Critical Areas Assessment

Tolt Dam Early Warning System Replacement City of Carnation and King County, Washington

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1 INTRODUCTION

Seattle Public Utilities (SPU) owns and operates the South Fork Tolt Dam and Reservoir as a major asset of the City of Seattle's municipal drinking water supply system. The Tolt Dam Early Warning System (TEWS) is a critical life safety system that alerts residents in and around the City of Carnation of an imminent dam breach or failure at the Tolt Reservoir. The current system is failing, resulting in one false alarm and two missed messages so far. The existing system is outdated, and its components cannot be rehabilitated to provide operational stability and will need to be replaced. Failure to address this emergency could result in a catastrophic loss of life in the event of an actual dam failure.

SPU plans to replace outdated equipment and enhance the resiliency and reliability of the TEWS in two phases. The following sections give an overview of the project purpose, locations, components.

1.1 Project Purpose and Description

The existing warning system was constructed in approximately 1985 and modified several times in the following years. Three recent tests documented failures in the system, specifically:

- 1. During late morning of Tuesday, July 28, the Tolt Dam Warning System sounded a false alarm that for 38 minutes erroneously messaged the community of Carnation to evacuate. SPU activated the Federal Energy Regulatory Commission (FERC) South Fork Tolt Project Emergency Action Plan (Tolt EAP) and attempted to notify the public and partner agencies of the false alarm. An investigation into the cause of the false alarm was started immediately after the incident and is ongoing. In the days immediately following the false alarm, SPU used the contacts listed in the Tolt EAP, along with intergovernmental and executive contacts, and SPU provided updates regarding the status of the Tolt Dam Failure Warning System to response partners and communities. On August 3, representatives from SPU/Seattle City Light (SCL) and partner agencies participated in a Tolt Dam Warning Siren 32 Community Meeting hosted by the Carnation City Council to discuss the ongoing investigation of the incident, listen to the community impacts due to the false alarm and reports from the public and downstream agencies regarding the operational status of the warning system. On Wednesday, August 5, a subsequent test of the Tolt Dam Failure warning system informed and verified to SPU that repairs were needed for several sirens. Agencies involved in the response included SPU, SCL, Seattle Information Technology, King County Office of Emergency Management (KCOEM), King County Department of Natural Resources, King County Sherriff's Office Communications and Patrol Operations, NORCOM, ESF-R, RVSD, and the City of Carnation.
- 2. On September 9, 2021, during the weekly scheduled system test the alarm was triggered, but the warning sirens (main alert for the general public) did not go off. On January 13, 2021, the weekly scheduled test of the system resulted in another alarm failure.
- 3. The false alarm and subsequent failed weekly tests are an indication of wider system failure and existing equipment requires replacement as soon as possible to avoid further failures. The TEWS alerts the residents of the City of Carnation and surrounding unincorporated areas to evacuate in the event of imminent dam failure.

If the system does not function properly there could be a catastrophic loss of life in the event of an actual dam failure. Potential problems and issues identified in the existing system include outdated components no longer supported by the manufacturers and old technology with security vulnerabilities that could result in a system shutdown from a single point of failure.

The purpose of this project is to respond to this emergency by: replacing and update the existing warning system; replacing and adding outdoor mounted sirens, and indoor mounted alerting devices; adding new



highway message signs; upgrading existing radio equipment that supports the warning system; and supplementing, as needed, with additional sites and signage.

This entire process has had significant public engagement including:

- Regular presentations at the Carnation City Council meetings
- Regular public engagement meetings where the project has been explained and the public has had an opportunity to ask questions and make comments
- A project website, mailings to the community, newspaper notices, and public access to the project manager so the public can ask questions and make comments

PBS Engineering and Environmental Inc. (PBS) has prepared this Critical Areas Assessment to document existing conditions at each proposed location and summarize the findings of fieldwork conducted in spring of 2022.

1.2 Project Location

The current system includes several components: detection devices at the dam site, verification cameras, microwave communication links between the site and the remote-control rooms, data network connections to the King County I-Net, outdoor warning sirens downstream along the Tolt River and in Carnation town center, indoor sirens in school and fire station buildings, siren controls in the two SPU control centers, added electronic highway message signs and added street evacuation signs.

The detection devices, cameras, and indoor sirens will be located within existing facilities, and will not require additional land clearing or construction of a building or structure. As a result, these elements will not be further discussed in this assessment. The remaining project elements consist of pole-mounted outdoor warning sirens, highway message signs, radio and microwave relay stations, and evacuation signs.

Project element locations are Shown in Appendix A, Figure 1-1 through 1-18.

1.2.1 Outdoor Warning Sirens (OWS)

The OWS will provide an audible warning in the event of a dam break. Each OWS installation consists of an outdoor warning siren alarm (approximately 5' 5" tall, mounted on top of a pole extending 30' above the ground) with a VHF Yagi antenna and internal VHF radio. Installations include backup batteries where commercial power is not available or feasible, and each installation site will include a concrete pad at the base of the pole to allow for safe access by workers for routine maintenance.

The equipment will be mounted on wooden utility poles extending approximately 30 feet above the ground. The poles will be installed in a drilled hole approximately 7 feet deep with no separate foundation.

Temporary poles will be installed adjacent to the permanent pole sites to test the sirens and communications systems before permanent installation. The temporary poles will be located within developed portions of the rights-of-way (ROW) and will sit on the surface supported by an approximately 5-foot square base. No foundation or bored hole will be required, and a minimum of vegetation clearing and surface leveling will be done to prepare the area. Siren location and work area footprints are provided in the attachments.



1.2.2 Highway Message Signs (HMS)

The reader-board type of HMS will provide a visible warning to drivers on State Route (SR) 203 and several King County roads that connect to SR 203. In the event of a dam failure, the HMS activates with a visible message advising the drivers not to enter the areas anticipated to be flooded by a dam break.

Each HMS installation consists of a digital highway message display and a cabinet that provides control for the sign. Primary power is supplied by a solar panel and battery system. The equipment will be mounted on an 18-foot tall, 12-inch steel post, bolted to a concert foundation approximately 2' 6" in diameter and 10 feet deep. A communications antenna is mounted on the pole, near the top.

1.2.3 Evacuation Route Signage

The added evacuation route signage proposed by King County Emergency Management for public safety will consist of single static signs mounted on standard street sign poles (similar to stop signs and speed limit signs) embedded directly in the ground or bolted to an existing concrete sidewalk or similar structure. These signs will be located within existing developed road ROW within the municipal limits of the Cities of Carnation and Duvall and also locations within Washington State Department of Transportation (WSDOT) and King County road ROW.

Specific locations of proposed work and a brief accompanying site description can be found in the following table.



Table 1. Site Locations and Description

Component	Location	Site Description	Jurisdiction
Outdoor War	rning Sirens		
OWS 1	South side of NE 80th Street, approximately 700 feet west of 361st Avenue NE	The proposed location is bordered by rural single-family residences and associated landscaping. A dry ditch runs along the north side of NE 80th Street. The King County zoning for properties outside the ROW is RA-10.	King County
OWS 2	East side of Tolt River Road, approximately 500 feet south of NE 69th Street	The proposed location is bordered by sparse rural single-family residences and associated landscaping. A drainage ditch runs along the west side of Tolt River Road. The King County zoning for properties outside the ROW is RA-10 and Tolt River is approximately 1,500 feet to the east.	King County
OWS 3ex	North side of Tolt River Road, approximately 1,800 feet east of 338th Avenue NE	The existing pole (to be removed) is bordered by sparse rural single-family residences and associated landscaping. A ditch runs along the north side of Tolt River Road and flows northeast with associated culverts running under Tolt River Road and discharging to the south. Tolt River is approximately 500 feet to the south and the King County zoning for properties outside the ROW is RA-10.	King County
OWS 3	East side of Tolt River Road	The proposed location is bordered by sparse rural single-family residences and associated landscaping. A ditch runs along the west side of Tolt River Road flowing south. Tolt River is approximately 1,000 feet to the east and the King County zoning for properties outside the ROW is RA-10.	King County
OWS 4	Approximately 220 feet north of Entwistle Street and 225 feet west of 325th Avenue NE	The Snoqualmie Valley Trail runs north-south and is approximately 75 feet to the west of the proposed location. Single-family residences border the proposed location with a city park (Loutsis Park) on the south side of Entwistle street. The proposed location is within the urban growth area (UGA) of the City of Carnation and on a Puget Sound Energy (PSE) ROW.	City of Carnation
OWS 5	In the gravel parking lot at Tolt Vista House, off Tolt Reservoir Road and NR 6270	The proposed location is on gravel fill, approximately 300 feet west of the South Fork Tolt Reservoir. Gravel access roads lead to the Tolt Vista House, which is owned and utilized by SCL. The King County zoning for this area is F.	King County
OWS 6	South of the regulating basin, in the existing transmission line easement to the south of Tolt River Road SE	The proposed location is relatively undeveloped with the exception of gravel access roads mainly utilized by PSE and SCL employees, and the occasional mountain biker/hiker. Locked gates limit vehicular access to this area. The King County zoning for this area is F.	King County



Component	Location	Site Description	Jurisdiction
OWS 8	South side of Tolt River Road NE, approximately 100 feet west of 334th Avenue NE; within the City of Carnation	The proposed location is bordered by a recently constructed single-family housing development and associated landscaping onto the west. At the time of field work, construction was ongoing. To the north of Tolt River Road are rural single-family residences with associated landscaping. The King County zoning for properties north of Tolt River Road NE is RA-10 and the proposed location is within the UGA.	City of Carnation
OWS 9	Southwest corner of the intersection of NE 60th Street and SR 203	The proposed location is bordered by rural single-family housing on the south side of NE 60th Street and farmland to the north. The King County zoning for properties south of NE 60th Street is UR and within the UGA. For properties to the north, the King County zoning code is A-35.	King County
OWS 10	North side of NE 40th Street, immediately south of the parking lot for Tolt McDonald Park Soccer Field	The proposed location is approximately 800 feet east of Snoqualmie River. A city owned park (Tolt McDonald Park) encircles the location. North of NE 40th Street lies within the UGA. South of NE 40th Street, between Snoqualmie River and SR 203 is zoned as RA-10 for the western half and UR for the eastern half. Additionally, the area zoned UR is within the UGA of King County.	King County
Highway Me	ssage Signs		
HMS 1	Southwest corner of the intersection of NE Carnation Farm Road and SR 203	The proposed location is bordered by farmland accompanied by single-family residences. Snoqualmie River is approximately 4,000 feet to the west and the King County zoning for properties outside the ROW is A-35.	King County
HMS 2	East side of SR 203, north of NE 32nd Street	The proposed location is bordered by farmland accompanied by single-family residences south of NE 32nd Street. Tolt River is approximately 200 feet north and an undeveloped riparian corridor occupies the north side of NE 32nd Street. The King County zoning for properties outside the ROW is RA-10 north of NE 32nd Street and A-35 south of NE 32nd Street.	King County
HMS 3	Northeast corner of roundabout where SR 203 meets SR 202	The proposed location is bordered by Snoqualmie river and its riparian corridor approximately 350 feet to the south A city park (Fall City Community Park) is located on the west side of SR 203 and farmland occupies the property to the east. The King County zoning for properties outside the ROW is A-35 to the west of SR 203, and a combination of RA-10, RA-10-P, and A-10 to the east.	King County
HMS 4 (3 poles)	Northeast, northwest, and southwest corners of the intersection of SR 203 and NE 124th Street	The Snoqualmie Valley Trail runs along the west side of SR 203 and is bordered by a mixed canopy forest approximately 150 feet wide. To the west of the trail is occupied by farmland zoned as A-35. Rural single-family residences occupy the area east of SR 203 with dense mixed canopy forest occurring southeast of the intersection. The King County zoning east of SR 203 is RA-10.	King County



Component	Location	Site Description	Jurisdiction
HMS 5	Southeast corner of the intersection of NE tolt Hill Road and West River Road	The proposed location is approximately 450 feet west of Snoqualmie River. The west side of West River Road is occupied by rural single-family residences. To the east is an undeveloped riparian corridor. The King County zoning for properties outside the ROW is RA-10 to the northwest and A-35 to the southeast of the intersection.	
HMS 7	Northwest corner of the intersection of SR 203 and NE Stillwater Road	The Snoqualmie Valley Trail and its associated undeveloped vegetation is approximately 750 feet southwest of the proposed location. Stillwater Store and gas station are on the south side of SR 203. Rural single-family residences and associated landscaping occupy the area west of the proposed location. North of the proposed location is occupied by relatively undeveloped land with a mixed canopy forest. South of SR 203, the King County zoning is A-35 and north is a mixture of RA-2.5 and RA-10.	King County
HMS 8	Northeast corner of the intersection of SR 203 and E 24th Street/Langlois Lake Road	The proposed location is bordered by rural single-family residences and associated landscaping. Snoqualmie River is approximately 1,500 feet west of the proposed location. A wetland lies to the west of the proposed location on the west side of SR 203. The west side of SR 203 and northeast quadrant of the intersection are zoned as A-35. King County zoning for the southeast corner of the intersection is A-10 transitioning to RA-10 further east.	King County
Other Structi	ures		
Passive Antenna	North of Tolt Reservoir Road, north of Tolt Vista House	The proposed location is relatively undeveloped with the exception of gravel access roads mainly utilized by PSE and SCL employees, and the occasional mountain biker/hiker. Locked gates limit vehicular access to this area. There is an existing tower located on a cement pad located at the end of a revegetated, gravel utility access road. The King County zoning for this area is F.	King County
PSERN SWAN	Located on the existing tower at the southeast corner of the intersection of NE North Fork Road and Swan Loop Road	The proposed location is on gravel fill, with access roads leading to the existing tower. Access roads are mainly utilized by PSE and SCL employees and locked gates limit vehicular access to this area. Five stormwater detention ponds are located approximately 150' west of the proposed location. The King County zoning for this area is F.	King County



2 METHODS

The Study Area for this report includes the proposed facility locations and the area extending approximately 300-feet beyond the proposed location. PBS evaluated the Study Areas for the presence of wetlands and streams via an in-office review and an on-site field investigation. The office review included the entire Study Area. The field investigation was confined to the Study Area, and supplemental information for off-site portions of the Study Area was collected from publicly available documents and data. The two methods used for these two evaluations are described in greater detail below.

2.1 Office Review

The office review included a variety of online sources and documents to identify previously mapped critical areas or physical conditions that would support the presence of critical areas within the Study Area. Documents reviewed included:

General Site Information

Current and recent historical aerial photographs (Google Earth, 2022)

Wetland Information

- Climate and precipitation data (US Department of Agriculture National Resources Conservation Service [USDA NRCS] Field Office, 2022a)
- Digital soil data for the project area (USDA NRCS, 2022b)
- Official Soil Series Descriptions (USDA NRCS, 2022c)
- Digital wetland data from the National Wetlands Inventory (U.S. Fish and Wildlife Service [USFWS], 2022a)
- Local critical areas map from King County iMap (King County, 2022)

Stream, Other Waters, And Fish and Wildlife Information

- Endangered Species information (IPaC Information for Planning and Consultation; USFWS, 2022b)
- Priority Habitats and Species Online mapping (WDFW, 2022)
- Salmon and Steelhead Habitat Inventory and Assessment Program Statewide Fish Distribution Map (SWIFD, [The Northwest Indian Fisheries Commission, 2022])

2.2 Field Methods

2.2.1 Wetlands

Formal sample plots were recorded at likely wetland locations using the form from the Regional Supplement, and photographs were recorded to characterize typical site conditions. Data plot locations were flagged in the field using brightly colored flagging or pin flags. These flag locations were recorded with a handheld GPS unit.

2.2.1.1 Vegetation

The existing vegetation was characterized using the scientific names and indicator status from the 2016 National Wetland Plant List (Lichvar et al., 2016). A species indicator status refers to the relative frequency with which the species occurs in jurisdictional wetlands. An area satisfies the hydrophytic vegetation criteria when,



under normal circumstances, more than 50% of the dominant species from each stratum are obligate wetland (OBL), facultative wetland (FACW), or facultative (FAC) species.

2.2.1.2 Soils

The presence of hydric soils was determined using the indicators described in the Western Mountain, Valleys, and Coast (WMVC) Regional Supplement and current regulatory guidance. Soils at the sample plot locations were evaluated based on these indicators.

2.2.1.3 Hydrology

The presence of wetland hydrology is determined by evaluating a variety of direct and indirect field indicators. The field indicators listed in the WMVC Regional Supplement include but are not limited to: visual observation of inundation or saturation, sediment deposition, hydric soil characteristics, watermarks, drift lines, oxidation around living roots and rhizomes, and water-stained leaves. To satisfy the hydrology criterion for wetlands, soils need to be inundated or saturated to the surface for at least 14 consecutive days during the growing season.

2.2.1.4 Growing Season

The growing season beginning and ending dates may be needed to evaluate the presence of certain indicators of the presence of wetlands, such as flooding, ponding, and shallow water tables (US Army Corps of Engineers [USACE], 2010). The Regional Supplement allows growing season dates to be estimated using the closest and best available weather station data with sufficient long-term data to calculate the 50% probability of a temperature of 28° Fahrenheit (°F) or higher (USACE, 2010).



3 RESULTS

The results of the office review and the field investigation are provided below.

3.1 Office Review

3.1.1 Climate

Precipitation measurements for the three months preceding the field visit were evaluated to assess normal conditions and growing seasons limits. Due to the large geographic spread of sites, two weather stations were used in the precipitation analysis: Snoqualmie Falls and Tolt South Fork Dam weather stations. Precipitation data and analysis for this station are shown in the following tables.

Table 2. Precipitation Analysis, WETS Data for 1971–2000, Snoqualmie Falls, WA Station

Month	30% Chance Precip. Less Than	30% Chance Precip. More Than	Monthly Total Rainfall (2022)	Condition	Value	Weight	Total Points ¹
February	5.78	10.04	6.35	Normal	2	3	6
January	6.94	10.52	8.22	Normal	2	2	4
December	6.71	11.36	8.40	Normal	2	1	2
Sum							12

Table 3. Precipitation Analysis, WETS Data for 1971–2000, Tolt South Fork Dam, WA Station

Month	30% Chance Precip. Less Than	30% Chance Precip. More Than	Monthly Total Rainfall (2022)	Condition	Value	Weight	Total Points ¹
February	8.58	14.28	8.02	Dry	1	3	3
January	9.28	13.80	16.89	Wet	3	2	6
December	9.68	15.44	13.51	Normal	2	1	2
Sum			_		·		11

 $^{^{1}}$ Dry = 6–9 points; Normal = 10–14 points; Wet = 15–18 points.

For this three-month period, precipitation fell within the normal range at both the Snoqualmie Falls and Tolt Dam stations. As a result, it is our professional opinion that indicators of wetland hydrology observed at the site accurately represent the presence of wetlands.

The growing season for the Snoqualmie Falls weather station extends from March 9 to November 17, a total of 253 days. The Tolt South Fork Dam weather station has insufficient data to predict a growing season; we can assume that the growing season parallels that of the Snoqualmie Falls station due to their geographic similarities.

3.1.2 Soils

Soils present in the Study Area are shown in Appendix B, Figures 2-1 through 2-19. A summary of the characteristics of these soils can be found below in Table 4.



Table 4. Soils Present in the Study Area

Symbol	Soil Map Unit Name	Slope	Landform	Parent Material	Drainage Class	Soils Hydric? (Hydric Inclusions?)	Site(s)
53	Edgewick silt loam	0–3	Terraces	Sandy and gravelly glacial outwash	Well drained	No (5% Oridia, Yes)	OWS 1 OWS 8 HMS 2 HMS 3
241	Snoqualmie loamy fine sand	0–8	Terraces	Gravelly alluvium	Somewhat excessively drained	No (2% Riverwash, Yes)	OWS 1
258	Tokul-Pastik complex	45–90	Hillslopes, Escarpments	Volcanic ash over basal till	Moderately well drained	No (25% Pastik, No)	OWS 1 OWS 2 PSERN
11	Barneston gravelly ashy coarse sandy loam	8–15	Moraines, Eskers, Kames	Volcanic ash mixed with loess over sandy and gravelly glacial outwash	Somewhat excessively drained	No (5% Norma, Yes) (5% Nargar, No) (5% Birdsview, No)	OWS 2 HMS 4 HMS 7
187	Pilchuck loamy fine sand	0–3	Flood plains	Alluvium	Somewhat excessively drained	No (2% Riverwash, Yes)	OWS 2 OWS 3ex OWS 3 OWS 8 HMS 2
256	Tokul gravelly medial loam	15–30	Till plains, Hillslopes	Volcanic ash mixed with loess over glacial till	Moderately well drained	No (10% Rinker, No) (5% Pastik, No) (5% Vanzandt, No) (5% Barneston, No) (3% Norma, Yes) (2% McKenna, Yes)	OWS3ex OWS 3
215	Riverwash	n/a	Flood plains	Alluvium	n/a	Yes	OWS3ex HMS 2
170	Oridia silt loam	0–2	Flood plains	Alluvium	Poorly drained	Yes (5% Shalcar, Yes) (5% Oridia, Yes)	OWS 4 OWS 10 HMS 1
9	Arents	0–8	Plains, Terraces	Volcanic ash and glacial drift	Well drained	No (1% Norma, Yes)	OWS 5



Symbol	Soil Map Unit Name	Slope	Landform	Parent Material	Drainage Class	Soils Hydric? (Hydric Inclusions?)	Site(s)
195	Pits	n/a	n/a	n/a	n/a	No	OWS 5 Passive
10	Barneston gravelly ashy coarse sandy loam	0-8	Moraines, Eskers, Kames	Volcanic ash mixed with loess over sandy and gravelly glacial outwash	Somewhat excessively drained	No (5% Norma, Yes) (5% Birdsview, No) (5% Nargar, No)	OWS 6 PSERN
12	Barneston gravelly ashy coarse sandy loam	30-65	Moraines, Eskers, Kames	Volcanic ash mixed with loess over sandy and gravelly glacial outwash	Somewhat excessively drained	No (5% Nargar, No) (5% Birdsview, No) (5% Norma, Yes)	OWS 6 PSERN
248	Sultan silt loam	0-2	Terraces	Alluvium	Moderately well drained	No (3% Puget, Yes) (3% Woodinville, Yes)	OWS 9 HMS 1
202	Puget silty clay loam	0-2	Flood plains	Alluvium	Poorly drained	Yes (5% Puget, Yes) (5% Shalcar, Yes)	HMS 1 HMS 4
174	Pastik loam	0-30	n/a	Volcanic ash and lacustrine deposits	Moderately well drained	No	HMS 4
264	Typic Haplorthods	35-100	Valley sides, Mountain sides	Volcanic ash, glacial drift, and colluvium	Well drained	No	HMS 4
Sk	Seattle muck	n/a	Depressions	Grassy organic material	Very poorly drained	Yes (10% Tukwilla, Yes) (10% Shalcar, Yes) (3% Bellingham, Yes) (2% Norma, Yes)	HMS 5
EvC	Everett very gravelly sandy loam	8-15	Kames, Eskers, Moraines	Sandy and gravelly glacial outwash	Somewhat excessively drained	No (10% Alderwood, No) (10% Indianola, No)	HMS 5
AkF	Alderwood and Kitsap soils, very steep	n/a	Moraines, Till plains	Basal till with some volcanic ash	Moderately well drained	No (25% Kitsap, No)	HMS 5



Symbol	Soil Map Unit Name	Slope	Landform	Parent Material	Drainage Class	Soils Hydric? (Hydric Inclusions?)	Site(s)
157	Nooksack silt Ioam	0–2	Terraces, Flood plains	Alluvium	Moderately well drained	No (3% Oridia, Yes) (3% Puget, Yes)	HMS 4 HMS 7
231	Seattle muck	0–1	Depressions, Valleys, Till plains	Herbaceous organic material and woody organic material	Very poorly drained	Yes (5% Puget, Yes) (5% Seattle, Yes) (5% Shalcar, Yes)	HMS 8
205	Ragnar-Lynnwood complex	2–15	Outwash terraces	Glacial outwash	Well drained	No (40% Lynnwood, No) (2% Norma, Yes)	HMS 8
237	Skykomish gravelly sandy loam	0–30	Terraces, Escarpments	Volcanic ash and glacial outwash	Somewhat excessively	No	Passive
238	Skykomish gravelly sandy loam	30–65	Terraces, Escarpments	Volcanic ash and glacial outwash	Somewhat excessively	No	Passive



3.1.3 Critical Area Inventories

PBS staff reviewed King County iMap to evaluate the presence of critical areas within each Study Area (King County, 2022). Descriptions of Study Areas containing critical areas can be found in the following sections, and shown in Appendix C, Figures 3-1 through 3-19.

3.1.3.1 OWS 1

The parcel (1225079007) occupying the southern half of the Study Area has a sensitive area notice on title. The Study Area is almost entirely within the Federal Emergency Management Agency (FEMA) 100-year floodplain and the southeastern edge is within the FEMA floodway. The northern quarter of the Study Area is noted as a potential landslide hazard area with potential steep slope hazard areas toward the northern edge.

The proposed work area is on the developed roadway, but is mapped within the FEMA 100-year floodplain.

3.1.3.2 OWS 2

The western quarter of the Study Area is noted as a potential landslide hazard area with accompanying steep slope hazard areas and an additional potential steep slope hazard area running north to south just east of the proposed location. An unnamed tributary of Tolt River runs north to south through the approximate center of the Study Area. The northeastern third of the Study Area is also classified as a moderate to severe channel migration hazard area and is within the FEMA 100-year floodplain. The northern edge of the Study Area encroaches onto Tolt River Natural Area, a King County owned nature refuge.

The proposed work area is on the developed roadway, but is mapped as a moderate channel migration hazard area.

3.1.3.3 OWS 3ex

According to the National Wetland Inventory, a type 4 palustrine forested wetland extends onto the southeastern edge of the Study area (parcels 1425079046 and 1425079043). Two unnamed tributaries intersect in the northwest quadrant of the Study Area and proceed to cross under Tolt River Road NE, flowing northwest to southeast and discharging to Tolt River to the west. The northwest half of the Study Area is listed as a potential landslide hazard area with accompanying buffers and steep slope hazard areas. The southeast half of the Study Area is listed as a severe channel migration hazard area and is located within the FEMA 100-year floodplain. Parcels 1425079011 (to the north) and 1425079043 (to the southeast) have sensitive area notices on their titles and are included in the Study Area.

The existing pole is in an area mapped as a potential landslide hazard buffer, but is within the developed road ROW.

3.1.3.4 OWS 3

The western third of the Study is classified as a potential landslide hazard area with accompanying steep slopes hazard areas, buffers, and erosion hazard. The parcels occupying the western and southeastern portions of the Study Area (parcels 1425079064, 1425079009, and 1425079055) have sensitive area notices on their titles. The eastern half of the Study Area is noted as a channel migration hazard area with most of the area being classified as moderate and more severe hazards reported at the southeast boundary.

The proposed work area is on the developed roadway and has no overlapping critical areas.



3.1.3.5 OWS 4

No critical areas are listed on King County iMap.

3.1.3.6 OWS 5

No critical areas are listed on King County iMap.

3.1.3.7 OWS 6

The southern half of the Study Area is occupied by potential steep slope hazard areas with the majority of the areas located to the west.

The proposed work area is mapped as a potential steep slope hazard area and steep slope buffer, but has been previously disturbed by construction of access roads for the existing utility ROW.

3.1.3.8 OWS 8

The northern edge of the Study Area contains potential steep slope hazard areas with accompanying erosion hazards.

The proposed work area is located on the developed roadway and has no overlapping critical areas.

3.1.3.9 OWS 9

The Study Area is located within the FEMA 100-year floodplain, excluding the northwest edge which is located within the FEMA floodway.

The proposed work area is on the developed roadway, but is mapped within the FEMA 100-year floodplain.

3.1.3.10 OWS 10

The entirety of the Study Area is located within the FEMA floodway.

The proposed work area is located on the developed roadway, but is mapped within the FEMA floodway.

3.1.3.11 HMS 1

The entirety of the Study Area is located within the FEMA floodway. An unnamed water feature originating from Horseshoe Lake crosses the southwest edge of the Study Area, presumably discharging into a Type I Wetland located northwest of the Study Area.

The proposed work area is on the developed roadway, but is mapped within the FEMA floodway.

3.1.3.12 HMS 2

Langlois Creek transects the Study Area flowing east under SR 203 and discharging into a Type II Wetland outside the Study Area. The Study Area is located within a severe channel migration hazard area, excluding the southern edge which is classified as moderate. The Study Area is also within the FEMA floodway.

The proposed work area is located on the developed roadway, but is mapped as a severe channel migration hazard zone for Tolt River.



3.1.3.13 HMS 3

The southwestern edge of the Study area encroaches onto a parcel (no. 1524079001) with a sensitive area notice on the title. The Study Area is also within the FEMA floodway.

The proposed work area is on the developed roadway and has no overlapping critical areas.

3.1.3.14 HMS 4

The southeast quarter of the Study Area is occupied by potential steep slope hazard areas. Additionally, the northeast quarter of the Study Area is classified as a potential landslide hazard area with an accompanying buffer. According to the King County Wetlands Inventory, a Type II Wetland occupies the southwest quarter of the Study Area. The Study Area encroaches onto parcel 2526069091 to the east, which has a sensitive area notice on the title. The western half of the Study Area is located within the FEMA 100-year floodplain with the western edge located within the FEMA floodway.

The proposed work area is located on the developed roadway, but is mapped within the FEMA 100-year floodplain.

3.1.3.15 HMS 5

The majority of the Study Area in the southwest is classified as a potential landslide hazard area with an accompanying buffer and scattered steep slope hazard areas. The remaining southwest portion is occupied by a Type II Wetland identified by the King County Wetlands Inventory. The Study Area encroaches onto three parcels to the north with sensitive area notices on their titles (2025079051, 2025079050, and 2025079004). The southwestern half of the Study Area is located within the FEMA 100-year floodplain which transitions to the FEMA floodway moving east. An unnamed water feature connected to Snoqualmie River intersects the southeast edge of the Study Area on parcel no. 2025079028.

The proposed work area is located on the developed roadway, but is mapped as a potential landslide and erosion hazard area.

3.1.3.16 HMS 7

The southwest half of the Study Area is identified as a potential landslide hazard area and an accompanying buffer; additionally, the northeast quarter contains potential steep slope hazard areas and erosion hazard areas. Four parcels with sensitive area notices on their titles occupy approximately half of the Study Area (8016100095, 0425079008, 0425079008, and 0425079048). The southeast edge of the Study Area is located within the FEMA 100-year floodplain. An unnamed water feature connecting Lake Marcel and Harris Creek transects the Study Area north to south.

The proposed work area is on the developed roadway, but is mapped as a potential landslide hazard area and accompanying 50-foot buffer.

3.1.3.17 HMS 8

According to the King County Wetlands Inventory, a Type II Wetland occupies the western quarter of the Study Area. Additionally, the western edge of the Study Area is located within the FEMA 100-year floodplain.

The proposed work area is located on the developed roadway with no overlapping critical areas.



3.1.3.18 Passive Antenna

No critical areas are listed on King County iMap.

3.1.3.19 PSERN SWAN

The southeastern half of the Study Area is identified as a potential landslide and erosion hazard area with an accompanying buffer and potential steep slope hazard areas.

The proposed work area has been substantially developed and the work will be a modification of the current infrastructure in place. The area is mapped as a potential landslide hazard area.

3.1.4 Streams and Fish and Wildlife Habitat

The project is located within the Snohomish Water Resource Inventory Area 7. PBS staff reviewed maps and electronic data for the project Study Areas from a variety of sources for indicators of the presence of waters, fish, and wildlife habitats. PBS also reviewed endangered species data from the US Fish and Wildlife Service's (USFWS) Information for Planning and Consultation (IPaC) website (USFWS, 2022b).

The following endangered or sensitive species were identified as potentially affected by activities at each site:

- Gray wolf (Canis lupus)¹ Endangered
- Marbled murrelet (Brachyramphus marmoratus) Threatened
- Yellow-billed cuckoo (Coccyzus americanus) Threatened
- Bull trout (Salvelinus confluentus) Threatened
- Monarch butterfly (Danaus plexippus) Candidate

Marbled murrelet and streaked horned lark have highly specialized habitat needs that are not present in any of the Study Areas. More specifically, the Study Areas are too far from any marine environments or old growth forests to be considered suitable marbled murrelet habitat. Additionally, they do not contain enough sparsely vegetated land to support streaked horned lark foraging and nesting. No species of milkweed (*Asclepias spp.*) were observed within the Study Areas so it can be assumed that monarch butterfly foraging is not supported. The presence of riparian habitat suggests that yellow-billed cuckoos could be present within the Study Areas of: OWS 2, HMS 2, 3, 5, 8, and PSERN. Of these Study Areas, HMS 2, 5, and PSERN provide the least disturbed and therefore most suitable riparian habitat for yellow-billed cuckoos. According to the Washington Department of Fish and Wildlife (WDFW) annual report documenting the status, distribution, and management of wolves, there are no known wolf pack or single territories at any proposed locations (WDFW, Confederated Tribes of the Colville Reservation, Spokane Tribe of Indians, United States Department of Agriculture-Animal Plant Health Inspection Service (USDA-APHIS) Wildlife Services, and the USFWS, 2022).

Habitat mapping from the Northwest Indian Fisheries Commission (NWIFC) indicates bull trout presence in the HMS 2, HMS 4, and HMS 7 Study Areas. See table 5 for a complete list of fish presence.

¹ Potentially present at OWS 1, 2, 3ex, 3, 5, 6, 8, PSERN, and Passive Antenna



Table 5. NWIFC Fish Presence

Site	Species Listed							
	Langlois Creek	Tolt River						
		Fall chum – Documented presence;						
		Fall chinook – Documented spawning;						
	Fall chum (<i>Oncorhynchus keta</i>) – Gradient access present;	Coho – Documented rearing;						
	Fall chinook (Oncorhynchus tshawytscha) – Gradient access present;	Pink odd year – Documented spawning;						
HMS 2	Coho (<i>Oncorhynchus kisutch</i>) – Documented presence;	Summer Steelhead (Oncorhynchus mykiss) – Documented						
	Pink odd year (<i>Oncorhynchus gorbuscha</i>) – Gradient access present;	rearing;						
	Winter steelhead – Gradient access present;	Winter steelhead – Documented spawning;						
	Bull trout (Salvelinus confluentus) – Gradient access present	Coastal cutthroat (Oncorhynchus clarkia) – Documented						
		presence;						
		Bull trout – Documented rearing						
	Fall chinook – Presumed presence;							
HMS 4	Coho – Documented presence;							
	Pink odd year – Presumed presence;							
	Bull trout – Presumed presence							
	Fall chum – Gradient access present;							
	<mark>Fall chinook</mark> – Gradient ac	·						
	Coho – Documented s							
HMS 7	Pink odd year – Gradient access present;							
	<mark>Winter steelhead</mark> – Gradient	·						
	Coastal cutthroat – Docume	•						
Vallanda labil	Bull trout – Presumed							

Yellow highlight = Salmonid species managed by National Oceanic and Atmospheric Administration Fisheries.



Priority habitats or species (PHS) identified at each site by WDFW are summarized below (Table 6). The same 300-foot buffer used to identify critical areas was used in identifying PHS to provide a conservative estimate at each site. This buffer extends well past the anticipated impacts of the proposed work.

Table 6. PHS Findings by Site

Site	PHS Identified		
OWS 1	None		
OWS 2	Oncorhynchus kisutch; Salvelinus malma/Salvelinus confluentus		
OWS 3ex	Oncorhynchus gorbuscha; O. kisutch; Oncorhynchus keta; Oncorhynchus mykiss; Oncorhynchus tshawytscha; S. malma/S. confluentus		
OWS 3	None		
OWS 4	None		
OWS 5	Aquila chrysaetos; Strix occidentalis		
OWS 6	Odocoileus hemionus columbianus		
OWS 8	None		
OWS 9	None		
OWS 10	None		
HMS 1	Cygnus buccinator; Aquatic Habitat (palustrine forested/scrub-shrub wetland)		
HMS 2	O. keta; O. mykiss; S. malma/S. confluentus; Oncorhynchus clarki; O. kisutch; O. tshawytscha; O. gorbuscha		
HMS 3	Aquatic Habitat (palustrine emergent wetland); Canis lupus		
HMS 4	Aquatic Habitat (palustrine emergent wetland)		
HMS 5	Aquatic Habitat (palustrine forested/scrub-shrub wetland)		
HMS 6	None		
HMS 7	O. kisutch; O. clarki; S. malma/S. confluentus		
HMS 8	Aquatic Habitat (wetlands)		
Passive Antenna	A. chrysaetos; S. occidentalis		
PSERN SWAN	O. hemionus columbianus		

3.1.5 Topography

The topography at the project sites ranges from approximately 100 feet above sea level (ASL) at HMS 3 in Fall City, to just under 2,000 feet ASL near the Tolt Reservoir at OWS 5. The sites within and around the City of Carnation are at elevations ranging from 200 to 250 feet ASL. Site topography is shown in Appendix C, Figures 3-1 to 3-19.

3.2 Field Investigation

Patrick Togher (Professional Wetland Scientist) and Mallory Phillips (Field Biologist) conducted site visits of each Study Areas throughout the course of 5 field days in March 2022 (March 3, 11, 16, 22, and 25) and a follow up field visit for the relocation of HMS 4NW on August 22. 2022.



3.2.1 Wetlands

Where property was owned by SPU, a formal delineation was conducted. For locations where the warning sirens and signs are located on the developed roadway prism, nearby wetlands were assessed visually assessed based on the presence of hydrophytic vegetation and visual indicators of wetland hydrology (e.g., subsurface ponding, stream water levels less than a foot below the surrounding land, etc.). Data plots were collected in or adjoining the work area to document site conditions in addition to those collected at formally delineated wetlands.

The results of the field studies are presented below. Site photographs are provided at the end of this report, and wetland boundaries are shown in Appendix C, Figure 3-1 to 3-19. Wetland Data forms are provided in Appendix D, and complete wetland rating forms for delineated wetland are provided in Appendix E.

PBS prepared wetland ratings for delineated wetlands using the Washington State Wetland Rating System for Western Washington (Hruby, 2014). The rating system assesses wetlands for water quality, hydrologic, and habitat functions based on the wetland's hydrogeomorphic class. Wetlands are scored as High, Medium, or Low functioning for Site Potential, Landscape Potential, and Value in each functional category, and a wetland rating of I to IV is assigned based on these scores. Table 7 shows the preliminary scores obtained for Wetlands A through D (OWS 5 and 6) and the resulting wetland rating category; the rating forms are provided in Appendix E.

Table 7. Washington State Wetland Rating System for Western Washington Scores and Wetland Classification

Location	Wetland	HGM Class	Water Quality	Hydrologic	Habitat	Total Score	Wetland Category
OWS 5	5-1(D)	Slope	5	3	7	15	IV
OWS 6	6-1 (A)	Depressional	7	3	7	17	III
OWS 6	6-2 (B)	Depressional	7	4	7	18	III
OWS 6	6-3 (C)	Slope	6	3	7	16	III

3.2.1.1 OWS 1

No wetlands were present in the OWS 1 work area, and no wetlands were identified within the Study Area.

3.2.1.2 OWS 2

No wetlands were present in the OWS 2 work area, and no wetlands were confirmed within the Study Area.

3.2.1.3 OWS 3

No wetlands were present in the OWS 3 work area, but two wetlands were identified within the Study Area. Wetland OWS 3-1 is a palustrine scrub-shrub, depressional wetland located along the northwestern edge of Tolt River Road NE. Wetland. It has a canopy comprised of western red cedar and bigleaf maple. Wetland OWS 3-1 extends onto parcel 145079064.

Wetland OWS 3-2, is also a palustrine scrub shrub, depressional wetland located along the southwestern edge of Tolt River Road NE. The wetland was inundated at the time of the field visit, and the dominant vegetation is comprised of salmonberry and red-osier dogwood. Despite its proximity to the roadside ditch (described in the following section), Wetland OWS 3-2 has no direct connection to the ditch. Wetland OWS 3-2 abuts the road edge and extends onto parcel 1425079009.



3.2.1.4 OWS 3ex

No wetlands were present in the OWS 3ex work area, but one wetland was identified just the northeast of the Study Area. Wetland OWS 3ex-1 is a palustrine emergent, slope wetland located northeast of the Study Area. The wetland abuts the northern edge of Tolt River Road NE. It abuts the road prism, extending onto parcel 1425079011 and there is no apparent connection from the wetland to the roadside ditch.

3.2.1.5 OWS 4

No wetlands were present in the OWS 4 work area, and no wetlands were identified within the Study Area.

3.2.1.6 OWS 5

No wetlands were present in the OWS 5 work area, but one wetland (Wetland OWS 5-1 [D]) was identified in the study area. Since Wetland OWS 5-1 is located on SPU property, a formal delineation was conducted. Wetland OWS 5-1 is a palustrine forested slope wetland approximately 0.3 acre ins size, and is separated from the work area by the gravel paved parking lot.

The dominant species present in the Wetland OWS 5-1 sample plot include black cottonwood (*Populus balsamifera*), pacific willow (*Salix lasiandra*), creeping bentgrass, and reed canary grass. Red alder (*Alnus rubra*) and an unknown moss species were also present in the sample plot. The dominant species in the data plot satisfy the hydrophytic vegetation criterion.

Soil observed in Wetland OWS 5-1 is described in Appendix D (Plot 54) and excavation depth was restricted due to the presence of fill gravel and cobbles—particularly at a depth of 7 inches bgs. The soil consists of very dark grayish brown (10YR 3/2) gravelly sand loam with no redox features. Soil in this plot does not clearly satisfy the hydric soil criterion but was saturated to inundated, and thus difficult to color correctly. We have assumed the presence of wetland conditions for this location due to the presence of wetland vegetation and wetland hydrology. Wetland hydrology criterion was satisfied by meeting the high water table (A2) and saturation (A3) indicators.

Adjoining vegetated upland areas are dominated by upland forest with a canopy of Douglas fir (*Pseudotsuga menziesii*) and western hemlock (*Tsuga heterophylla*), and a subcanopy of salmonberry (*Rubus spectabilis*), Oregon grape (*Mahonia nervosa*), and s western sword fern (*Polystichum munitum*). No indicators of hydric soil or wetland hydrology were observed.

Buffers

King County establishes buffer widths based on the wetland category and habitat score. Wetland OWS 5-1 is classified as category IV with a habitat score of 7 (Appendix E). According to KCC 21A.24.325, given the low impact land use adjacent to Wetland OWS 5-1, a buffer of 25 feet is appropriate.

3.2.1.7 OWS 6

Three wetlands (6-1, 6-2, and 6-3) were identified of OWS 6. Since all three wetlands area located on SPU property, formal delineations were conducted.

Wetland OWS 6-1 (A)

Wetland OWS 6-1 (A) is a small (0.01 acre) palustrine emergent depressional wetland located to the north of the access road for OWS 6. An existing utility pole and spall/gravel road are present immediately to the south of Wetland OWS 6-1.



The dominant species present in the Wetland OWS 6-1 sample plot include creeping bentgrass (*Agrostis stolonifera*), and salmonberry. The dominant species in the data plot satisfy the hydrophytic vegetation criterion.

Soil observed in Wetland OWS 6-1 is described in Appendix D (Plot WL A). The observed A horizon consists of dark grayish brown (10YR 4/2) sandy clay loam with approximately 5% distinct dark yellowish brown (10YR 4/4) redox features 5mm in size. The A horizon extends down 16 inches below ground surface (bgs). The underlying layer consists of the same dark grayish brown (10YR 4/2) sandy clay loam but with 5% distinct dark yellowish brown (10YR 4/4) redox features slightly larger at 10-20mm. This horizon extends 16 to 20 inches bgs. The soil observed satisfies the Hydrogen Sulfide (A4) and Depleted Matrix (F3) indicators therefore satisfying the hydric soils criterion.

Sample pits in Wetland OWS 6-1 had surface water (A1), saturation (A3), and a high water table (A2) present. The presence of these primary indicators satisfies the wetland hydrology criterion.

Adjoining upland areas are characterized in plot UPL A (see Appendix D). The dominant species present in the corresponding upland plot includes western hemlock, evergreen huckleberry (*Vaccinium ovatum*), western sword fern, and salmonberry.

The upland soil consisted of a single horizon that did not satisfy hydric soil indicators, and indicators of wetland hydrology were not present.

Buffers

King County establishes buffer widths based on the wetland category and habitat score. Wetland OWS 6-1 is classified as category III with a habitat score of 7 (Appendix E). According to King County Code (KCC) 21A.24.325, given the low-impact land use adjacent to Wetland OWS 6-1, a buffer of 75 feet is appropriate.

Wetland OWS 6-2 (B)

Wetland OWS 6-2 (B) is a small (0.10 acre) palustrine forested depressional wetland located to the east of the access road end at OWS 6. An existing spall/gravel access area and utility poles and located immediately to the west of Wetland OWS 6-1 and separate it from the proposed OWS 6 pole location.

The dominant species present in the Wetland OWS 6-2 sample plot include western hemlock, slough sedge (*Carex obnupta*), and salmonberry. Addition species growing on hummocks within the wetland include salal (*Gaultheria shallon*), western sword fern, and trailing blackberry (*Rubus ursinus*). The dominant species in the data plot satisfy the hydrophytic vegetation criterion.

Soil observed in Wetland OWS 6-2 is described in Appendix D (Plot WL B). The observed A horizon consists of black (10YR 2/1) peaty loam and extends 2 inches BGS. The underlaying layer consists of the same black (10YR 2/1) peaty loam, however 3% faint very dark grayish brown (10YR 3/2) redox features are present as concentrations in the matrix. Organic matter is also present in this horizon extending 2 to 6 inches bgs. The third horizon extends 6 to 18 inches bgs and consists of grayish brown (10YR 5/2) silty clay loam with 7% faint brown (10YR 4/3) redox features present as concentrations in the matrix. The final horizon extends 18 to 20 inches bgs and consists of a less saturated gray (10YR 5/1) gravelly silty clay loam with 10% distinct dark yellowish brown (10YR 4/4) redox features present as concentrations in the matrix. The soil observed satisfies the Hydrogen Sulfide (A4), Depleted Matrix (F3), and Depleted Below Dark Surface (A11) indicators therefore satisfying the hydric soil criterion.



Sample pits in Wetland OWS 6-2 had surface water (A1), saturation (A3), and a high water table (A2) present. The presence of these primary indicators satisfies the wetland hydrology criterion.

Adjoining upland areas are characterized in the plot UPL B (see Appendix D). The dominant species present in the corresponding upland plot includes western hemlock, vine maple (*Acer circinatum*), salal, western sword fern, and trailing blackberry. Evergreen huckleberry and deer fern (*Blechnum spicant*) are also present in the plot.

The upland soil consisted of very dark grayish brown (10YR 3/2) gravelly silt loam split into two horizons. The first extending 2 inches BGS and the second 8 to 20 inches bgs. The B horizon contained 1% faint dark brown (10YR 3/3) redox features 2 to 5 millimeters in size; no hydric soil indicators were satisfied. Indicators of wetland hydrology were also not present.

Buffers

King County establishes buffer widths based on the wetland category and habitat score. Wetland OWS 6-2 is classified as category III with a habitat score of 7 (Appendix E). According to KCC 21A.24.325, given the low-impact land use adjacent to Wetland OWS 6-2, a buffer of 75 feet is appropriate.

Weland 6-3 (C)

Wetland OWS 6-3 (C) is a small (0.14 acre) palustrine scrub-shrub slope wetland located to the south of OWS 6. The area shows evidence of prior grading and slope failure, and may be located on an abandoned access road.

The dominant species present in the Wetland OWS 6-3 sample plot include bitter cherry (*Prunus emarginata*), reed canary grass (*Phalaris arundinacea*), soft rush (*Juncus effusus*), salmonberry, and trailing blackberry; western sword fern is present on hummocks within the wetland. The dominant species in the data plot satisfy the hydrophytic vegetation criterion.

Soil observed in Wetland OWS 6-3 is described in Appendix D (Plot WL C) and only consists of a single horizon Dark grayish brown (10YR 4/2) gravelly silty clay loam with 3% distinct yellowish brown (10YR 5/4) redox features extends 20 inches BGS. The soil observed satisfies the Hydrogen Sulfide (A4) and Depleted Matrix (F3) indicators therefore satisfying the hydric soil criterion.

Sample pits in Wetland OWS 6-3 had a high water table (A2) and saturation (A3) present. The presence of these primary indicators satisfies the wetland hydrology criterion.

Adjoining upland areas are characterized in the plot UPL C (see Appendix D). The dominant species present in the corresponding upland plot include oceanspray (*Holodiscus discolor*), creeping bentgrass, and trailing blackberry. Soft rush, western sword fern, coastal strawberry (*Fragaria chiloensis*), and tall fescue (*Schedonorous arundinaceous*) are also present in the plot. The upland soil does not meet any hydric soil indicators and therefore does not satisfy the hydric soil criterion; wetland hydrology criteria was also not satisfied.

Buffers

King County establishes buffer widths based on the wetland category and habitat score. Wetland OWS 6-3 is classified as category III with a habitat score of 7 (Appendix E). According to KCC 21A.24.325, given the low impact land use adjacent to Wetland OWS 6-3, a buffer of 75 feet is appropriate.



3.2.1.8 OWS 8

No wetlands were identified in the vicinity of OWS 8.

3.2.1.9 OWS 9

No wetlands were identified in the work area for OWS 9, but one wetland was located on the opposite side of the intersection from OWS 9. Wetland OWS 9-1 is a palustrine emergent, depressional wetland located northeast of the NE 60th Street and SR 203 intersection. The wetland is dominated by reed canarygrass along the road edge and extends into agricultural pasture grasses to the northeast. At the time of the site visit, there was standing water extending to the toe of the road. Wetland OWS 9-1 is located almost entirely on parcel 0925079020.

3.2.1.10 OWS 10

No wetlands were present in the OWS 10 work area, and no wetlands were identified within the Study Area. 3.2.1.11 HMS 1

No wetlands were identified in the HMS 1 work area, but two wetlands exist within the Study Area. Wetland HMS 1-1 is located at the western edge of the Study Area along, south of NE Carnation Farm Road. It is a palustrine emergent, depressional wetland dominated by reed canarygrass with Himalayan blackberry on the margins. Wetland HMS 1-1 extends onto parcel 0925079020.

The second wetland, Wetland HMS 1-2, is also depressional and dominated by reed canarygrass with scattered willows; it is located almost entirely in the ROW but extends onto parcel 0925079020.

3.2.1.12 HMS 2

Wetland HMS 2-1 is a palustrine forested, riverine wetland that runs parallel to Tolt River, extending north and south along the edges of Langlois Creek. A mix of recently planted saplings are in the western portion of the wetland with wetland delineation flagging scattered throughout the entire area. The eastern portion of Wetland HMS 2-1 has an overstory dominated by black cottonwood with red-osier dogwood, Himalayan blackberry, and reed canarygrass below. To the west of SR 203, the wetland buts up against the roadside slope with Himalayan blackberry extending toward the edge of the road prism. Red alder, red-osier dogwood, and reed canarygrass are present as well. In the adjacent upland, bigleaf maple, Himalayan blackberry, and western sword fern are the dominant vegetation.

3.2.1.13 HMS 3

Wetland HMS 3-1 is a palustrine depressional wetland located in the eastern half of the Study Area. It is entirely within the ROW off the northern third of the roundabout. The vegetation is dominated by black cottonwood, western red cedar, scotch broom (*Cytisus scoparius*), and mixed grasses.

