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# Ecosystems Technical Analysis Methodology

**May 2020** 



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#### 1 INTRODUCTION

This Ecosystem Resources Technical Analysis Methodology memorandum briefly describes the methods that will be used to prepare the Ecosystem Resources element of the West Seattle and Ballard Link Extensions project Environmental Impact Statement (EIS). The ecosystems analysis will identify and document potential long-term operational and short-term construction impacts to wetlands, threatened and endangered species, vegetation, wildlife habitat, wildlife, and aquatic species and habitat.

#### 2 GUIDING REGULATIONS, PLANS, AND POLICIES

In addition to the relevant regulations considered in all environmental analyses, the following will also be considered:

#### 2.1 Federal

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

#### 2.2 State

- Hydraulic code (Washington Administrative Code [WAC] Chapter 220-110)
- Shoreline Management Act (SMA)

- Protection of Wetlands, Governor's Executive Order (EO) 89-10
- Protection of Wetlands, EO 90-04
- Water Pollution Control Act, 90.48 Revised Code of Washington (RCW)
- Wetland Mitigation in Washington State (Ecology et al., 2006)

#### 2.3 Local

- Critical Area Ordinances (CAOs) City of Seattle Municipal Code Chapter 25.09,
   Regulations for Environmentally Critical Areas
- City of Seattle Municipal Code Chapter 23.60A, Seattle Shoreline Master Program Regulations
- City of Seattle Municipal Code Chapter 25.11, Tree Protection
- City of Seattle, Department of Construction and Inspections, Director's Rule 16-2008,
   Designation of Exceptional Trees
- City of Seattle Executive Order 03-05, Tree Replacement
- City of Seattle, Department of Construction and Inspections, Director's Rule 13-2018, Great Blue Heron

#### 2.4 Miscellaneous

- King County In-Lieu Fee Mitigation Program (King County, 2018)
- Sound Transit environmental and sustainability plans and policy (Sound Transit, 2018)
- Sound Transit Sustainability Plan Update (Sound Transit, 2015)
- Sound Transit Stream Assessment Guidelines (Sound Transit, 2016)
- Sound Transit Executive Order Number 1: Establishing a Sustainable Initiative (Sound Transit, 2007)

#### 3 DATA NEEDS AND SOURCES

Data needs for this resource include information on ecosystems resources that will be affected by the construction and operation of the project, including the project footprint and mitigation sites. Data needs and sources that should be considered include:

- Natural Resources Conservation Service (NRCS) Web Soil Survey maps
- U.S. Fish and Wildlife Service (USFWS) National Wetland Inventory (NWI)

- USFWS List of threatened and endangered species that may occur in proposed project location (obtained for project)
- National Oceanic and Atmospheric Administration (NOAA) Fisheries Endangered Species Act species lists
- Washington Department of Fish and Wildlife (WDFW) Priority Habitats and Species (PHS)
  data
- WDFW SalmonScape data
- Washington Natural Heritage Program rare plant database
- Washington State Department of Ecology 303(d) listed waters information
- Washington Department of Fisheries catalog of Washington streams and salmon utilization (Williams et al., 1975)
- King County parcel information
- City of Seattle Department of Construction & Inspections environmentally critical areas geographic information system (GIS) data
- City of Seattle street tree inventory GIS data
- Documented wetlands from other projects

#### 4 STUDY AREA AND AREA OF EFFECT

The study area for ecosystem resources will vary according to the type of resource and will be measured from the project footprint and area used for construction.

- Wetlands: 300 feet from project limits.
- Vegetation: 200 feet from project limits and any regulated trees (as defined per jurisdiction).
- Wildlife and wildlife habitat: 200 feet from project limits. Also review documented occurrences of sensitive wildlife species within 0.25 mile of the project limits (0.5 mile if higher noise sources such as blasting or pile driving are proposed).
- Aquatic resources: Reconnaissance-level aquatic habitat surveys will be conducted for aquatic habitats within the City of Seattle's Shoreline District, including the Duwamish Waterway and Salmon Bay. Reconnaissance-level aquatic habitat surveys will be conducted 300 feet downstream, 100 feet upstream at each of the water body crossings, and the entire stretch of any water body paralleling the project within 200 feet from the edge of the project

limits. The survey may extend to 300 feet upstream if channel configuration could result in stream buffers overlapping the project limits. For streams or water bodies with ESA listed species, the study area includes at least the segment of stream or water body that sound could travel in water (i.e., to first bend in the channel or where noise would dissipate to background levels). If project-related underwater sound could potentially travel further than these distances, the longer distance will be surveyed.

#### 5 AFFECTED ENVIRONMENT

#### 5.1 Field Reconnaissance Survey Methodology

After collecting and reviewing existing information, the biologists will conduct a detailed field reconnaissance survey within the study area to identify and confirm ecosystem resources that could be affected by the project. Formal delineations (flagging and professional land surveying) of wetlands, ordinary high water mark (OHWM), or other resources will generally not be conducted, but may be needed on a case-by-case basis.

#### 5.1.1 Wetlands

A field survey will be conducted to identify, map, and describe wetlands and other waters within the study area. Field surveys will occur on publicly owned property (e.g., Longfellow Creek greenspace and Southwest Queen Anne greenbelt) and private properties, if accessible. Vegetation, soil, and hydrology conditions will be documented at representative locations (sample plots) using methods outlined in the U.S. Army Corp 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 Version 2.0 (USACE, 2010). These sample plots will be identified in the field with labeled flagging and documented using a global positioning system (GPS) unit or survey techniques. Both wetland and upland sample plots will be documented. The wetland and upland sample plots need to be paired and within close proximity to each other. If a wetland contains multiple vegetation types (e.g., forested and scrub/shrub), at least one wetland sample plot will be located in each vegetation type. A minimum of two wetland determination data forms will be developed for each wetland and then an additional data form for each additional wetland vegetation type in the study area. Observations of existing conditions and characteristics will be recorded for each wetland and associated buffer.

Wetlands will be classified according to the USFWS (Cowardin et al., 1979; FGDC 2013) and hydrogeomorphic (Brinson, 1993) classification systems and rated according to local jurisdiction critical area ordinances and the Washington State Wetland Rating System for Western Washington (Hruby, 2004) or the 2014 Update (Hruby, 2014), depending upon the affected jurisdiction. Wetlands will be classified and rated according to local critical area requirements. Wetland functions will be evaluated through the use of the Washington State Wetland Rating System for Western Washington – 2014 Update, as well as WSDOT's Wetland Functions Characterization Tool for Linear Projects (Null et al., 2000).

Wetland assessments will provide estimates of extent for all wetlands and other waters in the study area, including those on properties lacking access, using remote sensing and best professional judgment. Vegetation and potential wetlands for areas where rights of entry have

not been obtained will be identified based on field reconnaissance from public areas; current local, state, and federal habitat maps and reports; and the examination of aerial photographs. Potential wetlands will be rated using these same sources of information. Where specific information is not known (such as the hydrologic regime), preliminary assessments will be made using available information.

Those areas that appear to possess all three wetland indicators will be included in the EIS and technical report in order to provide a conservative estimate of potential impacts from each alternative. Documented wetlands from other projects or sources will be evaluated and, where appropriate, included in the wetland findings. Each wetland identified in the study area will receive a unique identifier that will be tracked in a GIS database. As new information is collected on project wetlands, data will be recorded in an Excel spreadsheet that will be linked to the GIS data. Wetland names will start with the letter "W" and the next two letters will be based on the City of Seattle jurisdiction they are located in (Seattle = SE) followed by a number reflecting the order encountered in the field (1, 2, 3, etc.). For example, Wetland WSE4 would be the fourth field-identified wetland in Seattle.

#### 5.1.2 Aquatic Species and Habitat

The aquatic species and habitat assessment will focus on key habitats and aquatic features that may be impacted by the project and that are directly related to ecological functions that support aquatic ecosystems. Similar to wetlands, a detailed field reconnaissance survey will be conducted to identify, map, and describe aquatic species and habitat within public rights-of-way within the study area (e.g., Longfellow Creek riparian corridor). These documented water bodies will be included in the EIS aquatic species and habitat findings. The descriptions will correlate with the Water Resources analysis.

Sound Transit's Stream Habitat Assessment Guidelines (Sound Transit, 2016) (Attachment A) will be used to determine the level of information that should be collected for each identified stream. In accordance with the stream habitat assessment guidelines, research and field surveys will be conducted to identify, map, and describe aquatic species and habitats within the study area. This project will utilize the Phase 1 Project approach (planning level study) to provide analysis for SEPA/NEPA and ESA coordination. Within the Phase 1 approach, the project will use Track A methods for assessing riparian vegetation effects where property access is not granted, and Track B methods on Sound Transit, WSDOT, or City of Seattle right-of-way/easement areas. General information will be collected in the field and stream OHWM will be estimated and mapped using a GPS unit if possible. Biologists will collect information about the condition of in-stream and riparian habitats and identify the OHWM of streams.

Field assessment will be limited to areas accessible from public right of way, lands open to the public, and other lands where access is allowed (including private property where the property is accessible) for purposes of this survey. Aquatic habitats outside of public rights-of-way will be identified based on field reconnaissance from public areas; current local, state, and federal habitat maps and reports; and the examination of aerial photographs. Those areas outside of public rights-of-way and which are not open to the public or accessible that appear to be aquatic habitat will be included in the EIS findings to provide a conservative estimate of the potential impacts for each alternative.

Background information about riparian vegetation, physical in-stream habitat, biological connectivity, water quality and quantity, stream typing, and fish presence and habitat use will be collected during the pre-field review phase. Additionally, aquatic species habitat will be

described, when possible and applicable, in a sub-basin context. Habitat will be assessed with the assumption that anadromous fish may one day be able to access the area even if they cannot under present conditions where no natural barriers exist. To the extent information is currently available or can be readily ascertained in the field, downstream fish passages, including any impediments to fish passage, will be evaluated for each identified aquatic habitat. Field observations will be limited to the study area, however, available information (like the WDFW SalmonScape map) would be used to evaluate downstream fish passage to the next fish-bearing stream.

Each stream identified in the study area will receive a unique identifier that will be tracked in aGIS database. As new information is collected on project streams, data will be recorded in an Excel spreadsheet that will be linked to the GIS data. If a stream already has a formal name, it will be used. Unnamed stream names will start with the letter "S" and the next two letters will be based on the City of Seattle jurisdiction they are located in (Seattle = SE) followed by the order they are encountered in the field (1, 2, 3, etc.). For example, Stream SSE2 would be the second field-identified stream in Seattle. Other types of aquatic habitat (lakes, ponds, bays, waterways, etc.) will be identified by formal name, if available, or named in a system similar to the stream naming convention described above.

#### 5.1.3 Vegetation, Wildlife, and Wildlife Habitat

To establish the basis for the analysis of effects on vegetation, wildlife, and wildlife habitat, the biologists will delineate and classify land cover on aerial photographs and visit a sample of these areas within the study area (including the Shoreline Districts) during the field reconnaissance survey. Information from Green Cities Alliance, Forterra, or other existing land cover analyses may be incorporated into the vegetation assessment if readily available. Major plant communities/habitat types will be identified and classified based on the structural categories defined in Wildlife-Habitat Relationships in Oregon and Washington (Johnson and O'Neil, 2001). Heritage and exceptional trees as defined by the City of Seattle will be noted and included in the analysis. Invasive species populations that have been mapped by King County iMap will be included in the analysis.

To support the analysis of effects on wildlife, the biologists will identify wildlife species that are associated with the land cover types in the study area, and with specific habitat elements within each cover type. Biologists will also assess locations of known ecologically sensitive areas and important wildlife occurrences that may be sensitive to disturbance from noise or human presence. This will include review of site-specific wildlife data, including bird surveys (e.g., eBird 2018). This information will be supplemented with data gathered during field visits.

Washington State Department of Natural Resources (DNR) Natural Heritage Program and WDFW publications will be used to identify important habitats and the wildlife species that use them. Vegetation data, including dominant plant species composition and relative abundance, will be gathered and classified by habitat type using field observation, aerial photographs, and pertinent literature. Maps will be developed showing plant communities/habitat types and special features, based on the habitat delineation exercise described above. Invasive species noted during fieldwork will be discussed qualitatively but will not be mapped. GIS data from the WDFW PHS program will be used to generate maps of the distribution of priority habitats and species, and other key ecological features needed to analyze impacts. DNR Natural Heritage Program data will also be used to identify rare plant populations in the study area. Sensitive information regarding the locations of proposed, candidate, and listed species and habitats will

be described but not mapped to protect the integrity of this information. Threatened and endangered species and critical habitat tables will be generated using the latest data provided on the USFWS and NOAA Fisheries web sites.

#### 5.1.3.1 Great Blue Heron

The City of Seattle has mapped great blue heron management areas in two greenspaces in the West Seattle segment of the project: Camp Long - Longfellow Creek Greenspace, and the West Duwamish Greenbelt. WDFW's Priority Habitat Species also documents great blue heron in the Camp Long - Longfellow Creek Greenspace and the West Duwamish Greenbelt. Presence of a heron rookery near the project corridor was confirmed in 2018. This habitat in the Longfellow Creek Greenspace and the West Duwamish Greenbelt will be resurveyed in 2019. Previously mapped areas and the results of the 2018 and 2019 surveys will be documented. Monitoring of the West Duwamish Greenbelt will be conducted annually throughout the EIS phase to confirm bird activity in the project area.

#### **5.1.3.2 Bald Eagle**

The City of Seattle has mapped a bald eagle management area in the West Duwamish Greenbelt. No nests were identified near the project corridor during a 2018 survey. Suitable habitat in the West Duwamish Greenbelt will be resurveyed in 2019. Previously mapped areas and the results of the 2018 and 2019 surveys will be documented. Monitoring of the West Duwamish Greenbelt will be conducted annually throughout the EIS phase to assess whether bald eagles are nesting in the greenbelt.

#### **6 ENVIRONMENTAL IMPACT ANALYSIS**

The impact analysis will assess the potential direct, indirect, and cumulative ecosystem impacts of the project alternatives, including the No Build alternative. The impacts analysis is divided into long term operation impacts and short-term construction impacts. The impact analysis will describe the extent, magnitude, duration, and character of impacts on ecosystem resources for each alternative. Impacts will be quantified where appropriate and possible (e.g., area of wetland impacts).

#### **6.1 Direct Impacts**

Impacts on wetlands and buffers will be described based on direct impacts from both long-term effects (filling or other permanent displacement) and short-term construction-related effects (including effects associated with construction staging areas). If a contiguous wetland lies partially within the project limits, then best professional judgment will be used to determine any project effects, as defined by Wetland Mitigation in Washington State (Ecology et al., 2006), on the portion of the wetland outside of the project limits. If the remaining wetland is degraded by project construction or operation, then its acreage will be included in the impact table. The impact table will quantify the expected direct impacts on each wetland resulting from each alternative. Functional effects that extend beyond the area of direct wetland impacts will also be assessed.

Direct impacts on aquatic species habitat will be determined by evaluating the acreage of each water body and riparian buffer that would be eliminated for each alternative. Direct impacts on

aquatic species will be assessed qualitatively by considering such factors as the regional significance of the resident and anadromous fish species resource, fish habitat value (such as its role as a migration corridor or spawning), degree of connectivity and loss of habitat following project implementation, overall habitat quality, and potential for enhancing or restoring aquatic habitat or connectivity. Construction and operational impacts on aquatic species from water quality degradation, loss of habitat, shading, and habitat degradation will also be assessed.

Direct impacts on vegetation and wildlife habitat will be determined by evaluating the acreage of each major vegetation type that would be eliminated for each alternative. Impacts will also be 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 habitat quality, and the potential for enhancing or restoring unique plant communities or wildlife habitat or connectivity. Construction and operational impacts on wildlife, including disturbances from increases in human access, noise, and light, will also be assessed. Direct impact on rare plant populations will be determined by evaluating acreage of these populations that would be eliminated for each alternative. Additionally, the biologists will analyze the potential for the project to cause the spread of noxious or invasive plant species.

Potential direct impacts to be considered for threatened and endangered species (aquatic and terrestrial) include direct mortality, disturbance and displacement effects, and loss or degradation of habitat. This could require consultations with NOAA Fisheries and USFWS under ESA Section 7 as the project approaches the Final EIS. The Biological Assessment (BA) would be prepared as the Final EIS is initiated, following the identification and/or confirmation of the preferred alternative and the results of the preliminary engineering efforts focused in the preferred alternative. Consultation with the agencies will be coordinated through Sound Transit's ESA Coordinator throughout the environmental review process. Information received from the existing documents, field surveys, and agency consultation could identify habitats or areas to be avoided or protected. Impact avoidance is discussed in greater detail in the Mitigation Measures section.

#### 6.2 Indirect Impacts

Indirect impacts are potential effects that would be caused by the project alternatives at a later time or farther distance but are still reasonably foreseeable. These may include effects related to station area developments by others, such as changes in the pattern of land use, population density, or water quality through the project. 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 considered part of the project alternatives. Indirect impacts on ecosystem resources will be analyzed qualitatively.

#### 6.3 Cumulative Impacts

The total effects of the project on ecosystem resources will be determined by combining the project's impacts with other past, present, and reasonably foreseeable future actions. These actions include other transportation or infrastructure projects, or other planned or pending land use actions or developments in the study area.

#### 7 MITIGATION MEASURES

Potential impacts to ecosystem resources will be controlled through project planning, design, and the application of required best management practices (BMPs) during construction and operation. Measures to avoid and minimize potential impacts of the alternatives will be incorporated as appropriate. Where impacts cannot be avoided or minimized, mitigation measures will be developed.

The project will use a mitigation sequencing approach based on a hierarchy of avoiding and minimizing adverse impacts through careful design, rectifying temporary impacts, and compensating for unavoidable adverse impacts. A listing of BMPs will be developed identifying measures that could be implemented to avoid or reduce adverse impacts on ecosystem resources during construction and operation. Potential mitigation will be identified and evaluated for project locations where adverse impacts could occur. Advanced mitigation, mitigation banks, and in-lieu fee programs that Sound Transit could propose to use for compensatory mitigation will also be included in the review of mitigation opportunities. Mitigation measures will include specific goals and objectives and will specify monitoring criteria against which proposed mitigation measures can be compared. Conceptual mitigation measures will be generally described in enough detail so that reviewing agencies can determine the likelihood of the proposed mitigation succeeding and meeting all stated objectives, including providing compensation for unavoidable impacts so there is no net loss of area and/or function.

The final EIS will include a summary of conservation measures from the Endangered Species Act consultation with the USFWS and NOAA Fisheries.

#### 8 PROPOSED FIGURES, MAPS, OR OTHER DATA

Maps of vegetation land cover, wetlands, water bodies, and high-value habitat will be prepared.

#### 9 DOCUMENTATION

An Ecosystems Technical Report will be prepared with chapters covering wetland resources, aquatic resources, wildlife, and vegetation.

The wetland chapter of the report will contain field data sheets and labeled photos that will be indexed on segment maps. Each photo will be catalogued with location and other basic information such as date and direction of view to assist Sound Transit in initiating preliminary consultation with the U.S. Army Corps of Engineers, Washington State Department of Ecology, and local jurisdictions for wetland permitting.

The aquatic resources chapter of the report will characterize existing aquatic conditions in Duwamish Waterway and Salmon Bay (including field data sheets and photographs) and will detail elements for species and habitats of concern within the project area, including threatened and endangered species, critical habitat, and essential fish habitat (EFH) that would typically be addressed in the BA. The effects on these resources will be noted for each alternative and mapped (confidential if concerning threatened and endangered species). All official correspondence will be incorporated into an appendix.

The wildlife and vegetation chapter of the report will characterize existing terrestrial conditions and will also include species and habitats of concern, including threatened and endangered species that would typically be included in the BA.

An Ecosystem Resources EIS section will be prepared summarizing the Ecosystems Technical Report.

Unless required otherwise by the resource agencies, one BA will be prepared during the Final EIS for the preferred alternative only. The BA will address species concerning both NOAA Fisheries and USFWS in one document. The BA will follow Sound Transit's Biological Assessment Template (current version) as well as ESA, USFWS, and NOAA Fisheries requirements. The BA (if required) will summarize the proposed action, describe the habitat requirements and life history of the listed species, evaluate whether suitable habitat exists at or near the site, present information regarding the actual occurrence of listed species at or near the site, and describe potential impacts of the proposed action (construction and operation) on listed species and habitats at or near the site. Proposed conservation measures intended to avoid or reduce potential impacts on listed species will be described in enough detail to enable USFWS and NOAA Fisheries to determine whether the proposed conservation measures will likely succeed and meet all stated objectives of avoiding and minimizing potential impacts. An effects determination will be made for each species and any designated critical habitat potentially affected by the project.

A separate wetland delineation report will be prepared for the preferred alternative during the Final EIS. It will include a list and map of properties that could not be delineated due to lack of property access.

#### 10 DATA DEVELOPED FOR USE BY OTHER DISCIPLINES

Data gathered on ecosystems impacts may be used in the following analyses:

- Water Resources
- Land Use
- Visual and Aesthetic Resources
- Park and Recreational Resources
- Environmental Justice

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### Attachment A

Sound Transit Stream Assessment Guidelines (2016)

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#### STREAM HABITAT ASSESSMENT GUIDELINES

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## SOUND TRANSIT STREAM HABITAT ASSESSMENT GUIDELINES

#### 1. Introduction

Sound Transit projects often intersect with and affect streams. To comply with local, state, and federal rules and regulations, Sound Transit assesses stream conditions, determines stream impacts that will occur as a result of a project, and mitigates those impacts as appropriate. The analytical methodologies used and level of detail needed to meet these requirements depends on a variety of factors including: 1) the stage of project development and complexity of the project, 2) the extent to which Sound Transit has property access to streams, and 3) the magnitude of impact. Less detailed information is typically collected during planning and early design stages such as during SEPA/NEPA environmental review and preliminary engineering because rights-of-entry are not granted onto privately owned properties, thus restricting access to streams. Also, at this stage, multiple alternative alignments may be under consideration, making more labor-intensive field investigations less feasible from the standpoint of cost and time. At later stages of project development, once the project to be built is selected or final design is underway, more detailed analyses may be appropriate depending on access, the magnitude of potential impacts, and the types of environmental permits that may be necessary to construct the project.

Various methodologies exist on how to approach stream assessments in Washington and no one methodology is required, or is applicable to all projects or to all stages of project development. In addition, Native American tribes with fishing rights often request specific information about the effects of a project on both existing fish use and potential fish use of a stream. In this context, Sound Transit seeks to achieve greater consistency in how it approaches the assessment of streams at various stages of project development and under various conditions. The purpose of this document is to establish general guidelines for applying various stream assessment methods to Sound Transit projects based on the most commonly used methodologies in Washington. The information presented herein is for guidance only and is based on some of the most common scenarios encountered on Sound Transit projects. Sound Transit recognizes that other scenarios are possible and that professional judgment will be necessary when considering the best approach for specific projects. Proper application of professional judgment may reduce the collection of extraneous information, and reduce project effort and expense. The intent of these guidelines is to provide some level of consistency in Sound Transit's approach to assessing streams so that local, state, and federal regulators generally know what to expect during project reviews.

For the purposes of this document, project development is categorized into two phases: the initial environmental review and preliminary engineering phase (Phase 1) and the permitting/final design phase (Phase 2). These are further described below:

- Phase 1 Projects Planning stage that includes environmental review under SEPA/NEPA and conceptual and preliminary design. At this stage, various alignments or sites may initially be under consideration, and Sound Transit may or may not have rights-of-entry to the properties being evaluated. In general, objectives at this stage of project development are to:
  - 1) Identify streams within the study area
  - 2) Characterize in-stream and riparian conditions (including fish use and barriers to fish use of the stream) based on readily available information and visual observations as possible

- 3) Determine potential impacts to streams for the alternative(s) under consideration during the environmental review process, and
- 4) Identify conceptual-level mitigation opportunities for impacts to streams (aquatic and riparian habitats).

Phase 1 projects may include Endangered Species Act consultation, with the overall objective of being able to make and support accurate effect determinations for federally listed aquatic species potentially occurring in affected streams. Phase 1 of Sound Transit's project development culminates with completion of the NEPA/SEPA environmental review process and Sound Transit's selection of a specific project alternative to build.

• Phase 2 Projects – Final project design stage that includes environmental permitting and detailed mitigation to address project-related impacts to streams. At this stage, full access is typically available for the project. The overall objective is to secure necessary environmental permits/approvals including but not limited to local critical areas permits, a Hydraulic Project Approval (HPA) from the Washington Department of Fish and Wildlife (WDFW), a Clean Water Act Section 404 permit from the United States Army Corps of Engineers (Corps), and a 401 Water Quality Certification or Coastal Zone Management Consistency Determination from the Washington State Department of Ecology (Ecology).

Section 2 of this guidance document, **Using the Stream Assessment Flowcharts**, helps guide the reader in determining the appropriate level of data collection during the two project phases described above. To do this, a flowchart has been created for Phase 1 and Phase 2 projects, taking into account various project variables. The flowcharts and overview of how to use them are provided in Section 2. The flowcharts in Section 2 are supported by additional tools and more detailed information on various methodologies described in **Section 3 - Data Collection for Key Aquatic Habitat Elements**. Both Section 2 and Section 3 are organized around five stream features, referred to as Key Aquatic Habitat Elements and described below.

General recommendations for the appropriate use of these guidelines, as well as a discussion of their limitations, are provided in **Section 4 - Considerations and Limitations**.

#### 2. Using the Stream Assessment Flowcharts

The flowcharts should be used to determine the appropriate data needs and level of field assessment that will be required for a project. Working through the flowcharts with site specific information will require the collection of qualitative and/or quantitative information on various Key Aquatic Habitat Elements. These elements are the key habitats and stream features that may be impacted by a project and are directly related to ecological functions that support a stream ecosystem. The Key Aquatic Habitat Elements are:

- riparian vegetation,
- physical in-stream habitat,
- biological connectivity,
- water quality and quantity, and
- fish presence, fish habitat use, and stream typing.

Information would be gathered during site visits or collected using specific survey techniques. The various "levels" of data collection for each Key Aquatic Habitat Element have been classified into one of three categories, or "Tracks". Tracks A, B, and C represent an increasing level of detail for data collection and generally correlate to the phase of the project, the extent to which access is available, and/or the magnitude of

stream impact.

#### 2.1 Phase I Projects

Figure 1 on page 4 is the stream assessment flowchart for planning-level projects. It shows the general process to follow when considering potential stream impacts associated with Phase 1 projects. For all Phase 1 projects that include stream habitats, regardless of access or impact level, the first step is to collect background information on each of the Key Aquatic Habitat Elements associated with each stream in the study area. To help guide these efforts, see **Section 3 – Data Collection for Key Aquatic Habitat Elements**. Section 3 includes more detailed information on specific data sources to consult when collecting this information. The information gathered will help form the basis of the *Existing Conditions* or *Affected Environment* section of the environmental document being prepared for the project.

After collecting background information, some level of data should also be collected in the field. The data collected and the stream assessment methods used will vary for Phase 1 projects depending on 1) whether or not impacts are anticipated impact, and 2) whether or not the project team has right-of-entry to parcels that contain streams.

If access is limited, Track A Methods should be used for each Key Aquatic Habitat Element to the extent feasible. Areas where access to streams is not limited include existing Sound Transit right-of-way, WSDOT right-of-way, or other publicly-owned rights-of-way such as parks. In these areas, the project team should consider the anticipated level of impact to each Key Aquatic Habitat Element. The level of analysis required for a given Key Aquatic Habitat Element should be commensurate with the potential for impacts at a given site. In order to appropriately size the analysis, the flowchart requires consideration of whether or not impacts are expected to occur within the stream environment, looking in turn at each of the Key Aquatic Habitat Elements. For Phase 1 projects, a simple determination of either "Impact" or "No Impact" should be made for each Key Aquatic Habitat Element as presented in Table 1 (see page 5). The results of this analysis will help determine the level of data collection and analysis appropriate for each ecological function. If impacts are anticipated, the project study team should coordinate with Sound Transit environmental staff before initiating Track B data collection efforts as the data may already have been gathered by others or a shift in the project footprint may occur that negates the need to do more detailed surveys.

Depending on the outcomes from using the stream assessment flowchart for Phase 1 projects, various levels of data collection (either Track A or Track B) will need to be conducted. For information on specific stream habitat assessment methods to use under Track A or Track B, refer to **Section 3 – Data Collection for Key Aquatic Habitat Elements.** Tables 3 and 4 in that section outline pertinent assessment methods for each Key Aquatic Habitat Element, including detailed information on specific analysis metrics and survey methods that may be appropriate under Tracks A and B.

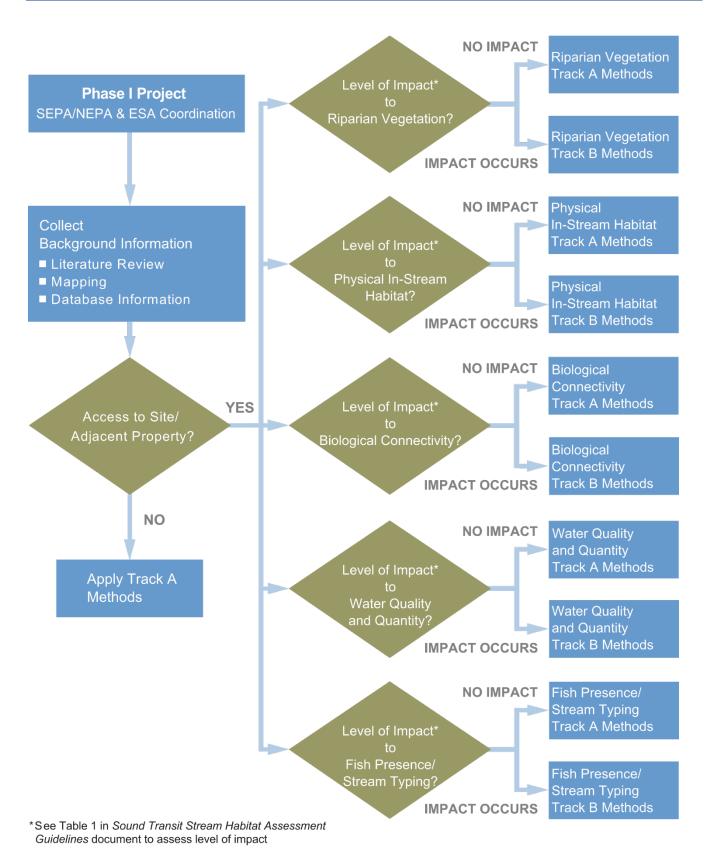


Figure 1
Stream Assessment Flowchart for Sound Transit Phase 1 Projects

Table 1 Impact Classification for Phase I Projects Based on Impacts to Key Aquatic Habitats

-	Impact Classification		
Key Aquatic Habitat Element	No Impact	Impact	
Riparian Vegetation	No clearing within riparian zone	Clearing riparian vegetation, OR Removing significant trees <sup>1</sup>	
Physical In-Stream Habitat	No in-water work or disturbance to bed and streambank below OHWM <sup>2</sup>	Working in-water involving bank hardening, OR Installing fish habitat features (e.g., LWD³ or boulders), OR Altering substrate	
Biological Connectivity	No installation, removal, or alteration of culverts, bridges, weirs, or other potential passage barriers	Replacing or installing culverts, weirs, or bridges in non-fish bearing waters	
Water Quality and Quantity	No new stormwater discharges or increases in impervious surface	Adding new stormwater discharges or increasing impervious surface	
Fish Presence, Fish Habitat Use, and Stream Typing	No in-water or riparian impacts	In-water or riparian impacts occur	

<sup>&</sup>lt;sup>1</sup> Significant trees should be defined using the local jurisdiction's Critical Areas and/or Urban Forestry code sections. If significant trees are not defined by local code, assume significant trees are those trees 6-inches or greater dbh (diameter breast height).

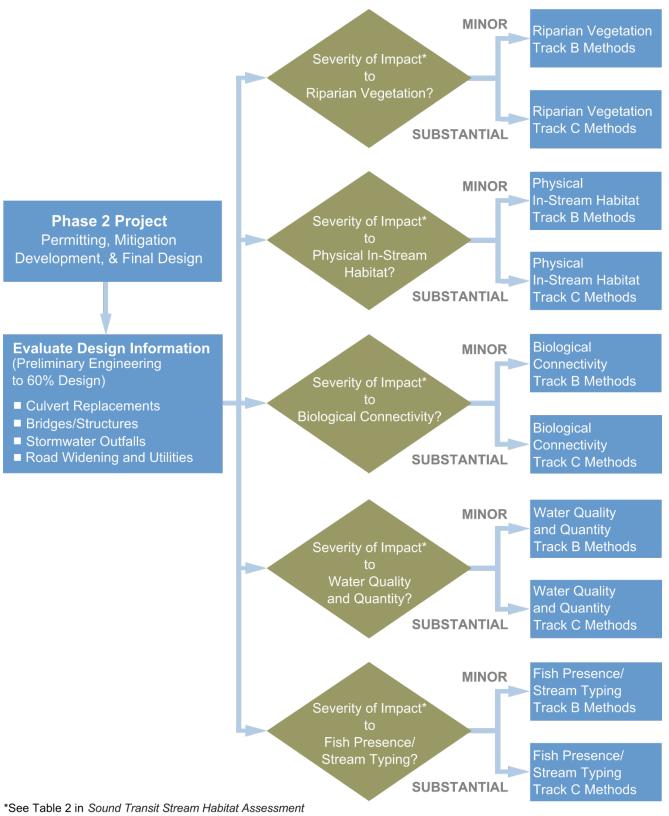
#### 2.2 Phase 2 Projects

Figure 2 on page 6 is the stream assessment flowchart for projects in final design. It shows the general process to follow when assessing streams in greater detail for Phase 2 projects that involve stream impacts. For Phase 2 projects, access to all riparian areas is assumed for purposes of conducting field work using either Track B or Track C methods. In the unusual event that access to all parcels is not available during Phase 2, Track A methods should be used to the extent feasible.

Using more detailed project design drawings, the level of data collection for Phase 2 projects will vary depending on the severity of impacts to Key Aquatic Habitat Elements. For each stream impact area, impacts should be classified as either a "Minor Impact" or "Substantial Impact". Table 2 on page 7 should be utilized to help classify potential Phase 2 project impacts on each Key Aquatic Habitat Element, based on specific project activities and quantification of expected impacts to each habitat element. However, it should be noted that the criteria may be adjusted based on the relative severity of project impacts within each project area. The project study team should coordinate with Sound Transit environmental staff to confirm the impact classification and intended data collection track before initiating data collection, as some or all of the data may already have been gathered by others, or a shift in alignment may occur that negates the need to do more detailed survey.

<sup>&</sup>lt;sup>2</sup> OHWM – ordinary high watermark

<sup>&</sup>lt;sup>3</sup> LWD – large woody debris



Guidelines document to assess level of impact

Figure 2 Stream Assessment Flowchart for Sound Transit Phase 2 Projects

Table 2 Impact Classification for Phase 2 Projects Based on Impacts to Key Aquatic Habitats

	Impact Classification		
Key Aquatic Habitat Element	Minor Impact	Substantial Impact	
Riparian Vegetation	Clearing less than 5,000 square feet of riparian vegetation, OR Removing 1 to 5 significant trees <sup>a</sup>	Clearing riparian vegetation in amounts exceeding minor impacts <sup>1</sup>	
Physical In-Stream Habitat	In-water work involving bank hardening of <20 linear feet, OR Installing fish habitat features (e.g., LWD <sup>2</sup> or boulders), OR Altering substrate < 100 square feet	In-water work exceeding thresholds for minor impacts, OR stream straightening (meander loss) OR Site will be used as a compensatory mitigation site	
Biological Connectivity	Replacing or installing culverts or weirs in non-fish bearing waters	Replacing or installing culverts, fishways, or weirs in fish-bearing waters	
Water Quality and Quantity	Adding new stormwater discharges or increasing impervious surface where all stormwater is treated and detained and no 303(d) listed or TMDL <sup>3</sup> reaches	Adding new stormwater discharges or increasing impervious surfaces where discharge to 303(d)/TMDL³ reach occurs, OR where full treatment and detention does not occur	
Fish Presence, Fish Habitat Use, and Stream Typing	Minor impacts to one or more key aquatic habitats listed above	Substantial impacts to physical habitat or riparian vegetation aquatic habitat elements, OR project involves any changes (negative or positive) in fish passage conditions, OR where stream diversions/fish removal activities occur	

<sup>&</sup>lt;sup>1</sup> Significant trees should be defined using the local jurisdiction's Critical Areas and/or Urban Forestry code sections. If significant trees are not defined by local code, assume significant trees are those trees 6-inches or greater dbh (diameter breast height).

<sup>2</sup> LWD – large woody debris

Depending on the outcomes from using the stream assessment flowchart for Phase2 projects, various levels of data collection (either Track B or Track C) will need to be conducted for each Key Aquatic Habitat Element as appropriate. For information on specific stream habitat assessment methods to use under Track B or Track C, refer to **Section 3 - Data Collection for Key Aquatic Habitat Elements.** Tables 3 and 4 in that section outline pertinent assessment methods for each Key Aquatic Habitat Element, including detailed information on specific analysis metrics and survey methods that may be appropriate under Tracks B and C.

<sup>&</sup>lt;sup>3</sup> TMDL – total maximum daily load

#### 3. Data Collection For Key Aquatic Habitat Elements

Once the user has taken their Phase 1 or Phase 2 project through the appropriate flowchart in Section 2, Section 3 should be consulted to obtain more detailed information on specific data sources and stream assessment methodologies. Table 3 summarizes the recommended data to be collected for streams during all stages of project development. This includes background information, which should be collected in all cases, as well as field data collection for Tracks A, B, and C, which will depend on the anticipated level of impact to each Key Aquatic Habitat Element. The information in Table 3 is organized by Key Aquatic Habitat Element. Collection and assessment techniques for each Key Aquatic Habitat Element are described in more detail below. These data needs and assessment procedures have been selected to be generally applicable over the wide range of project types and permitting scenarios encountered by Sound Transit. During project development, the recommendations provided below may need to be adjusted based on project-specific input from regulatory agencies and Tribal entities.

#### 3.1 Riparian Vegetation

For detailed information on specific riparian habitat assessment techniques and methods, see the *Oregon Riparian Assessment Framework* (Clarke, 2004) or Winward (2000). A common method for estimating canopy coverage is presented in (Daubenmire, 1959).

#### 3.1.1 Background Information

- 1) Review existing literature –Reports or data sources that may contain information for reach or sub-basin scale riparian conditions include:
  - The Washington State Conservation Commission Limiting Factors Analysis, organized by Water Resource Inventory area (<a href="http://scc.wa.gov/directory/">http://scc.wa.gov/directory/</a> or <a href="http://www.eopugetsound.org/articles/water-resource-inventory-areas-puget-sound">http://www.eopugetsound.org/articles/water-resource-inventory-areas-puget-sound</a>)
  - Information on rare plants distribution from the Washington Department of Natural Resources Natural
    Heritage Program Database at:
    <a href="http://www.dnr.wa.gov/ResearchScience/HowTo/ConservationRestoration/Pages/amp\_nh\_data\_instructions.aspx">http://www.dnr.wa.gov/ResearchScience/HowTo/ConservationRestoration/Pages/amp\_nh\_data\_instructions.aspx</a>
  - Local watershed analysis or stream assessment reports
  - Local Shoreline Master Program Inventory reports Shoreline Master Program Inventory reports <a href="http://www.ecy.wa.gov/programs/sea/shorelines/smp/citizen.html">http://www.ecy.wa.gov/programs/sea/shorelines/smp/citizen.html</a>
- 2) Review aerial photographs and any available site photos.
  - Google Earth also view past riparian conditions using historic photos on site
  - Bing Maps Birds Eye View feature is useful for assessing riparian conditions
  - Digital or hardcopy orthophotos
- 3) Based on the results of steps 1) and 2) above, summarize the following:
  - General vegetation type (forested, shrub, herbaceous, none (bare earth/built)),
  - Tree canopy type (deciduous, coniferous, or mixed)
  - Approximate density of vegetation types (dense or sparse),
  - Approximate width of buffer on each streambank at project site (based on aerial photos), and
  - Estimated average riparian buffer width upstream and downstream of project site.

Table 3. Overview of Data Collection Needs For Key Aquatic Habitat Elements

Key Aquatic Habitat Element <sup>1</sup>	Background Information <sup>2</sup>	Track A <sup>3</sup> – Limited Site Access or No Impact	Track B – Site Access and Minor Impacts	Track C – Site Access and Substantial Impacts OR Site to be Used as Compensatory Mitigation
Riparian Vegetation	Review existing literature     Review aerial photographs and existing site photos     Characterization should include:     vegetation type (i.e., forested, shrub, herbaceous, built, coniferous, deciduous, genus and species if possible),     relative vegetation densities	Site visit with qualitative description of riparian conditions:     vegetation type, height, and relative density     width/length of riparian zone     presence of overhanging or fallen vegetation/stream cover     presence of invasive plant species (estimate percent cover if possible )	1) Collect qualitative and quantitative field data from riparian zone including:  approximate height for each vegetation layer  approximate tree/shrub densities  identify invasive species and observed snags/dead and down trees  width, length, and area of functioning riparian zone  stream banks vegetation type, height, and density  percent vegetation that covers the stream  qualitative evaluation of known limiting riparian factors such LWD³ or shade limitations	Collect Track B data, supplemented by tree counts, GPS survey, or professional land survey within forested riparian impact area to include:  tree species tree diameters estimated tree heights locations of snags/dead and down
Physical In-Stream Habitat	Review existing literature     Review aerial photographs, topographic maps and site photos     Characterization should include:         stream width         dominant in-stream sediment         LWD⁴ presence         channel morphology         streambank condition	Site visit to qualitatively assess the following through visual observations:         • stream width         • LWD presence         • general channel morphology         • general bank condition         • dominant stream substrate         • relative amount of instream cover and refuge  ALSO SEE TABLE 4 FOR MORE DETAILS	1) Site visit to quantitatively assess the following conditions within, upstream, and downstream of project site:  • wetted and OHWM <sup>5</sup> stream width  • LWD size, location, and type  • channel morphology - pool, riffle, run, glide  • bank condition - stability/armoring  • stream substrate - dominant/subdominant and particle distribution  ALSO SEE TABLE 4 FOR MORE DETAILS	Same as Track B, but specific habitat impacts or intended use for mitigation may require:  1) Track B data collection over a wider area 2) GPS/professional survey of habitat elements delineated in Track B, or 3) detailed quantitative analysis of habitat elements (e.g., bulk substrate analysis, micro-channel morphology)  ALSO SEE TABLE 4 FOR MORE DETAILS
Biological Connectivity	Review existing literature on existing fish passage conditions/barriers and check the WDFW Fish Passage Barrier Map     If no barriers are recorded online, Track B/C methods may be required regardless of impact level     Review aerial photographs to identify potential barriers at site, upstream, or downstream     Review topographic maps and watershed analyses	1) Site visit to qualitatively assess the following information on man-made fish passage structures:  • type/material of structure  • approximate size/configuration of structure  • condition of structure (i.e. wear, damage, etc.)	1) Site visit to quantitatively assess man-made structures:  • relative inlet and outlet elevations  • stream channel bankfull width  2) If necessary, conduct WDFW Level A Culvert analysis per WDFW (2009) to assess status as fish passage barrier. Check with WDFW prior to conducting the analysis; they may already have that information, particularly if the culvert is on WSDOT right-of-way	Same as Track B, but in some cases coordination with design team on conducting a WDFW Level B culvert analysis per WDFW (2009) may be necessary to accurately assess barrier status
Water Quality and Quantity	1) Review existing literature/databases for information on:  • water quality/contaminants,  • stream temperatures,  • flow data  • water quality/quantity limiting factors	1) Site visit with qualitative description of:  • type/material of outfall/drainage structure  • approximate size/configuration/condition of outfall/drainage structure  • visual estimate of streamflow and stream velocity  • stream temperature  • presence of septic systems within the project area  • Water source (stormwater, other?)	No additional effort	No additional effort
Fish Presence, Fish Habitat Use, and Stream Typing	Review existing literature/databases for information on:     fish presence and fish habitat use stream typing     contributing basin area     natural/manmade barriers downstream	If result of background information does not provide complete or definitive results, conduct site visit and make preliminary determination based on WAC 222-16-031. Qualitatively assess the following:  • stream width/OHWM, • flow conditions, • fish observations	If result of background information does not provide complete or definitive results proceed with one or more of the following options, as appropriate:  1) Request government/Tribal fish use/stream typing assistance 2) Utilize a qualified biologist to estimate fish presence/absence based on habitat conditions within, upstream, and downstream of site  Conduct reconnaissance site visit to identify natural downstream barriers	Same as Track B, but in extraordinary circumstances, fish sampling by a qualified biologist may be appropriate <sup>6</sup> . Sampling techniques could potentially include:  • snorkel surveys • minnow traps • electrofishing

<sup>&</sup>lt;sup>1</sup> See text in Section 3 – Data Collection for Key Aquatic Habitat Elements for more specific information on each habitat element

<sup>&</sup>lt;sup>2</sup>Background information should be compiled regardless of access situation or level of impacts

<sup>&</sup>lt;sup>3</sup> If lack of access, the information for Track A should be collected in the field from adjacent publicly accessible properties or right of way to the extent possible/practical

<sup>&</sup>lt;sup>4</sup> LWD – large woody debris

<sup>&</sup>lt;sup>5</sup>OHWM – ordinary high water mark

of If information collected as part of Track A or Track B does not provide the required level of certainty on fish presence and stream typing, and no natural barrier exists downstream, generally assume fish presence and consult with ST environmental staff. These activities will require a Scientific Collection Permit from WDFW, and in accordance with WAC 220-20-045. Electrofishing, per requirements in WAC 220-20-045, should only be used to assess fish presence under extraordinary circumstances where such actions are pre-approved by ST (e.g., this information is tied to a permit condition or the information is crucial for design of a substantial design element such as road or culvert)

#### 3.1.2 Track A Information

After collecting and synthesizing relevant background information on riparian vegetation conditions within the project area, conduct a reconnaissance-level site visit within existing Sound Transit or public right-of-way/easement areas. Provide qualitative description of riparian conditions including the following:

- Note buffer vegetation type e.g., forested, shrub, herbaceous, none (bare earth/built). Identify shrub and/or tree species if possible, including any observed invasive species.
- Note relative buffer vegetation density (e.g., sparse, moderately dense, dense) and approximate height of each vegetation layer, particularly the tree layer
- Note observable width/length of riparian zone
- Note extent and type of overhanging vegetation and any observed any observed LWD originating in riparian zone. Estimate percent overhead cover in stream thalweg.
- Note and describe extent of vegetation overhanging stream channel, fallen vegetation
- Qualitative evaluation of potential limiting riparian factors such (LWD or shade limitations)

#### 3.1.3 Track B Information

Collect similar information as listed in Track A; however site access will allow for on-site evaluation of the riparian condition based on qualitative and quantitative field data gathered from within the riparian zone.

- Identify shrub or tree species within the riparian zone, including any observed invasive species.
- Estimate or measure canopy cover and ground cover within the riparian zone (Daubenmire, 1959) for dominant species. If measuring, use plots or intercept along a measuring tape.
- Approximate average diameter (diameter breast height DBH) of trees within riparian zone using representative measurements
- Width and length of functioning riparian zone and
- Riparian interaction with stream banks (e.g., overhanging vegetation, bank stabilization by roots),
- Measure average in-stream riparian cover in the stream thalweg using a densitometer (average riparian cover measured facing upstream, downstream, left bank, and right bank).
- Observations or qualitative evaluation of reach or basin scale limiting riparian factors (such as large-scale LWD or shade limitations).

#### 3.1.4 Track C Information

If the project involves substantial impacts to the riparian corridor, particularly forested riparian areas, it may be necessary to supplement the data collection efforts from above with a more accurate tree survey conducted with GPS survey or professional land survey. Within forested buffer impact areas, detailed survey of the following parameters may be appropriate:

- Tree locations
- Tree species
- Tree diameters
- Estimated tree heights
- Locations of snags and dead/ down woody debris

#### 3.2 Physical In-Stream Habitat

There are literally hundreds of formal assessment protocols prepared for the evaluation of stream environments and habitats. Assessment methods to assess physical in-stream habitat for Pacific Northwest streams are also numerous (e.g. Overton et al. 1997, Pleus and Schuett-Hames 1998, Barbour et al. 1999). In addition, several agencies in the region have developed their own protocols that use unique suites of channel features and channel feature definitions. These protocols generally address measurement of the same in-stream habitat parameters (e.g.,

woody debris, channel morphology, streambank condition) with varying levels of detail. In order to cover the range of data requirements for both Phase 1 and Phase 2 Sound Transit projects, the discussion of field methods (Tracks A, B and C) for an assessment of this Key Aquatic Habitat Element is focused on these in-stream habitat parameters. Table 4 on page 13 details the specific metrics/measurements that may be applicable for each parameter under Tracks A, B, and C, with recommendations for specific methods or protocols, where appropriate. Table 5 summarizes the methodological references noted in Table 4 for various in-stream habitat parameters.

In addition, other authors have compared and contrasted various protocols and assessments from a nation-wide perspective (Somerville, 2010), with a focus on those assessments prepared for application in the Pacific Northwest region (Johnson et al., 2001; Stolnack et al. 2005). These review documents are excellent sources to consult prior to undertaking a detailed physical habitat assessment, especially in cases where the assessment is focused on specific in-stream habitat parameters.

#### 3.2.1 Background Information

- 1) Review existing literature on physical in-stream habitat conditions, including stream size (width), presence of LWD and complex habitat features, approximate stream gradient/channel morphology, stream substrate and sediment condition, and bank condition. Reports that may contain information reach or sub-basin scale physical conditions include:
  - The Washington State Conservation Commission Limiting Factors Analysis, organized by Water Resource Inventory area (<a href="http://scc.wa.gov/directory/">http://scc.wa.gov/directory/</a> or <a href="http://www.eopugetsound.org/articles/water-resource-inventory-areas-puget-sound">http://www.eopugetsound.org/articles/water-resource-inventory-areas-puget-sound</a>)
  - Salmon recovery plans Puget Sound: <a href="http://www.psp.wa.gov/SR\_map.php">http://www.bsp.wa.gov/SR\_map.php</a> King County: <a href="http://www.kingcounty.gov/environment/animalsAndPlants/salmon-and-trout.aspx">http://www.kingcounty.gov/environment/animalsAndPlants/salmon-and-trout.aspx</a>
  - Shoreline Master Program Inventory reports for local jurisdictions http://www.ecy.wa.gov/programs/sea/shorelines/smp/citizen.html
  - Williams et al. (1975)
  - Local watershed analysis or stream assessment reports
- 2) Review aerial photographs, topographic maps, and any available site photos.
  - Google Earth also view past stream habitat conditions using historic photos on site
  - Bing Maps Birds Eye View feature is useful for assessing some in-stream conditions
  - Digital or hardcopy orthophotos
  - Topographic maps (LIDAR data if available) to determine stream gradients. LIDAR data can be obtained from the Puget Sound LIDAR Consortium at <a href="http://pugetsoundlidar.ess.washington.edu/">http://pugetsoundlidar.ess.washington.edu/</a>
- 3) Use the results of 1) and 2) above to describe the following in-stream habitat conditions at the site/stream reach to the extent feasible:
  - general horizontal and vertical channel form (stream gradient and channel morphology) including the presence and quality of pools and riffles and channel confinement/entrenchment
  - dominant in-stream substrates (cobble, gravel, fines, etc.) and general sediment transport dynamics (source, transport, or response reach),
  - presence/absence of LWD, or frequency of LWD (if available),
  - streambanks condition, including bank stability and presence of bank hardening/revetments

#### 3.2.2 Track A Information

After collecting and synthesizing relevant background information on in-stream physical habitat conditions within the project area, conduct a site visit within existing Sound Transit or public right-of-way/easement areas. Provide qualitative descriptions, based on visual observations, of on-site in-stream habitat conditions as detailed in Table 4 on the following page. The primary Channel Geomorphological Units (CGU) used for the assessment will

likely be limited to fast/slow habitat types, as the evaluation will be based on visual observations only.

#### 3.2.3 Track B Information

Collect similar information as listed in Track A; however site access will allow for better evaluation of in-stream physical habitat conditions, based on qualitative and quantitative field data gathered from within the stream. Information on specific recommended measurements, including appropriate references, is presented in Table 4. The primary Channel Geomorphological Units (CGU) used for the assessment will likely include a moderate detail (pools, riffles, and runs/glides at a minimum). Pools may be further classified into the type of pool (e.g., lateral scour, medial scour, boulder-formed pocket pool).

#### 3.2.4 Track C Information

If the project involves substantial impacts to in-stream habitat, particularly impacts to the stream bed, stream banks, or local hydraulics, or if the site is to be used for compensatory mitigation, it may be necessary to supplement the data collection efforts from above with more detailed measurements as listed in Table 4.

Table 4. Specific Metrics for Assessment of Physical In-Stream Habitat Parameters

Parameter	Metric/Measurement	Track A – Limited Site Access and Low Impact	Track B – Site Access and Moderate Impacts	Track C- Site Access and Substantial Impacts OR Site to be Used as Compensatory Mitigation
Channel Form and Profile	Macrohabitat - habitat type	Visual characterization of Channel Geomorphological Units (CGUs) into slow/fast water habitats.	Classify and measure macrohabitat unit length using classification including pools, riffles, runs, and/or glides. Depending on specific impacts, additional detail may be appropriate (Arend 1999).	Same as Track B. If substantial alteration of stream hydraulics, may be useful to classify and measure CGUs using detailed classification system (Arend 1999).
	Macrohabitat - pool characteristics	Visual observation of water depths of slow/fast water habitat approximate depth.	Measure maximum pool depths and residual pool depths. Classifying pools based on minimum functional pool width/depth (Pleus et al., 1999).	Same as Track B
	Stream Reach Classification	N/A	N/A	If substantial alteration of stream hydraulics, may be useful to use existing geomorphic classification system to classify project reach - Montgomery and Buffington (1998).
	Stream Slope	Estimate stream slope using topographic maps or LIDAR data if available.	Measure using clinometer or auto-level.	Same as Track B. If substantial alteration of stream hydraulics, may be useful to conduct longitudinal profile study.
	Stream Patterns	Visual observation of channel patterns (e.g., sinuous versus straight channel).	Visual observation of channel patterns (e.g., sinuous versus straight channel).	Same as Track B. If substantial alteration of stream hydraulics, may be useful to measure meander length, radius of curvature, sinuosity, and meander belt width.
	Confinement	Visual assessment of channel confinement and entrenchment.	Measure channel confinement/entrenchment. The entrenchment ratio is the ratio of the width of the flood-prone area to the surface width of the bankfull channel. The flood-prone area width is measured at the elevation that corresponds to twice the maximum depth of the bankfull channel.	Same as Track B. If substantial alteration of stream hydraulics, may be useful to survey complete stream cross-section.
	Channel Dimension/Shape	Visual estimation of bankfull width.	Measure average bankfull width and depth in project area.	Same as Track B. If substantial alteration of stream hydraulics, may be useful to survey complete stream cross-section.
Streambank Condition	Stability	Visual observation of nature and extent of unstable banks.	Measure extent of and location of unstable banks with type of instability (slide, slump, slough, etc.).	Same as Track B. If substantial specific impact to this habitat element or the element is crucial to a key design feature, may be useful to use GPS or PLS to survey location of features.
	Bank Hardening/Revetments	Visual observation of nature and extent of bank hardening/revetments.	Measure extent and location of bank hardening/revetments with type of hardening (riprap, earthen, structural, etc.).	Same as Track B. If substantial specific impact to this habitat element or the element is crucial to a key design feature, may be useful to use GPS or PLS to survey location of features.
Substrate/Sediment	Particle Frequency	Visual estimate of dominant and subdominant substrate over project area.	Visually estimate dominant and subdominant substrate within each CGU. Supplement data with pebble counts at representative pool tail outs (Bunte and Abt 2001).	Same as Track B. If substantial alteration of stream hydraulics, may be useful to use grid surface sampling or sub-surface volumetric sampling (Bunte and Abt 2001).
	Percentage of Fine Sediments/Embeddedness	Visual estimate of amount of surface fines in pools.	Visually estimate percentage of surface fines in each pool CGU. Estimate substrate embeddedness in riffles and pools.	Same as Track B. If substantial alteration of stream hydraulics, may be useful to use grid surface sampling or sub-surface volumetric sampling (Bunte and Abt 2001).
Large Woody Debris	LWD Presence, Frequency, and Location	Visual count of observed pieces of woody debris (>6 feet in length and 0.5 feet in diameter).	Measure location and presence of each piece of LWD (>6 feet in length and 0.5 feet in diameter) and debris jams. Relative position of LWD (thalweg center, thalweg edge, bankfull, bankfull edge).	Same as Track B. If substantial alteration of stream hydraulics or LWD composition, may be useful to measure additional parameters, including mapping/GPS of LWD orientation.
	Debris Jams	Visual observations of presence/absence of LWD jams, including approximate location and size of jam.	Measure location and orientation of each LWD jam, including number of pieces of debris in jam.	Same as Track B. If substantial specific impact to this habitat element or the element is crucial to a key design feature, may be useful to use GPS or PLS to survey location of features.
	LWD Size	Visual estimate of LWD size (length and width).	Measure LWD size (length and width) for each piece of LWD.	Same as Track B. If substantial specific impact to this habitat element or the element is crucial to a key design feature, may be useful to use GPS or PLS to survey location of features.
	Age and Type	Visual estimate of LWD age and composition (deciduous or coniferous).	Measure LWD species (coniferous, deciduous, or unknown) and LWD age class (Shuett-Hames et.al., 1999a).	Same as Track B. If substantial specific impact to this habitat element or the element is crucial to a key design feature, may be useful to use GPS or PLS to survey location of features.
Cover and Refuge	Pool quality	Visual observation of relative pool size, location, depth, and cover.	Assess pool quality using a Pool Quality Index (Platts et al. 1983).	Same as Track B
	Undercut banks	Visual observations of presence/absence of undercut banks.	Measure location and presence of undercut banks.	Same as Track B. If substantial specific impact to this habitat element or the element is crucial to a key design feature, may be useful to use GPS or PLS to survey location of features.
	Off-channel/side-channel habitat	Visual observations of presence/absence of off- channel/side-channel habitat, including associated wetlands. Indicate presence of beaver dams or beaver activity within project area.	Include side-channel habitat in channel form and profile, LWD, streambank condition, and sediment measurements. Measure location, area, and water depth of off-channel areas. Record features of beaver dams and associated habitat.	Same as Track B. If substantial specific impact to this habitat element or the element is crucial to a key design feature, may be useful to use GPS or PLS to survey location of features.
	In-stream cover/protection	Visual observation of aquatic macrophytes, habitat boulders, and other in-stream structures providing cover.	Measure location and presence of aquatic macrophytes, habitat boulders, and other in-stream structures providing cover.	Same as Track B

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Table 5 below summarizes the methodologies Sound Transit recommends for assessing in-stream habitat parameters.

Table 5. Methodological References for Physical In-Stream Habitat Parameters

Metric/Measurement	Methodology Reference
Habitat Unit Classification and Measurement	Arend, K.K. 1999. Macrohabitat Identification. Pages 75-93 <i>in</i> M.B. Bain and N.J. Stevenson, editors. Aquatic habitat assessment; common methods. American Fisheries Society. Bethesda, Maryland.
Pool Characteristics     measurement of maximum pool depths and residual pool depths     classification of pools based on minimum functional pool width/depth	Pleus, A. E., D. Shuett-Hames, and L. Bullchild. 1999. TFW Monitoring Program method manual for the habitat unit survey. Prepared for the WA State Dept. of Natural Resources under the Timber, Fish, and Wildlife Agreement. TFW-AM9-99-003. DNR #105. June. 31 pp.
Stream Reach Classification	Montgomery DR, Buffington JM. 1998. Channel Processes, Classification and Response. <i>In</i> Naiman, R. and Bilby, R. (Eds) River Ecology and Management: Lessons from the Pacific Coastal Ecoregion, New York, NY: Springer-Verlag.
<ul> <li>Sediment Characteristics</li> <li>Particle Frequency</li> <li>Percentage of Fine Sediments/Embeddedness</li> </ul>	Bunte, K. and Abt. S.R. 2001. Sampling surface and subsurface particle size distributions in wadeable gravel and cobble bed streams for analyses in sediment transport, hydraulics and streambed monitoring. General Technical Report RMRS-GRT-74. U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. 428 pp.
Large Woody Debris  LWD Presence, Frequency, and Location  Location, orientation, and number of pieces in each LWD jam  LWD size (length and diameter)  LWD species and age class	Shuett-Hames, D., A. E. Pleus, J. Ward, M. Fox, and J. Light. 1999a. TFW Monitoring Program method manual for the large woody debris survey. Prepared for the Washington State Dept. of Natural Resources under the Timber, Fish, and Wildlife Agreement. TFW-AM9-99-004. DNR #106. March. 33 pp.
Pool Quality Index	Platts, W. S., W. F. Megahan, and G. W Minshall. 1983. Methods for evaluating stream, riparian, and biotic conditions. Gen. Tech. Rep. INT-138. Ogden, UT: U.S. Department of Agriculture, Forest Service, Intermountain Forest and Range Experiment Station. 70 p. http://www.fs.fed.us/rm/pubs_int/int_gtr138.pdf

# 3.3 Biological Connectivity

An analysis of biological connectivity and associated fish passage conditions may be a key element of Sound Transit projects, particularly for the creation, reconstruction, or removal of stream crossings (roads or bridges). Fish passage structures are regulated under the Washington State Hydraulic Code (WAC 220-110-170). Therefore, where such actions may occur, it is important to have early coordination with the project design team to determine and coordinate on overall project design and permitting needs.

Any definitive evaluation of fish passage conditions should be conducted using the *Fish Passage Barrier and Surface Water Diversion Screening Assessment and Prioritization Manual* (WDFW, 2009). Likewise, design of stream crossings should utilize the standards and procedures in the WDFW *Water Crossing Design Guidelines* document (Barnard, et al. 2013).

## 3.3.1 Background Information

Review existing literature on biological connectivity and fish passage conditions, including the presence of any known or potential man-made or natural barriers to fish passage, including type, size, and location of such features. Data sources that may contain information reach or sub-basin scale biological connectivity and fish passage conditions include:

WDFW Fish Passage Program: Data and Maps
 http://wdfw.wa.gov/conservation/habitat/fish passage/data maps.html

- WSDOT Fish Passage Reports http://www.wsdot.wa.gov/environment/biology/fp/fishpassage.htm#reports
- Topographic maps of stream for assessment of steep downstream reach gradients /natural barriers
- Local watershed analysis or stream assessment reports

### 3.3.2 Track A Information

After collecting and synthesizing relevant background information on biological connectivity habitat conditions within the project area, conduct a site visit within existing Sound Transit or public right-of-way/easement areas. Provide qualitative descriptions, based on visual observations, of biological connectivity habitat and fish passage conditions, including the following:

- Location and approximate dimensions of structures including length, width, and height
- Type of structures Culvert, bridge, fishway, weir structure, etc.
- Material of structures Concrete, stone/rip-rap, aluminum, PVC, etc. Note presence of culvert corrugation and liners
- Approximate size/configuration of structures For culverts note type of structure (round, box, bottomless box, squash, arch, elliptical, etc.) and whether structure is countersunk
- Approximate condition of structure Note any deterioration or damage to structure
- Presence of natural streambed material within culvert and estimate of percent of culvert opening affected by sedimentation
- Presence and relative extent of any backwater at culvert inlet
- Presence and height of any perch at culvert outlet
- Presence of any plunge pool at culvert outlet and estimated depth of pool

### 3.3.3 Track B Information

Collect similar information as listed in Track A, however site access will allow for better evaluation of connectivity and fish passage condition based on qualitative and quantitative field data gathered from within the stream. The use of the Level A Methodology and Field Form from WDFW (2009) is highly recommended for assessment purposes as it will ensure all essential information is captured. In addition to information collected in the Track A analysis on culvert shape, the following data should be recorded per WDFW (2009):

- Measure relative inlet and outlet elevations (preferable) or measured slope of culvert
- Measure culvert dimensions
- Measure stream channel width (bankfull width)
- Measure water surface drop at outfall
- Measure maximum plunge pool depth

### 3.3.4 Track C Information

If the project involves substantial impacts fish passage structures, particularly the alteration of an existing potential barrier and the Level A Analysis (WDFW, 2009) is not conclusive on barrier status (Level A does not provide conclusive barrier status in all cases), it may be necessary to coordinate with the design team to determine if a Level B analysis is required. This analysis is usually completed by a hydrologist, geomorphologist, or engineer and requires measurement of additional upstream and downstream parameters including channel width, depth, slope, and characterization of bed material. For specific methods, data requirements, and analysis tools, see WDFW (2009).

## 3.4 Water Quality and Quantity

### 3.4.1 Background Information

Review existing literature on water quality and flow conditions, including known impairments of water quality and temperature, and stream flow characteristics. Include any information on impairments or limiting factors from the literature or databases. Data sources that may contain information reach or sub-basin scale water quality and flow conditions include:

- Washington Streamflow Data USGS
   Historic data = <a href="http://wa.water.usgs.gov/data/realtime/adr/interactive/">http://waterdata.usgs.gov/data/realtime/adr/interactive/</a>
   Realtime data=
   <a href="http://waterdata.usgs.gov/wa/nwis/current?type=flow">http://waterdata.usgs.gov/wa/nwis/current?type=flow</a>
- 303(d) list Washington State Department of Ecology http://www.ecy.wa.gov/programs/wq/303d/
- King County Hydrologic Information Center <a href="http://green.kingcounty.gov/WLR/Waterres/hydrology/default.aspx">http://green.kingcounty.gov/WLR/Waterres/hydrology/default.aspx</a>
- Streams Water Quality Monitoring Data
   <a href="http://green.kingcounty.gov/WLR/Waterres/StreamsData/StreamList.aspx">http://green.kingcounty.gov/WLR/Waterres/StreamsData/StreamList.aspx</a>
- Local watershed analysis or stream assessment reports

### 3.4.2 Track A Information

After collecting and synthesizing relevant background information on water quality and quantity conditions within the project area, conduct a site visit within existing Sound Transit or public right-of-way/easement areas. Provide qualitative description of water quality and flow conditions including the following:

- Note any drainage outfalls, including type/size/location of structure, possible source and volume of outflow during time of site visit.
- Visually estimate streamflow (in cubic feet per second) and stream velocity (feet/second).

### 3.4.3 Track B and C Information

In almost all cases, the information gathered during the Background Information and Track A investigations will be sufficient to effectively characterize water quality and flow. However, in certain rare circumstances, additional site-specific water quality and flow measurements may be appropriate. As these circumstances are rare, and any such measurements should be tailored to specific project requirements (e.g., permit conditions), such additional measurements are not discussed in this document.

# 3.5 Fish Presence, Fish Habitat Use, and Stream Typing

There is a difference between fish presence and fish habitat use, and just because fish may not be present at a given time of the year does not mean that a particular stream or stream habitat is not used by fish. Fish presence may respond to seasonal use of a given stream or habitat type as well as a particular life stage of a given fish species. For these reasons, the general best approach is to assume fish habitat use wherever suitable fish habitat exists, and consult with Sound Transit environmental staff before collecting additional data on fish presence.

The determinations of fish habitat use, and the related element of stream typing, are key in determining the potential severity of project impacts, the width of regulated stream buffers, and the requirements for ensuring fish passage at crossing structures. Although for rivers and larger streams, extensive information exists on fish habitat use and stream type, this information is often times lacking for smaller first and second order tributary streams. The following methods utilize an extensive search of background information coupled with measurements of a stream's physical characteristics to evaluate the potential for fish habitat use based on the presence of suitable fish habitat.

### 3.5.1 Background Information

Review existing literature on fish habitat use and stream typing conditions, including any documented presence of

fish species potentially or known to be present. It should also include documented or potentially present suitable fish habitat within the project area. Include any existing stream typing information from the literature or databases. Data sources that may contain information reach or sub-basin scale biological connectivity and fish passage conditions include:

- WDFW Priority Habitats and Species Online Mapper
   <a href="http://apps2.dfw.wa.gov/prodphsontheweb/viewer.aspx?auth=dchBC3QPoGho84hRndFNAyiX2awipVxGmK5mj/T0HbP429kXX73bzQ=="http://apps2.dfw.wa.gov/prodphsontheweb/viewer.aspx?auth=dchBC3QPoGho84hRndFNAyiX2awipVxGmK5mj/T0HbP429kXX73bzQ==</a>
- WDFW SalmonScape Database <a href="http://apps.wdfw.wa.gov/salmonscape/">http://apps.wdfw.wa.gov/salmonscape/</a>
- DNR Water Typing Online Mapper http://www.dnr.wa.gov/businesspermits/topics/forestpracticesapplications/pages/fp\_watertyping.aspx\_
- The Washington State Conservation Commission Limiting Factors Analysis, organized by Water Resource Inventory area ( <a href="http://scc.wa.gov/directory/">http://www.eopugetsound.org/articles/water-resource-inventory-areas-puget-sound</a> )
- Wild Fish Conservancy Water Type Assessments and Interactive Maps <a href="http://wildfishconservancy.org/resources/maps">http://wildfishconservancy.org/resources/maps</a>
- Fish distribution in WRIA 8: http://www.govlink.org/watersheds/8/reports/fish-maps/default.aspx
- A Catalog of Washington Streams and Salmon Utilization (Williams et al., 1975)
- Local jurisdiction Critical/Sensitive Area maps
- Local watershed analysis or stream assessment reports

### 3.5.2 Track A Information

After collecting and synthesizing relevant background information on fish habitat use and stream typing within the project area, conduct a site visit within existing Sound Transit or public right-of-way/easement areas. Visually observe for the presence of fish. If the background information or visual observation does not clearly indicate fish use status of a particular stream, it may be difficult to determine fish use and therefore stream typing) at a site based upon the direct observation of salmonids. Due to poor visibility, low escapement levels, the existence of human-made barriers, or other factors, fish may not be observed during the field visit.

The Forest Practices Rule (WAC 222-16-031) is used to define water types. Based on the WAC, there are a number of methods to determine if a site has the potential to provide fish habitat. Satisfaction of one or more of the following criteria qualifies a water body as fish bearing or potential fish habitat:

- Watercourses shown by DNR as containing fish on DNR stream typing maps, the WDFW Priority Habitats and Species database, or the WDFW SalmonScape database.
- Watercourses with documented salmonid use determined by visual observation, electrofishing, or verification by local biologists.
- Estimate scour line width. Watercourses having average scour line widths (bankfull widths) in excess of 0.6 meters (2 feet) in Western Washington, provided the stream gradient is less than 20 percent.

Note that seasonally dry streams (ephemeral or intermittent) can provide fish habitat during periods of flow. When evaluating dry stream channels, consider the physical characteristics of the channel and proximity to known fish-bearing water. Also, consider the timing of fish presence for species in the area that may enter the habitat when flow is present. For example, chum salmon often use streams that may only flow for a few months out of the year; they will spawn in the channel during the fall when flow is present and fry will out-migrate in the spring immediately after emergence. In another example, off-channel rearing habitat and floodplain habitat may be used by juvenile salmonids during winter months, even though the channel is dry during the summer.

### 3.5.3 Track B Information

Better site access will allow for a more comprehensive analysis of evaluation of bankfull width, and greater opportunity to visually observe for fish presence. However, increased site access will not necessarily provide definitive results. If the result of background information and Track A does not provide complete or definitive results, the following options may be considered, as appropriate:

- Request fish use/stream typing assistance from WDFW, Tribal entities, or local government agencies.
   Assistance may consist of local knowledge of fish distribution or technical assistance with fish presence studies.
- Utilize a qualified fisheries biologist to estimate fish habitat use based on habitat conditions, within, upstream, and downstream of site, noting that absence of fish during a site investigation does not by itself confirm perennial absence.
- If background information indicates a potentially natural downstream fish barrier, conduct downstream reconnaissance to locate and assess natural barrier. Note that lack of fish access for anadromous species does not indicate absence of resident fish species (e.g., resident cutthroat trout or sculpin).
- Watercourses with documented salmonid use determined by visual observation, electrofishing, or verification by local biologists.

#### 3.5.4 Track C Information

In extraordinary circumstances (e.g., this information is tied to a permit condition or the information is crucial for design of a substantial design element such as road or culvert), electrofishing, per the requirements in WAC 220-20-045 can be used to establish fish presence and stream typing. This pathway should only be used under careful consideration and in consultation with WDFW. Electrofishing, or other fish sampling methods, should be preapproved by Sound Transit environmental staff and conducted by experienced fisheries biologists.

# 4. Considerations and Limitations

The purpose of this report, including associated flowcharts and tables, is to serve as a guide for assessing streams that are potentially affected by Sound Transit projects. Due to variation in the specific type and severity of project impacts, coupled with property access issues and the unique requirements of multiple regulatory agencies that are commonly involved, it is difficult to craft a "one size fits all" survey protocol. This difficulty is illustrated by an analysis of the stream assessment methods used by two large governmental agencies involved in transportation projects: the Washington State Department of Transportation and the King County Road Services Division. Neither of these agencies has specific stream assessment protocols for determining project impacts. This is also common for most local governments, as a sufficiently broad, detailed, and inclusive stream assessment survey protocol to cover all available project permitting and design needs would be inherently detailed. This in turn can lead to the potential collection of a substantial amount of information, extraneous to the needs of the project, resulting in an increase in project effort and expense.

Therefore, one should consider some project-specific elements prior to assessing streams. This will allow the user to specifically tailor the stream assessment methods in order to both "right size" the analysis methods and to ensure that information is collected in an efficient way that anticipates current and future information needs. These elements can be assessed by asking and answering the following project-specific questions:

- Which specific habitat elements and sub-elements will be affected (e.g., in-stream substrate, stream banks, riparian zone width, etc.)? Think carefully about the specific project impacts or mitigation needs and the information that should be collected to compare or assess these impacts or evaluate appropriate mitigation.
- What project stage or stages is data from the stream assessment to be used -- programmatic planning, alternative comparison, initial permitting, project design, or mitigation design? The stream assessment should be tailored to a level of detail that addressed the current project planning, design, or permitting phase and that will support the related documents and plans.
- If the general purpose of the stream assessment is to help compare project options, is this comparison for programmatic options, many specific design alternatives, a small number of design alternatives, or is the purpose to compare a single alternative with a no-build option? Based on the specific answer, the stream assessment should be tailored to allow for adequate analysis of impacts, without collecting extraneous information. Conversely, if only one site/alignment is being evaluated and access is not limited, collecting more detailed information early on may be beneficial in the long-term, especially if mitigation is necessary.
- If the purpose of the stream assessment is to compare among a limited number of specific design options, do the alternatives impact stream habitats in similar manners and locations? If impacts to streams from most or all of the alternatives will occur in the same geographic area(s), more robust initial stream assessment methods may be appropriate in order to minimize multiple assessments during the project lifecycle, thereby maximizing efficiency and limiting costs.
- What is the project timeframe for alternative comparison, design, and permitting? Expedited timeframes may require a more robust initial stream assessment method, in order to quickly advance design and permitting, or to avoid the risk of unexpected delay at a late stage of the project.
- Are other project staff collecting similar or ancillary field data on stream conditions? It is important to coordinate with other project staff on their data acquisition needs prior to selecting final assessment methods. For example, structural or civil engineers may be performing detailed hydraulic or hydrological analyses within the same stream reaches, and potentially eliminating the need for some channel morphology or sediment data collection during the stream assessment.

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# Attachment N.4B Wetland Determination Data Forms

The Department of Transportation is committed to ensuring that information is available in appropriate alternative formats to meet the requirements of persons who have a disability. If you require an alternative version of this file, please contact <a href="https://example.com/files/press/repair/">FTAWebAccessibility@dot.gov.</a>

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Project Site: West Seattle and Ballard Link Ex	<u>tensions</u>	City/Count	y: <u>Seattle/King</u> Sa	ampling Date:	<u>7/15/19</u>	
Applicant/Owner: Sound Transit			State: WA S	ampling Point:	WSE1-SF	<u>P1</u>
Investigator(s): Amy Rotondo and Rose Whitson			Section, Township, Range:	S13, T24N, R03E		
Landform (hillslope, terrace, etc.): slope		Local relief (conca	ve, convex, none): <u>concave</u>	Slope (	%): <u>5</u>	
Subregion (LRR): A	Lat:		Long:	Datum:		
Soil Map Unit Name: <u>Unclassified City Land</u>			NWI classific	cation: <u>PEM</u>		
Are climatic / hydrologic conditions on the site typical for	this time of year?	? Yes $\square$	No 🛛 (If no, explain in R	lemarks.)		
Are Vegetation ☐, Soil ☐, or Hydrology	☐, significantly	y disturbed? Are "N	lormal Circumstances" present?	Yes [	☐ No	$\boxtimes$
Are Vegetation ☐, Soil ☐, or Hydrology	⊠, naturally pr	roblematic? (If nee	eded, explain any answers in Rema	arks.)		
SUMMARY OF FINDINGS - Attach site map sh	owing sampli	ng point locations,	transects, important features	s, etc.		
Hydrophytic Vegetation Present?	Yes 🛛 N	No 🗆				
Hydric Soil Present?	Yes 🛛 N	No   Is the Sample within a Wet		Yes	⊠ No	
Wetland Hydrology Present?	Yes 🛛 N	No 🗆	iuna i			
Remarks: According to AgACIS, the period prior to fiel	d visit has been o	drier than normal.				
Tromand. Theorem is to high tone, the period prior to hor	a viole flao boori e	anor trair normal.				
VEGETATION – Use scientific names of plants						
Tree Stratum (Plot size: 30ft)		ominant Indicator	Dominance Test Worksheet:			
	% Cover Sp	pecies? Status	Dominiance Test Worksheet.			
1			Number of Dominant Species That Are OBL, FACW, or FAC:	<u>3</u>		(A)
2						
3			Total Number of Dominant Species Across All Strata:	<u>3</u>		(B)
4			Opedes Adioss Ali Otiata.			
50% =, 20% =	=	Total Cover	Percent of Dominant Species That Are OBL, FACW, or FAC:	<u>100</u>		(A/B)
Sapling/Shrub Stratum (Plot size: 15ft)	00	540				
1. <u>Rubus armeniacus</u>	<u>20</u> <u>ye</u>	<u>es</u> <u>FAC</u>	Prevalence Index worksheet:	N 4 - 14 - 1 - 1	h	
2			Total % Cover of:	<u>Multiply</u>	DY:	
3			OBL species	x1 =		
4			FACW species	x2 =		
5			FAC species	x3 =		
50% = <u>10</u> , 20% = <u>4</u>	<u>20</u> = -	Total Cover	FACU species	x4 =		
Herb Stratum (Plot size: 5ft)			UPL species	x5 =		
1. <u>Equisetum arvense</u>	<u>100</u> <u>ye</u>	<u>es</u> <u>FAC</u>	Column Totals:(A	A)	(	(B)
2. <u>Ranunculus repens</u>	<u>40</u> <u>ye</u>	es <u>FAC</u>	Prevalence In	dex = B/A =		
3			Hydrophytic Vegetation Indica	tors:		
4			☐ 1 – Rapid Test for Hydroph	ytic Vegetation		
5			□ 2 - Dominance Test is >50 <sup>o</sup>	%		
6			☐ 3 - Prevalence Index is <3.	01		
7			4 - Morphological Adaptation	ons <sup>1</sup> (Provide supporti	ng	
8			data in Remarks or on a	separate sheet)		
9			☐ 5 - Wetland Non-Vascular I	Plants <sup>1</sup>		
10			☐ Problematic Hydrophytic V	egetation¹ (Explain)		
11						
50% = <u>70,</u> 20% = <u>28</u>	140 =	Total Cover	<sup>1</sup> Indicators of hydric soil and wetl be present, unless disturbed or p	, ,,		
Woody Vine Stratum (Plot size: 15ft)			be present, unless disturbed of p	iobiematic.		
1					-	
2			Hydrophytic			
50% =, 20% =	=-	Total Cover	Vegetation Yes	; 🛛	No	
% Bare Ground in Herb Stratum		-	Present?			
Pomerko: The 2016 Plant List was used for t	bia dalinaatian					
Remarks: The 2016 Plant List was used for the Pinus contorta, unknown spruce, (		n, and Hedera helix were	e rooted outside of the sampling po	oint.		
	, , , , ,	,	1 31			

OIL												Sa	mpling l	Point: WS	SE1-9	SP1			
Profile Desc	ription: (Describe	e to the	e depth	need	ed to d	ocument the	e indicato	r or conf	firm the abs	sence o	of indica	tors.)							_
Depth	Matri	X				Re	edox Featı	ures											
(inches)	Color (moist)		%	Co	olor (mo	oist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	2	Texture	е			Re	marks	;		
<u>0-4</u>	2.5Y 3/1	-	<u>100</u>			_				_	gr sa lo	am*	<u>Large</u>	<u>gravels</u>					
<u>4-10</u>	10YR 4/1		<u>75</u>	7	.5YR 4/	<u>/4</u> <u>2</u>	<u>25</u>	<u>C</u>	<u>M</u>		gr sa lo	<u>oam</u>	Slightl	y more c	<u>lay</u>				
<u>10-16</u>	10YR 4/1		<u>95</u>	<u>7.</u>	5 YR 4	<u>/4</u>	<u>5</u>	<u>C</u>	<u>M</u>		gr sa lo	<u>oam</u>	Slightl	y more c	<u>lay</u>				
		_				_				_		_	-						
		_				_				_		_	-						
		_								_		_							
		_				_				_		_							
									—										
•	ncentration, D=D	•						ated San	d Grains.	<sup>2</sup> Loc	ation: PL								
	ndicators: (Appli	cable	to all Li	RRs, u	_		=				_			oblemati	ic Hy	dric S	oils³:		
☐ Histoso						Sandy Red							m Muck		. I /TE	0)			
	Epipedon (A2)					Stripped M		J /E4\ <b>/</b> e	waant MI D	۸ ۵۱				t Materia	•	•	-10\		
	listic (A3)					-	-		xcept MLRA	4 1)			-	ow Dark			-12)		
_	en Sulfide (A4)	rface (	۸11)			Loamy Gle	-	( (FZ)				Oti	iei (⊏xp	lain in Re	eman	KS)			
_ `	ed Below Dark Su Park Surface (A12	-	411)			Depleted N		(E6)											
_	•	,				Redox Dar Depleted D					<sup>3</sup> Inc	licators	of hvdr	ophytic v	veaet	ation a	and		
_	Mucky Mineral (S Gleyed Matrix (S4					•		, ,			1	wetland	d hydrol	ogy must	t be p	resent			
	ayer (if present):	•			<u> </u>	Redox Dep	nessions (	10)			·	unless	disturbe	d or prob	blema	atic.			
<b>хезитсиче г</b> Гуре:	Severely co		ed soils																
Depth (inche:	·	лпрасс	cu sono	2					Hydric So	oile Dra	seant?			Yes		$\boxtimes$	No		
Remarks:	*gr sa loam = gra	م برالم د	andı la						yao o	0.10 1 10				- 100					<u> </u>
YDROLOG	Y																		
Wetland Hyd	rology Indicator	s:																	
Primary Indic	ators (minimum o	f one re	equired;	; check	all that	t apply)					Seco	ndary l	ndicato	rs (2 or m	nore r	require	ed)		
☐ Surfac	e Water (A1)					Water-Stai	ned Leave	es (B9)				Water	-Stained	d Leaves	(B9)				
☐ High V	/ater Table (A2)					(except MI	LRA 1, 2,	4A, and	4B)			(MLR	A 1, 2, 4	A, and 4	4B)				
Satura	tion (A3)					Salt Crust	(B11)					Draina	age Patt	erns (B1	0)				
☐ Water	Marks (B1)					Aquatic Inv	ertebrates/	(B13)				Dry-S	eason V	Vater Tab	ble (C	(2)			
☐ Sedim	ent Deposits (B2)					Hydrogen	Sulfide Od	or (C1)				Satura	ation Vis	ible on A	Aerial	Image	ery (C9	9)	
☐ Drift D	eposits (B3)					Oxidized R	thizospher	es along	Living Roots	s (C3)		Geom	orphic F	Position (	(D2)				
☐ Algal N	Mat or Crust (B4)					Presence of	of Reduced	d Iron (C4	4)			Shallo	w Aquit	ard (D3)					
☐ Iron De	eposits (B5)					Recent Iron	n Reductio	n in Tille	d Soils (C6)			FAC-N	Neutral 7	Γest (D5)	)				
☐ Surfac	e Soil Cracks (B6	)				Stunted or	Stresses F	Plants (D	1) <b>(LRR A)</b>			Raise	d Ant M	ounds (D	06) <b>(L</b>	RR A)	)		
☐ Inunda	tion Visible on Ae	rial Ima	agery (E	37)		Other (Exp	lain in Rer	marks)				Frost-	Heave H	Hummocl	ks (D	7)			
☐ Sparse	ely Vegetated Con	cave S	Surface	(B8)															
Field Observ	rations:																		
Surface Wate	er Present?	Yes		No	$\boxtimes$	Depth	(inches):												
Water Table	Present?	Yes		No	$\boxtimes$	Depth	(inches):												
Saturation Pr (includes cap		Yes		No		Depth	(inches):	<u>0-10" E</u>	BGS*	Wetl	and Hyd	rology	Preser	it?	Y	es		No	
Describe Red	orded Data (strea	ım gau	ge, mor	nitoring	well, a	erial photos,	previous i	nspectio	ns), if availa	ble:									
Remarks:	BGS = below gre				· <u> </u>					_					_			_	_
	Saturation was p	oresent	from 0	-10 inc	hes an	d not connec	ted to an i	mmediat	e water table	e due to	o soil con	npactio	n.						

Project Site: West Seattle and Ballard Link Ex	tensions		City/Count	y: <u>Seattle/King</u>	Sampling	Date:	<u>8/23/19</u>	
Applicant/Owner: <u>Sound Transit</u>				State:	<u>WA</u> Sampling	Point:	WSE1-S	P2
Investigator(s): <u>Amy Rotondo and Rose Whitson</u>				Section, Townsh	hip, Range: <u>S13, T</u>	24N, R03E		
Landform (hillslope, terrace, etc.): <u>hillslope</u>		Local	relief (conca	ive, convex, none): <u>n</u>	none	Slope	(%): <u>7</u>	
Subregion (LRR): <u>A</u>	Lat:	_		Long:		Datum: _		
Soil Map Unit Name: <u>Unclassified City Land</u>				N	NWI classification:	<u>UPL</u>		
Are climatic / hydrologic conditions on the site typical for	this time of ye	ear? Ye	s 🛛	No 🗌 (If no, e	explain in Remarks.	)		
Are Vegetation ⊠, Soil □, or Hydrology	☐, significa	ntly disturbed?	Are "N	Normal Circumstances"	present?	Yes	☐ No	$\boxtimes$
Are Vegetation   , Soil  , or Hydrology	☐, naturally	problematic?	(If nee	eded, explain any answe	ers in Remarks.)			
SUMMARY OF FINDINGS - Attach site map sh	owing sam	pling point l	ocations,	transects, importan	nt features, etc.			
Hydrophytic Vegetation Present?	Yes 🗌	No 🛛						
Hydric Soil Present?	Yes 🗌		s the Samp vithin a Wet			Yes	☐ No	$\boxtimes$
Wetland Hydrology Present?	Yes 🗌	No 🛛	vitiliii a vve	iana:				
Remarks: This area is maintained (mowed) by the golf	course	<u> </u>						
Trionance. This area is maintained (mewsay by the gen	oouloo.							
VEGETATION – Use scientific names of plants								
Tree Stratum (Plot size: 30ft)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Wo	rksheet:			
1. <u>Picea abies</u>	<u>50</u>	<u>yes</u>	NL (UPL)	Number of Dominant	Species			
2	<del></del>			That Are OBL, FACW		<u>2</u>		(A)
3.				Total Number of Dom	inant			
4.	' <u></u>			Species Across All St		<u>5</u>		(B)
50% = <u>25</u> , 20% = <u>10</u>	50	= Total Cover		Percent of Dominant	Species			
Sapling/Shrub Stratum (Plot size: 15ft)				That Are OBL, FACW		<u>40</u>		(A/B)
1. Rubus armeniacus	<u>30</u>	<u>yes</u>	FAC	Prevalence Index wo	orksheet:			
2				Total % (	Cover of:	Multipl	y by:	
3				OBL species	<u>0</u>	x1 =	<u>0</u>	
4.				FACW species	<u>10</u>	x2 =	20	
5				FAC species	<u>40</u>	x3 =	120	
50% = <u>15</u> , 20% = <u>6</u>	30	= Total Cover		FACU species	100	x4 =	400	
Herb Stratum (Plot size: 5ft)	_			UPL species	<u>——</u> 65	x5 =	325	
1. Convolvulus arvensis	<u>15</u>	<u>yes</u>	NL (UPL)	Column Totals:	215 (A)		865 (B)	
Equisetum telmateia	<u>10</u>		FACW		revalence Index = B	2/4 - 4.02	<u>000</u> (D)	
		<u>yes</u>				5/A - <u>4.02</u>		
3. <u>Holcus lanatus</u>	<u>5</u>	<u>no</u>	FAC	Hydrophytic Vegetat	tion indicators: for Hydrophytic Veg	atation		
4. <u>Agrostis capillaris</u>	<u>5</u>	<u>no</u>	<u>FAC</u>	_ ,	, , , ,	etation		
5				2 - Dominance				
6				☐ 3 - Prevalence I	<del>-</del>			
7 8.					al Adaptations¹ (Pro arks or on a separat		ting	
9.				5 - Wetland Nor	n-Vascular Plants <sup>1</sup>			
10.					drophytic Vegetatior	o <sup>1</sup> (Evoloin)		
11.				— Froblematic Hyd	uropriylic vegetalior	i (Expiairi)		
50% = 17.5, 20% = 7	35	= Total Cover	<del></del>	<sup>1</sup> Indicators of hydric s				
Woody Vine Stratum (Plot size: 15ft)	<u>00</u>	- Total Govel		be present, unless dis	sturbed or problema	tic.		
	100	1/00	EACH					
1. <u>Hedera helix</u>	<u>100</u>	<u>yes</u>	<u>FACU</u>	Hydrophytic				
2	400			Vegetation	Yes		No	$\boxtimes$
50% = <u>50</u> , 20% = <u>20</u>	<u>100</u>	= Total Cover		Present?				
% Bare Ground in Herb Stratum <u>65% with ivy</u>								
Remarks: The 2016 Plant List was used for t This area is regularly maintained (i								
This area is regularly maintained (i		- gon oodise.						

SOIL Sampling Point: WSE1-SP2 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Depth Matrix Redox Features (inches) Texture Color (moist) % Color (moist) % Type<sup>1</sup> Loc<sup>2</sup> Remarks 10YR 2/2 <u>0-8</u> <u>100</u> gr sa loam\* fine sand 8-18 10YR 4/2 100 loamy sand <sup>1</sup>Type: C= Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. <sup>2</sup>Location: PL=Pore Lining, M=Matrix Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils3: Histosol (A1) Sandy Redox (S5) 2 cm Muck (A10) Histic Epipedon (A2) Stripped Matrix (S6) Red Parent Material (TF2) Black Histic (A3) Loamy Mucky Mineral (F1) (except MLRA 1) Very Shallow Dark Surface (TF12) Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Other (Explain in Remarks) Depleted Below Dark Surface (A11) Depleted Matrix (F3) Thick Dark Surface (A12) Redox Dark Surface (F6) <sup>3</sup>Indicators of hydrophytic vegetation and Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) wetland hydrology must be present,  $\Box$ Sandy Gleyed Matrix (S4) Redox Depressions (F8) unless disturbed or problematic. Restrictive Layer (if present): **Hydric Soils Present?**  $\boxtimes$ Depth (inches): Yes No Remarks: Soils were dry. \*gr sa loam = gravelly sandy loam **HYDROLOGY** Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (2 or more required) Surface Water (A1) Water-Stained Leaves (B9) Water-Stained Leaves (B9) High Water Table (A2) (except MLRA 1, 2, 4A, and 4B) (MLRA 1, 2, 4A, and 4B) Saturation (A3) Salt Crust (B11) Drainage Patterns (B10) Water Marks (B1) Aquatic Invertebrates (B13) Dry-Season Water Table (C2) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Saturation Visible on Aerial Imagery (C9) Drift Deposits (B3) Oxidized Rhizospheres along Living Roots (C3) Geomorphic Position (D2) Presence of Reduced Iron (C4) П Algal Mat or Crust (B4) П П Shallow Aquitard (D3) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) FAC-Neutral Test (D5) Surface Soil Cracks (B6) Stunted or Stresses Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) Frost-Heave Hummocks (D7) Sparsely Vegetated Concave Surface (B8) Field Observations: Surface Water Present?  $\boxtimes$ Depth (inches): Yes No  $\boxtimes$ Water Table Present? Yes No Depth (inches): Saturation Present? Wetland Hydrology Present? No  $\boxtimes$ Yes No  $\boxtimes$ Depth (inches): (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Remarks No hydrologic indicators.

