 2, 4A ar		B9) (except MLR/	Water-Stained Leaves (E 4A, and 4B)	9) (MLRA 1, 2,
Saturation (A3)		Salt Crust	(B11)			
Water Marks (B1)		Aquatic Inv	vertebrates (B	13)	Drainage Patterns (B10) Dry-Season Water Table	(C2)
Sediment Deposits (B2)		Hydrogen	Sulfide Odor (	C1)	Saturation Visible on Aer	. ,
Drift Deposits (B3)		Oxidized F	Rhizospheres a	along Living Root	s (C3) Geomorphic Position (D2	
Algal Mat or Crust (B4)		Presence	of Reduced Iro	on (C4)	Shallow Aquitard (D3)	-)
Iron Deposits (B5)		Recent Iro	n Reduction in	Tilled Soils (C6)	FAC-Neutral Test (D5)	
Surface Soil Cracks (B6)		Stunted or	Stressed Pla	nts (D1) (LRR A)	Paised Ant Mounds (D6)	(LRR A)
Inundation Visible on Aerial Imagery (	B7)	Other (Exp	lain in Remar	ks)	Frost-Heave Hummocks	
Sparsely Vegetated Concave Surface	e (B8)				—	. ,
Field Observations:						
Surface Water Present? Ye	s	No <u>X</u> Depth	(inches):		_	
Water Table Present? Ye	s <u>X</u>	No Depth	(inches):	13"	_	
Saturation Present? Ye	s <u>X</u>	No Depth	(inches):	12"	Wetland Hydrology Present?	Yes <u>X</u> No
(includes capillary fringe)						
Describe Recorded Data (stream gauge, n	nonitoring w	eli, aerial photos, prev		ns), if available:		
Remarks: Wetland hydrology meets indicators for sa	turation (A3	).				

Project/Site:	FWL	E / I-5			City/Co	unty:	E	Belle	vue		Samplin	g Date:	1/28/20	)14	
Applicant/Owner	: _	Sound Transi						S	tate:	WA	Samplir	ng Point:	SP 12-	-1-5	
Investigators:	Lisa	a Danielski		lan W	elsh		Sec	tion,	Towns	ship, Range	S 28	T 22 N	I R4	4 E	
Landform (hillslo	pe, te	rrace, etc.):	Hillslope			Local Re	elief (conca	ave, o	convex	, none): Co	onvex		Slope	e(%)	
Subregion (LRR)	): A			Lat:	47.366811		Long: -	122.	295289	9	[	Datum: N	IAD83		
Soil Map Unit Na	me:	Arents, Alo	derwood material	, 6 to <sup>-</sup>	15 percent slope:	s			N\	VI Classifica	ition:				
Are climatic / hyc	drolog	ic conditions o	on the site typical	for th	is time of year?	Yes	No	o	Х	(If No, expl	lain in Re	emarks)			
Are Vegetation		, Soil,	Hydrology	, sign	nificantly disturbe	d?	Are "	"Nori	mal Cir	cumstances	" presen	t? Yes	Х	No	
Are Vegetation		, Soil,	Hydrology	, natu	urally problematic	;?	(lf ı	neec	led, ex	plain any an	swers in	Remarks	.)		

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

Hydrophytic Vegetation Present?	Yes	No X				
Hydric Soil Present?	Yes	No X	Is the Sampled Area			
Wetland Hydrology Present?	Yes	No X	within a Wetland?	Yes	No	X

Remarks: Upland paired sample plot less than 10ft upslope of 12-1-4. Below-normal rainfall in November and December (3.79 and 1.66 inches, respectively). Rainfall nearly below normal in January (3.7 inches).

VEGETATION- Us	se scientific names of plants.	Absolute <u>% Cover</u>	Dominant Species	Indicator Status	Dominance Test	Worksheet:			
<u>Tree Stratum</u> Tsuga heterophylla	(Plot size: <u>30 Ft</u> )	30	Y	FACU	Number of Domina That Are OBL, FA	ant Species	: _	2	(A)
Shrub Stratum	(Plot size: <u>50 Ft</u> )	30	_=Total Cover	540	Total Number of D Species Across all			5	(B)
Rubus spectabilis		<u>10</u> 10	Y =Total Cover	FAC	Percent of Domina That Are OBL, FA		_	40.0%	(A/B)
Herb Stratum Dryopteris expansa		5	Y	FACW	Prevalence Index				
Polystichum munite	um	5	Y	FACU	Total % Cover	of: 0	$\frac{Multi}{x 1 =}$	ply by: 0	
		10	=Total Cover		OBL species	5	x2=	10	
Vine Stratum	(Plot size: <u>30 Ft</u> )				FACW species	10	x 2 =	30	
Rubus ursinus		10	Y	FACU	FAC species		x 4 =	180	
		10	=Total Cover		FACU species	45 0	x 4 = x 5 =	0	
					UPL species				
					Column Totals:	60	(A)	220	(B)
					Prevalence l	ndex = B/A=	:	3.67	
					Hydrophytic Vege	tation Indica	ators:		
					Rapid Test for	Hydrophytic	Vegeta	ation	
					Dominance Te	est > 50%			
					Prevalence Inc	dex ≤ 3.0			
					Morphological data in Remar				orting
					Problematic H	ydrophytic V	egetatio	on (Exp	plain)
					Indicators of hydri must be present,				
% Bare Ground in Herb	Stratum				Hydrophytic Vegetation Preser	nt? Yes		No 2	x
Remarks: (Include photo	numbers here or on a separate sheet.	)			1				
This sample does not m	eet dominance or prevalence test.								

	iption: (Des	<b>cribe to the</b> Matrix	e depth nee	ded to document		<b>cator or c</b> Features	onfirm	the absence of Indicators.)	
Depth (inches)	Color	(moist)	%	Color (moist)	Kedux r %	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0 to 7	10YR	3/2	100	. ,				LOAMY SAND	
7 to 17	2.5Y	4/3	98	10yr 4/6	2	С	М	LOAMY SAND	
				ced Martix, CS=C					g. M=Matrix.
Hydric Soil I Histosol (A Histic Epipe Black Histic Hydrogen S Depleted B Thick Dark Sandy Muc Sandy Gley Restrict Type: Depth (inct Remarks:	Indicators: 1) edon (A2) c (A3) Sulfide (A4) selow Dark Sur Surface (A12) cky Mineral (S1 yed Matrix (S4 ive Layer (	face (A11)	e <b>d):</b>	Sandy Redox (St     Stripped Matrix (CS=CG     Stripped Matrix (     Loamy Mucky Mi     Loamy Gleyed M     Depleted Matrix (     Redox Dark Surf     Depleted Dark S     Redox Depressic	5) S6) latrix (F1) (F3) ace (F6) urface (F7) ons (F8)	(except ML		Ins. 4Location: PL=Pore Linin  Indicators for Problematic  2 cm Muck (A10)  Red Parent Material (TF2) Very Shallow Dark Surface ( Other (Explain in Remarks)  Indicators of hydrophytic vege hydrology must be present, unless disturbed or problematic  Hydric Soil Present?	Hvdric Soils: <sup>3</sup> (TF12) tation and wetland
Surface Wa Saturation Water Marl Sediment I Drift Depos Algal Mat c Surface Sc Inundation	drology Indi cators (minim ater (A1) r Table (A2) (A3) ks (B1) Deposits (B2) sits (B3) or Crust (B4)	um of one is	37)	check all that apply Water-Stain 1, 2, 4A an Salt Crust ( Aquatic Inv Hydrogen S Oxidized R Presence of Recent Iron Stunted or Other (Expl	ned Leaves d 4B) (B11) ertebrates Sulfide Odo hizosphere of Reduced n Reductior Stressed F	(B13) or (C1) es along Liv I Iron (C4) n in Tilled S Plants (D1)	ing Roots oils (C6)	A, and 4B)     Drainage Patterns (B     Dry-Season Water Ta     Saturation Visible on	s (B9) (MLRA 1, 2, 10) able (C2) Aerial Imag.(C9) (D2) ) 5) D6) (LRR A)
Field Observ Surface Wate Water Table Saturation Pr (includes cap Describe Record Remarks: This sample do	er Present? Present? resent? <u>billary fringe)</u> ded Data (stre		s Nc	X Depth	(inches): (inches): (inches): ous inspec	tions), if av	ailable:	Wetland Hydrology Present	? Yes No_X

Project/Site:	FWLE / I-5		City/County:	Bellevue		Sampling Date:	1/28/2014
Applicant/Owner	: Sound Transit			State:	WA	Sampling Point:	SP 12-1-6
Investigators:	Lisa Danielski	lan Welch		Section, Towns	hip, Range	S 28 T 22 N	R 4 E
Landform (hillslo	ppe, terrace, etc.):	Hillslope	Local Re	elief (concave, convex,	none): Co	ncave	Slope(%)
Subregion (LRR	): A	Lat: 47	.367295	Long: -122.294916		Datum: N	IAD83
Soil Map Unit Na	ame: Arents, Alc	lerwood material, 6 to 15 p	ercent slopes	NW	VI Classificat	tion: PFO1	
Are climatic / hyd	drologic conditions o	on the site typical for this tin	ne of year? Yes	No X	(If No, expla	ain in Remarks)	
Are Vegetation	, Soil,	Hydrology, significa	intly disturbed?	Are "Normal Circ	cumstances"	present? Yes	X No
Are Vegetation	<u>X</u> , Soil,	Hydrology, naturally	/ problematic?	(If needed, exp	blain any ans	wers in Remarks	.)

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

Hydrophytic Vegetation Present?	Yes	Х	No				
Hydric Soil Present?	Yes	Х	No	Is the Sampled Area			
Wetland Hydrology Present?	Yes	Х	No	within a Wetland?	Yes	Х	No

#### Remarks:

This site meets the criteria for a wetland. Sample plot in east portion of Wetland 12-1. Below-normal rainfall in November and December (3.79 and 1.66 inches, respectively). Rainfall nearly below normal in January (3.7 inches).

VEGETATION_ U	se scientific names of plants.	Absolute <u>% Cover</u>	Dominant Species	Indicator Status	Dominance Test	Worksheet:				
Tree Stratum	(Plot size: <u>30 Ft</u> )				Number of Domin					
Alnus rubra		45	Y	FAC	That Are OBL, FA		:	2	(A)	
		45	_=Total Cover		Total Number of D	ominant				
Shrub Stratum	(Plot size: <u>50 Ft</u> )				Species Across al			4	(B)	
Rubus spectabilis		15	Y	FAC					-	
		15	=Total Cover		Percent of Domina That Are OBL, FA	ant Species CW, or FAC:		50.0%	(A/B)	
Herb Stratum	(Plot size: <u>5 Ft</u> )				Prevalence Index	Worksheet				
Polystichum muni	tum	5	Y	FACU	Total % Cove			oly by:		
N# 01 1		5	=Total Cover		OBL species	0	x 1 =	0		
Vine Stratum	(Plot size: <u>30 Ft</u> )				FACW species	0	x 2 =	0		
Hedera helix		80	Y	FACU	FAC species	60	x 3 =	180		
		80	=Total Cover		FAC species	85	x 4 =	340		
					UPL species	0	x 5 =	0		
					Column Totals:	145	(A)	520	(B)	
					Prevalence Index = B/A= 3.			3.59		
					Hydrophytic Vege	tation Indica	ators:			
					Rapid Test for	r Hydrophytic	Vegeta	ition		
					Dominance Te	est > 50%				
					Prevalence In	dex ≤ 3.0				
					Morphological				orting	
					Problematic H	lydrophytic V	egetatic	on (Exp	olain)	
					Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.					
					Hydrophytic Vegetation Prese	nt? Ver	v			
% Bare Ground in Herb					· ogeration i rese	nt? Yes	<u> </u>	No		
Remarks: (Include photo	numbers here or on a separate sheet.	)								

Problematic due to invasive species. Vegetation is considered hydrophytic.`



Image: Second strain		
8       to 12       5Y       6 / 2       95       10yr 4/6       5       C       M       Very Grave         'Type: C=Concentration, D=Depletion, RM=Reduced Martix, CS=Covered or Coated Sand Grains.       3         Hydric Soil Indicators:       Indicators:       Indicators:       1         Histosol (A1)       Sandy Redox (S5)       2       2         Histosol (A2)       Stripped Matrix (S6)       2       2         Black Histo (A3)       Loamy Mucky Mineral (F1) (except MLRA 1)       V       V         Hydrogen Sulfide (A4)       Loamy Mucky Mineral (F1) (except MLRA 1)       V       V         Black Histo (A3)       Depleted Matrix (F3)       C       C         Gandy Mucky Mineral (S1)       Depleted Matrix (F3)       C       C         Sandy Mucky Mineral (S1)       Depleted Dark Surface (F6)       3 ind       hydrose         Sandy Mucky Mineral (S1)       Depleted Dark Surface (F7)       hydrose       und         Type:       cobbles       12"       Hydric soil indicator.         Wetland Hydrology Indicators:       12"       Hydric soil indicator.         YDROLOGY       Saturation (A3)       Saturatic Invertebrates (B13)       Saturatic Invertebrates (B13)       Saturatic Invertebrates (B13)       Hydrogen Sulfide Odor (C1) <td< th=""><th>Texture</th><th>Remarks</th></td<>	Texture	Remarks
8       to 12       5Y       6 / 2       95       10yr 4/6       5       C       M       Very Grave         'Type: C=Concentration, D=Depletion, RM=Reduced Martix, CS=Covered or Coated Sand Grains.       3         Hydric Soil Indicators:       Indicators:       Indicators:       1         Histosol (A1)       Sandy Redox (S5)       2       2         Black Histic (A3)       Loamy Mucky Mineral (F1) (except MLRA 1)       V       V         Hydrogen Sulfide (A4)       Loamy Mucky Mineral (F1) (except MLRA 1)       V       V         Back Histic (A3)       Loamy Mucky Mineral (F1) (except MLRA 1)       V       V         Back Mucky Mineral (S1)       Depleted Marix (F3)       C       C         Sandy Mucky Mineral (S1)       Depleted Marix Surface (F6)       3 ind       hydroget Marix (F3)         Sandy Mucky Mineral (S1)       Depleted Dark Surface (F7)       hydroget Marix (S4)       Hydric Si         Type:       cobbles       12*       Hydric Si       Hydric Si         Depth (inches):       12*       Hydric Si       12*         Vertarks:       Shore Refusal after 12* due to cobbles. This area meets hydric soil indicator.       Surface Water (A1)       Surface	andy Loam	
Type: C=Concentration, D=Depletion, RM=Reduced Martix, CS=Covered or Coated Sand Grains.       4         Hydric Soil Indicators:       Indicators:         Histosol (A1)       Sandy Redox (S5)       2         Black Histic (A3)       Loarny Mucky Mineral (F1) (except MLRA 1)       V         Hydrogen Sulfide (A4)       Loarny Mucky Mineral (F2)       C         Depleted Below Dark Surface (A12)       Redox Dark Surface (F6)       3 ind         Sandy Mucky Mineral (S1)       Depleted Dark Surface (F7)       hydric Side (F7)         Sandy Gleyed Matrix (S4)       Redox Depressions (F8)       unit         Restrictive Layer (if observed):       Type:       cobbles       unit         Depleted Dark Surface (A11)       Water-Stained Leaves (B9) (except MLRA 1)       yc         Wetland Hydrology Indicators:       Primary Indicators (minimum of one is required; check all that apply)       S         Surface Water (A1)       Water-Stained Leaves (B9) (except MLRA 1, 2, 4A and 4B)       Hydrogen Sulfide Odor (C1)         Sufface Water (A1)       Hydrogen Sulfide Odor (C1)       Saturation (A3)       Saturation (A3)       Saturation (A3)         Sufface Soil Cracks (B6)       Hydrogen Sulfide Odor (C1)       Presence of Reduced Iron (C4)       Soldizzed Rhizospheres along Living Roots (C3)         Maja Mat or Crust (B4)       Presence of Reduced Iron (C4)	vely Sandy Loam	
I       Histosol (A1)       □       Sandy Redox (S5)       □       2         I       Histo Epipedon (A2)       □       Stripped Matrix (S6)       □       2         □       Histo EA3)       □       □       □       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0 <td< th=""><th><sup>2</sup>Location: PL=Pore Lining, M=</th><th>=Matrix.</th></td<>	<sup>2</sup> Location: PL=Pore Lining, M=	=Matrix.
Wetland Hydrology Indicators:         Primary Indicators (minimum of one is required; check all that apply)         Surface Water (A1)       Water-Stained Leaves (B9) (except MLRA 1, 2, 4A and 4B)         Image: High Water Table (A2)       Salt Crust (B11)         Image: Sturation (A3)       Salt Crust (B11)         Image: Water Marks (B1)       Aquatic Invertebrates (B13)         Image: Sediment Deposits (B2)       Hydrogen Sulfide Odor (C1)         Image: Drift Deposits (B3)       Oxidized Rhizospheres along Living Roots (C3)         Image: Algorithm of the property of the pro	ALocation: PL=Pore Lining, M= <u>eators for Problematic Hydr</u> 2 cm Muck (A10) Red Parent Material (TF2) Very Shallow Dark Surface (TF12) Other (Explain in Remarks) dicators of hydrophytic vegetation drology must be present, aless disturbed or problematic. Soil Present? Yes	ric Soils: <sup>3</sup> ) and wetland
Argan Mat Or Ordst (D4)       Recent Iron Reduction in Tilled Soils (C6)         Iron Deposits (B5)       Recent Iron Reduction in Tilled Soils (C6)         Surface Soil Cracks (B6)       Stunted or Stressed Plants (D1) (LRR A)         Inundation Visible on Aerial Imagery (B7)       Other (Explain in Remarks)         Sparsely Vegetated Concave Surface (B8)       Sturface Water Present?         Yes       No       X         Water Table Present?       Yes       X         Yes       X       No       Depth (inches):         Saturation Present?       Yes       X       No	Secondary Indicators (minimum Water-Stained Leaves (B9) 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C Saturation Visible on Aerial Geomorphic Position (D2)	) (MLRA 1, 2,
Inundation Visible on Aerial Imagery (B7)       Other (Explain in Remarks)         Sparsely Vegetated Concave Surface (B8)         Since Water Present?       Yes         Water Table Present?       Yes         X       Depth (inches):         10       Saturation Present?         Yes       X       No         Depth (inches):       8	Shallow Aquitard (D3) FAC-Neutral Test (D5)	
Sparsely Vegetated Concave Surface (B8)         Surface Water Present?       Yes       No       X       Depth (inches):	Paised Ant Mounds (D6) (L	
ield Observations:         Surface Water Present?       Yes       No       X       Depth (inches):	Frost-Heave Hummocks (D	7)
Surface Water Present?       Yes       No       X       Depth (inches):		
Water Table Present?     Yes     X     No     Depth (inches):     10       Saturation Present?     Yes     X     No     Depth (inches):     8		
Saturation Present? Yes X No Depth (inches): 8 Wetla		
	and Hydrology Present?	Yes X No
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
emarks:		
Netland hydrology meets indicators for high water table (A2) and saturation (A3).		

Project/Site:	FWLE / I-5		City/County:	Bellevue		Sampling Date:	1/28/2014
Applicant/Owner	: Sound Transit			State:	WA	Sampling Point:	SP 12-1-7
Investigators:	Lisa Danielski	lan V	Velch	Section, Tow	nship, Range	S 28 T 22 N	IR4E
Landform (hillslo	ppe, terrace, etc.):	Top of Slope	Local	Relief (concave, conve	ex, none): C	onvex	Slope(%)
Subregion (LRR	): A	Lat	47.367264	Long: -122.2948	96	Datum: N	IAD83
Soil Map Unit Na	ame: Arents, Alo	derwood material, 6 to	15 percent slopes	1	WI Classifica	ation:	
Are climatic / hyd	drologic conditions o	on the site typical for th	nis time of year? Yes	8 NoX	(If No, exp	lain in Remarks)	
Are Vegetation	, Soil,	Hydrology, sig	nificantly disturbed?	Are "Normal C	ircumstances	s" present? Yes	X No
Are Vegetation	, Soil,	Hydrology, nat	urally problematic?	(If needed, e	explain any ar	swers in Remarks	i.)

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

Hydrophytic Vegetation Present?	Yes	No X				
Hydric Soil Present?	Yes	No X	Is the Sampled Area			
Wetland Hydrology Present?	Yes	No X	within a Wetland?	Yes	No	X

#### Remarks:

Upland paired sample plot with SP 12-6. Below-normal rainfall in November and December (3.79 and 1.66 inches, respectively). Rainfall nearly below normal in January (3.7 inches).

VEGETATION_ U	lse scientific names of plants.	<u>Absolute</u> <u>% Cover</u>	Dominant Species	Indicator Status	Dominance Test V	Vorksheet:			
Tree Stratum	(Plot size: <u>30 Ft</u> )		-		Number of Domina				
Alnus rubra		50	Y	FAC	That Are OBL, FA			2	(A)
Thuja plicata		10	N	FAC					
		60	=Total Cover		Total Number of D Species Across all			4	(B)
Shrub Stratum	(Plot size: <u>50 Ft</u> )								_
Rubus spectabilis	3	20	Y	FAC	Percent of Domina That Are OBL, FAC			50.0%	(A/B)
		20	=Total Cover						
Herb Stratum	(Plot size: <u>5 Ft</u> )				Prevalence Index				
Polystichum mun	itum	10	Y	FACU	Total % Cover	-		ply by:	
		10	=Total Cover		OBL species	0	x 1 =	0	
Vine Stratum	(Plot size: 30 Ft )				FACW species	0	x 2 =	0	
Hedera helix	(	80	Y	FACU	FAC species	80	x 3 =	240	
		80	=Total Cover		FACU species	90	x 4 =	360	
					UPL species	0	x 5 =	0	
					Column Totals:	170	(A)	600	<u>(</u> B)
					Prevalence I	ndex = B/A=	= 3.53		
					Hydrophytic Veget	ation Indica	ators:		
					Rapid Test for	Hydrophytic	Vegeta	ation	
					Dominance Te	st > 50%			
					Prevalence Inc	lex ≤ 3.0			
					Morphological data in Remark				orting
					Problematic H	drophytic V	egetatio	on (Ex	olain)
					Indicators of hydri must be present,				
					Hydrophytic				
% Bare Ground in Herb	o Stratum				Vegetation Preser	nt? Yes		No	x
Remarks: (Include photo	o numbers here or on a separate sheet.	)							
This sample does not r	meet any vegetative indicators.								



Depth <u>Matrix</u> inches) Color (moist)	%	Color (moist)		atures Type <sup>1</sup> Loc <sup>2</sup>	Texture	Remarks
				1990 200		
to 9 10YR 4/2 to 16 10YR 5/2	<u>100</u> 100		·		Gravely Sandy Loam Very Gravely Sandy Loam	
ype: C=Concentration, D=Depletion,		d Martix CS-Co	overed or C	oated Sand Grai		ning M-Matrix
				bated band blai		ing, m=matrix.
vdric Soil Indicators:	_				Indicators for Problemati	ic Hydric Soils: <sup>3</sup>
Histosol (A1)		Sandy Redox (St			2 cm Muck (A10)	
Histic Epipedon (A2)		Stripped Matrix (S	,		Red Parent Material (TF2	)
Black Histic (A3)		Loamy Mucky Mi	. , .	cept MLRA 1)	Very Shallow Dark Surfac	
Hydrogen Sulfide (A4)		Loamy Gleyed M			Other (Explain in Remarks	s)
Depleted Below Dark Surface (A11)		Depleted Matrix (	. ,			
Thick Dark Surface (A12)		Redox Dark Surfa			<sup>3</sup> Indicators of hydrophytic ve	getation and wetland
Sandy Mucky Mineral (S1)		Depleted Dark Su			hydrology must be present,	
Sandy Gleyed Matrix (S4)		Redox Depressio	ons (F8)		unless disturbed or problem	iauc.
Restrictive Layer (if observe	d):					
	,-					
Depth (inches):					Hydric Soil Present?	Yes No
ZDROLOGY						
Vetland Hydrology Indicators:	s required: cho	eck all that anni				
Vetland Hydrology Indicators: Primary Indicators (minimum of one is	s required; cho			B9) (except MI RA		(minimum of two require
Vetland Hydrology Indicators: Primary Indicators (minimum of one is Surface Water (A1)	s required; che		ned Leaves (I	B9) (except MLRA		(minimum of two require ives (B9) (MLRA 1, 2,
Vetland Hydrology Indicators: Primary Indicators (minimum of one is Surface Water (A1) High Water Table (A2)	s required; che	Water-Stair	ned Leaves (I d 4B)	B9) (except MLRA	Water-Stained Lea 4A, and 4B)	wes (B9) (MLRA 1, 2,
Vetland Hydrology Indicators:         Primary Indicators (minimum of one is         Surface Water (A1)         High Water Table (A2)         Saturation (A3)	s required; che	Water-Stair 1, 2, 4A and Salt Crust (	ned Leaves (I d 4B)		Water-Stained Lea 4A, and 4B)	(B10) (MLRA 1, 2,
Vetland Hydrology Indicators:         Primary Indicators (minimum of one is         Surface Water (A1)         High Water Table (A2)         Saturation (A3)         Water Marks (B1)	s required; che	Water-Stair 1, 2, 4A and Salt Crust ( Aquatic Inve	ned Leaves (I d 4B) (B11)	13)	Water-Stained Lea 4A, and 4B) Drainage Patterns Dry-Season Water	(B10) Table (C2)
Wetland Hydrology Indicators:         Primary Indicators (minimum of one is         Surface Water (A1)         High Water Table (A2)         Saturation (A3)         Water Marks (B1)         Sediment Deposits (B2)	s required; che	Water-Stair 1, 2, 4A and Salt Crust ( Aquatic Invo Hydrogen S	ned Leaves (I d 4B) (B11) ertebrates (B Gulfide Odor (I	13)	Water-Stained Lea 4A, and 4B) Drainage Patterns Dry-Season Water Saturation Visible of	(B10) Table (C2) on Aerial Imag.(C9)
Wetland Hydrology Indicators:         Primary Indicators (minimum of one is         Surface Water (A1)         High Water Table (A2)         Saturation (A3)         Water Marks (B1)         Sediment Deposits (B2)         Drift Deposits (B3)	s required; che	Water-Stair 1, 2, 4A and Salt Crust ( Aquatic Invo Hydrogen S Oxidized R	ned Leaves (I d 4B) (B11) ertebrates (B Gulfide Odor (I	13) C1) along Living Roots	(C3) Water-Stained Lea 4A, and 4B) Drainage Patterns Dry-Season Water Saturation Visible of Geomorphic Positio	(B10) Table (C2) on Aerial Imag.(C9) on (D2)
Wetland Hydrology Indicators:         Primary Indicators (minimum of one is         Surface Water (A1)         High Water Table (A2)         Saturation (A3)         Water Marks (B1)         Sediment Deposits (B2)         Drift Deposits (B3)         Algal Mat or Crust (B4)	s required; che	Water-Stair 1, 2, 4A and Salt Crust ( Aquatic Invo Hydrogen S Oxidized R Presence o	ned Leaves (f d 4B) (B11) ertebrates (B Sulfide Odor ( hizospheres a of Reduced Irr	13) C1) along Living Roots	(C3) Water-Stained Lea 4A, and 4B) Drainage Patterns Dry-Season Water Saturation Visible of Geomorphic Positio Shallow Aquitard (I	(B10) Table (C2) on Aerial Imag.(C9) on (D2) D3)
Vetland Hydrology Indicators:         Primary Indicators (minimum of one is         Surface Water (A1)         High Water Table (A2)         Saturation (A3)         Water Marks (B1)         Sediment Deposits (B2)         Drift Deposits (B3)	s required; che	Water-Stair 1, 2, 4A and Salt Crust ( Aquatic Invo Hydrogen S Oxidized R Presence o Recent Iron	ned Leaves (I d 4B) (B11) ertebrates (B Sulfide Odor (i hizospheres a of Reduced Ird	13) C1) along Living Roots on (C4)	(C3) Water-Stained Lea 4A, and 4B) Drainage Patterns Dry-Season Water Saturation Visible of Shallow Aquitard (I FAC-Neutral Test (	(B10) Table (C2) on Aerial Imag.(C9) on (D2) D3) (D5)
Wetland Hydrology Indicators:         Primary Indicators (minimum of one is         Surface Water (A1)         High Water Table (A2)         Saturation (A3)         Water Marks (B1)         Sediment Deposits (B2)         Drift Deposits (B3)         Algal Mat or Crust (B4)         Iron Deposits (B5)         Surface Soil Cracks (B6)		Water-Stain 1, 2, 4A and Salt Crust ( Aquatic Invi Hydrogen S Oxidized R Presence o Recent Iron Stunted or	ned Leaves (f d 4B) (B11) ertebrates (B Sulfide Odor (r hizospheres a of Reduced Ird Reduction ir Stressed Pla	13) C1) along Living Roots on (C4) n Tilled Soils (C6) nts (D1) (LRR A)	(C3) Water-Stained Lea 4A, and 4B) Drainage Patterns Dry-Season Water Saturation Visible of Geomorphic Position Shallow Aquitard (I FAC-Neutral Test ( Paised Ant Mounds	(B10) Table (C2) on Aerial Imag.(C9) on (D2) D3) (D5) s (D6) (LRR A)
Vetland Hydrology Indicators: Primary Indicators (minimum of one is Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5)	37)	Water-Stain 1, 2, 4A and Salt Crust ( Aquatic Invi Hydrogen S Oxidized R Presence o Recent Iron Stunted or	ned Leaves (I d 4B) (B11) ertebrates (B Sulfide Odor (i hizospheres a of Reduced Ird	13) C1) along Living Roots on (C4) n Tilled Soils (C6) nts (D1) (LRR A)	(C3) Water-Stained Lea 4A, and 4B) Drainage Patterns Dry-Season Water Saturation Visible of Shallow Aquitard (I FAC-Neutral Test (	(B10) Table (C2) on Aerial Imag.(C9) on (D2) D3) (D5) s (D6) (LRR A)
Vetland Hydrology Indicators: Primary Indicators (minimum of one is Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B Sparsely Vegetated Concave Surface (	37)	Water-Stain 1, 2, 4A and Salt Crust ( Aquatic Invi Hydrogen S Oxidized R Presence o Recent Iron Stunted or	ned Leaves (f d 4B) (B11) ertebrates (B Sulfide Odor (r hizospheres a of Reduced Ird Reduction ir Stressed Pla	13) C1) along Living Roots on (C4) n Tilled Soils (C6) nts (D1) (LRR A)	(C3) Water-Stained Lea 4A, and 4B) Drainage Patterns Dry-Season Water Saturation Visible of Geomorphic Position Shallow Aquitard (I FAC-Neutral Test ( Paised Ant Mounds	(B10) Table (C2) on Aerial Imag.(C9) on (D2) D3) (D5) s (D6) (LRR A)
Vetland Hydrology Indicators: Primary Indicators (minimum of one is Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B Sparsely Vegetated Concave Surface (	37) (B8)	Water-Stair 1, 2, 4A and Salt Crust ( Aquatic Invo Hydrogen S Oxidized R Presence o Recent Iron Stunted or Other (Expl	ned Leaves (f d 4B) (B11) ertebrates (B Sulfide Odor (r hizospheres a of Reduced Ird Reduction ir Stressed Pla	13) C1) along Living Roots on (C4) n Tilled Soils (C6) nts (D1) (LRR A)	(C3) Water-Stained Lea 4A, and 4B) Drainage Patterns Dry-Season Water Saturation Visible of Geomorphic Position Shallow Aquitard (I FAC-Neutral Test ( Paised Ant Mounds	(B10) Table (C2) on Aerial Imag.(C9) on (D2) D3) (D5) s (D6) (LRR A)
Wetland Hydrology Indicators:         Primary Indicators (minimum of one is         Surface Water (A1)         High Water Table (A2)         Saturation (A3)         Water Marks (B1)         Sediment Deposits (B2)         Drift Deposits (B3)         Algal Mat or Crust (B4)         Iron Deposits (B5)         Surface Soil Cracks (B6)         Inundation Visible on Aerial Imagery (B         Sparsely Vegetated Concave Surface (	37) (B8)	Water-Stain 1, 2, 4A and Salt Crust ( Aquatic Invo Hydrogen S Oxidized R Presence o Recent Iron Stunted or Other (Expl	ned Leaves (f d 4B) (B11) ertebrates (B Sulfide Odor (r hizospheres a of Reduced Ird h Reduction ir Stressed Plan lain in Remar	13) C1) along Living Roots on (C4) n Tilled Soils (C6) nts (D1) (LRR A)	(C3) Water-Stained Lea 4A, and 4B) Drainage Patterns Dry-Season Water Saturation Visible of Geomorphic Position Shallow Aquitard (I FAC-Neutral Test ( Paised Ant Mounds	(B10) Table (C2) on Aerial Imag.(C9) on (D2) D3) (D5) s (D6) (LRR A)
Wetland Hydrology Indicators:         Primary Indicators (minimum of one is         Surface Water (A1)         High Water Table (A2)         Saturation (A3)         Water Marks (B1)         Sediment Deposits (B2)         Drift Deposits (B3)         Algal Mat or Crust (B4)         Iron Deposits (B5)         Surface Soil Cracks (B6)         Inundation Visible on Aerial Imagery (B         Sparsely Vegetated Concave Surface (attraction of the second	37) (B8) No	Water-Stain         1, 2, 4A and         Salt Crust (         Aquatic Invo         Hydrogen S         Oxidized RI         Presence o         Recent Iron         Stunted or         Other (Expl         X       Depth         X       Depth	ned Leaves (f d 4B) (B11) ertebrates (B Sulfide Odor (r hizospheres a of Reduced Irr Reduction ir Stressed Plan lain in Remar (inches):	13) C1) along Living Roots on (C4) n Tilled Soils (C6) nts (D1) (LRR A)	(C3) Water-Stained Lea 4A, and 4B) Drainage Patterns Dry-Season Water Saturation Visible of Geomorphic Position Shallow Aquitard (I FAC-Neutral Test ( Paised Ant Mounds	ves (B9) (MLRA 1, 2, (B10) Table (C2) on Aerial Imag.(C9) on (D2) D3) (D5) s (D6) (LRR A) nocks (D7)
Wetland Hydrology Indicators:         Primary Indicators (minimum of one is         Surface Water (A1)         High Water Table (A2)         Saturation (A3)         Water Marks (B1)         Sediment Deposits (B2)         Drift Deposits (B3)         Algal Mat or Crust (B4)         Iron Deposits (B5)         Surface Soil Cracks (B6)         Inundation Visible on Aerial Imagery (B         Sparsely Vegetated Concave Surface (C)         Yes         Water Table Present?       Yes	87) (B8) No	Water-Stain         1, 2, 4A and         Salt Crust (         Aquatic Invo         Hydrogen S         Oxidized RI         Presence o         Recent Iron         Stunted or         Other (Expl         X       Depth         X       Depth	ned Leaves (f d 4B) (B11) ertebrates (B Sulfide Odor (r hizospheres a of Reduced Ird Reduction ir Stressed Plai lain in Remar (inches): (inches):	13) C1) along Living Roots on (C4) n Tilled Soils (C6) nts (D1) (LRR A) iks)	(C3) Water-Stained Lea 4A, and 4B) Drainage Patterns Dry-Season Water Saturation Visible o Geomorphic Positio Shallow Aquitard (I FAC-Neutral Test ( Paised Ant Mounds Frost-Heave Humn	ves (B9) (MLRA 1, 2, (B10) Table (C2) on Aerial Imag.(C9) on (D2) D3) (D5) s (D6) (LRR A) nocks (D7)
Wetland Hydrology Indicators:         Primary Indicators (minimum of one is         Surface Water (A1)         High Water Table (A2)         Saturation (A3)         Water Marks (B1)         Sediment Deposits (B2)         Drift Deposits (B3)         Algal Mat or Crust (B4)         Iron Deposits (B5)         Surface Soil Cracks (B6)         Inundation Visible on Aerial Imagery (B         Sparsely Vegetated Concave Surface (         ield Observations:         Surface Water Present?       Yes         Water Table Present?       Yes         Saturation Present?       Yes         Saturation Present?       Yes         Saturation Present?       Yes         Saturation Present?       Yes	37) (B8) No No No	Water-Stain         1, 2, 4A and         Salt Crust (         Aquatic Invo         Hydrogen S         Oxidized Ri         Presence o         Recent Iron         Stunted or         Other (Expl         X       Depth         X       Depth	ned Leaves (f d 4B) (B11) ertebrates (B Sulfide Odor (r hizospheres a of Reduced fro Reduction ir Stressed Plai lain in Remar (inches): (inches): (inches):	13) C1) along Living Roots on (C4) n Tilled Soils (C6) nts (D1) (LRR A) iks)	(C3) Water-Stained Lea 4A, and 4B) Drainage Patterns Dry-Season Water Saturation Visible o Geomorphic Positio Shallow Aquitard (I FAC-Neutral Test ( Paised Ant Mounds Frost-Heave Humn	ves (B9) (MLRA 1, 2, (B10) Table (C2) on Aerial Imag.(C9) on (D2) D3) (D5) s (D6) (LRR A) nocks (D7)
Wetland Hydrology Indicators:         Primary Indicators (minimum of one is         Surface Water (A1)         High Water Table (A2)         Saturation (A3)         Water Marks (B1)         Sediment Deposits (B2)         Drift Deposits (B3)         Algal Mat or Crust (B4)         Iron Deposits (B5)         Surface Soil Cracks (B6)         Inundation Visible on Aerial Imagery (B         Sparsely Vegetated Concave Surface (         ield Observations:         Surface Water Present?       Yes         Water Table Present?       Yes         Saturation Present?       Yes         (includes capillary fringe)       Yes	37) (B8) No No No	Water-Stain         1, 2, 4A and         Salt Crust (         Aquatic Invo         Hydrogen S         Oxidized Ri         Presence o         Recent Iron         Stunted or         Other (Expl         X       Depth         X       Depth	ned Leaves (f d 4B) (B11) ertebrates (B Sulfide Odor (r hizospheres a of Reduced fro Reduction ir Stressed Plai lain in Remar (inches): (inches): (inches):	13) C1) along Living Roots on (C4) n Tilled Soils (C6) nts (D1) (LRR A) iks)	(C3) Water-Stained Lea 4A, and 4B) Drainage Patterns Dry-Season Water Saturation Visible o Geomorphic Positio Shallow Aquitard (I FAC-Neutral Test ( Paised Ant Mounds Frost-Heave Humn	ves (B9) (MLRA 1, 2, (B10) Table (C2) on Aerial Imag.(C9) on (D2) D3) (D5) s (D6) (LRR A) nocks (D7)
High Water Table (A2)         Saturation (A3)         Water Marks (B1)         Sediment Deposits (B2)         Drift Deposits (B3)         Algal Mat or Crust (B4)         Iron Deposits (B5)         Surface Soil Cracks (B6)         Inundation Visible on Aerial Imagery (B         Sparsely Vegetated Concave Surface (Concave Surface Surface Water Present?         Yes         Water Table Present?       Yes         Saturation Present?       Yes	37) (B8) No No No	Water-Stain         1, 2, 4A and         Salt Crust (         Aquatic Invo         Hydrogen S         Oxidized Ri         Presence o         Recent Iron         Stunted or         Other (Expl         X       Depth         X       Depth	ned Leaves (f d 4B) (B11) ertebrates (B Sulfide Odor (r hizospheres a of Reduced fro Reduction ir Stressed Plai lain in Remar (inches): (inches): (inches):	13) C1) along Living Roots on (C4) n Tilled Soils (C6) nts (D1) (LRR A) iks)	(C3) Water-Stained Lea 4A, and 4B) Drainage Patterns Dry-Season Water Saturation Visible o Geomorphic Positio Shallow Aquitard (I FAC-Neutral Test ( Paised Ant Mounds Frost-Heave Humn	ves (B9) (MLRA 1, 2, (B10) Table (C2) on Aerial Imag.(C9) on (D2) D3) (D5) s (D6) (LRR A) nocks (D7)



Project/Site:	FW	LE / I-5			City/Cou	inty:	Be	llevue		Sampli	ng Date:	1/28/201	14
Applicant/Owner	r:	Sound Transit						State:	WA	Sampl	ing Point:	SP 12-7	1-8
Investigators:	Li	sa Danielski	I	an Welsh			Sectio	n, Towr	nship, Range	S 28	T 22 N	IR4	E
Landform (hillslo	ope, t	errace, etc.):	Hillslope			Local Re	elief (concave	e, conve	x, none): Co	oncave		Slope	(%)
Subregion (LRR	): /	A		Lat: 47.36	67996		Long: -12	2.29478	30		Datum: N	IAD83	
Soil Map Unit Na	ame:	Arents, Alc	lerwood material,	6 to 15 perc	cent slopes	5		Ν	IWI Classifica	ition:	PEM1		
Are climatic / hyd	drolo	gic conditions o	on the site typical	for this time	of year?	Yes	No	Х	(If No, expl	ain in F	Remarks)		
Are Vegetation		_, Soil,	Hydrology	, significantly	y disturbed	1?	Are "N	ormal C	ircumstances	" prese	nt? Yes	Х	No
Are Vegetation		_, Soil,	Hydrology	, naturally p	roblematic	?	(If ne	eded, e	xplain any an	swers i	n Remarks	5.)	

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

Hydrophytic Vegetation Present?	Yes	Х	No				
Hydric Soil Present?	Yes	Х	No	Is the Sampled Area			
Wetland Hydrology Present?	Yes	Х	No	within a Wetland?	Yes	Х	No

#### Remarks:

This site meets the criteria for a wetland. Below-normal rainfall in November and December (3.79 and 1.66 inches, respectively). Rainfall nearly below normal in January (3.7 inches). Sample plot located in north portion of Wetland 12-1 on east side of wetland.

VEGETATION Use scientific names of plants.	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test V	Norkohaati		
Tree Stratum	<u>// 0010.</u>	000000	otatuo				
Shrub Stratum				Number of Domina That Are OBL, FA		1	(A)
Herb Stratum (Plot size: <u>5 Ft</u> )				Total Number of De	ominant		
Scirpus microcarpus	85	Y	OBL	Species Across all		1	(B)
Phalaris arundinacea	15	N	FACW				
Equisetum telmateia	3	Ν	FACW	Percent of Domina That Are OBL, FAC		100.0	% (A/B)
Vice Stretum	103	=Total Cover		Prevalence Index	Worksheet:		
Vine Stratum				Total % Cover	of:	Multiply by	:
				OBL species	85	x 1 = 85	
				FACW species	18	x 2 = 36	3
					0	x 3 = 0	
				FAC species	0	x 4 = 0	
				FACU species	0		
				UPL species		x 5 = 0	
				Column Totals:	103	(A) 121	<u>(</u> B)
				Prevalence I	ndex = B/A=	1.17	
				Hydrophytic Veget	ation Indica	tors:	
				Rapid Test for	Hydrophytic	Vegetation	
				X Dominance Te	st > 50%		
				X Prevalence Inc	dex ≤ 3.0		
				Morphological	Adaptationa	(Drovido ou	oporting
				data in Remarl			
				Problematic H	ydrophytic Ve	egetation (E	xplain)
				Indicators of hydri must be present, u			
% Data Craund in Llark Stratum				Hydrophytic Vegetation Preser	nt? Yes	X No	
% Bare Ground in Herb Stratum Remarks: (Include photo numbers here or on a separate sheet )				_			

temarks: (Include photo numbers here or on a separate sheet.)

Vegetation meets the dominance test and prevalence index for hydrophytic vegetation.



Profile Descr	iption: (Des		depth I	neede	ed to documen			onfirm	the absence of Indicators.)	
Depth		Matrix					Features			
(inches)		r (moist)	%		Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0 to 8	10YR	2/1	100		None				Gravely Sandy Loam	
8 to 10	2.5YR	5/1	93		10YR 4/6	7	С	М	Gravely Sand	
<sup>1</sup> Type: C=Con	centration, [	D=Depletion,	RM=R€	educe	ed Martix, CS=C	overed or	Coated S	Sand Gra	ains. <sup>2</sup> Location: PL=Pore Lining, N	<i>Λ</i> =Matrix.
Hydric Soil I         Histosol (A         Histic Epipe         Black Histic         Hydrogen S         Depleted B         Thick Dark         Sandy Muc         Sandy Gley	ndicators: 1) edon (A2) c (A3) Sulfide (A4) selow Dark Sur Surface (A12) cky Mineral (S yed Matrix (S4)	rface (A11) ) 1)			Sandy Redox (S Stripped Matrix ( Loamy Mucky M Loamy Gleyed M	5) S6) ineral (F1) fatrix (F2) (F3) (F3) urface (F6) urface (F7)	(except ML		Indicators for Problematic Hyde         2 cm Muck (A10)         Red Parent Material (TF2)         Very Shallow Dark Surface (TF1         Other (Explain in Remarks) <sup>3</sup> Indicators of hydrophytic vegetatic hydrology must be present, unless disturbed or problematic.	dric Soils: <sup>3</sup> 12) on and wetland
Depth (inch	nes):								Hydric Soil Present? Ye	es X No
HYDROLOG Wetland Hyd	Y trology Ind	icators:			d. This area meet		il indicator	with a de	pleted matrix (F3).	num of two required)
Surface Wa	. ,						s (B9) (exc	ept MLRA	A Water-Stained Leaves (B	9) (MLRA 1, 2,
High Water	Table (A2)				1, 2, 4A an				4A, and 4B)	
Saturation	(A3)				Salt Crust	. ,	(D40)		Drainage Patterns (B10)	
Water Mark	ks (B1)				Aquatic Inv				Dry-Season Water Table	(C2)
Sediment D	Deposits (B2)				Hydrogen S		. ,		Saturation Visible on Aeri	ial Imag.(C9)
Drift Depos	sits (B3)				Oxidized R			ing Root	s (C3) Geomorphic Position (D2	.)
Algal Mat o	or Crust (B4)				Presence o				Shallow Aquitard (D3)	
Iron Depos	its (B5)				Recent Iror			( )	FAC-Neutral Test (D5)	
Surface So	il Cracks (B6)				Stunted or	Stressed F	Plants (D1)	(LRR A)	Paised Ant Mounds (D6)	(LRR A)
Inundation	Visible on Aer	rial Imagery (B	7)		Other (Exp	lain in Rem	narks)		Frost-Heave Hummocks	
Sparsely Ve	egetated Cond	cave Surface (	B8)						_	
Field Observ	ations:									
Surface Wate	er Present?	Yes		No	X Depth	(inches):			_	
Water Table	Present?	Yes	X	No	Depth	(inches):		7	_	
Saturation Pr	resent?	Yes	Х	No	Depth	(inches):		10	Wetland Hydrology Present?	Yes <u>X</u> No
(includes cap										
Remarks:					2) and saturation		ctions), if av			

Project/Site:	FWLE / I-5		City/Co	unty:	Bel	levue		Sampling	Date:	1/28/201	4	
Applicant/Owner	: Sound Transit					State:	WA	Samplin	g Point:	SP 12-7	1-9	
Investigators:	Lisa Danielski	lan V	Velsh		Sectio	n, Towns	ship, Range	S 28	T 22 N	R 4	E	
Landform (hillslo	pe, terrace, etc.):	Top of Slope		Local Re	elief (concave	, convex	, none): C	onvex		Slope	(%)	
Subregion (LRR)	): A	Lat	: 47.368011		Long: -12	2.29479	5	D	atum: N	AD83		
Soil Map Unit Na	ame: Arents, Ald	erwood material, 6 to	15 percent slope	S		N	WI Classifica	ation:				
Are climatic / hyd	drologic conditions o	n the site typical for t	his time of year?	Yes	No	Х	(If No, exp	lain in Re	marks)			
Are Vegetation	, Soil,	Hydrology, sig	nificantly disturbe	d?	Are "No	ormal Ci	rcumstances	s" present	? Yes	Х	No	
Are Vegetation	, Soil,	Hydrology, na	turally problemation	;?	(If ne	eded, ex	plain any an	swers in	Remarks	.)		

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

Hydrophytic Vegetation Present?	Yes	X No						
Hydric Soil Present?	Yes	No	Х	Is the Sampled Area				
Wetland Hydrology Present?	Yes	No	Х	within a Wetland?	Yes	No	X	

#### Remarks:

Paired upland sample plot in emergent area of Wetland 12-1. This site does not meet the criteria to be classified as a wetland. Below-normal rainfall in November and December (3.79 and 1.66 inches, respectively). Rainfall nearly below normal in January (3.7 inches).

<b>VEGETATION</b> - Use scientific names of plants.	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test	Warkshoot			
Tree Stratum	<u>,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,</u>	<u></u>	<u>- 14:40</u>	Number of Domina				
<u>Shrub Stratum</u> (Plot size: <u>50 Ft</u> )				That Are OBL, FA		: _	2	(A)
Rubus spectabilis	5	Y	FAC	Total Number of D	Iominant			
	5	=Total Cover		Species Across all			2	(B)
Herb Stratum (Plot size: 5 Ft )								-
Phalaris arundinacea	100	Y	FACW	Percent of Domina That Are OBL, FA		·	100.0%	(A/B)
	100	=Total Cover		Prevalence Index	Worksheet			
Vine Stratum				Total % Cover			ply by:	
				OBL species	0	x 1 =	0	
				FACW species	100	x 2 =	200	
				FAC species	5	x 3 =	15	
				FACU species	0	x 4 =	0	
				UPL species	0	x 5 =	0	
				Column Totals:	105	(A)	215	(B)
				Column rotais.		-`´ -		
				Prevalence	Index = B/A=	: <u> </u>	2.05	
				Hydrophytic Vege	tation Indica	ators:		
				Rapid Test for	Hydrophytic	: Vegeta	ation	
				X Dominance Te	∋st > 50%			
				X Prevalence In	dex ≤ 3.0			
				Morphological	Adaptations		ido sunn	orting
				data in Remar				Jiting
				Problematic H	ydrophytic V	egetatio	on (Exp	olain)
				Indicators of hydri must be present,				
% Bare Ground in Herb Stratum				Hydrophytic Vegetation Prese	nt? Yes	x	No	
Remarks: (Include photo numbers here or on a separate sheet.)				1				

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Vegetation meets the dominance test and prevalence index for hydrophytic vegetation.



	r <b>ibe to the</b> Matrix	e depth nee	ded to docu		<b>cator or</b> Features	confirm t	he absence of Indicators.)	
Depth (inches) Color	(moist)	%	Color (moi		Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0 to 17 10YR	2/2	100	None				Very Gravely Sandy Loam	
17 to 21 10YR	3/2	98	7.5YR 4/4	1			Very Gravely Sandy Loam	
<sup>1</sup> Type: C=Concentration, D:					Coated S	Sand Grai		/I=Matrix.
Hydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Depleted Below Dark Surfac Thick Dark Surface (A12) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4)			Loamy Gley Depleted Ma Redox Dark Depleted Da	atrix (S6) ky Mineral (F1) red Matrix (F2)		.RA 1)	Indicators for Problematic Hyd 2 cm Muck (A10) Red Parent Material (TF2) Very Shallow Dark Surface (TF1 Other (Explain in Remarks) <sup>3</sup> Indicators of hydrophytic vegetatio hydrology must be present, unless disturbed or problematic.	2)
Restrictive Layer (if Type: Depth (inches): Remarks: This sample does not meet any HYDROLOGY		- 	-21" soils are to	bo deep to meet	t redox dari	< surface a	Hydric Soil Present? Ye	
Wetland Hydrology India Primary Indicators (minimu		s required; c	check all that	apply)			Secondary Indicators (minim	um of two required)
Surface Water (A1)				-Stained Leave A and 4B)	s (B9) (exc	ept MLRA	Water-Stained Leaves (B	9) (MLRA 1, 2,
High Water Table (A2)				rust (B11)			4A, and 4B)	
Saturation (A3)			=	ic Invertebrates	(B13)		Drainage Patterns (B10)	
Water Marks (B1)				gen Sulfide Odo	-		Dry-Season Water Table	(C2)
Sediment Deposits (B2)				ed Rhizosphere	· · /	ving Roots	(C3) Saturation Visible on Aeri	
Drift Deposits (B3)			_	nce of Reduced	-	5	Geomorphic Position (D2	)
Iron Deposits (B5)			Recen	t Iron Reduction	n in Tilled S	Soils (C6)	Shallow Aquitard (D3)	
Surface Soil Cracks (B6)			Stunte	ed or Stressed F	Plants (D1)	(LRR A)	FAC-Neutral Test (D5)	<i>"</i> <b></b>
Inundation Visible on Aeria	al Imagery (F	37)		(Explain in Ren	. ,	( )	Paised Ant Mounds (D6)	
Sparsely Vegetated Conca					ilainto)		Frost-Heave Hummocks (	U7)
Field Observations:		. ,						
Surface Water Present?	Yes	s No	D X D	epth (inches):				
Water Table Present?		No No		Pepth (inches):				
Saturation Present?		. No		Pepth (inches):			Wetland Hydrology Present?	Yes No_X_
(includes capillary fringe)				1 ( )				
Describe Recorded Data (strea	m gauge, m	onitoring well	, aerial photos,	previous inspec	ctions), if a	vailable:		
Remarks:								
This sample does not meet any	/ hydrology i	ndicators.						