3.2.1.14 HMS 4

The HMS 4 Study Area consists of three wetlands. Wetland HMS 4-1 is a palustrine emergent, depressional wetland located on parcel 2526069008, in the northwest portion of the Study Area. The wetland is bordered by red alder, bigleaf maple, snowberry, Himalayan blackberry, and oso berry with mixed grasses in the interior.

Located in the southwest corner of the intersection is Wetland HMS 4-2—a palustrine emergent, depressional wetland. Reed canarygrass is dominant with willows, red-osier dogwood, Nootka rose (*Rosa nutkana*), Himalayan blackberry, and black cottonwood along the edges. Wetland HMS 4-2 is located on parcel 2526069016.

Wetland HMS 4-3 abuts the northeastern corner of the roundabout. It is a palustrine scrub shrub, slope wetland dominated by willows and western red cedar. The wetland contains substantial amounts of sediment



deposition resulting from either natural flood events, upstream erosion, or a combination of the two. Wetland HMS 4-3 is located within the ROW and encroaches onto parcel 2526069108.

3.2.1.15 HMS 5

Wetland HMS 5-1 is a riverine wetland that abuts the west side of Snoqualmie River. The wetland is palustrine emergent toward the center and transitions into palustrine forested at its edges. It is located on parcels 2025079028, 2025079041, and the ROW. The center of the wetland is dominated by broadleaf cattail, skunk cabbage (*Lysichiton americanus*), and reed canarygrass. Red alder and willows dominate the wetland edges with black cottonwood along the slopes. There is spotty inundation and an irregular channel winding through the wetland going toward Snoqualmie River. Formal delineation of the wetland was conducted for the Tolt Bridge Replacement.

3.2.1.16 HMS 7

No wetlands were present in the HMS 7 work area, and no wetlands were identified within the Study Area. 3.2.1.17 HMS 8

Wetland HMS 8-1 encroaches onto the western edge of the Study Area. It is a palustrine emergent/forested, slope wetland dominated by broadleaf cattail, red alder, black cottonwood, and reed canarygrass. Wetland HMS 8-1 is located on parcels 2825079035 and 2125079025.

3.2.1.18 PSERN SWWAN

No wetlands were present in the PSERN SWAN work area, and no wetlands were identified within the Study Area.

3.2.1.19 Passive Antenna

No wetlands were present in the Passive Antenna work area, and no wetlands were identified within the Study Area.

3.2.2 Streams and other Water Features

The following table describes the streams and other water features occurring within Study Areas.

Table 8. Descriptions of Water Features

Location	Feature Type	Description
OWS 1	Ditch	Intersects the Study Area east-west along the northern edge of NE 80th Street.
OWS 2	Unnamed tributary Type S	Intersects the Study Area north-southeast. Originates from Tolt River at the Tolt River Natural Area and outlets into Tolt River downstream. Located on parcels 1125079033 and 1125079015.
OWS 3	Ditch	Intersects the Study Area north-south along the western edge of Tolt River Road NE.
OWS 3ex	Unnamed tributary Type S	Two branches originating from the north and northwest edge of the Study Area flowing south. Crosses under Tolt River Road NE through an 18-inch concrete culvert and connecting to Tolt River downstream. Located on parcels 1425079011, 1425079046, and the ROW.



Location	Feature Type	Description		
	Ditch	Intersects the approximate center of the Study Area along the north side of Tolt River Road NE. Does not extend the entire length of the Study Area.		
OWS 9	Unnamed tributary Type S Within UGA	Intersects the western half of the Study Area along the southern edge of NE 60th Street. Additionally, runs north-south through parcels 8656300006 and 8656300015.		
OWS 10	Ditch	Intersects the approximate center of the Study Area along the northern edge of NE 40th Street.		
HMS 1	Unnamed stream Type S	Intersects the southwest edge of the Study Area. Originating from Horseshoe Lake and presumably discharging into a wetland northwest of the Study Area. Located on parcel 0925079020.		
HMS 2	Langlois Creek Type F/S	Intersects the Study Area west to east. Originates from Snoqualmie River just south of the Tolt River/Snoqualmie River confluence. Presumably discharges into a wetland east of the Study Area. Located on parcels 2125079006, 8657100240, and the ROW.		
	Tolt River Type F/S	Intersects the Study Area at the northern edge flowing west toward the Tolt River/Snoqualmie River confluence. Located on parcels 212507HYDR and 222507HYDR.		
HMS 3	Ditch	Runs along the southern edge of Neal Road SE, north of the Fall City Floating parking lot.		
HMS 4	Unnamed tributary Type S	Intersects the Study Area east-west with no apparent connection to Snoqualmie River. Located on parcels 2526069090 and the ROW.		
	Unnamed tributary Type S	Intersects the Study Area along the southeast edge. Connects to Snoqualmie River south of the Tolt River/Snoqualmie River confluence. Located on parcels 2025079028 and 2025079041.		
HMS 5	Ditch	Located on the northern edge of NE Tolt Hill Road, west of the intersection.		
	Ditch	Located on the northern edge of W River Road, north of the intersection.		
HMS 7	Unnamed stream Type F	Originating from Lake Marcel and flowing south through the center of the Study Area. Crosses under SR 203 via culvert connecting to Harris Creek to the south. Located on parcels 8016100095, 8016100075, 8016100076, 8016100040, 0425079022, and the ROW.		
LIMC O	Ditch	Located on the western edge of SR 203, broken into three distinct sections to accommodate driveways.		
HMS 8	Ditch	Located on the eastern edge of SR 203, north of the intersection of Langlois Lake Road.		



Location	Feature Type	Description
	Ditch	Located on the southern edge of Langlois Lake Road, broken into two distinct sections to accommodate driveways and extending south along the edge of SR 203.



3.2.2.1 Buffers

King County establishes stream buffer widths based on the stream class (KCC 21A.24.358). For type S or F aquatic areas within the Urban Growth Area (UGA), aquatic buffers are 115 feet; outside the UGA, the buffer for a type S or F stream is 165 feet. It is important to note that all buffers, regardless of size, do not extend onto the King County ROW/road prism.

3.2.3 Other Habitat and Site Descriptions

3.2.3.1 OWS 1

A dry ditch runs along the north side of N 80th Street with scattered patches of reed canary grass. North of N 80th Street, the landscape is dominated by mowed grass with several planted western red cedars and scattered dandelion (*Taraxacum officinale*), hairy cat's ear (*Hypochaeris radicata*), and creeping buttercup (*Ranunculus repens*). Snowberry (*Symphoricarpos albus*), planted apple and cherry trees, and a few big leaf maple (*Acer macrophyllum*) occur along the eastern roadside. South of N 80th Street, the landscape is dominated by western red cedar and big leaf maple with an understory of snowberry, mixed grasses, and piggyback plant (*Tolmiea menziesii*), and creeping buttercup. Southeast of the proposed location, Douglas fir (*Pseudotsuga menziesii*) and vine maple dominate with an understory of snowberry, western sword fern, and mixed grasses with scattered creeping buttercup closer to the road edge.

3.2.3.2 OWS 2

A dry ditch runs north to south through the Study Area along the west edge of Tolt River Road NE. The northwest quadrant is dominated by big leaf maple, black cottonwood, and western red cedar (*Thuja plicata*). The understory consists of salmonberry, snowberry, and pacific bleeding heart (*Dicentra Formosa*). Transitioning south, Himalayan blackberry dominates the sub-canopy with scattered willows (*Salix sp.*) and a patch of bamboo. Bracken fern (*Pteridium aquilinum*) and orchard grass (*Dactylis glomerata*) are prominent in the understory. In the southwest quadrant is residential landscaping with mixed grasses, fruit trees, English Ivy (*Hedera helix*) and a patch of willows at the southern edge of the Study Area. East of the willow patch is an excavated pond with rock boundaries to the west and steep sided slopes. The landscape around the pond is dominated by English holly (*Ilex aquifolium*), red alders, ornamental vines, and pampas grass (*Cortaderia selloana*). North of the pond, the landscape is dominated by big leaf maple, Himalayan blackberry, and creeping buttercup. A stream runs through the Study Area from the northern edge to the southeastern edge; the slope above the stream is vegetated with western red cedar, big leaf maple, oso berry (*Oemleria cerasiformis*), salmonberry, snowberry, and western sword fern. Further north, on a terrace above the stream, salmonberry, piggyback plant, big leaf maple, and red alder are dominant.

3.2.3.3 OWS 3ex

Two streams intersect the Study Area, meeting northwest of the existing pole and flowing under Tolt River Road NE through two culverts west and east of the existing pole—36 inches wide and 18 inches wide respectively. A drainage ditch flows east along the north side of Tolt River Road NE with patches of piggyback plant on the slope. At the west edge of the Study Area, the canopy is dominated by big leaf maple and western red cedar with big leaf maple saplings, Himalayan blackberry, salmonberry, western sword fern, and English holly in the understory. Moving south, the landscape is vegetated with red alder, Douglas fir, western red cedar, and big leaf maple on the margin. The sub-canopy is dominated by snowberry and salmonberry with reed canary grass in the understory. The drainage ditch flows east into a palustrine emergent wetland located just outside the Study Area. The eastern half of the slope above the ditch is vegetated with reed canary grass, creeping buttercup, stinging nettle (*Urtica dioica*), Robert's geranium (*Geranium robertainum*), and western sword fern. South of Tolt River Road NE, the canopy is dominated by western red cedar and big leaf maple with oso berry and Himalayan blackberry in the understory.



3.2.3.4 OWS 3

A well-defined dry ditch runs along the west side of Tolt River Road NE. The ditch is vegetated with creeping buttercup, salmonberry, and mixed grasses. At the southern edge of the Study Area, west of Tolt River Road NE is a palustrine scrub shrub, depressional wetland. At the time of the site visit it was inundated and vegetated with salmonberry and red-osier dogwood (*Cornus sericia*). There is no direct connection to the roadside ditch. On the northern edge of the Study Area, west of Tolt River Road NE is a narrow slope wetland, saturated from surface runoff. The northwest quadrant of the Study Area is dominated by western red cedar and big leaf maple. Moving south, the same canopy dominates with the addition of black cottonwood. Vine maple, salmonberry, and oso berry make up the sub-canopy; creeping buttercup, piggyback plant, and coltsfoot (*Tussilago farfara*) dominate the understory. To the east, the canopy is dominated by big leaf maple and western red cedar with vine maple, salmonberry, and trailing blackberry in the sub-canopy. Western sword fern and bracken fern dominate the understory. The landscape to the south is comprised of the same vegetation with the addition of black cottonwood in the canopy, and oso berry and salmonberry in the sub-canopy.

3.2.3.5 OWS 4

The majority of the Study Area is occupied by residential lawns with mixed, mowed grasses. The Snoqualmie Valley Trail is west of the proposed location. The trail has a canopy dominated by big leaf maple with scattered black cottonwood. Himalayan blackberry dominates the understory. The northern portion of the trail also contains creeping buttercup along the edges.

3.2.3.6 OWS 5

The northeastern portion of the Study Area is occupied by a mixed, mowed grass lawn extending to the South Fork Tolt Reservoir. The southern half of the Study Area is occupied by dense, upland forest. The canopy is dominated by western hemlock and Douglas fir. Western sword fern dominates the understory with scattered patches of dull Oregon grape (*Mahonia nervosa*) and salmonberry. The northwest portion of the Study Area is occupied by significantly less dense upland vegetation. Wetland 5-1 is also located in this area. In the upland areas, Douglas fir dominates. Wetland D is comprised of black cottonwood, pacific willow, and red alder. The understory is dominated by creeping bentgrass and reed canary grass.

3.2.3.7 OWS 6

The Study Area is dominated by dense upland forest except for three wetlands and accompanied vegetation (Wetland OWS 6-1, Wetland OWS 6-2, and Wetland OWS 6-3). An access road runs through the Study Area northwest to southeast and is bordered by salmonberry, piggyback plant, and western sword fern. The upland areas have a mixed canopy of western hemlock, big leaf maple, and Douglas fir. Evergreen huckleberry, western sword fern, salal, deer fern, oceanspray, and creeping bentgrass are also present in the understory. The wetland vegetation is comprised of salmonberry, slough sedge, soft rush, and reed canary grass.

3.2.3.8 OWS 8

The southern half of the Study Area is occupied by recently constructed single-family housing and associated landscape. Planted natives, western red cedar, snowberry, western sword fern, and big leaf maple can be found in the landscaped areas with unknown conifers along the sidewalks. To the north, the canopy is dominated by black cottonwood, big leaf maple, and red alder. Red-osier dogwood, Himalayan blackberry, snowberry, oso berry, and trailing blackberry make up the sub-canopy. The understory is comprised of white clover (*Trifolium repens*), common dandelion, and dove's foot geranium (*Geranium mole*). The landscaped yards on the northern edge of Tolt River Road NE also have scattered fruit trees—specifically apple and cherry species.



3.2.3.9 OWS 9

The north side of NE 60th Street is occupied by agricultural land, the south side by rural single-family residences and accompanying landscaping. In the northeast corner of the intersection, there is standing water extending to the toe of the road vegetated with reed canary grass. The landscaping to the south mainly consists of mowed grasses, Himalayan blackberry, and Douglas fir based on what was visible from the roadsides.

3.2.3.10 OWS 10

The northern half of the Study Area is occupied by fields of mowed grasses and mixed forbs. Lombardy poplar (*Populus nigra*) line the parking lot on the north side of NE 40th Street. The south side of NE 40th Street contains mowed grass as well with dove's foot geranium, common dandelion, tall fescue (*Festuca arundinacea*), and creeping buttercup mixed in. The western edge of the Study Area also contains scattered western red cedar, red alder, roses (*Rosa multiflora*), creeping buttercup, and reed canary grass.

3.2.3.11 HMS 1

The northern half of the Study Area is occupied by wet pasture with saturation that extends to the road edge. It is vegetated with mixed grasses and reed canarygrass and Himalayan blackberry at the road edge. The southern side of NE Carnation Farm Road is occupied by reed canary grass and Himalayan blackberry extending to the road edge. South of the intersection, along the western edge of SR 203, an inundated drainage ditch extends to the toe of the slope at the road edge with reed canary grass and knot weed (*Polygonum cuspidatum*) growing in the ditch. The southeast quarter of the Study Area is vegetated with black cottonwoods, reed canary grass, and a patch of willows extending east from the road edge (*Salix sp.*). The willows may be indicative of a wetland, though no hydric soils are mapped in the Study Area; right of entry needed to dig soil plots on private land.

3.2.3.12 HMS 2

In the northwest quarter of the Study Area is occupied by what appears to be a wetland spanning from the edge of the Tolt Riverbank to the toe of the roadside slope; the canopy is dominated by red alders with red-osier dogwood in the sub-canopy and reed canary grass below. There are also scattered native saplings that appear to have been recently planted in a restoration or mitigation effort. The northwest edge of NE 32nd Street is vegetated with big leaf maple, Himalayan blackberry, and western sword fern. The apparent wetland continues into the northeast quarter of the Study Area and wetland delineation flagging is visible from the roadside. The canopy is comprised of black cottonwood with red-osier dogwood, Himalayan blackberry, and reed canary grass below. The Study Area intersects Tolt River at the northern edge. The southwest quarter is occupied by rural residences with mowed grasses, cherry trees, and red oak (*Quercus rubra*). Southeast of the intersection is a pasture with two noticeable topographic depressions. A roadside ditch runs along the south side of NE 32nd Street and is vegetated with cutleaf blackberry (*Rubus laciniatus*), Himalayan blackberry, snowberry, and creeping buttercup.

3.2.3.13 HMS 3

The west side of SR 203 is occupied by mixed grasses—mainly tall fescue and reed canary grass—with curly dock (*Rumex crispus*), mustard plant (*Sisymbrium sp.*), poison hemlock (*Conium maculatum*), and little western bittercress (*Cardamine hirsuta L.*) intermixed. West of the roundabout, black cottonwoods, red alders, western red cedars, and Himalayan blackberry dominate the landscape. South of the roundabout is a dense patch of vegetation with a canopy mainly comprised of black cottonwoods with few western red cedars; mowed grasses, scotch broom, and Himalayan blackberry extend to the road edge.



3.2.3.14 HMS 4

The landscape west of the roundabout is occupied by wet pasture bordered by wetland that extends to the toe of the road slope; at the time of the site visit, frog calls were audible. The vegetation is dominated by reed canary grass and Himalayan blackberry with scattered snowberry, willows (*Salix sp.*), red-osier dogwood, black cottonwood, and a few planted Douglas firs and western red cedars. The Snoqualmie Valley Trail intersects the Study Area north to south. Vegetation along the trail includes Oregon grape (*Mahonia aquifolium*), red alder, maple, snowberry, Himalayan blackberry, and oso berry. Northeast of the roundabout is a palustrine scrubshrub wetland that appears to have been altered with fill. The canopy is comprised of willows (*Salix sp.*), and western red cedars. A roadside ditch runs along the east side of SR 203 and NE 124th Street. The slope above the ditch is vegetated with big leaf maple, western sword fern, and snowberry. Further north along NE 124th Street, the vegetation also includes beaked hazelnut (*Corylus cornuta*), salmonberry, oso berry, and Douglas fir. Reed canary grass, common dandelion, and creeping buttercup are the primary vegetation along the roadside.

3.2.3.15 HMS 5

A previously delineated wetland is located south of the intersection below the road prism. The wetland is palustrine emergent in the east and palustrine forested in the west. The canopy consists of red alder, and willow (*Salix sp.*). An irregular channel connects the wetland to Snoqualmie River. Additional vegetation in the wetland includes western skunk cabbage, broadleaf cattail (*Typha latifolia*.), and reed canary grass. The slope along the south side of West River Road is vegetated with red alder, black cottonwood, Himalayan blackberry, and few scattered big leaf maple saplings. The western edge of the Study Area between NE Tolt Hill Road and West River Road has a big leaf maple canopy with beaked hazelnut, snowberry, Himalayan blackberry, and mixed grasses in the understory. The northwest quarter of the Study Area is dominated by Douglas fir, big leaf maple, beaked hazelnut, and Himalayan blackberry. A drainage ditch runs along the north side of NE Tolt Hill Road with scattered scotch broom. To the east, mixed grasses are prominent—mainly orchard grass—with scattered creeping bentgrass, tall fescue, dove's foot geranium, and hairy cat's ear.

3.2.3.16 HMS 7

The southern edge of the Study Area is occupied by mowed grass with a canopy of big leaf maple, black cottonwood, and red alder. Himalayan blackberry is dominant with a few patches of knotweed and common mullein (*Verbascum Thapsus*). Northwest of the intersection, landscaped yards occupy the majority of the area with scattered apple trees, big leaf maple, and knotweed. Just west of the intersection, a stream runs under SR 203 into Essency Creek. The landscape to the east between NE Stillwater Hill Road and SR 203 is dominated by big leaf maple, Himalayan blackberry, oso berry, and snowberry. A dry ditch runs along the north side of NE Stillwater Hill Road with a canopy of black cottonwood and scattered maples. The understory is comprised of oso berry, Himalayan blackberry, and western sword fern.



3.2.3.17 HMS 8

An 18-inch drainage ditch runs along the west side of SR 203 and a palustrine forested/emergent wetland occupies the western edge of the Study Area. The wetland is vegetated with broadleaf cattails, red alder, cottonwood, and reed canary grass. South of the intersection, purple deadnettle (*Lamium purpureum*) is scattered along the roadside and pasture with mowed grasses extends west. Another 18-inch drainage ditch vegetated with reed canary grass runs along the east side of SR 203. Landscaped yards occupy the area north of the intersection. The vegetation is dominated by western red cedar, ornamental conifers, relic native trees, and a few Douglas fir saplings. There are dense patches of Himalayan blackberry on the roadside slopes with scattered English ivy and cherry laurel (*Prunus laurocerasus*). South of the intersection, an 18-inch drainage ditch runs along the east side of SR 203 vegetated with reed canary grass and scotch broom on the slope. The landscaped yard south of the intersection contains Lombardy poplar, bracken fern, scotch broom, and western red cedars.

3.2.3.18 Passive Antenna

Tolt Reservoir Road intersects the Study Area to the southeast. The Study Area is occupied by dense upland vegetation with a mixed canopy comprised of western hemlock and Douglas fir. The understory is relatively bare; however, lots of downed large woody debris occupies the forest floor covered by a variety of lichens and mosses. Few scattered western sword ferns are also present, mainly growing on hummocks. The soils top layer is comprised of detritus—mainly decaying needles.

3.2.3.19 PSERN SWAN

The eastern half of the Study Area is occupied by dense upland vegetation. The canopy is comprised of red alder, big leaf maple, western hemlock, and Douglas fir. The understory is dominated by creeping bentgrass, western sword fern, tall fescue, Himalayan blackberry, and salal. The western half of the Study Area contains concrete lined stormwater ponds and a gravel access road crossing the northern edge. Red-osier dogwood, mixed grasses, and salal line the edges of the access road.

3.2.4 Steep Slopes, Erosion Hazard, and Landslide Hazard

King County regulates steep slopes under zoning code 21A.24. The County defines steep slopes as areas with a slope over 40 percent grade and greater than 10 feet high. PBS evaluated the presence of steep slopes and their buffers using data from the King County GIS dataset. As a result, this evaluation should be considered preliminary. A licensed geotechnical engineer must be consulted to determine whether the preliminarily identified areas fall within the King County definitions for Steep Slopes and landslide prone areas.

This evaluation identified steep slopes within the following Study Areas:

- OWS 1 Regulated steep slopes are present within study area but are not within 50 feet of proposed work area. The proposed work will not affect steep slopes or their buffers.
- OWS 2 Regulated steep slopes are present within study area, and the proposed work is within 50 feet of steep slope areas (and therefore within steep slope buffers), but all work activity will be located above the top of slope in an existing developed roadway and will result in minimal grading or loss of vegetation.
- OWS 3ex Steep slopes are present in the work area, but no clearing or grading activities are proposed. The existing pole will be cut level with the ground surface and the base left in place. Any disturbed area will be replanted with a suitable erosion control seed mix. As a result, the proposed work in this location will not affect steep slopes or their buffers.



- OWS 3 Regulated steep slopes are present within study area, however, these areas are more than 90 feet from the proposed work area and on the opposite side of roadway. As a result, the proposed work in this location will not affect steep slopes or their buffers.
- OWS 6 Regulated steep slopes are present within study area and within 50 feet of the new pole location. The proposed work will include approximately 1,010 square feet of clearing and grading in steep slope buffer. The affected area has already been modified by previous work activities in the utility easement and will be restored to a stable grade and replanted or repaved with gravel to ensure the area surrounding the pole and access is stable is not subject to erosion.
- OWS 8 Regulated steep slopes are present within study area, however, however these areas are
 more than 200 feet from the proposed pole location and on the opposite side of Tolt River Road SE.
 As a result, the proposed work in this location will not affect steep slopes or their buffers.
- HMS 4 Regulated steep slopes are present within study area and are within 50 feet of the proposed message sign location at the NE corner of the intersection. However proposed message sign is on the opposite side of NE 124th Street from the steep slope. As a result, the proposed work in this location will not affect steep slopes or their buffers.
- HMS 5 Regulated steep slopes are present within study area, and within 50 feet of the proposed
 message sign location. However, the proposed message sign will be placed within an existing
 developed gravel parking area. Work activities will not result in clearing of vegetation, and the area
 will be restored to pre-existing grades and repaved with gravel. As a result, the proposed work in this
 location will not affect steep slopes or their buffers.
- HMS 7 Regulated steep slopes are present within study area but are over 50 feet of the proposed message sign location. As a result, the proposed work in this location will not affect steep slopes or their buffers.
- PSERN SWAN Regulated steep slopes are present within study area but are over 50 feet of the
 proposed improvements. All work in this location will be within the existing developed tower footprint
 and access area. As a result, the proposed work in this location will not affect steep slopes or their
 buffers.

3.2.5 Areas of Special Flood Hazard

King County regulates development within Areas of Special Flood Hazard under King County Code 21A.24 sections 21A.24.230 through 21A.24.272. The following sites are subject to regulation:

- HMS 1 FEMA floodway
- HMS 3 FEMA floodway
- HMS 4 FEMA 100-year floodplain
- OWS 1 FEMA 100-year floodplain
- OWS 9 FEMA 100-year floodplain
- OWS 10 FEMA floodway

3.2.5.1 Regulatory Constraints

King County allows for development within the floodplain so long as development and alterations shall not reduce the effective base flood storage volume of the floodplain. The proposed project effects should not alter the floodway as the poles are less than 18 inches in diameter and located within existing developed road prisms.



4 SUMMARY OF REGULATORY CONSTRAINTS

The following table identifies the pole or structure installation, the extend of work, relevant critical areas, and any regulatory constraints.



Table 9. Impacts by Critical Area

			Area of	Volume			Affected Are	as	
Facility	Jurisdiction	ROW?	Disturbance (Square Feet)	of Fill (Cubic Yards)	Shorelines	Wetland	Streams	Steep Slopes	Floodplain*
				Outdoo	or Warning Sire	าร			
OWS 1	King County	No	~100	3.23	Exempt (Conservancy) ~100 SF 3.23 CY	-	-	-	FEMA Zone AE ~100 SF 3.23 CY
OWS 2	King County	No	~100	~1.8	-	-	-	-	-
OWS 3 Ex	King County	No	~100	~1.8	-	-	-	-	-
OWS 3 New	King County	No	~100	~1.8	-	-	-	-	-
OWS 4	Carnation	No	~100	~1.8	-	-	-	-	-
OWS 5	King County	No	-	-	-	-	-	-	-
OWS 6	King County	No	1,500	~1.8	-	-	-	1,500 SF (Buffer)	-
OWS 8	City of Carnation	No	~100	~1.8	-	-	-	-	-
OWS 9	King County	No	~100	0.20	Residential ~100 SF 0.20 CY	-	-	-	FEMA Zone AE ~100 SF 0.20 CY
OWS 10	King County	No	~100	1.74	Conservancy ~100 SF 1.74 CY	-	-	-	FEMA Floodway ~100 SF 1.74 CY



Facility	Jurisdiction	WSDOT ROW?	Area of Disturbance (Square Feet)	Volume of Fill (Cubic Yards)	Affected Areas				
					Shorelines	Wetlands	Streams	Steep Slopes	Floodplain*
				Highv	vay Message Si	gns			
HMS 1	King County	No	~100	0.28	Resource ~100 SF 0.28 CY	-	-	-	FEMA Floodway ~100 SF 0.28 CY
HMS 2	King County	Yes	~100	~1.8	Conservancy ~100 SF ~1.8 CY	-	-	-	-
HMS 3	King County	Yes	~100	1.07	Resource ~100 SF 1.07 CY	-	-	-	FEMA Floodway ~100 SF 1.07 CY
HMS 4 (3 signs)	King County	Yes	~1,000	5.72 (all 3 signs)	Conservancy, Resource ~1,000 SF 5.72 CY	-	-	-	FEMA Zone AE Sign 4NW ~800 SF 2.12 CY
HMS 5	King County	No	~100	~1.8	-	-	-	-	-
HMS 7	King County	Yes	~55	~1.8	-	-	-	-	-
HMS 8	King County	Yes	~170	~1.8	-	-	-	-	-
Other Facili	ities								l
Queen Anne Hill	Seattle	No	-	-	-	-	-	-	-
Passive Antenna	King County	No	-	-	-	-	-	-	-
PSERN SWAN	King County	No	-	-	-	-	-	-	-
SWAN	- ,	INO	-	-	-	-	-	-	-



Facility	Jurisdiction	WSDOT ROW?	Area of Disturbance (Square Feet)	Volume of Fill (Cubic Yards)	Affected Areas				
					Shorelines	Wetlands	Streams	Steep Slopes	Floodplain*
Evacuation	Route Signage								
Various locations	King County, Carnation, Duvall	Yes	-	-	-	-	-	-	-
Total			3,925	30.24					1,100 SF 8.64 CY

^{*} Floodplain fill volume includes volume of pole above ground surface and below 100 year flood surface elevation.



King County Code (KCC) 21A.24.045 allows for all alterations to erosion hazard areas, flood hazard areas, landslide hazard areas, and steep slope hazard areas as long as they comply with the development standards, impact avoidance, mitigation requirements, and other applicable requirements established. Specifically, the code allows construction of new utility corridor or utility facility and maintenance, repair or replacement of utility corridor or utility facility if the following conditions is met:

32. Allowed in an existing roadway if conducted consistent with the regional road maintenance guidelines.

The proposed work within existing roadways will be consistent with the regional road maintenance guidelines.

- 33. Allowed outside the roadway if:
- a. the alterations will not subject the critical area to an increased risk of landslide or erosion;
- b. vegetation removal is the minimum necessary to locate the utility or construct the corridor; and
- c. significant risk of personal injury is eliminated or minimized in the landslide hazard area.

The proposed work outside existing roadways:

Is minor in nature and will not increase risk or landslide or erosion;

Will remove the minimum vegetation necessary for pole installation and maintenance; and Doe to the location of the facility, will eliminate or minimize the risk of *significant risk of personal injury in the landslide area*.

- 34. Limited to the pipelines, cables, wires and support structures of utility facilities within utility corridors if:
- a. there is no alternative location with less adverse impact on the critical area and critical area buffer; b. new utility corridors meet the all of the following to the maximum extent practical:
- (1) are not located over habitat used for salmonid rearing or spawning or by a species listed as endangered or threatened by the state or federal government unless the department determines that there is no other feasible crossing site;
- (2) the mean annual flow rate is less than twenty cubic feet per second; and
- (3) paralleling the channel or following a down-valley route near the channel is avoided;
- c. to the maximum extent practical utility corridors are located so that:
- (1) the width is the minimized;
- (2) the removal of trees greater than twelve inches diameter at breast height is minimized;
- (3) an additional, contiguous and undisturbed critical area buffer, equal in area to the disturbed critical area buffer area including any allowed maintenance roads, is provided to protect the critical area;
- d. to the maximum extent practical, access for maintenance is at limited access points into the critical area buffer rather than by a parallel maintenance road. If a parallel maintenance road is necessary the following standards are met:
- (1) to the maximum extent practical the width of the maintenance road is minimized and in no event greater than fifteen feet; and



- (2) the location of the maintenance road is contiguous to the utility corridor on the side of the utility corridor farthest from the critical area;
- e. the utility corridor or facility will not adversely impact the overall critical area hydrology or diminish flood storage capacity;
- f. the construction occurs during approved periods for instream work;
- g. the utility corridor serves multiple purposes and properties to the maximum extent practical;
- h. bridges or other construction techniques that do not disturb the critical areas are used to the maximum extent practical;
- i. bored, drilled or other trenchless crossing is laterally constructed at least four feet below the maximum depth of scour for the base flood;
- j. bridge piers or abutments for bridge crossing are not placed within the FEMA floodway or the ordinary high water mark;
- k. open trenching is only used during low flow periods or only within aquatic areas when they are dry. The department may approve open trenching of type S or F aquatic areas only if there is not a feasible alternative and equivalent or greater environmental protection can be achieved; and
- 34a, Flexibility in pole location is limited by the need to allow for radio access to the poles (line-of-sight) to convey the flood warning to resident and motorists. The facilities have been sited to minimize impact while achieving these goals.
- 34b. The proposed work does not create a new utility corridor, but pole will not be located in or over salmonid or other ESA habitat, will avoid area of >20 CFS flow and paralleling stream channels to the maximum extent possible.
- 34c. The proposed work does not create a new utility corridor, but pole:
- The installations will minimize the width of potential impacts.
- Tree removal will be avoided or minimized; and
- Buffer impacts will be minimized to the maximum extend practical.
- 34d. Access to the poles will limit impact to critical areas and buffers, and no parallel maintenance road will be required.
 - 36. Allowed for onsite private individual utility service connections or private or public utilities if the disturbed area is not expanded and no hazardous substances, pesticides or fertilizers are applied.
- 36. Maintenance or replacement activities will not expand disturbance activities in wetland buffers or severe channel hazard migration zones. No hazardous substances, pesticides or fertilizers will be applied.



5 DISCLAIMER

This report is based on observations of vegetation, soils, and hydrology at the time of the study. Changing environmental conditions or human activities may alter those parameters, which may change the conclusions presented in this report. The conclusions in this report represent the investigator's interpretation of the specified technical manuals and best available science and may not correspond with observations or conclusions of others, including government agencies.

This report was prepared to meet current local, state, and federal regulations. PBS is not responsible for changes made to regulations and reporting requirements after the report has been completed. Final authority regarding jurisdiction and permitting requirements rests with the appropriate agencies.

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Photographs



Photo 1. OWS 1 proposed location



Photo 3. OWS 3 existing pole to be replaced.



Photo 5. OWS 4 proposed location



Photo 2. OWS 2 proposed location.



Photo 4. OWS 3 proposed location.



Photo 6. South Fork Tolt Reservoir from the mowed grasses north of the Tolt Vista House (OWS 5).



Photo 7. OWS 6 proposed location.



Photo 9. OWS 9 proposed location.



Photo 11. Drainage ditch near HMS 1 proposed location.



Photo 8. New housing development near OWS 8



Photo 10. Tolt-MacDonald Park parking lot near OWS 10 proposed location.



Photo 12. HMS 2 proposed location.



Photo 13. HMS 3 proposed location.



Photo 15. HMS 4NW proposed location.



Photo 17. HMS 5 proposed location.



Photo 14. HMS 4SW proposed location.



Photo 16. HMS 4NE proposed location.



Photo 18. NE Stillwater Hill Road/SR 203 intersection (HMS 7 proposed location).



Photo 19. NE 24th Street/SR 203 intersection (HMS 8 proposed location).



Photo 20. Existing PSERN SWAN antenna site.



Photo 21. Flagging tape and hummocks in Wetland A.



Photo 22. Flagging tape in Wetland B.



Photo 23. Wetland C.



Photo 24. Wetland D.

Appendix A

Project Location Maps (Figures 1-1 to 1-18)

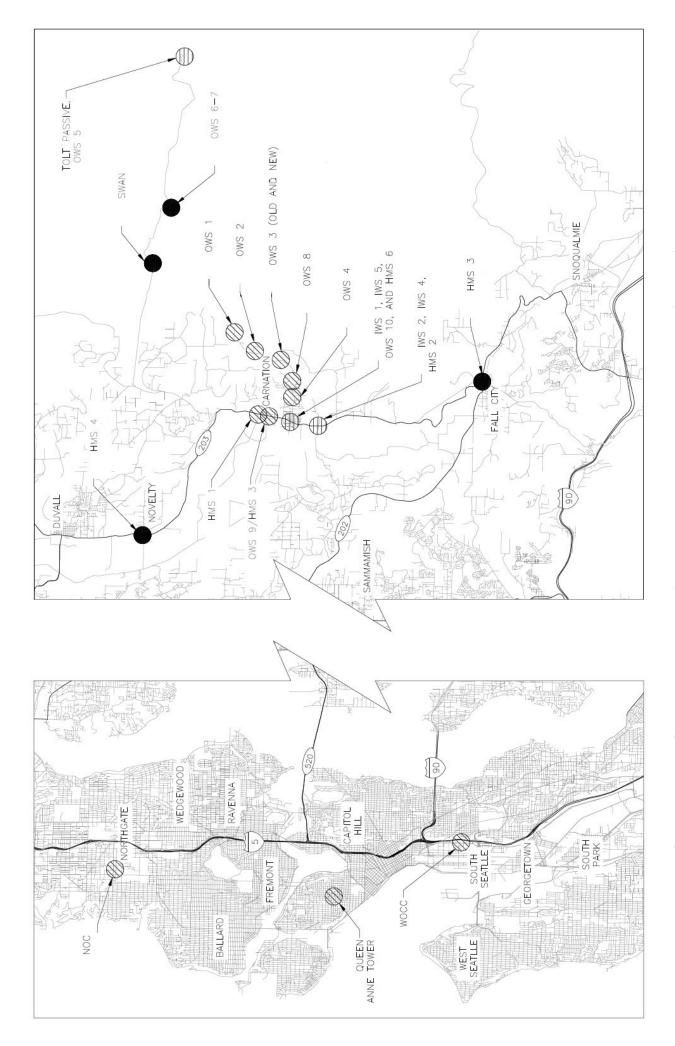
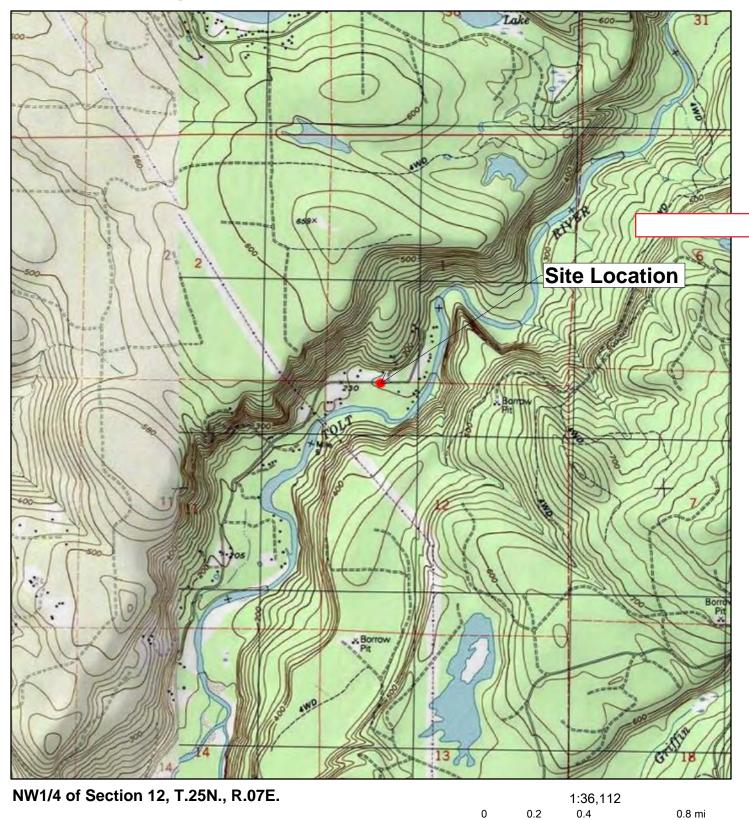


Figure 1-1. Overview of project locations for Seattle Public Utilities' South Fork Tolt Early Warning System Project (C115120).

Figure 1-2. Vicinity Map - OWS 1



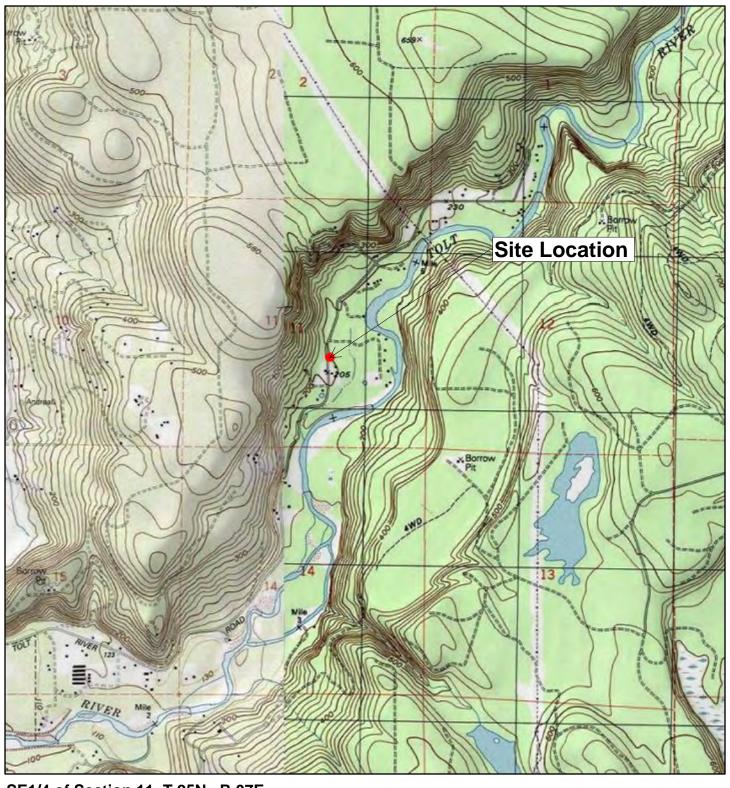
Copyright: 2013 National Geographic Society, i-cubed

0.65

0.33

1.3 km

Figure 1-3. Vicinity Map - OWS 2



SE1/4 of Section 11, T.25N., R.07E.

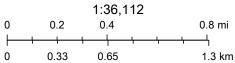
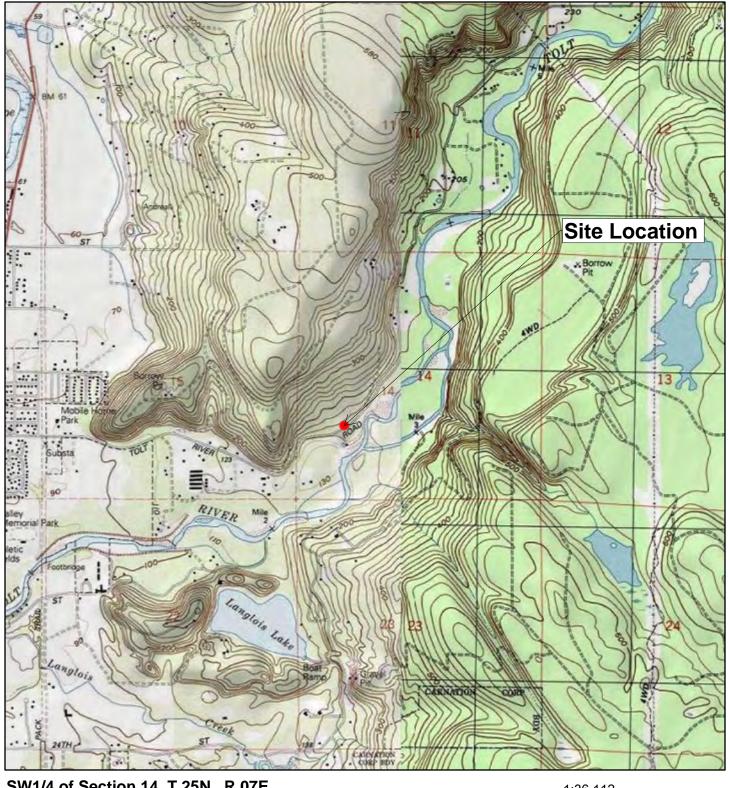


Figure 1-4. Vicinity Map - OWS 3 (OLD)



SW1/4 of Section 14, T.25N., R.07E.

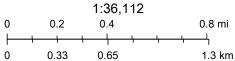
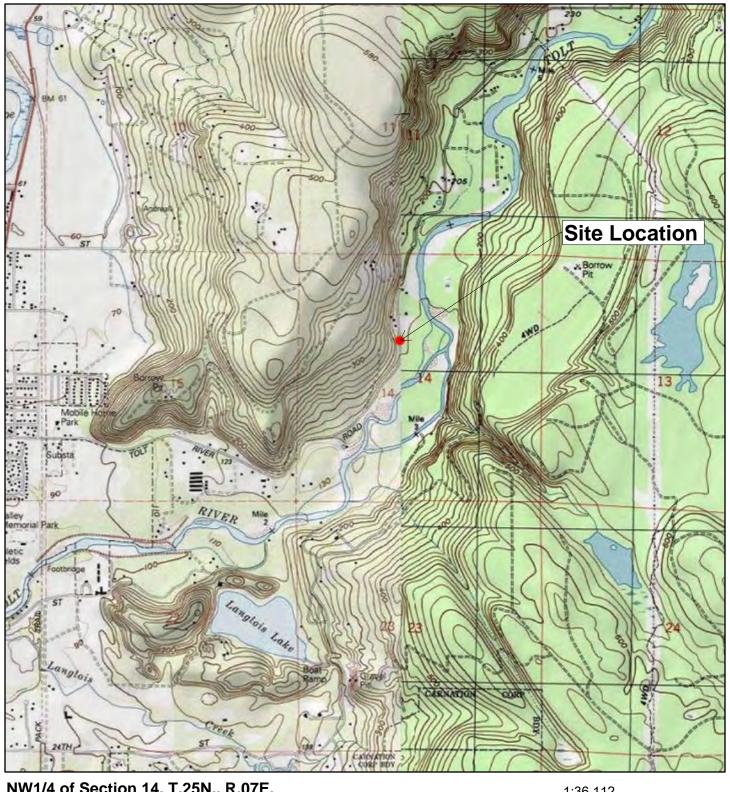


Figure 1-5. Vicinity Map - OWS 3 (NEW)



NW1/4 of Section 14, T.25N., R.07E.

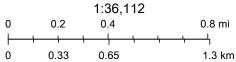
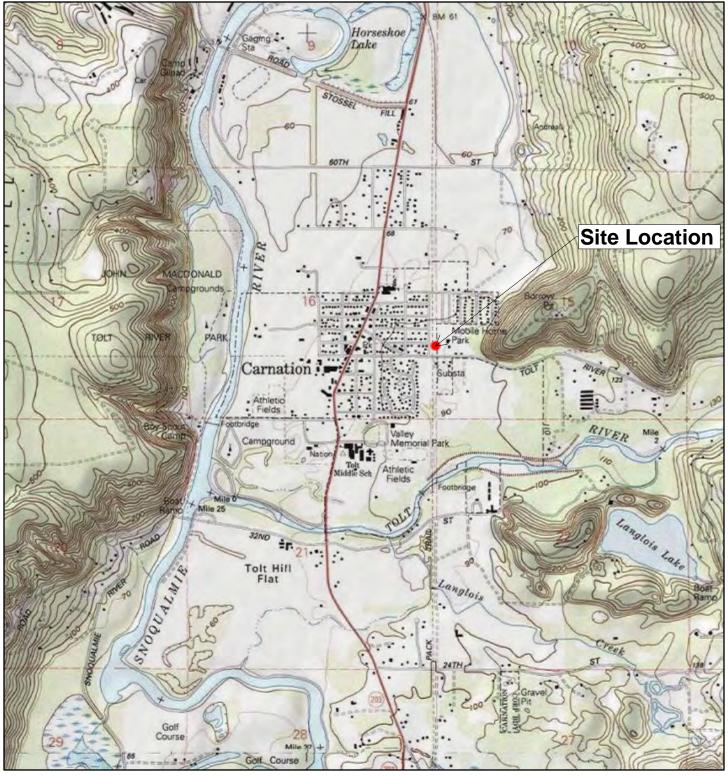


Figure 1-6. Vicinity Map - OWS 4



SE1/4 of Section 16, T.25N., R.07E.

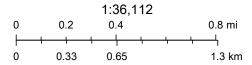
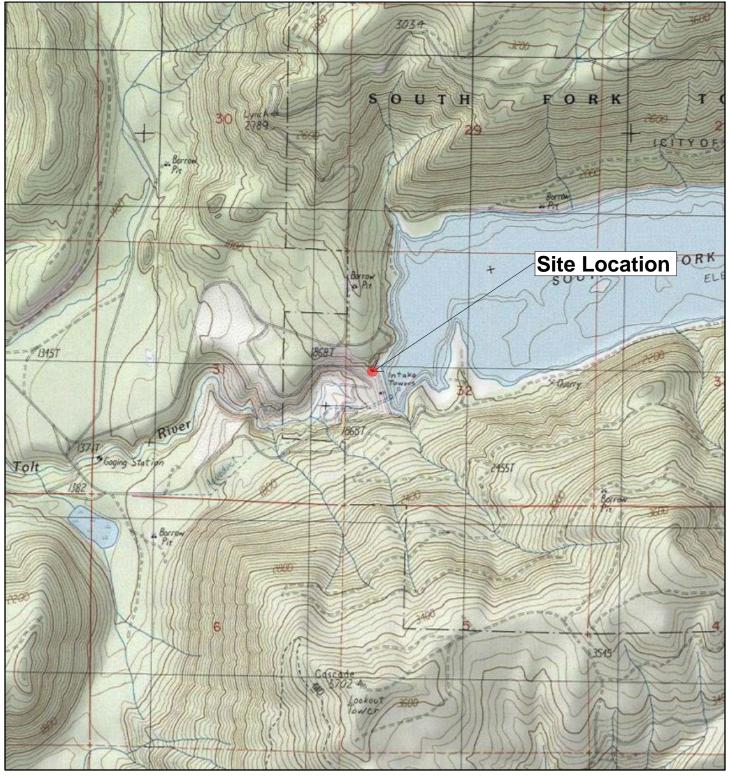


Figure 1-7. Vicinity Map - OWS 5



SW1/4 of Section 32, T.26N., R.09E.

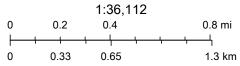
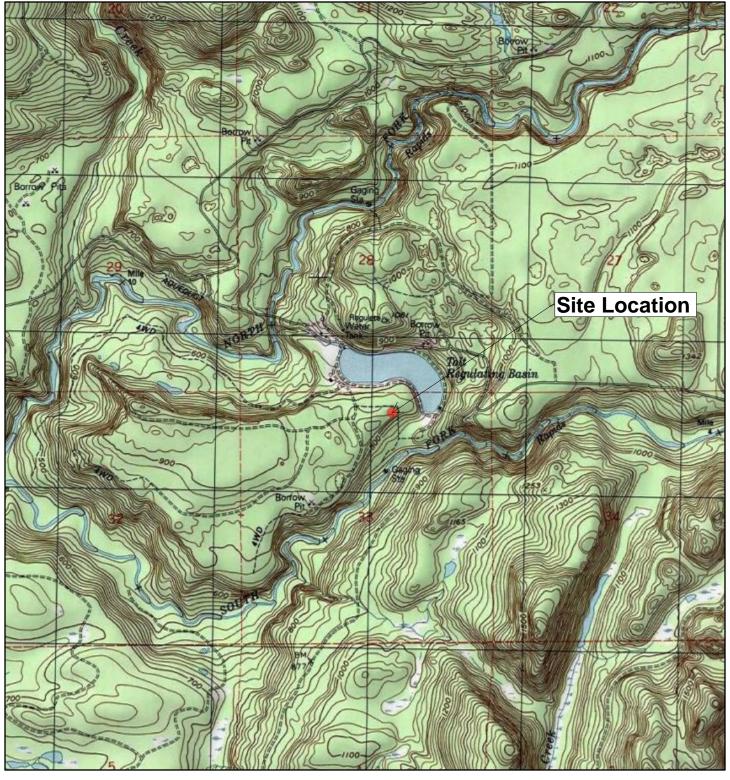


Figure 1-8. Vicinity Map - OWS 6



NE1/4 of Section 33, T.26N., R.08E.

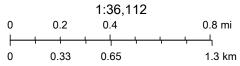
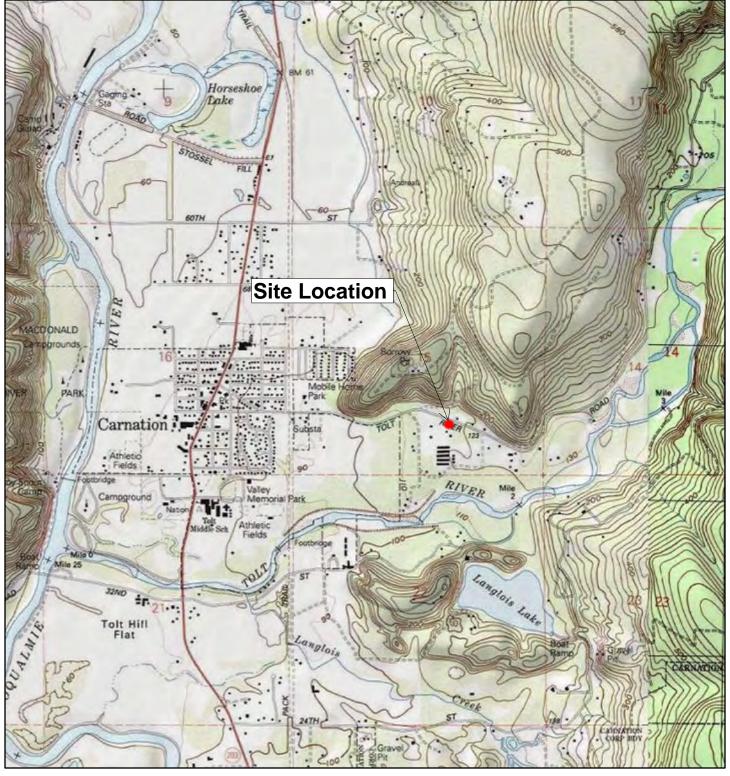


Figure 1-9. Vicinity Map - OWS 8



SE1/4 of Section 15, T.25N., R.07E.