Project Site:	West Seattle a	and Ballard Link Ex	tensions	<u> </u>			City/Count	y: <u>S</u>	eattle/King		Sar	mpling D	ate:	7/15	5/19	
Applicant/Owner:	Sound Transit								St	tate: <u>WA</u>	Sar	mpling P	oint:	WS	E2-SF	<u> 21</u>
Investigator(s):	Amy Rotondo	and Rose Whitson							Section, To	ownship, Ra	ange:	S13, T2	4N, R03E			
Landform (hillslope, ter	rrace, etc.):	<u>terrace</u>				Loca	l relief (conca	ve, co	nvex, none)	: <u>none</u>			Slope	(%):	<u>1</u>	
Subregion (LRR):	<u>A</u>		Lat:		_			Lon	ng:				Datum: _			
Soil Map Unit Name:	<u>Unclassified</u>	City Land								NWI cla	assifica	ation:	PEM			
Are climatic / hydrologi	ic conditions on	the site typical for	this time	e of ye	ear?	Y	es 🗆	No	) 🛛 (I	f no, explair	n in Re	marks.)				
Are Vegetation $\square$ ,	Soil □,	or Hydrology	□, sig	gnifica	ntly dis	turbed	l? Are "N	lormal	Circumstan	nces" preser	nt?		Yes	$\boxtimes$	No	
Are Vegetation $\square$ ,	Soil □,	or Hydrology	□, na	turally	/ proble	ematic1	? (If nee	eded, e	explain any a	answers in F	Remarl	ks.)				
SUMMARY OF FIN	DINGS - Atta	ach site map sh	owing	sam	pling	point	locations,	trans	ects, impo	ortant feat	tures,	etc.				
Hydrophytic Vegetation	n Present?		Yes	$\boxtimes$	No		1. 4 6									
Hydric Soil Present?			Yes	$\boxtimes$	No		Is the Samp within a Wes						Yes	$\boxtimes$	No	
Wetland Hydrology Pre	esent?		Yes	$\boxtimes$	No											
Remarks: According	to AgACIS, the	time period prior t	o field v	isit wa	as drier	than r	normal.									
VEGETATION - Use	e scientific n	ames of plants														
Tree Stratum (Plot siz	ze: <u>30ft</u> )		Absolu <u>% Cov</u>		Domii Speci		Indicator Status	Dom	ninance Tes	st Workshe	et:					
1			70 000	<u></u>	Орсы	<u> </u>	Otatus	Num	ber of Domi	inant Specie	25					
2.								That	Are OBL, F	ACW, or FA	AC:		<u>1</u>			(A)
3.								Tota	l Number of	Dominant						
4									cies Across				<u>1</u>			(B)
50% =, 20% =					= Tota	al Cove	er	Perc	ent of Domi	nant Snecie	98					
Sapling/Shrub Stratur	<u>m</u> (Plot size: <u>15</u>	<u>ft</u> )							Are OBL, F				<u>100</u>			(A/B)
1								Prev	/alence Inde	ex workshe	et:					
2									Tota	al % Cover	of:		Multip	ly by:		
3								OBL	species				x1 =			
4								FAC	W species		_		x2 =			
5								FAC	species		_		x3 =			
50% =, 20% =					= Tota	al Cove	er	FAC	U species				x4 =			
Herb Stratum (Plot siz	ze: 5ft)							UPL	species				x5 =			
1. Phalaris arundina	<del></del>		100		yes		FACW	Colu	imn Totals:		(A)				(	(B)
Cirsium arvense			3		no		FAC	Colu	iiiiii Totais.	Prevalen			=			(-)
3.			<u>u</u>		110		1710	Hyd	rophytic Ve				·			
4.									1 – Rapid	_			tation			
5									-	ance Test is		_	lation			
6								l								
										ence Index is	_					
7										ological Ada Remarks or				rting		
8												•	Silect)			
9										d Non-Vasc						
10								╽╙	Problemat	ic Hydrophy	rtic Ve	getation <sup>1</sup>	(Explain)			
11					_			<sup>1</sup> Indi	cators of hy	dric soil and	l wetla	nd hydro	ology must			
50% = <u>51.5</u> , 20% = <u>20</u>			<u>103</u>		= Tota	al Cove	er		resent, unle							
Woody Vine Stratum	(Plot size: <u>15ft</u> )															
1								Liveri								
2								_	rophytic etation		Yes		$\boxtimes$	No	)	
50% =, 20% =				•	= Tota	al Cove	er	_	sent?				_			_
% Bare Ground in He	rb Stratum															
		List was used for t														
	Salix lucida was	rooted outside of	tnis sam	pling	point.											

DIL					the indicator	r or confir	m the absence	of indicate	ors.)					
rofile Descriptio	n: (Describe to	the depth	needed to	aocument					,					
Depth	Matrix				Redox Featu	ıres		_						
inches) Co	olor (moist)	%	Color (m	ioist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	·		Remark	S		
0-9	10YR 3/2	100		<del>-</del>				loam	<u>OM* p</u>	resent				_
<u>9-18</u>	10YR 4/1	<u>93</u>	10YR 3	<u>3/6</u>	<u>7</u>	<u>C</u>	<u>M</u>	<u>loam</u>						
				_						-				
				_										
				_										
				-										
				=										
				-					<del>-</del>					
ype: C= Concen	· · · · · · · · · · · · · · · · · · ·					ited Sand (	Grains. <sup>2</sup> Lo		=Pore Lining,				•	
ydric Soil Indica		le to all L	_		=			_	cators for Pro		Hydric S	Soils	³:	
Histosol (A1)				-	Redox (S5)				2 cm Muck		TEO)			
Histic Epipeo					d Matrix (S6)	I ( <b>E</b> 4) (a	MI DA 4\		Red Paren			- [40)		
Black Histic	` '			-	=		ept MLRA 1)		Very Shallo		•	F12)		
Hydrogen Su		·ο (Δ11)		-	Gleyed Matrix	(F2)			Otner (Exp	lain in Ren	narks)			
	elow Dark Surfac	e (ATT)		-	d Matrix (F3)	(E6)								
_	Surface (A12)				Dark Surface (			<sup>3</sup> Indi	icators of hydr	rophytic ve	getation	and		
	ky Mineral (S1) ed Matrix (S4)			•	d Dark Surfac Depressions (I			W	etland hydrol	ogy must b	e preser			
estrictive Layer				INEGOX L	Depressions (i	1 0)		u	nless disturbe	ed or proble	ematic.			
pe:	(ii present).													
												N.		
emarks: *OM	I = organic matte						Hydric Soils P	resent?		Yes		N	lo	
emarks: *OM Oxid	dized rhizosphere						Hydric Soils P	resent?		Yes		N.	lo	
emarks: *OM Oxid DROLOGY	dized rhizosphere	es present.					Hydric Soils P							
emarks: *OM Oxid  DROLOGY /etland Hydrolog	gy Indicators: (minimum of on	es present.	; check all tha			'	Hydric Soils P	Secon	ndary Indicato	rs (2 or mo	re requir		lo	
DROLOGY  etland Hydrolog imary Indicators  Surface Wa	gy Indicators: (minimum of on	es present.		Water-S	Stained Leave	s (B9)		Secon	Water-Stained	rs (2 or mo d Leaves (E	re requir 39)		lo	
DROLOGY  [etland Hydrolog imary Indicators ] Surface Wa ] High Water	gy Indicators: (minimum of on ter (A1) Table (A2)	es present.	; check all tha	Water-S (except	MLRA 1, 2, 4	s (B9)		Secon	Water-Stained	rs (2 or mo d Leaves (E <b>1A, and 4B</b>	re requir 39)			
DROLOGY etland Hydrolog imary Indicators Surface Wa High Water Saturation (	gy Indicators: (minimum of on ter (A1) Table (A2)	es present.	; check all tha	Water-S (except Salt Cru	MLRA 1, 2, 4 ust (B11)	s (B9) 4 <b>A, and 4</b> E		Secon	Water-Stained (MLRA 1, 2, 4 Drainage Patt	rs (2 or mo d Leaves (B <b>1A, and 4B</b> derns (B10)	re requir 39)			
DROLOGY etland Hydrologimary Indicators    Surface Wa   High Water   Saturation (a	gy Indicators: (minimum of on ter (A1) Table (A2) A3) s (B1)	es present.	; check all the	Water-S (except Salt Cru Aquatic	MLRA 1, 2, 4 st (B11) Invertebrates	s (B9) <b>4A, and 4E</b> (B13)		Secon	Water-Stained ( <b>MLRA 1, 2, 4</b> Drainage Patt Dry-Season V	rs (2 or mo d Leaves (E <b>IA, and 4B</b> derns (B10) Vater Table	re requir 39) ) e (C2)	red)		
DROLOGY etland Hydrolog imary Indicators    Surface War   High Water   Saturation (,,)   Water Marks	gy Indicators: (minimum of on later (A1) Table (A2) (A3) s (B1) deposits (B2)	es present.	; check all tha	Water-S (except Salt Cru Aquatic Hydroge	MLRA 1, 2, 4 ast (B11) Invertebrates en Sulfide Odd	s (B9) <b>4A, and 4E</b> (B13) or (C1)	3)	Secon	Water-Stained (MLRA 1, 2, 4 Drainage Patt Dry-Season W Saturation Vis	rs (2 or mo d Leaves (E <b>1A, and 4B</b> terns (B10) Vater Table sible on Ae	re requir 39) ) • (C2) rial Imag	red)		
DROLOGY etland Hydrolog imary Indicators    Surface Wa   High Water   Saturation (a   Water Marks	gy Indicators: (minimum of on ther (A1) Table (A2) A3) s (B1) leposits (B2) its (B3)	es present.	; check all tha	Water-S (except Salt Cru Aquatic Hydroge	MLRA 1, 2, 4 ast (B11) Invertebrates en Sulfide Odd d Rhizosphere	s (B9) <b>4A, and 4E</b> (B13) or (C1) es along Li		Secon	Water-Stained (MLRA 1, 2, 4 Drainage Patt Dry-Season V Saturation Vis Geomorphic F	rs (2 or mo d Leaves (B <b>1A, and 4B</b> terns (B10) Vater Table sible on Aer Position (D2	re requir 39) ) • (C2) rial Imag	red)		
DROLOGY etland Hydrolog imary Indicators  Surface Wa' High Water Saturation ( Water Mark: Sediment D Drift Deposi Algal Mat or	gy Indicators: (minimum of on on the (A1) Table (A2) A3) s (B1) teposits (B2) tits (B3) r Crust (B4)	es present.	; check all tha	Water-S (except Salt Cru Aquatic Hydroge Oxidized Presence	MLRA 1, 2, 4 ast (B11) Invertebrates en Sulfide Odo d Rhizosphere ee of Reduced	s (B9) <b>4A, and 4E</b> (B13)  or (C1)  es along Li	3) ving Roots (C3)	Secon	Water-Stained (MLRA 1, 2, 4) Drainage Patt Dry-Season W Saturation Vis Geomorphic F Shallow Aquit	rs (2 or mo d Leaves (E 4A, and 4B terns (B10) Vater Table sible on Ael Position (D2 ard (D3)	re requir 39) ) • (C2) rial Imag	red)		
DROLOGY etland Hydrolog imary Indicators  Surface Wa High Water Saturation (a Water Marks Sediment De Drift Deposit Iron Deposit	gy Indicators: (minimum of on on ter (A1) Table (A2) A3) s (B1) eposits (B2) ets (B3) r Crust (B4) ts (B5)	es present.	; check all tha	Water-S (except Salt Cru Aquatic Hydroge Oxidized Presence	MLRA 1, 2, 4 ast (B11) Invertebrates en Sulfide Odd d Rhizosphere ce of Reduced Iron Reduction	s (B9)  4A, and 4E  (B13) or (C1) es along Li d Iron (C4) n in Tilled S	3)  ving Roots (C3) Soils (C6)	Secon	Water-Stained (MLRA 1, 2, 4) Drainage Patt Dry-Season W Saturation Vis Geomorphic F Shallow Aquit FAC-Neutral	rs (2 or mo d Leaves (E 4A, and 4B derns (B10) Vater Table sible on Aer Position (D2 ard (D3) Test (D5)	re requir 39) •) • (C2) rial Imag 2)	red)		
DROLOGY etland Hydrolog imary Indicators    Surface Wa   High Water   Saturation (,   Water Mark:   Sediment D   Drift Deposit   Algal Mat or   Iron Deposit   Surface Soil	gy Indicators: (minimum of on	es present.	; check all tha	Water-S (except Salt Cru Aquatic Hydroge Oxidized Presenc Recent I Stunted	MLRA 1, 2, 4 list (B11) Invertebrates en Sulfide Odd d Rhizosphere de of Reduced Iron Reduction or Stresses F	s (B9)  4A, and 4E  (B13) or (C1) es along Lid Iron (C4) n in Tilled S	3)  ving Roots (C3) Soils (C6)	Secon	Water-Stained (MLRA 1, 2, 4 Drainage Patt Dry-Season W Saturation Vis Geomorphic F Shallow Aquit FAC-Neutral	rs (2 or mod Leaves (E IA, and 4B Iterns (B10) Vater Table Sible on Ael Position (D2 ard (D3) Test (D5) ounds (D6)	re requir 39) ) e (C2) rial Imag 2)	red)		
DROLOGY etland Hydrolog imary Indicators    Surface Wa   High Water   Saturation (,   Water Marker   Sediment Deposit   Algal Mat or   Iron Deposit   Surface Soil   Inundation \	gy Indicators: (minimum of on oter (A1) Table (A2) A3) s (B1) leposits (B2) its (B3) r Crust (B4) ts (B5) I Cracks (B6) Visible on Aerial	e required	; check all tha	Water-S (except Salt Cru Aquatic Hydroge Oxidized Presenc Recent I Stunted	MLRA 1, 2, 4 ast (B11) Invertebrates en Sulfide Odd d Rhizosphere ce of Reduced Iron Reduction	s (B9)  4A, and 4E  (B13) or (C1) es along Lid Iron (C4) n in Tilled S	3)  ving Roots (C3) Soils (C6)	Secon	Water-Stained (MLRA 1, 2, 4) Drainage Patt Dry-Season W Saturation Vis Geomorphic F Shallow Aquit FAC-Neutral	rs (2 or mod Leaves (E IA, and 4B Iterns (B10) Vater Table Sible on Ael Position (D2 ard (D3) Test (D5) ounds (D6)	re requir 39) ) e (C2) rial Imag 2)	red)		
DROLOGY  etland Hydrolog imary Indicators  Surface Wa High Water Saturation (a Water Marks Drift Deposit Algal Mat or Iron Deposit Surface Soil Inundation \ Sparsely Ve	gy Indicators: (minimum of on other (A1) Table (A2) A3) s (B1) leposits (B2) its (B3) r Crust (B4) ts (B5) I Cracks (B6) Visible on Aerial egetated Concav	e required	; check all tha	Water-S (except Salt Cru Aquatic Hydroge Oxidized Presenc Recent I Stunted	MLRA 1, 2, 4 list (B11) Invertebrates en Sulfide Odd d Rhizosphere de of Reduced Iron Reduction or Stresses F	s (B9)  4A, and 4E  (B13) or (C1) es along Lid Iron (C4) n in Tilled S	3)  ving Roots (C3) Soils (C6)	Secon	Water-Stained (MLRA 1, 2, 4 Drainage Patt Dry-Season W Saturation Vis Geomorphic F Shallow Aquit FAC-Neutral	rs (2 or mod Leaves (E IA, and 4B Iterns (B10) Vater Table Sible on Ael Position (D2 ard (D3) Test (D5) ounds (D6)	re requir 39) ) e (C2) rial Imag 2)	red)		
DROLOGY Vetland Hydrolog rimary Indicators Surface Wa High Water Saturation (A Drift Deposit Algal Mat or Iron Deposit Surface Soil Inundation \ Sparsely Ve	gy Indicators: (minimum of on	e required  e required  Imagery (E	; check all tha	Water-S (except Salt Cru Aquatic Hydroge Oxidized Presenc Recent I Stunted Other (E	MLRA 1, 2, 4 ast (B11) Invertebrates en Sulfide Odd d Rhizosphere de of Reduced Iron Reduction or Stresses F Explain in Rem	s (B9)  4A, and 4E  (B13) or (C1) es along Lid Iron (C4) n in Tilled S	3)  ving Roots (C3) Soils (C6)	Secon	Water-Stained (MLRA 1, 2, 4 Drainage Patt Dry-Season W Saturation Vis Geomorphic F Shallow Aquit FAC-Neutral	rs (2 or mod Leaves (E IA, and 4B Iterns (B10) Vater Table Sible on Ael Position (D2 ard (D3) Test (D5) ounds (D6)	re requir 39) ) e (C2) rial Imag 2)	red)		
DROLOGY  Vetland Hydrolog  rimary Indicators  Surface Wa  High Water  Saturation (,  Water Mark:  Sediment D.  Drift Deposit  Algal Mat or  Iron Deposit  Surface Soil  Inundation \  Sparsely Veteld Observation  Uniface Water Pre	gy Indicators: (minimum of on one of the (A1) Table (A2) A3) s (B1) deposits (B2) of the (B3) of Crust (B4) of the (B5) I Cracks (B6) Visible on Aerial degetated Concavens: essent? Yes	e required  Imagery (E	; check all that	Water-S (except Salt Cru Aquatic Hydroge Oxidized Presenc Recent I Stunted Other (E	MLRA 1, 2, 4 ast (B11) Invertebrates en Sulfide Odd d Rhizosphere de of Reduced Iron Reduction or Stresses F Explain in Ren oth (inches):	s (B9)  4A, and 4E  (B13) or (C1) es along Lid Iron (C4) n in Tilled S	3)  ving Roots (C3) Soils (C6)	Secon	Water-Stained (MLRA 1, 2, 4 Drainage Patt Dry-Season W Saturation Vis Geomorphic F Shallow Aquit FAC-Neutral	rs (2 or mod Leaves (E IA, and 4B Iterns (B10) Vater Table Sible on Ael Position (D2 ard (D3) Test (D5) ounds (D6)	re requir 39) ) e (C2) rial Imag 2)	red)		
DROLOGY //etland Hydrolog rimary Indicators   Surface Wa   High Water   Saturation (   Water Mark:   Sediment D:   Drift Deposit   Algal Mat or   Iron Deposit   Surface Soil   Inundation \(   Sparsely Ve	gy Indicators: (minimum of on other (A1) Table (A2) A3) s (B1) leposits (B2) its (B3) r Crust (B4) ts (B5) I Cracks (B6) Visible on Aerial egetated Concav ns: esent? Yesent? Yesent? Yesent?	e required  lmagery (E	; check all that	Water-S (except Salt Cru Aquatic Hydroge Oxidized Presenc Recent I Stunted Other (E	MLRA 1, 2, 4 ast (B11) Invertebrates en Sulfide Odd d Rhizosphere de of Reduced Iron Reduction or Stresses F Explain in Rem oth (inches):	s (B9)  4A, and 4E  (B13) or (C1) es along Lid Iron (C4) n in Tilled S	Soils (C6)	Secon	Water-Stained (MLRA 1, 2, 4) Drainage Patt Dry-Season W Saturation Vis Geomorphic F Shallow Aquit FAC-Neutral Raised Ant M Frost-Heave H	rs (2 or mo d Leaves (E IA, and 4B derns (B10) Vater Table sible on Aer Position (D2) ard (D3) Test (D5) ounds (D6) Hummocks	re requir 39) ) e (C2) rial Imag 2) ) (LRR A (D7)	red)	C9)	
PROLOGY  Vetland Hydrolog rimary Indicators Surface Wa High Water Saturation ( Water Marks Sediment Do Drift Deposit Algal Mat or Iron Deposit Surface Soil Inundation \ Sparsely Vetled Observation urface Water Presentation Present	gy Indicators: (minimum of on one of the (A1) Table (A2) A3) s (B1) deposits (B2) dits (B3) r Crust (B4) dts (B5) I Cracks (B6) Visible on Aerial egetated Concavens: esent? Yesent? Yesent? Yesent? Yesent?	e required  lmagery (E	; check all that	Water-S (except Salt Cru Aquatic Hydroge Oxidized Presenc Recent I Stunted Other (E	MLRA 1, 2, 4 ast (B11) Invertebrates en Sulfide Odd d Rhizosphere de of Reduced Iron Reduction or Stresses F Explain in Ren oth (inches):	s (B9)  4A, and 4E  (B13) or (C1) es along Lid Iron (C4) n in Tilled S	Soils (C6)	Secon	Water-Stained (MLRA 1, 2, 4 Drainage Patt Dry-Season W Saturation Vis Geomorphic F Shallow Aquit FAC-Neutral	rs (2 or mo d Leaves (E IA, and 4B derns (B10) Vater Table sible on Aer Position (D2) ard (D3) Test (D5) ounds (D6) Hummocks	re requir 39) ) e (C2) rial Imag 2)	red)	C9)	
Oxid  OXID	gy Indicators: (minimum of on otter (A1) Table (A2) (A3) s (B1) deposits (B2) of ts (B3) r Crust (B4) ts (B5) I Cracks (B6) Visible on Aerial egetated Concavens: esent? Yes eart? Yes fringe)	e required  Imagery (E	; check all that	Water-S (except Salt Cru Aquatic Hydroge Oxidized Presenc Recent I Stunted Other (E	MLRA 1, 2, 4 ist (B11) Invertebrates en Sulfide Odd d Rhizosphere de of Reduced Iron Reduction or Stresses F Explain in Ren oth (inches): oth (inches):	s (B9)  4A, and 4E  (B13) or (C1) es along Li d Iron (C4) n in Tilled 3 Plants (D1) narks)	ving Roots (C3) Soils (C6) (LRR A)	Secon	Water-Stained (MLRA 1, 2, 4) Drainage Patt Dry-Season W Saturation Vis Geomorphic F Shallow Aquit FAC-Neutral Raised Ant M Frost-Heave H	rs (2 or mo d Leaves (E IA, and 4B derns (B10) Vater Table sible on Aer Position (D2) ard (D3) Test (D5) ounds (D6) Hummocks	re requir 39) ) e (C2) rial Imag 2) ) (LRR A (D7)	red)	C9)	
EDROLOGY  Vetland Hydrolog rimary Indicators  Surface Water Marks  Sediment Dote Drift Deposit  Algal Mat or  Iron Deposit  Surface Soil  Inundation \ Sparsely Veteld Observation  urface Water Prevaluration Present acludes capillary	gy Indicators: (minimum of on otter (A1) Table (A2) (A3) s (B1) deposits (B2) of ts (B3) r Crust (B4) ts (B5) I Cracks (B6) Visible on Aerial egetated Concavens: esent? Yes eart? Yes fringe)	e required  Imagery (E	; check all that	Water-S (except Salt Cru Aquatic Hydroge Oxidized Presenc Recent I Stunted Other (E	MLRA 1, 2, 4 ist (B11) Invertebrates en Sulfide Odd d Rhizosphere de of Reduced Iron Reduction or Stresses F Explain in Ren oth (inches): oth (inches):	s (B9)  4A, and 4E  (B13) or (C1) es along Li d Iron (C4) n in Tilled 3 Plants (D1) narks)	ving Roots (C3) Soils (C6) (LRR A)	Secon	Water-Stained (MLRA 1, 2, 4) Drainage Patt Dry-Season W Saturation Vis Geomorphic F Shallow Aquit FAC-Neutral Raised Ant M Frost-Heave H	rs (2 or mo d Leaves (E IA, and 4B derns (B10) Vater Table sible on Aer Position (D2) ard (D3) Test (D5) ounds (D6) Hummocks	re requir 39) ) e (C2) rial Imag 2) ) (LRR A (D7)	red)	C9)	

Project Site:	West Seattl	e and Ballard Link	Extensions	<u>i</u>			City/Count	ty: <u>S</u>	eattle/King		Sampling	Date:	8/23	<u>8/19</u>	
Applicant/Owner:	Sound Tran	<u>ısit</u>							Sta	ate: WA	Sampling	Point:	WS	E2-SF	<u> 22</u>
Investigator(s):	Amy Roton	do and Rose Whits	<u>on</u>						Section, To	wnship, Ran	ge: <u>S13, </u>	T24N, R03E			
Landform (hillslope, te	rrace, etc.):	toe of slope				Loc	al relief (conca	ave, co	nvex, none):	none		Slope	(%):	<u>0</u>	
Subregion (LRR):	<u>A</u>		Lat:		-			Lon	g:			Datum:			
Soil Map Unit Name:	Unclassifie	ed City Land								NWI clas	sification:	<u>PSS</u>			
Are climatic / hydrologi	ic conditions	on the site typical f	for this time	of ye	ar?	Y	∕es ⊠	No	☐ (If	no, explain i	n Remarks	s.)			
Are Vegetation   ,	Soil	], or Hydrology	□, sig	nifica	ntly dis	sturbe	d? Are "l	Normal	Circumstanc	ces" present	?	Yes	$\boxtimes$	No	
Are Vegetation □,	Soil	], or Hydrology	□, nat	turally	proble	ematic	? (If nee	eded, e	explain any ar	nswers in Re	emarks.)				
SUMMARY OF FIN	DINGS - A	ttach site map	showing	sam	pling	poin	t locations,	trans	ects, impo	rtant featu	res, etc.				
Hydrophytic Vegetation		·	Yes	$\boxtimes$	No	<u> </u>					•				
Hydric Soil Present?			Yes	$\boxtimes$	No		Is the Samp		ea			Yes	$\boxtimes$	No	п
Wetland Hydrology Pre	esent?		Yes	⊠	No		within a We	tland?					_		
			100		110										
Remarks:															
VEGETATION - Use	e scientific	names of plant			D		l	T							
Tree Stratum (Plot size	ze: <u>30ft</u> )		Absolu <u>% Cov</u>		Domi Speci		Indicator <u>Status</u>	Dom	inance Test	Worksheet	:				
1								Num	ber of Domin	nant Species		0			(4)
2								That	Are OBL, FA	ACW, or FAC	D:	<u>2</u>			(A)
3								Total	Number of [	Dominant					<i>(</i>
4									cies Across A			<u>2</u>			(B)
50% =, 20% =					= Tota	al Cov	er	Perc	ent of Domin	ant Snecies					
Sapling/Shrub Stratur		<u>15ft</u> )							Are OBL, FA			<u>100</u>			(A/B)
Rubus spectabilis	<u>S</u>		<u>60</u>		<u>ves</u>		FAC	Prev	alence Inde	x workshee	t:				
2. Rubus armeniacu	<del>-</del> '		<u>10</u>		no		FAC			I % Cover of		Multipl	y by:		
3	_		_		_			OBL	species	-	_	x1 =			
4									W species		•	x2 =			
5.									species		•	x3 =			
50% = <u>35</u> , 20% = <u>14</u>			70		= Tot	al Cov	——		U species		•	x4 =			
Herb Stratum (Plot size	70: Eff)		<u>/ U</u>		- 100	ai Cov	GI		species		•	x5 =	_		
,	<u> </u>		40				E4 0)4/		•			X3 -	_	_	<b>(5</b> )
1. <u>Impatiens capens</u>			<u>40</u>		<u>yes</u>		<u>FACW</u>	Colu	mn Totals:		_ (A)		_	(	(B)
2. <u>Calystegia sepiun</u>			<u>5</u>		<u>no</u>		<u>FAC</u>			Prevalence	e Index = B	B/A =			
3. Equisetum telmat	<u>teia</u>		<u>2</u>		<u>no</u>		<u>FACW</u>	Hydi	rophytic Veg	getation Ind	icators:				
4									1 – Rapid T	est for Hydro	ophytic Ve	getation			
5								$\boxtimes$	2 - Dominar	nce Test is >	50%				
6									3 - Prevaler	nce Index is	<3.0¹				
7									4 - Morphol	ogical Adapt	tations¹ (Pr	ovide suppor	tina		
8										Remarks or c			3		
9									5 - Wetland	Non-Vascul	lar Plants <sup>1</sup>				
10.									Problematic	Hydronhytic	r Vegetatio	on¹ (Explain)			
11.									Troblemane	o i iyalopiiya	o vegetatio	ii (Explaiii)			
50% = <u>23.5</u> , 20% = <u>9</u>	4		47		= Tot	al Cov			,		,	drology must			
Woody Vine Stratum		5ft)	<u>41.</u>		- 100	ai oov	OI .	be pi	resent, unles	s disturbed	or problema	atic.			
_	(FIOL SIZE. 13	<u> </u>													
1					—			Hvdi	rophytic						
2					_			_	etation	,	Yes	$\boxtimes$	No	)	
50% =, 20% =					= Tota	al Cov	er	_	ent?						
% Bare Ground in He	erb Stratum <u>5</u>	3													
		ant List was used fo													
/	Acer macrop	hyllum was rooted	upland and	l alnus	s rubra	(with	10% cover) w	as root	ed across the	e stream.					

)IL			n needed to	document th			the absence	of indicator	rs.)					
rofile Descript	ion: (Describe to	the depti												
Depth	Matrix			F	Redox Featu	res		_						
nches)	Color (moist)	%	Color (m	noist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture			Remarks	5		
<u>0-7</u>	10YR 3/1	100						silt loam	some (	OM*				
<u>7-18</u>	2.5Y 5/2	<u>97</u>	7.5YR	4/4	<u>3</u>	<u>C</u>	<u>M</u>	sandy loa	<u>m</u>					
ype: C= Conce	entration, D=Depl	etion, RM=	Reduced Ma	trix, CS=Cov	ered or Coat	ted Sand G	rains. <sup>2</sup> Lo	cation: PL=F	ore Lining, N	M=Matrix				
ydric Soil Indi	cators: (Applica	ble to all L	.RRs, unless	otherwise r	noted.)			Indica	ators for Pro	blematic I	Hydric S	ioils³:		
] Histosol (A	(1)			Sandy Re	dox (S5)				2 cm Muck	(A10)				
] Histic Epip	edon (A2)			Stripped N	Matrix (S6)				Red Parent	Material (	TF2)			
] Black Histi	c (A3)			Loamy Mi	ucky Mineral	I (F1) (exce	pt MLRA 1)		Very Shallo	w Dark Su	rface (Tf	F12)		
] Hydrogen	Sulfide (A4)			Loamy Gl	leyed Matrix	(F2)			Other (Expl	ain in Rem	arks)			
Depleted E	Below Dark Surfa	ce (A11)		Depleted	Matrix (F3)									
Thick Dark	Surface (A12)			Redox Da	ark Surface (I	F6)		0						
] Sandy Mud	cky Mineral (S1)			Depleted	Dark Surface	e (F7)			ators of hydro tland hydrolo					
] Sandy Gle	yed Matrix (S4)			Redox De	epressions (F	-8)			less disturbe			,		
estrictive Laye	er (if present):													
rpe:														
	M = organic matt uic moisture regii		t. Redoximor	phic features	were diffuse	I	lydric Soils P	resent?		Yes		No		
temarks: *O	_		t. Redoximor	phic features	were diffuse	I	lydric Soils P	resent?		Yes	×	No		
emarks: *O Aq	_		t. Redoximor	phic features	were diffuse	I	lydric Soils P	resent?		Yes		No		
emarks: *O Aq DROLOGY /etland Hydrol	uic moisture regi	me present			were diffuse	I	lydric Soils P		lary Indicator					
DROLOGY  rimary Indicator  Surface W	ogy Indicators: rs (minimum of or	me present		at apply)	were diffuse	).	lydric Soils P	Second	lary Indicator /ater-Stained	s (2 or mor	e require			
DROLOGY  etland Hydrol  imary Indicator  Surface W	uic moisture regii  ogy Indicators: rs (minimum of or	me present	t; check all th	at apply) Water-Sta		s (B9)		Second W		s (2 or mor Leaves (B	re require			
DROLOGY  etland Hydrol rimary Indicator  Surface W High Wate  Saturation	ogy Indicators: rs (minimum of or later (A1) er Table (A2)	me present	t; check all th	at apply)  Water-Sta  (except N  Salt Crust	ained Leaves MLRA 1, 2, 4 t (B11)	s (B9) <b>A, and 4B)</b>		Second W (N	/ater-Stained /ILRA 1, 2, 4 rainage Patte	s (2 or mor Leaves (B <b>A, and 4B</b> ) erns (B10)	re require (9)			
DROLOGY  etland Hydrol imary Indicator  Surface W High Wate Saturation Water Mai	ogy Indicators: rs (minimum of or /ater (A1) er Table (A2) i (A3) rks (B1)	me present	t; check all th	at apply)  Water-Sta  (except N  Salt Crust  Aquatic In	ained Leaves <b>VLRA 1, 2, 4</b> t (B11)  nvertebrates	s (B9) AA, and 4B)		Second  W (N	/ater-Stained //ALRA 1, 2, 4. rainage Patter ry-Season W	s (2 or mor Leaves (B <b>A, and 4B</b> ; erns (B10) dater Table	re require 99) (C2)	ed)		
DROLOGY etland Hydrol imary Indicator ] Surface W ] High Wate ] Saturation ] Water Mai ] Sediment	ogy Indicators: rs (minimum of or /ater (A1) er Table (A2) 1 (A3) rks (B1) Deposits (B2)	me present	d; check all th	water-Sta (except N Salt Crust Aquatic In Hydrogen	ained Leaves  MLRA 1, 2, 4 t (B11)  nvertebrates n Sulfide Odo	s (B9) AA, and 4B) (B13) or (C1)		Second  W (N	Vater-Stained  VLRA 1, 2, 4.  Varianage Patte  Vry-Season W  aturation Visi	s (2 or mor Leaves (B <b>A, and 4B</b> ; erns (B10) (ater Table ible on Aer	re require 19) ) (C2) ial Image	ed)		
DROLOGY  retland Hydrol rimary Indicator  Surface W High Water Saturation Water Mar Sediment Drift Depo	ogy Indicators: rs (minimum of or /ater (A1) er Table (A2) 1 (A3) rks (B1) Deposits (B2) sists (B3)	me present	i; check all th	at apply)  Water-Sta (except N Salt Crust Aquatic In Hydrogen Oxidized I	ained Leaves  MLRA 1, 2, 4  t (B11)  nvertebrates  n Sulfide Odo  Rhizosphere	s (B9)  A, and 4B)  (B13)  or (C1)  es along Livi		Second   W (N   D   D   D   S   S	Vater-Stained  VALRA 1, 2, 4.  Varainage Patte  Vary-Season W  Vaturation Visite  Visite Patter  Value Patter  Val	s (2 or mor Leaves (B <b>A, and 4B</b> ) erns (B10) 'ater Table ible on Aer osition (D2	re require 19) ) (C2) ial Image	ed)		
DROLOGY Tetland Hydrol Timary Indicator Surface W High Water Saturation Water Man Sediment Drift Depo	ogy Indicators: rs (minimum of or /ater (A1) r Table (A2) r (A3) rks (B1) Deposits (B2) rsits (B3) or Crust (B4)	me present	I; check all th	at apply)  Water-Sta (except N Salt Crust Aquatic In Hydrogen Oxidized I	ained Leaves  MLRA 1, 2, 4  t (B11)  nvertebrates  n Sulfide Odo  Rhizosphere  of Reduced	s (B9) A, and 4B) (B13) or (C1) es along Livi Iron (C4)	ing Roots (C3	Second   W (N (N   D   D   D   S   S   S   S   S   S   S	Vater-Stained  VALENA 1, 2, 4.  Varianage Patte  Vary-Season W  Vaturation Visite  Visite omorphic P  hallow Aquita	s (2 or mor Leaves (B <b>A, and 4B</b> ) erns (B10) /ater Table ible on Aer losition (D2 ard (D3)	re require 19) ) (C2) ial Image	ed)		
DROLOGY  Vetland Hydrol rimary Indicator  Surface W High Wate Saturation Water Mar Sediment Drift Depo Algal Mat Iron Depo	ogy Indicators: rs (minimum of or /ater (A1) re Table (A2) r (A3) rks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5)	me present	d; check all th	at apply)  Water-Sta (except N Salt Crust Aquatic In Hydrogen Oxidized I Presence Recent Iro	ained Leaves  VLRA 1, 2, 4  t (B11)  nvertebrates  n Sulfide Odo  Rhizosphere  e of Reduced  on Reductior	s (B9)  AA, and 4B)  (B13)  or (C1)  es along Livi  Iron (C4)  n in Tilled So	ing Roots (C3	Second   W (N   D   D   S   S   C   C	Vater-Stained VLRA 1, 2, 4.  rainage Patte ry-Season W aturation Visite decomorphic P hallow Aquita AC-Neutral T	s (2 or mor Leaves (B <b>A, and 4B</b> ) erns (B10) 'ater Table ible on Aer osition (D2 ard (D3) fest (D5)	re require (9) (C2) ial Image	ed)		
DROLOGY  Tetland Hydrol  Timary Indicator  Surface W High Water  Saturation  Water Mar  Sediment Drift Depo Algal Mat Iron Depo: Surface S	ogy Indicators: rs (minimum of or /ater (A1) re Table (A2) r(A3) rks (B1) Deposits (B2) rsits (B3) or Crust (B4) sits (B5) oil Cracks (B6)	me present	d; check all th	at apply)  Water-Sta (except N Salt Crust Aquatic In Hydrogen Oxidized I Presence Recent Iro Stunted o	ained Leaves  MLRA 1, 2, 4  t (B11)  nvertebrates  n Sulfide Odo  Rhizosphere  of Reduced  on Reduction  or Stresses P	s (B9)  A, and 4B)  (B13)  or (C1)  es along Livi  Iron (C4)  n in Tilled So	ing Roots (C3	Second   W (N (N   D   D   D   S   C   C   C   C   C   C   C   C   C	Vater-Stained  VALEA 1, 2, 4.  rainage Patte  ry-Season W  aturation Visite  ieomorphic P  hallow Aquita  AC-Neutral T  aised Ant Mo	s (2 or mor Leaves (B <b>A, and 4B</b> ) erns (B10) fater Table lible on Aer losition (D2 ard (D3) rest (D5) bunds (D6)	ce require (9) (C2) (ial Image	ed)		
DROLOGY  retland Hydrol rimary Indicator  Surface W High Water Saturation Sediment Drift Depo Algal Mat Iron Depo Surface S Inundatior	ogy Indicators: rs (minimum of or /ater (A1) er Table (A2) rks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) oil Cracks (B6)	ne required	i; check all th	at apply)  Water-Sta (except N Salt Crust Aquatic In Hydrogen Oxidized I Presence Recent Iro Stunted o	ained Leaves  VLRA 1, 2, 4  t (B11)  nvertebrates  n Sulfide Odo  Rhizosphere  e of Reduced  on Reductior	s (B9)  A, and 4B)  (B13)  or (C1)  es along Livi  Iron (C4)  n in Tilled So	ing Roots (C3	Second   W (N (N   D   D   D   S   C   C   C   C   C   C   C   C   C	Vater-Stained VLRA 1, 2, 4.  rainage Patte ry-Season W aturation Visite decomorphic P hallow Aquita AC-Neutral T	s (2 or mor Leaves (B <b>A, and 4B</b> ) erns (B10) fater Table lible on Aer losition (D2 ard (D3) rest (D5) bunds (D6)	ce require (9) (C2) (ial Image	ed)		
DROLOGY  etland Hydrol rimary Indicator  Surface W High Water Saturation Water Mai Sediment Drift Depo Algal Mat Iron Depo Surface S Inundatior Sparsely \	ogy Indicators: rs (minimum of or /ater (A1) er Table (A2) r(A3) rks (B1) Deposits (B2) rsits (B3) or Crust (B4) sits (B5) oil Cracks (B6) n Visible on Aeria /egetated Conca	ne required	i; check all th	at apply)  Water-Sta (except N Salt Crust Aquatic In Hydrogen Oxidized I Presence Recent Iro Stunted o	ained Leaves  MLRA 1, 2, 4  t (B11)  nvertebrates  n Sulfide Odo  Rhizosphere  of Reduced  on Reduction  or Stresses P	s (B9)  A, and 4B)  (B13)  or (C1)  es along Livi  Iron (C4)  n in Tilled So	ing Roots (C3	Second   W (N (N   D   D   D   S   C   C   C   C   C   C   C   C   C	Vater-Stained  VALEA 1, 2, 4.  rainage Patte  ry-Season W  aturation Visite  ieomorphic P  hallow Aquita  AC-Neutral T  aised Ant Mo	s (2 or mor Leaves (B <b>A, and 4B</b> ) erns (B10) fater Table lible on Aer losition (D2 ard (D3) rest (D5) bunds (D6)	ce require (9) (C2) (ial Image	ed)		
DROLOGY Vetland Hydrol rimary Indicator Surface W High Water Saturation Water Man Sediment Drift Depo Algal Mat Iron Depo Surface S Inundatior Sparsely V	ogy Indicators: rs (minimum of or /ater (A1) r Table (A2) r (A3) rks (B1) Deposits (B2) risits (B3) or Crust (B4) sits (B5) oil Cracks (B6) r Visible on Aeria /egetated Conca	ne required I Imagery (i	d; check all th	at apply)  Water-Sta (except N Salt Crust Aquatic In Hydrogen Oxidized I Presence Recent Irc Stunted o Other (Ex	ained Leaves  MLRA 1, 2, 4  t (B11)  nvertebrates  n Sulfide Odo  Rhizosphere  of Reduced  on Reduction  or Stresses P  xplain in Rem	s (B9) AA, and 4B) (B13) or (C1) es along Livi Iron (C4) n in Tilled So	ing Roots (C3	Second   W (N (N   D   D   D   S   C   C   C   C   C   C   C   C   C	Vater-Stained  VALEA 1, 2, 4.  rainage Patte  ry-Season W  aturation Visite  ieomorphic P  hallow Aquita  AC-Neutral T  aised Ant Mo	s (2 or mor Leaves (B <b>A, and 4B</b> ) erns (B10) fater Table lible on Aer losition (D2 ard (D3) rest (D5) bunds (D6)	ce require (9) (C2) (ial Image	ed)		
DROLOGY Tetland Hydrol Timary Indicator Surface W High Water Saturation Water Man Sediment Drift Depo Algal Mat Iron Depo Surface S Inundatior Sparsely V eld Observation	ogy Indicators: rs (minimum of or /ater (A1) re Table (A2) r (A3) rks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) oil Cracks (B6) n Visible on Aeria //egetated Conca	ne required  I Imagery (i	d; check all th	at apply)  Water-Sta (except N Salt Crust Aquatic In Hydrogen Oxidized I Presence Recent Irc Stunted o Other (Ex	ained Leaves  MLRA 1, 2, 4  t (B11)  nvertebrates  n Sulfide Odo  Rhizosphere  e of Reduced  on Reductior  or Stresses P  cplain in Rem  h (inches):	es (B9)  (B13)  Or (C1)  es along Livi  Iron (C4)  on in Tilled So  Plants (D1) ( harks)	ing Roots (C3	Second   W (N (N   D   D   D   S   C   C   C   C   C   C   C   C   C	Vater-Stained  VATER 1, 2, 4.  Varainage Patte  Vaturation Visite  Visite omorphic Pallow Aquita  AC-Neutral Talaised Ant Mo	s (2 or mor Leaves (B <b>A, and 4B</b> ) erns (B10) fater Table lible on Aer losition (D2 ard (D3) rest (D5) bunds (D6)	ce require (9) (C2) (ial Image	ed)		
DROLOGY  Tetland Hydrol Timary Indicator  Surface W High Water Mar Sediment Drift Depo Algal Mat Iron Depo Surface S Inundatior Sparsely W Teld Observation Later Table Preservation	ogy Indicators: rs (minimum of or /ater (A1) re Table (A2) r (A3) rks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) oil Cracks (B6) n Visible on Aeria /egetated Conca	ne required  I Imagery (i	d; check all th	at apply)  Water-Sta (except N Salt Crust Aquatic In Hydrogen Oxidized I Presence Recent Irc Stunted o Other (Ex	ained Leaves  MLRA 1, 2, 4  t (B11)  nvertebrates  n Sulfide Odo  Rhizosphere  of Reduced  on Reduction  or Stresses P  xplain in Rem	s (B9) AA, and 4B) (B13) or (C1) es along Livi Iron (C4) n in Tilled So	ing Roots (C3	Second   W (N (N   D   D   D   S   C   C   C   C   C   C   C   C   C	Vater-Stained  VATER 1, 2, 4.  Varainage Patte  Vaturation Visite  Visite omorphic Pallow Aquita  AC-Neutral Talaised Ant Mo	s (2 or mor Leaves (B <b>A, and 4B</b> ) erns (B10) fater Table lible on Aer losition (D2 ard (D3) rest (D5) bunds (D6)	ce require (9) (C2) (ial Image	ed)		
Marks: *O Aq  Marks: *O Aq  Marks: *O Aq  Marks: *O Aq  Marks: *O	ogy Indicators: rs (minimum of or /ater (A1) re Table (A2) r (A3) rks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) oil Cracks (B6) n Visible on Aeria /egetated Conca ons: resent? Ye sent? Ye	I Imagery (Ive Surface	d; check all th	at apply)  Water-Sta (except N Salt Crust Aquatic In Hydrogen Oxidized I Presence Recent Inc Stunted o Other (Ex	ained Leaves  MLRA 1, 2, 4  t (B11)  nvertebrates  n Sulfide Odo  Rhizosphere  e of Reduced  on Reductior  or Stresses P  cplain in Rem  h (inches):	es (B9)  (B13)  Or (C1)  es along Livi  Iron (C4)  on in Tilled So  Plants (D1) ( harks)	ing Roots (C3)	Second   W (N	Vater-Stained  VATER 1, 2, 4.  Varainage Patte  Vaturation Visite  Visite omorphic Pallow Aquita  AC-Neutral Talaised Ant Mo	s (2 or mor Leaves (B <b>A, and 4B</b> ) erns (B10) fater Table ible on Aer osition (D2 ard (D3) fest (D5) bunds (D6)	ce require (9) (C2) (ial Image	ed)		
DROLOGY Vetland Hydrol rimary Indicator Surface W High Water Saturation Water Man Sediment Drift Depo Algal Mat Iron Depo: Surface S Inundatior Sparsely V Vetla Observation Vater Table Presence Seponder Seponde	ogy Indicators: rs (minimum of or /ater (A1) re Table (A2) r (A3) rks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) oil Cracks (B6) n Visible on Aeria /egetated Conca ons: resent? Ye sent? Ye	I Imagery (ive Surface	i; check all th	at apply)  Water-Sta (except N Salt Crust Aquatic In Hydrogen Oxidized I Presence Recent Irc Stunted o Other (Ex  Depth Depth	ained Leaves  VLRA 1, 2, 4  t (B11)  nvertebrates  n Sulfide Odo  Rhizosphere  e of Reduced  on Reduction  or Stresses P  explain in Rem  h (inches):  h (inches):	s (B9)  AA, and 4B)  (B13)  or (C1)  es along Livi  Iron (C4)  n in Tilled So  Plants (D1) ( harks)  8"BGS*	ing Roots (C3)	Second   W (N	Vater-Stained Vater-Stained Vater 1, 2, 4. Varainage Patte Vary-Season W Auturation Visite Value Patte	s (2 or mor Leaves (B <b>A, and 4B</b> ) erns (B10) fater Table ible on Aer osition (D2 ard (D3) fest (D5) bunds (D6)	re require (9) (C2) (al Image () (LRR A) (D7)	ed) ery (C	99)	
Aquirmarks: *O Aquirmary Indicator Surface W High Water Mar Sediment Drift Depo Algal Mat Iron Depo Surface S Inundatior Sparsely V ield Observation urface Water P Vater Table Presencludes capillar	ogy Indicators: rs (minimum of or /ater (A1) re Table (A2) r (A3) rks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) oil Cracks (B6) n Visible on Aeria //egetated Conca /	I Imagery (ive Surface	i; check all th	at apply)  Water-Sta (except N Salt Crust Aquatic In Hydrogen Oxidized I Presence Recent Irc Stunted o Other (Ex  Depth Depth	ained Leaves  VLRA 1, 2, 4  t (B11)  nvertebrates  n Sulfide Odo  Rhizosphere  e of Reduced  on Reduction  or Stresses P  explain in Rem  h (inches):  h (inches):	s (B9)  AA, and 4B)  (B13)  or (C1)  es along Livi  Iron (C4)  n in Tilled So  Plants (D1) ( harks)  8"BGS*	ing Roots (C3)	Second   W (N	Vater-Stained Vater-Stained Vater 1, 2, 4. Varainage Patte Vary-Season W Auturation Visite Value Patte	s (2 or mor Leaves (B <b>A, and 4B</b> ) erns (B10) fater Table ible on Aer osition (D2 ard (D3) fest (D5) bunds (D6)	re require (9) (C2) (al Image () (LRR A) (D7)	ed) ery (C	99)	
DROLOGY etland Hydrol imary Indicator ] Surface W ] High Water ] Saturation ] Water Mai ] Sediment ] Drift Depo ] Algal Mat ] Iron Depo ] Surface S ] Inundatior ] Sparsely V eld Observation authorized the second	ogy Indicators: rs (minimum of or /ater (A1) re Table (A2) r (A3) rks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) oil Cracks (B6) n Visible on Aeria //egetated Conca /	I Imagery (ive Surface	B7)	at apply)  Water-Sta (except N Salt Crust Aquatic In Hydrogen Oxidized I Presence Recent Irc Stunted o Other (Ex  Depth Depth	ained Leaves  VLRA 1, 2, 4  t (B11)  nvertebrates  n Sulfide Odo  Rhizosphere  e of Reduced  on Reduction  or Stresses P  explain in Rem  h (inches):  h (inches):	s (B9)  AA, and 4B)  (B13)  or (C1)  es along Livi  Iron (C4)  n in Tilled So  Plants (D1) ( harks)  8"BGS*	ing Roots (C3)	Second   W (N	Vater-Stained Vater-Stained Vater 1, 2, 4. Varainage Patte Vary-Season W Auturation Visite Value Patte	s (2 or mor Leaves (B <b>A, and 4B</b> ) erns (B10) fater Table ible on Aer osition (D2 ard (D3) fest (D5) bunds (D6)	re require (9) (C2) (al Image () (LRR A) (D7)	ed) ery (C	99)	
DROLOGY etland Hydrol mary Indicator Surface W High Water Saturation Water Mar Sediment Drift Depo Algal Mat Iron Depo Surface S Inundatior Sparsely V eld Observation rface Water P ater Table Prese turation Prese cludes capillar secribe Record	ogy Indicators: rs (minimum of or /ater (A1) r Table (A2) r (A3) rks (B1) Deposits (B2) risits (B3) or Crust (B4) sits (B5) oil Cracks (B6) r Visible on Aeria /egetated Conca ons: resent? Ye sent? Ye y fringe) led Data (stream	I Imagery (ive Surface	B7)	at apply)  Water-Sta (except N Salt Crust Aquatic In Hydrogen Oxidized I Presence Recent Inc Stunted o Other (Ex  Depth Depth Depth	ained Leaves MLRA 1, 2, 4 t (B11) nvertebrates n Sulfide Odo Rhizosphere e of Reduced on Reduction or Stresses P explain in Rem h (inches): h (inches): h (inches):	s (B9)  (B13)  or (C1)  es along Livi  Iron (C4)  in in Tilled Se  Plants (D1) ( hearks)  8"BGS*  aspections),	ing Roots (C3) oils (C6) LRR A)  We if available:	Second   W (N	Vater-Stained Vater-Stained Vater 1, 2, 4. Varainage Patte Vary-Season W Auturation Visite Value Patte	s (2 or mor Leaves (B <b>A, and 4B</b> ) erns (B10) fater Table ible on Aer osition (D2 ard (D3) fest (D5) bunds (D6)	re require (9) (C2) (al Image () (LRR A) (D7)	ed) ery (C	99)	

Project Site:	West Seattle an	nd Ballard Link E	xtensions	<u>s</u>			City/Coun	ty: <u>Se</u>	eattle/King		Sam	pling Date	e:	8/23	3/19	
Applicant/Owner:	Sound Transit								5	State: <u>WA</u>	Sam	pling Poin	t:	WS	E2-SF	23
Investigator(s):	Amy Rotondo a	nd Rose Whitson	<u>n</u>						Section, T	ownship, Ra	nge: <u>S</u>	313, T24N				
Landform (hillslope, ter	race, etc.): <u>h</u>	illslope				Loca	I relief (conca	ive, con	vex, none	): <u>concav</u>	<u>e</u>		Slope	(%):	<u>2</u>	
Subregion (LRR):	<u>A</u>		Lat:		_			Long	g:			Da	tum: _			
Soil Map Unit Name:	Unclassified C	City Land								NWI cla	ssificat	ion: <u>U</u>	IPL_			
Are climatic / hydrologic	c conditions on t	he site typical fo	r this time	e of y	ear?	Ye	es 🛛	No		If no, explain	in Rem	narks.)				
Are Vegetation $\square$ ,	Soil □,	or Hydrology	□, sig	gnifica	ntly dis	turbed	? Are "I	Normal (	Circumsta	nces" presen	t?		Yes	$\boxtimes$	No	
Are Vegetation,	Soil □,	or Hydrology	□, na	turall	y proble	ematic?	(If ne	eded, ex	kplain any	answers in F	Remarks	s.)				
SUMMARY OF FINI		ch site map s	howing	sam	pling	point	locations,	transe	cts, imp	ortant feat	ures, e	etc.				
Hydrophytic Vegetation	n Present?		Yes	$\boxtimes$	No		la tha Camn	lad Ara	_							
Hydric Soil Present?			Yes		No		Is the Samp within a We		a				Yes		No	$\boxtimes$
Wetland Hydrology Pre	esent?		Yes		No											
Remarks:																
VEGETATION - Use	scientific na	mes of plants														
Tree Stratum (Plot siz	ze: <u>30ft</u> )		Absolu <u>% Cov</u>		Domir Specie		Indicator Status	Domi	nance Te	st Workshee	et:					
1			70 OOV	<u> </u>	Орсон	<u>00:</u>	Otatus	Numh	er of Don	ninant Specie	•					
2.				,	<u> </u>		· <u></u>			FACW, or FA			<u>2</u>			(A)
3								Total	Number o	f Dominant						
4.					<u> </u>		· <u></u>			All Strata:			<u>3</u>			(B)
50% =, 20% =					= Tota	al Cove	 er	Perce	ent of Dom	inant Specie	s					
Sapling/Shrub Stratun		)		,						FACW, or FA			<u>67</u>			(A/B)
1. Cytisis scoparius			<u>7</u>		yes		UPL	Preva	alence Inc	lex workshe	et:					
Rubus armeniacus	s		<u>5</u>		yes		FAC			tal % Cover of			Multip	ly by:		
3. Cornus sericea	_		<u>2</u>		no		FACW	OBL s	species				x1 =			
4. Salix scouleriana			<u>2</u>		no		FAC		· V species		_		x2 =			
5			_						species				x3 =			
50% = <u>8</u> , 20% = <u>3.2</u>			16		= Tota	al Cove	er .	FACL	J species				x4 =			
Herb Stratum (Plot siz	ze: 5ft)		_						species		_		x5 =			
Agrostis capillaris	<del></del>		100		VAS		FAC		-		_ (A)		,,,			(B)
			· · · · · · · · · · · · · · · · · · ·		<u>yes</u>			Colum	nn Totals:	Prevalence		v – B/A –			— '	(0)
2. <u>Festuca spp.</u>			<u>3</u>		<u>no</u>		<u>NI</u>	Llyde	onbutio V							
3								_		egetation Ind Test for Hyd			on			
4								_		ance Test is		vegetati	OH			
5																
6									3 - Preval	ence Index is	≤3.0¹					
7										ological Adar Remarks or				rting		
8													eet)			
9									5 - Wetlar	nd Non-Vascı	ular Pla	nts'				
10									Problema	tic Hydrophy	tic Vege	etation¹ (E	xplain)			
11								1India	ators of b	ydric soil and	wetlan	d hydrolog	nv muct			
50% = <u>51.5</u> , 20% = <u>20</u>	<u>0.6</u>		<u>103</u>		= Tota	al Cove	r			ess disturbed			yy musi			
Woody Vine Stratum (	(Plot size: <u>15ft</u> )															
1								l								
2								_	ophytic tation		Yes	$\boxtimes$		No		
50% =, 20% =					= Tota	al Cove	r	Prese			169			MC	•	
% Bare Ground in He	rb Stratum	_							-							
Remarks:	The 2016 Plant L	ist was used for	this delir	neatio	n.			1								
. Comunico.																

Depth Matrix			Redox Featu			
ches) Color (moist)	%	Color (mo	oist) %	Type <sup>1</sup> Loc <sup>2</sup>	Texture	Remarks
<u>0-8</u> <u>10YR 3/2</u>	100		<del></del>		silt loam	Compacted soils at 8 inches
<u> </u>						
			<del></del>			<del></del>
<del></del>			<del></del>			
<del></del>			<del></del>			
<del></del>			<del></del>			
<del></del>						<del></del>
pe: C= Concentration, D=Depl	-			ted Sand Grains.		Pore Lining, M=Matrix
dric Soil Indicators: (Applica	DIE TO AII L		· ·			ators for Problematic Hydric Soils <sup>3</sup> :
Histosol (A1)			Sandy Redox (S5)			2 cm Muck (A10)
Histic Epipedon (A2)			Stripped Matrix (S6)	L(E1) (except MLDA)	1) 🗆	Red Parent Material (TF2)
Black Histic (A3)			Loamy Mucky Mineral		', 🗆	Very Shallow Dark Surface (TF12)
Hydrogen Sulfide (A4) Depleted Below Dark Surfa	ce (A11)		Loamy Gleyed Matrix Depleted Matrix (F3)	(Г2)		Other (Explain in Remarks)
Thick Dark Surface (A12)	36 (A11)		Redox Dark Surface (	F6)		
Sandy Mucky Mineral (S1)			Depleted Dark Surface	•	<sup>3</sup> Indic	cators of hydrophytic vegetation and
Sandy Gleyed Matrix (S4)			Redox Depressions (F	• •	We	etland hydrology must be present,
strictive Layer (if present):			Treatest Bepressions (	<u> </u>	un	nless disturbed or problematic.
e: <u>compacted so</u>	ils					
oth (inches): 8	<del></del>				a Dragant?	Yes □ No [
· · · · -	edoximorpl	hic features w	ere present except on ro	Hydric Soil	S Present?	ies 🗆 No i
marks: Soils were dry. No i	redoximorpl	hic features w	ere present except on ro		s Present?	res 🗆 No [
Marks: Soils were dry. No i						
PROLOGY tland Hydrology Indicators: mary Indicators (minimum of o		; check all tha	t apply)	ock faces.	Second	dary Indicators (2 or more required)
PROLOGY tland Hydrology Indicators: mary Indicators (minimum of o			t apply) Water-Stained Leaves	ock faces.	Second V	dary Indicators (2 or more required) Vater-Stained Leaves (B9)
ROLOGY tland Hydrology Indicators: mary Indicators (minimum of or Surface Water (A1) High Water Table (A2)		l; check all that	t apply) Water-Stained Leaves (except MLRA 1, 2, 4	ock faces.	Second V	dary Indicators (2 or more required) Vater-Stained Leaves (B9) MLRA 1, 2, 4A, and 4B)
ROLOGY tland Hydrology Indicators: mary Indicators (minimum of or Surface Water (A1) High Water Table (A2) Saturation (A3)		; check all that	t apply)  Water-Stained Leaves (except MLRA 1, 2, 4 Salt Crust (B11)	s (B9) A, and 4B)	Second (I	dary Indicators (2 or more required) Vater-Stained Leaves (B9) MLRA 1, 2, 4A, and 4B) Orainage Patterns (B10)
ROLOGY tland Hydrology Indicators: nary Indicators (minimum of or Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1)		l; check all tha	t apply)  Water-Stained Leaves (except MLRA 1, 2, 4 Salt Crust (B11) Aquatic Invertebrates	s (B9) A, and 4B) (B13)	Second (I	dary Indicators (2 or more required) Vater-Stained Leaves (B9) MLRA 1, 2, 4A, and 4B) Orainage Patterns (B10) Ory-Season Water Table (C2)
ROLOGY tland Hydrology Indicators: mary Indicators (minimum of or Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2)		i; check all that	t apply)  Water-Stained Leaves (except MLRA 1, 2, 4 Salt Crust (B11) Aquatic Invertebrates Hydrogen Sulfide Odo	s (B9) A, and 4B) (B13) or (C1)	Second (III	dary Indicators (2 or more required)  Vater-Stained Leaves (B9)  MLRA 1, 2, 4A, and 4B)  Drainage Patterns (B10)  Dry-Season Water Table (C2)  Saturation Visible on Aerial Imagery (C9)
PROLOGY  tland Hydrology Indicators: mary Indicators (minimum of or Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3)		i; check all that	t apply)  Water-Stained Leaves (except MLRA 1, 2, 4 Salt Crust (B11) Aquatic Invertebrates Hydrogen Sulfide Odo Oxidized Rhizosphere	s (B9) A, and 4B) (B13) or (C1) es along Living Roots	Second (1) (1) (1) (2) (2) (3) (3) (3) (4) (5) (5) (6) (7) (7) (7) (7) (7) (7) (7) (7) (7) (7	dary Indicators (2 or more required) Vater-Stained Leaves (B9) MLRA 1, 2, 4A, and 4B) Orainage Patterns (B10) Ory-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2)
ROLOGY tland Hydrology Indicators: mary Indicators (minimum of or Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4)		; check all that	t apply)  Water-Stained Leaves (except MLRA 1, 2, 4 Salt Crust (B11) Aquatic Invertebrates Hydrogen Sulfide Odo Oxidized Rhizosphere Presence of Reduced	s (B9) A, and 4B) (B13) or (C1) es along Living Roots Iron (C4)	Second (I)	dary Indicators (2 or more required)  Vater-Stained Leaves (B9)  MLRA 1, 2, 4A, and 4B)  Orainage Patterns (B10)  Ory-Season Water Table (C2)  Saturation Visible on Aerial Imagery (C9)  Geomorphic Position (D2)  Shallow Aquitard (D3)
PROLOGY  Itland Hydrology Indicators: mary Indicators (minimum of or  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)		; check all that	t apply)  Water-Stained Leaves (except MLRA 1, 2, 4 Salt Crust (B11) Aquatic Invertebrates Hydrogen Sulfide Odo Oxidized Rhizosphere Presence of Reduced Recent Iron Reduction	ock faces.  S (B9)  A, and 4B)  (B13)  or (C1)  es along Living Roots (C4)  Iron (C4)  in in Tilled Soils (C6)	Second	dary Indicators (2 or more required) Vater-Stained Leaves (B9) MLRA 1, 2, 4A, and 4B) Orainage Patterns (B10) Ory-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3) SAC-Neutral Test (D5)
PROLOGY  Itland Hydrology Indicators: mary Indicators (minimum of or 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)	ne required	; check all that	t apply)  Water-Stained Leaves (except MLRA 1, 2, 4 Salt Crust (B11) Aquatic Invertebrates Hydrogen Sulfide Odo Oxidized Rhizosphere Presence of Reduced Recent Iron Reduction Stunted or Stresses P	ock faces.  S (B9)  A, and 4B)  (B13)  or (C1)  es along Living Roots  Iron (C4)  in in Tilled Soils (C6)  Plants (D1) (LRR A)	Second	dary Indicators (2 or more required)  Vater-Stained Leaves (B9)  MLRA 1, 2, 4A, and 4B)  Drainage Patterns (B10)  Dry-Season Water Table (C2)  Saturation Visible on Aerial Imagery (C9)  Geomorphic Position (D2)  Shallow Aquitard (D3)  FAC-Neutral Test (D5)  Raised Ant Mounds (D6) (LRR A)
ROLOGY tland Hydrology Indicators: mary Indicators (minimum of or 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 Aeria	ne required	i; check all that	t apply)  Water-Stained Leaves (except MLRA 1, 2, 4 Salt Crust (B11) Aquatic Invertebrates Hydrogen Sulfide Odo Oxidized Rhizosphere Presence of Reduced Recent Iron Reduction	ock faces.  S (B9)  A, and 4B)  (B13)  or (C1)  es along Living Roots  Iron (C4)  in in Tilled Soils (C6)  Plants (D1) (LRR A)	Second	dary Indicators (2 or more required) Vater-Stained Leaves (B9) MLRA 1, 2, 4A, and 4B) Orainage Patterns (B10) Ory-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3) SAC-Neutral Test (D5)
MROLOGY  tland Hydrology Indicators: mary Indicators (minimum of or 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 Aeria Sparsely Vegetated Conca	ne required	i; check all that	t apply)  Water-Stained Leaves (except MLRA 1, 2, 4 Salt Crust (B11) Aquatic Invertebrates Hydrogen Sulfide Odo Oxidized Rhizosphere Presence of Reduced Recent Iron Reduction Stunted or Stresses P	ock faces.  S (B9)  A, and 4B)  (B13)  or (C1)  es along Living Roots  Iron (C4)  in in Tilled Soils (C6)  Plants (D1) (LRR A)	Second	dary Indicators (2 or more required)  Vater-Stained Leaves (B9)  MLRA 1, 2, 4A, and 4B)  Drainage Patterns (B10)  Dry-Season Water Table (C2)  Saturation Visible on Aerial Imagery (C9)  Geomorphic Position (D2)  Shallow Aquitard (D3)  FAC-Neutral Test (D5)  Raised Ant Mounds (D6) (LRR A)
PROLOGY Itland Hydrology Indicators: mary Indicators (minimum of or 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 Aeria Sparsely Vegetated Conca	ne required	l; check all that	t apply)  Water-Stained Leaves (except MLRA 1, 2, 4 Salt Crust (B11) Aquatic Invertebrates Hydrogen Sulfide Odo Oxidized Rhizosphere Presence of Reduced Recent Iron Reductior Stunted or Stresses P Other (Explain in Rem	ock faces.  S (B9)  A, and 4B)  (B13)  or (C1)  es along Living Roots  Iron (C4)  in in Tilled Soils (C6)  Plants (D1) (LRR A)	Second	dary Indicators (2 or more required)  Vater-Stained Leaves (B9)  MLRA 1, 2, 4A, and 4B)  Drainage Patterns (B10)  Dry-Season Water Table (C2)  Saturation Visible on Aerial Imagery (C9)  Geomorphic Position (D2)  Shallow Aquitard (D3)  FAC-Neutral Test (D5)  Raised Ant Mounds (D6) (LRR A)
PROLOGY  tland Hydrology Indicators: mary Indicators (minimum of or 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 Aeria Sparsely Vegetated Conca Id Observations: face Water Present?	I Imagery (Ive Surface	l; check all that	t apply)  Water-Stained Leaves (except MLRA 1, 2, 4 Salt Crust (B11) Aquatic Invertebrates Hydrogen Sulfide Odo Oxidized Rhizosphere Presence of Reduced Recent Iron Reductior Stunted or Stresses P Other (Explain in Rem	ock faces.  S (B9)  A, and 4B)  (B13)  or (C1)  es along Living Roots  Iron (C4)  in in Tilled Soils (C6)  Plants (D1) (LRR A)	Second	dary Indicators (2 or more required)  Vater-Stained Leaves (B9)  MLRA 1, 2, 4A, and 4B)  Drainage Patterns (B10)  Dry-Season Water Table (C2)  Saturation Visible on Aerial Imagery (C9)  Geomorphic Position (D2)  Shallow Aquitard (D3)  FAC-Neutral Test (D5)  Raised Ant Mounds (D6) (LRR A)
ROLOGY ttand Hydrology Indicators: nary Indicators (minimum of or 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 Aeria Sparsely Vegetated Conca Id Observations: face Water Present? Very guration Present?	I Imagery (Eve Surface	l; check all that	t apply)  Water-Stained Leaves (except MLRA 1, 2, 4 Salt Crust (B11) Aquatic Invertebrates Hydrogen Sulfide Odo Oxidized Rhizosphere Presence of Reduced Recent Iron Reductior Stunted or Stresses P Other (Explain in Rem	s (B9) A, and 4B)  (B13) or (C1) es along Living Roots (Iron (C4) in in Tilled Soils (C6) elants (D1) (LRR A) harks)	Second	dary Indicators (2 or more required)  Vater-Stained Leaves (B9)  MLRA 1, 2, 4A, and 4B)  Drainage Patterns (B10)  Dry-Season Water Table (C2)  Saturation Visible on Aerial Imagery (C9)  Geomorphic Position (D2)  Shallow Aquitard (D3)  FAC-Neutral Test (D5)  Raised Ant Mounds (D6) (LRR A)
marks: Soils were dry. No in the state of th	I Imagery (Eve Surface	; check all that	t apply)  Water-Stained Leaves (except MLRA 1, 2, 4 Salt Crust (B11) Aquatic Invertebrates Hydrogen Sulfide Odo Oxidized Rhizosphere Presence of Reduced Recent Iron Reductior Stunted or Stresses P Other (Explain in Rem	cock faces.  Sock	Second  V (I)  S(C3)  S(C3)  F  F  F  Wetland Hydro	dary Indicators (2 or more required)  Vater-Stained Leaves (B9)  MLRA 1, 2, 4A, and 4B)  Drainage Patterns (B10)  Dry-Season Water Table (C2)  Saturation Visible on Aerial Imagery (C9)  Seomorphic Position (D2)  Shallow Aquitard (D3)  SAC-Neutral Test (D5)  Raised Ant Mounds (D6) (LRR A)  Frost-Heave Hummocks (D7)
PROLOGY  tland Hydrology Indicators: mary Indicators (minimum of o  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 Aeria Sparsely Vegetated Conca Id Observations: face Water Present? ter Table Present? Veryolder Soils were dry North	I Imagery (Eve Surface	; check all that	t apply)  Water-Stained Leaves (except MLRA 1, 2, 4 Salt Crust (B11) Aquatic Invertebrates Hydrogen Sulfide Odo Oxidized Rhizosphere Presence of Reduced Recent Iron Reductior Stunted or Stresses P Other (Explain in Rem	cock faces.  Sock	Second  V (I)  S(C3)  S(C3)  F  F  F  Wetland Hydro	dary Indicators (2 or more required)  Vater-Stained Leaves (B9)  MLRA 1, 2, 4A, and 4B)  Drainage Patterns (B10)  Dry-Season Water Table (C2)  Saturation Visible on Aerial Imagery (C9)  Seomorphic Position (D2)  Shallow Aquitard (D3)  SAC-Neutral Test (D5)  Raised Ant Mounds (D6) (LRR A)  Frost-Heave Hummocks (D7)

Project Site: Wes	st Seattle and Ballard Link Ex	<u>densions</u>		City/Count	ty: <u>Seattle/King</u>		mpling Date:	8/23/19	
Applicant/Owner: Sou	und Transit				State	e: <u>WA</u> Sa	mpling Point:	WSE2-S	<u>P4</u>
Investigator(s): Am	y Rotondo and Rose Whitson	<u>1</u>			Section, Town	nship, Range:	S13, T24N, R03E		
Landform (hillslope, terrace	e, etc.): <u>slope</u>		Local	relief (conca	ave, convex, none):	convex	Slope	(%): <u>10</u>	
Subregion (LRR): A		Lat:	<u>—</u>		Long:		Datum: _		
Soil Map Unit Name: <u>Ur</u>	nclassified City Land					NWI classific	ation: <u>UPL</u>		
Are climatic / hydrologic co	nditions on the site typical for	this time of y	/ear? Ye	es 🛛	No ☐ (If no	o, explain in Re	emarks.)		
Are Vegetation ⊠, S	oil   , or Hydrology	□, signific	antly disturbed	? Are "1	Normal Circumstance	s" present?	Yes	☐ No	$\boxtimes$
Are Vegetation ☐, S	oil   , or Hydrology	☐, natural	ly problematic?	(If nea	eded, explain any ans	swers in Remai	rks.)		
SUMMARY OF FINDING	GS – Attach site map sh	nowing san	npling point	locations,	transects, import	ant features	, etc.		
Hydrophytic Vegetation Pre	esent?	Yes 🗌	No 🛛						
Hydric Soil Present?		Yes 🗌		Is the Samp			Yes	☐ No	$\boxtimes$
Wetland Hydrology Present	t?	Yes 🗌	No 🛛	within a wei	uanur				
	slope is regularly maintained	(mowed) by	golf course						
Nemarks. Vegetation on	slope is regularly maintained	(mowed) by	gon course.						
VEGETATION - Usa sc	ientific names of plants								
Tree Stratum (Plot size: 3		Absolute	Dominant	Indicator	Dominance Test V	Norksheet:			
1	•	% Cover	Species?	<u>Status</u>	Number of Demine	nt Cassiss			
2					Number of Domina That Are OBL, FAC		<u>1</u>		(A)
3.									
					Total Number of Do Species Across All		<u>2</u>		(B)
4			- Total Cova						
50% =, 20% = Sapling/Shrub Stratum (Pl	<del></del>		= Total Cove	I	Percent of Dominal That Are OBL, FAC		<u>50</u>		(A/B)
	iot size. <u>15it</u> )	90	V00	EAC					
1. Rubus armeniacus		<u>80</u>	<u>yes</u>	FACU	Prevalence Index		Multip	ly by:	
2. Rosa gymnocarpa		<u>80</u>	<u>yes</u>	<u>FACU</u>	·	% Cover of:	<u>Multipl</u>		
3					OBL species	<u>0</u>	x1 =	<u>0</u>	
4					FACW species	<u>0</u>	x2 =	<u>0</u>	
5					FAC species	<u>88</u>	x3 =	<u>264</u>	
50% = <u>80</u> , 20% = <u>32</u>		<u>160</u>	= Total Cove	r	FACU species	<u>80</u>	x4 =	<u>320</u>	
Herb Stratum (Plot size: 5	<u>ft</u> )				UPL species	<u>0</u>	x5 =	<u>0</u>	
1. Mowed grasses		<u>80</u>	<u>yes</u>	<u>NI</u>	Column Totals:	<u>168</u> (A)		<u>584</u> (B)	
2. Rumex crispus		<u>5</u>	<u>no</u>	FAC		Prevalence In	dex = B/A = 3.47		
3. Conium maculatum		<u>3</u>	<u>no</u>	<u>FAC</u>	Hydrophytic Vege	tation Indicate	ors:		
4					☐ 1 – Rapid Te	st for Hydrophy	tic Vegetation		
5					2 - Dominano	ce Test is >50%	, o		
6.					3 - Prevalenc	ce Index is <3.0	j1		
7.						_	ns <sup>1</sup> (Provide suppor	rtina	
8.							separate sheet)	ung	
9.					5 - Wetland N	Non-Vascular P	lants <sup>1</sup>		
10.					1 =				
					☐ Problematic I	Hydrophytic Ve	getation¹ (Explain)		
11					<sup>1</sup> Indicators of hydric	c soil and wetla	and hydrology must		
50% = <u>44</u> , 20% = <u>17.6</u>		<u>88</u>	= Total Cove	r	be present, unless				
Woody Vine Stratum (Plot	i size: <u>15ft</u> )								
1					Hydrophytic				
2					Hydrophytic Vegetation	Yes		No	$\boxtimes$
50% =, 20% =	_		= Total Cove	r	Present?		_	-	_
% Bare Ground in Herb S	tratum <u>12</u>								
Remarks: The 2	2016 Plant List was used for	this delineati	on.						
I									

rofile Description: (Desc	ribe to the											
Depth M	atrix			Red	lox Features							
nches) Color (mois	st)	%	Color (m	oist) %	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	_	Ren	narks		
<u>0-14</u> <u>10YR 3/</u>	<u>2</u>	<u>100</u>		· —	_		silt loam	<u> </u>				
	_			· —								
	_											
	_											
	_											
	_			· <u> </u>								
	_											
<del></del>	_			<del></del>								
rpe: C= Concentration, E	•			-		d Grains. <sup>2</sup> L		Pore Lining, M=M				
dric Soil Indicators: (A	oplicable	to all LF			-			ators for Proble	-	iric Soi	ils³:	
Histosol (A1)				Sandy Redo				2 cm Muck (A1	•			
Histic Epipedon (A2)				Stripped Mat				Red Parent Ma		-	0)	
Black Histic (A3)				=	y Mineral (F1) (ex	xcept MLRA 1)		Very Shallow D		•	2)	
Hydrogen Sulfide (A4	•	A 4 4 \		-	ed Matrix (F2)			Other (Explain	in Remark	s)		
Depleted Below Dark	•	A11)		Depleted Ma								
Thick Dark Surface (				Redox Dark			3Indic	ators of hydrophy	vtic vegeta	tion an	Ч	
Sandy Mucky Minera				-	rk Surface (F7)		we	tland hydrology i	must be pr	esent,	u	
Sandy Gleyed Matrix				Redox Depre	essions (F8)		un	less disturbed or	problemat	tic.		
strictive Layer (if prese	nt):											
							<b>D</b>		Yes [		No	
	nall gravel.	. Soil wa	s compacted	d fill.		Hydric Soils	riesenti					
marks: Medium to sr		. Soil wa	is compacted	d fill.		Hydric Soils	riesenti					
marks: Medium to sr  DROLOGY etland Hydrology Indica	tors:					Hydric Soils						
marks: Medium to sr  DROLOGY  etland Hydrology Indica  mary Indicators (minimu	tors:		check all tha	at apply)	(100)	Hydric Soils	Second	lary Indicators (2	or more re	equired	)	
DROLOGY etland Hydrology Indicators (minimu Surface Water (A1)	tors: n of one re			at apply) Water-Staine	ed Leaves (B9)		Second	lary Indicators (2 /ater-Stained Lea	or more re aves (B9)	equired	)	
PROLOGY Itland Hydrology Indicators (minimu Surface Water (A1) High Water Table (A	tors: n of one re		check all tha	at apply) Water-Staine (except MLF	RA 1, 2, 4A, and		Second W	dary Indicators (2 /ater-Stained Lea MLRA 1, 2, 4A, a	or more re aves (B9) and 4B)	equired	)	
PROLOGY tland Hydrology Indica mary Indicators (minimu Surface Water (A1) High Water Table (A Saturation (A3)	tors: n of one re		check all tha	at apply)  Water-Staine (except MLF Salt Crust (B	RA 1, 2, 4A, and (		Second (N	lary Indicators (2 /ater-Stained Lea MLRA 1, 2, 4A, a rrainage Patterns	or more re aves (B9) and <b>4B)</b> (B10)	·	)	
PROLOGY tland Hydrology Indica mary Indicators (minimu Surface Water (A1) High Water Table (A Saturation (A3) Water Marks (B1)	tors: n of one re 2)		check all tha	at apply)  Water-Staine (except MLF Salt Crust (B Aquatic Inve	RA 1, 2, 4A, and 4 11) rtebrates (B13)		Second  W (N	dary Indicators (2 Vater-Stained Lea VLRA 1, 2, 4A, a Irainage Patterns Iry-Season Water	or more re aves (B9) ind <b>4B)</b> i (B10) r Table (C2	2)	,	
PROLOGY  tland Hydrology Indica mary Indicators (minimu  Surface Water (A1)  High Water Table (A  Saturation (A3)  Water Marks (B1)  Sediment Deposits (	tors: n of one re 2)		check all tha	at apply)  Water-Staine (except MLF Salt Crust (B Aquatic Inve	RA 1, 2, 4A, and (11) rtebrates (B13) ulfide Odor (C1)	4B)	Second  W (N	dary Indicators (2 /ater-Stained Lea <b>VLRA 1, 2, 4A, a</b> rrainage Patterns rry-Season Water aturation Visible	or more re aves (B9) a <b>nd 4B)</b> s (B10) r Table (C2 on Aerial I	2)	,	
PROLOGY  Itland Hydrology Indica mary Indicators (minimu Surface Water (A1) High Water Table (A Saturation (A3) Water Marks (B1) Sediment Deposits ( Drift Deposits (B3)	tors: n of one re 2)		check all tha	at apply)  Water-Staine (except MLF Salt Crust (B Aquatic Inve Hydrogen St	RA 1, 2, 4A, and (11) rtebrates (B13) ulfide Odor (C1) izospheres along	4B) Living Roots (C:	Second  (N)  (N)  D  D  Second	dary Indicators (2 Vater-Stained Lea VILRA 1, 2, 4A, a rrainage Patterns rry-Season Water aturation Visible deomorphic Positi	or more re aves (B9) and 4B) (B10) r Table (C2 on Aerial I	2)	,	
PROLOGY  Intland Hydrology Indication  Mary Indicators (minimu  Surface Water (A1)  High Water Table (A  Saturation (A3)  Water Marks (B1)  Sediment Deposits (  Drift Deposits (B3)  Algal Mat or Crust (E	tors: n of one re 2)		check all tha	at apply)  Water-Staine (except MLF Salt Crust (B Aquatic Invertigation Hydrogen St. Oxidized Rhi Presence of	RA 1, 2, 4A, and 4 11) rtebrates (B13) ulfide Odor (C1) izospheres along Reduced Iron (C4	4B) Living Roots (C:	Second	dary Indicators (2 /ater-Stained Lea // ILRA 1, 2, 4A, a rrainage Patterns rry-Season Water aturation Visible decomorphic Position	or more reaves (B9) and 4B) and (B10) by Table (C2) by Table (C2) con Aerial II by Table (C2) con (D2)	2)	,	
DROLOGY  Patland Hydrology Indicators (minimumous Mater Mater (A1) High Water Table (A1) High Water Marks (B1) Sediment Deposits (B3) Algal Mat or Crust (E1) Iron Deposits (B5)	tors: n of one re 2) 32)		check all tha	at apply)  Water-Staine (except MLF Salt Crust (B Aquatic Invertigation Hydrogen Stain Oxidized Rhi Presence of Recent Iron I	RA 1, 2, 4A, and 4 11) rtebrates (B13) ulfide Odor (C1) zospheres along Reduced Iron (C4 Reduction in Tille	4B) Living Roots (C:	Second   W (N   D   D   S   S   S   G   S   G   S   G   F   F   F   F   F   F   F   F   F	dary Indicators (2 /ater-Stained Lea MLRA 1, 2, 4A, a rrainage Patterns rry-Season Water aturation Visible deomorphic Positi hallow Aquitard ( AC-Neutral Test	or more reaves (B9) and 4B) a (B10) b (B10) b Table (C2) on Aerial I ion (D2) (D3) (D5)	2) magery	,	
DROLOGY  Interpolation of the control of the contro	tors: n of one re 2) 32) 4)	equired;	check all tha	at apply)  Water-Staine (except MLF Salt Crust (B Aquatic Inveit Hydrogen St. Oxidized Rhi Presence of Recent Iron I Stunted or S	RA 1, 2, 4A, and 4 11) rtebrates (B13) ulfide Odor (C1) zospheres along Reduced Iron (C4 Reduction in Tille tresses Plants (D	4B) Living Roots (C:	Second   W (N   D   D   S: 3)   G   S: G   F   F   R	dary Indicators (2 Vater-Stained Lea VLRA 1, 2, 4A, a varianage Patterns vry-Season Water aturation Visible decomorphic Positi hallow Aquitard ( AC-Neutral Test daised Ant Mounc	or more reaves (B9) and 4B) is (B10) ir Table (C2 on Aerial II ion (D2) (D3) (D5) ds (D6) (LF	2) magery	,	
PROLOGY  Itland Hydrology Indicators (minimu)  Surface Water (A1)  High Water Table (A Saturation (A3)  Water Marks (B1)  Sediment Deposits (B3)  Algal Mat or Crust (E Iron Deposits (B5))  Surface Soil Cracks  Inundation Visible or	tors: m of one re  2)  32)  4)  (B6)  Aerial Ima	equired;	check all tha	at apply)  Water-Staine (except MLF Salt Crust (B Aquatic Inveit Hydrogen St. Oxidized Rhi Presence of Recent Iron I Stunted or S	RA 1, 2, 4A, and 4 11) rtebrates (B13) ulfide Odor (C1) zospheres along Reduced Iron (C4 Reduction in Tille	4B) Living Roots (C:	Second   W (N   D   D   S: 3)   G   S: G   F   F   R	dary Indicators (2 /ater-Stained Lea MLRA 1, 2, 4A, a rrainage Patterns rry-Season Water aturation Visible deomorphic Positi hallow Aquitard ( AC-Neutral Test	or more reaves (B9) and 4B) is (B10) ir Table (C2 on Aerial II ion (D2) (D3) (D5) ds (D6) (LF	2) magery	,	
DROLOGY  Intland Hydrology Indicate  Mary Indicators (minimu  Surface Water (A1)  High Water Table (A  Saturation (A3)  Water Marks (B1)  Sediment Deposits (B3)  Algal Mat or Crust (B  Iron Deposits (B5)  Surface Soil Cracks  Inundation Visible or  Sparsely Vegetated	tors: m of one re  2)  32)  4)  (B6)  Aerial Ima	equired;	check all tha	at apply)  Water-Staine (except MLF Salt Crust (B Aquatic Inveit Hydrogen St. Oxidized Rhi Presence of Recent Iron I Stunted or S	RA 1, 2, 4A, and 4 11) rtebrates (B13) ulfide Odor (C1) zospheres along Reduced Iron (C4 Reduction in Tille tresses Plants (D	4B) Living Roots (C:	Second   W (N   D   D   S: 3)   G   S: G   F   F   R	dary Indicators (2 Vater-Stained Lea VLRA 1, 2, 4A, a varianage Patterns vry-Season Water aturation Visible decomorphic Positi hallow Aquitard ( AC-Neutral Test daised Ant Mounc	or more reaves (B9) and 4B) is (B10) ir Table (C2 on Aerial II ion (D2) (D3) (D5) ds (D6) (LF	2) magery	,	
DROLOGY  etland Hydrology Indica mary Indicators (minimu  Surface Water (A1)  High Water Table (A  Saturation (A3)  Water Marks (B1)  Sediment Deposits (B3)  Algal Mat or Crust (E  Iron Deposits (B5)  Surface Soil Cracks  Inundation Visible or  Sparsely Vegetated	tors: m of one re  2)  32)  4)  (B6)  Aerial Ima	equired; agery (B Surface (	check all that	at apply)  Water-Staine (except MLF Salt Crust (B Aquatic Inver Hydrogen St. Oxidized Rhi Presence of Recent Iron I Stunted or S Other (Expla	RA 1, 2, 4A, and 4 11) rtebrates (B13) ulfide Odor (C1) zospheres along Reduced Iron (C4 Reduction in Tille tresses Plants (D in in Remarks)	4B) Living Roots (C:	Second   W   (N   D   D   S:   3)   G   S    F,	dary Indicators (2 Vater-Stained Lea VLRA 1, 2, 4A, a varianage Patterns vry-Season Water aturation Visible decomorphic Positi hallow Aquitard ( AC-Neutral Test daised Ant Mounc	or more reaves (B9) and 4B) is (B10) ir Table (C2 on Aerial II ion (D2) (D3) (D5) ds (D6) (LF	2) magery	,	
DROLOGY etland Hydrology Indica mary Indicators (minimu Surface Water (A1) High Water Table (A Saturation (A3) Water Marks (B1) Sediment Deposits (B3) Algal Mat or Crust (E Iron Deposits (B5) Surface Soil Cracks Inundation Visible or Sparsely Vegetated eld Observations: rface Water Present?	tors: n of one re 2) 32) 4) 4) Aerial Ima Concave S	equired; agery (B	check all that	at apply)  Water-Staine (except MLF Salt Crust (B Aquatic Invert Hydrogen Stain Oxidized Rhi Presence of Recent Iron I Stunted or S Other (Expla	RA 1, 2, 4A, and (11) rebrates (B13) ulfide Odor (C1) izospheres along Reduced Iron (C4 Reduction in Tille tresses Plants (D in in Remarks)	4B) Living Roots (C:	Second   W   (N   D   D   S:   3)   G   S    F,	dary Indicators (2 Vater-Stained Lea VLRA 1, 2, 4A, a varianage Patterns vry-Season Water aturation Visible decomorphic Positi hallow Aquitard ( AC-Neutral Test daised Ant Mounc	or more reaves (B9) and 4B) is (B10) ir Table (C2 on Aerial II ion (D2) (D3) (D5) ds (D6) (LF	2) magery	,	
DROLOGY  Petland Hydrology Indicators (minimu)  Surface Water (A1)  High Water Table (A Saturation (A3)  Water Marks (B1)  Sediment Deposits (B3)  Algal Mat or Crust (E Iron Deposits (B5)  Surface Soil Cracks Inundation Visible or Sparsely Vegetated  Petel Observations:  rface Water Present?	tors: n of one re  2)  32)  4)  (B6) Aerial Ima Concave S  Yes Yes	equired;	check all that	at apply)  Water-Staine (except MLF Salt Crust (B Aquatic Inver Hydrogen St Oxidized Rhi Presence of Recent Iron I Stunted or S Other (Expla	RA 1, 2, 4A, and 4 11) rtebrates (B13) ulfide Odor (C1) zospheres along Reduced Iron (C4 Reduction in Tillet tresses Plants (D in in Remarks)	4B) Living Roots (C: 4) d Soils (C6) 1) (LRR A)	Second   W (N   D   D   Si   Si   Fi   Fi	dary Indicators (2 Vater-Stained Lea MLRA 1, 2, 4A, a Irainage Patterns Iry-Season Water aturation Visible deomorphic Positic hallow Aquitard ( AC-Neutral Test daised Ant Mounc rost-Heave Humi	or more reaves (B9) and 4B) a (B10) br Table (C2) on Aerial It ion (D2) (D3) (D5) ds (D6) (LF) mocks (D7)	2) magery	/ (C9)	
DROLOGY etland Hydrology Indicationary Indicators (minimu) Surface Water (A1) High Water Table (A Saturation (A3) Water Marks (B1) Sediment Deposits (B3) Algal Mat or Crust (E Iron Deposits (B5) Surface Soil Cracks Inundation Visible or Sparsely Vegetated etd Observations: rface Water Present? ater Table Present?	tors: n of one re 2) 32) 4) 4) Aerial Ima Concave S	equired; agery (B	check all that	at apply)  Water-Staine (except MLF Salt Crust (B Aquatic Invert Hydrogen Stain Oxidized Rhi Presence of Recent Iron I Stunted or S Other (Expla	RA 1, 2, 4A, and 4 11) rtebrates (B13) ulfide Odor (C1) zospheres along Reduced Iron (C4 Reduction in Tillet tresses Plants (D in in Remarks)	4B) Living Roots (C: 4) d Soils (C6) 1) (LRR A)	Second   W (N   D   D   Si   Si   Fi   Fi	dary Indicators (2 Vater-Stained Lea VLRA 1, 2, 4A, a varianage Patterns vry-Season Water aturation Visible decomorphic Positi hallow Aquitard ( AC-Neutral Test daised Ant Mounc	or more reaves (B9) and 4B) is (B10) ir Table (C2 on Aerial II ion (D2) (D3) (D5) ds (D6) (LF	2) magery	,	
DROLOGY etland Hydrology Indicatimary Indicators (minimu) Surface Water (A1) High Water Table (A Saturation (A3) Water Marks (B1) Sediment Deposits (B3) Algal Mat or Crust (B Iron Deposits (B5) Surface Soil Cracks Inundation Visible or Sparsely Vegetated eld Observations: urface Water Present? ater Table Present? cludes capillary fringe)	tors: n of one re 2) 32) 4) Aerial Ima Concave S Yes Yes Yes	equired; agery (B Surface (	check all that	at apply)  Water-Staine (except MLF Salt Crust (B Aquatic Invert Hydrogen Su Oxidized Rhi Presence of Recent Iron I Stunted or S Other (Expla	RA 1, 2, 4A, and and another tebrates (B13)  Ilfide Odor (C1)  Izospheres along Reduced Iron (C4) Reduction in Tillettresses Plants (Din in Remarks)  Inches): Inches): Inches): Inches): Inches): Inches): Inches): Inches):	4B) Living Roots (C: 4) d Soils (C6) 1) (LRR A)	Second   W (N   D   D   Si   Si   Fi   Fi	dary Indicators (2 Vater-Stained Lea MLRA 1, 2, 4A, a Irainage Patterns Iry-Season Water aturation Visible deomorphic Positic hallow Aquitard ( AC-Neutral Test daised Ant Mounc rost-Heave Humi	or more reaves (B9) and 4B) a (B10) br Table (C2) on Aerial It ion (D2) (D3) (D5) ds (D6) (LF) mocks (D7)	2) magery	/ (C9)	
DROLOGY etland Hydrology Indicatimary Indicators (minimu) Surface Water (A1) High Water Table (A Saturation (A3) Water Marks (B1) Sediment Deposits (B3) Algal Mat or Crust (E Iron Deposits (B5) Surface Soil Cracks Inundation Visible or	tors: n of one re 2) 32) 4) Aerial Ima Concave S Yes Yes Yes	equired; agery (B Surface (	check all that	at apply)  Water-Staine (except MLF Salt Crust (B Aquatic Invert Hydrogen Su Oxidized Rhi Presence of Recent Iron I Stunted or S Other (Expla	RA 1, 2, 4A, and and another tebrates (B13)  Ilfide Odor (C1)  Izospheres along Reduced Iron (C4) Reduction in Tillettresses Plants (Din in Remarks)  Inches): Inches): Inches): Inches): Inches): Inches): Inches): Inches):	4B) Living Roots (C: 4) d Soils (C6) 1) (LRR A)	Second   W (N   D   D   Si   Si   Fi   Fi	dary Indicators (2 Vater-Stained Lea MLRA 1, 2, 4A, a Irainage Patterns Iry-Season Water aturation Visible deomorphic Positic hallow Aquitard ( AC-Neutral Test daised Ant Mounc rost-Heave Humi	or more reaves (B9) and 4B) a (B10) br Table (C2) on Aerial It ion (D2) (D3) (D5) ds (D6) (LF) mocks (D7)	2) magery	/ (C9)	

Project Site: West	t Seattle and Ballard Lir	nk Extensions		City/Coun	ty: <u>Seattle/King</u>	Sampling D	)ate:	7/15/	<u>′19</u>	
Applicant/Owner: Sour	nd Transit				State: W	A Sampling P	oint:	WSE	3-SP	<u> 1</u>
Investigator(s): Amy	Rotondo and Rose Wh	<u>nitson</u>			Section, Township,	Range: <u>S13, T2</u>	24N, R03E			
Landform (hillslope, terrace,	etc.): <u>terrace</u>		Loc	al relief (conca	ave, convex, none): con	<u>cave</u>	Slope	(%):	<u>&lt;1</u>	
Subregion (LRR): A		Lat:	_		Long:		Datum: _			
Soil Map Unit Name: <u>Uno</u>	classified City Land				NW	I classification:	<u>PFO</u>			
Are climatic / hydrologic con-	ditions on the site typic	al for this time of y	/ear?	∕es □	No 🛛 (If no, exp	lain in Remarks.)				
Are Vegetation ☐, So	oil 🔲, or Hydrolog	gy □, signific	antly disturbe	d? Are "I	Normal Circumstances" pre	sent?	Yes		No	$\boxtimes$
Are Vegetation ☐, So	oil 🔲, or Hydrolog	gy 🔯, natural	ly problematio	? (If ne	eded, explain any answers	in Remarks.)				
SUMMARY OF FINDING	S – Attach site ma	p showing san	npling poin	t locations,	transects, important f	eatures, etc.				
Hydrophytic Vegetation Pres	sent?	Yes ⊠	No 🗆							
Hydric Soil Present?		Yes ⊠	No 🗆	Is the Samp within a We			Yes	$\boxtimes$	No	
Wetland Hydrology Present?	?	Yes 🛛	No 🗆	within a vve	uana:					
Remarks: according to Ag	ACIS, the prior period h	has been drier tha	n normal.	1						
Tremainer according to 7 ig	riore, are prior periou .									
VEGETATION - Use scie	entific names of pla	ants								
Tree Stratum (Plot size: 30		Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Works	heet:				
1. Alnus rubra		90	<u>yes</u>	FAC	Number of Dominant Spe	ecies				
2.		<del>_</del>			That Are OBL, FACW, or		<u>4</u>			(A)
3.		· <del></del>			Total Number of Domina	nt				
4.		· <u></u>			Species Across All Strata		<u>5</u>			(B)
50% = <u>45</u> , 20% = <u>18</u>		90	= Total Cov	er	Percent of Dominant Spe	ooioo				
Sapling/Shrub Stratum (Plo	ot size: 15ft)	_			That Are OBL, FACW, or		<u>80</u>			(A/B)
1. <u>Salix lucida</u>		<u>1</u>	<u>yes</u>	FACW	Prevalence Index work	sheet:				
Oemleria cerasiformis		<u>1</u>	<u>yes</u>	FACU	Total % Cov		Multiply	v bv:		
3. Cornus sericea		<u>-</u> <u>1</u>	<u>yes</u>	FACW	OBL species	<u> </u>	x1 =	<u></u>		
4.		<u>-</u>	<u>,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,</u>	171011	FACW species		x2 =	-	_	
5.					FAC species		x3 =		_	
50% = <u>1.5</u> , 20% = <u>0.6</u>		<u></u>	= Total Cov		FACU species		x4 =		_	
	F\	<u>5</u>	- Total Cov	GI	UPL species		x5 =		_	
Herb Stratum (Plot size: 5ft	.)	400		E4.0	_		X3 –	-	<b>-</b> ,	<b>D</b> \
1. <u>Ranunculus repens</u>		<u>100</u>	<u>yes</u>	<u>FAC</u>	Column Totals:	(A)		-	(	В)
2. <u>Impatiens capensis</u>		<u>5</u>	<u>no</u>	<u>FACW</u>		lence Index = B/A	<del>\</del> =			
3. <u>Oenanthe sarmentosa</u>		<u>5</u>	<u>no</u>	<u>OBL</u>	Hydrophytic Vegetation					
4. <u>Urtica dioica</u>		<u>1</u>	<u>no</u>	<u>FAC</u>	☐ 1 – Rapid Test for	, , , ,	tation			
5					□ 2 - Dominance Tes	t is >50%				
6					☐ 3 - Prevalence Inde	ex is <u>&lt;</u> 3.0 <sup>1</sup>				
7					4 - Morphological A			ting		
8					data in Remarks	s or on a separate	sheet)			
9					5 - Wetland Non-Va	ascular Plants <sup>1</sup>				
10					☐ Problematic Hydro	ohytic Vegetation <sup>1</sup>	<sup>1</sup> (Explain)			
11					4					
50% = <u>55.5</u> , 20% = <u>22.2</u>		<u>111</u>	= Total Cov	er	<sup>1</sup> Indicators of hydric soil is be present, unless distur					
Woody Vine Stratum (Plot	size: <u>15ft</u> )				bo procent, unicos dictar	bod of problemati	0.			
1										
2					Hydrophytic		_			_
50% =, 20% =	_		= Total Cov	er er	Vegetation Present?	Yes		No		
% Bare Ground in Herb Str	atum				riesenti					
The 20	016 Plant List was used	d for this delineation	on.		1					
Remarks:										