WETLAND D	ETERMINATION DA	ATA FORM -	Western M	ountains	, Valleys, and	Coast Ro	egion		
Project/Site: FWLE / I-5		City/Coun	ty:	Des Moine	s Sa	ampling Date	: 3/26/20	)14	
Applicant/Owner: Sound Trans	it			State	: WA Sa	ampling Poir	nt: SP 12	-2-1	
Investigators: Lisa Danielski	Brendar	n Baughn		Section, Tov	vnship, Range S	б 28 Т 22	2 N R	4 E	
Landform (hillslope, terrace, etc.):	Depression	L	.ocal Relief (co	oncave, conv	vex, none): Cond	cave	Slop	e(%)	
Subregion (LRR): A	Lat: 4	47.365811	Long	: -122.305	703	Datum:	NAD83		
Soil Map Unit Name: Everett g	ravelly sandy loam, 0 to 5	percent slopes			NWI Classificatio	n:			
Are climatic / hydrologic conditions	on the site typical for this	time of year?	Yes	No X	(If No, explair	in Remarks	3)		
Are Vegetation, Soil	, Hydrology, signifi	cantly disturbed?	, ,	Are "Normal	 Circumstances" p	resent?	res X	No	
Are Vegetation, Soil	, Hydrology, natura	ally problematic?		(If needed.	explain any answ	ers in Rema	urks.)		
SUMMARY OF FINDINGS	- Attach a site man	showing sa	mplina poi					ros ot	<b>^</b>
Hydrophytic Vegetation Present?	-	Silowing Sai	iipiilig poi			, importa	in ieatu	165, 60	0.
Hydric Soil Present?	Yes No X	 Is the S	ampled Area						
Wetland Hydrology Present?	Yes No X	within a	a Wetland?		Yes	No	х		
Remarks: Paired upland plot for Wetland 12- over 1.5 inches in the week prior t		t all hydrology ind	dicators. Reco	rd rainfall du	iring previous mor	1th (6.5 inch	es in Febru	lary and	
VEGETATION_ Use scient	lific names of plants.	Absolute	Dominant	Indicator					
Tree Stratum	•	<u>% Cover</u>	<u>Species</u>	<u>Status</u>	Dominance Te				
					Number of Dor That Are OBL,			3	(A)
Acer circinatum (Plot SIZ	e: <u>50 Ft</u> )	2	Y	FAC					
		2	=Total Cover		Total Number of Species Across			3	(B)
Herb Stratum (Plot siz	vo: E Et )						—		_(=)
Festuca rubra	re: <u>5 Ft</u> )	50	Y	FAC	Percent of Dom			100.0%	(A/B)
Holcus lanatus		30	- <u> </u>	FAC	That Are OBL,	FACVV, of FACVVV, of FACVVV, of FACVVV, of FACVVV, of FACVVV, of FACVVVV, of FACVVVVV, of FACVVVVVVVVVVVVVVVVVVVVVVVVVVVVVVVVVVVV	AC:		
Bryopsida spp.		15	Ν	FAC	Prevalence Inc	lex Worksh	eet:		
Medicago lupulina		1	Ν	FACU	Total % Co			iply by:	
Taraxacum officinale		1	<u>N</u>	FACU	OBL species	0	x 1 =		
Vicia americana		1	N	FAC	FACW species		x 2 =		
Vine Stratum		98	_=Total Cover		FAC species	98	x 3 =		
Vine Stratum					FACU species		x 4 =	8	
					UPL species	0	x 5 =	0	
					Column Totals:	100	0 (A)	302	(B)
					Prevalen	ce Index = E	3/A=	3.02	
					Hydrophytic Ve	getation In	dicators:		
					Rapid Test	for Hydroph	vytic Veget	ation	
					X Dominance	• Test > 50%	, o		
					Prevalence	e Index ≤ 3.0	)		
						ical Adaptati marks or on			orting
						c Hydrophyt	•	,	olain)
					Indicators of h must be prese				
% Bare Ground in Herb Stratum					Hydrophyt Vegetation Pre		es X	No	
Remarks: (Include photo numbers )	here or on a senarato cho	ot )						<u> </u>	_

Remarks: (Include photo numbers here or on a separate sheet.)

Shrubs recently outplanted. Vegetation meets the dominance test for hydrophytic vegetation.



Profile Description:	-	depth need	ded to docun			confirm	the absence of Indicators.)	
Depth	Matrix	0/	Calar (main		Features	1 2	Tautum	Demerius
	Color (moist)	%	Color (mois	<u> </u>	Type 1	Loc <sup>2</sup>	Texture	Remarks
0 to 7 10Y		97	5YR 4/6	3	<u> </u>	<u>M</u>	FINE SANDY LOAM	
7 to 11 10Y	R 3/4	93	2.5yr 4/6	2	<u>C</u>	<u>M</u>	SANDY LOAM	
7 to 11	/		7.5YR 5/8		<u>C</u>	M	SANDY LOAM	
11 to 14 10Y	R 2/2	97	10YR 5/6	2	<u>C</u>	<u>M</u>	LOAM	Sandy Inclusions
11 to 14	/		5YR 3/4	10	<u>P</u>	_L	LOAM	
14 to 15 2.5Y		100						Diatomaceous earth
15 to 19 10Y		100					SANDY CLAY LOAM	
<sup>1</sup> Type: C=Concentrati	on, D=Depletion,	RM=Reduc	ed Martix, CS	=Covered of	r Coated S	Sand Gra	ains. 4Location: PL=Pore Lining	g, M=Matrix.
Hydric Soil Indicate	ors:						Indicators for Problematic 1	Avdric Soils <sup>, 3</sup>
Histosol (A1)			Sandy Redo	x (S5)				Tyuric Jons.
Histic Epipedon (A2	:)		Stripped Mat	rix (S6)			2 cm Muck (A10)	
Black Histic (A3)			Loamy Muck	y Mineral (F1)	(except MI	.RA 1)	Red Parent Material (TF2)	
Hydrogen Sulfide (A	4)		Loamy Gleye	ed Matrix (F2)			Very Shallow Dark Surface (	(F12)
Depleted Below Date	rk Surface (A11)		Depleted Ma				Other (Explain in Remarks)	
Thick Dark Surface	(A12)		Redox Dark	Surface (F6)			<sup>3</sup> Indicators of hydrophytic veget	ation and watered
Sandy Mucky Miner	al (S1)		Depleted Da	rk Surface (F7	)		indicators of hydrophytic veget hydrology must be present,	
Sandy Gleyed Matri	x (S4)		Redox Depre	essions (F8)			unless disturbed or problemation	2.
		N						
□ Restrictive Lay	er (if observed	d):						
Туре:							Hydric Soil Present?	Yes No X
Depth (inches):								
HYDROLOGY Wetland Hydrology								
Primary Indicators (n	ninimum of one is	required; cl	heck all that a	ipply)			Secondary Indicators (min	nimum of two required)
Surface Water (A1)				Stained Leave	es (B9) (exc	ept MLRA	Water-Stained Leaves	(B9) (MLRA 1, 2,
High Water Table (A	A2)			A and 4B)			<sup>—</sup> 4A, and 4B)	
Saturation (A3)				ust (B11)	(D40)		Drainage Patterns (B1	0)
Water Marks (B1)				Invertebrates	. ,		Dry-Season Water Ta	ole (C2)
Sediment Deposits	(B2)			en Sulfide Odo		ing Poots	Saturation Visible on A	Aerial Imag.(C9)
Drift Deposits (B3)				ed Rhizospher	-	ning Roots	Geomorphic Position	D2)
Algal Mat or Crust (	B4)			Iron Reductio	. ,		Shallow Aquitard (D3)	
Iron Deposits (B5)						. ,	FAC-Neutral Test (D5	)
Surface Soil Cracks				d or Stressed I		(LKK A)	Paised Ant Mounds (E	06) (LRR A)
Inundation Visible o	0,00	,	Other (	Explain in Ren	narks)		Frost-Heave Hummoo	ks (D7)
	Concave Surface (E	⊃ờ)						
Field Observations:	10		-					
Surface Water Preser		No		epth (inches):			-	
Water Table Present?		No		epth (inches):			Wetland Hydrology Present?	Yes No_X_
Saturation Present? (includes capillary frin	Yes	No	<u>X</u> De	epth (inches):				
Describe Recorded Data		nitoring well,	aerial photos, p	previous inspec	ctions), if av	/ailable:		
Remarks:								
TT 1 1 1 1 1 1 1								
This sample does not me	eet any hydrology in	dicators.						

Project/Site:	FWLE	/ I-5			City/Cou	unty:	Des	6 Moines		Samplin	g Date:	3/26/20	14	
Applicant/Owner	: S	ound Transit						State:	WA	Sampli	ng Point:	SP 12-	2-2	
Investigators:	Lisa	Danielski		Brenda	an Baughn		Section	on, Towr	nship, Range	S 28	T 22 N	IR4	E	
Landform (hillslo	pe, terr	ace, etc.):	Depression			Local Re	elief (concav	e, conve	ex, none): C	oncave		Slope	e(%)	
Subregion (LRR)	): A			Lat:	-122.305683		Long: 47	.365848		I	Datum: N	IAD83		
Soil Map Unit Na	ame:	Everett gra	velly sandy loar	n, 0 to	5 percent slopes	\$		Ν	WI Classifica	ation: F	PEM1			
Are climatic / hyd	drologic	conditions o	on the site typica	l for thi	s time of year?	Yes	No	Х	(If No, exp	lain in R	emarks)			
Are Vegetation	,	Soil,	Hydrology	_, sign	ificantly disturbe	d?	Are "N	lormal C	ircumstances	s" preser	nt? Yes	Х	No	
Are Vegetation	,	Soil,	Hydrology	, natu	rally problematic	;?	(lf ne	eeded, e	xplain any ar	nswers in	Remarks	s.)		

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

Hydrophytic Vegetation Present?	Yes	Х	No				
Hydric Soil Present?	Yes	Х	No	Is the Sampled Area			
Wetland Hydrology Present?	Yes	Х	No	within a Wetland?	Yes	Х	No

#### Remarks:

This plot meets the criteria for a wetland. Record rainfall during previous month (6.5 inches in February and over 1.5 inches in the week prior to wetland delineation). Sample plot is in Wetland 12-2.

<b>VEGETATION</b> _ Use scientific names of plants.	Absolute % Cover	<u>Dominant</u> Species	Indicator Status					
Tree Stratum	<u>78 COver</u>	opecies	otatus	Dominance Test				
Shrub Stratum				Number of Domina That Are OBL, FA		:	2	(A)
Herb Stratum (Plot size: 5 Ft )				Total Number of D	ominant			
Glyceria elata	40	Y	FACW	Species Across all			2	(B)
Phalaris arundinacea	40	Y	FACW	-				-
Juncus effusus	10	N	FACW	Percent of Domina That Are OBL, FA			100.0%	(A/B)
Holcus lanatus	5	N	FAC					
Ranunculus repens	5	Ν	FAC	Prevalence Index	Worksheet	:		
Rumex obtusifolius	2	Ν	FAC	Total % Cover	of:	Multi	ply by:	
	102	=Total Cover		OBL species	0	x 1 =	0	
Vine Stratum				FACW species	90	x 2 =	180	
				FAC species	12	x 3 =	36	
				FACU species	0	x 4 =	0	
				UPL species	0	x 5 =	0	
								(D)
				Column Totals:	102	(A)	216	(B)
				Prevalence I	ndex = B/A=	:	2.12	
				Hydrophytic Veget	ation Indica	ators:		
				Rapid Test for	Hydrophytic	; Vegeta	ation	
				X Dominance Te	st > 50%			
				X Prevalence Inc	1ex ≤ 3.0			
				Morphological				orting
				data in Remar	ks or on a se	eparate	sheet)	
				Problematic H	ydrophytic V	egetatio	on (Exp	lain)
				Indicators of hydri must be present,				
% Bare Ground in Herb Stratum				Hydrophytic Vegetation Preser	nt? Yes	X	No	
Remarks: (Include photo numbers here or on a separate sheet.)								

Vegetation meets the dominance test and prevalence index for hydrophytic vegetation.



Profile Descr	ription: (Des		depth nee	ded to document			onfirm	the absence of Indicators.)	
Depth		Matrix			Redox F				_
(inches)	Color	(moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0 to 6	10y	3/2	100					FINE SANDY LOAM	
6 to 15	10YR	4/1	98	10YR 5/8	20	С	М	SANDY LOAM	Some cobbles
<sup>1</sup> Type: C=Cor	ncentration, D	=Depletion,	RM=Reduc	ced Martix, CS=Co	overed or	Coated S	and Gra	ains. <sup>2</sup> Location: PL=Pore Lining	, M=Matrix.
Hydric Soil I								Indicators for Problematic H	<u>Iydric Soils:</u> <sup>3</sup>
Depleted B	edon (A2)	)		<ul> <li>Sandy Redox (St</li> <li>Stripped Matrix (Control Control Contro Control Control Control Control Control Control Control Cont</li></ul>	S6) neral (F1) ( latrix (F2) (F3) ace (F6) urface (F7)	(except ML	RA 1)	<ul> <li>2 cm Muck (A10)</li> <li>Red Parent Material (TF2)</li> <li>Very Shallow Dark Surface (T</li> <li>Other (Explain in Remarks)</li> <li><sup>3</sup> Indicators of hydrophytic vegeta hydrology must be present, unless disturbed or problematic</li> </ul>	ation and wetland
Restrict Type: Depth (incl Remarks:	ive Layer(	if observe	d):					Hydric Soil Present?	Yes X No
Surface Water High Water Saturation Water Mari Sediment I Drift Depos Algal Mat c Iron Depos	drology Indi cators (minim ater (A1) r Table (A2) (A3) ks (B1) Deposits (B2) sits (B3) or Crust (B4)		s required; c	check all that apply Water-Stain 1, 2, 4A an Salt Crust ( Aquatic Invi Hydrogen S Oxidized R Presence c Recent Iron Stunted or	ned Leaves d 4B) (B11) ertebrates ( Sulfide Odo hizosphere of Reduced n Reduction	(B13) r (C1) s along Liv Iron (C4) n in Tilled S	ing Roots oils (C6)	AA, and 4B)     Drainage Patterns (B1     Dry-Season Water Tat     Saturation Visible on A	(B9) (MLRA 1, 2, 0) ole (C2) serial Imag.(C9) D2)
Inundation				Other (Expl	lain in Rem	arks)		Frost-Heave Hummoc	
Field Observ	egetated Conc	ave Sunace (	00						
Surface Wate Water Table Saturation P	er Present? Present? resent?	Yes Yes Yes	X No	Depth	(inches): (inches): (inches):		4" 0"	Wetland Hydrology Present?	Yes _X_ No
(includes cap Describe Recor Remarks: Meets A2 and A	ded Data (stre	am gauge, mo	onitoring well,	, aerial photos, previ	ous inspect	tions), if av	ailable:		

WETLAND D	ETERMINATION DATA					-		
Project/Site: FWLE / I-5		City/Count	ty:	Kent		ampling Date:		
Applicant/Owner: Sound Trans	it			State	: <u>WA</u> S	ampling Point:	SP 20-2-1	
Investigators: Lisa Danielski	Brendan Ba	lughn		Section, Tov	vnship, Range	522 T 22 M	NR4E	
Landform (hillslope, terrace, etc.):	Depression	Lo	ocal Relief (co	ncave, conv	rex, none): Con	cave	Slope(%)	
Subregion (LRR): A	Lat: 47.3	85223	Long:	-122.2908	397	Datum:	VAD83	
Soil Map Unit Name: Alderwoo	d gravelly sandy loam, 6 to 15	5 percent slop	es		NWI Classificatio	n:		
Are climatic / hydrologic conditions	on the site typical for this time	e of year?	Yes	No X	(If No, explai	n in Remarks)		
Are Vegetation <u>X</u> , Soil,	Hydrology, significant	tly disturbed?	А	re "Normal	Circumstances" p	present? Yes	S X No	
Are Vegetation, Soil,	Hydrology, naturally p	problematic?		(If needed,	explain any answ	ers in Remarks	s.)	
SUMMARY OF FINDINGS	- Attach a site map sh	owing sar	npling poir	nt locatio	ns, transects	s, important	features, ef	tc.
Hydrophytic Vegetation Present?	Yes X No							
Hydric Soil Present?	Yes No X		ampled Area					
Wetland Hydrology Present?	Yes No X	within a	Wetland?		Yes	No X		
Remarks: Sample plot to verify that Wetland month (6.5 inches in February and					I wetland indicato	ors. Record rair	Ifall during previ	ous
VEGETATION_ Use scient	ific names of plants.	Absolute <u>% Cover</u>	Dominant Species	Indicator Status	Dominance Te	et Workshoot		
Tree Stratum			<u></u>			minant Species		
Shrub Stratum (Plot siz	e: <u>50 Ft</u> )					FACW, or FAC		(A)
Spiraea douglasii	<u> </u>	5	Y	FACW	Total Number	of Dominant		
		5	=Total Cover		Species Acros		2	(B)
Herb Stratum								_
Vine Stratum (Plot siz	e: 30 Ft )				Percent of Dor That Are OBL,	ninant Species FACW. or FAC		(A/B)
Rubus armeniacus		75	Y	FACU	Prevalence In			
		75	=Total Cover		Total % Co		Multiply by:	
					OBL species	0	$\frac{1}{x 1 = 0}$	
					FACW species	5	x 2 = 10	
					FAC species	0	x 3 = 0	
					FACU species	75	x 4 = 300	
					UPL species	0	x 5 = 0	
					Column Totals	80	(A) 310	(B)
					Prevaler	ce Index = B/A	= 3.88	
					Hydrophytic V	egetation Indic	ators:	
					Rapid Tes	t for Hydrophyti	c Vegetation	
					Dominanc	e Test > 50%		
					Prevalence	e Index ≤ 3.0		
							s (Provide supp separate sheet)	porting
					Problemat	ic Hydrophytic '	Vegetation (Ex	plain)
							vetland hydrolog urbed or problem	
% Bare Ground in Herb Stratum					Hydrophyt Vegetation Pro		X No	
Remarks: (Include photo numbers h	nere or on a separate sheet.)							
This sample does not meet any ve	getative indicators.							

This sample does not meet any vegetative indicato



Profile Description: (Describe to the depth n	eeded to document	the indi	cator or o	onfirm t	he absence of Indicators.)	
Depth Matrix		Redox F	eatures			
(inches) Color (moist) %	Color (moist)	%	Type 1	Loc <sup>2</sup>	Texture	Remarks
0 to 14 2.5y 2 / 1 100					LOAM	
14 to 16 10YR 6/6 100					Diatomacoius Earth	
16 to 20 2.5Y 2/1					LOAM	
<sup>1</sup> Type: C=Concentration, D=Depletion, RM=Re	duced Martix, CS=Co	overed or	Coated S	and Gra	ins. <sup>2</sup> Location: PL=Pore Lining,	M=Matrix.
Hydric Soil Indicators:					Indicators for Problematic Hy	ydric Soils: <sup>3</sup>
Histosol (A1)	Sandy Redox (S5	5)			2 cm Muck (A10)	
Histic Epipedon (A2)	Stripped Matrix (S	66)			Red Parent Material (TF2)	
Black Histic (A3)	Loamy Mucky Mi	neral (F1)	(except ML	RA 1)	Very Shallow Dark Surface (TF	12)
Hydrogen Sulfide (A4)	Loamy Gleyed Ma	atrix (F2)			Other (Explain in Remarks)	12)
Depleted Below Dark Surface (A11)	Depleted Matrix (	F3)				
Thick Dark Surface (A12)	Redox Dark Surfa	ace (F6)			<sup>3</sup> Indicators of hydrophytic vegetati	on and wetland
Sandy Mucky Mineral (S1)	Depleted Dark Su	urface (F7)			hydrology must be present,	
Sandy Gleyed Matrix (S4)	Redox Depressio	ns (F8)			unless disturbed or problematic.	
Restrictive Layer (if observed):						
Туре:						
Depth (inches):					Hydric Soil Present? Yo	es <u>No X</u>
Remarks:						
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one is required	d; check all that apply	()			Secondary Indicators (minir	mum of two required)
Surface Water (A1)	Water-Stair		s (B9) (exc	ept MLRA		. ,
High Water Table (A2)	1, 2, 4A and	,			4A, and 4B)	
Saturation (A3)	Salt Crust (	,			Drainage Patterns (B10)	1
Water Marks (B1)	Aquatic Inve	ertebrates	(B13)		Dry-Season Water Table	
Sediment Deposits (B2)	Hydrogen S		. ,		Saturation Visible on Ae	rial Imag.(C9)
Drift Deposits (B3)	Oxidized RI	-	-	ring Roots	(C3) Geomorphic Position (D	
Algal Mat or Crust (B4)	Presence o		. ,		Shallow Aquitard (D3)	,
Iron Deposits (B5)	Recent Iron			. ,	FAC-Neutral Test (D5)	
Surface Soil Cracks (B6)	Stunted or S	Stressed F	Plants (D1)	(LRR A)	Paised Ant Mounds (D6)	) (LRR A)
Inundation Visible on Aerial Imagery (B7)	Other (Expl	ain in Rem	narks)		Frost-Heave Hummocks	
Sparsely Vegetated Concave Surface (B8)						· · ·
Field Observations:						
Surface Water Present? Yes	No X Depth	(inches):				
Water Table Present? Yes X	No Depth	(inches):		20		
Saturation Present? Yes X	No Depth	(inches):		18	Wetland Hydrology Present?	Yes No_X_
(includes capillary fringe)						
Describe Recorded Data (stream gauge, monitoring v	vell, aerial photos, previo	ous inspec	tions), if av	ailable:		
Remarks:						
This sample does not meet any hydrology indicators;	free water/saturation too	o deep afte	er heavy ra	infall in ea	rly part of growing season to meet hydrolog	gic indicators.



	TERMINATION DATA						-			
Project/Site: FWLE / I-5		City/Count	y:	Kent		Sampling D				
Applicant/Owner: Sound Transit				State	WA	Sampling I	oint:	SP 20-3-	1	
Investigators: Lisa Danielski	lan Welch			Section, Tow	nship, Range	S S 21	T T 22 M	N RR4	1 E	
Landform (hillslope, terrace, etc.):		L	ocal Relief (co	ncave, conv	ex, none):			Slope(%	%)	
Subregion (LRR): A	Lat:		Long:			Dat	um: NA	4D83		
Soil Map Unit Name: Arents, Ald	erwood material, 6 to 15 per	rcent slopes			NWI Classifica	tion: PSS	51			
Are climatic / hydrologic conditions o	n the site typical for this time	e of year?	Yes	No X	(If No, expl	lain in Rema	arks)			
Are Vegetation, Soil,	Hydrology, significant	tly disturbed?	А	re "Normal (	Circumstances	present?	Yes	х	No	
Are Vegetation, Soil,	Hydrology, naturally p	problematic?		(If needed,	explain any an	swers in Re	emarks.)	)		
SUMMARY OF FINDINGS - Hydrophytic Vegetation Present?	-	owing sar	npling poir	nt locatio	ns, transec	ts, impo	rtant f	eature	<u>s, etc</u>	С.
Hydric Soil Present?	Yes X No Yes X No	la tha G	ampled Area							
Wetland Hydrology Present?	Yes X No		Wetland?		Yes	No	х			
Remarks:								=		
Sample plot located in center of We	tland 20-3. Above average r	ainfall occurre	ed in the area	for several v	veeks prior to s	sampling da	te.			
VEGETATION Use scientif	ic names of plants.	<u>Absolute</u> <u>% Cover</u>	Dominant Species	Indicator Status	Dominance	Test Work	sheet:			
Tree Stratum			-		Number of D					
Shrub Stratum (Plot size	: <u>50 Ft</u> )				That Are OE				1	(A)
Cornus alba	<u> </u>	30	Y	FACW	Total Numbe	ar of Domin	ant			
		30	=Total Cover		Species Acro				2	(B)
Herb Stratum					Demonstration					-
Vine Stratum (Plot size	· 30 Ft )				Percent of D That Are OB			50	0.0%	(A/B)
Hedera helix	,	70	Y	FACU	Prevalence	Index Worl	ksheet:			
		70	=Total Cover		Total %	Cover of:		Multiply	/ bv:	
					OBL species		0	x 1 =	0	
					FACW speci		30	x 2 =	60	
					FAC species		0	x 3 =	0	
					FACU specie		70	x 4 =	280	
					UPL species		0	x 5 =	0	
					Column Tota		100	(A)	340	(B)
					Preval	lence Index	= B/A=	3	.40	
					Hydrophytic	Vegetation	1 Indica	tors:		
					Rapid Te	est for Hydr	ophytic	Vegetatio	on	
					Dominar	nce Test > {	50%			
					Prevaler	nce Index ≤	3.0			
						ogical Adap Remarks or				orting
					X Problem	atic Hydrop	hytic Ve	egetation	(Exp	olain)
					Indicators o must be pre					
% Para Cround in Harb Strature					Hydroph Vegetation I	•	Yes	X No		
% Bare Ground in Herb Stratum Remarks: (Include photo numbers he	re or on a separate sheet )									
Hedera helix is an aggressive invas	. ,									



(inches)	Color	(moist)	%	Color (moist)	%	Type <sup>1</sup> Loc <sup>2</sup>	Texture	Remarks
to 12	10YR	2/2	100				Gravelly sandy loam	Soil reddened upon a exposure
ype: C=Con	centration, D	=Depletion,	RM=Redu	uced Martix, CS=	Covered or C	Coated Sand Grain	ns. <sup>2</sup> Location: PL=Pore Linin	ng, M=Matrix.
ydric Soil I	ndicators:						<b>Indicators for Problematic</b>	Hydric Soils: <sup>3</sup>
Thick Dark Sandy Muc Sandy Gley	edon (A2) c (A3) Sulfide (A4) elow Dark Sur Surface (A12) ky Mineral (S1 red Matrix (S4)	)		Sandy Redox ( Stripped Matrix Loamy Mucky Loamy Gleyed Depleted Matri Redox Dark St Depleted Dark Redox Depress	: (S6) Mineral (F1) (e Matrix (F2) x (F3) Irface (F6) Surface (F7)	except MLRA 1)	<ul> <li>2 cm Muck (A10)</li> <li>Red Parent Material (TF2)</li> <li>Very Shallow Dark Surface (Very Shallow Dark Surface)</li> <li>Other (Explain in Remarks)</li> <li>Indicators of hydrophytic vege hydrology must be present, unless disturbed or problemat</li> </ul>	tation and wetland
Bestricti Type: Depth (inch	ve Layer (i	if observe	d):				Hydric Soil Present?	Yes X No
DROLOG	Y							
etland Hyd	lrology Indi		required;	check all that ap	oly)		Secondary Indicators (m	inimum of two required
Primary Indica Surface Wa High Water Saturation ( Water Mark Sediment D Drift Depos Algal Mat o Iron Deposi Surface So	Irology Indi ators (minim Table (A2) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3	um of one is ial Imagery (B	7)	Water-St 1, 2, 4A a Salt Crus Aquatic II Hydroger Oxidized Presence Recent Ir Stunted o	ained Leaves and 4B) t (B11) nvertebrates (I Sulfide Odor Rhizospheres of Reduced I on Reduction	(C1) s along Living Roots ( Iron (C4) in Tilled Soils (C6) ants (D1) (LRR A)	Water-Stained Leave 4A, and 4B) Drainage Patterns (B Dry-Season Water Ta Saturation Visible on	es (B9) (MLRA 1, 2, 10) able (C2) Aerial Imag.(C9) (D2) 5) D6) (LRR A)



Project/Site:	FWLE / I-5		City/County:	Kent	Sa	mpling Date:	2/15/2016
Applicant/Owner	: Sound Transit			State:	WA Sa	ampling Point:	SP 20-3-2
Investigators:	Lisa Danielski	Ian Welch		Section, Towns	ship, Range S	SS21 TT22	2N RR4E
Landform (hillslo	ppe, terrace, etc.):		Local R	elief (concave, convex	, none):		Slope(%)
Subregion (LRR)	): A	Lat:		Long:		Datum:	NAD83
Soil Map Unit Na	ame: Arents, Ald	erwood material, 6 to 15 perc	ent slopes	N	VI Classificatio	n: None	
Are climatic / hyd	drologic conditions o	n the site typical for this time	of year? Yes	No X	(If No, explair	n in Remarks)	
Are Vegetation	, Soil,	Hydrology, significantl	y disturbed?	Are "Normal Cir	cumstances" p	resent? Yes	S X No
Are Vegetation	, Soil,	Hydrology, naturally p	roblematic?	(If needed, ex	plain any answ	ers in Remarks	5.)

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

Hydrophytic Vegetation Present?	Yes	No X					
Hydric Soil Present?	Yes	No X	Is the Sampled Area				
Wetland Hydrology Present?	Yes	No X	within a Wetland?	Yes	No	X	

Remarks:

Paired upland plot located south of Wetland 20-3 boundary. Above average rainfall occurred in the area for several weeks prior to sampling date. Plot does not meet any wetland criteria.

EGETATION_ L	Jse scientific names of plants.	Absolute <u>% Cover</u>	Dominant Species	Indicator Status	Dominance Test \	Norksheet:			
Tree Stratum	(Plot size: <u>30 Ft</u> )				Number of Domina	ant Species			
Populus balsami	fera	40	Y	FAC	That Are OBL, FA		:	1	(A
Shrub Stratum	(Plot size: <u>50 Ft</u> )	40	_=Total Cover		Total Number of D Species Across all			3	(B
Oemleria cerasif	ormis	50	Y	FACU					_
		50	=Total Cover		Percent of Domina That Are OBL, FAC		:	33.3%	(A/
Herb Stratum					Prevalence Index	Worksheet	:		
Vine Stratum	(Plot size: <u>30 Ft</u> )				Total % Cover	of:	Multip	oly by:	
Hedera helix		70	Y	FACU	OBL species	0	x 1 =	0	
Rubus armeniac	us	10	Ν	FACU	FACW species	0	x 2 =	0	
		80	=Total Cover		FAC species	40	x 3 =	120	
					FACU species	130	x 4 =	520	
					UPL species	0	x 5 =	0	
					Column Totals:	170	(A)	640	(E
					Prevalence I	ndex = B/A=	=	3.76	
					Hydrophytic Veget	ation Indic	ators:		
					Rapid Test for	Hydrophytic	: Vegeta	tion	
					Dominance Te	est > 50%			
					Prevalence Inc	dex ≤ 3.0			
					Morphological				orti
					Problematic H		•	,	olair
					Indicators of hydri must be present,	c soil and w	etland h	ydrolog	у
Bare Ground in Her	b Stratum				Hydrophytic Vegetation Preser	nt? Yes		No )	(
	o numbers here or on a separate sheet				1				



Oppin         Matrix         Redox Features           (inches)         Color (moist)         %         Type 3         Loc 2         Texture         Remarks           0         to 7         10         10         7         10         10         7         10         10         10         7         10         10         10         21         10         3ANDY LOAM         SANDY LOAM         Sandy Redox Setures         Sandy Redox Setures         Caccation: PL=Pore Lining, M-Matrix           Type: C=Concentration: D=Depletion, RM=Reduced Matrix, CSS         Sandy Redox (SS)         1         Canomy Mudy Moref (F) (scopp Matrix (SG)         1         Canomy Mudy Moref (F) (scopp Matrix (SG)         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1 <t< th=""><th>Profile Descri</th><th>iption: (Des</th><th>cribe to the</th><th>depth need</th><th>ded to docume</th><th>nt the indi</th><th>cator or co</th><th>onfirm th</th><th>ne absence of Indicators.)</th><th></th><th></th></t<>	Profile Descri	iption: (Des	cribe to the	depth need	ded to docume	nt the indi	cator or co	onfirm th	ne absence of Indicators.)		
0       to       10       10/R       2/2       100       Gravely andy loam         10       10/R       4/3       100       Gravely andy loam       Gravely andy loam         11/1ype: C-Concentration. D-Depletion, RM-Reduced Martix, CSS-Covered or Coated Sand Grains, "Location: PL-Pore Lining, M-Matrix.       Identify andy loam       Identify, M-Matrix.         11/1ype: C-Concentration. D-Depletion, RM-Reduced Martix, (S0)	Depth										
7       to 16       10YR       4 / 3       100       Gravelly sandy koam         Type: C=Concentration. D=Depletion, RM=Reduced Martix, CS=Covered or Coated Sand Grains.       A coation: PL=Pore Lining, M=Matrix.         Hydric Soil Indicators:	(inches)	Colo	r (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks	
Type: C=Concentration. D=Depletion. RM=Reduced Martix. CS=Covered or Coated Sand Grains.       4.ocation: PL=Pore Lining, M=Matrix.         Hydric Soil Indicators:       Sandy Redox (85)       Indicators for Problematic Hydric Soils: 3         Histoc (A1)       Sinped Martix (85)       Indicators for Problematic Hydric Soils: 3         Histoc (A2)       Sinped Martix (72)       Red Yates (A10)         Hydrigon Surface (A11)       Depleted Data Surface (F8)       Indicators Surface (F12)         Sandy Marcy (Reyet Martix (53)       Depleted Data Surface (F8)       Indicators Hydrobytic vegetation and wetland hydrology Indicators (F8)         Restrictive Layer (If observed):       Type:       Problematic Hydric Soil Present?       Yes         This sample does not meet any hydric soil indicators.       Hydric Soil Present?       Yes       No         HyDROLOGY       Wetland Hydrology Indicators:       Primary Indicators (Intimuum of one is required; check all that apply)       Secondary Indicators (minimum of two required)         Saturation (A2)       Saturation (C4)       Durines Site (C1)       Saturation Viable on Arial Hydrology Indicators:         Baruation (A2)       Saturation (C4)       Durines Site (C1)       Durines Site (C2)       Saturation Viable on Arial Image (S3)         Saturation (C4)       Hydrice Site (C1)       Durines Site (C2)       Saturation Viable on Arial Image (S3)       Saturation Image Patterns (B4)<	0 to 7	10YR	2/2	100					SANDY LOAM		
Hydric Soil Indicators:       Indicators for Problematic Indicators:         Histoc (A1)       Striped Matrix (S5)         Bitck Histoca (A2)       Domy Mucky Mineral (F1) (except MLRA 1)         Depleted Matrix (F2)       Doepleted Matrix (F2)         Depleted Matrix (F2)       Other Explain in Remarks!         Stardy Moxiy Mineral (S1)       Depleted Matrix (F2)         Back Hields Cark Surface (F7)       Redox Dark Surface (F7)         Stardy Glegwed Matrix (S4)       Redox Dark Surface (F7)         Type:       Depleted Matrix (F3)         Primary Indicators of hydrophytic vegetation and wetland hydrology Matrix (S3)       Hydric Soil Present?         Yes:       Restrictive Layer (if observed):         Type:       Remarks:         This sample does not meet any hydric soil indicators.         HYDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (minimum of one is required; check all that apply)         Saturation (A3)       Aquate Invertebrates (B1) (except MLRA)         High Water Table (A2)       Saturation (A4 de)         Saturation (A3)       Aquate Invertebrates (B13)         High Water Stained Laxers (B10)       Dyscage Surface Water (G1)         Saturation (A3)       Paiwate Antibue on Arein Imag (C9)         Aquate Inverebrates (B1)       Hydrogen Suffie											
I Histosol (A1)       Sandy Redox (S5)         Histosol (A2)       Stripped Matrix (S6)         Bitck Histosol (A2)       Stripped Matrix (S6)         Bitck Histosol (A3)       Loamy Mucky (Mineral (F1) (except MLRA 1))         Depleted Metrix (F2)       Vory Shallow Dark Surface (A12)         Book Histosol (A3)       Depleted Metrix (F2)         Stripped Watrix (F3)       Redox Dark Surface (F6)         Stripped Watrix (F3)       Depleted Metrix (F2)         Book Histosol (A3)       Depleted Metrix (F3)         Book Histosol (A1)       Depleted Metrix (F3)         Book Histosol (A1)       Depleted Metrix (F3)         Sturdped Watrix (F3)       Redox Depressions (F8)         ''Thick Larver (If Observed):       ''yeer (If Observed):         Type:       Remarks:         ''Barree Water (A1)       Water Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)         High Veater Table (A2)       Saluration Vater Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)         High Veater Table (A2)       Saluration Vater Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)         Baturation (A3)       Aquatic Invertebrates (B13)         High Veater Table (A2)       Saluration Vater Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)         Baturation (A3)       Aquatic Invertebrates (B13)         Baturation (A3	<sup>1</sup> Type: C=Con	centration, [	D=Depletion,	RM=Reduc	ed Martix, CS=	Covered or	Coated Sa	ind Grair	ns. 4Location: PL=Pore Lining, M	1=Matrix.	
Wetland Hydrology Indicators:         Primary Indicators (minimum of one is required; check all that apply)         Surface Water (A1)       Water-Stained Leaves (B9) (except MLRA         High Water Table (A2)       1, 2, 4A and 4B)         Saturation (A3)       Salt Crust (B1)         Water Marks (B1)       Aquatic Invertebrates (B13)         Drit Deposits (B2)       Hydrogen Sulfide Odor (C1)         Oxidized Rhizospheres along Living Roots (C3)       Drit Deposits (B3)         Iron Deposits (B5)       Recent Iron Reduction in Tilled Soils (C6)         Surface Soil Cracks (B6)       Stunted or Stressed Plants (D1) (LRR A)         Inundation Visible on Aerial Imagery (B7)       Other (Explain in Remarks)         Surface Water Present?       Yes         Water Table Present?       Yes         Yes       No         Depth (inches):       16         Surface Water Present?       Yes         Yes       No         Depth (inches):       15         Wetland Hydrology Present?       Yes         Yes       No         Depth (inches):       15         Wetland Hydrology Present?       Yes         No       Depth (inches):         Mater Table Present?       Yes         No       Depth (	Histosol (A Histic Epipe Black Histic Hydrogen S Depleted B Thick Dark Sandy Muc Sandy Gley <b>Restricti</b> Type: Depth (inch Remarks:	1) edon (A2) c (A3) Sulfide (A4) elow Dark Su Surface (A12 ky Mineral (S ved Matrix (S4 ive Layer (	) 1) (if observe		Stripped Matrix Loamy Mucky Loamy Gleyed Depleted Matri Redox Dark Su Depleted Dark	x (S6) Mineral (F1) Matrix (F2) x (F3) urface (F6) Surface (F7)		A 1)	2 cm Muck (A10)     Red Parent Material (TF2)     Very Shallow Dark Surface (TF1:     Other (Explain in Remarks)     Indicators of hydrophytic vegetation     hydrology must be present,     unless disturbed or problematic.	2) n and wetland	<u>x</u>
	Wetland Hyd         Primary Indic         Surface Wa         High Water         Saturation (         Water Mark         Sediment D         Drift Depos         Algal Mat o         Iron Deposi         Surface So         Inundation         Sparsely Vo         Field Observ         Saturation Pr         (includes cap)	Irology Ind ators (minim ater (A1) Table (A2) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3	num of one is rial Imagery (B cave Surface ( Yes Yes Yes	7) B8) No No No	Water-St         1, 2, 4A a         Salt Crus         Aquatic Ir         Hydroger         Oxidized         Presence         Recent Ir         Stunted of         Other (E)         X       Dep         Dep         Dep	ained Leaves ained Leaves and 4B) st (B11) nvertebrates a Sulfide Odo Rhizosphere e of Reduced on Reductior or Stressed F cplain in Rem th (inches): th (inches): th (inches):	(B13) pr (C1) es along Livir I Iron (C4) n in Tilled So Plants (D1) (L narks) 1 1	ng Roots ( ils (C6) .RR A) 6 5	(C3) Water-Stained Leaves (B5 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table ( Saturation Visible on Aeria Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Paised Ant Mounds (D6) ( Frost-Heave Hummocks (	(C2) al Imag.(C9) (LRR A) D7)	
		es not meet a	ny hydrology ir	ndicators. Sate	uration and water	table too dee	ep for early p	part of gro	wing season.		

Project/Site:	FWLE / I-5	City	/County:	Kent		Sampling Date:	2/15/2016
Applicant/Owner	: Sound Transit			State	e: WA	Sampling Point:	SP 24-2-1
Investigators:	Lisa Danielski	lan Welch		Section, To	wnship, Range	SS28 TT22	2N RR4E
Landform (hillslo	pe, terrace, etc.):		Local Re	elief (concave, con	vex, none):		Slope(%)
Subregion (LRR)	): A	Lat:		Long:		Datum:	NAD83
Soil Map Unit Na	ame: Alderwood	gravelly sandy loam, 0 to 15 perce	nt slopes		NWI Classifica	tion: PFO1	
Are climatic / hyd	drologic conditions o	n the site typical for this time of yea	ar? Yes	No X	(If No, expl	ain in Remarks)	
Are Vegetation	, Soil,	Hydrology, significantly distu	urbed?	Are "Normal	Circumstances	" present? Yes	S X No
Are Vegetation	, Soil,	Hydrology, naturally problem	natic?	(If needed,	explain any an	swers in Remarks	5.)

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

Hydrophytic Vegetation Present?	Yes	Х	No				
Hydric Soil Present?	Yes	Х	No	Is the Sampled Area			
Wetland Hydrology Present?	Yes	Х	No	within a Wetland? Yes	s	Х	No

#### Remarks:

Soil plot located in southeast portion of Wetland 24-2. Above average rainfall occurred in the area for several weeks prior to sampling date. Plot meets all wetland criteria.

EGETATION Use scientific names of plants.	Absolute <u>% Cover</u>	Dominant Species	Indicator Status	Dominance Test	Worksheet			
Tree Stratum (Plot size: <u>30 Ft</u> )				Number of Domina				
Alnus rubra	25	Y	FAC	That Are OBL, FA			2	(A)
	25	=Total Cover						
Shrub Stratum (Plot size: 50 Ft )				Total Number of D Species Across all			3	(B)
Oemleria cerasiformis	25	Y	FACU				-	_ (-
Spiraea douglasii	10	Y	FACW	Percent of Domina			66.7%	(A/
Rubus spectabilis	5	N	FAC	That Are OBL, FA	CW, or FAC	: <u> </u>		- `
	40	=Total Cover		Prevalence Index	Workshee	t:		
Herb Stratum				Total % Cover	of:	Multi	oly by:	
Vine Stratum				OBL species	0	x 1 =	0	
				FACW species	10	x 2 =	20	
				FAC species	30	x 3 =	90	
				FACU species	25	x 4 =	100	
				UPL species	0	x 5 =	0	
				Column Totals:	65	(A)	210	(E
				Prevalence	Index = B/A	=	3.23	
				Hydrophytic Vege	tation Indic	ators:		
				Rapid Test for	Hydrophyti	c Vegeta	ation	
				X Dominance Te	est > 50%			
				Prevalence Inc	dex ≤ 3.0			
				Morphological				ortir
				Problematic H	ydrophytic V	/egetatio	on (Exp	olain
				Indicators of hydri must be present,				
Bare Ground in Herb Stratum				Hydrophytic Vegetation Prese	nt? Yes	x	No	

Mosses present in sample plot. Vegetation meets the dominance test for hydrophytic vegetation.



Profile Descri	iption: (Des	cribe to the	depth need	led to document	the indi	cator or	confirm t	he absence of Indicators.)	
Depth		Matrix			Redox F	eatures			
(inches)	Color	(moist)	%	Color (moist)	%	Type 1	Loc <sup>2</sup>	Texture	Remarks
0 to 9	10YR	2/1	100					SANDY LOAM	Soil reddened upon air exposure
9 to 14	10YR	2/1	93	7.5YR 4/4	7	С	М	Gravelly sandy loam	
<sup>1</sup> Type: C=Con	centration, D	=Depletion,	RM=Reduc	ed Martix, CS=Co	overed or	Coated S	Sand Grai	ins. <sup>2</sup> Location: PL=Pore Lining,	M=Matrix.
Hydric Soil I								Indicators for Problematic Hy	ydric Soils: <sup>3</sup>
Histosol (A	,			」 Sandy Redox (S5 □				2 cm Muck (A10)	
Histic Epipe				Stripped Matrix (	,			Red Parent Material (TF2)	
Black Histic	( )			Loamy Mucky Mi		(except MI	_RA 1)	Very Shallow Dark Surface (TF	12)
Hydrogen S		( () ()		Loamy Gleyed M				Other (Explain in Remarks)	
	elow Dark Sur	face (A11)		Depleted Matrix (					
	Surface (A12)	<b>`</b>		_				<sup>3</sup> Indicators of hydrophytic vegetat	on and wetland
	ky Mineral (S1			Depleted Dark Su				hydrology must be present, unless disturbed or problematic.	
Sandy Gley	/ed Matrix (S4)			Redox Depressio	ns (F8)				
🗆 Restricti	ive Layer (i	if observed	l):						
Туре:								Hydric Soil Present? Y	es X No
Depth (inch Remarks:	nes):								
Surface Wa	<b>Irology Indi</b> ators (minim ater (A1)		required; cl	heck all that apply	ned Leaves	s (B9) (exc	ept MLRA	Secondary Indicators (mining Water-Stained Leaves (1)	<u> </u>
				Salt Crust (					
	. ,			Aquatic Inve	,	(B13)		Drainage Patterns (B10)	
Water Mark	. ,			Hydrogen S		. ,		Dry-Season Water Table	
Drift Depos	Deposits (B2)			Oxidized RI			ving Roots	(C3) Saturation Visible on Ae	
	or Crust (B4)			Presence o	f Reduced	I Iron (C4)		Geomorphic Position (D	2)
Iron Deposi				Recent Iron	Reductior	n in Tilled S	Soils (C6)	Shallow Aquitard (D3)	
	il Cracks (B6)			Stunted or	Stressed F	Plants (D1)	(LRR A)	FAC-Neutral Test (D5)	
		ial Imagery (B7	7)	Other (Expl		. ,	, ,	Paised Ant Mounds (D6	
		ave Surface (E	,					Frost-Heave Hummocks	(D7)
Field Observ	ations:								
Surface Wate	er Present?	Yes	No	X Depth	(inches):				
Water Table	Present?	Yes	X No	Depth	(inches):		5		
Saturation Pr	resent?	Yes	X No	Depth	(inches):		0	Wetland Hydrology Present?	Yes <u>X</u> No
(includes cap									
Describe Record	ded Data (strea	am gauge, mo	nitoring well,	aerial photos, previo	ous inspec	tions), if a	vailable:		
Remarks:	ant monstelle P	otoro fer bist	wotor t-bl. /	AQ) and activity (	A 2)				
vvetiand hydrold	ogy meets indi	cators for high	water table (	A2) and saturation (	<u>A</u> 3).				

Project/Site:	FWL	E / I-5		City/Cou	unty:	К	ent		Sampling Date	: 2/	15/201	6
Applicant/Owner	:	Sound Transit					State:	WA	Sampling Poir	nt: S	P 24-2	-2
Investigators:	Lis	a Danielski		an Welch		Section	n, Town	ship, Range	SS28 TT	22 N	R R	4 E
Landform (hillslo	pe, te	errace, etc.):			Local Re	lief (concave	, conve	x, none):			Slope(	%)
Subregion (LRR)	): A	A		Lat:		Long:			Datum	NAE	083	
Soil Map Unit Na	ame:	Alderwood	gravelly sandy lo	oam, 0 to 15 percent slo	opes		N	WI Classifica	tion: PSS1			
Are climatic / hyd	drolo	gic conditions o	n the site typical	for this time of year?	Yes	No	Х	(If No, expl	ain in Remarks	5)		
Are Vegetation		_, Soil,	Hydrology	, significantly disturbed	d?	Are "No	ormal Ci	rcumstances	" present?	′es _	Х	No
Are Vegetation		_, Soil,	Hydrology	, naturally problematic	?	(If nee	eded, ex	plain any an	swers in Rema	rks.)		

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

Hydrophytic Vegetation Present?	Yes		No	Х				
Hydric Soil Present?	Yes	Х	No		Is the Sampled Area			
Wetland Hydrology Present?	Yes	Х	No		within a Wetland?	Yes	 No	X

#### Remarks:

Plot located at Wetland 24-2 boundary. Above average rainfall occurred in the area for several weeks prior to sampling date. Sample plot met two of the three wetland criteria.

<b>VEGETATION</b> — Use scientific names of plants.	Absolute <u>% Cover</u>	Dominant Species	Indicator Status	Dominance Test V	Vorksheet			
Tree Stratum				Number of Domina				
Shrub Stratum (Plot size: 50 Ft )				That Are OBL, FA			0	(A)
<u>Shrub Stratum</u> (Plot size: <u>50 Ft</u> ) Oemleria cerasiformis	50	Y	FACU					
Rubus spectabilis	5	– <u>–                                   </u>	FAC	Total Number of Do Species Across all			1	<b>(D)</b>
	55		1710	Species Across air	Silaia.		I	(B)
Herb Stratum		_=Total Cover		Percent of Dominal That Are OBL, FAC	nt Species W, or FAC	:	0.0%	(A/E
Vine Stratum				Prevalence Index	Workshee	et:		
				Total % Cover			oly by:	
				OBL species	0	x 1 =	0	
				•	0	x 2 =	0	
				FACW species	5	x 3 =	15	
				FAC species	50		200	
				FACU species				
				UPL species	0	x 5 =	0	
				Column Totals:	55	(A)	215	(B)
				Prevalence li	ndex = B/A	=	3.91	
				Hydrophytic Veget	ation Indi	cators:		
				Rapid Test for	Hydrophyt	ic Vegeta	ation	
				Dominance Te	st > 50%			
				Prevalence Inc	ex ≤ 3.0			
				Morphological data in Remark				orting
				Problematic Hy	drophytic	Vegetatio	on (Exp	plain)
				Indicators of hydric must be present, u				
6 Bare Ground in Herb Stratum				Hydrophytic Vegetation Preser	it? Yes		No )	ĸ
emarks: (Include photo numbers here or on a separate sheet.	)							

Vegetation does not meet any indicators for hydrophytic vegetation.