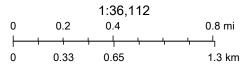
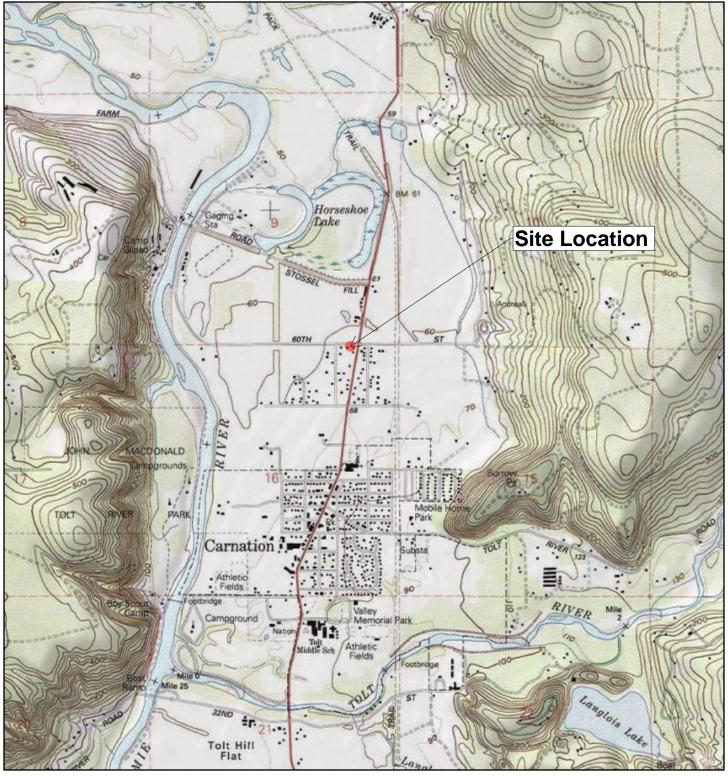


Figure 1-10. Vicinity Map - OWS 9



NE1/4 of Section 16, T.25N., R.07E.

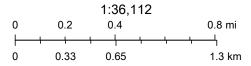
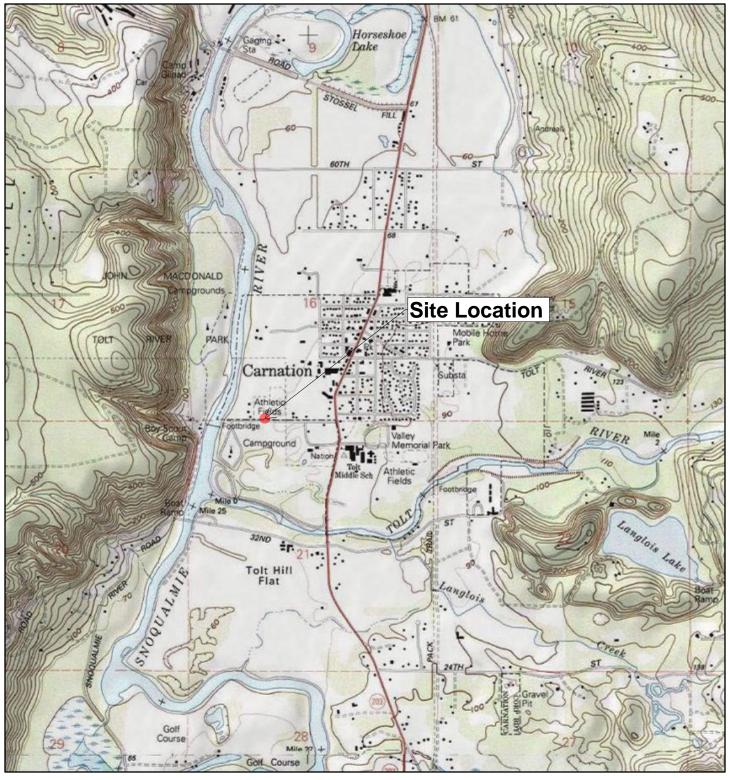


Figure 1-11. Vicinity Map - OWS 10



SW1/4 of Section 16, T.25N., R.07E.

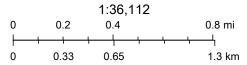
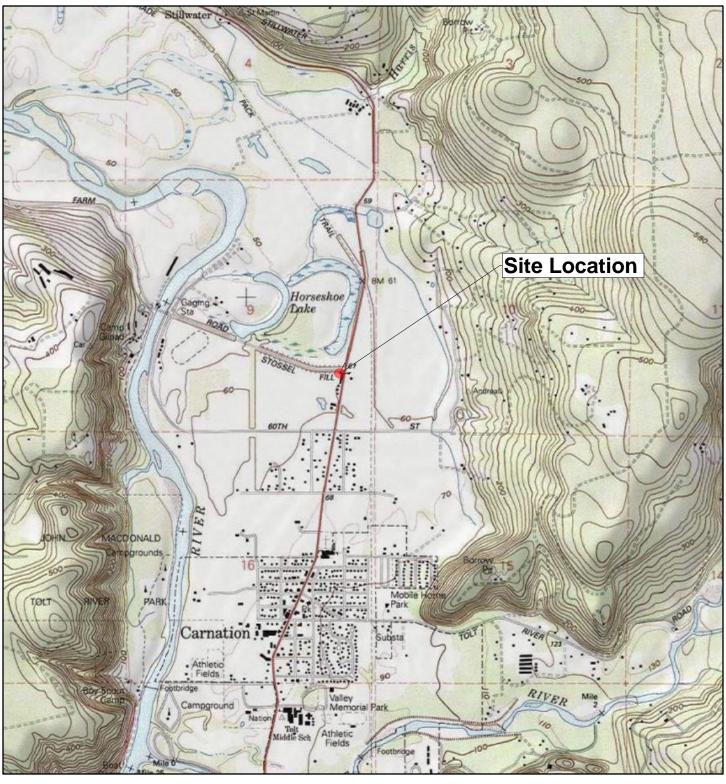


Figure 1-12. Vicinity Map - HMS 1



SE1/4 of Section 09, T.25N., R.07E.

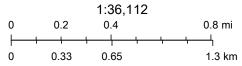
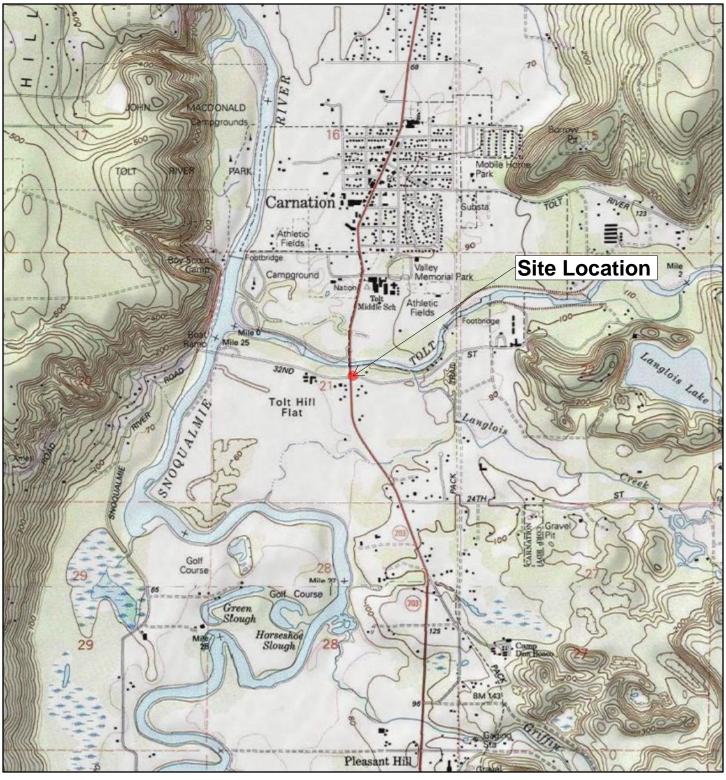


Figure 1-13. Vicinity Map - HMS 2



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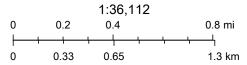
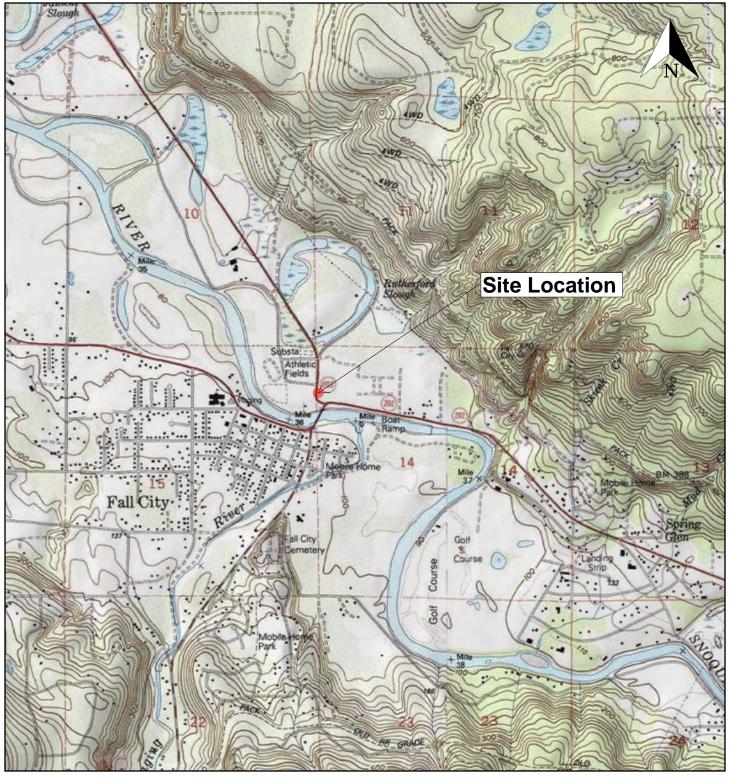


Figure 1-14. Vicinity Map - HMS 3



NW1/4 of Section 14, T.24N., R.07E.

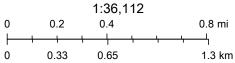
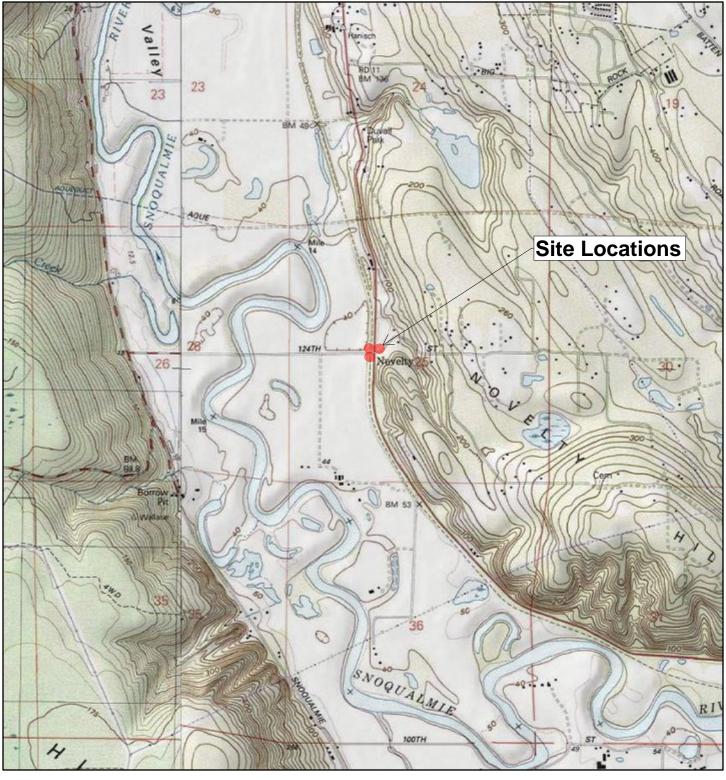


Figure 1-15. Vicinity Map - HMS 4 NE, NW, SW



SW1/4 and NW1/4 of Section 25, T.26N., R.06E.

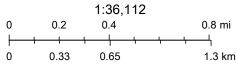
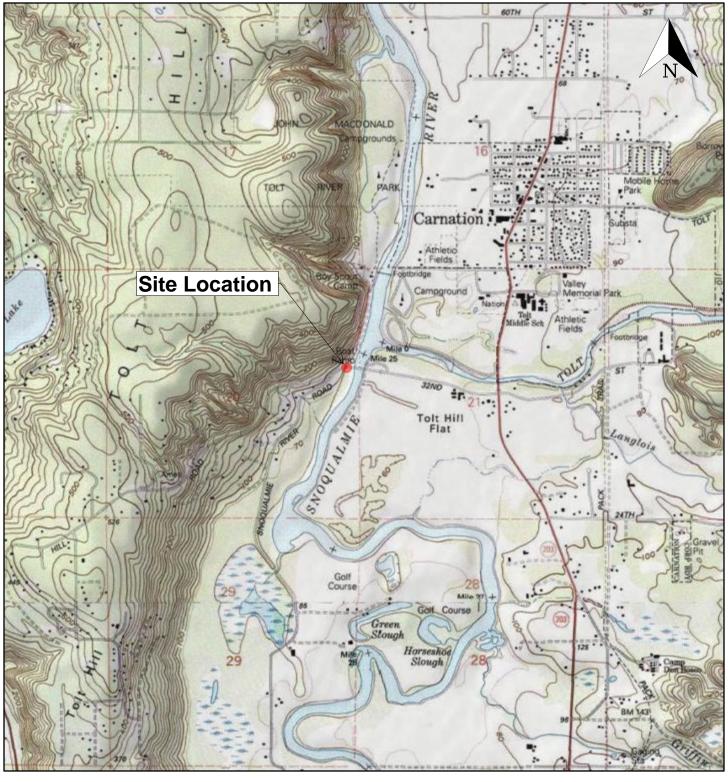


Figure 1-16. Vicinity Map - HMS 5



NE1/4 of Section 20, T.25N., R.07E.

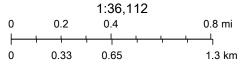
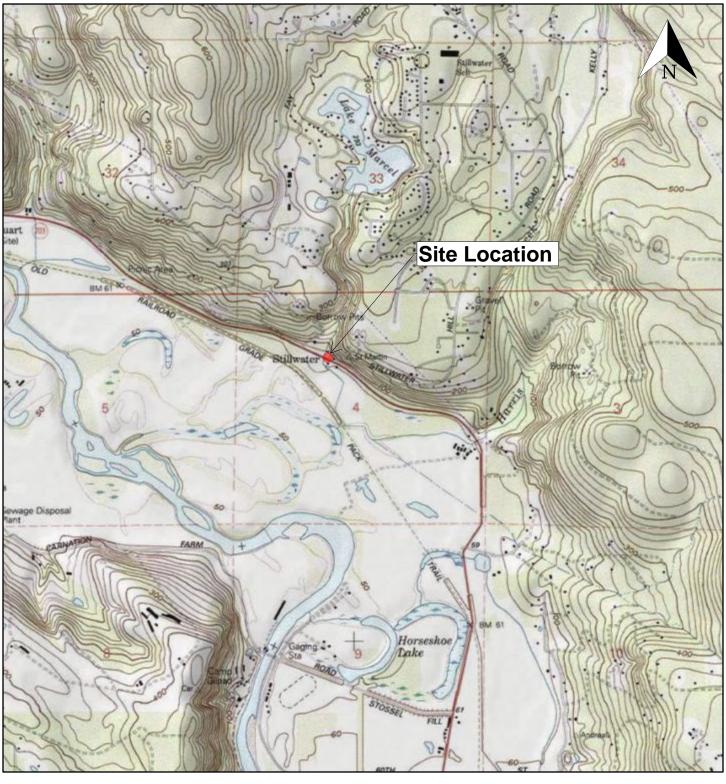


Figure 1-17. Vicinity Map - HMS 7



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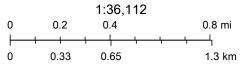
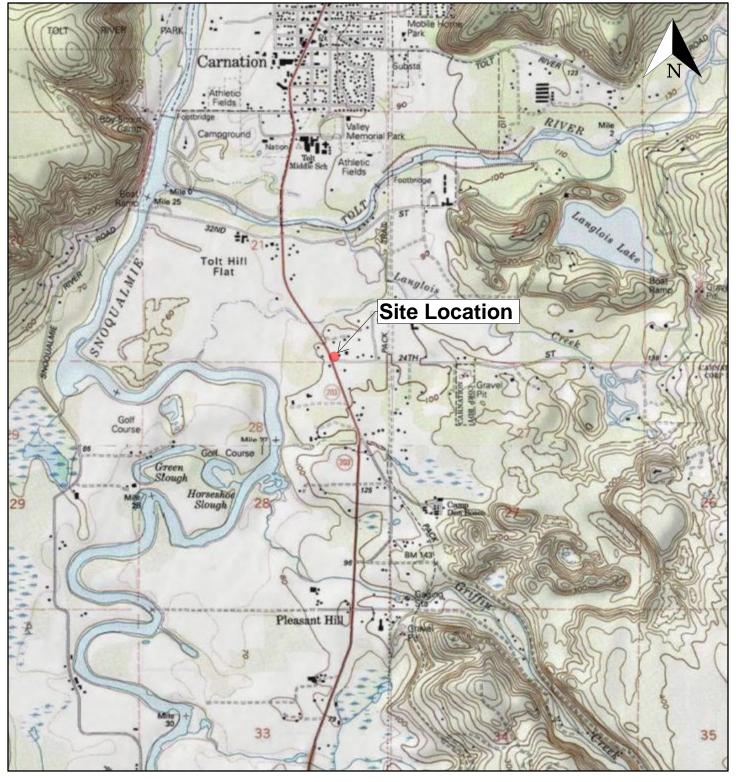
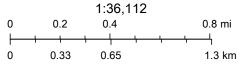


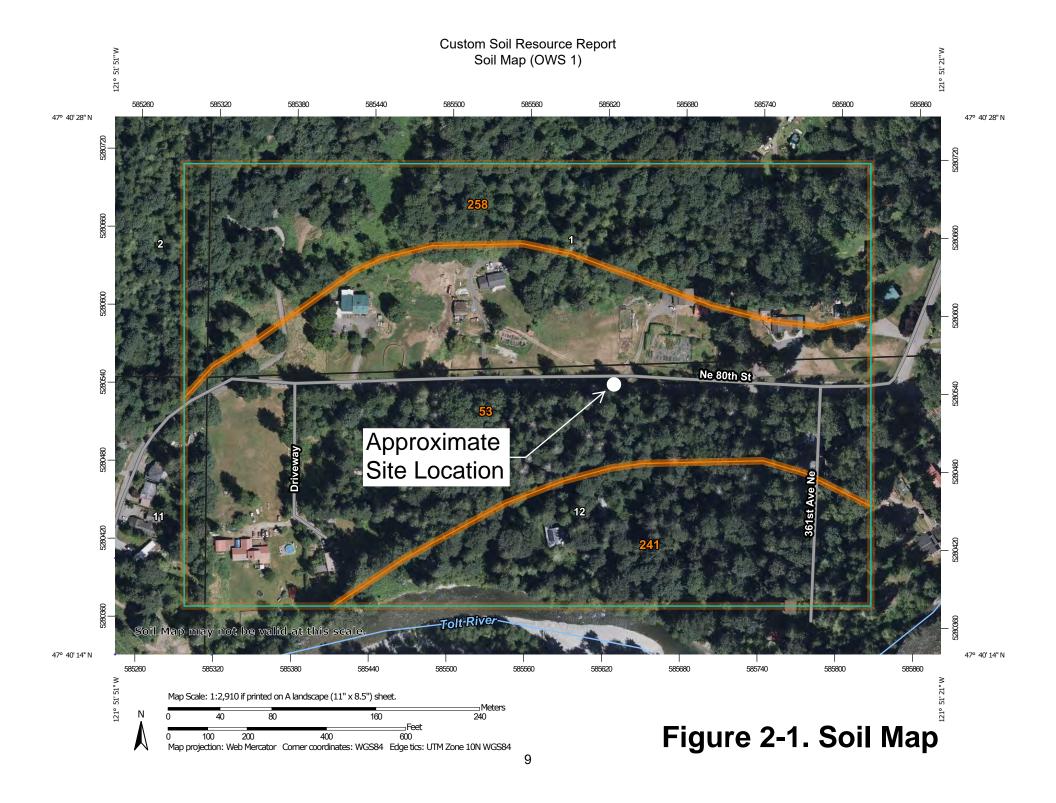
Figure 1-18. Vicinity Map - HMS 8

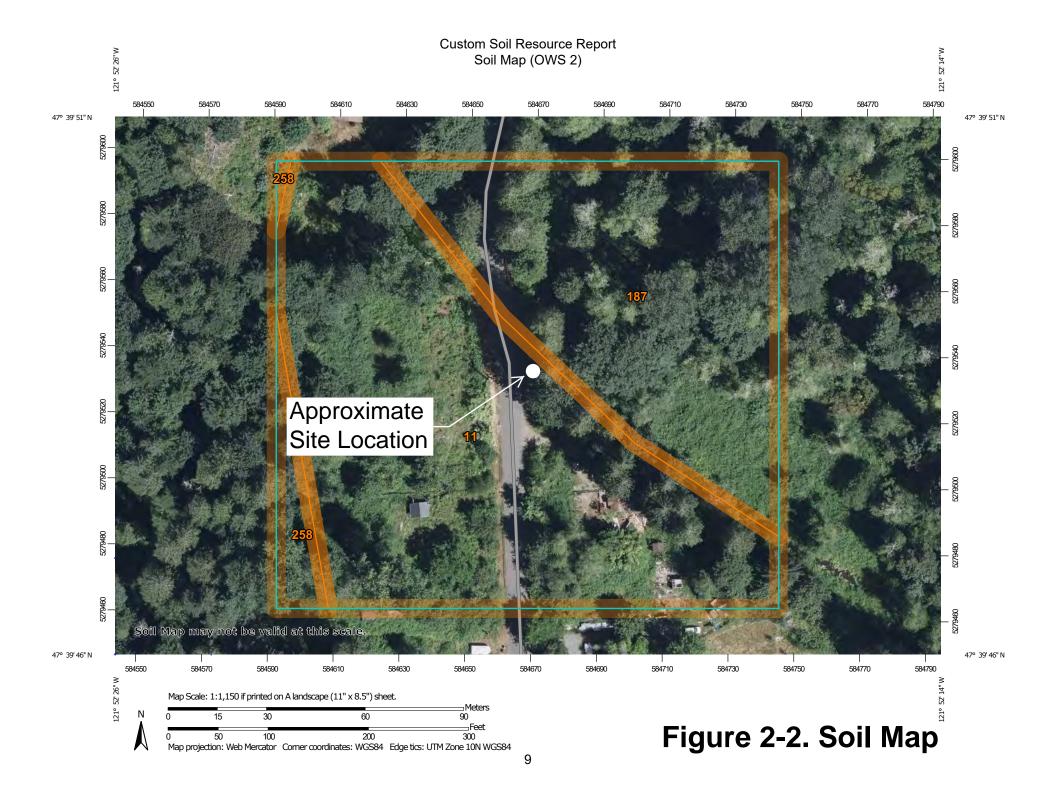


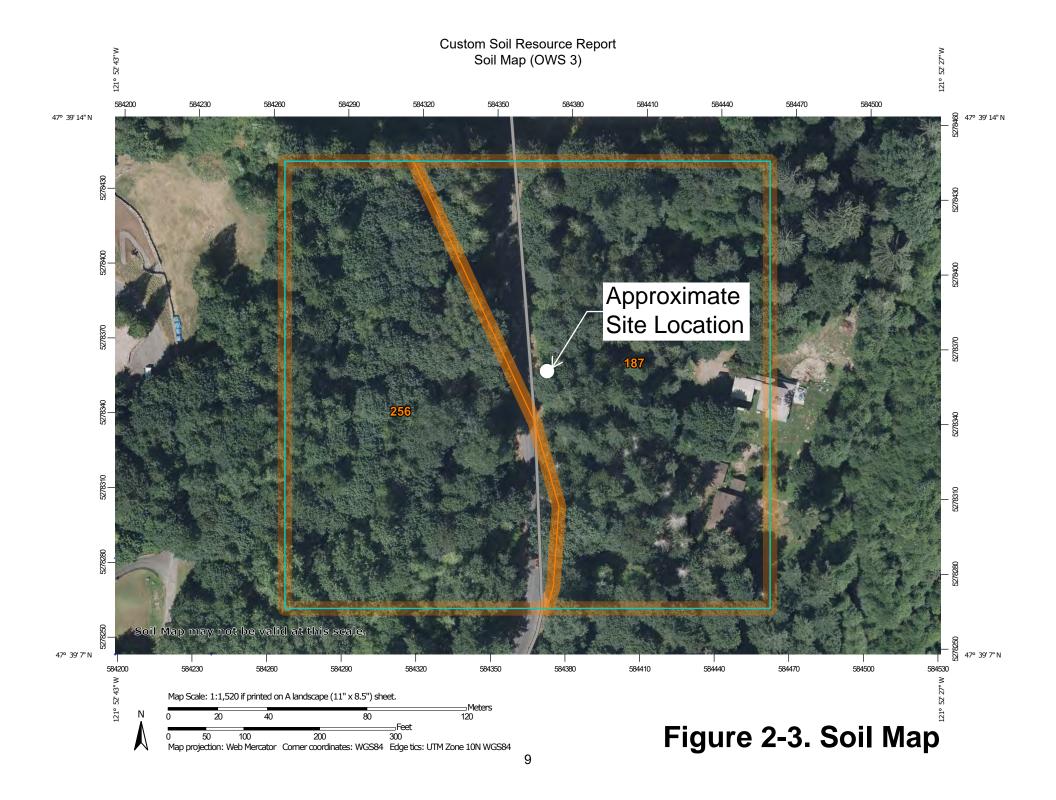
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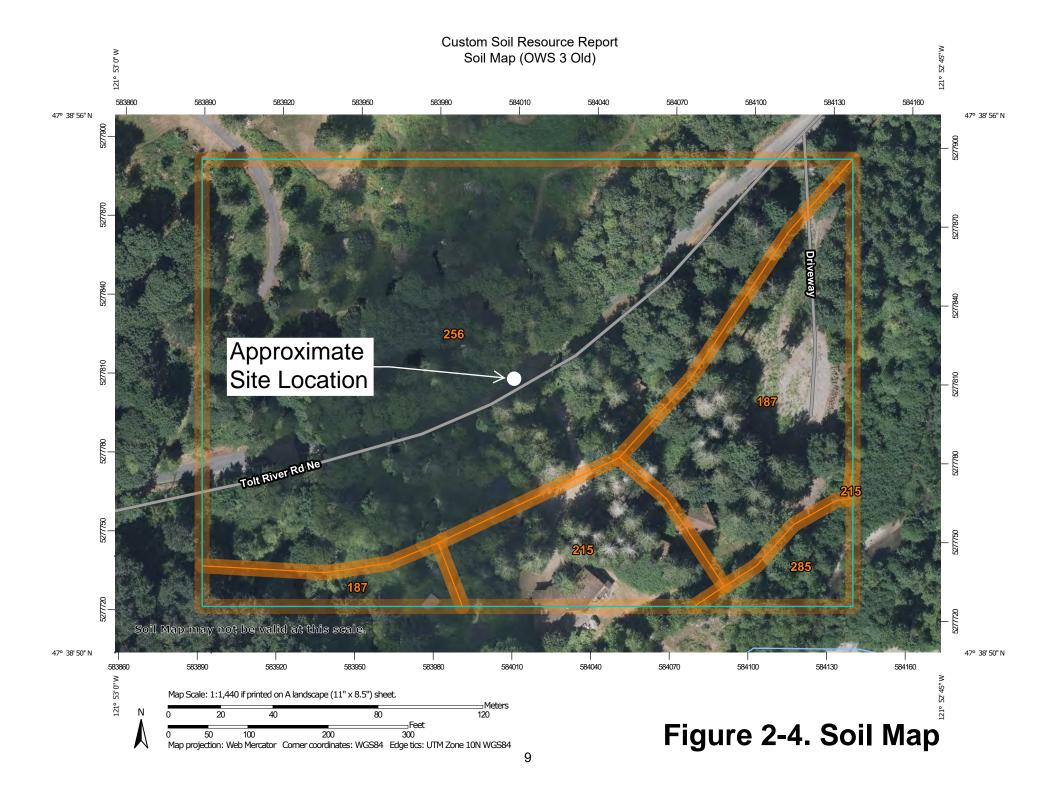


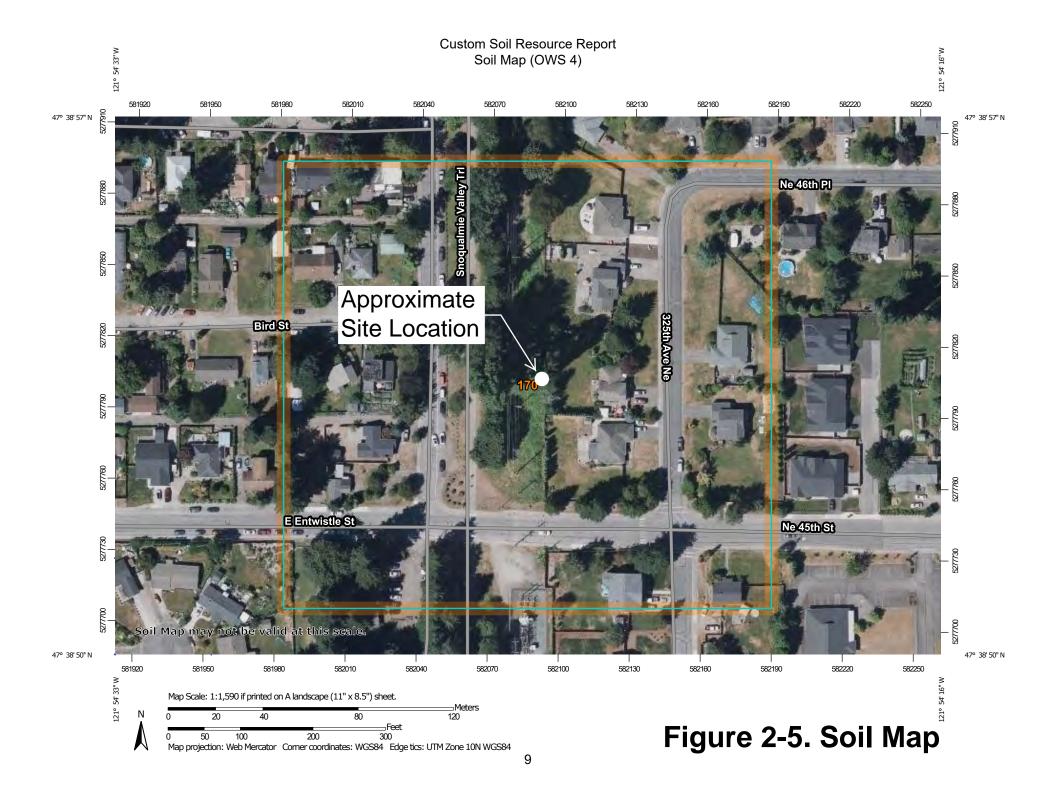
Appendix B Soil Maps (Figures 2-1 to 2-19)