IL							-								
rofile Descri	ption: (Describe	to the de	pth neede	d to d	ocument t	the indicator	or confi	irm the abser	nce of indicat	ors.)					
Depth	Matrix					Redox Featu	ıres								
nches)	Color (moist)	%	Co	lor (mo	oist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	:		Remark	ks		
<u>0-8</u>	10YR 3/1	<u>100</u>							loam	inclu	sion of fine	sand_			
<u>8-14</u>	10YR 3/1	<u>97</u>	<u>5</u>	YR 3/4	<u> </u>	<u>3</u>	<u>C</u>	<u>PL</u>	loam	. <u> </u>	_				
<u>14-20</u>	N 3/0	98	<u>7.</u>	5YR 3/	<u>'4</u>	<u>2</u>	<u>C</u>	<u>M</u>	silt loa	m som	e OM*				
											_				
					-					- —	_				
					•						_				
											_				
											_				
ype: C= Con	centration, D=De	pletion, RI	M=Reduce	d Matri	ix, CS=Co	vered or Coa	ted Sand	l Grains.	<sup>2</sup> Location: PL:	=Pore Linino	g, M=Matrix				
ydric Soil In	dicators: (Applic	able to al	l LRRs, u	nless o	otherwise	noted.)			Indi	cators for F	Problematic	Hydric	Soils	s³:	
] Histosol	(A1)				Sandy R	edox (S5)				2 cm Mu	ck (A10)				
] Histic Ep	ipedon (A2)				Stripped	Matrix (S6)				Red Pare	ent Material	(TF2)			
] Black His					Loamy N	lucky Minera	l (F1) <b>(ex</b>	cept MLRA 1			allow Dark S		TF12	)	
	n Sulfide (A4)				-	Bleyed Matrix	(F2)			Other (E	xplain in Rei	marks)			
	l Below Dark Surf	ace (A11)			•	d Matrix (F3)									
_	rk Surface (A12)			$\boxtimes$		ark Surface			31 1						
	ucky Mineral (S1	•			•	Dark Surfac	` '				drophytic ve ology must l				
	leyed Matrix (S4)				Redox D	epressions (	F8)				bed or probl				
	yer (if present):														
/pe:												_			_
epth (inches)	<u> </u>							Hydric Soils	s Present?		Yes		ı	No	
	OM = organic ma Faint sulphur sme														
	aint sulphur sme														
PROLOGY	aint sulphur sme														
DROLOGY retland Hydr	aint sulphur sme	:	ed; check	all that	t apply)				Secor	ndary Indica	tors (2 or mo	ore requi	ired)		
DROLOGY etland Hydr	aint sulphur sme	:	ed; check	all that		tained Leave	s (B9)			-	tors (2 or mo		ired)		
DROLOGY fetland Hydr rimary Indical	aint sulphur sme	:	ed; check		Water-S	tained Leave MLRA 1, 2, 4		IB)		Water-Stain	•	B9)	ired)		
DROLOGY fetland Hydr rimary Indical	blogy Indicators ors (minimum of Water (A1) tter Table (A2)	:	ed; check		Water-S	MLRA 1, 2, 4		<b>J</b> B)		Water-Stain	ed Leaves (	B9)	ired)		
DROLOGY etland Hydrimary Indicat Surface High Wa	blogy Indicators ors (minimum of Water (A1) tter Table (A2)	:	ed; check		Water-S (except Salt Crus	MLRA 1, 2, 4	IA, and 4	IB)		Water-Stain (MLRA 1, 2 Drainage Pa	ed Leaves (	B9) <b>3)</b>	ired)		
DROLOGY etland Hydr imary Indicat  Surface High Wa Saturatic Water M	plogy Indicators ors (minimum of Water (A1) ater Table (A2) on (A3)	:	ed; check		Water-S (except Salt Crus Aquatic	<b>MLRA 1, 2, 4</b> st (B11)	(B13)	<b>1B</b> )	0	Water-Stain (MLRA 1, 2 Drainage Pa Dry-Season	ed Leaves ( , <b>4A, and 4E</b> atterns (B10	B9)  B)  (C2)		(C9)	
DROLOGY  retland Hydre  rimary Indicat  Surface  High Wa  Saturatic  Water M  Sedimer	ology Indicators ors (minimum of Water (A1) or (A3) larks (B1)	:	ed; check		Water-S (except Salt Crus Aquatic Hydroge	MLRA 1, 2, 4 st (B11) Invertebrates n Sulfide Ode	(B13) or (C1)	IB)		Water-Stain (MLRA 1, 2 Drainage Pa Dry-Season Saturation \	ed Leaves ( , 4A, and 4E atterns (B10 Water Tabl	B9)  3) ) e (C2) erial Imag		(C9)	
DROLOGY  retland Hydrimary Indicat  Surface  High Wa  Saturatic  Water M  Sedimer  Drift Dep	ology Indicators ors (minimum of Water (A1) or (A3) larks (B1) or Deposits (B2)	:	ed; check		Water-S (except Salt Crus Aquatic Hydroge Oxidized	MLRA 1, 2, 4 st (B11) Invertebrates n Sulfide Ode	(B13) or (C1) es along I	Living Roots (	C3) 🛭	Water-Stain (MLRA 1, 2 Drainage Pa Dry-Season Saturation \	ed Leaves (  , 4A, and 4E atterns (B10 Water Tabl //sible on Ae c Position (D	B9)  3) ) e (C2) erial Imag		(C9)	
DROLOGY  etland Hydre imary Indicat  Surface High Wa Saturatic Water M Sedimer Drift Dep Algal Ma	cology Indicators ors (minimum of Water (A1) ater Table (A2) on (A3) larks (B1) ant Deposits (B2) oosits (B3)	:	ed; check		Water-S (except Salt Crus Aquatic Hydroge Oxidized Presence	MLRA 1, 2, 4 st (B11) Invertebrates n Sulfide Ode I Rhizosphere	(B13) or (C1) es along I	Living Roots (	C3) 🛭	Water-Stain (MLRA 1, 2 Drainage Pa Dry-Season Saturation \ Geomorphic	ed Leaves ( , 4A, and 4E atterns (B10 Water Tabl /isible on Ae c Position (D uitard (D3)	B9)  3) ) e (C2) erial Imag		(C9)	
DROLOGY  /etland Hydrimary Indicat    Surface   High Wa   Saturatic   Water M   Sedimer   Drift Dep   Algal Ma   Iron Dep	cology Indicators cors (minimum of Water (A1) ther Table (A2) on (A3) larks (B1) nt Deposits (B2) cosits (B3) at or Crust (B4) cosits (B5) Soil Cracks (B6)	: one requir			Water-S (except Salt Crus Aquatic Hydroge Oxidized Presence Recent I	MLRA 1, 2, 4 st (B11) Invertebrates in Sulfide Ode I Rhizosphere e of Reduced	(B13) or (C1) es along I I Iron (C4 n in Tilled	Living Roots ( ) d Soils (C6)	C3) 🛭	Water-Stain (MLRA 1, 2 Drainage Pa Dry-Season Saturation \ Geomorphic Shallow Aqu	ed Leaves ( , 4A, and 4E atterns (B10 Water Tabl /isible on Ae c Position (D uitard (D3)	B9)  (3) (1) (2) (2) (3)	gery	(C9)	
DROLOGY    etland Hydren   surface   High Wa   Saturatie   Water Mean Mean Mean Mean Mean Mean Mean Mean	pology Indicators ors (minimum of Water (A1) or (A3) larks (B1) or Deposits (B2) posits (B3) at or Crust (B4) posits (B5)	: one requir			Water-S (except Salt Crue Aquatic Hydroge Oxidized Presence Recent I Stunted	MLRA 1, 2, 4 st (B11) Invertebrates In Sulfide Ode I Rhizosphere e of Reduced ron Reduction	(B13) or (C1) es along I I Iron (C4 n in Tilled	Living Roots ( ) d Soils (C6)	C3) 🛭	Water-Stain (MLRA 1, 2 Drainage Pa Dry-Season Saturation \ Geomorphic Shallow Aqu FAC-Neutra Raised Ant	ed Leaves ( , 4A, and 4E atterns (B10 Water Tabl /isible on Ae c Position (D uitard (D3) I Test (D5)	B9)  B9)  (C2)  (C2)  (C3)  (LRR )	gery	(C9)	
DROLOGY  fetland Hydrimary Indicat  Surface  High Wa  Saturatic  Water M  Sedimer  Drift Dep  Algal Ma  Iron Dep  Surface  Inundati  Sparsely	cology Indicators ors (minimum of Water (A1) ater Table (A2) on (A3) larks (B1) at Deposits (B2) oosits (B3) at or Crust (B4) oosits (B5) Soil Cracks (B6) on Visible on Aer of Vegetated Concerns	: one requir	y (B7)		Water-S (except Salt Crue Aquatic Hydroge Oxidized Presence Recent I Stunted	MLRA 1, 2, 4 st (B11) Invertebrates in Sulfide Odd I Rhizosphere e of Reduced ron Reductio or Stresses F	(B13) or (C1) es along I I Iron (C4 n in Tilled	Living Roots ( ) d Soils (C6)	C3) 🛭	Water-Stain (MLRA 1, 2 Drainage Pa Dry-Season Saturation \ Geomorphic Shallow Aqu FAC-Neutra Raised Ant	ed Leaves ( , 4A, and 4E atterns (B10 Water Tabl /isible on Ae & Position (D uitard (D3) I Test (D5) Mounds (D6	B9)  B9)  (C2)  (C2)  (C3)  (LRR )	gery	(C9)	
DROLOGY  Vetland Hydrorimary Indicat  Surface  High Wa  Saturatio  Vater M  Sedimer  Algal Ma  Iron Dep  Surface  Inundati  Sparsely	cology Indicators cors (minimum of Water (A1) ater Table (A2) on (A3) larks (B1) at Deposits (B2) cosits (B3) at or Crust (B4) cosits (B5) Soil Cracks (B6) on Visible on Aer of Vegetated Conditions:	: one requir ial Imager ave Surfa	y (B7) ce (B8)		Water-S (except Salt Crus Aquatic Hydroge Oxidized Presence Recent I Stunted Other (E	MLRA 1, 2, 4 st (B11) Invertebrates in Sulfide Odd I Rhizospherd e of Reduced ron Reductio or Stresses F xplain in Ren	(B13) or (C1) es along I I Iron (C4 n in Tilled	Living Roots ( ) d Soils (C6)	C3) 🛭	Water-Stain (MLRA 1, 2 Drainage Pa Dry-Season Saturation \ Geomorphic Shallow Aqu FAC-Neutra Raised Ant	ed Leaves ( , 4A, and 4E atterns (B10 Water Tabl /isible on Ae & Position (D uitard (D3) I Test (D5) Mounds (D6	B9)  B9)  (C2)  (C2)  (C3)  (LRR )	gery	(C9)	
DROLOGY  fetland Hydrimary Indicat  Surface  High Wa  Saturatic  Water M  Sedimer  Drift Dep  Algal Ma  Iron Dep  Surface  Inundati  Sparsely	cology Indicators cors (minimum of Water (A1) ater Table (A2) on (A3) larks (B1) at Deposits (B2) cosits (B3) at or Crust (B4) cosits (B5) Soil Cracks (B6) on Visible on Aer of Vegetated Conditions:	: one requir	y (B7) ce (B8)		Water-S (except Salt Crus Aquatic Hydroge Oxidized Presence Recent I Stunted Other (E	MLRA 1, 2, 4 st (B11) Invertebrates in Sulfide Odd I Rhizosphere e of Reduced ron Reductio or Stresses F	(B13) or (C1) es along I I Iron (C4 n in Tilled	Living Roots ( ) d Soils (C6)	C3) 🛭	Water-Stain (MLRA 1, 2 Drainage Pa Dry-Season Saturation \ Geomorphic Shallow Aqu FAC-Neutra Raised Ant	ed Leaves ( , 4A, and 4E atterns (B10 Water Tabl /isible on Ae & Position (D uitard (D3) I Test (D5) Mounds (D6	B9)  B9)  (C2)  (C2)  (C3)  (LRR )	gery	(C9)	
DROLOGY  /etland Hydrominary Indicat    Surface   High Water Marcology     Saturation   Sedimer     Drift Department     Algal Mater     Iron Department     Surface     Inundati     Sparsely     eld Observation     auface Water Table Potestand     Sparsely     Surface   Surface   Surface   Surface     Surface   Surface   Surface   Surface   Surface     Surface	cology Indicators cors (minimum of Water (A1) ther Table (A2) on (A3) larks (B1) the Deposits (B2) cosits (B3) at or Crust (B4) cosits (B5) Soil Cracks (B6) on Visible on Aer of Vegetated Conce tions: Present?	: one requir ial Imager ave Surfa	y (B7) ce (B8)		Water-S (except Salt Crus Aquatic Hydroge Oxidized Presence Recent I Stunted Other (E	MLRA 1, 2, 4 st (B11) Invertebrates in Sulfide Odd I Rhizospherd e of Reduced ron Reductio or Stresses F xplain in Ren	(B13) or (C1) es along I I Iron (C4 n in Tilled	Living Roots ( ) d Soils (C6)	C3) 🛭	Water-Stain (MLRA 1, 2 Drainage Pa Dry-Season Saturation \ Geomorphic Shallow Aqu FAC-Neutra Raised Ant	ed Leaves ( , 4A, and 4E atterns (B10 Water Tabl /isible on Ae & Position (D uitard (D3) I Test (D5) Mounds (D6	B9)  B9)  (C2)  (C2)  (C3)  (LRR 4)	gery	(C9)	
DROLOGY  /etland Hydrominimary Indicat    Surface	pology Indicators ors (minimum of Water (A1) on (A3) larks (B1) on to Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) on Visible on Aer of Vegetated Concortions: Present? eresent? ary fringe)	ial Imager ave Surfa fes  fes  fes  fes  fes  fes  fes  fes	y (B7) ce (B8)   No   No		Water-S (except Salt Crus Aquatic   Hydroge Oxidized Presence Recent I Stunted Other (E	MLRA 1, 2, 4 st (B11) Invertebrates in Sulfide Odd I Rhizosphere e of Reduced ron Reductio or Stresses F xplain in Ren th (inches): th (inches):	(B13) or (C1) es along I I Iron (C4 n in Tillec Plants (D1 narks)	Living Roots (	C3)   C3)   Wetland Hydr	Water-Stain (MLRA 1, 2 Drainage Pa Dry-Season Saturation \ Geomorphic Shallow Aqu FAC-Neutra Raised Ant Frost-Heave	ed Leaves (  , 4A, and 4E atterns (B10 Water Tabl /isible on Ae c Position (D uitard (D3) I Test (D5) Mounds (D6 e Hummocks	B9)  B9)  (C2)  (C2)  (C3)  (LRR 4)	gery		
DROLOGY  /etland Hydrominimary Indicat    Surface	pology Indicators ors (minimum of Water (A1) other Table (A2) on (A3) larks (B1) oth Deposits (B2) osits (B3) at or Crust (B4) osits (B5) Soil Cracks (B6) on Visible on Aer of Vegetated Conce tions: Present?	ial Imager ave Surfa fes  fes  fes  fes  fes  fes  fes  fes	y (B7) ce (B8)   No   No		Water-S (except Salt Crus Aquatic   Hydroge Oxidized Presence Recent I Stunted Other (E	MLRA 1, 2, 4 st (B11) Invertebrates in Sulfide Odd I Rhizosphere e of Reduced ron Reductio or Stresses F xplain in Ren th (inches): th (inches):	(B13) or (C1) es along I I Iron (C4 n in Tillec Plants (D1 narks)	Living Roots (	C3)   C3)   Wetland Hydr	Water-Stain (MLRA 1, 2 Drainage Pa Dry-Season Saturation \ Geomorphic Shallow Aqu FAC-Neutra Raised Ant Frost-Heave	ed Leaves (  , 4A, and 4E atterns (B10 Water Tabl /isible on Ae c Position (D uitard (D3) I Test (D5) Mounds (D6 e Hummocks	B9)  (C2)  (C2)  (C3)  (LRR (D7)	A)		
DROLOGY  /etland Hydrominimary Indicat    Surface	pology Indicators ors (minimum of Water (A1) on (A3) larks (B1) on to Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) on Visible on Aer of Vegetated Concortions: Present? eresent? ary fringe)	ial Imager ave Surfa fes  fes  fes  fes  fes  fes  fes  fes	y (B7) ce (B8)   No   No		Water-S (except Salt Crus Aquatic   Hydroge Oxidized Presence Recent I Stunted Other (E	MLRA 1, 2, 4 st (B11) Invertebrates in Sulfide Odd I Rhizosphere e of Reduced ron Reductio or Stresses F xplain in Ren th (inches): th (inches):	(B13) or (C1) es along I I Iron (C4 n in Tillec Plants (D1 narks)	Living Roots (	C3)   C3)   Wetland Hydr	Water-Stain (MLRA 1, 2 Drainage Pa Dry-Season Saturation \ Geomorphic Shallow Aqu FAC-Neutra Raised Ant Frost-Heave	ed Leaves (  , 4A, and 4E atterns (B10 Water Tabl /isible on Ae c Position (D uitard (D3) I Test (D5) Mounds (D6 e Hummocks	B9)  (C2)  (C2)  (C3)  (LRR (D7)	A)		
DROLOGY etland Hydre imary Indicat Surface High Wa Saturatio Water M Sedimet Drift Dep Algal Ma Iron Dep Surface Inundati Sparsely eld Observa atter Table Por aturation Pre- includes capille	pology Indicators ors (minimum of Water (A1) on (A3) larks (B1) on to Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) on Visible on Aer of Vegetated Concortions: Present? eresent? ary fringe)	ial Imager ave Surfa /es □ /es ⊠ n gauge, r	y (B7) ce (B8)  No No No		Water-S (except Salt Crus Aquatic   Hydroge Oxidized Presence Recent I Stunted Other (E	MLRA 1, 2, 4 st (B11) Invertebrates in Sulfide Odd I Rhizosphere e of Reduced ron Reductio or Stresses F xplain in Ren th (inches): th (inches):	(B13) or (C1) es along I I Iron (C4 n in Tillec Plants (D1 narks)	Living Roots (	C3)   C3)   Wetland Hydr	Water-Stain (MLRA 1, 2 Drainage Pa Dry-Season Saturation \ Geomorphic Shallow Aqu FAC-Neutra Raised Ant Frost-Heave	ed Leaves (  , 4A, and 4E atterns (B10 Water Tabl /isible on Ae c Position (D uitard (D3) I Test (D5) Mounds (D6 e Hummocks	B9)  (C2)  (C2)  (C3)  (LRR (D7)	A)		

Project Site:	West Seattle a	nd Ballard Link Ext	<u>tensions</u>		City/Coun	ty: <u>Seattle/King</u>	Sampling D	ate:	8/23/19	
Applicant/Owner:	Sound Transit					State: WA	Sampling P	oint:	WSE3-S	SP2
Investigator(s):	Amy Rotondo a	and Rose Whitson				Section, Township, I	Range: <u>S13, T2</u>	4N, R03E		
Landform (hillslope, te	rrace, etc.):	slope		Loca	I relief (conca	ave, convex, none): <u>conv</u>	ex	Slope	(%): <u>3</u>	
Subregion (LRR):	<u>A</u>		Lat:	_		Long:	ľ	Datum: _		
Soil Map Unit Name:	Unclassified (	City Land				NWI	classification:	<u>UPL</u>		
Are climatic / hydrolog	ic conditions on	the site typical for	this time of y	ear? Ye	es 🛛	No 🗌 (If no, expla	ain in Remarks.)			
Are Vegetation ,	Soil □,	or Hydrology [	☐, significa	ntly disturbed	? Are "I	Normal Circumstances" pres	sent?	Yes	⊠ No	
Are Vegetation	Soil □,	or Hydrology [	☐, naturall	problematic?	(If ne	eded, explain any answers i	n Remarks.)			
SUMMARY OF FIN	DINGS – Atta	ch site map sh	owing sam	pling point	locations,	transects, important fe	atures, etc.			
Hydrophytic Vegetatio		· · · · · · · · · · · · · · · · · · ·	Yes 🗆	No ⊠			· · · · · · · · · · · · · · · · · · ·			
Hydric Soil Present?			Yes 🗌		Is the Samp			Yes	□ No	
Wetland Hydrology Pro	esent?		Yes	No ⊠	within a We	tiand?			_	_
, ,,										
Remarks:										
VEGETATION - Us	e scientific na	mes of plants	Absolute	Dominant	Indicator	<u> </u>				
Tree Stratum (Plot size	ze: <u>30ft</u> )		% Cover	Species?	Status	Dominance Test Worksh	neet:			
1. Acer macrophyllu	<u>ım</u>		<u>70</u>	<u>yes</u>	<u>FACU</u>	Number of Dominant Spe	cies	1		(4)
2. <u>Alnus rubra</u>			<u>30</u>	<u>yes</u>	FAC	That Are OBL, FACW, or	FAC:	<u>1</u>		(A)
3. <u>Unknown conifer</u>			<u>15</u>	<u>no</u>	<u>NI</u>	Total Number of Dominan	nt	-		(D)
4. Thuja plicata			<u>10</u>	<u>no</u>	<u>FAC</u>	Species Across All Strata	:	<u>5</u>		(B)
50% = <u>62.5</u> , 20% = <u>2</u>	<u>5</u>		<u>125</u>	= Total Cove	er	Percent of Dominant Spec	cies	00		(A (D)
Sapling/Shrub Stratu	m (Plot size: <u>15f</u>	<u>t</u> )				That Are OBL, FACW, or	FAC:	<u>20</u>		(A/B)
1. Mahonia aquifoliu	<u>ım</u>		<u>25</u>	<u>yes</u>	<u>FACU</u>	Prevalence Index works	heet:			
2. Rubus parviflorus	<u> </u>		<u>10</u>	<u>yes</u>	<u>FACU</u>	Total % Cove	er of:	Multip	ly by:	
3. Symphoricarpos	albus		<u>3</u>	no	FACU	OBL species 0		x1 =	<u>0</u>	
4. Corylus cornuta			<u>3</u>	no	FACU	FACW species 0		x2 =	0	
5						FAC species 40	<u>)</u>	x3 =	120	
50% = <u>20.5</u> , 20% = <u>8</u>	.2		41	= Total Cove	er	FACU species 11	4	x4 =	<u>456</u>	
Herb Stratum (Plot si	<del></del> -		_			UPL species <u>0</u>	_	x5 =	0	
Polystichum mun	<del></del>		2	Voc	FACU	Ī .	(A (A)	7.0	<u>576</u> (B	`
	<u>itum</u>		<u>3</u>	<u>yes</u>	<u>FACU</u>		<u>54</u> (A)	A = 2.74	<u>370</u> (B	)
2							alence Index = B/A	4 = 3.74		
3						Hydrophytic Vegetation				
4						1 – Rapid Test for H		tation		
5						2 - Dominance Test	ıs >50%			
6						☐ 3 - Prevalence Inde	x is <u>&lt;</u> 3.0 <sup>1</sup>			
7						4 - Morphological Ad	daptations¹ (Prov	ide suppor	rting	
8						data in Remarks	or on a separate	sheet)		
9						☐ 5 - Wetland Non-Va	scular Plants <sup>1</sup>			
10						☐ Problematic Hydrop	hytic Vegetation <sup>1</sup>	(Explain)		
11										
50% = <u>1.5</u> , 20% = <u>0.6</u>	<u>3</u>		<u>3</u>	= Total Cove	er	<sup>1</sup> Indicators of hydric soil a be present, unless disturb	,	0,		
Woody Vine Stratum	(Plot size: 15ft)					be present, unless distart	ed of problematic	J.		
1										
2.						Hydrophytic				
50% = , 20% =				= Total Cove	er	Vegetation	Yes [		No	$\boxtimes$
% Bare Ground in He						Present?				
		1:-4	L: - :4:-							
I I CIII al No.		List was used for the gro			L					
		5.1 and gro								

SOIL Sampling Point: WSE3-SP2 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) % Type<sup>1</sup> Loc<sup>2</sup> Texture Remarks 10YR 3/2 medium to small gravel, trace OM\* 0-16 <u>100</u> gravel loam <sup>2</sup>Location: PL=Pore Lining, M=Matrix <sup>1</sup>Type: C= Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils3: Histosol (A1) Sandy Redox (S5) 2 cm Muck (A10) Histic Epipedon (A2) Stripped Matrix (S6) Red Parent Material (TF2) Black Histic (A3) Loamy Mucky Mineral (F1) (except MLRA 1) Very Shallow Dark Surface (TF12) Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Other (Explain in Remarks) Depleted Below Dark Surface (A11) Depleted Matrix (F3) Thick Dark Surface (A12) Redox Dark Surface (F6) <sup>3</sup>Indicators of hydrophytic vegetation and Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) wetland hydrology must be present,  $\Box$ Sandy Gleyed Matrix (S4) Redox Depressions (F8) unless disturbed or problematic. Restrictive Layer (if present): **Hydric Soils Present?**  $\boxtimes$ Depth (inches): Yes No Remarks: \*OM = organic matter Soils were dry. **HYDROLOGY** Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (2 or more required) Surface Water (A1) Water-Stained Leaves (B9) Water-Stained Leaves (B9) High Water Table (A2) (except MLRA 1, 2, 4A, and 4B) (MLRA 1, 2, 4A, and 4B) Saturation (A3) Salt Crust (B11) Drainage Patterns (B10) Water Marks (B1) Aquatic Invertebrates (B13) Dry-Season Water Table (C2) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Saturation Visible on Aerial Imagery (C9) Drift Deposits (B3) Oxidized Rhizospheres along Living Roots (C3) Geomorphic Position (D2) Presence of Reduced Iron (C4) Shallow Aquitard (D3) П Algal Mat or Crust (B4) П П Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) FAC-Neutral Test (D5) Surface Soil Cracks (B6) Stunted or Stresses Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) Frost-Heave Hummocks (D7) Sparsely Vegetated Concave Surface (B8) Field Observations: Surface Water Present?  $\boxtimes$ Depth (inches): Yes No  $\boxtimes$ Water Table Present? Yes No Depth (inches): Saturation Present? Wetland Hydrology Present? No  $\boxtimes$ Yes No  $\boxtimes$ Depth (inches): (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Remarks No hydrologic indicators.

Project Site: West Seattle and Ballard Link Ex	ensions		City/County	<del>-</del>	Sampling Date:		8/23/		
Applicant/Owner: Sound Transit				State: WA	Sampling Point:		WSE	4-SP	<u>'1</u>
Investigator(s): Amy Rotondo and Rose Whitson				Section, Township, Rai	-				
Landform (hillslope, terrace, etc.): slope			l relief (concav	ve, convex, none): <u>convex</u>		Slope (		<u>15</u>	
Subregion (LRR): A	Lat:	_		Long:		um:			
Soil Map Unit Name: <u>Unclassified City Land</u>			<b>5</b> 7	<u></u>	ssification: <u>PS</u>	<u>:S</u>			
Are climatic / hydrologic conditions on the site typical for			_	No	•	.,	<b>.</b>		_
		antly disturbed		ormal Circumstances" present		Yes	$\boxtimes$	No	
Are Vegetation □, Soil □, or Hydrology I	_, naturall	y problematic?	' (If nee	ded, explain any answers in R	.emarks.)				
CUMMARY OF FINDINGS. Attack site was ab		unlina naint	loootiono t	wanaada immawtant faat					
SUMMARY OF FINDINGS – Attach site map sh			iocations, t	ransects, important lead	ires, etc.				
Hydrophytic Vegetation Present? Hydric Soil Present?		No □   No □	Is the Sample	ed Area	,	Yes		N.a	
•			within a Wetl	and?	'	162	$\boxtimes$	No	
Wetland Hydrology Present?	Yes 🛛	No 🗆							
Remarks: 15 feet from the retaining wall and 8 feet per	pendicular fr	om pavement.							
VEGETATION – Use scientific names of plants	Absolute	Dominant	Indicator						
Tree Stratum (Plot size: 30ft)	% Cover	Species?	<u>Status</u>	Dominance Test Workshe	et:				
1				Number of Dominant Specie		<u>2</u>			(A)
2				That Are OBL, FACW, or FA	₹C:	_			(71)
3				Total Number of Dominant		<u>3</u>			(B)
4				Species Across All Strata:		<u>∨</u>			(5)
50% =, 20% =		= Total Cov	er	Percent of Dominant Specie		67			(A/B)
Sapling/Shrub Stratum (Plot size: 15ft)				That Are OBL, FACW, or FA	4C:	<u> </u>			(,,,,,
1. Rubus armeniacus	<u>100</u>	<u>yes</u>	<u>FAC</u>	Prevalence Index worksho	et:				
2				Total % Cover	<u>of:</u>	Multipl	ly by:		
3				OBL species	_	x1 =	_		
4				FACW species	_	x2 =			
5				FAC species	_	x3 =	_	_	
50% = <u>50</u> , 20% = <u>20</u>	<u>100</u>	= Total Cov	er	FACU species	_	x4 =			
Herb Stratum (Plot size: 5ft)				UPL species	_	x5 =			
1. Equisetum telmateia	<u>5</u>	<u>yes</u>	<u>FACW</u>	Column Totals:	(A)				(B)
2. <u>Geranium robertianum</u>	2	<u>yes</u>	<u>FACU</u>	Prevalen	ice Index = B/A = _				
3				Hydrophytic Vegetation In	dicators:				
4				☐ 1 – Rapid Test for Hyd	drophytic Vegetatio	on			
5				□ 2 - Dominance Test is	>50%				
6				☐ 3 - Prevalence Index i	s <3.01				
7				4 - Morphological Ada	_	SUDDO	rtina		
8				data in Remarks or			ung		
9				5 - Wetland Non-Vaso	ular Plants¹				
10				☐ Problematic Hydrophy	rtic Vegetation <sup>1</sup> (F	vnlain)			
11.				— Troblematic Hydrophy	tio vegetation (E)	vpiaiii)			
50% = 3.5, 20% = 1.4	7	= Total Cov	er	<sup>1</sup> Indicators of hydric soil and		y must			
Woody Vine Stratum (Plot size: 15ft)	-	10141 001	01	be present, unless disturbed	l or problematic.				
1									
2				Hydrophytic					
		= Total Cov	er	Vegetation	Yes ⊠		No	)	
50% =		. 5141 501		Present?					
50% =, 20% = % Bare Ground in Herb Stratum				Fresenti					

SOIL Sampling Point: WSE4-SP1 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Depth Matrix Redox Features Color (moist) % Color (moist) % (inches) Type<sup>1</sup> Loc<sup>2</sup> Texture Remarks 10YR 2/1 <u>95</u> 10YR 3/6 <u>5</u> M, PL <u>0-18</u> <u>C</u> <u>loam</u> <sup>1</sup>Type: C= Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. <sup>2</sup>Location: PL=Pore Lining, M=Matrix Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils3: Sandy Redox (S5) Histosol (A1) 2 cm Muck (A10) Histic Epipedon (A2) Stripped Matrix (S6) Red Parent Material (TF2) Black Histic (A3) Loamy Mucky Mineral (F1) (except MLRA 1) Very Shallow Dark Surface (TF12) Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Other (Explain in Remarks) Depleted Below Dark Surface (A11) Depleted Matrix (F3) Thick Dark Surface (A12)  $\boxtimes$ Redox Dark Surface (F6) 3Indicators of hydrophytic vegetation and Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) wetland hydrology must be present, Sandy Gleyed Matrix (S4) П Redox Depressions (F8) unless disturbed or problematic. Restrictive Layer (if present): Type: Depth (inches): **Hydric Soils Present?** Yes  $\boxtimes$ No Remarks: Oxidized rhixospheres were present. Soil was textured with nitrile gloves, but some organic material may be present. **HYDROLOGY** Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (2 or more required) Surface Water (A1) Water-Stained Leaves (B9) Water-Stained Leaves (B9)  $\boxtimes$ High Water Table (A2) (except MLRA 1, 2, 4A, and 4B) (MLRA 1, 2, 4A, and 4B)  $\boxtimes$ Saturation (A3) Salt Crust (B11) Drainage Patterns (B10) Water Marks (B1) Aquatic Invertebrates (B13) Dry-Season Water Table (C2) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Saturation Visible on Aerial Imagery (C9) П  $\boxtimes$ 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)  $\boxtimes$ FAC-Neutral Test (D5) Surface Soil Cracks (B6) Stunted or Stresses Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) Frost-Heave Hummocks (D7) П Sparsely Vegetated Concave Surface (B8) Field Observations:  $\boxtimes$ Surface Water Present? Yes No Depth (inches): Water Table Present?  $\boxtimes$ Depth (inches): Yes No 8" BGS\* Saturation Present? Yes  $\boxtimes$ No Depth (inches): 0" BGS Wetland Hydrology Present? Yes  $\boxtimes$ No (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Remarks: \*BGS = below ground surface

Applicant/Owner:	Sound Transit													
	Souriu Transit							Sta	ate: <u>WA</u>	Sampling	Point:	WSI	E4-SF	22
Investigator(s):	Amy Rotondo a	and Rose Whitso	<u>1</u>					Section, To	wnship, Rang	e: <u>S13, T</u>	24N, R03E			
Landform (hillslope, te	rrace, etc.): <u>s</u>	slope				Loca	al relief (conca	ive, convex, none):	convex		Slope	(%):	<u>5</u>	
Subregion (LRR):	<u>A</u>		Lat:		_			Long:			Datum: _			
Soil Map Unit Name:	Unclassified C	City Land							NWI class	sification:	<u>UPL</u>			
Are climatic / hydrolog	ic conditions on	the site typical fo	r this time	e of ye	ear?	Υ	′es ⊠	No ☐ (If	no, explain ir	Remarks.	.)			
Are Vegetation $\square$ ,	Soil □,	or Hydrology	□, sią	gnifica	intly dis	sturbed	d? Are "N	Normal Circumstand	ces" present?		Yes	$\boxtimes$	No	
Are Vegetation ☐,	Soil □,	or Hydrology	□, na	iturally	proble	ematic	? (If nee	eded, explain any a	nswers in Re	marks.)				
SUMMARY OF FIN	DINGS – Atta	ch site map s	howing	sam	pling	point	locations,	transects, impo	rtant featui	es, etc.				
Hydrophytic Vegetation	n Present?		Yes		No	$\boxtimes$	le the Comm	lad Awaa						
Hydric Soil Present?			Yes		No	$\boxtimes$	Is the Samp within a We				Yes		No	$\boxtimes$
Wetland Hydrology Pre	esent?		Yes		No	$\boxtimes$								
Remarks:														
/EGETATION - Use	e scientific na	ames of plants	;											
Tree Stratum (Plot size	ze: <u>30ft</u> )		Absolu <u>% Cov</u>		Domir Speci		Indicator Status	Dominance Test	Worksheet:					
Acer macrophyllu	m		80	CI	yes	<u>cs:</u>	FACU	Number of Domir	ant Species					
2	<u> </u>		_					That Are OBL, FA		:	<u>1</u>			(A)
3.							<u></u>	Total Number of I	Dominant					
4.							<u></u>	Species Across A			<u>3</u>			(B)
50% = <u>40</u> , 20% = <u>16</u>			80		= Tota	al Cov	er	Percent of Domin	ant Species					
Sapling/Shrub Stratu	m (Plot size: <u>15ft</u>	<u>t</u> )						That Are OBL, FA		:	<u>33</u>			(A/B)
1	_ `	•						Prevalence Inde	x worksheet	:				
2.							<u></u>	Tota	I % Cover of:		Multipl	ly by:		
3.								OBL species	0		x1 =	<u>0</u>		
4.								FACW species	0		x2 =	0		
5								FAC species	<u>10</u>		x3 =	30		
50% =, 20% =					= Tota	al Cov	er	FACU species	<u>116</u>		x4 =	464	4	
Herb Stratum (Plot size								UPL species	0		x5 =	0		
Calystegia sepiur	•		<u>10</u>		yes		FAC	Column Totals:	<u>s</u> 126 (A)		XO.		<u>4</u> (B)	
Rubus leucoderm	<del>_</del>						FACU	Column Totals:	Prevalence		2/A = 2 02	40-	<u> </u>	
·	<del></del> '		<u>3</u>		no no		· · · · · · · · · · · · · · · · · · ·	Hydronbytic Voc			7A - <u>3.32</u>			
<ol> <li>Geranium robertia</li> <li>4.</li> </ol>	<u>ariurri</u>		<u>3</u>		<u>no</u>		<u>FACU</u>	Hydrophytic Veg	_		otation			
								☐ 1 – Rapid T		-	etation			
5			-					_	nce Test is >					
6								☐ 3 - Prevaler	nce Index is <	3.01				
7									ogical Adapta Remarks or o			rting		
8										•	e sileet)			
9									Non-Vascula	r Plants¹				
10								☐ Problemation	Hydrophytic	Vegetatio	า¹ (Explain)			
11								<sup>1</sup> Indicators of hyd	lric soil and w	etland hyd	rology must			
50% = 8, 20% = 3.2			<u>16</u>		= Tota	al Cov	er	be present, unles						
Woody Vine Stratum	(Plot size: <u>15ft</u> )													
1. <u>Hedera helix</u>			<u>30</u>		yes		<u>FACU</u>	Usada a a la Ca						
2								Hydrophytic Vegetation	v	es		No	,	$\boxtimes$
50% = <u>15</u> , 20% = <u>6</u>			<u>30</u>		= Tota	al Cov	er	Present?	'	63		140		
% Bare Ground in He	erb Stratum	_												
		List was used for	thin dalie	eatio	n			ı						

OIL					Sampling	Point: WSE4-SP2	
Profile Description: (Describe to the	e depth nee	ded to d	ocument the indicator or conf	firm the absence	of indicators.)		
Depth Matrix			Redox Features				
(inches) Color (moist)	% (	Color (mo	vist) % Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks	
<u>0-18</u> <u>10YR 2/2</u>					gr sa loam*	_	
						<u>-</u>	
						_	
						_	
						_	
						<u>-</u>	
						_	
<del></del>						_	
<sup>1</sup> Type: C= Concentration, D=Depletio	on, RM=Redu	iced Mati	ix, CS=Covered or Coated San	d Grains. <sup>2</sup> Lo	cation: PL=Pore Lining,	M=Matrix	
Hydric Soil Indicators: (Applicable	to all LRRs,	unless	otherwise noted.)		Indicators for Pr	oblematic Hydric Soils <sup>3</sup> :	
☐ Histosol (A1)			Sandy Redox (S5)		☐ 2 cm Muc	k (A10)	
☐ Histic Epipedon (A2)			Stripped Matrix (S6)		☐ Red Pare	nt Material (TF2)	
☐ Black Histic (A3)			Loamy Mucky Mineral (F1) (ex	xcept MLRA 1)	☐ Very Shal	low Dark Surface (TF12)	
☐ Hydrogen Sulfide (A4)			Loamy Gleyed Matrix (F2)		☐ Other (Ex	plain in Remarks)	
☐ Depleted Below Dark Surface (	(A11)		Depleted Matrix (F3)				
☐ Thick Dark Surface (A12)			Redox Dark Surface (F6)				
☐ Sandy Mucky Mineral (S1)			Depleted Dark Surface (F7)			rophytic vegetation and logy must be present,	
☐ Sandy Gleyed Matrix (S4)			Redox Depressions (F8)			ed or problematic.	
Restrictive Layer (if present):							
Гуре:							
Depth (inches):				Hydric Soils Pr	resent?	Yes 🗌 No	$\boxtimes$
YDROLOGY							
Wetland Hydrology Indicators:	anninadı aha	مطالم بام	t annly)		Casandan, Indicate	(2 ar mana manuimad)	
Primary Indicators (minimum of one r	equired, crie					ors (2 or more required)	
Surface Water (A1)			Water-Stained Leaves (B9)	4D)		d Leaves (B9)	
High Water Table (A2)			(except MLRA 1, 2, 4A, and	<del>+</del> D)	(MLRA 1, 2,	•	
Saturation (A3)			Salt Crust (B11)		☐ Drainage Pat		
<ul><li>□ Water Marks (B1)</li><li>□ Sediment Deposits (B2)</li></ul>			Aquatic Invertebrates (B13)		☐ Dry-Season	Water Table (C2) sible on Aerial Imagery (C9	))
☐ Sediment Deposits (B2) ☐ Drift Deposits (B3)					☐ Coturction \/i		"
			Hydrogen Sulfide Odor (C1)	Living Boots (C2)	_	• • • • • • • • • • • • • • • • • • • •	,
			Oxidized Rhizospheres along	• ,	☐ Geomorphic	Position (D2)	,
☐ Algal Mat or Crust (B4)			Oxidized Rhizospheres along Presence of Reduced Iron (C4	4)	☐ Geomorphic ☐ Shallow Aqui	Position (D2) tard (D3)	,
☐ Algal Mat or Crust (B4) ☐ Iron Deposits (B5)			Oxidized Rhizospheres along Presence of Reduced Iron (C4 Recent Iron Reduction in Tille	4) d Soils (C6)	☐ Geomorphic ☐ Shallow Aqui ☐ FAC-Neutral	Position (D2) tard (D3) Test (D5)	,
☐ Algal Mat or Crust (B4) ☐ Iron Deposits (B5) ☐ Surface Soil Cracks (B6)	eggony (R7)		Oxidized Rhizospheres along Presence of Reduced Iron (C4 Recent Iron Reduction in Tille Stunted or Stresses Plants (D	4) d Soils (C6)	Geomorphic Shallow Aqui FAC-Neutral Raised Ant M	Position (D2) tard (D3) Test (D5) founds (D6) (LRR A)	,
□ Algal Mat or Crust (B4)     □ Iron Deposits (B5)     □ Surface Soil Cracks (B6)     □ Inundation Visible on Aerial Im	0 , ( ,		Oxidized Rhizospheres along Presence of Reduced Iron (C4 Recent Iron Reduction in Tille	4) d Soils (C6)	Geomorphic Shallow Aqui FAC-Neutral Raised Ant M	Position (D2) tard (D3) Test (D5)	,
□ Algal Mat or Crust (B4)     □ Iron Deposits (B5)     □ Surface Soil Cracks (B6)     □ Inundation Visible on Aerial Im     □ Sparsely Vegetated Concave S	0 , ( ,		Oxidized Rhizospheres along Presence of Reduced Iron (C4 Recent Iron Reduction in Tille Stunted or Stresses Plants (D	4) d Soils (C6)	Geomorphic Shallow Aqui FAC-Neutral Raised Ant M	Position (D2) tard (D3) Test (D5) founds (D6) (LRR A)	,
☐ Algal Mat or Crust (B4) ☐ Iron Deposits (B5) ☐ Surface Soil Cracks (B6) ☐ Inundation Visible on Aerial Im ☐ Sparsely Vegetated Concave Signature of the Concave Signature of the Concave Signature of the Concave Signature	Surface (B8)		Oxidized Rhizospheres along Presence of Reduced Iron (C4 Recent Iron Reduction in Tille Stunted or Stresses Plants (D Other (Explain in Remarks)	4) d Soils (C6)	Geomorphic Shallow Aqui FAC-Neutral Raised Ant M	Position (D2) tard (D3) Test (D5) founds (D6) (LRR A)	,
☐ Algal Mat or Crust (B4) ☐ Iron Deposits (B5) ☐ Surface Soil Cracks (B6) ☐ Inundation Visible on Aerial Im ☐ Sparsely Vegetated Concave Significations: Surface Water Present? Yes	Surface (B8)		Oxidized Rhizospheres along Presence of Reduced Iron (C4 Recent Iron Reduction in Tille Stunted or Stresses Plants (D Other (Explain in Remarks)  Depth (inches):	4) d Soils (C6)	☐ Geomorphic ☐ Shallow Aqui ☐ FAC-Neutral ☐ Raised Ant M	Position (D2) tard (D3) Test (D5) founds (D6) (LRR A)	,
□ Algal Mat or Crust (B4) □ Iron Deposits (B5) □ Surface Soil Cracks (B6) □ Inundation Visible on Aerial Im □ Sparsely Vegetated Concave Signification  Field Observations:  Surface Water Present? Yes  Water Table Present?  Saturation Present?	Surface (B8)		Oxidized Rhizospheres along Presence of Reduced Iron (C4 Recent Iron Reduction in Tille Stunted or Stresses Plants (D Other (Explain in Remarks)  Depth (inches): Depth (inches):	4) d Soils (C6) 11) (LRR A)	Geomorphic Shallow Aqui FAC-Neutral Raised Ant M	Position (D2) tard (D3) Test (D5) founds (D6) (LRR A) Hummocks (D7)	
□ Algal Mat or Crust (B4) □ Iron Deposits (B5) □ Surface Soil Cracks (B6) □ Inundation Visible on Aerial Im □ Sparsely Vegetated Concave Signaturation Present? Yes Saturation Present? Yes	Surface (B8)		Oxidized Rhizospheres along Presence of Reduced Iron (C4 Recent Iron Reduction in Tille Stunted or Stresses Plants (D Other (Explain in Remarks)  Depth (inches):	4) d Soils (C6) 11) (LRR A)	☐ Geomorphic ☐ Shallow Aqui ☐ FAC-Neutral ☐ Raised Ant M	Position (D2) tard (D3) Test (D5) founds (D6) (LRR A) Hummocks (D7)	, No Σ
□ Algal Mat or Crust (B4) □ Iron Deposits (B5) □ Surface Soil Cracks (B6) □ Inundation Visible on Aerial Im □ Sparsely Vegetated Concave S  Field Observations:  Surface Water Present? Yes  Water Table Present? Yes	Surface (B8)		Oxidized Rhizospheres along Presence of Reduced Iron (CA Recent Iron Reduction in Tille Stunted or Stresses Plants (D Other (Explain in Remarks)  Depth (inches): Depth (inches): Depth (inches):	4) d Soils (C6) 11) (LRR A) Wet	Geomorphic Shallow Aqui FAC-Neutral Raised Ant M	Position (D2) tard (D3) Test (D5) founds (D6) (LRR A) Hummocks (D7)	
□ Algal Mat or Crust (B4) □ Iron Deposits (B5) □ Surface Soil Cracks (B6) □ Inundation Visible on Aerial Im □ Sparsely Vegetated Concave S Field Observations: Surface Water Present? Yes Water Table Present? Yes Saturation Present? Yes (Includes capillary fringe)	Surface (B8)		Oxidized Rhizospheres along Presence of Reduced Iron (CA Recent Iron Reduction in Tille Stunted or Stresses Plants (D Other (Explain in Remarks)  Depth (inches): Depth (inches): Depth (inches):	4) d Soils (C6) 11) (LRR A) Wet	Geomorphic Shallow Aqui FAC-Neutral Raised Ant M	Position (D2) tard (D3) Test (D5) founds (D6) (LRR A) Hummocks (D7)	
□ Algal Mat or Crust (B4) □ Iron Deposits (B5) □ Surface Soil Cracks (B6) □ Inundation Visible on Aerial Im □ Sparsely Vegetated Concave Serield Observations: Surface Water Present? Yes Water Table Present? Yes Saturation Present? Yes Concludes capillary fringe)  Describe Recorded Data (stream gauge)	Surface (B8)		Oxidized Rhizospheres along Presence of Reduced Iron (CA Recent Iron Reduction in Tille Stunted or Stresses Plants (D Other (Explain in Remarks)  Depth (inches): Depth (inches): Depth (inches):	4) d Soils (C6) 11) (LRR A) Wet	Geomorphic Shallow Aqui FAC-Neutral Raised Ant M	Position (D2) tard (D3) Test (D5) founds (D6) (LRR A) Hummocks (D7)	
Algal Mat or Crust (B4)  Iron Deposits (B5)  Surface Soil Cracks (B6)  Inundation Visible on Aerial Im  Sparsely Vegetated Concave Stield Observations:  Surface Water Present? Yes  Vater Table Present? Yes  Saturation Present? Yes  Concludes capillary fringe)  Describe Recorded Data (stream gauge)	Surface (B8)		Oxidized Rhizospheres along Presence of Reduced Iron (CA Recent Iron Reduction in Tille Stunted or Stresses Plants (D Other (Explain in Remarks)  Depth (inches): Depth (inches): Depth (inches):	4) d Soils (C6) 11) (LRR A) Wet	Geomorphic Shallow Aqui FAC-Neutral Raised Ant M	Position (D2) tard (D3) Test (D5) founds (D6) (LRR A) Hummocks (D7)	

Project Site:	West Sea	attle ar	nd Ballard Link I	Extension	<u>s</u>			City/County	: Seattle/King		Sampling I	Date:	8/23	<u>3/19</u>	
Applicant/Owner:	Sound T	ransit							Sta	ate: <u>WA</u>	Sampling I	Point:	WS	E4-SP	<u>3</u>
Investigator(s):	Amy Rot	ondo a	and Rose Whitso	<u>on</u>					Section, To	wnship, Ran	ige: <u>S13, T</u>	24N, R03E			
Landform (hillslope, te	rrace, etc.	): <u>t</u>	oe of slope				Loc	al relief (concav	e, convex, none):	convex		Slope	(%):	<u>2</u>	
Subregion (LRR):	<u>A</u>			Lat:		_			Long:			Datum: _			
Soil Map Unit Name:	<u>Unclass</u>	sified (	City Land							NWI clas	ssification:	PEM			
Are climatic / hydrolog	ic conditio	ns on	the site typical f	or this tim	e of ye	ear?	١	∕es ⊠	No ☐ (If	no, explain	in Remarks.	)			
Are Vegetation □,	, Soil	□,	or Hydrology	□, sią	gnifica	ntly di	sturbe	d? Are "N	ormal Circumstand	ces" present	?	Yes	$\boxtimes$	No	
Are Vegetation ☐,	, Soil	□,	or Hydrology	□, na	turally	/ probl	ematic	? (If nee	ded, explain any a	inswers in R	emarks.)				
SUMMARY OF FIN			ch site map s	showing	sam	pling		t locations, t	ransects, impo	rtant featu	ıres, etc.				
Hydrophytic Vegetatio	n Present	?		Yes	$\boxtimes$	No		Is the Sample	ad Araa						
Hydric Soil Present?				Yes		No		within a Wetl				Yes	$\boxtimes$	No	
Wetland Hydrology Pr	esent?			Yes		No									
Remarks:															
VEGETATION - Us	se scient	ific n	ames of plan						T						
Tree Stratum (Plot s	size: <u>30ft</u> )			Abso % Co			ninant cies?	Indicator Status	Dominance Tes	st Workshee	et:				
1					_				Number of Dom	inant Specie	·s	_			
2					_				That Are OBL, F			<u>0</u>			(A)
3					_				Total Number of	f Dominant					(5)
4					_				Species Across			<u>1</u>			(B)
50% =, 20% =	=				_	= To	tal Co	ver	Percent of Domi	inant Specie	s	0			(A (D)
Sapling/Shrub Strati	<u>um</u> (Plot si	ze: <u>15</u>	<u>ft</u> )						That Are OBL, F			<u>0</u>			(A/B)
1					_				Prevalence Ind	ex workshe	et:				
2					_				<u>Tot</u>	al % Cover	of:	<u>Multi</u>	ply by	<u>:</u>	
3					_				OBL species		_	x1 =	_		
4					_				FACW species	<u>5</u>		x2 =	<u>10</u>	<u>)</u>	
5					_				FAC species		_	x3 =	_		
50% =, 20% =	=				_	= To	tal Co	ver	FACU species	<u>100</u>		x4 =	40	00	
Herb Stratum (Plot s	size: <u>5ft</u> )								UPL species		_	x5 =	_		
Parietaria pensy	Ivanica			100		yes		FACU	Column Totals:	105	(A)		4	10 (B)	
2. Equisetum telma				<u> </u>		no		FACW	Column Totals.		nce Index =	B/A = 3.9		_	
3.				_		_			Hydrophytic Ve						
4.					_					Test for Hyd		getation			
5					_				- '	ance Test is	. ,	,			
6					_										
7					_				0 1.014	ence Index is	_				
8					_					ological Ada <sub>l</sub> Remarks or			orting		
9.					_					ıd Non-Vascı	•	,			
10				<del> </del>	_							1/5 1:			
					_				│      Problemat	tic Hydrophy	tic vegetatio	ını (Expiain	)		
11	04			405	_		4-1-0-		<sup>1</sup> Indicators of hy	dric soil and	wetland hyd	drology mus	st		
50% = <u>52.5</u> , 20% = 1		. 1E#\		<u>105</u>		- 10	tal Co	vei	be present, unle	ess disturbed	or problema	atic.			
Woody Vine Stratum	ıı (FIUL SIZE	i. <u>1011</u> )													
1					_				Hydrophytic						
2	_			-	_		+-1 ^		Vegetation		Yes	$\boxtimes$	N	o	
50% =, 20%					_	= 10	tal Co	vei	Present?						
% Bare Ground in H															
Remarks:			List was used f				that h	as likely out-co	mpeted native wet	tland vegetat	tion.				
			,	,		,		, 54. 50	,	90.00					

Profile Descr Depth (inches)	intion: (Describ								<u> 4-SP3</u>		
	iption. (Describ	e to the	depth n	eeded to	document the indicator or	confirm the abse	nce of indicate	ors.)			
inches)	Matri	x			Redox Features						
	Color (moist)	%	 o	Color (m	noist) % Ty	rpe <sup>1</sup> Loc <sup>2</sup>	Texture		Remarks		
0-10	10YR 3/1	10	00				sandy lo	<u></u> am			
<u>10-16</u>	10YR 4/1	9	<u>7</u>	10YR 4	<u>4/6</u> <u>3</u> <u>0</u>	<u>M</u>	clay loa	<u>m</u>			
			_								
		_									
			_								
					<u> </u>						
Гуре: С= Со	ncentration, D=D	epletion,	RM=Re	educed Ma	trix, CS=Covered or Coated	Sand Grains.	<sup>2</sup> Location: PL=	Pore Lining, M=Matrix			
ydric Soil I	ndicators: (Appl	icable to	all LRF	Rs, unless	otherwise noted.)			cators for Problematic	Hydric Sc	oils³:	
] Histoso					Sandy Redox (S5)			2 cm Muck (A10)	•		
_	pipedon (A2)				Stripped Matrix (S6)			Red Parent Material (	(TF2)		
_	listic (A3)				Loamy Mucky Mineral (F	1) (except MLRA	1) 🗆	Very Shallow Dark St		12)	
	en Sulfide (A4)				Loamy Gleyed Matrix (F2		, _	Other (Explain in Ren	,	,	
_ , ,	d Below Dark Su	rface (A1	11)	_ ⊠	Depleted Matrix (F3)	,	_	- ( 1	,		
	ark Surface (A12	-	,		Redox Dark Surface (F6)	1					
_	Nucky Mineral (S	•			Depleted Dark Surface (F		<sup>3</sup> Indi	cators of hydrophytic ve	getation ar	nd	
_	Gleyed Matrix (S4	•			Redox Depressions (F8)	.,		etland hydrology must b		,	
	ayer (if present)	-			Trought Depressions (Fe)		ui	nless disturbed or proble	emanc.		
ype:	-yo. ( p. ooo,	-									
epth (inches						Hydric Soil	ls Present?	Yes	$\boxtimes$	No	
Vetland Hyd	rology Indicator		uuirad: a	book all th	et apply)		Sagan	dan Indicators (2 or ma	ro roquiro	d)	
Vetland Hyd Primary Indica	rology Indicator ators (minimum o		ηuired; c			10)		dary Indicators (2 or mo	•	d)	
Vetland Hyd Primary Indica	rology Indicator ators (minimum o e Water (A1)		ηuired; c	heck all th	Water-Stained Leaves (B	*	\	Water-Stained Leaves (E	39)	d)	
Vetland Hyd Primary Indica Surface High W	rology Indicator ators (minimum o e Water (A1) /ater Table (A2)		quired; c		Water-Stained Leaves (B	*		Water-Stained Leaves (IMLRA 1, 2, 4A, and 4B	39) <b>3)</b>	d)	
Vetland Hyd Primary Indica ☐ Surface ☐ High W ☑ Saturat	rology Indicator ators (minimum o e Water (A1) ater Table (A2) tion (A3)		quired; c		Water-Stained Leaves (B (except MLRA 1, 2, 4A, Salt Crust (B11)	and 4B)	)	Water-Stained Leaves (EMLRA 1, 2, 4A, and 4B Drainage Patterns (B10)	39) <b>3)</b>	d)	
Vetland Hyd  Primary Indica  Surface  High W  Saturat  Water I	rology Indicator ators (minimum o e Water (A1) /ater Table (A2) tion (A3) Marks (B1)	f one req	juired; c		Water-Stained Leaves (B (except MLRA 1, 2, 4A, 5) Salt Crust (B11) Aquatic Invertebrates (B1	and 4B)	) 1   1	Water-Stained Leaves (EMLRA 1, 2, 4A, and 4B Drainage Patterns (B10) Dry-Season Water Table	39) 3) e (C2)	•	
Vetland Hyd Primary Indica Surface High W Saturat Water I Sedime	rology Indicator ators (minimum o e Water (A1) /ater Table (A2) cion (A3) Marks (B1) ent Deposits (B2)	f one req	quired; c		Water-Stained Leaves (B (except MLRA 1, 2, 4A, a Salt Crust (B11) Aquatic Invertebrates (B1 Hydrogen Sulfide Odor (C	and 4B)	) ) 1 [] 2 [] 2 []	Water-Stained Leaves (I MLRA 1, 2, 4A, and 4B Drainage Patterns (B10) Dry-Season Water Table Saturation Visible on Ae	39) (3) (C2) (C3) rial Imager	•	
Vetland Hyd Primary Indica Surface High W Satural Water I Sedime	rology Indicator ators (minimum o a Water (A1) /ater Table (A2) /ion (A3) Marks (B1) ent Deposits (B2) /posits (B3)	f one req	quired; c		Water-Stained Leaves (B (except MLRA 1, 2, 4A, s) Salt Crust (B11) Aquatic Invertebrates (B1 Hydrogen Sulfide Odor (C) Oxidized Rhizospheres a	and 4B)  (13)  (C1)  (c1)  (dong Living Roots (	(C3)	Water-Stained Leaves (E MLRA 1, 2, 4A, and 4B Drainage Patterns (B10) Dry-Season Water Table Saturation Visible on Ae Geomorphic Position (D	39) (3) (C2) (C3) rial Imager	•	
Vetland Hyd Primary Indica  Surface  High W  Saturat  Water I  Sedime  Drift De  Algal M	rology Indicator ators (minimum o e Water (A1) /ater Table (A2) cion (A3) Marks (B1) ent Deposits (B2) eposits (B3) lat or Crust (B4)	f one req	juired; c		Water-Stained Leaves (B (except MLRA 1, 2, 4A, 5) Salt Crust (B11) Aquatic Invertebrates (B1 Hydrogen Sulfide Odor (C Oxidized Rhizospheres a Presence of Reduced Iro	and 4B)  13)  C1)  Ilong Living Roots ( n (C4)	(C3)	Water-Stained Leaves (EMLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table Saturation Visible on Ae Geomorphic Position (D2) Shallow Aquitard (D3)	39) (3) (C2) (C3) rial Imager	•	
Vetland Hyd Primary Indica Surface High W Saturat Water I Sedime Drift De Algal W	rology Indicator ators (minimum o e Water (A1) /ater Table (A2) /ion (A3) Marks (B1) ent Deposits (B2) eposits (B3) lat or Crust (B4) eposits (B5)	f one req	quired; c		Water-Stained Leaves (B (except MLRA 1, 2, 4A, 5) Salt Crust (B11) Aquatic Invertebrates (B1) Hydrogen Sulfide Odor (C Oxidized Rhizospheres a Presence of Reduced Iro Recent Iron Reduction in	and 4B)  13)  C1)  Ilong Living Roots (  n (C4)  Tilled Soils (C6)	(C3)	Water-Stained Leaves (EMLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table Saturation Visible on Ae Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5)	G39)  (C2)  (C2)  (C3)  (C3)	•	
Vetland Hyd Primary Indica Surface High W Saturat Water I Sedime Drift De Iron De	rology Indicator ators (minimum o e Water (A1) /ater Table (A2) cion (A3) Marks (B1) ent Deposits (B2) eposits (B3) lat or Crust (B4)	f one req	quired; c		Water-Stained Leaves (B (except MLRA 1, 2, 4A, 5) Salt Crust (B11) Aquatic Invertebrates (B1 Hydrogen Sulfide Odor (C Oxidized Rhizospheres a Presence of Reduced Iro	and 4B)  13)  C1)  Ilong Living Roots (  n (C4)  Tilled Soils (C6)	(C3)	Water-Stained Leaves (EMLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table Saturation Visible on Ae Geomorphic Position (D2) Shallow Aquitard (D3)	G39)  (C2)  (C2)  (C3)  (C3)	•	
Vetland Hyd Primary Indica Surface High W Saturat Sedime Drift De Algal M Iron De	rology Indicator ators (minimum o e Water (A1) /ater Table (A2) /ion (A3) Marks (B1) ent Deposits (B2) eposits (B3) lat or Crust (B4) eposits (B5)	f one req			Water-Stained Leaves (B (except MLRA 1, 2, 4A, 5) Salt Crust (B11) Aquatic Invertebrates (B1) Hydrogen Sulfide Odor (C Oxidized Rhizospheres a Presence of Reduced Iro Recent Iron Reduction in	and 4B)  (C1)  (long Living Roots (n (C4)  Tilled Soils (C6) ts (D1) (LRR A)	(C3)	Water-Stained Leaves (EMLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table Saturation Visible on Ae Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5)	e (C2) rial Imager 2)	•	
Primary Indica Surface High W Saturat Sedime Drift De Surface Iron De Inunda	rology Indicator ators (minimum o e Water (A1) /ater Table (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) lat or Crust (B4) eposits (B5) e Soil Cracks (B6	f one req ) )	gery (B7		Water-Stained Leaves (B (except MLRA 1, 2, 4A, i) Salt Crust (B11) Aquatic Invertebrates (B1 Hydrogen Sulfide Odor (C Oxidized Rhizospheres a Presence of Reduced Iro Recent Iron Reduction in Stunted or Stresses Plan	and 4B)  (C1)  (long Living Roots (n (C4)  Tilled Soils (C6) ts (D1) (LRR A)	(C3)	Water-Stained Leaves (I MLRA 1, 2, 4A, and 4B Drainage Patterns (B10) Dry-Season Water Table Saturation Visible on Ae Geomorphic Position (D: Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6)	e (C2) rial Imager 2)	•	
Primary Indica Surface High W Satural Sedime Drift De Algal M Iron De Surface Inunda Sparse	rology Indicator ators (minimum o a Water (A1) /ater Table (A2) /ion (A3) Marks (B1) ent Deposits (B2) aposits (B3) lat or Crust (B4) aposits (B5) a Soil Cracks (B6 tion Visible on Ae ly Vegetated Cor	f one req ) )	gery (B7		Water-Stained Leaves (B (except MLRA 1, 2, 4A, i) Salt Crust (B11) Aquatic Invertebrates (B1 Hydrogen Sulfide Odor (C Oxidized Rhizospheres a Presence of Reduced Iro Recent Iron Reduction in Stunted or Stresses Plan	and 4B)  (C1)  (long Living Roots (n (C4)  Tilled Soils (C6) ts (D1) (LRR A)	(C3)	Water-Stained Leaves (I MLRA 1, 2, 4A, and 4B Drainage Patterns (B10) Dry-Season Water Table Saturation Visible on Ae Geomorphic Position (D: Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6)	e (C2) rial Imager 2)	•	
Primary Indication Surface High W Saturat Sedime Drift De Surface Iron De Surface Inunda Sparse	rology Indicator ators (minimum of a Water (A1) /ater Table (A2) /ater Table (A2) /ater Deposits (B1) /ater Deposits (B2) /ater Crust (B4) /ater Crust (B4) /ater Crust (B6) /at	f one req ) )	gery (B7		Water-Stained Leaves (B (except MLRA 1, 2, 4A, i) Salt Crust (B11) Aquatic Invertebrates (B1 Hydrogen Sulfide Odor (C Oxidized Rhizospheres a Presence of Reduced Iro Recent Iron Reduction in Stunted or Stresses Plan	and 4B)  (C1)  (long Living Roots (n (C4)  Tilled Soils (C6) ts (D1) (LRR A)	(C3)	Water-Stained Leaves (I MLRA 1, 2, 4A, and 4B Drainage Patterns (B10) Dry-Season Water Table Saturation Visible on Ae Geomorphic Position (D: Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6)	e (C2) rial Imager 2)	•	
Primary Indication Primary Indication Surface High W Saturat Sedime Drift De Surface Inundation Sparse Surface Water	rology Indicator ators (minimum o a Water (A1) /ater Table (A2) /ater Table (A2) /ater Deposits (B1) /ater Deposits (B3) /ater Crust (B4) /ater Crust (B4) /ater Crust (B5) /ater Crust (B6) /ate	f one req ) erial Imag ncave Su	gery (B7		Water-Stained Leaves (B (except MLRA 1, 2, 4A, 5) Salt Crust (B11) Aquatic Invertebrates (B1) Hydrogen Sulfide Odor (C Oxidized Rhizospheres a Presence of Reduced Iro Recent Iron Reduction in Stunted or Stresses Plan Other (Explain in Remark	and 4B)  (C1)  (long Living Roots (n (C4)  Tilled Soils (C6) ts (D1) (LRR A)	(C3)	Water-Stained Leaves (I MLRA 1, 2, 4A, and 4B Drainage Patterns (B10) Dry-Season Water Table Saturation Visible on Ae Geomorphic Position (D: Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6)	e (C2) rial Imager 2)	•	
Petland Hyd Primary Indica Surface High W Saturat Sedime Drift De Surface Inunda Sparse Field Observ Surface Water Table Pesaturation Preincludes capi	rology Indicator ators (minimum o a Water (A1) /ater Table (A2) zion (A3) Marks (B1) ant Deposits (B2) aposits (B3) lat or Crust (B4) aposits (B5) a Soil Cracks (B6 tion Visible on Aa ly Vegetated Cor ations: r Present? Present? allary fringe)	) erial Imagencave Su Yes Yes Yes	gery (B7 rface (B		Water-Stained Leaves (B (except MLRA 1, 2, 4A, 5) Salt Crust (B11) Aquatic Invertebrates (B1) Hydrogen Sulfide Odor (C Oxidized Rhizospheres a Presence of Reduced Iro Recent Iron Reduction in Stunted or Stresses Plan Other (Explain in Remark  Depth (inches): Depth (inches): Depth (inches): Depth (inches):	and 4B)  (C1)  (Iong Living Roots (n (C4)  Tilled Soils (C6) ts (D1) (LRR A) (s)	(C3)	Water-Stained Leaves (I MLRA 1, 2, 4A, and 4B Drainage Patterns (B10) Dry-Season Water Table Saturation Visible on Ae Geomorphic Position (D: Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6)	e (C2) rial Imager 2)	•	о [
Primary Indica Surface High W Saturat Water I Sedime Drift De Surface Inunda Sparse Field Observ Surface Water Table F Saturation Preincludes capi	rology Indicator ators (minimum o a Water (A1) /ater Table (A2) zion (A3) Marks (B1) ant Deposits (B2) aposits (B3) lat or Crust (B4) aposits (B5) a Soil Cracks (B6 tion Visible on Aa ly Vegetated Cor ations: r Present? Present? allary fringe)	) erial Imagencave Su Yes Yes Yes	gery (B7 rface (B		Water-Stained Leaves (B (except MLRA 1, 2, 4A, 3) Salt Crust (B11) Aquatic Invertebrates (B1 Hydrogen Sulfide Odor (C Oxidized Rhizospheres a Presence of Reduced Iro Recent Iron Reduction in Stunted or Stresses Plan Other (Explain in Remark	and 4B)  (C1)  (Iong Living Roots (n (C4)  Tilled Soils (C6) ts (D1) (LRR A) (s)	(C3)	Water-Stained Leaves (I MLRA 1, 2, 4A, and 4B Drainage Patterns (B10) Dry-Season Water Table Saturation Visible on Ae Geomorphic Position (D: Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) Frost-Heave Hummocks	e (C2) rial Imager 2) (LRR A)	ry (C9)	о [
Wetland Hyd Primary Indica Surface High W Saturat Sedime Drift De Surface Inunda Sparse Field Observ Surface Water Table Posticuludes capi	rology Indicator ators (minimum o a Water (A1) /ater Table (A2) zion (A3) Marks (B1) ant Deposits (B2) aposits (B3) lat or Crust (B4) aposits (B5) a Soil Cracks (B6 tion Visible on Aa ly Vegetated Cor ations: r Present? Present? allary fringe)	) erial Imagencave Su Yes Yes Yes	gery (B7 rface (B		Water-Stained Leaves (B (except MLRA 1, 2, 4A, 5) Salt Crust (B11) Aquatic Invertebrates (B1) Hydrogen Sulfide Odor (C Oxidized Rhizospheres a Presence of Reduced Iro Recent Iron Reduction in Stunted or Stresses Plan Other (Explain in Remark  Depth (inches): Depth (inches): Depth (inches): Depth (inches):	and 4B)  (C1)  (Iong Living Roots (n (C4)  Tilled Soils (C6) ts (D1) (LRR A) (s)	(C3)	Water-Stained Leaves (I MLRA 1, 2, 4A, and 4B Drainage Patterns (B10) Dry-Season Water Table Saturation Visible on Ae Geomorphic Position (D: Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) Frost-Heave Hummocks	e (C2) rial Imager 2) (LRR A)	ry (C9)	o [

Project Site: West Seattle and Ballard Link E	xtensions		City/Count	y: <u>Seattle/King</u>	Sampling Date:	<u>9/1</u>	0/201	<u>9</u>
Applicant/Owner: <u>Sound Transit</u>				State: WA	Sampling Point:	<u>W</u> :	SE5-SI	<u>P1</u>
Investigator(s): <u>Amy Rotondo and Rose Whitso</u>	<u>n</u>			Section, Township, Ra	nge: <u>S25, T25N, R</u>	03E		
Landform (hillslope, terrace, etc.): hillslope		Local	relief (conca	ive, convex, none): concav	<u>e</u> S	lope (%)	: <u>12%</u>	<u>6</u>
Subregion (LRR): <u>A</u>	Lat:	_		Long:	Datum	n:	_	
Soil Map Unit Name: <u>Unclassified City Land</u>				NWI cla	assification: PEM	<u>1</u>		
Are climatic / hydrologic conditions on the site typical fo	r this time of y	/ear? Ye	es 🗆	No 🛛 (If no, explain	in Remarks.)			
Are Vegetation □, Soil □, or Hydrology	☐, signific	antly disturbed	? Are "N	Normal Circumstances" presen	t? Ye	es 🗆	No	$\boxtimes$
Are Vegetation ☐, Soil ☐, or Hydrology	⊠, natural	ly problematic?	(If nee	eded, explain any answers in F	Remarks.)			
SUMMARY OF FINDINGS – Attach site map s	howing san	npling point	locations,	transects, important feat	ures, etc.			
Hydrophytic Vegetation Present?	Yes 🛛	No 🗆		-	•			
Hydric Soil Present?	Yes 🛛		ls the Samp within a We		Ye	es 🛛	No	
Wetland Hydrology Present?	Yes 🛛							
Remarks: According to AgACIS, the period prior to fie	eld visit has be	een wetter than	normal.					
VEGETATION – Use scientific names of plants	5							
Tree Stratum (Plot size: 30ft)	Absolute <u>% Cover</u>	Dominant Species?	Indicator Status	Dominance Test Workshee	et:			
1				Number of Dominant Specie That Are OBL, FACW, or FA				(A)
2								
3 4.				Total Number of Dominant Species Across All Strata:	2			(B)
50% =, 20% =		= Total Cove	 r	Percent of Dominant Specie	S			
Sapling/Shrub Stratum (Plot size: 15ft)				That Are OBL, FACW, or FA	C: <u>10</u>	<u>)0</u>		(A/B)
1. Rubus armeniacus	<u>5</u>	<u>yes</u>	<u>FAC</u>	Prevalence Index workshe	et:			
2. Thuja plicata (sapling)	<u>1</u>	<u>no</u>	<u>FAC</u>	Total % Cover	of: M	ultiply by	<u>r:</u>	
3				OBL species	x1	I = _		
4				FACW species	x2	<u> </u>		
5				FAC species	_ x3	3 =		
50% = <u>3</u> , 20% = <u>1.2</u>	<u>6</u>	= Total Cove	r	FACU species	. x <sup>2</sup>	l = _		
Herb Stratum (Plot size: 5ft)				UPL species	x5	5 = _		
1. <u>Solanum dulcamara</u>	<u>100</u>	<u>yes</u>	<u>FAC</u>	Column Totals:	(A)			(B)
2. <u>Scirpus microcarpus</u>	<u>25</u>	<u>no</u>	<u>OBL</u>	Prevalen	ce Index = B/A =			
3. Lysichiton americanus	<u></u>	no	OBL	Hydrophytic Vegetation In	dicators:	<u> </u>		
4. Athyrium cyclosorum	<u>2</u>	no no	FAC	☐ 1 – Rapid Test for Hyd				
5. Equisetum telmateia	<u>-</u> 2	<u>no</u>	FACW	□ 2 - Dominance Test is				
6.	<del>-</del>	_		3 - Prevalence Index is	s < 3 N <sup>1</sup>			
7				4 - Morphological Ada	_	nnorting		
8		<u> </u>	_		on a separate sheet			
9				☐ 5 - Wetland Non-Vasc	ular Plants¹			
10				☐ Problematic Hydrophy	tic Vegetation¹ (Expl	ain)		
11				<sup>1</sup> Indicators of hydric soil and	wetland bydrology r	muet		
$50\% = \underline{68}, 20\% = \underline{27.2}$	<u>136</u>	= Total Cove	r	be present, unless disturbed		nuəl		
Woody Vine Stratum (Plot size: 15ft)								
1				Usadnombadio				
2				Hydrophytic Vegetation	Yes ⊠	N	lo	
50% =, 20% =		= Total Cove	r	Present?	63		-	
% Bare Ground in Herb Stratum								
Remarks: The 2016 Plant List was used for	this delineation	on.						

DIL							Sampling Point:	WSE5-SP1		
rofile Description: (De	scribe to th	ne depth	needed to o	document the indicato	or or confirm the abs	ence of indica	ntors.)	<del></del>		
Depth	Matrix			Redox Feat	tures					
inches) Color (n	ioist)	%	Color (m	oist) %	Type <sup>1</sup> Loc <sup>2</sup>	Textur	e	Remarks	i	
<u>0-5</u> <u>2.5Y</u> 1	.5/1	<u>100</u>				sandy l	loam	<del></del>		
<u>5-10.5</u> <u>2.5Y 2</u>	<u>5/1</u>	<u>93</u>	5YR 3/	<u>/4</u>	<u>C</u> <u>M</u>	sandy l	<u>loam</u>			
				<del> </del>						
				<del>-</del>		- —				
				<del>-</del>						
				<del>-</del>						
				<del>-</del>		- —				
						21 ti DI		_4_*.		
	-			etherwise noted \	aled Sand Grains.		L=Pore Lining, M=Ma		oilo3:	
ydric Soil Indicators:  Histosol (A1)	(Applicable	to all LR	cks, unless	Sandy Redox (S5)			licators for Problen 2 cm Muck (A10	=	olis":	
] Histic Epipedon (A	2)			Stripped Matrix (S6)			Red Parent Mat	•		
Black Histic (A3)	2)				al (F1) (except MLRA		Very Shallow Da		12)	
Hydrogen Sulfide	Δ4)			Loamy Gleyed Matrix		,	Other (Explain in	•	12)	
Depleted Below D		(A11)		Depleted Matrix (F3)			Other (Explain ii	ii Romanoj		
Thick Dark Surfac		(,,,,		Redox Dark Surface						
Sandy Mucky Min	` '			Depleted Dark Surfa		3Inc	dicators of hydrophyl	tic vegetation a	ınd	
] Sandy Gleyed Ma				Redox Depressions	` '		wetland hydrology munless disturbed or p		t,	
estrictive Layer (if pro	. ,			· · · · · · · · · · · · · · · · · · ·			dilicos distarbed or j	рговістіано.		
/pe:	_									
4l- /:l ).					Uvdria C	oils Present?		res ⊠	No	
	0.5 inches b	pecame to	oo saturated	to color correctly. Soil p						
'DROLOGY		pecame to	oo saturated	to color correctly. Soil p						
emarks: Soil past 1  DROLOGY  /etland Hydrology Ind	icators:					.5 inches still m	neets a hydric soil ind	dicator (F6).		
DROLOGY /etland Hydrology Indirimary Indicators (minim	icators: num of one r		check all tha	at apply)	profile described to 10	.5 inches still m	neets a hydric soil ind	or more require		
DROLOGY  Setland Hydrology Indicators (mining)  Surface Water (A	icators: num of one r			at apply) Water-Stained Leave	profile described to 10	.5 inches still m	ondary Indicators (2 o	or more require		
DROLOGY etland Hydrology Indicators (mining) Surface Water (A High Water Table	icators: num of one r		check all tha	at apply) Water-Stained Leave (except MLRA 1, 2,	profile described to 10	.5 inches still m	ondary Indicators (2 o Water-Stained Lea (MLRA 1, 2, 4A, ar	or more require ves (B9)		
DROLOGY etland Hydrology Indimary Indicators (minin) Surface Water (A) High Water Table Saturation (A3)	icators: num of one r I) (A2)		check all tha	at apply)  Water-Stained Leave (except MLRA 1, 2, Salt Crust (B11)	es (B9)  4A, and 4B)	Seco	ondary Indicators (2 o Water-Stained Lea (MLRA 1, 2, 4A, ar Drainage Patterns	or more require ves (B9) nd 4B) (B10)		
DROLOGY etland Hydrology Indi imary Indicators (minir ] Surface Water (A ] High Water Table ] Saturation (A3) ] Water Marks (B1)	icators: num of one r I) (A2)		check all tha	at apply) Water-Stained Leave (except MLRA 1, 2,	es (B9)  4A, and 4B)  s (B13)	.5 inches still m	ondary Indicators (2 o Water-Stained Lea (MLRA 1, 2, 4A, ar	or more require ves (B9) nd 4B) (B10) Table (C2)	ed)	
DROLOGY etland Hydrology Indimary Indicators (minimal) Surface Water (A) High Water Table Saturation (A3) Water Marks (B1) Sediment Deposit	icators: num of one r I) (A2) s (B2)		check all tha	at apply)  Water-Stained Leave (except MLRA 1, 2, Salt Crust (B11)  Aquatic Invertebrates Hydrogen Sulfide Oc	es (B9)  4A, and 4B)  s (B13)	Seco	ondary Indicators (2 o Water-Stained Lea (MLRA 1, 2, 4A, ar Drainage Patterns Dry-Season Water	or more require ves (B9) nd 4B) (B10) Table (C2) on Aerial Image	ed)	
DROLOGY etland Hydrology Indicators (mining) Surface Water (A) High Water Table Saturation (A3) Water Marks (B1) Sediment Deposit Drift Deposits (B3)	icators: num of one r I) (A2) s (B2)		check all tha	at apply)  Water-Stained Leave (except MLRA 1, 2, Salt Crust (B11)  Aquatic Invertebrates Hydrogen Sulfide Oc	es (B9)  4A, and 4B)  s (B13) dor (C1) res along Living Roots	Seco	ondary Indicators (2 of Water-Stained Lear (MLRA 1, 2, 4A, ar Drainage Patterns Dry-Season Water Saturation Visible of	or more require ves (B9) nd 4B) (B10) Table (C2) on Aerial Image on (D2)	ed)	
DROLOGY etland Hydrology Indicators (mining) Surface Water (A) High Water Table Saturation (A3) Water Marks (B1) Sediment Deposit Drift Deposits (B3) Algal Mat or Crus	icators: num of one r I) (A2) s (B2) )		check all tha	at apply)  Water-Stained Leave (except MLRA 1, 2, Salt Crust (B11)  Aquatic Invertebrate: Hydrogen Sulfide Oc Oxidized Rhizospher Presence of Reduce	es (B9)  4A, and 4B)  s (B13) dor (C1) res along Living Roots	Seco	ondary Indicators (2 of Water-Stained Lear (MLRA 1, 2, 4A, ar Drainage Patterns Dry-Season Water Saturation Visible of Geomorphic Position	or more require ves (B9) nd 4B) (B10) Table (C2) on Aerial Image on (D2)	ed)	
DROLOGY  etland Hydrology Indicators (mining)  Surface Water (A. High Water Table  Saturation (A3)  Water Marks (B1)  Sediment Deposits (B3)  Algal Mat or Crust  Iron Deposits (B5)	icators: num of one r I) (A2) s (B2) )		check all tha	at apply)  Water-Stained Leave (except MLRA 1, 2, Salt Crust (B11) Aquatic Invertebrate: Hydrogen Sulfide Oc Oxidized Rhizosphet Presence of Reduce Recent Iron Reduction	es (B9)  4A, and 4B)  s (B13) dor (C1) res along Living Roots d Iron (C4)	Secondary Second	ondary Indicators (2 of Water-Stained Lear (MLRA 1, 2, 4A, ar Drainage Patterns Dry-Season Water Saturation Visible of Geomorphic Positio Shallow Aquitard (I	or more require ves (B9) nd 4B) (B10) Table (C2) on Aerial Image on (D2) D3)	ed)	
DROLOGY etland Hydrology Inditionary Indicators (mining) Surface Water (A) High Water Table Saturation (A3) Water Marks (B1) Sediment Deposits Drift Deposits (B3) Algal Mat or Crust Iron Deposits (B5) Surface Soil Crace	icators: num of one r 1) (A2) s (B2) ) (B4)	required;	check all tha	at apply)  Water-Stained Leave (except MLRA 1, 2, Salt Crust (B11) Aquatic Invertebrate: Hydrogen Sulfide Oc Oxidized Rhizosphet Presence of Reduce Recent Iron Reduction	es (B9)  4A, and 4B)  s (B13) dor (C1) res along Living Rooted Iron (C4) on in Tilled Soils (C6) Plants (D1) (LRR A)	Second Se	ondary Indicators (2 of Water-Stained Lear (MLRA 1, 2, 4A, ard Drainage Patterns Dry-Season Water Saturation Visible of Geomorphic Positic Shallow Aquitard (EFAC-Neutral Test (	or more required ves (B9) nd 4B) (B10) Table (C2) on Aerial Image on (D2) (D3) (D5) s (D6) (LRR A)	ed)	
DROLOGY etland Hydrology Indimary Indicators (minimary Indicators (Minim	icators: num of one r 1) (A2) s (B2) c (B4) c (B6) on Aerial Im	required;	check all tha	at apply)  Water-Stained Leave (except MLRA 1, 2, Salt Crust (B11) Aquatic Invertebrate: Hydrogen Sulfide Oc Oxidized Rhizospher Presence of Reduce Recent Iron Reduction	es (B9)  4A, and 4B)  s (B13) dor (C1) res along Living Rooted Iron (C4) on in Tilled Soils (C6) Plants (D1) (LRR A)	Secondary (C3)	ondary Indicators (2 of Water-Stained Lear (MLRA 1, 2, 4A, ar Drainage Patterns of Dry-Season Water Saturation Visible of Geomorphic Positic Shallow Aquitard (IFAC-Neutral Test (Raised Ant Mounds)	or more required ves (B9) nd 4B) (B10) Table (C2) on Aerial Image on (D2) (D3) (D5) s (D6) (LRR A)	ed)	
DROLOGY  etland Hydrology Indicators (mining)  Surface Water (A)  High Water Table  Saturation (A3)  Water Marks (B1)  Sediment Deposits  Drift Deposits (B3)  Algal Mat or Crustler  Iron Deposits (B5)  Surface Soil Cractler  Inundation Visible  Sparsely Vegetate	icators: num of one r 1) (A2) s (B2) c (B4) c (B6) on Aerial Im	required;	check all tha	at apply)  Water-Stained Leave (except MLRA 1, 2, Salt Crust (B11) Aquatic Invertebrate: Hydrogen Sulfide Oc Oxidized Rhizospher Presence of Reduce Recent Iron Reduction	es (B9)  4A, and 4B)  s (B13) dor (C1) res along Living Rooted Iron (C4) on in Tilled Soils (C6) Plants (D1) (LRR A)	Secondary (C3)	ondary Indicators (2 of Water-Stained Lear (MLRA 1, 2, 4A, ar Drainage Patterns of Dry-Season Water Saturation Visible of Geomorphic Positic Shallow Aquitard (IFAC-Neutral Test (Raised Ant Mounds)	or more required ves (B9) nd 4B) (B10) Table (C2) on Aerial Image on (D2) (D3) (D5) s (D6) (LRR A)	ed)	
DROLOGY etland Hydrology Indicators (mining) Surface Water (A) High Water Table Saturation (A3) Water Marks (B1) Sediment Deposits (B3) Algal Mat or Cruster Iron Deposits (B5) Surface Soil Cracter Inundation Visible Sparsely Vegetate (B1)	icators: num of one r 1) (A2) s (B2) c (B4) c (B6) on Aerial Im	required;	check all tha	at apply)  Water-Stained Leave (except MLRA 1, 2, Salt Crust (B11) Aquatic Invertebrate: Hydrogen Sulfide Oc Oxidized Rhizospher Presence of Reduce Recent Iron Reduction	es (B9)  4A, and 4B)  s (B13) dor (C1) res along Living Rooted Iron (C4) on in Tilled Soils (C6) Plants (D1) (LRR A)	Secondary (C3)	ondary Indicators (2 of Water-Stained Lear (MLRA 1, 2, 4A, ar Drainage Patterns of Dry-Season Water Saturation Visible of Geomorphic Positic Shallow Aquitard (IFAC-Neutral Test (Raised Ant Mounds)	or more required ves (B9) nd 4B) (B10) Table (C2) on Aerial Image on (D2) (D3) (D5) s (D6) (LRR A)	ed)	
DROLOGY etland Hydrology Indicators (minir ] Surface Water (A ] High Water Table ] Saturation (A3) ] Water Marks (B1) ] Sediment Deposits (B3 ] Algal Mat or Crus ] Iron Deposits (B5 ] Surface Soil Crac ] Inundation Visible ] Sparsely Vegetate eld Observations: urface Water Present?	icators: num of one r I) (A2) s (B2) ) c (B4) on Aerial Imed Concave s	required; nagery (B Surface (I	check all that	at apply)  Water-Stained Leave (except MLRA 1, 2, Salt Crust (B11)  Aquatic Invertebrate: Hydrogen Sulfide Oc Oxidized Rhizospher Presence of Reduce Recent Iron Reductic Stunted or Stresses Other (Explain in Re	es (B9)  4A, and 4B)  s (B13) dor (C1) res along Living Rooted Iron (C4) on in Tilled Soils (C6) Plants (D1) (LRR A)	Secondary (C3)	ondary Indicators (2 of Water-Stained Lear (MLRA 1, 2, 4A, ar Drainage Patterns of Dry-Season Water Saturation Visible of Geomorphic Positic Shallow Aquitard (IFAC-Neutral Test (Raised Ant Mounds)	or more required ves (B9) nd 4B) (B10) Table (C2) on Aerial Image on (D2) (D3) (D5) s (D6) (LRR A)	ed)	
PROLOGY  Vetland Hydrology Indirimary Indicators (minirimary Indicators (minirimary Indicators (minirimary Indicators (minirimary Indicators (minirimary Indicators (minirimary Indicators (Mailler Indicators	icators: num of one r I) (A2) s (B2) ) s (B4) on Aerial Imed Concave s Yes	required; of the second	check all that	at apply)  Water-Stained Leave (except MLRA 1, 2, Salt Crust (B11)  Aquatic Invertebrate: Hydrogen Sulfide Oc Oxidized Rhizosphet Presence of Reducet Recent Iron Reductic Stunted or Stresses Other (Explain in Reduction of the company of the compa	es (B9)  4A, and 4B)  s (B13) dor (C1) res along Living Roots d Iron (C4) on in Tilled Soils (C6) Plants (D1) (LRR A) marks)	Seco	ondary Indicators (2 of Water-Stained Lear (MLRA 1, 2, 4A, ar Drainage Patterns of Dry-Season Water Saturation Visible of Geomorphic Positic Shallow Aquitard (IFAC-Neutral Test (Raised Ant Mounds)	or more required ves (B9) nd 4B) (B10) Table (C2) on Aerial Image on (D2) (D3) (D5) s (D6) (LRR A)	ed)	
TOROLOGY  Vetland Hydrology Indirimary Indicators (minimary Indicators (minimary Indicators (Marks (B1))  Surface Water (A)  High Water Table  Saturation (A3)  Water Marks (B1)  Sediment Deposits (B3)  Algal Mat or Crus  Iron Deposits (B5)  Surface Soil Cract  Inundation Visible  Sparsely Vegetate  ield Observations:  urface Water Present?  vater Table Present?  aturation Present?  ncludes capillary fringe	icators: num of one r I) (A2) s (B2) ) s (B4) on Aerial Im ed Concave s Yes Yes	nagery (B' Surface (I	check all that	at apply)  Water-Stained Leave (except MLRA 1, 2, Salt Crust (B11)  Aquatic Invertebrate: Hydrogen Sulfide Oc Oxidized Rhizospher Presence of Reduce Recent Iron Reductic Stunted or Stresses Other (Explain in Reduction Depth (inches):	es (B9)  4A, and 4B)  s (B13) dor (C1) res along Living Roots d Iron (C4) on in Tilled Soils (C6) Plants (D1) (LRR A) marks)  10" BGS* surface	Second Sec	ondary Indicators (2 of Water-Stained Lear (MLRA 1, 2, 4A, ar Drainage Patterns Dry-Season Water Saturation Visible of Geomorphic Positic Shallow Aquitard (EFAC-Neutral Test (Raised Ant Mounds Frost-Heave Humm	or more require ves (B9) nd 4B) (B10) Table (C2) on Aerial Image on (D2) D3) D5) s (D6) (LRR A) nocks (D7)	ed)	
DROLOGY  /etland Hydrology Indirimary Indicators (minimary Indicators (m	icators: num of one r I) (A2) s (B2) ) s (B4) on Aerial Im ed Concave s Yes Yes	nagery (B' Surface (I	check all that	at apply)  Water-Stained Leave (except MLRA 1, 2, Salt Crust (B11)  Aquatic Invertebrate: Hydrogen Sulfide Oc Oxidized Rhizosphet Presence of Reduce Recent Iron Reductic Stunted or Stresses Other (Explain in Rei  Depth (inches): Depth (inches):	es (B9)  4A, and 4B)  s (B13) dor (C1) res along Living Roots d Iron (C4) on in Tilled Soils (C6) Plants (D1) (LRR A) marks)  10" BGS* surface	Second Sec	ondary Indicators (2 of Water-Stained Lear (MLRA 1, 2, 4A, ar Drainage Patterns Dry-Season Water Saturation Visible of Geomorphic Positic Shallow Aquitard (EFAC-Neutral Test (Raised Ant Mounds Frost-Heave Humm	or more require ves (B9) nd 4B) (B10) Table (C2) on Aerial Image on (D2) D3) D5) s (D6) (LRR A) nocks (D7)	ed)	
DROLOGY  /etland Hydrology Indirimary Indicators (mining)  Surface Water (A)  High Water Table  Saturation (A3)  Water Marks (B1)  Sediment Deposits (B3)  Algal Mat or Cruston Iron Deposits (B5)  Surface Soil Cracton Inundation Visible Sparsely Vegetate (Inundation Visible Sparsely Vegetate (Inundation Present)  //ater Table Present?  aturation Present?  aturation Present?  aturation Present Data	icators: num of one r I) (A2) s (B2) ) s (B4) on Aerial Im ed Concave s Yes Yes	required; nagery (B Surface (I	check all that	at apply)  Water-Stained Leave (except MLRA 1, 2, Salt Crust (B11)  Aquatic Invertebrate: Hydrogen Sulfide Oc Oxidized Rhizosphet Presence of Reduce Recent Iron Reductic Stunted or Stresses Other (Explain in Rei  Depth (inches): Depth (inches):	es (B9)  4A, and 4B)  s (B13) dor (C1) res along Living Roots d Iron (C4) on in Tilled Soils (C6) Plants (D1) (LRR A) marks)  10" BGS* surface	Second Sec	ondary Indicators (2 of Water-Stained Lear (MLRA 1, 2, 4A, ar Drainage Patterns Dry-Season Water Saturation Visible of Geomorphic Positic Shallow Aquitard (EFAC-Neutral Test (Raised Ant Mounds Frost-Heave Humm	or more require ves (B9) nd 4B) (B10) Table (C2) on Aerial Image on (D2) D3) D5) s (D6) (LRR A) nocks (D7)	ed)	

Project Site: <u>vvest Seattle and Ballard Link Ex</u>	tensions		City/Count	y: <u>Seattle/King</u>	Sampling L	rate:	9/10/	2019	
Applicant/Owner: Sound Transit				State: <u>W</u>	<u>/A</u> Sampling P	oint:	WSE	5-SP	2
Investigator(s): Amy Rotondo and Rose Whitson				Section, Township	, Range: <u>S25, T2</u>	25N, R03E			
Landform (hillslope, terrace, etc.): hillslope		Local	relief (conca	ve, convex, none): nor	<u>1e</u>	Slope	(%):	30%	
Subregion (LRR): A	Lat:			Long:		Datum: _			
Soil Map Unit Name: <u>Unclassified City Land</u>				NW	/I classification:	<u>UPL</u>			
Are climatic / hydrologic conditions on the site typical for	this time of y	ear? Ye	s 🗆	No 🛛 (If no, exp	plain in Remarks.)				
Are Vegetation ☐, Soil ☐, or Hydrology [	, significa	ntly disturbed?	? Are "N	Normal Circumstances" pre	esent?	Yes		No	$\boxtimes$
Are Vegetation □, Soil □, or Hydrology [		y problematic?	(If nee	eded, explain any answers	in Remarks.)				
		•	,		•				
SUMMARY OF FINDINGS – Attach site map sh	owing sam	plina point l	locations.	transects. important f	features. etc.				
Hydrophytic Vegetation Present?	Yes 🗆	No 🛛	,						
Hydric Soil Present?	Yes 🗆	No M	s the Samp			Yes		No	$\boxtimes$
Wetland Hydrology Present?	Yes 🗆	No 🛛	within a Wet	land?		103		110	
Remarks: According to AgACIS, the period prior to field	d visit has be	en wetter than	normal.						
VEGETATION – Use scientific names of plants	Absolute	Dominant	Indicator						
Tree Stratum (Plot size: 30ft)	% Cover	Species?	Status	Dominance Test Work	sheet:				
1. Acer macrophyllum	<u>100</u>	<u>yes</u>	<u>FACU</u>	Number of Dominant Sp		<u>1</u>			(A)
2				That Are OBL, FACW, o	r FAC:	<u> </u>			(71)
3				Total Number of Domina	ant	4			(B)
4				Species Across All Strat	a:	<u>4</u>			(D)
50% = <u>50</u> , 20% = <u>20</u>	<u>100</u>	= Total Cover	r	Percent of Dominant Sp	ecies	0.E			(A/D)
Sapling/Shrub Stratum (Plot size: 15ft)				That Are OBL, FACW, o	r FAC:	<u>25</u>			(A/B)
1				Prevalence Index work	sheet:				
2				Total % Co	ver of:	Multipl	y by:		
3				OBL species	<u>)</u>	x1 =	<u>0</u>		
4				FACW species 2	<u> </u>	x2 =	<u>4</u>		
5				FAC species <u>C</u>	<u>)</u>	x3 =	<u>0</u>		
50% =, 20% =		= Total Cover	r	FACU species 2	200	x4 =	800		
Herb Stratum (Plot size: 5ft)	·			UPL species 2	2	x5 =	10		
1. Equisetum telmateia	<u>2</u>	<u>yes</u>	FACW		<u>204</u> (A)		814	(B)	
				_	رمن (۲۰) valence Index = B/	/A = 2 00	017	(D)	
2. <u>Convolvulus althaeoides</u>	<u>2</u>	<u>yes</u>	NL (UPL)			A - <u>3.99</u>			
3				Hydrophytic Vegetatio		4-4:			
4				1 – Rapid Test for	, , ,	tation			
5		—		2 - Dominance Te	st is >50%				
6				☐ 3 - Prevalence Ind	ex is <u>&lt;</u> 3.0¹				
7				4 - Morphological			ting		
8				data in Remark	s or on a separate	: sheet)			
9				☐ 5 - Wetland Non-V	/ascular Plants <sup>1</sup>				
10				☐ Problematic Hydro	phytic Vegetation	<sup>1</sup> (Explain)			
11									
50% = <u>2</u> , 20% = <u>0.8</u>	<u>4</u>	= Total Cover	r	<sup>1</sup> Indicators of hydric soil be present, unless distu					
Woody Vine Stratum (Plot size: 15ft)				be present, unless distu	rbed or problemati	C.			
1. Hedera helix	100	<u>yes</u>	FACU						
2.				Hydrophytic					
50% = 50, 20% = 20	100	= Total Cover	 r	Vegetation	Yes		No		$\boxtimes$
	<u></u>	Total Cove	•	Present?					
% Bare Ground in Herb Stratum									
Remarks: The 2016 Plant List was used for t	his delineatio	n.							