Profile Descr	iption: (Des	scribe to the	e depth r	neede	d to documen	t the indi	cator or o	confirm t	he absence of Indicators.)	
Depth		Matrix				Redox F	Features			
(inches)	Colo	r (moist)	%		Color (moist)	%	Type 1	Loc <sup>2</sup>	Texture	Remarks
0 to 10	10YR	2/1	100						Gravelly sandy loam	
10 to 15	10YR	4/2	90		10YR 7/6	10	С	М	SANDY LOAM	
<sup>1</sup> Type: C=Cor	centration, I	D=Depletion	, RM=Re	educed	d Martix, CS=C	overed or	Coated S	Sand Grai	ns. <sup>2</sup> Location: PL=Pore Lining, I	M=Matrix.
Hydric Soil I					Sandy Redox (S	5)			Indicators for Problematic Hy	dric Soils: <sup>3</sup>
Histic Epip	,				Stripped Matrix (				2 cm Muck (A10)	
Black Histi				П	Loamy Mucky Mi	'	(except ML	.RA 1)	Red Parent Material (TF2)	
Hydrogen S	. ,				Loamy Gleyed M			,	Very Shallow Dark Surface (TF	12)
	elow Dark Su	rface (A11)			Depleted Matrix				Other (Explain in Remarks)	
Thick Dark	Surface (A12	:)			Redox Dark Surf				3	
Sandy Muc	ky Mineral (S	1)			Depleted Dark S	urface (F7)	)		<sup>3</sup> Indicators of hydrophytic vegetation hydrology must be present,	on and wetland
Sandy Gle	yed Matrix (S4	4)			Redox Depression	ons (F8)			unless disturbed or problematic.	
Restrict     Type:     Depth (incl		(if observe	d):						Hydric Soil Present? Ye	es X No
Remarks:	, <u> </u>									
HYDROLOG	Y									
Wetland Hyd Primary Indic			s require	d; che	eck all that appl	y)			Secondary Indicators (minin	num of two required)
Surface Wa	. ,				Water-Stai 1, 2, 4A an		s (B9) (exc	ept MLRA	Water-Stained Leaves (E 4A, and 4B)	39) (MLRA 1, 2,
Saturation					Salt Crust	(B11)				
Water Mar	. ,				Aquatic Inv	ertebrates	(B13)		Drainage Patterns (B10)	(C2)
	Deposits (B2)				Hydrogen S	Sulfide Odd	or (C1)		Saturation Visible on Aer	
Drift Depos					Oxidized R	hizosphere	es along Liv	ing Roots	(C3) Geomorphic Position (D2	
Algal Mat o	or Crust (B4)				Presence of	of Reduced	l Iron (C4)		Shallow Aquitard (D3)	-)
Iron Depos	its (B5)				Recent Iror	n Reduction	n in Tilled S	Soils (C6)	FAC-Neutral Test (D5)	
Surface Sc	oil Cracks (B6)	)			Stunted or	Stressed F	Plants (D1)	(LRR A)	Paised Ant Mounds (D6)	(I RR A)
Inundation	Visible on Ae	rial Imagery (E	37)		Other (Exp	lain in Rem	narks)		Frost-Heave Hummocks	,
Sparsely V	egetated Con	cave Surface	(B8)							(21)
Field Observ	ations:									
Surface Wate	er Present?	Yes	·	No	X Depth	(inches):				
Water Table	Present?	Yes	<u>X</u>	No	Depth	(inches):		10		
Saturation P		Yes	<u>X</u>	No	Depth	(inches):		9	Wetland Hydrology Present?	Yes <u>X</u> No
(includes cap			onitoriac		rial photos		tiona) if	vailable:		
Describe Recor	ded Data (stre	eam gauge, m	onitoring	veii, ae	erial photos, previ	ious inspec	ctions), if av	allable:		
Remarks:										
	ogy meets ind	icators for hig	h water ta	ble (A2	2) and saturation	(A3).				

Project/Site:	FW	LE / I-5		Ci	ty/County:	k	Kent	•	Sampling Date	2/15/2016
Applicant/Owner		Sound Transi	t				State:	WA	Sampling Poin	t: SP 24-2-3
Investigators:	Li	sa Danielski		lan Welch		Sectio	n, Town	iship, Range	SS28 TT	22 N R R 4 E
Landform (hillslo	pe, t	terrace, etc.):			Local R	elief (concave	e, conve	x, none):		Slope(%)
Subregion (LRR)	: .	A		Lat:		Long:			Datum:	NAD83
Soil Map Unit Na	me:	Alderwood	I gravelly sand	y loam, 0 to 15 perc	ent slopes		N	WI Classifica	ation: None	
Are climatic / hyd	Irolo	gic conditions of	on the site typi	cal for this time of ye	ear? Yes	No	Х	(If No, exp	lain in Remarks	)
Are Vegetation		, Soil,	Hydrology	, significantly dis	sturbed?	Are "No	ormal Ci	ircumstances	" present? Y	es X No
Are Vegetation		, Soil,	Hydrology	, naturally proble	ematic?	(If ne	eded, ex	xplain any an	swers in Rema	rks.)

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

Hydrophytic Vegetation Present?	Yes	No X					
Hydric Soil Present?	Yes	No X	Is the Sampled Area				
Wetland Hydrology Present?	Yes	No X	within a Wetland?	Yes	No	X	

Remarks:

Upland soil plot located south of Wetland 24-2 boundary. Above average rainfall occurred in the area for several weeks prior to sampling date. Plot does not meet any wetland criteria.

<b>EGETATION</b> Use scientific names of plants.	<u>Absolute</u> <u>% Cover</u>	Dominant Species	Indicator Status	Dominance Test	Norksheet:			
Tree Stratum (Plot size: 30 Ft )		_		Number of Domina				
Populus balsamifera	50	Y	FAC	That Are OBL, FA		:	1	(A
Shrub Stratum (Plot size: 50 Ft )	50	=Total Cover		Total Number of D Species Across all			3	(B)
Oemleria cerasiformis	50	Y	FACU	opeoles / loross all	Oliala.		5	_ (D
Rubus spectabilis	10	N	FAC	Percent of Domina	nt Species		33.3%	(A/
	60	=Total Cover		That Are OBL, FA	CW, or FAC		55.570	_ (~
Herb Stratum				Prevalence Index	Worksheet			
				Total % Cover	of:	Multin	oly by:	
Vine Stratum (Plot size: <u>30 Ft</u> )				OBL species	0	x 1 =	0	
Rubus ursinus	15	Y	FACU	FACW species	0	x 2 =	0	
	15	=Total Cover		FAC species	60	x 3 =	180	
				-	65	x 4 =	260	
				FACU species	0	x 5 =	0	
				UPL species				
				Column Totals:	125	(A)	440	(E
				Prevalence l	ndex = B/A=	=	3.52	
				Hydrophytic Vege	ation Indic	ators:		
				Rapid Test for	Hydrophytic	vegeta	ition	
				Dominance Te	est > 50%			
				·				
				Prevalence Inc	$dex \le 3.0$			
				Morphological data in Remar				ortir
				Problematic H	ydrophytic V	egetatio	on (Exp	plain
				Indicators of hydri must be present,				
Bare Ground in Herb Stratum				Hydrophytic Vegetation Prese	nt? Yes		No )	x
emarks: (Include photo numbers here or on a separate she	et.)			1				
egetation does not meet any indicators for hydrophytic veg								

Vegetation does not meet any indicators for hydrophytic vegetation.



DepthMatrixRedox Features(inches)Color (moist)%Color (moist)%0to 1310YR3 / 2100	Texture	
	Texture	
0 to 13 10YR 3/2 100		Remarks
	SANDY LOAM	
13 to 18 10YR 4/3 98 10YR 5/8 2	Gravelly sandy loam	Concretions
<sup>1</sup> Type: C=Concentration, D=Depletion, RM=Reduced Martix, CS=Covered or Coated Sand G	rains. <sup>2</sup> Location: PL=Pore Lining,	M=Matrix.
Hydric Soil Indicators:         Histosol (A1)       Sandy Redox (S5)         Histic Epipedon (A2)       Stripped Matrix (S6)         Black Histic (A3)       Loamy Mucky Mineral (F1) (except MLRA 1)         Hydrogen Sulfide (A4)       Loamy Gleyed Matrix (F2)         Depleted Below Dark Surface (A11)       Depleted Matrix (F3)         Thick Dark Surface (A12)       Redox Dark Surface (F6)         Sandy Mucky Mineral (S1)       Depleted Dark Surface (F7)         Sandy Gleyed Matrix (S4)       Redox Depressions (F8)	Indicators for Problematic H 2 cm Muck (A10) Red Parent Material (TF2) Very Shallow Dark Surface (TF Other (Explain in Remarks) <sup>3</sup> Indicators of hydrophytic vegetat hydrology must be present, unless disturbed or problematic.	-12)
Restrictive Layer (if observed):         Type:         Depth (inches):         Remarks:         Soils do not meet any indicators.	Hydric Soil Present? Y	es No _X
HYDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (minimum of one is required; check all that apply)         Surface Water (A1)       Water-Stained Leaves (B9) (except MLF 1, 2, 4A and 4B)         High Water Table (A2)       Salt Crust (B11)         Water Marks (B1)       Aquatic Invertebrates (B13)         Vater Marks (B1)       Hydrogen Sulfide Odor (C1)         Drift Deposits (B2)       Oxidized Rhizospheres along Living Rod         Algal Mat or Crust (B4)       Presence of Reduced Iron (C4)         Iron Deposits (B5)       Recent Iron Reduction in Tilled Soils (C6)         Surface Soil Cracks (B6)       Stunted or Stressed Plants (D1) (LRR A)         Inundation Visible on Aerial Imagery (B7)       Other (Explain in Remarks)	ts (C3)	B9) (MLRA 1, 2, ) e (C2) .rial Imag.(C9) 2) ) (LRR A)
Field Observations:         Surface Water Present?       Yes       No       X       Depth (inches):	Wetland Hydrology Present?	Yes No_X

E\\/  E / L5	City/Cou	ntv: Ke	ant		Sampling Date:	2/15/2016
			JII		oumpning Dute.	2/10/2010
Sound Transit	1	:	State:	WA	Sampling Point:	SP 24-2-4
Lisa Danielski	lan Welch	Section	, Town	ship, Range	SS28 TT22	N RR4E
pe, terrace, etc.):		Local Relief (concave,	conve	x, none):		Slope(%)
: A	Lat:	Long:			Datum:	NAD83
me: Alderwood	gravelly sandy loam, 0 to 15 percent slo	opes	N	IWI Classifica	ition: None	
Irologic conditions o	on the site typical for this time of year?	Yes No	Х	(If No, expl	lain in Remarks)	
, Soil,	Hydrology, significantly disturbed	l? Are "No	rmal Ci	ircumstances	" present? Yes	X No
, Soil,	Hydrology, naturally problematic?	? (If nee	ded, ex	xplain any an	swers in Remarks	S.)
	Lisa Danielski be, terrace, etc.): A me: Alderwood rologic conditions c , Soil,	Sound Transit         Lisa Danielski       Ian Welch         be, terrace, etc.):	Sound Transit       Ian Welch       Section         Lisa Danielski       Ian Welch       Section         be, terrace, etc.):       Local Relief (concave,         :       A       Lat:       Long:         me:       Alderwood gravelly sandy loam, 0 to 15 percent slopes       Interview       No         irologic conditions on the site typical for this time of year?       Yes       No        , Soil      , Hydrology      , significantly disturbed?       Are "No	Sound Transit       State:         Lisa Danielski       Ian Welch       Section, Towr         be, terrace, etc.):       Local Relief (concave, converting)         :       A       Lat:       Long:         me:       Alderwood gravelly sandy loam, 0 to 15 percent slopes       No       X         irologic conditions on the site typical for this time of year?       Yes       No       X	Sound Transit       State:       WA         Lisa Danielski       Ian Welch       Section, Township, Range         be, terrace, etc.):       Local Relief (concave, convex, none):	Sound Transit       State:       WA       Sampling Point:         Lisa Danielski       Ian Welch       Section, Township, Range       S S 28       T T 22         be, terrace, etc.):       Local Relief (concave, convex, none):

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

Hydrophytic Vegetation Present?	Yes	No X				
Hydric Soil Present?	Yes	No X	Is the Sampled Area			
Wetland Hydrology Present?	Yes	No X	within a Wetland?	Yes	No	X

#### Remarks:

Sample plot located on north side of Wetland 24-2. Above average rainfall occurred in the area for several weeks prior to sampling date. Sample plot exhibits no wetland indicators.

VEGETATION Use scientific names of plants.	<u>Absolute</u> % Cover	<u>Dominant</u> Species	Indicator Status	Dominance Test V	Vorksheet.			
Tree Stratum				Number of Domina				
<u>Shrub Stratum</u> (Plot size: 50 Ft )				That Are OBL, FAC		:	1	(A)
Oemleria cerasiformis	10	Y	FACU	Total Number of Do				
Rubus spectabilis	5	Y	FAC	Species Across all			3	(B)
	15	=Total Cover						_ ` `
Herb Stratum				Percent of Dominal That Are OBL, FAC			33.3%	(A/B)
Vine Stratum (Plot size: 30 Ft )				Prevalence Index	Worksheet			
Rubus armeniacus	5	Y	FACU	Total % Cover	of:	Multip	olv bv:	
	5	=Total Cover		OBL species	0	x 1 =	0	
				FACW species	0	x 2 =	0	
				FAC species	5	x 3 =	15	
				FACU species	15	x 4 =	60	
				UPL species	0	x 5 =	0	
				Column Totals:	20	(A)	75	(B)
				Prevalence li	aday D/A		3.75	
							3.75	
				Hydrophytic Veget				
				Rapid Test for	Hydrophytic	Vegeta	tion	
				Dominance Te	st > 50%			
				Prevalence Ind	ex ≤ 3.0			
				Morphological data in Remark				orting
				Problematic Hy				alain)
				Indicators of hydrid		-		
				must be present, u				
				Hydrophytic Vegetation Presen	+2 v-			
% Bare Ground in Herb Stratum				vegetation Flesen	t? Yes		No )	K
Remarks: (Include photo numbers here or on a separate sheet.)	)							

Vegetation does not meet any indicators for hydrophytic vegetation.



Profile Descr	iption: (Des	cribe to the	depth nee	eded to document	t the indi	cator or o	confirm	the absence of Indicators.)	
Depth		Matrix			Redox I	Features			
(inches)	Color	(moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0 to 6	10YR	2/1	100					FINE SANDY LOAM	
6 to 13	10YR	4/3	100					Gravelly sandy loam	
13 to 19	7.5YR	4/3	98	7.5YR 5/8	2	С	М	Gravelly sandy loam	
<sup>1</sup> Type: C=Con	centration, D	=Depletion,	RM=Redu	ced Martix, CS=C	overed or	Coated S	Sand Gra	ains. <sup>2</sup> Location: PL=Pore L	ining, M=Matrix.
Hydric Soil I	ndicators:		-					<b>Indicators for Problema</b>	tic Hydric Soils: <sup>3</sup>
Histosol (A	1)		Ĺ	Sandy Redox (S	5)			2 cm Muck (A10)	
Histic Epipe			[	Stripped Matrix (	,			Red Parent Material (TF	2)
Black Histic	. ,		l	Loamy Mucky Mi	ineral (F1)	(except ML	_RA 1)	Very Shallow Dark Surfa	,
Hydrogen S				Loamy Gleyed M				Other (Explain in Remar	( )
	elow Dark Sur	ace (A11)	Ĺ	Depleted Matrix	. ,				
	Surface (A12)	、 、	Ĺ	Redox Dark Surf				<sup>3</sup> Indicators of hydrophytic v	egetation and wetland
	ky Mineral (S1		L	Depleted Dark S		)		hydrology must be presen unless disturbed or proble	t,
	/ed Matrix (S4)		L	Redox Depression	ons (F8)				nate.
Restrict	ive Layer (i	f observed	l):						
Туре:								Undria Sail Brassant?	Vac Na V
Depth (inch	nes):							Hydric Soil Present?	Yes <u>No X</u>
Remarks: Sampled soils d									
		,							
HYDROLOG	Y								
Wetland Hyd Primary Indic			required; o	check all that apply	y)			Secondary Indicators	(minimum of two required)
Surface Wa	ater (A1)			Water-Stair	ned Leave	s (B9) (exc	ept MLRA		eaves (B9) (MLRA 1, 2,
High Water	. ,			1, 2, 4A an	d 4B)		-	4A, and 4B)	aves (D3) (MEICA 1, 2,
Saturation	(A3)			Salt Crust	(B11)			Drainage Pattern	s (B10)
U Water Mark	ks (B1)			Aquatic Inv	ertebrates	(B13)		Dry-Season Wate	
Sediment [	Deposits (B2)			Hydrogen S	Sulfide Odd	or (C1)			on Aerial Imag.(C9)
Drift Depos	sits (B3)			Oxidized R	-	-	ving Roots	s (C3) Geomorphic Posi	
Algal Mat c	or Crust (B4)			Presence o		. ,		Shallow Aquitard	
Iron Depos	its (B5)			Recent Iror	n Reduction	n in Tilled S	Soils (C6)	FAC-Neutral Test	
Surface So	il Cracks (B6)			Stunted or	Stressed F	Plants (D1)	(LRR A)	Paised Ant Moun	ds (D6) (LRR A)
Inundation	Visible on Aeri	al Imagery (B7	7)	Other (Exp	lain in Ren	narks)		Frost-Heave Hum	
Sparsely V	egetated Conc	ave Surface (B	38)						· ·
Field Observ	ations:								
Surface Wate	er Present?	Yes	No	o <u>X</u> Depth	(inches):			-	
Water Table	Present?	Yes	<u>X</u> No	Depth	(inches):		19		
Saturation Pr	resent?	Yes	<u>X</u> No	Depth	(inches):		18	Wetland Hydrology Pres	ent? Yes No_X
(includes cap			nitoring woll	l, aerial photos, previ		rtions) if a	vailable:		
Describe Record		am gauge, mo	Intoning wen	, aenai priotos, previ	ous inspec	200113), 11 20	valiable.		
Remarks:									
	es not meet an	y hydrology in	dicators. Sa	turation and water ta	able too de	ep for early	/ part of gr	rowing season.	



Project/Site:	FWLE / I-5		City/County:	Kent	San	npling Date:	2/15/2016	
Applicant/Owner	: Sound Transit			State:	WA Sar	npling Point:	SP 24-2-5	5
Investigators:	Lisa Danielski	lan Welch		Section, Towns	ship, Range S	328 TT22	2N RR4	E
Landform (hillslo	ppe, terrace, etc.):		Local Re	elief (concave, convex	, none):		Slope(%	.)
Subregion (LRR	): A	Lat:		Long:		Datum: N	NAD83	
Soil Map Unit Na	ame: Alderwood	gravelly sandy loam, 0 to 15 p	ercent slopes	NV	VI Classification:	PEM1		
Are climatic / hyd	drologic conditions c	on the site typical for this time o	f year? Yes	No X	(If No, explain i	n Remarks)		
Are Vegetation	, Soil,	Hydrology, significantly	disturbed?	Are "Normal Cir	cumstances" pre	esent? Yes	s_X_N	No
Are Vegetation	, Soil,	Hydrology, naturally pro	blematic?	(If needed, ex	plain any answe	rs in Remarks	s.)	

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

Hydrophytic Vegetation Present?	Yes	Х	No				
Hydric Soil Present?	Yes	Х	No	Is the Sampled Area			
Wetland Hydrology Present?	Yes	Х	No	within a Wetland?	Yes	Х	No

#### Remarks:

Sample plot located in northern portion of Wetland 24-2. Above average rainfall occurred in the area for several weeks prior to sampling date. Sample plot meets all wetland criteria.

VEGETATION Use scientific names of plants.	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test V	Norkshoot:			
Tree Stratum	<u>//                                   </u>		<u></u>					
<u>Shrub Stratum</u> (Plot size: 50 Ft )				Number of Domina That Are OBL, FA		·	2	(A)
Rubus spectabilis	10	Y	FAC	Total Number of Do	ominant			
	10	=Total Cover		Species Across all			2	(B)
Herb Stratum (Plot size: 5 Ft )								-
Glyceria elata	30	Y	FACW	Percent of Domina That Are OBL, FAC	nt Species		100.0%	(A/B)
Athyrium filix-femina	1	N	FAC	That Are OBL, FAC	SVV, OF FAC:			
	31	=Total Cover		Prevalence Index	Worksheet			
Vine Stratum				Total % Cover	of:	Multi	ply by:	
				OBL species	0	x 1 =	0	
				FACW species	30	x 2 =	60	
				FAC species	11	x 3 =	33	
				FACU species	0	x 4 =	0	
					0	x 5 =	0	
				UPL species				
				Column Totals:	41	(A)	93	(B)
				Prevalence li	ndex = B/A=	:	2.27	
				Hydrophytic Veget	ation Indica	ators:		
				Rapid Test for	Hydrophytic	Vegeta	ation	
				X Dominance Te	st > 50%			
				X Prevalence Inc				
					$lex \ge 5.0$			
				Morphological data in Remark				orting
				Problematic Hy				olain)
				Indicators of hydri must be present, u				
% Bare Ground in Herb Stratum				Hydrophytic Vegetation Preser	nt? Yes	x	No	
Remarks: (Include photo numbers here or on a separate sheet.)				1				

Vegetation meets the dominance and prevalence test for hydrophytic vegetation.



Profile Descrip	otion: (Describe to	o the depth need	ded to document	the indic	ator or confirm the	e absence of Indicators.)	
Depth	Matri	x		Redox F	eatures		
(inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup> Loc <sup>2</sup>	Texture	Remarks
0 to 10	10YR 3/	1 100					Soil reddened upon air exposure
<sup>1</sup> Type: C=Conc	entration, D=Deple	etion, RM=Reduc	ed Martix, CS=Co	vered or	Coated Sand Grains	s. <sup>2</sup> Location: PL=Pore Lining,	M=Matrix.
Hydric Soil In	)		Sandy Redox (S5	·		Indicators for Problematic H	ydric Soils: <sup>3</sup>
Thick Dark S	(A3)	1) [ [ [ [	Stripped Matrix (S Loamy Mucky Mir Loamy Gleyed Ma Depleted Matrix (I Redox Dark Surfa Depleted Dark Su Redox Depression	neral (F1) ( atrix (F2) F3) Ice (F6) rface (F7)	except MLRA 1)	<ul> <li>Red Parent Material (TF2)</li> <li>Very Shallow Dark Surface (TI</li> <li>Other (Explain in Remarks)</li> <li><sup>3</sup> Indicators of hydrophytic vegeta hydrology must be present, unless disturbed or problematic.</li> </ul>	tion and wetland
Restrictiv     Type:     Depth (inche	ve Layer (if obse	erved):				Hydric Soil Present?	/es_XNo
Remarks: Brightening soils HYDROLOGY	upon air exposure ar	- e indicative of ferro	us soils.				
Primary Indica Surface Wat High Water Saturation (# Water Marks Sediment De Drift Deposit Algal Mat or Surface Soil Inundation V	Table (A2) A3) 5 (B1) poposits (B2) 5 (B3) Crust (B4) 5 (B5) Cracks (B6) fisible on Aerial Image getated Concave Sur	ne is required; c	Water-Stain 1, 2, 4A and Salt Crust (I Aquatic Inve Hydrogen Si Oxidized Rh Presence of Recent Iron	ed Leaves   4B) 311) rtebrates ( ulfide Odor izospheres r Reduced Reduction Stressed Pl	(C1) s along Living Roots (C Iron (C4) in Tilled Soils (C6) lants (D1) (LRR A)	Secondary Indicators (min) Water-Stained Leaves 4A, and 4B) Drainage Patterns (B10 Dry-Season Water Tab Saturation Visible on Ad Geomorphic Position (D Shallow Aquitard (D3) FAC-Neutral Test (D5) Paised Ant Mounds (D6 Frost-Heave Hummock	(B9) (MLRA 1, 2, ) le (C2) erial Imag.(C9) )2) (LRR A)
Surface Water Water Table P Saturation Pre (includes capil	Present? resent? sent?	Yes X No Yes X No Yes X No Yes K No	Depth Depth	(inches): (inches): (inches): ous inspect	<1 Surface Surface ions), if available:	Wetland Hydrology Present?	Yes _X_ No
Remarks: Sample plot exhil	bits hydrology indicate	ors for surface wate	er (A1), high water ta	ble (A2) ar	nd saturation (A3).		

Project/Site:	FWI	_E / I-5		City/County:	Federa	al Way		Sampling Date:	1/6/2016	
Applicant/Owner	r:	Sound Transi	it			State:	WA	Sampling Point:	SP 25-2	-1
Investigators:	Lis	sa Danielski	lan Welch		Section	n, Towns	ship, Range	SS33 TT22	N R R	4 E
Landform (hillslo	ope, t	errace, etc.):		Local R	elief (concave,	convex	, none):		Slope(	%)
Subregion (LRR	): A	4	Lat:		Long:			Datum: N	NAD83	
Soil Map Unit Na	ame:	Everett ve	ery gravelly sandy loam, 8 to	15 percent		NV	WI Classifica	tion: None		
Are climatic / hy	drolo	gic conditions	on the site typical for this time	e of year? Yes	No	Х	(If No, expl	ain in Remarks)		
Are Vegetation		_, Soil,	Hydrology, significan	tly disturbed?	Are "No	rmal Cir	cumstances	present? Yes	X	No
Are Vegetation		_, Soil,	Hydrology, naturally	problematic?	(If nee	eded, ex	plain any ans	swers in Remarks	s.)	

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

Hydrophytic Vegetation Present?	Yes	XN	lo				
Hydric Soil Present?	Yes	٢	lo X	Is the Sampled Area			
Wetland Hydrology Present?	Yes	Ν	lo X	within a Wetland?	Yes	No	X

#### Remarks:

Paired upland sample plot north of Wetland 25-2. Plot does not meet all three wetland criteria. Above average rainfall occurred in the area for several weeks prior to sampling date.

VEGETATION_ U	se scientific names of plants.	Absolute <u>% Cover</u>	Dominant Species	Indicator Status	Dominance Test	Worksheet:			
Tree Stratum	(Plot size: <u>30 Ft</u> )				Number of Domina				
Alnus rubra		30	Y	FAC	That Are OBL, FA	CW, or FAC:		3	(A)
		30	_=Total Cover		Total Number of D	ominant			
Shrub Stratum	(Plot size: <u>50 Ft</u> )				Species Across all			5	(B)
Rubus spectabilis		5	Y	FAC		. <b>.</b> .			-
		5	=Total Cover		Percent of Domina That Are OBL, FA	CW, or FAC:	6	60.0%	(A/B)
Herb Stratum	(Plot size: <u>5 Ft</u> )				Prevalence Index	Worksheet:			
Ranunculus reper	IS		Y	FAC	Total % Cover		Multip	ly hy	
		20	=Total Cover		OBL species	0	x 1 =	0	
Vine Stratum	(Plot size: <u>30 Ft</u> )				FACW species	0	x 2 =	0	
Rubus ursinus		20	Y	FACU	FAC species	55	x 3 =	165	
Rubus armeniacu	S		Y	FACU	FACU species	30	x 4 =	120	
		30	_=Total Cover		UPL species	0	x 5 =	0	
					Column Totals:	85	(A)	285	<u>(</u> B)
					Prevalence	Index = B/A=	:	3.35	
					Hydrophytic Vege	tation Indica	itors:		
					Rapid Test for	Hydrophytic	Vegetat	tion	
					X Dominance Te	est > 50%			
					Prevalence Inc	dex ≤ 3.0			
					Morphological data in Remar				orting
					Problematic H	ydrophytic Ve	egetatio	n (Exp	olain)
					Indicators of hydri must be present,				
					Hydrophytic Vegetation Prese	nt? v			
% Bare Ground in Herb					vegetation Plese	nt? Yes_	<u> </u>	No	
Remarks: (Include photo	numbers here or on a separate sheet.	)							

Vegetation meets dominance criterion; however, does not meet prevalence.



pp:: C=Concentration, D=Depletion, RM=Reduced Martix, CS=Covered of Coated Sand Grains.       * Location: PL=Pore Lining, M=Matrix.         rdric Soil Indicators:       Indit andit andits:       Indicators:<	(inches) Color (moist)	%	Color (moist)	%	Type 1	Loc <sup>2</sup>	Texture	Remarks
ppe: C=Concentration, D=Depletion, RM=Reduced Maritx, CS=Covered or Coated Sand Grains.       4_cocation: PL=Pore Lining, M=Matrix.         rdric Soil Indicators:	to 17 10YR 2/2	100					gravelly sandy loam	
ppe: C=Concentration, D=Depletion, RM=Reduced Martix, CS=Covered or Coated Sand Grains.       4_cocation: PL=Pore Lining, M=Matrix.         rdrice Soil Indicators:	7 to 21 10YR 3/2	95	10yr 5/8	5	С	М	very gravelly sandy loam	· · · · · · · · · · · · · · · · · · ·
Histosol (A1)       Sandy Redox (S5)         Histosol (A2)       Stripped Matrix (S6)         Black Histic (A3)       Learny Mucky Mineral (F1) (secept MLRA 1)         Hydrogen Sulfide (A4)       Learny Mucky Mineral (F1) (secept MLRA 1)         Depleted Below Dark Surface (A11)       Depleted Matrix (F2)         Depleted Below Dark Surface (A12)       Redox Dark Surface (F7)         Sandy Mucky Mineral (S1)       Depleted Dark Surface (F7)         Sandy Gleyed Matrix (S4)       Redox Dark Surface (F7)         Sandy Gleyed Matrix (S4)       Redox Dark Surface (A12) indicators of hydrophytic vegetation and wetland hydrology much be present; unless disturbed or problematic.         Type:	ype: C=Concentration, D=Depletic	n, RM=Redu	-	overed or	Coated S	Sand Gra	ins. <sup>2</sup> Location: PL=Pore Lining,	M=Matrix.
Histoc Explored (A1)       Stripped Matrix (S3)         Histoc Explored NA2:       Stripped Matrix (S4)         Back Histic (A2)       Loamy Mucky Mineral (F1) (except MLRA 1)         Hydrogen Sulfide (A4)       Loamy Mucky Mineral (F1) (except MLRA 1)         Depleted Below Dark Surface (A11)       Depleted Matrix (F2)         Depleted Below Dark Surface (A12)       Redox Dark Surface (F7)         Sandy Gleyed Matrix (S4)       Depleted Dark Surface (F7)         Sandy Gleyed Matrix (S4)       Redox Dark Surface (F7)         Sandy Gleyed Matrix (S4)       Redox Dark Surface (F7)         Yore:	ydric Soil Indicators:						Indicators for Problematic H	vdric Soils: <sup>3</sup>
Histic Exploredon (A2) Stripped Matrix (S6)   Black Histic (A3) Loarny Klocky Mineral (F1) (except MLRA 1)   Hydrogen Sulfide (A4) Loarny Gleyed Matrix (F2)   Depleted Balow Dark Surface (A11) Depleted Matrix (F2)   Sandy Mucky Mineral (S1) Depleted Dark Surface (F6)   Sandy Mucky Mineral (S1) Depleted Dark Surface (F7)   Sandy Gleyed Matrix (S4) Redox Depressions (F8)     Restrictive Layer (if observed):   Type:   Type:   Type:   Bepti (inches):   unless disturbed or problematic.   Hydric Soil Present? Yes No	Histosol (A1)		Sandy Redox (S	5)				
Lack Histic (A3)       □ Camy Mucky Mineral (F1) (except MLRA 1)       □ Very Shallow Dark Surface (TF12)         Improve Surface (A11)       □ Depleted Matrix (F2)       □ Other (Explain in Remarks)         3       Indicators of hydrophytic vegetation and wetland hydrology must be present.         Sandy Mucky Mineral (S1)       □ Depleted Matrix (F2)       □ Addx Surface (F7)         Sandy Mucky Mineral (S1)       □ Depleted Matrix (F3)       □ Addx Surface (F7)         Sandy Mucky Mineral (S1)       □ Depleted Matrix (F3)       □ Addx Surface (F7)         Sandy Mucky Mineral (S1)       □ Redox Depressions (F8)       □ Hydrology must be present.         Type:	] Histic Epipedon (A2)		Stripped Matrix (	S6)				
Hydrogen Sullide (A4)	Black Histic (A3)		Loamy Mucky Mi	neral (F1) (	(except ML	.RA 1)		-12)
Depleted Below Dark Surface (A11) Depleted Matrix (F3)   Sandy Mucky Mineral (S1) Depleted Dark Surface (F7)   Sandy Mucky Mineral (S1) Depleted Dark Surface (F7)   Sandy Gleyed Matrix (S4) Redox Depressions (F8) <b>Restrictive Layer (if observed):</b> Type:			Loamy Gleyed M	atrix (F2)				12)
Sandy Mucky Mineral (S1)       Depleted Dark Surface (F7)       Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.         Restrictive Layer (if observed):       Type:	Depleted Below Dark Surface (A11)		Depleted Matrix (	(F3)				
Sandy Gleyed Matrix (S4)       □ Depleted Dark Sufface (F7)       hydrology must be present, unless disturbed or problematic.         Restrictive Layer (if observed):       Type:	Thick Dark Surface (A12)		Redox Dark Surf	ace (F6)			<sup>3</sup> Indicators of hydrophytic vegetat	ion and wetland
Restrictive Layer (if observed):       Type:	Sandy Mucky Mineral (S1)		Depleted Dark S	urface (F7)			hydrology must be present,	
Type:	Sandy Gleyed Matrix (S4)		Redox Depression	ons (F8)			unless disturbed or problematic.	
Depth (inches):       Hydric Soil Present?       Yes       No         iarks:       is do not meet hydric soil criteria; soils too bright at 0-17* to meet thick dark surface (A12) indicator.       Image: Constraint of the constrest (B13) <td< td=""><td>Restrictive Layer (if observ</td><td>ved):</td><td></td><td></td><td></td><td></td><td></td><td></td></td<>	Restrictive Layer (if observ	ved):						
Depth (inches):							Hvdric Soil Present? Y	es No
s do not meet hydric soil criteria; soils too bright at 0-17" to meet thick dark surface (A12) indicator.	Depth (inches):							
High Water Table (A2)       1, 2, 4A and 4B)       Valuer Otamied Deaves (B9) (WENA 1, 2, 4A, and 4B)         Saturation (A3)       Salt Crust (B11)       Drainage Patterns (B10)         Water Marks (B1)       Aquatic Invertebrates (B13)       Dry-Season Water Table (C2)         Softment Deposits (B2)       Oxidized Rhizospheres along Living Roots (C3)       Geomorphic Position (D2)         Drift Deposits (B3)       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)       Paised Ant Mounds (D6) (LRR A)         Inundation Visible on Aerial Imagery (B7)       Other (Explain in Remarks)       Frost-Heave Hummocks (D7)         Sparsely Vegetated Concave Surface (B8)       Metland Hydrology Present?       Yes         Mater Table Present?       Yes       X       Depth (inches):       21         Wetland Hydrology Present?       Yes       X       No       Depth (inches):       19         includes capillary fringe)       Yes       No       Depth (inches):       19       Metland Hydrology Present?       Yes       No								
High Water Table (A2)       Salt Crust (B11)       Drainage Patterns (B10)         Saturation (A3)       Aquatic Invertebrates (B13)       Dry-Season Water Table (C2)         Sediment Deposits (B2)       Hydrogen Sulfide Odor (C1)       Saturation Visible on Aerial Imag.(C9)         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)       Stunted or Stressed Plants (D1) (LRR A)       Paised Ant Mounds (D6) (LRR A)         Inundation Visible on Aerial Imagery (B7)       Other (Explain in Remarks)       Frost-Heave Hummocks (D7)         Sparsely Vegetated Concave Surface (B8)       Mater Table Present?       Yes       X       No       Depth (inches):       21         Water Table Present?       Yes       X       Depth (inches):       21       Wetland Hydrology Present?       Yes       No         Saturation Present?       Yes       X       Depth (inches):       19       Wetland Hydrology Present?       Yes       No	etland Hydrology Indicators:	is required; c	check all that apply	/)			Secondary Indicators (mini	mum of two require
Saturation (A3)	etland Hydrology Indicators: imary Indicators (minimum of one Surface Water (A1)	is required; c	Water-Stain	ned Leaves	s (B9) (exc	ept MLRA	Water-Stained Leaves (	
Water Marks (B1)       Hydrogen Sulfide Odor (C1)       Dry-Season Water Table (C2)         Sediment Deposits (B2)       Oxidized Rhizospheres along Living Roots (C3)       Saturation Visible on Aerial Imag.(C9)         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)       Paised Ant Mounds (D6) (LRR A)         Inundation Visible on Aerial Imagery (B7)       Other (Explain in Remarks)       Frost-Heave Hummocks (D7)         Sparsely Vegetated Concave Surface (B8)       Depth (inches):       21         Water Table Present?       Yes       X       Depth (inches):       21         Water Table Present?       Yes       X       Depth (inches):       19         Wetland Hydrology Present?       Yes       X       No       Depth (inches):       19	etland Hydrology Indicators: rimary Indicators (minimum of one Surface Water (A1)	is required; c	Water-Stain 1, 2, 4A an	ned Leaves d 4B)	s (B9) (exc	ept MLRA	Water-Stained Leaves (	
Securiterit Deposits (B2)       Oxidized Rhizospheres along Living Roots (C3)       Saturation Visible on Aerial Imag.(C9)         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)       Paised Ant Mounds (D6) (LRR A)         Inundation Visible on Aerial Imagery (B7)       Other (Explain in Remarks)       Frost-Heave Hummocks (D7)         Sparsely Vegetated Concave Surface (B8)       Surface Water Present?       Yes       No         etd Observations:       Yes       X       Depth (inches):       21         Water Table Present?       Yes       X       Depth (inches):       19         Wetland Hydrology Present?       Yes       No       No         (includes capillary fringe)       Uepth (inches):       19       Wetland Hydrology Present?       Yes       No	etland Hydrology Indicators: rimary Indicators (minimum of one Surface Water (A1) High Water Table (A2) Saturation (A3)	is required; c	Water-Stain 1, 2, 4A an Salt Crust (	ned Leaves d 4B) (B11)		ept MLRA	Water-Stained Leaves ( 4A, and 4B)	B9) (MLRA 1, 2,
Dim Deposits (E0)	etland Hydrology Indicators: imary Indicators (minimum of one Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1)	is required; c	Water-Stair 1, 2, 4A an Salt Crust ( Aquatic Inv	ned Leaves d 4B) B11) ertebrates (	(B13)	ept MLRA	Water-Stained Leaves ( 4A, and 4B) Drainage Patterns (B10	B9) (MLRA 1, 2, )
Argan Mat Or Crust (D4)       Recent Iron Reduction in Tilled Soils (C6)       Shallow Aquitard (D3)         Iron Deposits (B5)       Recent Iron Reduction in Tilled Soils (C6)       FAC-Neutral Test (D5)         Surface Soil Cracks (B6)       Other (Explain in Remarks)       Paised Ant Mounds (D6) (LRR A)         Inundation Visible on Aerial Imagery (B7)       Other (Explain in Remarks)       Frost-Heave Hummocks (D7)         Sparsely Vegetated Concave Surface (B8)       Surface Water Present?       Yes       X         Surface Water Present?       Yes       X       Depth (inches):       21         Water Table Present?       Yes       X       Depth (inches):       19         Gauration Present?       Yes       X       No       Depth (inches):       19         (includes capillary fringe)       Includes capillary fringe)       Image: Concent Present Pr	etland Hydrology Indicators: rimary Indicators (minimum of one Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2)	is required; c	Water-Stain 1, 2, 4A an Salt Crust ( Aquatic Inv Hydrogen S	ned Leaves d 4B) (B11) ertebrates ( Sulfide Odor	(B13) r (C1)		Water-Stained Leaves ( 4A, and 4B) Drainage Patterns (B10 Dry-Season Water Tabl	B9) (MLRA 1, 2, ) e (C2)
Introduction Deposits (bb)	etland Hydrology Indicators: rimary Indicators (minimum of one Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3)	is required; c	Water-Stain 1, 2, 4A an Salt Crust ( Aquatic Inv Hydrogen S Oxidized R	ned Leaves d 4B) B11) ertebrates ( Sulfide Odor hizosphere	(B13) r (C1) s along Liv		Water-Stained Leaves ( 4A, and 4B) Drainage Patterns (B10 Dry-Season Water Tabl Saturation Visible on Ae	B9) (MLRA 1, 2, ) e (C2) erial Imag.(C9)
Inundation Visible on Aerial Imagery (B7)       Other (Explain in Remarks)       Pased Ant Mounds (D6) (LRR A)         Sparsely Vegetated Concave Surface (B8)       Frost-Heave Hummocks (D7)         eld Observations:       Surface Water Present?       Yes         No       X       Depth (inches):       21         Water Table Present?       Yes       X       No       Depth (inches):       21         Saturation Present?       Yes       X       No       Depth (inches):       19       Wetland Hydrology Present?       Yes       No         (includes capillary fringe)       Image: Vestic Addition of the context	etland Hydrology Indicators: imary Indicators (minimum of one Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4)	is required; c	Water-Stain 1, 2, 4A an Salt Crust ( Aquatic Inv Hydrogen S Oxidized R Presence c	ned Leaves d 4B) B11) ertebrates ( Sulfide Odor hizosphere of Reduced	(B13) r (C1) is along Liv Iron (C4)	ving Roots	Water-Stained Leaves ( 4A, and 4B) Drainage Patterns (B10 Dry-Season Water Tabl Saturation Visible on Ae Geomorphic Position (D	B9) (MLRA 1, 2, ) e (C2) erial Imag.(C9)
Sparsely Vegetated Concave Surface (B8)         eld Observations:         Surface Water Present?       Yes         No       X         Depth (inches):       21         Water Table Present?       Yes       X       No         Saturation Present?       Yes       X       No       19         Wetland Hydrology Present?       Yes       No       No         (includes capillary fringe)       Wetland Hydrology Present?       Yes       No	etland Hydrology Indicators: imary Indicators (minimum of one Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5)	is required; c	Water-Stain 1, 2, 4A an Salt Crust ( Aquatic Inv Hydrogen S Oxidized R Presence c Recent Iror	ned Leaves d 4B) B11) ertebrates ( Sulfide Odoi hizosphere of Reduced n Reduction	(B13) r (C1) s along Liv Iron (C4) n in Tilled S	ving Roots Goils (C6)	Water-Stained Leaves ( 4A, and 4B) Drainage Patterns (B10 Dry-Season Water Tabl Dry-Season Water Tabl Saturation Visible on Ae Geomorphic Position (D Shallow Aquitard (D3)	B9) (MLRA 1, 2, ) e (C2) erial Imag.(C9)
eld Observations:         Surface Water Present?       Yes       No       X       Depth (inches):	etland Hydrology Indicators: rimary Indicators (minimum of one Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6)		Water-Stain 1, 2, 4A an Salt Crust ( Aquatic Inv Hydrogen S Oxidized R Presence c Recent Iror Stunted or	hed Leaves d 4B) B11) ertebrates ( Sulfide Odor hizosphere of Reduced Reduction Stressed P	(B13) r (C1) is along Liv Iron (C4) n in Tilled S Plants (D1)	ving Roots Goils (C6)	Water-Stained Leaves ( 4A, and 4B) Drainage Patterns (B10 Dry-Season Water Tabl Saturation Visible on Ae Geomorphic Position (D Shallow Aquitard (D3) FAC-Neutral Test (D5)	B9) (MLRA 1, 2, ) e (C2) erial Imag.(C9) 2)
Surface Water Present?       Yes       No       X       Depth (inches):          Water Table Present?       Yes       X       No       Depth (inches):       21         Saturation Present?       Yes       X       No       Depth (inches):       19         Vincludes capillary fringe)       Image: Comparison of the state of the	etland Hydrology Indicators: imary Indicators (minimum of one Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery	(B7)	Water-Stain 1, 2, 4A an Salt Crust ( Aquatic Inv Hydrogen S Oxidized R Presence c Recent Iror Stunted or	hed Leaves d 4B) B11) ertebrates ( Sulfide Odor hizosphere of Reduced Reduction Stressed P	(B13) r (C1) is along Liv Iron (C4) n in Tilled S Plants (D1)	ving Roots Goils (C6)	Water-Stained Leaves ( 4A, and 4B)     Drainage Patterns (B10     Dry-Season Water Tabl     Saturation Visible on Ae     Geomorphic Position (D     Shallow Aquitard (D3)     FAC-Neutral Test (D5)     Paised Ant Mounds (D6	B9) (MLRA 1, 2, ) e (C2) erial Imag.(C9) i2)
Water Table Present?       Yes       X       No       Depth (inches):       21         Saturation Present?       Yes       X       No       Depth (inches):       19       Wetland Hydrology Present?       Yes       No         (includes capillary fringe)       Image: Comparison of the second	etland Hydrology Indicators: imary Indicators (minimum of one Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery Sparsely Vegetated Concave Surface	(B7)	Water-Stain 1, 2, 4A an Salt Crust ( Aquatic Inv Hydrogen S Oxidized R Presence c Recent Iror Stunted or	hed Leaves d 4B) B11) ertebrates ( Sulfide Odor hizosphere of Reduced Reduction Stressed P	(B13) r (C1) is along Liv Iron (C4) n in Tilled S Plants (D1)	ving Roots Goils (C6)	Water-Stained Leaves ( 4A, and 4B)     Drainage Patterns (B10     Dry-Season Water Tabl     Saturation Visible on Ae     Geomorphic Position (D     Shallow Aquitard (D3)     FAC-Neutral Test (D5)     Paised Ant Mounds (D6	B9) (MLRA 1, 2, ) e (C2) erial Imag.(C9) i2)
Saturation Present?       Yes       X       No       Depth (inches):       19       Wetland Hydrology Present?       Yes       No         (includes capillary fringe)       19       19       19       19       10	etland Hydrology Indicators: rimary Indicators (minimum of one Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery Sparsely Vegetated Concave Surface eld Observations:	(B7) e (B8)	Water-Stain 1, 2, 4A an Salt Crust ( Aquatic Inv Hydrogen S Oxidized R Presence of Recent Iror Stunted or Other (Expl	hed Leaves d 4B) B11) ertebrates ( Sulfide Odor hizosphere of Reduced r Reduction Stressed P ain in Rem	(B13) r (C1) is along Liv Iron (C4) n in Tilled S Plants (D1)	ving Roots Goils (C6)	Water-Stained Leaves ( 4A, and 4B)     Drainage Patterns (B10     Dry-Season Water Tabl     Saturation Visible on Ae     Geomorphic Position (D     Shallow Aquitard (D3)     FAC-Neutral Test (D5)     Paised Ant Mounds (D6	B9) (MLRA 1, 2, ) e (C2) erial Imag.(C9) i2)
(includes capillary fringe)	etland Hydrology Indicators: rimary Indicators (minimum of one Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery Sparsely Vegetated Concave Surface eld Observations: Surface Water Present? Y	(B7) e (B8) es No	Water-Stain 1, 2, 4A an Salt Crust ( Aquatic Inv Hydrogen S Oxidized R Presence c Recent Iror Stunted or Other (Expl Depth	hed Leaves d 4B) B11) ertebrates ( Sulfide Odor hizosphere of Reduced r Reduction Stressed P ain in Rem (inches):	(B13) r (C1) is along Liv Iron (C4) n in Tilled S Plants (D1)	ving Roots Soils (C6) (LRR A)	Water-Stained Leaves ( 4A, and 4B)     Drainage Patterns (B10     Dry-Season Water Tabl     Saturation Visible on Ae     Geomorphic Position (D     Shallow Aquitard (D3)     FAC-Neutral Test (D5)     Paised Ant Mounds (D6	B9) (MLRA 1, 2, ) e (C2) erial Imag.(C9) i2)
	Surface Water (A1)         High Water Table (A2)         Saturation (A3)         Water Marks (B1)         Sediment Deposits (B2)         Drift Deposits (B3)         Algal Mat or Crust (B4)         Iron Deposits (B5)         Surface Soil Cracks (B6)         Inundation Visible on Aerial Imagery         Sparsely Vegetated Concave Surface         eld Observations:         Surface Water Present?       Y         Water Table Present?       Y	(B7) e (B8) es No es No	Water-Stain 1, 2, 4A an Salt Crust ( Aquatic Inv Hydrogen S Oxidized R Presence c Recent Iror Stunted or Other (Expl Depth Depth	hed Leaves d 4B) B11) ertebrates ( Sulfide Odor hizosphere of Reduced Reduction Stressed P ain in Rem (inches): (inches):	(B13) r (C1) is along Liv Iron (C4) n in Tilled S Plants (D1)	ving Roots Soils (C6) (LRR A)	Water-Stained Leaves ( 4A, and 4B) Drainage Patterns (B10 Dry-Season Water Tabl Saturation Visible on Ae Geomorphic Position (D Shallow Aquitard (D3) FAC-Neutral Test (D5) Paised Ant Mounds (D6 Frost-Heave Hummocks	B9) (MLRA 1, 2, ) e (C2) erial Imag.(C9) 12) (LRR A) s (D7)
	etland Hydrology Indicators: rimary Indicators (minimum of one Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery Sparsely Vegetated Concave Surface eld Observations: Surface Water Present? Y Water Table Present? Y Saturation Present? Y	(B7) e (B8) es No es No	Water-Stain 1, 2, 4A an Salt Crust ( Aquatic Inv Hydrogen S Oxidized R Presence c Recent Iror Stunted or Other (Expl Depth Depth	hed Leaves d 4B) B11) ertebrates ( Sulfide Odor hizosphere of Reduced Reduction Stressed P ain in Rem (inches): (inches):	(B13) r (C1) is along Liv Iron (C4) n in Tilled S Plants (D1)	ving Roots Soils (C6) (LRR A)	Water-Stained Leaves ( 4A, and 4B) Drainage Patterns (B10 Dry-Season Water Tabl Saturation Visible on Ae Geomorphic Position (D Shallow Aquitard (D3) FAC-Neutral Test (D5) Paised Ant Mounds (D6 Frost-Heave Hummocks	B9) (MLRA 1, 2, ) e (C2) erial Imag.(C9) 12) (LRR A) s (D7)
	etland Hydrology Indicators: imary Indicators (minimum of one Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery Sparsely Vegetated Concave Surface Eld Observations: Surface Water Present? Y Water Table Present? Y Saturation Present? Y (includes capillary fringe)	(B7) e (B8) es No esX_ No esX_ No	Water-Stain 1, 2, 4A an Salt Crust ( Aquatic Inv Hydrogen S Oxidized R Presence c Recent Iror Stunted or Other (Exp 0 X Depth Depth Depth	hed Leaves d 4B) B11) ertebrates ( Sulfide Odor hizosphere of Reduced r Reduction Stressed P ain in Rem (inches): (inches):	(B13) r (C1) is along Liv Iron (C4) n in Tilled S Plants (D1) arks)	ving Roots Soils (C6) (LRR A) <u>21</u> 19	Water-Stained Leaves ( 4A, and 4B) Drainage Patterns (B10 Dry-Season Water Tabl Saturation Visible on Ae Geomorphic Position (D Shallow Aquitard (D3) FAC-Neutral Test (D5) Paised Ant Mounds (D6 Frost-Heave Hummocks	B9) (MLRA 1, 2, ) e (C2) erial Imag.(C9) 12) (LRR A) s (D7)
	etland Hydrology Indicators: rimary Indicators (minimum of one Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery Sparsely Vegetated Concave Surface eld Observations: Surface Water Present? Y Water Table Present? Y Saturation Present? Y Saturation Present? Y	(B7) e (B8) es No esX_ No esX_ No	Water-Stain 1, 2, 4A an Salt Crust ( Aquatic Inv Hydrogen S Oxidized R Presence c Recent Iror Stunted or Other (Exp 0 X Depth Depth Depth	hed Leaves d 4B) B11) ertebrates ( Sulfide Odor hizosphere of Reduced r Reduction Stressed P ain in Rem (inches): (inches):	(B13) r (C1) is along Liv Iron (C4) n in Tilled S Plants (D1) arks)	ving Roots Soils (C6) (LRR A) <u>21</u> 19	Water-Stained Leaves ( 4A, and 4B) Drainage Patterns (B10 Dry-Season Water Tabl Saturation Visible on Ae Geomorphic Position (D Shallow Aquitard (D3) FAC-Neutral Test (D5) Paised Ant Mounds (D6 Frost-Heave Hummocks	B9) (MLRA 1, 2, ) e (C2) erial Imag.(C9) 12) (LRR A) s (D7)

Project/Site: F	FWLE / I-5		City/County:	Federal Way	- · ·	Sampling Date:	1/6/2016	6
Applicant/Owner:	Sound Transit			State:	WA	Sampling Point:	SP 25-2	2-2
Investigators:	Lisa Danielski	Ian Welch		Section, Town	ship, Range	SS33 TT2	2N RR	4 E
Landform (hillslop	e, terrace, etc.):		Local R	elief (concave, conve	x, none):		Slope	(%)
Subregion (LRR):	А	Lat:		Long:		Datum:	NAD83	
Soil Map Unit Nan	me: Everett ver	y gravelly sandy loam, 8 to 15	percent	N	WI Classifica	tion: PSS1		
Are climatic / hydr	rologic conditions c	n the site typical for this time o	f year? Yes	NoX	(If No, expl	ain in Remarks)		
Are Vegetation	, Soil,	Hydrology, significantly	disturbed?	Are "Normal C	ircumstances	" present? Yes	s X	No
Are Vegetation	, Soil,	Hydrology, naturally pro	blematic?	(If needed, e	kplain any an	swers in Remark	s.)	
		Attack a sta waw also					f	4-

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

Hydrophytic Vegetation Present?	Yes	Х	No				
Hydric Soil Present?	Yes	Х	No	Is the Sampled Area			
Wetland Hydrology Present?	Yes	Х	No	within a Wetland?	Yes	Х	No

### Remarks:

Sample plot located in northeast region of wetland 25-1. Above average rainfall occurred in the area for several weeks prior to sampling date. Too saturated to determine presence hydric soil indicators; assumed hydric soils based on observed vegetation and hydrology indicators.