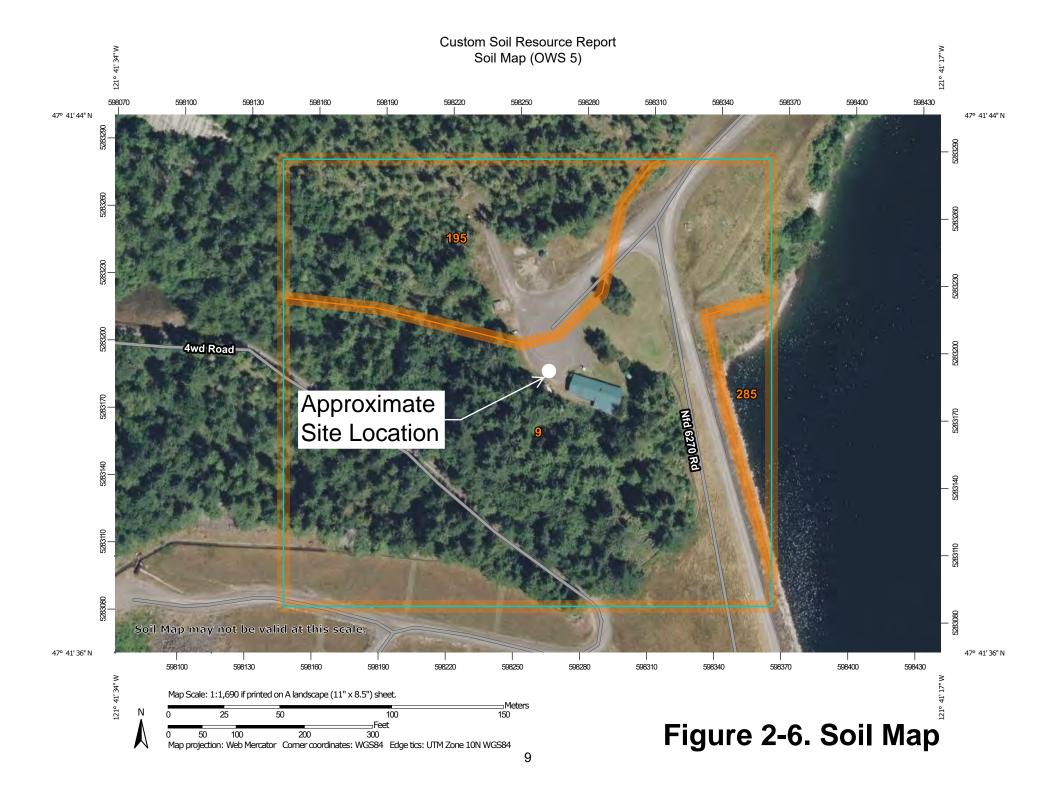


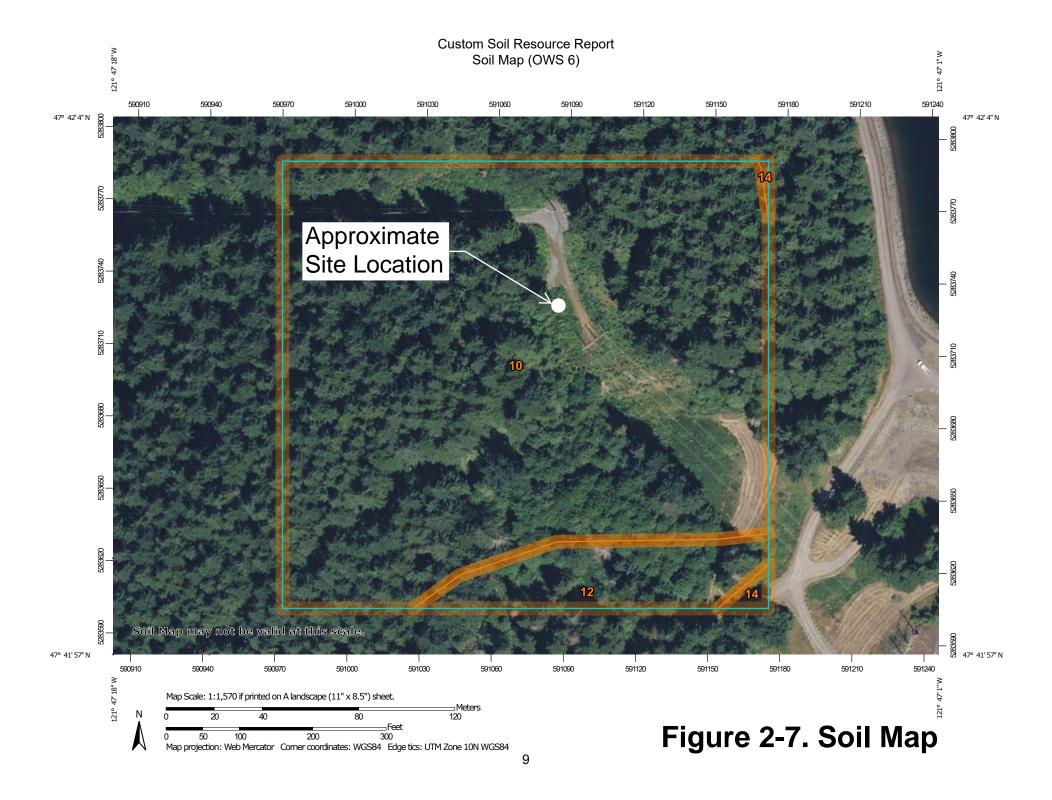




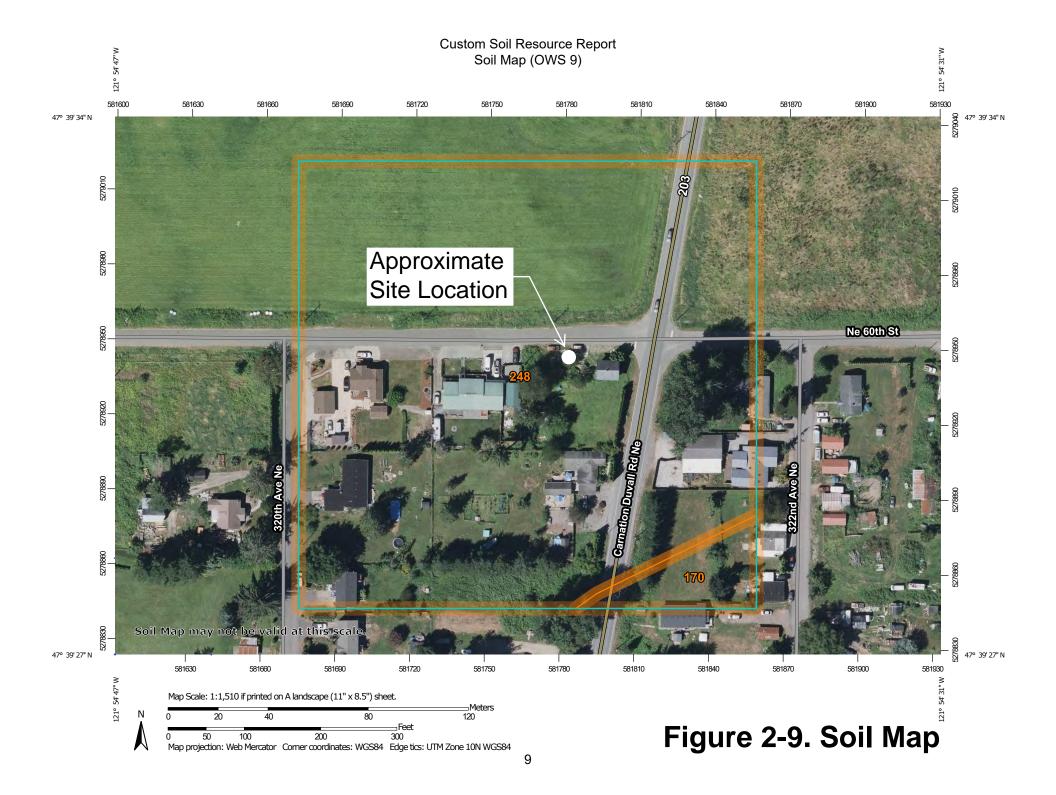


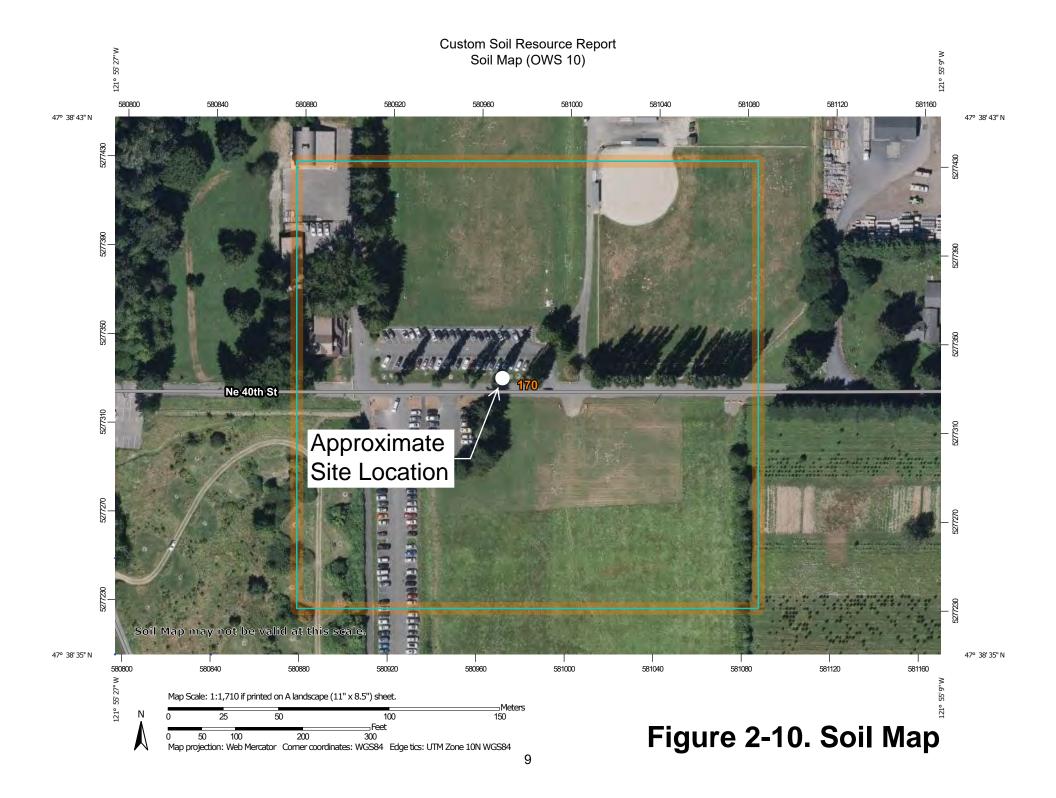


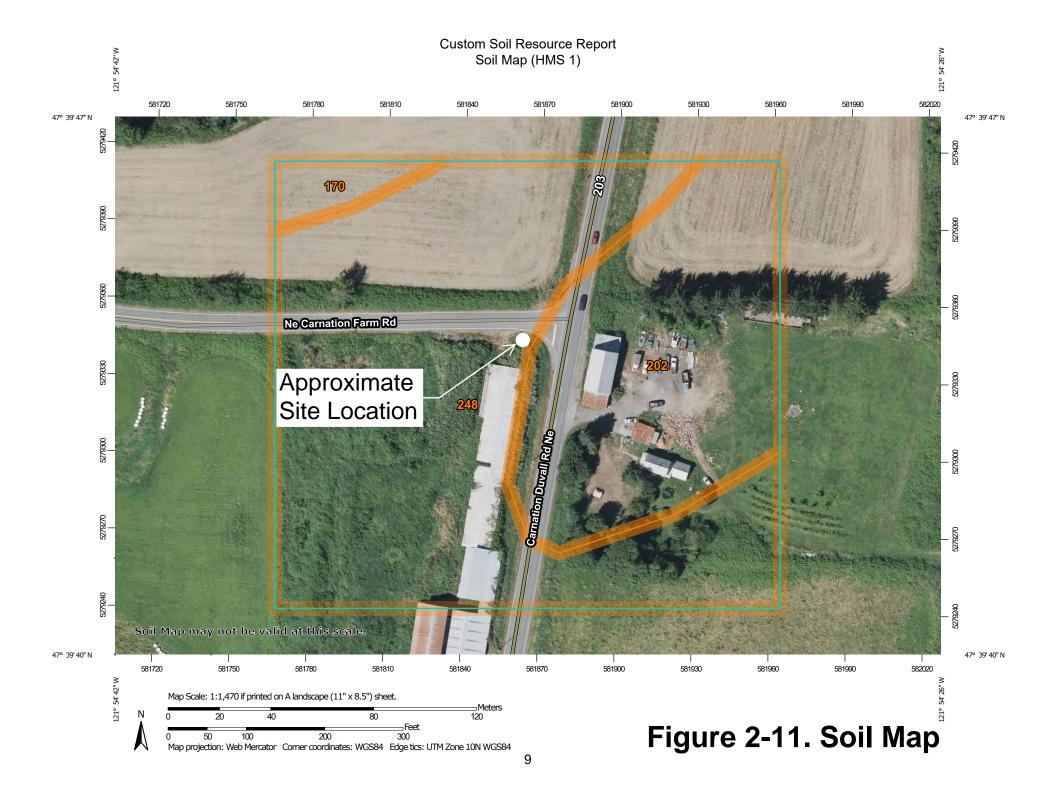


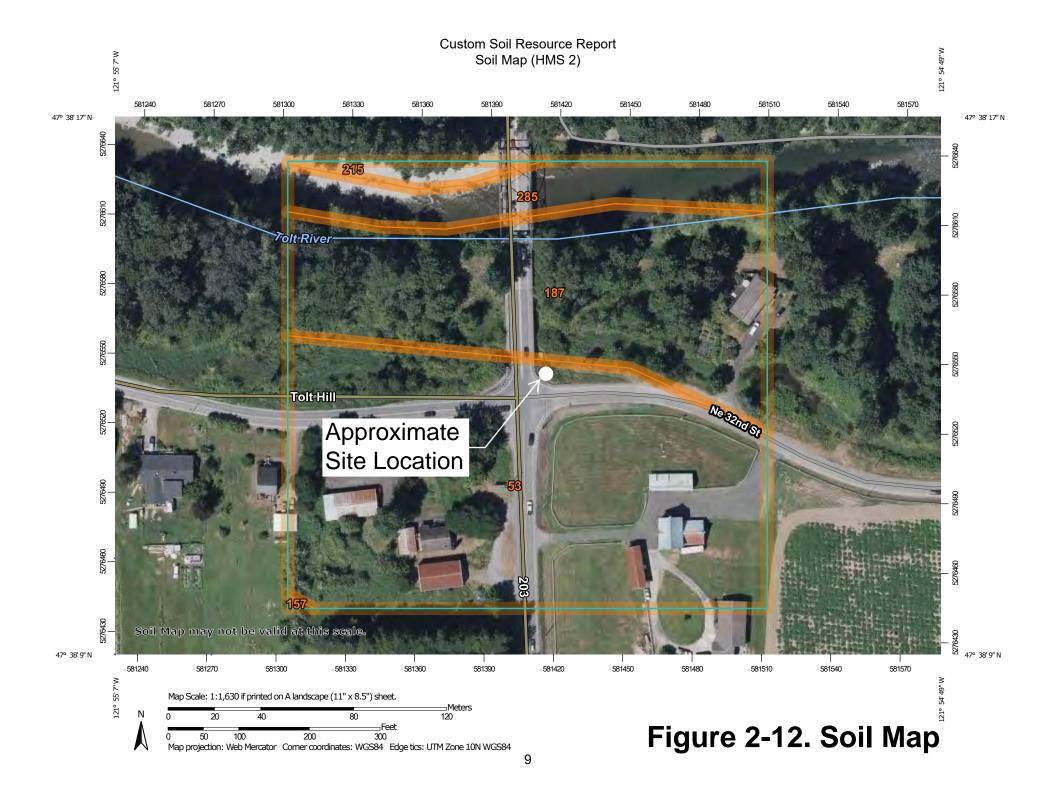


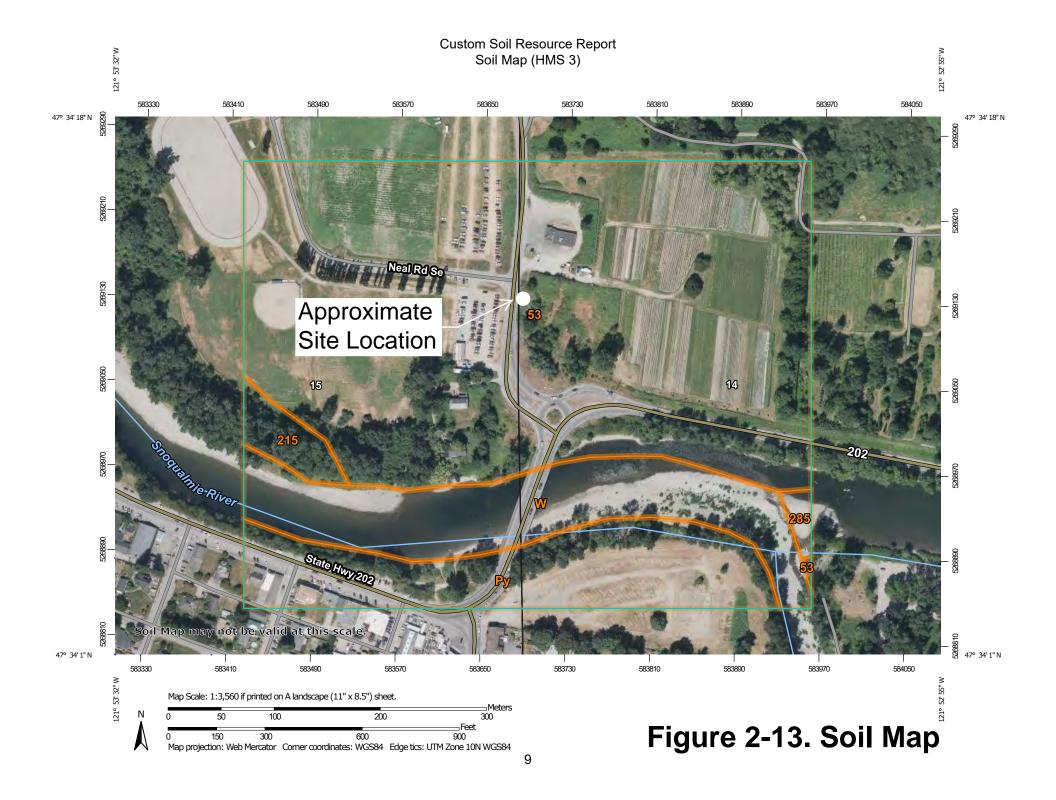


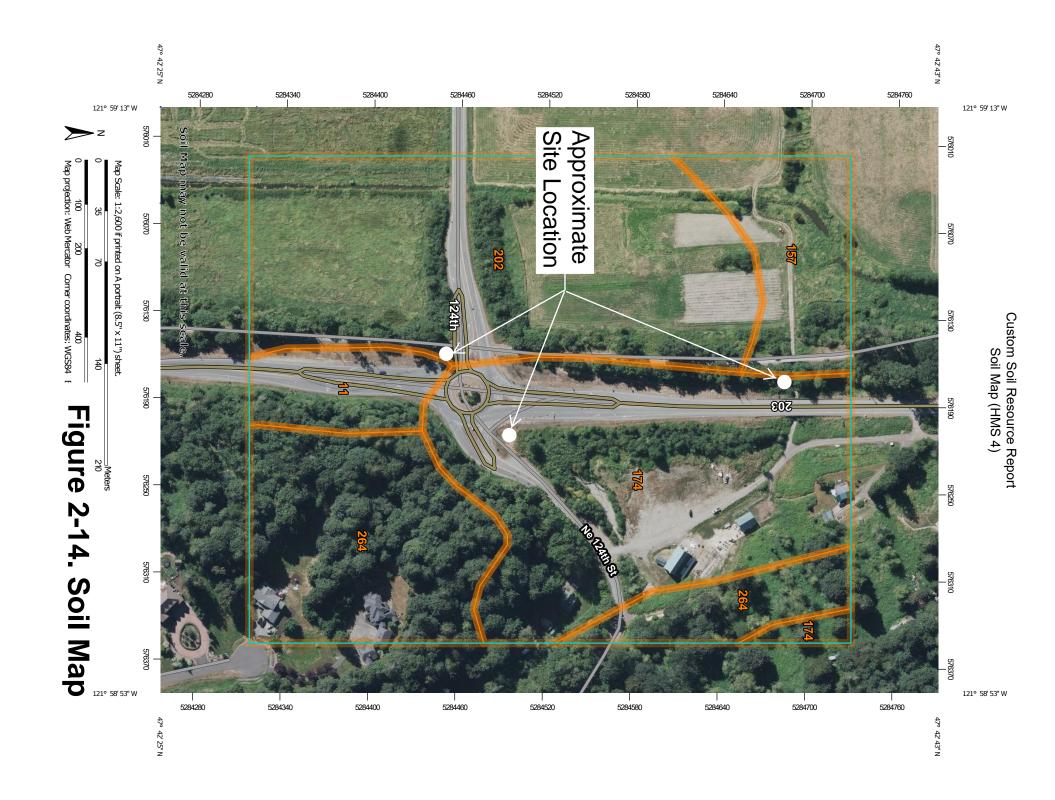


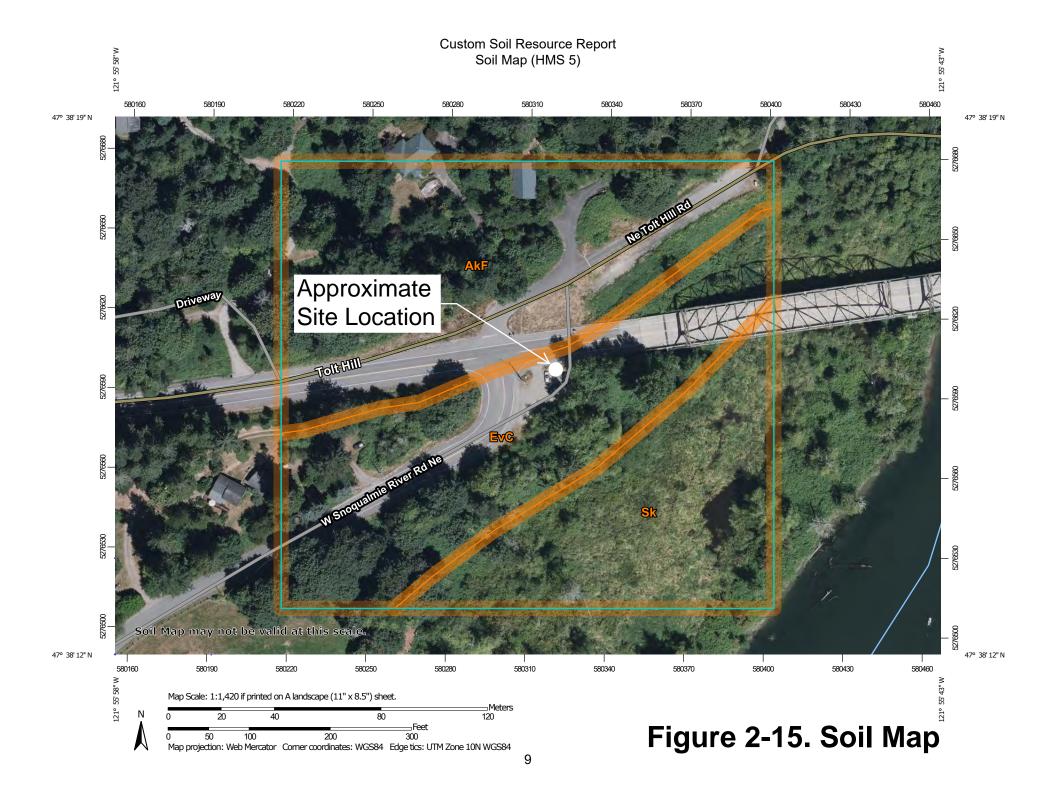


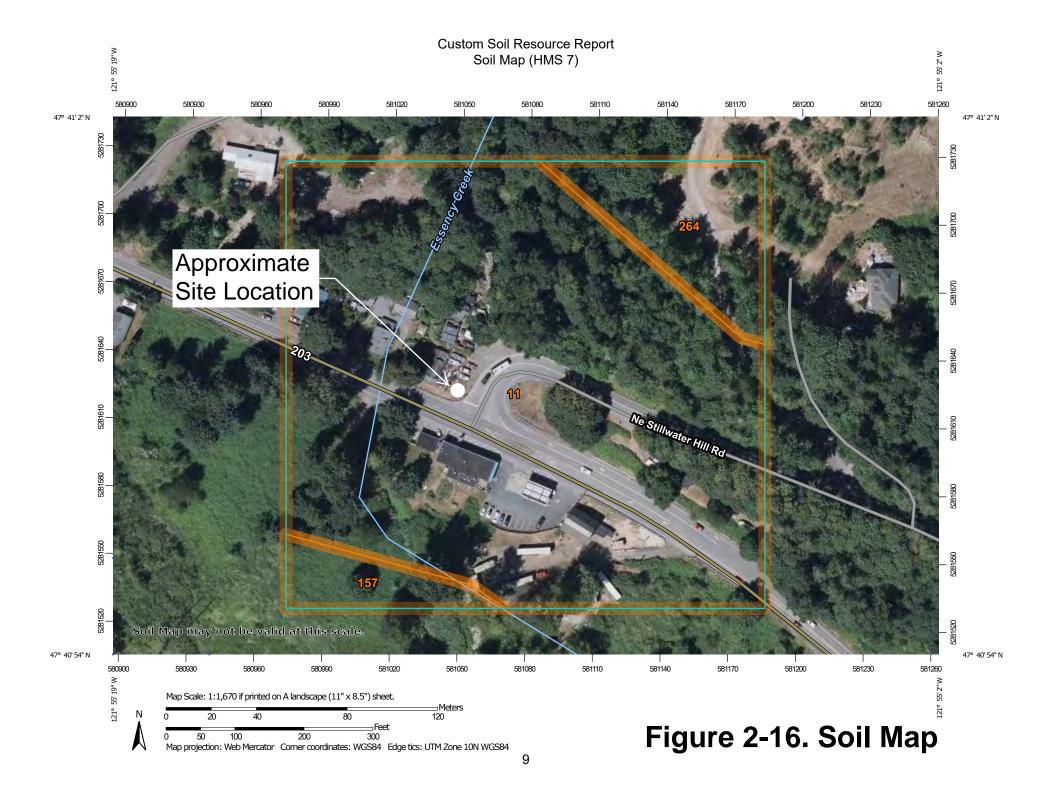


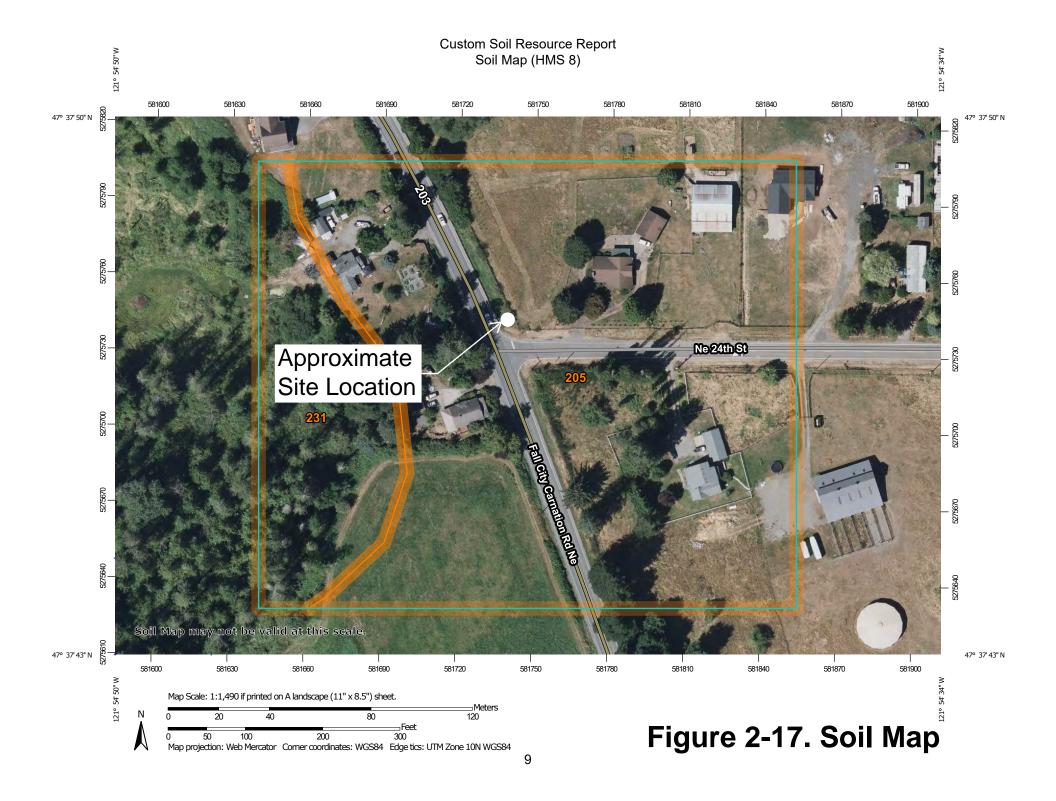


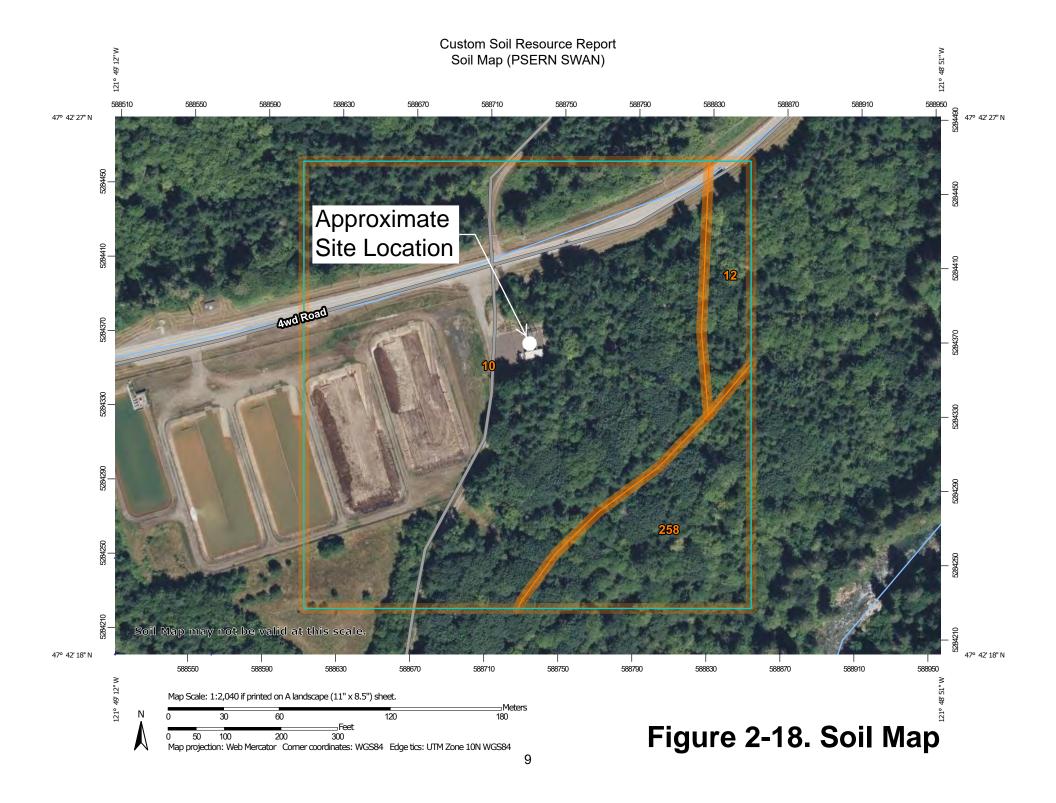


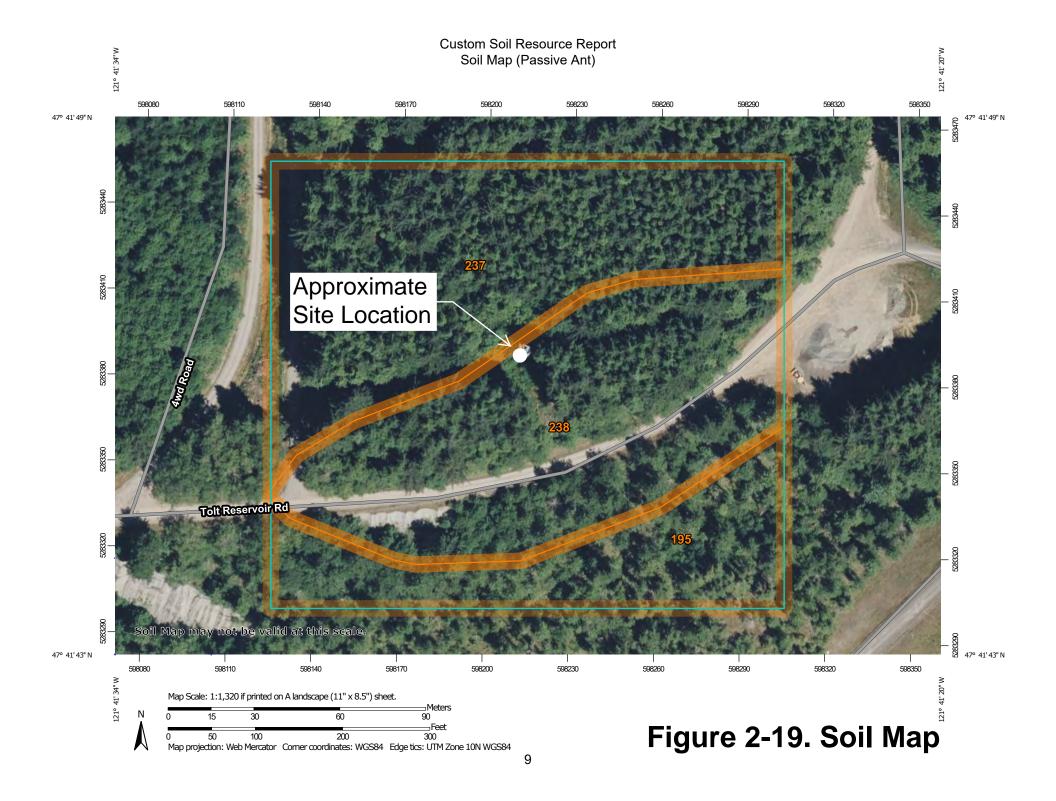






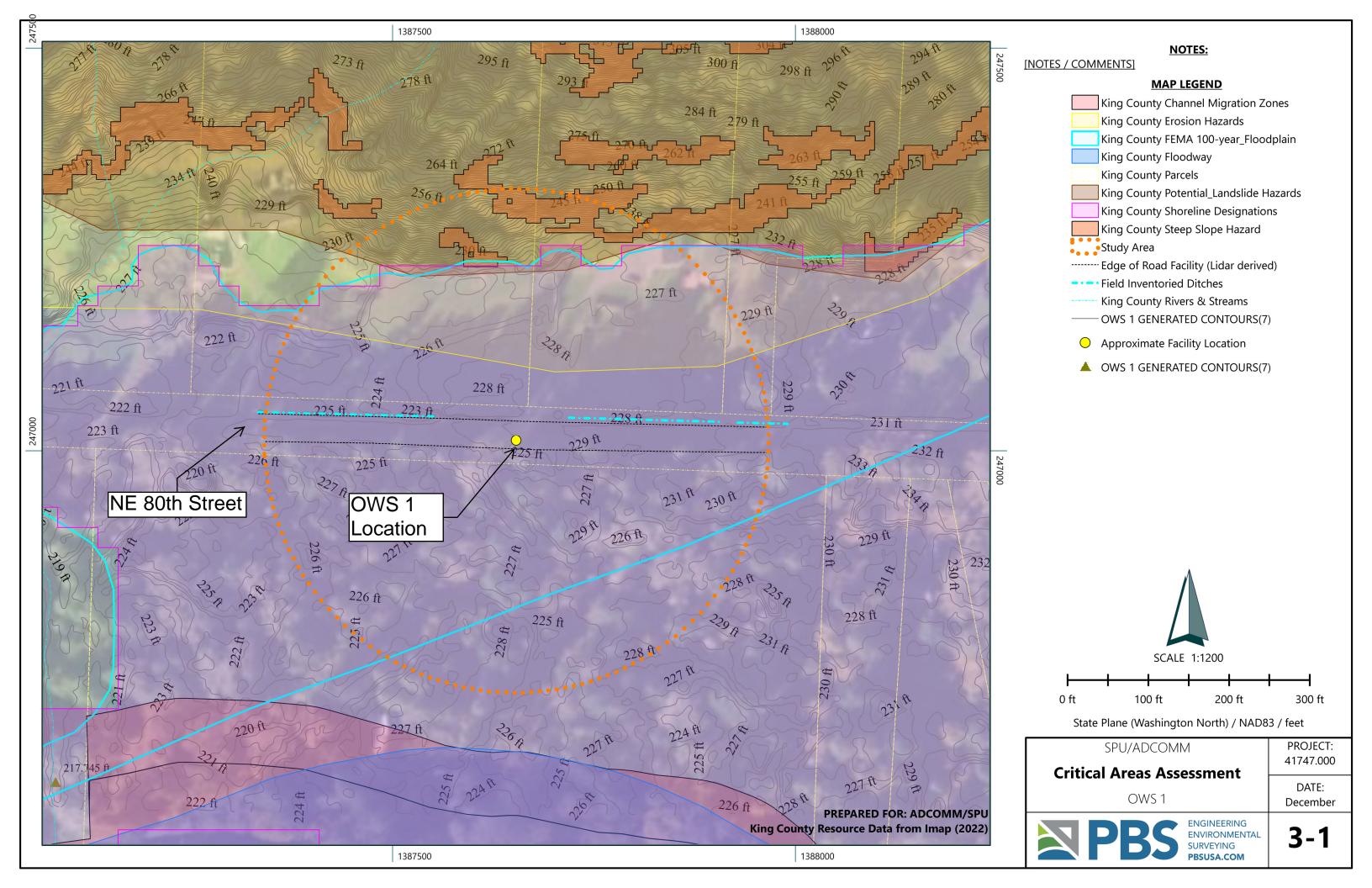


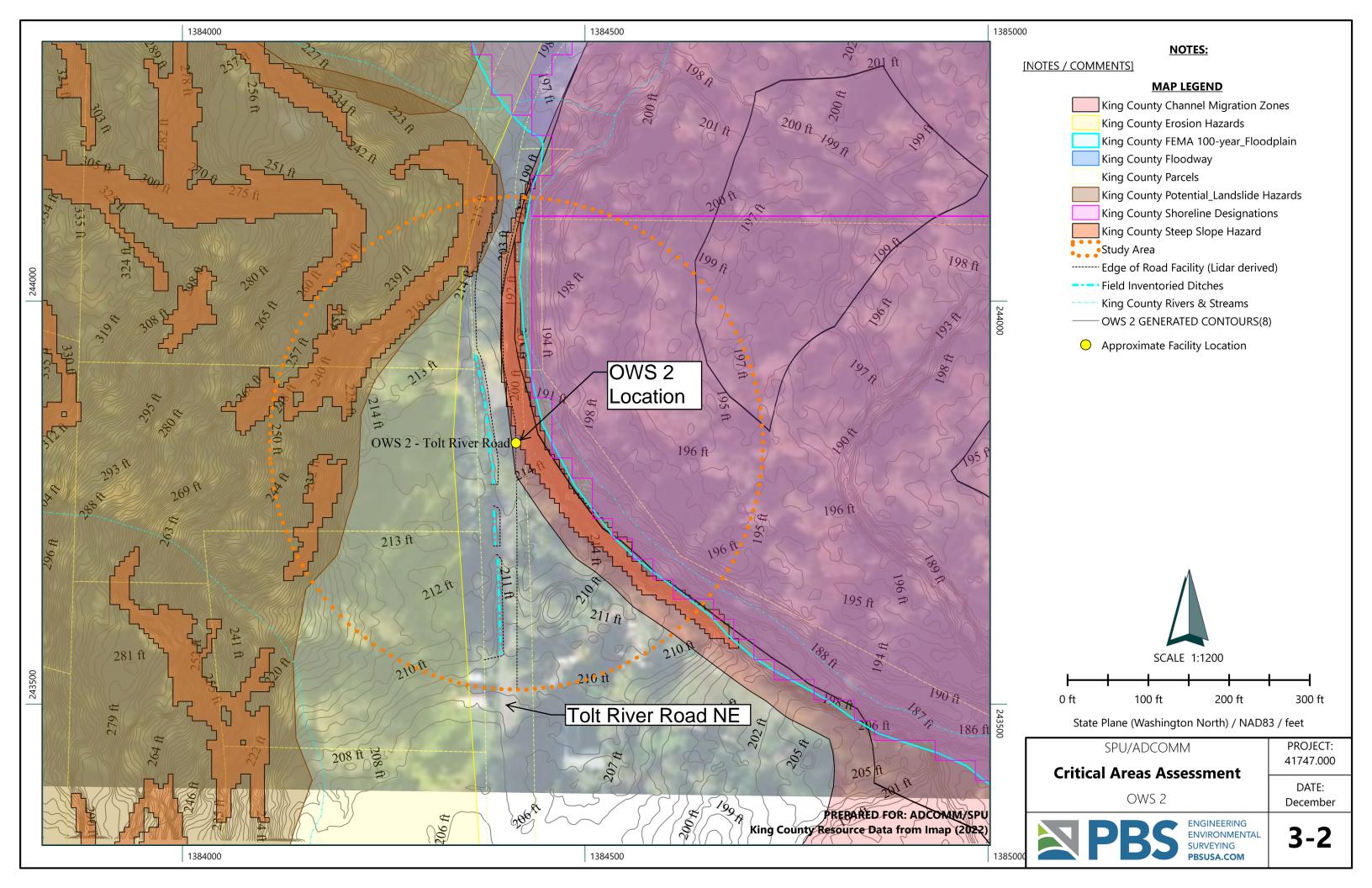


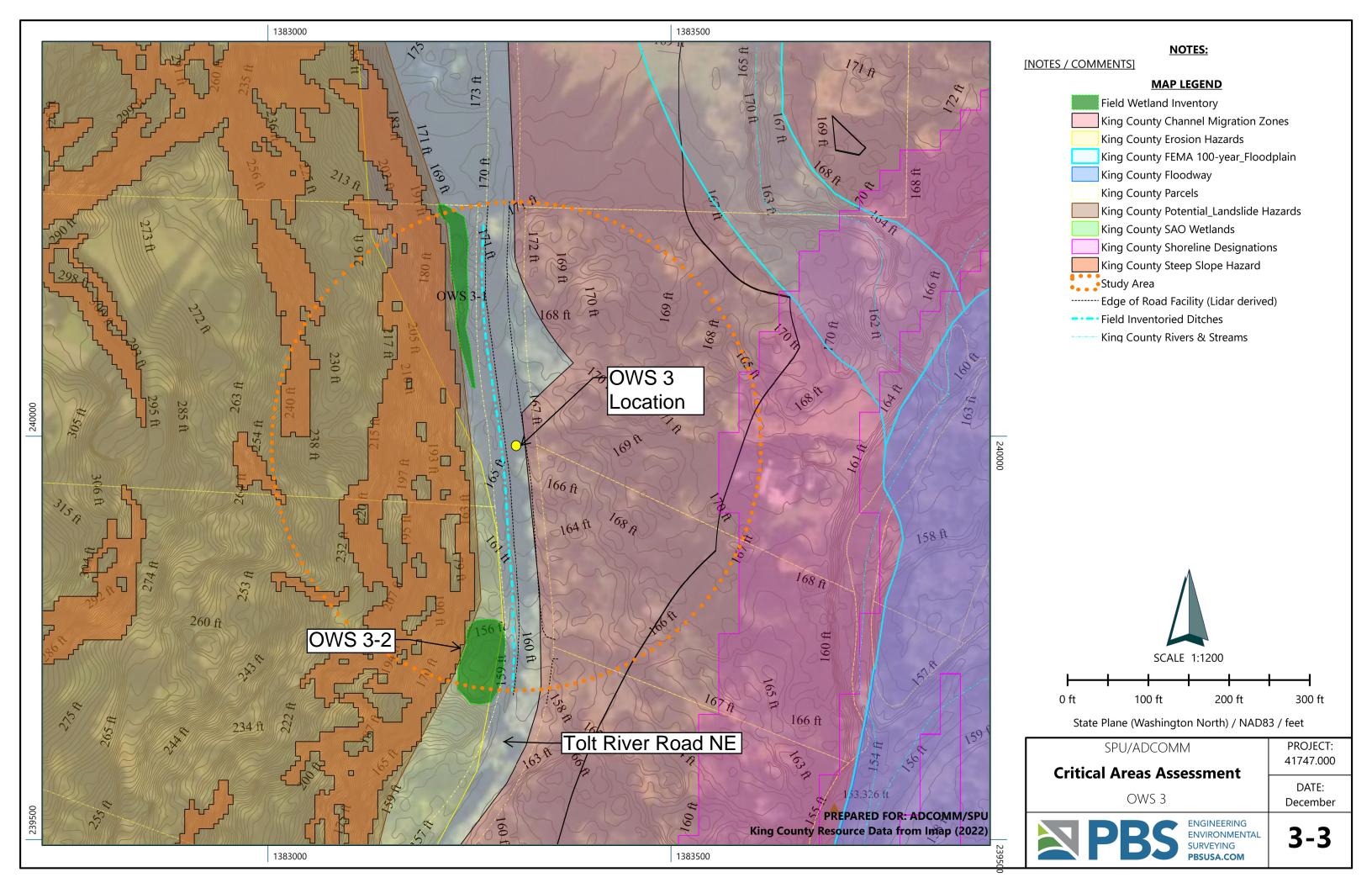


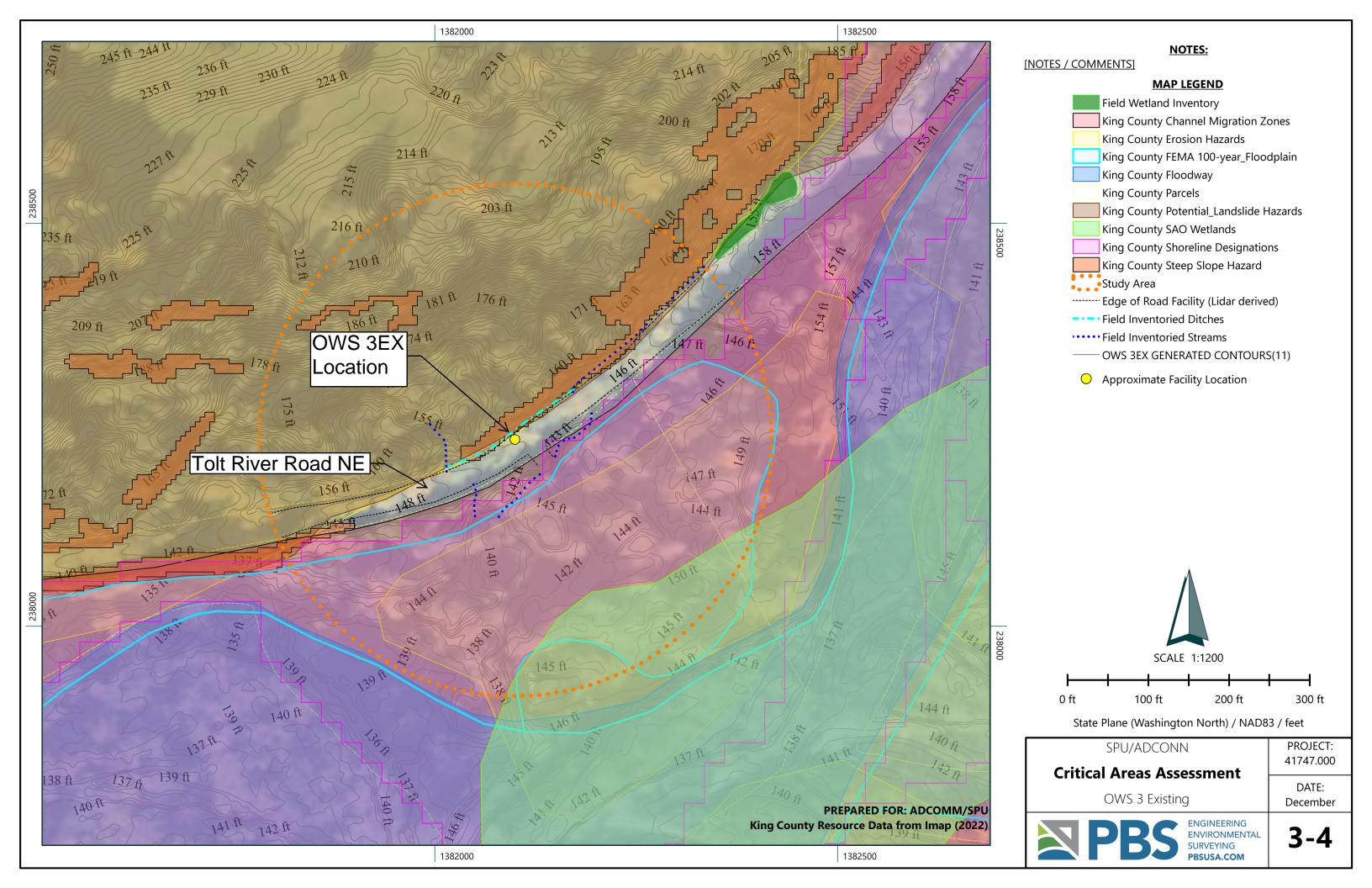
Appendix C

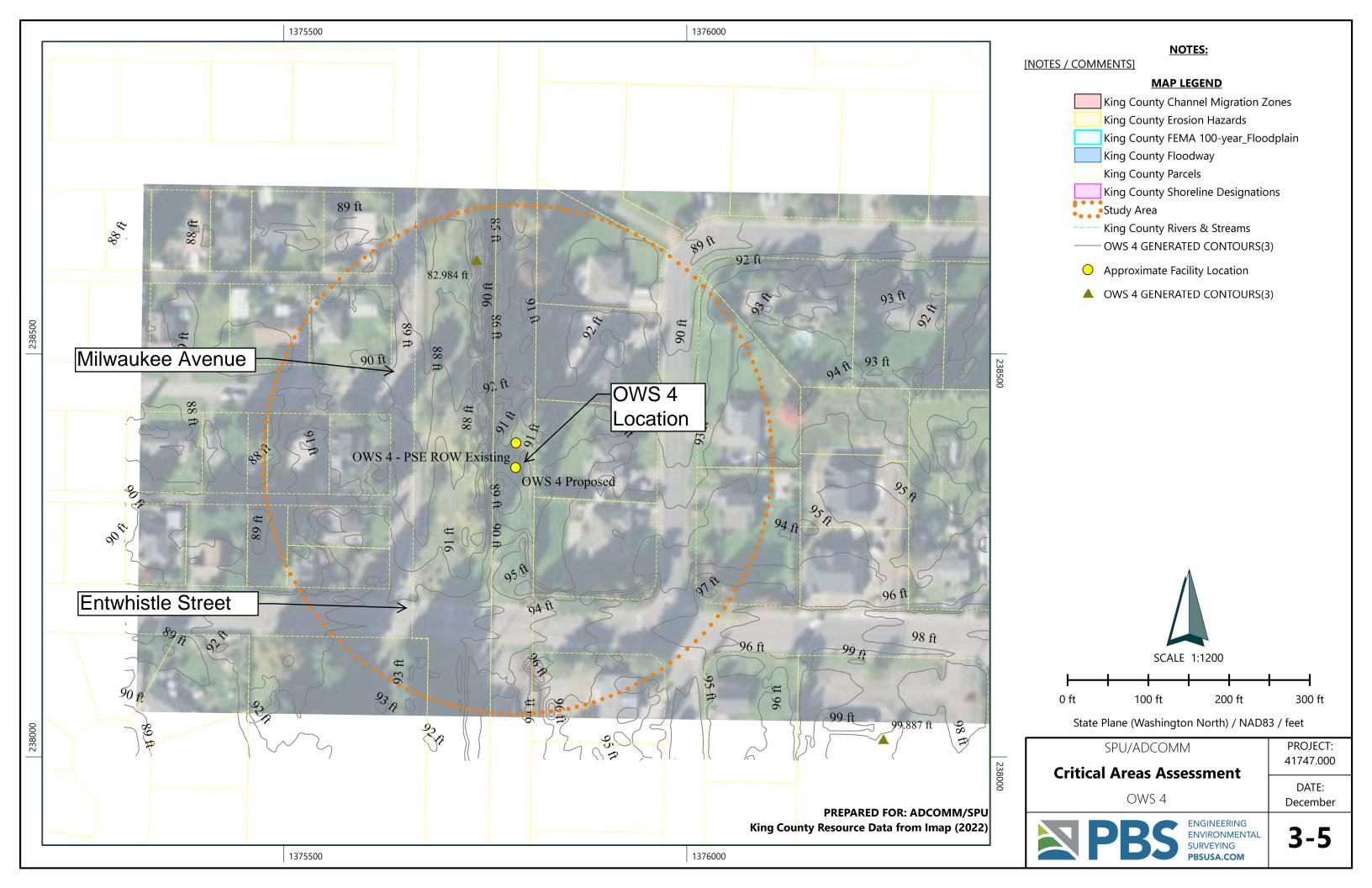
Critical Area Maps (Figures 3-1 to 3-19)