	%	<b>)</b>	Color (mo	oist) %	Type <sup>1</sup> Loc <sup>2</sup>	Texture	е	Remarks		
<u>0-12</u> <u>7.5YR 3/2</u>	10	00				loamy s	sand			
		_		<u> </u>			_			
				. <u>—</u>						
				· <u></u>						
<del></del>				· —						
						21 11 51				
rpe: C= Concentration, D=D dric Soil Indicators: (Appl	-				oated Sand Grains.		=Pore Lining, M=Matrix		le3.	
Histosol (A1)	icable to	all LINES		Sandy Redox (S5)			2 cm Muck (A10)	, riyuric 30ii	is .	
Histic Epipedon (A2)				Stripped Matrix (S6	3)		Red Parent Material	(TF2)		
Black Histic (A3)					eral (F1) (except MLRA		Very Shallow Dark S		2)	
Hydrogen Sulfide (A4)				Loamy Gleyed Mat		., _	Other (Explain in Re		-/	
Depleted Below Dark Su	ırface (A1	11)		Depleted Matrix (F3	• •		Outor (Explain in 110	manto)		
Thick Dark Surface (A12	•	,		Redox Dark Surfac						
Sandy Mucky Mineral (S	-			Depleted Dark Surf	• •	<sup>3</sup> Ind	licators of hydrophytic ve	egetation and	t	
Sandy Gleyed Matrix (S				Redox Depressions	• •		wetland hydrology must unless disturbed or prob			
strictive Layer (if present)				· · · · · · · · · · · · · · · · · · ·			arricos distarbed or prob	icinatio.		
pe:										
oth (inches):					Hydric Soi	Is Present?	Yes		No	Σ
mans.										
marks:  DROLOGY  etland Hydrology Indicator	rs:									
DROLOGY etland Hydrology Indicator		uired; che	ck all tha	at apply)		Seco	ndary Indicators (2 or m	ore required)		
DROLOGY		uired; che	eck all tha	at apply) Water-Stained Leav	ves (B9)		ndary Indicators (2 or m Water-Stained Leaves		)	
DROLOGY etland Hydrology Indicator mary Indicators (minimum c		uired; che						(B9)	1	
PROLOGY etland Hydrology Indicator mary Indicators (minimum o Surface Water (A1)		uired; che		Water-Stained Leav			Water-Stained Leaves	(B9) <b>B)</b>	)	
PROLOGY etland Hydrology Indicator mary Indicators (minimum o Surface Water (A1) High Water Table (A2)		<sub>l</sub> uired; che		Water-Stained Leav	2, 4A, and 4B)		Water-Stained Leaves (MLRA 1, 2, 4A, and 4	(B9) <b>B)</b>	)	
PROLOGY  Itland Hydrology Indicator mary Indicators (minimum of Surface Water (A1) High Water Table (A2) Saturation (A3)	of one requ	<sub> </sub> uired; che		Water-Stained Leav (except MLRA 1, 2 Salt Crust (B11)	es (B13)		Water-Stained Leaves (MLRA 1, 2, 4A, and 4) Drainage Patterns (B10)	(B9) <b>B)</b> 0) le (C2)		
PROLOGY  Itland Hydrology Indicator mary Indicators (minimum of Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1)	of one requ	uired; che		Water-Stained Leav (except MLRA 1, 2 Salt Crust (B11) Aquatic Invertebrate Hydrogen Sulfide C	es (B13)		Water-Stained Leaves (MLRA 1, 2, 4A, and 4) Drainage Patterns (B10 Dry-Season Water Tab	(B9)  B)  I)  Ie (C2)  erial Imagery		
PROLOGY  Intland Hydrology Indicator  Mary Indicators (minimum of  Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1)  Sediment Deposits (B2)	of one requ	uired; che		Water-Stained Leav (except MLRA 1, 2 Salt Crust (B11) Aquatic Invertebrate Hydrogen Sulfide C	es (B13) Odor (C1) eres along Living Roots		Water-Stained Leaves (MLRA 1, 2, 4A, and 4) Drainage Patterns (B10) Dry-Season Water Tab Saturation Visible on Ad	(B9)  B)  I)  Ie (C2)  erial Imagery		
DROLOGY  Intertact Hydrology Indicator  Mary Indicators (minimum of Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1)  Sediment Deposits (B2)  Drift Deposits (B3)	of one requ	juired; che		Water-Stained Leav (except MLRA 1, 2 Salt Crust (B11) Aquatic Invertebrat Hydrogen Sulfide C Oxidized Rhizospho Presence of Reduc	es (B13) Odor (C1) eres along Living Roots	(C3)	Water-Stained Leaves (MLRA 1, 2, 4A, and 4) Drainage Patterns (B10 Dry-Season Water Tab Saturation Visible on Ad Geomorphic Position (D	(B9)  B)  I)  Ie (C2)  erial Imagery		
PROLOGY  Itland Hydrology Indicator mary Indicators (minimum of Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4)	of one requ	juired; che		Water-Stained Leav (except MLRA 1, 2 Salt Crust (B11) Aquatic Invertebrate Hydrogen Sulfide C Oxidized Rhizospho Presence of Reduct Recent Iron Reduct	es (B13) Odor (C1) eres along Living Roots ded Iron (C4)	(C3)	Water-Stained Leaves (MLRA 1, 2, 4A, and 4) Drainage Patterns (B10 Dry-Season Water Tab Saturation Visible on Ad Geomorphic Position (D Shallow Aquitard (D3)	(B9)  B)  I)  Ie (C2)  erial Imagery  D2)		
PROLOGY  Itland Hydrology Indicator mary Indicators (minimum of 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)	of one requirements			Water-Stained Leav (except MLRA 1, 2 Salt Crust (B11) Aquatic Invertebrate Hydrogen Sulfide C Oxidized Rhizospho Presence of Reduct Recent Iron Reduct	es (B13) Door (C1) eres along Living Roots ded Iron (C4) tion in Tilled Soils (C6) s Plants (D1) (LRR A)	(C3)	Water-Stained Leaves (MLRA 1, 2, 4A, and 4) Drainage Patterns (B10 Dry-Season Water Tab Saturation Visible on Ac Geomorphic Position (D Shallow Aquitard (D3) FAC-Neutral Test (D5)	(B9)  B)  I)  le (C2)  erial Imagery  D2)		
DROLOGY  Estland Hydrology Indicator mary Indicators (minimum of 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 required for the second of the second	gery (B7)		Water-Stained Leaver (except MLRA 1, 2) Salt Crust (B11) Aquatic Invertebrate Hydrogen Sulfide COxidized Rhizosphoresence of Reduct Recent Iron Reduct Stunted or Stresses	es (B13) Door (C1) eres along Living Roots ded Iron (C4) tion in Tilled Soils (C6) s Plants (D1) (LRR A)	(C3)	Water-Stained Leaves (MLRA 1, 2, 4A, and 4) Drainage Patterns (B10) Dry-Season Water Tab Saturation Visible on Ac Geomorphic Position (D Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6)	(B9)  B)  I)  le (C2)  erial Imagery  D2)		
DROLOGY  etland Hydrology Indicator mary Indicators (minimum of 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 A6 Sparsely Vegetated Cor	of one required for the second of the second	gery (B7)		Water-Stained Leaver (except MLRA 1, 2) Salt Crust (B11) Aquatic Invertebrate Hydrogen Sulfide COxidized Rhizosphoresence of Reduct Recent Iron Reduct Stunted or Stresses	es (B13) Door (C1) eres along Living Roots ded Iron (C4) tion in Tilled Soils (C6) s Plants (D1) (LRR A)	(C3)	Water-Stained Leaves (MLRA 1, 2, 4A, and 4) Drainage Patterns (B10) Dry-Season Water Tab Saturation Visible on Ac Geomorphic Position (D Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6)	(B9)  B)  I)  le (C2)  erial Imagery  D2)		
DROLOGY  Intertage of the process of	of one required for the second of the second	gery (B7)		Water-Stained Leaver (except MLRA 1, 2) Salt Crust (B11) Aquatic Invertebrate Hydrogen Sulfide COxidized Rhizosphoresence of Reduct Recent Iron Reduct Stunted or Stresses	es (B13) Dodor (C1) eres along Living Roots red Iron (C4) tion in Tilled Soils (C6) s Plants (D1) (LRR A) emarks)	(C3)	Water-Stained Leaves (MLRA 1, 2, 4A, and 4) Drainage Patterns (B10) Dry-Season Water Tab Saturation Visible on Ac Geomorphic Position (D Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6)	(B9)  B)  I)  le (C2)  erial Imagery  D2)		
PROLOGY  Stland Hydrology Indicator mary Indicators (minimum of 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 A6 Sparsely Vegetated Control old Observations: rface Water Present?	of one requirements of some serial Imagence Sur	gery (B7)		Water-Stained Leav (except MLRA 1, 2 Salt Crust (B11) Aquatic Invertebrate Hydrogen Sulfide C Oxidized Rhizosphoresence of Reduct Recent Iron Reduct Stunted or Stresses Other (Explain in R	es (B13) Door (C1) eres along Living Roots ded Iron (C4) tion in Tilled Soils (C6) s Plants (D1) (LRR A) emarks)	(C3)	Water-Stained Leaves (MLRA 1, 2, 4A, and 4) Drainage Patterns (B10) Dry-Season Water Tab Saturation Visible on Ac Geomorphic Position (D Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6)	(B9)  B)  I)  le (C2)  erial Imagery  D2)		
PROLOGY  Patland Hydrology Indicator mary Indicators (minimum of 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 A6 Sparsely Vegetated Constituted Constitute (B4) Proceeding the Cons	of one required one required of one required of one required one re	gery (B7) irface (B8)		Water-Stained Leav (except MLRA 1, 2 Salt Crust (B11) Aquatic Invertebrate Hydrogen Sulfide C Oxidized Rhizospho Presence of Reduct Recent Iron Reduct Stunted or Stresses Other (Explain in R	es (B13) Dodor (C1) eres along Living Roots red Iron (C4) tion in Tilled Soils (C6) s Plants (D1) (LRR A) emarks)  :	(C3)	Water-Stained Leaves (MLRA 1, 2, 4A, and 4) Drainage Patterns (B10) Dry-Season Water Tab Saturation Visible on Ac Geomorphic Position (D Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6)	(B9)  B)  Ile (C2)  erial Imagery  D2)  (LRR A)  s (D7)		
PROLOGY  Setland Hydrology Indicator mary Indicators (minimum of 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 Active Sparsely Vegetated Conditions  Indicators (B6) Set (B6) S	of one requirements of one requirements of the second of t	gery (B7) irface (B8) No		Water-Stained Leav (except MLRA 1, 2 Salt Crust (B11) Aquatic Invertebrate Hydrogen Sulfide C Oxidized Rhizospho Presence of Reduct Recent Iron Reduct Stunted or Stresses Other (Explain in R  Depth (inches) Depth (inches)	es (B13) Door (C1) eres along Living Roots ded Iron (C4) tion in Tilled Soils (C6) s Plants (D1) (LRR A) emarks)	(C3)	Water-Stained Leaves (MLRA 1, 2, 4A, and 4) Drainage Patterns (B10 Dry-Season Water Tab Saturation Visible on Ad Geomorphic Position (D Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) Frost-Heave Hummock	(B9)  B)  Ile (C2)  erial Imagery  D2)  (LRR A)  s (D7)	(C9)	

Project Site: West Seattle and Ballard Link Ex	tensions		City/Count	ty: <u>Seattle/King</u> Sampling Date	e: <u>9/</u>	10/2019	
Applicant/Owner: <u>Sound Transit</u>				State: <u>WA</u> Sampling Poir	nt: <u>W</u>	/SE6-SP1	
Investigator(s): Amy Rotondo and Rose Whitson				Section, Township, Range: <u>S24, T25N</u>	1, R03E		
Landform (hillslope, terrace, etc.): <u>hillslope</u>		Loca	al relief (conca	ave, convex, none): <u>none</u>	Slope (%	): <u>&lt;1%</u>	
Subregion (LRR): <u>A</u>	Lat:	=		<u> </u>	atum:	_	
Soil Map Unit Name: Alderwood-Everett Urban Comp				_	<u>PEM</u>		
Are climatic / hydrologic conditions on the site typical for	_		′es 🗆	No 🛛 (If no, explain in Remarks.)	_	_	
	_	antly disturbed		Normal Circumstances" present?	Yes	No 🛚	
Are Vegetation ☐, Soil ☐, or Hydrology	⊠, naturall	y problematic	? (If nee	eded, explain any answers in Remarks.)			
SUMMARY OF FINDINGS – Attach site map sh	owing san	npling point	l locations,	transects, important features, etc.			
Hydrophytic Vegetation Present?	Yes 🛚	No 🗌					
Hydric Soil Present?	Yes 🛛	No 🗆	Is the Sampl within a Wet		Yes 🛚	No 🗆	
Wetland Hydrology Present?	Yes 🛛	No 🗆	Within a vice	and .			
Remarks: According to AgACIS, the prior period was v	vetter than no	ormal.					
3 3 - 7 1 1							
VEGETATION – Use scientific names of plants	<u> </u>						
Tree Stratum (Plot size: 30ft)	Absolute <u>% Cover</u>	Dominant Species?	Indicator <u>Status</u>	Dominance Test Worksheet:			
1				Number of Dominant Species	<u>2</u>	(A)	.)
2				That Are OBL, FACW, or FAC:	_		,
3				Total Number of Dominant	<u>2</u>	(B)	)
4				Species Across All Strata:			
50% =, 20% =		= Total Cov	er	Percent of Dominant Species That Are OBL, FACW, or FAC:	<u>100</u>	(A)	/B)
Sapling/Shrub Stratum (Plot size: 15ft)	0		E4.0	· · ·			
1. <u>Salix spp.</u>	<u>2</u>	<u>ves</u>	<u>FAC</u>	Prevalence Index worksheet:	Multiply b		
2 3				Total % Cover of:  OBL species	$\frac{\text{Multiply b}}{x1} =$	<u>y.</u>	
4.				FACW species	x2 =		
5.				FAC species	x3 = _		
50% = <u>1</u> , 20% = <u>0.4</u>	2	= Total Cov		FACU species	x4 =		
Herb Stratum (Plot size: 5ft)	=	rotal oov	J1	UPL species	x5 =		
1. <u>Carex obnupta</u>	<u>7</u>	VOS	<u>OBL</u>		×3	(D)	
2. Lysichiton americanus	<u>r</u> <u>2</u>	<u>yes</u>	OBL OBL	Column Totals:(A)  Prevalence Index = B/A =	<del>-</del>	(B)	
3. Equisetum arvense	<u>2</u>	no no	<u> </u>	Hydrophytic Vegetation Indicators:			
5. Equisetum arvense	<u> </u>	<u>no</u>	<u>FAC</u>	1 – Rapid Test for Hydrophytic Vegetat	ion		
5.				<ul><li>✓ 2 - Dominance Test is &gt;50%</li></ul>	1011		
6.							
7							
8				4 - Morphological Adaptations¹ (Provide data in Remarks or on a separate sh		J	
9.				5 - Wetland Non-Vascular Plants <sup>1</sup>	•		
10.					=volain)		
11.				☐ Problematic Hydrophytic Vegetation <sup>1</sup> (E	explain)		
50% = 5.5, 20% = 2.2	<u></u>	= Total Cov	 er	<sup>1</sup> Indicators of hydric soil and wetland hydrolog	gy must		
Woody Vine Stratum (Plot size: 15ft)	<u></u>	rotal oov	J1	be present, unless disturbed or problematic.			
1							
2				Hydrophytic			
50% =, 20% =		= Total Cov	er	Vegetation Yes ⊠	ı	No 🗆	]
% Bare Ground in Herb Stratum 89				Present?			
The 2016 Plant List was used for	his delineation	n.					
Remarks: Acer macrophyllum and Oemleria			pland of this s	ampling point.			

	Color (moist)		%	Col	or (mo	ist) %	Type <sup>1</sup>	Loc <sup>2</sup>	Text	ure			Remark	s		
0-9	10YR 2/1		100						sand	y loam						
<u>9-16</u>	2.5Y 5/2		<u>80</u>	7.5	5YR 4/	<u>6</u> <u>15</u>	<u>C</u>	<u>M</u>	<u>loam</u>	y sand						
		_		2	5Y 3/1	<u> 5</u>	<u>C</u>	<u>M</u>	_		inclusion	<u>n</u>				
		_		-					_							
		_		-					_							
		_		-					_							
		_		-					_	_						
						<del></del>		—	<u> </u>							
•		•				ix, CS=Covered or Co	oated Sand	d Grains.	<sup>2</sup> Location:					?		
_		icable t	o all Li	RRS, ur	_	otherwise noted.)			_	_	s for Prob		Hydric S	Solls	•	
_	ol (A1) Epipedon (A2)					Sandy Redox (S5) Stripped Matrix (S6)	`			_	cm Muck ( ed Parent l		TEO)			
	Histic (A3)					Loamy Mucky Mine	•	rcent MI RA 1			ery Shallov	•		F12)		
	gen Sulfide (A4)					Loamy Gleyed Matr		Cept MLINA	-		ther (Expla			1 12)		
	ted Below Dark Su	ırface (A	\11)			Depleted Matrix (F3	. ,				irioi (Explo		nanc)			
	Dark Surface (A12	•	,			Redox Dark Surface	•									
_	Mucky Mineral (S	-				Depleted Dark Surfa			3	Indicator	s of hydro	phytic ve	getation	and		
_	Gleyed Matrix (S	-				Redox Depressions					nd hydrolog disturbed			nt,		
	Layer (if present)	-					()			unics	Gustarbea	or proble	illauc.			
уре:	,															
	, —							Hydric Soil	s Present?	,		Yes	$\boxtimes$	No	)	
	:s):							nyunc 3011	3 Troseine			163				
DROLOG	SY.	rs:						nyunc 3011	3 T T C S C III.							
Remarks:  'DROLOG Vetland Hy			equired;	check	all that	t apply)		nyune son			Indicators			red)		
Primary Indi	SY drology Indicator		equired;	check	all that		ves (B9)	nyune son		condary		: (2 or mo	re requir	red)		
CDROLOG Vetland Hy rrimary India	SY drology Indicator cators (minimum o		equired;	check		apply) Water-Stained Leav		-	Se	condary Wate	Indicators r-Stained I	s (2 or mo Leaves (E	re requir 39)	red)		
(DROLOG /etland Hy rimary India   Surfac	GY drology Indicator cators (minimum o ce Water (A1)		equired;	check		Water-Stained Leav		-	Se	condary Wate (MLF	r-Stained I	: (2 or mo Leaves (E	re requir 39)	red)		
YDROLOG Vetland Hy rrimary India Surfac High V	GY drology Indicator cators (minimum o ce Water (A1) Water Table (A2)		equired;	check		Water-Stained Leav (except MLRA 1, 2	, 4A, and 4	-	Se	condary Wate <b>(MLF</b> Drain	r-Stained I	: (2 or mo Leaves (E A, <b>and 4B</b> rns (B10)	re requir 39)	ed)		
PROLOGIA (Petland Hyrimary India)  Surfacial High Natura	drology Indicator cators (minimum o ce Water (A1) Water Table (A2) ation (A3)	of one re	equired;	check		Water-Stained Leav (except MLRA 1, 2 Salt Crust (B11)	<b>, 4A, and </b> 4	-	Se	condary Wate ( <b>MLF</b> Drain Dry-\$	er-Stained I RA 1, 2, 4A lage Pattel	s (2 or mo Leaves (E A, and 4B rns (B10) ater Table	re requir 39) .) e (C2)	,	S9)	
DROLOG /etland Hy rimary India   Surfac   High \   Satur:   Water	drology Indicator cators (minimum o ce Water (A1) Water Table (A2) ation (A3)	of one re	equired;	check		Water-Stained Leav (except MLRA 1, 2 Salt Crust (B11) Aquatic Invertebrate	es (B13)	4B)	Se	condary Wate ( <b>MLF</b> Drain Dry-S Satur	er-Stained I RA 1, 2, 4A nage Patter Season Wa	(2 or mo Leaves (E A, and 4B rns (B10) ater Table ole on Aer	re requir 39) ) e (C2) rial Imag	,	(2.29)	
PROLOGIVE I I I I I I I I I I I I I I I I I I	drology Indicator cators (minimum of ce Water (A1) Water Table (A2) ation (A3) Marks (B1) ment Deposits (B2)	of one re	equired;	check		Water-Stained Leav (except MLRA 1, 2 Salt Crust (B11) Aquatic Invertebrate Hydrogen Sulfide O	es (B13) dor (C1) eres along	4B)	Se	condary Wate (MLF Drain Dry-8 Satur Geor	er-Stained I RA 1, 2, 4A nage Patter Season Wa ration Visib	e (2 or mo Leaves (E A, and 4B rns (B10) ater Table ble on Aer osition (D2	re requir 39) ) e (C2) rial Imag	•		
(DROLOG)  /etland Hy rimary India    Surfar   High N   Saturar   Water   Sedin	drology Indicator cators (minimum of ce Water (A1) Water Table (A2) ation (A3) Marks (B1) nent Deposits (B2)	of one re	equired;	check		Water-Stained Leav (except MLRA 1, 2 Salt Crust (B11) Aquatic Invertebrate Hydrogen Sulfide O Oxidized Rhizosphe	es (B13) dor (C1) eres along led Iron (C4	4B) Living Roots (	Se	condary Wate (MLF Drain Dry-S Satur Geor Shall	er-Stained I RA 1, 2, 4A age Patter Season Wa ration Visib norphic Po	(2 or mo Leaves (E A, and 4B rns (B10) ater Table ble on Aer position (D2 rd (D3)	re requir 39) ) e (C2) rial Imag	•	9)	
CDROLOG Vetland Hy rimary India Surfac High V Satura Sedim Drift C Algal	drology Indicator cators (minimum of ce Water (A1) Water Table (A2) ation (A3) Marks (B1) ment Deposits (B2) Deposits (B3) Mat or Crust (B4)	of one re	equired;	check		Water-Stained Leav (except MLRA 1, 2 Salt Crust (B11) Aquatic Invertebrate Hydrogen Sulfide O Oxidized Rhizosphe Presence of Reduce	es (B13) dor (C1) eres along led Iron (C4	Living Roots (	Se	condary Wate (MLF Drain Dry-S Satur Geor Shall	er-Stained I RA 1, 2, 4A rage Patter Season Wa ration Visib norphic Po ow Aquitar	Leaves (EA, and 4B rns (B10) ater Table on Aerosition (D2 rd (D3) est (D5)	re requir 39) ) e (C2) rial Imag 2)	ery (C	(9)	
PROLOG  Petland Hy rimary India Surfac High V Satura Sedin Drift C Algal Iron C	drology Indicator cators (minimum of ce Water (A1) Water Table (A2) ation (A3) Marks (B1) nent Deposits (B2) Deposits (B3) Mat or Crust (B4)	of one re				Water-Stained Leav (except MLRA 1, 2 Salt Crust (B11) Aquatic Invertebrate Hydrogen Sulfide O Oxidized Rhizosphe Presence of Reduce Recent Iron Reduct	es (B13) dor (C1) eres along ded Iron (C4) ion in Tilled Flants (D	Living Roots (	Se S	condary Wate (MLF Drain Dry-S Satur Geor Shall FAC- Raise	rr-Stained I RA 1, 2, 4A age Patter Season Wa ration Visib norphic Po ow Aquitar Neutral Te	(2 or mo Leaves (E A, and 4B rns (B10) ater Table ble on Aer position (D2 rd (D3) est (D5) unds (D6)	re requir 39) ) e (C2) rial Imag 2)	ery (C	9)	
TDROLOG Vetland Hy rimary India Surfac Water Sedin Drift D Algal Iron D Surfac	drology Indicator cators (minimum of ce Water (A1) Water Table (A2) ation (A3) Marks (B1) ment Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) ce Soil Cracks (B6	of one re	agery (B	37)		Water-Stained Leav (except MLRA 1, 2 Salt Crust (B11) Aquatic Invertebrate Hydrogen Sulfide O Oxidized Rhizosphe Presence of Reduct Recent Iron Reduct Stunted or Stresses	es (B13) dor (C1) eres along ded Iron (C4) ion in Tilled Flants (D	Living Roots (	Se □	condary Wate (MLF Drain Dry-S Satur Geor Shall FAC- Raise	er-Stained I RA 1, 2, 4A rage Patter Season Water ation Visib norphic Po ow Aquitar Neutral Te	(2 or mo Leaves (E A, and 4B rns (B10) ater Table ble on Aer position (D2 rd (D3) est (D5) unds (D6)	re requir 39) ) e (C2) rial Imag 2)	ery (C	(39)	
TOROLOG Vetland Hy rimary India Surfar High N Sedin Drift D Algal Iron D Surfar Inund	drology Indicator cators (minimum of ce Water (A1) Water Table (A2) ation (A3) Marks (B1) hent Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) ce Soil Cracks (B6 ation Visible on Ac-	of one re	agery (B	37)		Water-Stained Leav (except MLRA 1, 2 Salt Crust (B11) Aquatic Invertebrate Hydrogen Sulfide O Oxidized Rhizosphe Presence of Reduct Recent Iron Reduct Stunted or Stresses	es (B13) dor (C1) eres along ded Iron (C4) ion in Tilled Flants (D	Living Roots (	Se □	condary Wate (MLF Drain Dry-S Satur Geor Shall FAC- Raise	er-Stained I RA 1, 2, 4A rage Patter Season Water ation Visib norphic Po ow Aquitar Neutral Te	(2 or mo Leaves (E A, and 4B rns (B10) ater Table ble on Aer position (D2 rd (D3) est (D5) unds (D6)	re requir 39) ) e (C2) rial Imag 2)	ery (C	9)	
VDROLOG Vetland Hy rrimary India Surfar High N Saturar Sedin Drift D Algal Iron D Surfar Inund Spars	drology Indicator cators (minimum of ce Water (A1) Water Table (A2) ation (A3) Marks (B1) hent Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) ce Soil Cracks (B6 ation Visible on Ac-	of one re	agery (B	37)		Water-Stained Leav (except MLRA 1, 2 Salt Crust (B11) Aquatic Invertebrate Hydrogen Sulfide O Oxidized Rhizosphe Presence of Reduct Recent Iron Reduct Stunted or Stresses	es (B13) dor (C1) eres along led Iron (C4 ion in Tilled Plants (D4 emarks)	Living Roots (	Se □	condary Wate (MLF Drain Dry-S Satur Geor Shall FAC- Raise	er-Stained I RA 1, 2, 4A rage Patter Season Water ation Visib norphic Po ow Aquitar Neutral Te	(2 or mo Leaves (E A, and 4B rns (B10) ater Table ble on Aer position (D2 rd (D3) est (D5) unds (D6)	re requir 39) ) e (C2) rial Imag 2)	ery (C	9)	
VDROLOG Vetland Hy rimary India Surfac High V Sedim Sedim Sedim Signature Surfac Inund Spars ield Obser	drology Indicator cators (minimum of ce Water (A1) Water Table (A2) ation (A3) Marks (B1) Ment Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) De Soil Cracks (B6 ation Visible on Ae ely Vegetated Corvations: er Present?	of one re	agery (B urface (	37) (B8)		Water-Stained Leav (except MLRA 1, 2 Salt Crust (B11) Aquatic Invertebrate Hydrogen Sulfide O Oxidized Rhizosphe Presence of Reduct Recent Iron Reduct Stunted or Stresses Other (Explain in Re	es (B13) dor (C1) eres along led Iron (C4 iion in Tilled B Plants (D' emarks)	Living Roots (	Se □	condary Wate (MLF Drain Dry-S Satur Geor Shall FAC- Raise	er-Stained I RA 1, 2, 4A rage Patter Season Water ation Visib norphic Po ow Aquitar Neutral Te	(2 or mo Leaves (E A, and 4B rns (B10) ater Table ble on Aer position (D2 rd (D3) est (D5) unds (D6)	re requir 39) ) e (C2) rial Imag 2)	ery (C	(9)	
PROLOGIVE TABLE TO THE PROCESS OF TH	drology Indicator cators (minimum of cators (minimum of cew atter (A1)) Water Table (A2) ation (A3) Marks (B1) ment Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) ce Soil Cracks (B6) ation Visible on Acely Vegetated Corvations: er Present? Present? resent?	of one reconstruction	egery (B urface (	37) (B8) No No No		Water-Stained Leav (except MLRA 1, 2 Salt Crust (B11) Aquatic Invertebrate Hydrogen Sulfide O Oxidized Rhizosphe Presence of Reduct Recent Iron Reduct Stunted or Stresses Other (Explain in Re  Depth (inches): Depth (inches):	es (B13) bdor (C1) eres along led Iron (C4 ion in Tilled s Plants (D emarks)	Living Roots (	Se	condary Wate (MLF Drain Dry-S Satur Geor Shall FAC- Raise Frost	er-Stained I RA 1, 2, 4A lage Patter Season War ration Visib morphic Po ow Aquitar Neutral Te led Ant Mou -Heave Hu	E (2 or mo Leaves (E A, and 4B rns (B10) atter Table ble on Aer bosition (D2 rd (D3) est (D5) unds (D6) unmocks	re requir 39) ) e (C2) rial Imag 2)	ery (C	No.	
POROLOG Vetland Hy Primary India Surfac High V Satura Sedim Sedim Iron D Surfac Inund Spars Geld Obser Gurface Wate Vater Table Saturation P Includes ca	drology Indicator cators (minimum of cators (minimum of cew atter (A1)) Water Table (A2) ation (A3) Marks (B1) ment Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) ce Soil Cracks (B6) ation Visible on Acely Vegetated Corvations: er Present? Present? resent?	of one reconstruction	egery (B urface (	37) (B8) No No No		Water-Stained Leav (except MLRA 1, 2 Salt Crust (B11) Aquatic Invertebrate Hydrogen Sulfide O Oxidized Rhizosphe Presence of Reduct Recent Iron Reduct Stunted or Stresses Other (Explain in Reduct Depth (inches):	es (B13) bdor (C1) eres along led Iron (C4 ion in Tilled s Plants (D emarks)	Living Roots (	Se	condary Wate (MLF Drain Dry-S Satur Geor Shall FAC- Raise Frost	er-Stained I RA 1, 2, 4A lage Patter Season War ration Visib morphic Po ow Aquitar Neutral Te led Ant Mou -Heave Hu	E (2 or mo Leaves (E A, and 4B rns (B10) atter Table ble on Aer bosition (D2 rd (D3) est (D5) unds (D6) unmocks	re requir 39) ) e (C2) rial Imag 2) ) (LRR A (D7)	ery (C		

Project Site: West Seattle and Ballard Link Ex	tensions		City/Count	y: <u>Seattle/King</u> Sampling Date:	10/7/20	<u>019</u>
Applicant/Owner: Sound Transit				State: WA Sampling Point:	: WSE6-	-SP2
Investigator(s): Amy Rotondo and Emily Drew				Section, Township, Range: S24, T25N,	R03E	
Landform (hillslope, terrace, etc.): slope		Loca	ıl relief (conca	ve, convex, none): <u>none</u>	Slope (%): 59	<u>%</u>
Subregion (LRR): <u>A</u>	Lat:	_		Long: Datu	um:	
Soil Map Unit Name: Alderwood-Everett Urban Comp	lex 12-35% s	lopes		NWI classification: No	one	
Are climatic / hydrologic conditions on the site typical for	this time of y	ear? Y	es 🛛	No		
Are Vegetation □, Soil □, or Hydrology	☐, significa	ntly disturbed	l? Are "N	Normal Circumstances" present?	Yes 🛭 N	o 🗆
Are Vegetation □, Soil □, or Hydrology	☐, naturall	y problematic	? (If nee	eded, explain any answers in Remarks.)		
SUMMARY OF FINDINGS – Attach site map sh	owing sam	pling point	locations,	transects, important features, etc.		
Hydrophytic Vegetation Present?	Yes	No 🛛	la tha Camari	lad Assa		
Hydric Soil Present?	Yes	No 🛚	Is the Sample within a Wet		Yes 🗌 N	o 🛛
Wetland Hydrology Present?	Yes	No 🛚				
Remarks: Plot is placed about 10 feet north and upslop	e from the in	-wetland test	plot, in an are	a with FAC and FACU vegetation.		
VEGETATION - Use scientific names of plants						
Tree Stratum (Plot size: 30ft)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:		
1. Acer macrophyllum	90	<u>yes</u>	FACU	Number of Dominant Species		
2				That Are OBL, FACW, or FAC:	<u>0</u>	(A)
3				Total Number of Dominant		
4				Species Across All Strata:	<u>4</u>	(B)
50% = <u>45,</u> 20% = <u>18</u>	90	= Total Cove	er	Percent of Dominant Species		
Sapling/Shrub Stratum (Plot size: 15ft)				That Are OBL, FACW, or FAC:	<u>0</u>	(A/B)
1. <u>Oemleria cerasiformis</u>	<u>10</u>	<u>yes</u>	<u>FACU</u>	Prevalence Index worksheet:		
2. <u>Symphoricarpos albus</u>	<u>5</u>	<u>yes</u>	<u>FACU</u>	Total % Cover of:	Multiply by:	
3. Rubus spectabilis	<u>1</u>	<u>no</u>	FAC	OBL species	x1 =	_
4. <u>Thuja plicata</u>	<u>1</u>	<u>no</u>	FAC	FACW species	x2 =	=
5. <u>Corylus cornuta</u>	<u>trace</u>	<u>no</u>	<u>FACU</u>	FAC species	x3 =	_
50% = <u>8.5</u> , 20% = <u>3.4</u>	<u>17</u>	= Total Cove	er	FACU species 130	x4 = <u>520</u>	
Herb Stratum (Plot size: 5ft)				UPL species 4	x5 = <u>20</u>	
1. Polystichum munitum	20	<u>yes</u>	<u>FACU</u>	Column Totals: 134 (A)	<u>540</u> (E	3)
2. <u>Urtica dioica</u>	<u>1</u>	no	FAC	Prevalence Index = B/A = 4		-,
3. Equisetum arvense	1	no	FAC	Hydrophytic Vegetation Indicators:		
4.	<u>+</u>	110	IAC	1 – Rapid Test for Hydrophytic Vegetation	n	
5.				2 - Dominance Test is >50%	"	
6.						
7.						
8.				4 - Morphological Adaptations <sup>1</sup> (Provide s data in Remarks or on a separate she		
9.				□ 5 - Wetland Non-Vascular Plants¹	,	
10				☐ Problematic Hydrophytic Vegetation¹ (Ex	.plain)	
11				<sup>1</sup> Indicators of hydric soil and wetland hydrology	y must	
50% = <u>11</u> , 20% = <u>4.4</u>	<u>22</u>	= Total Cove	er	be present, unless disturbed or problematic.		
Woody Vine Stratum (Plot size: 15ft)	_		E4.011			
1. <u>Hedera helix</u>	<u>5</u>	<u>yes</u>	<u>FACU</u>	Hydrophytic		
2				Vegetation Yes	No	$\boxtimes$
50% = <u>2.5</u> , 20% = <u>1</u>	<u>5</u>	= Total Cove	er	Present?		
% Bare Ground in Herb Stratum <u>78</u>						
Remarks: The 2016 Plant List was used for t		n.				
Does not pass dominance or preva	iiciice lest.					

inches)	Color (moist)	ç	%	Col	or (mois	st) %	Type <sup>1</sup> Loc <sup>2</sup>	Tex	ture			Remark	S		
0-8	10YR 3/2	1	100					silt	loam	with cob	bles and	glass			
<u>8-12</u>	10YR 4/2	<u>1</u>	100	_				silt	<u>loam</u>						
		_		-											
		_		_											
		_		-											
		_		-											
		_		-											
		_		-											
ype: C= Co	oncentration, D=D	epletion	ı, RM=R	Reduce	d Matrix	x, CS=Covered or Co	ated Sand Grains.			re Lining, M					
ydric Soil I	ndicators: (Appl	icable to	o all LR	RRs, ur	iless of	therwise noted.)			_	ors for Prob	olematic I	Hydric S	Soils <sup>3</sup> :		
] Histoso						Sandy Redox (S5)			_	2 cm Muck (					
_	Epipedon (A2)					Stripped Matrix (S6)				Red Parent	-				
	Histic (A3)					-	al (F1) (except MLRA	-		ery Shallov		-	F12)		
	en Sulfide (A4)					Loamy Gleyed Matrix				Other (Expla	ain in Rem	narks)			
	ed Below Dark Su	-	111)			Depleted Matrix (F3)									
_	Dark Surface (A12	•				Redox Dark Surface		3	Indicate	ora of budra	nhytia yaa	actation	and		
	Mucky Mineral (S	-				Depleted Dark Surfa	• •			ors of hydro and hydrolog					
-	Gleyed Matrix (S4	-				Redox Depressions	(F8)		unles	s disturbed	or proble	matic.			
	.ayer (if present)														
pe:	Compacted	lios t							_			_			_
	s): <u>12+"</u> No hydric soil ind	dicators	present	t.			Hydric So	JIIS Fresent	<i>!</i>		Yes		No		
emarks:	No hydric soil inc	dicators	present	t.			Hydric So	JIIS Fresent			165				
emarks:	No hydric soil inc		present	t.			Hydric So	JIS FIESEIL	,		Tes				
-	No hydric soil inc	·s:			all that :	apply)	Hydric So			v Indicators					
DROLOG etland Hyd	No hydric soil ind  Y  Irology Indicator ators (minimum o	·s:						Se	econdar	y Indicators er-Stained l	: (2 or moi	re requir			
DROLOG letland Hyd rimary Indic	Y  Irology Indicator ators (minimum o	·s:			all that a	Water-Stained Leave	es (B9)		econdar Wat	ter-Stained	s (2 or moi	re requir 39)			
DROLOG etland Hydrimary Indic Surfac	Y Irology Indicator ators (minimum o e Water (A1) Vater Table (A2)	·s:				Water-Stained Leave (except MLRA 1, 2,	es (B9)		econdar Wat	ter-Stained	: (2 or moi Leaves (E A, and 4B	re requir 39)			
DROLOG fetland Hydrimary Indic Surfac High W	Y Irology Indicator ators (minimum o e Water (A1) Vater Table (A2) tion (A3)	·s:				Water-Stained Leave (except MLRA 1, 2, Salt Crust (B11)	es (B9) 4A, and 4B)	Se	econdar Wat ( <b>ML</b>	ter-Stained   RA 1, 2, 4A inage Patte	: (2 or mor Leaves (B <b>A, and 4B</b> rns (B10)	re requir 39)			
DROLOG etland Hyc imary Indic Surfac High W Satura Water	Y Irology Indicator ators (minimum o e Water (A1) Vater Table (A2) tion (A3) Marks (B1)	rs: one re				Water-Stained Leave (except MLRA 1, 2, Salt Crust (B11) Aquatic Invertebrates	es (B9) <b>4A, and 4B)</b> s (B13)	Si	econdar Wat ( <b>ML</b> Drai	rer-Stained land 1, 2, 4A inage Pattell-Season Wa	s (2 or moo Leaves (E A, and 4B rns (B10) ater Table	re requir 39) )	ed)	9)	
DROLOG etland Hyc imary Indic Surfac High W Satura Water Sedim	Y Irology Indicator ators (minimum o e Water (A1) Vater Table (A2) tion (A3) Marks (B1) ent Deposits (B2)	rs: one re				Water-Stained Leave (except MLRA 1, 2, Salt Crust (B11) Aquatic Invertebrates Hydrogen Sulfide Od	es (B9) <b>4A, and 4B)</b> s (B13)  dor (C1)	Se C	econdar Wat ( <b>ML</b> Drai Dry	ter-Stained land 1, 2, 4A inage Patter-Season Wauration Visib	(2 or moo Leaves (E A, and 4B rns (B10) ater Table ole on Aer	re requir 39) ) • (C2) rial Imago	ed)	9)	
DROLOG etland Hyd imary Indic    Surfac   High W   Satura   Water   Sedime   Drift D	Y Irology Indicator ators (minimum o e Water (A1) Vater Table (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3)	rs: one re				Water-Stained Leave (except MLRA 1, 2, Salt Crust (B11) Aquatic Invertebrates Hydrogen Sulfide Od	es (B9)  4A, and 4B)  s (B13) dor (C1) res along Living Roots	Se	econdar Wat ( <b>ML</b> Drai Dry. Satu Geo	rer-Stained I RA 1, 2, 4A inage Pattel Season Wa uration Visib emorphic Po	c (2 or mon Leaves (B A, and 4B, rns (B10) ater Table ble on Aer osition (D2	re requir 39) ) • (C2) rial Imago	ed)	9)	
DROLOG etland Hyc imary Indic ] Surfac ] High W ] Satura ] Water ] Sedim ] Drift D ] Algal N	Y Irology Indicator ators (minimum o e Water (A1) Vater Table (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) Mat or Crust (B4)	rs: one re				Water-Stained Leave (except MLRA 1, 2, Salt Crust (B11) Aquatic Invertebrates Hydrogen Sulfide Od Oxidized Rhizospher Presence of Reduce	es (B9)  4A, and 4B)  s (B13) dor (C1) res along Living Roots	S6	econdar Wat ( <b>ML</b> Drai Dry- Satu Geo	rer-Stained   RA 1, 2, 4A inage Patter Season Wa uration Visit bromorphic Po	(2 or more that the control of the c	re requir 39) ) • (C2) rial Imago	ed)	9)	
DROLOG etland Hyc imary Indic ] Surfac ] High W ] Satura ] Water ] Sedim. ] Drift D ] Algal M	Y Irology Indicator ators (minimum o e Water (A1) Vater Table (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3)	rs: of one red				Water-Stained Leave (except MLRA 1, 2, Salt Crust (B11) Aquatic Invertebrates Hydrogen Sulfide Od Oxidized Rhizospher Presence of Reduce Recent Iron Reduction	es (B9)  4A, and 4B)  s (B13) dor (C1) res along Living Roots d Iron (C4)	S6	econdar Wat ( <b>ML</b> Drai Dry Satu Geo Sha	rer-Stained I RA 1, 2, 4A inage Pattel Season Wa uration Visib emorphic Po	Leaves (EA, and 4B, rns (B10) ater Table on Aerosition (D2 rd (D3) est (D5)	re requir 39) ) • (C2) rial Image	ed)	9)	
DROLOG etland Hyd imary Indic   Surfac   High W   Satura   Water   Sedim   Drift D   Algal M   Iron De	Y Irology Indicator ators (minimum o e Water (A1) Vater Table (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) Mat or Crust (B4) eposits (B5)	rs: If one re	equired;	check a		Water-Stained Leave (except MLRA 1, 2, Salt Crust (B11) Aquatic Invertebrates Hydrogen Sulfide Od Oxidized Rhizospher Presence of Reduce Recent Iron Reduction	es (B9)  4A, and 4B)  s (B13) dor (C1) res along Living Rooted Iron (C4) on in Tilled Soils (C6) Plants (D1) (LRR A)		econdar Wat ( <b>ML</b> Drai Satu Geo Sha FAC	rer-Stained   RA 1, 2, 4A inage Pattel Season Wa uration Visit becomplic Po Illow Aquital C-Neutral Te	(2 or moon Leaves (E A, and 4B rns (B10) ater Table ble on Aer position (D2 rd (D3) est (D5) unds (D6)	re requir 39) ) • (C2) rial Image 2)	ed)	9)	
DROLOG etland Hyc imary Indic    Surfac   High W   Satura   Water   Sedim   Drift D   Algal N   Iron De   Surfac	Y Irology Indicator ators (minimum o e Water (A1) Vater Table (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) Mat or Crust (B4) eposits (B5) e Soil Cracks (B6	rs:  If one reconstructions  I	equired;	check :		Water-Stained Leave (except MLRA 1, 2, Salt Crust (B11) Aquatic Invertebrates Hydrogen Sulfide Od Oxidized Rhizospher Presence of Reduce Recent Iron Reduction	es (B9)  4A, and 4B)  s (B13) dor (C1) res along Living Rooted Iron (C4) on in Tilled Soils (C6) Plants (D1) (LRR A)	Si (C3)	econdar Wat ( <b>ML</b> Drai Satu Geo Sha FAC	rer-Stained   RA 1, 2, 4A inage Patter Season Wa uration Visit bmorphic Po Illow Aquitar C-Neutral Te sed Ant Mou	(2 or moo Leaves (E A, and 4B rns (B10) ater Table ble on Aer osition (D2 rd (D3) est (D5) unds (D6)	re requir 39) ) • (C2) rial Image 2)	ed)	9)	
DROLOG etland Hyd imary Indic ] Surfac ] High W ] Satura ] Water ] Sedim ] Drift D ] Algal M ] Iron De ] Surfac	Y Irology Indicator ators (minimum o e Water (A1) Vater Table (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) Mat or Crust (B4) eposits (B5) e Soil Cracks (B6 stion Visible on Ae	rs:  If one reconstructions  I	equired;	check :		Water-Stained Leave (except MLRA 1, 2, Salt Crust (B11) Aquatic Invertebrates Hydrogen Sulfide Od Oxidized Rhizospher Presence of Reduce Recent Iron Reduction	es (B9)  4A, and 4B)  s (B13) dor (C1) res along Living Rooted Iron (C4) on in Tilled Soils (C6) Plants (D1) (LRR A)	Si (C3)	econdar Wat ( <b>ML</b> Drai Satu Geo Sha FAC	rer-Stained   RA 1, 2, 4A inage Patter Season Wa uration Visit bmorphic Po Illow Aquitar C-Neutral Te sed Ant Mou	(2 or moo Leaves (E A, and 4B rns (B10) ater Table ble on Aer osition (D2 rd (D3) est (D5) unds (D6)	re requir 39) ) • (C2) rial Image 2)	ed)	9)	
DROLOG Tetland Hyd Timary Indic	Y Irology Indicator ators (minimum o e Water (A1) Vater Table (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) Mat or Crust (B4) eposits (B5) e Soil Cracks (B6 stion Visible on Ae	rs:  If one reconstructions  I	equired;	check :		Water-Stained Leave (except MLRA 1, 2, Salt Crust (B11) Aquatic Invertebrates Hydrogen Sulfide Od Oxidized Rhizospher Presence of Reduce Recent Iron Reduction	es (B9)  4A, and 4B)  s (B13) dor (C1) res along Living Rooted Iron (C4) on in Tilled Soils (C6) Plants (D1) (LRR A)	Si (C3)	econdar Wat ( <b>ML</b> Drai Satu Geo Sha FAC	rer-Stained   RA 1, 2, 4A inage Patter Season Wa uration Visit bmorphic Po Illow Aquitar C-Neutral Te sed Ant Mou	(2 or moo Leaves (E A, and 4B rns (B10) ater Table ble on Aer osition (D2 rd (D3) est (D5) unds (D6)	re requir 39) ) • (C2) rial Image 2)	ed)	9)	
DROLOG Tetland Hydrimary Indic Timary Indicate Timar	Y Irology Indicator ators (minimum o e Water (A1) Vater Table (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) Mat or Crust (B4) eposits (B5) e Soil Cracks (B6 ation Visible on Ae ely Vegetated Cor vations:	rs:  If one reconstruction  If one reconstruc	equired; agery (B urface (	check :		Water-Stained Leave (except MLRA 1, 2, Salt Crust (B11) Aquatic Invertebrates Hydrogen Sulfide Od Oxidized Rhizospher Presence of Reduces Recent Iron Reduction Stunted or Stresses Other (Explain in Res	es (B9)  4A, and 4B)  s (B13) dor (C1) res along Living Rooted Iron (C4) on in Tilled Soils (C6) Plants (D1) (LRR A)	Si (C3)	econdar Wat ( <b>ML</b> Drai Satu Geo Sha FAC	rer-Stained   RA 1, 2, 4A inage Patter Season Wa uration Visit bmorphic Po Illow Aquitar C-Neutral Te sed Ant Mou	(2 or moo Leaves (E A, and 4B rns (B10) ater Table ble on Aer osition (D2 rd (D3) est (D5) unds (D6)	re requir 39) ) • (C2) rial Image 2)	ed)	9)	
DROLOG Tetland Hyc Timary Indic Timary Indicator Timary Indinator Timary Indicator Timary Indicator Timary Indicator Timary I	Y Irology Indicator ators (minimum o e Water (A1) Vater Table (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) Mat or Crust (B4) eposits (B5) e Soil Cracks (B6 ation Visible on Ae ely Vegetated Cor vations: er Present? Present?	rs:  If one reconstruction  If one reconstruc	equired;	7) (B8)		Water-Stained Leave (except MLRA 1, 2, Salt Crust (B11) Aquatic Invertebrates Hydrogen Sulfide Oct Oxidized Rhizospher Presence of Reduces Recent Iron Reduction Stunted or Stresses Other (Explain in Reduction Depth (inches):	es (B9)  4A, and 4B)  s (B13) dor (C1) res along Living Rooted Iron (C4) on in Tilled Soils (C6) Plants (D1) (LRR A)	Se (C3)	econdar ( <b>ML</b> Drai Dry- Satu Geo Sha FAC Rais	rer-Stained   RA 1, 2, 4A inage Patter Season Wa uration Visit bmorphic Po Illow Aquitar C-Neutral Te sed Ant Mou	E (2 or mor Leaves (E A, and 4B, rns (B10) atter Table ble on Aer osition (D2 rd (D3) est (D5) unds (D6)	re requir 39) ) • (C2) rial Image 2)	ed)	No.	
DROLOG etland Hyc imary Indic Surfac High W Satura Water Sedim Drift D Algal M Iron De Inunda Sparse eld Observ urface Water aturation Pr includes cap	Y Irology Indicator ators (minimum o e Water (A1) Vater Table (A2) tion (A3) Marks (B1) ent Deposits (B3) Mat or Crust (B4) eposits (B5) e Soil Cracks (B6 ation Visible on Ae ely Vegetated Cor vations: er Present? Present? esent? esent?	rs:  If one reconstruction  If one reconstruc	equired;	7) B8) No No No		Water-Stained Leave (except MLRA 1, 2, Salt Crust (B11) Aquatic Invertebrates Hydrogen Sulfide Od Oxidized Rhizospher Presence of Reduces Recent Iron Reduction Stunted or Stresses Other (Explain in Ref Depth (inches): Depth (inches):	es (B9)  4A, and 4B)  s (B13) dor (C1) res along Living Roots d Iron (C4) on in Tilled Soils (C6) Plants (D1) (LRR A) marks)	S (C3)	econdar ( <b>ML</b> Drai Dry- Satu Geo Sha FAC Rais	rer-Stained   RA 1, 2, 4A inage Patter -Season Wa uration Visit morphic Po Illow Aquitar C-Neutral Te sed Ant Mou	E (2 or mor Leaves (E A, and 4B, rns (B10) atter Table ble on Aer osition (D2 rd (D3) est (D5) unds (D6)	re requir 39) ) (C2) irial Imago 2) (LRR A (D7)	ed)		

Sound Transit						State: WA	Sampling I	Point:	WSI	E7-SP	71
											<del></del>
my Rotondo and	Rose Whitson					Section, Township, Ra	ange: <u>S24, T</u>	25N, R03E			
ace, etc.): <u>hills</u>	lope_			Local	relief (conca	ve, convex, none): <u>none</u>		Slope	(%):	30%	<u>0</u>
<u>A</u>		Lat:		_		Long:		Datum: _			
Alderwood-Evere	tt Urban Comp	lex 12-3	5% s	<u>lope</u>		NWI cl	assification:	PEM			
conditions on the	site typical for	this time	of ye	ear? Ye	s 🗆	No 🛛 (If no, explai	n in Remarks.	)			
Soil, or	Hydrology [	], sig	nifica	ntly disturbed?	Are "N	Iormal Circumstances" prese	nt?	Yes		No	$\boxtimes$
Soil □, or	Hydrology	₫, nat	turally	problematic?	(If nee	eded, explain any answers in	Remarks.)				
INGS – Attach	site map sh	owina	sam	plina point l	ocations.	ransects. important fea	tures. etc.				
	•	Yes	$\boxtimes$	No 🗆		· •					
		Yes	$\boxtimes$					Yes	$\boxtimes$	No	
ent?		Yes	$\boxtimes$	No 🗆		idira i					
AgACIS, the price	or peiod was we	etter tha	n nor	mal.							
scientific name	es of plants										
				Dominant Species?	Indicator Status	Dominance Test Workshe	et:				
		<u>5</u>		<u>ves</u>	FACU			<u>2</u>			(A)
				<u> </u>		Total Number of Dominant		2			(D)
						Species Across All Strata:		<u>ა</u>			(B)
(Plot size: 15ft)		<u>5</u>		= Total Cover	r	Percent of Dominant Specie That Are OBL, FACW, or F.	∋s AC:	<u>67</u>			(A/B)
`		<u>5</u>		<u>yes</u>	<u>FAC</u>	Prevalence Index worksh	eet:				
		<u>1</u>		<u>no</u>	FAC	Total % Cover	of:	Multip	ly by:		
						OBL species		x1 =			
						FACW species		x2 =			
						FAC species		x3 =			
		<u>6</u>		= Total Cover	r	FACU species	_	x4 =			
: <u>5ft</u> )						UPL species	<u> </u>	x5 =			
·		100		ves	FAC	Column Totals:	(A)			(	(B)
								/A =		`	. ,
		_		_							
								etation			
							· · · -	01411011			
						4 Morphological Add	<del>-</del>	ovide suppo	rtina		
									9		
						5 - Wetland Non-Vaso	cular Plants <sup>1</sup>				
						☐ Problematic Hydrophy	ytic Vegetation	า¹ (Explain)			
		405				<sup>1</sup> Indicators of hydric soil and	d wetland hvd	rology must			
Plot size: 15ft)		<u>105</u>		= Total Cover	r						
10t 312e. <u>10tt</u> )											
						Hydrophytic					
				- Total Carre		Vegetation	Yes	$\boxtimes$	No	)	
				- TOTAL COVE	I	Present?					
Stratum											
e 2016 Plant List		. ,									
	A Alderwood-Evere conditions on the Soil  , or Soil  , or Soil  , or INGS – Attach Present?  ent?  AgACIS, the price scientific name: 30ft)  (Plot size: 15ft)	A Alderwood-Everett Urban Comp conditions on the site typical for the Soil	A Lat: Alderwood-Everett Urban Complex 12-3 conditions on the site typical for this time Soil	A	A	A	Alderwood-Everett Urban Complex 12-35% slope	Lat	Adderwood-Everett Urban Complex 12-35% slope	Lat:	Alderwood-Everett Urban Complex 12-355% slope

OIL										Sampling I	Point: WSE	7-SP1		
Profile Desc	ription: (Describ	e to th	e depth	neede	ed to d	ocument the indicator or cor	nfirm the abs	ence of i	ndicato	rs.)				
Depth	Matı	rix				Redox Features								
(inches)	Color (moist)		%	Co	olor (mo	oist) % Type <sup>1</sup>	Loc <sup>2</sup>	<u> </u>	Texture			Remarks	3	
0-9	10YR 3/1		<u>100</u>					_	<u>loam</u>					
<u>9-16</u>	10YR 3/1		<u>25</u>	<u>1</u>	0YR 4/	<u>6</u> <u>25</u> <u>C</u>	<u>M</u>	9	clay loar	n <u>mixed</u>	<u>matrix</u>			
	2.5Y 5/1		<u>50</u>					_						
		_						_						
		_						_						
		_						_						
		_						_						
		_						_						
<sup>1</sup> Type: C= Co	ncentration, D=[	Depletio	n, RM=	Reduce	ed Matr	ix, CS=Covered or Coated Sar	nd Grains.	<sup>2</sup> Locati	on: PL=I	Pore Lining,	M=Matrix			
Hydric Soil I	ndicators: (App	licable	to all L	RRs, u	nless	otherwise noted.)			Indic	ators for Pro	blematic	Hydric S	oils³:	
Histoso	ol (A1)					Sandy Redox (S5)				2 cm Muck	(A10)			
	pipedon (A2)					Stripped Matrix (S6)				Red Paren	t Material (	TF2)		
☐ Black F	listic (A3)					Loamy Mucky Mineral (F1) (6	except MLRA	(1)		Very Shallo	ow Dark Su	rface (T	<del>-</del> 12)	
☐ Hydrog	en Sulfide (A4)					Loamy Gleyed Matrix (F2)				Other (Exp	lain in Rem	arks)		
Deplete	ed Below Dark S	urface (	A11)			Depleted Matrix (F3)								
☐ Thick □	ark Surface (A1	2)			$\boxtimes$	Redox Dark Surface (F6)			2					
Sandy	Mucky Mineral (	S1)				Depleted Dark Surface (F7)				ators of hydretel				
Sandy	Gleyed Matrix (S	(4)				Redox Depressions (F8)	1			less disturbe			*,	
Restrictive L	ayer (if present	):												
Гуре:	heavy clay	<u>/</u>												
Depth (inches	s): <u>9"</u>						Hydric Sc	oils Prese	ent?		Yes	$\boxtimes$	No	
YDROLOG	Y													
Wetland Hyd	Irology Indicato	rs:												
Primary Indic	ators (minimum	of one r	equired;	; check	all tha	t apply)			Second	dary Indicator	s (2 or mo	re require	ed)	
☐ Surfac	e Water (A1)					Water-Stained Leaves (B9)			□ V	/ater-Stained	l Leaves (E	89)		
☐ High W	/ater Table (A2)					(except MLRA 1, 2, 4A, and	I 4B)		(1	MLRA 1, 2, 4	A, and 4B	)		
☐ Satura	tion (A3)					Salt Crust (B11)				rainage Patt	erns (B10)			
☐ Water	Marks (B1)					Aquatic Invertebrates (B13)				ry-Season V	/ater Table	(C2)		
Sedim	ent Deposits (B2	)				Hydrogen Sulfide Odor (C1)			□ s	aturation Vis	ible on Aer	ial Image	ery (C9)	
Drift D	eposits (B3)					Oxidized Rhizospheres along	g Living Roots	s (C3)		eomorphic F	osition (D2	2)		
☐ Algal N	Mat or Crust (B4)					Presence of Reduced Iron (C	24)		⊠ S	hallow Aquit	ard (D3)			
☐ Iron De	eposits (B5)					Recent Iron Reduction in Tille	ed Soils (C6)		⊠ F	AC-Neutral	est (D5)			
☐ Surfac	e Soil Cracks (B	6)				Stunted or Stresses Plants (I	D1) (LRR A)		☐ R	aised Ant M	ounds (D6)	(LRR A	)	
☐ Inunda	ition Visible on A	erial Im	agery (E	37)		Other (Explain in Remarks)			□ F	rost-Heave H	łummocks	(D7)		
Sparse	ely Vegetated Co	ncave S	Surface	(B8)										
Field Observ	ations:													
Surface Wate	er Present?	Yes		No	$\boxtimes$	Depth (inches):	_							
Water Table I	Present?	Yes		No	$\boxtimes$	Depth (inches):	_							
Saturation Pr includes cap		Yes		No		Depth (inches):	_	Wetlan	d Hydro	logy Preser	t?	Yes	⊠ N	lo
Describe Rec	orded Data (stre	am gau	ige, mor	nitoring	well, a	erial photos, previous inspection	ons), if availab	ole:						
Remarks:	Saturation was	ohserv	ed at thi	is samr	olina pa	int during the following site vis	it on 10/17/20	)19						
	zataludii was	22001 V	_ = = = = = = = = = = = = = = = = = = =		g pc	saming and removing one via	10/11/20							

Project Site: West Seattle and Ballard Link Ex	tensions		City/Count	ty: <u>Seattle/King</u>	Sampling Date:	10/7/2019	<u>9</u>
Applicant/Owner: Sound Transit				State: <u>WA</u>	Sampling Point:	WSE7-SF	<u> 22</u>
Investigator(s): Amy Rotondo and Emily Drew				Section, Township, Ra	nge: <u>S24, T25N, R03E</u>		
Landform (hillslope, terrace, etc.): slope		Local	relief (conca	ave, convex, none): none	Slope	(%): <u>45%</u>	<u>1</u>
Subregion (LRR): <u>A</u>	Lat:	_		Long:	Datum: _		
Soil Map Unit Name: Alderwood-Everett Urban Comp	olex 12-35% s	slope		NWI cla	assification: None		
Are climatic / hydrologic conditions on the site typical for	this time of ye	ear? Ye	s 🛛	No 🔲 (If no, explain	in Remarks.)		
Are Vegetation ☐, Soil ☐, or Hydrology	☐, signification	ntly disturbed?	Are "N	Normal Circumstances" presen	t? Yes	☑ No	
Are Vegetation □, Soil □, or Hydrology	☐, naturall	y problematic?	(If nee	eded, explain any answers in F	lemarks.)		
SUMMARY OF FINDINGS – Attach site map sh	owing sam	pling point l	locations,	transects, important feat	ures, etc.		
Hydrophytic Vegetation Present?	Yes 🗌	No ⊠					
Hydric Soil Present?	Yes 🛛		s the Samp within a We		Yes	☐ No	$\boxtimes$
Wetland Hydrology Present?	Yes 🗌	No 🛛					
Remarks: Plot is placed SE of in-wetland sample plot.							
VEGETATION - Use scientific names of plants							
Tree Stratum (Plot size: 30ft)	Absolute <u>% Cover</u>	Dominant Species?	Indicator <u>Status</u>	Dominance Test Workshee	et:		
1. <u>Alnus rubra</u>	<u>55</u>	<u>yes</u>	FAC	Number of Dominant Specie	s <sub>1</sub>		<b>(\( \)</b>
2. Acer macrophyllum	<u>5</u>	<u>no</u>	<u>FACU</u>	That Are OBL, FACW, or FA	C: <u>1</u>		(A)
3				Total Number of Dominant	<u>4</u>		(B)
4				Species Across All Strata:	<u> </u>		(D)
50% = <u>30</u> , 20% = <u>12</u>	<u>60</u>	= Total Cover	r	Percent of Dominant Specie			(A/B)
Sapling/Shrub Stratum (Plot size: 15ft)				That Are OBL, FACW, or FA	.C: <u>==</u>		(700)
1. <u>Symphoricarpos albus</u>	<u>30</u>	<u>yes</u>	<u>FACU</u>	Prevalence Index workshe	et:		
2. <u>Oemleria cerasiformis</u>	<u>25</u>	<u>yes</u>	<u>FACU</u>	Total % Cover of	of: Multipl	<u>y by:</u>	
3. <u>Rubus armeniacus</u>	<u>3</u>	<u>no</u>	<u>FAC</u>	OBL species	_ x1 =		
4. Polystichum munitum	<u>2</u>	<u>no</u>	<u>FACU</u>	FACW species	x2 =		
5. <u>Bindweed spp.</u>	<u>2</u>	<u>no</u>	<u>NI</u>	FAC species <u>59</u>	x3 =	<u>177</u>	
50% = <u>31</u> , 20% = <u>12.4</u>	<u>62</u>	= Total Cover	r	FACU species <u>122</u>	x4 =	<u>488</u>	
Herb Stratum (Plot size: 5ft)				UPL species <u>10</u>	x5 =	<u>50</u>	
1. Convolvulus arvensis	<u>10</u>	<u>yes</u>	NL (UPL)	Column Totals: 191 (	A)	<u>715</u> (B)	
2. <u>Equisetum arvense</u>	<u>1</u>	<u>no</u>	<u>FAC</u>	Prevale	nce Index = $B/A = 3.7$		
3				Hydrophytic Vegetation In	dicators:		
4				☐ 1 – Rapid Test for Hyd	rophytic Vegetation		
5				☐ 2 - Dominance Test is	>50%		
6				☐ 3 - Prevalence Index is	s <u>&lt;</u> 3.0¹		
7				4 - Morphological Ada	_ ptations¹ (Provide suppor	ting	
8					on a separate sheet)	· ·	
9				5 - Wetland Non-Vasc	ular Plants¹		
10				☐ Problematic Hydrophy	tic Vegetation¹ (Explain)		
11				4			
50% = <u>5.5</u> , 20% = <u>2.2</u>	<u>11</u>	= Total Cover	r	<sup>1</sup> Indicators of hydric soil and be present, unless disturbed			
Woody Vine Stratum (Plot size: 15ft)				, ,	·		
1. <u>Hedera helix</u>	<u>60</u>	<u>yes</u>	<u>FACU</u>				
2				Hydrophytic Vegetation	Yes	No	⋈
50% = <u>30</u> , 20% = <u>12</u>	<u>60</u>	= Total Cover	r	Present?	169 U	NO	
% Bare Ground in Herb Stratum 89							
Remarks: The 2016 Plant List was used for t	his delineatio	n.		ı			
Vegetation does not meet the dom	inance test o	r prevalence in	dex.				

	Color (moist)	Ç	%	Colo	or (mois	st) %	Type <sup>1</sup>	Loc <sup>2</sup>	Textu	e			Remarks	S		
<u>0-5</u>	2.5Y 3/1	1	100	_					clay l	oam						
<u>5-12</u>	2.5Y 4/1	<u> </u>	<u>97</u>	<u>5Y</u>	<u>′R 3/4</u>	<u>3</u>	<u>C</u>	<u>M</u>	clay le	oam_	fine mottl	<u>les</u>				
		_		_						_						
		_		_						_						
		_	—	_						_						
		_	—	_						_						
			—	_						_						
	ncontration D=D			— Podupod		., CS=Covered or Co	ested Sand		<sup>2</sup> Location: P	 L=Doro	Lining M-	-Motrix				
•	ndicators: (Appli	•					aleu Sano	diallis.			for Probl		Hydric S	cile3.		
Histoso		cable t	o an Liv			Sandy Redox (S5)					m Muck (A		ilyunic c	ons .		
	pipedon (A2)					Stripped Matrix (S6)					d Parent M		TF2)			
	listic (A3)					Loamy Mucky Miner		cept MLRA			ry Shallow		-	F12)		
	en Sulfide (A4)				_	Loamy Gleyed Matri		•	, –		ner (Explai			,		
	ed Below Dark Su	rface (A	<b>\11</b> )	Í	_	Depleted Matrix (F3)							,			
Thick D	ark Surface (A12	)		1		Redox Dark Surface	(F6)									
Sandy I	Mucky Mineral (S	1)				Depleted Dark Surfa	ace (F7)		<sup>3</sup> In		of hydrop					
Sandy (	Gleyed Matrix (S4	+)				Redox Depressions	(F8)				d hydrology disturbed o			it,		
strictive L	ayer (if present):	:														
oe:																
								Hudela Call	o Brocont?			Yes	$\boxtimes$	No		
	s):							Hydric Soil	S Flesent?			163				
marks:		5:						nyuric soil	S FIESEILT			163				
marks:  DROLOG  etland Hyd	Y		quired;	check a	all that a	apply)		nyuric soil		ondary I	Indicators (			ed)		
mary Indica	Y Irology Indicator		quired;			apply) Water-Stained Leave	es (B9)	nyuric soil			Indicators ( -Stained L	(2 or mor	re requir	ed)		
PROLOG etland Hyd mary Indica Surface	Y Irology Indicator ators (minimum o		·quired;						Sec	Water		(2 or mor eaves (B	re require	ed)		
PROLOG' etland Hyd mary Indica Surface High W	Y Irology Indicator ators (minimum of e Water (A1)		·quired;			Water-Stained Leave			Sec	Water (MLR	-Stained L	(2 or mor eaves (B and 4B)	re require	ed)		
PROLOG etland Hyd mary Indica Surface High W Satural	Y Irology Indicator ators (minimum of e Water (A1) /ater Table (A2)		quired;			Water-Stained Leave (except MLRA 1, 2,	4A, and 4		Sec	Water (MLR) Draina	-Stained L	(2 or mor eaves (B <b>and 4B</b> ) ns (B10)	re requir (39)	ed)		
PROLOG' Patland Hyd mary Indica Surface High W Satural Water	Y Irology Indicator ators (minimum of the Water (A1) Vater Table (A2) tion (A3)		quired;			Water-Stained Leave (except MLRA 1, 2, Salt Crust (B11)	<b>4A</b> , and 4		Sec	Water (MLR) Draina Dry-Se	-Stained L A 1, 2, 4A, age Patterr	(2 or mor eaves (B and 4B) ns (B10) ter Table	re require 39) ) (C2)	·	9)	
PROLOG etland Hyd mary Indica Surface High W Satural Water I Sedime	Y Irology Indicator ators (minimum of e Water (A1) /ater Table (A2) tion (A3) Marks (B1)		quired;			Water-Stained Leave (except MLRA 1, 2, Salt Crust (B11) Aquatic Invertebrate	<b>4A, and 4</b> s (B13) dor (C1)	4B)	Sec	Water (MLR) Draina Dry-Se Satura	-Stained L A 1, 2, 4A, age Patterr eason Wat	(2 or mor eaves (B <b>and 4B</b> ) ns (B10) ter Table e on Aeri	re require 19) ) (C2) ial Image	·	3)	
PROLOG etland Hyd mary Indica Surface High W Satural Water I Sedime Drift De	Y Irology Indicator ators (minimum of e Water (A1) /ater Table (A2) tion (A3) Marks (B1) ent Deposits (B2)		·quired;			Water-Stained Leave (except MLRA 1, 2, Salt Crust (B11) Aquatic Invertebrate Hydrogen Sulfide Od	<b>4A</b> , and 4 s (B13) dor (C1) res along l	<b>4B)</b> Living Roots (	Sec	Water (MLR) Draina Dry-Se Satura Geom	-Stained L A 1, 2, 4A, age Patterr eason Wat ation Visibl	(2 or mor eaves (B and 4B) ns (B10) ter Table e on Aeri sition (D2	re require 19) ) (C2) ial Image	·	3))	
DROLOG etland Hyd mary Indica Surface High W Satural Water I Sedime Drift De Algal M Iron De	rology Indicator ators (minimum of e Water (A1) /ater Table (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3)		quired;			Water-Stained Leave (except MLRA 1, 2, Salt Crust (B11) Aquatic Invertebrate Hydrogen Sulfide Oc Oxidized Rhizosphe	s (B13) dor (C1) res along led Iron (C4	Living Roots (	Sec	Water (MLRA) Draina Dry-So Satura Geom Shallo	-Stained L A 1, 2, 4A, age Patterr eason Wat ation Visibl orphic Pos	(2 or mor eaves (B and 4B) ns (B10) ter Table e on Aeri sition (D2	re require 19) ) (C2) ial Image	·	9)	
PROLOG' Itland Hyd mary Indica Surface High W Satural Water   Sedime Drift De Algal M Iron De	Y Irology Indicator ators (minimum of e Water (A1) /ater Table (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) /at or Crust (B4) eposits (B5) e Soil Cracks (B6)	f one re	•			Water-Stained Leave (except MLRA 1, 2, Salt Crust (B11) Aquatic Invertebrate Hydrogen Sulfide Od Oxidized Rhizospher Presence of Reduce	4A, and 4 s (B13) dor (C1) res along led Iron (C4 on in Tilled	Living Roots (	Sec.	Water (MLR) Draina Dry-Se Satura Geom Shallo	-Stained L A 1, 2, 4A, age Patterr eason Wat ation Visible orphic Poson w Aquitarc	(2 or moreaves (B and 4B) ans (B10) ter Table e on Aerisition (D2 d (D3) st (D5)	re require (39) (C2) (C2) (al Image	ery (CS	3)	
PROLOG Patland Hyd mary Indica Surface High W Satural Water I Sedime Drift De Algal M Iron De Surface Inunda	Y Irology Indicator ators (minimum of e Water (A1) /ater Table (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) /at or Crust (B4) eposits (B5) e Soil Cracks (B6 tion Visible on Ae	f one re	agery (B	37)		Water-Stained Leave (except MLRA 1, 2, Salt Crust (B11) Aquatic Invertebrate Hydrogen Sulfide Od Oxidized Rhizosphe Presence of Reduce Recent Iron Reduction	s (B13) dor (C1) res along led Iron (C4 on in Tilled Plants (D2	Living Roots (	Second	Water (MLR) Draina Dry-Si Satura Geom Shallo FAC-N Raise	-Stained L A 1, 2, 4A, age Patterr eason Wat ation Visibl corphic Pos ow Aquitard	(2 or mor eaves (B and 4B) ns (B10) ter Table e on Aeri sition (D2 d (D3) st (D5) nds (D6)	re require (39) (C2) (C2) (al Image (2)	ery (CS	<b>)</b>	
DROLOG etland Hyd mary Indica Surface High W Saturat Water I Sedime Drift De Algal M Iron De Surface Inunda Sparse	rology Indicator ators (minimum of e Water (A1) /ater Table (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) /at or Crust (B4) eposits (B5) e Soil Cracks (B6 tion Visible on Ae	f one re	agery (B	37)		Water-Stained Leave (except MLRA 1, 2, Salt Crust (B11) Aquatic Invertebrate Hydrogen Sulfide Oct Oxidized Rhizospher Presence of Reduce Recent Iron Reduction	s (B13) dor (C1) res along led Iron (C4 on in Tilled Plants (D2	Living Roots (	Sec.	Water (MLR) Draina Dry-Si Satura Geom Shallo FAC-N Raise	-Stained L A 1, 2, 4A, age Patterr eason Wat ation Visibl orphic Pos w Aquitaro Neutral Tes d Ant Moun	(2 or mor eaves (B and 4B) ns (B10) ter Table e on Aeri sition (D2 d (D3) st (D5) nds (D6)	re require (39) (C2) (C2) (al Image (2)	ery (CS	9)	
DROLOG' etland Hyd mary Indica Surface High W Saturat Water Sedime Drift De Algal M Iron De Surface Inunda Sparse	rology Indicator ators (minimum of e Water (A1) /ater Table (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) /at or Crust (B4) eposits (B5) e Soil Cracks (B6 tion Visible on Ae	f one red ) erial Ima acave Su	agery (B urface (	37) (B8)		Water-Stained Leave (except MLRA 1, 2, Salt Crust (B11) Aquatic Invertebrate Hydrogen Sulfide Oct Oxidized Rhizospher Presence of Reduce Recent Iron Reduction Stunted or Stresses Other (Explain in Re	s (B13) dor (C1) res along led Iron (C4 on in Tilled Plants (D2	Living Roots (	Sec.	Water (MLR) Draina Dry-Si Satura Geom Shallo FAC-N Raise	-Stained L A 1, 2, 4A, age Patterr eason Wat ation Visibl orphic Pos w Aquitaro Neutral Tes d Ant Moun	(2 or mor eaves (B and 4B) ns (B10) ter Table e on Aeri sition (D2 d (D3) st (D5) nds (D6)	re require (39) (C2) (C2) (al Image (2)	ery (CS	)))	
DROLOG' etland Hyd mary Indica Surface High W Satural Water I Sedime Drift De Algal M Iron De Surface Inunda Sparse	ry Irology Indicator ators (minimum of e Water (A1) / Ater Table (A2) tion (A3) Marks (B1) ent Deposits (B3) Mat or Crust (B4) eposits (B5) e Soil Cracks (B6 tion Visible on Ae ely Vegetated Contractions:	f one red ) erial Ima acave Su Yes	agery (B urface (	37) (B8) No		Water-Stained Leave (except MLRA 1, 2, Salt Crust (B11) Aquatic Invertebrate Hydrogen Sulfide Oc Oxidized Rhizosphe Presence of Reduce Recent Iron Reductic Stunted or Stresses Other (Explain in Re	s (B13) dor (C1) res along led Iron (C4 on in Tilled Plants (D2	Living Roots (	Sec.	Water (MLR) Draina Dry-Si Satura Geom Shallo FAC-N Raise	-Stained L A 1, 2, 4A, age Patterr eason Wat ation Visibl orphic Pos w Aquitaro Neutral Tes d Ant Moun	(2 or mor eaves (B and 4B) ns (B10) ter Table e on Aeri sition (D2 d (D3) st (D5) nds (D6)	re require (39) (C2) (C2) (al Image (2)	ery (CS	(2)	
DROLOG  Petland Hyd mary Indica  Surface High W Satural  Water   Sedime Drift De Algal M Iron De Surface Inunda Sparse	Y Irology Indicator ators (minimum of e Water (A1) /ater Table (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) /at or Crust (B4) eposits (B5) e Soil Cracks (B6) tion Visible on Ae ely Vegetated Con fations: er Present?	f one red ) erial Ima acave Su	agery (B urface (	37) (B8)		Water-Stained Leave (except MLRA 1, 2, Salt Crust (B11) Aquatic Invertebrate Hydrogen Sulfide Oct Oxidized Rhizospher Presence of Reduce Recent Iron Reduction Stunted or Stresses Other (Explain in Re	s (B13) dor (C1) res along led Iron (C4 on in Tilled Plants (D2	Living Roots (	Sec.	Water (MLR) Draina Dry-Si Satura Geom Shallo FAC-N Raise	-Stained L A 1, 2, 4A, age Patterr eason Wat ation Visibl orphic Pos w Aquitaro Neutral Tes d Ant Moun	(2 or mor eaves (B and 4B) ns (B10) ter Table e on Aeri sition (D2 d (D3) st (D5) nds (D6)	re require (39) (C2) (C2) (al Image (2)	ery (CS	<b>3</b> )	
PROLOG' etland Hyd mary Indica Surface High W Saturat Water I Sedime Drift De Algal M Iron De Surface Inunda Sparse	Y Irology Indicator ators (minimum of e Water (A1) /ater Table (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) /at or Crust (B4) eposits (B5) e Soil Cracks (B6) tion Visible on Ae ely Vegetated Con fations: er Present?	f one red ) erial Ima acave Su Yes	agery (B urface (	37) (B8) No		Water-Stained Leave (except MLRA 1, 2, Salt Crust (B11) Aquatic Invertebrate Hydrogen Sulfide Oc Oxidized Rhizosphe Presence of Reduce Recent Iron Reductic Stunted or Stresses Other (Explain in Re	s (B13) dor (C1) res along led Iron (C4 on in Tilled Plants (D2 emarks)	Living Roots (L) d Soils (C6) 1) (LRR A)	Sec.	Water (MLR. Draina Dry-So Satura Geom Shallo FAC-N Raisee Frost-	-Stained L A 1, 2, 4A, age Patterr eason Wat ation Visibl corphic Pos ow Aquitard Neutral Tes d Ant Mour Heave Hur	(2 or mor eaves (B and 4B) ns (B10) ter Table e on Aeri sition (D2 d (D3) st (D5) nds (D6) mmocks	re require (39) (C2) (C2) (al Image (2)	ery (CS	No.	
PROLOGI Patland Hyd mary Indica Surface High W Saturat Water   Sedime Drift De Algal M Iron De Surface Inunda Sparse Id Observ face Water turation Precludes capi	Y Irology Indicator ators (minimum of e Water (A1) /ater Table (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) /at or Crust (B4) eposits (B5) e Soil Cracks (B6) tion Visible on Ae ely Vegetated Con fations: er Present? Present? esent? elilary fringe)	f one red rial Ima acave Su Yes Yes Yes	agery (B urface (	87) (B8) No No No		Water-Stained Leave (except MLRA 1, 2, Salt Crust (B11) Aquatic Invertebrate Hydrogen Sulfide Oc Oxidized Rhizospher Presence of Reduce Recent Iron Reductic Stunted or Stresses Other (Explain in Re  Depth (inches): Depth (inches):	s (B13) dor (C1) res along l ed Iron (C4 on in Tilled Plants (D' emarks)	Living Roots (	Second Control	Water (MLR. Draina Dry-So Satura Geom Shallo FAC-N Raisee Frost-	-Stained L A 1, 2, 4A, age Patterr eason Wat ation Visibl corphic Pos ow Aquitard Neutral Tes d Ant Mour Heave Hur	(2 or mor eaves (B and 4B) ns (B10) ter Table e on Aeri sition (D2 d (D3) st (D5) nds (D6) mmocks	re requires (C2) ial Image 2) (LRR A (D7)	CS		

Project Site: West Seattle and Ballard Link Ex	<u>tensions</u>		City/Count	ty: <u>Seattle/King</u>	Sampling Date:	10/7/20	<u>19</u>
Applicant/Owner: <u>Sound Transit</u>				State: WA	Sampling Point:	WSE8-S	<u>SP1</u>
Investigator(s): <u>Amy Rotondo and Emily Drew</u>				Section, Township, Rang	ge: <u>S23, T25N, R03E</u>		
Landform (hillslope, terrace, etc.): slope		Local	relief (conca	ave, convex, none): <u>concave</u>	Slope	(%): <u>2</u>	
Subregion (LRR): <u>A</u>	Lat:	_		Long:	Datum:		
Soil Map Unit Name: <u>Urban land, 0 to 5% slopes</u>				NWI clas	sification: None		
Are climatic / hydrologic conditions on the site typical for	this time of ye	ear? Ye	s 🛛	No 🔲 (If no, explain in	n Remarks.)		
Are Vegetation ☐, Soil ☐, or Hydrology	☐, significa	antly disturbed?	Are "N	Normal Circumstances" present?	Yes	⊠ No	. 🗆
Are Vegetation ☐, Soil ☐, or Hydrology	☐, naturall	y problematic?	(If nee	eded, explain any answers in Re	marks.)		
SUMMARY OF FINDINGS – Attach site map sh	owing sam	pling point l	locations,	transects, important featu	res, etc.		
Hydrophytic Vegetation Present?	Yes 🛚	No 🗆	a tha Camu	lad Avaa			
Hydric Soil Present?	Yes 🛚		s the Samp within a Wet		Yes	⊠ No	• 🗆
Wetland Hydrology Present?	Yes 🛚	No 🗆					
Remarks: Test plot is on eastern end of area near catt	ails, at uphill	edge of reed ca	anarygrass p	eatch.			
VEGETATION - Use scientific names of plants							
Tree Stratum (Plot size: 30ft)	Absolute <u>% Cover</u>	Dominant Species?	Indicator <u>Status</u>	Dominance Test Worksheet	:		
1				Number of Dominant Species	<u>2</u>		(A)
2				That Are OBL, FACW, or FAC	: =		(八)
3				Total Number of Dominant	<u>3</u>		(B)
4				Species Across All Strata:	<u> </u>		(5)
50% =, 20% =		= Total Cover	r	Percent of Dominant Species	<u>67</u>		(A/B)
Sapling/Shrub Stratum (Plot size: 15ft)				That Are OBL, FACW, or FAC	: <del></del>		(700)
1. Rubus armeniacus	<u>40</u>	<u>yes</u>	<u>FAC</u>	Prevalence Index worksheet	i:		
2				Total % Cover of	<u>Multiply</u>	<u>y by:</u>	
3				OBL species	x1 =		
4				FACW species	x2 =		
5				FAC species	x3 =		
50% = <u>20</u> , 20% = <u>8</u>	<u>40</u>	= Total Cover	r	FACU species	x4 =		
Herb Stratum (Plot size: 5ft)				UPL species	x5 =		
1. Phalaris arundinacea	<u>70</u>	<u>yes</u>	<u>FACW</u>	Column Totals:	(A)		(B)
2. <u>Convolvulus arvensis</u>	<u>30</u>	<u>yes</u>	NL (UPL)	Prevalence	e Index = B/A =		
3. <u>Chenopodium album</u>	<u>20</u>	<u>no</u>	<u>FACU</u>	Hydrophytic Vegetation Indi	cators:		
4. <u>Equisetum arvense</u>	<u>1</u>	<u>no</u>	<u>FAC</u>	☐ 1 – Rapid Test for Hydro	phytic Vegetation		
5				□ 2 - Dominance Test is >	50%		
6				3 - Prevalence Index is	≤3.0¹		
7				4 - Morphological Adapt	- ations¹ (Provide suppor	tina	
8				data in Remarks or o		9	
9				5 - Wetland Non-Vascul	ar Plants¹		
10				☐ Problematic Hydrophytic	Vegetation¹ (Explain)		
11					J ( 1 /		
50% = <u>60.5</u> , 20% = <u>24.2</u>	<u>121</u>	= Total Cover	r	<sup>1</sup> Indicators of hydric soil and w be present, unless disturbed of			
Woody Vine Stratum (Plot size: 15ft)				be present, unless disturbed to	i problematic.		
1							
2				Hydrophytic			
50% =, 20% =		= Total Cover	r		∕es ⊠	No	
% Bare Ground in Herb Stratum <u>0</u>	_			Present?			
The 2016 Plant List was used for t	his delineatio	n					
Remarks: The 2016 Flant List was used for t	ins delineatio						