VEGETATION_ Us	e scientific nam	es of plants.	Absolute <u>% Cover</u>	Dominant Species	Indicator Status	Dominance Test Workshee	et:		
<u>Tree Stratum</u> Alnus rubra	(Plot size: <u>30 Ft</u>	)	5	Y	FAC	Number of Dominant Specie That Are OBL, FACW, or FA		2	(A)
			5	=Total Cover		Total Number of Dominant			_
<u>Shrub Stratum</u> Rubus spectabilis	(Plot size: <u>50 Ft</u>	)	10	Y	FAC	Species Across all Strata:	_	3	(B)
			10	=Total Cover		Percent of Dominant Specie That Are OBL, FACW, or FA		66.7%	(A/B)
Herb Stratum						Prevalence Index Workshe	et:		
Vine Stratum	(Plot size: <u>30 Ft</u>	)				Total % Cover of:		iply by:	
Rubus armeniacus			10	Y	FACU	OBL species 0	x 1 =		
			10	=Total Cover		FACW species 0	x 2 =	0	
						FAC species 15	x 3 =	45	
						FACU species 10	x 4 =	40	
						UPL species 0	x 5 =	0	
						Column Totals: 25	(A)	85	<u>(</u> B)
						Prevalence Index = B/	A=	3.40	
						Hydrophytic Vegetation Ind	icators:		
						Rapid Test for Hydrophy	rtic Veget	ation	
						X Dominance Test > 50%			
						Prevalence Index ≤ 3.0			
						Morphological Adaptatic			orting
						Problematic Hydrophytic	•	,	olain)
						Indicators of hydric soil and must be present, unless dis			
% Bare Ground in Herb	Stratum					Hydrophytic Vegetation Present? Ye	s X	No	
Remarks: (Include photo	numbers here or on	a separate sheet.	)			1			
Vegetation meets domin	ance test criterion.								



Profile Descrip	•		lepth	neede	ed to docu			i <b>tor or c</b> atures	onfirm t	the absence of Indicators.)	
Depth (inches)	Matr Color (moist		%		Color (moi			Type 1	Loc <sup>2</sup>	Texture	Remarks
	10YR 2/	,	100			<u>, , , , , , , , , , , , , , , , , , , </u>		1300		Gravelly loam	
	entration, D=Depl				d Mortiy C	S-Covoro		optod S	and Gra	-	M-Motrix
Type. C=Conc	entration, D=Depr	elion, r		euuce	u iviartix, C	S=Covered		oaleu S	anu Gra		
Hydric Soil In Histosol (A1)	)				Sandy Redo Stripped Ma	. ,				Indicators for Problematic Hy	<u>'dric Soils:</u> <sup>3</sup>
Black Histic	(A3)				Loamy Muc	ky Mineral (	F1) (e>	cept ML	RA 1)	Red Parent Material (TF2)	40)
Hydrogen Su	ulfide (A4)				Loamy Gley	ed Matrix (F	2)			Very Shallow Dark Surface (TF Other (Explain in Remarks)	12)
Depleted Be	low Dark Surface (A	11)			Depleted M	atrix (F3)					
Thick Dark S	Surface (A12)				Redox Dark	Surface (Fe	5)			<sup>3</sup> Indicators of hydrophytic vegetation	on and wetland
Sandy Muck	y Mineral (S1)				Depleted Da	ark Surface	(F7)			hydrology must be present,	
Sandy Gleye	ed Matrix (S4)				Redox Depr	ressions (F8	)			unless disturbed or problematic.	
	/e Layer (if obs	erved	):								
Туре:										Hydric Soil Present? Ye	es X No
Depth (inche	es):										
Remarks: Problematic soils indicators. HYDROLOGY		f fill mat	erial. T	oo satu	urated too m	eet criteria r	equirin	ng redoxin	norphic fe	eatures; hydric soils assumed based on veg	etation and hydrology
Wetland Hydr	rology Indicators tors (minimum of c		equire	d; che	eck all that	apply)				Secondary Indicators (minir	num of two required)
Surface Wat	. ,				Water	-Stained Le A and 4B)	aves (I	B9) (exce	ept MLRA	Water etailed Eearee (E	39) (MLRA 1, 2,
High Water						rust (B11)				<sup>4</sup> 4A, and 4B)	
Saturation (A	43)				_	ic Invertebra	too (P	12)		Drainage Patterns (B10)	
Water Marks	s (B1)							-		Dry-Season Water Table	; (C2)
Sediment De	• • • •				_	gen Sulfide		· ·	ing Dooto	Saturation Visible on Aer	rial Imag.(C9)
Drift Deposit					_	ed Rhizospl nce of Redu			ing Roois	Geomorphic Position (D2	2)
Algal Mat or						nce of Redu		. ,		Shallow Aquitard (D3)	
Iron Deposit									. ,	FAC-Neutral Test (D5)	
Surface Soil	Cracks (B6)					ed or Stress		· · /	(LRR A)	Paised Ant Mounds (D6)	(LRR A)
	isible on Aerial Imag				Other	(Explain in I	Remar	ks)		Frost-Heave Hummocks	(D7)
Sparsely Ve	getated Concave Su	rface (B	8)								
Field Observa	tions:										
Surface Water	Present?	Yes		No	<u>    X                                </u>	Depth (inche	s):				
Water Table P	resent?	Yes	X	No	C	Depth (inche	s):		3		
Saturation Pre	sent?	Yes	Χ_	No	C	Depth (inche	s):	Su	Irface	Wetland Hydrology Present?	Yes <u>X</u> No
(includes capil	lary fringe) ed Data (stream gau		14 m m <sup>1</sup>						- 11 - 1- 1		
Remarks:					• • •					s ponded with 5" of water.	
	<i>,,</i> , ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	3.7 .		- (	,,			,			

Project/Site:	FWLE / I-5		City/County:	Federal Wa	У	Sampling Date:	1/6/2016	5
Applicant/Owner	r: Sound Transit			State:	WA	Sampling Point:	SP 25-2	2-3
Investigators:	Lisa Danielski	Ian Welch		Section, Tow	nship, Range	SS33 TT22	NRR	4 E
Landform (hillslo	ope, terrace, etc.):		Local R	elief (concave, conv	ex, none):		Slope	(%)
Subregion (LRR	): A	Lat:		Long:		Datum: N	IAD83	
Soil Map Unit Na	ame: Everett ve	ry gravelly sandy loam, 8 to 15	5 percent		NWI Classific	ation: None		
Are climatic / hy	drologic conditions o	on the site typical for this time	of year? Yes	NoX	(If No, exp	olain in Remarks)		
Are Vegetation	, Soil,	Hydrology, significantl	y disturbed?	Are "Normal (	Circumstance	s" present? Yes	Х	No
Are Vegetation	, Soil,	Hydrology, naturally p	roblematic?	(If needed,	explain any ar	nswers in Remarks	.)	
SIIMMADV		Attach a cita man cha	wing complin	a naint locatio	na tranca	oto important	footure	an ata

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

Hydrophytic Vegetation Present?	Yes	X No						
Hydric Soil Present?	Yes	No	Х	Is the Sampled Area				
Wetland Hydrology Present?	Yes	No	Х	within a Wetland?	Yes	No	X	

### Remarks:

Upland sample plot located near southwestern boundary of Wetland 25-1. Above average rainfall occurred in the area for several weeks prior to sampling date. Plot does not meet all three wetland indicators.

VEGETATION_ U	se scientific names of plants.	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test	Worksheet:			
Tree Stratum	(Plot size: <u>30 Ft</u> )				Number of Domin				
Alnus rubra		5	Y	FAC	That Are OBL, FA			2	(A)
Shrub Stratum		5	=Total Cover		Total Number of D Species Across al			3	(B)
Herb Stratum	(Plot size: <u>5 Ft</u> )				Percent of Domina	ant Species			
Carex obnupta			Y	OBL	That Are OBL, FA		: —	66.7%	(A/B)
Equisetum telmate	ela la	5	Ν	FACW	Prevalence Index	Worksheet			
		15	=Total Cover		Total % Cover			ply by:	
Vine Stratum	(Plot size: <u>30 Ft</u> )				OBL species	10	x 1 =	10	
Rubus armeniacu	S	15	Y	FACU	FACW species	5	x 2 =	10	
		15	=Total Cover		FAC species	5	x 3 =	15	
					FACU species	15	x 4 =	60	
					UPL species 0		x 5 =	0	
						35	(A)	95	(B)
					Column Totals:		_(A) _	90	<u>(</u> D)
					Prevalence	Index = B/A=	=	2.71	
					Hydrophytic Vege	tation Indica	ators:		
					Rapid Test for	<sup>.</sup> Hydrophytic	: Vegeta	ation	
					X Dominance Te	est > 50%			
					X Prevalence In	dox < 3.0			
					Morphological				orting
					Problematic H			,	olain)
					Indicators of hydr must be present,	ic soil and w	etland h	nydrolog	у
% Bare Ground in Herb	Stratum				Hydrophytic Vegetation Prese	nt? Yes	x	No	
Remarks: (Include photo	numbers here or on a separate sheet.	.)							

bers here or on a separate sheet.) iciude photo nu (11)

Mosses comprise approximately 20% of ground cover. Vegetation meets the dominance test and prevalence index for hydrophytic vegetation.



Profile Descri	iption: (Des	scribe to the	depth nee	eded to docu	ment the indi	cator or o	confirm t	the absence of Indicators.)	
Depth		Matrix			Redox I	Features			
(inches)	Colo	r (moist)	%	Color (mo	ist) %	Type 1	Loc <sup>2</sup>	Texture	Remarks
0 to 20	10YR	3/3	60	10YR 4/8	8 5	С	М	CLAY LOAM	
0 to 20	10YR	3/3	60	10YR 4/2	2 35	С	М	CLAY LOAM	
<sup>1</sup> Type: C=Con	centration, I	D=Depletion,	RM=Redu	ced Martix, C	S=Covered or	Coated S	and Gra	ins. 4Location: PL=Pore Lir	ning, M=Matrix.
Thick Dark	1) edon (A2) c (A3) Sulfide (A4) elow Dark Su Surface (A12	)		Loamy Gle Depleted M Redox Darl	atrix (S6) cky Mineral (F1) yed Matrix (F2) latrix (F3) k Surface (F6)		RA 1)	Indicators for Problemation 2 cm Muck (A10) Red Parent Material (TF2) Very Shallow Dark Surfac Other (Explain in Remarks) <sup>3</sup> Indicators of hydrophytic ve	) e (TF12) s)
	ky Mineral (S ved Matrix (S4	-	[		oressions (F8)	)		hydrology must be present, unless disturbed or problem	atic.
Restricti Type: Depth (inch Remarks:		(if observe	d):					Hydric Soil Present?	Yes <u>No X</u>
Soils appear to I	Y		e cast mater	rial. Soils do no	t exhibit any ind	icators.			
Wetland Hyd Primary Indica			required;	check all that	apply)			Secondary Indicators (	minimum of two required)
Surface Wa Saturation ( Water Mark Sediment D Drift Depos Algal Mat o Surface Soi Inundation	ater (A1) Table (A2) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3	rial Imagery (B cave Surface ( Yes Yes Yes	7) B8) No No	Wate         1, 2, ·         Salt C         Aquat         Hydro         Oxidi:         Prese         Recent         Stunt         Other         o       X         to       X         to       X         to       X	r-Stained Leave 4A and 4B) Crust (B11) tic Invertebrates ogen Sulfide Odd zed Rhizosphere ence of Reduced nt Iron Reduction ed or Stressed F r (Explain in Ren Depth (inches): Depth (inches):	(B13) or (C1) es along Liv d Iron (C4) n in Tilled S Plants (D1) narks)	ving Roots coils (C6) (LRR A)	Water-Stained Lea 4A, and 4B) Drainage Patterns Dry-Season Water Saturation Visible of	ves (B9) (MLRA 1, 2, (B10) Table (C2) on Aerial Imag.(C9) on (D2) D3) D5) s (D6) (LRR A) nocks (D7)
This sample plo	t does not me	et any wetland	l hydrology ir	ndicators.					

Project/Site:	FWLE / I-5		City/County:	Federal Way		Sampling Date:	1/1/2016	6
Applicant/Owner	r: Sound Transit			State:	WA	Sampling Point:	SP 25-2	2-4
Investigators:	Lisa Danielski	Ian Welch		Section, Towns	hip, Range	SS33 TT22	NRR	4 E
Landform (hillslo	ope, terrace, etc.):		Local Re	elief (concave, convex,	none):		Slope	(%)
Subregion (LRR	): A	Lat:		Long:		Datum: N	IAD83	
Soil Map Unit Na	ame: Everett ver	y gravelly sandy loam, 8 to 1	5 percent	NV	VI Classifica	tion: PEM1		
Are climatic / hy	drologic conditions o	n the site typical for this time	of year? Yes	No X	(If No, expl	ain in Remarks)		
Are Vegetation	, Soil,	Hydrology, significant	ly disturbed?	Are "Normal Circ	cumstances	" present? Yes	Х	No
Are Vegetation	, Soil,	Hydrology, naturally p	oroblematic?	(If needed, exp	olain any an	swers in Remarks	.)	
SUMMARY	OF FINDINGS -	Attach a site map she	owing samplin	g point locations	, transec	ts, important	featur	es, etc.

Hydrophytic Vegetation Present?	Yes	Х	No				
Hydric Soil Present?	Yes	Х	No	Is the Sampled Area			
Wetland Hydrology Present?	Yes	Х	No	within a Wetland?	Yes	Х	No

### Remarks:

Sample plot located in southern portion of Wetland 25-2. Above average rainfall occurred in the area for several weeks prior to sampling date. Plot meets all three wetland indicators.

VEGETATION Use scientific names of plants.	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test	Norkabaati			
Tree Stratum	<u>,,, ,, ,, ,, ,, ,, ,, ,, ,, ,, ,, ,, ,,</u>	<u></u>	<u></u>					
Shrub Stratum				Number of Domina That Are OBL, FA		:	1	(A)
Herb Stratum (Plot size: 5 Ft )				Total Number of De	ominant			
Equisetum telmateia	15	Y	FACW	Species Across all			1	(B)
Geum macrophyllum	1	N	FAC	-				_ ` `
	16	=Total Cover		Percent of Domina That Are OBL, FAC			100.0%	(A/B)
Vine Stratum				Prevalence Index	Worksheet	:		
				Total % Cover	of:	Multip	oly by:	
				OBL species	0	x 1 =	0	
				FACW species	15	x 2 =	30	
				FAC species	1	x 3 =	3	
					0	x 4 =	0	
				FACU species	0	x 5 =	0	
				UPL species				
				Column Totals:	16	(A)	33	(B)
				Prevalence I	ndex = B/A=	:	2.06	
				Hydrophytic Veget	ation Indica	ators:		
				Rapid Test for	Hydrophytic	Vegeta	ition	
				X Dominance Te	est > 50%			
				X Prevalence Inc	dex ≤ 3.0			
				Morphological	Adaptations	(Provi	do cupo	orting
				data in Remarl				oning
				Problematic H	ydrophytic V	egetatio	on (Exp	olain)
				Indicators of hydri must be present, u	c soil and we	etland h	ydrology	y
N/ Dave Oracial is black Obertain				Hydrophytic Vegetation Preser	nt? Yes	x	No	
% Bare Ground in Herb Stratum Remarks: (Include photo numbers here or on a separate sheet.	)			-				_
incidanto. (molude prioto numbero nere or on a separate sileet.	/							

Vegetation meets the dominance test and prevalence index for hydrophytic vegetation.



Profile Descri	ption: (Des	cribe to th	ne deptł	n need	ed to documen	t the indi	cator or o	confirm the	e absence of Indicators.)	
Depth		Matrix					eatures			
(inches)	Colo	r (moist)		<u>// </u>	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0 to 12	10YR	4/2	90		10YR 5/8	10	С	М		
<sup>1</sup> Type: C=Conc	centration, [	D=Depletio	n, RM=l	Reduce	ed Martix, CS=C	overed or	Coated S	and Grains	s. <sup>2</sup> Location: PL=Pore Lining	, M=Matrix.
Hydric Soil In	ndicators:								Indicators for Problematic H	ydric Soils: <sup>3</sup>
Histosol (A1	)				] Sandy Redox (S	5)			2 cm Muck (A10)	
Histic Epipe	don (A2)				Stripped Matrix (	S6)			Red Parent Material (TF2)	
Black Histic	. ,				Loamy Mucky M	ineral (F1)	(except ML	RA 1)	Very Shallow Dark Surface (T	F12)
Hydrogen Si					Loamy Gleyed N	. ,			Other (Explain in Remarks)	
	low Dark Su	· · /		✓		. ,				
	Surface (A12)	·			Redox Dark Surf	. ,			<sup>3</sup> Indicators of hydrophytic vegeta	tion and wetland
Sandy Muck		-			Depleted Dark S	. ,			hydrology must be present, unless disturbed or problematic.	
Sandy Gleye	ed Matrix (S4	·)			Redox Depression	ons (F8)			unless disturbed of problematic.	
	ve Layer (	if observ	ed):							
Туре:									Undria Sail Dracant?	
Depth (inche	es):								Hydric Soil Present?	/es <u>X</u> No
HYDROLOGY	Y									
Wetland Hydr Primary Indica	00		is requi	red; ch	neck all that appl	y)			Secondary Indicators (min	imum of two required)
Surface Wat	. ,				Water-Stai 1, 2, 4A an		s (B9) (exc	ept MLRA	Water-Stained Leaves	(B9) (MLRA 1, 2,
High Water					Salt Crust				<sup>4</sup> 4A, and 4B)	
Saturation (A	,				Aquatic Inv	. ,	(B13)		Drainage Patterns (B10	
Water Marks					Hydrogen S				Dry-Season Water Tab	le (C2)
Sediment De	• • • •						. ,	ving Roots (C	C3) Saturation Visible on A	erial Imag.(C9)
Drift Deposit					Presence of		-		Geomorphic Position (I	02)
Algal Mat or					Recent Iror			oils (C6)	Shallow Aquitard (D3)	
	Cracks (B6)				Stunted or				FAC-Neutral Test (D5)	
	/isible on Aei		(B7)		Other (Exp			()	Paised Ant Mounds (De	
Sparsely Ve		0,					lanto)		Frost-Heave Hummock	s (D7)
Field Observa			- ()							
Surface Water		Ye	25	No	X Depth	(inches):				
Water Table P		Ye		No		(inches):		3		
Saturation Pre				No		(inches):	S	urface	Wetland Hydrology Present?	Yes X No
(includes capil	llary fringe)			_		. ,				
		am gauge, i	monitorin	g well, a	aerial photos, previ	ious inspec	tions), if av	ailable:		
Remarks: Wetland hydrolog	gy meets indi	cators for hi	gh water	table (A	A2) and saturation	(A3).				

Project/Site:	FW	LE / I-5		City/County:	Fede	ral Way		Sampling Date:	1/6/2016
Applicant/Owner	:	Sound Transi	t			State:	WA	Sampling Point:	SP 25-2a-1
Investigators:	Li	sa Danielski	Ian Welch		Sectio	n, Town	ship, Range	SS33 TT22	N RR4E
Landform (hillslo	pe, t	terrace, etc.):		Local R	elief (concave	e, convex	, none):		Slope(%)
Subregion (LRR	):	A	Lat:		Long:			Datum: N	NAD83
Soil Map Unit Na	ame:	Everett ve	ry gravelly sandy loam, 8 to 15	percent		N	WI Classifica	tion: PSS1	
Are climatic / hy	drolo	gic conditions of	on the site typical for this time	of year? Yes	No	Х	(If No, expl	ain in Remarks)	
Are Vegetation		, Soil,	Hydrology, significantly	/ disturbed?	Are "N	ormal Ci	rcumstances	" present? Yes	X No
Are Vegetation		_, Soil,	Hydrology, naturally pr	oblematic?	(If ne	eded, ex	plain any an	swers in Remarks	s.)

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

Hydrophytic Vegetation Present?	Yes	Х	No				
Hydric Soil Present?	Yes	Х	No	Is the Sampled Area			
Wetland Hydrology Present?	Yes	Х	No	within a Wetland?	Yes	Х	No

Remarks:

Wetland sample plot located in center of Wetland 25-2a. Above average rainfall occurred in the area for several weeks prior to sampling date. Plot meets all three wetland indicators.

Tree Stratum       Connus alba       30       Y       FACW         Rubus spectabilis       30       Y       FACW         35       =Total Cover       FAC         Herb Stratum       100.0%       (A/B)         Vine Stratum       35       =Total Cover         Herb Stratum       100.0%       (A/B)         Vine Stratum       100.0%       (A/B)         Vine Stratum       100.0%       (A/B)         Vine Stratum       0       X1 = 0         FACU species       30       X2 = 60         FACU species       30       X2 = 60         FACU species       30       X2 = 60         FACU species       5       X3 = 15         FACU species       5       X3 = 15         FACU species       5       (A)         UPL species       0       X4 = 0         UPL species       0       X5 = 0         Column Totals:       35       (A)         Prevalence Index = B/A=       2.14         Hydrophytic Vegetation Indicators:       Rapid Test for Hydrophytic Vegetation         X       Prevalence Index = 3.0       Morphological Adaptations (Provide supporting data in Remarks or on a separate sheet)         Prob	<b>VEGETATION</b> - Use scientific names of plants.	<u>Absolute</u> % Cover	<u>Dominant</u> Species	Indicator Status	Dominance Test	Workshoot:			
Stratum       (Prot Size: SUFT					Number of Domina	ant Species		1	(A)
Rubus spectabilis       5       N       FAC         35       =Total Cover       FAC       Species Across all Strata:       1       (B)         Herb Stratum       Vine Stratum       Percent of Dominant Species That Are OBL, FACW, or FAC:       100.0% (A/B)         Vine Stratum       Vine Stratum       Prevalence Index Worksheet:       100.0% (A/B)         Total % Cover of:       Multiply by:       0       X1 =       0         FAC species       30       x 2 =       60       FAC species       5       x 3 =       15         FAC U species       0       x 4 =       0       UPL species       0       x 5 =       0         UPL species       0       x 5 =       0       Column Totals:       35       (A)       75       (B)         Prevalence Index = B/A       2.14       Hydrophytic Vegetation Indicators:       Rapid Test for Hydrophytic Vegetation       X       Dominance Test > 50%       X       Prevalence Index ≤ 3.0       Morphological Adaptations (Provide supporting data in Remarks or on a separate sheet)       Problematic Hydrophytic Vegetation (Explain)       Indicators of hydro soil an wetland hydrology must be present, unless disturbed or problematic.	(110001201_0010_)				That Are OBE, I A		•		_ ` ´
35=Total Cover         Herb Stratum         Vine Stratum         Vine Stratum         Percent of Dominant Species         100.0%         A/B         Prevalence Index Worksheet:         Total % Cover of:         Multiply by:         OBL species       0         X1 =       0         FACW species       30       x2 =         60       FAC species       0       x4 =         UPL species       0       x5 =       0         Column Totals:       35       (A)       75       (B)         Prevalence Index = B/A=       2.14       14       14       14       14         Hydrophytic Vegetation Indicators:       Rapid Test for Hydrophytic Vegetation       X       20       21.4       14         Hydrophytic Vegetation Indicators:       Rapid Test for Hydrophytic Vegetation       X       21.4       14         Hydrophytic Vegetation Indicators:       Rapid Test for Hydrophytic Vegetation       X       21.4       14         Hydrophytic Vegetation Indicators:       Rapid Test for Hydrophytic Vegetation       X       21.4       14         Hydrophytic Vegetation Indicators:       Rapid Test for Hydrophytic Vegetation       14.5				-					
Herb Stratum       Percent of Dominant Species       100.0% (A/B)         Vine Stratum       Prevalence Index Worksheet:       Total % Cover of:       Multiply by:         OBL species       0       x1 =       0         FACW species       30       x2 =       60         FACU species       0       x5 =       0         UPL species       0       x5 =       0         Column Totals:       35       (A)       75       (B)         Prevalence Index = B/A =       2.14       Hydrophytic Vegetation Indicators:       Rapid Test for Hydrophytic Vegetation         X       Dominance Test > 50%       X       Prevalence Index ≤ 3.0       Morphological Adaptations (Provide supporting data in Remarks or on a separate sheet)         Problematic Hydrophytic Vegetation Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.       Hydrophytic Vegetation (Explain)	Rubus spectabilis		N	FAC	Species Across all	Strata:		1	(B)
Piero Stratum       That Are OBL, FACW, or FAC:       10005 (NO)         Vine Stratum       Prevalence Index Worksheet: $x_1 = 0$ Total % Cover of:       Multiply by: $x_1 = 0$ FACW species       30 $x 2 = 60$ FACU species       5 $x_3 = 15$ FACU species       0 $x_4 = 0$ UPL species       0 $x_5 = 0$ Column Totals:       35       (A)       75         Prevalence Index = B/A=       2.14       14         Hydrophytic Vegetation Indicators:       Rapid Test for Hydrophytic Vegetation         X       Prevalence Index < 3.0		35	=Total Cover		Dented				
Prevalence Index Worksheet:Total % Cover of:Multiply by:OBL species0 $x1 = 0$ FACW species30 $x2 = 60$ FAC species5 $x3 = 15$ FACU species0 $x4 = 0$ UPL species0 $x5 = 0$ Column Totals:35(A)Prevalence Index = B/A=2.14Hydrophytic Vegetation Indicators:Rapid Test for Hydrophytic VegetationXDominance Test > 50%XPrevalence Index ≤ 3.0Morphological Adaptations (Provide supporting data in Remarks or on a separate sheet)Problematic Hydrophytic Vegetation (Explain)Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.HydrophyticHydrophyticVegetation Prosent?Nume to present?Nume to present? <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>100.0%</td> <td>(A/B)</td>								100.0%	(A/B)
OBL species0 $x 1 = 0$ FACW species30 $x 2 = 60$ FAC species5 $x 3 = 15$ FAC species0 $x 4 = 0$ UPL species0 $x 5 = 0$ Column Totals:35(A)Totals:35(A)Totals:35(A)Totals:35(A)Totals:35(A)Totals:35(A)Totals:35(A)Totals:35(A)Totals:2.14Hydrophytic Vegetation Indicators:Rapid Test for Hydrophytic VegetationXDominance Test > 50%XPrevalence Index ≤ 3.0Morphological Adaptations (Provide supporting data in Remarks or on a separate sheet)Problematic Hydrophytic Vegetation (Explain)Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.HydrophyticHydrophyticHydrophyticHydrophyticHydrophyticHydrophyticHydrophyticHydrophyticHydrophyticHydrophyticHydrophyticHydrophyticHydrophyticHydrophyticHydrophyticHydrophyticHydrophyticHydrophyticHydrophyticHydrophyticHydrophyticHydrophyticHydrophyticHydrophyticHydrophyticHydrophyticHydrophyticHydrophyticHydrop	Vine Stratum				Prevalence Index	Worksheet	:		
Oble species $30$ $x 2 = 60$ FACW species $5$ $x 3 = 15$ FAC species $0$ $x 4 = 0$ UPL species $0$ $x 5 = 0$ Column Totals: $35$ (A) $75$ (B)Prevalence Index = $B/A=$ $2.14$ Hydrophytic Vegetation Indicators:					Total % Cover	of:	Multi	ply by:	
FACN species $5$ $x 3 =$ $15$ FAC species $0$ $x 4 =$ $0$ UPL species $0$ $x 5 =$ $0$ Column Totals: $35$ $(A)$ $75$ (B)Prevalence Index = $B/A =$ $2.14$ Hydrophytic Vegetation Indicators:					OBL species	0	x 1 =	0	
FAC species5 $x 3 = 15$ FACU species0 $x 4 = 0$ UPL species0 $x 5 = 0$ Column Totals:35(A)75Prevalence Index = B/A=2.14Hydrophytic Vegetation Indicators:Rapid Test for Hydrophytic VegetationXDominance Test > 50%XPrevalence Index ≤ 3.0Morphological Adaptations (Provide supporting data in Remarks or on a separate sheet)Problematic Hydrophytic Vegetation (Explain)Indicators of hydric soil and wetland hydrology must be present; unless disturbed or problematic.HydrophyticHydrophyticVegetation Present?XNorphological Adaptation (Explain)					FACW species	30	x 2 =	60	
FACU species       0       x 4 =       0         UPL species       0       x 5 =       0         Column Totals:       35       (A)       75       (B)         Prevalence Index = B/A=       2.14         Hydrophytic Vegetation Indicators:         Rapid Test for Hydrophytic Vegetation         X       Dominance Test > 50%         X       Prevalence Index ≤ 3.0         Morphological Adaptations (Provide supporting data in Remarks or on a separate sheet)         Problematic Hydrophytic Vegetation (Explain)         Indicators of hydric soil and wetland hydrology must be present; unless disturbed or problematic.         Hydrophytic					FAC species	5	x 3 =	15	
UPL species       0       x 5 =       0         Column Totals:       35       (A)       75       (B)         Prevalence Index = B/A=       2.14       1         Hydrophytic Vegetation Indicators:					•	0	x 4 =	0	
Prevalence Index = B/A=       2.14         Hydrophytic Vegetation Indicators:					•	0	x 5 =	0	
Hydrophytic Vegetation Indicators:         Rapid Test for Hydrophytic Vegetation         X       Dominance Test > 50%         X       Prevalence Index ≤ 3.0         Morphological Adaptations (Provide supporting data in Remarks or on a separate sheet)         Problematic Hydrophytic Vegetation (Explain)         Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.         Hydrophytic         Vegetation Present?					Column Totals:	35	(A)	75	(B)
Rapid Test for Hydrophytic Vegetation         X       Dominance Test > 50%         X       Prevalence Index ≤ 3.0         Morphological Adaptations (Provide supporting data in Remarks or on a separate sheet)         Problematic Hydrophytic Vegetation (Explain)         Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.         Hydrophytic         Vegetation Present?					Prevalence	Index = B/A=	:	2.14	
X       Dominance Test > 50%         X       Prevalence Index ≤ 3.0         Morphological Adaptations (Provide supporting data in Remarks or on a separate sheet)         Problematic Hydrophytic Vegetation (Explain)         Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.         Hydrophytic         Vegetation Present?         Yere the the					Hydrophytic Vege	tation Indica	ators:		
X       Prevalence Index ≤ 3.0         Morphological Adaptations (Provide supporting data in Remarks or on a separate sheet)         Problematic Hydrophytic Vegetation (Explain)         Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.         Hydrophytic         Vegetation         Yeretation					Rapid Test for	Hydrophytic	Vegeta	ation	
Morphological Adaptations (Provide supporting data in Remarks or on a separate sheet) Problematic Hydrophytic Vegetation (Explain) Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Hydrophytic Versetation Present?					X Dominance Te	est > 50%			
data in Remarks or on a separate sheet)         Problematic Hydrophytic Vegetation (Explain)         Indicators of hydric soil and wetland hydrology         must be present, unless disturbed or problematic.         Hydrophytic         Vegetation         Vegetation					X Prevalence In	dex ≤ 3.0			
Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Hydrophytic					data in Remar	ks or on a se	eparate	sheet)	Ū
must be present, unless disturbed or problematic.  Hydrophytic Versetation Present?							0	· ·	,
Veretation Present?									
	% Bare Ground in Herb Stratum					nt? Yes	x	No	

Remarks: (Include photo numbers here or on a separate sheet.)

Dead Thuja plicata plantings within vegetation sample area. Vegetation meets the dominance test and prevalence index for hydrophytic vegetation.



	iption: (Des	cribe to the Matrix	depth n	eeded to	documer		<b>cator or o</b> eatures	confirm t	the absence of Indicators.)	
Depth (inches)	Color	(moist)	%	Col	or (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0 to 9	10YR	2/2	100				.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		LOAM	
9 to 13	10YR	4/1	95	7	5yr 4/6	5	С	Μ	Gravelly sandy loam	
<sup>1</sup> Type: C=Con				_					, ,	M=Matrix
		2 opiotion,					e calcu e		,	
Thick Dark  Sandy Muc Sandy Gley  Restrict	1) edon (A2) c (A3)	)	d):	<ul> <li>□ Strip</li> <li>□ Loa</li> <li>□ Loa</li> <li>✓ Dep</li> <li>□ Red</li> <li>□ Dep</li> </ul>	dy Redox (S oped Matrix my Mucky M my Gleyed M leted Matrix ox Dark Sur leted Dark S ox Depressi	(S6) Mineral (F1) Matrix (F2) (F3) fface (F6) Surface (F7)		RA 1)	Indicators for Problematic Hyd 2 cm Muck (A10) Red Parent Material (TF2) Very Shallow Dark Surface (TF1 Other (Explain in Remarks) <sup>3</sup> Indicators of hydrophytic vegetatic hydrology must be present, unless disturbed or problematic.	2)
Type:			<u> </u>						Hydric Soil Present? Ye	s X No
Depth (inch Remarks:	nes):								-	
HYDROLOG Wetland Hyd Primary Indic	drology Indi		required	; check a	all that app	ly)			Secondary Indicators (minim	num of two required)
Surface Wa	ater (A1)					ined Leave	s (B9) (exc	ept MLRA	Water-Stained Leaves (B	9) (MLRA 1. 2.
✓ High Water	r Table (A2)			_	1, 2, 4A ar				4A, and 4B)	-, ( , _,
Saturation	(A3)				Salt Crust	. ,			Drainage Patterns (B10)	
U Water Mark	ks (B1)				Aquatic Inv	vertebrates	(B13)		Dry-Season Water Table	(C2)
Sediment E	Deposits (B2)				, , ,	Sulfide Odd	· · /		Saturation Visible on Aeri	
Drift Depos	sits (B3)				Oxidized F	Rhizosphere	es along Liv	ing Roots	Geomorphic Position (D2	
Algal Mat o	or Crust (B4)				Presence	of Reduced	I Iron (C4)		Shallow Aquitard (D3)	/
Iron Depos	its (B5)				Recent Iro	on Reduction	n in Tilled S	Soils (C6)	FAC-Neutral Test (D5)	
	oil Cracks (B6)				Stunted or	r Stressed F	Plants (D1)	(LRR A)	Paised Ant Mounds (D6)	
Inundation	Visible on Aer	ial Imagery (B	7)		Other (Exp	plain in Rem	narks)		Frost-Heave Hummocks	. ,
Sparsely V	egetated Cond	ave Surface (	B8)							,01)
Field Observ	ations:									
Surface Wate	er Present?	Yes		No X	Depth	h (inches):				
Water Table	Present?	Yes	Х	No	Depth	h (inches):		7		
Saturation Pr	resent?	Yes	х	No	Depth	h (inches):		4	Wetland Hydrology Present?	Yes <u>X</u> No
(includes cap	oillary fringe)									
Describe Record	ded Data (stre	am gauge, mo	onitoring w	ell, aerial	photos, prev	vious inspec	ctions), if av	vailable:		
Wetland hydrold	ogy meets indi	cators for high	n water tab	le (A2) an	d saturation	ı (A3).				

Project/Site:	FWLE / I-5		City/County:	Federal Way	S	ampling Date:	1/6/2016
Applicant/Owne	r: Sound Transit			State:	WA S	ampling Point:	SP 25-2a-2
Investigators:	Lisa Danielski	Ian Welch		Section, Town	ship, Range	SS33 TT22	N RR4E
Landform (hillslo	ope, terrace, etc.):		Local R	elief (concave, conve	x, none):		Slope(%)
Subregion (LRR	2): A	Lat:		Long:		Datum: N	IAD83
Soil Map Unit Na	ame: Everett ver	y gravelly sandy loam, 8 to 1	5 percent	N	WI Classificatio	on: None	
Are climatic / hy	drologic conditions o	on the site typical for this time	of year? Yes	NoX	(If No, explai	n in Remarks)	
Are Vegetation	, Soil,	Hydrology, significantl	ly disturbed?	Are "Normal Ci	rcumstances" p	present? Yes	X No
Are Vegetation	, Soil,	Hydrology, naturally p	roblematic?	(If needed, ex	plain any ansv	vers in Remarks	s.)

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

Hydrophytic Vegetation Present?	Yes	Х	No					
Hydric Soil Present?	Yes	Х	No		Is the Sampled Area			
Wetland Hydrology Present?	Yes		No	Х	within a Wetland?	Yes	No	X

### Remarks:

Sample plot located west of Wetland 25-2a boundary. Above average rainfall occurred in the area for several weeks prior to sampling date. Plot does not satisfy all three wetland criteria. Vegetation and soils are marginal; determined not to be a wetland based on lack of hydrology.

VEGETATION_ Us	se scientific names of plants.	<u>Absolute</u> % Cover	Dominant Species	Indicator Status	Dominance Test	Norkshoot			
Tree Stratum	(Plot size: <u>30 Ft</u> )	<u>//</u>		<u></u>	Number of Domina				
Alnus rubra	(**************************************	25	Y	FAC	That Are OBL, FA			2	(A)
		25	=Total Cover		- 				
Shrub Stratum	(Plot size: 50 Ft )				Total Number of D Species Across all			4	(B)
Cornus alba	(**************************************	10	Y	FACW				•	_ (=)
		10	=Total Cover		Percent of Domina That Are OBL, FA			50.0%	(A/B)
Herb Stratum	(Plot size: <u>5 Ft</u> )				Prevalence Index	Worksheet:			
Polystichum munit	um	5	Y	FACU	Total % Cover		Multip	ly by:	
		5	=Total Cover		OBL species	0	x 1 =	0	
Vine Stratum	(Plot size: <u>30 Ft</u> )				FACW species	10	x 2 =	20	
Rubus ursinus		5	Y	FACU		25	x 3 =	75	
		5	=Total Cover		FAC species	10	x 4 =	40	—
					FACU species UPL species	0	x 5 =	0	
					Column Totals:	45	(A)	135	(B)
					Prevalence I	ndex = B/A=		3.00	
					Hydrophytic Vege	tation Indica	tors:		
					Rapid Test for	Hydrophytic	Vegeta	tion	
					Dominance Te	est > 50%			
					X Prevalence Inc	dex ≤ 3.0			
					Morphological	Adaptations	(Provid	to sunn	orting
					data in Remar				orung
					Problematic H	ydrophytic Ve	egetatio	on (Exp	olain)
					Indicators of hydri must be present,				
					Hydrophytic				
% Bare Ground in Herb	Stratum				Vegetation Prese	nt? Yes	X	No	
Remarks: (Include photo	numbers here or on a separate sheet.	)							
Vegetation meets preva	lence index indicator.								



Profile Descr	Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of Indicators.)											
Depth		Matrix					Redox F	eatures				
(inches)	Color	(moist)	%		Color (r	noist)	%	Type 1	Loc <sup>2</sup>	Texture	Remarks	
0 to 4	10YR	2/1	100							LOAM		
4 to 20	10YR	4/2	98		7.5YR	4/6	2	С	М	Gravelly sandy loam	Concentrations located at pebble edges	
<sup>1</sup> Type: C=Con	centration, D	=Depletion,	RM=Re	duce	d Martix,	, CS=Co	overed or	Coated S	Sand Grai	ns. 4_ocation: PL=Pore Lining,	M=Matrix.	
Hydric Soil I										Indicators for Problematic Hy	dric Soils: <sup>3</sup>	
Histosol (A	,					ledox (St	,			2 cm Muck (A10)		
Histic Epipe					Stripped	•	,			Red Parent Material (TF2)		
Black Histic	. ,				Loamy N	/ucky Mi	neral (F1)	(except MI	_RA 1)	Very Shallow Dark Surface (TF	12)	
Hydrogen S							atrix (F2)			Other (Explain in Remarks)	,	
	elow Dark Sur	face (A11)			Depleted		. ,					
	Surface (A12)				Redox D		• •			<sup>3</sup> Indicators of hydrophytic vegetation	on and wetland	
	ky Mineral (S1	,					urface (F7)	)		hydrology must be present,		
Sandy Gley	yed Matrix (S4)				Redox D	epressio	ons (F8)			unless disturbed or problematic.		
	ive Layer (	if observe	d):									
Туре:										Hydric Soil Present? Ye	es X No	
Depth (inch	nes):											
Remarks: Soils exhibit we	tland indicator	for depleted a	coile (F3)									
Cons exhibit we			5013 (1 0).									
	<b>X</b> 7											
HYDROLOG	γ											
Wetland Hyd												
Primary Indic	ators (minim	um of one is	require	d; ch	eck all th	at apply	y)			Secondary Indicators (minin	num of two required)	
Surface Wa	. ,					ater-Stair 2, 4A an		s (B9) (exc	ept MLRA	Water-Stained Leaves (E	39) (MLRA 1, 2,	
	Table (A2)					lt Crust (	,			4A, and 4B)		
Saturation							ertebrates	(B13)		Drainage Patterns (B10)		
Water Mark	. ,						Sulfide Odd	. ,		Dry-Season Water Table	e (C2)	
	Deposits (B2)				_ `	•		. ,	ving Roots	(C3) Saturation Visible on Aer	ial Imag.(C9)	
Drift Depos							of Reduced		ving itoots	Geomorphic Position (D2	2)	
	or Crust (B4)							n in Tilled S	Soile (C6)	Shallow Aquitard (D3)		
Iron Depos	. ,								. ,	FAC-Neutral Test (D5)		
	il Cracks (B6)							Plants (D1)	(LRR A)	Paised Ant Mounds (D6)	(LRR A)	
	Visible on Aer	0,1	,		Oth	her (Expl	lain in Rem	narks)		Frost-Heave Hummocks	(D7)	
	egetated Conc	ave Surface (	B8)									
Field Observ												
Surface Wate	er Present?	Yes		No	X	Depth	(inches):					
Water Table		Yes		No	X	Depth	(inches):			Weller Hilberte I. m. Brown (0	Maa Na M	
Saturation Pr		Yes	<u> </u>	No	X	Depth	(inches):			Wetland Hydrology Present?	Yes No_X	
(includes cap			nitoring		orial phot			tiona) if a	voilabla:			
Describe Record	ueu Dala (Sile	ani yauye, mu	muoning v	ven, d		os, pievi	ous inspec		valiaule.			
Remarks:												
This sample do	es not meet ar	iy hydrology ir	ndicators.									

v	VETLAND DI	ETERMINAT	ION DATA	FORM - V	Western N	lountains	, Valleys, a	nd Coas	st Regi	on		
Project/Site: FV	VLE / I-5			City/Coun	ty:	Federal Wa	ау	Sampling	Date: 2	2/25/20	16	
Applicant/Owner:	Sound Transit	t				State	: WA	Sampling	J Point:	SP 25-	5-1	
Investigators:	_isa Danielski		Maki Dalzell	l		Section, Tov	wnship, Range	S S 33	T T 22	NRF	₹4 E	
Landform (hillslope,	terrace, etc.):			L	ocal Relief (c	concave, conv	vex, none):			Slope	e(%)	
Subregion (LRR):	A		Lat:		Long	g:		Da	atum: N/	4D83		
Soil Map Unit Name	: Alderwood	d gravelly sandy	loam, 8 to 15	percent slop	es		NWI Classifica	ation: PE	EM1			
Are climatic / hydrol	ogic conditions of	on the site typica	al for this time	e of year?	Yes	No X	(If No, exp	lain in Rei	narks)			
Are Vegetation	, Soil,	Hydrology	_, significant	tly disturbed?		Are "Normal	Circumstances	s" present'	? Yes	Х	No	
Are Vegetation	, Soil,	Hydrology	_, naturally p	problematic?		(If needed,	explain any ar	nswers in F	Remarks.	)		
SUMMARY OF		- Attach a sit	te map sh	owing sar	npling poi	int locatio	ons. transec	ets. imp	ortant	leatur	es. et	C.
Hydrophytic Vege		Yes X	No	<u>onng cu</u>				<u>, , , , , , , , , , , , , , , , , , , </u>	ortant	outur	<u>,</u>	0.
Hydric Soil Preser	nt?	Yes X	No	Is the S	ampled Area	1						
Wetland Hydrolog	y Present?	Yes X	No	within a	Wetland?		Yes	X No		_		
Remarks: Sample plot is loca occurred in the are							south of Wetlar	nd 25-2a. /	Above av	erage ra	ainfall	
VEGETATION	– Use scienti	fic names of	plants.	<u>Absolute</u> <u>% Cover</u>	Dominant Species	Indicator Status	Denstream	<b>T</b> ( ) <b>N</b> (				
Tree Stratum					Species	Status	Dominance					
Shrub Stratum							Number of I That Are Of				1	(A)
Herb Stratum	(Plot size	e: <u>5 Ft</u> )					Total Numb	ar of Dami	nont			
Phalaris aru	-	e. <u>srt</u> j		100	Y	FACW	Total Number Species Acr				1	(B)
				100	=Total Cover	r						-
Vine Stratum						-	Percent of D That Are OB			1	100.0%	(A/B)
							Prevalence	Index Wo	vrksheet:			
							Total %	Cover of:		Multip	oly by:	
							OBL species	s	0	x 1 =	0	
							FACW spec	ies	100	x 2 =	200	
							FAC species	s	0	x 3 =	0	
							FACU spec	ies	0	x 4 =	0	
							UPL species	s	0	x 5 =	0	
							Column Tota	als:	100	(A)	200	(B)
							Preva	lence Inde	× = B/A=		2.00	
							Hydrophytic	Vegetati	on Indica	itors:		
							Rapid T	est for Hy	drophytic	Vegeta	tion	
							X Domina	nce Test >	<b>&gt;</b> 50%			
							X Prevale	nce Index	≤ 3.0			
								logical Ada Remarks o				orting
							Problem	natic Hydro	ophytic V	egetatio	n (Exp	olain)
							Indicators of must be pre					
% Dore Orected	Llorb Cturat						Hydrop Vegetation	•	Yes	хі	No	
% Bare Ground in Remarks: (Include p		ere or on a sepa	arate sheet.)									

Vegetation meets dominance test and prevalence index indicators for wetland vegetation.



	<b>ribe to the</b> Matrix	depth n	neede	ed to document		<b>icator or</b> o	confirm	the absence of Indicators.)	
Depth (inches) Color	(moist)	%		Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0 to 7 10YR	2/2	100				.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		LOAM	
7 to 13 2.5Y	4/1	95		10YR 4/6	5	С	M		
			duce						I=Matrix
<sup>1</sup> Type: C=Concentration, Dail         Hydric Soil Indicators:         Histosol (A1)         Histic Epipedon (A2)         Black Histic (A3)         Hydrogen Sulfide (A4)         Depleted Below Dark Surf         Thick Dark Surface (A12)         Sandy Mucky Mineral (S1)         Sandy Gleyed Matrix (S4)         Pepth (inches):         Depth (inches):         Remarks:         Hydric soil indicator F3 observed	ace (A11) ) f observed			d Martix, CS=Co Sandy Redox (S& Stripped Matrix (S Loamy Mucky Mi Loamy Gleyed M Depleted Matrix ( Redox Dark Suff Depleted Dark Suff Redox Depressio	5) S6) neral (F1) atrix (F2) F3) ace (F6) urface (F7	(except ML		ains. <sup>2</sup> Location: PL=Pore Lining, M         Indicators for Problematic Hyd         2 cm Muck (A10)         Red Parent Material (TF2)         Very Shallow Dark Surface (TF1)         Other (Explain in Remarks) <sup>3</sup> Indicators of hydrophytic vegetation hydrology must be present, unless disturbed or problematic.         Hydric Soil Present?       Yes	<b>Iric Soils:</b> <sup>3</sup> 2) n and wetland
HYDROLOGY Wetland Hydrology India Primary Indicators (minimu		requiree	d; che	eck all that apply	()			Secondary Indicators (minim	um of two required)
Surface Water (A1)				Water-Stair		es (B9) (exc	ept MLRA		. ,
High Water Table (A2)				1, 2, 4A and				4A, and 4B)	
Saturation (A3)				Salt Crust (	. ,			Drainage Patterns (B10)	
Water Marks (B1)				Aquatic Invo		. ,		Dry-Season Water Table	(C2)
Sediment Deposits (B2)				Hydrogen S		( )		Saturation Visible on Aeria	
Drift Deposits (B3)				Oxidized R	-	-	ving Roots	s (C3) Geomorphic Position (D2)	
Algal Mat or Crust (B4)				Presence o		. ,		Shallow Aquitard (D3)	
Iron Deposits (B5)				Recent Iron	Reductio	n in Tilled S	Soils (C6)	FAC-Neutral Test (D5)	
Surface Soil Cracks (B6)				Stunted or	Stressed I	Plants (D1)	(LRR A)	Paised Ant Mounds (D6)	(LRR A)
Inundation Visible on Aeria	al Imagery (B	7)		Other (Expl	ain in Ren	narks)		Frost-Heave Hummocks (	
Sparsely Vegetated Conca	ave Surface (I	B8)							,
Field Observations:									
Surface Water Present?	Yes		No	X Depth	(inches):				
Water Table Present?	Yes	Х			(inches):		12	-	
Saturation Present?					(inches):		10	Wetland Hydrology Present?	Yes X No
(includes capillary fringe)			-		/-			-	
Describe Recorded Data (strea	ım gauge, mo	onitoring v	vell, a	erial photos, previ	ous inspec	ctions), if av	/ailable:		
Remarks: Sample plot has indicators for I	high water tab	ole (A2) a	ind sa	turation (A3).					