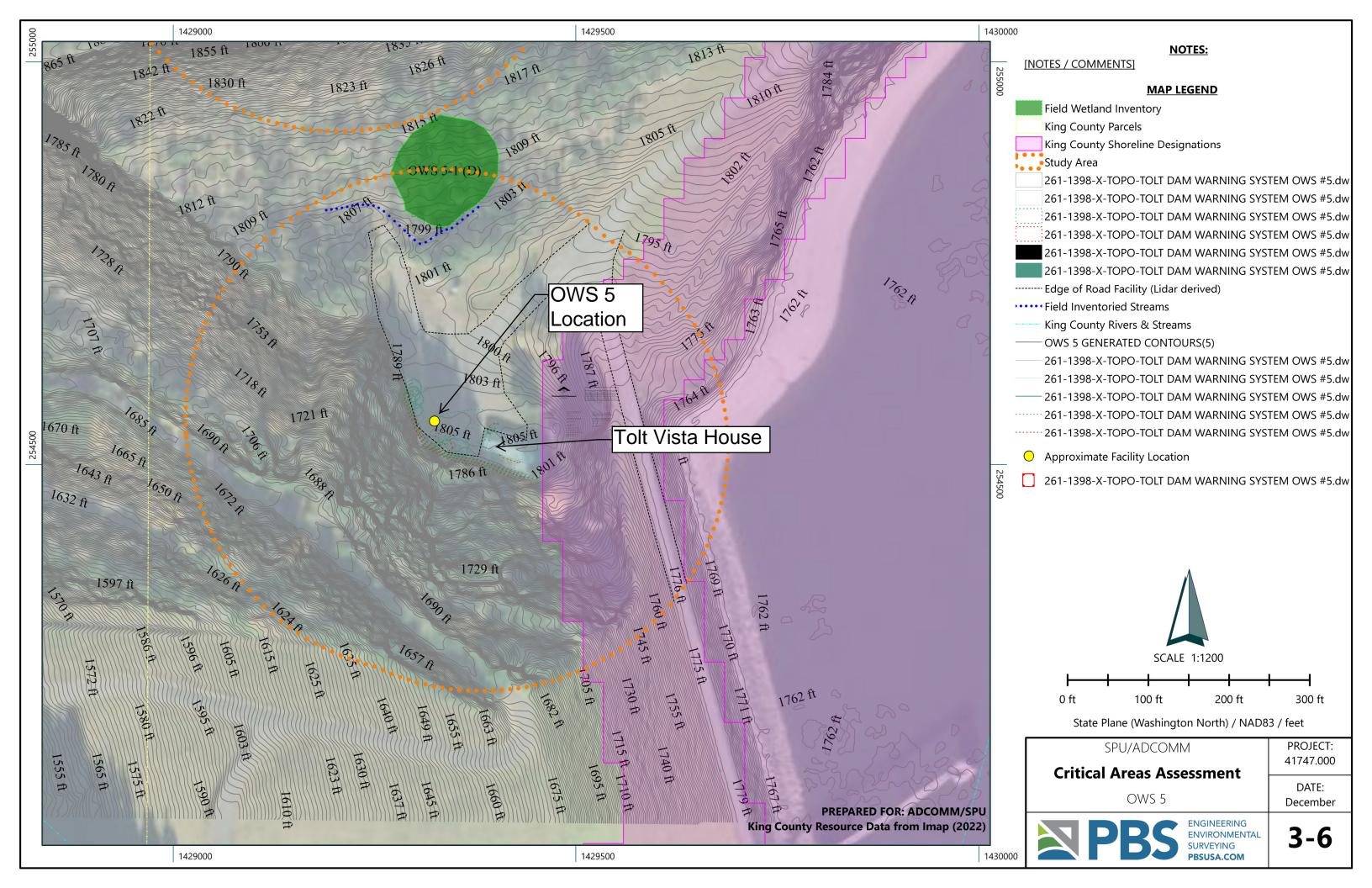


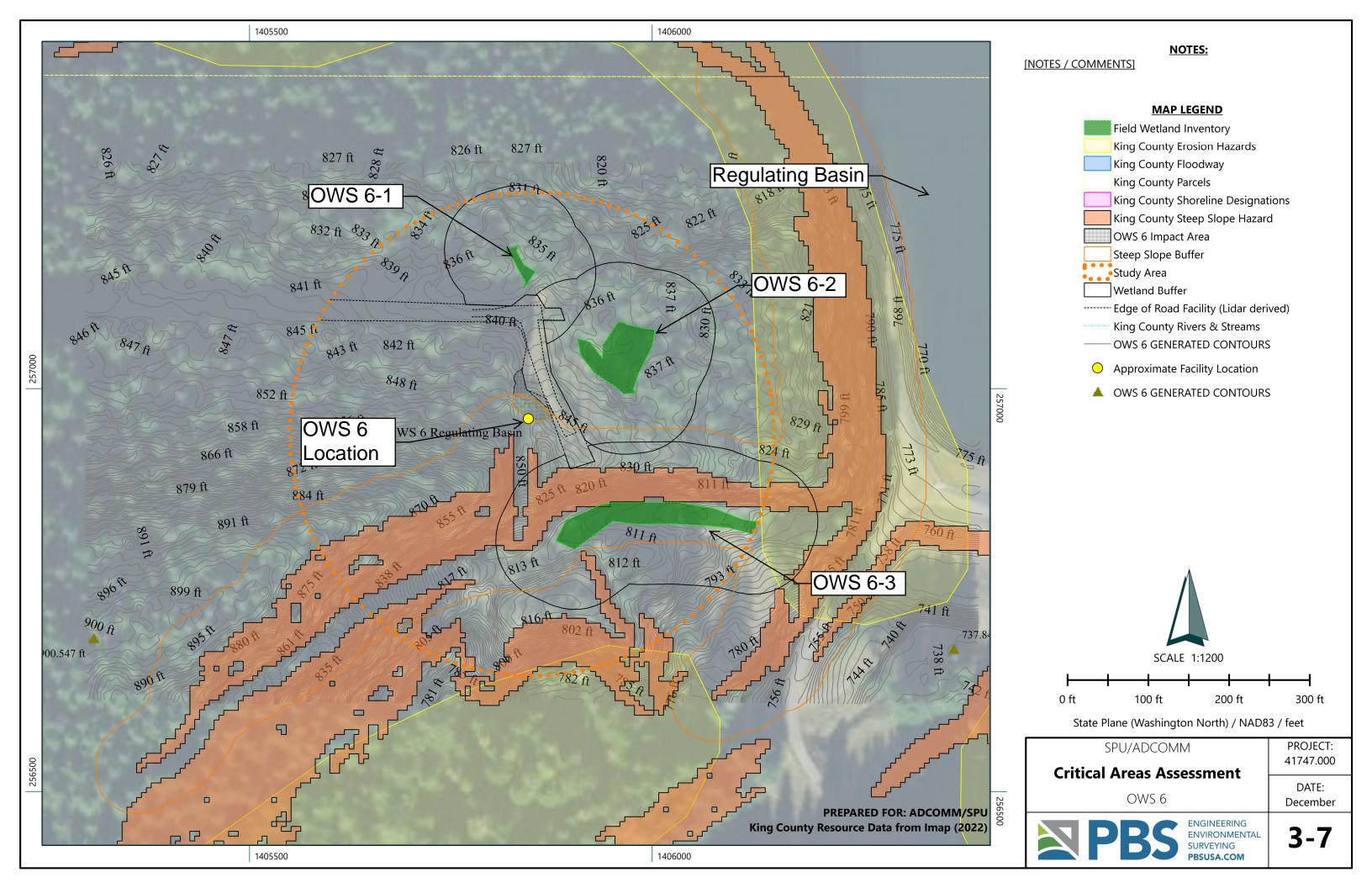


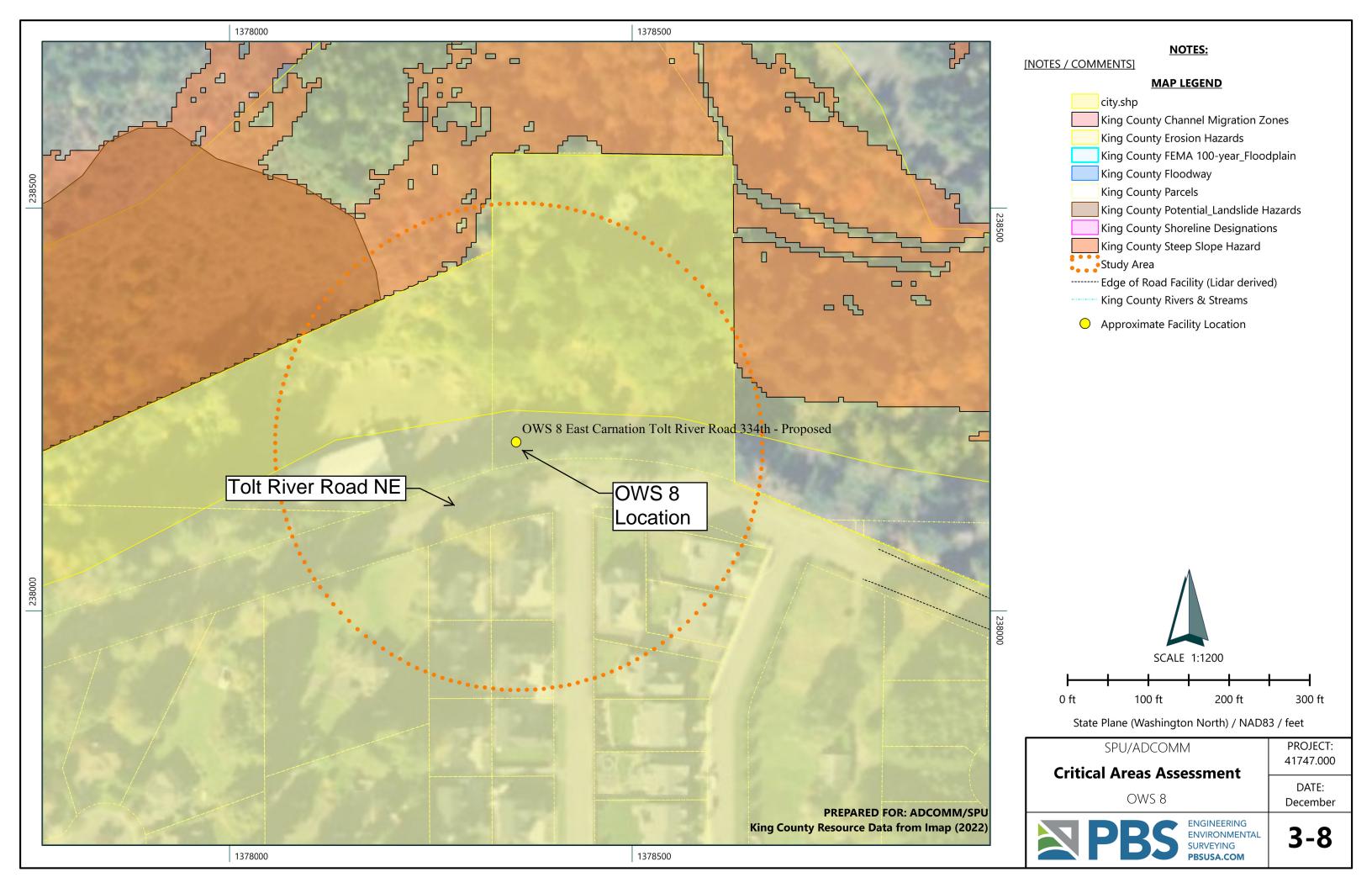


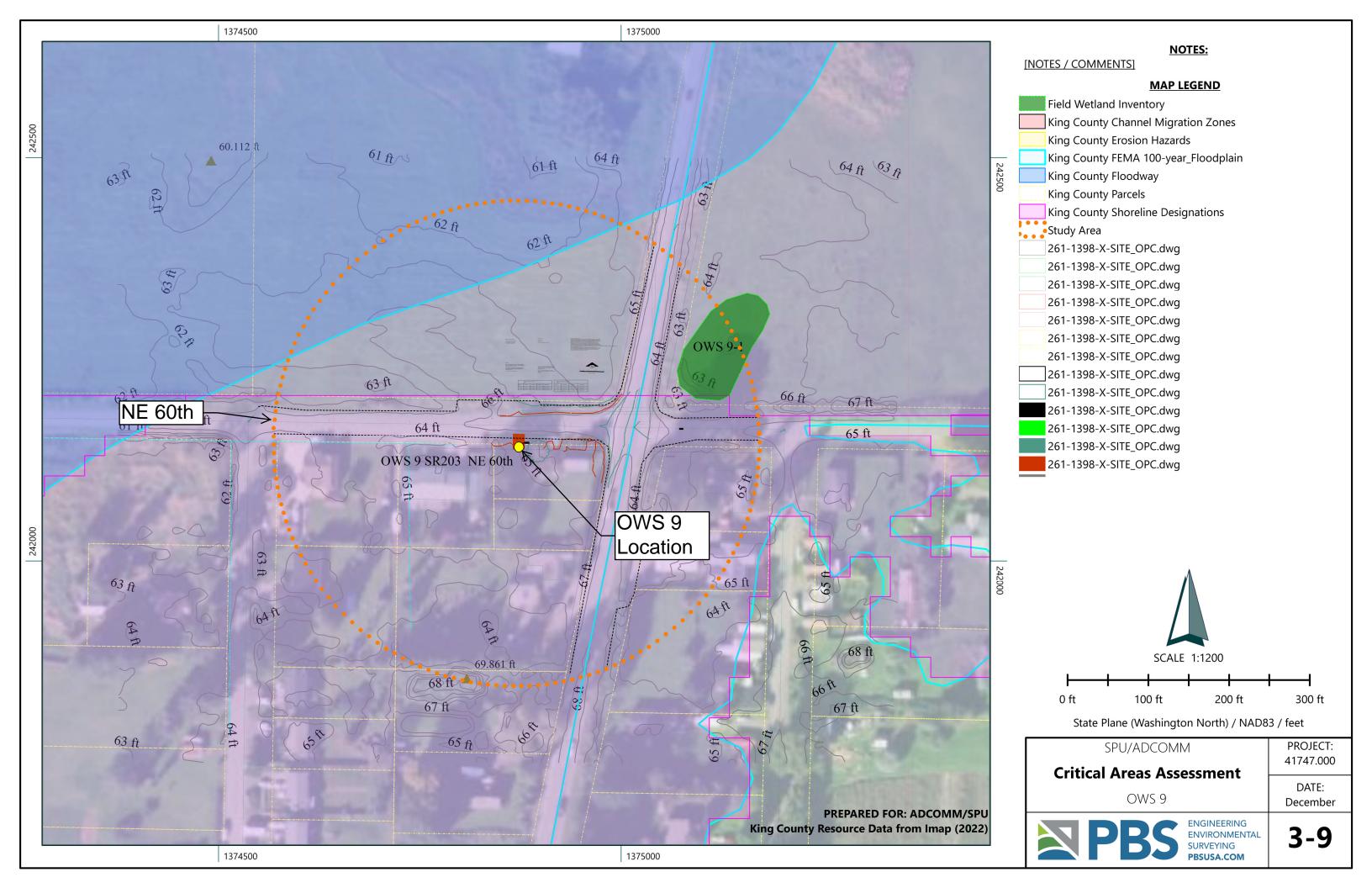


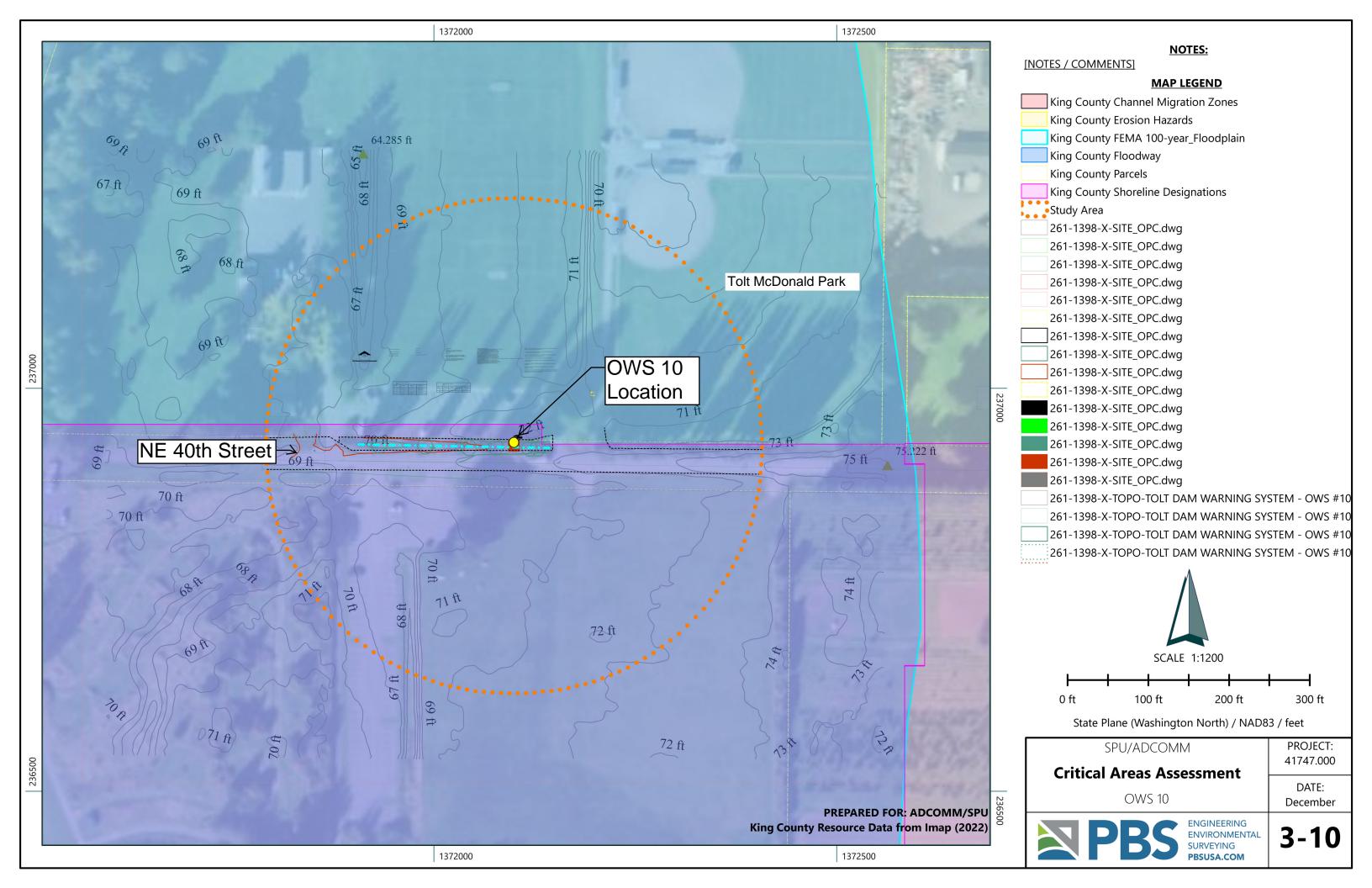


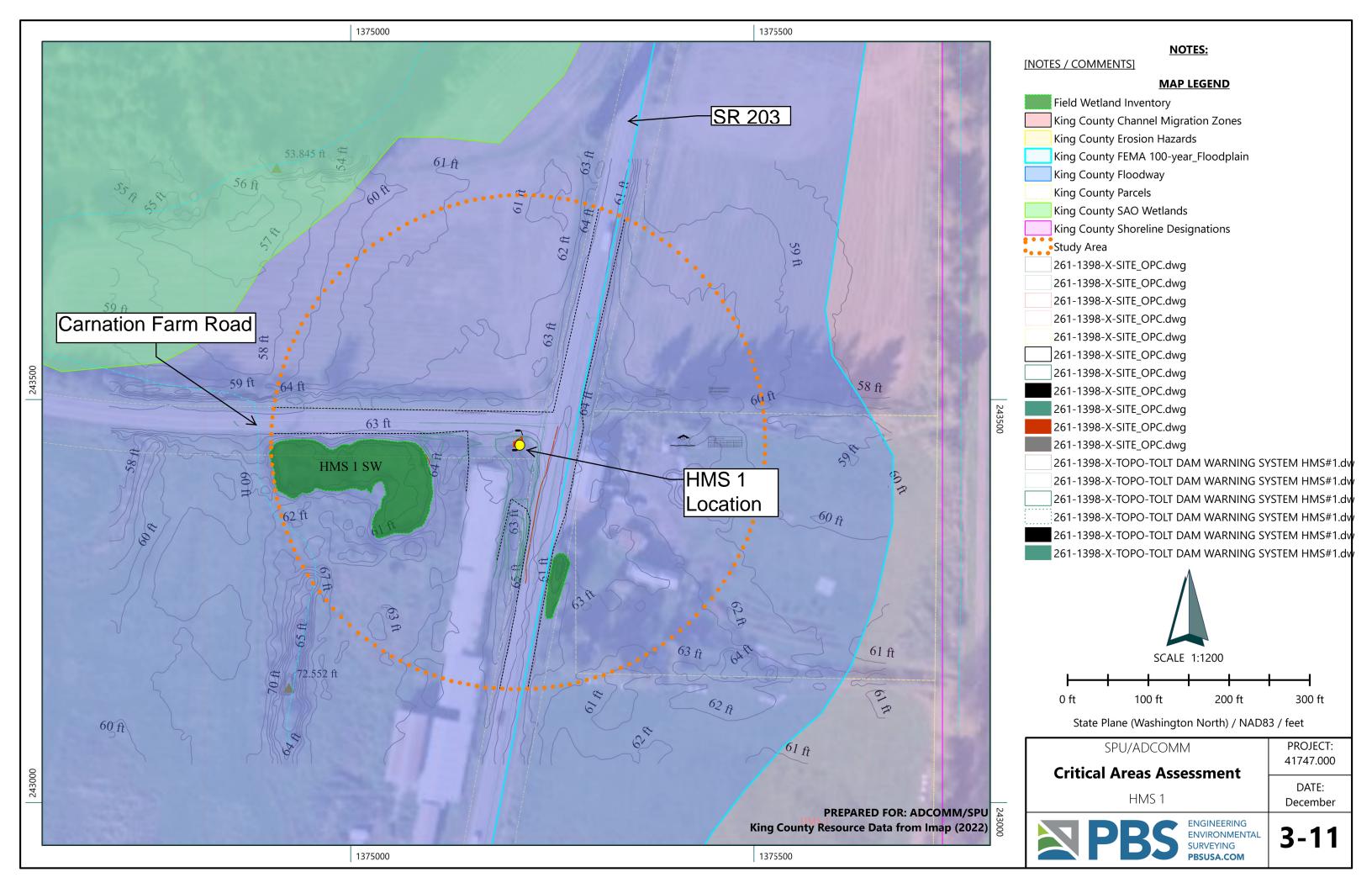


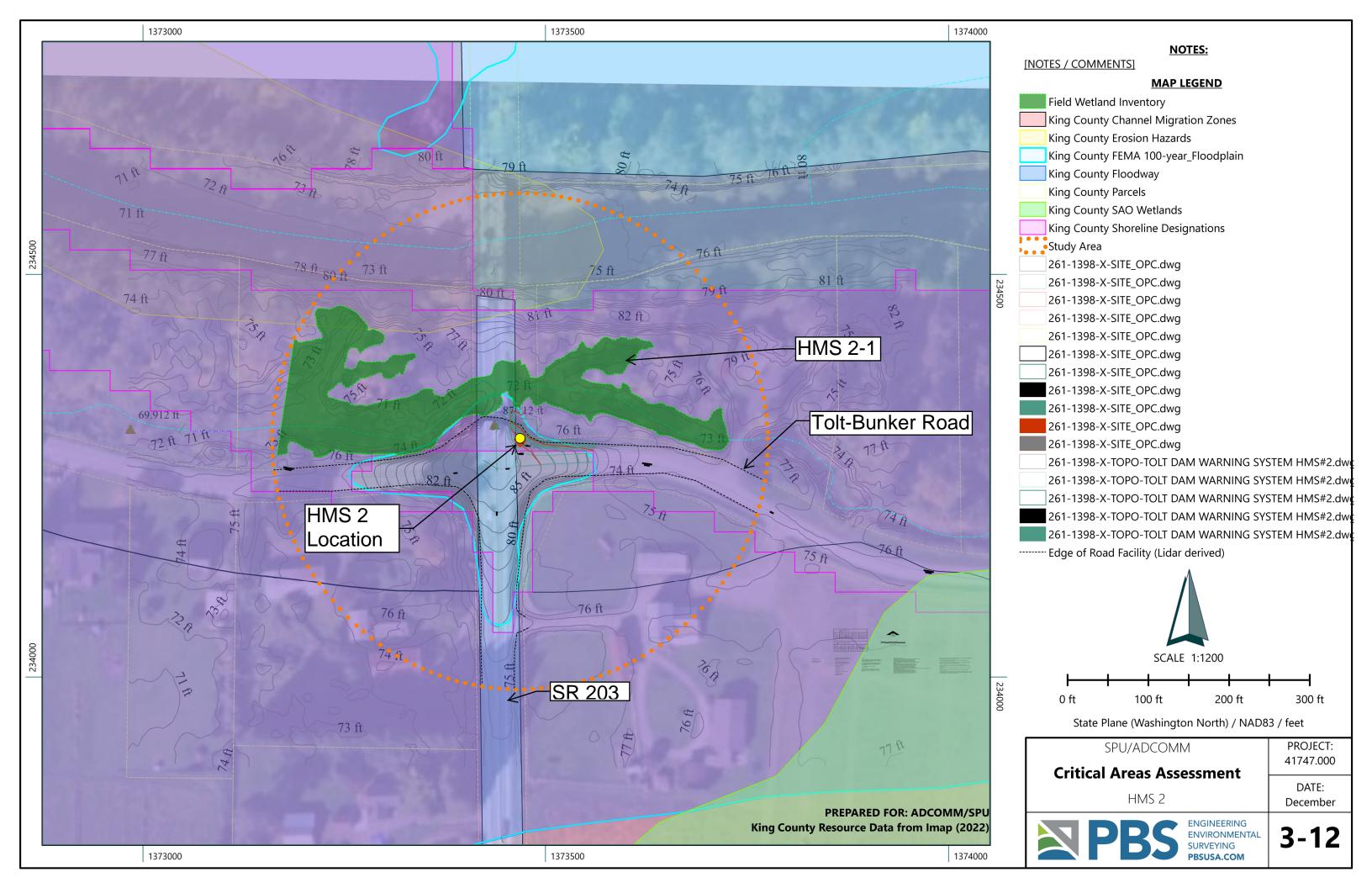


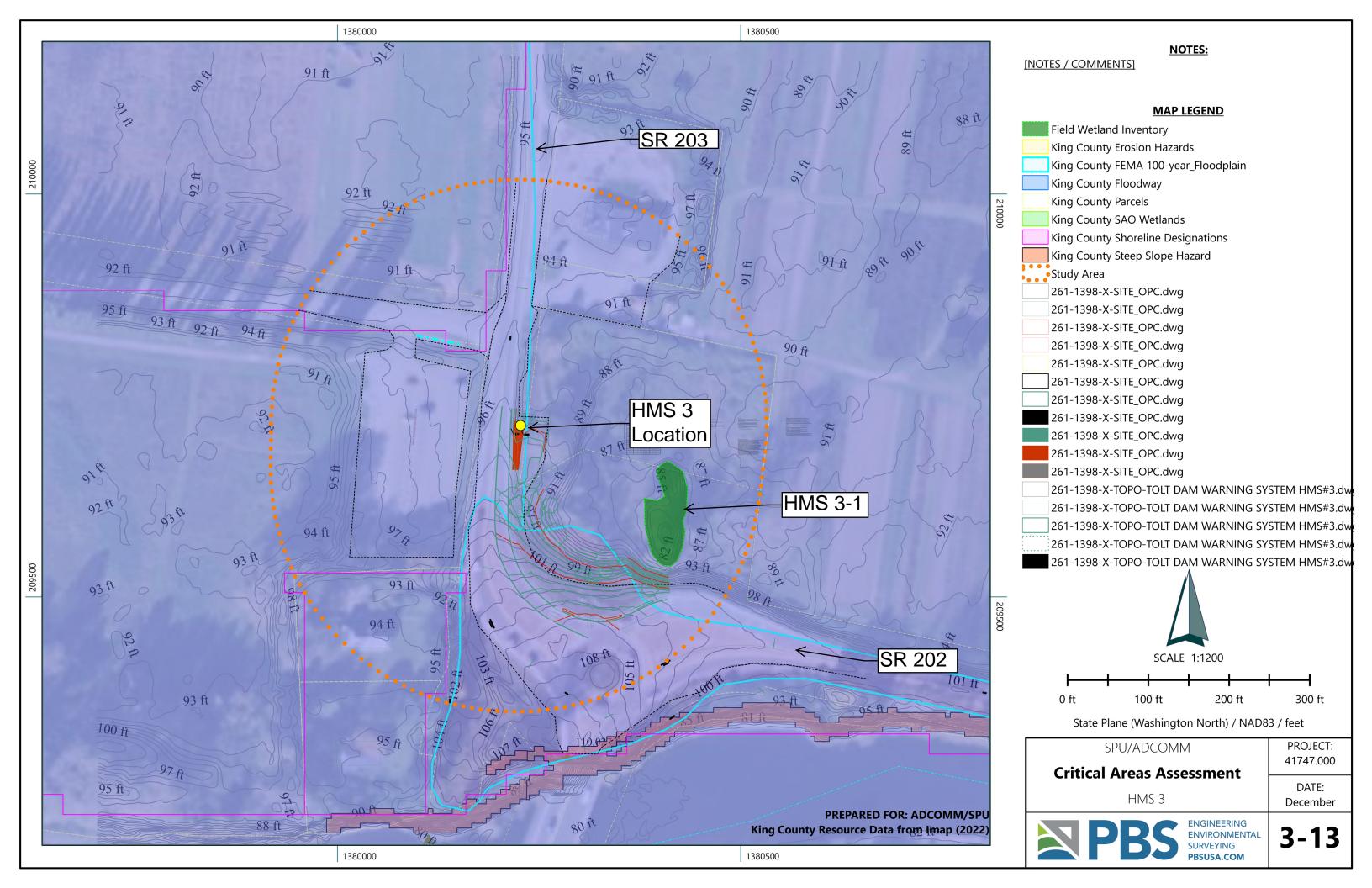


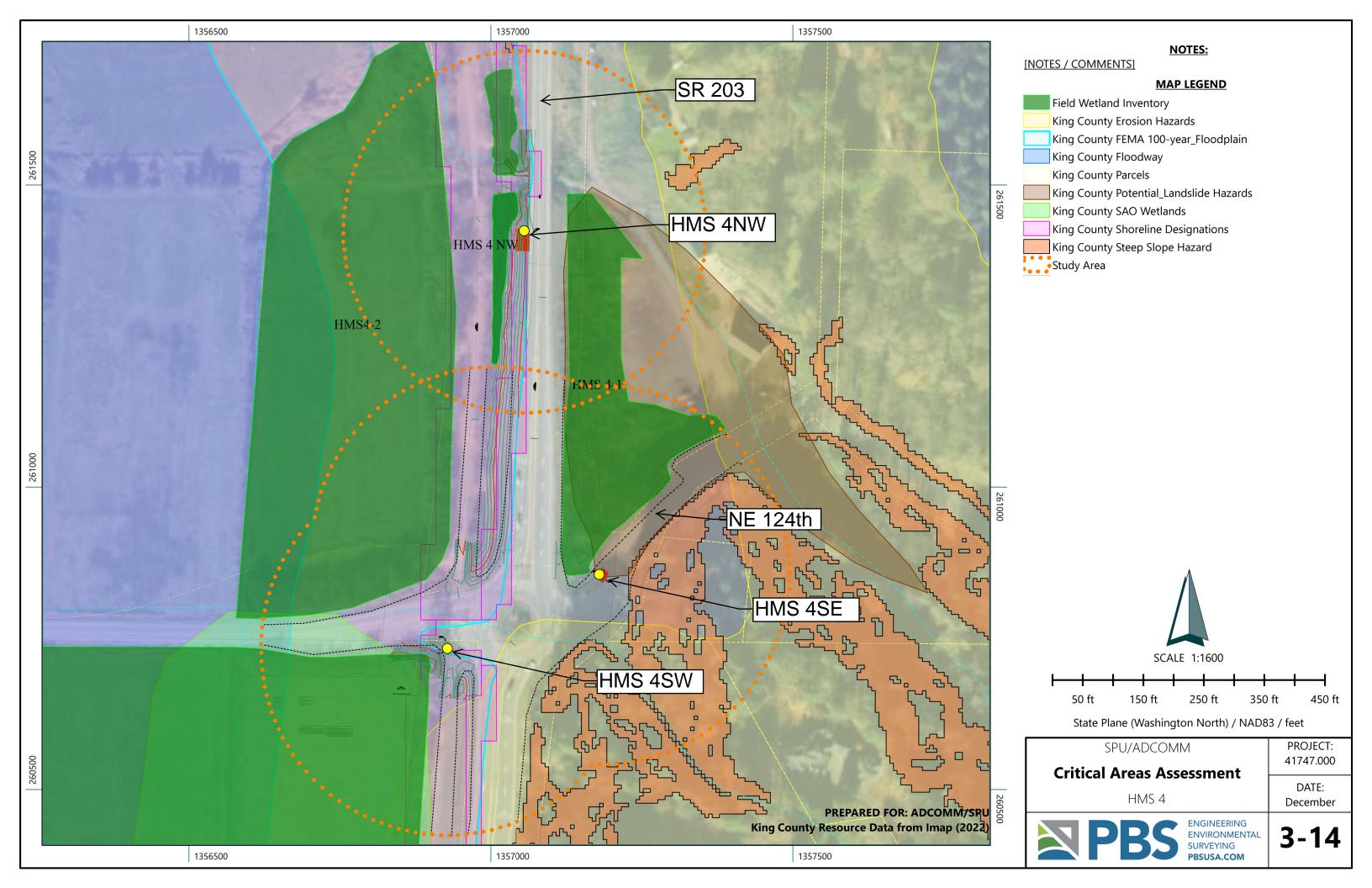


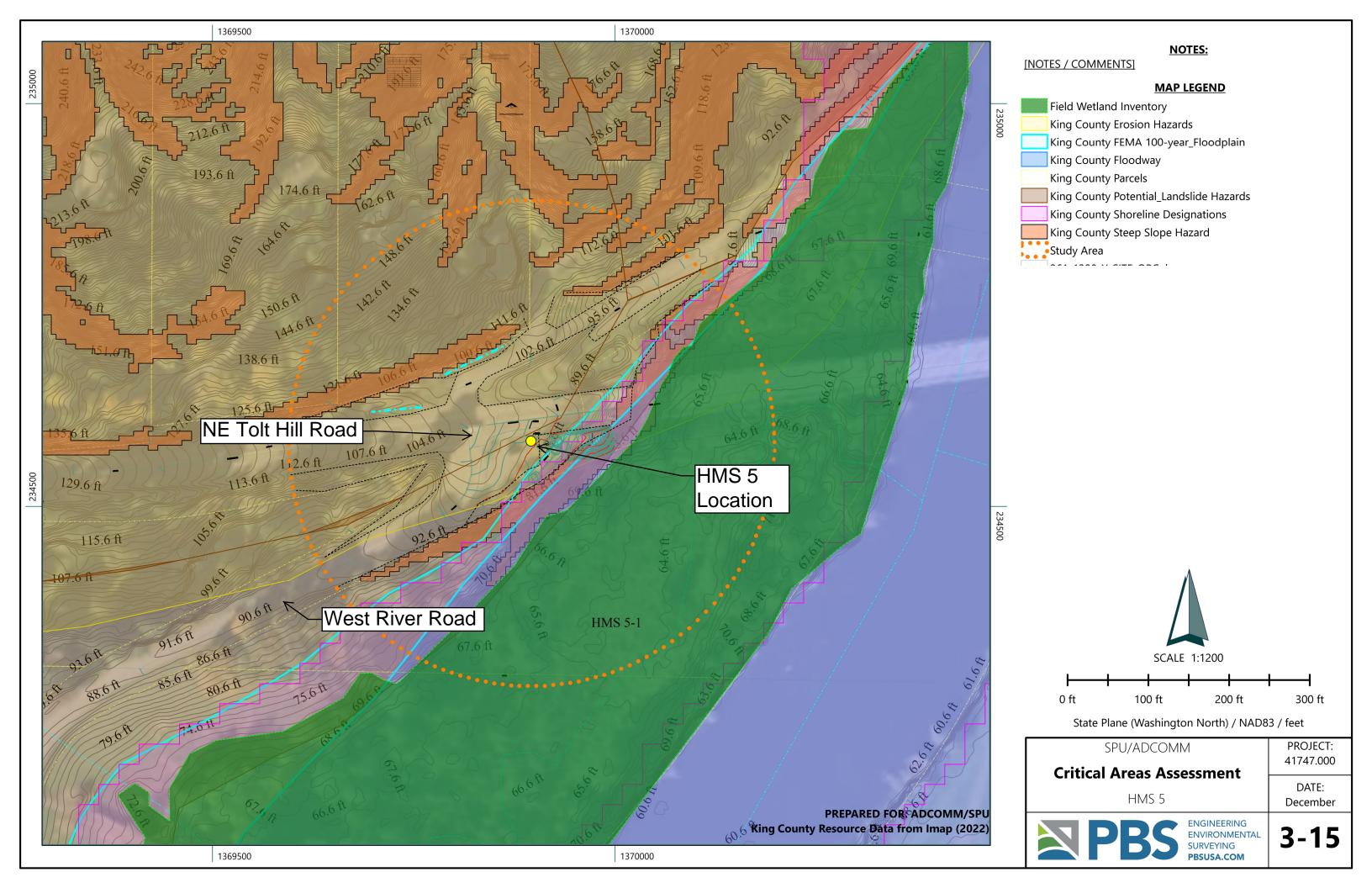


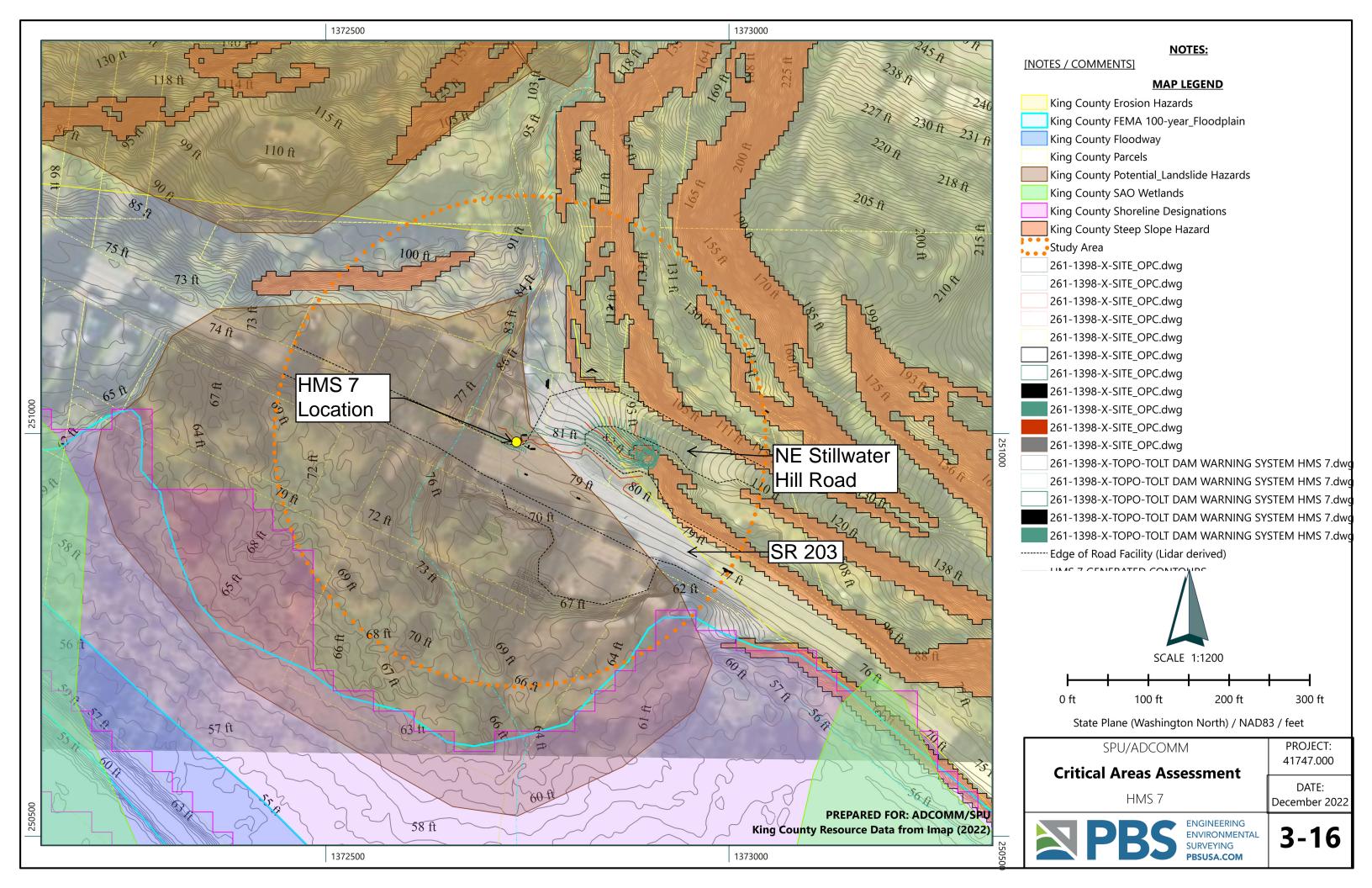


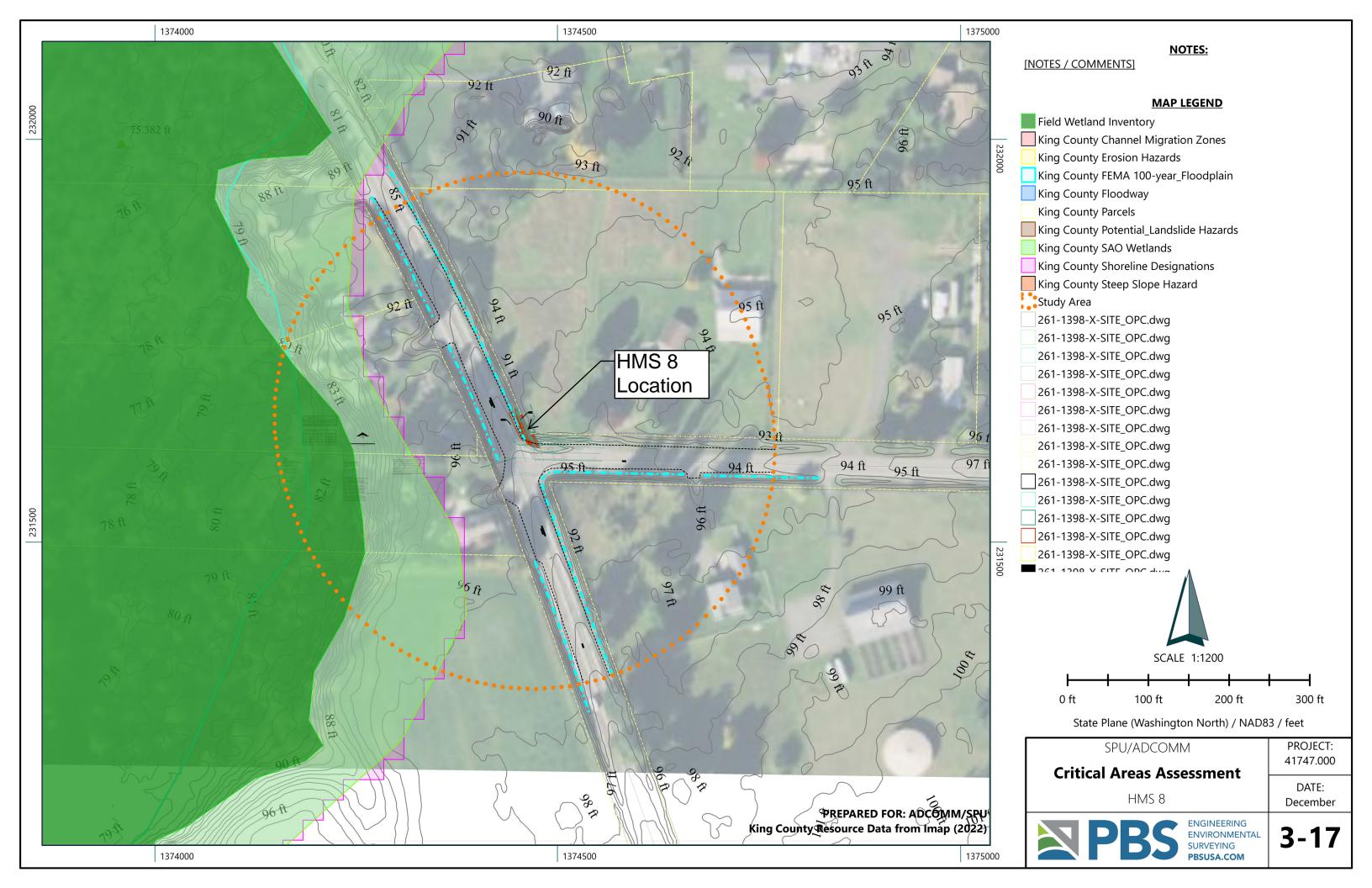


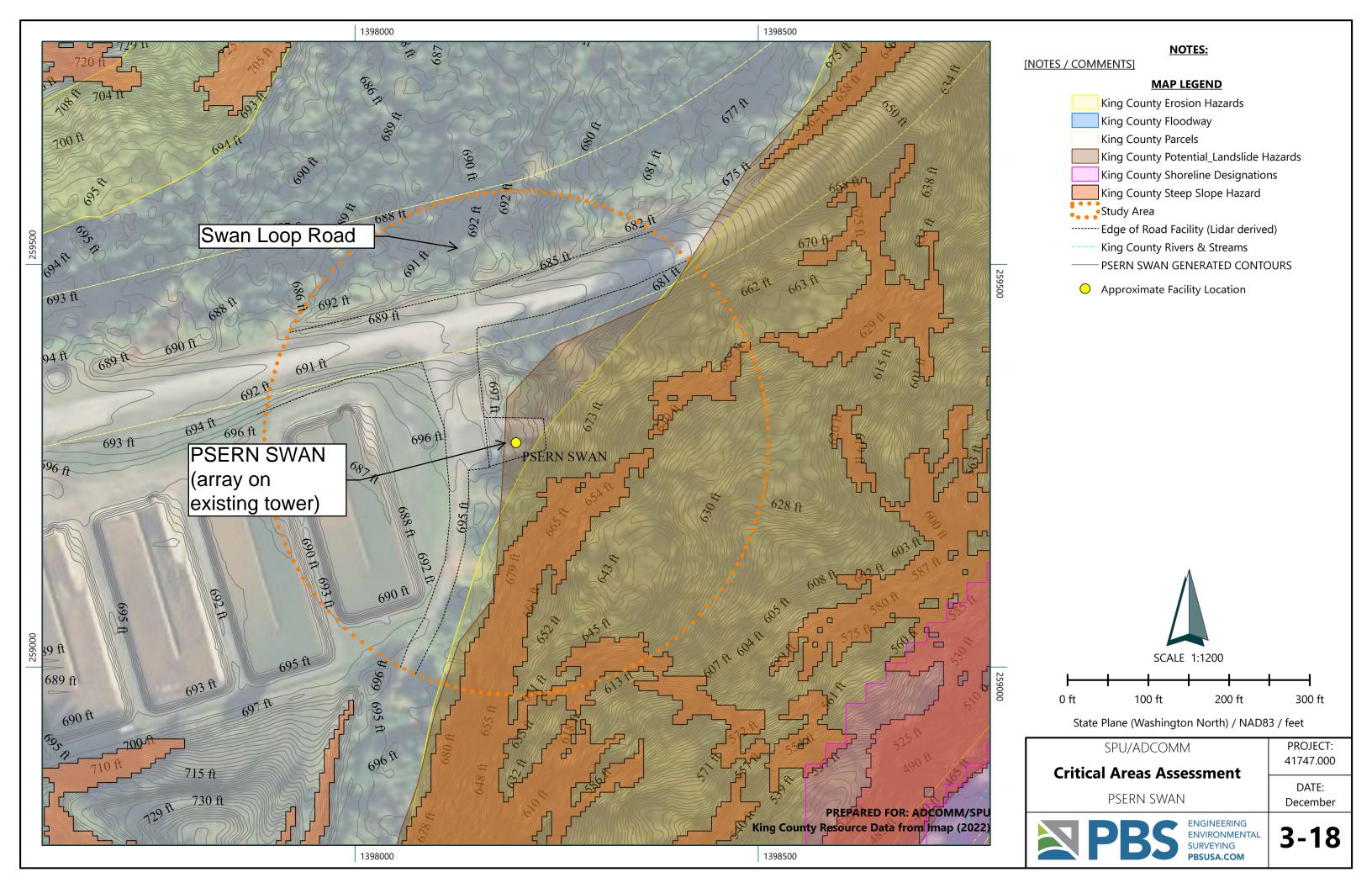


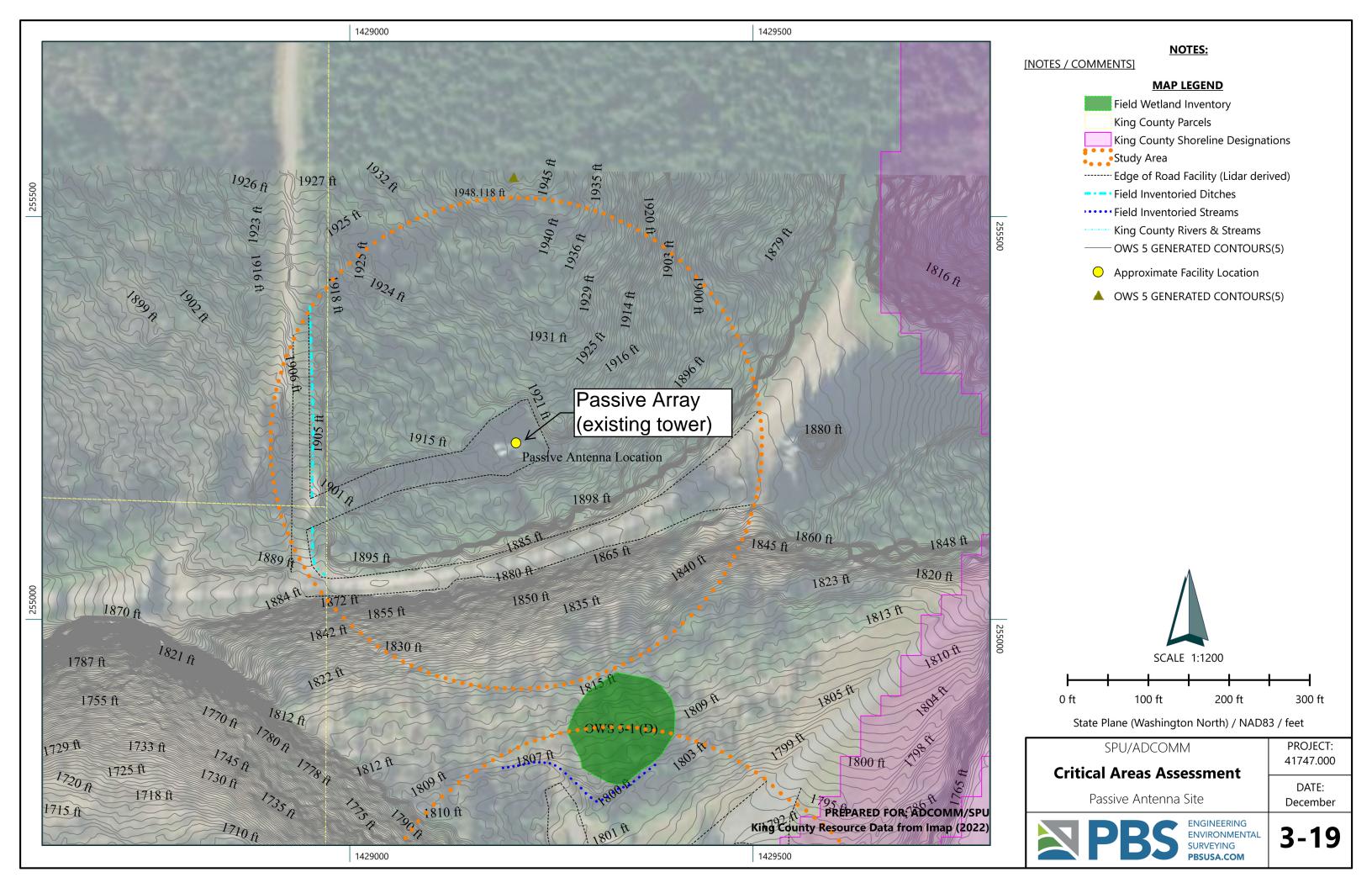












Appendix D

Wetland Determination Data Forms

Project/Site: TEWS OWS 1	Sampling Date: 3/25/2022			
Applicant/Owner: ADCOMM		State: WA		Sampling Point: OWS 1
Investigator(s): Patrick Togher	Section	ı, Township, Ra	ange: S12	, T25N, R7E
Landform (hillslope, terrace, etc.): Terrace	Lo	ocal relief (cond	cave, conve	x, none): Concave Slope (%): 10
Subregion (LRR): A		Lat: 4	7.672481	Long: -121.859259 Datum: WGS84
Soil Map Unit Name: Fluventic Haplumbrepts			NWI	Classification: Upland
Are climatic/hydrologic conditions of the site typical for	this time of	the year?	Yes X	No (If no, explain in remarks)
Are vegetation, Soil, or Hydrology		significantly	disturbed?	Are "Normal Circumstances"
Are vegetation , Soil , or Hydrology		naturally prol	blematic?	present? (If needed, explain any answers in remarks) Yes X No
SUMMARY OF FINDINGS - Attach site map st	nowing sa	mpling point	location, tr	
Hydrophytic vegetation present? Yes		No X	la Alaa aa	mulad ana
Hydric soil present? Yes		No X		mpled area a wetland?
Indicators of wetland hydrology present? Yes		No X	Within t	Yes NoX
Remarks: On south side of SE 80th to the south of ex	isting OWS	1 cleared area	1 3.	
	J			
VEGETATION Use scientific names of plant	<u> </u>			
VEGETATION 03c Scientific flames of plant	Absolute	Dominant	Indicator	Dominance Test Worksheet
<u>Tree Stratum</u> (Plot size: 30' r)	% Cover	Species	Status	Number of Dominant Species that
1. Acer macrophyllum	30	·Y	FACU	are OBL, FACW, or FAC: 1 (A)
2. Pseudotsuga menziesii	20	Y	FACU	Total Number of Dominant
3. Thuja plicata	10	N	FAC	Species Across all Strata: 6 (B)
4				Percent of Dominant Species that
	60 =	= Total Cover		are OBL, FACW, or FAC: 17% (A/B)
Sapling/Shrub Stratum (Plot size: 30' r)	00	V	FACIL	Duranta and Index Made had
Oemleria cerasiformis Symphoricarpos albus	<u>20</u> 15	<u> </u>	FACU FACU	Prevalence Index Worksheet Total % Cover of: Multiply by:
3. Rubus spectabilis	10	<u> </u>	FAC	Total % Cover of: Multiply by: OBL species 0 x 1 = 0
4.		 _	170	FACW species $0 \times 2 = 0$
5.				FAC species 20 x 3 = 60
	45 =	Total Cover		FACU species 175 x 4 = 700
Herb Stratum (Plot size: 5' r)				UPL species 0 x 5 = 0
1. Polystichum munitum	90	Y	FACU	Column totals 195 (A) 760 (B)
2				Prevalence Index = B/A = 3.90
3				
4				Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation
5. 6.				2 - Dominance Test is >50%
7.				3 - Prevalence Index is ≤3.0
8.				4 - Morphological Adaptations* (Provide supporting
9.				data in Remarks or on a separate sheet)
10.				5 - Wetland Non-Vascular Plants ¹
11.				Problematic Hydrophytic Vegetation ¹
	90 =	= Total Cover		(Explain)
Woody Vine Stratum (Plot size: 30' r)				¹ Indicators of hydric soil and wetland hydrology must be
1				present, unless disturbed or problematic
2	0 =	= Total Cover		Hydrophytic
% Bare Ground in Herb Stratum 10		- Total Cover		vegetation present? Yes No X
Remarks:				
Dominant species do not satisfy hydrophytic vegetation	critoria			
Dominant species do not satisfy hydrophytic vegetation	i Gillella.			

SOIL Sampling Point: OWS 1 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Matrix Redox Features Depth (Inches) Color (moist) Color (moist) Loc² % Texture % Type¹ 0-8 10YR 2/2 100 SiL 8-18 10YR 3/3 100 **GSL** 18-20+ 10YR 3/3 100 **GSL** ¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix. Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils³: 2 cm Muck (A10) Histosol (A1) Sandy Redox (S5) Histic Epipedon (A2) Stripped Matrix (S6) Red Parent Material (TF2) Black Histic (A3) Loamy Mucky Mineral (F1) (Except MRLA 1) Very Shallow Dark Surface (TF12) Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Other (Explain in Remarks Depleted Below Dark Surface (A11) Depleted Matrix (F3) Thick Dark Surface (A12) Redox Dark Surface (F6) ³Indicators of hydrophytic vegetation and Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) wetland hydrology must be present, unless Sandy Gleyed Matrix (S4) Redox Depressions (F8) disturbed or problematic Restrictive Layer (if present): Type: Depth (inches): **Hydric Soil Present?** X Remarks: Soils do not satisfy hydric soil criteria. HYDROLOGY Wetland Hydrology Indicators Secondary Indicators (2 or more required) Primary Indicators (minimum of one is required; check all that apply Surface Water (A1) Water-Stained Leaves (B9) Water-Stained Leaves (B9) (MLRA 1, High Water Table (A2) (except MLRA 1, 2, 4A, and 4B) 2, 4A, and 4B) Saturation (A3) Drainage Patterns (B10) Salt Crust (B11) 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 on Living Roots (C3) Geomorphic Position (D2) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Shallow Aquitard (D3) Recent Iron Reduction in Tilled Soils (C6) FAC-Neutral Test (D5) Iron Deposits (B5) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) Frost Heave Hummocks (D7) Sparsely Vegetated Concave Surface (B8) Field Observations: Yes Depth (inches): Surface Water Present? Wetland Hydrology Present? Yes Depth (inches): Water Table Present? No Saturation Present? Yes No Depth (inches): No X (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

No indicators of wetland hydrology are present.

Project/Site: TEWS OWS 2	City	County: King		Sampling Date: 3/25/2022				
Applicant/Owner: ADCOMM		State: WA		Sampling Point: OWS 2				
Investigator(s): Patrick Togher	ange: S11	, T25N, R7E						
Landform (hillslope, terrace, etc.): Terrace	Lo	ocal relief (cond	cave, conve	x, none): None Slope (%): 0				
Subregion (LRR): A		Lat: 4	7.663643	Long: -121.872279 Datum: WGS84				
Soil Map Unit Name: Typic Vitrixerands			NW	Classification: Upland				
Are climatic/hydrologic conditions of the site typical for	this time of	the year?	Yes X	No (If no, explain in remarks)				
Are vegetation , Soil , or Hydrology		significantly	disturbed?	Are "Normal Circumstances"				
Are vegetation , Soil , or Hydrology		naturally prol	blematic?	present? (If needed, explain any answers in remarks) Yes X No				
SUMMARY OF FINDINGS - Attach site map sh	nowing sa	mpling point	location, tı					
Hydrophytic vegetation present? Yes		No X	la Alaa aa	months of a way				
Hydric soil present? Yes		No X		impled area a wetland?				
Indicators of wetland hydrology present? Yes		No X		Yes NoX				
Remarks: East side of Tolt River Road NE. Plot locate	ed on terrac	ce above strear	n at roaded	ge east of existing siren footprint.				
				,				
VEGETATION Use scientific names of plants	<u> </u>							
TECETIVITOR OUR CONTINUE NAME OF PICTURE	Absolute	Dominant	Indicator	Dominance Test Worksheet				
<u>Tree Stratum</u> (Plot size: 30' r)	% Cover	Species	Status	Number of Dominant Species that				
1. Thuja plicata	50	Y	FAC	are OBL, FACW, or FAC: 3 (A)				
2.				Total Number of Dominant				
3				Species Across all Strata: 6 (B)				
4				Percent of Dominant Species that				
0 - 1 - (0 - 1 0 - 1 - 0 - 1 - 1 - 0 - 1 - 1 - 1	50	= Total Cover		are OBL, FACW, or FAC: 50% (A/B)				
Sapling/Shrub Stratum (Plot size: 30' r)	05	V	FACIL	Ducyalamaa Inday Waylahaat				
Oemleria cerasiformis Acer circinatum	25 25	<u> </u>	FACU FAC	Prevalence Index Worksheet Total % Cover of: Multiply by:				
3. Rosa gymnocarpa	25	<u> </u>	FACU	Total % Cover of: Multiply by: OBL species 0 x 1 = 0				
4.			1700	FACW species $0 \times 2 = 0$				
5.				FAC species 125 x 3 = 375				
	75	= Total Cover		FACU species 50 x 4 = 200				
Herb Stratum (Plot size: 5' r)				UPL species 90 x 5 = 450				
Lamium galeobdolon	90	<u> </u>	UPL	Column totals 265 (A) 1025 (B)				
2				Prevalence Index = B/A = 3.87				
3								
4				Hydrophytic Vegetation Indicators:				
5 6.				1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50%				
7.				3 - Prevalence Index is ≤3.0				
8.				4 - Morphological Adaptations* (Provide supporting				
9.				data in Remarks or on a separate sheet)				
10.				5 - Wetland Non-Vascular Plants ¹				
11.				Problematic Hydrophytic Vegetation ¹				
	90	Total Cover		(Explain)				
Woody Vine Stratum (Plot size: 30' r)				¹ Indicators of hydric soil and wetland hydrology must be				
1. Rubus armeniacus	50	<u> </u>	FAC	present, unless disturbed or problematic				
2		- Total Cause		Hydrophytic				
% Bare Ground in Herb Stratum 10	50	= Total Cover		vegetation present? Yes No X				
				brosour: 169 V				
Remarks:								
Dominant species do not satisfy criteria for hydrophytic	vegetation	•						

SOIL Sampling Point: OWS 2 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Matrix Redox Features Depth (Inches) Color (moist) Color (moist) Loc² % Texture Type¹ 0-4 2.5YR 2.5/2 100 L 4-21+ 10YR 3/6 85 10YR 3/4 Μ GL 15 ¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix. Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils³: 2 cm Muck (A10) Histosol (A1) Sandy Redox (S5) Histic Epipedon (A2) Stripped Matrix (S6) Red Parent Material (TF2) Black Histic (A3) Loamy Mucky Mineral (F1) (Except MRLA 1) Very Shallow Dark Surface (TF12) Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Other (Explain in Remarks Depleted Below Dark Surface (A11) Depleted Matrix (F3) Thick Dark Surface (A12) Redox Dark Surface (F6) ³Indicators of hydrophytic vegetation and Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) wetland hydrology must be present, unless Sandy Gleyed Matrix (S4) Redox Depressions (F8) disturbed or problematic Restrictive Layer (if present): Type: Depth (inches): **Hydric Soil Present?** X Remarks: Soils do not satisfy hydric soil criteria. HYDROLOGY Wetland Hydrology Indicators Secondary Indicators (2 or more required) Primary Indicators (minimum of one is required; check all that apply Surface Water (A1) Water-Stained Leaves (B9) Water-Stained Leaves (B9) (MLRA 1, High Water Table (A2) (except MLRA 1, 2, 4A, and 4B) 2, 4A, and 4B) Saturation (A3) Drainage Patterns (B10) Salt Crust (B11) 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 on Living Roots (C3) Geomorphic Position (D2) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Shallow Aquitard (D3) Recent Iron Reduction in Tilled Soils (C6) FAC-Neutral Test (D5) Iron Deposits (B5) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) Frost Heave Hummocks (D7) Sparsely Vegetated Concave Surface (B8) Field Observations: Yes Depth (inches): Surface Water Present? Wetland Hydrology Present? Yes Depth (inches): Water Table Present? No

Saturation Present?

(includes capillary fringe)

Dry, well drained. No indicators of wetland hydrology are present.

Yes

No

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

Depth (inches):

No X

Project/Site: TEWS OWS 3ex	City/	County: King		Sampling Date: 3/22/2022				
Applicant/Owner: ADCOMM		State: WA		Sampling Point: OWS 3ex				
Investigator(s): Patrick Togher and Mallory Phillips Section, Township, Range: S14, T25N, R7E								
Landform (hillslope, terrace, etc.): Hillslope	Lo	ocal relief (con	cave, convex	x, none): Convex Slope (%): 20				
Subregion (LRR): A		Lat: 4	7.648297	Long: -121.881434 Datum: WGS84				
Soil Map Unit Name: Aquic Vitrixerands			NWI	Classification: Upslope				
Are climatic/hydrologic conditions of the site typical for	this time of	the year?	Yes X	No (If no, explain in remarks)				
Are vegetation, Soil, or Hydrology		significantly	disturbed?	Are "Normal Circumstances"				
Are vegetation , Soil , or Hydrology		naturally pro	olematic?	present? (If needed, explain any answers in remarks) Yes X No				
SUMMARY OF FINDINGS - Attach site map sh		mpling point	location, tr					
Hydrophytic vegetation present? Yes	-	No X						
Hydric soil present? Yes		No X		mpled area				
Indicators of wetland hydrology present? Yes		No X	within a	wetland? Yes No X				
Remarks: N. Side of Tolt River Road, just east of the	evisting OV							
Tremains. 14. Side of Foll Tiver Troad, just east of the	existing Ov	vo o pole.						
VEGETATION Use scientific names of plants	S.			T =				
T (D) ((D) ()	Absolute	Dominant	Indicator	Dominance Test Worksheet				
Tree Stratum (Plot size: 30' r)	% Cover	Species	Status	Number of Dominant Species that				
1. Thuja plicata	40	<u>Y</u>	FAC	are OBL, FACW, or FAC: 1 (A)				
Acer macrophyllum 3.	40	<u> </u>	FACU	Total Number of Dominant Species Across all Strata: 8 (B)				
4.								
4	80 =	= Total Cover		Percent of Dominant Species that are OBL, FACW, or FAC: 13% (A/B)				
Sapling/Shrub Stratum (Plot size: 30' r)		rotal Gover		(142)				
1. Oemleria cerasiformis	50	Υ	FACU	Prevalence Index Worksheet				
2. Corylus cornuta	30	Y	FACU	Total % Cover of: Multiply by:				
3. Symphoricarpos albus	10	N	FACU	OBL species $0 \times 1 = 0$				
4.				FACW species 0 x 2 = 0				
5.				FAC species 46 x 3 = 138				
	90 =	Total Cover		FACU species 196 x 4 = 784				
Herb Stratum (Plot size: 5' r)				UPL species 0 x 5 = 0				
1. Mahonia nervosa	15	<u> </u>	FACU	Column totals <u>242</u> (A) <u>922</u> (B)				
2. Polystichum munitum	10	Y	FACU	Prevalence Index = B/A = 3.81				
3. Pteridium aquilinum	10	<u>Y</u>	FACU					
4. Tolmiea menziesii	5	N	FAC	Hydrophytic Vegetation Indicators:				
5. Geranium robertianum	1	N	FACU	1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50%				
6. Ranunculus repens 7.		N	FAC	3 - Prevalence Index is ≤3.0				
8.				4 - Morphological Adaptations* (Provide supporting				
9.				data in Remarks or on a separate sheet)				
10.				5 - Wetland Non-Vascular Plants ¹				
11.				Problematic Hydrophytic Vegetation ¹				
	42	Total Cover		(Explain)				
Woody Vine Stratum (Plot size: 30' r)				¹ Indicators of hydric soil and wetland hydrology must be				
1. Rubus ursinus	30	Y	FACU	present, unless disturbed or problematic				
2.				Hydrophytic				
	30 =	Total Cover	_	vegetation				
% Bare Ground in Herb Stratum 58				present? Yes No X				
Remarks:								
Dominant species do not satisfy criteria for hydrophytic	vegetation							

SOIL Sampling Point: OWS 3ex Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Matrix Redox Features Depth Color (moist) (Inches) Color (moist) %___ Loc² % Texture Type¹ 0-20+10YR 2/2 100 SL ¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix. Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils³: 2 cm Muck (A10) Histosol (A1) Sandy Redox (S5) Histic Epipedon (A2) Stripped Matrix (S6) Red Parent Material (TF2) Black Histic (A3) Loamy Mucky Mineral (F1) (Except MRLA 1) Very Shallow Dark Surface (TF12) Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Other (Explain in Remarks Depleted Below Dark Surface (A11) Depleted Matrix (F3) Thick Dark Surface (A12) Redox Dark Surface (F6) ³Indicators of hydrophytic vegetation and Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) wetland hydrology must be present, unless Sandy Gleyed Matrix (S4) Redox Depressions (F8) disturbed or problematic Restrictive Layer (if present): Type: Depth (inches): **Hydric Soil Present?** X Remarks: Soils do not satisfy hydric soil criteria. HYDROLOGY Wetland Hydrology Indicators Secondary Indicators (2 or more required) Primary Indicators (minimum of one is required; check all that apply Water-Stained Leaves (B9) (MLRA 1, Surface Water (A1) Water-Stained Leaves (B9) High Water Table (A2) (except MLRA 1, 2, 4A, and 4B) 2, 4A, and 4B) Saturation (A3) Drainage Patterns (B10) Salt Crust (B11) 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 on Living Roots (C3) Geomorphic Position (D2) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Shallow Aquitard (D3) Recent Iron Reduction in Tilled Soils (C6) FAC-Neutral Test (D5) Iron Deposits (B5) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) Frost Heave Hummocks (D7) Sparsely Vegetated Concave Surface (B8) Field Observations: Yes Depth (inches): Surface Water Present? Wetland Hydrology Present? Yes Depth (inches): Water Table Present? No Saturation Present? Yes No Depth (inches): No X

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

Remarks:

No indicators of wetland hydrology are present.