(inches)	Color (moist)		%	Col	or (mo	ist) %	Type <sup>1</sup>	Loc <sup>2</sup>	 Texture			Rer	narks			
0-4	2.5Y 3/1		60		(		- 71		silt loar							
	5YR 3/2		<u>40</u>	_					silt loar							
4-12.5	2.5Y 3/1		<u>47</u>	<u>5</u> `	YR 4/6	<u> </u>	<u></u>	PL, M	silt loar							
	5YR 3/2		47	_						_						
12.5-14+	10YR 3/1		<u>75</u>	<u>5</u> `	YR 4/6	10	<u>C</u>	<u>M</u>	silt loar	<u> </u>						
		_		<u>1</u>	OR 3/3	<u>15</u>	<u>C</u>	PL, M	silt loar	<u>m</u>						
		_		=												
		_		-												
Гуре: С= С	oncentration, D=D	epletion	n, RM=F	Reduce	d Matri	ix, CS=Covered or C	Coated Sand	d Grains.	<sup>2</sup> Location: PL=	Pore Linir	ng, M=Matrix	x				
ydric Soil	Indicators: (App	licable t	o all LF	RRs, ur	iless d	otherwise noted.)			Indic	cators for	Problemati	ic Hyd	ric S	oils³:		
] Histos	sol (A1)					Sandy Redox (S5)				2 cm M	uck (A10)					
] Histic	Epipedon (A2)					Stripped Matrix (S6	3)			Red Pa	rent Materia	al (TF2	)			
Black	Histic (A3)					Loamy Mucky Mine	eral (F1) <b>(ex</b>	cept MLRA 1	I) 🗆	Very Sh	nallow Dark	Surfac	e (TF	12)		
] Hydro	gen Sulfide (A4)					Loamy Gleyed Mat	trix (F2)			Other (	Explain in R	emark	s)			
Deple	ted Below Dark Si	urface (A	A11)			Depleted Matrix (F3	3)									
Thick	Dark Surface (A12	2)			$\boxtimes$	Redox Dark Surfac	e (F6)									
] Sandy	/ Mucky Mineral (S	S1)				Depleted Dark Surf	face (F7)				nydrophytic v drology musi					
] Sandy	/ Gleyed Matrix (S	4)				Redox Depressions	s (F8)				irbed or prol			,		
estrictive	Layer (if present	):														
уре:																
epth (inche	es):							11	e Drocont?		Yes		$ \boxtimes $	No		
emarks:	, <u>—</u>							Hydric Soil	STIESERE:		165					
DROLOG	3Y	rs:						Hydric Soli	3 Frederic:		163					
/DROLOC	GY drology Indicato		equired:	check	all that	. apply)		Hydric Soli		dary Indic			equire	ed)		
rimary Indi	SY drology Indicato cators (minimum o		equired;	check :			ves (B9)	Hydric Soli	Secon	-	ators (2 or n	more re	equire	ed)		
DROLOC /etland Hy rimary Indi	GY rdrology Indicato cators (minimum o ce Water (A1)		equired;	check :	all that	Water-Stained Lea	` ,		Secon	Water-Sta	ators (2 or n ined Leaves	more re	equire	ed)		
DROLOC /etland Hy rimary Indi Surfa	GY  Idrology Indicato cators (minimum of ce Water (A1)  Water Table (A2)		equired;	check		Water-Stained Lear	` ,		Secon	Water-Sta	ators (2 or n ined Leaves <b>2, 4A, and</b> 4	more re ; (B9)	equire	ed)		
DROLOC /etland Hy rimary Indi Surfa High	GY rdrology Indicato cators (minimum o ce Water (A1) Water Table (A2) ation (A3)		equired;	check :		Water-Stained Lea (except MLRA 1, 2 Salt Crust (B11)	2, 4A, and 4		Secon	Water-Stai ( <b>MLRA 1,</b> Drainage F	ators (2 or n ined Leaves <b>2, 4A, and 4</b> Patterns (B1	more re (B9) <b>4B)</b> 0)	<u> </u>	ed)		
DROLOG /etland Hy rimary Indi   Surfa   High   Satur   Wate	drology Indicatorators (minimum of ce Water (A1)) Water Table (A2) ation (A3) r Marks (B1)	of one re	equired;	check		Water-Stained Lea (except MLRA 1, 2 Salt Crust (B11) Aquatic Invertebrat	<b>2, 4A, and 4</b> tes (B13)		Secon	Water-Stai ( <b>MLRA 1,</b> Drainage F Dry-Seaso	ators (2 or n ined Leaves <b>2, 4A, and 4</b> Patterns (B1 on Water Tal	more res (B9) <b>4B)</b> 0) ble (C2	2)	•	))	
DROLOO etland Hy imary Indi  Surfa High Satur  Wate Sedin	GY drology Indicato cators (minimum of ce Water (A1) Water Table (A2) ation (A3) r Marks (B1) ment Deposits (B2	of one re	equired;	check :		Water-Stained Lea (except MLRA 1, 2 Salt Crust (B11) Aquatic Invertebrat Hydrogen Sulfide C	2, 4A, and 4 tes (B13) Odor (C1)	4B)	Secon	Water-State (MLRA 1, Drainage F Dry-Seaso Saturation	ators (2 or n ined Leaves <b>2, 4A, and 4</b> Patterns (B1 on Water Tal Visible on <i>A</i>	more re ; (B9) <b>4B)</b> 0) ble (C2	2)	•	)))	
DROLOC /etland Hy rimary Indi   Surfa   High '   Satur   Wate   Sedin   Drift [	drology Indicatorators (minimum of ce Water (A1)) Water Table (A2) ation (A3) r Marks (B1)	of one re	equired;	check :		Water-Stained Lea (except MLRA 1, 2 Salt Crust (B11) Aquatic Invertebrat	tes (B13) Odor (C1) eres along I	#B)	Secon	Water-Star (MLRA 1, Drainage F Dry-Seaso Saturation Geomorph	ators (2 or n ined Leaves <b>2, 4A, and 4</b> Patterns (B1 on Water Tal	more re is (B9) 0) ble (C2 Aerial II	2)	•	)))	
DROLOC Vetland Hy rimary Indi Surfa High ' Satur Wate Sedin Drift [	drology Indicato cators (minimum of ce Water (A1) Water Table (A2) ation (A3) r Marks (B1) nent Deposits (B2) Deposits (B3)	of one re	equired;	check		Water-Stained Lea (except MLRA 1, 2 Salt Crust (B11) Aquatic Invertebrat Hydrogen Sulfide C Oxidized Rhizosph	tes (B13) Odor (C1) eres along I	Living Roots (	Secon	Water-Star (MLRA 1, Drainage F Dry-Seaso Saturation Geomorph Shallow A	ators (2 or n ined Leaves <b>2, 4A, and </b> 4 Patterns (B1 on Water Tal Visible on <i>A</i> visible on <i>A</i>	more re (B9) (B9) 0) ble (C2	2)	•	))	
DROLOC Vetland Hy rimary Indi Surfa High Satur Wate Sedin Drift [ Algal Iron [	rdrology Indicato cators (minimum of ce Water (A1) Water Table (A2) ation (A3) r Marks (B1) ment Deposits (B2) Deposits (B3) Mat or Crust (B4)	of one re	equired;	check		Water-Stained Lea (except MLRA 1, 2 Salt Crust (B11) Aquatic Invertebrat Hydrogen Sulfide C Oxidized Rhizosph Presence of Reduc	tes (B13) Odor (C1) eres along I ced Iron (C4	Living Roots (	Secon	Water-Stai (MLRA 1, Drainage F Dry-Seaso Saturation Geomorph Shallow Ad	ators (2 or n ined Leaves <b>2, 4A, and 4</b> Patterns (B1 on Water Tal Visible on A lic Position ( quitard (D3)	more reserved. (B9) 0) ble (C2 Aerial II	?) mage	ry (C9	))	
DROLOG  /etland Hy rimary Indi    Surfa   High   Satur   Wate   Sedin   Drift [   Algal   Iron [   Surfa	rdrology Indicator cators (minimum of ce Water (A1) Water Table (A2) ation (A3) r Marks (B1) nent Deposits (B2) Deposits (B3) Mat or Crust (B4)	of one re				Water-Stained Lea (except MLRA 1, 2 Salt Crust (B11) Aquatic Invertebrat Hydrogen Sulfide C Oxidized Rhizosph Presence of Reduc Recent Iron Reduc	tes (B13) Odor (C1) eres along I ced Iron (C4 tion in Tilled s Plants (D1	Living Roots (	Secon	Water-Stai (MLRA 1, Drainage F Dry-Seaso Saturation Geomorph Shallow Ad FAC-Neuti Raised An	ators (2 or n ined Leaves <b>2, 4A, and 4</b> Patterns (B1 on Water Tal Visible on A iic Position ( quitard (D3) ral Test (D5)	more ref ( (B9) 4 <b>4B</b> ) 0) bble (C2 Aerial II (D2)	2) mage	ry (C9	))	
DROLOC etland Hy imary Indi ] Surfa ] High ] Satur ] Wate ] Sedin ] Drift [ ] Algal ] Iron [ ] Surfa ] Inund	rdrology Indicato cators (minimum of ce Water (A1) Water Table (A2) ation (A3) r Marks (B1) ment Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) ce Soil Cracks (B6)	of one re	agery (B	37)		Water-Stained Lea (except MLRA 1, 2 Salt Crust (B11) Aquatic Invertebrat Hydrogen Sulfide C Oxidized Rhizosph Presence of Reduc Recent Iron Reduc Stunted or Stresses	tes (B13) Odor (C1) eres along I ced Iron (C4 tion in Tilled s Plants (D1	Living Roots (	Secon	Water-Stai (MLRA 1, Drainage F Dry-Seaso Saturation Geomorph Shallow Ad FAC-Neuti Raised An	ators (2 or n ined Leaves <b>2, 4A, and 4</b> Patterns (B1 on Water Tal Visible on A nic Position ( quitard (D3) ral Test (D5) t Mounds (D	more ref ( (B9) 4 <b>4B</b> ) 0) bble (C2 Aerial I (D2)	2) mage	ry (C9	))	
DROLOC /etland Hy rimary Indi     Surfa     High '     Sedin     Drift [     Algal     Iron [     Surfa	drology Indicato cators (minimum of ce Water (A1) Water Table (A2) ation (A3) r Marks (B1) nent Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) ce Soil Cracks (B6) lation Visible on A	of one re	agery (B	37)		Water-Stained Lea (except MLRA 1, 2 Salt Crust (B11) Aquatic Invertebrat Hydrogen Sulfide C Oxidized Rhizosph Presence of Reduc Recent Iron Reduc Stunted or Stresses	tes (B13) Odor (C1) eres along I ced Iron (C4 tion in Tilled s Plants (D1	Living Roots (	Secon	Water-Stai (MLRA 1, Drainage F Dry-Seaso Saturation Geomorph Shallow Ad FAC-Neuti Raised An	ators (2 or n ined Leaves <b>2, 4A, and 4</b> Patterns (B1 on Water Tal Visible on A nic Position ( quitard (D3) ral Test (D5) t Mounds (D	more ref ( (B9) 4 <b>4B</b> ) 0) bble (C2 Aerial I (D2)	2) mage	ry (C9	))	
DROLOC Vetland Hy rimary Indi Surfa High Satur Sedin Drift [ Algal Iron [ Surfa Inund Spars Sield Obser	drology Indicato cators (minimum of ce Water (A1) Water Table (A2) ation (A3) r Marks (B1) nent Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) ce Soil Cracks (B6) lation Visible on A	of one re	agery (B	37)		Water-Stained Lea (except MLRA 1, 2 Salt Crust (B11) Aquatic Invertebrat Hydrogen Sulfide C Oxidized Rhizosph Presence of Reduc Recent Iron Reduc Stunted or Stresses	tes (B13) Ddor (C1) eres along I ced Iron (C4 tion in Tilled s Plants (D1	Living Roots (	Secon	Water-Stai (MLRA 1, Drainage F Dry-Seaso Saturation Geomorph Shallow Ad FAC-Neuti Raised An	ators (2 or n ined Leaves <b>2, 4A, and 4</b> Patterns (B1 on Water Tal Visible on A nic Position ( quitard (D3) ral Test (D5) t Mounds (D	more ref ( (B9) 4 <b>4B</b> ) 0) bble (C2 Aerial I (D2)	2) mage	ry (C9	)))	
DROLOC Vetland Hy rimary Indi Surfa High Satur Sedin Drift [ Algal Iron [ Surfa Inund Spars Veld Obser	rdrology Indicato cators (minimum of ce Water (A1) Water Table (A2) ation (A3) r Marks (B1) nent Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) ce Soil Cracks (B6) lation Visible on Active Vegetated Corvations:	of one re  )  Si)  erial Ima	agery (B urface (	37) (B8)		Water-Stained Lea (except MLRA 1, 2 Salt Crust (B11) Aquatic Invertebrat Hydrogen Sulfide C Oxidized Rhizosph Presence of Reduc Recent Iron Reduc Stunted or Stresses Other (Explain in R	tes (B13) Ddor (C1) eres along I ced Iron (C4 tion in Tillec s Plants (D1 Remarks)	Living Roots (	Secon	Water-Stai (MLRA 1, Drainage F Dry-Seaso Saturation Geomorph Shallow Ad FAC-Neuti Raised An	ators (2 or n ined Leaves <b>2, 4A, and 4</b> Patterns (B1 on Water Tal Visible on A nic Position ( quitard (D3) ral Test (D5) t Mounds (D	more ref ( (B9) 4 <b>4B</b> ) 0) bble (C2 Aerial I (D2)	2) mage	ry (C9	))	
DROLOC Vetland Hy rimary Indi Surfa High Satur Sedin Drift [ Algal Iron [ Inund Spars Vetla Obser urface Wat Vater Table aturation F	drology Indicator cators (minimum of ce Water (A1)) Water Table (A2) ation (A3) In Marks (B1) Inent Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) In Creace (B6) In Creace (	of one re  ) erial Imancave S  Yes	agery (B urface (	37) (B8) No		Water-Stained Lea (except MLRA 1, 2 Salt Crust (B11) Aquatic Invertebrat Hydrogen Sulfide C Oxidized Rhizosph Presence of Reduc Recent Iron Reduc Stunted or Stresses Other (Explain in R	tes (B13) Odor (C1) eres along I ced Iron (C4 tion in Tilled s Plants (D1 Remarks)	Living Roots (	Secon	Water-Stai (MLRA 1, Drainage F Dry-Seasc Saturation Geomorph Shallow Ar FAC-Neutr Raised An Frost-Hear	ators (2 or n ined Leaves <b>2, 4A, and 4</b> Patterns (B1 on Water Tal Visible on A nic Position ( quitard (D3) ral Test (D5) t Mounds (D	more ref ( (B9) 4 <b>4B</b> ) 0) bble (C2 Aerial I (D2)	mage	ry (C9	No.	
DROLOC /etland Hy rimary Indi     Surfa     High '     Satur     Sedin     Drift [     Algal     Iron [     Surfa     Inund     Spars ield Obser urface Wate /ater Table aturation Facludes ca	rdrology Indicato cators (minimum of ce Water (A1)) Water Table (A2) ation (A3) In Marks (B1) Inent Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) Ince Soil Cracks (B6) Idation Visible on An insely Vegetated Corvations: Iter Present? Iter Present? Iter Present? Iter Present? Iter Present?	of one re  ) erial Ima ncave S  Yes Yes Yes	egery (B urface (	37) (B8) No No No		Water-Stained Lea (except MLRA 1, 2 Salt Crust (B11) Aquatic Invertebrat Hydrogen Sulfide C Oxidized Rhizosph Presence of Reduc Recent Iron Reduc Stunted or Stresse: Other (Explain in R  Depth (inches)	tes (B13) Ddor (C1) eres along I ced Iron (C4 tition in Tillec s Plants (D1 Remarks)	Living Roots (	Secon	Water-Stai (MLRA 1, Drainage F Dry-Seasc Saturation Geomorph Shallow Ar FAC-Neutr Raised An Frost-Hear	ators (2 or n ined Leaves <b>2, 4A, and 4</b> Patterns (B1 on Water Tal Visible on A nic Position ( quitard (D3) ral Test (D5) t Mounds (D	more re ( (B9) 4 <b>8)</b> 0) ble (C2 Aerial I (D2) ) ) 06) ( <b>LF</b>	mage	ry (C9		
DROLOC /etland Hy rimary Indi     Surfa     High '     Satur     Sedin     Drift [     Algal     Iron [     Surfa     Inund     Spars ield Obser urface Wat /ater Table aturation Facludes ca	rdrology Indicato cators (minimum of ce Water (A1)) Water Table (A2) ation (A3) In Marks (B1) Inent Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) Ince Soil Cracks (B6) Idation Visible on An insely Vegetated Corvations: Iter Present? Iter Present? Iter Present? Iter Present? Iter Present?	of one re  ) erial Ima ncave S  Yes Yes Yes	egery (B urface (	37) (B8) No No No		Water-Stained Lea (except MLRA 1, 2 Salt Crust (B11) Aquatic Invertebrat Hydrogen Sulfide C Oxidized Rhizosph Presence of Reduc Recent Iron Reduc Stunted or Stresses Other (Explain in R  Depth (inches) Depth (inches)	tes (B13) Ddor (C1) eres along I ced Iron (C4 tition in Tillec s Plants (D1 Remarks)	Living Roots (	Secon	Water-Stai (MLRA 1, Drainage F Dry-Seasc Saturation Geomorph Shallow Ar FAC-Neutr Raised An Frost-Hear	ators (2 or n ined Leaves <b>2, 4A, and 4</b> Patterns (B1 on Water Tal Visible on A nic Position ( quitard (D3) ral Test (D5) t Mounds (D	more re ( (B9) 4 <b>8)</b> 0) ble (C2 Aerial I (D2) ) ) 06) ( <b>LF</b>	mage	ry (C9		

Project Site:	West Seattle a	nd Ballard Link E	ktensions	i			City/Count	y: <u>S</u>	eattle/King		Sam	npling Da	ite:	10/7	7/2019	<u>)</u>
Applicant/Owner:	Sound Transit								St	ate: <u>WA</u>	Sam	npling Po	int:	WS	E8-SF	22
Investigator(s):	Amy Rotondo a	and Emily Drew							Section, To	wnship, Ra	ange:	S23, T25	N, R03E			
Landform (hillslope, terr	race, etc.):	slope				Loca	l relief (conca	ve, co	nvex, none):	none			Slope	(%):	<u>1</u>	
Subregion (LRR):	<u>A</u>		Lat:					Lon	ng:				oatum: _			
Soil Map Unit Name:	Urban land, 0	to 5% slopes								NWI cla	assifica	tion:	None			
Are climatic / hydrologic	conditions on	the site typical for	this time	of ye	ar?	Ye	es 🛚	No	) [I	no, explain	n in Rer	marks.)				
Are Vegetation $\square$ ,	Soil □,	or Hydrology	□, sig	nifica	ntly dis	turbed	? Are "N	Vormal	Circumstan	ces" presen	nt?		Yes	$\boxtimes$	No	
Are Vegetation □,	Soil □,	or Hydrology	□, nat	turally	proble	ematic?	(If nee	eded, e	explain any a	inswers in F	Remark	s.)				
SUMMARY OF FINE	DINGS – Atta	ch site map sl	nowing		pling		locations,	trans	ects, impo	rtant feat	tures,	etc.				
Hydrophytic Vegetation	Present?		Yes	$\boxtimes$	No		Is the Sampl	lad Ar								
Hydric Soil Present?			Yes		No		within a Wet						Yes		No	
Wetland Hydrology Pres	sent?		Yes		No	$\boxtimes$										
Remarks: Plot was pl	aced 20 feet so	outh of WSE8-SP	1 and jus	t beyo	nd the	extent	of reed cana	rygras	s. Plot is als	o 6 feet nor	rth of th	e road e	dge.			
VEGETATION - Use	scientific na	ames of plants														
Tree Stratum (Plot size	e: <u>30ft</u> )		Absolu <u>% Cov</u>		Domir Specie		Indicator <u>Status</u>	Dom	ninance Tes	t Workshe	et:					
1			70 001	<u> </u>		<del></del>		Num	ber of Domi	nant Specie	25					
2									Are OBL, F				<u>2</u>			(A)
3								Tota	I Number of	Dominant						<i>(</i> =)
4									cies Across				<u>3</u>			(B)
50% =, 20% = _					= Tota	al Cove	er	Perc	ent of Domin	nant Specie	es.					
Sapling/Shrub Stratum		<u>t</u> )							Are OBL, F				<u>67</u>			(A/B)
1. Rubus armeniacus	<u>3</u>		<u>80</u>		<u>yes</u>		FAC	Prev	/alence Inde	x workshe	et:					
2									Tota	al % Cover	of:		Multipl	y by:		
3								OBL	. species		_		x1 =			
4								FAC	W species		_		x2 =			
5								FAC	species				x3 =			
50% = <u>40</u> , 20% = <u>16</u>			80		= Tota	al Cove	er	FAC	U species				x4 =			
Herb Stratum (Plot size	e: 5ft)		_					UPL	species				x5 =			
Convolvulus arven	<del></del> ,		<u>55</u>		<u>yes</u>		NL (UPL)		ımn Totals:	<u> </u>	(A)				(E	3)
Equisetum arvense			<u>15</u>		<u>yes</u>		FAC	Colu	iiiiii Totais.	Prevalen		x = R/A	=		\-	-,
3. Tomato plant	<u>~</u>		<u>10</u> 5				NI	Hydi	rophytic Ve							
Sonchus asper			<u>5</u> 1		no no		FACU	_	1 – Rapid <sup>-</sup>	_			ation			
5					110		1700		•	nce Test is		ic vegeta	ation			
								l								
6									3 - Prevale	nce Index is	s <u>&lt;</u> 3.0¹					
7										logical Ada <sub>l</sub> Remarks or				ting		
8													Silecty			
9										l Non-Vasc						
10									Problemati	c Hydrophy	tic Veg	etation <sup>1</sup>	(Explain)			
11					_			1Indi	cators of hyd	dric soil and	l wetlan	nd hydrol	oav must			
50% = <u>38</u> , 20% = <u>15.2</u>	=		<u>76</u>		= Tota	al Cove	er		resent, unles							
Woody Vine Stratum (I	Plot size: 15ft)															
1								Llvd	ronhutio							
2								_	rophytic etation		Yes	Σ	3	No	)	
50% =, 20% = _					= Tota	al Cove	er	_	sent?			_	_			_
% Bare Ground in Her	b Stratum <u>24</u>															
Remarks: T	he 2016 Plant	List was used for	this delin	eatior	١.											

nches) Color (moist)	%	. C	olor (mo	ist) % Type	Loc <sup>2</sup>	Texture		Remarks		
0-12+ 10YR 3/2			0101 (1110	// Type		silt loan	<u> </u>	Remarks	<u>'</u>	
<u>10117 0/2</u>	<u>10</u>	<u>,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,</u>				Sittiodii	<u></u>			
<u> </u>										
					<u> </u>		<u> </u>			
							<u> </u>			
				<u> </u>			<u> </u>			
/pe: C= Concentration, D=	Depletion,	RM=Reduc	ed Matri	ix, CS=Covered or Coated Sa	and Grains.	<sup>2</sup> Location: PL=	Pore Lining, M=Mat	trix		
dric Soil Indicators: (App	licable to	all LRRs, ι	unless o	otherwise noted.)		Indic	ators for Problema	atic Hydric S	oils³:	
Histosol (A1)				Sandy Redox (S5)			2 cm Muck (A10)			
Histic Epipedon (A2)				Stripped Matrix (S6)			Red Parent Mate	rial (TF2)		
Black Histic (A3)				Loamy Mucky Mineral (F1)	(except MLRA	1) 🗆	Very Shallow Dar	rk Surface (TF	12)	
Hydrogen Sulfide (A4)				Loamy Gleyed Matrix (F2)			Other (Explain in	Remarks)		
Depleted Below Dark S	surface (A1	11)		Depleted Matrix (F3)						
Thick Dark Surface (A	2)			Redox Dark Surface (F6)						
Sandy Mucky Mineral (	S1)			Depleted Dark Surface (F7)			cators of hydrophytic etland hydrology mu			
Sandy Gleyed Matrix (	64)			Redox Depressions (F8)			nless disturbed or pr		•••	
strictive Layer (if presen	t):									
oe:										
					Hydric Soi	Is Present?	Ye	es 🗌	No	⊵
epth (inches):emarks: No hydric soil i	ndicators p	present.			riyunt 301					
marks: No hydric soil i		oresent.			riyunt 30i					
marks: No hydric soil i	ors:		k all that	: apply)	riyunt son		dany Indicators (2 o		ad)	
marks: No hydric soil i  DROLOGY  etland Hydrology Indicate mary Indicators (minimum	ors:					Second	dary Indicators (2 o	r more require	ed)	
PROLOGY etland Hydrology Indicate mary Indicators (minimum Surface Water (A1)	ors: of one req		k all that	Water-Stained Leaves (B9)		Second V	Water-Stained Leave	r more require es (B9)	ed)	
PROLOGY Itland Hydrology Indicate mary Indicators (minimum Surface Water (A1) High Water Table (A2)	ors: of one req			Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and		Second V	Water-Stained Leave	r more require es (B9) d <b>4B</b> )	ed)	
PROLOGY etland Hydrology Indicate mary Indicators (minimum Surface Water (A1) High Water Table (A2) Saturation (A3)	ors: of one req			Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and Salt Crust (B11)	d 4B)	Second V	Water-Stained Leave MLRA 1, 2, 4A, and Drainage Patterns (E	r more require es (B9) d <b>4B)</b> 310)	ed)	
PROLOGY  Itland Hydrology Indicate mary Indicators (minimum  Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1)	ors: of one req			Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and Salt Crust (B11) Aquatic Invertebrates (B13)	d 4B)	Second (	Water-Stained Leave MLRA 1, 2, 4A, and Drainage Patterns (E Dry-Season Water T	r more require es (B9) d <b>4B)</b> 310) Table (C2)	,	
PROLOGY  Itland Hydrology Indicate mary Indicators (minimum Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B3)	ors: of one req			Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1)	d 4B)	Second (	Water-Stained Leave (MLRA 1, 2, 4A, and Drainage Patterns (E Dry-Season Water T Saturation Visible or	r more require es (B9) d <b>4B)</b> 310) able (C2)	,	
DROLOGY  Interpretation of the property of the	ors: of one req			Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres alon	d 4B)	Second   V   ()	Water-Stained Leave (MLRA 1, 2, 4A, and Drainage Patterns (E Dry-Season Water T Saturation Visible or Geomorphic Position	r more require es (B9) d <b>4B)</b> 310) Table (C2) n Aerial Image n (D2)	,	
PROLOGY  International States of the Internation (A2)  Saturation (A3)  Water Marks (B1)  Sediment Deposits (B2)  Drift Deposits (B3)  Algal Mat or Crust (B4)	ors: of one req			Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres alon Presence of Reduced Iron (	d 4B) ) ng Living Roots (C4)	Second () () () () () () () () () () () () ()	Water-Stained Leave (MLRA 1, 2, 4A, and Drainage Patterns (E Dry-Season Water T Saturation Visible or Geomorphic Position Shallow Aquitard (Di	r more require es (B9) d <b>4B)</b> 310) Table (C2) in Aerial Image in (D2)	,	
PROLOGY  Etland Hydrology Indicate mary Indicators (minimum Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B3) Algal Mat or Crust (B4 Iron Deposits (B5)	ors: of one req			Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres alone Presence of Reduced Iron (Recent Iron Reduction in Til	d 4B)  ng Living Roots (C4)  lled Soils (C6)	Second	Water-Stained Leave MLRA 1, 2, 4A, and Drainage Patterns (E Dry-Season Water T Saturation Visible or Geomorphic Position Shallow Aquitard (DS FAC-Neutral Test (D	r more require es (B9) d <b>4B)</b> 310) Table (C2) n Aerial Image n (D2) 3)	ery (C9)	
PROLOGY tland Hydrology Indicate mary Indicators (minimum Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B3) Algal Mat or Crust (B4 Iron Deposits (B5) Surface Soil Cracks (E	ors: of one req	uired; check		Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres alon Presence of Reduced Iron (Recent Iron Reduction in Til Stunted or Stresses Plants (	d 4B)  ng Living Roots (C4)  lled Soils (C6)	Second () () () () () () () () () () () () () (	Water-Stained Leave (MLRA 1, 2, 4A, and Drainage Patterns (E Dry-Season Water T Saturation Visible or Geomorphic Position Shallow Aquitard (Di FAC-Neutral Test (D Raised Ant Mounds	r more require es (B9) d <b>4B)</b> 310) Fable (C2) n Aerial Image n (D2) 3) (D6) (LRR A)	ery (C9)	
PROLOGY  Interest of the property of the prope	ors: of one req	juired; check		Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres alone Presence of Reduced Iron (Recent Iron Reduction in Til	d 4B)  ng Living Roots (C4)  lled Soils (C6)	Second () () () () () () () () () () () () () (	Water-Stained Leave MLRA 1, 2, 4A, and Drainage Patterns (E Dry-Season Water T Saturation Visible or Geomorphic Position Shallow Aquitard (DS FAC-Neutral Test (D	r more require es (B9) d <b>4B)</b> 310) Fable (C2) n Aerial Image n (D2) 3) (D6) (LRR A)	ery (C9)	
DROLOGY  Etland Hydrology Indicate mary Indicators (minimum Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B3) Algal Mat or Crust (B4 Iron Deposits (B5) Surface Soil Cracks (E Inundation Visible on A Sparsely Vegetated C	ors: of one req	juired; check		Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres alon Presence of Reduced Iron (Recent Iron Reduction in Til Stunted or Stresses Plants (	d 4B)  ng Living Roots (C4)  lled Soils (C6)	Second () () () () () () () () () () () () () (	Water-Stained Leave (MLRA 1, 2, 4A, and Drainage Patterns (E Dry-Season Water T Saturation Visible or Geomorphic Position Shallow Aquitard (Di FAC-Neutral Test (D Raised Ant Mounds	r more require es (B9) d <b>4B)</b> 310) Fable (C2) n Aerial Image n (D2) 3) (D6) (LRR A)	ery (C9)	
DROLOGY  Estland Hydrology Indicate mary Indicators (minimum Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B3) Algal Mat or Crust (B4 Iron Deposits (B5) Surface Soil Cracks (E Inundation Visible on A Sparsely Vegetated Ca Idd Observations:	ors: of one req 2) 6) aerial Imag	juired; check		Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres alon Presence of Reduced Iron (Recent Iron Reduction in Til Stunted or Stresses Plants (	d 4B)  ng Living Roots (C4)  lled Soils (C6)	Second () () () () () () () () () () () () () (	Water-Stained Leave (MLRA 1, 2, 4A, and Drainage Patterns (E Dry-Season Water T Saturation Visible or Geomorphic Position Shallow Aquitard (Di FAC-Neutral Test (D Raised Ant Mounds	r more require es (B9) d <b>4B)</b> 310) Fable (C2) n Aerial Image n (D2) 3) (D6) (LRR A)	ery (C9)	
DROLOGY  Etland Hydrology Indicate mary Indicators (minimum Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B3) Algal Mat or Crust (B4 Iron Deposits (B5) Surface Soil Cracks (E Inundation Visible on A Sparsely Vegetated Co	ors: of one req 2) 6) Aerial Imagoncave Sur	juired; check		Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres alon Presence of Reduced Iron (Recent Iron Reduction in Til Stunted or Stresses Plants (Other (Explain in Remarks)	d 4B)  ng Living Roots (C4)  lled Soils (C6)	Second () () () () () () () () () () () () () (	Water-Stained Leave (MLRA 1, 2, 4A, and Drainage Patterns (E Dry-Season Water T Saturation Visible or Geomorphic Position Shallow Aquitard (Di FAC-Neutral Test (D Raised Ant Mounds	r more require es (B9) d <b>4B)</b> 310) Fable (C2) n Aerial Image n (D2) 3) (D6) (LRR A)	ery (C9)	
DROLOGY  DROLOGY  Detland Hydrology Indicate mary Indicators (minimum  Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1)  Sediment Deposits (B3)  Algal Mat or Crust (B4  Iron Deposits (B5)  Surface Soil Cracks (E  Inundation Visible on A	ors: of one req 2) 6) Aerial Imag oncave Sur Yes Yes	uired; check		Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres alone Presence of Reduced Iron (Recent Iron Reduction in Till Stunted or Stresses Plants (Other (Explain in Remarks)  Depth (inches):	d 4B)  Ing Living Roots (C4)  Illed Soils (C6) (D1) (LRR A)	Second	Water-Stained Leave (MLRA 1, 2, 4A, and Drainage Patterns (E Dry-Season Water T Saturation Visible or Geomorphic Position Shallow Aquitard (D: FAC-Neutral Test (D Raised Ant Mounds Frost-Heave Hummo	r more require es (B9) d <b>4B)</b> 310) Table (C2) in Aerial Image in (D2) 3) 05) (D6) (LRR A) pocks (D7)	ery (C9)	
DROLOGY  Interpretation Present?  Interpretation Present Present Present?  Interpretation Present P	ors: of one req 2) 6) Aerial Imag oncave Sur Yes Yes Yes	gery (B7) rface (B8) No No		Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres alon Presence of Reduced Iron ( Recent Iron Reduction in Til Stunted or Stresses Plants ( Other (Explain in Remarks)  Depth (inches):  Depth (inches):	d 4B)  Ing Living Roots (C4)  Illed Soils (C6)  (D1) (LRR A)	Second   V ( ( ( ( ( ( ( ( ( ( ( ( ( ( ( ( ( (	Water-Stained Leave (MLRA 1, 2, 4A, and Drainage Patterns (E Dry-Season Water T Saturation Visible or Geomorphic Position Shallow Aquitard (Di FAC-Neutral Test (D Raised Ant Mounds	r more require es (B9) d <b>4B)</b> 310) Fable (C2) n Aerial Image n (D2) 3) (D6) (LRR A)	ery (C9)	
PROLOGY  Interpretation Present?  Interpretation Present Present Present?  Interpretation Present Presen	ors: of one req 2) 6) Aerial Imag oncave Sur Yes Yes Yes	gery (B7) rface (B8) No No		Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres alone Presence of Reduced Iron (Recent Iron Reduction in Till Stunted or Stresses Plants (Other (Explain in Remarks)  Depth (inches):	d 4B)  Ing Living Roots (C4)  Illed Soils (C6)  (D1) (LRR A)	Second   V ( ( ( ( ( ( ( ( ( ( ( ( ( ( ( ( ( (	Water-Stained Leave (MLRA 1, 2, 4A, and Drainage Patterns (E Dry-Season Water T Saturation Visible or Geomorphic Position Shallow Aquitard (D: FAC-Neutral Test (D Raised Ant Mounds Frost-Heave Hummo	r more require es (B9) d <b>4B)</b> 310) Table (C2) in Aerial Image in (D2) 3) 05) (D6) (LRR A) pocks (D7)	ery (C9)	

Applicant/Owner: <u>Sound Transit</u>				State: WA	Sampling Point:	WSES	<u>}-SP1</u>
Investigator(s): Amy Rotondo and Emily Drew				Section, Township, Ran	ge: <u>S23, T25N, R03E</u>		
Landform (hillslope, terrace, etc.): toe of slope		Local	relief (conca	ave, convex, none): <u>concave</u>	Slope	e (%): <u>1</u>	<u>L</u>
Subregion (LRR): A	Lat:	_		Long:	Datum: _		
Soil Map Unit Name: <u>Urban land, 0 to 5% slopes</u>				NWI clas	sification: None		
Are climatic / hydrologic conditions on the site typical for	or this time of	/ear? Ye	s 🛛	No 🔲 (If no, explain i	n Remarks.)		
Are Vegetation ☐, Soil ☐, or Hydrology	☐, signific	antly disturbed?	Are "I	Normal Circumstances" present?	Yes	<b>M</b>	No 🗆
Are Vegetation □, Soil □, or Hydrology	☐, natural	ly problematic?	(If nee	eded, explain any answers in Re	marks.)		
SUMMARY OF FINDINGS – Attach site map s	howing sar	npling point	locations,	transects, important featu	res, etc.		
Hydrophytic Vegetation Present?	Yes 🏻	No 🗆		•	<del> </del>		
Hydric Soil Present?	Yes 🛛		s the Samp within a We		Yes	⊠ N	No 🗆
Wetland Hydrology Present?	Yes 🛛	No 🗆		iidiid i			
Remarks: Plot was between the steep slope covered	in Himalavan	blackberry and	ditch. Next t	o railroad overhang structure.			
	,	,		J			
VEGETATION – Use scientific names of plants							
Tree Stratum (Plot size: 30ft)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet	:		
1				Number of Dominant Species	2		(4)
2				That Are OBL, FACW, or FAC			(A)
3				Total Number of Dominant	0		(D)
4				Species Across All Strata:	<u>2</u>		(B)
50% =, 20% =		= Total Cover	r	Percent of Dominant Species	100		(A/D)
Sapling/Shrub Stratum (Plot size: 15ft)				That Are OBL, FACW, or FAC	: <u>100</u>		(A/B)
1. Rubus armeniacus	<u>40</u>	<u>yes</u>	<u>FAC</u>	Prevalence Index workshee	t:		
2				Total % Cover of	<u>Multip</u>	oly by:	
3				OBL species	x1 =		_
4				FACW species	x2 =		_
5				FAC species	x3 =		_
50% = <u>20,</u> 20% = <u>8</u>	<u>40</u>	= Total Cover	r	FACU species	x4 =		_
Herb Stratum (Plot size: 5ft)				UPL species	x5 =		_
1. Phalaris arundinacea	<u>50</u>	<u>ves</u>	FACW	Column Totals:	(A)		_ (B)
2. Bindweed spp.	<u>40</u>	<u>yes</u>	<u>NI</u>		e Index = B/A =		
3. <u>Solanum dulcamara</u>	20	no	FAC	Hydrophytic Vegetation Indi			
4.				☐ 1 – Rapid Test for Hydro			
5.				□ 2 - Dominance Test is >			
6.				☐ 3 - Prevalence Index is			
					_		
7 8				4 - Morphological Adapt data in Remarks or o		rting	
9				5 - Wetland Non-Vascul	' '		
10				Problematic Hydrophytic	; Vegetation¹ (Explain)		
11	440			<sup>1</sup> Indicators of hydric soil and v	vetland hydrology must	t	
50% = 55, 20% = 22	<u>110</u>	= Total Cover	r	be present, unless disturbed of			
Woody Vine Stratum (Plot size: 15ft)							
1				Hydrophytic			
2					res ⊠	No	
		= Total Cover	•	_	_		_
50% =, 20% =		rotal Gover		Present?			

inches)	Color (moist)	(	%	Cold	or (mo	ist) %	Type <sup>1</sup>	Loc <sup>2</sup>	Te	xture			Remark	S		
0-5	10YR 2/2	1	100			<u> </u>			s	It loam						
<u>5-12</u>	2.5Y 4/1	9	<u>95</u>	<u>7.5</u>	YR 4/	<u>4</u> <u>5</u>	<u>C</u>	<u>M</u>	sar	ndy loam	Might be	e fill				
		_		-					-							
		_		_					-							
		_		-					-							
		_	—	-					-							
				-					-	<del></del>						
				_					- · · ·							
*		•	-			ix, CS=Covered or Co	oated Sand	d Grains.	Location		e Lining, M		l le calada d	3 - 11 - 3	1-	
		cable t	o all LF		_	otherwise noted.) Sandy Redox (S5)				_	rs for Prob		Hyaric 8	Solis	<b>'</b> :	
] Histoso ] Histic E	pipedon (A2)					Stripped Matrix (S6)				_	cm Muck (/ ed Parent l	•	TE2)			
	listic (A3)					Loamy Mucky Miner		xcent MI RA	1)		ery Shallow	-		F12)		
	en Sulfide (A4)					Loamy Gleyed Matri		ACCPL MEICA	.,		ther (Expla		•	1 12)		
	ed Below Dark Su	rface (A	A11)			Depleted Matrix (F3					illoi (Explu		iaritoj			
-	ark Surface (A12	-	,			Redox Dark Surface										
	Mucky Mineral (S					Depleted Dark Surfa				<sup>3</sup> Indicator	s of hydrop	phytic veg	getation	and		
	Gleyed Matrix (S <sup>2</sup>					Redox Depressions					nd hydrolog s disturbed			nt,		
	ayer (if present)	-					()			unies	s disturbed	or proble	mauc.			
	,															
pe.													_			_
pth (inches	s):							Hydric Soi	Is Presen	t?		Yes		N.	0	
epth (inchesemarks:		s:						Hydric Soi	Is Presen	t?		Yes		N-	0	
epth (inches emarks: DROLOG etland Hyd	Y		quired;	check a	all that	apply)		Hydric Soi			Indicators				0	
imary Indic	Y Irology Indicator		quired;	check a	all that	apply) Water-Stained Leav	es (B9)	Hydric Soi		Secondary	Indicators er-Stained L	(2 or moi	re requir		0	
DROLOG etland Hyd imary Indical	Y irology Indicator ators (minimum o		equired;	check a						Secondary Wate		(2 or moi	re requir 39)		0	
DROLOG etland Hyd imary Indical Surface	Y Irology Indicator ators (minimum o e Water (A1)		:quired;	check a		Water-Stained Leav				Secondary Wate	er-Stained L	(2 or moi _eaves (E	re requir 39)		0	
DROLOG etland Hyd imary Indica   Surface   High W	Y Irology Indicator ators (minimum o e Water (A1) /ater Table (A2)		quired;	check a		Water-Stained Leav (except MLRA 1, 2,	4A, and 4			Secondary Wate (MLF	er-Stained L	(2 or mor Leaves (B a, <b>and 4B</b> rns (B10)	re requir 39)		0	
DROLOG etland Hyd imary Indica Surface High W Satura Water	Y Irology Indicator ators (minimum o e Water (A1) Vater Table (A2) tion (A3)		equired;	check a		Water-Stained Leav (except MLRA 1, 2, Salt Crust (B11)	<b>4A</b> , and 4		<u>8</u> [	Secondary Wate (MLF Drain Dry-8	er-Stained L RA 1, 2, 4A nage Patter	(2 or model Leaves (E a, and 4B ms (B10) ater Table	re requir 39) ) e (C2)	red)		
DROLOG etland Hyd imary Indic.   Surface   High W   Satura   Water   Sedime	Y Irology Indicator ators (minimum o e Water (A1) /ater Table (A2) tion (A3) Marks (B1)		:quired;	check a		Water-Stained Leav (except MLRA 1, 2, Salt Crust (B11) Aquatic Invertebrate	4 <b>A</b> , and 4 es (B13) dor (C1)	4B)	] ] ] ]	Secondary Wate (MLF Drair Dry-{	er-Stained L RA 1, 2, 4A nage Patter Season Wa	(2 or moi Leaves (E a, and 4B rns (B10) ater Table	re requir 39) ) e (C2) rial Imag	red)		
DROLOGetland Hydrogetland Hydrogetland Hydrogetland Hydrogetland Hydrogetland Water Sedime Grift De Fritt De Fr	Y Irology Indicator ators (minimum o e Water (A1) /ater Table (A2) tion (A3) Marks (B1) ent Deposits (B2)		:quired;	check a		Water-Stained Leav (except MLRA 1, 2, Salt Crust (B11) Aquatic Invertebrate Hydrogen Sulfide On	4A, and 4 es (B13) dor (C1) eres along	4B)	(C3) [	Gecondary Wate (MLF Drain Dry-S Satur Geor	er-Stained L RA 1, 2, 4A nage Patter Season Wa ration Visib	(2 or mor Leaves (B a, and 4B rns (B10) ater Table ble on Aer sition (D2	re requir 39) ) e (C2) rial Imag	red)		
DROLOG etland Hyd imary Indica   Surface   High W   Satura   Water   Sedime   Drift De	Y rology Indicator ators (minimum o e Water (A1) /ater Table (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3)		·quired;	check a		Water-Stained Leav (except MLRA 1, 2, Salt Crust (B11) Aquatic Invertebrate Hydrogen Sulfide O Oxidized Rhizosphe	es (B13) dor (C1) eres along ed Iron (C4	4B) Living Roots 4)	[ [ [ (C3) [	Secondary  Wate (MLF Drain Dry-5 Satu	er-Stained L RA 1, 2, 4A nage Patter Season Wa ration Visib norphic Po	(2 or moi Leaves (E Land 4B) This (B10) ater Table ole on Aer sition (D2 d (D3)	re requir 39) ) e (C2) rial Imag	red)		
DROLOG etland Hyd imary Indica   Surface   High W   Satura   Water   Sedime   Drift De	Y Irology Indicator ators (minimum o e Water (A1) /ater Table (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) /at or Crust (B4)	f one re	equired;	check a		Water-Stained Leav (except MLRA 1, 2, Salt Crust (B11) Aquatic Invertebrate Hydrogen Sulfide Or Oxidized Rhizosphe Presence of Reduce	es (B13) dor (C1) eres along ed Iron (C4	4B) Living Roots 4) d Soils (C6)	(C3) [ [ [ [	Secondary  Wate (MLF Drain Dry-S Satun Geor Shall	er-Stained L RA 1, 2, 4A nage Patter Season Wa ration Visib norphic Po ow Aquitar	(2 or moi Leaves (E La, and 4B rns (B10) ater Table ble on Aer sition (D2 dd (D3) est (D5)	re requir 39) ) e (C2) rial Imag 2)	ery (C		
DROLOG etland Hyd imary Indica Surface High W Satura Water Sedime Drift De Algal M Iron De	Y Irology Indicator ators (minimum o e Water (A1) /ater Table (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) /at or Crust (B4) eposits (B5)	f one re				Water-Stained Leav (except MLRA 1, 2, Salt Crust (B11) Aquatic Invertebrate Hydrogen Sulfide Or Oxidized Rhizosphe Presence of Reduce Recent Iron Reducti	es (B13) dor (C1) eres along ed Iron (C4 on in Tilled Plants (D	4B) Living Roots 4) d Soils (C6)	S	Gecondary  Wate (MLF Drain Dry-5 Satur Geor Shall FAC-	er-Stained L RA 1, 2, 4A nage Patter Season Wa ration Visib morphic Po ow Aquitar Neutral Te	(2 or modeleaves (E. a., and 4B) atter Table on Aer sition (D2 dd (D3) atter (D5) and (D6) and (D6) and (D6)	re requir 39) ) • (C2) rial Imag 2)	ery (C		
DROLOG etland Hyd imary Indic.   Surface   High W   Satura   Water   Sedime   Drift De   Algal M   Iron De   Surface   Inunda	Y Irology Indicator ators (minimum o e Water (A1) /ater Table (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) /at or Crust (B4) eposits (B5) e Soil Cracks (B6	f one re	agery (B	37)		Water-Stained Leav (except MLRA 1, 2, Salt Crust (B11) Aquatic Invertebrate Hydrogen Sulfide Or Oxidized Rhizosphe Presence of Reduce Recent Iron Reducti Stunted or Stresses	es (B13) dor (C1) eres along ed Iron (C4 on in Tilled Plants (D	4B) Living Roots 4) d Soils (C6)	S	Gecondary  Wate (MLF Drain Dry-5 Satur Geor Shall FAC-	er-Stained L RA 1, 2, 4A nage Patter Season Wa ration Visib norphic Po ow Aquitar Neutral Te	(2 or modeleaves (E. a., and 4B) atter Table on Aer sition (D2 dd (D3) atter (D5) and (D6) and (D6) and (D6)	re requir 39) ) • (C2) rial Imag 2)	ery (C		
DROLOG etland Hyd imary Indica   Surface   Water   Sedime   Drift De   Algal M   Iron De   Surface   Surface   Iron De   Surface   Surface	Y Irology Indicator ators (minimum of the Water (A1) Vater Table (A2) tion (A3) Marks (B1) tent Deposits (B2) teposits (B3) Vat or Crust (B4) teposits (B5) teposits (B5) teposits (B5) teposits (B6) teposits (B6) teposits (B7) teposits (B8)	f one re	agery (B	37)		Water-Stained Leav (except MLRA 1, 2, Salt Crust (B11) Aquatic Invertebrate Hydrogen Sulfide Or Oxidized Rhizosphe Presence of Reduce Recent Iron Reducti Stunted or Stresses	es (B13) dor (C1) eres along ed Iron (C4 on in Tilled Plants (D	4B) Living Roots 4) d Soils (C6)	S	Gecondary  Wate (MLF Drain Dry-5 Satur Geor Shall FAC-	er-Stained L RA 1, 2, 4A nage Patter Season Wa ration Visib norphic Po ow Aquitar Neutral Te	(2 or modeleaves (E. a., and 4B) atter Table on Aer sition (D2 dd (D3) atter (D5) and (D6) and (D6) and (D6)	re requir 39) ) • (C2) rial Imag 2)	ery (C		
DROLOG etland Hyd imary Indica   Surface   Water   Sedime   Drift De   Iron De   Surface   Iron De   Surface	Y Irology Indicator ators (minimum of the Water (A1) Vater Table (A2) tion (A3) Marks (B1) tent Deposits (B2) teposits (B3) Vat or Crust (B4) teposits (B5) teposits (B5) teposits (B5) teposits (B6) teposits (B6) teposits (B7) teposits (B8)	f one re	agery (B	37)		Water-Stained Leav (except MLRA 1, 2, Salt Crust (B11) Aquatic Invertebrate Hydrogen Sulfide Or Oxidized Rhizosphe Presence of Reduce Recent Iron Reducti Stunted or Stresses	es (B13) dor (C1) eres along ed Iron (C4 on in Tiller Plants (D	4B) Living Roots 4) d Soils (C6)	S	Gecondary  Wate (MLF Drain Dry-5 Satur Geor Shall FAC-	er-Stained L RA 1, 2, 4A nage Patter Season Wa ration Visib norphic Po ow Aquitar Neutral Te	(2 or modeleaves (E. a., and 4B) atter Table on Aer sition (D2 dd (D3) atter (D5) and (D6) and (D6) and (D6)	re requir 39) ) • (C2) rial Imag 2)	ery (C		
DROLOG etland Hyd imary Indica Surface High W Satura Water Sedime Drift De Algal M Iron De Surface Inunda Sparse	Y Prology Indicator ators (minimum of the Water (A1) Provided (A2) And (A3) Marks (B1) And (B1) And (B2) And (B3) And (B4) And (B4) And (B5) And (B5) And (B6) And (B	f one re	agery (B uurface (	37) (B8)		Water-Stained Leav (except MLRA 1, 2, Salt Crust (B11) Aquatic Invertebrate Hydrogen Sulfide Or Oxidized Rhizosphe Presence of Reduce Recent Iron Reducti Stunted or Stresses Other (Explain in Re	es (B13) dor (C1) ores along ed Iron (C4 on in Tiller Plants (D emarks)	4B) Living Roots 4) d Soils (C6) 1) (LRR A)	S	Gecondary  Wate (MLF Drain Dry-5 Satur Geor Shall FAC-	er-Stained L RA 1, 2, 4A nage Patter Season Wa ration Visib norphic Po ow Aquitar Neutral Te	(2 or modeleaves (E. a., and 4B) atter Table on Aer sition (D2 dd (D3) atter (D5) and (D6) and (D6) and (D6)	re requir 39) ) • (C2) rial Imag 2)	ery (C		
DROLOG' etland Hyd imary Indic: Surface High W Satura' Water Sedime Drift De Algal M Iron De Surface Inunda Sparse eld Observ urface Water ater Table I	Y Irology Indicator ators (minimum o e Water (A1) /ater Table (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) /at or Crust (B4) eposits (B5) e Soil Cracks (B6 tion Visible on Ae ely Vegetated Cor rations: er Present? Present? esent? elilary fringe)	one reformed from the reformed	agery (B durface (	37) (B8) No No No		Water-Stained Leav (except MLRA 1, 2, Salt Crust (B11) Aquatic Invertebrate Hydrogen Sulfide Or Oxidized Rhizosphe Presence of Reduce Recent Iron Reducti Stunted or Stresses Other (Explain in Reducti Depth (inches): Depth (inches):	es (B13) dor (C1) ores along ed Iron (C4 on in Tiller Plants (D emarks)  10" BG 6.5" BG	4B) Living Roots 4) d Soils (C6) 1) (LRR A)	(C3) [ [ [ [ [ [	Secondary  Wate  (MLF  Drain  Satun  Geor  Shall  FAC-  Raise	er-Stained L RA 1, 2, 4A nage Patter Season Wa ration Visib norphic Po ow Aquitar Neutral Te	(2 or more controlled to the c	re requir 39) ) • (C2) rial Imag 2)	ery (C		
DROLOG  etland Hyd  imary Indic:  Surface  High W  Satura  Water  Sedime  Inon De  Surface  Inunda  Sparse  eld Observ  urface Water  ater Table I  aturation Procludes cap	Y Irology Indicator ators (minimum o e Water (A1) /ater Table (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) /at or Crust (B4) eposits (B5) e Soil Cracks (B6 tion Visible on Ae ely Vegetated Cor rations: er Present? Present? esent? elilary fringe)	one reformed from the reformed	agery (B turface (	37) (B8) No No No		Water-Stained Leav (except MLRA 1, 2, Salt Crust (B11) Aquatic Invertebrate Hydrogen Sulfide O Oxidized Rhizosphe Presence of Reduce Recent Iron Reducti Stunted or Stresses Other (Explain in Re  Depth (inches):	es (B13) dor (C1) ores along ed Iron (C4 on in Tiller Plants (D emarks)  10" BG 6.5" BG	4B) Living Roots 4) d Soils (C6) 1) (LRR A)	(C3) [ [ [ [ [ [	Secondary  Wate  (MLF  Drain  Satun  Geor  Shall  FAC-  Raise	er-Stained L RA 1, 2, 4A nage Patter Season War ration Visib morphic Po ow Aquitar Neutral Te ed Ant Mou -Heave Hu	(2 or more controlled to the c	re requir 39) ) e (C2) rial Imag 2) (LRR A	ered)	C9)	

Project Site:	West Seattle and	d Ballard Link Ex	tensions	<u> </u>			City/Cou	unty:	Seat	tle/King			Sam	pling Da	ate:	10/7	7/2019	<u>9</u>
Applicant/Owner:	Sound Transit									S	State:	<u>WA</u>	Sam	pling Po	oint:	WS	E9-SF	2
Investigator(s):	Amy Rotondo ar	nd Emily Drew							Se	ection, T	ownsh	nip, Ranç	ge: <u>S</u>	23, T2	5N, R03E	_		
Landform (hillslope, ter	race, etc.): <u>B</u> e	ottom of hillslope	<u> </u>			Loc	al relief (cor	icave,	conve	x, none	): <u>c</u>	onvex			Slope	e (%):	<u>30</u>	
Subregion (LRR):	<u>A</u>		Lat:		_			L	_ong:					ı	Datum:			
Soil Map Unit Name:	Urban land, 0 t	to 5% slopes									N	IWI clas	sificati	ion:	None			
Are climatic / hydrologic	c conditions on th	he site typical for	this time	e of ye	ear?	١	res [	☑ :	No		(If no, e	explain ii	n Rem	narks.)				
Are Vegetation □,	Soil □,	or Hydrology	□, sig	nifica	antly di	sturbe	d? Are	"Norm	nal Cir	cumsta	nces" p	present?	?		Yes	$\boxtimes$	No	
Are Vegetation □,	Soil □,	or Hydrology	□, na	turally	y probl	ematic	? (If r	needed	d, expl	ain any	answe	ers in Re	marks	s.)				
SUMMARY OF FINI	DINGS – Attac	ch site map sh	nowing	sam	pling	poin	t locations	s, trar	nsect	s, imp	ortan	t featu	res, e	etc.				
Hydrophytic Vegetation	n Present?		Yes	$\boxtimes$	No													
Hydric Soil Present?			Yes		No	$\boxtimes$	Is the San within a W								Yes		No	$\boxtimes$
Wetland Hydrology Pre	esent?		Yes		No	$\boxtimes$	within a v	veliani	ur									
Remarks:							I											
Remarks.																		
VEGETATION - Use	scientific na	mae of nlante																
		ines of plants	Absolu	ıte	Domi	nant	Indicator	D.	omina	nco To	et Wo	rksheet						
Tree Stratum (Plot siz	.e. <u>3011)</u>		% Cov	<u>er</u>	Spec	ies?	<u>Status</u>	0	OIIIIIIa	ilice le	St WO	rsneet	•					
1												Species , or FAC			<u>2</u>			(A)
2								''	iial Ait	UDL, I	FACVV	, or FAC	,.					
3										umber o Across					<u>2</u>			(B)
4					_			١	pecies	ACIUSS	All St	ala.						
50% =, 20% =					= Tot	al Cov	er					Species , or FAC	٠.		<u>100</u>			(A/B)
Sapling/Shrub Stratun		1						-										
1. Rubus armeniacus	<u>s</u>		<u>55</u>		<u>yes</u>		FAC	Pr	revale			rksheet						
2											tal % C	Cover of	<u>:</u>			oly by:		
3									BL spe						x1 =	_		
4										species					x2 =	_		
5								FA	AC spe	ecies					x3 =	_		
50% = <u>27.5,</u> 20% = <u>11</u>	<u>1</u>		<u>55</u>		= Tot	al Cov	er	FA	ACU s	pecies					x4 =	_		
Herb Stratum (Plot siz	ze: <u>5ft</u> )							UI	PL spe	ecies					x5 =	_		
<ol> <li>Bindweed spp.</li> </ol>			<u>60</u>		<u>yes</u>		<u>NI</u>	Co	olumn	Totals:			(A)				(I	В)
2. Phalaris arundinad	<u>cea</u>		<u>45</u>		yes		FACW				Pre	evalence	Index	x = B/A	=			
3. Equisetum telmate	eia		<u>1</u>		<u>no</u>		<b>FACW</b>	Hy	ydrop	hytic V	egetat	ion Indi	icator	s:				
4									] 1-	– Rapid	Test f	or Hydro	phytic	: Veget	ation			
5									2 -	- Domin	ance T	Γest is >	50%					
6									] 3.	- Preval	ence li	ndex is	<3.0¹					
7									1			-		1 (Provi	ide suppo	ortina		
8.									] ,			arks or o				, ting		
9.									5 -	- Wetlar	nd Non	ı-Vascul	ar Plaı	nts¹				
10									] pr	ohlema	tic Hyc	trophytic	· Vene	etation1	(Explain)			
11.									- ''	obicina	ilo i iyo	aropriyac	vege	iauon	(Explain)			
50% = <u>53</u> , 20% = <u>21.2</u>	2		106		= Tot	al Cov									logy mus	t		
Woody Vine Stratum (			100		- 100	ai 00v	OI .	be	e prese	ent, unle	ess dis	turbed c	or prob	lematio	<b>.</b>			
	(1 lot size. <u>15it</u> )																	
1								н	ydrop	hvtic								
2						al C-			egetat	-		١	⁄es		$\boxtimes$	No	)	
50% =, 20% =					= 1 ot	al Cov	er	Pr	resent	t?								
% Bare Ground in Her	rb Stratum <u>0</u>																	
Remarks:	The 2016 Plant Li	ist was used for	this delin	eatio	n.						· <u> </u>					_		

OIL										Sampling	Point: WSE	9-SP2		
Profile Descr	iption: (Describe	to th	e depth	need	ed to d	ocument the indicator or con	firm the abs	ence of	f indica	tors.)				
Depth	Matrix	<				Redox Features								
(inches)	Color (moist)		%	Co	olor (mo	ist) % Type <sup>1</sup>	Loc <sup>2</sup>	2	Textur	е		Remarks	5	
0-12	10YR 2/1		100						silt loa	<u>am</u>	_			
		_						_			_			
		_						_			_			
		_						_		_	_			
		_						_		_	_			
		_						_		_	_			
		_						_		_	_			
		_						_		_	_			
¹Type: C= Co	ncentration, D=De	epletio	n, RM=F	Reduce	ed Matr	ix, CS=Covered or Coated San	nd Grains.	<sup>2</sup> Loca	ation: PL	.=Pore Lining	, M=Matrix			
Hydric Soil Ir	ndicators: (Appli	cable	to all Li	RRs, u	ınless	otherwise noted.)			Ind	icators for P	roblematic	Hydric S	ioils³:	
☐ Histoso	I (A1)					Sandy Redox (S5)				2 cm Mu	ck (A10)			
☐ Histic E	pipedon (A2)					Stripped Matrix (S6)				Red Pare	ent Material (	TF2)		
☐ Black H	istic (A3)					Loamy Mucky Mineral (F1) (e	except MLRA	<b>(1)</b>		Very Sha	ıllow Dark Sı	ırface (Ti	F12)	
☐ Hydroge	en Sulfide (A4)					Loamy Gleyed Matrix (F2)	-	•		Other (Ex	xplain in Ren	narks)		
	d Below Dark Su	face (	A11)			Depleted Matrix (F3)				,		,		
_	ark Surface (A12)		,			Redox Dark Surface (F6)								
_	Mucky Mineral (S					Depleted Dark Surface (F7)				licators of hy				
_	Gleyed Matrix (S4	•				Redox Depressions (F8)				wetland hydro unless disturl			t,	
	ayer (if present):					1 ( -7				uniess distun	bed of proble	illauc.		
Туре:	Compact fil													
Depth (inches		-					Hydric Sc	oils Pre	sent?		Yes		No	$\boxtimes$
Remarks:	No hydric soil ind	icatora		a a a m t			•							
YDROLOGY	<u>(</u>													
Wetland Hyd	rology Indicator	s:												
Primary Indica	ators (minimum of	one re	equired;	check	all tha	t apply)			Seco	ndary Indicat	tors (2 or mo	re requir	ed)	
Surface	e Water (A1)					Water-Stained Leaves (B9)				Water-Stain	ed Leaves (E	39)		
☐ High W	ater Table (A2)					(except MLRA 1, 2, 4A, and	4B)			(MLRA 1, 2,	, 4A, and 4B	)		
☐ Saturat	ion (A3)					Salt Crust (B11)				Drainage Pa	atterns (B10)			
☐ Water I	Marks (B1)					Aquatic Invertebrates (B13)				Dry-Season	Water Table	e (C2)		
☐ Sedime	ent Deposits (B2)					Hydrogen Sulfide Odor (C1)				Saturation V	isible on Ae	rial Image	ery (C9)	
☐ Drift De	eposits (B3)					Oxidized Rhizospheres along	Living Roots	s (C3)		Geomorphic	: Position (D	2)		
_	lat or Crust (B4)					Presence of Reduced Iron (C	_	,		Shallow Aqu	•	,		
•	posits (B5)					Recent Iron Reduction in Tille				FAC-Neutra				
_	Soil Cracks (B6)	1				Stunted or Stresses Plants (D					Mounds (D6)	(LRR A	)	
_	tion Visible on Ae		agery (F	37)		Other (Explain in Remarks)	., (=::::,				Hummocks	•	,	
_	ly Vegetated Con			•	_	o and (Explain in Frontains)			_			(2.)		
Field Observ				(20)										
Surface Wate		Yes		No	$\boxtimes$	Depth (inches):								
Water Table F		Yes		No		Depth (inches):	-							
Saturation Pre		103	_	140			=				_		_	_
(includes capi		Yes		No	$\boxtimes$	Depth (inches):	=	Wetla	nd Hyd	rology Pres	ent?	Yes	□ N	o 🛭
Describe Rec	orded Data (strea	m gau	ge, mon	nitoring	y well, a	erial photos, previous inspectio	ons), if availat	ble:						
Pomorko:	No hydrologia !	dicata	re ere ==	*0000°*										
Remarks:	No hydrologic in	uioalUl	o are bi	GOCIII.										

Applicant/Owner: <u>Sound Transit</u>				State: <u>WA</u> Sa	ampling Point:	WSE9-	-SP3
Investigator(s): Amy Rotondo and Emily Drew				Section, Township, Range:	S23, T25N, R03E		
Landform (hillslope, terrace, etc.): Bottom of ditch		Local	relief (conca	ave, convex, none): <u>concave</u>	Slope	(%): <u>0</u>	!
Subregion (LRR): <u>A</u>	Lat:	_		Long:	Datum: _		
Soil Map Unit Name: <u>Urban land, 0 to 5% slopes</u>				NWI classific	cation: <u>None</u>		
Are climatic / hydrologic conditions on the site typical fo	or this time of	/ear? Ye	es 🛛	No	emarks.)		
Are Vegetation ☐, Soil ☐, or Hydrology	□, signific	antly disturbed	? Are "I	Normal Circumstances" present?	Yes	⊠ N	lo 🗆
Are Vegetation ☐, Soil ☐, or Hydrology	☐, natural	ly problematic?	(If nee	eded, explain any answers in Rema	rks.)		
SUMMARY OF FINDINGS – Attach site map s	showing sar	npling point	locations,	transects, important features	, etc.		
Hydrophytic Vegetation Present?	Yes 🛛	No 🗆		•	2		
Hydric Soil Present?	Yes 🛛		ls the Samp within a We		Yes	$\boxtimes$ N	lo 🗆
Wetland Hydrology Present?	Yes 🛛	No 🗆					
Remarks: Plot was at the flat bottom of a ditch between	een SP1 and S	P2.					
/EGETATION – Use scientific names of plant			1 1 1	ı			
<u>Tree Stratum</u> (Plot size: <u>30ft</u> )	Absolute <u>% Cover</u>	Dominant Species?	Indicator <u>Status</u>	Dominance Test Worksheet:			
1 2				Number of Dominant Species That Are OBL, FACW, or FAC:	<u>2</u>		(A)
3				Total Number of Dominant			
4		<u> </u>	_	Species Across All Strata:	<u>2</u>		(B)
50% =, 20% =		= Total Cove	r	Percent of Dominant Species	100		(A/B)
Sapling/Shrub Stratum (Plot size: 15ft)				That Are OBL, FACW, or FAC:	<u>100</u>		(A/B)
1. Rubus armeniacus	<u>10</u>	<u>yes</u>	<u>FAC</u>	Prevalence Index worksheet:			
2				Total % Cover of:	<u>Multipl</u>	y by:	
3				OBL species	x1 =		_
4				FACW species	x2 =		_
5				FAC species	x3 =		=
50% = <u>5</u> , 20% = <u>2</u>	<u>10</u>	= Total Cove	r	FACU species	x4 =		_
Herb Stratum (Plot size: 5ft)				UPL species	x5 =		_
1. <u>Phalaris arundinacea</u>	<u>100</u>	<u>yes</u>	<u>FACW</u>	Column Totals:(A)			_ (B)
2. <u>Solanum dulcamara</u>	<u>10</u>	<u>no</u>	FAC	Prevalence Inc	dex = B/A =		
3. <u>Bindweed spp.</u>	<u>7</u>	<u>no</u>	<u>NI</u>	Hydrophytic Vegetation Indicat	ors:		
4. <u>Typha latifolia</u>	<u>5</u>	<u>no</u>	<u>OBL</u>	☐ 1 – Rapid Test for Hydroph	ytic Vegetation		
5				□ 2 - Dominance Test is >50%	ó		
6				☐ 3 - Prevalence Index is <3.0	) <sup>1</sup>		
7				4 - Morphological Adaptatio		ting	
8 9				data in Remarks or on a  5 - Wetland Non-Vascular F	. ,		
10				Problematic Hydrophytic Ve			
11.				Problematic Hydrophytic ve	getation (Explain)		
50% = <u>61</u> , 20% = <u>24.4</u>	122	= Total Cove	 r	<sup>1</sup> Indicators of hydric soil and wetla			
Woody Vine Stratum (Plot size: 15ft)				be present, unless disturbed or pr	oblematic.		
1							
2				Hydrophytic	_		
50% =, 20% =		= Total Cove	r	Vegetation Yes		No	
				Present?			
% Bare Ground in Herb Stratum <u>0</u>							

OIL											Sampling	Point: WS	E9-SP3				
Profile Descr	iption: (Describe	to the	depth	neede	ed to d	ocument the indicator	or confirm	the abs	ence of	indica	tors.)						
Depth	Matrix					Redox Featu	res										
(inches)	Color (moist)	9	%	Co	olor (mo	ist) %	Type <sup>1</sup>	Loc <sup>2</sup>	2	Texture	<u> </u>		Rema	rks			
<u>0-12</u>	10YR 2/2	<u>1</u>	<u>100</u>						_	silt loa	<u> </u>	-					
		_				<del></del>			_	-		=					
						<del></del>			_			_					
						<del></del>			_			_					
	<del></del>	_	—						_			_					
						<del></del>			_	-		=					
		_				<del></del>			_	-		-					
	noontration D=Do			Poduos	ad Motr	ix, CS=Covered or Coat	od Sand C	roino	21.000	tion: DI	 _=Pore Lining,	- M-Motriy					
						otherwise noted.)	eu Sanu G	Iallis.	-LUCa		icators for Pr		Hydric	Soil	<b>c</b> 3.		
☐ Histoso		able t	o an Li	ixixə, u		Sandy Redox (S5)					2 cm Muc		riyanc	. 5011	э.		
_	pipedon (A2)					Stripped Matrix (S6)						nt Material	(TF2)				
_	istic (A3)					Loamy Mucky Mineral	(F1) (exce	nt MLRA	<b>\ 1</b> )			low Dark S	. ,	TF12	<b>)</b>		
_	en Sulfide (A4)					Loamy Gleyed Matrix		<b>P</b>	,			plain in Re			-,		
_	d Below Dark Sur	face (A	A11)			Depleted Matrix (F3)	()				0 ti ioi (= A	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,					
	ark Surface (A12)	-	,			Redox Dark Surface (I	F6)										
	Mucky Mineral (S1					Depleted Dark Surface	•				licators of hyd				I		
_	Gleyed Matrix (S4)	)				Redox Depressions (F					wetland hydro unless disturb	0,		ent,			
Restrictive L	ayer (if present):					<u> </u>						54 5. p. 52.	0111440				
Гуре:																	
epth (inches	):						H	lydric Sc	oils Pres	sent?		Yes	$\boxtimes$		No		
YDROLOGY																	
-	rology Indicators ators (minimum of		auirod:	chock	all that	apply)				Soco	ndary Indicato	ore (2 or m	oro rogu	uirod)			
_	e Water (A1)	OHE IE	quireu,	CHECK		Water-Stained Leaves	· (RQ)				Water-Staine			iii eu)			
_	ater Table (A2)					(except MLRA 1, 2, 4	` '				(MLRA 1, 2,	•	,				
_	ion (A3)					Salt Crust (B11)	A, allu 46)				Drainage Pat		-				
	Marks (B1)					Aquatic Invertebrates	(B13)				Dry-Season \	•	-				
_	ent Deposits (B2)					Hydrogen Sulfide Odo					Saturation Vi			nerv	(C9)		
	eposits (B3)					Oxidized Rhizosphere	` '	ina Roots	s (C3)		Geomorphic			igery	(00)		
	lat or Crust (B4)					Presence of Reduced	•	ing rioot	3 (30)		Shallow Aqui						
_	posits (B5)					Recent Iron Reduction	, ,	oils (C6)			FAC-Neutral						
	Soil Cracks (B6)					Stunted or Stresses P		, ,			Raised Ant M		6) (LRR	A)			
_	tion Visible on Aer	ial Ima	agery (B	37)		Other (Explain in Rem		,			Frost-Heave	•	, ,	,			
	ly Vegetated Cond						,						,				
Field Observ	ations:																
Surface Wate	r Present?	Yes		No	$\boxtimes$	Depth (inches):											
Vater Table F	Present?	Yes	$\boxtimes$	No		Depth (inches):	10.5" BG	S*									
Saturation Pre includes capi		Yes	$\boxtimes$	No		Depth (inches):	Surface		Wetla	nd Hyd	rology Prese	nt?	Yes		∆ N	lo	
Describe Rec	orded Data (strear	n gaug	je, mon	nitoring	well, a	erial photos, previous in	spections)	if availal	ble:								
			_	_			-	_		_		_		_	_		
Remarks <i>:</i>	BGS = below gro	und su	ırface														
Remarks:	BGS = below gro Soil was saturate			ce.													

Project Site:	West Seattle a	nd Ballard Link E	xtensions	<u> </u>			City/Coun	ty: <u>Se</u>	attle/King		Sampli	ng Date:	12/5	/2019	!
Applicant/Owner:	Sound Transit								S	tate: <u>WA</u>	Sampli	ng Point:	WSE	10-S	<u>P1</u>
Investigator(s):	Amy Rotondo a	and Emily Drew						;	Section, T	ownship, R	ange: <u>S25</u>	5, T25N, R03E			
Landform (hillslope, ter	rrace, etc.):	<u>slope</u>				Local	relief (conca	ave, con	vex, none	): <u>conve</u>	<u>x</u>	Slope	(%):	<u>5</u>	
Subregion (LRR):	<u>A</u>		Lat:		_			Long	j:			Datum: _			
Soil Map Unit Name:	Alderwood-Ev	verett-Urban land	complex	, 12 tc	35 pe	rcent sl	<u>opes</u>			NWI c	lassification	n: <u>None</u>			
Are climatic / hydrologi	ic conditions on	the site typical fo	r this time	e of ye	ear?	Ye	s 🛛	No		If no, explai	in in Remar	ks.)			
Are Vegetation □,	Soil ⊠,	or Hydrology	□, sig	nifica	ntly dis	turbed?	Are "l	Normal (	Circumsta	nces" prese	ent?	Yes	$\boxtimes$	No	
Are Vegetation □,	Soil □,	or Hydrology	□, na	turally	proble	ematic?	(If ne	eded, ex	cplain any	answers in	Remarks.)				
SUMMARY OF FIN	DINGS – Atta	ch site map sl	nowing	sam	pling	point I	ocations,	transe	cts, imp	ortant fea	itures, etc	<b>)</b> .			
Hydrophytic Vegetation			Yes	$\boxtimes$	No						-				
Hydric Soil Present?			Yes	$\boxtimes$	No		s the Samp		а			Yes	$\boxtimes$	No	
Wetland Hydrology Pre	esent?		Yes	$\boxtimes$	No	_   '	within a We	tland?					_		
, ,,							1: 1 6				., ., .				
		oplements parking parking lot pavem											m whe	ere wa	ater is
gooping in	o σ.σρο σο ρ	anang iot paroni		u. 0 u	.0 (4).00		p = = = = = = = = = = = = = = = = = = =	uouoo,	aaaiao.	,	o. piaco.				
VEGETATION - Use	e scientific na	ames of plants		ıta.	Damin		Indicator	1							
Tree Stratum (Plot siz	ze: <u>30ft</u> )		Absolu <u>% Cov</u>		Domir Speci		Indicator Status	Domi	nance Te	st Workshe	eet:				
1								Numb	er of Dom	inant Speci	ies	4			(4)
2										FACW, or F		<u>1</u>			(A)
3								Total	Number o	f Dominant					<b>(D)</b>
4								Speci	es Across	All Strata:		<u>1</u>			(B)
50% =, 20% =					= Tota	al Cover		Perce	ent of Dom	inant Speci	es				
Sapling/Shrub Stratur	m (Plot size: 30f	t)	· <u> </u>							FACW, or F		<u>100</u>			(A/B)
Rubus armeniacu		_,	100		yes		FAC	Preva	alence Ind	lex worksh	eet:				
2.	<del>_</del>									tal % Cover		Multip	lv bv:		
3.								OBL s	species		<del></del>	x1 =			
4.									V species			x2 =			
5.									species			x3 =			
			100			al Cover			l species			x4 =			
50% = <u>50</u> , 20% = <u>20</u>	105)		100		- 1016	ai Covei			•		_		_	_	
Herb Stratum (Plot size	ze: <u>10π</u> )							UPL S	species		<del>-</del>	x5 =	_		
1								Colum	nn Totals:		(A)		_	(E	3)
2										Prevale	nce Index =	: B/A =			
3								Hydro	ophytic V	egetation l	ndicators:				
4									1 – Rapid	Test for Hy	drophytic V	egetation/			
5									2 - Domin	ance Test is	s >50%				
6									3 - Preval	ence Index	is <u>&lt;</u> 3.0¹				
7									4 - Morph	ological Ada	aptations <sup>1</sup> (	Provide suppo	rting		
8												arate sheet)	Ü		
9									5 - Wetlar	nd Non-Vas	cular Plants	s <sup>1</sup>			
10									Problema	tic Hydroph	vtic Veneta	tion¹ (Explain)			
11.									1 TODIOTTIA	uo i iyai opii	y no vogota	uon (Explain)			
50% =, 20% =					= Tota	al Cover						nydrology must			
Woody Vine Stratum					- 1010	ai 00 v C i		be pre	esent, unle	ess disturbe	d or proble	matic.			
	(1 10t 31 <u>2</u> e. <u>10it)</u>														
1								Hvdro	ophytic						
2								_	tation		Yes		No		
50% =, 20% =					= rota	al Cover	Ī	Prese	ent?						
% Bare Ground in He	erb Stratum 1009	% with leaf litter													
Remarks:	The 2016 Plant	List was used for	this delin	eation	n. Ther	e is Eng	glish ivy pres	sent but	it is rooted	d outside.					

Depth (inches)								Sampling Point: WS	SE10-SP1		
(inches)	ption: (Describe to	the dept	h neede	d to d	ocument the indicator or cor	nfirm the abser	nce of indicator	s.)			
<del></del> -	Matrix				Redox Features						
0_11	Color (moist)	%	Cole	or (mo	ist) % Type <sup>1</sup>	1 Loc <sup>2</sup>	Texture		Remarks		
<u>0-11</u>	7.5YR 2.5/1	100	_				silty loam	! <u></u>			
<u>11-14</u>	10YR 4/1	<u>93</u>	<u>10</u>	YR 5/	<u>5</u> <u>7</u> <u>C</u>	<u>M</u>	sandy loar	<u>n</u>			
<u>14+</u>	<u>5Y 3/1</u>	<u>90</u>	<u>10</u>	YR 5/		<u>M</u>	sandy loar	<u>n</u>			
			_								
			_								
			_								
			_								
Type: C= Con-	centration, D=Deple	etion, RM=	Reduce	d Matr	ix, CS=Covered or Coated Sa	ind Grains.	<sup>2</sup> Location: PL=P	ore Lining, M=Matrix			
lydric Soil Inc	dicators: (Applical	ole to all L	RRs, ur	iless o	otherwise noted.)			tors for Problematic		oils³:	
☐ Histosol (					Sandy Redox (S5)			2 cm Muck (A10)	•		
	pipedon (A2)				Stripped Matrix (S6)			Red Parent Material	(TF2)		
 □ Black His					Loamy Mucky Mineral (F1) (	except MLRA 1		Very Shallow Dark S	` '	12)	
_	n Sulfide (A4)				Loamy Gleyed Matrix (F2)		, <u> </u>	Other (Explain in Re	•	/	
	d Below Dark Surfac	e (A11)			Depleted Matrix (F3)			Caro. (Explain in 110			
_	ark Surface (A12)				Redox Dark Surface (F6)						
	lucky Mineral (S1)				Depleted Dark Surface (F7)		<sup>3</sup> Indica	ators of hydrophytic v	egetation a	nd	
_					Redox Depressions (F8)		wet	land hydrology must	be present		
	Gleyed Matrix (S4)				Tredox Depressions (1 0)	_	unie	ess disturbed or prob	lematic.		
	yer (if present):										
Гуре: Depth (inches):						Hydric Soils	- D	Yes	$\boxtimes$	No	
YDROLOGY	ology Indicators:										
=	tors (minimum of on	o roquirod	l: abaak i	all that	annly)		Socondo	any Indicatora (2 or m	oro roquiro	۹/	
_	-	e required	i, crieck a			_	Seconda	ary Indicators (2 or m		u)	
	Water (A1)				Water-Stained Leaves (B9)			ater-Stained Leaves			
-	ater Table (A2)				(except MLRA 1, 2, 4A, and	1.45)			` ,		
Saturation     Saturation	on (A3)					d 4B)	(M	ILRA 1, 2, 4A, and 4	В)		
_	, ,				Salt Crust (B11)	·	( <b>M</b> □ Dr	ILRA 1, 2, 4A, and 4 rainage Patterns (B10	<b>B)</b>		
☐ Water M					Salt Crust (B11) Aquatic Invertebrates (B13)	·	( <b>M</b>   Dr   Dr	ILRA 1, 2, 4A, and 4 rainage Patterns (B10 y-Season Water Tab	<b>B)</b> (i)) (ile (C2)		
☐ Water M☐ Sedimer	nt Deposits (B2)				Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1)		(M Dr Dr Sa	ILRA 1, 2, 4A, and 4 ainage Patterns (B10 y-Season Water Tab aturation Visible on A	B)  O)  le (C2)  erial Image	ry (C9)	
☐ Water M☐ Sedimer	nt Deposits (B2) posits (B3)				Salt Crust (B11) Aquatic Invertebrates (B13)		(M Dr Dr Sa	ILRA 1, 2, 4A, and 4 rainage Patterns (B10 y-Season Water Tab	B)  O)  le (C2)  erial Image	ry (C9)	
☐ Water M ☐ Sedimer ☐ Drift Dep					Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1)	ng Living Roots (	(M)	ILRA 1, 2, 4A, and 4 ainage Patterns (B10 y-Season Water Tab aturation Visible on A	B)  O)  le (C2)  erial Image	ry (C9)	
Water M Sedimer Drift Dep Algal Ma	posits (B3)				Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along	ng Living Roots (i	(M)	ILRA 1, 2, 4A, and 4 ainage Patterns (B10 y-Season Water Tab aturation Visible on A ecomorphic Position (I	B)  O)  le (C2)  erial Image	ry (C9)	
Water M Sedimer Drift Dep Algal Ma Iron Dep	posits (B3) at or Crust (B4)				Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Presence of Reduced Iron (C	ng Living Roots ( C4) led Soils (C6)	(M)	ILRA 1, 2, 4A, and 4 rainage Patterns (B10 ry-Season Water Tab aturation Visible on A reomorphic Position (I rallow Aquitard (D3)	B)  O)  le (C2)  erial Image  O2)	ry (C9)	
Water M Sedimer Drift Dep Algal Ma Iron Dep Surface	posits (B3) at or Crust (B4) posits (B5)	Imagery (	B7)		Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Presence of Reduced Iron (C) Recent Iron Reduction in Till	ng Living Roots ( C4) led Soils (C6)	(M)	ILRA 1, 2, 4A, and 4 rainage Patterns (B10 ry-Season Water Tab aturation Visible on A reomorphic Position (I rallow Aquitard (D3) AC-Neutral Test (D5)	B) O) ble (C2) erial Image O2)	ry (C9)	
Water M Sedimer Drift Dep Algal Ma Iron Dep Surface Inundation	posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6)				Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Presence of Reduced Iron (C Recent Iron Reduction in Till Stunted or Stresses Plants (I	ng Living Roots ( C4) led Soils (C6)	(M)	ILRA 1, 2, 4A, and 4 rainage Patterns (B10 ry-Season Water Tab aturation Visible on A reomorphic Position (I raillow Aquitard (D3) AC-Neutral Test (D5) aised Ant Mounds (Di	B) O) ble (C2) erial Image O2)	ry (C9)	
Water M Sedimer Drift Dep Algal Ma Iron Dep Surface Inundation	posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) ion Visible on Aerial y Vegetated Concav				Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Presence of Reduced Iron (C Recent Iron Reduction in Till Stunted or Stresses Plants (I	ng Living Roots ( C4) led Soils (C6)	(M)	ILRA 1, 2, 4A, and 4 rainage Patterns (B10 ry-Season Water Tab aturation Visible on A reomorphic Position (I raillow Aquitard (D3) AC-Neutral Test (D5) aised Ant Mounds (Di	B) O) ble (C2) erial Image O2)	ry (C9)	
Water M Sedimer Drift Dep Algal Ma Iron Dep Surface Inundation	posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) ion Visible on Aerial by Vegetated Concavantions:	re Surface			Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Presence of Reduced Iron (C Recent Iron Reduction in Till Stunted or Stresses Plants (I	ng Living Roots ( C4) led Soils (C6)	(M)	ILRA 1, 2, 4A, and 4 rainage Patterns (B10 ry-Season Water Tab aturation Visible on A reomorphic Position (I raillow Aquitard (D3) AC-Neutral Test (D5) aised Ant Mounds (Di	B) O) ble (C2) erial Image O2)	ry (C9)	
Water M Sedimer Drift Dep Algal Ma Iron Dep Surface Inundatio Sparsely	posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) ion Visible on Aerial y Vegetated Concav titions: Present? Ye	re Surface	(B8)		Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Presence of Reduced Iron (C Recent Iron Reduction in Till Stunted or Stresses Plants (I Other (Explain in Remarks)	ng Living Roots ( C4) led Soils (C6)	(M)	ILRA 1, 2, 4A, and 4 rainage Patterns (B10 ry-Season Water Tab aturation Visible on A reomorphic Position (I raillow Aquitard (D3) AC-Neutral Test (D5) aised Ant Mounds (Di	B) O) ble (C2) erial Image O2)	ry (C9)	
Water M Sedimer Drift Dep Algal Ma Iron Dep Surface Inundatic Sparsely Field Observat Surface Water Water Table Pr Saturation Presincludes capilla	posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) ion Visible on Aerial y Vegetated Concavations: Present? resent? Ye sent? Ye lary fringe)	re Surface	No No No		Salt Crust (B11)  Aquatic Invertebrates (B13)  Hydrogen Sulfide Odor (C1)  Oxidized Rhizospheres along  Presence of Reduced Iron (C  Recent Iron Reduction in Till  Stunted or Stresses Plants (I  Other (Explain in Remarks)  Depth (inches):  Depth (inches):  Depth (inches):  5	ng Living Roots (CC4) led Soils (C6) (D1) (LRR A)	(M)	ILRA 1, 2, 4A, and 4 rainage Patterns (B10 ry-Season Water Tab aturation Visible on A reomorphic Position (I rallow Aquitard (D3) AC-Neutral Test (D5) raised Ant Mounds (Dost-Heave Hummock	B) O) ble (C2) erial Image O2)	ry (C9) ⊠ No	o [
Water M Sedimer Drift Dep Algal Ma Iron Dep Surface Inundatic Sparsely Field Observat Surface Water Water Table Pr Saturation Presincludes capilla	posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) ion Visible on Aerial y Vegetated Concavations: Present? resent? Ye sent? Ye lary fringe)	re Surface	No No No		Salt Crust (B11)  Aquatic Invertebrates (B13)  Hydrogen Sulfide Odor (C1)  Oxidized Rhizospheres along Presence of Reduced Iron (C Recent Iron Reduction in Till  Stunted or Stresses Plants (I Other (Explain in Remarks)  Depth (inches):  Depth (inches):  13	ng Living Roots (CC4) led Soils (C6) (D1) (LRR A)	(M)	ILRA 1, 2, 4A, and 4 rainage Patterns (B10 ry-Season Water Tab aturation Visible on A reomorphic Position (I rallow Aquitard (D3) AC-Neutral Test (D5) raised Ant Mounds (Dost-Heave Hummock	B)  O)  ele (C2)  erial Image  O2)  6) (LRR A)  as (D7)		) [
Water M Sedimer Drift Dep Algal Ma Iron Dep Surface Inundatic Sparsely Field Observat Surface Water Water Table Pr Saturation Presincludes capilla	posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) ion Visible on Aerial y Vegetated Concavations: Present? resent? Ye sent? Ye lary fringe)	re Surface	No No No		Salt Crust (B11)  Aquatic Invertebrates (B13)  Hydrogen Sulfide Odor (C1)  Oxidized Rhizospheres along  Presence of Reduced Iron (C  Recent Iron Reduction in Till  Stunted or Stresses Plants (I  Other (Explain in Remarks)  Depth (inches):  Depth (inches):  Depth (inches):  5	ng Living Roots (CC4) led Soils (C6) (D1) (LRR A)	(M)	ILRA 1, 2, 4A, and 4 rainage Patterns (B10 ry-Season Water Tab aturation Visible on A reomorphic Position (I rallow Aquitard (D3) AC-Neutral Test (D5) raised Ant Mounds (Dost-Heave Hummock	B)  O)  ele (C2)  erial Image  O2)  6) (LRR A)  as (D7)		· [
Water M Sedimer Drift Dep Algal Ma Iron Dep Surface Inundation Sparsely Field Observate Surface Water Water Table Pr Saturation Presincludes capilla Describe Record	posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) ion Visible on Aerial y Vegetated Concavations: Present? resent? ye sent? lary fringe)  reded Data (stream of	re Surface s	No No No No onitoring		Salt Crust (B11)  Aquatic Invertebrates (B13)  Hydrogen Sulfide Odor (C1)  Oxidized Rhizospheres along  Presence of Reduced Iron (C  Recent Iron Reduction in Till  Stunted or Stresses Plants (I  Other (Explain in Remarks)  Depth (inches):  Depth (inches):  Depth (inches):  5	ng Living Roots ( C4) led Soils (C6) (D1) (LRR A)	(M)   Dr   Dr   Sa   Sh   FA   Fr	ILRA 1, 2, 4A, and 4 rainage Patterns (B10 ry-Season Water Tab aturation Visible on A reomorphic Position (I rallow Aquitard (D3) rac-Neutral Test (D5) raised Ant Mounds (Di rost-Heave Hummock	B)  O)  ele (C2)  erial Image  O2)  6) (LRR A)  as (D7)		, [

nis time of ye ], significar ], naturally wing samp Yes	35 percent slo ar? Yes ntly disturbed? problematic?	opes	ve, convex, none): none  Long: NWI cla	Datum: assification: None in Remarks.)  Yes	<u>=</u> e (%):	<u>10</u>	<u>SP2</u>
omplex, 12 to nis time of ye ], significar ], naturally wing samp	35 percent slo ar? Yes ntly disturbed? problematic?	opes	ve, convex, none): none  Long:  NWI cla  No	Slop Datum: assification: None in Remarks.)  yes	e (%):		
omplex, 12 to nis time of ye ], significar ], naturally wing samp	35 percent slo ar? Yes ntly disturbed? problematic?	opes	Long: NWI cla No	Datum: assification: None in Remarks.)  Yes			
omplex, 12 to nis time of ye ], significar ], naturally wing samp	35 percent slo ar? Yes ntly disturbed? problematic?	Are "N (If nee	NWI cla No ☐ (If no, explair ormal Circumstances" preser	assification: None in Remarks.)  it? Yes		No	
nis time of ye ], significar ], naturally wing samp Yes	ar? Yes ntly disturbed? problematic?	Are "N (If nee	No ☐ (If no, explair ormal Circumstances" preser	in Remarks.) Yes	$\boxtimes$	No	
], significar ], naturally wing samp Yes	ntly disturbed? problematic?	Are "N (If nee	ormal Circumstances" preser	t? Yes	$\boxtimes$	No	
maturally  wing samp  Yes	problematic?	(If nee	•			No	
wing samp	oling point lo	`	ded, explain any answers in F	Remarks.)			
Yes				•			
Yes							
	No 🛛	ocations, t	ransects, important feat	ures, etc.			
	le	the Sampl	ed Area	V		NI -	
Yes	l w	ithin a Wet	land?	Yes		No	$\boxtimes$
Yes	No 🛛						
ot and approx	imately 10 fee	t northwest o	of WSE10-SP1. Soils are dist	urbed from possible lan	dslides	, fill	
			Dominance Test Workshee	et:			
							(Δ)
			That Are OBL, FACW, or FA	VC:			(A)
			Total Number of Dominant	2			(B)
			Species Across All Strata:	<u> </u>			(D)
	= Total Cover						(A/B)
			That Are OBL, FACW, or FA	AC: <u>50</u>			(700)
<u>15</u>	<u>yes</u>	<u>FAC</u>	Prevalence Index workshe	et:			
			Total % Cover	of: Multi	ply by:		
			OBL species	x1 =	_		
			FACW species	x2 =	_		
			FAC species	x3 =			
<u>15</u>	= Total Cover		FACU species	x4 =	_		
			UPL species	x5 =			
<u>90</u>	<u>yes</u>	<u>FACU</u>	Column Totals:	_ (A)		(E	3)
			Prevalen	ce Index = B/A =			
			Hydrophytic Vegetation In	dicators:			
			☐ 1 – Rapid Test for Hyd	Irophytic Vegetation			
			☐ 2 - Dominance Test is	>50%			
			☐ 3 - Prevalence Index is	s <3.0 <sup>1</sup>			
			4 Marphological Ada	<del>-</del>	ortina		
					og		
	<u></u>		5 - Wetland Non-Vasc	ular Plants¹			
			☐ Problematic Hydrophy	tic Vegetation¹ (Explain	)		
			— Troblematic Tryarephy	ao vogotation (Explain	,		
90	= Total Cover				st		
_			be present, unless disturbed	or problematic.			
		<del></del>	Hydrophytic				
	= Total Cover	—	Vegetation	Yes	No	)	$\boxtimes$
	i olai ouvel		Present?				
	Absolute % Cover  15  90  90	Absolute Dominant Species?  = Total Cover  15 yes  15 = Total Cover  90 yes	Absolute Dominant Indicator Species? Status  = Total Cover  15	Absolute	Absolute % Cover Species? Status    March   Species   Status   Status	Absolute	

inches)	Color (moist)		%	Col	or (mo	ist) %	Type <sup>1</sup>	Loc <sup>2</sup>	Textu	re			Remarks	S	
0-10	10YR 2/1		100	-					sandy	loam					
10-18	10YR 3/2	_	97	7.5	5YR 5/	<u>3</u>	<u>C</u>	<u>M</u>	sandy		Rocks m	nixed with	ı clay; fin	e mottle	<u>s</u>
		_		-						_					
		_		-						_					
		_		-						_					
		_		-						_					
		_		-						_					
 vpe: C= C	——— Concentration, D=D	— Depletion	—— n. RM=F	- Reduce	d Matr	ix. CS=Covered	or Coated San	d Grains.	<sup>2</sup> Location: P	— L=Pore	Linina. M	=Matrix			
	Indicators: (Appl	-									s for Prob		Hydric S	Soils <sup>3</sup> :	
	sol (A1)					Sandy Redox (					m Muck (		-		
Histic	Epipedon (A2)					Stripped Matrix	(S6)			Re	d Parent M	Material (	TF2)		
Black	Histic (A3)					Loamy Mucky	Mineral (F1) (e	xcept MLRA	I) 🗆	Ve	ry Shallow	v Dark Su	ırface (Tl	F12)	
Hydro	ogen Sulfide (A4)					Loamy Gleyed	Matrix (F2)			Ot	her (Expla	in in Rem	narks)		
Deple	eted Below Dark Su	urface (/	411)			Depleted Matri	x (F3)								
Thick	Dark Surface (A12	2)				Redox Dark Su	ırface (F6)								
Sandy	y Mucky Mineral (S	31)				Depleted Dark	Surface (F7)		<sup>3</sup> lr		s of hydrop				
Sandy	y Gleyed Matrix (S	4)				Redox Depress	sions (F8)				d hydrolog disturbed			ıt,	
strictive	Layer (if present)	):													
e:															
oth (inche	es):							Hydric Soil	s Present?			Yes		No	Σ
marke.															
DROLO(		rs:													
OROLOG	GY ydrology Indicator icators (minimum c		•quired;	check a	all that	: apply)			Sec	ondary	Indicators	(2 or moi	re requir	ed)	
DROLOG etland Hy mary Indi	drology Indicator		;quired;	check a	all that	apply) Water-Stained	Leaves (B9)		Sec		Indicators r-Stained L	-	-	ed)	
DROLOO etland Hy mary Indi Surfa	ydrology Indicator icators (minimum c		•quired;	check (				4B)		Water		Leaves (E	39)	ed)	
PROLOG etland Hy mary Indi Surfa High	ydrology Indicator icators (minimum c ace Water (A1)		equired;	check a		Water-Stained	1, 2, 4A, and	4B)		Water	r-Stained L	Leaves (E	39) <b>)</b>	ed)	
PROLOG etland Hy mary Indi Surfa High Satur	ydrology Indicator icators (minimum o ace Water (A1) Water Table (A2)		∍quired;	check a		Water-Stained (except MLRA	1, 2, 4A, and	4B)		Water (MLR Drain	r-Stained L <b>A 1, 2, 4A</b>	Leaves (E A, and 4B) rns (B10)	39) <b>)</b>	ed)	
PROLOG etland Hy mary Indi Surfa High Satur Wate	ydrology Indicator icators (minimum o ace Water (A1) Water Table (A2) ration (A3)	of one re	∍quired;	check a		Water-Stained (except MLRA Salt Crust (B11	1, 2, 4A, and (1) brates (B13)	4B)		Water (MLR Drain:	r-Stained L <b>A 1, 2, 4A</b> age Patter	Leaves (E A, and 4B) rns (B10) ater Table	39) )	•	
DROLOG etland Hy mary Indi Surfa High Satur Wate Sedir	ydrology Indicator icators (minimum c ace Water (A1) Water Table (A2) ration (A3) er Marks (B1)	of one re	equired;	check a		Water-Stained (except MLRA Salt Crust (B11 Aquatic Inverte	1, 2, 4A, and blue brates (B13) de Odor (C1)	·		Water (MLR Drains Dry-S Sature	r-Stained L A 1, 2, 4A age Patter teason Wa	Leaves (E A, and 4B rns (B10) ater Table ble on Aer	(C2)	•	
PROLOG etland Hy mary Indi Surfa High Satur Wate Sedir Drift I	ydrology Indicator icators (minimum c ace Water (A1) Water Table (A2) ration (A3) er Marks (B1) ment Deposits (B2)	of one re	equired;	check a		Water-Stained (except MLRA Salt Crust (B11 Aquatic Inverte Hydrogen Sulfi	1, 2, 4A, and brates (B13) de Odor (C1) aspheres along	Living Roots (		Water (MLR Drain: Dry-S Satur: Geom	r-Stained L A 1, 2, 4A age Patter reason Wa ation Visib	Leaves (EA, and 4B) rns (B10) ater Table ble on Aer osition (D2	(C2)	•	
PROLOG etland Hy mary Indi Surfa High Satur Wate Sedir Drift I	ydrology Indicator icators (minimum of ace Water (A1) Water Table (A2) ration (A3) er Marks (B1) ment Deposits (B2) Deposits (B3)	of one re	equired;	check :		Water-Stained (except MLRA Salt Crust (B11 Aquatic Inverte Hydrogen Sulfi Oxidized Rhizo	t. 1, 2, 4A, and (I) brates (B13) de Odor (C1) ospheres along educed Iron (C4	Living Roots (	C3)	Water (MLR Drains Dry-S Satur Geom	r-Stained L A 1, 2, 4A age Patter eason Wa ation Visib	Leaves (E a, and 4B rns (B10) ater Table ble on Aer osition (D2 rd (D3)	(C2)	•	
PROLOG etland Hy mary Indi Surfa High Satur Wate Sedir Drift I Algal Iron I	ydrology Indicator icators (minimum of ace Water (A1) Water Table (A2) ration (A3) er Marks (B1) ment Deposits (B2) Deposits (B3)	of one re	equired;	check :		Water-Stained (except MLRA Salt Crust (B11 Aquatic Inverte Hydrogen Sulfi Oxidized Rhizo Presence of Re	th, 2, 4A, and displayed the odor (C1) aspheres along educed Iron (C4) displayed the odor in Tille	Living Roots ( 4) d Soils (C6)	C3)	Water (MLR Drain: Dry-S Satur: Geom Shalld FAC-I	r-Stained L A 1, 2, 4A age Patter leason Wa ation Visib horphic Po bw Aquitar	Leaves (E A, and 4B) rns (B10) ater Table ble on Aer sition (D2 rd (D3) est (D5)	39)  (C2)  rial Image	ery (C9)	
DROLOO  Intland Hy  Intland High  Satur  Wate  Sedir  Drift I  Algal  Iron I  Surfa	ydrology Indicator icators (minimum cace Water (A1) Water Table (A2) ration (A3) er Marks (B1) ment Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5)	of one re				Water-Stained (except MLRA Salt Crust (B11 Aquatic Inverte Hydrogen Sulfi Oxidized Rhizo Presence of Re Recent Iron Re	at 1, 2, 4A, and all brates (B13) de Odor (C1) aspheres along educed Iron (C4 eduction in Tille esses Plants (D	Living Roots ( 4) d Soils (C6)	C3)	Water (MLR Drain: Dry-S Satur Geom Shalld FAC-I Raise	r-Stained L A 1, 2, 4A age Patter eason Wa ation Visib norphic Po bw Aquitar Neutral Te	Leaves (E A, and 4B, rns (B10) ater Table ble on Aer esition (D2 rd (D3) est (D5) unds (D6)	(C2) ial Image	ery (C9)	
DROLOG etland Hy mary Indi Surfa High Satur Wate Sedir Drift I Algal Iron I Surfa Inunc	ydrology Indicator icators (minimum of ace Water (A1) Water Table (A2) ration (A3) er Marks (B1) ment Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) ace Soil Cracks (B6)	of one re  )  6)  erial Ima	agery (B	37)		Water-Stained (except MLRA Salt Crust (B11 Aquatic Inverte Hydrogen Sulfi Oxidized Rhizo Presence of Re Recent Iron Re Stunted or Stre	at 1, 2, 4A, and all brates (B13) de Odor (C1) aspheres along educed Iron (C4 eduction in Tille esses Plants (D	Living Roots ( 4) d Soils (C6)	C3)	Water (MLR Drain: Dry-S Satur Geom Shalld FAC-I Raise	r-Stained L A 1, 2, 4A age Patter eason Wa ation Visib norphic Po bw Aquitar Neutral Te d Ant Mou	Leaves (E A, and 4B, rns (B10) ater Table ble on Aer esition (D2 rd (D3) est (D5) unds (D6)	(C2) ial Image	ery (C9)	
DROLOG etland Hy mary Indi Surfa High Satur Wate Sedir Drift I Algal Iron I Surfa Inunc	ydrology Indicator icators (minimum of ace Water (A1) Water Table (A2) ration (A3) er Marks (B1) ment Deposits (B2) Deposits (B3) I Mat or Crust (B4) Deposits (B5) ace Soil Cracks (B6)	of one re  )  6)  erial Ima	agery (B	37)		Water-Stained (except MLRA Salt Crust (B11 Aquatic Inverte Hydrogen Sulfi Oxidized Rhizo Presence of Re Recent Iron Re Stunted or Stre	at 1, 2, 4A, and all brates (B13) de Odor (C1) aspheres along educed Iron (C4 eduction in Tille esses Plants (D	Living Roots ( 4) d Soils (C6)	C3)	Water (MLR Drain: Dry-S Satur Geom Shalld FAC-I Raise	r-Stained L A 1, 2, 4A age Patter eason Wa ation Visib norphic Po bw Aquitar Neutral Te d Ant Mou	Leaves (E A, and 4B, rns (B10) ater Table ble on Aer esition (D2 rd (D3) est (D5) unds (D6)	(C2) ial Image	ery (C9)	
PROLOGE etland Hy mary Indi Surfa High Satur Wate Sedir Drift I Algal Iron [ Surfa Inunc Spars	ydrology Indicator icators (minimum of ace Water (A1) Water Table (A2) ration (A3) er Marks (B1) ment Deposits (B2) Deposits (B3) I Mat or Crust (B4) Deposits (B5) ace Soil Cracks (B6) dation Visible on Acsely Vegetated Coi	of one re  )  6)  erial Ima	agery (B	37)		Water-Stained (except MLRA Salt Crust (B11 Aquatic Inverte Hydrogen Sulfi Oxidized Rhizo Presence of Re Recent Iron Re Stunted or Stre	th, 2, 4A, and the control of the co	Living Roots ( 4) d Soils (C6)	C3)	Water (MLR Drain: Dry-S Satur Geom Shalld FAC-I Raise	r-Stained L A 1, 2, 4A age Patter eason Wa ation Visib norphic Po bw Aquitar Neutral Te d Ant Mou	Leaves (E A, and 4B, rns (B10) ater Table ble on Aer esition (D2 rd (D3) est (D5) unds (D6)	(C2) ial Image	ery (C9)	
PROLOG etland Hy mary Indi Surfa High Satur Wate Sedir Drift I Algal Iron I Surfa Inunc Spars	ydrology Indicator icators (minimum of ace Water (A1) Water Table (A2) ration (A3) er Marks (B1) ment Deposits (B2) Deposits (B3) I Mat or Crust (B4) Deposits (B5) ace Soil Cracks (B6 dation Visible on A6 sely Vegetated Cor	of one re  )  i)  erial Imancave S	agery (B Surface (	37) (B8)		Water-Stained (except MLRA Salt Crust (B11 Aquatic Inverte Hydrogen Sulfi Oxidized Rhizo Presence of Re Recent Iron Re Stunted or Stre Other (Explain	th, 2, 4A, and the control of the co	Living Roots ( 4) d Soils (C6)	C3)	Water (MLR Drain: Dry-S Satur Geom Shalld FAC-I Raise	r-Stained L A 1, 2, 4A age Patter eason Wa ation Visib norphic Po bw Aquitar Neutral Te d Ant Mou	Leaves (E A, and 4B, rns (B10) ater Table ble on Aer esition (D2 rd (D3) est (D5) unds (D6)	(C2) ial Image	ery (C9)	
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DROLOG etland Hy mary Indi Surfa High Satur Wate Sedir Drift I Algal Iron I Surfa Inunc Spars eld Obser rface Wa ater Table turation F	ydrology Indicator icators (minimum c ace Water (A1) Water Table (A2) ration (A3) er Marks (B1) ment Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) ace Soil Cracks (B6 dation Visible on A6 sely Vegetated Con rvations: ther Present? Present?	of one re  ) erial Imancave S Yes Yes Yes	agery (B Surface (	37) (B8) No No No		Water-Stained (except MLRA Salt Crust (B11 Aquatic Inverte Hydrogen Sulfi Oxidized Rhize Presence of Re Recent Iron Re Stunted or Stre Other (Explain  Depth (inc	th, 2, 4A, and the control of the co	Living Roots (4) d Soils (C6) 1) (LRR A)	C3)	Water (MLR Drain Dry-S Satur Geom Shalld FAC-I Raise Frost-	r-Stained L A 1, 2, 4A age Patter eason Wa ation Visib norphic Po ow Aquitar Neutral Te d Ant Mou Heave Hu	Leaves (E A, and 4B rns (B10) ater Table ble on Aer sistion (D2 rd (D3) est (D5) unds (D6)	(C2) (C2) (ial Image (2) (LRR A	ery (C9)	
imary Indi   Surfa   High   Satur   Wate   Sedir   Drift [   Algal   Iron [   Surfa   Inunc   Spars eld Obserurface Water Table	ydrology Indicators (minimum of icators (minim	of one re  ) erial Imancave S Yes Yes Yes	agery (B Surface (	37) (B8) No No No		Water-Stained (except MLRA Salt Crust (B11 Aquatic Inverte Hydrogen Sulfi Oxidized Rhize Presence of Re Recent Iron Re Stunted or Stre Other (Explain  Depth (inc	th, 2, 4A, and the control of the co	Living Roots (4) d Soils (C6) 1) (LRR A)	C3)	Water (MLR Drain Dry-S Satur Geom Shalld FAC-I Raise Frost-	r-Stained L A 1, 2, 4A age Patter eason Wa ation Visib norphic Po ow Aquitar Neutral Te d Ant Mou Heave Hu	Leaves (E A, and 4B rns (B10) ater Table ble on Aer sistion (D2 rd (D3) est (D5) unds (D6)	(C2) (C2) (ial Image (2) (LRR A	ery (C9)	

# Attachment N.4C Ecology Wetland Rating Forms

The Department of Transportation is committed to ensuring that information is available in appropriate alternative formats to meet the requirements of persons who have a disability. If you require an alternative version of this file, please contact <a href="https://example.com/files/press/back-noise/back-no

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## **RATING SUMMARY – Western Washington**

Name of wetland (or ID #):	Wetland WSE1		Date of site visit:	8/23/2019
Rated by R. Whitson, A. Ro	tondo T	rained by Ecology? ☑ Yes ☐ No	Date of training _	Mar-15
HGM Class used for rating	Slope	Wetland has multip	le HGM classes? ☐ `	Yes ☑ No
	•	e figures requested (figures car p King County Pictometry	be combined).	
OVERALL WETLAND CA	TEGORY IV	(based on functions ☑ or speci	al characteristics	
OVERALL WEILAND CA	TILGORIIV	_(based off functions $\Box$ of specific	ai characteristics 🗀 )	
1. Category of wetland	l based on FUNCTION	NS		
	Category I - Total score	e = 23 - 27	Score for each	
	Category II - Total sco	re = 20 - 22	function based	
	Category III - Total sco	ore = 16 - 19	on three	
X	Category IV - Total sco	ore = 9 - 15	ratings	

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
	List app	ropriate rating	(H, M, L)	
Site Potential	L	L	L	,
Landscape Potential	M	М	L	
Value	Н	L	L	Total
Score Based on Ratings	6	4	3	13

Score for each
function based
on three
ratings
(order of ratings
is not
important)
9 = H, H, H
8 = H, H, M
7 = H, H, L
7 = H, M, M
6 = H, M, L
6 = M, M, M
5 = H, L, L
5 = M, M, L
4 = M, L, L
3 = L, L, L
3 = L, L, L

## 2. Category based on SPECIAL CHARACTERISTICS of wetland

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

## Maps and Figures required to answer questions correctly for Western Washington

### **Depressional Wetlands**

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

## Riverine Wetlands

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

## Lake Fringe Wetlands

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

### Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	H 1.1, H 1.4	1
Hydroperiods	H 1.2	1
Plant cover of <b>dense</b> trees, shrubs, and herbaceous plants	S 1.3	1
Plant cover of <b>dense</b> , <b>rigid</b> trees, shrubs, and herbaceous plants	S 4.1	1
(can be added to another figure )		'
Boundary of area within 150 ft of the wetland (can be added to another figure)	S 2.1, S 5.1	1
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	2
polygons for accessible habitat and undisturbed habitat		2
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	3
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	S 3.3	4

## **HGM Classification of Wetland in Western Washington**

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

1. Are th	ne water levels in the entire unit usuall	ly controlled by tides	except during floods?
<b>4</b>	NO - go to 2	☐ <b>YES</b> - the wetlan	nd class is <b>Tidal Fringe</b> - go to 1.1
1.1	Is the salinity of the water during per	iods of annual low fl	ow below 0.5 ppt (parts per thousand)?
		a Freshwater Tidal F <b>Estuarine</b> wetland a	☐ <b>YES - Freshwater Tidal Fringe</b> ringe use the forms for <b>Riverine</b> wetlands. and is not scored. This method <b>cannot</b> be
	ntire wetland unit is flat and precipitati vater and surface water runoff are NO		
7	NO - go to 3 If your wetland can be classified as a	a Flats wetland, use	☐ <b>YES</b> - The wetland class is <b>Flats</b> the form for <b>Depressional</b> wetlands.
	the entire wetland unit <b>meet all</b> of the The vegetated part of the wetland is plants on the surface at any time of t At least 30% of the open water area	on the shores of a b the year) at least 20	
<b>4</b>	NO - go to 4	☐ <b>YES</b> - The wetla	and class is <b>Lake Fringe</b> (Lacustrine Fringe)
7	the entire wetland unit <b>meet all</b> of the The wetland is on a slope ( <i>slope car</i> The water flows through the wetland may flow subsurface, as sheetflow, or The water leaves the wetland <b>witho</b>	n <i>be very gradual</i> ), in one direction (uni or in a swale without	
	NO - go to 5		☑ YES - The wetland class is Slope
	Surface water does not pond in these to ons or behind hummocks (depression		ept occasionally in very small and shallow ameter and less than 1 ft deep).
	the entire wetland unit <b>meet all</b> of the The unit is in a valley, or stream cha from that stream or river, The overbank flooding occurs at leas	nnel, where it gets ir	
	NO - go to 6		☐ <b>YES</b> - The wetland class is <b>Riverine</b>
NOTE: T	he Riverine unit can contain depressi	ons that are filled wi	th water when the river is not flooding

Wetland	name (	or number	Wetland WSF1	

	depression in which water ponds, or is saturated to the surface, at any outlet, if present, is higher than the interior of the wetland.
□ NO - go to 7	☐ <b>YES</b> - The wetland class is <b>Depressional</b>
The unit does not pond surface water more	If flat area with no obvious depression and no overbank flooding? than a few inches. The unit seems to be maintained by high be ditched, but has no obvious natural outlet.
□ NO - go to 8	$\ \square$ YES - The wetland class is <b>Depressional</b>
8. Your wetland unit seems to be difficult to	classify and probably contains several different HGM classes. For

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

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

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

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

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

SLOPE WETLANDS	SLOPE WETLANDS		
Hydrologic Functions - Indicators that the site functions to reduce flooding and stream erosion			
S 4.0. Does the site have the potential to reduce flooding and stream erosion?			
S 4.1. Characteristics of plants that reduce the velocity of surface flows during			
points appropriate for the description that best fits conditions in the wetland. S	•		
should be thick enough (usually $> \frac{1}{8}$ in), or dense enough, to remain erect defined as	uring surface flows.	0	
Dense, uncut, <b>rigid</b> plants cover > 90% of the area of the wetland	points = 1		
All other conditions	points = 0		
Rating of Site Potential If score is: □ 1 = M □ 0 = L	Record the rating on	the first page	
S 5.0. Does the landscape have the potential to support hydrologic functions of	of the site?		
S 5.1. Is more than 25% of the area within 150 ft upslope of wetland in land		1	
uses or cover that generate excess surface runoff?	Yes = 1 No = 0	'	
Rating of Landscape Potential If score is: ☑ 1 = M □ 0 = L	Record the rating on	the first page	
S 6.0. Are the hydrologic functions provided by the site valuable to society?			
S 6.1. Distance to the nearest areas downstream that have flooding problems	:		
The sub-basin immediately down-gradient of site has flooding			
problems that result in damage to human or natural resources (e.g.,		0	
houses or salmon redds)	points = 2	O	
Surface flooding problems are in a sub-basin farther down-gradient	points = 1		
No flooding problems anywhere downstream	points = 0		
S 6.2. Has the site been identified as important for flood storage or flood		0	
conveyance in a regional flood control plan?	Yes = 2 No = 0	U	
Total for S 6 Add the point	s in the boxes above	0	
Rating of Value If score is: $\square$ 2 - 4 = H $\square$ 1 = M $\square$ 0 = L	Record the rating on	the first page	

NOTES and FIELD OBSERVATIONS:

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

H 1.5. Special habitat features: Check the habitat features that are present in the wetland. <i>The number of checks is the number of</i>	
points.	
☐ Large, downed, woody debris within the wetland (> 4 in diameter and 6 ft long)	
☐ Standing snags (dbh > 4 in) within the wetland	
☐ Undercut banks are present for at least 6.6 ft (2 m) <b>and/or</b> overhanging plants extends	
at least 3.3 ft (1 m) over a stream (or ditch) in, or contiguous with the wetland, for at	
least 33 ft (10 m)	0
☐ Stable steep banks of fine material that might be used by beaver or muskrat for denning	
(> 30 degree slope) OR signs of recent beaver activity are present (cut shrubs or trees	
that have not yet weathered where wood is exposed)	
☐ At least ¼ ac of thin-stemmed persistent plants or woody branches are present in areas	
that are permanently or seasonally inundated (structures for egg-laying by amphibians)	
□ Invasive plants cover less than 25% of the wetland area in every stratum of plants (see	
H 1.1 for list of strata)	
Total for H 1 Add the points in the boxes above	
Rating of Site Potential If Score is:   15 - 18 = H  7 - 14 = M  0 - 6 = L Record the rating on	the first page
H 2.0. Does the landscape have the potential to support the habitat function of the site?	
H 2.1 Accessible habitat (include only habitat that directly abuts wetland unit).	
Calculate:	
0 % undisturbed habitat + ( 0 % moderate & low intensity land uses / 2 ) = 0%	
Market accessible to history	0
If total accessible habitat is:	0
$> \frac{1}{3}$ (33.3%) of 1 km Polygon points = 3	
20 - 33% of 1 km Polygon points = 2	
10 - 19% of 1 km Polygon points = 1	
<pre>&lt; 10 % of 1 km Polygon points = 0 H 2.2. Undisturbed habitat in 1 km Polygon around the wetland.</pre>	
Calculate:	
0 % undisturbed habitat + ( 8.5 % moderate & low intensity land uses / 2 ) = 4.25%	
0.5 % undisturbed flabitat + ( 0.5 % moderate & low intensity land uses / 2 ) - 4.25 %	
Undisturbed habitat > 50% of Polygon points = 3	0
Undisturbed habitat 10 - 50% and in 1-3 patches points = 2	
Undisturbed habitat 10 - 50% and > 3 patches points = 1	
Undisturbed habitat < 10% of 1 km Polygon points = 0	
H 2.3 Land use intensity in 1 km Polygon: If	
> 50% of 1 km Polygon is high intensity land use points = (-2)	-2
≤ 50% of 1km Polygon is high intensity points = 0	
Total for H 2 Add the points in the boxes above	-2
Rating of Landscape Potential If Score is:   4-6=H  1-3=M  <	the first page
H 3.0. Is the habitat provided by the site valuable to society?	
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? <i>Choose</i>	
only the highest score that applies to the wetland being rated.	
Site meets ANY of the following criteria:  points = 2	
<ul> <li>☐ It has 3 or more priority habitats within 100 m (see next page)</li> <li>☐ It provides habitat for Threatened or Endangered species (any plant</li> </ul>	
or animal on the state or federal lists)	
☐ It is mapped as a location for an individual WDFW priority species	
☐ It is mapped as a location for an individual WDI W priority species ☐ It is a Wetland of High Conservation Value as determined by the	0
Department of Natural Resources	
☐ It has been categorized as an important habitat site in a local or	
regional comprehensive plan, in a Shoreline Master Plan, or in a	
watershed plan	
Site has 1 or 2 priority habitats (listed on next page) with in 100m points = 1	
Site does not meet any of the criteria above points = 0	
Rating of Value If Score is:   2 = H	the first page

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

## **WDFW Priority Habitats**

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

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

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

height of > 20 in (51 cm) in western Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.