Project/Site:	FWLE / I-5		City/County:	Federal Way	Sam	pling Date:	2/25/2016
Applicant/Owner	: Sound Tra	nsit		State:	WA Sam	pling Point:	SP 25-5-2
Investigators:	Lisa Danielski	Maki Da	alzell	Section, Town	ship, Range S S	33 T T 22	2N RR4E
Landform (hillslo	pe, terrace, etc.)	: Hillslope	Local Re	elief (concave, conve	x, none): None		Slope(%) 10
Subregion (LRR)	): A	Lat:		Long:		Datum:	NAD83
Soil Map Unit Na	ame: Alderw	ood gravelly sandy loam, 8	to 15 percent slopes	N	WI Classification:	None	
Are climatic / hyd	drologic condition	ns on the site typical for this	time of year? Yes	No X	(If No, explain ir	ו Remarks)	
Are Vegetation	, Soil	, Hydrology, signif	icantly disturbed?	Are "Normal Ci	rcumstances" pre	sent? Yes	S X No
Are Vegetation	, Soil	, Hydrology, natur	ally problematic?	(If needed, ex	xplain any answer	s in Remark	5.)

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

Hydrophytic Vegetation Present?	Yes	Х	No						
Hydric Soil Present?	Yes	Х	No		Is the Sampled Area				
Wetland Hydrology Present?	Yes		No	Х	within a Wetland?	Yes	No	Х	

### Remarks:

Upland paired plot located outside north eastern boundary of Wetland 25-5. Above average rainfall occurred in area for several weeks prior to sample date. Plot does not meet all three wetland criteria; determined not to be a wetland based on lack of hydrology.

VEGETATION	<ul> <li>Use scientific names of plants.</li> </ul>	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test	Workshoot			
Tree Stratum		<u>// 00101</u>	<u>opence</u>	otatuo					
Shrub Stratum	(Plot size: 50 Ft )				Number of Domin That Are OBL, FA		:	4	(A)
Acer circinat	• /	15	Y	FAC					
Crataegus m		10	- <u> </u>	FAC	Total Number of D Species Across al			7	(B)
Cytisus scop		10	Y	UPL					_(=)
		35	=Total Cover		Percent of Domina That Are OBL, FA			57.1%	(A/B)
Herb Stratum	(Plot size: <u>5 Ft</u> )				Prevalence Index	Workshoot			
Cardamine o	•	30	Y	FAC	Total % Cover			oly by	
Poa pratensi		30	Y	FAC		0	$\frac{1}{x 1 =}$	ply by: 0	
Galium apar		20	Y	FACU	OBL species				
Holcus lanat	us	15	N	FAC	FACW species	0	x 2 =	0	
		95	=Total Cover		FAC species	100	x 3 =	300	
Vine Stratum	(Plot size: 30 Ft )				FACU species	40	x 4 =	160	
Rubus ursini	us	20	Y	FACU	UPL species	10	x 5 =	50	
		20	=Total Cover		Column Totals:	150	(A)	510	(B)
					Prevalence	Index = B/A=	:	3.40	
					Hydrophytic Vege	tation Indica	itors:		
					Rapid Test for	r Hydrophytic	Vegeta	ation	
					X Dominance Te	r = 50%	•		
						251 > 50%			
					Prevalence In	dex ≤ 3.0			
					Morphological				orting
					data in Remar				
					Problematic H	lydrophytic V	egetatio	on (Exp	olain)
					Indicators of hydr must be present,				
% Bare Ground in	Herb Stratum				Hydrophytic Vegetation Prese	nt? Yes	x	No	
	photo numbers here or on a separate sheet.	)			L				_

a separate sneet.) ŀ

Approximately 5% mosses present in ground cover vegetation. Vegetation meets indicator for hydrophytic vegetation dominance test.



	iption: (Des	cribe to the Matrix	depth nee	eded to documen		<b>cator or o</b> Features	confirm	the absence of Indicators.)	
Depth (inches)	Color	(moist)	%	Color (moist)	Redox r %	Type 1	l oc 2	Texture	Remarks
		, ,	·		/0	Туре	LUC -	SILT LOAM	
0 to 3	10YR	3/2	100					Gravelly clay loam	Compacted soils
3 to 8	5Y	4/1	100	40VD 4/4					Compacted soils
8 to 18	5Y	4 / 1	97	10YR 4/4	3		M	Gravelly clay loam	Compacted soils
Type: C=Con	centration, L	=Depletion,	RIM=Redu	ced Martix, CS=C	overed or	Coated S	and Gra	ins. <sup>2</sup> Location: PL=Pore Linir	ng, m=matrix.
Thick Dark Sandy Muc Sandy Gley	1) edon (A2) : (A3) Sulfide (A4) elow Dark Sur Surface (A12) ky Mineral (S1 red Matrix (S4) ve Layer (i	) f observed	[ [ ] ] ]	Sandy Redox (S         Stripped Matrix (         Loamy Mucky M         Loamy Gleyed N         Depleted Matrix         Redox Dark Sur         Depleted Dark S         Redox Depressi	(S6) lineral (F1) Matrix (F2) (F3) face (F6) Surface (F7)		RA 1)	Indicators for Problematic         2 cm Muck (A10)         Red Parent Material (TF2)         Very Shallow Dark Surface         Other (Explain in Remarks) <sup>3</sup> Indicators of hydrophytic vege hydrology must be present, unless disturbed or problemation         Hydric Soil Present?	(TF12) etation and wetland
Surface Wa High Water Saturation Water Mark Sediment D Drift Depos Algal Mat o Iron Depos	ators (minim tater (A1) Table (A2) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3		required; o	1, 2, 4A ar Salt Crust Aquatic Inv Hydrogen 3 Oxidized F Presence 6 Recent Iro	ined Leave nd 4B)	(B13) or (C1) es along Liv I Iron (C4) n in Tilled S	ving Roots Goils (C6)	4A, and 4B)     Drainage Patterns (E     Dry-Season Water T     Saturation Visible on	es (B9) (MLRA 1, 2, 310) able (C2) Aerial Imag.(C9) 6 (D2) 3) 5)
_	Visible on Aeri egetated Conc		-	Other (Exp	olain in Rem	narks)		Frost-Heave Hummo	
Field Observ	ations:								
Surface Wate	er Present?	Yes	No	Depth	n (inches):				
Water Table	Present?	Yes	No	Depth	n (inches):			.	
Saturation Pr	esent?	Yes	No	Depth	n (inches):			Wetland Hydrology Present	? Yes <u>No X</u>
(includes cap									
Remarks:	、 			, aerial photos, prev					

WETLAND D	ETERMINATION DATA	FORM -	Western M	lountains	, Valleys, ai	nd Coas	t Regio	on		
Project/Site: FWLE / I-5		City/Coun	ity:	Federal Wa	ау	Sampling I	Date: 2	/25/201	6	
Applicant/Owner: Sound Trans	it			State	: WA	Sampling	Point:	SP 25-5	-3	
Investigators: Lisa Danielski	Maki Dalzel	I		Section, Tov	vnship, Range	S S 33	T T 22 N	I R R	4 E	
Landform (hillslope, terrace, etc.):		L	ocal Relief (co	oncave, conv	/ex, none):			Slope(	%)	
Subregion (LRR): A	Lat:		Long	g:		Dat	tum: NA	ND83		
Soil Map Unit Name: Alderwood	d gravelly sandy loam, 8 to 15	5 percent slop	Des		NWI Classifica	ation: PEI	V1			
Are climatic / hydrologic conditions	on the site typical for this time	e of year?	Yes	No X	(If No, exp	lain in Rem	arks)			
Are Vegetation, Soil,	Hydrology, significant	tly disturbed?	?	Are "Normal	Circumstances	" present?	Yes	Х	No	
Are Vegetation, Soil,	Hydrology, naturally p	problematic?		(If needed,	explain any an	swers in R	emarks.)			
SUMMARY OF FINDINGS	- Attach a site man sh	owing sa	mpling poi				,		os etr	•
Hydrophytic Vegetation Present?	Yes X No	lowing sa			<u>110, transee</u>	<u>, impo</u>		catare	, , , ,	
Hydric Soil Present?	Yes X No	Is the S	ampled Area							
Wetland Hydrology Present?	Yes X No		a Wetland?		Yes	X No				
Remarks: Sample plot inundated on sample wetland criteria.	date. Above average rainfall c	occurred in th	ne area severa	al weeks prio	r to the sample	date. Sam	ple plot r	neets al	ll three	
VEGETATION_ Use scient	ific names of plants.	Absolute	Dominant	Indicator						
Tree Stratum		<u>% Cover</u>	<u>Species</u>	<u>Status</u>	Dominance					
Shrub Stratum					Number of E That Are OE				2	(A)
										_
	e: <u>5 Ft</u> )	50	V	OBL	Total Number Species Acre				2	(B)
Nasturtium officinale Phalaris arundinacea		<u>50</u>	- <u>Y</u> Y	FACW	Cpooloo / loi				2	- (0)
		80	=Total Cover	·	Percent of D That Are OB			1(	00.0%	(A/B)
Vine Stratum					Prevalence	Index Wor	ksheet:			
					Total %	Cover of:		Multipl	y by:	
					OBL species	\$	50	x 1 =	50	
					FACW spec	ies	30	x 2 =	60	
					FAC species	\$	0	x 3 =	0	
					FACU spec	ies	0	x 4 =	0	
					UPL species	\$	0	x 5 =	0	
					Column Tota	als:	80 (	(A)	110	<u>(</u> B)
					Preval	lence Index	(= <i>B</i> /A=		1.38	
					Hydrophytic	Vegetatio	n Indica	tors:		
					Rapid T	est for Hyd	rophytic '	Vegetati	ion	
					X Domina	nce Test >	50%			
					X Prevaler	nce Index ≤	£ 3.0			
						logical Ada Remarks or				orting
					Problem	natic Hydrop	phytic Ve	getatior	ר (Exp	lain)
					Indicators of must be pre					
					Hydroph Vegetation					
% Bare Ground in Herb Stratum	are or on a constate sheet )				*eyeration	reacht !	Yes	<u>X</u> N		

Remarks: (Include photo numbers here or on a separate sheet.)

Vegetation meets dominance test and prevalence index indicators for wetland vegetation.



-	tion: (Describe to t Matrix	he depth need	led to document	the india Redox F		onfirm tl	ne absence of Indicators.)	
Depth (inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0 to 6	10YR 3/1	100					LOAM	Soil reddened upon air exposure
<sup>1</sup> Type: C=Conce	entration, D=Depletic	on, RM=Reduc	ed Martix, CS=Co	overed or	Coated S	and Grai	ns. <sup>2</sup> Location: PL=Pore Linin	
Thick Dark Si Sandy Mucky Sandy Gleyed Restrictiv Type: Depth (inchest	on (A2) A3) Ifide (A4) ow Dark Surface (A11) urface (A12) Mineral (S1) d Matrix (S4) e Layer (if observ		Sandy Redox (S5         Stripped Matrix (S         Loamy Mucky Mir         Loamy Gleyed Matrix (         Depleted Matrix (         Redox Dark Surfa         Depleted Dark St         Redox Depressio         Redox Depressio	56) heral (F1) ( atrix (F2) F3) ace (F6) ırface (F7)	except ML	RA 1)	Indicators for Problematic         □       2 cm Muck (A10)         □       Red Parent Material (TF2)         □       Very Shallow Dark Surface (         ✓       Other (Explain in Remarks)         ³       Indicators of hydrophytic vege hydrology must be present, unless disturbed or problemat         Hydric Soil Present?	(TF12) tation and wetland
Primary Indicat ✓ Surface Wate ✓ High Water T ✓ Saturation (A Water Marks Sediment De Drift Deposits Algal Mat or 0 Iron Deposits Surface Soil 0 Inundation Vi	ology Indicators: ors (minimum of one er (A1) able (A2) 3) (B1) posits (B2) 5 (B3) Crust (B4) 5 (B5) Cracks (B6) sible on Aerial Imagery	· (B7)	heck all that apply U Water-Stain 1, 2, 4A and Salt Crust (I Aquatic Inve Hydrogen S Oxidized Rt Presence of Recent Iron Stunted or S Other (Expla	ed Leaves 4 4B) B11) ertebrates ( ulfide Odo) nizosphere f Reduced Reduction Stressed P	(B13) r (C1) s along Liv Iron (C4) in Tilled S lants (D1)	ing Roots oils (C6)	Secondary Indicators (m Water-Stained Leave 4A, and 4B) Drainage Patterns (B Dry-Season Water Ta Saturation Visible on Geomorphic Position Shallow Aquitard (D3 FAC-Neutral Test (D5 Paised Ant Mounds ( Frost-Heave Hummon	s (B9) (MLRA 1, 2, 10) able (C2) Aerial Imag.(C9) (D2) ) 5) D6) (LRR A)
Field Observat	etated Concave Surfac tions:	:е (В8)						
Surface Water Water Table Pr Saturation Pres	resent? Y sent? Y	Yes <u>X</u> No Yes <u>X</u> No Yes <u>X</u> No	Depth	(inches): (inches): (inches):	-	3 Irface Irface	Wetland Hydrology Present	? Yes <u>X</u> No
Remarks:	ary fringe) d Data (stream gauge, wetland indicator for su				,,			

Project/Site:	FWLE	E / I-5			City/County:	Fede	eral Way		Sampling	Date:	2/25/20	16
Applicant/Owner	: (	Sound Trans	it				State:	WA	Sampling	Point:	SP 25-	-5-4
Investigators:	Lisa	Danielski		Maki Dalzell		Sectio	on, Towns	ship, Range	S S 33	T T 22	NRF	R 4 E
Landform (hillslo	pe, ter	rrace, etc.):			Local Re	elief (concave	e, convex	, none):			Slope	e(%)
Subregion (LRR	): A			Lat:		Long:			Da	atum: N	IAD83	
Soil Map Unit Na	ame:	Alderwoo	d gravelly sand	y loam, 8 to 15 p	ercent slopes		NV	VI Classifica	ation: No	ne		
Are climatic / hy	drologi	c conditions	on the site typi	cal for this time o	f year? Yes	No	Х	(If No, exp	lain in Ren	narks)		
Are Vegetation		, Soil,	Hydrology	, significantly	disturbed?	Are "N	ormal Cir	cumstances	" present?	Yes	Х	No
Are Vegetation		, Soil,	Hydrology	, naturally pro	oblematic?	(lf ne	eded, ex	plain any an	swers in R	emarks	.)	

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

Hydrophytic Vegetation Present?	Yes	No X				
Hydric Soil Present?	Yes	No X	Is the Sampled Area			
Wetland Hydrology Present?	Yes	No X	within a Wetland?	Yes	No >	<u> </u>

Remarks: Upland paired sample plot located in southern portion of Wetland 25-5. Above average rainfall occurred in the area several weeks prior to the sample date. Sample does not meet any wetland criteria.

<b>VEGETATION</b> - Use scientific names of plants.	Absolute <u>% Cover</u>	Dominant Species	Indicator Status	Dominance Test \	Norksheet:			
Tree Stratum				Number of Domina				
Shrub Stratum (Plot size: 50 Ft )				That Are OBL, FA			0	(A)
Mahonia aquifolium	5	Y	FACU	Total Number of D	ominant			
	5	=Total Cover		Species Across all			3	(B)
Herb Stratum (Plot size: <u>5 Ft</u> )				Percent of Domina	nt Spaciae			_
Galium aparine	80	Y	FACU	That Are OBL, FAC		: —	0.0%	(A/B)
Holcus lanatus	10	Ν	FAC	Prevalence Index	Worksheet	:		
	90	=Total Cover		Total % Cover	of:	Multi	ply by:	
<u>Vine Stratum</u> (Plot size: 30 Ft )				OBL species	0	x 1 =	0	
Rubus ursinus	5	Y	FACU	FACW species	0	x 2 =	0	
	5	_=Total Cover		FAC species	10	x 3 =	30	
				FACU species	90	x 4 =	360	
				UPL species	0	x 5 =	0	
				Column Totals:	100	(A)	390	(B)
				Prevalence I	ndex = B/A=	=	3.90	
				Hydrophytic Veget	ation Indic	ators:		
				Rapid Test for	Hydrophytic	: Vegeta	ation	
				Dominance Te	st > 50%			
				Prevalence Inc	dex ≤ 3.0			
				Morphological data in Remar				porting
				Problematic H	ydrophytic V	/egetatic	on (E>	(plain)
				Indicators of hydri must be present,				
% Bare Ground in Herb Stratum				Hydrophytic Vegetation Preser	nt? Yes		No	x
Remarks: (Include photo numbers here or on a separate sheet.)				1				
Vegetation does not meet indicators for hydrophytic vegetation								



Profile Descri	ption: (Des		depth neede	ed to docu			confirm	the absence of Indicators.)	
Depth (inchos)	Color	Matrix (moist)	%	Color (moi		Features	Loc <sup>2</sup>	Texture	Remarks
(inches)					51) /0	Type	LUC -	· · · · · · · · · · · · · · · · · · ·	Centarks
0 to 20	10YR	3/3	100					Gravelly sandy loam	
<sup>1</sup> Type: C=Cond	centration, L	=Depletion,	RM=Reduce	ed Martix, C	S=Covered or	Coated	Sand Gra	ains. <sup>2</sup> Location: PL=Pore Lining, M=Ma	rix.
Hydric Soil In Histosol (A1 Histic Epipe Black Histic Hydrogen S Depleted Be	) don (A2) (A3)	face (A11)		-	ttrix (S6) ky Mineral (F1) ed Matrix (F2)	(except M	LRA 1)	Indicators for Problematic Hydric S         2 cm Muck (A10)         Red Parent Material (TF2)         Very Shallow Dark Surface (TF12)         Other (Explain in Remarks)	oils: <sup>3</sup>
Sandy Muck	Surface (A12) ky Mineral (S1 ed Matrix (S4)	)		Depleted Da	Surface (F6) ark Surface (F7) essions (F8)	)		<sup>3</sup> Indicators of hydrophytic vegetation and hydrology must be present, unless disturbed or problematic.	wetland
	ve Layer (	f observed	d):						
Type:	\.							Hydric Soil Present? Yes	No X
Depth (inche Remarks:	es):								
HYDROLOG Wetland Hyd Primary Indica	rology Indi		required: ch	eck all that :	annly)				
			required, cri					Secondary Indicators (minimum o	two required)
Surface Wa  High Water  Saturation (	Table (A2)			1, 2, 4	-Stained Leave A and 4B) rust (B11)	s (B9) (exc	cept MLRA	4A, and 4B)	RA 1, 2,
Water Mark	s (B1) eposits (B2) ts (B3)			Hydrog	c Invertebrates gen Sulfide Odo ed Rhizospheren nce of Reduceo	or (C1) es along Li	ving Roots	Drainage Patterns (B10)     Dry-Season Water Table (C2)     Saturation Visible on Aerial Images     Geomorphic Position (D2)	g.(C9)
	ts (B5) I Cracks (B6)	al Imagery (B7	7)	Recen     Stunte	t Iron Reduction ed or Stressed F (Explain in Ren	n in Tilled Plants (D1)	. ,	<ul> <li>Shallow Aquitard (D3)</li> <li>FAC-Neutral Test (D5)</li> <li>Paised Ant Mounds (D6) (LRR /</li> </ul>	A)
		ave Surface (E				lanto)		Frost-Heave Hummocks (D7)	
Field Observa			,						
Surface Wate Water Table F	r Present?	Yes Yes	No No		epth (inches): epth (inches):			-	
Saturation Pre	esent?	Yes	No	X D	epth (inches):			Wetland Hydrology Present? Yes	s No_X_
(includes capi Describe Record		am gauge, mo				ctions), if a	vailable:		
Remarks: No hydrologic ind	dicators were	observed at sa	ample plot.						

WETLAND DETERMINATIO	N DATA FORM - Western	n Mountains, Valley	ys, and Coast Region
	City/Carriet ii	Enderel Mari	Complian Datas 0/05/0040

Project/Site: FWLE / I-5	ETERMINATION DAT	A FORM - City/Coun		Federal Wa		id Coas Sampling	-		016	
Applicant/Owner: Sound Transi	t	-		State	WA	Sampling	Point:	SP 25	-5-5	
Investigators: Lisa Danielski	Maki Dalze	əll		Section, Tov	vnship, Range	S S 33	T T 22	N RI	R 4 E	
Landform (hillslope, terrace, etc.):		L	ocal Relief (co	oncave, conv	/ex, none):			Slope	e(%)	
Subregion (LRR): A	Lat:		Long	J:		Da	atum: N	VAD83		
Soil Map Unit Name: Alderwood	d gravelly sandy loam, 8 to 1	15 percent slop	Des		NWI Classificat	tion: PE	M1			
Are climatic / hydrologic conditions	on the site typical for this tim	ne of year?	Yes	No X	(If No, expla	ain in Rer	narks)			
Are Vegetation, Soil,	Hydrology, significa	ntly disturbed?		Are "Normal	Circumstances'	present?	' Yes	s X	No	
Are Vegetation, Soil,	Hydrology, naturally	problematic?		(If needed,	explain any ans	swers in F	Remarks	3.)		
SUMMARY OF FINDINGS	- Attach a site map s	howing sa	mpling poi	nt locatio	ns, transec	ts, imp	ortant	featu	res, et	с.
Hydrophytic Vegetation Present?	Yes X No									
Hydric Soil Present?	Yes X No		ampled Area							
Wetland Hydrology Present?	Yes X No	within a	a Wetland?		Yes )	( No				
Remarks: Paired wetland sample plot located Area meets all three wetland criteri	•	and 25-5. Abo	ve average ra		d in the area se	veral wee	∍ks prio	r to the s	sample c	late.
VEGETATION_ Use scienti	fic names of plants.	Absolute % Cover	Dominant Species	Indicator Status	Dominance	Tost Wor	kehoot			
Tree Stratum					Number of D					
Shrub Stratum					That Are OB				1	(A)
Herb Stratum (Plot size	e:5Ft)				Total Numbe	r of Domi	nant			
Agrostis capillaris	<u></u> /	80	Y	FAC	Species Acro				1	(B)
Galium aparine		10	Ν	FACU	Dereent of D	ominont C	`n o oi o o			-
Vine Stretum		90	_=Total Cover		Percent of Do That Are OB				100.0%	_(A/B)
Vine Stratum					Prevalence I	ndex Wo	rkshee	t:		
					Total %	Cover of:		Multi	iply by:	
					OBL species		0	x 1 =	0	
					FACW specie	es	0	x 2 =	0	
					FAC species		80	x 3 =	240	
					FACU specie	əs	10	x 4 =	40	
					UPL species		0	x 5 =	0	
					Column Tota	ls:	90	(A)	280	(B)
					Prevale	ence Inde	x = B/A	=	3.11	
					Hydrophytic	Vegetatio	on Indic	ators:		
					Rapid Te	est for Hyd	drophyti	c Vegeta	ation	
					X Dominar	ice Test >	· 50%			
					Prevalen	ice Index	≤ 3.0			
						ogical Ada Remarks o				orting
					Problema	atic Hydro	ophytic '	√egetatio	on (Exp	olain)
					Indicators of must be pre-					
					Hydroph Vegetation F	-	Yes	х	No	
% Bare Ground in Herb Stratum Remarks: (Include photo numbers h	ere or on a separate sheet '	)					.03			
		,								

Vegetation meets dominance test for hydrophytic vegetation.

Profile Descr	iption: (Des	cribe to the	depth r	eeded	to docume	nt the indi	cator or o	confirm t	the absence of Indicators.)	
Depth		Matrix					eatures			
(inches)	Colo	r (moist)	%	C	Color (moist)	%	Type 1	Loc <sup>2</sup>	Texture	Remarks
0 to 9	10YR	3/2	100						Gravelly sandy loam	
9 to 15	10YR	5/1	95		10YR 6/8	5	С	Μ	Gravelly clay loam	
<sup>1</sup> Type: C=Cor	centration, I	D=Depletion,	RM=Re	duced	Martix, CS=0	Covered or	Coated S	Sand Grai	ins. <sup>2</sup> Location: PL=Pore Lini	ing, M=Matrix.
Hydric Soil I Histosol (A Histic Epip Black Histic Hydrogen S Depleted B Thick Dark Sandy Muc Sandy Gley	Indicators: 1) edon (A2) c (A3) Sulfide (A4) Selow Dark Su Surface (A12 cky Mineral (S yed Matrix (S4 ive Layer (	fface (A11) ) 1) <b>if observe</b>	d):		Sandy Redox (S Stripped Matrix Joamy Mucky M Joamy Gleyed I Depleted Matrix Redox Dark Su Depleted Dark S Redox Depress	S5) (S6) Mineral (F1) Matrix (F2) (F3) (F3) rface (F6) Surface (F7)	(except ML		Indicators for Problematic         2 cm Muck (A10)         Red Parent Material (TF2)         Very Shallow Dark Surface         Other (Explain in Remarks) <sup>3</sup> Indicators of hydrophytic veg hydrology must be present, unless disturbed or problematic         Hydric Soil Present?	c Hydric Soils: <sup>3</sup> e (TF12) ) getation and wetland
Drift Depos Algal Mat c Iron Depos Surface Sc Inundation	drology Ind cators (minim ater (A1) r Table (A2) (A3) ks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) oil Cracks (B6) Visible on Aer egetated Cond rations: er Present? Present?	ium of one is	.7) [B8) X	No _ No _	Water-Sta         1, 2, 4A a         Salt Crust         Aquatic In         Hydrogen         Oxidized I         Presence         Recent Irc         Stunted o         Other (Exp         X       Depti	ained Leaves nd 4B) t (B11) vertebrates Sulfide Odo Rhizosphere of Reduced on Reductior r Stressed F	(B13) or (C1) es along Liv I Iron (C4) n in Tilled S Plants (D1)	ving Roots soils (C6)	Water-Stained Leav 4A, and 4B) Drainage Patterns ( Dry-Season Water Saturation Visible of	Table (C2) n Aerial Imag.(C9) n (D2) (3) (D5) (D6) (LRR A) ocks (D7)
Describe Recor Remarks: Sample plot has	ded Data (stre					vious inspec	xtions), if av	ailable:		

	WETLAND D	ETERMINATI	ON DATA	FORM - V	Nestern N	lountains,	Valleys, ar	nd Coast	Regi	on		
Project/Site:	FWLE / I-5			City/Count	y:	Federal Wa	ıy	Sampling [	Date:	2/15/20	16	
Applicant/Owner	r: Sound Transi	t				State	WA	Sampling	Point:	SP 26-	1-1	
Investigators:	Lisa Danielski		Ian Welch			Section, Tow	/nship, Range	S S 04	T T 21	NRF	₹4 E	
Landform (hillslo	ope, terrace, etc.):			Lo	ocal Relief (c	oncave, conv	ex, none):			Slope	¥(%)	
Subregion (LRR	): A		Lat:		Long	g:		Dat	um: N	AD83		
Soil Map Unit Na	ame: Arents, Al	derwood material	, 0 to 6 perc	ent slopes			NWI Classifica	tion: Nor	e			
Are climatic / hy	drologic conditions	on the site typical	for this time	of year?	Yes	No X	(If No, expl	lain in Rem	arks)			
Are Vegetation	, Soil,	Hydrology	, significant	ly disturbed?		Are "Normal	Circumstances	present?	Yes	х	No	
Are Vegetation	, Soil,	Hydrology	, naturally p	problematic?		(If needed.	explain any an	swers in Re	emarks	)	• -	
SUMMARY	OF FINDINGS	- Attach a sit	o man sh	owina san	nnlina noi					,	'as at	
	egetation Present?		No X	owing san	iipiilig poi		<u>115, transec</u>		<u>i tant</u>	icatui	<u>cə, cı</u>	
Hydric Soil Pre	•		No X	Is the Sa	ampled Area	1						
Wetland Hydro	ology Present?	Yes	No X		Wetland?		Yes	No	Х			
Remarks: Sample plot loc meet any wetla	ated east of Wetlar nd indicators.	id 26-1 boundary.	Above ave				al weeks prior t	to the samp	ole date	. Plot do	es not	
VEGETATIO	<b>DN</b> – Use scient	ific names of p	plants.	<u>Absolute</u> <u>% Cover</u>	Dominant Species	Indicator Status	Dominance	Test Work	sheet:			
Tree Stratum	<u>1</u>						Number of [	Dominant S	pecies			()
Shrub Stratu	<u>m</u>						That Are OE	BL, FACW,	or FAC	:	0	(A)
Herb Stratum	<u>1</u>						Total Numbe	er of Domin	ant			
Vine Stratum	(Plot size	e: <u>30 Ft</u> )					Species Acro	oss all Stra	ta:		1	(B)
Hedera I	-	, <u></u>		100 100	Y _=Total Cover	FACU	Percent of D That Are OB				0.0%	(A/B)
							Prevalence	Index Wor	ksheet			
							Total %	Cover of:		Multip	oly by:	
							OBL species	s	0	x 1 =	0	
							FACW speci	es	0	x 2 =	0	
							FAC species	s	0	x 3 =	0	
							FACU spec	ies	100	x 4 =	400	
							UPL species	;	0	x 5 =	0	
							Column Tota	als:	100	(A)	400	(B)
							Preval	lence Index	= B/A=	:	4.00	
							Hydrophytic	Vegetatio	n Indica	ators:		
							Rapid T	est for Hyd	ophytic	Vegeta	ıtion	
							Domina	nce Test >	50%			
							Prevaler	nce Index ≤	3.0			
								ogical Adaj Remarks or				oorting
							Problem	atic Hydrop	hytic V	egetatic	on (Ex	plain)
							Indicators o must be pre					
% Poro Crows	in Harb Otrature						Hydroph Vegetation		Yes	1	No 2	x
	l in Herb Stratum de photo numbers h	ere or on a sena	rate sheet )									



Profile Description: (Describe to the depth needed to docume			he absence of Indicators.)	
Depth Matrix	Redox Featu			<b>_</b> .
(inches) Color (moist) % Color (moist)	<u>%</u> Ty	pe <sup>1</sup> Loc <sup>2</sup>	Texture	Remarks
0 to 19 7.5YR 2/2 100			Gravelly sandy loam	
<sup>1</sup> Type: C=Concentration, D=Depletion, RM=Reduced Martix, CS=	Covered or Coat	ted Sand Grai	ins. <sup>2</sup> Location: PL=Pore Lining, N	I=Matrix.
Hydric Soil Indicators:			<b>Indicators for Problematic Hyd</b>	lric Soils: <sup>3</sup>
Histosol (A1) Sandy Redox (	S5)		2 cm Muck (A10)	
Histic Epipedon (A2)	(S6)		Red Parent Material (TF2)	
Black Histic (A3)	Mineral (F1) (exce	pt MLRA 1)	Very Shallow Dark Surface (TF1)	2)
Hydrogen Sulfide (A4)	Matrix (F2)		Other (Explain in Remarks)	2)
Depleted Below Dark Surface (A11)	x (F3)			
Thick Dark Surface (A12)	urface (F6)		<sup>3</sup> Indicators of hydrophytic vegetation	n and wetland
Sandy Mucky Mineral (S1)	Surface (F7)		hydrology must be present,	
Sandy Gleyed Matrix (S4)	sions (F8)		unless disturbed or problematic.	
Restrictive Layer (if observed):				
Туре:				
Depth (inches):			Hydric Soil Present? Yes	s <u>No X</u>
Remarks: No indicators for hydric soils present in sample.				
HYDROLOGY				
Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that ap	ply)		Secondary Indicators (minim	um of two required)
	ained Leaves (B9)	(except MLRA	Water-Stained Leaves (BS	9) (MLRA 1, 2,
High Water Table (A2)			4A, and 4B)	
Saturation (A3)			Drainage Patterns (B10)	
	nvertebrates (B13)		Dry-Season Water Table (	(C2)
	Sulfide Odor (C1)		Saturation Visible on Aeria	al Imag.(C9)
	Rhizospheres alor		(C3) Geomorphic Position (D2)	
	e of Reduced Iron (		Shallow Aquitard (D3)	
	on Reduction in Til	. ,	FAC-Neutral Test (D5)	
Stunted Stunted	or Stressed Plants	(D1) (LRR A)	Paised Ant Mounds (D6) (	LRR A)
	<plain in="" p="" remarks)<=""></plain>		Frost-Heave Hummocks (	D7)
Sparsely Vegetated Concave Surface (B8)				
Field Observations:				
	th (inches):			
	th (inches):	19	Wetland Hydrology Present?	Yes No X
	th (inches):	18	wettand Hydrology Fresent?	
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, pre	vious inspections)	if available.		
		,,		
Remarks:				
Sample plot does not meet wetland hydrology indicators. Saturation was to	o deep for early gr	rowing season a	and above average rainfall.	

Project/Site: FWLE / I-5			City/Cour	nty:	Feder	ral Way		Sampling Date:	2/15/2016	6	
Applicant/Owner	Applicant/Owner: Sound Transit					State:	WA	Sampling Point:	SP 26-1-	2	
nvestigators: Lisa Danielski Ian We		Velch		Section, Township, Range			SS04 TT21	N R R 4	4 E		
Landform (hillslope, terrace, etc.):			I	Local Relief (	(concave	, convex	, none):		Slope(%	%)	
Subregion (LRR): A Lat:				:	Lor	ng:			Datum: N	NAD83	
Soil Map Unit Na	ame:	Arents, Alo	derwood material, 0 to	6 percent slopes			NV	WI Classificat	ion: PEM1		
Are climatic / hy	drologi	c conditions o	on the site typical for t	his time of year?	Yes	No	Х	(If No, expla	ain in Remarks)		
Are Vegetation		, Soil,	Hydrology, sig	nificantly disturbed	?	Are "No	ormal Cir	cumstances'	present? Yes	5 X	No
Are Vegetation		, Soil,	Hydrology, na	turally problematic?	•	(If nee	eded, ex	plain any ans	wers in Remarks	s.)	

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

Hydrophytic Vegetation Present?	Yes	Х	No	
Hydric Soil Present?	Yes	Х	No	Is the Sampled Area
Wetland Hydrology Present?	Yes	Х	No	within a Wetland? Yes X No

### Remarks:

Sample plot located at wetland boundary. Above average rainfall occurred in the area several weeks prior to the sample date. Sample plot does not meet all three wetland criteria.

VEGETATION_	Use scientific names of plants.	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test	Workshoot			
Tree Stratum		<u>//                                   </u>		<u></u>					
Shrub Stratum					Number of Domin That Are OBL, FA		: _	0	(A)
<u>Herb Stratum</u> Vine Stratum					Total Number of D Species Across al			1	(B)
					Percent of Domina That Are OBL, FA			0.0%	_(A/B)
					Prevalence Index	Worksheet	:		
					Total % Cove	r of:	Multi	oly by:	
					OBL species	0	x 1 =	0	
					FACW species	0	x 2 =	0	
					FAC species	0	x 3 =	0	
					FACU species	100	x 4 =	400	
					UPL species	0	x 5 =	0	
					Column Totals:	100	(A)	400	(B)
					Prevalence	Index = B/A=	=	4.00	
					Hydrophytic Vege	tation Indic	ators:		
					Rapid Test for	r Hydrophytic	c Vegeta	ation	
					Dominance T	est > 50%			
					Prevalence In	dex ≤ 3.0			
					Morphologica				orting
					X Problematic H	lydrophytic V	/egetatio	on (Exp	olain)
					Indicators of hydr must be present,				
% Bare Ground in H	lerb Stratum				Hydrophytic Vegetation Prese	nt? Yes	x	No	
	noto numbers here or on a separate sheet.)				1				

Hedera helix is an aggressive invasive plant species.



	ption: (Des	cribe to the Matrix	depth I	neede	ed to docume		<b>cator or</b> Features	confirm t	he absence of Indicators.)	
Depth (inches)	Color	(moist)	%		Color (moist)	%	Type 1	Loc <sup>2</sup>	Texture	Remarks
0 to 4	10YR	2/2	98		7.5YR 4/6	2	С	М	Gravelly sandy loam	
4 to 12	10YR	2/2	100						Gravelly sandy loam	Soil reddened upon air exposure
<sup>1</sup> Type: C=Cond	centration, D	=Depletion,	RM=Re	duce	d Martix, CS=0	Covered or	Coated	Sand Grai	ns. 4Location: PL=Pore Lining	
Hydric Soil In Histosol (A1 Histic Epipe Black Histic Hydrogen S	) don (A2) (A3)	face (A11)			Sandy Redox ( Stripped Matrix Loamy Mucky N Loamy Gleyed Depleted Matrix	(S6) Mineral (F1) Matrix (F2)	(except MI	-RA 1)	Indicators for Problematic H         2 cm Muck (A10)         Red Parent Material (TF2)         Very Shallow Dark Surface (T         Other (Explain in Remarks)	
Thick Dark S Sandy Much Sandy Gley	Surface (A12) (y Mineral (S1 ed Matrix (S4) 	)	d):		Redox Dark Su Depleted Dark Redox Depress	rface (F6) Surface (F7	)		<sup>3</sup> Indicators of hydrophytic vegeta hydrology must be present, unless disturbed or problematic.	
Туре:									Hydric Soil Present?	es X No
Depth (inche Remarks:	es):									
HYDROLOG Wetland Hyd Primary Indica	rology Indi		require	d; che	eck all that app	oly)			Secondary Indicators (min	imum of two required)
Surface Wa	. ,				1, 2, 4A a		s (B9) (exc	ept MLRA	Water-Stained Leaves 4A, and 4B)	(B9) (MLRA 1, 2,
Inundation \	s (B1) eposits (B2) ts (B3) Crust (B4) ts (B5) Cracks (B6) /isible on Aeri getated Conc				Hydrogen Hydrogen Oxidized Presence Recent Irc Stunted o	t (B11) svertebrates Sulfide Odd Rhizosphere of Reduced on Reduction or Stressed I splain in Ren	or (C1) es along Li I Iron (C4) n in Tilled S Plants (D1)	Soils (C6)	C3) Drainage Patterns (B10 Dry-Season Water Tab Saturation Visible on A Geomorphic Position (I Shallow Aquitard (D3) FAC-Neutral Test (D5) Paised Ant Mounds (D6 Frost-Heave Hummock	le (C2) erial Imag.(C9) D2) 6) (LRR A)
Field Observa Surface Wate Water Table F Saturation Pre	r Present? Present? esent?	Yes Yes Yes			Dept	th (inches): th (inches): th (inches):		6 4	Wetland Hydrology Present?	Yes <u>X</u> No
(includes capi Describe Record Remarks: Sample plot has	ed Data (strea					vious inspec	ctions), if a	vailable:		

Project/Site:	FWLE / I-5			y/County:	Federal Way			Sampling Date:	2/15/2016
Applicant/Owner	:	Sound Transit				State:	WA	Sampling Point:	SP 26-1-3
Investigators:	estigators: Lisa Danielski lan Welc		Ian Welch		Section	n, Towr	ship, Range	SS04 TT21	N R R 4 E
Landform (hillslope, terrace, etc.): Subregion (LRR): A Lat:				Local Relief (concave, convex, r					Slope(%)
					Long:			Datum:	NAD83
Soil Map Unit Na	ame	Arents, Alc	derwood material, 0 to 6 percent slo	opes		N	WI Classifica	tion: PEM1	
Are climatic / hyd	drolo	ogic conditions c	on the site typical for this time of ye	ar? Yes	No	Х	(If No, expl	ain in Remarks)	
Are Vegetation		, Soil,	Hydrology, significantly dist	urbed?	Are "No	ormal C	ircumstances	" present? Yes	3 X No
Are Vegetation, Soil, Hydrology, naturally prol				matic?	(If nee	eded, e	xplain any an	swers in Remarks	5.)

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

Hydrophytic Vegetation Present?	Yes	Х	No				
Hydric Soil Present?	Yes	Х	No	Is the Sampled Area			
Wetland Hydrology Present?	Yes	Х	No	within a Wetland?	Yes	Х	No

### Remarks:

Sample plot located within eastern boundary of Wetland 26-1. Above average rainfall occurred in the area several weeks prior to the sample date. Soils were not sampled at this plot but assumed hydric based on vegetation and hydrology. Area was determined to be a wetland.

VEGETATION Use scientific names of plants.	<u>Absolute</u> % Cover	Dominant Species	Indicator Status	Deminence Test	Markahaati			
Tree Stratum	<u>/// 00101</u>	openes	otatas	Dominance Test				
<u>Shrub Stratum</u> (Plot size: <u>50 Ft</u> )				That Are OBL, FA		:	2	(A)
Spiraea douglasii	10	Y	FACW	Total Number of D	ominant			
	10	=Total Cover		Species Across all			2	(B)
Herb Stratum (Plot size: 5 Ft )								-
Phalaris arundinacea	15	Y	FACW	Percent of Domina That Are OBL, FA			100.0%	(A/B)
	15	=Total Cover		Prevalence Index				
Vine Stratum				Total % Cover			oly by a	
					01.	$\frac{1}{x 1} =$	ply by: 0	
				OBL species	25	x 2 =	50	
				FACW species	0	x 3 =	0	
				FAC species	0	x 4 =	0	
				FACU species	0	x 5 =	0	
				UPL species				
				Column Totals:	25	(A)	50	(B)
				Prevalence l	ndex = B/A=	=	2.00	
				Hydrophytic Vege	tation Indica	ators:		
				Rapid Test for	Hydrophytic	: Vegeta	ation	
				X Dominance Te	est > 50%			
				X Prevalence Inc	10v < 3 0			
				Morphological data in Remar				orting
				Problematic H				olain)
				Indicators of hydri must be present,	c soil and w	etland h	ydrology	/
% Bare Ground in Herb Stratum				Hydrophytic Vegetation Preser	nt? Yes	x	No	
Remarks: (Include photo numbers here or on a separate sheet.)	)				-			

Vegetation sampled meets hydrophytic vegetation indicators for dominance and prevalence.



SOIL								Sampling Po	oint:	SP 26	-1-3
Profile Description: (Des	ribe to the c	lepth	neede	ed to docur	nent the indi	cator or confirm	n the abs	sence of Indicators.)			
Depth	Matrix				Redox F	eatures					
(inches) Color	(moist)	%		Color (mois	st) %	Type <sup>1</sup> Loc <sup>2</sup>	2	Texture	F	Remarl	٢S
<sup>1</sup> Type: C=Concentration, D	=Depletion, F	RM=R	educe	d Martix, CS	S=Covered or	Coated Sand Gr	Grains.	<sup>2</sup> Location: PL=Pore Lining,	M=Ma	trix.	
Hydric Soil Indicators:         Histosol (A1)         Histic Epipedon (A2)         Black Histic (A3)         Hydrogen Sulfide (A4)         Depleted Below Dark Sur         Thick Dark Surface (A12)         Sandy Mucky Mineral (S1         Sandy Gleyed Matrix (S4)         Restrictive Layer (I         Type:         Depth (inches):	ace (A11)			Sandy Redo Stripped Ma Loamy Muck Loamy Gleye Depleted Ma Redox Dark	x (S5) trix (S6) sy Mineral (F1) ed Matrix (F2) ttrix (F3) Surface (F6) rk Surface (F7)	(except MLRA 1)		adicators for Problematic Hy         2 cm Muck (A10)         Red Parent Material (TF2)         Very Shallow Dark Surface (TF         Other (Explain in Remarks) <sup>3</sup> Indicators of hydrophytic vegetation hydrology must be present, unless disturbed or problematic.	<b>dric S</b> 12)	Soils:	
							Нус	dric Soil Present? Ye	s_X	<u> </u>	No
Soils were not sampled at this         HYDROLOGY         Wetland Hydrology India         Primary Indicators (minim         ✓         Surface Water (A1)         ✓         High Water Table (A2)         ✓         Saturation (A3)         Water Marks (B1)	cators:			eck all that a	apply)	s (B9) (except MLR	RA	Secondary Indicators (minin Water-Stained Leaves (E 4A, and 4B) Drainage Patterns (B10)	39) (ML		. ,
Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aeri Sparsely Vegetated Conc				Oxidize Oxidize Preser Recent Stunte	nce of Reduced t Iron Reductior	is along Living Roo Iron (C4) n in Tilled Soils (C6) Plants (D1) (LRR A)	6)	Saturation Visible on Aer Geomorphic Position (D2 Shallow Aquitard (D3) FAC-Neutral Test (D5) Paised Ant Mounds (D6) Frost-Heave Hummocks	ial Ima 2) (LRR /		
Field Observations:											
Surface Water Present?	Yes	X			epth (inches):	14					
Water Table Present?	Yes	X			epth (inches):	0		/stiend likedneisers: Dresser(2)	V-	. v	Na
Saturation Present?	Yes	Χ	No	D	epth (inches):	0		/etland Hydrology Present?	res	s_X_	. NO
(includes capillary fringe) Describe Recorded Data (stread	im gauge, mon	itoring	well, a	erial photos, j	previous inspec	tions), if available:	:				
Remarks: Hydrology meets surface wate	r (A1), high wa	ter tabl	e (A2),	and saturatic	on (A3) indicato	rs.					

	WE		ETERMI	NATIO	N DATA				, Valleys, a		-				
Project/Site:	FWLE	/ I-5				City/Cour	nty:	Federal Wa							
Applicant/Owne	er: S	ound Transi	t					State	WA	Samplir	ng Point:	SP 26	-1-4		
Investigators:	Lisa	Danielski		lan	Welch			Section, Tov	wnship, Range	S S 04	T T 21	N R	R 4 E		
Landform (hillsl	ope, teri	ace, etc.):				L	ocal Relief (c	concave, conv	vex, none):			Slop	e(%)		
Subregion (LRF	R): A			L	at:		Long	g:		[	Datum: N	NAD83			
Soil Map Unit N	ame:	Arents, Ale	derwood m	naterial, 0	to 6 perc	ent slopes			NWI Classific	ation: F	'EM1				
Are climatic / hy	/drologic	conditions of	on the site	typical for	r this time	e of year?	Yes	No X	(If No, exp	plain in R	emarks)				
Are Vegetation	,	Soil,	Hydrology	/, s	significan	tly disturbed	?	Are "Normal	Circumstance	s" presen	it? Yes	s X	No		
Are Vegetation	,	Soil,	Hydrology	/, r	naturally p	problematic?		(If needed,	explain any ar	nswers in	Remarks	s.)			
SUMMARY	OF FI		- Attach	a site r	nap sh	owing sa	nplina po	int locatio	ons. transe	cts. im	portant	featu	res. et	c.	
Hydrophytic V			Yes	X No	-	•									
Hydric Soil Pro	esent?		Yes	X No		Is the S	ampled Area	a							
Wetland Hydro	ology Pr	esent?	Yes	X No		within	a Wetland?		Yes	X N	o				
Remarks: Sample plot loo wetland criteria		wetland bou	undary. Ab	oove avera	age rainfa	all occurred in	n the area sev	veral weeks p	prior to the sam	nple date.	Sample	plot mee	∍ts all		
VEGETATIO		lse scienti	ific name	es of pla	nts	Absolute	Dominant	Indicator							
		00 0010111				<u>% Cover</u>	Species	<u>Status</u>	Dominance	e Test Wo	orksheet	:			
Tree Stratum									Number of That Are O				1	(A)	
Shrub Stratu										,	.,			-	
Herb Stratur			e: <u>5 Ft</u>	)				54.014	Total Numb Species Act				1	(B)	
Phalaris	arundina	acea				<u>100</u>	Y	FACW		1035 all 0	trata.			_(D)	
Vine Stratun	<u>n _</u>					100	=Total Cove	F	Percent of I That Are Of			:	100.0%	_(A/B)	
									Prevalence	Index W	/orkshee	t:			
									Total %	Cover o	f:	Multi	iply by:		
									OBL specie	s	0	x 1 =	0		
									FACW spec	cies	100	x 2 =	200		
									FAC specie	S	0	x 3 =	0		
									FACU spec	cies	0	x 4 =	0		
									UPL specie		0	x 5 =	0		
									Column Tot	als:	100	(A)	200	<u>(</u> B)	
									Preva	alence Ind	dex = B/A	=	2.00		
									Hydrophytic	c Vegetat	tion Indic	ators:			
									Rapid T	Fest for H	ydrophyti	c Vegeta	ation		
									X Domina	ance Test	> 50%				
									X Prevale	ence Inde	x ≤ 3.0				
											daptation or on a s			orting	
									Problem	natic Hyd	Irophytic \	Vegetati	on (Exp	olain)	
									Indicators of must be pr						
									Hydrop Vegetation		2				
% Bare Ground					ob and )				- cyclation	. reacht	? Yes	X	No	<u> </u>	
Remarks: (Inclu	ide phot	o numbers h	iere or on a	a separate	e sneet.)										

Vegetation sampled meets hydrophytic vegetation indicators for dominance and prevalence.