(includes capillary fringe)

Project/Site: TEWS OWS 3	City/	County: King		Sampling Date: 3/25/2022				
Applicant/Owner: ADCOMM		State: WA		Sampling Point: OWS 3				
Investigator(s): Patrick Togher	ange: S14,	T25N, R7E						
Landform (hillslope, terrace, etc.): Terrace	- Lo	ocal relief (cond	ave, convex	, none): Concave Slope (9	%): 0			
Subregion (LRR): A		Lat: 47	7.653128	Long: -121.876358 Date	ım: WGS84			
Soil Map Unit Name: Dystric Xeropsamments			NWI	Classification: Upland				
Are climatic/hydrologic conditions of the site typical for	this time of	the year?		No (If no, explain in rema	arks)			
Are vegetation, Soil, or Hydrology		significantly		Are "Normal Circumstances"	2			
Are vegetation , Soil , or Hydrology				present? (If needed, explain	X No			
SUMMARY OF FINDINGS - Attach site map sh	owing sa			arry answers in remarks;				
Hydrophytic vegetation present? Yes	lowing sai	No X		ansects, important reatures, etc	-			
Hydric soil present? Yes		No X		mpled area				
			within a	wetland?	No. V			
Indicators of wetland hydrology present? Yes		No X			No <u>X</u>			
Remarks: Located on east side of Tolt River Road NE	E about 20 f	eet from paven	nent at base	of existing power pole/utility box on	driveway.			
VEGETATION Use scientific names of plants	S.							
	Absolute	Dominant	Indicator	Dominance Test Worksheet	-			
<u>Tree Stratum</u> (Plot size: 30' r)	% Cover	Species	Status	Number of Dominant Species that				
1. Thuja plicata	50	Y	FAC	are OBL, FACW, or FAC:	4 (A)			
2. Acer macrophyllum	35	Y	FACU	Total Number of Dominant				
3. Pseudotsuga menziesii	10	N	FACU	Species Across all Strata:	9 (B)			
4		T. 1. 1. 0		Percent of Dominant Species that	40/ (4/5)			
Carling/Charle Ctratum / Distaire 201 -)	95 :	= Total Cover		are OBL, FACW, or FAC:	4% (A/B)			
Sapling/Shrub Stratum (Plot size: 30' r)	25	V	EAC	Prevalence Index Worksheet				
Rubus spectabilis Oemleria cerasiformis	<u>25</u> 25	<u>Y</u>	FACU	Total % Cover of: Multiply I	01 <i>1</i>			
3. Acer circinatum	25	<u> </u>	FAC	OBL species 0 x 1 =	<u>0 y.</u> 0			
4.			TAC	FACW species 0 x 2 =	0			
5.				FAC species 135 x 3 =	405			
·	75 :	= Total Cover		FACU species 130 x 4 =	520			
Herb Stratum (Plot size: 5' r)				UPL species 0 x 5 =	0			
1. Tolmiea menziesii	25	Υ	FAC	Column totals 265 (A)	925 (B)			
2. Polystichum munitum	20	Y	FACU	Prevalence Index = B/A = 3	3.49			
3. Geranium robertianum	15	Y	FACU					
4. Ranunculus repens	10	N	FAC	Hydrophytic Vegetation Indica	tors:			
5.				1 - Rapid Test for Hydrophyti	c Vegetation			
6				2 - Dominance Test is >50%				
7				3 - Prevalence Index is ≤3.0				
8				4 - Morphological Adaptations* (Production and Adaptations)				
9.					•			
10				5 - Wetland Non-Vascular Pl				
11	70	Total Cause		Problematic Hydrophytic Veg	jetation '			
Woody Vine Stratum (Plot size: 30' r)	70 :	= Total Cover		(Explain)				
1. Rubus ursinus	25	Y	FACU	¹ Indicators of hydric soil and wetland hyd present, unless disturbed or problematic	0,			
2.			1700					
	25 :	= Total Cover		Hydrophytic vegetation				
% Bare Ground in Herb Stratum 30		. 5.5 55.51		_	No X			
Remarks:								
	oritorio							
Dominant species do not satisfy hydrophytic vegetation	і спіепа.							

SOIL Sampling Point: OWS 3 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Matrix Redox Features Depth (Inches) Color (moist) Color (moist) Loc² % Texture % Type¹ 10YR 2/2 100 SiL 3-6 6-15 10YR 2/2 100 **GSiL** 15-20+ 10YR 3/2 100 **GSiL** ¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix. Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils³: 2 cm Muck (A10) Histosol (A1) Sandy Redox (S5) Histic Epipedon (A2) Stripped Matrix (S6) Red Parent Material (TF2) Black Histic (A3) Loamy Mucky Mineral (F1) (Except MRLA 1) Very Shallow Dark Surface (TF12) Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Other (Explain in Remarks Depleted Below Dark Surface (A11) Depleted Matrix (F3) Thick Dark Surface (A12) Redox Dark Surface (F6) ³Indicators of hydrophytic vegetation and Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) wetland hydrology must be present, unless Sandy Gleyed Matrix (S4) Redox Depressions (F8) disturbed or problematic Restrictive Layer (if present): Type: Depth (inches): **Hydric Soil Present?** X Remarks: Soils do not satisfy hydric soil criteria. HYDROLOGY Wetland Hydrology Indicators Secondary Indicators (2 or more required) Primary Indicators (minimum of one is required; check all that apply Surface Water (A1) Water-Stained Leaves (B9) Water-Stained Leaves (B9) (MLRA 1, High Water Table (A2) (except MLRA 1, 2, 4A, and 4B) 2, 4A, and 4B) Saturation (A3) Drainage Patterns (B10) Salt Crust (B11) 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 on Living Roots (C3) Geomorphic Position (D2) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Shallow Aquitard (D3) Recent Iron Reduction in Tilled Soils (C6) FAC-Neutral Test (D5) Iron Deposits (B5) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) Frost Heave Hummocks (D7) Sparsely Vegetated Concave Surface (B8) Field Observations: Yes Depth (inches): Surface Water Present? Wetland Hydrology Present? Yes Depth (inches): Water Table Present? No Saturation Present? Yes No Depth (inches): No X (includes capillary fringe)

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

US Army Corps of Engineers

No wetland hydrology indicators are present.

Project/Site: TEWS OWS 4	City/	/County: King		Sampling Date: 3/3/2022			
Applicant/Owner: ADCOMM		State: WA		Sampling Point: OWS 4 (2)			
Investigator(s): Patrick Togher	Section	n, Township, Ra	ange: S16	; T26N; R7E			
Landform (hillslope, terrace, etc.): Terrace	Lo	ocal relief (cond	cave, conve	x, none): None Slope (%): 0			
Subregion (LRR): A		Lat: <u>4</u>	7.648475	Long: _121.906963			
Soil Map Unit Name: Aeric Fluvaquents			NWI	Classification: Upland			
Are climatic/hydrologic conditions of the site typical for	this time of	the year?	Yes X	No (If no, explain in remarks)			
Are vegetation , Soil , or Hydrology		significantly	disturbed?	Are "Normal Circumstances"			
Are vegetation , Soil , or Hydrology		naturally prol	olematic?	present? (If needed, explain any answers in remarks) Yes X No			
SUMMARY OF FINDINGS - Attach site map sh	owing sar	mpling point	location, tr				
Hydrophytic vegetation present? Yes	Х	No	la tha aa	manula di avan			
Hydric soil present? Yes		No X		mpled area a wetland?			
Indicators of wetland hydrology present? Yes		No X	Within	Yes No X			
Remarks: Plot is located about 250-feet northeast of t	he intersec	tion of Milwauk	ee Ave and	Entwistle St			
Tromaine. The leading about 200 foot horizonation of	110 111101000	alon or minual	.007110 and	Zilimolio Gi.			
VEGETATION Use scientific names of plants							
VEGETATION Ose scientific flames of plants	Absolute	Dominant	Indicator	Dominance Test Worksheet			
<u>Tree Stratum</u> (Plot size: 30' r)	% Cover	Species	Status	Number of Dominant Species that			
1. Populus balsamifera	20	·Y	FAC	are OBL, FACW, or FAC: 4 (A)			
2.		-		Total Number of Dominant			
3.				Species Across all Strata: 4 (B)			
4.				Percent of Dominant Species that			
	20 =	Total Cover		are OBL, FACW, or FAC: 100% (A/B)			
Sapling/Shrub Stratum (Plot size: 30' r)							
1				Prevalence Index Worksheet			
2.				Total % Cover of: Multiply by:			
3.				OBL species0x 1 =0			
4				FACW species 20 x 2 = 40			
5				FAC species 90 x 3 = 270			
	0 =	 Total Cover 		FACU species 15 x 4 = 60			
Herb Stratum (Plot size: 5' r)				UPL species0 x 5 =0			
Agrostis stolonifera	45	Y	FAC	Column totals 125 (A) 370 (B)			
2. Phalaris arundinacea	20	Y	FACW	Prevalence Index = B/A = 2.96			
3. Schedonorus arundinaceus	10	N	FAC				
4. Ranunculus repens	10	<u>N</u>	FAC	Hydrophytic Vegetation Indicators:			
5. Hypochaeris radicata	10	N	FACU	1 - Rapid Test for Hydrophytic Vegetation			
6. Taraxacum officinale	5	<u>N</u>	FACU	X 2 - Dominance Test is >50%			
7				3 - Prevalence Index is ≤3.0			
8				4 - Morphological Adaptations* (Provide supporting data in Remarks or on a separate sheet)			
9				i ',			
10				5 - Wetland Non-Vascular Plants ¹			
11	100 =	= Total Cover		Problematic Hydrophytic Vegetation ¹ (Explain)			
Woody Vine Stratum (Plot size: 30' r)	100	- Total Cover					
1. Rubus armeniacus	5	Y	FAC	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic			
2.			17.0				
	5 :	= Total Cover		Hydrophytic vegetation			
% Bare Ground in Herb Stratum 0				present? Yes X No			
Remarks:							
Hydrophytic vegetation is dominant.							
Trydrophytic vegetation is dominant.							

SOIL

Sampling Point: OWS 4 (2)

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

Depth Inches)	Matrix Color (moist)	%	Color (moist)	%	ures	12	Texture			Remark	-	
0-12	10YR 3/3	100	Color (moist)		Type [']	Loc ²	GSL			Kemark	-	
12-16	10YR 4/3	100					GSL					
16-18+	2.5YR 3/3	100					SL					
10-10+	2.51K 3/3	100					SL					
							-					
	oncentration, D=Depl					ed Sand (on: PL=Po			
Histoso	Indicators: (Appli	cable to a	•	edox (S5	•		ina		s for Pro Muck (A1		пуагіс	Solis
	pipedon (A2)			Matrix (S	•			-	Parent Ma	•	2)	
	istic (A3)			•	eral (F1) (E	xcept M	RLA 1)	-	Shallow D	•	•	2)
	en Sulfide (A4)			-	atrix (F2)		<i>'</i> —	_	(Explain		-	,
	d Below Dark Surfa	ace (A11)		d Matrix (•	` '			
	ark Surface (A12)			ark Surfa	` ,		³ lr	ndicato	rs of hyd	ophytic v	egetatio	n and
	Mucky Mineral (S1)				urface (F7)		we		ydrology			unless
Sandy	Gleyed Matrix (S4)		Redox D	epressio)	ns (F8)				disturbed	or proble	matic	
	Layer (if present):											
уре:												
epth (inch	es):					Hydri	c Soil Prese	ent?	Yes _		No _	Х
	satisfy hydric soil c	riteria.										
oils do not		criteria.										
YDROLO		criteria.										
Soils do not YDROLO etland Hyd	GY Irology Indicators		uired: check all tl	nat apply			Sec	condar	y Indicato	ors (2 or n	nore req	uired)
YDROLO etland Hyd	GY Irology Indicators icators (minimum of				eaves (B9)		Sec			•	•	
YDROLO etland Hyd Primary Ind Surface	GY Irology Indicators		Water-S	tained Le	eaves (B9) , 2, 4A, an	d 4B)	<u>Sec</u>	Wate	r-Stained	Leaves (•	
YDROLO etland Hyo Primary Ind Surface High W	GY Irology Indicators icators (minimum of Water (A1)		Water-S (except Salt Cru	tained Le MLRA 1, st (B11)	, 2, 4A, an	-	Sec	Wate 2, 4A Drain	r-Stained , and 4B) age Patte	Leaves (B9) (ML)	
YDROLO etland Hyo Primary Ind Surface High W Saturat Water N	GY Irology Indicators icators (minimum of Water (A1) ater Table (A2) ion (A3) Marks (B1)		Water-S (except Salt Cru Aquatic	tained Le MLRA 1 , st (B11) Invertebr	, 2, 4A , an	-	<u>Sec</u>	Wate 2, 4A Drain Dry-S	r-Stained , and 4B) age Patte eason W	Leaves (rns (B10) ater Table	B9) (ML) e (C2)	RA 1,
YDROLO etland Hyo Primary Ind Surface High W Saturat Water N Sedime	GY Irology Indicators icators (minimum of Water (A1) ater Table (A2) ion (A3) Marks (B1) nt Deposits (B2)		Water-S (except Salt Cru Aquatic Hydroge	tained Le MLRA 1, st (B11) Invertebra n Sulfide	, 2, 4A, an ates (B13) Odor (C1))		Water 2, 4A Drain Dry-S Satura	r-Stained , and 4B) age Patte eason W ation Visib	Leaves (rns (B10 ater Table le on Aeri	B9) (ML) e (C2) al Image	RA 1,
YDROLO etland Hyo Surface High W Saturat Water N Sedime Drift De	GY Irology Indicators icators (minimum of Water (A1) ater Table (A2) ion (A3) Marks (B1) nt Deposits (B2) posits (B3)		Water-S (except Salt Cru Aquatic Hydroge Oxidized	tained Le MLRA 1 , st (B11) Invertebra n Sulfide Rhizosph	, 2, 4A , an ates (B13) Odor (C1) neres on Liv) ving Root		Water 2, 4A Drain Dry-S Satura Geom	r-Stained, and 4B) age Patte eason Wation Visib	Leaves (rns (B10) ater Table le on Aeri osition (D	B9) (ML) e (C2) al Image	RA 1,
YDROLO etland Hyc Primary Ind Surface High W Saturat Water N Sedime Drift De Algal M	GY Irology Indicators icators (minimum of Water (A1) ater Table (A2) ion (A3) Marks (B1) nt Deposits (B2)		Water-S (except Salt Cru Aquatic Hydroge Oxidized Presence	tained Le MLRA 1 st (B11) Invertebra n Sulfide Rhizosph	, 2, 4A, an ates (B13) Odor (C1)) ving Root C4)	s (C3)	Water 2, 4A Drain Dry-S Satura Geom	r-Stained , and 4B) age Patte eason W ation Visib	Leaves (rns (B10) ater Table le on Aeri osition (D rd (D3)	B9) (ML) e (C2) al Image	RA 1,
YDROLO etland Hyo Primary Ind Surface High W Saturat Water M Sedime Drift De Algal M Iron De	GY Irology Indicators icators (minimum of Water (A1) ater Table (A2) ion (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4)		Water-S (except Salt Cru Aquatic Hydroge Oxidized Presence Recent I	tained Le MLRA 1, st (B11) Invertebra n Sulfide Rhizosph e of Redu ron Redu or Stress	ates (B13) Odor (C1) heres on Livuced Iron (action in Ti) ving Root C4) lled Soils	s (C3)	Water 2, 4A Drain Dry-S Satura Geom Shallo	r-Stained, and 4B) age Patte season Wation Visibnorphic Power Aquita	Leaves (rns (B10) ater Table le on Aeri osition (D rd (D3) est (D5)	B9) (ML) (C2) al Image (2)	RA 1,
YDROLO etland Hyo Primary Ind Surface High W Saturat Water M Sedime Drift De Algal M Iron De Surface Inundat	GY Irology Indicators icators (minimum of Water (A1) ater Table (A2) ion (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) ion Visible on Aeria	f one is rec	Water-S (except Salt Cru Aquatic Hydroge Oxidized Presenc Recent I Stunted (B7) Other (E	tained Le MLRA 1, st (B11) Invertebra n Sulfide Rhizosph e of Redu ron Redu or Stress	ates (B13) Odor (C1) neres on Livuced Iron (uction in Ti) ving Root C4) lled Soils	s (C3)	Water 2, 4A Drain Dry-S Satura Geom Shallo FAC-I	r-Stained , and 4B) age Patte leason W lation Visib norphic Pow Aquita Neutral T	rns (B10) ater Table le on Aeri osition (D rd (D3) est (D5) unds (D6	B9) (ML) e (C2) al Image 2)	RA 1,
YDROLO etland Hyd Primary Ind Surface High W Saturat Water M Sedime Drift De Algal M Iron De Surface Inundat	GY Irology Indicators icators (minimum of Water (A1) ater Table (A2) ion (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6)	f one is rec	Water-S (except Salt Cru Aquatic Hydroge Oxidized Presenc Recent I Stunted (B7) Other (E	tained Le MLRA 1, st (B11) Invertebra n Sulfide Rhizosph e of Redu ron Redu or Stress	ates (B13) Odor (C1) heres on Livuced Iron (action in Ti) ving Root C4) lled Soils	s (C3)	Water 2, 4A Drain Dry-S Satura Geom Shallo FAC-I	r-Stained , and 4B) age Patte eason W ation Visib norphic Pe ow Aquita Neutral T ed Ant Mo	rns (B10) ater Table le on Aeri osition (D rd (D3) est (D5) unds (D6	B9) (ML) e (C2) al Image 2)	RA 1,
YDROLO etland Hyo Surface High W Saturat Water N Sedime Drift De Algal M Iron De Surface Inundat Sparsely	GY Irology Indicators icators (minimum of Water (A1) ater Table (A2) ion (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) ion Visible on Aeria Vegetated Concave	f one is rec	Water-S (except Salt Cru Aquatic Hydroge Oxidized Presenc Recent I Stunted (B7) Other (E	tained Le MLRA 1, st (B11) Invertebra n Sulfide Rhizosph e of Redu ron Redu or Stress	ates (B13) Odor (C1) heres on Livuced Iron (action in Ti) ving Root C4) lled Soils	s (C3)	Wate 2, 4A Drain Dry-S Satura Geom Shallo FAC-I Raise Frost	r-Stained , and 4B) age Patte leason W ation Visib norphic Pe low Aquita Neutral T led Ant Mo Heave H	Leaves (rns (B10) ater Table le on Aeri osition (D rd (D3) est (D5) unds (D6 ummocks	B9) (MLi e (C2) al Image 2)) (LRR A	RA 1, ry (C9
YDROLO etland Hyd Primary Ind Surface High W Saturat Water M Sedime Drift De Algal M Iron De Surface Inundat Sparsely Field Obse	GY Irology Indicators icators (minimum of Water (A1) ater Table (A2) ion (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) ion Visible on Aeria Vegetated Concave s rvations: ter Present?	I Imagery (Surface (B8	Water-S (except Salt Cru Aquatic Hydroge Oxidized Presenc Recent I Stunted (B7) No	tained Le MLRA 1, st (B11) Invertebra n Sulfide Rhizosph e of Redu ron Redu or Stress xplain in	ates (B13) Odor (C1) heres on Livuced Iron (action in Ti hed Plants Remarks) Depth (in	oving Root C4) lled Soils (D1) (LR	s (C3) s (C6) R A)	Wate 2, 4A Drain Dry-S Satura Geom Shallo FAC-I Raise Frost	r-Stained , and 4B) age Patte eason W ation Visib norphic Pe ow Aquita Neutral T ed Ant Mo	Leaves (rns (B10) ater Table le on Aeri osition (D rd (D3) est (D5) unds (D6 ummocks	B9) (MLi e (C2) al Image 2)) (LRR A	RA 1, rry (C9)
YDROLO etland Hyd Primary Ind Surface High W Saturat Water M Sedime Drift De Algal M Iron De Surface Inundat Sparsely Field Obse Vater Table	GY Irology Indicators icators (minimum of Water (A1) ater Table (A2) ion (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) ion Visible on Aeria Vegetated Concave servations: ter Present?	I Imagery (Surface (B8 Yes Yes	Water-S (except Salt Cru Aquatic Hydroge Oxidized Presenc Recent I Stunted (B7) No	tained Le MLRA 1, st (B11) Invertebra n Sulfide Rhizosph e of Redu ron Redu or Stress xplain in X X	ates (B13) Odor (C1) Peres on Livuced Iron (action in Tied Plants Remarks) Depth (in Depth (in Depth (in 13))	oving Root C4) lled Soils (D1) (LR ches):	s (C3) s (C6) R A) 0" >18"	Wate 2, 4A Drain Dry-S Satura Geom Shallo FAC- Raise Frost	r-Stained , and 4B) age Patte deason W ation Visib norphic Pr bw Aquita Neutral T d Ant Mo Heave H	Leaves (rns (B10) ater Table le on Aeri osition (D rd (D3) est (D5) unds (D6) ummocks	B9) (MLi e (C2) al Image 2) (LRR A (D7)	RA 1, rry (C9)
YDROLO etland Hyd Primary Ind Surface High W Saturat Water N Sedime Drift De Algal M Iron De Surface Inundat Sparsely Field Obse Surface Wa	GY Irology Indicators icators (minimum of Water (A1) ater Table (A2) ion (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) ion Visible on Aeria Vegetated Concave servations: ter Present? Present?	I Imagery (Surface (B8	Water-S (except Salt Cru Aquatic Hydroge Oxidized Presenc Recent I Stunted (B7) No	tained Le MLRA 1, st (B11) Invertebra n Sulfide Rhizosph e of Redu ron Redu or Stress xplain in	ates (B13) Odor (C1) heres on Livuced Iron (action in Ti hed Plants Remarks) Depth (in	oving Root C4) lled Soils (D1) (LR ches):	s (C3) s (C6) R A)	Wate 2, 4A Drain Dry-S Satura Geom Shallo FAC-I Raise Frost	r-Stained , and 4B) age Patte deason W ation Visib norphic Pr bw Aquita Neutral T d Ant Mo Heave H	Leaves (rns (B10) ater Table le on Aeri osition (D rd (D3) est (D5) unds (D6) ummocks	B9) (MLi e (C2) al Image 2)) (LRR A	RA 1, rry (C9)
YDROLO etland Hyd Primary Ind Surface High W Saturat Water N Sedime Drift De Algal M Iron De Surface Inundat Sparsely Field Obse Surface Water Table Saturation Fincludes ca	GY Irology Indicators icators (minimum of Water (A1) ater Table (A2) ion (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) ion Visible on Aeria Vegetated Concave (Vegetated Concave (Present? Present? Present?	I Imagery (Surface (B8 Yes Yes Yes	Water-S (except Salt Cru Aquatic Hydroge Oxidized Presenc Recent I Stunted (B7) No No	tained Le MLRA 1, st (B11) Invertebre In Sulfide Rhizosphe of Redu or Stress Explain in X X X	ates (B13) Odor (C1) neres on Liveced Iron (action in Ti acted Plants Remarks) Depth (in Depth (in	oring Root C4) lled Soils (D1) (LR ches): ches): ches):	s (C3) s (C6) R A) 0" >18" >18"	Water 2, 4A Drain Dry-S Satura Geom Shallo FAC- Raise Frost Wet Yes	r-Stained , and 4B) age Patte eason W ation Visib norphic P ow Aquita Neutral T ed Ant Mo Heave H	Leaves (rns (B10) ater Table le on Aeri osition (D rd (D3) est (D5) unds (D6) ummocks	B9) (MLi e (C2) al Image 2) (LRR A (D7)	RA 1, rry (C9)
YDROLO etland Hyd Primary Ind Surface High W Saturat Water N Sedime Drift De Algal M Iron De Surface Inundat Sparsely Field Obse Surface Water Table Saturation F includes ca	GY Irology Indicators icators (minimum of Water (A1) ater Table (A2) ion (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) ion Visible on Aeria Vegetated Concave servations: ter Present? Present?	I Imagery (Surface (B8 Yes Yes Yes	Water-S (except Salt Cru Aquatic Hydroge Oxidized Presenc Recent I Stunted (B7) No No	tained Le MLRA 1, st (B11) Invertebre In Sulfide Rhizosphe of Redu or Stress Explain in X X X	ates (B13) Odor (C1) neres on Liveced Iron (action in Ti acted Plants Remarks) Depth (in Depth (in	oring Root C4) lled Soils (D1) (LR ches): ches): ches):	s (C3) s (C6) R A) 0" >18" >18"	Water 2, 4A Drain Dry-S Satura Geom Shallo FAC- Raise Frost Wet Yes	r-Stained , and 4B) age Patte eason W ation Visib norphic P ow Aquita Neutral T ed Ant Mo Heave H	Leaves (rns (B10) ater Table le on Aeri osition (D rd (D3) est (D5) unds (D6) ummocks	B9) (MLi e (C2) al Image 2) (LRR A (D7)	RA 1, rry (C9)
YDROLO etland Hyd Primary Ind Surface High W Saturat Water N Sedime Drift De Surface Inundat Sparsely Field Obse Surface Wa Vater Table Saturation Fincludes ca	GY Irology Indicators icators (minimum of Water (A1) ater Table (A2) ion (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) ion Visible on Aeria Vegetated Concave (Vegetated Concave (Present? Present? Present?	I Imagery (Surface (B8 Yes Yes Yes	Water-S (except Salt Cru Aquatic Hydroge Oxidized Presenc Recent I Stunted (B7) No No	tained Le MLRA 1, st (B11) Invertebre In Sulfide Rhizosphe of Redu or Stress Explain in X X X	ates (B13) Odor (C1) neres on Liveced Iron (action in Ti acted Plants Remarks) Depth (in Depth (in	oring Root C4) lled Soils (D1) (LR ches): ches): ches):	s (C3) s (C6) R A) 0" >18" >18"	Water 2, 4A Drain Dry-S Satura Geom Shallo FAC- Raise Frost Wet Yes	r-Stained , and 4B) age Patte eason W ation Visib norphic P ow Aquita Neutral T ed Ant Mo Heave H	Leaves (rns (B10) ater Table le on Aeri osition (D rd (D3) est (D5) unds (D6) ummocks	B9) (MLi e (C2) al Image 2) (LRR A (D7)	RA 1, rry (C9)
YDROLO etland Hyo Surface High W Saturat Water N Sedime Drift De Algal M Iron De Surface Inundat Sparsely Field Obse Surface Wa Vater Table Saturation Fincludes ca	GY Irology Indicators icators (minimum of Water (A1) ater Table (A2) ion (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) ion Visible on Aeria Vegetated Concave (Vegetated Concave (Present? Present? Present?	I Imagery (Surface (B8 Yes Yes Yes Yes m gauge,	Water-S (except Salt Cru Aquatic Hydroge Oxidized Presenc Recent I Stunted (B7) No No No No monitoring well, a	tained Le MLRA 1, st (B11) Invertebra In Sulfide Rhizosph e of Redu ron Redu or Stress explain in X X X X erial phore	ates (B13) Odor (C1) heres on Livuced Iron (action in Ti hed Plants Remarks) Depth (in Depth (in Depth (in Depth (in	oring Root C4) lled Soils (D1) (LR ches): ches): ches):	s (C3) s (C6) R A) 0" >18" >18"	Water 2, 4A Drain Dry-S Satura Geom Shallo FAC- Raise Frost Wet Yes	r-Stained , and 4B) age Patte eason W ation Visib norphic P ow Aquita Neutral T ed Ant Mo Heave H	Leaves (rns (B10) ater Table le on Aeri osition (D rd (D3) est (D5) unds (D6) ummocks	B9) (MLi e (C2) al Image 2) (LRR A (D7)	RA 1, ry (C9

Project/Site: TEWS OWS 5	roject/Site: TEWS OWS 5 City/County: King							
Applicant/Owner: ADCOMM		State: WA	١	Sampling Point: OWS 5 (50)				
Investigator(s): Patrick Togher and Mallory Phillips	Section	n, Township,	Range: S32;	T26N; R9E				
Landform (hillslope, terrace, etc.): Hillslope	Lo	ocal relief (c	oncave, convex	x, none): Convex Slop	pe (%): 20	0		
Subregion (LRR): A	<u> </u>	Lat:	47.694518	Long: -121.690589	Datum: W	/GS84		
Soil Map Unit Name: Arents			NWI	Classification: Upland				
Are climatic/hydrologic conditions of the site typical for	this time of	the year?	Yes X	No (If no, explain in	remarks)			
Are vegetation, Soil, or Hydrology		significant	ly disturbed?	Are "Normal Circumstances"				
Are vegetation , Soil , or Hydrology		-	roblematic?	present? (If needed, explain any answers in remarks)	Yes X No	0		
SUMMARY OF FINDINGS - Attach site map sh	nowing sa			arry arrowers in remarks,				
Hydrophytic vegetation present? Yes		No X		, I	•			
Hydric soil present? Yes		No X		mpled area				
Indicators of wetland hydrology present? Yes		No X	- Within a	wetland? Yes	No	X		
Remarks: Plot located about 75-feet west of the tolt v	icto house	<u> </u>	-					
Remarks. Plot located about 75-leet west of the tolt v	ista nouse.							
VEGETATION Use scientific names of plants	S			,				
	Absolute	Dominant		Dominance Test Workshee	it :			
Tree Stratum (Plot size: 30' r)	% Cover	Species	Status	Number of Dominant Species that				
1. Tsuga heterophylla	60	Y Y	FACU	are OBL, FACW, or FAC:	1	_(A)		
2. Pseudotsuga menziesii	40	Y	FACU	Total Number of Dominant	_	(D)		
3. 4.		-	-	Species Across all Strata:	5	_(B)		
4	100 :	= Total Cov		Percent of Dominant Species that are OBL, FACW, or FAC:	20%	(A/B)		
Sapling/Shrub Stratum (Plot size: 30' r)	100	- Total Cov	51	are obt, i Aow, or i Ao.	2070	_(^(D)		
1. mahonia nervosa	5	Υ	FACU	Prevalence Index Workshe	et .			
2.		<u> </u>	17100		iply by:			
3.		-		OBL species 0 x 1 =				
4.				FACW species 0 x 2 =		_		
5.				FAC species 5 x 3 =	15	_		
	5 :	Total Cov	er	FACU species 185 x 4 =	740	_		
Herb Stratum (Plot size: 5' r)				UPL species 0 x 5 =	0			
Polystichum munitum	80	Υ	FACU	Column totals 190 (A)	755	(B)		
2.				Prevalence Index = B/A =	3.97	_		
3								
4				Hydrophytic Vegetation Inc				
5				1 - Rapid Test for Hydron		etation		
6.				2 - Dominance Test is >5				
7				3 - Prevalence Index is ≤				
8. 9.				4 - Morphological Adaptations data in Remarks or on a separ		apporting		
10.				5 - Wetland Non-Vascula	or Dianta ¹			
11.		-		Problematic Hydrophytic		n ¹		
· · ·	80 :	Total Cov	er	(Explain)	vegetatio	"		
Woody Vine Stratum (Plot size: 30' r)				¹ Indicators of hydric soil and wetlan	d hydrology	must be		
1. Rubus spectabilis	5	Υ	FAC	present, unless disturbed or problem	, ,,			
2.				Hydrophytic				
	5 :	Total Cov	er	vegetation				
% Bare Ground in Herb Stratum 20				present? Yes	No	X		
Remarks:								
Dominant species do not satisfy hydrophytic vegetation	criteria.							
. , , , , ,								

SOIL Sampling Point: OWS 5 (50)

Profile Des	scription: (Describ	e to the depth	needed to d	locument	the indic	ator or	confirm	the abse	nce of indicate	ors.)	
Depth	Matrix			dox Featι	ires		-				
(Inches)	Color (moist)	% Col	or (moist)	<u>%</u>	Type ¹	Loc ²	Textu	ıre	Rem	arks	
0-9	10YR 3/3	100					. <u> </u>				
9-19+	10YR 3/3	100					GS	<u>L</u>			
'											
·-											
1Tuno: C=C	oncentration, D=Depl	eties DM=Dedu	and Matrix C		d or Coots	d Cand (Crains	21 acatio	on: PL=Pore Lini	ing M-Matri	
	I Indicators: (Appli					a Sana (Grains.		s for Problema		
Histoso	, , , ,	cable to all Livi	-	edox (S5)	•				Muck (A10)	atic riyuric	Jons .
	Epipedon (A2)	-		Matrix (S			•		Parent Material	(TF2)	
	Histic (A3)	_		•	eral (F1) (E	xcept M	RLA 1)		Shallow Dark S		2)
	en Sulfide (A4)	_		Sleyed Ma			,		(Explain in Re	-	_,
	ed Below Dark Surfa	ce (A11)		d Matrix (F	` ,		•		` '		
Thick [Oark Surface (A12)	_	Redox D	ark Surfa	ce (F6)			³ Indicato	ors of hydrophyt	tic vegetatio	n and
Sandy	Mucky Mineral (S1)	_			rface (F7)				ydrology must		
Sandy	Gleyed Matrix (S4)		Redox D	epressior	ns (F8)			(disturbed or pro	oblematic	
Restrictive	Layer (if present):										
Type:											
Depth (inch	nes):					Hydri	c Soil P	resent?	Yes	No_	Х
Remarks:											
Soils do no	t satisfy hydric soils	criteria.									
	, ,										
HYDROLO											
Wetland Hy	drology Indicators										
Primary Inc	licators (minimum of	one is required	; check all th	nat apply				Secondar	y Indicators (2	or more req	uired)
Surface	e Water (A1)	_	Water-S	tained Lea	aves (B9)			Water	r-Stained Leave	es (B9) (ML	RA 1,
	/ater Table (A2)	_			2, 4A, and	d 4B)	•	, ,	, and 4B)		
	tion (A3)	_	Salt Crus						age Patterns (E		
	Marks (B1)	_			ites (B13)				eason Water T	` '	m. (CO)
	ent Deposits (B2) eposits (B3)	_			Odor (C1) eres on Liv		tc (C3)		ation Visible on <i>i</i> norphic Positior	_	ry (C9)
	lat or Crust (B4)	-			ced Iron (•	13 (03)		ow Aquitard (D3	, ,	
	eposits (B5)	_			ction in Til	,	s (C6)		Neutral Test (D	•	
	e Soil Cracks (B6)	_			ed Plants (` '		ed Ant Mounds	,	A)
Inunda	tion Visible on Aeria	I Imagery (B7)			Remarks)	, , ,	· · ·	Frost	Heave Hummo	cks (D7)	,
Sparsel	y Vegetated Concave S	Surface (B8)									
Field Obse	ervations:										
	ater Present?	Yes	No	X	Depth (in	ches):		Wet	land Hydrolog	v Present?	,
Water Tabl	e Present?	Yes	No	Х	Depth (in	ches):			, ,	•	
Saturation		Yes	No	Χ	Depth (in	ches):		Yes		No X	
	apillary fringe)										
Describe R	ecorded Data (strea	m gauge, monit	oring well, a	erial phot	os, previou	us inspe	ctions), i	f available):		
Remarks:											
	rs of wetland hydrol	nav are present									
140 mulcall	TO OF WORLDING HYUTUR	ogy are present	Ē								

Project/Site: TEWS OWS 5	City/	County: King		Sampling Date: 3/11/2022					
Applicant/Owner: ADCOMM		State: WA		Sampling Point: OWS 5 (54)					
Investigator(s): Patrick Togher and Mallory Phillips	Section	, Township, R	ange: S32	, T26N; R9E					
Landform (hillslope, terrace, etc.): Hillslope	Lo	ocal relief (con	cave, conve	x, none): Concave Slope (%): 0					
Subregion (LRR): A	_	Lat: 4	7.695431	Long: -121.690682 Datum: WGS84					
Soil Map Unit Name: Pits			NWI	Classification: PFO					
Are climatic/hydrologic conditions of the site typical for	this time of	the year?	Yes X	No (If no, explain in remarks)					
Are vegetation, Soil, or Hydrology		significantly	disturbed?	Are "Normal Circumstances"					
Are vegetation , Soil , or Hydrology		naturally pro	blematic?	present? (If needed, explain any answers in remarks) Yes X No					
SUMMARY OF FINDINGS - Attach site map sh		mpling point	location, tr						
Hydrophytic vegetation present? Yes	Х	No							
Hydric soil present? Yes		No X		mpled area					
Indicators of wetland hydrology present? Yes	X	No	within a wetland? Yes No X						
Remarks: Plot is located about 350-feet north of the t	olt vista hou	ise.							
remarke. The resided about 600 feet floral of the	on viola rioc	.00.							
VEGETATION Use scientific names of plant									
VEGETATION Ose scientific names of plant		Daminant	Indicator	Dominance Test Worksheet					
<u>Tree Stratum</u> (Plot size: 30' r)	Absolute % Cover	Dominant Species	Indicator Status						
1. Populus balsamifera	10	Y	FAC	Number of Dominant Species that are OBL, FACW, or FAC: 4 (A)					
2. Salix lasiandra	10	<u>·</u>	FACW	Total Number of Dominant					
3. Alnus rubra	2	N	FAC	Species Across all Strata: 4 (B)					
4.				Percent of Dominant Species that					
	22 =	Total Cover		are OBL, FACW, or FAC: 100% (A/B)					
Sapling/Shrub Stratum (Plot size: 30' r)									
1				Prevalence Index Worksheet					
2				Total % Cover of: Multiply by:					
3				OBL species 0 x 1 = 0					
4				FACW species 20 x 2 = 40					
5	0 =	= Total Cover		FAC species $42 \times 3 = 126$ FACU species $0 \times 4 = 0$					
Herb Stratum (Plot size: 5' r)		- Total Cover		UPL species 1 x 5 = 5					
1. Agrostis stolonifera	30	Υ	FAC	Column totals 63 (A) 171 (B)					
2. Phalaris arundinacea	10	<u> </u>	FACW	Prevalence Index = B/A = 2.71					
3. Unknown moss species 1	1	N	UPL	· —					
4.				Hydrophytic Vegetation Indicators:					
5.				1 - Rapid Test for Hydrophytic Vegetation					
6.				X 2 - Dominance Test is >50%					
7				3 - Prevalence Index is ≤3.0					
8				4 - Morphological Adaptations* (Provide supporting data in Remarks or on a separate sheet)					
9				, ,					
10.				5 - Wetland Non-Vascular Plants ¹					
11		Total Cover		Problematic Hydrophytic Vegetation ¹					
Woody Vine Stratum (Plot size: 30' r)	41 =	- Total Cover		(Explain)					
1.				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic					
2.									
~·	0 :	= Total Cover		Hydrophytic vegetation					
% Bare Ground in Herb Stratum 59				present? Yes X No					
Remarks:									
Hydrophytic vegetation is dominant.									
, , , ,									

SOIL Sampling Point: OWS 5 (54)

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)											
Depth	Matrix		Re	dox Featu	ıres		_				
(Inches)	Color (moist)	<u></u> % Co	olor (moist)	%	Type ¹	Loc ²	Textu	re	Ren	narks	
0-7	10YR 3/2	100					GSI				
7+	10YR 3/2	100					GSI	<u>- </u>	Very grav	elly/cobbly	
·											
							· ——				
1		-tion DM Dod	I Matrice C			-1.01	0	21	D. D. Li	NA NA-4	
	oncentration, D=Depl					a Sana			n: PL=Pore Lir for Problem		
Histoso	, , , ,	cable to all Lr		ledox (S5					Muck (A10)	alic Hyuric	SUIIS .
	Epipedon (A2)			Matrix (S			-		arent Materia	(TF2)	
	Histic (A3)			•	eral (F1) (E	xcent M	RI A 1)		Shallow Dark	• •	12)
	en Sulfide (A4)			Bleyed Ma		xoop:			(Explain in Re	-	
	ed Below Dark Surfa	ce (A11)		d Matrix (F			-		(
	Oark Surface (A12)	,		ark Surfa				3Indicator	s of hydrophy	rtic vegetatio	n and
Sandy	Mucky Mineral (S1)				rface (F7)				/drology must		
Sandy	Gleyed Matrix (S4)		Redox D	epression	ns (F8)				listurbed or pr		
Restrictive	Layer (if present):										
Type:	, ,										
Depth (inch	nes):					Hydri	c Soil Pr	esent?	Yes	No	X
Remarks:											
	ot satisfy hydric soil	criteria									
Oon does n	ot satisfy flydfio soil	ontona.									
HYDROLO	GY										
Wetland Hy	drology Indicators										
Primary Inc	licators (minimum of	one is require	d; check all th	nat apply			:	Secondary	Indicators (2	or more red	uired)
· ·	e Water (A1)	•			aves (B9)			Water-	-Stained Leav	es (B9) (MI	RA 1.
	/ater Table (A2)				2, 4A, and	d 4B)	-		and 4B)	oo (20) (,
X Satura			Salt Cru		, ,-	,			ige Patterns (B10)	
Water	Marks (B1)		Aquatic	Invertebra	ates (B13)		_		eason Water		
	ent Deposits (B2)				Odor (C1)		_	Satura	tion Visible on	Aerial Image	ry (C9)
	eposits (B3)				eres on Liv	-	ts (C3) _		orphic Positio		
	lat or Crust (B4)				ced Iron (,	(00)		w Aquitard (D	•	
	eposits (B5) e Soil Cracks (B6)				ction in Til ed Plants (` '		leutral Test ([,	۸\
	tion Visible on Aeria	I Imagery (B7)			eu Piants (Remarks)	(DI) (LR	KK A) _		d Ant Mounds Heave Humm		4)
	y Vegetated Concave S			лрішіі і і	(Ciriaino)		-	110001	iouvo i iuiiiiii	ooko (B1)	
 `		. ,									
Field Obse		Voc	No	V	Donth (in	oboo):		347.41		D	
	ater Present?	Yes Yes	No No	X	Depth (in Depth (in		7"	Weti	and Hydrolo	gy Present?	,
Water Tabl Saturation			No No		Depth (in	-	Surface	Yes	X	No	
	apillary fringe)	, ,	<u> </u>		2 op (Ouridoc	163			_
	ecorded Data (strea	m gauge, mon	itoring well, a	erial phot	os, previo	us inspe	ctions), it	f available:			
	,	5 5 / ····	5 ,	•		, -	,,				
Remarks:											
Spots of in	undation. Water tab	le present at d	epth of 7" and	l soil satu	rated to th	e surfac	e. Wetla	and hydrolo	ogy criteria sa	tisfied.	

Project/Site: TEWS OWS 6	City/	/County: King		Sampling Date: 3/11/2022			
Applicant/Owner: ADCOMM		State: WA		Sampling Point: OWS 6 (4)			
Investigator(s): Patrick Togher and Mallory Phillips	Section	n, Township, Ra	ange: <u>S33</u>	; T26N; R8E			
Landform (hillslope, terrace, etc.): Hillslope	Lc	ocal relief (cond	cave, conve	x, none): Concave Slope (%): 0			
Subregion (LRR): A		Lat: 47	7.700376	Long: .121.786003 Datum: WGS84			
Soil Map Unit Name: Typic Vitrixerands		<u> </u>	NWI	Classification: Upland			
Are climatic/hydrologic conditions of the site typical for	this time of	the year?	Yes X	No (If no, explain in remarks)			
Are vegetation, Soil, or Hydrology		significantly of	disturbed?	Are "Normal Circumstances"			
Are vegetation , Soil , or Hydrology		naturally prob	olematic?	present? (If needed, explain any answers in remarks) Yes X No			
SUMMARY OF FINDINGS - Attach site map sh	owing sar	mpling point	location, tr				
Hydrophytic vegetation present? Yes	X	No	lo the ea				
Hydric soil present? Yes		No X		impled area a wetland?			
Indicators of wetland hydrology present? Yes	X	No	***************************************	Yes No X			
Remarks: Plot located about 55-feet northwest of pow	ver line towe	er off of access	road on wh	at appeared to revegetated gravel fill.			
·							
VEGETATION Use scientific names of plants	<u> </u>						
TEGETATION 000 0010Hallo Hallo 0. plant	Absolute	Dominant	Indicator	Dominance Test Worksheet			
<u>Tree Stratum</u> (Plot size: 30' r)	% Cover	Species	Status	Number of Dominant Species that			
1. Tsuga heterophylla	20	Y	FACU	are OBL, FACW, or FAC: 4 (A)			
2. Alnus rubra	5	Υ	FAC	Total Number of Dominant			
3.				Species Across all Strata: 7 (B)			
4.				Percent of Dominant Species that			
	25 =	= Total Cover		are OBL, FACW, or FAC: 57% (A/B)			
Sapling/Shrub Stratum (Plot size: 30' r)		.,					
1. Gualtheria shallon	35	<u>Y</u> Y	UPL	Prevalence Index Worksheet			
2. Rubus spectabilis	30	<u> </u>	FAC	Total % Cover of: Multiply by: OBL species 0 x 1 = 0			
3. 4.				OBL species $0 \times 1 = 0$ FACW species $5 \times 2 = 10$			
5.				FACW species 3 x 2 = 10 FAC species 125 x 3 = 375			
·	65 =	= Total Cover		FACU species 41 x 4 = 164			
Herb Stratum (Plot size: 5' r)				UPL species 35 x 5 = 175			
1. Agrostis stolonifera	80	Υ	FAC	Column totals 206 (A) 724 (B)			
2. Fragaria chiloensis	10	N	FACU	Prevalence Index = $B/A = 3.51$			
3. Juncus effusus	5	N	FACW				
4. Ranunculus repens	5	N	FAC	Hydrophytic Vegetation Indicators:			
5. Polystichum munitum	1	N	FACU	1 - Rapid Test for Hydrophytic Vegetation			
6				X 2 - Dominance Test is >50%			
7		-		3 - Prevalence Index is ≤3.0 4 - Morphological Adaptations* (Provide supporting			
8				data in Remarks or on a separate sheet)			
9		-					
11.				5 - Wetland Non-Vascular Plants ¹ Problematic Hydrophytic Vegetation ¹			
··· <u> </u>	101 =	= Total Cover		(Explain)			
Woody Vine Stratum (Plot size: 30' r)				¹Indicators of hydric soil and wetland hydrology must be			
1. Rubus ursinus	10	Υ	FACU	present, unless disturbed or problematic			
2. Rubus armeniacus	5	Y	FAC	Hydrophytic			
	15 =	Total Cover		vegetation			
% Bare Ground in Herb Stratum 0				present? Yes X No			
Remarks:				-			
Hydrophytic vegetation is dominant.							