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

Talus: Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m),

composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May

**Snags and Logs**: Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast

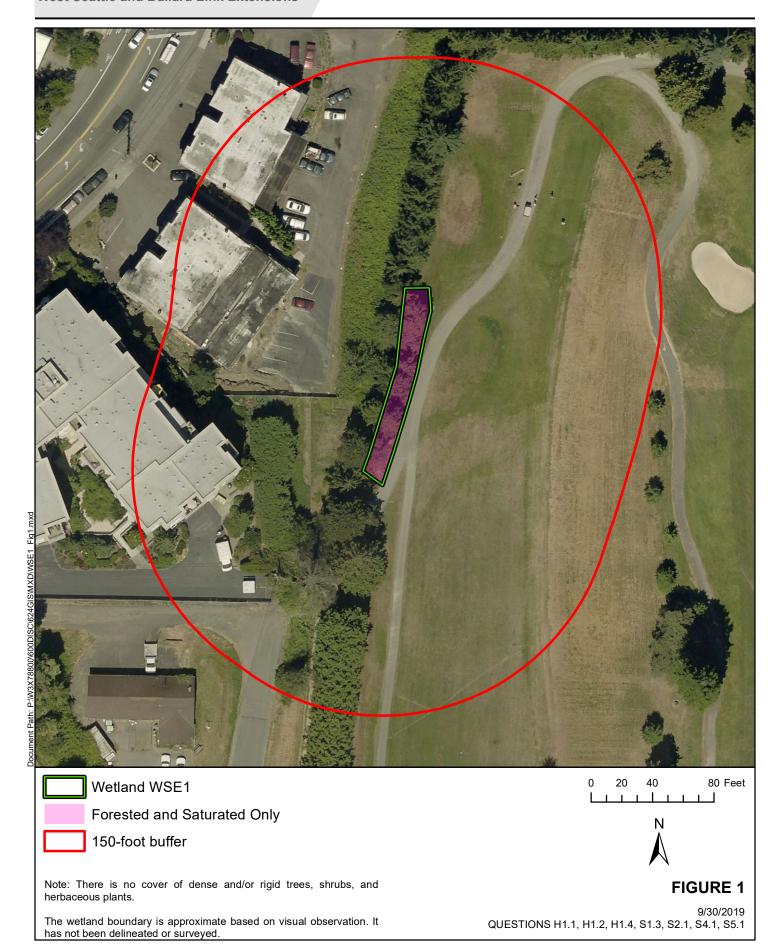
addressed elsewhere.

be associated with cliffs.

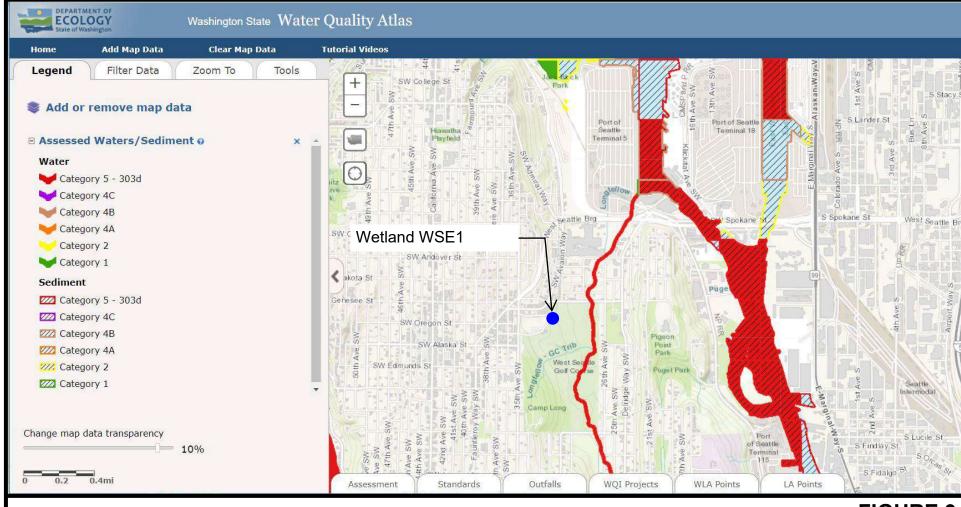
## **CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS**

Wetland	Туре	Category		
01				
Check off any criteria that apply to the wetland. List the category when the appropriate criteria are met.  SC 1.0. Estuarine Wetlands				
30 1.0.1	Does the wetland meet the following criteria for Estuarine wetlands?			
	The dominant water regime is tidal,			
	Vegetated, and			
	With a salinity greater than 0.5 ppt			
	☐ Yes - Go to SC 1.1 ☑ No = Not an estuarine wetland			
SC 1.1.	Is the wetland within a National Wildlife Refuge, National Park, National Estuary			
	Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific			
	Reserve designated under WAC 332-30-151?			
	☐ Yes = Category I ☐ No - Go to SC 1.2			
SC 1.2.	Is the wetland unit at least 1 ac in size and meets at least two of the following three conditions?			
	The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing,			
	and has less than 10% cover of non-native plant species. (If non-native species are			
	Spartina, see page 25)			
	At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-			
	grazed or un-mowed grassland.			
	The wetland has at least two of the following features: tidal channels, depressions with			
	open water, or contiguous freshwater wetlands.			
0000	☐ Yes = Category I ☐ No = Category II			
	Wetlands of High Conservation Value (WHCV)  Has the WA Department of Natural Resources updated their website to include the list			
00 2.1.	of Wetlands of High Conservation Value?			
	✓ Yes - Go to SC 2.2 □ No - Go to SC 2.3			
SC 2.2.	Is the wetland listed on the WDNR database as a Wetland of High Conservation Value?			
	☐ Yes = Category I ☑ No = Not WHCV			
SC 2.3.	Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland?			
	http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf			
	☐ Yes - Contact WNHP/WDNR and to SC 2.4  ☑ No = Not WHCV			
SC 2.4.	Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation			
	Value and listed it on their website?			
	☐ Yes = Category I			
SC 3.0. I				
	Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation			
	in bogs? Use the key below. If you answer YES you will still need to rate the			
00 0 4	wetland based on its functions.  Does an area within the wetland unit have organic soil horizons, either peats or mucks,			
SC 3.1.	that compose 16 in or more of the first 32 in of the soil profile?			
	☐ Yes - Go to SC 3.3 ☐ No - Go to SC 3.2			
SC 3.2.	Does an area within the wetland unit have organic soils, either peats or mucks, that are			
00 0.2.	less than 16 in deep over bedrock, or an impermeable hardpan such as clay or volcanic			
	ash, or that are floating on top of a lake or pond?			
	☐ Yes - Go to SC 3.3 ☐ No = Is not a bog			
SC 3.3.	Does an area with peats or mucks have more than 70% cover of mosses at ground			
	level, AND at least a 30% cover of plant species listed in Table 4?			
	☐ Yes = Is a Category I bog ☐ No - Go to SC 3.4			
	NOTE: If you are uncertain about the extent of mosses in the understory, you may			
	substitute that criterion by measuring the pH of the water that seeps into a hole dug at			
	least 16 in deep. If the pH is less than 5.0 and the plant species in Table 4 are present,			
000	the wetland is a bog.			
SC 3.4.	Is an area with peats or mucks forested (> 30% cover) with Sitka spruce, subalpine fir,			
	western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann			
	spruce, or western white pine, AND any of the species (or combination of species) listed in Table 4 provide more than 20% of the species under the same of			
	in Table 4 provide more than 30% of the cover under the canopy?			
	☐ Yes = Is a Category I bog ☐ No = Is not a bog			

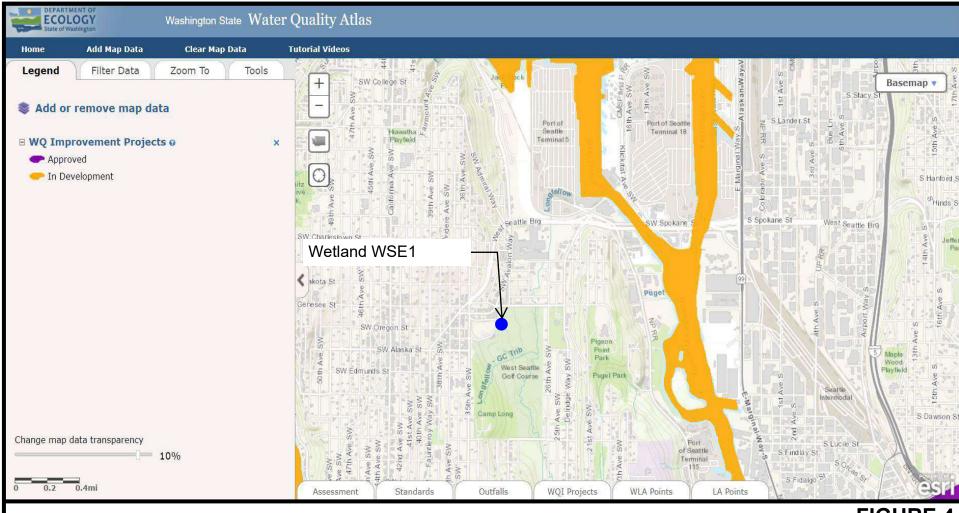
SC 4 0	Forested Wetlands	
33 4.0.	Does the wetland have at least <u>1 contiguous acre</u> of forest that meets one of these	
	criteria for the WA Department of Fish and Wildlife's forests as priority habitats? <i>If you</i>	
	answer YES you will still need to rate the wetland based on its functions.	
	Old-growth forests (west of Cascade crest): Stands of at least two tree species,	
	forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac	
	(20 trees/ha) that are at least 200 years of age OR have a diameter at breast height	
	(dbh) of 32 in (81 cm) or more.	
	Mature forests (west of the Cascade Crest): Stands where the largest trees are 80- 200	
	years old OR the species that make up the canopy have an average diameter (dbh)	
	exceeding 21 in (53 cm).	
	☐ Yes = Category I ☑ No = Not a forested wetland for this section	
SC 5.0.	Wetlands in Coastal Lagoons	
0.0.	Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?	
	The wetland lies in a depression adjacent to marine waters that is wholly or partially	
	separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently,	
	rocks	
	The lagoon in which the wetland is located contains ponded water that is saline or	
	brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon ( <i>needs to</i>	
	be measured near the bottom)	
	☐ Yes - Go to SC 5.1 ☑ No = Not a wetland in a coastal lagoon	
SC 5 1	Does the wetland meet all of the following three conditions?	
GG 3.1.	The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing),	
	and has less than 20% cover of aggressive, opportunistic plant species (see list of	
	species on p. 100).	
	and the contract of the contra	
	grazed or un-mowed grassland.	
	The wetland is larger than $\frac{1}{10}$ ac (4350 ft <sup>2</sup> )	
	☐ Yes = Category I ☐ No = Category II	
SC 6.0	Interdunal Wetlands	
0.0.	Is the wetland west of the 1889 line (also called the Western Boundary of Upland	
	Ownership or WBUO)? If you answer yes you will still need to rate the wetland	
	based on its habitat functions.	
	In practical terms that means the following geographic areas:	
	Long Beach Peninsula: Lands west of SR 103	
	Grayland-Westport: Lands west of SR 105	
	Ocean Shores-Copalis: Lands west of SR 115 and SR 109	
	☐ Yes - Go to SC 6.1 ☐ No = Not an interdunal wetland for rating	
SC 6.1.	<b>U</b>	
000	(rates H,H,H or H,H,M for the three aspects of function)?	
	☐ Yes = Category I ☐ No - Go to SC 6.2	
SC 6.2.		
0.2.	☐ Yes = Category II ☐ No - Go to SC 6.3	
SC 6.3.		
0.0.	1 ac?	
	☐ Yes = Category III ☐ No = Category IV	
Category of wetland based on Special Characteristics		
_	nswered No for all types, enter "Not Applicable" on Summary Form	
, ,	11 / 11	







Questions: S 3.1, S 3.2



Questions: S 3.3

### **RATING SUMMARY – Western Washington**

Name of wetland (or ID #):	Wetland WSE2	Date of site visit:	8/23/2019
Rated by R. Whitson, A. Ro	tondo Trained by Ecology? ☑	Yes □ No Date of training _	Mar-15
HGM Class used for rating	Riverine & Fresh Water Tidal Wetland	has multiple HGM classes? $\Box$	∕es ⊡ No
	of complete with out the figures requested ( of base aerial photo/map King County Pictome  TEGORY II (based on functions	,	
1. Category of wetland	Lategory II - Total score = 23 - 27  Category II - Total score = 20 - 22  Category III - Total score = 16 - 19  Category IV - Total score = 9 - 15	Score for each function based on three ratings	
		(order of ratings	

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
	List appropriate rating (H, M, L)			
Site Potential	M	М	М	
Landscape Potential	Н	М	L	
Value	Н	Н	Н	Total
Score Based on Ratings	8	7	6	21

function based on three ratings (order of ratings is not important)		
9 = H, H, H 8 = H, H, M 7 = H, H, L 7 = H, M, M 6 = H, M, L 6 = M, M, M 5 = H, L, L 5 = M, M, L 4 = M, L, L 3 = L, L, L		

### 2. Category based on SPECIAL CHARACTERISTICS of wetland

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

## Maps and Figures required to answer questions correctly for Western Washington

#### **Depressional Wetlands**

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

#### Riverine Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	H 1.1, H 1.4	1
Hydroperiods	H 1.2	1
Ponded depressions	R 1.1	2
Boundary of area within 150 ft of the wetland (can be added to another figure)	R 2.4	1
Plant cover of trees, shrubs, and herbaceous plants	R 1.2, R 4.2	2
Width of unit vs. width of stream (can be added to another figure)	R 4.1	1
Map of the contributing basin	R 2.2, R 2.3, R 5.2	3
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	4
polygons for accessible habitat and undisturbed habitat		4
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	R 3.1	5
Screen capture of list of TMDLs for WRIA in which unit is found (from web) R 3.2, R 3.3		6

#### Lake Fringe Wetlands

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

#### Slope Wetlands

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

### **HGM Classification of Wetland in Western Washington**

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

1. Are th	ne water levels in the entire unit usuall	ly controlled by tides except during floods?	
<b>√</b>	NO - go to 2	☐ <b>YES</b> - the wetland class is <b>Tidal Fringe</b> - go to 1.1	
1.1	Is the salinity of the water during per	riods of annual low flow below 0.5 ppt (parts per thousand)?	
		a Freshwater Tidal Fringe use the forms for <b>Riverine</b> wetlands <b>Estuarine</b> wetland and is not scored. This method <b>cannot</b> be	
	ntire wetland unit is flat and precipitati vater and surface water runoff are NO	ion is the only source (>90%) of water to it.  T sources of water to the unit.	
<b>V</b>	NO - go to 3 If your wetland can be classified as a	☐ <b>YES</b> - The wetland class is <b>Flats</b> a Flats wetland, use the form for <b>Depressional</b> wetlands.	
		on the shores of a body of permanent open water (without any the year) at least 20 ac (8 ha) in size;	,
<b>√</b>	NO - go to 4	☐ YES - The wetland class is Lake Fringe (Lacustrine Fringe	e)
	the entire wetland unit <b>meet all</b> of the The wetland is on a slope ( <i>slope car</i> ). The water flows through the wetland may flow subsurface, as sheetflow, or The water leaves the wetland <b>witho</b> .	n be very gradual), I in one direction (unidirectional) and usually comes from seeps or in a swale without distinct banks.	s. It
<b>V</b>	NO - go to 5	☐ <b>YES</b> - The wetland class is <b>Slope</b>	
		type of wetlands except occasionally in very small and shallow as are usually <3 ft diameter and less than 1 ft deep).	
<b>J</b>	the entire wetland unit <b>meet all</b> of the The unit is in a valley, or stream cha from that stream or river, The overbank flooding occurs at leas	annel, where it gets inundated by overbank flooding	
	NO - go to 6	☑ YES - The wetland class is Riverine	
NOTE: T	he Riverine unit can contain depressi	ions that are filled with water when the river is not flooding.	

Wetland name or nur	nber Wetland WSE2

	c depression in which water ponds, or is saturated to the surface, at any outlet, if present, is higher than the interior of the wetland.
□ NO - go to 7	$\ \square$ YES - The wetland class is <b>Depressional</b>
The unit does not pond surface water more	ry flat area with no obvious depression and no overbank flooding? than a few inches. The unit seems to be maintained by high be ditched, but has no obvious natural outlet.
□ NO - go to 8	$\square$ <b>YES</b> - The wetland class is <b>Depressional</b>
8. Vour wetland unit seems to be difficult to	o classify and probably contains several different HCM classes. For

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

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

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

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

NOTES and FIELD OBSERVATIONS:

RIVERINE AND FRESHWATER TIDAL FRINGE WETLANDS	
Water Quality Functions - Indicators that the site functions to improve water quality	
R 1.0. Does the site have the potential to improve water quality?	
R 1.1. Area of surface depressions within the Riverine wetland that can trap sediments during a flooding event:	
Depressions cover $> \frac{3}{4}$ area of wetland points = 8	2
Depressions cover > ½ area of wetland points = 4	2
Depressions present but cover $< \frac{1}{2}$ area of wetland points = 2	
No depressions present points = 0	
R 1.2. Structure of plants in the wetland (areas with >90% cover at person height, <b>not</b> Cowardin	
classes)	
Trees or shrubs > $\frac{2}{3}$ area of the wetland points = 8	
☐ Trees or shrubs > $\frac{1}{3}$ area of the wetland points = 6	6
☐ Herbaceous plants (> 6 in high) > $^2$ / <sub>3</sub> area of the wetland points = 6	
Herbaceous plants (> 6 in high) > $\frac{1}{3}$ area of the wetland points = 3	
Trees, shrubs, and ungrazed herbaceous $< \frac{1}{3}$ area of the wetland points = 0  Total for R 1 Add the points in the boxes above	8
Rating of Site Potential If score is: $\Box$ 12 - 16 = H $\Box$ 6 - 11 = M $\Box$ 0 - 5 = L Record the rating on	
realing of other otential in score is 12-10-11 - 0-11-11 - 0-11-11 - 7-0-12	ine mai page
R 2.0. Does the landscape have the potential to support the water quality function of the site?	
R 2.1. Is the wetland within an incorporated city or within its UGA? Yes = $2 \text{ No} = 0$	2
R 2.2. Does the contributing basin to the wetland include a UGA or	1
incorporated area? Yes = 1 No = 0	•
R 2.3. Does at least 10% of the contributing basin contain tilled fields, pastures, or forests that have been clearcut within the last 5 years? Yes = 1 No = 0	0
R 2.4. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants?  Yes = 1 No = 0	1
R 2.5. Are there other sources of pollutants coming into the wetland that are	
not listed in questions R 2.1 - R 2.4?	1
Other Sources <u>Fertilizer from golf course</u> Yes = 1 No = 0	
Total for R 2 Add the points in the boxes above	5
Rating of Landscape Potential If score is: 3 - 6 = H  1 or 2 = M  0 = L Record the rating on	the first page
R 3.0. Is the water quality improvement provided by the site valuable to society?	
R 3.1. Is the wetland along a stream or river that is on the 303(d) list or on a	1
tributary that drains to one within 1 mi? Yes = 1 No = 0	
R 3.2. Is the wetland along a stream or river that has TMDL limits for nutrients, toxics, or pathogens?  Yes = 1 No = 0	1
R 3.3. Has the site been identified in a watershed or local plan as important for	
maintaining water quality? (answer YES if there is a TMDL for the drainage in	2
which the unit is found) Yes = $2 \text{ No} = 0$	
Total for R 3 Add the points in the boxes above	4
Rating of Value If score is: 2 - 4 = H  1 = M  0 = L  Record the rating on	the first page

RIVERINE AND FRESHWATER TIDAL FRINGE WETLANDS		
Hydrologic Functions - Indicators that site functions to reduce flooding and stream eros	ion	
R 4.0. Does the site have the potential to reduce flooding and erosion?		
R 4.1. Characteristics of the overbank storage the wetland provides:		
Estimate the average width of the wetland perpendicular to the direction of the flow and the width		
of the stream or river channel (distance between banks). Calculate the ratio: (average width of		
wetland)/(average width of stream between banks).		
If the ratio is more than 20 points = 9	2	
If the ratio is 10 - 20 points = 6		
If the ratio is 5 - < 10 points = 4		
If the ratio is 1 - < 5 points = 2		
If the ratio is < 1 points = 1		
R 4.2. Characteristics of plants that slow down water velocities during floods: <i>Treat large woody</i>		
debris as forest or shrub. Choose the points appropriate for the best description (polygons need		
to have >90% cover at person height. These are NOT Cowardin classes).	_	
Forest or shrub for $> \frac{1}{3}$ area OR emergent plants $> \frac{2}{3}$ area points = 7	7	
Forest or shrub for $> \frac{1}{10}$ area OR emergent plants $> \frac{1}{3}$ area points = 4		
Plants do not meet above criteria points = 0		
Total for R 4 Add the points in the boxes above	9	
Rating of Site Potential If score is:   12 - 16 = H  6 - 11 = M  0 - 5 = L  Record the rating on	the first page	
R 5.0. Does the landscape have the potential to support the hydrologic functions of the site?		
R 5.1. Is the stream or river adjacent to the wetland downcut?  Yes = 0 No = 1	0	
R 5.2. Does the up-gradient watershed include a UGA or incorporated area? Yes = 1 No = 0	1	
R 5.3 Is the up-gradient stream or river controlled by dams? Yes = 0 No = 1	1	
Total for R 5 Add the points in the boxes above	2	
Rating of Landscape Potential If score is: □ 3 = H □ 1 or 2 = M □ 0 = L Record the rating on	the first page	
R 6.0. Are the hydrologic functions provided by the site valuable to society?		
R 6.1. Distance to the nearest areas downstream that have flooding problems?		
Choose the description that best fits the site.		
The sub-hasis issued intolly down medicut of the wetlend has		
The sub-basin immediately down-gradient of the wetland has		
flooding problems that result in damage to human or natural	2	
, ,	2	
flooding problems that result in damage to human or natural	2	
flooding problems that result in damage to human or natural resources (e.g., houses or salmon redds) points = 2	2	
flooding problems that result in damage to human or natural resources (e.g., houses or salmon redds) points = 2  Surface flooding problems are in a sub-basin farther down-gradient points = 1		
flooding problems that result in damage to human or natural resources (e.g., houses or salmon redds)  Surface flooding problems are in a sub-basin farther down-gradient  No flooding problems anywhere downstream  points = 0	2	

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

Record the rating on the first page

□ 0 = L

#### These questions apply to wetlands of all HGM classes. HABITAT FUNCTIONS - Indicators that site functions to provide important habitat H 1.0. Does the site have the potential to provide habitat? H 1.1. Structure of plant community: Indicators are Cowardin classes and strata within the Forested class. Check the Cowardin plant classes in the wetland. Up to 10 patches may be combined for each class to meet the threshold of 1/4 ac or more than 10% of the unit if it is smaller than 2.5 ac. Add the number of structures checked. □ Aquatic bed 4 structures or more: points = 4 1 Emergent 3 structures: points = 2 ☑ Scrub-shrub (areas where shrubs have > 30% cover) 2 structures: points - 1 ☐ Forested (areas where trees have > 30% cover) 1 structure: points = 0 If the unit has a Forested class, check if: ☐ The Forested class has 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover) that each cover 20% within the Forested polygon H 1.2. Hydroperiods Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or 1/4 ac to count (see text for descriptions of hydroperiods). ☐ Permanently flooded or inundated 4 or more types present: points = 3 ☑ Seasonally flooded or inundated 3 types present: points = 2 ☐ Occasionally flooded or inundated 2 types present: points = 1 ☑ Saturated only 1 types present: points = 0 ☑ Permanently flowing stream or river in, or adjacent to, the wetland ☐ Seasonally flowing stream in, or adjacent to, the wetland ☐ Lake Fringe wetland 2 points ☐ Freshwater tidal wetland 2 points H 1.3. Richness of plant species Count the number of plant species in the wetland that cover at least 10 ft<sup>2</sup>. Different patches of the same species can be combined to meet the size threshold and you do not have to name the species. Do not include Eurasian milfoil, reed canarygrass, purple loosestrife. Canadian thistle 1 If you counted: > 19 species points = 25 - 19 species points = 1< 5 species points = 0H 1.4. Interspersion of habitats Decide from the diagrams below whether interspersion among Cowardin plants classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, moderate, low, or none. If you have four or more plant classes or three classes and open water, the rating is always high. 2 None = 0 points Moderate = 2 points Low = 1 point All three diagrams in this row are HIGH = 3 points

H 1.5. Special habitat features:	
Check the habitat features that are present in the wetland. The number of checks is the number of	
points.	
☐ Large, downed, woody debris within the wetland (> 4 in diameter and 6 ft long)	
☐ Standing snags (dbh > 4 in) within the wetland	
☐ Undercut banks are present for at least 6.6 ft (2 m) <b>and/or</b> overhanging plants extends	
at least 3.3 ft (1 m) over a stream (or ditch) in, or contiguous with the wetland, for at	
least 33 ft (10 m)	3
☑ Stable steep banks of fine material that might be used by beaver or muskrat for denning	
(> 30 degree slope) OR signs of recent beaver activity are present (cut shrubs or trees	
that have not yet weathered where wood is exposed)	
☐ At least ¼ ac of thin-stemmed persistent plants or woody branches are present in areas	
that are permanently or seasonally inundated (structures for egg-laying by amphibians)	
☐ Invasive plants cover less than 25% of the wetland area in every stratum of plants (see	
H 1.1 for list of strata)	
Total for H 1 Add the points in the boxes above	9
Rating of Site Potential If Score is:   15 - 18 = H  7 - 14 = M  0 - 6 = L Record the rating on	the first page
H 2.0. Does the landscape have the potential to support the habitat function of the site?	
H 2.1 Accessible habitat (include only habitat that directly abuts wetland unit).	
Calculate:	
0 % undisturbed habitat + ( 0 % moderate & low intensity land uses / 2 ) = 0%	
If total accessible habitat is:	0
$> \frac{1}{3}$ (33.3%) of 1 km Polygon points = 3	
20 - 33%  of  1  km Polygon $20 - 33%  of  1  km Polygon$ $20 - 33%  of  1  km Polygon$	
10 - 19% of 1 km Polygon points = 1	
< 10 % of 1 km Polygon points = 0 H 2.2. Undisturbed habitat in 1 km Polygon around the wetland.	
Calculate:	
0 % undisturbed habitat + ( 17 % moderate & low intensity land uses / 2 ) = 8.5%	
Lindiaturk adda bitata 500% of Dalaman	0
Undisturbed habitat > 50% of Polygon points = 3	
Undisturbed habitat 10 - 50% and in 1-3 patches  points = 2	
Undisturbed habitat 10 - 50% and > 3 patches points = 1	
Undisturbed habitat < 10% of 1 km Polygon points = 0	
H 2.3 Land use intensity in 1 km Polygon: If	_
> 50% of 1 km Polygon is high intensity land use points = (-2)	-2
≤ 50% of 1km Polygon is high intensity points = 0	
Total for H 2 Add the points in the boxes above	-2
Rating of Landscape Potential If Score is:   4-6=H  1-3=M  <	the first page
H 3.0. Is the habitat provided by the site valuable to society?	
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? <i>Choose</i>	
only the highest score that applies to the wetland being rated.	
Site meets ANY of the following criteria: points = 2	
☑ It has 3 or more priority habitats within 100 m (see next page)	
☐ It provides habitat for Threatened or Endangered species (any plant	
or animal on the state or federal lists)	
☑ It is mapped as a location for an individual WDFW priority species	2
☐ It is a Wetland of High Conservation Value as determined by the	_
Department of Natural Resources	
☐ It has been categorized as an important habitat site in a local or	
regional comprehensive plan, in a Shoreline Master Plan, or in a	
watershed plan	
Site has 1 or 2 priority habitats (listed on next page) with in 100m points = 1	
Site does not meet any of the criteria above points = 0	
Rating of Value If Score is: ☑ 2 = H ☐ 1 = M ☐ 0 = L Record the rating on	the first page

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

### **WDFW Priority Habitats**

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

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

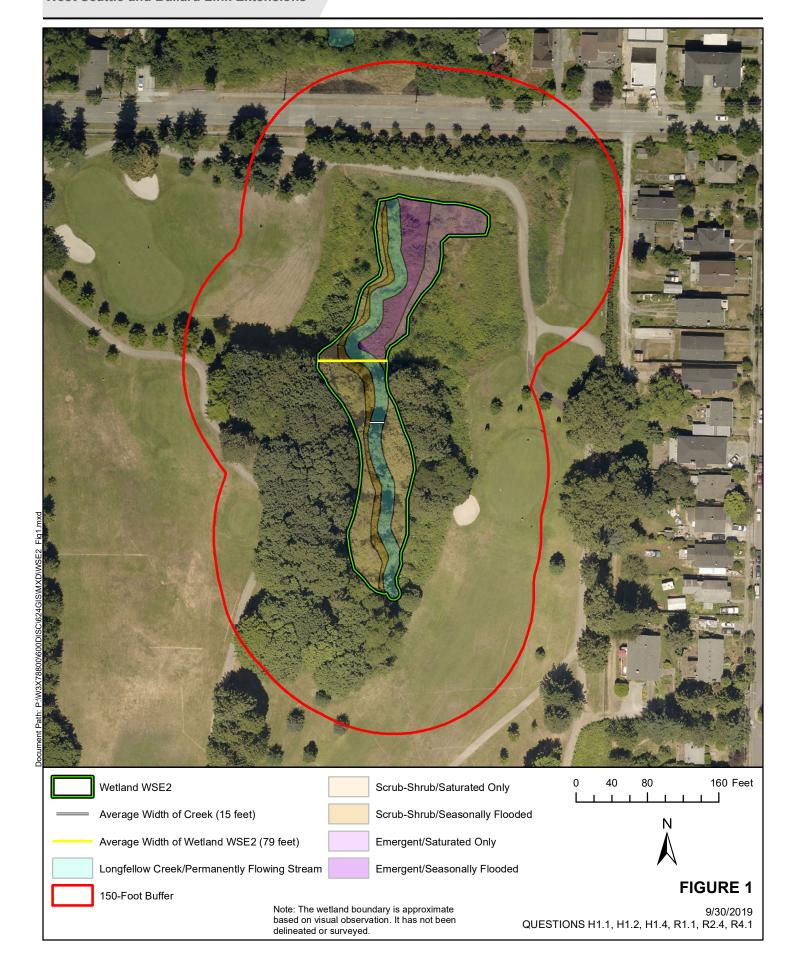
Count how many of the following priority habitats are within 330 ft (100 m) of the wetland unit: **NOTE**: This question is independent of the land use between the wetland unit and the priority habitat. **Aspen Stands**: Pure or mixed stands of aspen greater than 1 ac (0.4 ha). Biodiversity Areas and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

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

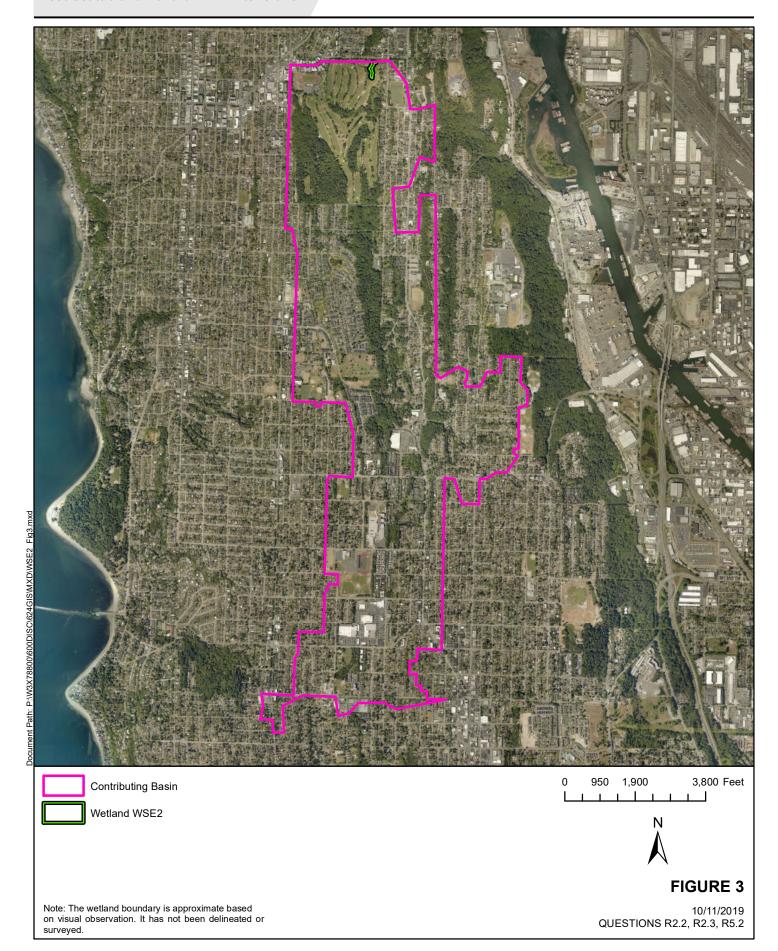
### **CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS**

Wetland	Туре	Category
01		
	f any criteria that apply to the wetland. List the category when the appropriate criteria are met.  Estuarine Wetlands	
30 1.0.1	Does the wetland meet the following criteria for Estuarine wetlands?	
	The dominant water regime is tidal,	
	Vegetated, and	
	With a salinity greater than 0.5 ppt	
	☐ Yes - Go to SC 1.1 ☑ No = Not an estuarine wetland	
SC 1.1.	Is the wetland within a National Wildlife Refuge, National Park, National Estuary	
	Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific	
	Reserve designated under WAC 332-30-151?	
	☐ Yes = Category I ☐ No - Go to SC 1.2	
SC 1.2.	Is the wetland unit at least 1 ac in size and meets at least two of the following three conditions?	
	The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing,	
	and has less than 10% cover of non-native plant species. (If non-native species are	
	Spartina, see page 25)	
	At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-	
	grazed or un-mowed grassland.	
	The wetland has at least two of the following features: tidal channels, depressions with	
	open water, or contiguous freshwater wetlands.	
00001	☐ Yes = Category I ☐ No = Category II	
	Wetlands of High Conservation Value (WHCV)  Has the WA Department of Natural Resources updated their website to include the list	
30 2.1.	of Wetlands of High Conservation Value?	
	✓ Yes - Go to SC 2.2 □ No - Go to SC 2.3	
SC 2.2.	Is the wetland listed on the WDNR database as a Wetland of High Conservation Value?	
	☐ Yes = Category I ☑ No = Not WHCV	
SC 2.3.	Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland?	
	http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf	
	☐ Yes - Contact WNHP/WDNR and to SC 2.4 ☑ No = Not WHCV	
SC 2.4.	Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation	
	Value and listed it on their website?	
	☐ Yes = Category I ☐ No = Not WHCV	
SC 3.0. I		
	Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation	
	in bogs? Use the key below. If you answer YES you will still need to rate the	
0004	wetland based on its functions.	
SC 3.1.	Does an area within the wetland unit have organic soil horizons, either peats or mucks,	
	that compose 16 in or more of the first 32 in of the soil profile?  □ Yes - Go to SC 3.3  □ No - Go to SC 3.2	
SC 3.2.	☐ Yes - Go to <b>SC 3.3</b> ☐ No - Go to <b>SC 3.2</b> Does an area within the wetland unit have organic soils, either peats or mucks, that are	
30 3.2.	less than 16 in deep over bedrock, or an impermeable hardpan such as clay or volcanic	
	ash, or that are floating on top of a lake or pond?	
	☐ Yes - Go to SC 3.3 ☐ No = Is not a bog	
SC 3.3.	Does an area with peats or mucks have more than 70% cover of mosses at ground	
0.0.	level, AND at least a 30% cover of plant species listed in Table 4?	
	☐ Yes = Is a Category I bog ☐ No - Go to SC 3.4	
	<b>NOTE</b> : If you are uncertain about the extent of mosses in the understory, you may	
	substitute that criterion by measuring the pH of the water that seeps into a hole dug at	
	least 16 in deep. If the pH is less than 5.0 and the plant species in Table 4 are present,	
	the wetland is a bog.	
SC 3.4.	Is an area with peats or mucks forested (> 30% cover) with Sitka spruce, subalpine fir,	
	western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann	
	spruce, or western white pine, AND any of the species (or combination of species) listed	
	in Table 4 provide more than 30% of the cover under the canopy?	
	☐ Yes = Is a Category I bog ☐ No = Is not a bog	

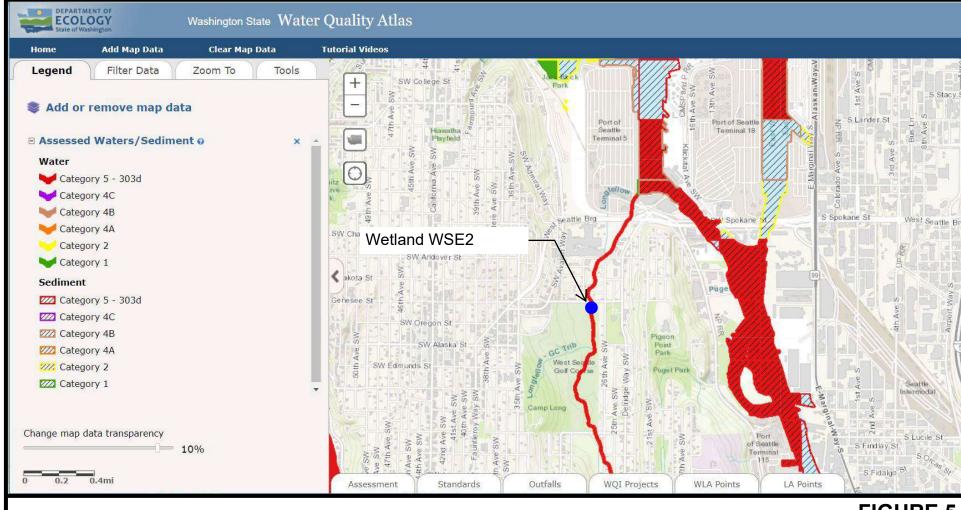
22.12		ı
SC 4.0.	Forested Wetlands	
	Does the wetland have at least 1 contiguous acre of forest that meets one of these	
	criteria for the WA Department of Fish and Wildlife's forests as priority habitats? <i>If you</i>	
	answer YES you will still need to rate the wetland based on its functions.	
	Old-growth forests (west of Cascade crest): Stands of at least two tree species,	
	forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac	
	(20 trees/ha) that are at least 200 years of age OR have a diameter at breast height	
	(dbh) of 32 in (81 cm) or more.	
	Mature forests (west of the Cascade Crest): Stands where the largest trees are 80- 200	
	years old OR the species that make up the canopy have an average diameter (dbh)	
	exceeding 21 in (53 cm).	
20.50	☐ Yes = Category I ☐ No = Not a forested wetland for this section	
SC 5.0.	Wetlands in Coastal Lagoons	
	Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?	
	The wetland lies in a depression adjacent to marine waters that is wholly or partially	
	separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently,	
	rocks	
	The lagoon in which the wetland is located contains ponded water that is saline or	
	brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (needs to	
	be measured near the bottom)	
	☐ Yes - Go to SC 5.1 ☑ No = Not a wetland in a coastal lagoon	
SC 5 1	Does the wetland meet all of the following three conditions?	
3C 3.1.	The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing),	
	and has less than 20% cover of aggressive, opportunistic plant species (see list of	
	species on p. 100).	
	At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-	
_	grazed or un-mowed grassland.	
	The wetland is larger than $^1/_{10}$ ac (4350 ft <sup>2</sup> )	
	☐ Yes = Category I ☐ No = Category II	
SC 6.0.	Interdunal Wetlands	
	Is the wetland west of the 1889 line (also called the Western Boundary of Upland	
	Ownership or WBUO)? If you answer yes you will still need to rate the wetland	
	based on its habitat functions.	
	In practical terms that means the following geographic areas:	
	Long Beach Peninsula: Lands west of SR 103	
	Grayland-Westport: Lands west of SR 105	
	Ocean Shores-Copalis: Lands west of SR 115 and SR 109	
	☐ Yes - Go to SC 6.1 ☐ No = Not an interdunal wetland for rating	
SC 6.1.		
00 0.1.	(rates H,H,H or H,H,M for the three aspects of function)?	
	·	
SC 6.2.		
3C 6.2.	Is the wetland 1 ac or larger, or is it in a mosaic of wetlands that is 1 ac or larger?	
0000	☐ Yes = Category II ☐ No - Go to SC 6.3	
SC 6.3.	Is the unit between 0.1 and 1 ac, or is it in a mosaic of wetlands that is between 0.1 and	
	1 ac?	
	☐ Yes = Category III ☐ No = Category IV	
	ry of wetland based on Special Characteristics	
If you ar	nswered No for all types, enter "Not Applicable" on Summary Form	





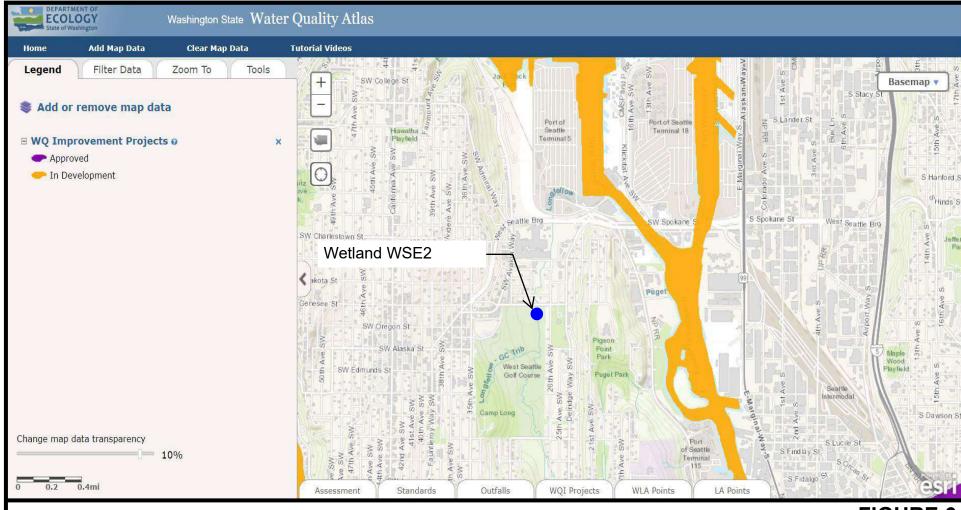






Questions: R3.2, R3.3





Questions: R3.2, R3.3



### **RATING SUMMARY – Western Washington**

Name of wetland (or ID #):	Wetland WSE3		Date of site visit: 8/23/2019
Rated by R. Whitson and A	A. Rotondo	Trained by Ecology? $\ensuremath{\boxdot}$ Yes $\ensuremath{\Box}$ No	Date of training Mar-15
HGM Class used for ratin	g Depressional & Flats	Wetland has multip	le HGM classes? ☑ Yes ☐ No
	•	the figures requested (figures car nap King County Pictometry	be combined ).
OVERALL WETLAND C	ATEGORY <u>II</u>	(based on functions ☑ or speci	al characteristics $\;\Box\;$ )
1. Category of wetlan	d based on FUNCTI	ONS	
	Category I - Total sc	ore = 23 - 27	Score for each
X	Category II - Total s	core = 20 - 22	function based
	Category III - Total s	score = 16 - 19	on three
	Category IV - Total s	score = 9 - 15	ratings
	_		(order of ratings
I.e.	Lydrolog	rio Hobitat	in not

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
	List app	ropriate rating	g (H, M, L)	
Site Potential	M	М	М	
Landscape Potential	Н	Н	L	
Value	Н	Н	Н	Total
Score Based on Ratings	8	8	6	22

Score for each
function based
on three
ratings
(order of ratings
is not
important)
9 = H, H, H
8 = H, H, M
7 = H, H, L
7 = H, M, M
6 = H, M, L
6 = M, M, M
5 = H, L, L
5 = M, M, L
4 = M, L, L
3 = L, L, L

### 2. Category based on SPECIAL CHARACTERISTICS of wetland

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

# Maps and Figures required to answer questions correctly for Western Washington

### **Depressional Wetlands**

Map of:	To answer questions:	Figure #
Cowardin plant classes	D 1.3, H 1.1, H 1.4	1
Hydroperiods	D 1.4, H 1.2	1
Location of outlet (can be added to map of hydroperiods)	D 1.1, D 4.1	1
Boundary of area within 150 ft of the wetland (can be added to another figure)	D 2.2, D 5.2	1
Map of the contributing basin	D 4.3, D 5.3	2
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	3
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	4
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	D 3.3	5

### Riverine Wetlands

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

#### Lake Fringe Wetlands

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

#### Slope Wetlands

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

### **HGM Classification of Wetland in Western Washington**

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

1. Are th	ne water levels in the entire unit usuall	ly controlled by tides except during floods?
<b>√</b>	NO - go to 2	□ <b>YES</b> - the wetland class is <b>Tidal Fringe</b> - go to 1.1
1.1	Is the salinity of the water during per	riods of annual low flow below 0.5 ppt (parts per thousand)?
		a Freshwater Tidal Fringe use the forms for <b>Riverine</b> wetlands. <b>Estuarine</b> wetland and is not scored. This method <b>cannot</b> be
	ntire wetland unit is flat and precipitati vater and surface water runoff are NO	ion is the only source (>90%) of water to it.  T sources of water to the unit.
<b>V</b>	NO - go to 3 If your wetland can be classified as a	☐ <b>YES</b> - The wetland class is <b>Flats</b> a Flats wetland, use the form for <b>Depressional</b> wetlands.
		on the shores of a body of permanent open water (without any the year) at least 20 ac (8 ha) in size;
<b>√</b>	NO - go to 4	□ <b>YES</b> - The wetland class is <b>Lake Fringe</b> (Lacustrine Fringe)
	the entire wetland unit <b>meet all</b> of the The wetland is on a slope ( <i>slope car</i> ). The water flows through the wetland may flow subsurface, as sheetflow, or The water leaves the wetland <b>witho</b> .	n be very gradual), I in one direction (unidirectional) and usually comes from seeps. It or in a swale without distinct banks.
<b>V</b>	NO - go to 5	☐ <b>YES</b> - The wetland class is <b>Slope</b>
		type of wetlands except occasionally in very small and shallow as are usually <3 ft diameter and less than 1 ft deep).
	the entire wetland unit <b>meet all</b> of the The unit is in a valley, or stream cha from that stream or river, The overbank flooding occurs at leas	nnel, where it gets inundated by overbank flooding
<b>V</b>	NO - go to 6	☐ <b>YES</b> - The wetland class is <b>Riverine</b>
NOTE: T	he Riverine unit can contain depressi	ions that are filled with water when the river is not flooding.

Wetland name or number	Wetland WSE3
wenand name of number	Welland Woed

	phic depression in which water ponds, or is saturated to the surface, at that any outlet, if present, is higher than the interior of the wetland.
☑ NO - go to 7	$\ \square$ YES - The wetland class is <b>Depressional</b>
The unit does not pond surface water me	very flat area with no obvious depression and no overbank flooding? ore than a few inches. The unit seems to be maintained by high ay be ditched, but has no obvious natural outlet.
☑ NO - go to 8	$\ \square$ YES - The wetland class is <b>Depressional</b>

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

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

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

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

#### NOTES and FIELD OBSERVATIONS:

Wetland WSE3 has depressional and riverine HGM classifications.

DEPRESSIONAL AND FLATS WETLANDS		
Water Quality Functions - Indicators that the site functions to improve water quality		
D 1.0. Does the site have the potential to improve water quality?		
D 1.1. Characteristics of surface water outflows from the wetland:		
Wetland is a depression or flat depression (QUESTION 7 on key)		
with no surface water leaving it (no outlet).	points = 3	
Wetland has an intermittently flowing stream or ditch, OR highly	•	
constricted permanently flowing outlet.	points = 2	1
☑ Wetland has an unconstricted, or slightly constricted, surface outlet		
that is permanently flowing	points = 1	
$\square$ Wetland is a flat depression (QUESTION 7 on key), whose outlet is		
a permanently flowing ditch.	points = 1	
D 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic		0
(use NRCS definitions).	Yes = 4 No = 0	
D 1.3. Characteristics and distribution of persistent plants (Emergent, Scrub-sh	rub, and/or	
Forested Cowardin classes):		
Wetland has persistent, ungrazed, plants > 95% of area	points = 5	_
Wetland has persistent, ungrazed, plants > ½ of area	points = 3	5
Wetland has persistent, ungrazed plants > 1/10 of area	points = 1	
Wetland has persistent, ungrazed plants < 1/ <sub>10</sub> of area	points = 0	
D 1.4. Characteristics of seasonal ponding or inundation:	•	
This is the area that is ponded for at least 2 months. See description	in manual.	
Area seasonally ponded is > ½ total area of wetland	points = 4	0
Area seasonally ponded is > ½ total area of wetland	points = 2	
Area seasonally ponded is < 1/4 total area of wetland	points = 0	
Rating of Site Potential If score is:  12 - 16 = H  6 - 11 = M  0 - 5 = L	in the boxes above Record the rating or	
Rating of Site Potential if Score is 12 - 10 - 11 0 - 11 - Wi 0 - 3 - L	Necord the rating of	i tile ilist page
D 2.0. Does the landscape have the potential to support the water quality funct	ion of the site?	
D 2.1. Does the wetland unit receive stormwater discharges?	Yes = 1 No = 0	1
D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that		4
generate pollutants?	Yes = 1 No = 0	1
D 2.3. Are there septic systems within 250 ft of the wetland?	Yes = 1 No = 0	
D 2.4. Are there other sources of pollutants coming into the wetland that are		
not listed in questions D 2.1 - D 2.3?		1 1
Source <u>Dogs</u>	Yes = 1 No = 0	
	in the boxes above	3
Rating of Landscape Potential If score is: 3 or 4 = H 1 or 2 = M 0 = L		
D 3.0. Is the water quality improvement provided by the site valuable to society	?	
D 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river,		1 1
lake, or marine water that is on the 303(d) list?	Yes = 1 No = 0	·
D 3.2. Is the wetland in a basin or sub-basin where an aquatic resource is on the	he 303(d) list?	1
	Yes = 1 No = 0	ı
D 3.3. Has the site been identified in a watershed or local plan as important		
for maintaining water quality (answer YES if there is a TMDL for the basin in		2
which the unit is found)?	Yes = 2 No = 0	
Total for D 3 Add the points	in the boxes above	4
Rating of Value If score is: 2 - 4 = H 1 = M 0 = L	Record the rating or	

5

DEPRESSIONAL AND FLATS WETLANDS		
Hydrologic Functions - Indicators that the site functions to reduce flooding and stream degradation		
D 4.0. Does the site have the potential to reduce flooding and erosion?		
D 4.1. Characteristics of surface water outflows from the wetland:		
Wetland is a depression or flat depression with no surface water		
leaving it (no outlet) points = 4		
Wetland has an intermittently flowing stream or ditch, OR highly		
constricted permanently flowing outlet points = 2	0	
Wetland is a flat depression (QUESTION 7 on key), whose outlet is		
a permanently flowing ditch points = 1		
Wetland has an unconstricted, or slightly constricted, surface outlet		
that is permanently flowing points = 0 D 4.2. Depth of storage during wet periods: Estimate the height of ponding above the bottom of		
the outlet. For wetlands with no outlet, measure from the surface of permanent water or if dry, the		
deepest part.  Marks of ponding are 3 ft or more above the surface or bottom of outlet points = 7		
Marks of portding are 3 ft of filore above the surface of bottom of outlet points = 7  Marks of ponding between 2 ft to < 3 ft from surface or bottom of outlet points = 5	3	
✓ Marks are at least 0.5 ft to < 2 ft from surface or bottom of outlet points = 3	3	
☐ The wetland is a "headwater" wetland points = 3		
Wetland is a fleadwater wetland  Wetland is flat but has small depressions on the surface that trap water points = 1		
Marks of ponding less than 0.5 ft (6 in)		
D 4.3. Contribution of the wetland to storage in the watershed: Estimate the ratio of the area of		
upstream basin contributing surface water to the wetland to the area of the wetland unit itself.		
☐ The area of the basin is less than 10 times the area of the unit points = 5	_	
The area of the basin is 10 to 100 times the area of the unit points = 3	0	
The area of the basin is more than 100 times the area of the unit points = 0		
☐ Entire wetland is in the Flats class points = 5		
Total for D 4 Add the points in the boxes above	3	
Rating of Site Potential If score is:  12 - 16 = H  6 - 11 = M  0 - 5 = L  Record the rating on	the first page	
D 5.0. Does the landscape have the potential to support hydrologic function of the site?		
D 5.1. Does the wetland unit receive stormwater discharges? Yes = 1 No = 0	1	
D 5.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate excess runoff?		
Yes = 1 No = 0	1	
D 5.3. Is more than 25% of the contributing basin of the wetland covered with intensive human		
land uses (residential at >1 residence/ac, urban, commercial, agriculture, etc.)?	1	
Yes = 1 No = 0		
Total for D 5 Add the points in the boxes above	3	
Rating of Landscape Potential If score is: $\  \   \Box \   3 = H  \Box \   1 \text{ or } 2 = M  \Box \   0 = L \qquad \qquad \textit{Record the rating on}$	the first page	
D 6.0. Are the hydrologic functions provided by the site valuable to society?		
D 6.1. The unit is in a landscape that has flooding problems. Choose the description that best		
matches conditions around the wetland unit being rated. Do not add points. <u>Choose the highest</u>		
score if more than one condition is met.		
The wetland captures surface water that would otherwise flow down-gradient into areas		
where flooding has damaged human or natural resources (e.g., houses or salmon redds):		
<ul> <li>Flooding occurs in a sub-basin that is immediately down-</li> </ul>		
gradient of unit. points = 2	2	
<ul> <li>Surface flooding problems are in a sub-basin farther down-</li> </ul>	_	
gradient. points = 1		
☐ Flooding from groundwater is an issue in the sub-basin. points = 1		
☐ The existing or potential outflow from the wetland is so constrained		
by human or natural conditions that the water stored by the wetland		
cannot reach areas that flood. Explain why points = 0		
☐ There are no problems with flooding downstream of the wetland. points = 0		
D 6.2. Has the site been identified as important for flood storage or flood	2	
conveyance in a regional flood control plan?  Yes = 2 No = 0		
Total for D 6  Add the points in the boxes above  Rating of Value If score is: □ 2 - 4 = H □ 1 = M □ 0 = L  Record the rating on	the first ness	
	me inst bade	

### These questions apply to wetlands of all HGM classes. **HABITAT FUNCTIONS** - Indicators that site functions to provide important habitat H 1.0. Does the site have the potential to provide habitat? H 1.1. Structure of plant community: Indicators are Cowardin classes and strata within the Forested class. Check the Cowardin plant classes in the wetland. Up to 10 patches may be combined for each class to meet the threshold of 1/4 ac or more than 10% of the unit if it is smaller than 2.5 ac. Add the number of structures checked. ☐ Aquatic bed 4 structures or more: points = 4 1 3 structures: points = 2 ☐ Emergent ☐ Scrub-shrub (areas where shrubs have > 30% cover) 2 structures: points - 1 ☑ Forested (areas where trees have > 30% cover) 1 structure: points = 0 If the unit has a Forested class, check if: The Forested class has 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover) that each cover 20% within the Forested polygon H 1.2. Hydroperiods Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or 1/4 ac to count (see text for descriptions of hydroperiods). ☐ Permanently flooded or inundated 4 or more types present: points = 3 ☑ Seasonally flooded or inundated 3 types present: points = 2 3 2 types present: points = 1 ☑ Occasionally flooded or inundated 1 types present: points = 0 ✓ Saturated only ☑ Permanently flowing stream or river in, or adjacent to, the wetland ☐ Seasonally flowing stream in, or adjacent to, the wetland ■ Lake Fringe wetland 2 points ☐ Freshwater tidal wetland 2 points H 1.3. Richness of plant species Count the number of plant species in the wetland that cover at least 10 ft<sup>2</sup>. Different patches of the same species can be combined to meet the size threshold and you do not have to name the species. Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Canadian thistle 1 If you counted: > 19 species points = 25 - 19 species points = 1< 5 species points = 0H 1.4. Interspersion of habitats Decide from the diagrams below whether interspersion among Cowardin plants classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, moderate, low, or none. If you have four or more plant classes or three classes and open water, the rating is always high. 2 None = 0 points **Low** = 1 point **Moderate** = 2 points All three diagrams in this row are **HIGH** = 3 points

7

H 1.5. Special habitat features:	
Check the habitat features that are present in the wetland. The number of checks is the number	
of points.	
☑ Large, downed, woody debris within the wetland (> 4 in diameter and 6 ft long)	
☑ Standing snags (dbh > 4 in) within the wetland	
☐ Undercut banks are present for at least 6.6 ft (2 m) <b>and/or</b> overhanging plants extends	
at least 3.3 ft (1 m) over a stream (or ditch) in, or contiguous with the wetland, for at	
least 33 ft (10 m)	3
Stable steep banks of fine material that might be used by beaver or muskrat for denning	
(> 30 degree slope) OR signs of recent beaver activity are present ( <i>cut shrubs or trees</i>	
that have not yet weathered where wood is exposed)	
$\square$ At least $\frac{1}{4}$ ac of thin-stemmed persistent plants or woody branches are present in areas	
that are permanently or seasonally inundated (structures for egg-laying by amphibians)	
$\square$ Invasive plants cover less than 25% of the wetland area in every stratum of plants (see	
H 1.1 for list of strata)	
Total for H 1 Add the points in the boxes above	
Rating of Site Potential If Score is: 15 - 18 = H 7 - 14 = M 0 - 6 = L Record the rating or	the first page
H 2.0. Does the landscape have the potential to support the habitat function of the site?	
H 2.1 Accessible habitat (include <i>only habitat that directly abuts wetland unit</i> ).	
Calculate:	
0 % undisturbed habitat + (0 % moderate & low intensity land uses / 2 ) = 0%	
If total accessible habitat is:	0
$> \frac{1}{3}$ (33.3%) of 1 km Polygon points = 3	
20 - 33% of 1 km Polygon points = 2	
10 - 19% of 1 km Polygon points = 1	
< 10 % of 1 km Polygon points = 0	
H 2.2. Undisturbed habitat in 1 km Polygon around the wetland.	
Calculate:	
0 % undisturbed habitat + ( 10 % moderate & low intensity land uses / 2 ) = 5%	
o // undistabled habitat	
Undisturbed habitat > 50% of Polygon points = 3	0
Undisturbed habitat 10 - 50% and in 1-3 patches points = 2	
Undisturbed habitat 10 - 50% and > 3 patches points = 1	
Undisturbed habitat < 10% of 1 km Polygon points = 0	
H 2.3 Land use intensity in 1 km Polygon: If	
> 50% of 1 km Polygon is high intensity land use points = (-2)	-2
≤ 50% of 1km Polygon is high intensity and use points = (-2)	
Total for H 2  Add the points in the boxes above	
Rating of Landscape Potential If Score is: 4 - 6 = H 1 - 3 = M 2 < 1 = L Record the rating or	the first page
H 3.0. Is the habitat provided by the site valuable to society?	
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? <i>Choose</i>	I
l	
only the highest score that applies to the wetland being rated.	
Site meets ANY of the following criteria: points = 2	
<ul><li>☑ It has 3 or more priority habitats within 100 m (see next page)</li><li>☑ It provides habitat for Threatened or Endangered species (any plant</li></ul>	
or animal on the state or federal lists)	
,	
<ul><li>☑ It is mapped as a location for an individual WDFW priority species</li><li>☐ It is a Wetland of High Conservation Value as determined by the</li></ul>	2
Department of Natural Resources	
☑ It has been categorized as an important habitat site in a local or	
regional comprehensive plan, in a Shoreline Master Plan, or in a	
watershed plan Site has 1 or 2 priority habitate (listed on payt page) with in 100m	
Site has 1 or 2 priority habitats (listed on next page) with in 100m points = 1 Site does not meet any of the criteria above points = 0	
Site does not meet any of the criteria above points = 0  Rating of Value If Score is:	
Training of value in Occide is. 1 2 - 11	i iiie iiisi paye

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

#### **WDFW Priority Habitats**

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

Count how many of the following priority habitats are within 330 ft (100 m) of the wetland unit: **NOTE**: This

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

question is independent of the land use between the wetland unit and the priority habitat. **Aspen Stands**: Pure or mixed stands of aspen greater than 1 ac (0.4 ha). Biodiversity Areas and Corridors: Areas of habitat that are relatively important to various species of native fish and wildlife (full descriptions in WDFW PHS report). ☐ **Herbaceous Balds**: Variable size patches of grass and forbs on shallow soils over bedrock. □ **Old-growth/Mature forests**: Old-growth west of Cascade crest – Stands of at least 2 tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) > 32 in (81 cm) dbh or > 200 years of age. Mature forests - Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west of the Cascade crest. ☐ Oregon White Oak: Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (full descriptions in WDFW PHS report p. 158 - see web link above). Riparian: The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other. ☐ Westside Prairies: Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (full descriptions in WDFW PHS report p. 161 – see web link above). ☑ **Instream**: The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources. Nearshore: Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. (full descriptions of habitats and the definition of relatively undisturbed are in WDFW report – see web link on previous page ). Caves: A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.

Snags and Logs: Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 20 in (51 cm) in western Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.

composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May

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

Talus: Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m),

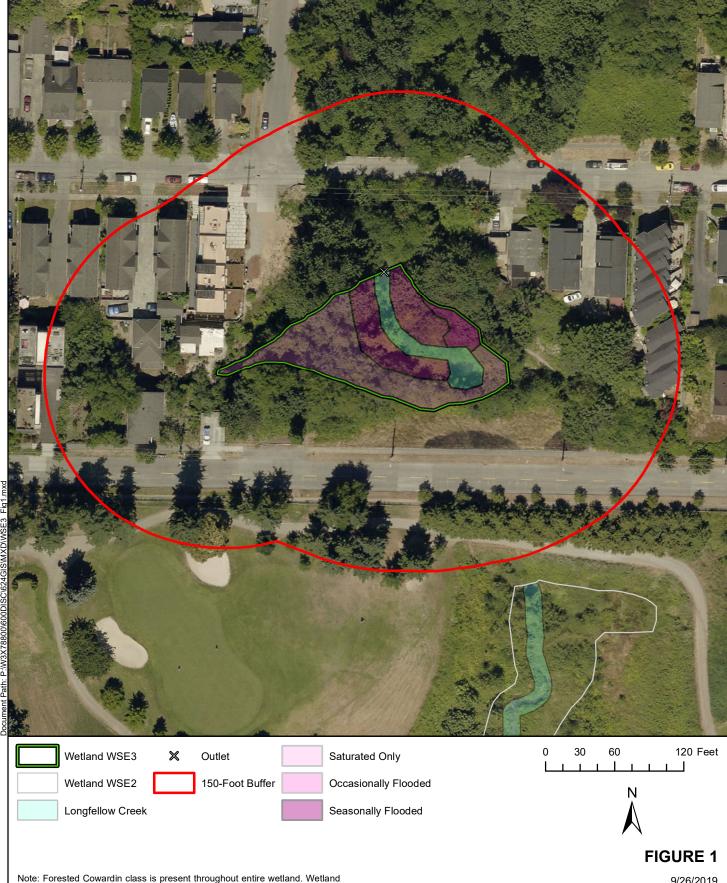
☐ **Cliffs**: Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.

be associated with cliffs.

### **CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS**

Wetland	Туре	Category
	any criteria that apply to the wetland. List the category when the appropriate criteria are met.	
SC 1.0. E	Estuarine Wetlands	
	Does the wetland meet the following criteria for Estuarine wetlands?	
	The dominant water regime is tidal,	
	Vegetated, and	
	With a salinity greater than 0.5 ppt  ☐ Yes - Go to SC 1.1  ☐ No = Not an estuarine wetland	
SC 1.1.	☐ Yes - Go to <b>SC 1.1</b> ☑ No = <b>Not an estuarine wetland</b> Is the wetland within a National Wildlife Refuge, National Park, National Estuary	
30 1.1.	Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific	
	Reserve designated under WAC 332-30-151?	
	☐ Yes = Category I ☐ No - Go to SC 1.2	
SC 1.2.	Is the wetland unit at least 1 ac in size and meets at least two of the following three conditions?	
	The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing,	
	and has less than 10% cover of non-native plant species. (If non-native species are	
	Spartina, see page 25)	
	At least 3/4 of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-	
	grazed or un-mowed grassland.	
	The wetland has at least two of the following features: tidal channels, depressions with	
	open water, or contiguous freshwater wetlands.	
	☐ Yes = Category I ☐ No = Category II	
SC 2.0. V	Wetlands of High Conservation Value (WHCV)	
SC 2.1.	Has the WA Department of Natural Resources updated their website to include the list	
	of Wetlands of High Conservation Value?	
	☑ Yes - Go to SC 2.2 ☐ No - Go to SC 2.3	
SC 2.2.	Is the wetland listed on the WDNR database as a Wetland of High Conservation Value?	
	☐ Yes = Category I ☑ No = Not WHCV	
SC 2.3.	Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland?	
	http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf	
	☐ Yes - Contact WNHP/WDNR and to SC 2.4 ☑ No = Not WHCV	
SC 2.4.	Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation	
	Value and listed it on their website?	
	☐ Yes = Category I ☐ No = Not WHCV	
SC 3.0. E		
	Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation	
	in bogs? Use the key below. If you answer YES you will still need to rate the	
0004	wetland based on its functions.	
SC 3.1.	Does an area within the wetland unit have organic soil horizons, either peats or mucks,	
	that compose 16 in or more of the first 32 in of the soil profile?	
SC 3.2.	☐ Yes - Go to <b>SC 3.3</b> ☑ No - Go to <b>SC 3.2</b>	
30 3.2.	Does an area within the wetland unit have organic soils, either peats or mucks, that are less than 16 in deep over bedrock, or an impermeable hardpan such as clay or volcanic	
	ash, or that are floating on top of a lake or pond?	
	Yes - Go to SC 3.3	
SC 3.3.	Does an area with peats or mucks have more than 70% cover of mosses at ground	
30 3.3.	level, AND at least a 30% cover of plant species listed in Table 4?	
	☐ Yes = Is a Category I bog ☐ No - Go to SC 3.4	
	NOTE: If you are uncertain about the extent of mosses in the understory, you may	
	substitute that criterion by measuring the pH of the water that seeps into a hole dug at	
	least 16 in deep. If the pH is less than 5.0 and the plant species in Table 4 are present,	
	the wetland is a bog.	
SC 3.4.	Is an area with peats or mucks forested (> 30% cover) with Sitka spruce, subalpine fir,	
	western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann	
	spruce, or western white pine, AND any of the species (or combination of species) listed	
	in Table 4 provide more than 30% of the cover under the canopy?	
	☐ Yes = Is a Category I bog ☐ No = Is not a bog	

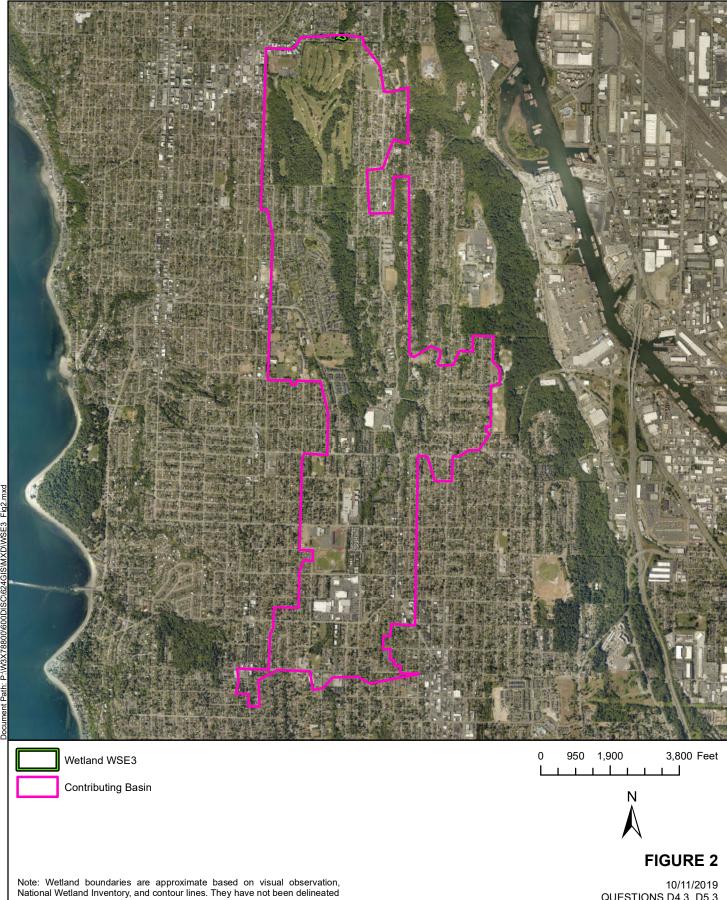
SC 4.0.	Forested Wetlands	
	Does the wetland have at least 1 contiguous acre of forest that meets one of these	
	criteria for the WA Department of Fish and Wildlife's forests as priority habitats? <i>If you</i>	
	answer YES you will still need to rate the wetland based on its functions.	
	Old-growth forests (west of Cascade crest): Stands of at least two tree species,	
	forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac	
	(20 trees/ha) that are at least 200 years of age OR have a diameter at breast height	
	(dbh) of 32 in (81 cm) or more.	
	Mature forests (west of the Cascade Crest): Stands where the largest trees are 80-	
	200 years old OR the species that make up the canopy have an average diameter (dbh)	
	exceeding 21 in (53 cm).	
	☐ Yes = Category I  ☑ No = Not a forested wetland for this section	
SC 5.0. \	Wetlands in Coastal Lagoons	
	Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?	
	The wetland lies in a depression adjacent to marine waters that is wholly or partially	
	separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently,	
	rocks	
	The lagoon in which the wetland is located contains ponded water that is saline or	
	brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon ( <i>needs to</i>	
	be measured near the bottom)	
	☐ Yes - Go to SC 5.1 ☐ No = Not a wetland in a coastal lagoon	
SC 5.1. I	Does the wetland meet all of the following three conditions?	
	The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing),	
	and has less than 20% cover of aggressive, opportunistic plant species (see list of	
	species on p. 100).	
	At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-	
	grazed or un-mowed grassland.	
	The wetland is larger than $^{1}/_{10}$ ac (4350 ft $^{2}$ )	
	☐ Yes = Category I ☐ No = Category II	
SC 6.0. I	nterdunal Wetlands	
	Is the wetland west of the 1889 line (also called the Western Boundary of Upland	
	Ownership or WBUO)? If you answer yes you will still need to rate the wetland	
	based on its habitat functions.	
	In practical terms that means the following geographic areas:	
	Long Beach Peninsula: Lands west of SR 103	
	Grayland-Westport: Lands west of SR 105	
	Ocean Shores-Copalis: Lands west of SR 115 and SR 109	
	☐ Yes - Go to SC 6.1 ☑ No = Not an interdunal wetland for rating	
SC 6.1.	Is the wetland 1 ac or larger and scores an 8 or 9 for the habitat functions on the form	
	(rates H,H,H or H,H,M for the three aspects of function)?	
	☐ Yes = Category I ☐ No - Go to SC 6.2	
SC 6.2.	Is the wetland 1 ac or larger, or is it in a mosaic of wetlands that is 1 ac or larger?	
	☐ Yes = Category II ☐ No - Go to SC 6.3	
SC 6.3.	Is the unit between 0.1 and 1 ac, or is it in a mosaic of wetlands that is between 0.1 and	
	1 ac?	
Co40	☐ Yes = Category III ☐ No = Category IV	
	y of wetland based on Special Characteristics	



Note: Forested Cowardin class is present throughout entire wetland. Wetland boundaries are approximate based on visual observation, National Wetland Inventory, and contour lines. They have not been delineated or surveyed.

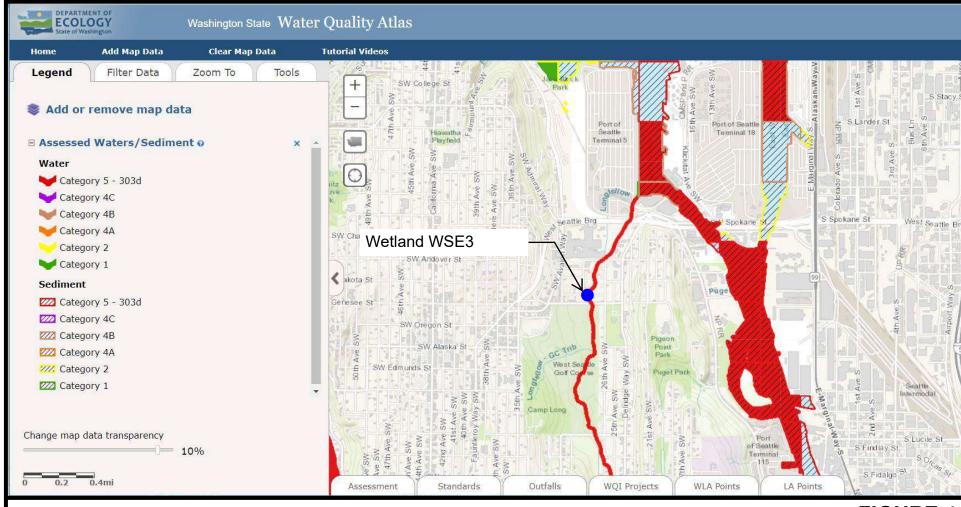
9/26/2019 QUESTIONS D1.1, D1.3, D1.4, D2.2, D4.1, D5.2, H1.1, H1.2, H1.4

or surveyed.

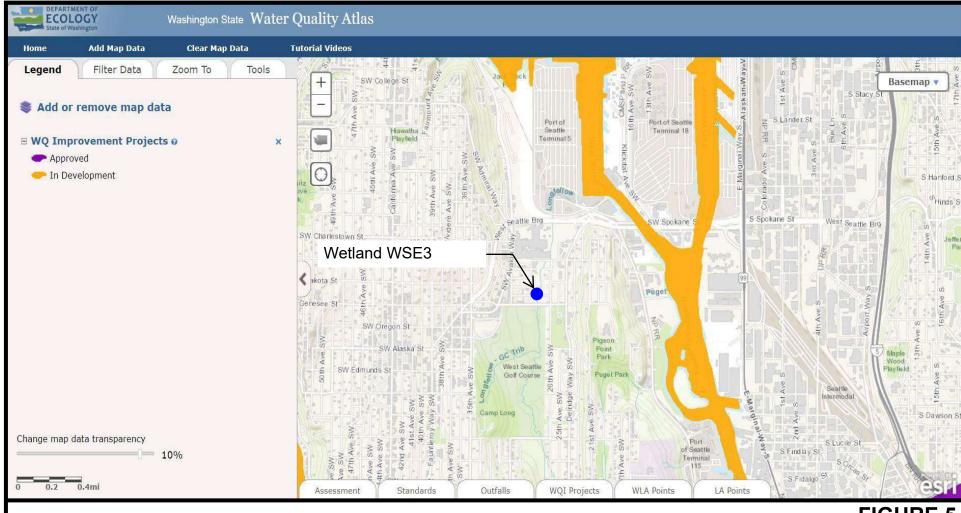


10/11/2019 QUESTIONS D4.3, D5.3





Questions: R3.2, R3.3



Questions: R3.2, R3.3

# **RATING SUMMARY – Western Washington**

Name of wetland (or ID #):	Wetland WSE4			Date of site visit:	8/23/2019
Rated by R. Whitson, A. Ro	otondo	Trained by Ecology?	' ☑ Yes □ No	Date of training	Mar-15
HGM Class used for rating	Slope	Wetla	and has multiple	e HGM classes? □	Yes ☑ No
	ot complete with o	ut the figures requeste	ed (figures can	be combined).	
OVERALL WETLAND CA	ATEGORY <u>IV</u>	(based on function	ns	I characteristics □	)
1. Category of wetland	d based on FUNC	TIONS			
	Category I - Total s	score = 23 - 27	[;	Score for each	
		score = 20 - 22	1	function based	
	Category III - Tota	Il score = 16 - 19		on three	
X	Category IV - Tota		1	ratings	
	_			order of ratings	

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
	List app	ropriate rating	(H, M, L)	
Site Potential	L	L	L	
Landscape Potential	M	M	L	
Value	M	L	М	Total
Score Based on Ratings	5	4	4	13

Score for each
function based
on three
ratings
(order of ratings
is not
important)
9 = H, H, H
8 = H, H, M
7 = H, H, L
7 = H, M, M
6 = H, M, L
6 = M, M, M
5 = H, L, L
5 = M, M, L
4 = M, L, L
3 = L, L, L

#### 2. Category based on SPECIAL CHARACTERISTICS of wetland

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

# Maps and Figures required to answer questions correctly for Western Washington

#### **Depressional Wetlands**

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

#### Riverine Wetlands

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

#### Lake Fringe Wetlands

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

#### Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	H 1.1, H 1.4	1
Hydroperiods	H 1.2	1
Plant cover of <b>dense</b> trees, shrubs, and herbaceous plants	S 1.3	1
Plant cover of <b>dense</b> , <b>rigid</b> trees, shrubs, and herbaceous plants	S 4.1	4
(can be added to another figure )		1
Boundary of area within 150 ft of the wetland (can be added to another figure)	S 2.1, S 5.1	1
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	0
polygons for accessible habitat and undisturbed habitat		2
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	3
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	S 3.3	4

# **HGM Classification of Wetland in Western Washington**

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

1. Are th	ne water levels in the entire unit usua	ly controlled by tides except during floods?
V	NO - go to 2	□ <b>YES</b> - the wetland class is <b>Tidal Fringe</b> - go to 1.1
1.1	Is the salinity of the water during pe	riods of annual low flow below 0.5 ppt (parts per thousand)?
	•	a Freshwater Tidal Fringe use the forms for <b>Riverine</b> wetlands. <b>Estuarine</b> wetland and is not scored. This method <b>cannot</b> be
	ntire wetland unit is flat and precipitat vater and surface water runoff are NC	ion is the only source (>90%) of water to it. T sources of water to the unit.
V	NO - go to 3  If your wetland can be classified as	☐ <b>YES</b> - The wetland class is <b>Flats</b> a Flats wetland, use the form for <b>Depressional</b> wetlands.
		on the shores of a body of permanent open water (without any the year) at least 20 ac (8 ha) in size;
<b>V</b>	NO - go to 4	☐ <b>YES</b> - The wetland class is <b>Lake Fringe</b> (Lacustrine Fringe)
	It may flow subsurface, as sheetflow	n be very gradual), I in one direction (unidirectional) and usually comes from seeps. v, or in a swale without distinct banks.
	NO - go to 5	☑ YES - The wetland class is Slope
		type of wetlands except occasionally in very small and shallow are usually <3 ft diameter and less than 1 ft deep).
5. Does	the entire wetland unit <b>meet all</b> of the The unit is in a valley, or stream cha from that stream or river, The overbank flooding occurs at lea	nnel, where it gets inundated by overbank flooding
	NO - go to 6	☐ <b>YES</b> - The wetland class is <b>Riverine</b>
NOTE: T	he Riverine unit can contain depress	ions that are filled with water when the river is not flooding.