Depth Mat		neeueu it	document			onfirm t	the absence of Indicators.)	
				Redox F				
(inches) Color (mois	t) %	Col	or (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0 to 3 7.5YR 2.5/	2 100	<b>.</b>					FINE SANDY LOAM	
3 to 9 7.5YR 4/	2 95	7.5	5YR 5/6	5		PL	Gravelly sandy loam	
9 to 16 7.5YR 5/	1 100						FINE SANDY LOAM	
<sup>1</sup> Type: C=Concentration, D=Depl	etion, RM=R	educed Ma	artix, CS=C	overed or	Coated S	and Gra	ins. <sup>2</sup> Location: PL=Pore Lining, M	I=Matrix.
Hydric Soil Indicators:							Indicators for Problematic Hyd	lric Soils: <sup>3</sup>
Histosol (A1)		San	dy Redox (S	5)			2 cm Muck (A10)	
Histic Epipedon (A2)			ped Matrix (	,			Red Parent Material (TF2)	
Black Histic (A3)		Loa	my Mucky Mi	ineral (F1)	(except ML	RA 1)	Very Shallow Dark Surface (TF12	2)
Hydrogen Sulfide (A4)			my Gleyed M				Other (Explain in Remarks)	-,
Depleted Below Dark Surface (A	11)	·	leted Matrix	. ,				
Thick Dark Surface (A12)		_	ox Dark Surf	. ,			<sup>3</sup> Indicators of hydrophytic vegetatior	n and wetland
Sandy Mucky Mineral (S1)		-	leted Dark S				hydrology must be present, unless disturbed or problematic.	
Sandy Gleyed Matrix (S4)		Red	ox Depressio	ons (F8)			unless disturbed of problematic.	
Restrictive Layer (if obs	erved):							
Туре:							Hydric Soil Present? Yes	s X No
Depth (inches):								
Remarks:	iv (F2)							
Soil meets indicator for depleted mate	ix (i 5).							
HYDROLOGY								
Wetland Hydrology Indicators	:							
Primary Indicators (minimum of		ed; check a	all that apply	y)			Secondary Indicators (minimu	um of two required)
Surface Water (A1)			Water-Stair	ned Leaves				ann or tho roganoa)
✓ High Water Table (A2)			1, 2, 4A an			ept MLRA	Water-Stained Leaves (B9	)) (MI RA 1 2
Saturation (A3)				d 4B)	5 (D3) (exce	ept MLRA	Water-Stained Leaves (B9 4A, and 4B)	9) (MLRA 1, 2,
			Salt Crust		5 (D3) (EXC	ept MLRA	4A, and 4B)	9) (MLRA 1, 2,
Water Marks (B1)			Salt Crust ( Aquatic Inv	(B11)		ept MLRA	4A, and 4B)	
				(B11) ertebrates	(B13)	ept MLRA	4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (	C2)
Water Marks (B1)			Aquatic Inv	(B11) ertebrates Sulfide Odo	(B13) r (C1)		Water-Statied Leaves (B3         4A, and 4B)         Drainage Patterns (B10)         Dry-Season Water Table (         Saturation Visible on Aeria	C2) al Imag.(C9)
Water Marks (B1)			Aquatic Inv Hydrogen S	(B11) ertebrates Sulfide Odo hizosphere	(B13) r (C1) s along Liv		(C3)     (C3)     (C3)     (Valer-Staffed Leaves (B3     (A, and 4B)     (Drainage Patterns (B10)     (Dry-Season Water Table (     (Saturation Visible on Aeria     (Geomorphic Position (D2)	C2) al Imag.(C9)
Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3)			Aquatic Inv Hydrogen S Oxidized R	(B11) ertebrates Sulfide Odo hizosphere of Reduced	(B13) r (C1) es along Liv Iron (C4)	ing Roots	<ul> <li>(C3)</li> <li< td=""><td>C2) al Imag.(C9)</td></li<></ul>	C2) al Imag.(C9)
Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4)			Aquatic Inv Hydrogen S Oxidized R Presence c	(B11) ertebrates Sulfide Odo hizosphere of Reduced	(B13) r (C1) es along Liv Iron (C4) n in Tilled S	ing Roots oils (C6)	<ul> <li>(C3)</li> <li< td=""><td>C2) al Imag.(C9)</td></li<></ul>	C2) al Imag.(C9)
<ul> <li>Water Marks (B1)</li> <li>Sediment Deposits (B2)</li> <li>Drift Deposits (B3)</li> <li>Algal Mat or Crust (B4)</li> <li>Iron Deposits (B5)</li> </ul>	ery (B7)		Aquatic Inv Hydrogen S Oxidized R Presence c Recent Iror	(B11) ertebrates Sulfide Odo hizosphere of Reduced n Reductior Stressed P	(B13) r (C1) ss along Liv Iron (C4) n in Tilled S Plants (D1)	ing Roots oils (C6)	(C3)     (C3)	C2) al Imag.(C9) LRR A)
<ul> <li>Water Marks (B1)</li> <li>Sediment Deposits (B2)</li> <li>Drift Deposits (B3)</li> <li>Algal Mat or Crust (B4)</li> <li>Iron Deposits (B5)</li> <li>Surface Soil Cracks (B6)</li> </ul>			Aquatic Inv Hydrogen S Oxidized R Presence c Recent Iror Stunted or	(B11) ertebrates Sulfide Odo hizosphere of Reduced n Reductior Stressed P	(B13) r (C1) ss along Liv Iron (C4) n in Tilled S Plants (D1)	ing Roots oils (C6)	<ul> <li>(C3)</li> <li< td=""><td>C2) al Imag.(C9) LRR A)</td></li<></ul>	C2) al Imag.(C9) LRR A)
<ul> <li>Water Marks (B1)</li> <li>Sediment Deposits (B2)</li> <li>Drift Deposits (B3)</li> <li>Algal Mat or Crust (B4)</li> <li>Iron Deposits (B5)</li> <li>Surface Soil Cracks (B6)</li> <li>Inundation Visible on Aerial Image</li> </ul>			Aquatic Inv Hydrogen S Oxidized R Presence c Recent Iror Stunted or	(B11) ertebrates Sulfide Odo hizosphere of Reduced n Reductior Stressed P	(B13) r (C1) ss along Liv Iron (C4) n in Tilled S Plants (D1)	ing Roots oils (C6)	(C3)     (C3)	C2) al Imag.(C9) LRR A)
<ul> <li>Water Marks (B1)</li> <li>Sediment Deposits (B2)</li> <li>Drift Deposits (B3)</li> <li>Algal Mat or Crust (B4)</li> <li>Iron Deposits (B5)</li> <li>Surface Soil Cracks (B6)</li> <li>Inundation Visible on Aerial Image</li> <li>Sparsely Vegetated Concave Su</li> </ul>		No <u>X</u>	Aquatic Inv Hydrogen S Oxidized R Presence c Recent Iror Stunted or Other (Exp	(B11) ertebrates Sulfide Odo hizosphere of Reduced n Reductior Stressed P	(B13) r (C1) ss along Liv Iron (C4) n in Tilled S Plants (D1)	ing Roots oils (C6)	(C3)     (C3)	C2) al Imag.(C9) LRR A)
Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imag Sparsely Vegetated Concave Su Field Observations:	rface (B8)	No <u>X</u>	Aquatic Inv Hydrogen S Oxidized R Presence c Recent Iror Stunted or Other (Exp Depth	(B11) ertebrates Sulfide Odo hizosphere of Reduced n Reduction Stressed P lain in Rem	(B13) r (C1) ss along Liv Iron (C4) n in Tilled S Plants (D1)	ing Roots oils (C6)	(C3)     (C3)	C2) al Imag.(C9) LRR A)
Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imag Sparsely Vegetated Concave Su <u>Field Observations:</u> Surface Water Present?	rface (B8) Yes	No <u>X</u> No	Aquatic Inv Hydrogen S Oxidized R Presence c Recent Iror Stunted or Other (Exp Depth Depth	(B11) ertebrates Sulfide Odo hizosphere of Reduced n Reduction Stressed P lain in Rem (inches):	(B13) r (C1) ss along Liv Iron (C4) n in Tilled S Plants (D1)	oils (C6) (LRR A)	(C3)     (C3)	C2) al Imag.(C9) LRR A)
<ul> <li>Water Marks (B1)</li> <li>Sediment Deposits (B2)</li> <li>Drift Deposits (B3)</li> <li>Algal Mat or Crust (B4)</li> <li>Iron Deposits (B5)</li> <li>Surface Soil Cracks (B6)</li> <li>Inundation Visible on Aerial Image</li> <li>Sparsely Vegetated Concave Su</li> </ul> Field Observations: Surface Water Present? Water Table Present? Saturation Present? <ul> <li>(includes capillary fringe)</li> </ul>	Yes Yes YesX YesX	No <u>X</u> No No	Aquatic Inv Hydrogen S Oxidized R Presence c Recent Iror Stunted or Other (Exp Depth Depth Depth	(B11) ertebrates Sulfide Odo hizosphere of Reduced n Reductior Stressed P lain in Rem (inches): (inches): (inches):	(B13) r (C1) es along Liv Iron (C4) n in Tilled S Plants (D1) narks)	ing Roots oils (C6) (LRR A) <u>12</u> 9	<ul> <li>(C3)</li> <li< td=""><td>C2) al Imag.(C9) LRR A) D7)</td></li<></ul>	C2) al Imag.(C9) LRR A) D7)
Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imag Sparsely Vegetated Concave Su Field Observations: Surface Water Present? Water Table Present? Saturation Present?	Yes Yes YesX YesX	No <u>X</u> No No	Aquatic Inv Hydrogen S Oxidized R Presence c Recent Iror Stunted or Other (Exp Depth Depth Depth	(B11) ertebrates Sulfide Odo hizosphere of Reduced n Reductior Stressed P lain in Rem (inches): (inches): (inches):	(B13) r (C1) es along Liv Iron (C4) n in Tilled S Plants (D1) narks)	ing Roots oils (C6) (LRR A) <u>12</u> 9	<ul> <li>(C3)</li> <li< td=""><td>C2) al Imag.(C9) LRR A) D7)</td></li<></ul>	C2) al Imag.(C9) LRR A) D7)
<ul> <li>Water Marks (B1)</li> <li>Sediment Deposits (B2)</li> <li>Drift Deposits (B3)</li> <li>Algal Mat or Crust (B4)</li> <li>Iron Deposits (B5)</li> <li>Surface Soil Cracks (B6)</li> <li>Inundation Visible on Aerial Image</li> <li>Sparsely Vegetated Concave Su</li> </ul> Field Observations: Surface Water Present? Water Table Present? Saturation Present? <ul> <li>(includes capillary fringe)</li> </ul>	Yes Yes YesX YesX	No <u>X</u> No No	Aquatic Inv Hydrogen S Oxidized R Presence c Recent Iror Stunted or Other (Exp Depth Depth Depth	(B11) ertebrates Sulfide Odo hizosphere of Reduced n Reductior Stressed P lain in Rem (inches): (inches): (inches):	(B13) r (C1) es along Liv Iron (C4) n in Tilled S Plants (D1) narks)	ing Roots oils (C6) (LRR A) <u>12</u> 9	<ul> <li>(C3)</li> <li< td=""><td>C2) al Imag.(C9) LRR A) D7)</td></li<></ul>	C2) al Imag.(C9) LRR A) D7)
<ul> <li>Water Marks (B1)</li> <li>Sediment Deposits (B2)</li> <li>Drift Deposits (B3)</li> <li>Algal Mat or Crust (B4)</li> <li>Iron Deposits (B5)</li> <li>Surface Soil Cracks (B6)</li> <li>Inundation Visible on Aerial Image</li> <li>Sparsely Vegetated Concave Su</li> </ul> Field Observations: <ul> <li>Surface Water Present?</li> <li>Water Table Present?</li> <li>Saturation Present?</li> <li>Cincludes capillary fringe)</li> <li>Describe Recorded Data (stream gauge)</li> </ul>	Yes Yes YesX YesX	No <u>X</u> No No	Aquatic Inv Hydrogen S Oxidized R Presence c Recent Iror Stunted or Other (Exp Depth Depth Depth	(B11) ertebrates Sulfide Odo hizosphere of Reduced n Reductior Stressed P lain in Rem (inches): (inches): (inches):	(B13) r (C1) es along Liv Iron (C4) n in Tilled S Plants (D1) narks)	ing Roots oils (C6) (LRR A) <u>12</u> 9	<ul> <li>(C3)</li> <li< td=""><td>C2) al Imag.(C9) LRR A) D7)</td></li<></ul>	C2) al Imag.(C9) LRR A) D7)
<ul> <li>Water Marks (B1)</li> <li>Sediment Deposits (B2)</li> <li>Drift Deposits (B3)</li> <li>Algal Mat or Crust (B4)</li> <li>Iron Deposits (B5)</li> <li>Surface Soil Cracks (B6)</li> <li>Inundation Visible on Aerial Image</li> <li>Sparsely Vegetated Concave Su</li> </ul> Field Observations: Surface Water Present? Water Table Present? Saturation Present? <ul> <li>(includes capillary fringe)</li> </ul>	rface (B8) Yes Yes _X Yes _X ge, monitoring	No X No No well, aerial	Aquatic Inv Hydrogen S Oxidized R Presence c Recent Iror Stunted or Other (Exp Depth Depth Depth	(B11) ertebrates Sulfide Odo hizosphere of Reduced n Reductior Stressed P lain in Rem (inches): (inches): (inches):	(B13) r (C1) es along Liv Iron (C4) n in Tilled S Plants (D1) narks)	ing Roots oils (C6) (LRR A) <u>12</u> 9	<ul> <li>(C3)</li> <li< td=""><td>C2) al Imag.(C9) LRR A) D7)</td></li<></ul>	C2) al Imag.(C9) LRR A) D7)
Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imag Sparsely Vegetated Concave Su Field Observations: Surface Water Present? Water Table Present? Saturation Present? (includes capillary fringe) Describe Recorded Data (stream gau Remarks:	rface (B8) Yes Yes _X Yes _X ge, monitoring	No X No No well, aerial	Aquatic Inv Hydrogen S Oxidized R Presence c Recent Iror Stunted or Other (Exp Depth Depth Depth	(B11) ertebrates Sulfide Odo hizosphere of Reduced n Reductior Stressed P lain in Rem (inches): (inches): (inches):	(B13) r (C1) es along Liv Iron (C4) n in Tilled S Plants (D1) narks)	ing Roots oils (C6) (LRR A) <u>12</u> 9	<ul> <li>(C3)</li> <li< td=""><td>C2) al Imag.(C9) LRR A) D7)</td></li<></ul>	C2) al Imag.(C9) LRR A) D7)
Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imag Sparsely Vegetated Concave Su Field Observations: Surface Water Present? Water Table Present? Saturation Present? (includes capillary fringe) Describe Recorded Data (stream gau Remarks:	rface (B8) Yes Yes _X Yes _X ge, monitoring	No X No No well, aerial	Aquatic Inv Hydrogen S Oxidized R Presence c Recent Iror Stunted or Other (Exp Depth Depth Depth	(B11) ertebrates Sulfide Odo hizosphere of Reduced n Reductior Stressed P lain in Rem (inches): (inches): (inches):	(B13) r (C1) es along Liv Iron (C4) n in Tilled S Plants (D1) narks)	ing Roots oils (C6) (LRR A) <u>12</u> 9	<ul> <li>(C3)</li> <li< td=""><td>C2) al Imag.(C9) LRR A) D7)</td></li<></ul>	C2) al Imag.(C9) LRR A) D7)



Project/Site:	oject/Site: FWLE / I-5		City/County:	Federal Way S		Sampling	Date:	2/15/20	16				
Applicant/Owner	Applicant/Owner: Sound Transit					State:	WA	Sampling	Point:	SP 26-	-1-5		
Investigators:	nvestigators: Lisa Danielski Ian Welch			lan Welch		Sectio	on, Towns	hip, Range	S S 04	T T 21	NRF	R 4 E	
Landform (hillslope, terrace, etc.):					Local Re	elief (concave	e, convex	, none):			Slope	e(%)	_
Subregion (LRR): A Lat:				Lat:		Long:			Da	tum: N	AD83		
Soil Map Unit Na	ame:	Arents, A	Iderwood mate	rial, 0 to 6 percen	t slopes		NV	VI Classifica	tion: No	ne			
Are climatic / hy	drologi	c conditions	on the site typi	cal for this time o	f year? Yes	No	Х	(If No, exp	ain in Ren	narks)			
Are Vegetation		, Soil,	, Hydrology	, significantly	disturbed?	Are "N	ormal Cir	cumstances	present?	Yes	Х	No	
Are Vegetation		, Soil,	, Hydrology _	, naturally pro	blematic?	(If ne	eded, ex	plain any an	swers in R	emarks	.)		

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

Hydrophytic Vegetation Present?	Yes	Х	No					
Hydric Soil Present?	Yes		No	х	Is the Sampled Area			
Wetland Hydrology Present?	Yes		No	Х	within a Wetland?	Yes	No	X

### Remarks:

Sample plot located east of Wetland 26-1. Above average rainfall occurred in the area several weeks prior to the sample date. Plot does not meet all three wetland criteria.

VEGETATION Use scientific names of plants.	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test V	Norkohaati			
Tree Stratum	<u>,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,</u>		<u></u>					
<u>Shrub Stratum</u> (Plot size: <u>50 Ft</u> )				Number of Domina That Are OBL, FA		:	2	(A)
Cytisus scoparius	5	Y	UPL	Total Number of De	ominant			
	5	=Total Cover		Species Across all			3	(B)
Herb Stratum (Plot size: 5 Ft )								_
Holcus lanatus	50	Y	FAC	Percent of Domina That Are OBL, FAC			66.7%	(A/B)
Phalaris arundinacea	15	Y	FACW					
Galium aparine	5	Ν	FACU	Prevalence Index	Worksheet			
	70	=Total Cover		Total % Cover			oly by:	
Vine Stratum				OBL species	0	x 1 =	0	
				FACW species	15	x 2 =	30	
				FAC species	50	x 3 =	150	
				FACU species	5	x 4 =	20	
				UPL species	5	x 5 =	25	
				Column Totals:	75	(A)	225	(B)
				Prevalence I	ndex = B/A=	:	3.00	
				Hydrophytic Veget	ation Indica	ators:		
				Rapid Test for	Hydrophytic	Vegeta	ation	
				X Dominance Te	st > 50%			
				X Prevalence Inc	$\text{lex} \le 3.0$			
				Morphological				orting
				data in Remar		•	,	
				Problematic Hy	ydrophytic V	egetatio	on (Exp	olain)
				Indicators of hydri must be present, u				
0/ Dava Oracuad in Llack Otacture				Hydrophytic Vegetation Preser	nt? Yes	х	No	
% Bare Ground in Herb Stratum Remarks: (Include photo numbers here or on a separate sheet.)	)			_				

Vegetation in sample plot meets dominance and prevalence test for hydrophytic vegetation.



Profile Descrip	otion: (Des		depth nee	eded to documen			confirm th	e absence of Indicators.)	
Depth (inchos)	Color	Matrix (moist)	%	Color (moist)	Redox F	Features Type 1	Loc <sup>2</sup>	Texture	Remarks
(inches) 0 to 12	10YR	3/3	100			Туре		Very gravelly sandy loam	Soils appear to be fill material
<sup>1</sup> Type: C=Conc	entration, D	=Depletion,	RM=Redu	ced Martix, CS=C	overed or	Coated S	Sand Grain	as. <sup>2</sup> Location: PL=Pore Lining,	
Hydric Soil In	)		[	Sandy Redox (S	,			Indicators for Problematic Hy	vdric Soils: <sup>3</sup>
Histic Epiped Black Histic Hydrogen St Depleted Be Thick Dark S Sandy Muck Sandy Gleye	(A3) ulfide (A4) low Dark Sur Surface (A12)	)		Stripped Matrix ( Loamy Mucky M Depleted Matrix Redox Dark Surf Depleted Dark S Redox Depressio	ineral (F1) latrix (F2) (F3) face (F6) urface (F7)		_RA 1)	<ul> <li>Red Parent Material (TF2)</li> <li>Very Shallow Dark Surface (TF</li> <li>Other (Explain in Remarks)</li> <li><sup>3</sup> Indicators of hydrophytic vegetat hydrology must be present, unless disturbed or problematic.</li> </ul>	
Restrictiv     Type: Cor     Depth (inche	mpacted grav	f observe	d):					Hydric Soil Present? Y	es No _X
		onsist of fill m	aterial. Matri	x too bright for hydri	c soil.				
Surface Wat High Water Saturation (# Water Marks Sediment De Drift Deposit Algal Mat or Surface Soil Inundation V	rology Indi tors (minim er (A1) Table (A2) A3) 5 (B1) oposits (B2) 5 (B3) Crust (B4) 5 (B5) Cracks (B6) fisible on Aer getated Conc		57)	check all that appl Water-Stai 1, 2, 4A an Salt Crust Aquatic Inv Hydrogen 3 Oxidized R Presence 0 Recent Iron Stunted or Other (Exp	ned Leaves d 4B) (B11) rertebrates Sulfide Odo thizosphere of Reduced n Reduction Stressed F	(B13) or (C1) os along Lin I Iron (C4) o in Tilled S Plants (D1)	ving Roots ( Soils (C6)	Secondary Indicators (mining         Water-Stained Leaves ( 4A, and 4B)         Drainage Patterns (B10)         Dry-Season Water Table         Saturation Visible on Ae         Geomorphic Position (D)         Shallow Aquitard (D3)         FAC-Neutral Test (D5)         Paised Ant Mounds (D6)         Frost-Heave Hummocks	B9) (MLRA 1, 2, ) e (C2) urial Imag.(C9) 2)
Surface Water Water Table P Saturation Pre (includes capil	Present? resent? sent? lary fringe)	Yes Yes	No	Depth	(inches): (inches): (inches): ious inspec	tions), if a	vailable:	Wetland Hydrology Present?	Yes No_X
Remarks: No hydrologic inc	licators were	observed at s	sample plot.						

	WETLAND D	ETERMINA <sup>.</sup>	TION DAT			ountains	, Valleys,	and Coas	st Reg	ion		
Project/Site:	FWLE / I-5			City/Cour	nty:	Bellevue		Sampling	Date:	3/11/20	14	
Applicant/Owne	r: Sound Transi	t				State	: WA	Sampling	) Point:	SP 27-	1-1	
Investigators:	Lisa Danielski		Dangelei F	ox		Section, Tov	wnship, Ran	ge S 4	T 21 N	R 4	ŧΕ	
Landform (hillslo	ope, terrace, etc.):	Depression		L	ocal Relief (co	oncave, conv	vex, none):	Concave		Slope	<b>∍(%)</b>	
Subregion (LRR	:): A		Lat: 47.	337719	Long	: -122.293	853	Da	atum: N	IAD83		
Soil Map Unit Na	ame: Alderwood	d gravelly sandy	y loam, 0 to 6	percent slope	es		NWI Classi	fication:				
Are climatic / hy	drologic conditions	on the site typic	cal for this tim	ne of year?	Yes	No X	(If No, e	explain in Rer	narks)			
Are Vegetation	, Soil,	Hydrology	, significa	ntly disturbed?	? /	Are "Normal	Circumstand	ces" present	? Yes	Х	No	
Are Vegetation	, Soil,	Hydrology	, naturally	problematic?		(If needed,	explain any	answers in F	Remarks	.)		
SUMMARY	OF FINDINGS	- Attach a s	ite map sl	howing sa	mplina poi						'es. ef	c.
	egetation Present?	Yes	No X	<b>3</b>				,p			<u>,</u>	
Hydric Soil Pre	esent?	Yes	No X	Is the S	ampled Area							
Wetland Hydro	ology Present?	Yes	No X	within a	a Wetland?		Yes	No	Х	_		
	e plot west of WL 27- week prior to wetlar		es not meet a	all wetland ind	icators. Recor	rd rainfall du	ring previous	s month (6.5	inches i	n Februa	ary and	over
VEGETATIO	<b>DN</b> – Use scienti	ific names of	f plants.	Absolute	Dominant	Indicator						
Tree Stratum				<u>% Cover</u>	<u>Species</u>	<u>Status</u>		ce Test Wor				
Shrub Stratu		50 F.	,					of Dominant			0	(A)
	a cerasiformis	e: <u>50 Ft</u>	)	40	Y	FACU			-			_
				40	 =Total Cover			nber of Domi Across all Str			3	(B)
Herb Stratun	∩ (Plot size	o. 5 Et	)									_ (- /
	num munitum	e. <u> </u>	)	1	N	FACU		of Dominant S OBL, FACW,		:	0.0%	_(A/B)
				1	=Total Cover		Prevalen	ce Index Wo	orkshee	::		
Vine Stratum	) (Plot size	e: <u>30 Ft</u>	)				Total	% Cover of:		Multi	ply by:	
Rubus a	rmeniacus			10	Y	FACU	OBL spec	cies	0	x 1 =	0	
				10	=Total Cover		FACW sp	ecies	0	x 2 =	0	
							FAC spec	cies	0	x 3 =	0	
							FACU sp	ecies	126	x 4 =	504	
							UPL spec	cies	0	x 5 =	0	
							Column T	otals:	126	(A)	504	(B)
							Pre	valence Inde	ex = B/A	=	4.00	
							Hydrophy	tic Vegetatio	on Indic	ators:		
							Rapio	d Test for Hy	drophyti	c Vegeta	ation	
							Domi	nance Test >	» 50%			
							Preva	alence Index	≤ 3.0			
								hological Ada in Remarks c				orting
							Probl	ematic Hydro	ophytic \	/egetatio	on (Ex	plain)
								s of hydric so present, unle				
								ophytic on Present?	V		Na	~
	l in Herb Stratum						regeration		Yes		No	X
Remarks: (Inclu	de photo numbers h	ere or on a sep	parate sheet.	)								

This sample does not meet dominance or prevalence test.



Profile Descri	ption: (Desc	ribe to the	depth ne	edeo	d to doo	cument	the indic	cator or o	onfirm t	the absence of Indicators.)	
Depth		Matrix					Redox F	eatures			
(inches)	Color	(moist)	%		Color (n	noist)	%	Type 1	Loc <sup>2</sup>	Texture	Remarks
0 to 6	10YR	2/2	100							FINE SANDY LOAM	
6 to 15	10YR	4/4	95		7.5YR	4/6	5	С	Μ	FINE SANDY LOAM	
15 to 20	7.5YR	4/4	93		5YR 4	/6	7	С	М	SANDY CLAY LOAM	
<sup>1</sup> Type: C=Con	centration, D	=Depletion,	RM=Red	luced	Martix,	CS=Co	overed or	Coated S	and Gra	ains. <sup>2</sup> Location: PL=Pore Lining, M	=Matrix.
Hydric Soil I	ndicators:									Indicators for Problematic Hyd	ric Soils. 3
Histosol (A					Sandy Re	edox (S5	5)				<u>ne bons.</u>
Histic Epipe					Stripped					2 cm Muck (A10)	
Black Histic	(A3)			_		•	,	except ML	RA 1)	Red Parent Material (TF2)	
Hydrogen S	Sulfide (A4)				Loamy G	leved Ma	atrix (F2)			Very Shallow Dark Surface (TF12	<u>'</u> )
Depleted Be	elow Dark Surf	ace (A11)			Depleted	-				Other (Explain in Remarks)	
Thick Dark	Surface (A12)				Redox Da	ark Surfa	ace (F6)			3	
Sandy Muc	ky Mineral (S1	)			Depleted	Dark Su	urface (F7)			<sup>3</sup> Indicators of hydrophytic vegetation hydrology must be present,	and wetland
Sandy Gley	ed Matrix (S4)				Redox De	epressio	ns (F8)			unless disturbed or problematic.	
Postricti	ve Layer (i	fobserved	N•								
Type:	ve Layer (i	i obseiveu	·)-								
Depth (inch	es):									Hydric Soil Present? Yes	s NoX
Remarks:											
HYDROLOG Wetland Hyd		cators:									
Primary Indica			required	; che	ck all tha	at apply	/)			Secondary Indicators (minimu	um of two required)
Surface Wa	ter (A1)		-					s (B9) (exc	ept MLRA	, ,	. ,
High Water	Table (A2)					2, 4A and	-			4A, and 4B)	
Saturation (	A3)				_	t Crust (	,			Drainage Patterns (B10)	
Water Mark	s (B1)						ertebrates			Dry-Season Water Table (	C2)
Sediment D	eposits (B2)					•	ulfide Odo	. ,		Saturation Visible on Aeria	ıl Imag.(C9)
Drift Deposi	its (B3)						-	s along Liv	ing Roots	Geomorphic Position (D2)	
Algal Mat o							f Reduced	. ,		Shallow Aquitard (D3)	
Iron Deposi	. ,							in Tilled S	. ,	FAC-Neutral Test (D5)	
	l Cracks (B6)							lants (D1)	(LRR A)	Paised Ant Mounds (D6) (	LRR A)
	Visible on Aeri	0,1	,		Oth	er (Expl	ain in Rem	arks)		Frost-Heave Hummocks (I	)7)
Field Observation	egetated Conc	ave Surface (E	38)								
		N/		NI-	V	Darath	(				
Surface Wate		Yes		No	<u>X</u>	-	(inches):			-	
Water Table I Saturation Pro		Yes Yes			 X	-	(inches):			Wetland Hydrology Present?	Yes No_X_
(includes cap		Tes	'	No		Depth	(inches):				
Describe Record		am gauge, moi	nitoring we	ell, ae	rial photo	os, previo	ous inspec	tions), if av	ailable:		
Remarks: This sample doe	es not meet an	y hydrology ind	dicators.								



WE	ETLAND DET	<b>FERMINA</b>	TION DAT	A FORM - V	Western M	ountains,	Valleys, a	nd Co	ast Regi	on		
Project/Site: FWL	E / I-5			City/Coun	ty:	Federal Wa	ıy	Sampli	ng Date:	3/26/20	14	
Applicant/Owner:	Sound Transit					State	WA	Sampli	ng Point:	SP 27-	1-2	
Investigators: Lise	a Danielski		Brendan Ba	aughn		Section, Tov	vnship, Range	S 28	T 22 N	R 4	Ε	
Landform (hillslope, te	rrace, etc.):			L	ocal Relief (co	oncave, conv	vex, none):			Slope	:(%)	
Subregion (LRR): A	L		Lat: 47.3	337755	Long	: -122.2939	916		Datum: N	AD83		
Soil Map Unit Name:							NWI Classifica	ation:	PSS1			
Are climatic / hydrolog	jic conditions on	the site typ	ical for this time	e of year?	Yes	No X	(If No, exp	lain in R	emarks)			
Are Vegetation	_, Soil, Hy	ydrology	, significan	tly disturbed?		Are "Normal	Circumstances	s" prese	nt? Yes	Х	No	
Are Vegetation X	_, Soil, Hy	ydrology	, naturally	problematic?		(If needed,	explain any an	nswers in	n Remarks	.)		
SUMMARY OF	FINDINGS - A	Attach a s	site map sh	owing sar	nplina poi	nt locatio	ns. transec	cts. im	portant	featur	es. et	c.
Hydrophytic Vegetat		Yes X	-	<b>j</b>				,				
Hydric Soil Present?	)	Yes X	No	Is the S	ampled Area							
Wetland Hydrology F	Present?	Yes X	No	within a	Wetland?		Yes	X N	lo	_		
Remarks: Wetland sample plot over 1.5 inches in the				he criteria for	a wetland. Ro	ecord rainfall	during previo	us mont	h (6.5 inch	∍s in Fel	bruary a	and
VEGETATION_	Use scientific	names o	of plants.	<u>Absolute</u> <u>% Cover</u>	Dominant	Indicator Status		_				
Tree Stratum					<u>Species</u>	Status	Dominance					
Shrub Stratum			<b>`</b>				Number of I That Are OB			:	1	(A)
Rubus spectab	(Plot size: _ ilis	50 FL	.)	5	Y	FAC	<b>T</b> ( 181 )	( 5				
				5	=Total Cover		Total Number Species Acr				2	(B)
Herb Stratum												_ ` `
Vine Stratum	(Plot size:	30 Ft	)				Percent of D That Are OB				50.0%	(A/B)
Rubus armenia	ICUS			5	Y	FACU	Prevalence	Index V	Vorksheet	:		
				5	=Total Cover		Total %	Cover			oly by:	
							OBL species	s _	0	x 1 =	0	
							FACW spec	ies _	0	x 2 =	0	
							FAC species	s_	5	x 3 =	15	
							FACU spec	ies _	5	x 4 =	20	
							UPL species	s _	0	x 5 =	0	
							Column Tota	als:	10	(A)	35	(B)
							Preva	lence In	dex = B/A=	:	3.50	
							Hydrophytic	: Vegeta	tion Indica	ators:		
							Rapid T	est for H	Hydrophytic	Vegeta	tion	
							Domina	ince Tes	t > 50%			
							Prevale	nce Inde	ex ≤ 3.0			
									daptations s or on a se			orting
							X Problem	natic Hy	drophytic V	egetatic	n (Exp	olain)
							Indicators of must be pre					
							Hydrop	-				
% Bare Ground in He							Vegetation	Present	? Yes	<u>X</u>	No	
Remarks: (Include pho	oto numbers here	e or on a se	parate sheet.)									

Himalayan blackberry is acting as an aggressive invasive. Presence of hydric soils and hydrology indicate hydrophytic vegetation.



Deeth	Matrix					eatures			
Depth Color (r		%		Color (moist)	%	Type 1	Loc <sup>2</sup>	Texture	Remarks
to 13 10YR	3/1	100		None				Gravely Sandy Loam	
3 to 19 7.5YR	4/1	97	·	5YR 4/6	30	С	М	Gravely Sandy Loam	_
ype: C=Concentration, D=	Depletion,	RM=Re	educed	d Martix, CS=Co	overed or C	Coated S	and Grai	ins. <sup>2</sup> Location: PL=Pore Lining	, M=Matrix.
ype: C=Concentration, D= ydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Depleted Below Dark Surfa Thick Dark Surface (A12) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Restrictive Layer (if	ce (A11)			Sandy Redox (Sf Stripped Matrix ( Loamy Mucky Mi Loamy Gleyed M Depleted Matrix ( Redox Dark Suff Redox Depressio	5) S6) neral (F1) (e atrix (F2) F3) ace (F6) urface (F7)			Ins. 4.ocation: PL=Pore Lining Indicators for Problematic H 2 cm Muck (A10) Red Parent Material (TF2) Very Shallow Dark Surface (T Other (Explain in Remarks) 3 Indicators of hydrophytic vegeta hydrology must be present, unless disturbed or problematic.	Ivdric Soils: <sup>3</sup> F12) tion and wetland
Type: Depth (inches): narks: is area meets hydric soil indic	ator for depl	eted bel	ow dar	k surface (A11)				Hydric Soil Present?	Yes X No
YDROLOGY									
etland Hydrology Indica		require			/)			Secondary Indicators (min	imum of two require
etland Hydrology Indica rimary Indicators (minimur Surface Water (A1)		require		eck all that apply	ned Leaves (	(B9) (exce	ept MLRA	Water-Stained Leaves	· · ·
etland Hydrology Indica rimary Indicators (minimur Surface Water (A1) High Water Table (A2)		require		eck all that apply Water-Stair 1, 2, 4A an	ned Leaves ( d 4B)	(B9) (exce	ept MLRA		· · ·
etland Hydrology Indica rimary Indicators (minimur Surface Water (A1) High Water Table (A2) Saturation (A3)		require		eck all that apply Water-Stain 1, 2, 4A an Salt Crust (	ned Leaves ( d 4B) [B11)		ept MLRA	Water-Stained Leaves	(B9) (MLRA 1, 2,
etland Hydrology Indica imary Indicators (minimur Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1)		require		eck all that apply Water-Stain 1, 2, 4A and Salt Crust ( Aquatic Invi	ned Leaves ( d 4B) (B11) ertebrates (E	B13)	əpt MLRA	Water-Stained Leaves 4A, and 4B)	(B9) (MLRA 1, 2,
etland Hydrology Indica rimary Indicators (minimur Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2)		require		eck all that apply Water-Stain 1, 2, 4A an Salt Crust ( Aquatic Inv Hydrogen S	ned Leaves ( d 4B) (B11) ertebrates (E Sulfide Odor	B13) (C1)		Water-Stained Leaves 4A, and 4B) Drainage Patterns (B10 Dry-Season Water Tab	(B9) (MLRA 1, 2, 0) le (C2)
etland Hydrology Indica rimary Indicators (minimur Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3)		require		eck all that apply Water-Stair 1, 2, 4A an Salt Crust ( Aquatic Invo Hydrogen S Oxidized R	ned Leaves ( d 4B) B11) ertebrates (E Sulfide Odor hizospheres	B13) (C1) s along Liv		Water-Stained Leaves 4A, and 4B) Drainage Patterns (B10 Dry-Season Water Tab	(B9) (MLRA 1, 2, )) le (C2) erial Imag.(C9)
etland Hydrology Indica rimary Indicators (minimur Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4)		require		eck all that apply Water-Stair 1, 2, 4A an Salt Crust ( Aquatic Inv Hydrogen S Oxidized R Presence c	ned Leaves ( d 4B) B11) ertebrates (E Sulfide Odor hizospheres if Reduced II	B13) (C1) s along Liv Iron (C4)	ing Roots	(C3) Water-Stained Leaves 4A, and 4B) Drainage Patterns (B10 Dry-Season Water Tab Saturation Visible on A Geomorphic Position (I Shallow Aquitard (D3)	(B9) (MLRA 1, 2, )) le (C2) erial Imag.(C9)
fetland Hydrology Indicators         rimary Indicators (minimur         Surface Water (A1)         High Water Table (A2)         Saturation (A3)         Water Marks (B1)         Sediment Deposits (B2)         Drift Deposits (B3)         Algal Mat or Crust (B4)         Iron Deposits (B5)		require		eck all that apply Water-Stain 1, 2, 4A an Salt Crust ( Aquatic Invi Hydrogen S Oxidized R Presence c Recent Iron	ned Leaves ( d 4B) B11) ertebrates (E Sulfide Odor hizospheres of Reduced In Reduction i	B13) (C1) s along Liv Iron (C4) in Tilled S	ing Roots oils (C6)	(C3) Water-Stained Leaves 4A, and 4B) Drainage Patterns (B10 Dry-Season Water Tab Saturation Visible on A Geomorphic Position (I Shallow Aquitard (D3) FAC-Neutral Test (D5)	(B9) (MLRA 1, 2, 0) le (C2) erial Imag.(C9) D2)
etland Hydrology Indica rimary Indicators (minimur ] Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6)	n of one is			eck all that apply Water-Stain 1, 2, 4A an Salt Crust ( Aquatic Invi Hydrogen S Oxidized R Presence c Recent Iron Stunted or	ned Leaves ( d 4B) B11) ertebrates (E Sulfide Odor hizospheres of Reduced II Reduction i Stressed Pla	B13) (C1) s along Liv Iron (C4) in Tilled S ants (D1)	ing Roots oils (C6)	(C3) Water-Stained Leaves 4A, and 4B) Drainage Patterns (B10 Dry-Season Water Tab Saturation Visible on A Geomorphic Position (I Shallow Aquitard (D3)	(B9) (MLRA 1, 2, 0) le (C2) erial Imag.(C9) D2)
etland Hydrology Indica rimary Indicators (minimur Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial	n of one is Imagery (B7	7)		eck all that apply Water-Stain 1, 2, 4A an Salt Crust ( Aquatic Invi Hydrogen S Oxidized R Presence c Recent Iron Stunted or	ned Leaves ( d 4B) B11) ertebrates (E Sulfide Odor hizospheres of Reduced In Reduction i	B13) (C1) s along Liv Iron (C4) in Tilled S ants (D1)	ing Roots oils (C6)	(C3) Water-Stained Leaves 4A, and 4B) Drainage Patterns (B10 Dry-Season Water Tab Saturation Visible on A Geomorphic Position (I Shallow Aquitard (D3) FAC-Neutral Test (D5)	(B9) (MLRA 1, 2, )) le (C2) erial Imag.(C9) D2) 6) (LRR A)
etland Hydrology Indica rimary Indicators (minimur Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Sparsely Vegetated Concav	n of one is Imagery (B7	7)		eck all that apply Water-Stain 1, 2, 4A an Salt Crust ( Aquatic Invi Hydrogen S Oxidized R Presence c Recent Iron Stunted or	ned Leaves ( d 4B) B11) ertebrates (E Sulfide Odor hizospheres of Reduced II Reduction i Stressed Pla	B13) (C1) s along Liv Iron (C4) in Tilled S ants (D1)	ing Roots oils (C6)	(C3) Water-Stained Leaves 4A, and 4B) Drainage Patterns (B10 Dry-Season Water Tab Saturation Visible on A Geomorphic Position (I Shallow Aquitard (D3) FAC-Neutral Test (D5) Paised Ant Mounds (D6)	(B9) (MLRA 1, 2, )) le (C2) erial Imag.(C9) D2) 6) (LRR A)
etland Hydrology Indica rimary Indicators (minimur Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Sparsely Vegetated Concave	n of one is Imagery (B7 re Surface (B	7)	d; che	eck all that apply Water-Stain 1, 2, 4A and Salt Crust ( Aquatic Invi Hydrogen S Oxidized R Presence c Recent Iron Stunted or Other (Expl	ned Leaves ( d 4B) B11) ertebrates (E Sulfide Odor hizospheres of Reduced II n Reduction i Stressed Pla ain in Rema	B13) (C1) s along Liv Iron (C4) in Tilled S ants (D1)	ing Roots oils (C6)	(C3) Water-Stained Leaves 4A, and 4B) Drainage Patterns (B10 Dry-Season Water Tab Saturation Visible on A Geomorphic Position (I Shallow Aquitard (D3) FAC-Neutral Test (D5) Paised Ant Mounds (D6)	(B9) (MLRA 1, 2, )) le (C2) erial Imag.(C9) D2) 6) (LRR A)
etland Hydrology Indica rimary Indicators (minimur ] Surface Water (A1) ] High Water Table (A2) ] Saturation (A3) ] Water Marks (B1) ] Sediment Deposits (B2) ] Drift Deposits (B3) ] Algal Mat or Crust (B4) ] Iron Deposits (B5) ] Surface Soil Cracks (B6) ] Inundation Visible on Aerial ] Sparsely Vegetated Concave eld Observations: Surface Water Present?	n of one is Imagery (B7 ve Surface (F Yes	7) 38)	ed; che	eck all that apply         Water-Stain         1, 2, 4A an         Salt Crust (         Aquatic Inv         Hydrogen S         Oxidized R         Presence c         Recent Iron         Stunted or         Other (Expl         X       Depth	ned Leaves ( d 4B) B11) ertebrates (E Sulfide Odor hizospheres of Reduced II Reduction i Stressed Pla ain in Rema (inches):	B13) (C1) s along Liv Iron (C4) in Tilled S ants (D1) arks)	oils (C6) (LRR A)	(C3) Water-Stained Leaves 4A, and 4B) Drainage Patterns (B10 Dry-Season Water Tab Saturation Visible on A Geomorphic Position (I Shallow Aquitard (D3) FAC-Neutral Test (D5) Paised Ant Mounds (D6)	(B9) (MLRA 1, 2, )) le (C2) erial Imag.(C9) D2) 6) (LRR A)
etland Hydrology Indica rimary Indicators (minimur ] Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Sparsely Vegetated Concav eld Observations: Surface Water Present? Water Table Present?	Imagery (B7 /e Surface (B Yes Yes	7) 38) 	ed; che No No	Eck all that apply         Water-Stair         1, 2, 4A an         Salt Crust (         Aquatic Inv         Hydrogen S         Oxidized R         Presence c         Recent Iron         Stunted or         Other (Expl         X       Depth         Depth	ned Leaves ( d 4B) B11) ertebrates (E Sulfide Odor hizospheres of Reduced II Reduction i Stressed Pla ain in Rema (inches): (inches):	B13) (C1) s along Liv Iron (C4) in Tilled S ants (D1) arks)	ing Roots oils (C6) (LRR A)	(C3) Water-Stained Leaves 4A, and 4B) Drainage Patterns (B10 Dry-Season Water Tab Saturation Visible on A Geomorphic Position (I Shallow Aquitard (D3) FAC-Neutral Test (D5) Paised Ant Mounds (D6) Frost-Heave Hummock	(B9) (MLRA 1, 2, (B9) (MLRA 1, 2, )) le (C2) erial Imag.(C9) D2) 6) (LRR A) (LRR A) (C)
Vetland Hydrology Indicators (minimur         Irimary Indicators (minimur         Surface Water (A1)         High Water Table (A2)         Saturation (A3)         Water Marks (B1)         Sediment Deposits (B2)         Drift Deposits (B3)         Algal Mat or Crust (B4)         Iron Deposits (B5)         Surface Soil Cracks (B6)         Inundation Visible on Aerial         Sparsely Vegetated Concave         eld Observations:         Surface Water Present?         Water Table Present?         Saturation Present?	n of one is Imagery (B7 ve Surface (F Yes	7) 38)	ed; che No No	Eck all that apply         Water-Stair         1, 2, 4A an         Salt Crust (         Aquatic Inv         Hydrogen S         Oxidized R         Presence c         Recent Iron         Stunted or         Other (Expl         X       Depth         Depth	ned Leaves ( d 4B) B11) ertebrates (E Sulfide Odor hizospheres of Reduced II Reduction i Stressed Pla ain in Rema (inches):	B13) (C1) s along Liv Iron (C4) in Tilled S ants (D1) arks)	oils (C6) (LRR A)	(C3) Water-Stained Leaves 4A, and 4B) Drainage Patterns (B10 Dry-Season Water Tab Saturation Visible on A Geomorphic Position (I Shallow Aquitard (D3) FAC-Neutral Test (D5) Paised Ant Mounds (D6)	(B9) (MLRA 1, 2, )) le (C2) erial Imag.(C9) D2) 6) (LRR A)
Vetland Hydrology Indica Primary Indicators (minimur Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Sparsely Vegetated Concav ield Observations: Surface Water Present? Water Table Present? Saturation Present? (includes capillary fringe)	Imagery (B7 /e Surface (B Yes Yes Yes Yes	7) 38) X	ed; che No No No	Eck all that apply         Water-Stain         1, 2, 4A an         Salt Crust (         Aquatic Inv         Hydrogen S         Oxidized R         Presence c         Recent Iron         Stunted or         Other (Expl         X       Depth         Depth	ned Leaves ( d 4B) B11) ertebrates (E Sulfide Odor hizospheres of Reduced II Reduction i Stressed Pla ain in Rema (inches): (inches): (inches):	B13) (C1) s along Liv Iron (C4) in Tilled S ants (D1) arks)	oils (C6) (LRR A) <u>13"</u> <u>5</u> "	(C3) Water-Stained Leaves 4A, and 4B) Drainage Patterns (B10 Dry-Season Water Tab Saturation Visible on A Geomorphic Position (I Shallow Aquitard (D3) FAC-Neutral Test (D5) Paised Ant Mounds (D6) Frost-Heave Hummock	(B9) (MLRA 1, 2, (B9) (MLRA 1, 2, )) le (C2) erial Imag.(C9) D2) 6) (LRR A) (LRR A) (C)
Vetland Hydrology Indicators (minimur         Irimary Indicators (minimur         Surface Water (A1)         High Water Table (A2)         Saturation (A3)         Water Marks (B1)         Sediment Deposits (B2)         Drift Deposits (B3)         Algal Mat or Crust (B4)         Iron Deposits (B5)         Surface Soil Cracks (B6)         Inundation Visible on Aerial         Sparsely Vegetated Concave         eld Observations:         Surface Water Present?         Water Table Present?         Saturation Present?         (includes capillary fringe)	Imagery (B7 /e Surface (B Yes Yes Yes Yes	7) 38) X	ed; che No No No	Eck all that apply         Water-Stain         1, 2, 4A an         Salt Crust (         Aquatic Inv         Hydrogen S         Oxidized R         Presence c         Recent Iron         Stunted or         Other (Expl         X       Depth         Depth	ned Leaves ( d 4B) B11) ertebrates (E Sulfide Odor hizospheres of Reduced II Reduction i Stressed Pla ain in Rema (inches): (inches): (inches):	B13) (C1) s along Liv Iron (C4) in Tilled S ants (D1) arks)	oils (C6) (LRR A) <u>13"</u> <u>5</u> "	(C3) Water-Stained Leaves 4A, and 4B) Drainage Patterns (B10 Dry-Season Water Tab Saturation Visible on A Geomorphic Position (I Shallow Aquitard (D3) FAC-Neutral Test (D5) Paised Ant Mounds (D6) Frost-Heave Hummock	(B9) (MLRA 1, 2, (B9) (MLRA 1, 2, )) le (C2) erial Imag.(C9) D2) 6) (LRR A) (LRR A) (C)
Vetland Hydrology Indica Primary Indicators (minimur Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Sparsely Vegetated Concav ield Observations: Surface Water Present? Water Table Present? Saturation Present?	Imagery (B7 /e Surface (B Yes Yes Yes Yes	7) 38) X	ed; che No No No	Eck all that apply         Water-Stain         1, 2, 4A an         Salt Crust (         Aquatic Inv         Hydrogen S         Oxidized R         Presence c         Recent Iron         Stunted or         Other (Expl         X       Depth         Depth	ned Leaves ( d 4B) B11) ertebrates (E Sulfide Odor hizospheres of Reduced II Reduction i Stressed Pla ain in Rema (inches): (inches): (inches):	B13) (C1) s along Liv Iron (C4) in Tilled S ants (D1) arks)	oils (C6) (LRR A) <u>13"</u> <u>5</u> "	(C3) Water-Stained Leaves 4A, and 4B) Drainage Patterns (B10 Dry-Season Water Tab Saturation Visible on A Geomorphic Position (I Shallow Aquitard (D3) FAC-Neutral Test (D5) Paised Ant Mounds (D6) Frost-Heave Hummock	(B9) (MLRA 1, 2, (B9) (MLRA 1, 2, )) le (C2) erial Imag.(C9) D2) 6) (LRR A) (LRR A) (C)
Vetland Hydrology Indica Primary Indicators (minimur Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Sparsely Vegetated Concav teld Observations: Surface Water Present? Water Table Present? Saturation Present? (includes capillary fringe)	Imagery (B7 /e Surface (B Yes Yes Yes Yes	7) 38) X	ed; che No No No	Eck all that apply         Water-Stain         1, 2, 4A an         Salt Crust (         Aquatic Inv         Hydrogen S         Oxidized R         Presence c         Recent Iron         Stunted or         Other (Expl         X       Depth         Depth	ned Leaves ( d 4B) B11) ertebrates (E Sulfide Odor hizospheres of Reduced II Reduction i Stressed Pla ain in Rema (inches): (inches): (inches):	B13) (C1) s along Liv Iron (C4) in Tilled S ants (D1) arks)	oils (C6) (LRR A) <u>13"</u> <u>5</u> "	(C3) Water-Stained Leaves 4A, and 4B) Drainage Patterns (B10 Dry-Season Water Tab Saturation Visible on A Geomorphic Position (I Shallow Aquitard (D3) FAC-Neutral Test (D5) Paised Ant Mounds (D6) Frost-Heave Hummock	(B9) (MLRA 1, 2, (B9) (MLRA 1, 2, )) le (C2) erial Imag.(C9) D2) 6) (LRR A) (LRR A) (C)

Project/Site:	FWLE / I-5		City/County:	Federal Way	Sa	mpling Date:	2/15/2016	
Applicant/Owner	r: Sound Transit	t		State:	WA Sa	ampling Point:	SP 27-2-1	
Investigators:	Lisa Danielski	Ian Welch		Section, Towns	hip, Range S	S 04 T T 21	N RR4E	
Landform (hillslo	ope, terrace, etc.):		Local Re	elief (concave, convex	, none):		Slope(%)	
Subregion (LRR	): A	Lat:		Long:		Datum: N	IAD83	
Soil Map Unit Na	ame: Alderwood	l gravelly sandy loam, 0 to 8 pe	ercent slopes	NV	VI Classificatio	n: None		
Are climatic / hy	drologic conditions o	on the site typical for this time of	of year? Yes	No X	(If No, explain	in Remarks)		
Are Vegetation	, Soil,	Hydrology, significantly	v disturbed?	Are "Normal Cir	cumstances" p	resent? Yes	X No	
Are Vegetation	, Soil,	Hydrology, naturally pr	oblematic?	(If needed, ex	plain any answ	ers in Remarks	.)	

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

Hydrophytic Vegetation Present?	Yes	X No					
Hydric Soil Present?	Yes	No	Х	Is the Sampled Area			
Wetland Hydrology Present?	Yes	No	Х	within a Wetland?	Yes	No	X

### Remarks:

Sample plot located north of Wetland 27-2 boundary. Above average rainfall occurred in the area several weeks prior to the sample date. Plot does not meet all three wetland criteria.

<b>VEGETATION</b> - Use scientific names of plants.	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test V	Norksheet:			
<u>Tree Stratum</u> Shrub Stratum (Plot size: 50 Ft )				Number of Domina That Are OBL, FA	ant Species		1	(A)
			54.0		,			
Rubus spectabilis		- <u>Y</u>	FAC	Total Number of D				-
Oemleria cerasiformis	10	Ν	FACU	Species Across all	Strata:		1	(B)
Herb Stratum	85	_=Total Cover		Percent of Domina That Are OBL, FAC		1	00.0%	(A/B)
Vine Stratum				Prevalence Index				
				Total % Cover			oly by:	
					0	x 1 =	0	
				OBL species	0	x 2 =	0	
				FACW species		x 3 =	225	
				FAC species	75			
				FACU species	10	x 4 =	40	
				UPL species	0	x 5 =	0	
				Column Totals:	85	(A)	265	(B)
				Prevalence I	ndex = B/A=		3.12	
				Hydrophytic Veget	ation Indica	tors:		
				Rapid Test for	Hydrophytic	Vegeta	tion	
				X Dominance Te	est > 50%			
				Prevalence Inc	dex ≤ 3.0			
				Morphological data in Remark				orting
				Problematic H	ydrophytic Ve	egetatic	on (Exp	olain)
				Indicators of hydri must be present,				
% Bare Ground in Herb Stratum				Hydrophytic Vegetation Preser	nt? Yes	x	No	
Remarks: (Include photo numbers here or on a separate sheet.)	)			<u> </u>				

Sampled vegetation meets dominance test for hydrophytic vegetation.