SOIL Sampling Point: OWS 6 (4)

Depth	scription: (Describ Matrix		-	dox Feat						,	
(Inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture		Rei	marks	
0-4	10YR 4/3	100					Gravelly f	ill			
4-8	10YR 5/3	100					Gravelly 1	ill	Cannot a	uger furthe	r
								_			
¹ Type: C=C	oncentration, D=Depl	etion. RM=F	Reduced Matrix. (CS=Covere	ed or Coate	ed Sand (Grains.	² Location	: PL=Pore Li	ning. M=Ma	trix.
	il Indicators: (Appli								for Problen		
Histos	ol (A1)		Sandy F	Redox (S5	5)			2 cm M	uck (A10)		
Histic	Epipedon (A2)		Stripped	l Matrix (S	86)			Red Pa	rent Materia	l (TF2)	
Black I	Histic (A3)		Loamy N	lucky Min	eral (F1) (E	xcept M	RLA 1)		nallow Dark		F12)
	gen Sulfide (A4)	(0.4.4)		Gleyed Ma	. ,			Other (I	Explain in R	emarks	
	ed Below Dark Surfa Dark Surface (A12)	ice (A11)		d Matrix (l Dark Surfa			3	Indicators	of hydroph	utic vegeta	tion and
	Mucky Mineral (S1)				ırface (F7)	1			drology mus		
	Gleyed Matrix (S4)			Depressio	٠,		VV.		sturbed or p		it, uriicss
Restrictive	Layer (if present):	1									
Type:						l				N	
Depth (incl	nes):					Hydri	c Soil Pres	sent?	Yes	No	X
Remarks:											
	not meet any hydric s	soil indicato	or criteria.								
Plot does r	OGY	soil indicato	or criteria.								
Plot does r HYDROLO Wetland Hy	DGY drology Indicators			nat apply			Se	econdary	Indicators (2	or more re	equired)
Plot does r HYDROLO Wetland Hy Primary Indeed	OGY drology Indicators dicators (minimum of		uired; check all t		ayos (PO)		<u>Se</u>	-	Indicators (2		
Plot does r HYDROLO Wetland Hy Primary Ind X Surface	OGY drology Indicators dicators (minimum of		uired; check all tl	tained Le	aves (B9)		<u>Se</u>	Water-9	Stained Lea		
HYDROLO Wetland Hy Primary Ind X Surfac X High V	DGY drology Indicators dicators (minimum of e Water (A1) //ater Table (A2)		uired; check all tl Water-S (except	tained Le	aves (B9) 2, 4A, an		<u>Se</u>	Water-9	Stained Lear and 4B)	/es (B9) (N	
HYDROLO Wetland Hy Primary Ind X Surfac X High V X Satura	DGY drology Indicators dicators (minimum of e Water (A1) /ater Table (A2) tion (A3)		uired; check all ti Water-S (except Salt Cru	tained Le MLRA 1, st (B11)	2, 4A, an	d 4B)	<u>Se</u>	Water-S 2, 4A, a Drainag	Stained Leav and 4B) ge Patterns	ves (B9) (M (B10)	
HYDROLO Wetland Hy Primary Ind X Surfac X High V X Satura Water	DGY drology Indicators dicators (minimum of e Water (A1) //ater Table (A2)		uired; check all t Water-S (except Salt Cru Aquatic	tained Le MLRA 1, st (B11) Invertebra		d 4B)	<u>Se</u>	Water-S 2, 4A, a Drainag Dry-Sea	Stained Lear and 4B)	ves (B9) (N (B10) Table (C2)	ILRA 1,
HYDROLO Wetland Hy Primary Ind X Surfac X High V X Satura Water Sedim Drift D	drology Indicators dicators (minimum of e Water (A1) Vater Table (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3)		uired; check all t Water-S (except Salt Cru Aquatic Hydroge Oxidized	tained Le MLRA 1, st (B11) Invertebra en Sulfide Rhizosph	2, 4A, an ates (B13) Odor (C1) neres on Liv	d 4B)) ving Root	_ 	Water-S 2, 4A, a Drainag Dry-Sea Saturati Geomo	Stained Lear Ind 4B) Je Patterns of Jeason Water Jeason Visible or Jeason Visible or Jeason Visible or	ves (B9) (N (B10) Table (C2) Aerial Imagon (D2)	ILRA 1,
HYDROLO Wetland Hy Primary Ind X Surfact X High V X Satura Water Sedim Drift D Algal N	dicators (minimum of e Water (A1) Vater Table (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) Mat or Crust (B4)		uired; check all t Water-S (except Salt Cru Aquatic Hydroge Oxidized Presence	tained Le MLRA 1, st (B11) Invertebra en Sulfide Rhizosph	2, 4A, an ates (B13) Odor (C1) neres on Liv uced Iron (d 4B)) ving Root	ts (C3)	Water-S 2, 4A, a Drainac Dry-Sea Saturati Geomo Shallow	Stained Learend 4B) Je Patterns (Je Passen Water Je Son Visible or Je Position Aquitard ([ves (B9) (N (B10) Table (C2) Aerial Imagon (D2) (D3)	ILRA 1,
HYDROLO Wetland Hy Primary Ind X Surfact X High V X Satura Water Sedim Drift D Algal N	drology Indicators dicators (minimum of e Water (A1) Vater Table (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) Vat or Crust (B4) eposits (B5)		uired; check all t Water-S (except Salt Cru Aquatic Hydroge Oxidized Presenc Recent	tained Le MLRA 1, st (B11) Invertebra en Sulfide Rhizosph e of Redu Iron Redu	ates (B13) Odor (C1) neres on Liv uced Iron (action in Ti	d 4B) ving Root (C4) Iled Soils	======================================	Water-S 2, 4A, a Drainag Dry-Sea Saturati Geomo Shallow FAC-Na	Stained Lear and 4B) ge Patterns of ason Water on Visible or rphic Position Aquitard (E eutral Test (ves (B9) (N (B10) Table (C2) Aerial Imagon (D2) 03) D5)	ILRA 1,
HYDROLO Wetland Hy Primary Inc X Surfac X High V X Satura Water Sedim Drift D Algal N Iron Do	drology Indicators dicators (minimum of e Water (A1) Vater Table (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) Vat or Crust (B4) eposits (B5) e Soil Cracks (B6)	f one is req	uired; check all ti Water-S (except Salt Cru Aquatic Hydroge Oxidized Presence Recent Stunted	tained Le MLRA 1, st (B11) Invertebra en Sulfide Rhizosph ee of Redu Iron Redu or Stress	2, 4A, an ates (B13) Odor (C1) heres on Livuced Iron (action in Ti ed Plants	d 4B) ving Root (C4) Iled Soils (D1) (LR	======================================	Water-S 2, 4A, a Drainag Dry-Sea Saturati Geomo Shallow FAC-Ne	Stained Lear and 4B) ge Patterns of ason Water on Visible or rphic Position Aquitard (I eutral Test (Ant Mounds	res (B9) (N (B10) Table (C2) Aerial Imagon (D2) (D3) (D5) (C) (LRF	ILRA 1,
HYDROLO Wetland Hy Primary Inc X Surfac X High V X Satura Water Sedim Drift D Algal M Iron Do Surfac Inunda	drology Indicators dicators (minimum of e Water (A1) Vater Table (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) Vat or Crust (B4) eposits (B5)	f one is requ	uired; check all ti Water-S (except Salt Cru Aquatic Hydroge Oxidized Presenc Recent Stunted B7) Other (E	tained Le MLRA 1, st (B11) Invertebra en Sulfide Rhizosph ee of Redu Iron Redu or Stress	ates (B13) Odor (C1) neres on Liv uced Iron (action in Ti	d 4B) ving Root (C4) Iled Soils (D1) (LR	======================================	Water-S 2, 4A, a Drainag Dry-Sea Saturati Geomo Shallow FAC-Ne	Stained Lear and 4B) ge Patterns of ason Water on Visible or rphic Position Aquitard (E eutral Test (res (B9) (N (B10) Table (C2) Aerial Imagon (D2) (D3) (D5) (C) (LRF	ILRA 1,
HYDROLO Wetland Hy Primary Inc X Surfac X High V X Satura Water Sedim Drift D Algal M Iron Do Surfac Inunda	drology Indicators dicators (minimum of e Water (A1) Vater Table (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) Vat or Crust (B4) eposits (B5) e Soil Cracks (B6) tion Visible on Aeria y Vegetated Concave	f one is requ	uired; check all ti Water-S (except Salt Cru Aquatic Hydroge Oxidized Presenc Recent Stunted B7) Other (E	tained Le MLRA 1, st (B11) Invertebra en Sulfide Rhizosph ee of Redu Iron Redu or Stress	2, 4A, an ates (B13) Odor (C1) heres on Livuced Iron (action in Ti ed Plants	d 4B) ving Root (C4) Iled Soils (D1) (LR	======================================	Water-S 2, 4A, a Drainag Dry-Sea Saturati Geomo Shallow FAC-Ne	Stained Lear and 4B) ge Patterns of ason Water on Visible or rphic Position Aquitard (I eutral Test (Ant Mounds	res (B9) (N (B10) Table (C2) Aerial Imagon (D2) (D3) (D5) (C) (LRF	ILRA 1,
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Project/Site: TEWS OWS 6	City	County: King		Sampling Date: 3/11/2022
Applicant/Owner: ADCOMM		State: WA		Sampling Point: OWS 6 (5)
Investigator(s): Patrick Togher and Mallory Phillips	Section	n, Township, Ra	ange: S33	; T26N; R8E
Landform (hillslope, terrace, etc.): Terrace	Lo	ocal relief (cond	cave, conve	x, none): Concave Slope (%): 2
Subregion (LRR): A		Lat: <u>4</u>	7.700865	Long: -121.786439 Datum: WGS84
Soil Map Unit Name: Typic Vitrixerands		-	NWI	Classification: Upland
Are climatic/hydrologic conditions of the site typical for	this time of	the year?	Yes X	No (If no, explain in remarks)
Are vegetation , Soil , or Hydrology		significantly	disturbed?	Are "Normal Circumstances"
Are vegetation , Soil , or Hydrology		naturally prol	blematic?	present? (If needed, explain any answers in remarks) Yes X No
SUMMARY OF FINDINGS - Attach site map sh	nowing sa	mpling point	location, tr	
Hydrophytic vegetation present? Yes	Х	No		
Hydric soil present? Yes		No X		mpled area a wetland?
Indicators of wetland hydrology present? Yes		No X	Within	Yes No X
Remarks: Plot located southwest of Wetland A on the	north edae	of the access	road in a bra	amble of R. spectabilis.
VECETATION III i-wifi f - I-wi				
VEGETATION Use scientific names of plants				Dominanas Tast Warkshoot
<u>Tree Stratum</u> (Plot size: 30' r)	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet
1.	70 COVEI	Species	Status	Number of Dominant Species that are OBL, FACW, or FAC: 2 (A)
2.				
3.				Total Number of Dominant Species Across all Strata: 3 (B)
4.				Percent of Dominant Species that
	0 :	Total Cover		are OBL, FACW, or FAC: 67% (A/B)
Sapling/Shrub Stratum (Plot size: 30' r)				
1. Rubus spectabilis	85	<u> </u>	FAC	Prevalence Index Worksheet
2				Total % Cover of: Multiply by:
3				OBL species 0 x 1 = 0
4				FACW species 0 x 2 = 0
5	85	= Total Cover		FAC species $105 \times 3 = 315$ FACU species $5 \times 4 = 20$
Herb Stratum (Plot size: 5' r)	- 65	- Total Cover		UPL species 0 x 5 = 0
1. Tolmiea menziesii	20	Y	FAC	Column totals 110 (A) 335 (B)
2. Polystichum munitum	5	Y	FACU	Prevalence Index = B/A = 3.05
3.				
4.				Hydrophytic Vegetation Indicators:
5.				1 - Rapid Test for Hydrophytic Vegetation
6.				X 2 - Dominance Test is >50%
7				3 - Prevalence Index is ≤3.0
8				4 - Morphological Adaptations* (Provide supporting data in Remarks or on a separate sheet)
9				' '.
10				5 - Wetland Non-Vascular Plants ¹
11	25	= Total Cover		Problematic Hydrophytic Vegetation ¹ (Explain)
Woody Vine Stratum (Plot size: 30' r)		- Total Cover		 -
1.				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
2.				Hydrophytic
	0	= Total Cover		vegetation
% Bare Ground in Herb Stratum 75				present? Yes X No
Remarks:				
No fill (off access road edge). Hydrophytic vegetation	s dominant	_		
(3				

SOIL Sampling Point: OWS 6 (5)

Depth	Matrix		116	dox Feat	uics					
(Inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Textu	ıre	Remarks	
0-6	10YR 2/2	100					SCI			
6-20+	7.5YR 2.5/3	90	7.5YR 3/3	10	С	M	SCI			
-										
	oncentration, D=Depl					ed Sand G			tion: PL=Pore Lining, M=Matrix.	
-	il Indicators: (Appli	cable to all	•						ors for Problematic Hydric S	oils³:
Histoso	, ,			Redox (S	•				n Muck (A10)	
	Epipedon (A2)			Matrix (Parent Material (TF2)	
	Histic (A3)				eral (F1) (E	Except MR	RLA 1)		y Shallow Dark Surface (TF12)
`	gen Sulfide (A4)			•	atrix (F2)			Oth	er (Explain in Remarks	
	ed Below Dark Surfa	ace (A11)		d Matrix (•			2		
	Dark Surface (A12)			Oark Surfa	, ,				tors of hydrophytic vegetation	
	Mucky Mineral (S1)				urface (F7))		wetland	hydrology must be present, u	nless
Sandy	Gleyed Matrix (S4)		Redox L	Depressio	ns (F8)				disturbed or problematic	
Restrictive	E Layer (if present):									
Type:										
Depth (inch	nes):					Hydric	Soil P	resent?	Yes No No	X
Remarks:						<u> </u>				
IVDBOLO	NCV									
	OGY drology Indicators									
Wetland Hy		f one is requ	uired; check all tl	nat apply				Seconda	ary Indicators (2 or more requi	red)
Wetland Hy Primary Ind	drology Indicators	f one is requ			eaves (B9)				ary Indicators (2 or more requi er-Stained Leaves (B9) (MLR /	
Vetland Hy Primary Ind Surfac High W	drology Indicators dicators (minimum of e Water (A1) Vater Table (A2)	f one is requ	Water-S	tained Le	eaves (B9) , 2, 4A, an		-	Wat	ter-Stained Leaves (B9) (MLR. A, and 4B)	
Vetland Hy Primary Ind Surfac High W Satura	drology Indicators dicators (minimum of e Water (A1) /ater Table (A2) tion (A3)	f one is requ	Water-S (except Salt Cru	tained Le MLRA 1 st (B11)	, 2, 4A, an	d 4B)		Wat 2, 4 Dra	ter-Stained Leaves (B9) (MLR A, and 4B) inage Patterns (B10)	
Primary Ind Surfac High W Satura Water	drology Indicators dicators (minimum of e Water (A1) Vater Table (A2) tion (A3) Marks (B1)	f one is requ	Water-S (except Salt Cru Aquatic	tained Le MLRA 1 st (B11) Invertebr	, 2, 4A , an	d 4B)		Wat 2, 4 Drai Dry	rer-Stained Leaves (B9) (MLR. A, and 4B) inage Patterns (B10) -Season Water Table (C2)	A 1,
Primary Ind Surfac High W Satura Water Sedime	drology Indicators dicators (minimum of e Water (A1) /ater Table (A2) tion (A3) Marks (B1) ent Deposits (B2)	f one is requ	Water-S (except Salt Cru Aquatic Hydroge	tained Le MLRA 1 st (B11) Invertebr en Sulfide	, 2, 4A , an ates (B13) Odor (C1	d 4B)		Wat 2, 4 Drai Dry- Satu	rer-Stained Leaves (B9) (MLR. A, and 4B) inage Patterns (B10) -Season Water Table (C2) uration Visible on Aerial Imagery	A 1,
Primary Ind Surfac High W Satura Water Sedime	drology Indicators dicators (minimum of e Water (A1) /ater Table (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3)	f one is requ	Water-S (except Salt Cru Aquatic Hydroge Oxidized	tained Le MLRA 1 st (B11) Invertebren Sulfide Rhizosph	, 2 , 4A , an ates (B13) Odor (C1 neres on Liv	d 4B) i i ving Roots		Wat 2, 4 Dra Dry Satu Geo	ter-Stained Leaves (B9) (MLR. A, and 4B) inage Patterns (B10) -Season Water Table (C2) uration Visible on Aerial Imagery omorphic Position (D2)	A 1,
Primary Ind Surface High W Satura Water Sedime Algal N	drology Indicators dicators (minimum of e Water (A1) Vater Table (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) Mat or Crust (B4)	f one is requ	Water-S (except Salt Cru Aquatic Hydroge Oxidized Presence	tained Le MLRA 1 st (B11) Invertebren Sulfide Rhizosphe of Red	ates (B13) Odor (C1 neres on Livuced Iron (d 4B)) ving Roots (C4)	s (C3)	Wate 2, 4 Draid Dry Sature Geometric Share Sha	cer-Stained Leaves (B9) (MLR. A, and 4B) inage Patterns (B10) -Season Water Table (C2) uration Visible on Aerial Imagery omorphic Position (D2) Illow Aquitard (D3)	A 1,
Primary Ind Surface High W Satura Water Sedime Drift De Algal N	drology Indicators dicators (minimum of e Water (A1) Vater Table (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) Vat or Crust (B4) eposits (B5)	f one is requ	Water-S (except Salt Cru Aquatic Hydroge Oxidized Present Recent	tained Le MLRA 1 st (B11) Invertebren Sulfide Rhizosphe of Red	ates (B13) Odor (C1 neres on Livuced Iron (uction in Ti	d 4B)) ving Roots (C4) Iled Soils	s (C3) (C6)	Wate 2, 4 Dra Dry Satu Geo Sha	cer-Stained Leaves (B9) (MLR. A, and 4B) inage Patterns (B10) -Season Water Table (C2) uration Visible on Aerial Imagery omorphic Position (D2) illow Aquitard (D3) C-Neutral Test (D5)	A 1 ,
Primary Inc Surfac High W Satura Water Sedime Drift De Algal N Surface	drology Indicators dicators (minimum of e Water (A1) Vater Table (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) Vat or Crust (B4) eposits (B5) e Soil Cracks (B6)		Water-S (except Salt Cru Aquatic Hydroge Oxidized Presend Recent Stunted	tained Le MLRA 1 st (B11) Invertebren Sulfide Rhizosphe of Red Iron Redu or Stress	ates (B13) Odor (C1 heres on Livuced Iron (action in Ti	d 4B) ving Roots (C4) Iled Soils (D1) (LRF	s (C3) (C6)	Wate 2, 4 Drain Dry Sature Geometric Share FAC	cer-Stained Leaves (B9) (MLR. A, and 4B) inage Patterns (B10) -Season Water Table (C2) uration Visible on Aerial Imagery omorphic Position (D2) -Season Water Table (D3) -Neutral Test (D5) -Seed Ant Mounds (D6) (LRR A)	A 1 ,
Primary Inc Surfac High W Satura Water Sedime Drift De Algal N Iron De Surfac	drology Indicators dicators (minimum of e Water (A1) Vater Table (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) Vat or Crust (B4) eposits (B5)	l Imagery (E	Water-S (except Salt Cru Aquatic Hydroge Oxidized Presend Recent Stunted	tained Le MLRA 1 st (B11) Invertebren Sulfide Rhizosphe of Red Iron Redu or Stress	ates (B13) Odor (C1 neres on Livuced Iron (uction in Ti	d 4B) ving Roots (C4) Iled Soils (D1) (LRF	s (C3) (C6)	Wate 2, 4 Drain Dry Sature Geometric Share FAC	cer-Stained Leaves (B9) (MLR. A, and 4B) inage Patterns (B10) -Season Water Table (C2) uration Visible on Aerial Imagery omorphic Position (D2) illow Aquitard (D3) C-Neutral Test (D5)	A 1 ,
Primary Inc Surface High W Satura Water Sedime Drift De Algal N Iron De Surface Inunda Sparsel	drology Indicators dicators (minimum of e Water (A1) Vater Table (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) Vat or Crust (B4) eposits (B5) e Soil Cracks (B6) tion Visible on Aeria y Vegetated Concave S	l Imagery (E	Water-S (except Salt Cru Aquatic Hydroge Oxidized Presend Recent Stunted	tained Le MLRA 1 st (B11) Invertebren Sulfide Rhizosphe of Red Iron Redu or Stress	ates (B13) Odor (C1 heres on Livuced Iron (action in Ti	d 4B) ving Roots (C4) Iled Soils (D1) (LRF	s (C3) (C6)	Wate 2, 4 Drain Dry Sature Geometric Share FAC	cer-Stained Leaves (B9) (MLR. A, and 4B) inage Patterns (B10) -Season Water Table (C2) uration Visible on Aerial Imagery omorphic Position (D2) -Season Water Table (D3) -Neutral Test (D5) -Seed Ant Mounds (D6) (LRR A)	A 1 ,
Primary Inc Surfac High W Satura Water Sedime Drift De Algal N Iron De Surfac Inunda Sparsel	drology Indicators dicators (minimum of e Water (A1) Vater Table (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) Vat or Crust (B4) eposits (B5) e Soil Cracks (B6) tion Visible on Aeria y Vegetated Concave servations:	l Imagery (E Surface (B8)	Water-S (except Salt Cru Aquatic Hydroge Oxidized Presenc Recent Stunted Other (E	tained Let MLRA 1 st (B11) Invertebre en Sulfide Rhizosphe e of Redi Iron Redu or Stress explain in	ates (B13) Odor (C1 heres on Livuced Iron (action in Ti led Plants Remarks)	d 4B)) ving Roots (C4) Iled Soils (D1) (LRF	(C6) (R A)	Wat 2, 4 Dra Dry Satu Gec Sha FAC Rais	cer-Stained Leaves (B9) (MLR. A, and 4B) inage Patterns (B10) -Season Water Table (C2) uration Visible on Aerial Imagery omorphic Position (D2) Illow Aquitard (D3) C-Neutral Test (D5) sed Ant Mounds (D6) (LRR A) st Heave Hummocks (D7)	A 1 ,
Primary Inc Surfac High W Satura Water Sedime Drift De Algal N Iron De Surfac Inunda Sparsel Field Obse Surface Wa	drology Indicators dicators (minimum of e Water (A1) Vater Table (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) Vat or Crust (B4) eposits (B5) e Soil Cracks (B6) tion Visible on Aeria y Vegetated Concave s ervations: ater Present?	I Imagery (E Surface (B8) Yes	Water-S (except Salt Cru Aquatic Hydroge Oxidized Presenc Recent Stunted Other (E	tained Let MLRA 1 st (B11) Invertebren Sulfide Rhizosphe of Redi Iron Redu or Stress Explain in	ates (B13) Odor (C1 heres on Livuced Iron (action in Ti hed Plants Remarks) Depth (in	d 4B)) ving Roots (C4) Iled Soils (D1) (LRF	(C6) (RA)	Wat 2, 4 Dra Dry Satu Gec Sha FAC Rais	cer-Stained Leaves (B9) (MLR. A, and 4B) inage Patterns (B10) -Season Water Table (C2) uration Visible on Aerial Imagery omorphic Position (D2) -Season Water Table (D3) -Neutral Test (D5) -Seed Ant Mounds (D6) (LRR A)	A 1 ,
Primary Inc Surfac High W Satura Water Sedime Drift De Algal N Iron De Surfac Inunda Sparsel Field Obse Surface Water Table	drology Indicators dicators (minimum of e Water (A1) Vater Table (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) Vat or Crust (B4) eposits (B5) e Soil Cracks (B6) tion Visible on Aeria y Vegetated Concave s ervations: ater Present? le Present?	I Imagery (E Surface (B8) Yes Yes	Water-S (except Salt Cru Aquatic Hydroge Oxidized Presenc Recent Stunted Other (E	tained Let MLRA 1 st (B11) Invertebren Sulfide Rhizosphe of Redulation Redulation Stress Explain in X X	ates (B13) Odor (C1 heres on Li uced Iron (action in Ti hed Plants Remarks) Depth (ir Depth (ir	d 4B)) ving Roots (C4) Illed Soils (D1) (LRF	(C6) (R A) >20" >20"	Wat 2, 4 Dra Dry Satu Gec Sha FAC Rais Fros	cer-Stained Leaves (B9) (MLR. A, and 4B) inage Patterns (B10) -Season Water Table (C2) uration Visible on Aerial Imagery omorphic Position (D2) illow Aquitard (D3) C-Neutral Test (D5) sed Ant Mounds (D6) (LRR A) st Heave Hummocks (D7)	A 1 ,
Primary Inc Surfac High W Satura Water Sedime Drift De Algal N Iron De Surfac Inunda Sparsel Field Obse Surface Water Tabl Saturation	drology Indicators dicators (minimum of e Water (A1) Vater Table (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) Vater Crust (B4) eposits (B5) e Soil Cracks (B6) tion Visible on Aeria y Vegetated Concave servations: ater Present? Present?	I Imagery (E Surface (B8) Yes	Water-S (except Salt Cru Aquatic Hydroge Oxidized Presenc Recent Stunted Other (E	tained Let MLRA 1 st (B11) Invertebren Sulfide Rhizosphe of Redi Iron Redu or Stress Explain in	ates (B13) Odor (C1 heres on Livuced Iron (action in Ti hed Plants Remarks) Depth (in	d 4B)) ving Roots (C4) Illed Soils (D1) (LRF	(C6) (RA)	Wat 2, 4 Dra Dry Satu Gec Sha FAC Rais	cer-Stained Leaves (B9) (MLR. A, and 4B) inage Patterns (B10) -Season Water Table (C2) uration Visible on Aerial Imagery omorphic Position (D2) -Season Water Table (C2) uration Visible on Aerial Imagery omorphic Position (D2) -Neutral Test (D3) -Seed Ant Mounds (D6) (LRR A) st Heave Hummocks (D7)	A 1 ,
Primary Inc Surfac High W Satura Water Sedime Drift De Algal N Iron De Surface Inunda Sparsel Field Obse Surface Water Tabl Saturation (includes c	drology Indicators dicators (minimum of 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) tion Visible on Aeria y Vegetated Concave servations: ater Present? Present? papillary fringe)	I Imagery (E Surface (B8) Yes Yes Yes	Water-S (except Salt Cru Aquatic Hydroge Oxidized Presenc Recent Stunted Other (E	tained Let MLRA 1 st (B11) Invertebrien Sulfide Rhizosphere of Redulation Reduction Stress Explain in XXX	ates (B13) Odor (C1 neres on Liveced Iron (action in Ti sed Plants Remarks) Depth (in Depth (in	d 4B)) ving Roots (C4) Illed Soils (D1) (LRF	(C6) (R A) >20" >20" >20"	Wat 2, 4 Dra Dry- Satu Gec Sha FAC Rais Fros	cer-Stained Leaves (B9) (MLR. A, and 4B) inage Patterns (B10) -Season Water Table (C2) uration Visible on Aerial Imagery morphic Position (D2) Illow Aquitard (D3) C-Neutral Test (D5) sed Ant Mounds (D6) (LRR A) st Heave Hummocks (D7) etland Hydrology Present?	A 1 ,
Primary Inc Surfac High W Satura Water Sedime Drift De Algal N Iron De Surfac Inunda Sparsel Field Obse Surface Water Tabl Saturation (includes c	drology Indicators dicators (minimum of e Water (A1) Vater Table (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) Vater Crust (B4) eposits (B5) e Soil Cracks (B6) tion Visible on Aeria y Vegetated Concave servations: ater Present? Present?	I Imagery (E Surface (B8) Yes Yes Yes	Water-S (except Salt Cru Aquatic Hydroge Oxidized Presenc Recent Stunted Other (E	tained Let MLRA 1 st (B11) Invertebrien Sulfide Rhizosphere of Redulation Reduction Stress Explain in XXX	ates (B13) Odor (C1 neres on Liveced Iron (action in Ti sed Plants Remarks) Depth (in Depth (in	d 4B)) ving Roots (C4) Illed Soils (D1) (LRF	(C6) (R A) >20" >20" >20"	Wat 2, 4 Dra Dry- Satu Gec Sha FAC Rais Fros	cer-Stained Leaves (B9) (MLR. A, and 4B) inage Patterns (B10) -Season Water Table (C2) uration Visible on Aerial Imagery morphic Position (D2) Illow Aquitard (D3) C-Neutral Test (D5) sed Ant Mounds (D6) (LRR A) st Heave Hummocks (D7) etland Hydrology Present?	A 1 ,
Primary Inc Surfac High W Satura Water Sedime Drift De Algal N Iron De Surface Inunda Sparsel Field Obse Surface Water Tabl Saturation (includes c	drology Indicators dicators (minimum of 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) tion Visible on Aeria y Vegetated Concave servations: ater Present? Present? papillary fringe)	I Imagery (E Surface (B8) Yes Yes Yes	Water-S (except Salt Cru Aquatic Hydroge Oxidized Presenc Recent Stunted Other (E	tained Let MLRA 1 st (B11) Invertebrien Sulfide Rhizosphere of Redulation Reduction Stress Explain in XXX	ates (B13) Odor (C1 neres on Liveced Iron (action in Ti sed Plants Remarks) Depth (in Depth (in	d 4B)) ving Roots (C4) Illed Soils (D1) (LRF	(C6) (R A) >20" >20" >20"	Wat 2, 4 Dra Dry- Satu Gec Sha FAC Rais Fros	cer-Stained Leaves (B9) (MLR. A, and 4B) inage Patterns (B10) -Season Water Table (C2) uration Visible on Aerial Imagery morphic Position (D2) Illow Aquitard (D3) C-Neutral Test (D5) sed Ant Mounds (D6) (LRR A) st Heave Hummocks (D7) etland Hydrology Present?	A 1 ,
Primary Inc Surfac High W Satura Water Sedime Drift De Algal N Iron De Surfac Inunda Sparsel Field Obse Sutrace Water Tabl Saturation (includes c	drology Indicators dicators (minimum of 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) tion Visible on Aeria y Vegetated Concave servations: ater Present? Present? papillary fringe)	I Imagery (E Surface (B8) Yes Yes Yes	Water-S (except Salt Cru Aquatic Hydroge Oxidized Presenc Recent Stunted Other (E	tained Let MLRA 1 st (B11) Invertebrien Sulfide Rhizosphere of Redulation Reduction Stress Explain in XXX	ates (B13) Odor (C1 neres on Liveced Iron (action in Ti sed Plants Remarks) Depth (in Depth (in	d 4B)) ving Roots (C4) Illed Soils (D1) (LRF	(C6) (R A) >20" >20" >20"	Wat 2, 4 Dra Dry- Satu Gec Sha FAC Rais Fros	cer-Stained Leaves (B9) (MLR. A, and 4B) inage Patterns (B10) -Season Water Table (C2) uration Visible on Aerial Imagery morphic Position (D2) Illow Aquitard (D3) C-Neutral Test (D5) sed Ant Mounds (D6) (LRR A) st Heave Hummocks (D7) etland Hydrology Present?	A 1 ,
Primary Inc Surface High W Satura Water Sedime Drift De Algal N Iron De Surface Inunda Sparsel Field Obse Surface Water Tabl Saturation (includes c Describe R	drology Indicators dicators (minimum of 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) tion Visible on Aeria y Vegetated Concave servations: ater Present? Present? papillary fringe)	I Imagery (E Surface (B8) Yes Yes Yes Mes —	Water-S (except Salt Cru Aquatic Hydroge Oxidized Presenc Recent Stunted Other (E	tained Let MLRA 1 st (B11) Invertebrien Sulfide Rhizosphere of Redulation Reduction Stress Explain in XXX	ates (B13) Odor (C1 neres on Liveced Iron (action in Ti sed Plants Remarks) Depth (in Depth (in	d 4B)) ving Roots (C4) Illed Soils (D1) (LRF	(C6) (R A) >20" >20" >20"	Wat 2, 4 Dra Dry- Satu Gec Sha FAC Rais Fros	cer-Stained Leaves (B9) (MLR. A, and 4B) inage Patterns (B10) -Season Water Table (C2) uration Visible on Aerial Imagery morphic Position (D2) Illow Aquitard (D3) C-Neutral Test (D5) sed Ant Mounds (D6) (LRR A) st Heave Hummocks (D7) etland Hydrology Present?	A 1 ,
Primary Ind Surface High W Satura Water Sedime Drift De Algal M Iron De Surface Inunda Sparsel Field Obse Surface Water Tabl Saturation (includes c Describe R	drology Indicators dicators (minimum of e Water (A1) Vater Table (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) Vat or Crust (B4) eposits (B5) e Soil Cracks (B6) tion Visible on Aeria y Vegetated Concave s ervations: ater Present? le Present? Present? apillary fringe) decorded Data (streat	I Imagery (E Surface (B8) Yes Yes Yes Mes —	Water-S (except Salt Cru Aquatic Hydroge Oxidized Presenc Recent Stunted Other (E	tained Let MLRA 1 st (B11) Invertebrien Sulfide Rhizosphere of Redulation Reduction Stress Explain in XXX	ates (B13) Odor (C1 neres on Liveced Iron (action in Ti sed Plants Remarks) Depth (in Depth (in	d 4B)) ving Roots (C4) Illed Soils (D1) (LRF	(C6) (R A) >20" >20" >20"	Wat 2, 4 Dra Dry- Satu Gec Sha FAC Rais Fros	cer-Stained Leaves (B9) (MLR. A, and 4B) inage Patterns (B10) -Season Water Table (C2) uration Visible on Aerial Imagery morphic Position (D2) Illow Aquitard (D3) C-Neutral Test (D5) sed Ant Mounds (D6) (LRR A) st Heave Hummocks (D7) etland Hydrology Present?	A 1 ,

Project/Site: TEWS OWS 6	City/	County: King		Sampling Date: 3/11/2022				
Applicant/Owner: ADCOMM		State: WA		Sampling Point: OWS 6 (15)				
Investigator(s): Patrick Togher and Mallory Phillips	Section	n, Township, Ra	ange: S33	; T26N; R8E				
Landform (hillslope, terrace, etc.): Terrace	Lo	ocal relief (con	cave, conve	x, none): Convex Slope (%): 0				
Subregion (LRR): A		Lat: 4	7.701074	Long: -121.785956 Datum: WGS84				
Soil Map Unit Name: Typic Vitrixerands			NW	l Classification: Upland				
Are climatic/hydrologic conditions of the site typical for	this time of	the year?	Yes X	No (If no, explain in remarks)				
Are vegetation , Soil , or Hydrology		significantly	disturbed?	Are "Normal Circumstances"				
Are vegetation , Soil , or Hydrology		naturally pro	blematic?	present? (If needed, explain any answers in remarks) Yes X No				
SUMMARY OF FINDINGS - Attach site map s		mpling point	location, t					
Hydrophytic vegetation present? Yes		No X						
Hydric soil present? Yes		No X		impled area a wetland?				
Indicators of wetland hydrology present? Yes		No X	within	Yes No X				
Remarks: Plot is located about 30-feet east of wetlan	d point a2 I	Inland plot for	WI A					
Tremaines. The is located about 50-reet east of wellar	u point az. 1	opiana piot ioi	VV L / \.					
VEGETATION Use scientific names of plant				I Deviloper Test Westerbest				
Trop Stratum (Diet size: 20'r.)	Absolute % Cover	Dominant	Indicator	Dominance Test Worksheet				
<u>Tree Stratum</u> (Plot size: <u>30' r</u>) 1. Tsuga heterophylla	% Cover	Species Y	Status FACU	Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)				
2.			TACO					
3.				Total Number of Dominant Species Across all Strata: 4 (B)				
4.				Percent of Dominant Species that				
	20 =	= Total Cover		are OBL, FACW, or FAC: 25% (A/B)				
Sapling/Shrub Stratum (Plot size: 30' r)								
1. Vaccinium ovatum	15	Y	FACU	Prevalence Index Worksheet				
2.				Total % Cover of: Multiply by:				
3.				OBL species0x 1 =0				
4				FACW species 0 x 2 = 0				
5				FAC species 10 x 3 = 30				
Howh Chrotisms (Diet size) Fig.)	15=	= Total Cover		FACU species 60 x 4 = 240 UPL species 0 x 5 = 0				
Herb Stratum (Plot size: 5' r) 1. Polystichum munitum	25	Y	FACU	UPL species $0 \times 5 = 0$ Column totals $70 \times (A) \times 270 \times (B)$				
2.			TACO	Prevalence Index = B/A = 3.86				
3.				Trevalence mack = B// = 0.00				
4.				Hydrophytic Vegetation Indicators:				
5.		_		1 - Rapid Test for Hydrophytic Vegetation				
6.				2 - Dominance Test is >50%				
7.				3 - Prevalence Index is ≤3.0				
8.				4 - Morphological Adaptations* (Provide supporting				
9				data in Remarks or on a separate sheet)				
10.				5 - Wetland Non-Vascular Plants ¹				
11				Problematic Hydrophytic Vegetation ¹				
Monday Vine Stratum (Diet size) 201 m	25 =	= Total Cover		(Explain)				
Woody Vine Stratum (Plot size: 30' r) 1. Rubus spectabilis	10	Y	FAC	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic				
2.	10		170					
	10 =	Total Cover		Hydrophytic vegetation				
% Bare Ground in Herb Stratum 75				present? Yes No X				
Remarks:				<u> </u>				
Dominant species does not satisfy hydrophytic vegetal	ion criteria							
Dominiant species does not satisfy flydrophlytic vegetal	ion ontena.							

SOIL Sampling Point: OWS 6 (15)

Profile Des	cription: (Describ	e to the dep	th needed to d	documen	t the indic	ator or	confirm	n the abs	ence of indicato	ors.)
Depth	Matrix			dox Feat						
(Inches)	Color (moist)	% (Color (moist)	<u>%</u>	Type ¹	Loc ²	Tex	ture	Rema	arks
2-0	Duff									
0-23+	7.5YR 2.5/3	100					L		Rotted	roots
						,				
¹ Type: C=C	oncentration, D=Depl	etion, RM=Re	duced Matrix, C	S=Cover	ed or Coate	ed Sand	Grains.	² Loca	tion: PL=Pore Lini	ng, M=Matrix.
Hydric Soi	I Indicators: (Appli	cable to all L	RRs, unless	otherwis	e noted.)			Indicato	ors for Problema	tic Hydric Soils ³ :
Histoso	` '		Sandy R	Redox (S5	5)				n Muck (A10)	
	pipedon (A2)			Matrix (S	•				Parent Material	` '
	listic (A3)			-	eral (F1) (E	xcept M	RLA 1)		y Shallow Dark S	
	en Sulfide (A4) ed Below Dark Surfa	oo (A11)		-	atrix (F2)			Oth	er (Explain in Rer	narks
	oark Surface (A12)	Ce (ATT)		d Matrix ()ark Surfa	•			3 _{Indiaa}	tore of budronbut	ic vegetation and
	Mucky Mineral (S1)				ırface (F7)					pe present, unless
	Gleyed Matrix (S4)			epressio	, ,			Woulding	disturbed or pro	
Restrictive	Layer (if present):									
Type:	Layer (ii present).									
Depth (inch	es):					Hydri	c Soil F	Present?	Yes	No X
Remarks:	-									
	t satisfy hydric soils	criteria.								
HYDROLC										
Wetland Hy	drology Indicators									
Primary Inc	icators (minimum of	one is requir	ed; check all the	nat apply				Seconda	ary Indicators (2 o	or more required)
	e Water (A1)				aves (B9)				er-Stained Leave	s (B9) (MLRA 1 ,
	ater Table (A2)				2, 4A, an	d 4B)			A, and 4B)	
	ion (A3) Marks (B1)		Salt Cru		otoc (P12)				inage Patterns (B -Season Water Ta	
	ent Deposits (B2)				ates (B13) Odor (C1)					Aerial Imagery (C9)
	eposits (B3)				neres on Liv		ts (C3)		morphic Position	, ,
	lat or Crust (B4)				uced Iron (-	, ,		llow Aquitard (D3	` '
	posits (B5)				iction in Ti				C-Neutral Test (D	•
	e Soil Cracks (B6)				ed Plants	(D1) (LF	RR A)		sed Ant Mounds (
	tion Visible on Aeria / Vegetated Concave 9)Other (E	xpiain in	Remarks)			FIOS	st Heave Hummo	CKS (D7)
	, vogotatou comouvo t									
Field Obse		V	NI-	.,	D = 41- /:	-1 \.		l		
Surface Wa Water Tabl	iter Present?	Yes Yes	No No	X	Depth (in Depth (in	-	>23"	_ W	etland Hydrolog	y Present?
Saturation		Yes	No	X	Depth (in	•	>23"	- Ye	ie.	No X
	apillary fringe)				1 \	,		- '`		
	ecorded Data (strea	m gauge, mo	nitoring well, a	erial phot	tos, previo	us inspe	ctions),	if availab	le:	
		-		-		•	•			
Remarks:			4							
ino indicato	rs of wetland hydrol	ogy are prese	ent.							

Project/Site: TEWS OWS 6	City/County: King		Sampling Date: 3/11/2022
Applicant/Owner: ADCOMM	State: WA		Sampling Point: OWS 6 (14)
Investigator(s): Patrick Togher and Mallory Phillips	Section, Township, Ra	ange: <u>S33;</u>	T26N; R8E
Landform (hillslope, terrace, etc.): Swale	Local relief (cond	cave, convex	, none): Concave Slope (%): 0
Subregion (LRR): A	Lat: _4	7.701018	Long:121.786035
Soil Map Unit Name: Typic Vitrixerands		NWI	Classification: PEM
Are climatic/hydrologic conditions of the site typical for	this time of the year?	Yes X	No (If no, explain in remarks)
Are vegetation, Soil, or Hydrology	significantly	disturbed?	Are "Normal Circumstances"
Are vegetation , Soil , or Hydrology	naturally pro	olematic?	present? (If needed, explain any answers in remarks) Yes X No
SUMMARY OF FINDINGS - Attach site map sh	nowing sampling point	location, tra	
Hydrophytic vegetation present? Yes	X No		
Hydric soil present? Yes	X No		npled area wetland?
Indicators of wetland hydrology present? Yes	X No	within a	Yes X No
Remarks: Plot is located about 10-feet southeast of w	vetland point a3. Wetland A	wet plot.	
VEGETATION III. a significant and a significant			
VEGETATION Use scientific names of plants		L. P. L.	Dominance Test Worksheet
<u>Tree Stratum</u> (Plot size: 30' r)	Absolute Dominant % Cover Species	Indicator Status	
1.	70 COVOI OPOGICO	Otatao	Number of Dominant Species that are OBL, FACW, or FAC: 2 (A)
2.			Total Number of Dominant
3.			Species Across all Strata: 2 (B)
4.			Percent of Dominant Species that
	0 = Total Cover		are OBL, FACW, or FAC: 100% (A/B)
Sapling/Shrub Stratum (Plot size: 30' r)			
1			Prevalence Index Worksheet
2			Total % Cover of: Multiply by:
3			OBL species 0 x 1 = 0 FACW species 0 x 2 = 0
4 5.			FAC species 25 x 3 = 75
o	0 = Total Cover		FACU species $0 \times 4 = 0$
Herb Stratum (Plot size: 5' r)			UPL species 0 x 5 = 0
1. Agrostis stolonifera	15 Y	FAC	Column totals 25 (A) 75 (B)
2.			Prevalence Index = B/A = 3.00
3.			
4			Hydrophytic Vegetation Indicators:
5			1 - Rapid Test for Hydrophytic Vegetation
6.			X 2 - Dominance Test is >50%
7			3 - Prevalence Index is ≤3.0 4 - Morphological Adaptations* (Provide supporting
8. 9.			data in Remarks or on a separate sheet)
10.			5 - Wetland Non-Vascular Plants ¹
11.			Problematic Hydrophytic Vegetation ¹
	15 = Total Cover		(Explain)
Woody Vine Stratum (Plot size: 30' r)			¹Indicators of hydric soil and wetland hydrology must be
1. Rubus spectabilis	10 Y	FAC	present, unless disturbed or problematic
2.			Hydrophytic
	10 = Total Cover		vegetation
% Bare Ground in Herb Stratum 85			present?
Remarks:			
Polystichum munitum on the upland edges. Hydrophyt	ic vegetation is dominant.		

SOIL Sampling Point: OWS 6 (14)

Profile Des	scription: (Describ	e to the depth	needed to d	locumen	t the indic	ator or	confirm th	e absence of indicators.)
Depth	Matrix			dox Feat	ures			
(Inches)	Color (moist)	<u>%</u> Co	lor (moist)	%	Type ¹	Loc ²	Texture	
0-16	10YR 4/2	95 1	0YR 4/4	5	C	M	SCL	5mm
16-20+	10YR 4/2	95 1	0YR 4/4	5	С	М	SCL	10-20mm
	_		_					
								_
¹ Type: C=C	oncentration, D=Depl	etion. RM=Redu	ıced Matrix. C	S=Covere	ed or Coate	d Sand C	Grains.	² Location: PL=Pore Lining, M=Matrix.
	I Indicators: (Appli							dicators for Problematic Hydric Soils ³ :
Histoso				edox (S5	•			2 cm Muck (A10)
Histic E	pipedon (A2)	•		Matrix (S	,			Red Parent Material (TF2)
	listic (A3)	·		-	eral (F1) (E :	xcept MF	RLA 1)	Very Shallow Dark Surface (TF12)
	en Sulfide (A4)			Sleyed Ma	. ,			Other (Explain in Remarks
	ed Below Dark Surfa	ce (A11)	X Depleted				3.	
	Oark Surface (A12) Mucky Mineral (S1)			ark Surfa	ace (F6) ırface (F7)			Indicators of hydrophytic vegetation and
	Gleyed Matrix (S4)	-		epression	. ,		W	etland hydrology must be present, unless disturbed or problematic
		-		оргооого	110 (1 0)			distarbed of problematio
	Layer (if present):							
Type: Depth (inch	162).					Hydrid	Soil Pres	sent? Yes X No
						Hydric		
Remarks:	16.1 101							
Hydrogen s	sulfide at 2".							
HYDROLO	GY							
Wetland Hy	drology Indicators							
1	licators (minimum of	one is required	h check all th	nat annly			Se	econdary Indicators (2 or more required)
	e Water (A1)	One is required			aves (B9)			Water-Stained Leaves (B9) (MLRA 1,
	ater Table (A2)	-			2, 4A, and	d 4B)		2, 4A, and 4B)
X Satura			Salt Crus		_,,	,		Drainage Patterns (B10)
Water	Marks (B1)			. ,	ates (B13)			Dry-Season Water Table (C2)
	ent Deposits (B2)				Odor (C1)			_ Saturation Visible on Aerial Imagery (C9)
	eposits (B3)				eres on Liv	-	s (C3)	Geomorphic Position (D2)
	lat or Crust (B4) posits (B5)	-			uced Iron (0 action in Till	•	(C6)	_ Shallow Aquitard (D3) FAC-Neutral Test (D5)
	e Soil Cracks (B6)	•			ed Plants (Raised Ant Mounds (D6) (LRR A)
	tion Visible on Aerial	Imagery (B7)			Remarks)	. / (′ <u> </u>	Frost Heave Hummocks (D7)
Sparsel	y Vegetated Concave S	Surface (B8)						
Field Obse	rvations:							
	ater Present?	Yes x	No		Depth (in	ches):	3-4"	Wetland Hydrology Present?
Water Tabl	e Present?	Yes X	No		Depth (in		Surface	
Saturation		Yes X	No		Depth (in	ches):	Surface	Yes X No
	apillary fringe)		,					1
Describe R	ecorded Data (strea	m gauge, moni	toring well, a	erial phot	tos, previou	us insped	ctions), if a	vallable:
Remarks:								
	ace water present.							
	•							

Project/Site: TEWS OWS 6	City/	County: King		Sampling Date: 3/11/2022
Applicant/Owner: ADCOMM		State: WA		Sampling Point: OWS 6 (33)
Investigator(s): Patrick Togher and Mallory Phillips	Section	, Township, Ra	nge: S33;	T26N; R8E
Landform (hillslope, terrace, etc.): Depression w/in te	rrace Lo	ocal relief (conc	ave, convex	, none): Concave Slope (%): 0
Subregion (LRR): A		Lat: <u>47</u>	7.700736	Long: <u>-121.785518</u> Datum: WGS84
Soil Map Unit Name: Typic Vitrixerands			NWI	Classification: PEM
Are climatic/hydrologic conditions of the site typical for	this time of	the year?	Yes X	No (If no, explain in remarks)
Are vegetation, Soil, or Hydrology		significantly o	listurbed?	Are "Normal Circumstances"
Are vegetation , Soil , or Hydrology		naturally prob	lematic?	present? (If needed, explain any answers in remarks) Yes X No
SUMMARY OF FINDINGS - Attach site map sh	owing sar	mpling point l	ocation, tra	
Hydrophytic vegetation present? Yes	Х	No		
Hydric soil present? Yes	<u> </u>	No		mpled area wetland?
Indicators of wetland hydrology present? Yes	X	No	within a	Yes X No
Remarks: Plot located about 10-feet east of wetland	point b15. V	Vetland B wet r	olot.	
Tromaine.	point 5 10. 1	rodana B worp	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
VEGETATION III : ""				
VEGETATION Use scientific names of plants				Deminara Test Wedeboot
<u>Tree Stratum</u> (Plot size: 30' r)	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet
<u>Tree Stratum</u> (Plot size: 30' r) 1. <i>Tsuga heterophylla</i>	50	Y	FACU	Number of Dominant Species that are OBL, FACW, or FAC: 2 (A)
2.		<u> </u>	17.00	
3.				Total Number of Dominant Species Across all Strata: 3 (B)
4.				Percent of Dominant Species that
	50 =	Total Cover	-	are OBL, FACW, or FAC: 67% (A/B)
Sapling/Shrub Stratum (Plot size: 30' r)				
1				Prevalence Index Worksheet
2		-		Total % Cover of: Multiply by:
3				OBL species 50 x 1 = 50
4				FACW species 0 x 2 = 0
5		Total Cover		FAC species 50 x 3 = 150
Herb Stratum (Plot size: 5' r)	=	- Total Cover		FACU species 50 x 4 = 200 UPL species 0 x 5 = 0
1. Carex obnupta	50	Υ	OBL	Column totals 150 (A) 400 (B)
2.			OBL	Prevalence Index = B/A = 2.67
3.				
4.				Hydrophytic Vegetation Indicators:
5.				1 - Rapid Test for Hydrophytic Vegetation
6.				X 2 - Dominance Test is >50%
7				3 - Prevalence Index is ≤3.0
8				4 - Morphological Adaptations* (Provide supporting data in Remarks or on a separate sheet)
9				· · · · · · · · · · · · · · · · · · ·
10.				5 - Wetland Non-Vascular Plants ¹
11		Total Caver		Problematic Hydrophytic Vegetation ¹
Woody Vine Stratum (Plot size: 30' r)	50=	Total Cover		(Explain)
Woody Vine Stratum (Plot size: 30' r) 1. Rubus spectabilis	50	Υ	FAC	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
2.		<u> </u>	170	
<u>-</u>	50 =	Total Cover		Hydrophytic vegetation
% Bare Ground in Herb Stratum 50				present? Yes X No
Remarks:				
On hummocks: 10% G. shallon, 5% P. munitum, 15% F	R. ursinus	Hydrophytic ve	getation is d	ominant.
2	4.040.	, a. oprijuo 10	55.G.1511 10 U	

SOIL Sampling Point: OWS 6 (33)

Profile Des	scription: (Describe	e to the d	-			ator or o	confirm t	he absence of indicators.)
Depth	Matrix			dox Feat				
(Inches)	Color (moist)	%	Color (moist)	<u>%</u>	Type ¹	Loc ²	Textur	
0-2	10YR 2/1	100					Loam	Organic matter present
2-6	10YR 2/2	97	10YR 3/2	3	С	M	Loam	Organic matter present
6-18	10YR 5/2	93	10YR 4/3	7	С	M	SiCL	
18-20+	10YR 5/1	90	10YR 4/4	10	C	M	GSiCL	
			_					
								_
¹ Type: C=C	oncentration, D=Depl	etion, RM=	Reduced Matrix, C	S=Cover	ed or Coate	ed Sand G	Grains.	² Location: PL=Pore Lining, M=Matrix.
Hydric Soi	I Indicators: (Appli	cable to a	III LRRs, unless o	therwis	e noted.)		lr	ndicators for Problematic Hydric Soils ³ :
Histoso	` '		Sandy R	-	-		_	2 cm Muck (A10)
	Epipedon (A2)		Stripped	•	•			Red Parent Material (TF2)
	Histic (A3)			-	eral (F1) (E	xcept MF	RLA 1) _	Very Shallow Dark Surface (TF12)
	jen Sulfide (A4)	aa (A11)		-	atrix (F2)		_	Other (Explain in Remarks
	ed Below Dark Surfa Dark Surface (A12)	ce (ATT)	X Depleted					31 12 14 15 15 15 15 15 15 15 15 15 15 15 15 15
	Mucky Mineral (S1)				urface (F7)			³ Indicators of hydrophytic vegetation and vetland hydrology must be present, unless
	Gleyed Matrix (S4)		Redox D		. ,		V	disturbed or problematic
	Layer (if present):				(, ,	Ī		
Type:	Layer (II present).							
Depth (inch	nes):					Hvdric	Soil Pre	esent? Yes X No
	, <u> </u>					, ,		<u> </u>
Remarks:	vulfido propont et 0"							
nyurogen s	sulfide present at 2".							
HYDROLO	GY							
Wetland Hy	drology Indicators							
Primary Inc	licators (minimum of	one is red	quired; check all th	at apply			<u>s</u>	econdary Indicators (2 or more required)
X Surface	e Water (A1)		Water-St	ained Le	aves (B9)			Water-Stained Leaves (B9) (MLRA 1,
X High W	/ater Table (A2)		(except	MLRA 1	, 2, 4A, an	d 4B)		2, 4A, and 4B)
X Satura			Salt Crus					Drainage Patterns (B10)
	Marks (B1)				ates (B13)		_	Dry-Season Water Table (C2)
	ent Deposits (B2)				Odor (C1)		- (OO) —	Saturation Visible on Aerial Imagery (C9)
	eposits (B3) lat or Crust (B4)				neres on Liv uced Iron (-	s (C3)	Geomorphic Position (D2) Shallow Aquitard (D3)
	eposits (B5)				uction in Ti	,	(C6)	FAC-Neutral Test (D5)
	e Soil Cracks (B6)				ed Plants			Raised Ant Mounds (D6) (LRR A)
	tion Visible on Aerial	Imagery			Remarks)	(D) (=: (:		Frost Heave Hummocks (D7)
	y Vegetated Concave S		` ' `	•	,		_	
Field Obse	ervations:							
	ater Present?	Yes	X No		Depth (in	ches):	1"	Wetland Hydrology Present?
Water Tabl		Yes	X No		Depth (in	- : - : -	Surface	
Saturation	Present?	Yes	X No		Depth (in		Surface	Yes X No
	apillary fringe)							
Describe R	ecorded Data (strea	m gauge,	monitoring well, a	erial pho	tos, previo	us inspec	ctions), if	available:
Remarks:								
	ch of surface water	present						

Project/Site: TEWS OWS 6	City/	County: King		Sampling Date: 3/11/2022				
Applicant/Owner: ADCOMM		State: WA		Sampling Point: OWS 6 (34)				
Investigator(s): Patrick Togher and Mallory Phillips	Section	i, Township, Ra	ange: S33	, T26N, R8E				
Landform (hillslope, terrace, etc.): Hillslope	Lo	ocal relief (cond	cave, conve	x, none): Concave Slope (%): 5				
Subregion (LRR): A		Lat: _4	7.700812	Long: -121.785575 Datum: WGS84				
Soil Map Unit Name: Typic Vitrixerands			NWI	Classification: Upland				
Are climatic/hydrologic conditions of the site typical for	this time of	the year?	Yes X	No (If no, explain in remarks)				
Are vegetation , Soil , or Hydrology		significantly	disturbed?	Are "Normal Circumstances"				
Are vegetation , Soil , or Hydrology		naturally prol	olematic?	present? (If needed, explain any answers in remarks) Yes X No				
SUMMARY OF FINDINGS - Attach site map s	howing sa	mpling point	location, tr					
Hydrophytic vegetation present? Yes		No X						
Hydric soil present? Yes		No X		impled area a wetland?				
Indicators of wetland hydrology present? Yes		No X	within a	Yes No X				
Remarks: Plot located about 15-feet northwest of we	tland point h	16 Wetland R	unland plot					
Tremains. The located about 10-lest northwest of we	tiana point t	710. Welland B	upiaria piot.					
VEGETATION Use scientific names of plant				I Barriago Tark Wadahad				
Tree Stratum (Plot size: 30' r)	Absolute % Cover	Dominant	Indicator	Dominance Test Worksheet				
<u>Tree Stratum</u> (Plot size: <u>30' r</u>) 1. Tsuga heterophylla	% Cover	Species Y	Status FACU	Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)				
2. Acer circinatum	20		FAC					
3.		 _		Total Number of Dominant Species Across all Strata: 5 (B)				
4.				Percent of Dominant Species that				
	100 :	= Total Cover		are OBL, FACW, or FAC: 20% (A/B)				
Sapling/Shrub Stratum (Plot size: 30' r)								
1. Gualtheria shallon	15	Y	UPL	Prevalence Index Worksheet				
2. Vaccinium ovatum	2	N	FACU	Total % Cover of: Multiply by:				
3.				OBL species 0 x 1 = 0				
4				FACW species 0 x 2 = 0				
5				FAC species 25 x 3 = 75				
Horb Stratum (Diot aize: 5'r)	17:	= Total Cover		FACU species 142 x 4 = 568 UPL species 15 x 5 = 75				
Herb Stratum (Plot size: 5' r) 1. Polystichum munitum	50	Υ	FACU	UPL species $15 \times 5 = 75$ Column totals $182 \times (A) \times 718 \times (B)$				
2. Blechnum spicant	5		FAC	Prevalence Index = B/A = 3.95				
3.			1710	1 Tevalence mack = B//(= 0.55				
4.				Hydrophytic Vegetation Indicators:				
5.				1 - Rapid Test for Hydrophytic Vegetation				
6.				2 - Dominance Test is >50%				
7.				3 - Prevalence Index is ≤3.0				
8.				4 - Morphological Adaptations* (Provide supporting				
9				data in Remarks or on a separate sheet)				
10				5 - Wetland Non-Vascular Plants ¹				
11				Problematic Hydrophytic Vegetation ¹				
W 1-1/5 Ob to (DL 4	55 :	Total Cover		Explain)				
Woody Vine Stratum (Plot size: 30' r) 1. Rubus ursinus	10	V	FACU	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic				
2.	10	<u> </u>	FACU					
	10 :	= Total Cover		Hydrophytic vegetation				
% Bare Ground in Herb Stratum 45		rotal Gover		present? Yes No X				
Remarks:								
	o criterio							
Dominant species do not satisfy hydrophytic vegetation	ı cınena.							