. •	phic depression in which water ponds, or is saturated to the surface, ns that any outlet, if present, is higher than the interior of the wetland.
□ NO - go to 7	☐ <b>YES</b> - The wetland class is <b>Depressional</b>
The unit does not pond surface water m	very flat area with no obvious depression and no overbank flooding? ore than a few inches. The unit seems to be maintained by high ay be ditched, but has no obvious natural outlet.
□ NO - go to 8	☐ <b>YES</b> - The wetland class is <b>Depressional</b>

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

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

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

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

SLOPE WETLANDS				
Water Quality Functions - Indicators that the site functions to improve water quality				
S 1.0. Does the site have the potential to improve water quality?				
S 1.1. Characteristics of the average slope of the wetland: (a 1% slope has a elevation for every 100 ft of horizontal distance)	1 ft vertical dr	rop in		
Slope is 1% or less	poin	nts = 3	0	
Slope is > 1% - 2%	poin	nts = 2	U	
Slope is > 2% - 5%	poin	nts = 1		
Slope is greater than 5%	poin	nts = 0		
S 1.2. The soil 2 in below the surface (or duff layer) is true clay or true			0	
organic (use NRCS definitions):	Yes = 3 N	No = 0	U	
S 1.3. Characteristics of the plants in the wetland that trap sediments and poll Choose the points appropriate for the description that best fits the plants in the means you have trouble seeing the soil surface (>75% cover), and uncut mea mowed and plants are higher than 6 in.	e wetland. <i>De</i>			
Dense, uncut, herbaceous plants > 90% of the wetland area	poin	nts = 6	3	
Dense, uncut, herbaceous plants > ½ of area	poin	nts = 3		
Dense, woody, plants > ½ of area	poin	nts = 2		
Dense, uncut, herbaceous plants > ½ of area	poin	nts = 1		
Does not meet any of the criteria above for plants	poin	nts = 0		
Total for S 1 Add the points	in the boxes	above	3	
Rating of Site Potential If score is: ☐ 12 = H ☐ 6 - 11 = M ☑ 0 - 5 = L	Record the ra	iting on	the first page	
S 2.0. Does the landscape have the potential to support the water quality fund	tion of the site	e?		
S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?	Yes = 1 N	No = 0	1	
S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?			1	
Other Sources <u>Encampment</u>	Yes = 1 N	No = 0		
Total for S 2 Add the points	in the boxes	above	2	
Rating of Landscape Potential If score is: ☑ 1 - 2 = M ☐ 0 = L	Record the ra	ting on	the first page	
S 3.0. Is the water quality improvement provided by the site valuable to society	y?			
S 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list?		No = 0	0	
S 3.2. Is the wetland in a basin or sub-basin where water quality is an issue? At least one aquatic resource in the basin is on the 303(d) list.	Yes = 1 N	No = 0	1	

S 3.0. Is the water quality improvement provided by the site valuable to society?		
S 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a s lake, or marine water that is on the 303(d) list?	tream, river, Yes = 1 No =	0
S 3.2. Is the wetland in a basin or sub-basin where water quality is At least one aquatic resource in the basin is on the 303(d) list.	s an issue? Yes = 1 No =	0 1
S 3.3. Has the site been identified in a watershed or local plan as for maintaining water quality? Answer YES if there is a TMDL for which the unit is found?	•	0
Total for S 3	d the points in the boxes abov	e 1

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

Record the rating on the first page

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

NOTES and FIELD OBSERVATIONS:

#### These questions apply to wetlands of all HGM classes. HABITAT FUNCTIONS - Indicators that site functions to provide important habitat H 1.0. Does the site have the potential to provide habitat? H 1.1. Structure of plant community: *Indicators are Cowardin classes and strata within the* Forested class. Check the Cowardin plant classes in the wetland. Up to 10 patches may be combined for each class to meet the threshold of 1/4 ac or more than 10% of the unit if it is smaller than 2.5 ac. Add the number of structures checked. ☐ Aquatic bed 4 structures or more: points = 4 1 3 structures: points = 2 ☑ Scrub-shrub (areas where shrubs have > 30% cover) 2 structures: points - 1 ☐ Forested (areas where trees have > 30% cover) 1 structure: points = 0 If the unit has a Forested class, check if: ☐ The Forested class has 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover) that each cover 20% within the Forested polygon H 1.2. Hydroperiods Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or \( \frac{1}{4} \) ac to count (see text for descriptions of hydroperiods). ☐ Permanently flooded or inundated 4 or more types present: points = 3 ☐ Seasonally flooded or inundated 3 types present: points = 2 1 ☑ Occasionally flooded or inundated 2 types present: points = 1 ☑ Saturated only 1 types present: points = 0 ☐ Permanently flowing stream or river in, or adjacent to, the wetland ☐ Seasonally flowing stream in, or adjacent to, the wetland □ Lake Fringe wetland 2 points ☐ Freshwater tidal wetland 2 points H 1.3. Richness of plant species Count the number of plant species in the wetland that cover at least 10 ft<sup>2</sup>. Different patches of the same species can be combined to meet the size threshold and you do not have to name the species. Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Canadian thistle 1 If you counted: > 19 species points = 25 - 19 species points = 1 points = 0< 5 species H 1.4. Interspersion of habitats Decide from the diagrams below whether interspersion among Cowardin plants classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, moderate, low, or none. If you have four or more plant classes or three classes and open water, the rating is always high. 1 None = 0 points Low = 1 point Moderate = 2 points All three diagrams in this row are **HIGH** = 3 points

H 1.5. Special habitat features:	
Check the habitat features that are present in the wetland. The number of checks is the number	
<ul> <li>of points.</li> <li>□ Large, downed, woody debris within the wetland (&gt; 4 in diameter and 6 ft long)</li> <li>□ Standing snags (dbh &gt; 4 in) within the wetland</li> </ul>	
□ Undercut banks are present for at least 6.6 ft (2 m) and/or overhanging plants extends at least 3.3 ft (1 m) over a stream (or ditch) in, or contiguous with the wetland, for at least 33 ft (10 m)	0
<ul> <li>Stable steep banks of fine material that might be used by beaver or muskrat for denning (&gt; 30 degree slope) OR signs of recent beaver activity are present (cut shrubs or trees that have not yet weathered where wood is exposed)</li> </ul>	
<ul> <li>At least ¼ ac of thin-stemmed persistent plants or woody branches are present in areas that are permanently or seasonally inundated (structures for egg-laying by</li> </ul>	
□ Invasive plants cover less than 25% of the wetland area in every stratum of plants (see H 1.1 for list of strata)	
Total for H 1 Add the points in the boxes above	4
Rating of Site Potential If Score is:   15 - 18 = H  7 - 14 = M  0 - 6 = L Record the rating on	the first page
H 2.0. Does the landscape have the potential to support the habitat function of the site?	
H 2.1 Accessible habitat (include <i>only habitat that directly abuts wetland unit</i> ).	
Calculate:	
0 % undisturbed habitat + (10 % moderate & low intensity land uses / 2 ) = 5%	
If total accessible habitat is:	0
$> \frac{1}{3}$ (33.3%) of 1 km Polygon points = 3	
20 - 33% of 1 km Polygon points = 2	
10 - 19% of 1 km Polygon points = 1	
< 10 % of 1 km Polygon points = 0	
H 2.2. Undisturbed habitat in 1 km Polygon around the wetland.	
Calculate:	
0 % undisturbed habitat + (5 % moderate & low intensity land uses / 2 ) = 2.5%	
Undisturbed habitat > 50% of Polygon points = 3	0
Undisturbed habitat 10 - 50% and in 1-3 patches points = 2	
Undisturbed habitat 10 - 50% and > 3 patches points = 1	
Undisturbed habitat < 10% of 1 km Polygon points = 0	
H 2.3 Land use intensity in 1 km Polygon: If	
> 50% of 1 km Polygon is high intensity land use points = (-2)	-2
≤ 50% of 1km Polygon is high intensity points = 0	
Total for H 2 Add the points in the boxes above	
Rating of Landscape Potential If Score is:   4-6=H  1-3=M  <<1=L Record the rating on	the first page
H 3.0. Is the habitat provided by the site valuable to society?	
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? <i>Choose</i>	
only the highest score that applies to the wetland being rated .	
Site meets ANY of the following criteria: points = 2	
<ul><li>□ It has 3 or more priority habitats within 100 m (see next page)</li><li>□ It provides habitat for Threatened or Endangered species (any plant</li></ul>	
or animal on the state or federal lists)	
☐ It is mapped as a location for an individual WDFW priority species	
☐ It is a Wetland of High Conservation Value as determined by the	1
Department of Natural Resources	
☐ It has been categorized as an important habitat site in a local or	
regional comprehensive plan, in a Shoreline Master Plan, or in a	
watershed plan Site has 1 or 2 priority habitate (listed on poyt page) with in 100m	
Site has 1 or 2 priority habitats (listed on next page) with in 100m points = 1 Site does not meet any of the criteria above points = 0	
Rating of Value If Score is: $\square$ 2 = H $\square$ 1 = M $\square$ 0 = I Record the rating on	the first nage

Record the rating on the first page

8

# **WDFW Priority Habitats**

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

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

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

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

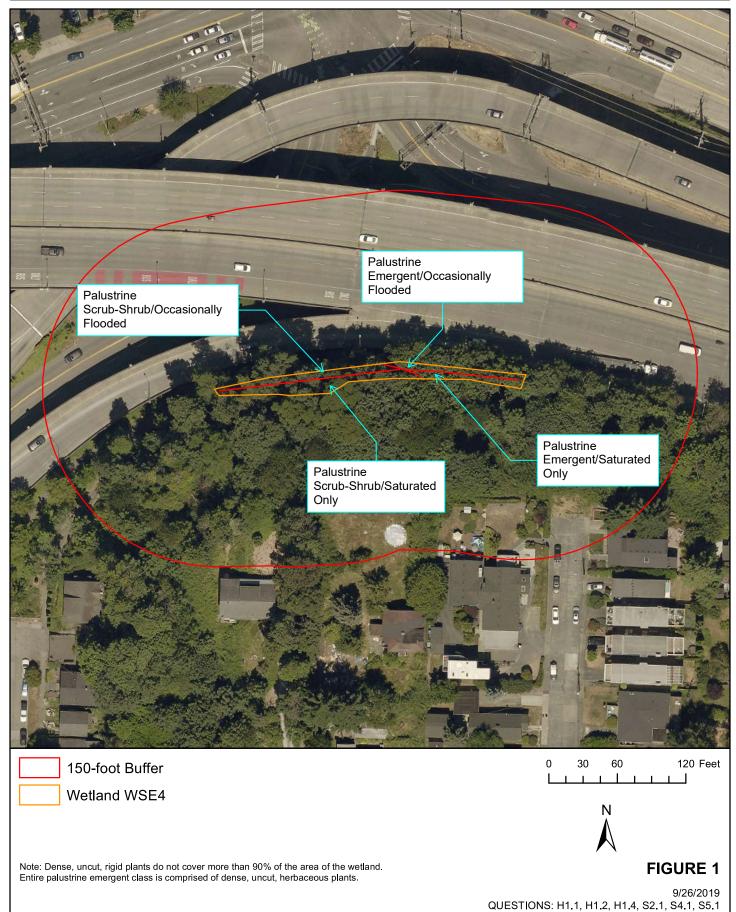
**Note**: All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

# **CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS**

Wetland	Type	Category
01 1 "		
	any criteria that apply to the wetland. List the category when the appropriate criteria are met.  Estuarine Wetlands	
SC 1.0. E	Does the wetland meet the following criteria for Estuarine wetlands?	
	The dominant water regime is tidal,	
	Vegetated, and	
	With a salinity greater than 0.5 ppt	
	☐ Yes - Go to <b>SC 1.1</b> ☑ No = <b>Not an estuarine wetland</b>	
SC 1.1.	Is the wetland within a National Wildlife Refuge, National Park, National Estuary	
	Reserve, Natural Area Preserve, State Park or Educational, Environmental, or	
	Scientific Reserve designated under WAC 332-30-151?	
	☐ Yes = Category I ☐ No - Go to SC 1.2	
SC 1.2.	Is the wetland unit at least 1 ac in size and meets at least two of the following three conditions?	
	The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation,	
	grazing, and has less than 10% cover of non-native plant species. (If non-native	
_	species are <i>Spartina</i> , see page 25)	
	At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or	
	un-grazed or un-mowed grassland.	
	The wetland has at least two of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands.	
	□ Yes = Category I □ No = Category II	
SC 2.0. V	Vetlands of High Conservation Value (WHCV)	
SC 2.1.	Has the WA Department of Natural Resources updated their website to include the list	
	of Wetlands of High Conservation Value?	
SC 2.2.	Is the wetland listed on the WDNR database as a Wetland of High Conservation Value?	
0000	☐ Yes = Category I ☑ No = Not WHCV	
SC 2.3.	Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland?	
http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf  ☐ Yes - Contact WNHP/WDNR and to SC 2.4 ☑ No = Not WHCV		
☐ Yes - Contact WNHP/WDNR and to SC 2.4 ☐ No = Not WHCV SC 2.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation		
30 2.4.	Value and listed it on their website?	
	☐ Yes = Category I ☐ No = Not WHCV	
SC 3.0. E	Bogs	
	Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation	
	in bogs? Use the key below. If you answer YES you will still need to rate the	
	wetland based on its functions.	
SC 3.1.	Does an area within the wetland unit have organic soil horizons, either peats or mucks,	
	that compose 16 in or more of the first 32 in of the soil profile?	
SC 3.2.	☐ Yes - Go to SC 3.3 ☐ No - Go to SC 3.2	
30 3.2.	Does an area within the wetland unit have organic soils, either peats or mucks, that are less than 16 in deep over bedrock, or an impermeable hardpan such as clay or	
	volcanic ash, or that are floating on top of a lake or pond?	
	☐ Yes - Go to SC 3.3 ☐ No = Is not a bog	
SC 3.3.	Does an area with peats or mucks have more than 70% cover of mosses at ground	
2 2.3.	level, AND at least a 30% cover of plant species listed in Table 4?	
	☐ Yes = Is a Category I bog ☐ No - Go to SC 3.4	
	NOTE: If you are uncertain about the extent of mosses in the understory, you may	
	substitute that criterion by measuring the pH of the water that seeps into a hole dug at	
	least 16 in deep. If the pH is less than $5.0$ and the plant species in Table 4 are present,	
000	the wetland is a bog.	
SC 3.4.	Is an area with peats or mucks forested (> 30% cover) with Sitka spruce, subalpine fir,	
	western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann	
	spruce, or western white pine, AND any of the species (or combination of species)	
	listed in Table 4 provide more than 30% of the cover under the canopy?	
	☐ Yes = Is a Category I bog ☐ No = Is not a bog	

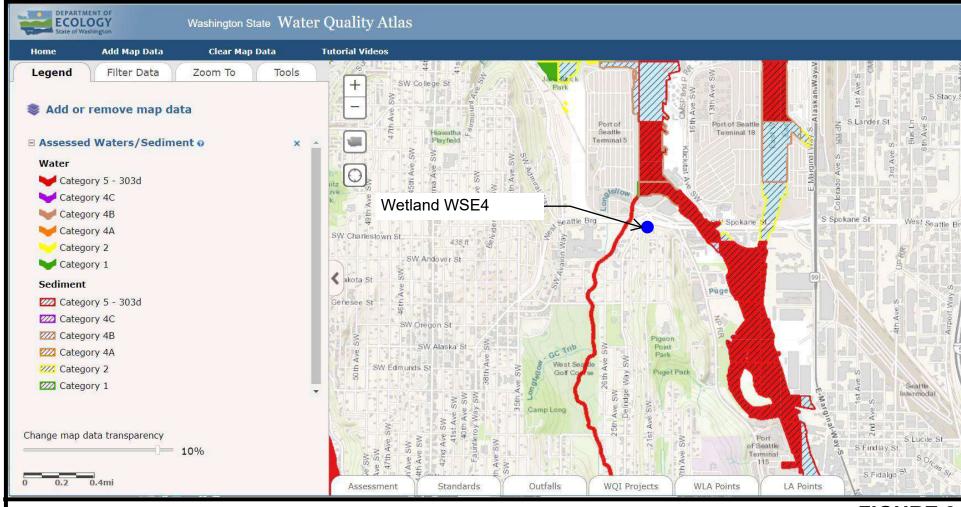
22	4 N	Forested Wetlands	
3U	4.0.		1
		Does the wetland have at least 1 contiguous acre of forest that meets one of these	1
		criteria for the WA Department of Fish and Wildlife's forests as priority habitats? <i>If you</i>	[
		answer YES you will still need to rate the wetland based on its functions.	1
		Old-growth forests (west of Cascade crest): Stands of at least two tree species,	
		forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac	1
		(20 trees/ha) that are at least 200 years of age OR have a diameter at breast height	1
		(dbh) of 32 in (81 cm) or more.	[
		Mature forests (west of the Cascade Crest): Stands where the largest trees are 80-	[
		200 years old OR the species that make up the canopy have an average diameter	[
		(dbh) exceeding 21 in (53 cm).	[
			[
		☐ Yes = Category I ☑ No = Not a forested wetland for this section	
SC	5.0.	Wetlands in Coastal Lagoons	
	•	Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?	[
		The wetland lies in a depression adjacent to marine waters that is wholly or partially	1
		separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently,	[
		rocks	
l			[
		The lagoon in which the wetland is located contains ponded water that is saline or	1
		brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (needs to	1
		be measured near the bottom)	1
	- 4	☐ Yes - Go to SC 5.1 ☑ No = Not a wetland in a coastal lagoon	1
SC		Does the wetland meet all of the following three conditions?	1
ı		The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation,	1
ı		grazing), and has less than 20% cover of aggressive, opportunistic plant species (see	1
l		list of species on p. 100).	1
l		At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or	1
l		un-grazed or un-mowed grassland.	1
		The wetland is larger than <sup>1</sup> / <sub>10</sub> ac (4350 ft <sup>2</sup> )	1
		☐ Yes = Category I ☐ No = Category II	
SC	6.0.	Interdunal Wetlands	
		Is the wetland west of the 1889 line (also called the Western Boundary of Upland	1
l		Ownership or WBUO)? If you answer yes you will still need to rate the wetland	1
		based on its habitat functions.	1
l		In practical terms that means the following geographic areas:	1
		Long Beach Peninsula: Lands west of SR 103	1
l		Grayland-Westport: Lands west of SR 105	1
l		Ocean Shores-Copalis: Lands west of SR 115 and SR 109	1
l		☐ Yes - Go to SC 6.1 ☑ No = Not an interdunal wetland for rating	1
<u>در</u>	6.1.	9	1
30 	<b>0</b> . ı .	<u> </u>	1
l		(rates H,H,H or H,H,M for the three aspects of function)?	1
20	2.0	☐ Yes = Category I ☐ No - Go to SC 6.2	1
SC	6.2.		1
		☐ Yes = Category II ☐ No - Go to SC 6.3	1
SC	6.3.	Is the unit between 0.1 and 1 ac, or is it in a mosaic of wetlands that is between 0.1	1
		and 1 ac?	1
		□ Yes = Category III □ No = Category IV	
	_	ry of wetland based on Special Characteristics	1
If ve	บบ ar	nswered No for all types _enter "Not Applicable" on Summary Form	<b>1</b>







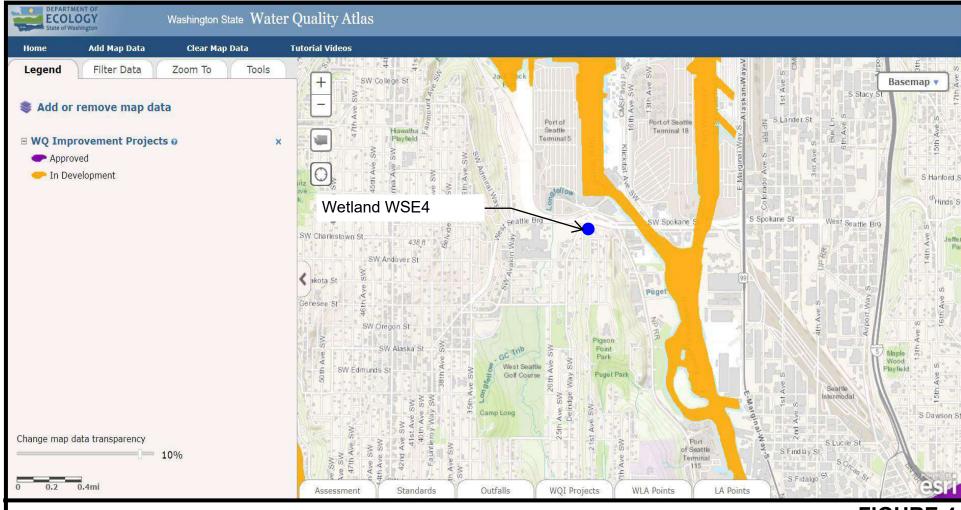




# FIGURE 3

Questions: S 3.1, S 3.2





# **FIGURE 4**

Questions: S 3.3



# **RATING SUMMARY – Western Washington**

Name of wetland (or ID #):	Wetland WSE5		Date of site visit:	9/10/2019	
Rated by R. Whitson, A. Ro	otondo	Trained by Ecology? ☑ Yes ☐ No	Date of training	Mar-15	
HGM Class used for rating Slope Wetland has multiple HGM classes? ☐ Yes ☑					
	•	the figures requested (figures can nap King County Pictometry	be combined).		
OVERALL WETLAND CA	ATEGORY III	(based on functions ☑or specia	al characteristics $\ \Box$ )		
1. Category of wetland	d based on FUNCTIO	ONS			
	_Category I - Total sc	ore = 23 - 27	Score for each		
	Category II - Total se	core = 20 - 22	function based		
X	Category III - Total s	score = 16 - 19	on three		
	Category IV - Total s	score = 9 - 15	ratings		

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
	List app	ropriate rating	(H, M, L)	
Site Potential	M	L	L	
Landscape Potential	M	M	L	
Value	Н	Н	М	Total
Score Based on Ratings	7	6	4	17

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

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

#### 2. Category based on SPECIAL CHARACTERISTICS of wetland

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

# Maps and Figures required to answer questions correctly for Western Washington

#### **Depressional Wetlands**

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

#### Riverine Wetlands

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

#### Lake Fringe Wetlands

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

#### Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	H 1.1, H 1.4	1
Hydroperiods	H 1.2	1
Plant cover of <b>dense</b> trees, shrubs, and herbaceous plants	S 1.3	1
Plant cover of <b>dense</b> , <b>rigid</b> trees, shrubs, and herbaceous plants	S 4.1	4
(can be added to another figure )		'
Boundary of area within 150 ft of the wetland (can be added to another figure)	S 2.1, S 5.1	1
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	2
polygons for accessible habitat and undisturbed habitat		2
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	3
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	S 3.3	4

# **HGM Classification of Wetland in Western Washington**

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

1. Are th	e water levels in the entire unit usuall	y controlled by tides except during floods?
	NO - go to 2	☐ <b>YES</b> - the wetland class is <b>Tidal Fringe</b> - go to 1.1
1.1	Is the salinity of the water during per	ods of annual low flow below 0.5 ppt (parts per thousand)?
V	•	Freshwater Tidal Fringe use the forms for <b>Riverine</b> wetlands. If tuarine wetland and is not scored. This method cannot be
	ntire wetland unit is flat and precipitati rater and surface water runoff are NO	on is the only source (>90%) of water to it. Γ sources of water to the unit.
<b>~</b>	NO - go to 3 If your wetland can be classified as a	☐ <b>YES</b> - The wetland class is <b>Flats</b> Flats wetland, use the form for <b>Depressional</b> wetlands.
	he entire wetland unit <b>meet all</b> of the The vegetated part of the wetland is plants on the surface at any time of t At least 30% of the open water area	on the shores of a body of permanent open water (without any ne year) at least 20 ac (8 ha) in size;
V	NO - go to 4	□ <b>YES</b> - The wetland class is <b>Lake Fringe</b> (Lacustrine Fringe)
<b>▽</b>	he entire wetland unit <b>meet all</b> of the The wetland is on a slope ( <i>slope car</i> ). The water flows through the wetland may flow subsurface, as sheetflow, on the water leaves the wetland <b>witho</b> .	be very gradual), in one direction (unidirectional) and usually comes from seeps. It r in a swale without distinct banks.
	NO - go to 5	☑ YES - The wetland class is Slope
		ype of wetlands except occasionally in very small and shallow s are usually <3 ft diameter and less than 1 ft deep).
	he entire wetland unit <b>meet all</b> of the The unit is in a valley, or stream cha from that stream or river, The overbank flooding occurs at leas	nnel, where it gets inundated by overbank flooding
	NO - go to 6	☐ <b>YES</b> - The wetland class is <b>Riverine</b>
NOTE: T	he Riverine unit can contain denressi	ons that are filled with water when the river is not flooding

. •	phic depression in which water ponds, or is saturated to the surface, at that any outlet, if present, is higher than the interior of the wetland.
□ NO - go to 7	☐ <b>YES</b> - The wetland class is <b>Depressional</b>
The unit does not pond surface water m	very flat area with no obvious depression and no overbank flooding? ore than a few inches. The unit seems to be maintained by high ay be ditched, but has no obvious natural outlet.
□ NO - go to 8	☐ <b>YES</b> - The wetland class is <b>Depressional</b>

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

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

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

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

SLOPE WETLANDS		
Water Quality Functions - Indicators that the site functions to in	nprove water quality	
S 1.0. Does the site have the potential to improve water quality?	1 1 7	
S 1.1. Characteristics of the average slope of the wetland: (a 1% slope has a	1 ft vertical drop in	
elevation for every 100 ft of horizontal distance)		
Slope is 1% or less	points = 3	
Slope is > 1% - 2%	points = 2	0
Slope is > 2% - 5%	points = 1	
Slope is greater than 5%	points = 0	
S 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic	•	
(use NRCS definitions ):	Yes = 3 No = 0	0
S 1.3. Characteristics of the plants in the wetland that trap sediments and pollu		
Choose the points appropriate for the description that best fits the plants in the	wetland. <i>Dense</i>	
means you have trouble seeing the soil surface (>75% cover), and uncut mean	ns not grazed or	
mowed and plants are higher than 6 in.		
Dense, uncut, herbaceous plants > 90% of the wetland area	points = 6	6
Dense, uncut, herbaceous plants > ½ of area	points = 3	
Dense, woody, plants > ½ of area	points = 2	
Dense, uncut, herbaceous plants > 1/4 of area	points = 1	
Does not meet any of the criteria above for plants	points = 0	
Total for S 1 Add the points	in the boxes above	6
Rating of Site Potential If score is: □ 12 = H ☑ 6 - 11 = M □ 0 - 5 = L	Record the rating on	the first nego
	riocora ano raamig on	ine msi paye
		the mst page
S 2.0. Does the landscape have the potential to support the water quality funct		the mst page
S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in		
		1
S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in	tion of the site?	
S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?	tion of the site?	
S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?  S 2.2. Are there other sources of pollutants coming into the wetland that are	tion of the site?	1
S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?  S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?  Other Sources Trash, encampments	Yes = 1 No = 0	1
S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?  S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?  Other Sources Trash, encampments	tion of the site?  Yes = 1 No = 0  Yes = 1 No = 0	1 1 2
S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?  S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?  Other Sources Trash, encampments  Total for S 2  Add the points	tion of the site?  Yes = 1 No = 0  Yes = 1 No = 0  in the boxes above	1 1 2
S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?  S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?  Other Sources Trash, encampments  Total for S 2  Add the points	Yes = 1 No = 0  Yes = 1 No = 0  Yes = 1 No = 0  in the boxes above  Record the rating on	1 1 2
S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?  S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?  Other Sources <u>Trash, encampments</u> Total for S 2 Add the points  Rating of Landscape Potential If score is: ☑ 1 - 2 = M □ 0 = L	Yes = 1 No = 0  Yes = 1 No = 0  Yes = 1 No = 0  in the boxes above  Record the rating on	1 1 2 the first page
S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?  S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?  Other Sources Trash, encampments  Total for S 2 Add the points  Rating of Landscape Potential If score is: ☑ 1 - 2 = M □ 0 = L  S 3.0. Is the water quality improvement provided by the site valuable to society	Yes = 1 No = 0  Yes = 1 No = 0  Yes = 1 No = 0  in the boxes above  Record the rating on	1 1 2
S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?  S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?  Other Sources Trash, encampments  Total for S 2 Add the points  Rating of Landscape Potential If score is: ☑ 1 - 2 = M □ 0 = L  S 3.0. Is the water quality improvement provided by the site valuable to society S 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river,	Yes = 1 No = 0  Yes = 1 No = 0  Yes = 1 No = 0  in the boxes above  Record the rating on	1  1  2 the first page
S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?  S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?  Other Sources Trash, encampments  Total for S 2 Add the points  Rating of Landscape Potential If score is: □ 1 - 2 = M □ 0 = L  S 3.0. Is the water quality improvement provided by the site valuable to society S 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list?	Yes = 1 No = 0  Yes = 1 No = 0  Yes = 1 No = 0  in the boxes above  Record the rating on	1 1 2 the first page
S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?  S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?  Other Sources Trash, encampments  Total for S 2 Add the points  Rating of Landscape Potential If score is: ☑ 1 - 2 = M □ 0 = L  S 3.0. Is the water quality improvement provided by the site valuable to society S 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list?  S 3.2. Is the wetland in a basin or sub-basin where water quality is an issue?	tion of the site?  Yes = 1 No = 0  Yes = 1 No = 0  in the boxes above  Record the rating on  Yes = 1 No = 0  Yes = 1 No = 0	1 1 2 the first page
S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?  S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?  Other Sources Trash, encampments  Total for S 2 Add the points  Rating of Landscape Potential If score is: □ 1 - 2 = M □ 0 = L  S 3.0. Is the water quality improvement provided by the site valuable to society S 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list?  S 3.2. Is the wetland in a basin or sub-basin where water quality is an issue?  At least one aquatic resource in the basin is on the 303(d) list.	tion of the site?  Yes = 1 No = 0  Yes = 1 No = 0  in the boxes above  Record the rating on  Yes = 1 No = 0  Yes = 1 No = 0	1 1 2 the first page
S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?  S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?  Other Sources Trash, encampments  Total for S 2 Add the points  Rating of Landscape Potential If score is: □ 1 - 2 = M □ 0 = L  S 3.0. Is the water quality improvement provided by the site valuable to society S 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list?  S 3.2. Is the wetland in a basin or sub-basin where water quality is an issue? At least one aquatic resource in the basin is on the 303(d) list.  S 3.3. Has the site been identified in a watershed or local plan as important for	tion of the site?  Yes = 1 No = 0  Yes = 1 No = 0  in the boxes above  Record the rating on  Yes = 1 No = 0  Yes = 1 No = 0	1  1  2 the first page  0
S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?  S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?  Other Sources Trash, encampments  Total for S 2 Add the points  Rating of Landscape Potential If score is: 1 - 2 = M 0 = L  S 3.0. Is the water quality improvement provided by the site valuable to society S 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list?  S 3.2. Is the wetland in a basin or sub-basin where water quality is an issue?  At least one aquatic resource in the basin is on the 303(d) list.  S 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality? Answer YES if there is a TMDL for the basin in which the unit is found?	Yes = 1 No = 0  Yes = 1 No = 0  Yes = 1 No = 0  In the boxes above  Record the rating on  Yes = 1 No = 0  Yes = 1 No = 0	1  1  2 the first page  0

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

NOTES and FIELD OBSERVATIONS:

#### These questions apply to wetlands of all HGM classes. HABITAT FUNCTIONS - Indicators that site functions to provide important habitat H 1.0. Does the site have the potential to provide habitat? H 1.1. Structure of plant community: Indicators are Cowardin classes and strata within the Forested class. Check the Cowardin plant classes in the wetland. Up to 10 patches may be combined for each class to meet the threshold of 1/4 ac or more than 10% of the unit if it is smaller than 2.5 ac. Add the number of structures checked. ☐ Aquatic bed 4 structures or more: points = 4 0 ☑ Emergent 3 structures: points = 2 ☐ Scrub-shrub (areas where shrubs have > 30% cover) 2 structures: points - 1 ☐ Forested (areas where trees have > 30% cover) 1 structure: points = 0 If the unit has a Forested class, check if: ☐ The Forested class has 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover) that each cover 20% within the Forested polygon H 1.2. Hydroperiods Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or 1/4 ac to count (see text for descriptions of hydroperiods). ☐ Permanently flooded or inundated 4 or more types present: points = 3 ☐ Seasonally flooded or inundated 3 types present: points = 2 0 ☐ Occasionally flooded or inundated 2 types present: points = 1 ☑ Saturated only 1 types present: points = 0 ☐ Permanently flowing stream or river in, or adjacent to, the wetland ☐ Seasonally flowing stream in, or adjacent to, the wetland □ Lake Fringe wetland 2 points ☐ Freshwater tidal wetland 2 points H 1.3. Richness of plant species Count the number of plant species in the wetland that cover at least 10 ft<sup>2</sup>. Different patches of the same species can be combined to meet the size threshold and you do not have to name the species. Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Canadian thistle 1 If you counted: > 19 species points = 25 - 19 species points = 1< 5 species points = 0H 1.4. Interspersion of habitats Decide from the diagrams below whether interspersion among Cowardin plants classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, moderate, low, or none. If you have four or more plant classes or three classes and open water, the rating is always high. 0 **None** = 0 points Low = 1 pointModerate = 2 points All three diagrams in this row are **HIGH** = 3 points

H 1.5. Special habitat features:	
Check the habitat features that are present in the wetland. The number of checks is the number	
of points.	
☑ Large, downed, woody debris within the wetland (> 4 in diameter and 6 ft long)	
☐ Standing snags (dbh > 4 in) within the wetland	
☐ Undercut banks are present for at least 6.6 ft (2 m) <b>and/or</b> overhanging plants extends	
at least 3.3 ft (1 m) over a stream (or ditch) in, or contiguous with the wetland, for at	
least 33 ft (10 m)	1
☐ Stable steep banks of fine material that might be used by beaver or muskrat for denning	
(> 30 degree slope) OR signs of recent beaver activity are present (cut shrubs or trees	
that have not yet weathered where wood is exposed)	
☐ At least ¼ ac of thin-stemmed persistent plants or woody branches are present in areas	
that are permanently or seasonally inundated (structures for egg-laying by amphibians)	
☐ Invasive plants cover less than 25% of the wetland area in every stratum of plants (see	
H 1.1 for list of strata)	
Total for H 1 Add the points in the boxes above	2
Rating of Site Potential If Score is:   15 - 18 = H  7 - 14 = M  0 - 6 = L  Record the rating on	the first page
H 2.0. Does the landscape have the potential to support the habitat function of the site?	
H 2.1 Accessible habitat (include only habitat that directly abuts wetland unit).	
Calculate:	
0 % undisturbed habitat + ( 5 % moderate & low intensity land uses / 2 ) = 2.5%	
If total accessible, hebitat is:	0
If total accessible habitat is:	0
$> \frac{1}{3}$ (33.3%) of 1 km Polygon points = 3	
20 - 33% of 1 km Polygon points = 2	
10 - 19% of 1 km Polygon points = 1	
<pre>&lt; 10 % of 1 km Polygon points = 0</pre>	
H 2.2. Undisturbed habitat in 1 km Polygon around the wetland.	
Calculate:	
0 % undisturbed habitat + ( 5 % moderate & low intensity land uses / 2 ) = 2.5%	
	0
Undisturbed habitat > 50% of Polygon points = 3	
Undisturbed habitat 10 - 50% and in 1-3 patches points = 2	
Undisturbed habitat 10 - 50% and > 3 patches points = 1	
Undisturbed habitat < 10% of 1 km Polygon points = 0	
H 2.3 Land use intensity in 1 km Polygon: If	
> 50% of 1 km Polygon is high intensity land use points = (-2)	
≤ 50% of 1km Polygon is high intensity points = 0	
Total for H 2 Add the points in the boxes above	
Rating of Landscape Potential If Score is: 4 - 6 = H 1 - 1 - 3 = M 2 < 1 = L Record the rating on	the first page
H 3.0. Is the habitat provided by the site valuable to society?	
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? <i>Choose</i>	
only the highest score that applies to the wetland being rated.	
Site meets ANY of the following criteria: points = 2	
☐ It has 3 or more priority habitats within 100 m (see next page)	
☐ It provides habitat for Threatened or Endangered species (any plant	
or animal on the state or federal lists)	
☐ It is mapped as a location for an individual WDFW priority species	
☐ It is a Wetland of High Conservation Value as determined by the	1
Department of Natural Resources	
☐ It has been categorized as an important habitat site in a local or	
regional comprehensive plan, in a Shoreline Master Plan, or in a	
watershed plan	
Site has 1 or 2 priority habitats (listed on next page) with in 100m points = 1	
Site does not meet any of the criteria above points = 0	
Rating of Value If Score is:   2 = H   1 = M   0 = L   Record the rating on	the first page

# **WDFW Priority Habitats**

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

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

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

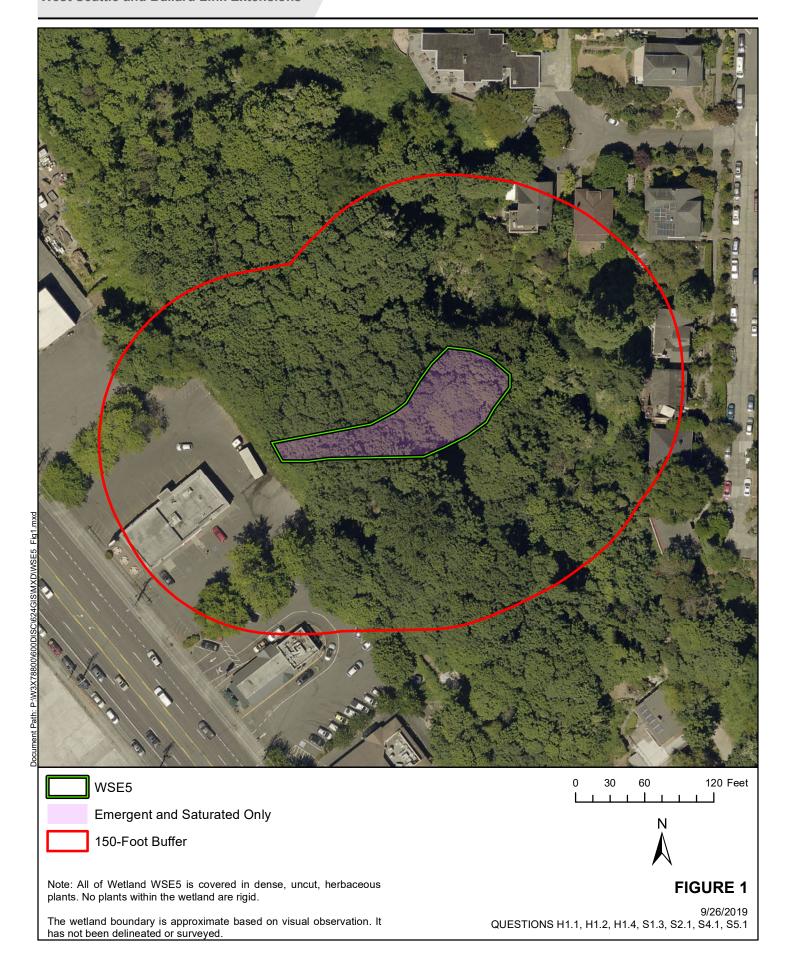
	Aspen Stands: Pure or mixed stands of aspen greater than 1 ac (0.4 ha).
<b>V</b>	<b>Biodiversity Areas and Corridors</b> : Areas of habitat that are relatively important to various species of native fish and wildlife ( <i>full descriptions in WDFW PHS report</i> ).
	Herbaceous Balds: Variable size patches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

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

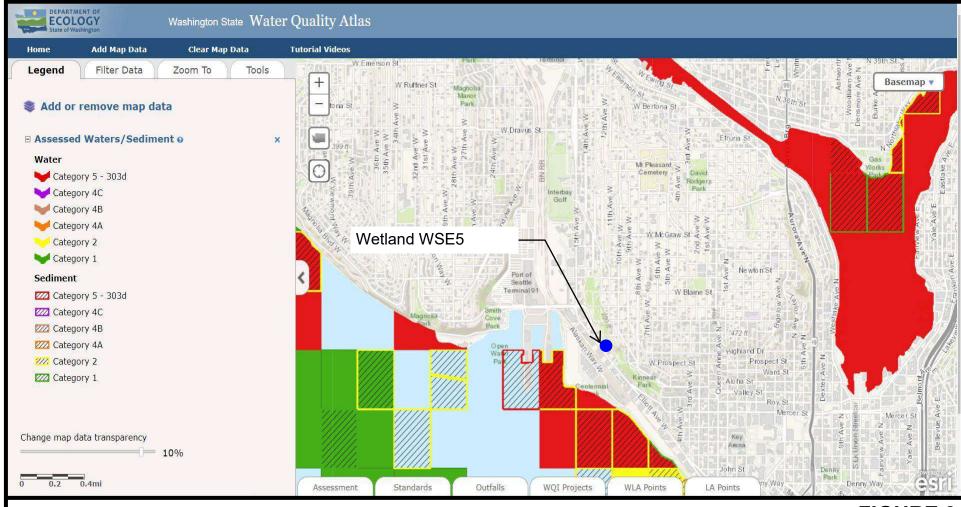
# **CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS**

Wetland	Type	Category
Check off	any criteria that apply to the wetland. List the category when the appropriate criteria are met.	
	Estuarine Wetlands	
	Does the wetland meet the following criteria for Estuarine wetlands?	
	The dominant water regime is tidal,	
	Vegetated, and	
	With a salinity greater than 0.5 ppt	
0011	☐ Yes - Go to SC 1.1 ☑ No = Not an estuarine wetland	
SC 1.1.	Is the wetland within a National Wildlife Refuge, National Park, National Estuary	
	Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific	
	Reserve designated under WAC 332-30-151?  ☐ Yes = Category I ☐ No - Go to SC 1.2	
SC 1.2.	Is the wetland unit at least 1 ac in size and meets at least two of the following three conditions?	
□ □	The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing,	
	and has less than 10% cover of non-native plant species. (If non-native species are	
	Spartina, see page 25)	
	At least 3/4 of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-	
	grazed or un-mowed grassland.	
	The wetland has at least two of the following features: tidal channels, depressions with	
	open water, or contiguous freshwater wetlands.	
	☐ Yes = Category I ☐ No = Category II	
	Wetlands of High Conservation Value (WHCV)	
SC 2.1.	'	
	Wetlands of High Conservation Value?  ☑ Yes - Go to SC 2.2  ☐ No - Go to SC 2.3	
SC 2.2.	Is the wetland listed on the WDNR database as a Wetland of High Conservation Value?	
00 2.2.	☐ Yes = Category I ☐ No = Not WHCV	
SC 2.3.	<b>.</b> .	
	http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf	
	☐ Yes - Contact WNHP/WDNR and to SC 2.4 ☑ No = Not WHCV	
SC 2.4.	Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation	
	Value and listed it on their website?	
	☐ Yes = Category I ☑ No = Not WHCV	
SC 3.0. E		
	Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation	
	in bogs? Use the key below. If you answer YES you will still need to rate the wetland based on its functions.	
SC 3.1.		
30 3.1.	that compose 16 in or more of the first 32 in of the soil profile?	
	☐ Yes - Go to SC 3.3 ☐ No - Go to SC 3.2	
SC 3.2.		
	less than 16 in deep over bedrock, or an impermeable hardpan such as clay or volcanic	
	ash, or that are floating on top of a lake or pond?	
	☐ Yes - Go to SC 3.3 ☑ No = Is not a bog	
SC 3.3.	Does an area with peats or mucks have more than 70% cover of mosses at ground	
	level, AND at least a 30% cover of plant species listed in Table 4?	
	☐ Yes = <b>Is a Category I bog</b> ☐ No - Go to <b>SC 3.4</b>	
	<b>NOTE</b> : If you are uncertain about the extent of mosses in the understory, you may	
	substitute that criterion by measuring the pH of the water that seeps into a hole dug at	
	least 16 in deep. If the pH is less than 5.0 and the plant species in Table 4 are present,	
SC 2.4	the wetland is a bog.	
SC 3.4.	Is an area with peats or mucks forested (> 30% cover) with Sitka spruce, subalpine fir,	
	western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann	
	spruce, or western white pine, AND any of the species (or combination of species) listed in Table 4 provide more than 30% of the cover under the canopy?	
	☐ Yes = Is a Category I bog ☐ No = Is not a bog	
	□ 100 - 13 a Category 1 bog □ 140 - 13 flot a bog	

SC 4.0. Forested Wetlands	
Does the wetland have at least <u>1 contiguous acre</u> of forest that meets one of these	
criteria for the WA Department of Fish and Wildlife's forests as priority habitats? If you	
answer YES you will still need to rate the wetland based on its functions.	
□ Old-growth forests (west of Cascade crest): Stands of at least two tree species,	
forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac	
(20 trees/ha) that are at least 200 years of age OR have a diameter at breast height	
(dbh) of 32 in (81 cm) or more.	
☐ <b>Mature forests</b> (west of the Cascade Crest): Stands where the largest trees are 80- 2	00
years old OR the species that make up the canopy have an average diameter (dbh)	
exceeding 21 in (53 cm).	
□ Vac Octobers I □ No. Not a famous devestion of families as at it.	
☐ Yes = Category I ☑ No = Not a forested wetland for this section	on  
SC 5.0. Wetlands in Coastal Lagoons	
Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?	
☐ The wetland lies in a depression adjacent to marine waters that is wholly or partially	
separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently rocks	1
☐ The lagoon in which the wetland is located contains ponded water that is saline or	
brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon ( <i>needs to</i>	
be measured near the bottom)	
☐ Yes - Go to SC 5.1 ☑ No = Not a wetland in a coastal lago	on
SC 5.1. Does the wetland meet all of the following three conditions?	<b>7</b> "
☐ The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing	).
and has less than 20% cover of aggressive, opportunistic plant species (see list of	,,
species on p. 100).	
☐ At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or u	n-
grazed or un-mowed grassland.	
$\Box$ The wetland is larger than $^{1}/_{10}$ ac (4350 ft <sup>2</sup> )	
☐ Yes = Category I ☐ No = Category	II
SC 6.0. Interdunal Wetlands	
Is the wetland west of the 1889 line (also called the Western Boundary of Upland	
Ownership or WBUO)? If you answer yes you will still need to rate the wetland	
based on its habitat functions.	
In practical terms that means the following geographic areas:	
□ Long Beach Peninsula: Lands west of SR 103	
☐ Grayland-Westport: Lands west of SR 105	
□ Ocean Shores-Copalis: Lands west of SR 115 and SR 109	
☐ Yes - Go to SC 6.1 ☑ No = Not an interdunal wetland for ration	ng
SC 6.1. Is the wetland 1 ac or larger and scores an 8 or 9 for the habitat functions on the form	
(rates H,H,H or H,H,M for the three aspects of function)?	
☐ Yes = Category I ☐ No - Go to SC 6	5.2
SC 6.2. Is the wetland 1 ac or larger, or is it in a mosaic of wetlands that is 1 ac or larger?	
☐ Yes = Category II ☐ No - Go to SC (	
SC 6.3. Is the unit between 0.1 and 1 ac, or is it in a mosaic of wetlands that is between 0.1 and	a
1 ac? ☐ Yes = Category III ☐ No = Category	IV
Category of wetland based on Special Characteristics	1 7
If you answered No for all types, enter "Not Applicable" on Summary Form	

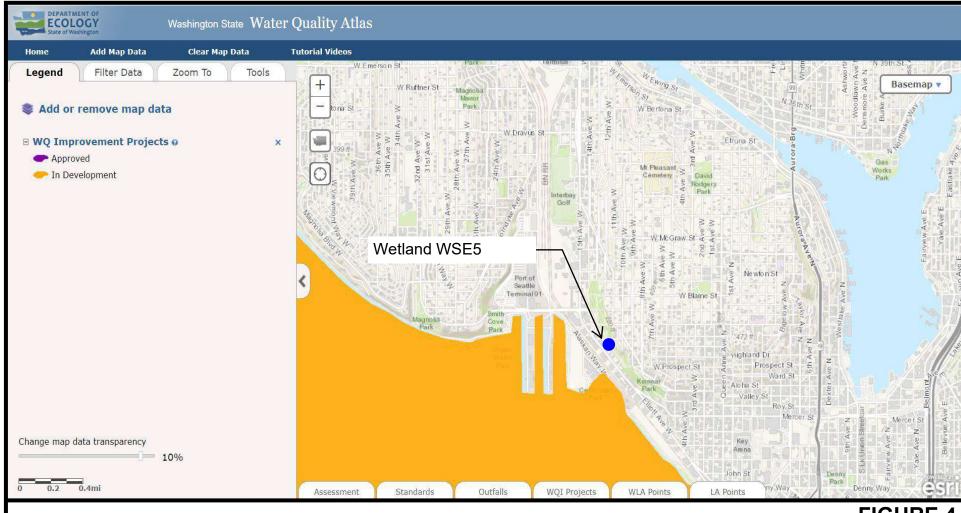






# FIGURE 3

Questions: S 3.1, S 3.2



# **FIGURE 4**

Questions: S 3.3

# **RATING SUMMARY – Western Washington**

Name of wetland (or	ID#): Wetland V	VSE6					Date of site visit:	10/7/2019
Rated by Amy Roto	ndo, Emily Drew	. Tra	ained by E	cology?⊡	Yes□	No	Date of training	Oct-19
HGM Class used fo	r rating Depressio	nal & Flats		Wetland	has mu	ultiple	HGM classes? ☑	Yes□ No
	NOTE: Form is not complete with out the figures requested (figures can be combined).  Source of base aerial photo/mapKing County 2017							
OVERALL WETLAND CATEGORY III (based on functions⊡ or special characteristics□ )								
1. Category of wetland based on FUNCTIONS								
	Category	I - Total score	e = 23 - 27			S	core for each	
	Category	II - Total scor	e = 20 - 22	2		fu	nction based	
X Category III - Total score = 16 - 19					OI	n three		
Category IV - Total score = 9 - 15			ra	itings				
•						(0	rder of ratings	
FUNCTION	Improving	Hydrologic	Habitat	]		is	not	
FUNCTION	Water Quality					in	nportant)	

1

FUNCTION	Improving Hydrolog Water Quality		Habitat			
	List appropriate rating (H, M, L)					
Site Potential	L	L	L			
Landscape Potentia	Н	Н	L			
Value	Н	M	М	Total		
Score Based on Ratings	7	6	4	17		

# Score for each function based on three ratings (order of ratings is not important) 9 = H, H, H 8 = H, H, M 7 = H, H, L 7 = H, M, M 6 = H, M, L 6 = M, M, M 5 = H, L, L 5 = M, M, L 4 = M, L, L 3 = L, L, L

#### 2. Category based on SPECIAL CHARACTERISTICS of wetland

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

# Maps and Figures required to answer questions correctly for Western Washington

#### Depressional Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	D 1.3, H 1.1, H 1.4	1
Hydroperiods	D 1.4, H 1.2	2
Location of outlet (can be added to map of hydroperiods)	D 1.1, D 4.1	2
Boundary of area within 150 ft of the wetland (can be added to another figure)	D 2.2, D 5.2	1
Map of the contributing basin	D 4.3, D 5.3	3
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	4
polygons for accessible habitat and undisturbed habitat		4
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	5
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	D 3.3	6

#### Riverine Wetlands

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

#### Lake Fringe Wetlands

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

#### Slope Wetlands

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

# **HGM Classification of Wetland in Western Washington**

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

1. Are t	the water levels in the entire unit usu	ally controlled by tid	des except during floods?
✓	NO - go to 2	□ <b>YES</b> - the wet	and class is <b>Tidal Fringe</b> - go to 1.1
1.	1 Is the salinity of the water during p	eriods of annual lov	v flow below 0.5 ppt (parts per thousand)?
		s a Freshwater Tida inge it is an <b>Estuar</b>	☐ YES - Freshwater Tidal Fringe all Fringe use the forms for Riverine ine wetland and is not scored. This method ands.
	entire wetland unit is flat and precipit water and surface water runoff are N		
☑	NO - go to 3 If your wetland can be classified a	s a Flats wetland, u	□ <b>YES</b> - The wetland class is <b>Flats</b> se the form for <b>Depressional</b> wetlands.
	the entire wetland unit <b>meet all</b> of the the vegetated part of the wetland plants on the surface at any time of the treat 30% of the open water are	is on the shores of of the year) at least :	a body of permanent open water (without any 20 ac (8 ha) in size;
V	NO - go to 4	□ <b>YES</b> - The we	tland class is <b>Lake Fringe</b> (Lacustrine Fringe)
v v		an be very gradual nd in one direction ( bw, or in a swale wit	), unidirectional) and usually comes from seeps hout distinct banks.
V	NO - go to 5		□ YES - The wetland class is Slope
	Surface water does not pond in thes sions or behind hummocks (depressi		except occasionally in very small and shallow it diameter and less than 1 ft deep).
	the entire wetland unit <b>meet all</b> of the unit is in a valley, or stream of from that stream or river,  The overbank flooding occurs at least	hannel, where it get	s inundated by overbank flooding
V	NO - go to 6		□ YES - The wetland class is Riverine
NOTE:	The Riverine unit can contain depres	ssions that are filled	with water when the river is not flooding.

- 6. Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year? This means that any outlet, if present, is higher than the interior of the
  - ☑ NO go to 7

    ☐ YES The wetland class is Depressional
- 7. Is the entire wetland unit located in a very flat area with no obvious depression and no overbank flooding? The unit does not pond surface water more than a few inches. The unit seems to be maintained by high groundwater in the area. The wetland may be ditched, but has no obvious natural outlet.
  - ☑ NO go to 8
     ☐ YES The wetland class is Depressional
- 8. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a Depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-7 APPLY TO DIFFERENT AREAS IN THE UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within the wetland unit being scored.

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

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

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

#### NOTES and FIELD OBSERVATIONS:

The eastern portion of Wetland WSE6 slopes down into a depression. Water would likely flow down the slope and pool in the depression before exiting the wetland through the outlet.

DEPRESSIONAL AND FLATS WETLANDS	
Water Quality Functions - Indicators that the site functions to improve water quality	1
D 1.0. Does the site have the potential to improve water quality?	
D 1.1. Characteristics of surface water outflows from the wetland:	
Wetland is a depression or flat depression (QUESTION 7 on key) with no surface water leaving it (no outlet). points = 3	
Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet. points = 2	2
<ul> <li>Wetland has an unconstricted, or slightly constricted, surface outlet</li> <li>that is permanently flowing</li> <li>points = 1</li> </ul>	
<ul> <li>□ Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch.</li> <li>points = 1</li> </ul>	
D 1.2. <u>The soil 2 in below the surface (or duff layer)</u> is true clay or true organic (use NRCS definitions). Yes = 4 No = 0	0
D 1.3. <u>Characteristics and distribution of persistent plants</u> (Emergent, Scrub-shrub, and/or Forested Cowardin classes):	
Wetland has persistent, ungrazed, plants > 95% of area points = 5	
Wetland has persistent, ungrazed, plants > ½ of area points = 3	3
Wetland has persistent, ungrazed plants $> \frac{1}{10}$ of area points = 1	
Wetland has persistent, ungrazed plants $< \frac{1}{10}$ of area points = 0	
D 1.4. Characteristics of seasonal ponding or inundation:	
This is the area that is ponded for at least 2 months. See description in manual.	
Area seasonally ponded is > ½ total area of wetland points = 4	0
Area seasonally ponded is > 1/4 total area of wetland points = 2	
Area seasonally ponded is < 1/4 total area of wetland points = 0	
Total for D 1 Add the points in the boxes above	5

Rating of Site Potential If score is: 

12 - 16 = H 

6 - 11 = M 

0 - 5 = L Record the rating on the first page

D 2.0. Does the landscape have the potential to support the water quality function of the site?	
D 2.1. Does the wetland unit receive stormwater discharges? Yes = 1 No =	0 1
D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that	1
generate pollutants? Yes = 1 No =	0 '
D 2.3. Are there septic systems within 250 ft of the wetland?  Yes = 1 No =	0 0
D 2.4. Are there other sources of pollutants coming into the wetland that are	
not listed in questions D 2.1 - D 2.3?	1
Source <u>Trash, encampments</u> Yes = 1 No =	0
Total for D 2 Add the points in the boxes abo	/e <b>3</b>

Rating of Landscape Potential If score is 3 or 4 = H 1 or 2 = M 0 = Record the rating on the first page

D 3.0. Is the water quality improvement provided by the site v	valuable to society?		
D 3.0. Is the water quality improvement provided by the site v	raidable to society?		
D 3.1. Does the wetland discharge directly (i.e., within 1 mi) triver, lake, or marine water that is on the 303(d) list?	o a stream, Yes = 1	No = 0	1
D 3.2. Is the wetland in a basin or sub-basin where an aquati	c resource is on the 303(d) li Yes = 1		1
D 3.3. Has the site been identified in a watershed or local pla for maintaining water quality (answer YES if there is a TMDL which the unit is found)?	•	No = 0	0
Total for D 3	Add the points in the boxes	s above	2

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

Record the rating on the first page

DEDDESSIONAL AND ELATS WETLANDS	
DEPRESSIONAL AND FLATS WETLANDS  Hydrologic Functions - Indicators that the site functions to reduce flooding and stream deg	radation
D 4.0. Does the site have the potential to reduce flooding and erosion?	Taualion
D 4.1. Characteristics of surface water outflows from the wetland:	
Wetland is a depression or flat depression with no surface water	
leaving it (no outlet) points = 4	
Wetland has an intermittently flowing stream or ditch, OR highly	
constricted permanently flowing outlet points = 2	2
Wetland is a flat depression (QUESTION 7 on key), whose outlet is	
a permanently flowing ditch points = 1	
Wetland has an unconstricted, or slightly constricted, surface outlet	
that is permanently flowing points = 0	
D 4.2. Depth of storage during wet periods: Estimate the height of ponding above the bottom of	
the outlet. For wetlands with no outlet, measure from the surface of permanent water or if dry,	
the deepest part.	
Marks of ponding are 3 ft or more above the surface or bottom of outlet points = 7	
Marks of ponding between 2 ft to < 3 ft from surface or bottom of outlet points = 5	
☐ Marks are at least 0.5 ft to < 2 ft from surface or bottom of outlet points = 3	
☐ The wetland is a "headwater" wetland points = 3  Wetland is flat but has small depressions on the surface that trap water points = 1	
Wetland is flat but has small depressions on the surface that trap water points = 1  Marks of ponding less than 0.5 ft (6 in) points = 0	
D 4.3. Contribution of the wetland to storage in the watershed: Estimate the ratio of the area of	
upstream basin contributing surface water to the wetland to the area of the wetland unit itself.	
☐ The area of the basin is less than 10 times the area of the unit points = 5	
The area of the basin is 10 to 100 times the area of the unit points = 3	3
The area of the basin is more than 100 times the area of the unit points = 0	
☐ Entire wetland is in the Flats class points = 5	
Total for D 4 Add the points in the boxes above	5
7 tad the points in the series diserte	
Rating of Site Potential If score is:   12 - 16 = H  6 - 11 = M  0 - 5 = L Record the rating on	-
	-
Rating of Site Potential If score is:   12 - 16 = H   6 - 11 = M   0 - 5 = L Record the rating on	the first page
Rating of Site Potential If score is: □ 12 - 16 = H □ 6 - 11 = M ☑ 0 - 5 = L Record the rating on □ 5.0. Does the landscape have the potential to support hydrologic function of the site?	the first page
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Rating of Site Potential If score is: □ 12 - 16 = H □ 6 - 11 = M □ 0 - 5 = L Record the rating on □ 5.0. Does the landscape have the potential to support hydrologic function of the site?  □ 5.1. Does the wetland unit receive stormwater discharges? Yes = 1 No = 0 □ 5.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate excess runoff?  Yes = 1 No = 0 □ 5.3. Is more than 25% of the contributing basin of the wetland covered with intensive human land uses (residential at >1 residence/ac, urban, commercial, agriculture, etc.)?  Yes = 1 No = 0 □ Total for □ 5 Add the points in the boxes above  Rating of Landscape Potential If score is: □ 3 = H □ 1 or 2 = M □ 0 = L Record the rating on □ 6.0. Are the hydrologic functions provided by the site valuable to society?  □ 6.1. The unit is in a landscape that has flooding problems. Choose the description that best matches conditions around the wetland unit being rated. Do not add points. Choose the highest score if more than one condition is met.  The wetland captures surface water that would otherwise flow down-gradient into areas where flooding has damaged human or natural resources (e.g., houses or salmon redds):  Flooding occurs in a sub-basin that is immediately down-gradient of unit.  Surface flooding problems are in a sub-basin farther down-gradient.  Flooding from groundwater is an issue in the sub-basin.  Flooding from groundwater is an issue in the sub-basin.  Flooding or potential outflow from the wetland is so constrained by human or natural conditions that the water stored by the wetland	the first page  1 1 1 3 the first page
Rating of Site Potential If score is: □ 12 - 16 = H □ 6 - 11 = M □ 0 - 5 = L Record the rating on D 5.0. Does the landscape have the potential to support hydrologic function of the site?  □ 5.1. Does the wetland unit receive stormwater discharges? Yes = 1 No = 0 □ 5.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate excess runoff? Yes = 1 No = 0 □ 5.3. Is more than 25% of the contributing basin of the wetland covered with intensive human land uses (residential at >1 residence/ac, urban, commercial, agriculture, etc.)?  Yes = 1 No = 0 □ Total for □ 5 Add the points in the boxes above Rating of Landscape Potential If score is: □ 3 = H □ 1 or 2 = M □ 0 = L Record the rating on □ 6.0. Are the hydrologic functions provided by the site valuable to society?  □ 6.1. The unit is in a landscape that has flooding problems. Choose the description that best matches conditions around the wetland unit being rated. Do not add points. Choose the highest score if more than one condition is met.  □ The wetland captures surface water that would otherwise flow down-gradient into areas where flooding has damaged human or natural resources (e.g., houses or salmon redds):  □ Flooding occurs in a sub-basin that is immediately down-gradient of unit.  □ Surface flooding problems are in a sub-basin farther down-gradient.  □ Flooding from groundwater is an issue in the sub-basin.  □ Flooding from groundwater is an issue in the sub-basin.  □ Flooding from groundwater is an issue in the wetland is so constrained by human or natural conditions that the water stored by the wetland cannot reach areas that flood. Explain why	the first page  1 1 3 the first page
Rating of Site Potential If score is: □ 12 - 16 = H □ 6 - 11 = M □ 0 - 5 = L Record the rating on D 5.0. Does the landscape have the potential to support hydrologic function of the site?  □ 5.1. Does the wetland unit receive stormwater discharges? Yes = 1 No = 0 □ 5.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate excess runoff?  Yes = 1 No = 0 □ 5.3. Is more than 25% of the contributing basin of the wetland covered with intensive human land uses (residential at >1 residence/ac, urban, commercial, agriculture, etc.)?  Yes = 1 No = 0 □ Total for □ 5 Add the points in the boxes above  Rating of Landscape Potential If score is: □ 3 = H □ 1 or 2 = M □ 0 = L Record the rating on □ 6.0. Are the hydrologic functions provided by the site valuable to society? □ 6.1. The unit is in a landscape that has flooding problems. Choose the description that best matches conditions around the wetland unit being rated. Do not add points. Choose the highest score if more than one condition is met.  The wetland captures surface water that would otherwise flow down-gradient into areas where flooding has damaged human or natural resources (e.g., houses or salmon redds):  Flooding occurs in a sub-basin that is immediately down-gradient of unit.  □ Flooding from groundwater is an issue in the sub-basin.  □ Flooding from groundwater is an issue in the sub-basin.  □ Flooding from groundwater is an issue in the sub-basin.  □ Flooding from groundwater is an issue in the water stored by the wetland cannot reach areas that flood. Explain why  □ There are no problems with flooding downstream of the wetland.	the first page  1 1 3 the first page

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

Record the rating on the first page

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

H 1.5. Sp	H 1.5. Special habitat features:				
Check the habitat features that are present in the wetland. The number of checks is the number					
of points.					
V	Large, downed, woody debris within the wetland (> 4 in diameter and 6 ft long)				
V	Standing snags (dbh > 4 in) within the wetland				
	Undercut banks are present for at least 6.6 ft (2 m) and/or overhanging plants extends				
	at least 3.3 ft (1 m) over a stream (or ditch) in, or contiguous with the wetland, for at				
	least 33 ft (10 m)	1			
	Stable steep banks of fine material that might be used by beaver or muskrat for				
	denning (> 30 degree slope) OR signs of recent beaver activity are present (cut				
	shrubs or trees that have not yet weathered where wood is exposed) At least ¼ ac of thin-stemmed persistent plants or woody branches are present in				
	areas that are permanently or seasonally inundated (structures for egg-laying by				
V	amphibians) Invasive plants cover less than 25% of the wetland area in every stratum of plants				
	(see H 1.1 for list of strata)				
Total for	H 1 Add the points in the boxes above	3			
Dating of	Site Detential If Secretary 15 19 - H D 7 14 - M D 0 6 - L Decord the reting on	the first near			

Rating of Site Potential If Score is: 

15 - 18 = H 

7 - 14 = M 

0 - 6 = L Record the rating on the first page

nabitat function of the site?	
uts wetland unit).	
& low intensity land uses / 2 ) = 2.35%	
	0
points = 3	
points = 2	
points = 1	
points = 0	
nd.	
& low intensity land uses / 2 ) = 2.5%	
	0
•	· ·
points = 2	
points = 1	
points = 0	
points = (-2)	-2
points = 0	
Add the points in the boxes above	-2
	points = 2 points = 1 points = 0  nd.  & low intensity land uses / 2 ) = 2.5%  points = 3 points = 2 points = 1 points = 0  points = 0

Rating of Landscape Potential If Score is 4 - 6 = H 1 1 - 3 = M 2 < 1 = LRecord the rating on the first page

	H 3.0. Is the habitat provided by the site valuable to society?			
	H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? Chapter 1.1.	oose		
	only the highest score that applies to the wetland being rated.			
	Site meets ANY of the following criteria: poin	nts = 2		
	☐ It has 3 or more priority habitats within 100 m (see next page)			
	<ul> <li>It provides habitat for Threatened or Endangered species (any plant or animal on the state or federal lists)</li> </ul>			
	☐ It is mapped as a location for an individual WDFW priority species		4	
	<ul> <li>It is a Wetland of High Conservation Value as determined by the Department of Natural Resources</li> </ul>		1	
	<ul> <li>It has been categorized as an important habitat site in a local or regional comprehensive plan, in a Shoreline Master Plan, or in a watershed plan</li> </ul>			
	Site has 1 or 2 priority habitats (listed on next page) with in 100m poin	nts = 1		
Site does not meet any of the criteria above points = 0				

Rating of Value If Score is:  $\square$  2 = H  $\square$  1 = M  $\square$  0 = L

### **WDFW Priority Habitats**

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

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

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

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

are addressed elsewhere.

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

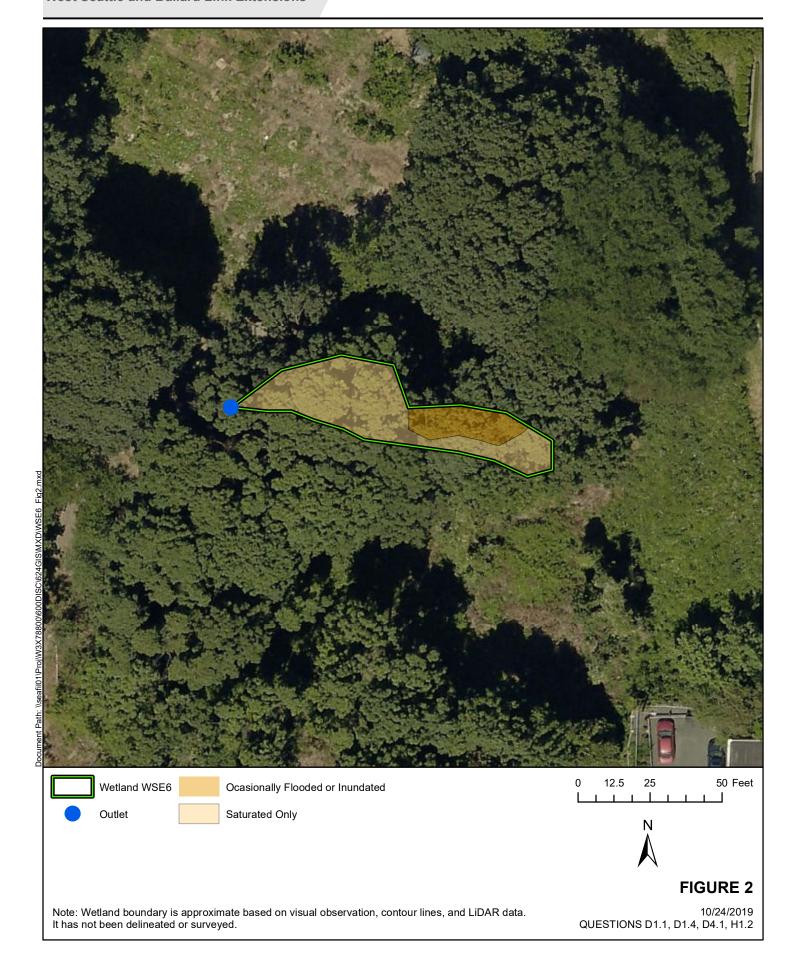
### **CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS**

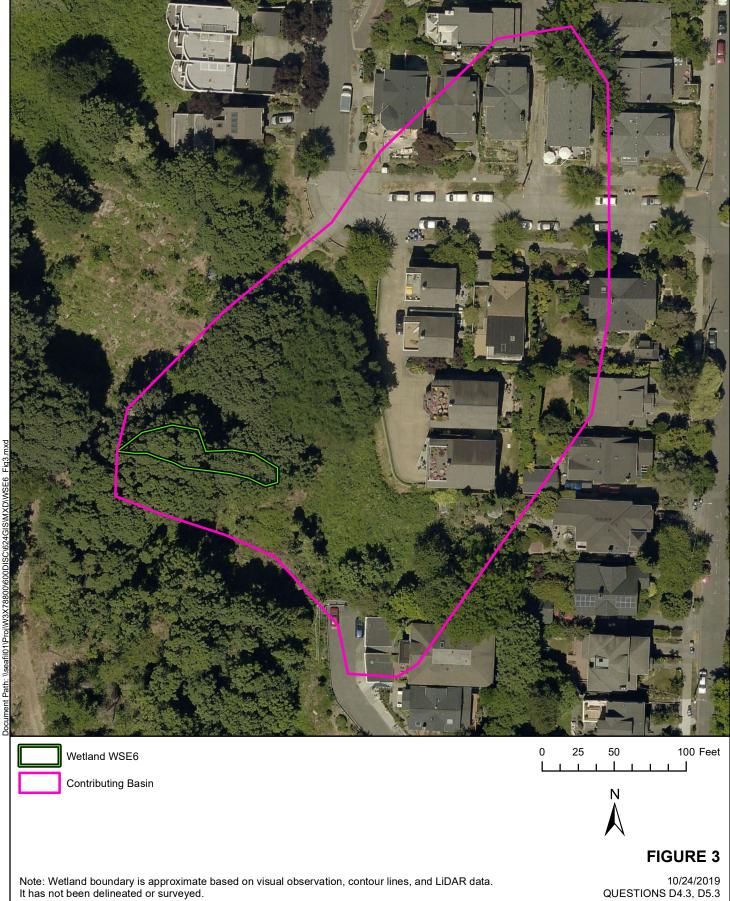
SC 1.0. E	any criteria that apply to the wetland. List the category when the appropriate criteria are met.  Istuarine Wetlands  Does the wetland meet the following criteria for Estuarine wetlands?  The dominant water regime is tidal,  Vegetated, and  With a salinity greater than 0.5 ppt  □ Yes - Go to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

SC 4 0	Forested Wetlands	
3C 4.0.		
	Does the wetland have at least 1 contiguous acre of forest that meets one of these	
	criteria for the WA Department of Fish and Wildlife's forests as priority habitats? If	
_	you answer YES you will still need to rate the wetland based on its functions.	
	Old-growth forests (west of Cascade crest): Stands of at least two tree species,	
	forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac	
	(20 trees/ha) that are at least 200 years of age OR have a diameter at breast height	
	(dbh) of 32 in (81 cm) or more.	
	Mature forests (west of the Cascade Crest): Stands where the largest trees are 80-	
	200 years old OR the species that make up the canopy have an average diameter	
	(dbh) exceeding 21 in (53 cm).	
	□ Yes = Category   ☑ No = Not a forested wetland for this section	
SC 5.0.	Wetlands in Coastal Lagoons	
	Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?	
	The wetland lies in a depression adjacent to marine waters that is wholly or partially	
	separated from marine waters by sandbanks, gravel banks, shingle, or, less	
	frequently, rocks	
	The lagoon in which the wetland is located contains ponded water that is saline or	
	brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon ( <i>needs</i>	
	to be measured near the bottom)	
	☐ Yes - Go to SC 5.1 ☐ No = Not a wetland in a coastal lagoon	
SC 5 1	Does the wetland meet all of the following three conditions?	
□ □	The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation,	
_	grazing), and has less than 20% cover of aggressive, opportunistic plant species (see	
	list of species on p. 100).	
	At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or	
_	un-grazed or un-mowed grassland.	
	The wetland is larger than $^{1}/_{10}$ ac (4350 ft <sup>2</sup> )	
	,	
20.00	☐ Yes = Category I ☐ No = Category II	
SC 6.0.	Interdunal Wetlands	
	Is the wetland west of the 1889 line (also called the Western Boundary of Upland	
	Ownership or WBUO)? If you answer yes you will still need to rate the wetland	
	based on its habitat functions.	
	In practical terms that means the following geographic areas:	
	Long Beach Peninsula: Lands west of SR 103	
	Grayland-Westport: Lands west of SR 105	
	Ocean Shores-Copalis: Lands west of SR 115 and SR 109	
	☐ Yes - Go to <b>SC 6.1</b> ☐ No = <b>Not an interdunal wetland for rating</b>	
SC 6.1.	Is the wetland 1 ac or larger and scores an 8 or 9 for the habitat functions on the form	
	(rates H,H,H or H,H,M for the three aspects of function)?	
	☐ Yes = Category I ☐ No - Go to SC 6.2	
SC 6.2.	Is the wetland 1 ac or larger, or is it in a mosaic of wetlands that is 1 ac or larger?	
	□ Yes = Category II □ No - Go to SC 6.3	
SC 6.3.	Is the unit between 0.1 and 1 ac, or is it in a mosaic of wetlands that is between 0.1	
	and 1 ac?	
	□ Yes = Category III □ No = Category IV	
Catego	ry of wetland based on Special Characteristics	
fvou	pswered No for all types, enter "Not Applicable" on Summary Form	



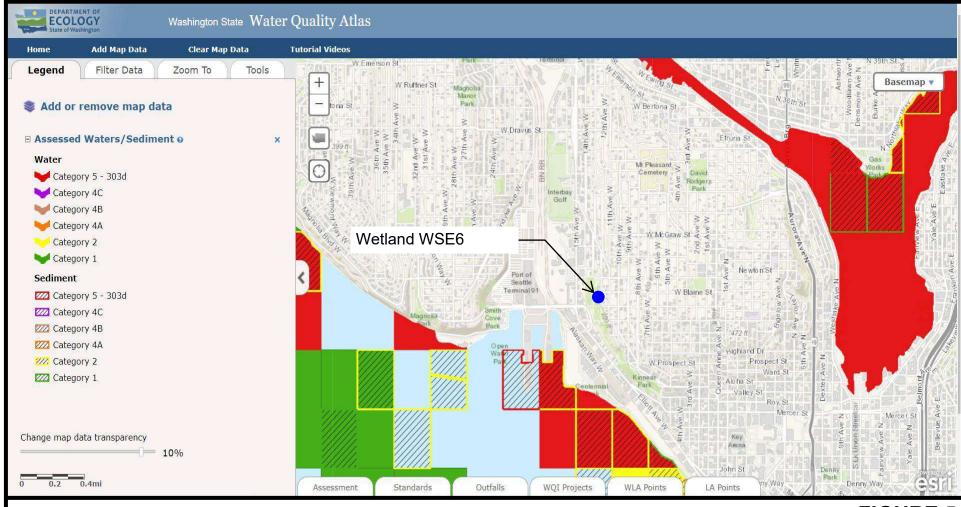
11/6/2019 QUESTIONS D1.3, D2.2, D5.2, H1.1, H1.4





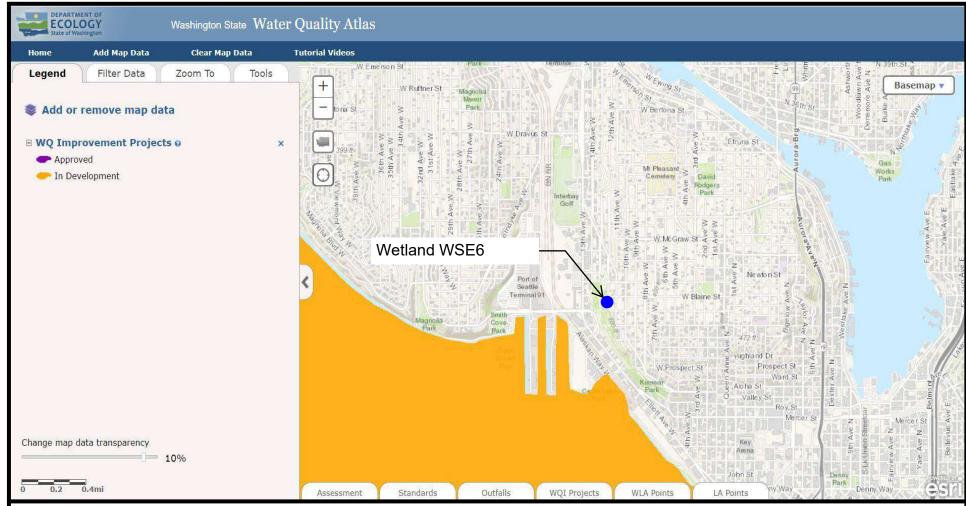
10/24/2019 QUESTIONS D4.3, D5.3





# FIGURE 5

Questions: D 3.1, D 3.2



Note: The TMDL mapped is the Puget Sound Nutrient Source Reduction Project and is in development. It does not count as a TMDL in the basin.

# FIGURE 6

Questions: D 3.3

# **RATING SUMMARY – Western Washington**

Name of wetland (or	ID #): Wetland WSE7			Date of site visit:	10/7/2019
Rated by Amy Rotor	ndo and Emily Drew	Trained by Ecology?⊡	Yes□ No	Date of training	Oct-19
HGM Class used for	rating Slope	Wetland	l has multiple	HGM classes? □	Yes ☑ No
	Source of base aerial phot	out the figures requested to/mapKing County Aerial 2	019		)
1. Category of w	etland based on FUNC	CTIONS			
	Category I - Total	l score = 23 - 27	S	core for each	
_	Category II - Tota	al score = 20 - 22	f	unction based	
_	Category III - Tot	tal score = 16 - 19	o	n three	
<u>-</u>	X Category IV - Tot	tal score = 9 - 15	r	atings	
			(	order of ratings	
	Improving Hydro	logic Habitat	is	s not	

1

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
	List app	ropriate rating	(H, M, L)	
Site Potential	M	L	L	
Landscape Potential	M	L	L	
Value	Н	М	М	Total
Score Based on Ratings	7	4	4	15

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

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

### 2. Category based on SPECIAL CHARACTERISTICS of wetland

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

# Maps and Figures required to answer questions correctly for Western Washington

### Depressional Wetlands

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

#### Riverine Wetlands

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

#### Lake Fringe Wetlands

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

### Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	H 1.1, H 1.4	1
Hydroperiods	H 1.2	1
Plant cover of <b>dense</b> trees, shrubs, and herbaceous plants	S 1.3	1
Plant cover of <b>dense</b> , <b>rigid</b> trees, shrubs, and herbaceous plants	S 4.1	1
(can be added to another figure)		'
Boundary of area within 150 ft of the wetland (can be added to another figure)	S 2.1, S 5.1	1
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	2
polygons for accessible habitat and undisturbed habitat		2
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	3
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	S 3.3	4

### **HGM Classification of Wetland in Western Washington**

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

1. Are	th	e water levels in the entire unit usua	lly c	ontrolled by tides except during floods?
Ī	7	NO - go to 2		YES - the wetland class is Tidal Fringe - go to 1.1
1	1.1	Is the salinity of the water during pe	rioc	s of annual low flow below 0.5 ppt (parts per thousand)?
I			a F <b>Es</b>	reshwater Tidal Fringe use the forms for <b>Riverine</b> wetlands. tuarine wetland and is not scored. This method <b>cannot</b> be
		tire wetland unit is flat and precipita ater and surface water runoff are No		is the only source (>90%) of water to it. cources of water to the unit.
I		NO - go to 3 If your wetland can be classified as	a F	☐ <b>YES</b> - The wetland class is <b>Flats</b> lats wetland, use the form for <b>Depressional</b> wetlands.
[		he entire wetland unit <b>meet all</b> of the The vegetated part of the wetland is plants on the surface at any time of At least 30% of the open water area	on the	the shores of a body of permanent open water (without any year) at least 20 ac (8 ha) in size;
[	7	NO - go to 4		YES - The wetland class is Lake Fringe (Lacustrine Fringe)
]	7	he entire wetland unit <b>meet all</b> of the The wetland is on a slope ( <i>slope ca</i> The water flows through the wetland It may flow subsurface, as sheetflow The water leaves the wetland <b>with</b>	<i>n b</i> d in v, o	e very gradual), one direction (unidirectional) and usually comes from seeps. in a swale without distinct banks.
I		NO - go to 5		☑ YES - The wetland class is Slope
				e of wetlands except occasionally in very small and shallow are usually <3 ft diameter and less than 1 ft deep).
[		he entire wetland unit <b>meet all</b> of the The unit is in a valley, or stream cha from that stream or river, The overbank flooding occurs at lea	ann	el, where it gets inundated by overbank flooding
I		NO - go to 6		□ <b>YES</b> - The wetland class is <b>Riverine</b>
NOTE	: TI	he Riverine unit can contain depress	ion	s that are filled with water when the river is not flooding.

	raphic depression in which water ponds, or is saturated to the surface, at ns that any outlet, if present, is higher than the interior of the wetland.
□ NO - go to 7	□ <b>YES</b> - The wetland class is <b>Depressional</b>
The unit does not pond surface water	a very flat area with no obvious depression and no overbank flooding? more than a few inches. The unit seems to be maintained by high may be ditched, but has no obvious natural outlet.
□ NO - go to 8	□ <b>YES</b> - The wetland class is <b>Depressional</b>

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

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

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

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

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

Rating of Site Potential If score is: 

12 = H 

6 - 11 = M 

0 - 5 = L Record the rating on the first page

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

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

Record the rating on the first page

S 3.0. Is the water quality improvement provided by the site value	able to society?		
S 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a lake, or marine water that is on the 303(d) list?	stream, river, Yes = 1	No = 0	1
S 3.2. Is the wetland in a basin or sub-basin where water quality At least one aquatic resource in the basin is on the 303(d) list.	is an issue? Yes = 1	No = 0	1
S 3.3. Has the site been identified in a watershed or local plan as for maintaining water quality? Answer YES if there is a TMDL for which the unit is found?	•	No = 0	0
Total for S 3	add the points in the boxes	above	2

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

SLOPE WETLANDS		
Hydrologic Functions - Indicators that the site functions to reduce flo	oding and stream er	osion
S 4.0. Does the site have the potential to reduce flooding and stream erosion S 4.1. Characteristics of plants that reduce the velocity of surface flows during	?	
the points appropriate for the description that best fits conditions in the wetlan		
should be thick enough (usually > $^{1}/_{8}$ in), or dense enough, to remain erect of	-	
flows.	during Surrace	0
Dense, uncut, <b>rigid</b> plants cover > 90% of the area of the wetland	points = 1	
All other conditions	points = 0	
Rating of Site Potential If score is:   1 = M   0 = L	Record the rating on	the first page
S 5.0. Does the landscape have the potential to support hydrologic functions	of the site?	
S 5.1. Is more than 25% of the area within 150 ft upslope of wetland in land		0
uses or cover that generate excess surface runoff?	Yes = 1 No = 0	U
Rating of Landscape Potential If score is: □ 1 = M ☑ 0 = L	Record the rating on	the first page
S 6.0. Are the hydrologic functions provided by the site valuable to society?		
S 6.1. Distance to the nearest areas downstream that have flooding problems	::	
The sub-basin immediately down-gradient of site has flooding		
problems that result in damage to human or natural resources (e.g.,		1
houses or salmon redds)	points = 2	I
Surface flooding problems are in a sub-basin farther down-gradient	points = 1	
No flooding problems anywhere downstream	points = 0	
S 6.2. Has the site been identified as important for flood storage or flood		0
conveyance in a regional flood control plan?	Yes = 2 No = 0	U
Total for S 6 Add the points	s in the boxes above	1
Rating of Value If score is:   2 - 4 = H   1 = M  0 = L	Record the rating on	the first page

NOTES and FIELD OBSERVATIONS:

#### These questions apply to wetlands of all HGM classes. HABITAT FUNCTIONS - Indicators that site functions to provide important habitat H 1.0. Does the site have the potential to provide habitat? H 1.1. Structure of plant community: Indicators are Cowardin classes and strata within the Forested class. Check the Cowardin plant classes in the wetland. Up to 10 patches may be combined for each class to meet the threshold of 1/4 ac or more than 10% of the unit if it is smaller than 2.5 ac. Add the number of structures checked. □ Aquatic bed 4 structures or more: points = 4 0 Emergent 3 structures: points = 2 □ Scrub-shrub (areas where shrubs have > 30% cover) 2 structures: points - 1 □ Forested (areas where trees have > 30% cover) 1 structure: points = 0 If the unit has a Forested class, check if: ☐ The Forested class has 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover) that each cover 20% within the Forested polygon H 1.2. Hydroperiods Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or 1/4 ac to count (see text for descriptions of hydroperiods ). □ Permanently flooded or inundated 4 or more types present: points = 3 □ Seasonally flooded or inundated 3 types present: points = 2 0 □ Occasionally flooded or inundated 2 types present: points = 1 Saturated only 1 types present: points = 0 □ Permanently flowing stream or river in, or adjacent to, the wetland □ Seasonally flowing stream in, or adjacent to, the wetland □ Lake Fringe wetland 2 points □ Freshwater tidal wetland 2 points H 1.3. Richness of plant species Count the number of plant species in the wetland that cover at least 10 ft<sup>2</sup>. Different patches of the same species can be combined to meet the size threshold and you do not have to name the species. Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Canadian thistle 1 > 19 species If you counted: points = 25 - 19 species points = 1< 5 species points = 0H 1.4. Interspersion of habitats Decide from the diagrams below whether interspersion among Cowardin plants classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, moderate, low, or none. If you have four or more plant classes or three classes and open water, the rating is always high. n None = 0 points Moderate = 2 points Low = 1 pointAll three diagrams in this row are **HIGH** = 3 points

H 1.5. Spe	ecial habitat features:			
Check the habitat features that are present in the wetland. The number of checks is the number				
of points.				
7	Large, downed, woody debris within the wetland (> 4 in diameter and 6 ft long)			
v v	Standing snags (dbh > 4 in) within the wetland			
	Undercut banks are present for at least 6.6 ft (2 m) <b>and/or</b> overhanging plants extends			
	at least 3.3 ft (1 m) over a stream (or ditch) in, or contiguous with the wetland, for at			
	least 33 ft (10 m)	2		
	Stable steep banks of fine material that might be used by beaver or muskrat for			
	denning (> 30 degree slope) OR signs of recent beaver activity are present (cut shrubs			
	or trees that have not yet weathered where wood is exposed)			
	At least ¼ ac of thin-stemmed persistent plants or woody branches are present in areas			
	that are permanently or seasonally inundated ( <i>structures for egg-laying by amphibians</i> )			
	Invasive plants cover less than 25% of the wetland area in every stratum of plants (see			
	H 1.1 for list of strata)			
Total for F	Add the points in the boxes above	3		
Rating of	Site Potential If Score is:   15 - 18 = H	the first nage		

H 2.0. Does the landscape have the potential to support the ha	bitat function of the site?	
H 2.1 Accessible habitat (include only habitat that directly abut	s wetland unit ).	
Calculate:		
0 % undisturbed habitat + (5 % moderate 8	k low intensity land uses / 2 ) = 2.5%	
If total accessible habitat is:		0
> 1/3 (33.3%) of 1 km Polygon	points = 3	
20 - 33% of 1 km Polygon	points = 2	
10 - 19% of 1 km Polygon	points = 1	
< 10 % of 1 km Polygon	points = 0	
H 2.2. Undisturbed habitat in 1 km Polygon around the wetland	I.	
Calculate:		
0 % undisturbed habitat + (5 % moderate &	k low intensity land uses / 2 ) = 2.5%	
		0
Undisturbed habitat > 50% of Polygon	points = 3	Ü
Undisturbed habitat 10 - 50% and in 1-3 patches	points = 2	
Undisturbed habitat 10 - 50% and > 3 patches	points = 1	
Undisturbed habitat < 10% of 1 km Polygon	points = 0	
H 2.3 Land use intensity in 1 km Polygon: If		
> 50% of 1 km Polygon is high intensity land use	points = (-2)	-2
≤ 50% of 1km Polygon is high intensity	points = 0	
Total for H 2	Add the points in the boxes above	-2

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

H 3.0. Is the habitat provided by the site valuable to society?	
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? <i>Choose</i>	
only the highest score that applies to the wetland being rated.	
Site meets ANY of the following criteria: points = 2	
☐ It has 3 or more priority habitats within 100 m (see next page)	
□ It provides habitat for Threatened or Endangered species (any plant	
or animal on the state or federal lists)	
☐ It is mapped as a location for an individual WDFW priority species	4
□ It is a Wetland of High Conservation Value as determined by the	1
Department of Natural Resources	
☐ It has been categorized as an important habitat site in a local or	
regional comprehensive plan, in a Shoreline Master Plan, or in a	
watershed plan	
Site has 1 or 2 priority habitats (listed on next page) with in 100m points = 1	
Site does not meet any of the criteria above points = 0	

Rating of Value If Score is: 2 = H 2 1 = M 0 0 = L

### **WDFW Priority Habitats**

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

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

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

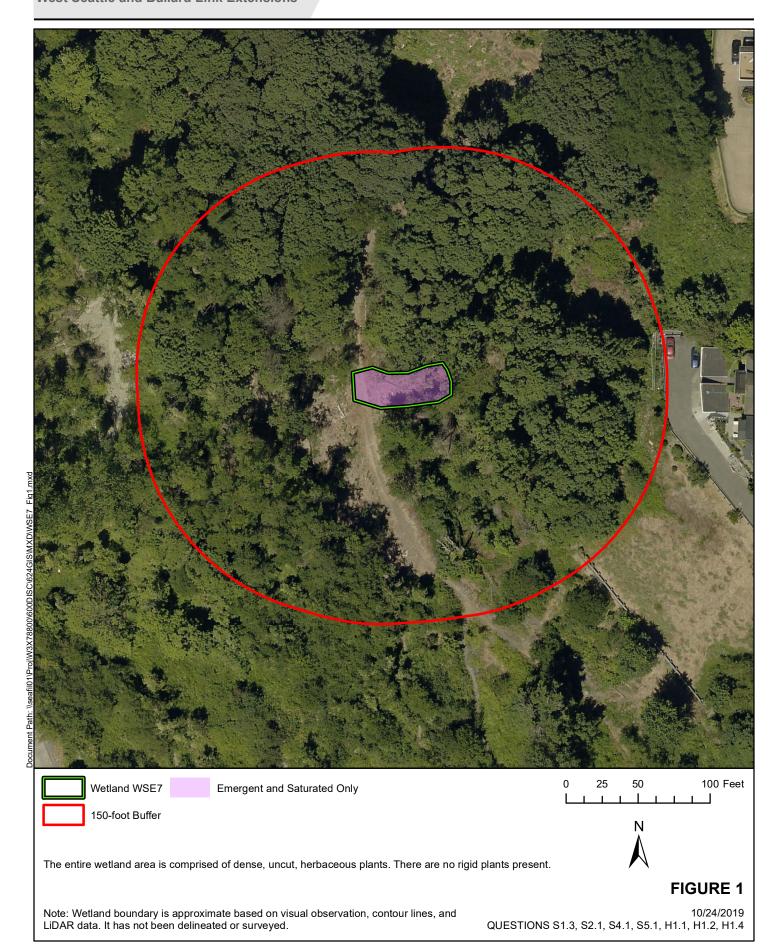
	Aspen Stands: Pure or mixed stands of aspen greater than 1 ac (0.4 ha).
Į.	<b>Biodiversity Areas and Corridors</b> : Areas of habitat that are relatively important to various species of native fish and wildlife ( <i>full descriptions in WDFW PHS report</i> ).
	Herbaceous Balds: Variable size patches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

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

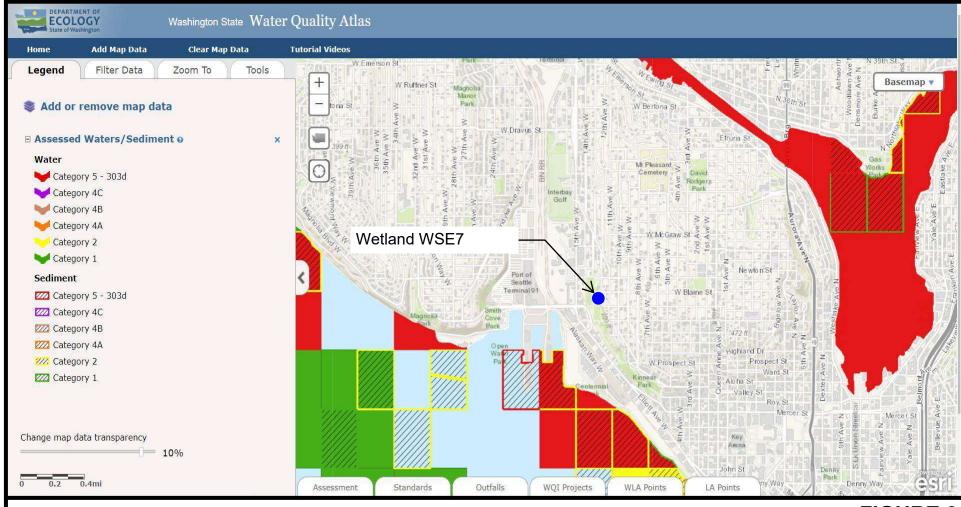
## **CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS**

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

SC 4.0.	Forested Wetlands	
	Does the wetland have at least <u>1 contiguous acre</u> of forest that meets one of these	
	criteria for the WA Department of Fish and Wildlife's forests as priority habitats? <i>If you</i>	
	answer YES you will still need to rate the wetland based on its functions.	
	Old-growth forests (west of Cascade crest): Stands of at least two tree species,	
_	forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac	
	(20 trees/ha) that are at least 200 years of age OR have a diameter at breast height	
	(dbh) of 32 in (81 cm) or more.	
	Mature forests (west of the Cascade Crest): Stands where the largest trees are 80-	
	200 years old OR the species that make up the canopy have an average diameter	
	(dbh) exceeding 21 in (53 cm).	
	(dbii) exocoding 21 in (60 diii).	
	□ Yes = Category   □ No = Not a forested wetland for this section	
SC 5.0.	Wetlands in Coastal Lagoons	
	Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?	
	The wetland lies in a depression adjacent to marine waters that is wholly or partially	
	separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently,	
	rocks	
	The lagoon in which the wetland is located contains ponded water that is saline or	
	brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (needs to	
	be measured near the bottom)	
	☐ Yes - Go to SC 5.1 ☐ No = Not a wetland in a coastal lagoon	
SC 5.1.	Does the wetland meet all of the following three conditions?	
	The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation,	
	grazing), and has less than 20% cover of aggressive, opportunistic plant species (see	
	list of species on p. 100).	
	At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-	
	grazed or un-mowed grassland.	
	The wetland is larger than $^1/_{10}$ ac (4350 ft $^2$ )	
	☐ Yes = Category I ☐ No = Category II	
SC 6.0.	Interdunal Wetlands	
	Is the wetland west of the 1889 line (also called the Western Boundary of Upland	
	Ownership or WBUO)? If you answer yes you will still need to rate the wetland	
	based on its habitat functions.	
	In practical terms that means the following geographic areas:	
	Long Beach Peninsula: Lands west of SR 103	
	Grayland-Westport: Lands west of SR 105	
	Ocean Shores-Copalis: Lands west of SR 115 and SR 109	
0001	☐ Yes - Go to SC 6.1 ☐ No = Not an interdunal wetland for rating	
SC 6.1.	Is the wetland 1 ac or larger and scores an 8 or 9 for the habitat functions on the form	
	(rates H,H,H or H,H,M for the three aspects of function)?	
0000	☐ Yes = Category I ☐ No - Go to SC 6.2	
SC 6.2.	Is the wetland 1 ac or larger, or is it in a mosaic of wetlands that is 1 ac or larger?	
SC 6 2	☐ Yes = Category II ☐ No - Go to SC 6.3 Is the unit between 0.1 and 1 ac, or is it in a mosaic of wetlands that is between 0.1 and	
SC 6.3.	1 ac?	
	□ Yes = Category III □ No = Category IV	
Catego	ry of wetland based on Special Characteristics	
	nswered No for all types, enter "Not Applicable" on Summary Form	
ııı you aı	is word in the form of the state of the stat	

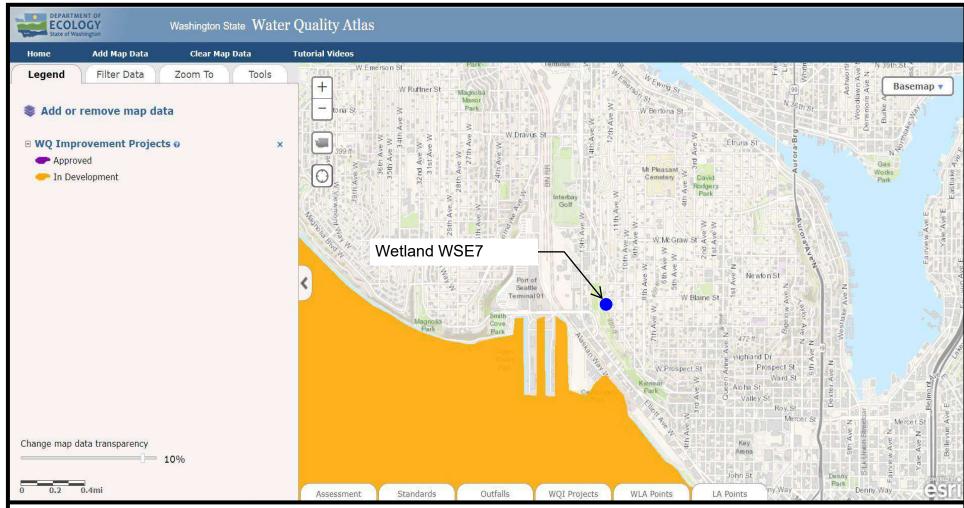






# FIGURE 3

Questions: S 3.1, S 3.2



Note: The TMDL mapped is the Puget Sound Nutrient Source Reduction Project and is in development. It does not count as a TMDL in the basin.