Profile Descri	ption: (Describe	to the depth need	ded to document	the indic	cator or c	onfirm t	he absence of Indicators.)	
Depth	Mat	rix		Redox F	eatures			
(inches)	Color (mois	t) %	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0 to 20	10YR 2/	2 100			<u> </u>		Very gravelly sandy loam	
<sup>1</sup> Type: C=Con	centration, D=Dep	letion, RM=Reduc	ed Martix, CS=Co	overed or	Coated S	and Grai	ins. <sup>2</sup> Location: PL=Pore Lining,	M=Matrix.
Hydric Soil In	ndicators:						Indicators for Problematic H	vdric Soils: <sup>3</sup>
Histosol (A1	1)		Sandy Redox (S5	5)			2 cm Muck (A10)	
Histic Epipe	edon (A2)		Stripped Matrix (S	66)			Red Parent Material (TF2)	
Black Histic	(A3)		Loamy Mucky Mi	neral (F1) (	(except MLI	RA 1)	Very Shallow Dark Surface (TF	(10)
Hydrogen S	Sulfide (A4)		Loamy Gleyed Ma	atrix (F2)			Other (Explain in Remarks)	12)
	elow Dark Surface (A	.11)	Depleted Matrix (	,				
	Surface (A12)		Redox Dark Surfa	. ,			<sup>3</sup> Indicators of hydrophytic vegetat	ion and wetland
	ky Mineral (S1)	L	Depleted Dark Su				hydrology must be present,	
Sandy Gley	ed Matrix (S4)		Redox Depressio	ns (F8)			unless disturbed or problematic.	
C Restricti	ve Layer (if obs	erved):						
Туре:								
Depth (inch	es):						Hydric Soil Present? Y	es <u>No X</u>
HYDROLOG								
•	rology Indicators ators (minimum of		heck all that apply	()			Concerdent la disettare (mini	
	`		Water-Stair	,	(B0) (over		Secondary Indicators (mini	. ,
Surface Wa	. ,		1, 2, 4A and		5 (D3) (exce		Water-Stained Leaves ( 4A, and 4B)	B9) (MLRA 1, 2,
Saturation (			Salt Crust (	B11)			Drainage Patterns (B10	1
Water Mark	,		Aquatic Inve	ertebrates	(B13)		Dry-Season Water Tabl	
	eposits (B2)		Hydrogen S	ulfide Odo	r (C1)		Saturation Visible on Ae	
Drift Deposi	its (B3)		Oxidized RI	nizosphere	es along Livi	ing Roots	(C3) Geomorphic Position (D	
Algal Mat or	r Crust (B4)		Presence o		. ,		Shallow Aquitard (D3)	_,
Iron Deposi	ts (B5)		Recent Iron	Reduction	n in Tilled S	oils (C6)	FAC-Neutral Test (D5)	
Surface Soi	l Cracks (B6)		Stunted or S	Stressed P	Plants (D1) (	(LRR A)	Paised Ant Mounds (D6	) (LRR A)
Inundation \	Visible on Aerial Imag	gery (B7)	Other (Expl	ain in Rem	arks)		Frost-Heave Hummocks	
Sparsely Ve	egetated Concave Su	rface (B8)						
Field Observa	ations:							
Surface Wate	r Present?	Yes No	X Depth	(inches):				
Water Table F	Present?	Yes X No	·	(inches):		20		
Saturation Pro		Yes <u>X</u> No	Depth	(inches):		19	Wetland Hydrology Present?	Yes No <u>_X_</u>
(includes capi	illary fringe) led Data (stream gau		aerial photos previo	us inspec	tions) if av	ailable:		
Describe Record	leu Dala (Silealli gau	ige, monitoring weil,	aeriai priotos, previo	us inspec	aions), ii ava	allable.		
Remarks:								
Hydrology does	not meet criteria for v	vetland. Saturation a	and water table too o	leep for ea	arly part of g	growing se	eason.	

	WETLAND	DETERMIN	NATION DAT			•		nd Coas	t Regio	on		
Project/Site:	FWLE / I-5			City/Cour	nty:	Federal Wa	iy	Sampling I	Date: 2	2/15/201	16	
Applicant/Owner	r: Sound Tra	ansit				State	WA	Sampling	Point:	SP 27-2	2-2	
Investigators:	Lisa Danielsk	ci	lan Welch	1		Section, Tov	vnship, Range	S S 04	T T 21 N	N RR	:4 E	
Landform (hillslo	ope, terrace, etc.	.):		L	_ocal Relief (c	concave, conv	vex, none):			Slope	.(%)	
Subregion (LRR	): A		Lat:		Long	g:		Dat	tum: NA	\D83		
Soil Map Unit Na	ame: Alderw	ood gravelly sa	andy loam, 0 to	8 percent slope	es		NWI Classifica	ation: PS	S1			
Are climatic / hy	drologic conditic	ons on the site t	ypical for this tir	me of year?	Yes	No X	(If No, exp	lain in Rem	iarks)			
Are Vegetation	, Soil	, Hydrology	, significa	antly disturbed	?	Are "Normal	Circumstances	" present?	Yes	Х	No	
Are Vegetation	, Soil	, Hydrology	, naturall	y problematic?		(If needed,	explain any an	swers in R	emarks.)	)		
SUMMARY		S - Attach	a site map s	showing sa	mplina poi	int locatio	ns. transec	ts. impc	ortant f	eatur	es. et	c.
	egetation Preser		X No	<b>j</b>				<u>,</u>			,	
Hydric Soil Pre	esent?	Yes	X No	Is the S	Sampled Area	1						
Wetland Hydro	ology Present?	Yes	X No	within	a Wetland?		Yes	X No		_		
Remarks: Sample plot lo Plot meets all v	cated within the vetland criteria.	northwestern b	oundary of Wet	land 27-2. Abo	ve average ra	ainfall occurre	d in the area s	everal wee	ks prior t	o the s	ample c	late.
VEGETATIO	<b>DN</b> _ Use scie	entific name	s of plants.	Absolute	Dominant	Indicator						
Tree Stratum			I	<u>% Cover</u>	<u>Species</u>	<u>Status</u>	Dominance					
							Number of I That Are OB				1	(A)
Shrub Stratu	<u>m</u> (Plot pectabilis	size: <u>50 Ft</u>	)	90	Y	FAC						-
	pectabilis			90	 =Total Cover		Total Numbe Species Acr				1	(B)
Herb Stratun	n				= I otal Cover	I	opeolee / tor					_ (D)
Vine Stratum	_						Percent of D That Are OB			1	00.0%	_(A/B)
							Prevalence	Index Wor	rksheet:			
							Total %	Cover of:		Multip	oly by:	
							OBL species	s	0	x 1 =	0	
							FACW spec	ies	0	x 2 =	0	
							FAC species	s	90	x 3 =	270	
							FACU spec	ies	0	x 4 =	0	
							UPL species	\$	0	x 5 =	0	
							Column Tota	als:	90	(A)	270	(B)
							Preva	lence Index			3.00	
							Hydrophytic	Vegetatio	n Indica	tors:		
							Rapid T	est for Hyd	rophytic	Vegeta	tion	
							X Domina	nce Test >	50%			
							X Prevale	nce Index ≤	≤ 3.0			
								logical Ada Remarks or				orting
							Problem	natic Hydrop	phytic Ve	egetatio	n (Exp	olain)
							Indicators c must be pre					
% Bare Groups	l in Herb Stratun	n					Hydropl Vegetation		Yes	х	No	
	de photo numbe		separate sheet	.)								

oto numbers here or on a separate sheet.) ks: (include pl

Vegetation meets dominance test and prevalence index indicators for wetland vegetation.



Profile Descr	iption: (Des	cribe to th	ne d	epth I	neede	ed to doc	ument	the indic	cator or	confirm t	he absence of Indicators.)	
Depth		Matrix						Redox F	eatures			
(inches)	Colo	r (moist)		%		Color (m	oist)	%	Type 1	Loc <sup>2</sup>	Texture	Remarks
0 to 9	10YR	5/2		100							SANDY LOAM	
9 to 15	10YR	2.5/2		100							Very gravelly sandy loam	Soil reddened upon air exposure
<sup>1</sup> Type: C=Con	centration, I	D=Depletio	n, R	M=Re	educe	d Martix,	CS=Co	vered or	Coated S	Sand Grai	ins. <sup>2</sup> Location: PL=Pore Lining,	M=Matrix.
Hydric Soil I	ndicators:										Indicators for Problematic Hy	dric Soils: <sup>3</sup>
Histosol (A	1)					Sandy Re	dox (S5)	)			2 cm Muck (A10)	
Histic Epipe	edon (A2)					Stripped N	Matrix (S	6)			Red Parent Material (TF2)	
Black Histic	· · /					Loamy Mu	ucky Min	eral (F1) (	except MI	LRA 1)	Very Shallow Dark Surface (TF	12)
Hydrogen S						Loamy Gl	eyed Ma	atrix (F2)			✓ Other (Explain in Remarks)	12)
	elow Dark Su					Depleted		,			• (	
	Surface (A12					Redox Da					<sup>3</sup> Indicators of hydrophytic vegetation	on and wetland
Sandy Muc	ky Mineral (S	1)				Depleted					hydrology must be present,	
Sandy Gley	ed Matrix (S4	-)				Redox De	pressior	ns (F8)			unless disturbed or problematic.	
Restrict	ive Layer (	if observ	/ed)	):								
Туре:											Hydric Soil Present? Ye	es X No
Depth (inch	nes):											
Remarks:	tod to obcomu		- hia		n Dria	the ned of the				ndiantiva at	f formus soils	
Soils too satura		redoximor		eature	s. Drig	filleneu chi	unas up		05010 15 1	nuicative of	Terrous sons.	
HYDROLOG	Υ											
Wetland Hyd	irology Ind	icators:										
Primary Indic			is r	equire	d; ch	eck all tha	at apply	)			_ Secondary Indicators (minin	num of two required)
Surface Wa	ater (A1)					Wat	er-Stain	ed Leaves	(B9) (exc	cept MLRA	Water-Stained Leaves (E	· · · ·
High Water	. ,					1, 2	, 4A and	4B)	. , .		4A, and 4B)	33) (MEIXA 1, 2,
Saturation						Salt	Crust (E	311)			Drainage Patterns (B10)	
U Water Mark	. ,					Aqu	atic Inve	rtebrates	(B13)		Dry-Season Water Table	
	Deposits (B2)					🗌 Hydi	rogen Su	ulfide Odo	r (C1)		Saturation Visible on Aer	
Drift Depos	,					Oxic	dized Rh	izosphere	s along Li	ving Roots	(C3) Geomorphic Position (D2	- · ·
Algal Mat o	or Crust (B4)					Pres	sence of	Reduced	Iron (C4)		Shallow Aquitard (D3)	-)
Iron Depos	its (B5)					Rec	ent Iron	Reduction	in Tilled S	Soils (C6)	FAC-Neutral Test (D5)	
Surface So	il Cracks (B6)					Stur	nted or S	Stressed P	lants (D1)	(LRR A)	Paised Ant Mounds (D6)	
Inundation	Visible on Ae	rial Imagery	(B7)			Othe	er (Expla	ain in Rem	arks)		Frost-Heave Hummocks	
Sparsely Ve	egetated Con	cave Surfac	e (B{	3)								
Field Observ	ations:											
Surface Wate	er Present?	Ye	es		No	Х	Depth (	(inches):				
Water Table	Present?	Ye	es	Х	No		Depth (	(inches):		10		
Saturation Pr	resent?	Ye	es	Х	No		Depth (	(inches):		8	Wetland Hydrology Present?	Yes <u>X</u> No
(includes cap												
Describe Record	ded Data (stre	am gauge, I	moni	itoring	vell, a	erial photo	s, previo	ous inspec	tions), if a	vailable:		
Remarks: Sample plot has	indicatora fa	r high water	table	· (A 2) ·	and an	turation (A	3)					
Sample plot flas		i ingri watel	ant	- (72) (	anu 3d		oj.					

# WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, and Coast Region

Project/Site:	FWL	E / I-5		City/County:	Fede	eral Way		Sampling Da	te: 2	2/25/201	6
Applicant/Owner	r: _	Sound Transi	t			State:	WA	Sampling Po	int:	SP 27-3	3-1
Investigators:	Lisa	a Danielski	Maki Dalzell		Sectio	on, Towns	ship, Range	SS04 T	T 21	N R R	4 E
Landform (hillslo	ope, te	errace, etc.):		Local R	elief (concave	e, convex	, none):			Slope(	(%)
Subregion (LRR	): A		Lat:		Long:			Datun	n: N/	AD83	
Soil Map Unit Na	ame:	Alderwood	l gravelly sandy loam, 0 to 8 p	ercent slopes		NV	VI Classifica	tion: PFO1			
Are climatic / hy	drolog	ic conditions of	on the site typical for this time	of year? Yes	No	Х	(If No, exp	ain in Remarl	ks)		
Are Vegetation		, Soil,	Hydrology, significantl	y disturbed?	Are "N	ormal Cir	cumstances	" present?	Yes	Х	No
Are Vegetation		, Soil,	Hydrology, naturally p	roblematic?	(lf ne	eded, ex	plain any an	swers in Rem	arks.	)	

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

Hydrophytic Vegetation Present?	Yes	Х	No				
Hydric Soil Present?	Yes	Х	No	Is the Sampled Area			
Wetland Hydrology Present?	Yes	Х	No	within a Wetland? Yes	s	Х	No

#### Remarks:

Sample plot located in southern portion of Wetland 27-3. Above average rainfall occurred in the area several weeks prior to the sample date. Plot meets all three wetland criteria.

VEGETATION- Use scientific	c names of plants.	Absolute % Cover	<u>Dominant</u> Species	Indicator Status	Dominance Test	Norkshoot:			
Tree Stratum (Plot size:	30 Ft )				Number of Domina				
Alnus rubra	/	40	Y	FAC	That Are OBL, FA			2	(A)
		40	=Total Cover						
Shrub Stratum (Plot size:	50 Ft )				Total Number of D Species Across all			3	(B)
Cytisus scoparius	/	1	Y	UPL	•				_ ` '
		1	=Total Cover		Percent of Domina That Are OBL, FA			66.7%	(A/B)
Herb Stratum (Plot size: _	<u>5 Ft</u> )	-		54.014/	Prevalence Index	Worksheet	:		
Juncus effusus		5 5	Y	FACW	Total % Cover	of:	Multi	ply by:	
Vine Stratum			=Total Cover		OBL species	0	x 1 =	0	
					FACW species	5	x 2 =	10	
					FAC species	40	x 3 =	120	
					FACU species	0	x 4 =	0	
					UPL species	1	x 5 =	5	
					Column Totals:	46	(A)	135	(B)
					Prevalence I	ndex = B/A=	·	2.93	
					Hydrophytic Veget	tation Indica	tors:		
					Rapid Test for	Hydrophytic	Vegeta	ation	
					X Dominance Te	est > 50%			
					X Prevalence Ind	dex ≤ 3.0			
					Morphological	Adaptations	(Provi	do cupo	orting
					data in Remar				oning
					Problematic H	ydrophytic V	egetatio	on (Exp	olain)
					Indicators of hydri must be present,				
% Dese Oregand in Userb Otreture					Hydrophytic Vegetation Preser	nt? Yes	x	No	
% Bare Ground in Herb Stratum Remarks: (Include photo numbers here	e or on a separate sheet.)				_				

Vegetation meets dominance test and prevalence index indicators for wetland vegetation.



Profile Description: (Describe to the de	epth neede	d to document	the indic Redox Fe		onfirm tl	he absence of Indicators.)	
(inches) Color (moist)	%	Color (moist)	%		Loc <sup>2</sup>	Texture	Remarks
0 to 11 10YR 2/2	100					Gravelly sandy loam	
11         to         15         10YR         5/2	100					Very gravelly sandy loam	Saturated soils reddened upon air
<sup>1</sup> Type: C=Concentration, D=Depletion, R	M=Reduced	d Martix, CS=Co	vered or (	Coated S	and Graii	ns. 4_ocation: PL=Pore Lining,	
Hydric Soil Indicators:						Indicators for Problematic Hy	dric Soils: <sup>3</sup>
Histosol (A1)		Sandy Redox (S5	)			2 cm Muck (A10)	<u></u>
Histic Epipedon (A2)		Stripped Matrix (S	6)				
Black Histic (A3)		Loamy Mucky Mir	eral (F1) (e	except MLI	RA 1)	Red Parent Material (TF2)	40)
Hydrogen Sulfide (A4)		Loamy Gleyed Ma	atrix (F2)			Very Shallow Dark Surface (TF Other (Explain in Remarks)	12)
Depleted Below Dark Surface (A11)		Depleted Matrix (F	-3)				
Thick Dark Surface (A12)		Redox Dark Surfa	ce (F6)			<sup>3</sup> Indicators of hydrophytic vegetation	on and wotland
Sandy Mucky Mineral (S1)		Depleted Dark Su	rface (F7)			hydrology must be present,	
Sandy Gleyed Matrix (S4)		Redox Depression	ns (F8)			unless disturbed or problematic.	
Restrictive Layer (if observed)	:						
Туре:						Hydric Soil Present? Ye	es X No
Depth (inches):							
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one is re	auired: che	eck all that apply	)			Socondory Indiastora (minir	
Surface Water (A1)	-quire u, erre	Water-Stain		(B9) (exce	ot MLRA	Secondary Indicators (minir	• •
✓ High Water Table (A2)		1, 2, 4A and		() (	F <del>.</del>	Water-Stained Leaves (E 4A, and 4B)	39) (MILRA 1, 2,
Saturation (A3)		Salt Crust (E	311)			Drainage Patterns (B10)	
Water Marks (B1)		Aquatic Inve	rtebrates (I	B13)		Dry-Season Water Table	
Sediment Deposits (B2)		Hydrogen Si	ulfide Odor	(C1)		Saturation Visible on Aer	· · ·
Drift Deposits (B3)		Oxidized Rh	izospheres	along Liv	ng Roots	(C3) Geomorphic Position (D2	
Algal Mat or Crust (B4)		Presence of	Reduced I	ron (C4)		Shallow Aquitard (D3)	-)
Iron Deposits (B5)		Recent Iron	Reduction	in Tilled S	oils (C6)	FAC-Neutral Test (D5)	
Surface Soil Cracks (B6)		Stunted or S	Stressed Pla	ants (D1) (	LRR A)	Paised Ant Mounds (D6)	
Inundation Visible on Aerial Imagery (B7)		Other (Expla	ain in Rema	ırks)		Frost-Heave Hummocks	
Sparsely Vegetated Concave Surface (B8	)						()
Field Observations:							
Surface Water Present? Yes	No	X Depth (	(inches):				
Water Table Present? Yes	X No	Depth (	(inches):		8		
Saturation Present? Yes	X No	Depth (	(inches):		6	Wetland Hydrology Present?	Yes <u>X</u> No
(includes capillary fringe) Describe Recorded Data (stream gauge, monit		vial photos provio	us insporti	one) if av	nilablo:		
Remarks: Sample plot has indicators for high water table				,			

	WETLAND D	ETERMINA	TION	DATA	FORM - V	Western M	lountains	, Valleys, a	nd Coas	st Regi	on		
Project/Site:	FWLE / I-5				City/Coun	ty:	Federal Wa	ay	Sampling	Date:	2/25/20	)16	
Applicant/Owne	r: Sound Transi	t					State	: WA	Sampling	Point:	SP 27	-3-2	
Investigators:	Lisa Danielski		Maki	Dalzell			Section, Tov	vnship, Range	S S 04	T T 21	NR	R 4 E	
Landform (hillslo	ope, terrace, etc.):	Hillslope			L	ocal Relief (co	oncave, conv	vex, none): N	lone		Slop	e(%) 5	
Subregion (LRR	): A		Lat	:		Long	g:		Da	atum: N	AD83		
Soil Map Unit N	ame: Alderwood	d gravelly sand	dy loam,	0 to 8 p	ercent slope			NWI Classifica	ation: No	ne			
Are climatic / hy	drologic conditions	on the site typi	ical for t	his time	of year?	Yes	No X	(If No, exp	lain in Ren	narks)			
Are Vegetation	, Soil,	Hydrology	, sig	nificantl	y disturbed?		Are "Normal	Circumstances	s" present?	Yes	х	No	
Are Vegetation	, Soil,	Hydrology	, na	turally p	oblematic?		(If needed	explain any ar	nswers in R	emarks	)		
SUMMARY	OF FINDINGS	- Attach a	sito m	an sha	wing sar	nnling noi					,	ras at	c
	egetation Present?	Yes		X	willy sai	iipiilig poi		115, transet	515, imp	Jitani	icatui	103, Cl	<b>U</b> .
Hydric Soil Pre	-	Yes	No	X	Is the S	ampled Area	1						
Wetland Hydro	ology Present?	Yes	No	X		Wetland?	•	Yes	No	х			
Remarks:													
	olot located outside not meet any wetla		tern bou	ndary of	Wetland 27	-3. Above ave	erage rainfall	occurred in ar	ea for seve	eral wee	ks prior	to samp	ble
VEGETATIO	<b>DN</b> – Use scienti	ific names o	of plant	ts.	Absolute	Dominant_	Indicator						
Tree Stratum			•		<u>% Cover</u>	<u>Species</u>	<u>Status</u>	Dominance					
	• (PIOL SIZO suga menziesii	e: <u>30 Ft</u>	_ )		20	Y	FACU	Number of That Are Of				1	(A)
Alnus ru	-					- <u> </u>	FAC			, 01 1 / 10	•		
					30	=Total Cover	r	Total Numb Species Acr				2	<b>(D)</b>
Shrub Stratu	m							Species Aci	ioss an Stra	ala.		3	(B)
Herb Stratun	<u>n</u>							Percent of D That Are OB			:	33.3%	(A/B)
Vine Stratum	) (Plot size	e: 30 Ft	)					Prevalence	Index Wo	rksheet	:		
Rubus a	rmeniacus				90	Y	FACU	Total %	Cover of:		Multi	iply by:	
					90	=Total Cover	r	OBL specie	s	0	x 1 =	0	
								FACW spec		0	x 2 =	0	
								FAC species		10	x 3 =	30	
								FACU spec		110	x 4 =	440	
								UPL species		0	x 5 =	0	
								Column Tot		120	(A)	470	(B)
								Preva	lence Inde	x = B/A=		3.92	
								Hydrophytic	· Vegetatio	on Indica	ators:		
								Rapid T	est for Hyd	drophytic	; Vegeta	ation	
								Domina	nce Test >	50%			
								Prevale	nce Index	≤ 3.0			
									logical Ada Remarks o				orting
								Problem	natic Hydro	phytic V	'egetati	on (Ex	olain)
								Indicators of must be pro-					
								Hydrop Vegetation	•	V.			
	l in Herb Stratum			h a - ( )				regetation	. resent?	Yes		No )	K
Remarks: (Inclu	de photo numbers h	ere or on a se	eparate s	sneet.)									

Approximately 10% of ground cover is unidentified mosses. Sample plot shows no indicators of wetland hydrophytic vegetation.



(inches) Color (moi				tures		
	st) %	Color (moist)	% T	ype <sup>1</sup> Loc <sup>2</sup>	Texture	Remarks
0 to 7 10YR 4	/ 2 100				Gravelly sandy loam	
7 to 14 2.5YR 4	/ 4 95	10YR 4/4	5 (	C M	Gravelly sandy loam	
Type: C=Concentration, D=Dep	oletion, RM=Redu	ced Martix, CS=Co	overed or Co	ated Sand Grai	ins. <sup>2</sup> Location: PL=Pore Lining, N	1=Matrix.
ydric Soil Indicators:					Indicators for Problematic Hyd	dric Soils: <sup>3</sup>
Histosol (A1)		Sandy Redox (S5	5)		2 cm Muck (A10)	
Histic Epipedon (A2)		Stripped Matrix (S	,		Red Parent Material (TF2)	
Black Histic (A3)		Loamy Mucky Mi	neral (F1) (exc	cept MLRA 1)	Very Shallow Dark Surface (TF12	2)
Hydrogen Sulfide (A4)		Loamy Gleyed Ma	atrix (F2)		Other (Explain in Remarks)	_)
Depleted Below Dark Surface (	A11)	Depleted Matrix (	(F3)			
Thick Dark Surface (A12)		Redox Dark Surfa	ace (F6)		<sup>3</sup> Indicators of hydrophytic vegetation	n and wetland
Sandy Mucky Mineral (S1)		Depleted Dark Su	urface (F7)		hydrology must be present,	
Sandy Gleyed Matrix (S4)		Redox Depressio	ons (F8)		unless disturbed or problematic.	
Restrictive Layer (if ob	served):					
Туре:					Hydric Soil Present? Yes	s No X
Depth (inches):						sNo_X
Vetland Hydrology Indicator Primary Indicators (minimum of		check all that apply	/)		Secondary Indicators (minim	um of two roquiros
Surface Water (A1)					Secondary Indicators (minim	
High Water Table (A2)		1, 2, 4A and		9) (except MLRA	Water Steined Leovee (PC	
		1, 2, 4A and		9) (except MLRA	Water-Stained Leaves (BS 4A, and 4B)	
7		Salt Crust (	d 4B)	9) (except MLRA	4A, and 4B)	•
Saturation (A3)		Salt Crust (	d 4B)	,, ,	4A, and 4B)	9) (MLRA 1, 2,
Saturation (A3) Water Marks (B1)		Salt Crust (	d 4B) (B11)	3)	4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (	9) (MLRA 1, 2, (C2)
Saturation (A3)		Salt Crust ( Aquatic Inve Hydrogen S	d 4B) B11) ertebrates (B1 Sulfide Odor (C	3)	Water-Statied Leaves (BS 4A, and 4B)     Drainage Patterns (B10)     Dry-Season Water Table (     Saturation Visible on Aeria	9) (MLRA 1, 2, (C2) al Imag.(C9)
Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3)		Salt Crust ( Aquatic Inve Hydrogen S Oxidized RI	d 4B) B11) ertebrates (B1 Sulfide Odor (C	3) 1) long Living Roots	(C3)     (C3)     (C3)     (Valet-Statied Leaves (B3     4A, and 4B)     Drainage Patterns (B10)     Dry-Season Water Table (     Saturation Visible on Aeria     Geomorphic Position (D2)	9) (MLRA 1, 2, (C2) al Imag.(C9)
Saturation (A3) Water Marks (B1) Sediment Deposits (B2)		Salt Crust ( Aquatic Inve Hydrogen S Oxidized RI Presence o	d 4B) B11) ertebrates (B1 Sulfide Odor (C hizospheres al of Reduced Iron	3) 1) long Living Roots	(C3)     (C3)	9) (MLRA 1, 2, (C2) al Imag.(C9)
Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4)		Salt Crust ( Aquatic Inve Hydrogen S Oxidized RI Presence o Recent Iron	d 4B) B11) ertebrates (B1 Sulfide Odor (C hizospheres al of Reduced Iron a Reduction in	3) 1) long Living Roots n (C4)	(C3)     (C3)	9) (MLRA 1, 2, (C2) al Imag.(C9)
<ul> <li>Saturation (A3)</li> <li>Water Marks (B1)</li> <li>Sediment Deposits (B2)</li> <li>Drift Deposits (B3)</li> <li>Algal Mat or Crust (B4)</li> <li>Iron Deposits (B5)</li> </ul>	ıgery (B7)	Salt Crust ( Aquatic Inve Hydrogen S Oxidized RI Presence o Recent Iron Stunted or S	d 4B) B11) ertebrates (B1 Sulfide Odor (C hizospheres al of Reduced Iron a Reduction in	3) i1) long Living Roots n (C4) Tilled Soils (C6) ts (D1) (LRR A)	(C3)     (C3)	9) (MLRA 1, 2, (C2) al Imag.(C9) )
Saturation (A3)         Water Marks (B1)         Sediment Deposits (B2)         Drift Deposits (B3)         Algal Mat or Crust (B4)         Iron Deposits (B5)         Surface Soil Cracks (B6)		Salt Crust ( Aquatic Inve Hydrogen S Oxidized RI Presence o Recent Iron Stunted or S	d 4B) B11) ertebrates (B1 Sulfide Odor (C hizospheres al of Reduced Iron Reduction in Stressed Plan	3) i1) long Living Roots n (C4) Tilled Soils (C6) ts (D1) (LRR A)	(C3)     (C3)	9) (MLRA 1, 2, (C2) al Imag.(C9) )
Saturation (A3)         Water Marks (B1)         Sediment Deposits (B2)         Drift Deposits (B3)         Algal Mat or Crust (B4)         Iron Deposits (B5)         Surface Soil Cracks (B6)         Inundation Visible on Aerial Ima         Sparsely Vegetated Concave S		Salt Crust ( Aquatic Inve Hydrogen S Oxidized RI Presence o Recent Iron Stunted or S	d 4B) B11) ertebrates (B1 Sulfide Odor (C hizospheres al of Reduced Iron Reduction in Stressed Plan	3) i1) long Living Roots n (C4) Tilled Soils (C6) ts (D1) (LRR A)	(C3)     (C3)	9) (MLRA 1, 2, (C2) al Imag.(C9) )
Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Ima Sparsely Vegetated Concave S		Salt Crust ( Aquatic Inve Hydrogen S Oxidized RI Presence o Recent Iron Stunted or S Other (Expl	d 4B) B11) ertebrates (B1 Sulfide Odor (C hizospheres al of Reduced Iron Reduction in Stressed Plan	3) i1) long Living Roots n (C4) Tilled Soils (C6) ts (D1) (LRR A)	(C3)     (C3)	9) (MLRA 1, 2, (C2) al Imag.(C9) )
Saturation (A3)         Water Marks (B1)         Sediment Deposits (B2)         Drift Deposits (B3)         Algal Mat or Crust (B4)         Iron Deposits (B5)         Surface Soil Cracks (B6)         Inundation Visible on Aerial Ima         Sparsely Vegetated Concave S         ield Observations:	Surface (B8)	Salt Crust ( Aquatic Inve Hydrogen S Oxidized RI Presence o Recent Iron Stunted or S Other (Expl D C_X	d 4B) (B11) ertebrates (B1 Sulfide Odor (C hizospheres al of Reduced Iron Reduction in Stressed Plan ain in Remark	3) i1) long Living Roots n (C4) Tilled Soils (C6) ts (D1) (LRR A)	(C3)     (C3)	9) (MLRA 1, 2, (C2) al Imag.(C9) )
Saturation (A3)         Water Marks (B1)         Sediment Deposits (B2)         Drift Deposits (B3)         Algal Mat or Crust (B4)         Iron Deposits (B5)         Surface Soil Cracks (B6)         Inundation Visible on Aerial Ima         Sparsely Vegetated Concave S         ield Observations:         Surface Water Present?	Yes No	Salt Crust ( Aquatic Inve Hydrogen S Oxidized RI Presence o Recent Iron Stunted or S Other (Expl	d 4B) (B11) ertebrates (B1 Sulfide Odor (C hizospheres al of Reduced Iron Reduction in Stressed Plan ain in Remark (inches):	3) i1) long Living Roots n (C4) Tilled Soils (C6) ts (D1) (LRR A)	(C3)     (C3)	9) (MLRA 1, 2, (C2) al Imag.(C9) )
Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Ima Sparsely Vegetated Concave S ield Observations: Surface Water Present? Water Table Present?	Yes No	Salt Crust ( Aquatic Inve Hydrogen S Oxidized RI Presence o Recent Iron Stunted or S Other (Expl O X Depth D X Depth	d 4B) (B11) ertebrates (B1 Sulfide Odor (C hizospheres al of Reduced Iron Reduction in Stressed Plan ain in Remark (inches): (inches):	3) 1) long Living Roots n (C4) Tilled Soils (C6) ts (D1) (LRR A) s)	<ul> <li>Water-Statied Leaves (bs 4A, and 4B)</li> <li>Drainage Patterns (B10)</li> <li>Dry-Season Water Table (</li> <li>Saturation Visible on Aeria</li> <li>Geomorphic Position (D2)</li> <li>Shallow Aquitard (D3)</li> <li>FAC-Neutral Test (D5)</li> <li>Paised Ant Mounds (D6) (</li> <li>Frost-Heave Hummocks (I</li> </ul>	9) (MLRA 1, 2, (C2) al Imag.(C9) ) (LRR A) D7)
Saturation (A3)         Water Marks (B1)         Sediment Deposits (B2)         Drift Deposits (B3)         Algal Mat or Crust (B4)         Iron Deposits (B5)         Surface Soil Cracks (B6)         Inundation Visible on Aerial Ima         Sparsely Vegetated Concave S         ield Observations:         Surface Water Present?         Water Table Present?         Saturation Present?	Yes No Yes No Yes No Yes No	Salt Crust ( Aquatic Inve Hydrogen S Oxidized RI Orisence o Recent Iron Stunted or S Other (Expl O X Depth D D Depth	d 4B) (B11) ertebrates (B1 bulfide Odor (C hizospheres al of Reduced Iron Reduction in Stressed Plan ain in Remark (inches): (inches): (inches):	3) 1) long Living Roots n (C4) Tilled Soils (C6) ts (D1) (LRR A) s)   	<ul> <li>Water-Statied Leaves (bs 4A, and 4B)</li> <li>Drainage Patterns (B10)</li> <li>Dry-Season Water Table (</li> <li>Saturation Visible on Aeria</li> <li>Geomorphic Position (D2)</li> <li>Shallow Aquitard (D3)</li> <li>FAC-Neutral Test (D5)</li> <li>Paised Ant Mounds (D6) (</li> <li>Frost-Heave Hummocks (I</li> </ul>	9) (MLRA 1, 2, (C2) al Imag.(C9) ) (LRR A) D7)
Saturation (A3)         Water Marks (B1)         Sediment Deposits (B2)         Drift Deposits (B3)         Algal Mat or Crust (B4)         Iron Deposits (B5)         Surface Soil Cracks (B6)         Inundation Visible on Aerial Ima         Sparsely Vegetated Concave S         ield Observations:         Surface Water Present?         Water Table Present?         Saturation Present?         (includes capillary fringe)	Yes No Yes No Yes No Yes No	Salt Crust ( Aquatic Inve Hydrogen S Oxidized RI Orisence o Recent Iron Stunted or S Other (Expl O X Depth D D Depth	d 4B) (B11) ertebrates (B1 bulfide Odor (C hizospheres al of Reduced Iron Reduction in Stressed Plan ain in Remark (inches): (inches): (inches):	3) 1) long Living Roots n (C4) Tilled Soils (C6) ts (D1) (LRR A) s)   	<ul> <li>Water-Statied Leaves (bs 4A, and 4B)</li> <li>Drainage Patterns (B10)</li> <li>Dry-Season Water Table (</li> <li>Saturation Visible on Aeria</li> <li>Geomorphic Position (D2)</li> <li>Shallow Aquitard (D3)</li> <li>FAC-Neutral Test (D5)</li> <li>Paised Ant Mounds (D6) (</li> <li>Frost-Heave Hummocks (I</li> </ul>	9) (MLRA 1, 2, (C2) al Imag.(C9) ) (LRR A) D7)
Saturation (A3)         Water Marks (B1)         Sediment Deposits (B2)         Drift Deposits (B3)         Algal Mat or Crust (B4)         Iron Deposits (B5)         Surface Soil Cracks (B6)         Inundation Visible on Aerial Ima         Sparsely Vegetated Concave S         ield Observations:         Surface Water Present?         Water Table Present?         Saturation Present?         (includes capillary fringe)	Yes No Yes No Yes No Yes No	Salt Crust ( Aquatic Inve Hydrogen S Oxidized RI Orisence o Recent Iron Stunted or S Other (Expl O X Depth D D Depth	d 4B) (B11) ertebrates (B1 bulfide Odor (C hizospheres al of Reduced Iron Reduction in Stressed Plan ain in Remark (inches): (inches): (inches):	3) 1) long Living Roots n (C4) Tilled Soils (C6) ts (D1) (LRR A) s)   	<ul> <li>Water-Statied Leaves (bs 4A, and 4B)</li> <li>Drainage Patterns (B10)</li> <li>Dry-Season Water Table (</li> <li>Saturation Visible on Aeria</li> <li>Geomorphic Position (D2)</li> <li>Shallow Aquitard (D3)</li> <li>FAC-Neutral Test (D5)</li> <li>Paised Ant Mounds (D6) (</li> <li>Frost-Heave Hummocks (I</li> </ul>	9) (MLRA 1, 2, (C2) al Imag.(C9) ) (LRR A) D7)

Project/Site: FWLE / I-5	DETERMINATION DAT	City/Coun		Federal Wa	-	Sampling I	-		16	
Applicant/Owner: Sound Tra	ansit			State	: WA	Sampling	Point:	SP 27-	3-3	
Investigators: Lisa Danielsk	ki Maki Dalzel	1		Section, Tov	vnship, Range	S S 04	T T 21	N R F	₹4 E	
Landform (hillslope, terrace, etc.	.):	L	ocal Relief (co	oncave, conv	/ex, none):			Slope	e(%)	
Subregion (LRR): A	Lat:		Long	j:	·	Da	tum: N	AD83		
	vood gravelly sandy loam, 0 to 8	percent slope	es	·	NWI Classifica	tion: Nor	ne			
•	ons on the site typical for this time	• •	Yes	No X	(If No, expl					
	, Hydrology, significan	-			Circumstances			х	No	
-	, Hydrology, naturally	-				•				
					explain any ans			,		
	SS - Attach a site map sh	nowing sai	<u>mpling poi</u>	nt locatio	ns, transec	<u>ts, impo</u>	ortant	featur	es, et	с.
Hydrophytic Vegetation Preser										
Hydric Soil Present?	Yes X No		ampled Area Wetland?		Vaa	Na	v			
Wetland Hydrology Present? Remarks:	Yes No X	within t			Yes	No	X			
Upland sample plot located out Sample plot did not meet all thr	side northern border of Wetland ree wetland criteria.	27-3-3. Abov	e average rair	nfall occurred	in the area sev	/eral week	s prior	to the sa	mple da	ate.
VEGETATION_ Use scie	entific names of plants.	Absolute	Dominant	Indicator						
Tree Stratum		<u>% Cover</u>	<u>Species</u>	<u>Status</u>	Dominance					
					Number of D That Are OB				1	(A)
Shrub Stratum						, - ,				_
	size: <u>5 Ft</u> )		X	510	Total Numbe Species Acro				1	(P)
Agrostis capillaris			Y	FAC	Species Acit	155 all 511a	lla.			(B)
Juncus effusus		51	N =Total Cover	FACW	Percent of D That Are OB			: _1	00.0%	(A/B)
Vine Stratum					Prevalence	Index Wo	rksheet	::		
					Total %	Cover of:		Multip	oly by:	
					OBL species		0	x 1 =	0	
					FACW speci		1	x 2 =	2	
					FAC species		50	x 3 =	150	
					FACU speci		0	x 4 =	0	
					UPL species		0	x 5 =	0	
					Column Tota		51	(A)	152	(B)
					Preval	ence Index	κ = B/A=	=	2.98	
					Hydrophytic	Vegetatio	n Indic	ators:		
					Rapid Te	est for Hyd	rophytic	: Vegeta	tion	
					X Dominar	ice Test >	50%			
					X Prevaler	ice Index ≤	≤ 3.0			
						ogical Ada Remarks or				orting
					Problem	atic Hydro	phytic \	/egetatio	n (Exp	olain)
					Indicators of must be pre					

% Bare Ground in Herb Stratum

Remarks: (Include photo numbers here or on a separate sheet.)

Vegetation meets dominance test and prevalence index indicators for hydrophytic wetland vegetation. Grasses in sample plot area appear to be maintained by spraying and mowing.



Yes

X No

Hydrophytic Vegetation Present?

Depth inches)	Color	(moist)	%	Color (moist)	%	Type 1	Loc <sup>2</sup>	Texture		Rema	rks
,	0YR	3/2	100					FINE SANDY LOAM			
	2.5YR	5/1	95	7.5YR 4/6	5	С	М	Gravelly clay loam			
				ced Martix, CS=C					PL=Pore Lining	g, M=Matrix.	
rpe: C=Concent dric Soil India Histosol (A1) Histic Epipedon Black Histic (A3 Hydrogen Sulfid Depleted Below Thick Dark Surf: Sandy Mucky M Sandy Gleyed M Restrictive Type: Clay ha Depth (inches):	(A2) ) le (A4) Dark Surf ace (A12) lineral (S1) Matrix (S4) Layer (i	ace (A11)		<ul> <li>Sandy Redox (S</li> <li>Stripped Matrix (</li> <li>Loamy Mucky M</li> <li>Loamy Gleyed N</li> <li>Depleted Matrix</li> <li>Redox Dark Sur</li> <li>Depleted Dark S</li> <li>Redox Depressi</li> </ul>	5) S6) ineral (F1) ( 1atrix (F2) (F3) (F3) vace (F6) urface (F7)	(except ML		Indicators for 2 cm Muck Red Parent Very Shallov Other (Expla <sup>3</sup> Indicators of h hydrology mus	Problematic 1 (A10) Material (TF2) w Dark Surface ( ain in Remarks) nydrophytic veget st be present, ed or problemati	Hydric Soils: TF12) tation and wetlar c.	
								Hydric Soil Pres	ent?	Yes X	No
DROLOGY				clay layer. Soils me							
etland Hydrolo	ogy Indi	cators:		check all that appl					Indicators (mi	nimum of two	require
etland Hydrolo	o <b>gy Indi</b> a s (minimu	cators:		check all that app	y) ned Leaves			Secondary	r-Stained Leaves		•
tland Hydrolo	ogy India s (minimu A1)	cators:		check all that appl	y) ned Leaves d 4B)			Secondary	,		
<b>etland Hydrol</b> mary Indicator Surface Water (	ogy India s (minimu A1)	cators:		check all that app Water-Sta 1, 2, 4A ar	y) ned Leaves d 4B) (B11)	s (B9) (exce		Secondary	r-Stained Leaves nd 4B)	s (B9) (MLRA 1,	•
<b>tland Hydrol</b> mary Indicator Surface Water ( High Water Tab	ogy India s (minimu A1) le (A2)	cators:		check all that app Water-Sta 1, 2, 4A ar	y) ned Leaves d 4B)	s (B9) (exce		Secondary Wate 4A, a Drain	or-Stained Leaves and 4B) age Patterns (B <sup>4</sup>	s (B9) (MLRA 1, 10)	
tland Hydrolo mary Indicator: Surface Water ( High Water Tab Saturation (A3)	ogy India s (minimu A1) le (A2) 1)	cators:		check all that appl Water-Stai 1, 2, 4A ar Salt Crust Aquatic Inv	y) ned Leaves d 4B) (B11)	s (B9) (exce (B13)		Secondary Wate 4A, a Drain Dry-S	r-Stained Leaves nd 4B) age Patterns (B <sup>1</sup> Season Water Ta	s (B9) (MLRA 1, 10) ble (C2)	2,
tland Hydrolo mary Indicator: Surface Water ( High Water Tab Saturation (A3) Water Marks (B	ogy India s (minimu A1) le (A2) 1) sits (B2)	cators:		check all that appl Water-Stai 1, 2, 4A ar Salt Crust Aquatic Inv Hydrogen S	y) ned Leaves d 4B) (B11) rertebrates	s (B9) (exce (B13) or (C1)	ept MLRA	Secondary Wate Wate Drain Dry-S Satur	er-Stained Leaves nd 4B) hage Patterns (B <sup>1</sup> Season Water Ta ration Visible on A	s (B9) (MLRA 1, 10) Ible (C2) Aerial Imag.(C9)	2,
tland Hydrolo mary Indicator: Surface Water ( High Water Tab Saturation (A3) Water Marks (B Sediment Depo:	o <b>gy Indi</b> o s (minimu A1) le (A2) 1) sits (B2) 33)	cators:		Check all that appl Water-Stai 1, 2, 4A ar Salt Crust Aquatic Inv Hydrogen S	y) ned Leaves d 4B) (B11) rertebrates Sulfide Odo	s (B9) (exce (B13) or (C1) es along Liv	ept MLRA	Secondary Wate 4A, a Drain Dry-S S (C3) Geom	r-Stained Leaves nd 4B) lage Patterns (B Season Water Ta ration Visible on a norphic Position	s (B9) (MLRA 1, 10) Ible (C2) Aerial Imag.(C9) (D2)	2,
tland Hydrolo mary Indicators Surface Water ( High Water Tab Saturation (A3) Water Marks (B Sediment Depos Drift Deposits (B	ogy India s (minimu A1) le (A2) 1) sits (B2) 33) ust (B4)	cators:		check all that app Water-Sta 1, 2, 4A ar Salt Crust Aquatic Inv Hydrogen S Oxidized F Presence	y) ned Leaves id 4B) (B11) rertebrates Sulfide Odo thizosphere	s (B9) (exce (B13) or (C1) es along Liv I Iron (C4)	ept MLRA	Secondary Wate 4A, a Drain Dry-S S (C3) Satur Satur Satur Satur Satur Satur Satur Satur Satur Satur Satur Satur	r-Stained Leaves ind 4B) age Patterns (B Season Water Ta ration Visible on a norphic Position ow Aquitard (D3)	s (B9) (MLRA 1, 10) ıble (C2) Aerial Imag.(C9) (D2) )	2,
tland Hydrold mary Indicator: Surface Water ( High Water Tab Saturation (A3) Water Marks (B Sediment Depo: Drift Deposits (E Algal Mat or Cru	ogy India s (minimu A1) le (A2) 1) sits (B2) 33) ust (B4) 85)	cators:		check all that appl Water-Stai 1, 2, 4A ar Salt Crust Aquatic Inv Hydrogen Oxidized F Presence Recent Iro	y) ned Leaves id 4B) (B11) rertebrates Sulfide Odo thizosphere of Reduced	s (B9) (exce (B13) or (C1) es along Liv I Iron (C4) n in Tilled S	ept MLRA ving Roots Soils (C6)	Secondary Wate 4A, a Drain Dry-S S(C3) Satur	r-Stained Leaves ind 4B) age Patterns (B Season Water Ta ration Visible on <i>i</i> norphic Position ow Aquitard (D3) Neutral Test (D5	s (B9) (MLRA 1, 10) ıble (C2) Aerial Imag.(C9) (D2) ) ;)	2,
tland Hydrold mary Indicator: Surface Water ( High Water Tab Saturation (A3) Water Marks (B Sediment Depo: Drift Deposits (E Algal Mat or Cru Iron Deposits (E	ogy India s (minimu A1) le (A2) 1) sits (B2) 33) ust (B4) 35) acks (B6)	cators: Im of one is	required; c	check all that appl Water-Stai 1, 2, 4A ar Salt Crust Aquatic Inv Hydrogen S Oxidized F Presence Recent Iro Stunted or	y) ned Leaves d 4B) (B11) rertebrates Sulfide Odo thizosphere of Reduced n Reduction	s (B9) (exce (B13) or (C1) es along Liv I Iron (C4) n in Tilled S Plants (D1)	ept MLRA ving Roots Soils (C6)	Secondary Wate 4A, a Drain Dry-S S (C3) Satur Satur Shall FAC- Paise	r-Stained Leaves ind 4B) age Patterns (B Season Water Ta ration Visible on <i>J</i> norphic Position ow Aquitard (D3) Neutral Test (D5 ed Ant Mounds ([	s (B9) (MLRA 1, 10) ıble (C2) Aerial Imag.(C9) (D2) ı) ;) D6) (LRR A)	2,
tland Hydrold mary Indicators Surface Water ( High Water Tab Saturation (A3) Water Marks (B Sediment Deposits (E Algal Mat or Cru Iron Deposits (E Surface Soil Cra	ogy India s (minimu A1) le (A2) 1) sits (B2) 33) ust (B4) 35) acks (B6) ole on Aeria	al Imagery (B7	required; c	check all that appl Water-Stai 1, 2, 4A ar Salt Crust Aquatic Inv Hydrogen S Oxidized F Presence Recent Iro Stunted or	y) ned Leaves d 4B) (B11) rertebrates Sulfide Odo thizosphere of Reduced n Reduction Stressed P	s (B9) (exce (B13) or (C1) es along Liv I Iron (C4) n in Tilled S Plants (D1)	ept MLRA ving Roots Soils (C6)	Secondary Wate 4A, a Drain Dry-S S (C3) Satur Satur Shall FAC- Paise	r-Stained Leaves ind 4B) age Patterns (B Season Water Ta ration Visible on <i>i</i> norphic Position ow Aquitard (D3) Neutral Test (D5	s (B9) (MLRA 1, 10) ıble (C2) Aerial Imag.(C9) (D2) ı) ;) D6) (LRR A)	2,
tland Hydrolo mary Indicator: Surface Water ( High Water Tab Saturation (A3) Water Marks (B Sediment Deposits Drift Deposits (E Algal Mat or Cru Iron Deposits (E Surface Soil Cra Inundation Visib Sparsely Vegeta	ogy India s (minimu A1) le (A2) 1) sits (B2) 33) ust (B4) 35) acks (B6) ale on Aeria ated Conca	al Imagery (B7	required; c	check all that appl Water-Stai 1, 2, 4A ar Salt Crust Aquatic Inv Hydrogen S Oxidized F Presence Recent Iro Stunted or	y) ned Leaves d 4B) (B11) rertebrates Sulfide Odo thizosphere of Reduced n Reduction Stressed P	s (B9) (exce (B13) or (C1) es along Liv I Iron (C4) n in Tilled S Plants (D1)	ept MLRA ving Roots Soils (C6)	Secondary Wate 4A, a Drain Dry-S S (C3) Satur Satur Shall FAC- Paise	r-Stained Leaves ind 4B) age Patterns (B Season Water Ta ration Visible on <i>J</i> norphic Position ow Aquitard (D3) Neutral Test (D5 ed Ant Mounds ([	s (B9) (MLRA 1, 10) ıble (C2) Aerial Imag.(C9) (D2) ı) ;) D6) (LRR A)	2,
tland Hydrolo mary Indicator: Surface Water ( High Water Tab Saturation (A3) Water Marks (B Sediment Depo: Drift Deposits (E Algal Mat or Cru Iron Deposits (E Surface Soil Cra Inundation Visib Sparsely Vegeta	ogy India s (minimu A1) le (A2) 1) sits (B2) 33) ust (B4) 35) acks (B6) ble on Aeria ated Conca	cators: um of one is al Imagery (Bi ave Surface (F	required; c	check all that appl Water-Stai 1, 2, 4A ar Salt Crust Aquatic Inv Hydrogen Oxidized F Presence Recent Iro Stunted or Other (Exp	y) ned Leaves d 4B) (B11) rertebrates Sulfide Odo thizosphere of Reduced n Reduction Stressed P	s (B9) (exce (B13) or (C1) es along Liv I Iron (C4) n in Tilled S Plants (D1)	ept MLRA ving Roots Soils (C6)	Secondary Wate 4A, a Drain Dry-S S (C3) Satur Satur Shall FAC- Paise	r-Stained Leaves ind 4B) age Patterns (B Season Water Ta ration Visible on <i>J</i> norphic Position ow Aquitard (D3) Neutral Test (D5 ed Ant Mounds ([	s (B9) (MLRA 1, 10) ıble (C2) Aerial Imag.(C9) (D2) ı) ;) D6) (LRR A)	2,
tland Hydrolo mary Indicators Surface Water ( High Water Tab Saturation (A3) Water Marks (B Sediment Deposits (E Algal Mat or Cru Iron Deposits (E Surface Soil Cra Inundation Visib Sparsely Vegeta du Observatio	ogy India s (minimu A1) le (A2) 1) sits (B2) 33) ust (B4) 35) acks (B6) acks (B6) ble on Aeria ated Conca <u>ns:</u> esent?	cators: um of one is al Imagery (B7 ave Surface (B ave Surface (B	required; c	check all that appl         Water-Stain, 2, 4A ar         Salt Crust         Aquatic Inv         Hydrogen 3         Oxidized F         Presence         Recent Iron         Stunted or         Other (Exp	y) ned Leaves d 4B) (B11) rertebrates Sulfide Odo thizosphere of Reduced n Reduction Stressed P lain in Rem	s (B9) (exce (B13) or (C1) es along Liv I Iron (C4) n in Tilled S Plants (D1)	ept MLRA ving Roots Soils (C6)	Secondary Wate 4A, a Drain Dry-S Satur Satur Satur Satur Satur Satur Satur Satur Satur Satur Satur Satur Satur Satur Satur Satur Satur Satur Satur	r-Stained Leaves ind 4B) age Patterns (B Season Water Ta ration Visible on <i>i</i> norphic Position ow Aquitard (D3) Neutral Test (D5 ed Ant Mounds (I -Heave Hummoc	s (B9) (MLRA 1, 10) Ible (C2) Aerial Imag.(C9) (D2) ) ) ) ) ) ) ) ) ) ) ) ) ) ) ) ) ) )	2,
tland Hydrolo mary Indicators Surface Water ( High Water Tab Saturation (A3) Water Marks (B Sediment Deposits (E Algal Mat or Cru Iron Deposits (E Surface Soil Cra Inundation Visib Sparsely Vegeta Id Observatio Vater Table Pres	ogy India s (minimu A1) le (A2) 1) sits (B2) 33) ust (B4) 35) acks (B6) acks (B6) ole on Aeria ated Conca <u>ns:</u> essent? ent?	cators: um of one is al Imagery (B7 ave Surface (B ave Surface (B Yes Yes	required; c	check all that appl         Water-Stai         1, 2, 4A ar         Salt Crust         Aquatic Inv         Hydrogen 3         Oxidized F         Presence 0         Recent Iro         Stunted or         Other (Exp         0         X       Depth	y) ned Leaves d 4B) (B11) rertebrates Sulfide Odo thizosphere of Reduced n Reduction Stressed P lain in Rem	s (B9) (exce (B13) or (C1) es along Liv I Iron (C4) n in Tilled S Plants (D1)	ept MLRA ving Roots Soils (C6)	Secondary Wate 4A, a Drain Dry-S S (C3) Satur Satur Shall FAC- Paise	r-Stained Leaves ind 4B) age Patterns (B Season Water Ta ration Visible on <i>i</i> norphic Position ow Aquitard (D3) Neutral Test (D5 ed Ant Mounds (I -Heave Hummoc	s (B9) (MLRA 1, 10) Ible (C2) Aerial Imag.(C9) (D2) ) ) ) ) ) ) ) ) ) ) ) ) ) ) ) ) ) )	2,
tland Hydrold imary Indicators Surface Water ( High Water Tab Saturation (A3) Water Marks (B Sediment Deposits (E Algal Mat or Cru Iron Deposits (E Surface Soil Cra Inundation Visib Sparsely Vegeta Id Observatio Surface Water Press Saturation Presen includes capillary	ogy India s (minimu A1) le (A2) 1) sits (B2) 33) ust (B4) 35) acks (B6) ole on Aeria ated Conca <b>ns:</b> essent? ent? ent?	al Imagery (B7 ave Surface (f Yes Yes Yes Yes	required; c 7) 38) Nc Nc	check all that appl         Water-Stai         1, 2, 4A ar         Salt Crust         Aquatic Inv         Hydrogen 3         Oxidized F         Presence 0         Recent Iro         Stunted or         Other (Exp         0         X       Depth	y) ned Leaves id 4B) (B11) rertebrates Sulfide Odo thizosphere of Reduced in Reduction Stressed P lain in Rem (inches): (inches): (inches):	s (B9) (exce (B13) or (C1) es along Liv I Iron (C4) n in Tilled S Plants (D1) narks)	ept MLRA ving Roots Soils (C6) (LRR A)	Secondary Wate 4A, a Drain Dry-S Satur Satur Satur Satur Satur Satur Satur Satur Satur Satur Satur Satur Satur Satur Satur Satur Satur Satur Satur	r-Stained Leaves ind 4B) age Patterns (B Season Water Ta ration Visible on <i>i</i> norphic Position ow Aquitard (D3) Neutral Test (D5 ed Ant Mounds (I -Heave Hummoc	s (B9) (MLRA 1, 10) Ible (C2) Aerial Imag.(C9) (D2) ) ) ) ) ) ) ) ) ) ) ) ) ) ) ) ) ) )	2,