# **FIGURE 4**

Questions: S 3.3

# **RATING SUMMARY – Western Washington**

Name of wetland (or	ID#): WSBLE W	SE8				Date of site visit:	10/7/2019
Rated by Emily Drev	v, Amy Rotondo	. Tra	ained by E	cology?⊡	Yes□ No	Date of training	8/2015, 9/2019
HGM Class used for	r rating Depression	nal & Flats		Wetland	l has multip	le HGM classes? □	Yes ☑ No
	rm is not complete Source of base aer		•	•	(figures ca	n be combined ).	
OVERALL WETLA	ND CATEGORY	III	(based on	functions [	□ or speci	al characteristics □	)
1. Category of v	vetland based or	FUNCTION	IS		_		
	Category	l - Total score	= 23 - 27			Score for each	
		II - Total score				function based	
	X Category	III - Total sco	re = 16 - 19	9		on three	
	Category	IV - Total sco	re = 9 - 15			ratings	
				i		(order of ratings	
FUNCTION	Improving	Hydrologic	Habitat			is not	
rononon	Water Quality					important)	
	List app	ropriate rating	(H, M, L)				
Site Potential	M	Н	L			9 = H, H, H	
₋andscape Potential	Н	Н	L		-	8 = H, H, M	
/alue	M	L	L	Total		7 = H, H, L	
Score Based on	7	7	3	17		7 = H, M, M 6 = H, M, I	

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

### 2. Category based on SPECIAL CHARACTERISTICS of wetland

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

# Maps and Figures required to answer questions correctly for Western Washington

#### Depressional Wetlands

Map of:	To answer questions:	Figure #		
Cowardin plant classes	D 1.3, H 1.1, H 1.4	1		
Hydroperiods	D 1.4, H 1.2	2		
Location of outlet (can be added to map of hydroperiods)	D 1.1, D 4.1	na		
Boundary of area within 150 ft of the wetland (can be added to another figure)	D 2.2, D 5.2	1		
Map of the contributing basin	D 4.3, D 5.3	2		
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	3		
polygons for accessible habitat and undisturbed habitat				
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	4		
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	D 3.3	5		

#### Riverine Wetlands

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

#### Lake Fringe Wetlands

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

#### Slope Wetlands

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

### **HGM Classification of Wetland in Western Washington**

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

1. Are tr	ne water levels in the entire unit usu	ally	contro	led by tides except during floods?
☑	NO - go to 2		YES	the wetland class is <b>Tidal Fringe</b> - go to 1.1
1.1	Is the salinity of the water during p	erio	ds of a	nnual low flow below 0.5 ppt (parts per thousand)?
		s a F nge	reshw it is ar	□ YES - Freshwater Tidal Fringe atter Tidal Fringe use the forms for Riverine Estuarine wetland and is not scored. This method ine wetlands.
	ntire wetland unit is flat and precipit vater and surface water runoff are N			
✓	NO - go to 3 If your wetland can be classified a	s a F	=lats w	☐ <b>YES</b> - The wetland class is <b>Flats</b> etland, use the form for <b>Depressional</b> wetlands.
	the entire wetland unit <b>meet all</b> of the The vegetated part of the wetland plants on the surface at any time of At least 30% of the open water are	is or f the	n the s e year)	nores of a body of permanent open water (without any at least 20 ac (8 ha) in size;
V	NO - go to 4		YES	The wetland class is <b>Lake Fringe</b> (Lacustrine Fringe)
<b>☑</b>	the entire wetland unit <b>meet all</b> of the metland is on a slope ( <i>slope c</i> ). The water flows through the wetlar It may flow subsurface, as sheetflow. The water leaves the wetland with	an b nd in w, c	e <i>very</i> one dor in a	gradual), irection (unidirectional) and usually comes from seeps. swale without distinct banks.
V	NO - go to 5			□ <b>YES</b> - The wetland class is <b>Slope</b>
				etlands except occasionally in very small and shallow ually <3 ft diameter and less than 1 ft deep).
	the entire wetland unit <b>meet all</b> of the The unit is in a valley, or stream che from that stream or river, The overbank flooding occurs at le	nann	el, wh	ere it gets inundated by overbank flooding
V	NO - go to 6			□ <b>YES</b> - The wetland class is <b>Riverine</b>
NOTE: T	he Riverine unit can contain depres	sior	ns that	are filled with water when the river is not flooding.

	hic depression in which water ponds, or is saturated to the surface, as that any outlet, if present, is higher than the interior of the
□ NO - go to 7	☑ YES - The wetland class is Depressional
The unit does not pond surface water mo	very flat area with no obvious depression and no overbank flooding? ore than a few inches. The unit seems to be maintained by high by be ditched, but has no obvious natural outlet.
□ NO - go to 8	□ YES - The wetland class is Depressional

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

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

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

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

NOTES and FIELD OBSERVATIONS:

DEPRESSIONAL AND FLATS WETLANDS						
Water Quality Functions - Indicators that the site functions to improve water quality						
D 1.0. Does the site have the potential to improve water quality?						
D 1.1. Characteristics of surface water outflows from the wetland:						
Wetland is a depression or flat depression (QUESTION 7 on key) with no surface water leaving it (no outlet).  points = 3						
Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet. points = 2	3					
☐ Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing points = 1						
☐ Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch. points = 1						
D 1.2. The soil 2 in below the surface (or duff layer) is true clay or true						
organic (use NRCS definitions). Yes = 4 No = 0	0					
D 1.3. <u>Characteristics and distribution of persistent plants</u> (Emergent, Scrub-shrub, and/or Forested Cowardin classes):						
Wetland has persistent, ungrazed, plants > 95% of area points = 5	F					
Wetland has persistent, ungrazed, plants > ½ of area points = 3	5					
Wetland has persistent, ungrazed plants $> \frac{1}{10}$ of area points = 1						
Wetland has persistent, ungrazed plants $< \frac{1}{10}$ of area points = 0						
D 1.4. Characteristics of seasonal ponding or inundation:						
This is the area that is ponded for at least 2 months. See description in manual.						
Area seasonally ponded is > $\frac{1}{2}$ total area of wetland points = 4	0					
Area seasonally ponded is > 1/4 total area of wetland points = 2						
Area seasonally ponded is < ¼ total area of wetland points = 0						
Total for D 1 Add the points in the boxes above	8					

Rating of Site Potential If score is: 

12 - 16 = H 

6 - 11 = M 

0 - 5 = L Record the rating on the first page

D 2.0. Does the landscape have the potential to support the water quality function of the site?			
D 2.1. Does the wetland unit receive stormwater discharges?	= 1	No = 0	1
D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that	_ 1	N 0	1
generate pollutants? Yes	= 1	No = 0	
D 2.3. Are there septic systems within 250 ft of the wetland?	= 1	No = 0	0
D 2.4. Are there other sources of pollutants coming into the wetland that are			
not listed in questions D 2.1 - D 2.3?			1
Source Golf lawn treatments; trash from homeless use Yes	= 1	No = 0	
Total for D 2 Add the points in the	box	es above	3

Rating of Landscape Potential If score is: 3 or 4 = H 1 1 1 or 2 = M 1 0 = L Record the rating on the first page

D 3.0. Is the water quality improvement provided by the site v	aluable to society?		
D 3.1. Does the wetland discharge directly (i.e., within 1 mi) to river, lake, or marine water that is on the 303(d) list?	o a stream, Yes = 1	No = 0	0
D 3.2. Is the wetland in a basin or sub-basin where an aquation	resource is on the 303(d) li Yes = 1		1
D 3.3. Has the site been identified in a watershed or local plan for maintaining water quality (answer YES if there is a TMDL which the unit is found)?		No = 0	0
Total for D 3	Add the points in the boxes	s above	1

Rating of Value If score is: 

2 - 4 = H 

1 = M 

0 = L

DEPRESSIONAL AND FLATS WETLANDS			
Hydrologic Functions - Indicators that the site functions to reduce flooding and stream degradation			
D 4.0. Does the site have the potential to reduce flooding and erosion?			
D 4.1. Characteristics of surface water outflows from the wetland:			
Wetland is a depression or flat depression with no surface water			
leaving it (no outlet) poin	its = 4		
Wetland has an intermittently flowing stream or ditch, OR highly			
constricted permanently flowing outlet poin	nts = 2 4		
Wetland is a flat depression (QUESTION 7 on key), whose outlet is			
	ts = 1		
Wetland has an unconstricted, or slightly constricted, surface outlet			
	ts = 0		
D 4.2. Depth of storage during wet periods: Estimate the height of ponding above the botto	m of		
the outlet. For wetlands with no outlet, measure from the surface of permanent water or if o			
the deepest part.			
Marks of ponding are 3 ft or more above the surface or bottom of outlet poin	nts = 7		
	its = 5 5		
	its = 3		
·	its = 3		
· ·	its = 1		
· · · · · · · · · · · · · · · · · · ·	its = 0		
D 4.3. Contribution of the wetland to storage in the watershed: Estimate the ratio of the are			
upstream basin contributing surface water to the wetland to the area of the wetland unit its			
	nts = 5		
·	its = 3		
'	its = 0		
·	its = 5		
Total for D 4 Add the points in the boxes a			
·	ting on the first page		
D 5.0. Does the landscape have the potential to support hydrologic function of the site?	ang on the met page		
	No = 0 1		
D 5.1. Does the wetland unit receive stormwater discharges?  Yes = 1  D 5.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate excess rules.			
	No = 0		
D 5.3. Is more than 25% of the contributing basin of the wetland covered with intensive hur	-		
land uses (residential at >1 residence/ac, urban, commercial, agriculture, etc.)?	1		
	No = 0		
Total for D 5 Add the points in the boxes a			
·	ting on the first page		
	ung on the mst page		
D 6.0. Are the hydrologic functions provided by the site valuable to society?			
D 6.1. The unit is in a landscape that has flooding problems. Choose the description that be			
matches conditions around the wetland unit being rated. Do not add points. Choose the high			
score if more than one condition is met. The wetland captures surface water that would otherwise flow down-gradient into			
areas where flooding has damaged human or natural resources (e.g., houses or sa	almon		
redds):			
Plodding occurs in a sub-basin that is infinediately down-			
	its = 2 0		
Surface flooding problems are in a sub-basin farther			
	its = 1		
·	its = 1		
☐ The existing or potential outflow from the wetland is so constrained			
by human or natural conditions that the water stored by the wetland			
·	its = 0		
	its = 0		
D 6.2. Has the site been identified as important for flood storage or flood	0		
conveyance in a regional flood control plan?  Yes = 2	No = 0		
Total for D 6 Add the points in the boxes a			
Rating of Value If score is:   2 - 4 = H   1 = M   0 = L   Record the ra	ting on the first page		

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

H 1.5. Sp	ecial habitat features:	
Check the	e habitat features that are present in the wetland. The number of checks is the number	
of points.		
	Large, downed, woody debris within the wetland (> 4 in diameter and 6 ft long)	
	Standing snags (dbh > 4 in) within the wetland	
	Undercut banks are present for at least 6.6 ft (2 m) <b>and/or</b> overhanging plants extends	
	at least 3.3 ft (1 m) over a stream (or ditch) in, or contiguous with the wetland, for at	
	least 33 ft (10 m)	0
	Stable steep banks of fine material that might be used by beaver or muskrat for	
	denning (> 30 degree slope) OR signs of recent beaver activity are present (cut	
	shrubs or trees that have not yet weathered where wood is exposed) At least ¼ ac of thin-stemmed persistent plants or woody branches are present in	
	At least 74 ac of thin-stemmed persistent plants of woody branches are present in	
	areas that are permanently or seasonally inundated (structures for egg-laying by	
	amphibians) Invasive plants cover less than 25% of the wetland area in every stratum of plants	
	(see H 1.1 for list of strata)	
Total for l	H 1 Add the points in the boxes above	2
Dating of	Site Detential If Spare is: D 45 49 - H D 7 44 - M D 0 6 - L Depart the reting on	the first nega

Rating of Site Potential If Score is: 

15 - 18 = H 

7 - 14 = M 

0 - 6 = L Record the rating on the first page

abitat function of the site?	
ts wetland unit ).	
k low intensity land uses / 2 ) = 2%	
	0
points = 3	
points = 2	
points = 1	
points = 0	
d.	
k low intensity land uses / 2 ) = 7%	
	0
points = 3	U
points = 2	
points = 1	
points = 0	
points = (-2)	-2
points = 0	
Add the points in the boxes above	-2
	points = 2 points = 1 points = 0  d.  k low intensity land uses / 2 ) = 7%  points = 3 points = 2 points = 1 points = 1 points = 0  points = (-2) points = 0

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

H 3.0. Is the habitat provided by the site valuable to society?		
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies?	Choose	
only the highest score that applies to the wetland being rated.		
Site meets ANY of the following criteria:	points = 2	
☐ It has 3 or more priority habitats within 100 m (see next page)		
□ It provides habitat for Threatened or Endangered species (any		
plant or animal on the state or federal lists)		
☐ It is mapped as a location for an individual WDFW priority species		0
□ It is a Wetland of High Conservation Value as determined by the		U
Department of Natural Resources		
□ It has been categorized as an important habitat site in a local or		
regional comprehensive plan, in a Shoreline Master Plan, or in a		
watershed plan		
Site has 1 or 2 priority habitats (listed on next page) with in 100m	points = 1	
Site does not meet any of the criteria above	points = 0	

Rating of Value If Score is: 2 = H 1 1 = M 0 0 = L

### **WDFW Priority Habitats**

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

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

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

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

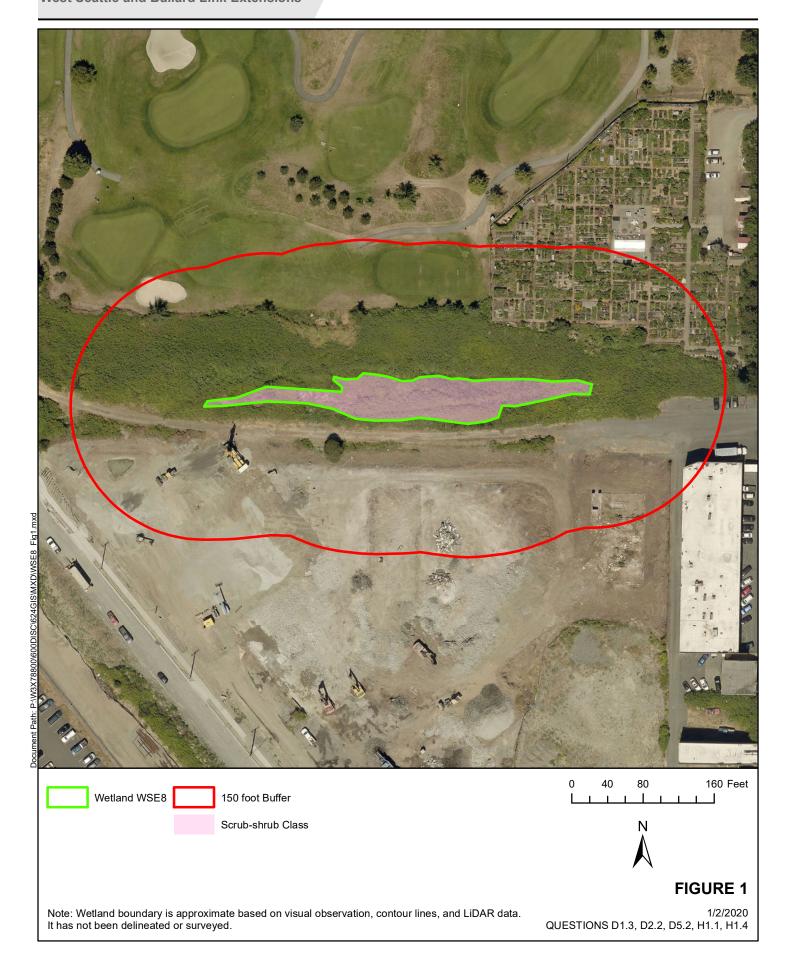
Note: All vegetated wetlands are by definition a priority habitat but are not included in this list because they

are addressed elsewhere.

### **CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS**

	CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS	
Wetland	Type	Category
Check off	any criteria that apply to the wetland. List the category when the appropriate criteria are met.	
SC 1.0. E	stuarine Wetlands	
	Does the wetland meet the following criteria for Estuarine wetlands?	
	The dominant water regime is tidal,	
	Vegetated, and	
	With a salinity greater than 0.5 ppt	
	☐ Yes - Go to SC 1.1 ☐ No = Not an estuarine wetland	
	Is the wetland within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-30-151?	
0010	□ Yes = Category I □ No - Go to SC 1.2	
	Is the wetland unit at least 1 ac in size and meets at least two of the following three conditions?	
	The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less than 10% cover of non-native plant species. (If non-native species are <i>Spartina</i> , see page 25)	
	At least $^3\!\!/$ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland.	
	The wetland has at least two of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands.	
	☐ Yes = Category I ☐ No = Category II	
	Vetlands of High Conservation Value (WHCV)	
	Has the WA Department of Natural Resources updated their website to include the list	
	of Wetlands of High Conservation Value?  □ Yes - Go to SC 2.2  □ No - Go to SC 2.3	
SC 2.2.	Is the wetland listed on the WDNR database as a Wetland of High Conservation Value?  □ Yes = Category I □ No = Not WHCV	•
SC 23	Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland?	
	http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf  Section/Township/Range that contains a Natural Frentage wetland:  http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf  Section/Township/Range that contains a Natural Frentage wetland:  http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf	
	Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and listed it on their website?	
	☐ Yes = Category I ☐ No = Not WHCV	
SC 3.0. B		
	Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? Use the key below. If you answer YES you will still need to rate the wetland based on its functions.	
	Does an area within the wetland unit have organic soil horizons, either peats or mucks, that compose 16 in or more of the first 32 in of the soil profile?	
0000	☐ Yes - Go to <b>SC 3.3</b> ☐ No - Go to <b>SC 3.2</b>	
	Does an area within the wetland unit have organic soils, either peats or mucks, that are less than 16 in deep over bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond?	
	☐ Yes - Go to SC 3.3 ☐ No = Is not a bog	
	Does an area with peats or mucks have more than 70% cover of mosses at ground level, AND at least a 30% cover of plant species listed in Table 4?	
	☐ Yes = Is a Category   bog ☐ No - Go to SC 3.4	
	<b>NOTE</b> : If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0 and the plant species in Table 4 are present, the wetland is a bog.	
SC 3.4.	Is an area with peats or mucks forested (> 30% cover) with Sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann	
	spruce, or western white pine, AND any of the species (or combination of species)	
	listed in Table 4 provide more than 30% of the cover under the canopy?	
1	☐ Yes = Is a Category   bog ☐ No = Is not a bog	

SC 4.0	Forested Wetlands	
	Does the wetland have at least 1 contiguous acre of forest that meets one of these	
	criteria for the WA Department of Fish and Wildlife's forests as priority habitats? <i>If</i>	
	you answer YES you will still need to rate the wetland based on its functions.	
	Old-growth forests (west of Cascade crest): Stands of at least two tree species,	
	forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac	
	(20 trees/ha) that are at least 200 years of age OR have a diameter at breast height	
	(dbh) of 32 in (81 cm) or more.	
	Mature forests (west of the Cascade Crest): Stands where the largest trees are 80-	
	200 years old OR the species that make up the canopy have an average diameter	
	(dbh) exceeding 21 in (53 cm).	
CC F 0	☐ Yes = Category   ☑ No = Not a forested wetland for this section	
SC 5.0	Wetlands in Coastal Lagoons  Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?	
	The wetland lies in a depression adjacent to marine waters that is wholly or partially	
_	separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently,	
	rocks	
	The lagoon in which the wetland is located contains ponded water that is saline or	
	brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (needs	
	to be measured near the bottom)	
	☐ Yes - Go to SC 5.1 ☐ No = Not a wetland in a coastal lagoon	
	Does the wetland meet all of the following three conditions?	
	The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation,	
	grazing), and has less than 20% cover of aggressive, opportunistic plant species (see list of species on p. 100).	
	At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or	
_	un-grazed or un-mowed grassland.	
	The wetland is larger than $^{1}/_{10}$ ac (4350 ft²)	
	□ Yes = Category I □ No = Category II	
SC 6.0	Interdunal Wetlands	
	Is the wetland west of the 1889 line (also called the Western Boundary of Upland	
	Ownership or WBUO)? If you answer yes you will still need to rate the wetland	
	based on its habitat functions.	
	In practical terms that means the following geographic areas:	
	Long Beach Peninsula: Lands west of SR 103	
	Grayland-Westport: Lands west of SR 105	
	Ocean Shores-Copalis: Lands west of SR 115 and SR 109	
0004	☐ Yes - Go to SC 6.1 ☐ No = Not an interdunal wetland for rating	
SC 6.1	Is the wetland 1 ac or larger and scores an 8 or 9 for the habitat functions on the form	
	(rates H,H,H or H,H,M for the three aspects of function)?	
SC 6.2	□ Yes = <b>Category I</b> □ No - Go to <b>SC 6.2</b> Is the wetland 1 ac or larger, or is it in a mosaic of wetlands that is 1 ac or larger?	
JU 0.2	□ Yes = Category II □ No - Go to SC 6.3	
SC 6.3	Is the unit between 0.1 and 1 ac, or is it in a mosaic of wetlands that is between 0.1	
0.0	and 1 ac?	
	□ Yes = Category III □ No = Category IV	
Catego	ry of wetland based on Special Characteristics	
_	newered No for all types, enter "Not Applicable" on Summary Form	



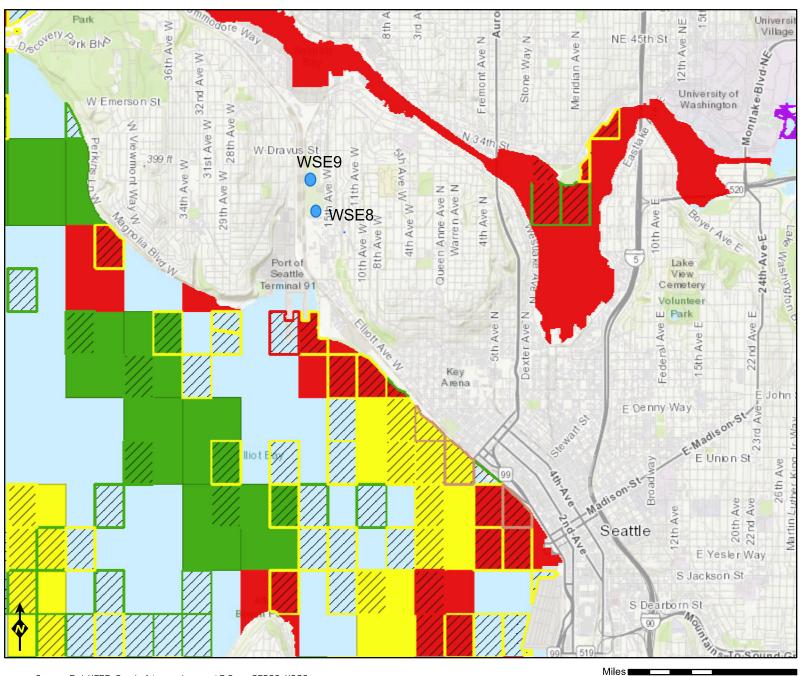


Note: Wetland boundary is approximate based on visual observation, contour lines, and LiDAR data. It has not been delineated or surveyed.

1/2/2020 QUESTIONS D1.1, D1.4, D4.1, D4.3, D5.3, H1.2



## Water Quality Atlas Map



## Assessed Waters/Sediment

#### Water

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

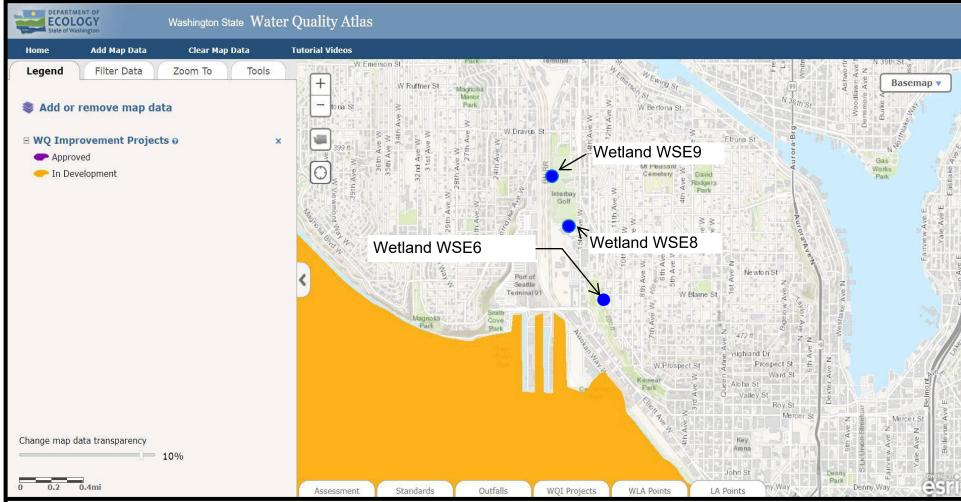
### Sediment

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

Figure 4

0.5





Note: The TMDL mapped is the Puget Sound Nutrient Source Reduction Project and is in development. It does not count as a TMDL in the basin.

## FIGURE 5

Questions: D 3.3

## **RATING SUMMARY – Western Washington**

Name of wetland (or	ID #): WSBLE W	SE9				Date of site visit:	10/7/	2019
Rated by Emily Drev	w, Amy Rotondo	Tr	ained by E	cology?⊡	Yes□ No	Date of training	8/2015,	9/2019
HGM Class used fo	r rating Depression	nal & Flats		Wetland	d has multiple	e HGM classes? □	Yes ☑	No
	rm is not complete Source of base aer				(figures can	be combined).	-	
OVERALL WETLA	IND CATEGORY	Ш	(based on	functions	□ or specia	characteristics □	)	
1. Category of v	vetland based on	FUNCTION	IS					
	Category	l - Total score	= 23 - 27		[	Score for each	]	
	Category	II - Total scor	e = 20 - 22		f	unction based		
	Category	III - Total sco	re = 16 - 19	)		on three		
	X Category	IV - Total sco	re = 9 - 15		ı	atings		
						order of ratings		
FUNCTION	Improving	Hydrologic	Habitat		i	s not		
FUNCTION	Water Quality				i	mportant)		
	liot onn	ranviata ratina	. /LI NA IN				I	

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
	List app	ropriate rating	(H, M, L)	
Site Potential	M	Н	L	
Landscape Potential	M	M	L	
Value	M	L	L	Total
Score Based on Ratings	6	6	3	15

# function based on three ratings (order of ratings is not important) 9 = H, H, H 8 = H, H, M 7 = H, H, L 7 = H, M, M 6 = H, M, L 6 = M, M, M 5 = H, L, L 5 = M, M, L 4 = M, L, L 3 = L, L, L

### 2. Category based on SPECIAL CHARACTERISTICS of wetland

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

# Maps and Figures required to answer questions correctly for Western Washington

### Depressional Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	D 1.3, H 1.1, H 1.4	5
Hydroperiods	D 1.4, H 1.2	5
Location of outlet (can be added to map of hydroperiods)	D 1.1, D 4.1	na
Boundary of area within 150 ft of the wetland (can be added to another figure)	D 2.2, D 5.2	3
Map of the contributing basin	D 4.3, D 5.3	1
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	2
polygons for accessible habitat and undisturbed habitat		_
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	4
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	D 3.3	6

### Riverine Wetlands

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

### Lake Fringe Wetlands

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

### Slope Wetlands

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

### **HGM Classification of Wetland in Western Washington**

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

1. Are th	ne water levels in the entire unit usua	ally	controlled by tides except during floods?
V	NO - go to 2		YES - the wetland class is Tidal Fringe - go to 1.1
1.1	Is the salinity of the water during po	erio	ods of annual low flow below 0.5 ppt (parts per thousand)?
		a F	Freshwater Tidal Fringe use the forms for <b>Riverine</b> wetlands. stuarine wetland and is not scored. This method cannot be
	ntire wetland unit is flat and precipita vater and surface water runoff are N		n is the only source (>90%) of water to it. sources of water to the unit.
Ø	NO - go to 3 If your wetland can be classified as	a F	□ <b>YES</b> - The wetland class is <b>Flats</b> Flats wetland, use the form for <b>Depressional</b> wetlands.
		s or	n the shores of a body of permanent open water (without any e year) at least 20 ac (8 ha) in size;
V	NO - go to 4		YES - The wetland class is Lake Fringe (Lacustrine Fringe)
<b>☑</b>		an b d in w, c	be very gradual), n one direction (unidirectional) and usually comes from seeps. or in a swale without distinct banks.
V	NO - go to 5		□ YES - The wetland class is Slope
	•		pe of wetlands except occasionally in very small and shallow are usually <3 ft diameter and less than 1 ft deep).
	the entire wetland unit <b>meet all</b> of th The unit is in a valley, or stream ch from that stream or river, The overbank flooding occurs at le	anr	nel, where it gets inundated by overbank flooding
V	NO - go to 6		□ <b>YES</b> - The wetland class is <b>Riverine</b>
NOTE: T	he Riverine unit can contain depres	sior	ns that are filled with water when the river is not flooding.

3

<ol><li>Is the entire wetla</li></ol>	and unit in	a topographic depre	ssion in wh	ich water pond	ls, or is satura	ited to the surface,
at some time during	the year?	This means that an	y outlet, if p	resent, is high	er than the int	erior of the wetland.

□ NO - go to 7 ☑ YES - The wetland class is Depressional

7. Is the entire wetland unit located in a very flat area with no obvious depression and no overbank flooding? The unit does not pond surface water more than a few inches. The unit seems to be maintained by high groundwater in the area. The wetland may be ditched, but has no obvious natural outlet.

□ NO - go to 8 □ YES - The wetland class is Depressional

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

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

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

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

### NOTES and FIELD OBSERVATIONS:

Wetland runs along the base of the manmade slope west of the Interbay Golf Center. It is separated from a ditch along the BNSF train tracks by a berm and a pipeline.

D 1.1. Characteristics of surface water outflows from the wetland:  Wetland is a depression or flat depression (QUESTION 7 on key) with no surface water leaving it (no outlet).  Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet.  Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing  Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch.  D 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic (use NRCS definitions).  Yes = 4 No = 0  D 1.3. Characteristics and distribution of persistent plants (Emergent, Scrub-shrub, and/or Forested Cowardin classes):  Wetland has persistent, ungrazed, plants > 95% of area points = 5 Wetland has persistent, ungrazed, plants > ½ of area points = 3 Wetland has persistent, ungrazed plants > ½ of area points = 1 Wetland has persistent, ungrazed plants > ½ of area points = 1 Wetland has persistent, ungrazed plants > ½ of area points = 0  D 1.4. Characteristics of seasonal ponding or inundation: This is the area that is ponded for at least 2 months. See description in manual. Area seasonally ponded is > ½ total area of wetland points = 2 Area seasonally ponded is < ¼ total area of wetland points = 0	DEPRESSIONAL AND FLATS WETLANDS						
D 1.1. Characteristics of surface water outflows from the wetland:  Wetland is a depression or flat depression (QUESTION 7 on key) with no surface water leaving it (no outlet).  Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet.  Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing  Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch.  D 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic (use NRCS definitions).  Yes = 4 No = 0  D 1.3. Characteristics and distribution of persistent plants (Emergent, Scrub-shrub, and/or Forested Cowardin classes):  Wetland has persistent, ungrazed, plants > 95% of area points = 5 Wetland has persistent, ungrazed, plants > ½ of area points = 3 Wetland has persistent, ungrazed plants > ½ of area points = 1 Wetland has persistent, ungrazed plants > ½ of area points = 1 Wetland has persistent, ungrazed plants > ½ of area points = 0  D 1.4. Characteristics of seasonal ponding or inundation: This is the area that is ponded for at least 2 months. See description in manual. Area seasonally ponded is > ½ total area of wetland points = 2 Area seasonally ponded is < ¼ total area of wetland points = 0	Water Quality Functions - Indicators that the site functions to it	mprove water quality					
Wetland is a depression or flat depression (QUESTION 7 on key) with no surface water leaving it (no outlet).  Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet.  Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing  Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch.  D 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic (use NRCS definitions).  Yes = 4 No = 0  D 1.3. Characteristics and distribution of persistent plants (Emergent, Scrub-shrub, and/or Forested Cowardin classes):  Wetland has persistent, ungrazed, plants > 95% of area D 1.4. Characteristics of seasonal ponding or inundation:  This is the area that is ponded for at least 2 months. See description in manual. Area seasonally ponded is > ½ total area of wetland D 1.4. Characteristics of seasonally ponded is > ½ total area of wetland D 2.4. Points = 0  Area seasonally ponded is < ¼ total area of wetland D 3.5. Points = 0  D 4.6. Points = 0  D 5.6. Points = 0  D 6.7. Points = 0  D 7.6. Points = 0  D 7.6. Points = 0  D 8.7. Points = 0  D 9.7. Points = 0  D 9.7. Points = 0  D 9.7. Points = 0  D 1.4. Characteristics of seasonal ponding or inundation:  This is the area that is ponded for at least 2 months. See description in manual.  Area seasonally ponded is > ½ total area of wetland  D 9.7. Points = 0  D 1.8. Points = 0  D 1.9. Points = 0  D 1.	D 1.0. Does the site have the potential to improve water quality?						
with no surface water leaving it (no outlet).  Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet.  Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing points = 1  Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch.  D 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic (use NRCS definitions).  Yes = 4 No = 0  D 1.3. Characteristics and distribution of persistent plants (Emergent, Scrub-shrub, and/or Forested Cowardin classes):  Wetland has persistent, ungrazed, plants > 95% of area points = 5 Wetland has persistent, ungrazed, plants > ½ of area points = 3 Wetland has persistent, ungrazed plants > ½ of area points = 1 Wetland has persistent, ungrazed plants < 1/10 of area points = 0  D 1.4. Characteristics of seasonal ponding or inundation:  This is the area that is ponded for at least 2 months. See description in manual. Area seasonally ponded is > ½ total area of wetland points = 2 Area seasonally ponded is < ¼ total area of wetland points = 0	D 1.1. Characteristics of surface water outflows from the wetland:						
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D 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic (use NRCS definitions).  D 1.3. Characteristics and distribution of persistent plants (Emergent, Scrub-shrub, and/or Forested Cowardin classes):  Wetland has persistent, ungrazed, plants > 95% of area points = 5 Wetland has persistent, ungrazed, plants > ½ of area points = 3 Wetland has persistent, ungrazed plants > ½ of area points = 1 Wetland has persistent, ungrazed plants < ½ of area points = 0  D 1.4. Characteristics of seasonal ponding or inundation:  This is the area that is ponded for at least 2 months. See description in manual.  Area seasonally ponded is > ½ total area of wetland points = 2 Area seasonally ponded is < ¼ total area of wetland points = 0							
organic (use NRCS definitions).  D 1.3. Characteristics and distribution of persistent plants (Emergent, Scrub-shrub, and/or Forested Cowardin classes):  Wetland has persistent, ungrazed, plants > 95% of area points = 5  Wetland has persistent, ungrazed plants > ½ of area points = 1  Wetland has persistent, ungrazed plants > ¹/₁₀ of area points = 1  Wetland has persistent, ungrazed plants < ¹/₁₀ of area points = 0  D 1.4. Characteristics of seasonal ponding or inundation:  This is the area that is ponded for at least 2 months. See description in manual.  Area seasonally ponded is > ½ total area of wetland points = 2  Area seasonally ponded is < ¼ total area of wetland points = 0		points = 1					
D 1.3. Characteristics and distribution of persistent plants (Emergent, Scrub-shrub, and/or Forested Cowardin classes):  Wetland has persistent, ungrazed, plants > 95% of area points = 5 Wetland has persistent, ungrazed, plants > ½ of area points = 1 Wetland has persistent, ungrazed plants > ¹/₁₀ of area points = 1 Wetland has persistent, ungrazed plants < ¹/₁₀ of area points = 0  D 1.4. Characteristics of seasonal ponding or inundation:  This is the area that is ponded for at least 2 months. See description in manual.  Area seasonally ponded is > ½ total area of wetland points = 4 Area seasonally ponded is < ¼ total area of wetland points = 0  Area seasonally ponded is < ¼ total area of wetland points = 0			0				
Forested Cowardin classes):  Wetland has persistent, ungrazed, plants > 95% of area  Wetland has persistent, ungrazed, plants > ½ of area  Wetland has persistent, ungrazed plants > ½ of area  Wetland has persistent, ungrazed plants > ¹/₁₀ of area  Wetland has persistent, ungrazed plants < ¹/₁₀ of area  Doints = 0  Doints = 0  Doints = 0  Doints = 0  Area seasonally ponded is > ½ total area of wetland  Area seasonally ponded is > ½ total area of wetland  Area seasonally ponded is > ¼ total area of wetland  Area seasonally ponded is < ¼ total area of wetland  Area seasonally ponded is < ¼ total area of wetland  Area seasonally ponded is < ¼ total area of wetland  Area seasonally ponded is < ¼ total area of wetland  Doints = 0							
Wetland has persistent, ungrazed, plants > 95% of area points = 5 Wetland has persistent, ungrazed, plants > ½ of area points = 3 Wetland has persistent, ungrazed plants > ¹/¹10 of area points = 1 Wetland has persistent, ungrazed plants < ¹/²10 of area points = 0  Description in manual.  Area seasonally ponded is > ½ total area of wetland points = 4 Area seasonally ponded is < ¼ total area of wetland points = 2 Area seasonally ponded is < ¼ total area of wetland points = 0		shrub, and/or					
Wetland has persistent, ungrazed, plants > ½ of area points = 3  Wetland has persistent, ungrazed plants > ½ of area points = 1  Wetland has persistent, ungrazed plants < ½ of area points = 0  D 1.4. Characteristics of seasonal ponding or inundation:  This is the area that is ponded for at least 2 months. See description in manual.  Area seasonally ponded is > ½ total area of wetland points = 4  Area seasonally ponded is > ¼ total area of wetland points = 2  Area seasonally ponded is < ¼ total area of wetland points = 0	,						
Wetland has persistent, ungrazed, plants > ½ of area  Wetland has persistent, ungrazed plants > ¹/₁₀ of area  Wetland has persistent, ungrazed plants < ¹/₁₀ of area  D 1.4. Characteristics of seasonal ponding or inundation:  This is the area that is ponded for at least 2 months. See description in manual.  Area seasonally ponded is > ½ total area of wetland  Area seasonally ponded is > ¼ total area of wetland  Area seasonally ponded is < ¼ total area of wetland  Area seasonally ponded is < ¼ total area of wetland  points = 0  Area seasonally ponded is < ¼ total area of wetland  points = 0		•	5				
Wetland has persistent, ungrazed plants $< \frac{1}{10}$ of area points = 0  D 1.4. Characteristics of seasonal ponding or inundation:  This is the area that is ponded for at least 2 months. See description in manual.  Area seasonally ponded is $> \frac{1}{2}$ total area of wetland points = 4  Area seasonally ponded is $> \frac{1}{4}$ total area of wetland points = 0  Area seasonally ponded is $< \frac{1}{4}$ total area of wetland points = 0	,	points = 3	3				
D 1.4. Characteristics of seasonal ponding or inundation:  This is the area that is ponded for at least 2 months. See description in manual.  Area seasonally ponded is > ½ total area of wetland  Area seasonally ponded is > ¼ total area of wetland  Area seasonally ponded is < ¼ total area of wetland  Area seasonally ponded is < ¼ total area of wetland  points = 0	Wetland has persistent, ungrazed plants $> 1/10$ of area	points = 1					
This is the area that is ponded for at least 2 months. See description in manual.  Area seasonally ponded is > ½ total area of wetland  Area seasonally ponded is > ¼ total area of wetland  Area seasonally ponded is < ¼ total area of wetland  points = 2  Area seasonally ponded is < ¼ total area of wetland  points = 0	Wetland has persistent, ungrazed plants < 1/10 of area	points = 0					
Area seasonally ponded is $> \frac{1}{2}$ total area of wetland points = 4  Area seasonally ponded is $> \frac{1}{4}$ total area of wetland points = 2  Area seasonally ponded is $< \frac{1}{4}$ total area of wetland points = 0	D 1.4. Characteristics of seasonal ponding or inundation:						
Area seasonally ponded is > 1/4 total area of wetland points = 2  Area seasonally ponded is < 1/4 total area of wetland points = 0	This is the area that is ponded for at least 2 months. See description in manual.						
Area seasonally ponded is < 1/4 total area of wetland points = 0	Area seasonally ponded is > $\frac{1}{2}$ total area of wetland	points = 4	0				
Area seasonally ponded is < 1/4 total area of wetland points = 0	Area seasonally ponded is > 1/4 total area of wetland	points = 2					
		•					
Total for D 1 Add the points in the boxes above 0	• •		8				

Rating of Site Potential If score is: 

12 - 16 = H 

6 - 11 = M 

0 - 5 = L Record the rating on the first page

D 2.0. Does the landscape have the potential to support the water quality function of the site?				
D 2.1. Does the wetland unit receive stormwater discharges?	= 1	No = 0	0	
D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that			1	
generate pollutants?	= 1	No = 0	ı	
D 2.3. Are there septic systems within 250 ft of the wetland?	= 1	No = 0	0	
D 2.4. Are there other sources of pollutants coming into the wetland that are				
not listed in questions D 2.1 - D 2.3?			1	
Source Golf lawn treatments; trash from homeless use Yes	= 1	No = 0		
Total for D 2 Add the points in the boxes above				

Rating of Landscape Potential If score is: 3 or 4 = H 2 1 or 2 = M 0 = LRecord the rating on the first page

D 3.0. Is the water quality improvement provided by the site valuable to society?	
D 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list?  Yes = 1 No = 0	0
D 3.2. Is the wetland in a basin or sub-basin where an aquatic resource is on the 303(d) list?  Yes = 1 No = 0	1
D 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (answer YES if there is a TMDL for the basin in which the unit is found)?  Yes = 2 No = 0	0
Total for D 3 Add the points in the boxes above	1

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

Record the rating on the first page

DEPRESSIONAL AND FLATS WETLANDS				
Hydrologic Functions - Indicators that the site functions to reduce flooding and stream degr	adation			
D 4.0. Does the site have the potential to reduce flooding and erosion?				
D 4.1. Characteristics of surface water outflows from the wetland:				
Wetland is a depression or flat depression with no surface water				
leaving it (no outlet) points = 4				
Wetland has an intermittently flowing stream or ditch, OR highly				
constricted permanently flowing outlet points = 2	4			
Wetland is a flat depression (QUESTION 7 on key), whose outlet is				
a permanently flowing ditch points = 1				
Wetland has an unconstricted, or slightly constricted, surface outlet				
that is permanently flowing points = 0				
D 4.2. Depth of storage during wet periods: Estimate the height of ponding above the bottom of				
the outlet. For wetlands with no outlet, measure from the surface of permanent water or if dry,				
the deepest part.				
Marks of ponding are 3 ft or more above the surface or bottom of outlet points = 7				
Marks of ponding between 2 ft to < 3 ft from surface or bottom of outlet points = 5	5			
☐ Marks are at least 0.5 ft to < 2 ft from surface or bottom of outlet points = 3				
☐ The wetland is a "headwater" wetland points = 3				
Wetland is flat but has small depressions on the surface that trap water points = 1				
Marks of ponding less than 0.5 ft (6 in)				
D 4.3. Contribution of the wetland to storage in the watershed: Estimate the ratio of the area of				
upstream basin contributing surface water to the wetland to the area of the wetland unit itself.				
☐ The area of the basin is less than 10 times the area of the unit points = 5				
· '	3			
The area of the basin is 10 to 100 times the area of the unit points = 3				
The area of the basin is more than 100 times the area of the unit points = 0				
☐ Entire wetland is in the Flats class points = 5				
Total for D 4 Add the points in the boxes above	12			
Rating of Site Potential If score is:	the first page			
D 5.0. Does the landscape have the potential to support hydrologic function of the site?				
D 5.1. Does the wetland unit receive stormwater discharges? Yes = 1 No = 0	0			
D 5.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate excess runoff?	1			
Yes = 1 No = 0				
D 5.3. Is more than 25% of the contributing basin of the wetland covered with intensive human				
land uses (residential at >1 residence/ac, urban, commercial, agriculture, etc.)?	1			
Yes = 1 No = 0				
Total for D 5 Add the points in the boxes above	2			
Rating of Landscape Potential If score is: $\square$ 3 = H $\square$ 1 or 2 = M $\square$ 0 = L Record the rating on	the first page			
D 6.0. Are the hydrologic functions provided by the site valuable to society?				
D 6.1. The unit is in a landscape that has flooding problems. Choose the description that best				
matches conditions around the wetland unit being rated. Do not add points. Choose the highest				
score if more than one condition is met.				
The wetland captures surface water that would otherwise flow down-gradient into areas				
where flooding has damaged human or natural resources (e.g., houses or salmon redds):				
Flooding occurs in a sub-basin that is immediately down-				
gradient of unit. points = 2				
□ Surface flooding problems are in a sub-basin farther down-	0			
gradient. points = 1				
□ Flooding from groundwater is an issue in the sub-basin. points = 1				
☐ The existing or potential outflow from the wetland is so constrained				
by human or natural conditions that the water stored by the wetland				
cannot reach areas that flood. Explain why points = 0				
☐ There are no problems with flooding downstream of the wetland. points = 0				
D 6.2. Has the site been identified as important for flood storage or flood	0			
conveyance in a regional flood control plan? Yes = 2 No = 0				
Total for D 6 Add the points in the boxes above	0			
Rating of Value If score is:   2-4=H  1=M  0=L  Record the rating on				

### These questions apply to wetlands of all HGM classes. HABITAT FUNCTIONS - Indicators that site functions to provide important habitat H 1.0. Does the site have the potential to provide habitat? H 1.1. Structure of plant community: Indicators are Cowardin classes and strata within the Forested class. Check the Cowardin plant classes in the wetland. Up to 10 patches may be combined for each class to meet the threshold of 1/4 ac or more than 10% of the unit if it is smaller than 2.5 ac. Add the number of structures checked. □ Aquatic bed 4 structures or more: points = 4 ☑ Emergent 3 structures: points = 2 ☑ Scrub-shrub (areas where shrubs have > 30% cover) 2 structures: points - 1 □ Forested (areas where trees have > 30% cover) 1 structure: points = 0 If the unit has a Forested class, check if: The Forested class has 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover) that each cover 20% within the Forested polygon H 1.2. Hydroperiods Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or 1/4 ac to count (see text for descriptions of hydroperiods). □ Permanently flooded or inundated 4 or more types present: points = 3 □ Seasonally flooded or inundated 3 types present: points = 2 1 Occasionally flooded or inundated 2 types present: points = 1 Saturated only 1 types present: points = 0 □ Permanently flowing stream or river in, or adjacent to, the wetland □ Seasonally flowing stream in, or adjacent to, the wetland □ Lake Fringe wetland 2 points □ Freshwater tidal wetland 2 points H 1.3. Richness of plant species Count the number of plant species in the wetland that cover at least 10 ft<sup>2</sup> Different patches of the same species can be combined to meet the size threshold and you do not have to name the species. Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Canadian thistle n If you counted: > 19 species points = 25 - 19 species points = 1< 5 species points = 0H 1.4. Interspersion of habitats Decide from the diagrams below whether interspersion among Cowardin plants classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, moderate, low, or none. If you have four or more plant classes or three classes and open water, the rating is always high. 1 Low = 1 point None = 0 points Moderate = 2 points All three diagrams in this row are HIGH = 3 points

H 1.5. Special habitat features:			
Check the habitat features that are present in the wetland. The number of checks is the number			
of points.			
□ Large, downed, woody debris within the wetland (> 4 in diameter and 6 ft long)			
□ Standing snags (dbh > 4 in) within the wetland			
□ Undercut banks are present for at least 6.6 ft (2 m) <b>and/or</b> overhanging plants extends			
at least 3.3 ft (1 m) over a stream (or ditch) in, or contiguous with the wetland, for at			
least 33 ft (10 m)	0		
□ Stable steep banks of fine material that might be used by beaver or muskrat for			
denning (> 30 degree slope) OR signs of recent beaver activity are present (cut shrubs			
or trees that have not yet weathered where wood is exposed)			
□ At least ¼ ac of thin-stemmed persistent plants or woody branches are present in			
areas that are permanently or seasonally inundated (structures for egg-laying by			
□ Invasive plants cover less than 25% of the wetland area in every stratum of plants (see			
H 1.1 for list of strata)			
Total for H 1 Add the points in the boxes above	3		
Rating of Site Potential If Score is:   15 - 18 = H  7 - 14 = M  0 - 6 = L  Record the rating on the first page			

H 2.0. Does the landscape have the potential to support the habitat function of the site? H 2.1 Accessible habitat (include only habitat that directly abuts wetland unit). Calculate: 0 % undisturbed habitat + ( 4 % moderate & low intensity land uses / 2 ) = 2% If total accessible habitat is: 0  $> \frac{1}{3}$  (33.3%) of 1 km Polygon points = 3 20 - 33% of 1 km Polygon points = 210 - 19% of 1 km Polygon points = 1points = 0 < 10 % of 1 km Polygon H 2.2. Undisturbed habitat in 1 km Polygon around the wetland. 5 % undisturbed habitat + ( 4 % moderate & low intensity land uses / 2 ) = 7% 0 points = 3 Undisturbed habitat > 50% of Polygon Undisturbed habitat 10 - 50% and in 1-3 patches points = 2Undisturbed habitat 10 - 50% and > 3 patches points = 1 Undisturbed habitat < 10% of 1 km Polygon points = 0H 2.3 Land use intensity in 1 km Polygon: If > 50% of 1 km Polygon is high intensity land use -2 points = (-2)≤ 50% of 1km Polygon is high intensity points = 0Total for H 2 Add the points in the boxes above

Rating of Landscape Potential If Score is: 4 - 6 = H 1 1 - 3 = M 2 < 1 = L Record the rating on the first page

H 3.0. Is the habitat provided by the site valuable to society?				
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? Choose				
only the highest score that applies to the wetland being rated.				
Site meets ANY of the following criteria:	points = 2			
☐ It has 3 or more priority habitats within 100 m (see next page)				
□ It provides habitat for Threatened or Endangered species (any plant	:			
or animal on the state or federal lists)				
☐ It is mapped as a location for an individual WDFW priority species		0		
□ It is a Wetland of High Conservation Value as determined by the		0		
Department of Natural Resources				
It has been categorized as an important habitat site in a local or				
regional comprehensive plan, in a Shoreline Master Plan, or in a				
watershed plan				
Site has 1 or 2 priority habitats (listed on next page) with in 100m	points = 1			
Site does not meet any of the criteria above	points = 0			

Rating of Value If Score is: □ 2 = H □ 1 = M ☑ 0 = L

Record the rating on the first page

### **WDFW Priority Habitats**

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

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

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

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

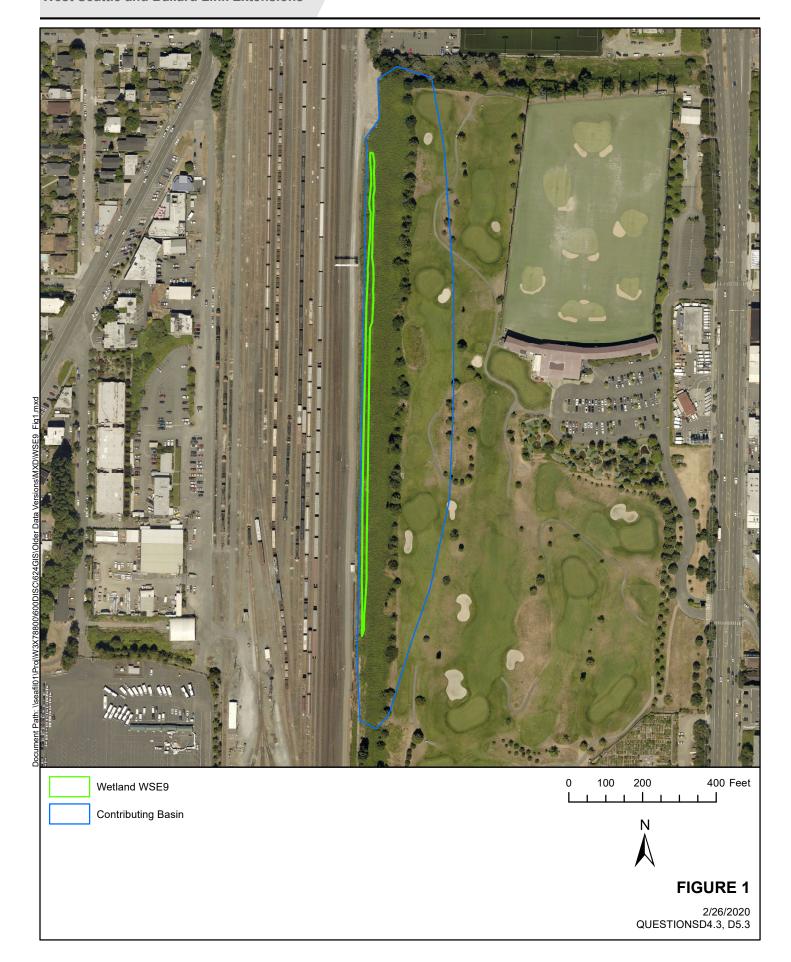
Note: All vegetated wetlands are by definition a priority habitat but are not included in this list because they

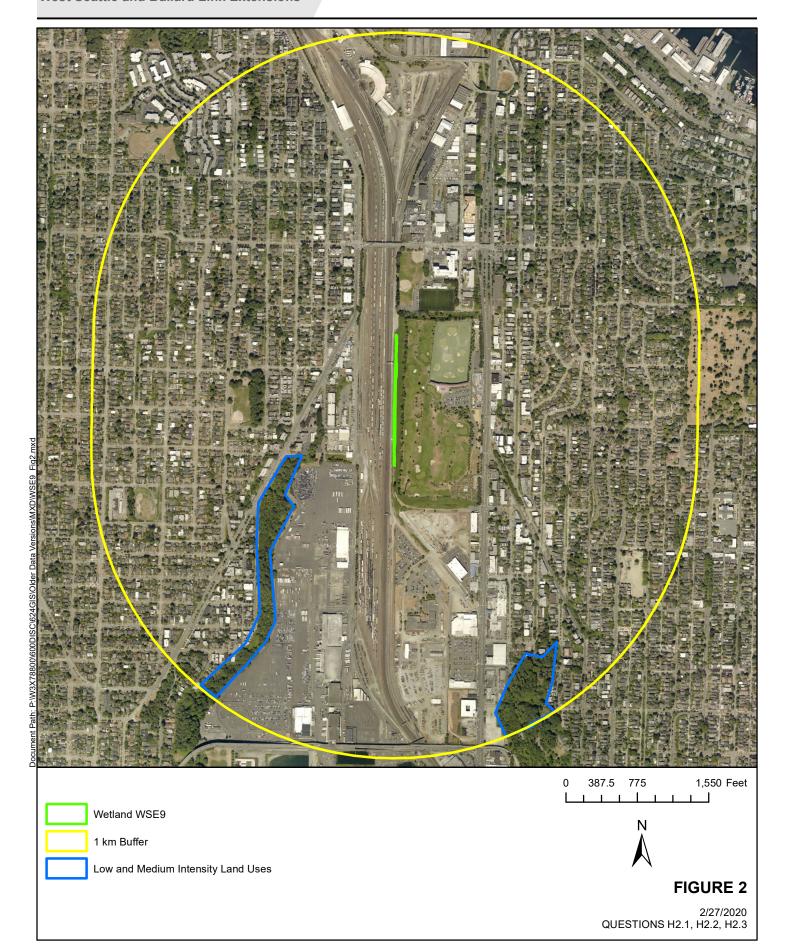
are addressed elsewhere.

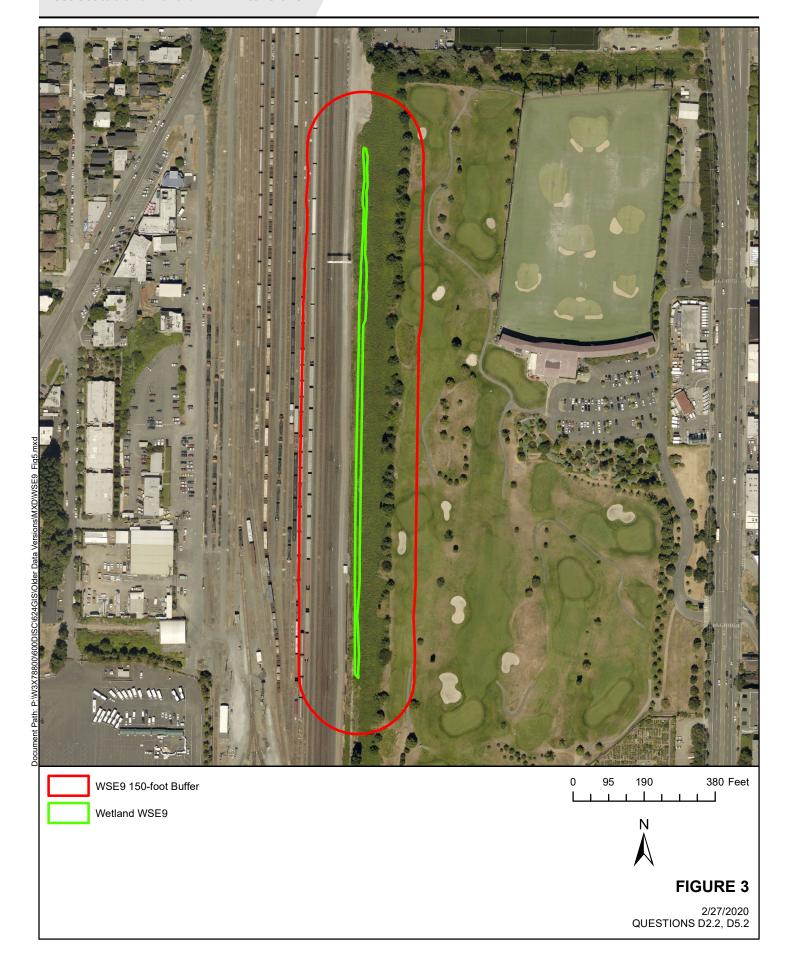
### **CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS**

Wetland	CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS  I Type	Category
	f any criteria that apply to the wetland. List the category when the appropriate criteria are met.  Estuarine Wetlands	
SC 1.0. I	Does the wetlands  Does the wetland meet the following criteria for Estuarine wetlands?	
	The dominant water regime is tidal,	
	Vegetated, and	
	With a salinity greater than 0.5 ppt	
	☐ Yes - Go to SC 1.1 ☑ No = Not an estuarine wetland	
SC 1.1.		
l	Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-30-151?	
	□ Yes = Category I □ No - Go to SC 1.2	
SC 1.2.	· · · · · · · · · · · · · · · · · · ·	
	The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing,	
1	and has less than 10% cover of non-native plant species. (If non-native species are	
. –	Spartina, see page 25)	
	At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or	
	un-grazed or un-mowed grassland.  The wetland has at least two of the following features: tidal channels, depressions with	
	open water, or contiguous freshwater wetlands.	
i	□ Yes = Category I □ No = Category II	
SC 2.0.1	Wetlands of High Conservation Value (WHCV)	
SC 2.1.	· · · · · · · · · · · · · · · · · · ·	
1	of Wetlands of High Conservation Value?	
1	☐ Yes - Go to <b>SC 2.2</b> ☐ No - Go to <b>SC 2.3</b>	
SC 2.2.	Is the wetland listed on the WDNR database as a Wetland of High Conservation Value?	
1	□ Yes = Category I □ No = Not WHCV	
SC 2.3.		
İ	http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf	
0004	☐ Yes - Contact WNHP/WDNR and to SC 2.4 ☐ No = Not WHCV	
SC 2.4.	Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and listed it on their website?	
Ī	□ Yes = Category □ No = Not WHCV	
SC 3.0. I		
	Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? Use the key below. If you answer YES you will still need to rate the wetland based on its functions.	
SC 3.1.	· · · · · · · · · · · · · · · · · · ·	
1	that compose 16 in or more of the first 32 in of the soil profile?	
	☐ Yes - Go to <b>SC 3.3</b> ☑ No - Go to <b>SC 3.2</b>	
SC 3.2.		
1	less than 16 in deep over bedrock, or an impermeable hardpan such as clay or	
1	volcanic ash, or that are floating on top of a lake or pond?	
	☐ Yes - Go to SC 3.3 ☐ No = Is not a bog	
6699		
SC 3.3.	·	
SC 3.3.	level, AND at least a 30% cover of plant species listed in Table 4?	
SC 3.3.	level, AND at least a 30% cover of plant species listed in Table 4?  □ Yes = Is a Category   bog □ No - Go to SC 3.4	
SC 3.3.	level, AND at least a 30% cover of plant species listed in Table 4?  □ Yes = Is a Category   bog □ No - Go to SC 3.4  NOTE: If you are uncertain about the extent of mosses in the understory, you may	
SC 3.3.	level, AND at least a 30% cover of plant species listed in Table 4?  — Yes = Is a Category   bog — No - Go to SC 3.4  NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at	
SC 3.3.	level, AND at least a 30% cover of plant species listed in Table 4?  — Yes = Is a Category   bog — No - Go to SC 3.4  NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0 and the plant species in Table 4 are present,	
SC 3.3.	level, AND at least a 30% cover of plant species listed in Table 4?  — Yes = Is a Category   bog — No - Go to SC 3.4  NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0 and the plant species in Table 4 are present, the wetland is a bog.	
	level, AND at least a 30% cover of plant species listed in Table 4?  — Yes = Is a Category   bog — No - Go to SC 3.4  NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0 and the plant species in Table 4 are present,	
	level, AND at least a 30% cover of plant species listed in Table 4?  — Yes = Is a Category   bog — No - Go to SC 3.4  NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0 and the plant species in Table 4 are present, the wetland is a bog.  Is an area with peats or mucks forested (> 30% cover) with Sitka spruce, subalpine fir,	
	level, AND at least a 30% cover of plant species listed in Table 4?  — Yes = Is a Category   bog — No - Go to SC 3.4  NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0 and the plant species in Table 4 are present, the wetland is a bog.  Is an area with peats or mucks forested (> 30% cover) with Sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann	

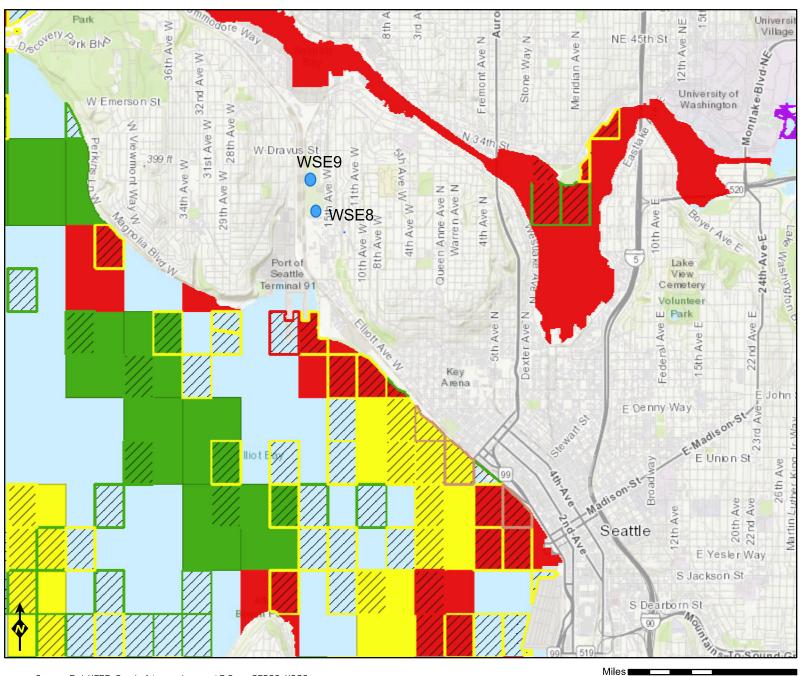
SC 4.0.	Forested Wetlands	
	Does the wetland have at least 1 contiguous acre of forest that meets one of these	
	criteria for the WA Department of Fish and Wildlife's forests as priority habitats? If you	
	answer YES you will still need to rate the wetland based on its functions.	
	Old-growth forests (west of Cascade crest): Stands of at least two tree species,	
	forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac	
	(20 trees/ha) that are at least 200 years of age OR have a diameter at breast height	
	(dbh) of 32 in (81 cm) or more.	
	Mature forests (west of the Cascade Crest): Stands where the largest trees are 80-	
	200 years old OR the species that make up the canopy have an average diameter	
	(dbh) exceeding 21 in (53 cm).	
	☐ Yes = Category   ☑ No = Not a forested wetland for this section	
SC 5.0.	Wetlands in Coastal Lagoons	
	Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?	
	The wetland lies in a depression adjacent to marine waters that is wholly or partially	
	separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently,	
	rocks	
	The lagoon in which the wetland is located contains ponded water that is saline or	
	brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (needs to	
	be measured near the bottom)	
	☐ Yes - Go to SC 5.1 ☐ No = Not a wetland in a coastal lagoon	
SC 5.1.	Does the wetland meet all of the following three conditions?	
	The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation,	
	grazing), and has less than 20% cover of aggressive, opportunistic plant species (see	
	list of species on p. 100).	
	At least $\frac{3}{4}$ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or	
	un-grazed or un-mowed grassland.	
	The wetland is larger than $^{1}/_{10}$ ac (4350 ft <sup>2</sup> )	
	□ Yes = Category I □ No = Category II	
SC 6.0.	Interdunal Wetlands	
	Is the wetland west of the 1889 line (also called the Western Boundary of Upland	
	Ownership or WBUO)? If you answer yes you will still need to rate the wetland	
	based on its habitat functions.	
	In practical terms that means the following geographic areas:	
	Long Beach Peninsula: Lands west of SR 103	
	Grayland-Westport: Lands west of SR 105	
	Ocean Shores-Copalis: Lands west of SR 115 and SR 109	
0004	☐ Yes - Go to SC 6.1 ☐ No = Not an interdunal wetland for rating	
SC 6.1.		
	(rates H,H,H or H,H,M for the three aspects of function)?	
0000	☐ Yes = Category I ☐ No - Go to SC 6.2	
SC 6.2.	3 ,	
00.60	☐ Yes = Category II ☐ No - Go to SC 6.3	
SC 6.3.	Is the unit between 0.1 and 1 ac, or is it in a mosaic of wetlands that is between 0.1	
	and 1 ac?	
Cotors	☐ Yes = Category III ☐ No = Category IV	
	ry of wetland based on Special Characteristics	
pr you a	nswered No for all types, enter "Not Applicable" on Summary Form	







## Water Quality Atlas Map



## Assessed Waters/Sediment

#### Water

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

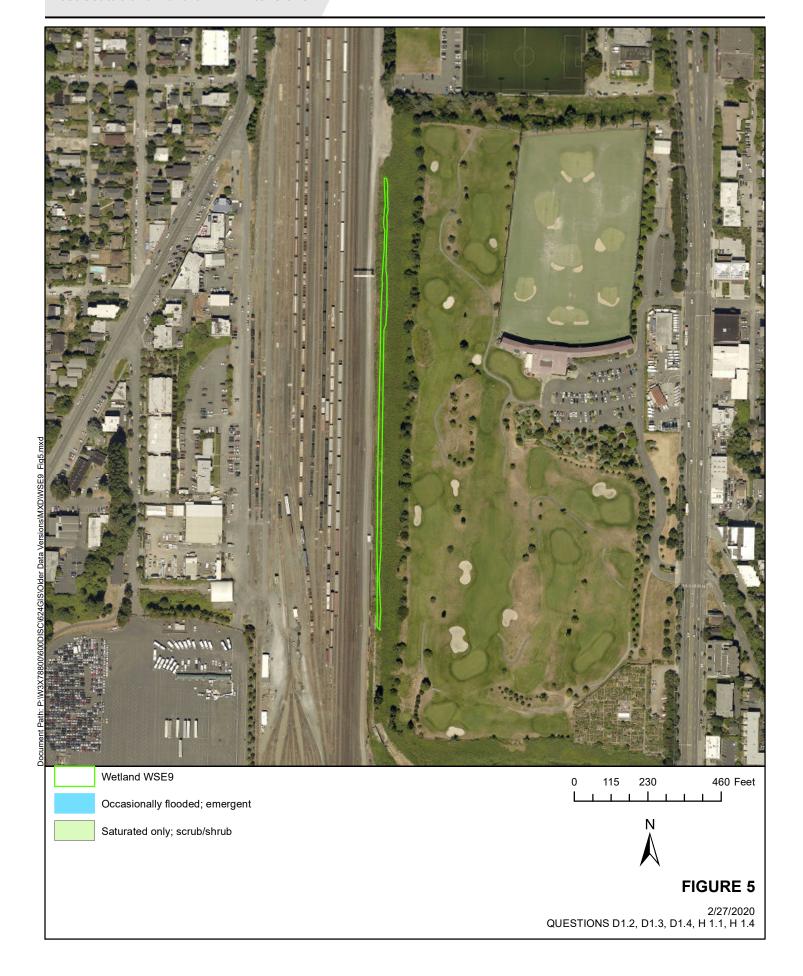
### Sediment

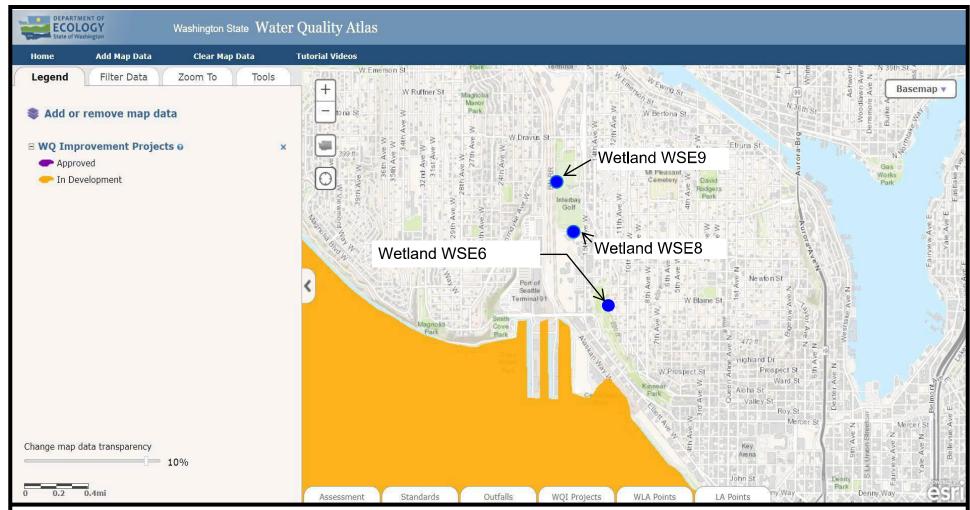
- Category 5 303d
- **ZZZ** Category 4C
- **Category 4B**
- Category 4A
- Category 2
- ZZZZ Category 1

Figure 4

0.5







Note: The TMDL mapped is the Puget Sound Nutrient Source Reduction Project and is in development. It does not count as a TMDL in the basin.

## FIGURE 6

Questions: D 3.3

## **RATING SUMMARY – Western Washington**

Name of wetland (or I	D#): Wetland V	/SE10		Date of site visit: 12/5/2019
Rated by A. Rotondo	, E. Drew	Trained	d by Ecology? ☑ Yes ☐ No	Date of training Oct-19
HGM Class used for	rating Slope		Wetland has multip	e HGM classes? □ Yes ☑ No
	•	•	res requested (figures can County 2017 Aerial	be combined ).
OVERALL WETLAN	ID CATEGORY	(bas	ed on functions 🗹 or specia	al characteristics □ )
1. Category of w	etland based or	FUNCTIONS		
_	Category	I - Total score = 23	- 27	Score for each
Category II - Total score = 20 - 22			function based	
X Category III - Total score = 16 - 19			on three	
			ratings (order of ratings	
FUNCTION	Improving	Hydrologic Ha	bitat	is not

FUNCTION	Improving Water Quality	Hydrologic	Habitat		
	List appropriate rating (H, M, L)				
Site Potential	M	М	L		
Landscape Potential	M	L	L		
Value	Н	Н	М	Total	
Score Based on Ratings	7	6	4	17	

Score for each		
function based		
on three		
ratings		
(order of ratings		
is not		
important)		
9 = H, H, H		
8 = H, H, M		
7 = H, H, L		
7 = H, M, M		
6 = H, M, L		
6 = M, M, M		
5 = H, L, L		
5 = M, M, L		
4 = M, L, L		
3 = L, L, L		

### 2. Category based on SPECIAL CHARACTERISTICS of wetland

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

# Maps and Figures required to answer questions correctly for Western Washington

### **Depressional Wetlands**

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

### Riverine Wetlands

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

### Lake Fringe Wetlands

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

### Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	H 1.1, H 1.4	1
Hydroperiods	H 1.2	1
Plant cover of <b>dense</b> trees, shrubs, and herbaceous plants	S 1.3	2
Plant cover of <b>dense</b> , <b>rigid</b> trees, shrubs, and herbaceous plants	S 4.1	2
(can be added to another figure)		2
Boundary of area within 150 ft of the wetland (can be added to another figure)	S 2.1, S 5.1	1
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	3
polygons for accessible habitat and undisturbed habitat		3
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	4
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	S 3.3	5

### **HGM Classification of Wetland in Western Washington**

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

1. Are th	ne water levels in the entire unit usual	y controlled by tides except during floods?
<b>√</b>	NO - go to 2	☐ <b>YES</b> - the wetland class is <b>Tidal Fringe</b> - go to 1.1
1.1	Is the salinity of the water during per	ods of annual low flow below 0.5 ppt (parts per thousand)?
		Freshwater Tidal Fringe use the forms for <b>Riverine</b> wetlands. <b>Estuarine</b> wetland and is not scored. This method <b>cannot</b> be
	ntire wetland unit is flat and precipitati vater and surface water runoff are NC	on is the only source (>90%) of water to it. Γ sources of water to the unit.
<b>√</b>	NO - go to 3 If your wetland can be classified as	☐ <b>YES</b> - The wetland class is <b>Flats</b> Flats wetland, use the form for <b>Depressional</b> wetlands.
		on the shores of a body of permanent open water (without any he year) at least 20 ac (8 ha) in size;
7	NO - go to 4	☐ <b>YES</b> - The wetland class is <b>Lake Fringe</b> (Lacustrine Fringe)
<b>y</b>	the entire wetland unit <b>meet all</b> of the The wetland is on a slope ( <i>slope car</i> The water flows through the wetland may flow subsurface, as sheetflow, The water leaves the wetland witho	be very gradual), in one direction (unidirectional) and usually comes from seeps. It in a swale without distinct banks.
	NO - go to 5	☑ YES - The wetland class is Slope
		ype of wetlands except occasionally in very small and shallow s are usually <3 ft diameter and less than 1 ft deep).
	the entire wetland unit <b>meet all</b> of the The unit is in a valley, or stream cha from that stream or river, The overbank flooding occurs at lea	nnel, where it gets inundated by overbank flooding
	NO - go to 6	☐ <b>YES</b> - The wetland class is <b>Riverine</b>
NOTE: T	he Riverine unit can contain depress	ons that are filled with water when the river is not flooding.

Wetland	name or	number	Wetland	WSF10	

	nic depression in which water ponds, or is saturated to the surface, at nat any outlet, if present, is higher than the interior of the wetland.
□ NO - go to 7	☐ <b>YES</b> - The wetland class is <b>Depressional</b>
The unit does not pond surface water mor	ery flat area with no obvious depression and no overbank flooding? re than a few inches. The unit seems to be maintained by high y be ditched, but has no obvious natural outlet.
□ NO - go to 8	☐ <b>YES</b> - The wetland class is <b>Depressional</b>

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

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

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

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

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

SLOPE WETLANDS		
Hydrologic Functions - Indicators that the site functions to reduce flooding and stream erosion		
S 4.0. Does the site have the potential to reduce flooding and stream erosion?		
S 4.1. Characteristics of plants that reduce the velocity of surface flows during points appropriate for the description that best fits conditions in the wetland. St should be thick enough (usually > $^{1}/_{8}$ in), or dense enough, to remain erect du	ems of plants	1
Dense, uncut, <b>rigid</b> plants cover > 90% of the area of the wetland All other conditions	points = 1 points = 0	·
Rating of Site Potential If score is: □ 1 = M □ 0 = L	Record the rating on t	he first page
S 5.0. Does the landscape have the potential to support hydrologic functions of	the site?	
S 5.1. Is more than 25% of the area within 150 ft upslope of wetland in land uses or cover that generate excess surface runoff?	Yes = 1 No = 0	0
Rating of Landscape Potential If score is: □ 1 = M ☑ 0 = L	Record the rating on t	he first page
S 6.0. Are the hydrologic functions provided by the site valuable to society?		
0.04 5:4		
S 6.1. Distance to the nearest areas downstream that have flooding problems:		
The sub-basin immediately down-gradient of site has flooding problems that result in damage to human or natural resources (e.g., houses or salmon redds)	points = 2	2
The sub-basin immediately down-gradient of site has flooding problems that result in damage to human or natural resources (e.g.,	points = 2 points = 1	2
The sub-basin immediately down-gradient of site has flooding problems that result in damage to human or natural resources (e.g., houses or salmon redds)	•	2
The sub-basin immediately down-gradient of site has flooding problems that result in damage to human or natural resources (e.g., houses or salmon redds)  Surface flooding problems are in a sub-basin farther down-gradient	points = 1	2
The sub-basin immediately down-gradient of site has flooding problems that result in damage to human or natural resources (e.g., houses or salmon redds)  Surface flooding problems are in a sub-basin farther down-gradient No flooding problems anywhere downstream  S 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan?	points = 1 points = 0	

NOTES and FIELD OBSERVATIONS:

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

H 1.5. Special habitat features: Check the habitat features that are present in the wetland. <i>The number of checks is the number of</i>	
points.  Large, downed, woody debris within the wetland (> 4 in diameter and 6 ft long)	
<ul> <li>□ Standing snags (dbh &gt; 4 in) within the wetland</li> <li>□ Undercut banks are present for at least 6.6 ft (2 m) and/or overhanging plants extends</li> </ul>	
at least 3.3 ft (1 m) over a stream (or ditch) in, or contiguous with the wetland, for at least 33 ft (10 m)	1
☐ Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 30 degree slope) OR signs of recent beaver activity are present ( <i>cut shrubs or trees</i>	
that have not yet weathered where wood is exposed)  □ At least ¼ ac of thin-stemmed persistent plants or woody branches are present in areas	
that are permanently or seasonally inundated ( <i>structures for egg-laying by amphibians</i> )	
☐ Invasive plants cover less than 25% of the wetland area in every stratum of plants (see	
H 1.1 for list of strata)	4
Total for H 1 Add the points in the boxes above  Rating of Site Potential If Score is: □ 15 - 18 = H □ 7 - 14 = M ☑ 0 - 6 = L Record the rating on	the first nage
Rating of Site Potential if Score is.   13-16-11   7-14-14   0-0-0-1	the mst page
H 2.0. Does the landscape have the potential to support the habitat function of the site?	
H 2.1 Accessible habitat (include only habitat that directly abuts wetland unit).	
Calculate:	
0 % undisturbed habitat + ( 5 % moderate & low intensity land uses / 2 ) = 2.5%	
If total accessible habitat is:	0
$> \frac{1}{3} (33.3\%) \text{ of 1 km Polygon}$ points = 3	O
20 - 33%  of 1 km Polygon $20 - 33%  of 1 km Polygon$ $20 - 33%  of 1 km Polygon$	
10 - 19% of 1 km Polygon points = 1	
< 10 % of 1 km Polygon points = 0	
H 2.2. Undisturbed habitat in 1 km Polygon around the wetland.	
Calculate:	
0 % undisturbed habitat + ( 5 % moderate & low intensity land uses / 2 ) = 2.5%	
Undisturbed habitat > 50% of Polygon points = 3	0
Undisturbed habitat 10 - 50% and in 1-3 patches points = 2	
Undisturbed habitat 10 - 50% and > 3 patches points = 1	
Undisturbed habitat < 10% of 1 km Polygon points = 0	
H 2.3 Land use intensity in 1 km Polygon: If	
> 50% of 1 km Polygon is high intensity land use points = (-2)	-2
≤ 50% of 1km Polygon is high intensity points = 0	
Total for H 2 Add the points in the boxes above	-2
Rating of Landscape Potential If Score is:   4-6=H  1-3=M  <<1=L  Record the rating on	the first page
H 3.0. Is the habitat provided by the site valuable to society?	
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? <i>Choose</i>	
only the highest score that applies to the wetland being rated.	
Site meets ANY of the following criteria: points = 2	
☐ It has 3 or more priority habitats within 100 m (see next page)	
☐ It provides habitat for Threatened or Endangered species (any plant	
or animal on the state or federal lists) □ It is mapped as a location for an individual WDFW priority species	
☐ It is a Wetland of High Conservation Value as determined by the	1
Department of Natural Resources	
☐ It has been categorized as an important habitat site in a local or	
regional comprehensive plan, in a Shoreline Master Plan, or in a	
watershed plan	
Site has 1 or 2 priority habitats (listed on next page) with in 100m  points = 1	
Site does not meet any of the criteria above points = 0  Rating of Value If Score is: $\square$ 2 = H $\square$ 1 = M $\square$ 0 = L  Record the rating on	the first nage
Tracing of Fallo II Coole is. L. E - II L. I - III L. U - E	oo. page

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

### **WDFW Priority Habitats**

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

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

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

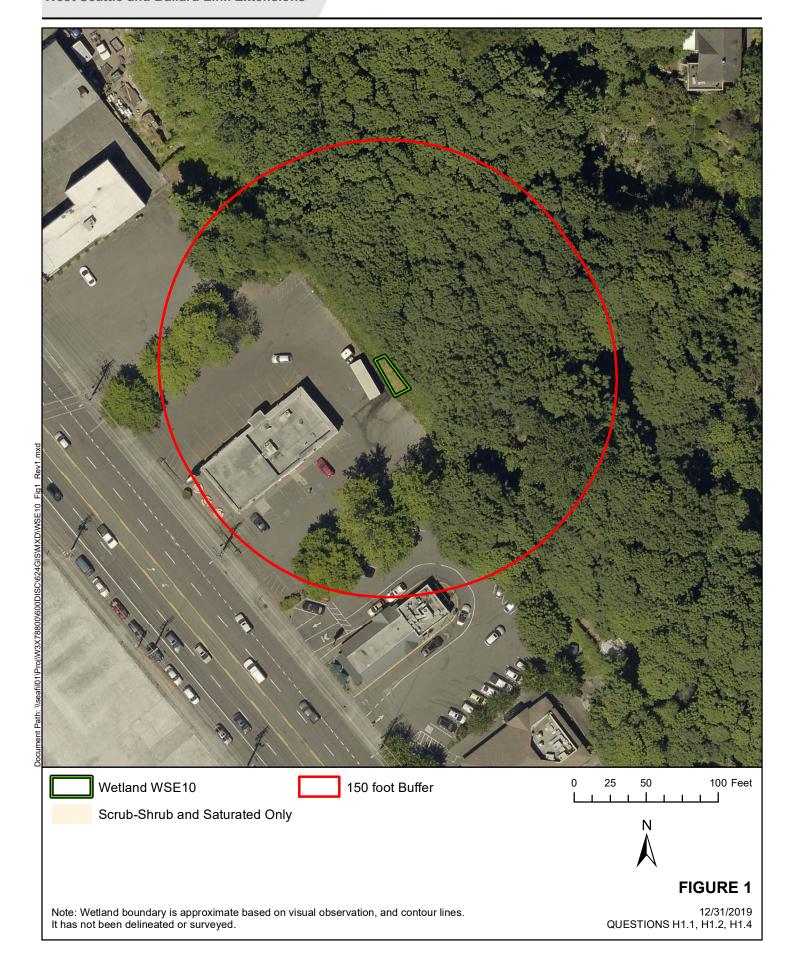
**Note**: All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.

### **CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS**

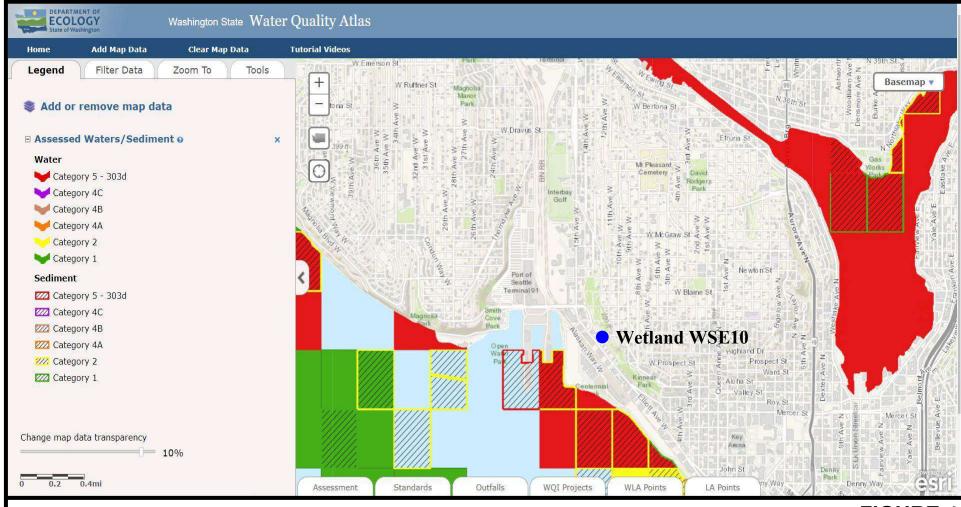
Wetland	Туре	Category	
Charle of			
Check off any criteria that apply to the wetland. List the category when the appropriate criteria are met.  SC 1.0. Estuarine Wetlands			
30 1.0.1	Does the wetland meet the following criteria for Estuarine wetlands?		
	The dominant water regime is tidal,		
	Vegetated, and		
	With a salinity greater than 0.5 ppt		
	☐ Yes - Go to <b>SC 1.1</b> ☐ No = <b>Not an estuarine wetland</b>		
SC 1.1.	Is the wetland within a National Wildlife Refuge, National Park, National Estuary		
50 1.1.	Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific		
	Reserve designated under WAC 332-30-151?		
	☐ Yes = Category I ☐ No - Go to SC 1.2		
SC 1.2.	Is the wetland unit at least 1 ac in size and meets at least two of the following three conditions?		
T	The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing,		
	and has less than 10% cover of non-native plant species. (If non-native species are		
	Spartina, see page 25)		
	At least 3/4 of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-		
	grazed or un-mowed grassland.		
	The wetland has at least two of the following features: tidal channels, depressions with		
	open water, or contiguous freshwater wetlands.		
	☐ Yes = Category I ☐ No = Category II		
SC 2.0. Wetlands of High Conservation Value (WHCV)			
	Has the WA Department of Natural Resources updated their website to include the list		
	of Wetlands of High Conservation Value?		
SC 2.2.	Is the wetland listed on the WDNR database as a Wetland of High Conservation Value?		
	☐ Yes = Category I ☑ No = Not WHCV		
SC 2.3.	Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland?		
	http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf		
	☐ Yes - Contact WNHP/WDNR and to SC 2.4 ☑ No = Not WHCV		
SC 2.4.	Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation		
	Value and listed it on their website?		
	☐ Yes = Category I ☑ No = Not WHCV		
SC 3.0. Bogs			
	Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation		
	in bogs? Use the key below. If you answer YES you will still need to rate the		
	wetland based on its functions.		
SC 3.1.	Does an area within the wetland unit have organic soil horizons, either peats or mucks,		
	that compose 16 in or more of the first 32 in of the soil profile?		
	☐ Yes - Go to <b>SC 3.3</b> ☐ No - Go to <b>SC 3.2</b>		
SC 3.2.	Does an area within the wetland unit have organic soils, either peats or mucks, that are		
	less than 16 in deep over bedrock, or an impermeable hardpan such as clay or volcanic		
	ash, or that are floating on top of a lake or pond?		
	☐ Yes - Go to SC 3.3 ☐ No = Is not a bog		
SC 3.3.	Does an area with peats or mucks have more than 70% cover of mosses at ground		
	level, AND at least a 30% cover of plant species listed in Table 4?		
	☐ Yes = Is a Category I bog ☐ No - Go to SC 3.4		
	NOTE: If you are uncertain about the extent of mosses in the understory, you may		
	substitute that criterion by measuring the pH of the water that seeps into a hole dug at		
	least 16 in deep. If the pH is less than 5.0 and the plant species in Table 4 are present,		
	the wetland is a bog.		
SC 3.4.	Is an area with peats or mucks forested (> 30% cover) with Sitka spruce, subalpine fir,		
	western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann		
	spruce, or western white pine, AND any of the species (or combination of species) listed		
	in Table 4 provide more than 30% of the cover under the canopy?		
	☐ Yes = Is a Category I bog ☐ No = Is not a bog		

22.12		ı
SC 4.0.	Forested Wetlands	
	Does the wetland have at least 1 contiguous acre of forest that meets one of these	
	criteria for the WA Department of Fish and Wildlife's forests as priority habitats? <i>If you</i>	
	answer YES you will still need to rate the wetland based on its functions.	
	Old-growth forests (west of Cascade crest): Stands of at least two tree species,	
	forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac	
	(20 trees/ha) that are at least 200 years of age OR have a diameter at breast height	
	(dbh) of 32 in (81 cm) or more.	
	Mature forests (west of the Cascade Crest): Stands where the largest trees are 80- 200	
	years old OR the species that make up the canopy have an average diameter (dbh)	
	exceeding 21 in (53 cm).	
	☐ Yes = Category I ☑ No = Not a forested wetland for this section	
SC 5.0.	Wetlands in Coastal Lagoons	
	Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?	
	The wetland lies in a depression adjacent to marine waters that is wholly or partially	
	separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently,	
	rocks	
	The lagoon in which the wetland is located contains ponded water that is saline or	
	brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (needs to	
	be measured near the bottom)	
	☐ Yes - Go to SC 5.1 ☐ No = Not a wetland in a coastal lagoon	
SC 5.1	Does the wetland meet all of the following three conditions?	
JOC 3.1.	The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing),	
	and has less than 20% cover of aggressive, opportunistic plant species (see list of	
	species on p. 100).	
	At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-	
_	grazed or un-mowed grassland.	
	The wetland is larger than $^1/_{10}$ ac (4350 ft <sup>2</sup> )	
	☐ Yes = Category I ☐ No = Category II	
SC 6.0. Interdunal Wetlands		
	Is the wetland west of the 1889 line (also called the Western Boundary of Upland	
	Ownership or WBUO)? If you answer yes you will still need to rate the wetland	
	based on its habitat functions.	
	In practical terms that means the following geographic areas:	
	Long Beach Peninsula: Lands west of SR 103	
	Grayland-Westport: Lands west of SR 105	
	Ocean Shores-Copalis: Lands west of SR 115 and SR 109	
	☐ Yes - Go to SC 6.1 ☐ No = Not an interdunal wetland for rating	
SC 6.1.		
00 0.1.	(rates H,H,H or H,H,M for the three aspects of function)?	
0000	☐ Yes = Category I ☐ No - Go to SC 6.2	
SC 6.2.	Is the wetland 1 ac or larger, or is it in a mosaic of wetlands that is 1 ac or larger?	
0000	☐ Yes = Category II ☐ No - Go to SC 6.3	
SC 6.3.	Is the unit between 0.1 and 1 ac, or is it in a mosaic of wetlands that is between 0.1 and	
	1 ac?	
	☐ Yes = Category III ☐ No = Category IV	
Category of wetland based on Special Characteristics		
If you ar	nswered No for all types, enter "Not Applicable" on Summary Form	



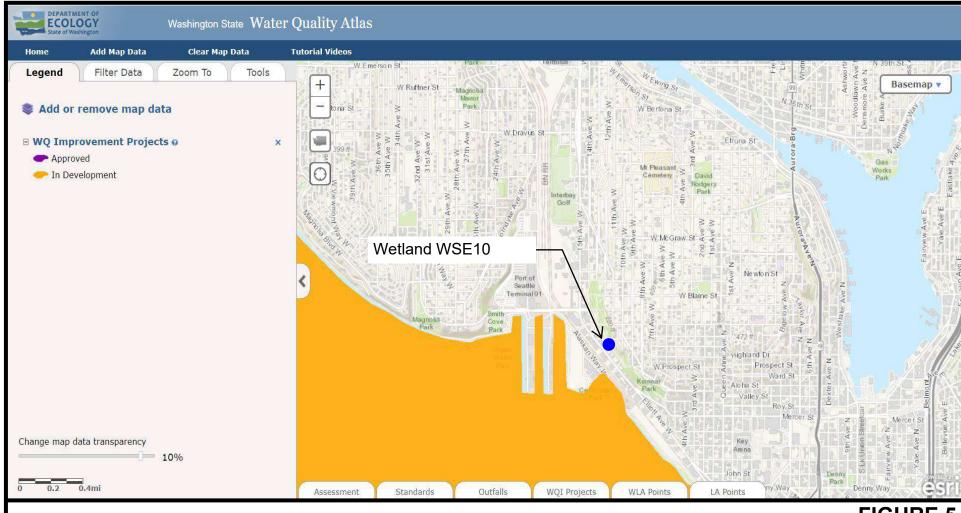






## FIGURE 4

Questions: S 3.1, S 3.2



## FIGURE 5

Questions: S 3.3