	WETLAND D	ETERMIN	ATION DAT	A FORM -	Western M	lountains,	Valleys, ar	nd Coas	t Regi	on		
Project/Site:	FWLE / I-5			City/Coun	ty:	Federal Wa	У	Sampling I	Date: 2	2/25/20	16	
Applicant/Owne	r: Sound Transi	it				State	WA	Sampling	Point:	SP 27-	3-4	
Investigators:	Lisa Danielski		Maki Dalze	ell		Section, Tow	nship, Range	S S 04	T T 21 I	N RF	₹4 E	
Landform (hillsl	ope, terrace, etc.):			L	ocal Relief (c	oncave, conv	ex, none):			Slope	÷(%)	
Subregion (LRF	R): A		Lat:		Long	:		Da	tum: N/	4D83		
Soil Map Unit N	ame: Alderwood	d gravelly sa	ndy loam, 0 to 8	B percent slope	es		NWI Classifica	tion: PEI	V1			
Are climatic / hy	drologic conditions	on the site ty	pical for this tin	ne of year?	Yes	No X	(If No, expl	ain in Rem	arks)			
Are Vegetation	, Soil,	Hydrology	, significa	ntly disturbed?		Are "Normal (	Circumstances	" present?	Yes	Х	No	
Are Vegetation	, Soil,	Hydrology	, naturally	problematic?		(If needed,	explain any ans	swers in R	emarks.	)		
SUMMARY	OF FINDINGS	- Attach a	site man s	howing sa	mnlina noi						es etc	n
	egetation Present?		X No		inping poi		113, 11411300	<u></u> ,pc		catur	<u>,</u>	
Hydric Soil Pro	•		X No	Is the S	ampled Area							
Wetland Hydro	ology Present?		X No		a Wetland?		Yes )	X No				
	sample plot located eets all three wetlan		portion of wetla	nd. Above ave	erage rainfall c	occurred in th	e area several	weeks pric	or to the	sample	date.	
VEGETATI	<b>DN</b> – Use scienti	ific names	of plants.	Absolute	Dominant	Indicator						
Tree Stratun			·	<u>% Cover</u>	<u>Species</u>	<u>Status</u>	Dominance					
							Number of D That Are OB				1	(A)
Shrub Stratu								_,,				-
Herb Stratur	(1100 312)	e: <u>5 Ft</u>	_)	-	V	540	Total Numbe Species Acro				1	(B)
Agrosus	capillaris			<u>5</u> 5	Y	FAC	oposioo / lore			—		_ (D)
Vine Stratun	<u>ı                                    </u>				=Total Cover		Percent of D That Are OB			1	100.0%	(A/B)
							Prevalence	Index Wor	ksheet:			
							Total %	Cover of:		Multip	oly by:	
							OBL species	;	0	x 1 =	0	
							FACW speci	es	0	x 2 =	0	
							FAC species	;	5	x 3 =	15	
							FACU speci	es	0	x 4 =	0	
							UPL species		0	x 5 =	0	
							Column Tota	ls:	5	(A)	15	(B)
							Preval	ence Index	( = B/A=		3.00	
							Hydrophytic	Vegetatio	n Indica	tors:		
							Rapid Te	est for Hyd	rophytic	Vegeta	ition	
							X Dominar	nce Test >	50%			
							X Prevaler	nce Index ≤	3.0			
								ogical Ada Remarks or				orting
							Problem	atic Hydro	phytic V	egetatic	on (Exp	olain)
							Indicators of must be pre					
% Bare Ground	d in Herb Stratum						Hydroph Vegetation F	•	Yes	x	No	

Remarks: (Include photo numbers here or on a separate sheet.)

The majority of Agrostis capillaris on site has been sprayed with herbicide. Percent cover indicates live populations only. Vegetation meets dominance test and prevalence index for wetland vegetation.



	cription: (Desc	<b>ribe to the</b> Matrix	depth r	needed to c	locumen		<b>cator or c</b> eatures	onfirm t	the absence of Indicators.)	
Depth (inches)	Color	(moist)	%	Color	(moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0 to 5	10YR	3/2	95		'R 4/6	5	<u> </u>	М	FINE SANDY LOAM	
5 to 8	2.5YR	5/1	90		R 5/6	10	C	М	Gravelly sandy loam	
<sup>1</sup> Type: C=C	oncentration, D	=Depletion,	RM=Re	educed Mar	ix, CS=C			and Gra	ins. <sup>2</sup> Location: PL=Pore Lining, M	=Matrix.
Histosol Histic Ep Black His Hydroge	pipedon (A2) stic (A3) en Sulfide (A4)			Stripp	/ Redox (S ed Matrix ( / Mucky M / Gleyed N	S6) ineral (F1)	(except ML	RA 1)	Indicators for Problematic Hyd	
Thick Da Sandy M Sandy G	d Below Dark Surfa ark Surface (A12) Mucky Mineral (S1) Gleyed Matrix (S4)			Redov	ted Matrix Cark Surf ted Dark S CDepressio	ace (F6) urface (F7)			<sup>3</sup> Indicators of hydrophytic vegetation hydrology must be present, unless disturbed or problematic.	and wetland
Restrie     Type: _     Depth (ir	ctive Layer (if	observed	d):						Hydric Soil Present? Yes	X No
	lydrology Indic									
Primary Inc	dicators (minimu	im of one is	require	d; check all	that appl	y)			Secondary Indicators (minimu	m of two required)
<ul> <li>✔ High Wa</li> <li>✓ Saturatic</li> <li>✓ Water M</li> <li>Sedimen</li> <li>Drift Dep</li> <li>Algal Ma</li> <li>Iron Dep</li> <li>Surface</li> <li>Inundatic</li> <li>Sparsely</li> </ul>	larks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) on Visible on Aeria / Vegetated Conca				1, 2, 4A an Salt Crust Aquatic Inv Hydrogen S Oxidized R Presence o Recent Iror Stunted or	d 4B) (B11) rertebrates Sulfide Odo thizosphere of Reduced	r (C1) es along Liv I Iron (C4) n in Tilled S Plants (D1)	ing Roots oils (C6)	AA, and 4B)     Drainage Patterns (B10)     Dry-Season Water Table (     Saturation Visible on Aeria	C2) I Imag.(C9) RR A)
Field Obse	ater Present?	Yes Yes Yes	<u> </u>	No <u>X</u> No No	Depth	(inches): (inches): (inches):		<u>6</u> 3	Wetland Hydrology Present?	Yes <u>X</u> No
Water Tab Saturation	Present? capillary fringe)	103								

WETLA	ND DETERMIN	ATION DATA	FORM - N	Western M	ountains,	, Valleys, ai	nd Coas	t Regi	on		
Project/Site: FWLE / I-5			City/Count	ty:	Federal Wa	ay	Sampling I	Date:	2/25/201	16	
Applicant/Owner: Sound	d Transit				State	: WA	Sampling	Point:	SP 28-2	2-1	
Investigators: Lisa Dan	ielski	Maki Dalzell			Section, Tov	vnship, Range	S S 09	T T 21	NRR	4 E	
Landform (hillslope, terrace,	etc.):		L	ocal Relief (co	oncave, conv	/ex, none):			Slope	(%)	
Subregion (LRR): A	·	Lat:		Long	:	·	Da	tum: N	AD83	· /	
• • <u>·</u>	derwood gravelly san	dv loam, 8 to 15	percent slop		-	NWI Classifica	ation: Nor				
Are climatic / hydrologic con	<b>0</b> ,		• •	Yes	No X	(If No, exp					
Are Vegetation, Soi						Circumstances		,	х	No	
Are Vegetation, Soi		-	•	r						NO _	
						explain any an					
SUMMARY OF FIND		-	owing sar	npling poi	nt locatio	ns, transec	ts, impo	rtant	featur	es, et	C.
Hydrophytic Vegetation Pr	resent? Yes	NoX									
Hydric Soil Present?	Yes	No X		ampled Area Wetland?							
Wetland Hydrology Preser Remarks:	nt? Yes	No X	within a	wellanu?		Yes	No	X			
Largely unvegetated samp period. Sample plot meets			land 28-2. A	bove average	rainfall occu	irred in area fo	r several w	eeks pri	or to sa	mpling	
VEGETATION_ Use	scientific names	of plants.	Absolute % Cover	Dominant Species	Indicator Status	Deminence	TeetMen				
Tree Stratum			<u>/// 00/01</u>	000000	otatao	Dominance Number of [					
Shrub Stratum (r	Not size: E0 Et	)				That Are OE				1	(A)
Rubus spectabilis	Plot size: <u>50 Ft</u>	_ )	1	Y	FAC	Tetel Neuroba					
· · · · · · · · · · · · · · · · · · ·			1	=Total Cover		Total Number Species Acre				2	(B)
Herb Stratum											_ ` `
Vine Stratum	Plot size: 30 Ft	)				Percent of D That Are OB			<u> </u> !	50.0%	(A/B)
Rubus ursinus		,	10	Y	FACU	Prevalence	Index Wor	ksheet			
			10	=Total Cover			Cover of:		Multip	ly by:	
						OBL species		0	$\frac{1}{x 1} =$	0	
						FACW species		0	x 2 =	0	
						FAC species		1	x 3 =	3	
								10	x 4 =	40	
						FACU spec		0	x 5 =	0	
						UPL species		-	(A)	43	(B)
							lence Index		· · ·	2.04	
										3.91	
						Hydrophytic	-				
							est for Hyd		Vegeta	tion	
							nce Test >				
						Prevaler	nce Index ≤	3.0			
							ogical Ada Remarks or				orting
						Problem	natic Hydro	phytic V	egetatio	n (Exp	plain)
						Indicators o must be pre					
% Bare Ground in Herb Str	atum					Hydroph Vegetation		Yes	1	No X	ĸ
Remarks: (Include photo nu		eparate sheet.)									
Vegetation does not meet i		. ,									

	ption: (Des	c <b>ribe to the</b> Matrix	depth ne	eded to docur		cator or confirr	n the absence of Indicators.)	
Depth (inches)	Color	(moist)	%	Color (moi		Type <sup>1</sup> Loc <sup>2</sup>	Texture	Remarks
0 to 12	10YR	4/3	100				Gravelly sandy loam	
12 to 14	10YR	3/3	100			·	Gravelly clay loam	
				uced Martix. CS	S=Covered or	Coated Sand G		M=Matrix.
		-1 ,		,-				
Hydric Soil In				Candy Dada	(DE)		<b>Indicators for Problematic Hy</b>	<u>dric Soils:</u> <sup>3</sup>
Histosol (A1	,			Sandy Redo	. ,		2 cm Muck (A10)	
Black Histic				Stripped Ma	. ,	(except MLRA 1)	Red Parent Material (TF2)	
Hydrogen S	. ,				•		Very Shallow Dark Surface (TF	12)
_ , ,	elow Dark Sur			Depleted Ma	red Matrix (F2)		Other (Explain in Remarks)	
	Surface (A12)			_ ·	Surface (F6)			
	ky Mineral (S1			_	ark Surface (F7)	N N	<sup>3</sup> Indicators of hydrophytic vegetation	on and wetland
_	ed Matrix (S4)				ressions (F8)	/	hydrology must be present, unless disturbed or problematic.	
Restricti	ve Layer (i	f observe	d):					
Туре:								
Depth (inch	es):						Hydric Soil Present? Ye	es <u>No X</u>
Remarks: No hydric soil ind	dicators obser	ved in soil sa	nple.					
HYDROLOG	Y							
Wetland Hyd Primary Indica			required;	check all that	apply)		Secondary Indicators (minin	num of two required)
Surface Wa	ter (A1)			Water	-Stained Leaves	s (B9) (except MLF		. /
High Water	Table (A2)			1, 2, 4	A and 4B)		4A, and 4B)	(WEIGT 1, 2,
Saturation (	A3)			Salt C	rust (B11)		✓ Drainage Patterns (B10)	
U Water Mark	s (B1)			Aquati	c Invertebrates	(B13)	Dry-Season Water Table	(C2)
Sediment D	eposits (B2)				gen Sulfide Odo	( )	Saturation Visible on Aer	
Drift Deposi	ts (B3)			Oxidiz	ed Rhizosphere	es along Living Ro	ots (C3) Geomorphic Position (D2	
Algal Mat or	r Crust (B4)			Presei	nce of Reduced	I Iron (C4)	Shallow Aquitard (D3)	·)
Iron Deposi	ts (B5)			Recen	t Iron Reduction	n in Tilled Soils (Co	6) FAC-Neutral Test (D5)	
Surface Soi	I Cracks (B6)			L Stunte	ed or Stressed F	Plants (D1) (LRR A		(LRR A)
Inundation \	visible on Aeri	al Imagery (B	7)	Other	(Explain in Rem	narks)	Frost-Heave Hummocks	
Sparsely Ve	egetated Conc	ave Surface (	B8)					( )
Field Observa	ations:							
Surface Wate	r Present?	Yes	N	lo <u>X</u> D	epth (inches):			
Water Table F	Present?	Yes	<u>    X    N</u>	lo D	epth (inches):	14		
Saturation Pre	esent?	Yes	<u>X</u> N	lo D	epth (inches):	13	Wetland Hydrology Present?	Yes No_X_
(includes capi								
Describe Record	led Data (strea	am gauge, mo	onitoring we	ll, aerial photos,	previous inspec	tions), if available		
Remarks:								
Sample plot doe	s not meet we	tland hydrolo	gy indicators	s; saturation and	water table too	deep for early gro	owing season.	

WETLAND DETERMINAT	ION DATA FORM -	Western M	ountains,	Valleys, ar	nd Coast	Regic	'n		
Project/Site: FWLE / I-5	City/Cour	nty:	Federal Wa	у	Sampling Da	ate: 2	/25/20	16	
Applicant/Owner: Sound Transit			State:	WA	Sampling P	oint:	SP 28-	-2-2	
Investigators: Lisa Danielski	Maki Dalzell		Section, Tow	nship, Range	S S 09 T	<sup>-</sup> T 21 N	IRF	२ 4 E	
Landform (hillslope, terrace, etc.):	l	_ocal Relief (co	oncave, conv	ex, none):			Slope	∋(%)	
Subregion (LRR): A	Lat:	Long	:		Datu	ım: NA	D83		
Soil Map Unit Name: Alderwood gravelly sandy	loam, 8 to 15 percent slo			NWI Classifica	tion: PSS	1			
Are climatic / hydrologic conditions on the site typica	al for this time of year?	Yes	No X	(If No, expl	ain in Rema	ırks)			
Are Vegetation, Soil, Hydrology	_, significantly disturbed	? 4	Are "Normal (	 Circumstances	" present?	Yes	х	No	
Are Vegetation, Soil, Hydrology	_, naturally problematic?		(If needed a	explain any an	swers in Rer	marks )			
	to man chawing an	malina noi				,		roc ot	•
SUMMARY OF FINDINGS - Attach a si Hydrophytic Vegetation Present? Yes X	No	inping poi		is, transec	is, impor		zalui	<u>es, en</u>	. تا
Hydric Soil Present? Yes X		Sampled Area							
Wetland Hydrology Present? Yes X		a Wetland?		Yes	X No				
Remarks:									
Wetland sample plot located at southern end of We	etland 28-2. Above averag	ge rainfall occu	rred in area f	or several wee	eks prior to s	ampling	) perio	d.	
VEGETATION- Use scientific names of	plants. <u>Absolute</u> <u>% Cover</u>	Dominant Species	Indicator Status	Dominance	Toot Works	haati			
Tree Stratum	<u>/// 00/01</u>	000000	otatuo	Number of E					
Shrub Stratum (Plot size: <u>50 Ft</u> )				That Are OE				1	(A)
Rubus spectabilis	5	Y	FAC	Total Numbe	r of Domino				
	5	=Total Cover		Total Numbe Species Acro				2	(B)
Herb Stratum									-
Vine Stratum				Percent of D That Are OB				50.0%	(A/B)
(Plot size: 30 Ft ) Rubus ursinus	2	Y	FACU						
	2	=Total Cover		Prevalence		sneet:	N 4 14:		
					Cover of:	0	x 1 =	ply by: 0	
				OBL species			x 2 =	0	—
				FACW speci			x 3 =	15	
				FAC species		-	x 4 =	8	
				FACU speci			x 5 =	0	
				UPL species			-		
				Column Tota	als:	7 (	A) _	23	(B)
				Preval	ence Index =	= B/A=		3.29	
				Hydrophytic	Vegetation	Indicat	ors:		
				Rapid Te	est for Hydro	ophytic V	√egeta	ation	
				Dominar	nce Test > 5	0%			
					nce Index ≤ 3				
					ogical Adapt Remarks or c				orting
				Problem	atic Hydroph	nytic Ve	getatic	on (Exp	olain)
					f hydric soil a sent, unless				
				Hydroph	•				
% Bare Ground in Herb Stratum				Vegetation I	Present?	Yes	X	No	
Remarks: (Include photo numbers here or on a sepa	arate sheet.)								

Ground cover consisted of 1% mosses. Vegetation does not meet indicators for hydrophytic vegetation.



7       to       14       10YR       4 / 2       95       7.5YR 4/6       5       C       M       Gravely :         ''Type: C=Concentration, D=Depletion, RM=Reduced Martix, CS=Covered or Coated Sand Grains.       India         Histosol (A1)       Sandy Redox (S5)       India         Histosol (A2)       Stripped Martix (S6)       India         Black Histic (A3)       Loamy Gleyed Matrix (F2)       India         Depleted Below Dark Surface (A11)       Depleted Matrix (F2)       India         Trick Dark Surface (A12)       Redox Dark Surface (F6)       3 Ir         Sandy Gleyed Matrix (S4)       Redox Dark Surface (F7)       4 Ir         Sandy Gleyed Matrix (S4)       Redox Depressions (F8)       0 Ir         Restrictive Layer (if observed):       Type:       1 Prestige       1 Prestige         Type:       Depleted matrix (F3).       Hydric       1 Prestige       1 Prestige         Wetland Hydrology Indicators:       Primary Indicators (minimum of one is required; check all that apply)       Saturation (A3)       Saturation (A1)       1 Prestige (A2)       1 Prestige (A2)         Saturation (A3)       Saturation (A3)       Saturation (A3)       Saturation (A1)       Prestige (A1)       1 Prestige (A1)       1 Prestige (A1)       1 Prestige (A1)       1 Prestige (A1) <td< th=""><th>ce of Indicators.)</th><th>n the absenc</th><th>r or confirm</th><th>ndicat</th><th>ument the i</th><th>ed to docu</th><th>neede</th><th>depth i</th><th>cribe to the</th><th>iption: (Des</th><th>Profile Descr</th></td<>	ce of Indicators.)	n the absenc	r or confirm	ndicat	ument the i	ed to docu	neede	depth i	cribe to the	iption: (Des	Profile Descr
Image: Constraint of the second se									Matrix		Depth
7       to       14       10YR       4 / 2       95       7.5YR 4/6       5       C       M       Gravely :         ''Type: C=Concentration, D=Depletion, RM=Reduced Martix, CS=Covered or Coated Sand Grains.       India         Histosol (A1)       Sandy Redox (S5)       India         Histosol (A2)       Stripped Matrix (S6)       India         Black Histic (A3)       Loarny Gleyed Matrix (F2)       India         Depleted Below Dark Surface (A12)       Redox Dark Surface (F6)       3 Ir         Trick Dark Surface (A12)       Depleted Dark Surface (F7)       3 Ir         Sandy Gleyed Matrix (S4)       Redox Dark Surface (F7)       3 Ir         Type:	Texture Remarks		pe <sup>1</sup> Loc <sup>2</sup>	, <u>T</u>	oist) %	Color (mo		%	(moist)	Color	(inches)
Type: C=Concentration, D=Depletion, RM=Reduced Martix, CS=Covered or Coated Sand Grains.         Hydric Soil Indicators:       Indii         Histosol (A1)       Sandy Redox (S5)         Black Histic (A2)       Stripped Matrix (S6)         Black Histic (A3)       Loamy Mucky Mineral (C1) (except MLRA 1)         Hydrogen Sulfide (A4)       Loamy Gleyed Matrix (F2)         Depleted Below Dark Surface (A12)       Redox Dark Surface (F6)         Sandy Mucky Mineral (S1)       Depleted Matrix (F3)         Sandy Gleyed Matrix (S4)       Redox Dark Surface (F7)         Type:       Depth (inches):         Remarks:       Sample plot meets hydric soil indicator depleted matrix (F3).         Wetland Hydrology Indicators:       Primary Indicators ((minimum of one is required; check all that apply)         Surface Water (A11)       Vater-Stained Leaves (B9) (except MLRA 1, 2, 4A and 4B)         Water Table (A2)       1, 2, 4A and 4B)         Water Marks (B1)       Satt Crust (B11)         Water Marks (B1)       Aquatic Invertebrates (B13)         Satiface Water (At1)       Presence of Reduced Iron (C4)         Primary Indicators (B3)       Oxtidized Rhizospheres along Living Roots (C3)         Mitgh Water Table (A2)       Oxtidized Rhizospheres along Living Roots (C3)         Strince Soil Cracks (B6)       Struted or Stressed Plants (D1) (LRR	andy loam	Gravelly sa						100	2/2	10YR	0 to 7
Hydric Soil Indicators:       Indix         Histosol (A1)       Sandy Redox (S5)         Histic Epipedon (A2)       Stripped Matrix (S6)         Black Histic (A3)       Loamy Mucky Mineral (F1) (except MLRA 1)         Hydrogen Suffide (A4)       Loamy Gleyed Matrix (F2)         Depleted Below Dark Surface (A11)       Depleted Matrix (F3)         Thick Dark Surface (A12)       Redox Dark Surface (F6)         Sandy Mucky Mineral (S1)       Depleted Dark Surface (F7)         Sandy Gleyed Matrix (S4)       Redox Depressions (F8)         Restrictive Layer (if observed):       Type:         Type:       Depleted matrix (F3).         Hydrology Indicators:       Hydric         Primary Indicators (minimum of one is required; check all that apply)         Surface Water (A1)       Uater-Stained Leaves (B9) (except MLRA         High Water Table (A2)       4.2.4 And 4B         High Water Table (A2)       Ald and tB)         Water Marks (B1)       Aquatic Invertebrates (B13)         Sediment Deposits (B2)       Hydrogen Sulfide Odor (C1)         Drift Deposits (B3)       Oxidized Rhizospheres along Living Roots (C3)         Hyder Cracks (B6)       Stunted or Stressed Plants (D1) (LRR A)         In J. 2.4 Ad and 4B)       Presence of Reduced Iron (C4)         In Deposits (B5)	andy loam	Gravelly sa	М	(	/6 5	7.5YR 4/		95	4/2	10YR	7 to 14
Histosol (A1)       Sandy Redox (S5)         Histo Epipedon (A2)       Stripped Matrix (S6)         Black Histic (A3)       Loamy Mucky Mineral (F1) (except MLRA 1)         Hydrogen Sulfide (A4)       Loamy Gleyed Matrix (F2)         Depleted Below Dark Surface (A11)       Depleted Matrix (F3)         Thick Dark Surface (A12)       Redox Dark Surface (F6)         Sandy Mucky Mineral (S1)       Depleted Dark Surface (F7)         Sandy Gleyed Matrix (S4)       Redox Depressions (F8)         Restrictive Layer (if observed):       Type:         Type:	Location: PL=Pore Lining, M=Matrix.	rains. 2	ted Sand Gra	or Co	CS=Covered	ed Martix, C	educe	RM=Re	=Depletion,	centration, D	<sup>1</sup> Type: C=Con
Remarks:         Sample plot meets hydric soil indicator depleted matrix (F3).         HYDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (minimum of one is required; check all that apply)         Surface Water (A1)       Water-Stained Leaves (B9) (except MLRA 1, 2, 4A and 4B)         Image: High Water Table (A2)       Salt Crust (B11)         Image: Saturation (A3)       Salt Crust (B11)         Image: Sediment Deposits (B2)       Hydrogen Sulfide Odor (C1)         Image: Drift Deposits (B3)       Oxidized Rhizospheres along Living Roots (C3)         Algal Mat or Crust (B4)       Presence of Reduced Iron (C4)         Image: Iron Deposits (B5)       Recent Iron Reduction in Tilled Soils (C6)         Surface Soil Cracks (B6)       Stunted or Stressed Plants (D1) (LRR A)         Image: Inundation Visible on Aerial Imagery (B7)       Other (Explain in Remarks)         Sparsely Vegetated Concave Surface (B8)       Surface Water Present?         Field Observations:       No       X       Depth (inches):         Water Table Present?       Yes       X       No       Depth (inches):	Soil Present?       Yes X No	Indica 2 R R V C 3 Ind hyc unl		F1) (exc 2) 5) F7)	dox (S5) Matrix (S6) ucky Mineral (f eyed Matrix (F Matrix (F3) ırk Surface (F6 Dark Surface (	Sandy Red Stripped M Loamy Mud Loamy Gle Depleted M Redox Darl Depleted D			face (A11)	Indicators: 1) edon (A2) c (A3) Sulfide (A4) Below Dark Sur Surface (A12) cky Mineral (S1 yed Matrix (S4 ive Layer (	Hydric Soil I         Histosol (A         Histic Epipe         Black Histic         Hydrogen S         Depleted B         Thick Dark         Sandy Muc         Sandy Gley         Restrict         Type:
Surface Water (A1)       Water-Stained Leaves (B9) (except MLRA 1, 2, 4A and 4B)         High Water Table (A2)       Salt Crust (B11)         Saturation (A3)       Salt Crust (B11)         Water Marks (B1)       Aquatic Invertebrates (B13)         Sediment Deposits (B2)       Hydrogen Sulfide Odor (C1)         Drift Deposits (B3)       Oxidized Rhizospheres along Living Roots (C3)         Algal Mat or Crust (B4)       Presence of Reduced Iron (C4)         Iron Deposits (B5)       Recent Iron Reduction in Tilled Soils (C6)         Surface Soil Cracks (B6)       Stunted or Stressed Plants (D1) (LRR A)         Inundation Visible on Aerial Imagery (B7)       Other (Explain in Remarks)         Sparsely Vegetated Concave Surface (B8)       Field Observations:         Surface Water Present?       Yes       No       X       Depth (inches):         Water Table Present?       Yes       X       Depth (inches):       8									cators:		
Surface Water Present?         Yes         No         X         Depth (inches):            Water Table Present?         Yes         X         No         Depth (inches):         8	Secondary Indicators (minimum of two required)         Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)         Drainage Patterns (B10)         Dry-Season Water Table (C2)         Saturation Visible on Aerial Imag.(C9)         Geomorphic Position (D2)         Shallow Aquitard (D3)         FAC-Neutral Test (D5)         Paised Ant Mounds (D6) (LRR A)         Frost-Heave Hummocks (D7)	RA bts (C3)	) ng Living Roots (C4) Iled Soils (C6) (D1) (LRR A)	tes (B1 Ddor (C neres al ced Iron ction in ed Plan	er-Stained Lea , 4A and 4B) Crust (B11) atic Invertebra rogen Sulfide ( dized Rhizosph sence of Redu ent Iron Reduc nted or Stresse	Wate 1, 2, - Salt C Aqua Hydro Vidi Recei Stunt	d; che	7)	al Imagery (B7	ater (A1) r Table (A2) (A3) ks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) bil Cracks (B6) Visible on Aer egetated Conc	Surface Wa         ✓ High Water         ✓ Saturation         ✓ Water Mark         Sediment I         Drift Depos         Algal Mat or         Iron Depos         Surface So         Inundation         Sparsely V
(includes capillary fringe)         Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:         Remarks:         Sample plot exhibits indicators for high water table (A2) and saturation (A3).	and Hydrology Present? Yes <u>X</u> No		5	s): s):	Depth (inches Depth (inches s, previous ins	aerial photos,	No No well, a	X nitoring	Yes Yes am gauge, mo	er Present? Present? resent? <u>billary fringe)</u> ded Data (stre	Surface Wate Water Table Saturation Pr (includes cap Describe Record

# WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, and Coast Region

Project/Site:	FW	LE / I-5		City/County:	Feder	ral Way		Sampling Date:	2/25/2016	6
Applicant/Owner	:	Sound Transit				State:	WA	Sampling Point:	SP 28-3-	-1
Investigators:	Li	sa Danielski	Maki Dalzell		Section	n, Town	ship, Range	SS28 TT21	NRR	4 E
Landform (hillslo	pe, t	terrace, etc.):		Local R	elief (concave	, conve	k, none):		Slope(	%)
Subregion (LRR	):	A	Lat:		Long:			Datum: N	IAD83	
Soil Map Unit Na	ame:	Alderwood	gravelly sandy loam, 8 to 15 p	percent slopes		N	WI Classifica	ation: PFO1		
Are climatic / hy	drolo	gic conditions o	n the site typical for this time of	of year? Yes	No	Х	(If No, exp	lain in Remarks)		
Are Vegetation		_, Soil,	Hydrology, significantly	/ disturbed?	Are "No	ormal Ci	rcumstances	s" present? Yes	Х	No
Are Vegetation		_, Soil,	Hydrology, naturally pr	oblematic?	(If nee	eded, ex	plain any an	swers in Remarks	s.)	

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

Hydrophytic Vegetation Present?	Yes	Х	No				
Hydric Soil Present?	Yes	Х	No	Is the Sampled Area			
Wetland Hydrology Present?	Yes	Х	No	within a Wetland?	Yes	Х	No

Remarks:

Sample plot located near western boundary of Wetland 28-3. Above average rainfall occurred in the area several weeks prior to sample date. Sample plot meets all three wetland criteria.

<b>/EGETATION</b> — Use scientific names of plants.	<u>Absolute</u> <u>% Cover</u>	Dominant Species	Indicator Status	Dominance Test V	Norksheet:			
Tree Stratum (Plot size: <u>30 Ft</u> )		-		Number of Domina				
Alnus rubra	50	Y	FAC	That Are OBL, FA		:	2	(A)
	50	=Total Cover						
Shrub Stratum (Plot size: 50 Ft )				Total Number of De Species Across all			3	(B)
Spiraea douglasii	30	Y	FACW					_ ` `
Oemleria cerasiformis	10	Y	FACU	Percent of Domina That Are OBL, FAC		:	66.7%	(A/I
Herb Stratum	40	=Total Cover		Prevalence Index				
				Total % Cover	of	Multir	oly by:	
Vine Stratum				OBL species	0	x 1 =	0	—
				FACW species	30	x 2 =	60	
				FAC species	50	x 3 =	150	
				FACU species	10	x 4 =	40	
				UPL species	0	x 5 =	0	
				Column Totals:	90	(A)	250	(B
				Prevalence I	ndex = B/A:	= -	2.78	_
				Hydrophytic Veget	tation Indic	ators:		
				Rapid Test for	Hydrophyti	c Vegeta	ation	
				X Dominance Te	est > 50%			
				X Prevalence Inc	dex ≤ 3.0			
				Morphological data in Remark				ortin
				Problematic H		•		olain)
				Indicators of hydri must be present,	c soil and w unless distu	rbed or	ydrolog problem	y atic.
Bare Ground in Herb Stratum				Hydrophytic Vegetation Preser	nt? Yes	x	No	

Ground cover mosses observed within sample plot. Vegetation meets dominance test and prevalence index for hydrophytic vegetation.



Opposition         Color (moist)         %         Color (moist)         %         Type 1         Loc 2         Texture         Remarks           0         10         9         10/K         3/.2         100		ption: (Des	<b>cribe to the</b> Matrix	depth n	eede	ed to document			confirm (	the absence of Indicators.)	
0       10       9       10/R       3/2       100         9       10       14       2.5YR       4/2       95       10/R 4/6       5       C       M       Gravely sandy leam         Type: C-Concentration, D=Depletion, RM=Reduced Martix, CS=Covered or Coated Sand Grains.       R-Catalon: PL=Pore Lining, M=Matrix.         Hydric Soil Indicators:       Sandy Redox (S5)       Indicator Stor Problematic Hydric Soils; 3         Histosol (A1)       Sandy Redox (S5)       C       M Catalow Dark Surface (A10)         Black Histos (A2)       Learny Mudey Mineril (F1) (except MLR A 1)       Depleted Martix (F3)       Depleted Martix (F3)         Composition (A2)       Redox Dark Surface (F7)       Sindicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.         Sandy Mudey Mineral (F1)       Depleted Dark Surface (F7)       Brack Martix (F3)       Sindicators of hydrophytic vegetation and wetland hydrology Indicators:         Type:       Restrictive Layer (if observed):       Hydric Soil Present?       Yes       No         Primary Indicator (minimum of one is required; check all that apply)       Sinface Water (A11)       Saturator Water G81       Saturator Water G810         Surface Water (A1)       Quater Interestion Reduced Iron (C4)       Saturator Water G810       Saturator Water G810         Wetland Hydrology	•	Color		%	-	Color (moist)			Loc <sup>2</sup>	Texture	Remarks
9       to 14       2.5YR       4/2       95       10YR 4/6       5       C       M       Gravelly sandy loam         Trype: C-Concentration, D-Depletion, RM-Reduced Martix, CS-Covered or Coated Sand Grains.       4. Cacation: PL=Pore Lining, M=Matrix.         Hydric Soil Indicators:       Biatoci (A)       Sandy Redox (S5)       Indicators for Problematic Hydric Soils: 3         Histic Explored n (A2)       Sinpard Matrix (S6)       Indicators for Problematic Hydric Soils: 3         Hydrice Soil Mide (A4)       Loary Wlwcy Mineral (F1) (except MLRA 1)       Red Parent Material (F2)         Hydrice Soil Mide (A1)       Depleted Matrix (F3)       Biatoch Material (F1)         Bindy Midey Mineral (S1)       Depleted Natrix (F3)       Biatoch Material (F1)         Sindy Gleyed Matrix (S4)       Redox Depressions (F8)       3 <sup>1</sup> Indicators of Hydrophytic vegatation and wetland hydrology must be resent.         Type:		10YR	3/2	100	·					FINE SANDY LOAM	
Hydric Soil Indicators:       Indicators for Problematic Hydric Soils; 3         Histosof (A1)       Sandy Redox (S5)         Histosof (A2)       Stripped Matrix (S1)         Black Histic Explactor (A2)       Comy Mucky Mineral (F1) (secopt MLRA 1)         Hydrogen Sulfide (A4)       Loamy Gleyed Matrix (F2)         Depleted Boro Dark Surface (A11)       Depleted Matrix (F2)         Sandy Mucky Mineral (S1)       Depleted Dark Surface (F7)         Sandy Gleyed Matrix (S4)       Redox Dark Surface (F7)         Type:       Depleted Dark Surface (F7)         Depleted Dark Surface (F7)       Hydric Soil Present?         Yes:       X         No       Depleted matrix (F3)         Soils meet hydric soil indicator for depleted matrix (F3).         HYDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (minimum of one is required; check all that apply)         Surface Water (A1)       L.2.4A and 49)         Staturation (A3)       Gast Crust (B11)         Water Marks (B1)       And 48)         Surface Water (A1)       Darkage Reserver (C1)         Water Marks (B1)       And 48)         Staturation (A3)       Gast Crust (B13)         Bast Crust (B1)       Darkage Reserver (C1)         Marker Marks (B1)						10YR 4/6	5	С	M	Gravelly sandy loam	
Histosol (A1)       Sandy Redox (S5)         Histosol (A2)       Stripped Matrix (S1)         Black Histic (A3)       Learny Muck (A10)         Depleted Below Dark Surface (A11)       Depleted Matrix (F2)         Depleted Below Dark Surface (A12)       Redox Dark Surface (F1)         Sandy Muck y Mineral (S1)       Depleted Matrix (F3)         Sandy Gleyed Matrix (S4)       Redox Depressions (F3)         Implement Report (G1)       Redox Depressions (F3)         Hydric Soil Present?       Yes X         Vectand Hydrology Indicators:       Present?         Primary Indicators (Minimum of one is required; check all that apply)       Saturation (A3)         Sutrate Water (A1)	<sup>1</sup> Type: C=Con	centration, D	=Depletion,	RM=Re	duce	d Martix, CS=C	overed or	Coated S	Sand Gra	ins. 4Location: PL=Pore Lining, N	//=Matrix.
Wetland Hydrology Indicators:         Primary Indicators (minimum of one is required; check all that apply)         Surface Water (A1)       Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)         Image: High Water Table (A2)       1, 2, 4A and 4B)         Mater Table (A2)       Saturation (A3)         Mater Marks (B1)       Aquatic Invertebrates (B13)         Diff Deposits (B2)       Hydrogen Sulfide Odor (C1)         Diff Deposits (B3)       Oxidized Rhizospheres along Living Roots (C3)         Algal Mat or Crust (B4)       Presence of Reduced Iron Reduction in Tilled Soils (C6)         Surface Soil Cracks (B6)       Stunted or Stressed Plants (D1) (LRR A)         Inundation Visible on Aerial Imagery (B7)       Other (Explain in Remarks)         Field Observations:       Saturation Present?         Surface Water Present?       Yes         Yes       X         Water Table Present?       Yes         Yes       X         Output functions:       3         Water Table Present?       Yes         Yes       X         No       Depth (inches):         Saturation Present?       Yes         Yes       X         No       Depth (inches):         Saturation Present?       Yes         <	Histosol (A' Histic Epipe Black Histic Hydrogen S Depleted B Thick Dark Sandy Muc Sandy Gley <b>Restricti</b> Type: Depth (inch Remarks:	1) edon (A2) : (A3) Sulfide (A4) elow Dark Sur Surface (A12) ky Mineral (S1 ve Matrix (S4) ve Layer (i es):	) if observed			Stripped Matrix ( Loamy Mucky Mi Loamy Gleyed M Depleted Matrix ( Redox Dark Surf Depleted Dark S	S6) ineral (F1) latrix (F2) (F3) ace (F6) urface (F7)		RA 1)	<ul> <li>2 cm Muck (A10)</li> <li>Red Parent Material (TF2)</li> <li>Very Shallow Dark Surface (TF1</li> <li>Other (Explain in Remarks)</li> <li><sup>3</sup> Indicators of hydrophytic vegetation hydrology must be present, unless disturbed or problematic.</li> </ul>	2) on and wetland
Water Table Present?       Yes       X       No       Depth (inches):       8         Saturation Present?       Yes       X       No       Depth (inches):       3       Wetland Hydrology Present?       Yes       X       No         (includes capillary fringe)       Image: Comparison of the second state of th	Wetland Hyd         Primary Indica         □       Surface Wa         ✓       High Water         ✓       Saturation (         ✓       Water Mark         □       Sediment D         □       Drift Depos         □       Algal Mat o         □       Iron Deposi         □       Surface Soi         □       Inundation V         ►       Field Observer	Irology Indi ators (minim tter (A1) Table (A2) (A3) as (B1) Deposits (B2) its (B3) r Crust (B4) its (B5) il Cracks (B6) Visible on Aeri egetated Conc ations:	um of one is ial Imagery (B	7)	l; che	Water-Stain 1, 2, 4A an Salt Crust ( Aquatic Inv Hydrogen S Oxidized R Presence c Recent Iror Stunted or	ned Leaves d 4B) (B11) ertebrates Sulfide Odd hizosphere of Reduced n Reduction Stressed F	(B13) or (C1) es along Liv I Iron (C4) n in Tilled S Plants (D1)	ving Roots Goils (C6)	Water-Stained Leaves (B 4A, and 4B)     Drainage Patterns (B10)     Dry-Season Water Table     Saturation Visible on Aeri     Geomorphic Position (D2     Shallow Aquitard (D3)     FAC-Neutral Test (D5)     Paised Ant Mounds (D6)	9) (MLRA 1, 2, (C2) ial Imag.(C9) ) (LRR A)
Remarks:	Water Table I Saturation Pr (includes cap Describe Record	Present? esent? illary fringe)	Yes Yes	x x	No No	Depth Depth	(inches): (inches):	ctions), if av	3	Wetland Hydrology Present?	Yes _X_ No

# WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, and Coast Region

Project/Site:	FWLE / I-5		City/County:	Feder	al Way		Sampling Date:	2/25/2016	
Applicant/Owner:	Sound Transit				State:	WA	Sampling Point:	SP 28-3-2	
Investigators:	Lisa Danielski	Maki Dalzell		Section	n, Towns	ship, Range	S S 09 T T 21	N RR4E	
Landform (hillslop	pe, terrace, etc.):	Hillslope	Local Re	elief (concave,	, convex	, none): No	ne	Slope(%)	3
Subregion (LRR)	: A	Lat:		Long:			Datum: N	IAD83	
Soil Map Unit Na	me: Alderwood	gravelly sandy loam, 8 to 15 p	ercent slopes		N۱	<b>NI Classificat</b>	tion: None		
Are climatic / hyd	Irologic conditions c	on the site typical for this time o	of year? Yes	No	Х	(If No, expla	ain in Remarks)		
Are Vegetation	, Soil,	Hydrology, significantly	disturbed?	Are "No	rmal Cir	cumstances'	present? Yes	X No	
Are Vegetation	, Soil,	Hydrology, naturally pro	oblematic?	(If nee	eded, ex	plain any ans	wers in Remarks	s.)	

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

Hydrophytic Vegetation Present?	Yes		No	Х				
Hydric Soil Present?	Yes	Х	No		Is the Sampled Area			
Wetland Hydrology Present?	Yes	Х	No		within a Wetland?	Yes	No	X

#### Remarks:

Paired upland plot located outside north western boundary of Wetland 28-3. Above average rainfall occurred in area for several weeks prior to sample date. This plot does not meet all wetland indicators.

VEGETATION Use scientific names of plants.	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test	Norksheet			
Tree Stratum (Plot size: <u>30 Ft</u> )				Number of Domina				
Alnus rubra	60	Y	FAC	That Are OBL, FA			3	(A)
	60	=Total Cover						
Shrub Stratum (Plot size: <u>50 Ft</u> )				Total Number of D Species Across all			6	(B)
Oemleria cerasiformis	20	Y	FACU				•	_ (=)
Crataegus monogyna	10	Y	FAC	Percent of Domina			50.0%	(A/E
	30	=Total Cover		That Are OBL, FA	CW, or FAC	:		_ (
Herb Stratum (Plot size: 5 Ft )				Prevalence Index	Workshee	t:		
Polystichum munitum	30	Y	FACU	Total % Cover	of:	Multip	oly by:	
Poa pratensis	10	Y	FAC	OBL species	0	x 1 =	0	
Taraxacum officinale	5	N	FACU	FACW species	0	x 2 =	0	
	45	=Total Cover		FAC species	80	x 3 =	240	
Vine Stratum (Plot size: 30 Ft )				FACU species	80	x 4 =	320	
(PIOL SIZE, SUPL ) Rubus ursinus	25	Y	FACU	UPL species	0	x 5 =	0	
	25	=Total Cover		Column Totals:	160	(A)	560	(B)
				Column Totals:		_(.)		
				Prevalence I	ndex = B/A	=	3.50	
				Hydrophytic Veget	ation Indic	ators:		
				Rapid Test for	Hydrophyti	c Vegeta	ition	
				Dominance Te	est > 50%			
				Prevalence Inc	dex ≤ 3.0			
				Morphological data in Remar				orting
				Problematic H		•	,	plain)
				Indicators of hydri must be present,				
				Hydrophytic Vegetation Preser	nt? Yes		No )	x

Ground cover occupied by approximately 30% mosses. Vegetation does not meet wetland indicators for hydrophytic vegetation.



	iption: (Des	scribe to the Matrix	depth nee	eded to docu		cator or Features	confirm	the absence of Indicators.)	
Depth (inches)	Colo	r (moist)	%	Color (mo			Loc <sup>2</sup>	Texture	Remarks
0 to 13	10YR	3/2	100					SANDY LOAM	
13 to 18	2.5Y	5/2	95	10YR 4/	/6 5	С	M	Gravelly sandy loam	Soils compacted
					CS=Covered or		Sand Gra	ins. <sup>2</sup> Location: PL=Pore Lir	ning, M=Matrix.
Depleted B     Thick Dark     Sandy Muc     Sandy Gle	1) edon (A2) c (A3) Sulfide (A4) selow Dark Su Surface (A12 cky Mineral (S yed Matrix (S4 ive Layer (	) 1) 4) (if observe	d):	Loamy Gle Depleted M Redox Dar Depleted I	Matrix (S6) icky Mineral (F1) eyed Matrix (F2)		_RA 1)	Indicators for Problemati         2 cm Muck (A10)         Red Parent Material (TF2)         Very Shallow Dark Surfac         Other (Explain in Remarks) <sup>3</sup> Indicators of hydrophytic ve hydrology must be present, unless disturbed or problem         Hydric Soil Present?	) e (TF12) s) getation and wetland
Saturation Vater Marl Sediment I Diff Depos Algal Mat c Iron Depos Surface Sc Inundation Sparsely V Field Observ	ators (minim ater (A1) r Table (A2) (A3) ks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) will Cracks (B6) Visible on Ae egetated Con rations:	num of one is rial Imagery (B cave Surface (	7) B8)	<ul> <li>Wate 1, 2,</li> <li>Salt</li> <li>Aqua</li> <li>Hydri</li> <li>Oxid</li> <li>Pres</li> <li>Rece</li> <li>Stun</li> <li>Othe</li> </ul>	er-Stained Leave 4A and 4B) Crust (B11) atic Invertebrates ogen Sulfide Odd lized Rhizospher ence of Reduced ent Iron Reductio ated or Stressed I er (Explain in Ren	(B13) or (C1) es along Li d Iron (C4) n in Tilled 3 Plants (D1)	ving Roots Soils (C6)	Water-Stained Lea 4A, and 4B) Drainage Patterns Dry-Season Water Saturation Visible of	Table (C2) on Aerial Imag.(C9) on (D2) O3) D5) s (D6) (LRR A)
Water Table Saturation Pr (includes cap	Present? resent?	Yes	X N	0	Depth (inches): Depth (inches): Depth (inches):		17 16	Wetland Hydrology Preser	nt? Yes <u>X</u> No
Field Observ Surface Wate Water Table Saturation Pr (includes cap	ations: er Present? Present? resent? villary fringe)	Yes Yes Yes	N N N	o o		  ctions), if a	16	Wetland Hydrology Prese	nt? Yes <u>X</u> No_