SOIL Sampling Point: OWS 6 (34)

Depth	• •	- 10 mm	in needed to d	iocument	tne inaid	ator or c	confirm	the absence of indicators.)
(Inches)	Matrix		Re	dox Featu	res			
(Inches)	Color (moist)	% (Color (moist)	%	Type ¹	Loc ²	Textu	re Remarks
0-8	10YR 3/2	100						
8-20+	10YR 3/2	99	10YR 3/3	1			GSil	2-5mm
-								
								_
¹ Type: C=C	Concentration, D=Depl	etion RM=Re	educed Matrix C	:S=Covere	d or Coate	d Sand (Grains	² Location: PL=Pore Lining, M=Matrix.
	il Indicators: (Appli					od Odna C		Indicators for Problematic Hydric Soils ³ :
Histoso				ledox (S5)				2 cm Muck (A10)
	Epipedon (A2)			Matrix (S			_	Red Parent Material (TF2)
Black I	Histic (A3)		Loamy M	lucky Mine	ral (F1) (E	xcept MF	RLA 1)	Very Shallow Dark Surface (TF12)
	gen Sulfide (A4)			Sleyed Ma			_	Other (Explain in Remarks
	ed Below Dark Surfa	ice (A11)		d Matrix (F	•			
	Dark Surface (A12)			ark Surfac	. ,			³ Indicators of hydrophytic vegetation and
	Mucky Mineral (S1)			d Dark Sur Depression				wetland hydrology must be present, unless
	Gleyed Matrix (S4)		Redox D	epression	S (FO)			disturbed or problematic
	e Layer (if present):							
Type: Depth (inch	200):					Lludeia	o Coil Dr	esent? Yes No X
						пушт	c Soil Pr	esent? Yes No X
Remarks:								
Soils do no	ot satisfy hydric soils	criteria.						
HYDROLO	ngv							
	<i>J</i> G I							
IWetland Hv								
_	drology Indicators	one is requir	radi abaak all th	act apply				Secondary Indicators (2 or more required)
Primary Inc	drology Indicators dicators (minimum of	one is requir					<u>.</u>	Secondary Indicators (2 or more required)
Primary Inc	drology Indicators dicators (minimum of e Water (A1)	one is requir	Water-S	tained Lea	, ,	4 4R)	<u> </u>	Water-Stained Leaves (B9) (MLRA 1,
Primary Ind	drology Indicators dicators (minimum of e Water (A1) Vater Table (A2)	one is requir	Water-Si	tained Lea	, ,	d 4B)	<u>.</u>	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
Primary Ind Surfac High W	drology Indicators dicators (minimum of e Water (A1) Vater Table (A2) tion (A3)	one is requir	Water-Si (except Salt Crus	tained Lea	2, 4A, and	d 4B)	: -	Water-Stained Leaves (B9) (MLRA 1,
Primary Ind Surfac High W Satura Water Sedime	drology Indicators dicators (minimum of e Water (A1) Vater Table (A2) tion (A3) Marks (B1) ent Deposits (B2)	one is requir	Water-Si (except Salt Crus Aquatic	tained Lea MLRA 1, 2 st (B11)	2, 4A, an d tes (B13)		- -	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10)
Primary Inc Surfac High W Satura Water Sedime	drology Indicators dicators (minimum of e Water (A1) Vater Table (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3)	one is requir	Water-Si (except Salt Crus Aquatic Hydroge Oxidized	tained Lea MLRA 1, 2 st (B11) Invertebra n Sulfide (Rhizosphe	2, 4A, and tes (B13) Odor (C1) eres on Liv	ring Roots	- - -	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2)
Primary Ind Surfac High W Satura Water Sedime Drift De	drology Indicators dicators (minimum of e Water (A1) Vater Table (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) Mat or Crust (B4)	one is requir	Water-Si (except Salt Crus Aquatic Hydroge Oxidized Presence	tained Lea MLRA 1, 3 st (B11) Invertebrate n Sulfide (Rhizosphe e of Reduce	2, 4A , and tes (B13) Odor (C1) eres on Liv ced Iron (ring Roots	s (C3)	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3)
Primary Inc Surfac High W Satura Water Sedime Drift De	drology Indicators dicators (minimum of e Water (A1) Vater Table (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) Mat or Crust (B4) eposits (B5)	one is requir	Water-Si (except Salt Crus Aquatic Hydroge Oxidized Presence Recent I	tained Lea MLRA 1, 2 st (B11) Invertebra on Sulfide (Rhizosphe e of Reduction Reduction	tes (B13) Odor (C1) Pres on Liv ced Iron (ction in Til	ring Roots C4) led Soils	s (C3) _	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5)
Primary Ind Surfac High W Satura Water Sedime Drift De Algal N Iron De	drology Indicators dicators (minimum of 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)		Water-Si (except Salt Crus Aquatic I Hydroge Oxidized Presence Recent I Stunted	tained Lea MLRA 1, 2 st (B11) Invertebra on Sulfide (Rhizosphe e of Reduction Reduction Reduction Reduction Reserved.	tes (B13) Odor (C1) Pres on Liv Ced Iron (Ction in Til d Plants (ring Roots C4) led Soils	s (C3) _	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
Primary Ind Surfac High W Satura Water Sedime Drift De Algal N Iron De Surfac	drology Indicators dicators (minimum of e Water (A1) Vater Table (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) Mat or Crust (B4) eposits (B5)	l Imagery (B7	Water-Si (except Salt Crus Aquatic I Hydroge Oxidized Presence Recent I Stunted	tained Lea MLRA 1, 2 st (B11) Invertebra on Sulfide (Rhizosphe e of Reduction Reduction	tes (B13) Odor (C1) Pres on Liv Ced Iron (Ction in Til d Plants (ring Roots C4) led Soils	s (C3) _	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5)
Primary Inc Surfac High W Satura Water Sedime Drift De Algal N Iron De Surfac Inunda Sparsel	drology Indicators dicators (minimum of 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 Aeria by Vegetated Concave S	l Imagery (B7	Water-Si (except Salt Crus Aquatic I Hydroge Oxidized Presence Recent I Stunted	tained Lea MLRA 1, 2 st (B11) Invertebra on Sulfide (Rhizosphe e of Reduction Reduction Reduction Reduction Reserved.	tes (B13) Odor (C1) Pres on Liv Ced Iron (Ction in Til d Plants (ring Roots C4) led Soils	s (C3) _	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
Primary Ind Surfac High W Satura Water Sedime Drift De Algal M Iron De Surfac Inunda Sparsel	drology Indicators dicators (minimum of 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) tion Visible on Aeria ly Vegetated Concave Servations:	l Imagery (B7 Surface (B8)	Water-Si (except Salt Crus Aquatic I Hydroge Oxidized Presence Recent I Stunted Other (E	tained Lea MLRA 1, 2 st (B11) Invertebra en Sulfide (Rhizosphe e of Reduct ron Reduct or Stresse xplain in F	tes (B13) Odor (C1) Peres on Liv Ced Iron (C) Stion in Til d Plants (C) Remarks)	ing Roots C4) led Soils D1) (LR	s (C3) _	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost Heave Hummocks (D7)
Primary Ind Surfac High W Satura Water Sedime Drift De Algal M Iron De Surfac Inunda Sparsel Field Obse Surface Water	drology Indicators dicators (minimum of 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 Aeria by Vegetated Concave S	l Imagery (B7	Water-Si (except Salt Crus Aquatic I Hydroge Oxidized Presence Recent I Stunted	tained Lea MLRA 1, 2 st (B11) Invertebra en Sulfide (Rhizosphe e of Reduct ron Reduct or Stresse explain in F	tes (B13) Odor (C1) Peres on Liv Ced Iron (I Cition in Til d Plants (Remarks) Depth (in	ing Roots C4) led Soils D1) (LR ches):	s (C3)	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
Primary Ind Surfac High W Satura Water Sedime Drift De Algal M Iron De Surfac Inunda Sparsel Field Obse Surface Water	drology Indicators dicators (minimum of 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) tion Visible on Aeria ly Vegetated Concave servations: ater Present? le Present?	I Imagery (B7 Surface (B8) Yes	Water-Si (except Salt Crus Aquatic I Hydroge Oxidized Presence Recent I Stunted Other (E	tained Lea MLRA 1, 2 st (B11) Invertebra on Sulfide (Rhizosphe e of Reduc ron Reduc or Stresse explain in F	tes (B13) Odor (C1) Peres on Liv Ced Iron (C) Stion in Til d Plants (C) Remarks)	ing Roots C4) led Soils D1) (LR ches):	s (C3) _	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost Heave Hummocks (D7)
Primary Ind Surfac High W Satura Water Sedim Drift Do Algal N Iron Do Surfac Inunda Sparsel Field Obse Surface Water Tabl Saturation (includes c	drology Indicators dicators (minimum of 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 Aeria dy Vegetated Concave Servations: ater Present? le Present? Present?	I Imagery (B7 Surface (B8) Yes Yes Yes	Water-Si (except Salt Crus Aquatic I Hydroge Oxidized Presence Recent I Stunted Other (E	tained Lea MLRA 1, 2 st (B11) Invertebra en Sulfide (Rhizosphe e of Reduc ron Reduc or Stresse explain in F	tes (B13) Ddor (C1) Pres on Liv Ced Iron (C) Ction in Til d Plants (C) Remarks) Depth (in Depth (in	ches):	s (C3)	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost Heave Hummocks (D7) Wetland Hydrology Present? Yes NoX
Primary Ind Surfac High W Satura Water Sedim Drift Do Algal N Iron Do Surfac Inunda Sparsel Field Obse Surface Water Tabl Saturation (includes c	drology Indicators dicators (minimum of 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 Aeria dy Vegetated Concave servations: ater Present? le Present? Present?	I Imagery (B7 Surface (B8) Yes Yes Yes	Water-Si (except Salt Crus Aquatic I Hydroge Oxidized Presence Recent I Stunted Other (E	tained Lea MLRA 1, 2 st (B11) Invertebra en Sulfide (Rhizosphe e of Reduc ron Reduc or Stresse explain in F	tes (B13) Ddor (C1) Pres on Liv Ced Iron (C) Ction in Til d Plants (C) Remarks) Depth (in Depth (in	ches):	s (C3)	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost Heave Hummocks (D7) Wetland Hydrology Present? Yes NoX
Primary Ind Surfac High W Satura Water Sedim Drift Do Algal N Iron Do Surfac Inunda Sparsel Field Obse Surface Water Tabl Saturation (includes c	drology Indicators dicators (minimum of 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 Aeria dy Vegetated Concave Servations: ater Present? le Present? Present?	I Imagery (B7 Surface (B8) Yes Yes Yes	Water-Si (except Salt Crus Aquatic I Hydroge Oxidized Presence Recent I Stunted Other (E	tained Lea MLRA 1, 2 st (B11) Invertebra en Sulfide (Rhizosphe e of Reduc ron Reduc or Stresse explain in F	tes (B13) Ddor (C1) Pres on Liv Ced Iron (C) Ction in Til d Plants (C) Remarks) Depth (in Depth (in	ches):	s (C3)	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost Heave Hummocks (D7) Wetland Hydrology Present? Yes NoX
Primary Ind Surface High W Satura Water Sedime Drift De Algal N Iron De Surface Inunda Sparsel Field Obse Surface W: Water Tabl Saturation (includes ce	drology Indicators dicators (minimum of 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 Aeria dy Vegetated Concave Servations: ater Present? le Present? Present?	I Imagery (B7 Surface (B8) Yes Yes Yes	Water-Si (except Salt Crus Aquatic I Hydroge Oxidized Presence Recent I Stunted Other (E	tained Lea MLRA 1, 2 st (B11) Invertebra en Sulfide (Rhizosphe e of Reduc ron Reduc or Stresse explain in F	tes (B13) Ddor (C1) Pres on Liv Ced Iron (C) Ction in Til d Plants (C) Remarks) Depth (in Depth (in	ches):	s (C3)	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost Heave Hummocks (D7) Wetland Hydrology Present? Yes NoX
Primary Inc Surface High W Satura Water Sedime Drift De Algal M Iron De Surface Inunda Sparsel Field Obse Surface W: Water Tabl Saturation (includes c Describe R	drology Indicators dicators (minimum of 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 Aeria by Vegetated Concave servations: ater Present? le Present? Present? eapillary fringe) Recorded Data (strea	I Imagery (B7 Surface (B8) Yes Yes Yes m gauge, mo	Water-Si (except Salt Crus Aquatic Hydroge Oxidized Presence Recent I Stunted Other (E	tained Lea MLRA 1, 2 st (B11) Invertebra n Sulfide (Rhizosphe e of Reduc ron Reduc or Stresse explain in F	tes (B13) Odor (C1) ores on Liv ced Iron (in tion in Til d Plants (in Remarks) Depth (in Depth (in Depth (in	ches):	s (C3)	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost Heave Hummocks (D7) Wetland Hydrology Present? Yes NoX available:
Primary Ind Surface High W Satura Water Sedime Drift De Algal M Iron De Surface Inunda Sparsel Field Obse Surface We Water Tabl Saturation (includes c Describe R Remarks: Saturation	drology Indicators dicators (minimum of 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 Aeria by Vegetated Concave servations: ater Present? le Present? Present? eapillary fringe) Recorded Data (strea	I Imagery (B7 Surface (B8) Yes Yes Yes m gauge, mo	Water-Si (except Salt Crus Aquatic Hydroge Oxidized Presence Recent I Stunted Other (E	tained Lea MLRA 1, 2 st (B11) Invertebra n Sulfide (Rhizosphe e of Reduc ron Reduc or Stresse explain in F	tes (B13) Odor (C1) ores on Liv ced Iron (in tion in Til d Plants (in Remarks) Depth (in Depth (in Depth (in	ches):	s (C3)	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost Heave Hummocks (D7) Wetland Hydrology Present? Yes NoX

Project/Site: TEWS OWS 6	City/	County: King		Sampling Date: 3/11/2022
Applicant/Owner: ADCOMM		State: WA		Sampling Point: OWS 6 (45)
Investigator(s): Patrick Togher and Mallory Phillips	Section	n, Township, Ra	nge: S33;	T26N; R8E
Landform (hillslope, terrace, etc.): Depression w/in te	rrace Lo	ocal relief (cond	ave, convex	x, none): Concave Slope (%): 1
Subregion (LRR): A		Lat: 47	7.700119	Long: -121.785561 Datum: WGS84
Soil Map Unit Name: Typic Vitrixerands			NWI	Classification: PSS
Are climatic/hydrologic conditions of the site typical for	this time of	the year?	Yes X	No (If no, explain in remarks)
Are vegetation, Soil, or Hydrology		significantly o	disturbed?	Are "Normal Circumstances"
Are vegetation , Soil , or Hydrology		naturally prob	olematic?	present? (If needed, explain any answers in remarks) Yes X No
SUMMARY OF FINDINGS - Attach site map sh	owing sa	mpling point l	ocation, tra	
Hydrophytic vegetation present? Yes	Х	No		
Hydric soil present? Yes	X	No		mpled area wetland?
Indicators of wetland hydrology present? Yes	X	No	within a	Yes X No
Remarks: Plot located about 25-feet southeast of wet	and point o	10 and 25-feet	southwest o	
Tromains. The located about 20-reet southeast of wet	and point c	710 and 20-100t	30dti WC3t C	The corresponding apiana plot.
VEGETATION Use scientific names of plants				Ta
Trop Stratum (Diot aize: 20'r.)	Absolute % Cover	Dominant Species	Indicator	Dominance Test Worksheet
<u>Tree Stratum</u> (Plot size: <u>30' r</u>) 1. <i>Prunus emarginata</i>	% Cover	Y	Status FACU	Number of Dominant Species that are OBL, FACW, or FAC: 3 (A)
2.			1 700	(,
3.				Total Number of Dominant Species Across all Strata: 5 (B)
4.				Percent of Dominant Species that
	5 :	= Total Cover		are OBL, FACW, or FAC: 60% (A/B)
Sapling/Shrub Stratum (Plot size: 30' r)				
1				Prevalence Index Worksheet
2.				Total % Cover of: Multiply by:
3				OBL species0x 1 =0
4				FACW species 35 x 2 = 70
5				FAC species 25 x 3 = 75
Hard Charters (District Str.)	0 :	= Total Cover		FACU species 15 x 4 = 60
Herb Stratum (Plot size: 5' r) 1. Phalaris arundinacea	25	V	FACW	UPL species 0 x 5 = 0 Column totals 75 (A) 205 (B)
Juncus effusus	25 10	<u> </u>	FACW	Column totals 75 (A) 205 (B) Prevalence Index = B/A = 2.73
3.	10		FACVV	Prevalence index – B/A – 2.73
4.				Hydrophytic Vegetation Indicators:
5.				1 - Rapid Test for Hydrophytic Vegetation
6.				X 2 - Dominance Test is >50%
7.				3 - Prevalence Index is ≤3.0
8.				4 - Morphological Adaptations* (Provide supporting
9.				data in Remarks or on a separate sheet)
10				5 - Wetland Non-Vascular Plants ¹
11				Problematic Hydrophytic Vegetation ¹
	35 :	= Total Cover		(Explain)
Woody Vine Stratum (Plot size: 30' r)	0.5	V	EAO	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
1. Rubus spectabilis	25 10	<u> </u>	FAC	'
2. Rubus ursinus		= Total Cover	FACU	Hydrophytic
% Bare Ground in Herb Stratum 65		- Total Gover		vegetation present? Yes X No
Remarks:				
P. munitum 25% on hummocks. Hydrophytic vegetatio	n is domina	ınt.		
i i i i i i i i i i i i i i i i i i i				

SOIL Sampling Point: OWS 6 (45)

Profile Des	scription: (Describe	e to the depth				ator or o	confirm th	e absence of indicators.)
Depth	Matrix			dox Featu	ıres			
(Inches)	Color (moist)	% Col	or (moist)	%	Type ¹	Loc ²	Texture	Remarks
0-20+	10YR 4/2	97 10)YR 5/4	3	С	М	GSiCL	
		·						
								_
-								_
		-						- -
								_
								
	oncentration, D=Depl					d Sand G		² Location: PL=Pore Lining, M=Matrix.
_	Indicators: (Appli	cable to all LRI			•		In	dicators for Problematic Hydric Soils
Histoso	· ·	_		edox (S5)				2 cm Muck (A10)
	Epipedon (A2)	_		Matrix (S	•	voont ME		Red Parent Material (TF2) Very Shallow Dark Surface (TF12)
	listic (A3) en Sulfide (A4)	_		Bleyed Ma	eral (F1) (E :	xcept wir	LA I)	Other (Explain in Remarks
	ed Below Dark Surfa	ce (A11)	X Depleted	-				_ Other (Explain in Nemarks
	oark Surface (A12)	_		ark Surfa			3	Indicators of hydrophytic vegetation and
	Mucky Mineral (S1)	_			rface (F7)			etland hydrology must be present, unless
	Gleyed Matrix (S4)	_		epression	, ,		•••	disturbed or problematic
	Layer (if present):			'	(- /			·
Type:	Layer (II present):							
Depth (inch	.ee).					Hydric	Soil Pres	sent? Yes X No
						riyund	, oon i ies	
Remarks:								
Inclusions	of charcoal. Hydroge	en sulfide at 2"+						
HYDROLO	GY							
	drology Indicators							
			المالة عاما	and annie			Se	econdary Indicators (2 or more required)
· ·	icators (minimum of	one is required			(50)		<u> </u>	
	e Water (A1)	_		tained Lea		J 4D)		Water-Stained Leaves (B9) (MLRA 1,
X Saturat	ater Table (A2)		Salt Cru		2, 4A, and	146)		2, 4A, and 4B) Drainage Patterns (B10)
	Marks (B1)	_		. ,	ites (B13)			Dry-Season Water Table (C2)
	ent Deposits (B2)	_			Odor (C1)			Saturation Visible on Aerial Imagery (C9)
	eposits (B3)	_			eres on Liv	ing Roots	s (C3)	Geomorphic Position (D2)
Algal M	lat or Crust (B4)		Presenc	e of Redu	ced Iron (0	C4)		Shallow Aquitard (D3)
	posits (B5)	_			ction in Till			FAC-Neutral Test (D5)
	Soil Cracks (B6)	(5-)			ed Plants (D1) (LRI	R A)	Raised Ant Mounds (D6) (LRR A)
	tion Visible on Aerial		Other (E	xplain in F	Remarks)			_Frost Heave Hummocks (D7)
Sparser	y Vegetated Concave S	buriace (bo)						
Field Obse	rvations:							
Surface Wa	iter Present?	Yes	No	Χ	Depth (inc		0"	Wetland Hydrology Present?
Water Tabl		Yes X	No		Depth (ind		5"	
Saturation		Yes X	No		Depth (inc	ches): <u>{</u>	Surface	Yes X No
	apillary fringe)						-4:\ 'f	
Describe R	ecorded Data (strea	m gauge, monit	oring well, a	erial photo	os, previou	ıs ınspec	ctions), if a	vallable:
Remarks:								
	rated at the surface	and water table	is 5" helow i	the surfac	e Nosur	face wat	er present	. Wetland hydrology criteria is satisfied.
Jon is satu	atou at the surface (and water table	is o below	are suride	o. 140 Sull	acc wall	or prosent.	. Trodalia flydrology officia is satisfied.

Project/Site: TEWS OWS 6	City/	County: King		Sampling Date: 3/11/2022							
Applicant/Owner: ADCOMM		State: WA		Sampling Point: OWS 6 (46)							
Investigator(s): Patrick Togher and Mallory Phillips	Section	, Township, R	ange: S33;	T26N; R8E							
Landform (hillslope, terrace, etc.): Hillslope	Lo	ocal relief (cor	cave, convex	x, none): Convex Slope (%): 20							
Subregion (LRR): A		Lat: 4	7.700187	Long: -121.785542 Datum: WGS84							
Soil Map Unit Name: Typic Vitrixerands			NWI	Classification: Upland							
Are climatic/hydrologic conditions of the site typical for	this time of	the year?	Yes X	No (If no, explain in remarks)							
Are vegetation, Soil, or Hydrology		significantly	disturbed?	Are "Normal Circumstances"							
Are vegetation , Soil , or Hydrology		naturally pro	blematic?	present? (If needed, explain any answers in remarks) Yes X No							
SUMMARY OF FINDINGS - Attach site map showing sampling point location, transects, important features, etc.											
Hydrophytic vegetation present? Yes		No X									
Hydric soil present? Yes	No X			mpled area							
Indicators of wetland hydrology present? Yes			within a	wetland? Yes No X							
Remarks: Plot located about 20-feet west of wetland	noint c9 and	1 15-feet east	of wetland no								
Tromains. The located about 20-lest west of welland	point oo and	10-1001 0431	or wettand pe	int oro. Opiana plot for Welland O.							
VEGETATION Use scientific names of plants				T =							
T- 01-1 (DL 1 :- 001)	Absolute	Dominant	Indicator	Dominance Test Worksheet							
Tree Stratum (Plot size: 30' r)	% Cover	Species	Status	Number of Dominant Species that							
1. 2.				are OBL, FACW, or FAC: 1 (A)							
3.				Total Number of Dominant Species Across all Strata: 3 (B)							
4.											
	0 =	Total Cover		Percent of Dominant Species that are OBL, FACW, or FAC: 33% (A/B)							
Sapling/Shrub Stratum (Plot size: 30' r)				(``)							
1. Holodiscus discolor	60	Υ	FACU	Prevalence Index Worksheet							
2.				Total % Cover of: Multiply by:							
3.				OBL species0x 1 =0							
4.				FACW species 5 x 2 = 10							
5				FAC species 81 x 3 = 243							
	60 =	 Total Cover 		FACU species 75 x 4 = 300							
Herb Stratum (Plot size: 5' r)				UPL species 0 x 5 = 0							
1. Agrostis stolonifera	80	<u>Y</u>	FAC	Column totals 161 (A) 553 (B)							
2. Juncus effusus	5	N	FACW	Prevalence Index = B/A = 3.43							
3. Polystichum munitum	5	N	FACU	Hudroubide Vocatation Indicators							
Fragaria chiloensis Schedonorus arundinaceus	<u>5</u>	N	FACU FAC	Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation							
6.		IN	FAC	2 - Dominance Test is >50%							
7.				3 - Prevalence Index is ≤3.0							
8.				4 - Morphological Adaptations* (Provide supporting							
9.				data in Remarks or on a separate sheet)							
10.				5 - Wetland Non-Vascular Plants ¹							
11.				Problematic Hydrophytic Vegetation ¹							
	96 =	Total Cover		(Explain)							
Woody Vine Stratum (Plot size: 30' r)				¹ Indicators of hydric soil and wetland hydrology must be							
1. Rubus ursinus	5	Υ	FACU	present, unless disturbed or problematic							
2				Hydrophytic							
	5 =	 Total Cover 		vegetation							
% Bare Ground in Herb Stratum 4				present? YesNo X							
Remarks:	_										
Dominant species do not satisfy hydrophytic vegetation	criteria.										

SOIL Sampling Point: OWS 6 (46)

Profile Des	scription: (Describ	e to the depth	needed to d	documen	t the indic	ator or o	confirm th	e absence of indicators.)
Depth	Matrix		Re	dox Featı	ures			
(Inches)	Color (moist)	<u></u> % Co	olor (moist)	%	Type ¹	Loc ²	Texture	Remarks
0-8	10YR 3/3	100					SL	Very gravelly
8-18+	10YR 5/4	95	10YR 5/5	5	С	М	SL	2-5mm
-								
-								
¹ Type: C=C	oncentration, D=Depl	etion RM=Redi	uced Matrix C	S=Covere	ed or Coate	d Sand G	Grains	² Location: PL=Pore Lining, M=Matrix.
	I Indicators: (Appli					a cana c		dicators for Problematic Hydric Soils ³ :
Histoso			•	Redox (S5				2 cm Muck (A10)
	Epipedon (A2)			Matrix (S	•			Red Parent Material (TF2)
Black H	listic (A3)		Loamy M	lucky Mine	eral (F1) (E :	cept MF	RLA 1)	Very Shallow Dark Surface (TF12)
	en Sulfide (A4)			Gleyed Ma	, ,			Other (Explain in Remarks
	ed Below Dark Surfa	ce (A11)		d Matrix (I	•			
	Dark Surface (A12)			ark Surfa	. ,			ndicators of hydrophytic vegetation and
	Mucky Mineral (S1)				rface (F7)		We	etland hydrology must be present, unless
	Gleyed Matrix (S4)		Redox L)epressio	ns (Fo)			disturbed or problematic
	Layer (if present):							
Type:						l landada	Call Dream	sent? Yes No X
Depth (inch						нуагіс	Soil Pres	ent? Yes No X
Remarks:								
Charcoal p	resent at 16". Soils	do not satisfy h	nydric soils cr	iteria.				
HYDROLO	GY							
	drology Indicators							
			al. ala a al. all 41	4			So	econdary Indicators (2 or more required)
· ·	licators (minimum of	one is require			(50)		<u>56</u>	
	e Water (A1)				aves (B9)	1 4D)		Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
	ater Table (A2) ion (A3)		Salt Cru		2, 4A, and	146)		Drainage Patterns (B10)
	Marks (B1)			. ,	ates (B13)		-	Dry-Season Water Table (C2)
	ent Deposits (B2)		Hydroge	n Sulfide	Odor (C1)			Saturation Visible on Aerial Imagery (C9)
	eposits (B3)		Oxidized	Rhizosph	eres on Liv	ing Roots	s (C3)	Geomorphic Position (D2)
	lat or Crust (B4)				ced Iron (•		_ Shallow Aquitard (D3)
	eposits (B5)				ction in Till		` '	_FAC-Neutral Test (D5)
	e Soil Cracks (B6) tion Visible on Aeria	I Imageny (R7)			ed Plants (Remarks)	טיו) (נת ו	K A)	Raised Ant Mounds (D6) (LRR A) Frost Heave Hummocks (D7)
	y Vegetated Concave S	0 , ,		.xpiaiii iii	rtemants)		-	_ rostricave riammocks (br)
	-	. ,						
Field Obse		Vaa	Na		Donth (in	-b\.		
Water Tabl	ater Present?	Yes Yes	No No	X	Depth (inc		>18"	Wetland Hydrology Present?
Saturation		Yes >			Depth (inc		10"	Yes No X
	apillary fringe)		<u>· </u>			´ -		
	ecorded Data (strea	m gauge, mon	itoring well, a	erial phot	os, previou	ıs insped	ctions), if a	vailable:
	·			-		•	•	
Remarks:								
Saturation	s present at a depth	of 10". Water	table is >18"	deep and	d no surfac	e water	present. V	Vetland hydrology criteria not satisfied.
1								

Project/Site: OWS 9 TEWS	City	County: King		Sampling Date:3/16/2022
Applicant/Owner: ADCOMM		State: WA		Sampling Point: OWS 9
Investigator(s): Patrick Togher and Mallory Phillips	Section	n, Township, Ra	ange: S16	; T25N; R7E
Landform (hillslope, terrace, etc.): Terrace	- Lo	ocal relief (cond	cave, conve	x, none): None Slope (%): 0
Subregion (LRR): A		Lat: 47	7.658737	Long: -121.910960 Datum: WGS84
Soil Map Unit Name: Aquandic Xerochrepts			NW	I Classification: Upland
Are climatic/hydrologic conditions of the site typical for	this time of	the year?	Yes X	No (If no, explain in remarks)
Are vegetation , Soil , or Hydrology		significantly	disturbed?	Are "Normal Circumstances"
Are vegetation , Soil , or Hydrology		naturally prol	blematic?	present? (If needed, explain any answers in remarks) Yes X No
SUMMARY OF FINDINGS - Attach site map s				any answers in remarks)
Hydrophytic vegetation present? Yes	X	No	la tha a s	and a decided and a
Hydric soil present? Yes		No X		ampled area a wetland?
Indicators of wetland hydrology present? Yes		No X		Yes NoX
Remarks: Plot located at proposed OWS 9 location.			<u> </u>	<u> </u>
VEGETATION Use scientific names of plant	S.			
	Absolute	Dominant	Indicator	Dominance Test Worksheet
<u>Tree Stratum</u> (Plot size: 30' r)	% Cover	Species	Status	Number of Dominant Species that
1. Prunis emarginata	10	Υ	UPL	are OBL, FACW, or FAC: 3 (A)
2.				Total Number of Dominant
3				Species Across all Strata: 4 (B)
4				Percent of Dominant Species that
0 1 (0 1 0 1 (0 1 0 1 0 1 0 1 0 1 0 1 0	10	= Total Cover		are OBL, FACW, or FAC: 75% (A/B)
Sapling/Shrub Stratum (Plot size: 30' r)				Describes as Index Westerland
1				Prevalence Index Worksheet
3.				Total % Cover of: Multiply by: OBL species 0 x 1 = 0
4.				FACW species $\begin{array}{c cccc} \hline & 0 & x & 1 & & 0 \\ \hline \end{array}$
5.				FAC species 120 x 3 = 360
<u>. </u>	0	= Total Cover		FACU species 0 x 4 = 0
Herb Stratum (Plot size: 5' r)		-		UPL species 10 x 5 = 50
1. Schedonorus arundinaceus	20	Υ	FAC	Column totals 135 (A) 420 (B)
2. Phalaris arundinacea	5	Υ	FACW	Prevalence Index = $B/A = 3.11$
3.				
4.				Hydrophytic Vegetation Indicators:
5				1 - Rapid Test for Hydrophytic Vegetation
6				X 2 - Dominance Test is >50%
7				3 - Prevalence Index is ≤3.0
8				4 - Morphological Adaptations* (Provide supporting data in Remarks or on a separate sheet)
9				` ',
10. 11.				5 - Wetland Non-Vascular Plants ¹
11.	25	= Total Cover		Problematic Hydrophytic Vegetation ¹ (Explain)
Woody Vine Stratum (Plot size: 30' r)		- Total Gover		1 Indicators of hydric soil and wetland hydrology must be
1. Rubus armeniacus	100	Υ	FAC	present, unless disturbed or problematic
2.		-		Hydrophytic
	100	Total Cover		vegetation
% Bare Ground in Herb Stratum 75				present? Yes X No
Remarks:				
Dominant species do not satisfy hydrophytic vegetation	n criteria.			

SOIL Sampling Point: OWS 9 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Matrix Redox Features Depth (Inches) Color (moist) Color (moist) Remarks % Loc² Texture Type¹ 0-6 10YR 3/3 100 **GSL** Very gravelly 10YR 4/3 <5mm 6-20+ 95 10YR 3/6 Μ SiL ¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix. Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils³: 2 cm Muck (A10) Histosol (A1) Sandy Redox (S5) Histic Epipedon (A2) Stripped Matrix (S6) Red Parent Material (TF2) Black Histic (A3) Loamy Mucky Mineral (F1) (Except MRLA 1) Very Shallow Dark Surface (TF12) Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Other (Explain in Remarks Depleted Below Dark Surface (A11) Depleted Matrix (F3) Thick Dark Surface (A12) Redox Dark Surface (F6) ³Indicators of hydrophytic vegetation and Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) wetland hydrology must be present, unless Sandy Gleyed Matrix (S4) Redox Depressions (F8) disturbed or problematic Restrictive Layer (if present): Type: Depth (inches): **Hydric Soil Present?** Χ Remarks: Soils do not satisfy hydric soils criteria. HYDROLOGY Wetland Hydrology Indicators Secondary Indicators (2 or more required) Primary Indicators (minimum of one is required; check all that apply Surface Water (A1) Water-Stained Leaves (B9) Water-Stained Leaves (B9) (MLRA 1, High Water Table (A2) (except MLRA 1, 2, 4A, and 4B) 2, 4A, and 4B) Saturation (A3) Drainage Patterns (B10) Salt Crust (B11) 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 on Living Roots (C3) Geomorphic Position (D2) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Shallow Aquitard (D3) Recent Iron Reduction in Tilled Soils (C6) FAC-Neutral Test (D5) Iron Deposits (B5) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) Frost Heave Hummocks (D7) Sparsely Vegetated Concave Surface (B8) Field Observations: Yes Depth (inches): Surface Water Present? No Wetland Hydrology Present? Yes Depth (inches): Water Table Present? No Saturation Present? Yes No Depth (inches): No X

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

(includes capillary fringe)

US Army Corps of Engineers

No indicators of wetland hydrology are present.

Project/Site: TEWS OWS 10	City/	County: King		Sampling Date: 3/3/2022
Applicant/Owner: ADCOMM		State: WA		Sampling Point: OWS 10 (3)
Investigator(s): Patrick Togher	Section	, Township, Ra	ange: S16	; T26N; R7E
Landform (hillslope, terrace, etc.): Swale	Lo	ocal relief (cond	cave, conve	x, none): Concave Slope (%): 2
Subregion (LRR): A			7.644338	Long: -121.921922 Datum: WGS84
Soil Map Unit Name: Aeric Fluvaquents				Classification: Upland
Are climatic/hydrologic conditions of the site typical for t	this time of	the vear?	Yes X	No (If no, explain in remarks)
Are vegetation , Soil , or Hydrology		•		Are "Normal Circumstances"
Are vegetation , Soil , or Hydrology		naturally prol		present? (If needed, explain
SUMMARY OF FINDINGS - Attach site map sh	owing sar			any answers in remarks)
Hydrophytic vegetation present? Yes	<u>-</u>	No X		
Hydric soil present? Yes		No X		mpled area
Indicators of wetland hydrology present? Yes		No X	within a	awetland? Yes No X
Remarks: Plot located on the southeastern edge of the			Lacar Field r	
Remarks: Plot located on the southeastern edge of the	e i oit-iviact	Jonaid Park So	occer Field p	Parking lot (off of INE 40th St).
VEGETATION Use scientific names of plants	5.			
	Absolute	Dominant	Indicator	Dominance Test Worksheet
Tree Stratum (Plot size: 30' r)	% Cover	Species	Status	Number of Dominant Species that
1. <u>Populus nigra</u> 2.	15	<u> </u>	UPL	are OBL, FACW, or FAC: 1 (A)
3.				Total Number of Dominant Species Across all Strata: 3 (B)
4.				``
·· <u></u> .	15 =	Total Cover		Percent of Dominant Species that are OBL, FACW, or FAC: 33% (A/B)
Sapling/Shrub Stratum (Plot size: 30' r)				,
1.				Prevalence Index Worksheet
2.				Total % Cover of: Multiply by:
3.				OBL species0 _ x 1 =0
4				FACW species 0 x 2 = 0
5				FAC species 50 x 3 = 150
(DL 4 :	0 =	Total Cover		FACU species 40 x 4 = 160
Herb Stratum (Plot size: 5' r)	50	Υ	FAC	UPL species 15 x 5 = 75 Column totals 105 (A) 385 (B)
Agrostis stolonifera Taraxacum officinale	50 40	<u> </u>	FACU	Column totals 105 (A) 385 (B) Prevalence Index = B/A = 3.67
3.	40	<u> </u>	TACO	Trevalence index – B/A – 3.07
4.				Hydrophytic Vegetation Indicators:
5.				1 - Rapid Test for Hydrophytic Vegetation
6.				2 - Dominance Test is >50%
7.				3 - Prevalence Index is ≤3.0
8.				4 - Morphological Adaptations* (Provide supporting
9				data in Remarks or on a separate sheet)
10				5 - Wetland Non-Vascular Plants ¹
11		T. 1. 1. 0		Problematic Hydrophytic Vegetation ¹
Woody Vine Stratum (Plot size: 30' r)	90 =	Total Cover		(Explain)
1.				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
2.				
_·	0 =	Total Cover		Hydrophytic vegetation
% Bare Ground in Herb Stratum 10				present? Yes No X
Remarks:				
Herbaceious tratus is mixed grasses. Agrostis S. assur	med as mos	st convervative	interpreteta	ition. Dominant species do not satisfy hydrophytic
vegetation criteria.	45 11100			

SOIL Sampling Point: OWS 10 (3)

Profile Des	scription: (Describ	e to the de	pth needed to d	ocumen	t the indic	ator or	confirm	the absence of indicators.)
Depth	Matrix		Red	dox Feat	ures			
(Inches)	Color (moist)	%	Color (moist)	<u>%</u>	Type ¹	Loc ²	Textu	ure Remarks
0-8	10YR 3/3	100					SiC	<u> </u>
8-12	10YR 3/3	80	2.5YR 4/3	20	С	М	SiC	:L
12-15	10YR 5/3	50	10YR 3/3	50	С	М	SiC	L
15-20	10YR 4/3	100				<u>.</u>	SiC	L L
			_					
¹ Type: C=C	oncentration, D=Depl	etion RM=I	Reduced Matrix C	S=Cover	ed or Coate	d Sand (² Location: PL=Pore Lining, M=Matrix.
	I Indicators: (Appli					u Gariu C		Indicators for Problematic Hydric Soils ³ :
Histoso			Sandy R					2 cm Muck (A10)
	Epipedon (A2)		Stripped	-			-	Red Parent Material (TF2)
Black H	listic (A3)		Loamy M	ucky Min	eral (F1) (E	xcept Mi	RLA 1)	Very Shallow Dark Surface (TF12)
	en Sulfide (A4)		Loamy G	leyed M	atrix (F2)			Other (Explain in Remarks
	ed Below Dark Surfa	ice (A11)	Depleted				_	
	Oark Surface (A12)		Redox D		` ,			³ Indicators of hydrophytic vegetation and
	Mucky Mineral (S1)				urface (F7)			wetland hydrology must be present, unless
	Gleyed Matrix (S4)		Redox D	epressio	ns (F8)			disturbed or problematic
	Layer (if present):							
Type:								vo v Ne v
Depth (inch	ies):					Hyaria	c Soli Pi	resent? Yes No _X
Remarks:								
Soils do no	t satisfy hydric soil c	riteria.						
HYDROLO	icv							
1	drology Indicators							Cdldit (O
·	licators (minimum of	one is req						Secondary Indicators (2 or more required)
	e Water (A1)				eaves (B9)		-	Water-Stained Leaves (B9) (MLRA 1,
	ater Table (A2)				, 2, 4A, and	d 4B)		2, 4A, and 4B) Drainage Patterns (B10)
	ion (A3) Marks (B1)		Salt Crus	. ,	ates (B13)		-	Dry-Season Water Table (C2)
	ent Deposits (B2)				Odor (C1)		•	Saturation Visible on Aerial Imagery (C9)
	eposits (B3)				neres on Liv		s (C3)	Geomorphic Position (D2)
	lat or Crust (B4)				uced Iron (-	` ′ .	Shallow Aquitard (D3)
Iron De	posits (B5)		Recent In	ron Redu	uction in Til	led Soils	(C6)	FAC-Neutral Test (D5)
	e Soil Cracks (B6)			or Stress	ed Plants ((D1) (LR	RA)	Raised Ant Mounds (D6) (LRR A)
	tion Visible on Aeria		· — ·	xplain in	Remarks)			Frost Heave Hummocks (D7)
Sparsel	y Vegetated Concave S	Surface (B8)						
Field Obse	rvations:							
Surface Wa	ater Present?	Yes	No	X	Depth (in	ches):	0"	Wetland Hydrology Present?
Water Tabl		Yes	No	Χ	Depth (in		>20"	
Saturation		Yes _	No_	Χ	Depth (in	ches):	>20"	Yes No X
	apillary fringe)							
Describe R	ecorded Data (strea	m gauge, r	nonitoring well, a	erial pho	tos, previou	us insped	ctions), i	ıt avaılable:
Remarks:								
	ist, no saturation. N	o indicator	s of wetland hydro	ology are	present.			
]	,			5,				

Project/Site: HMS1 TEWS	City	/County: King		Sampling Date: 3/16/2022
Applicant/Owner: ADCOMM		State: WA		Sampling Point: HMS 1
Investigator(s): Patrick Togher and Mallory Phillips	Section	n, Township, Ra	ange: <u>S9;</u>	Γ25N; R7E
Landform (hillslope, terrace, etc.): Depression w/in T	errace L	ocal relief (cond	cave, convex	x, none): Concave Slope (%): 0
Subregion (LRR): A		Lat: <u>4</u>	7.662221	Long: -121.909567 Datum: WGS84
Soil Map Unit Name: Aeric Fluvaquents		_	NWI	Classification: Upland
Are climatic/hydrologic conditions of the site typical for	this time of	f the year?	Yes X	No (If no, explain in remarks)
Are vegetation, Soil, or Hydrology		significantly	disturbed?	Are "Normal Circumstances"
Are vegetation , Soil , or Hydrology	<u></u>	naturally prol	blematic?	present? (If needed, explain any answers in remarks) Yes X No
SUMMARY OF FINDINGS - Attach site map sh	nowing sa	mpling point	location, tr	
Hydrophytic vegetation present? Yes	Х	No		
Hydric soil present? Yes		No X		mpled area wetland?
Indicators of wetland hydrology present? Yes		No X	Within	Yes No X
Remarks: Plot located at HMS 1 proposed location.				
Tromaine. Trochodated at time 1 proposed resulten.				
VEGETATION III : ('C' C I I				
VEGETATION Use scientific names of plants				Devilence Test Westernet
Tree Street in (Diet size, 201 r.)	Absolute	Dominant	Indicator	Dominance Test Worksheet
Tree Stratum (Plot size: 30' r)	% Cover	Species	Status	Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)
1. 2.				
3.				Total Number of Dominant Species Across all Strata: 1 (B)
4.				
· ·	0	= Total Cover		Percent of Dominant Species that are OBL, FACW, or FAC: 100% (A/B)
Sapling/Shrub Stratum (Plot size: 30' r)				`, ,
1.				Prevalence Index Worksheet
2.				Total % Cover of: Multiply by:
3.				OBL species0 _ x 1 =0
4.				FACW species 100 x 2 = 200
5				FAC species0 x 3 =0
	0	= Total Cover		FACU species 0 x 4 = 0
Herb Stratum (Plot size: 5' r)	100	.,	=	UPL species $1 \times 5 = 5$
1. Phalaris arundinacea	100	Y	FACW	Column totals 101 (A) 205 (B)
Polygonum cuspidatum 3.	1	N	UPL	Prevalence Index = B/A = 2.03
4.				Hydrophytic Vegetation Indicators:
5.				1 - Rapid Test for Hydrophytic Vegetation
6.				X 2 - Dominance Test is >50%
7.				3 - Prevalence Index is ≤3.0
8.				4 - Morphological Adaptations* (Provide supporting
9.				data in Remarks or on a separate sheet)
10.				5 - Wetland Non-Vascular Plants ¹
11.				Problematic Hydrophytic Vegetation ¹
	101	= Total Cover		(Explain)
Woody Vine Stratum (Plot size: 30' r)				¹ Indicators of hydric soil and wetland hydrology must be
1				present, unless disturbed or problematic
2				Hydrophytic
0/ Barra Creamed in Heath Charters	0	= Total Cover		vegetation
% Bare Ground in Herb Stratum 0				present? Yes X No
Remarks:				
Polygonus cuspidatum on the edge of the plot. Hydrop	hytic veget	ation is domina	nt.	

SOIL Sampling Point: HMS 1

0-8	Color (moiet)					_		
	Color (moist)		Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
	10YR 3/3	100					SiCL	
8-14	10YR 4/3	93	10YR 4/4	7	<u>C</u>	<u>M</u>	SiCL	Glass @ 8"; 2-5mm redox
14-20+	10YR 4/3	93	10YR 4/6	7	C	<u>M</u>	SCL	
						 _		
	Indicators: (Appli					ed Sand G		ocation: PL=Pore Lining, M=Matrix. cators for Problematic Hydric Soils
Histosol		cable to all	•	edox (S5				2 cm Muck (A10)
	pipedon (A2)			Matrix (S	•			Red Parent Material (TF2)
	istic (A3)			•	eral (F1) (E	xcept MR		Very Shallow Dark Surface (TF12)
	en Sulfide (A4)			Sleyed Ma	` ,			Other (Explain in Remarks
	d Below Dark Surfa	ice (A11)		Matrix (•		2	
	ark Surface (A12) Mucky Mineral (S1)			ark Surfa	ice (F6) irface (F7)			dicators of hydrophytic vegetation and
	Gleyed Matrix (S4)			epressio	. ,		weu	and hydrology must be present, unless disturbed or problematic
	Layer (if present):				(1 0)	ı		aletarbea er preblematie
ype:	Layer (ii present).							
epth (inche	es):					Hydric	Soil Preser	nt? Yes No X
Remarks:	-							
YDROLO	GY							
	rology Indicators							
etland Hyd		one is requi	red; check all th	nat apply			Seco	ondary Indicators (2 or more required)
etland Hyd Primary Indi Surface	rology Indicators cators (minimum of Water (A1)	one is requi	Water-S	tained Le	aves (B9)			Water-Stained Leaves (B9) (MLRA 1,
etland Hyd Primary Indi Surface High Wa	rology Indicators cators (minimum of Water (A1) ater Table (A2)	one is requi	Water-Si (except	tained Le	aves (B9) 2, 4A, an	d 4B)		Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
etland Hyd Primary Indi Surface High Wa Saturati	cators (minimum of Water (A1) ater Table (A2) on (A3)	one is requi	Water-Si (except Salt Crus	tained Le MLRA 1, st (B11)	2, 4A, an	-	\ \	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10)
Primary Indi Surface High Water Mater Mate	rology Indicators cators (minimum of Water (A1) ater Table (A2)	one is requi	Water-S (except Salt Crus Aquatic	tained Le MLRA 1, st (B11)	, ,			Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9
etland Hyd Primary Indi Surface High Wa Saturati Water N Sedime Drift De	rology Indicators cators (minimum of Water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2) posits (B3)	one is requi	Water-Si (except Salt Crust Aquatic I Hydroge Oxidized	tained Le MLRA 1, st (B11) Invertebra n Sulfide Rhizosph	2, 4A, an ates (B13) Odor (C1) eres on Liv) ving Roots	(C3)(Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9 Geomorphic Position (D2)
Vetland Hyd Primary Indi Surface High Wa Saturati Water M Sedime Drift De Algal Ma	cators (minimum of Water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4)	one is requi	Water-Si (except Salt Crus Aquatic Hydroge Oxidized Presence	tained Le MLRA 1, st (B11) Invertebra n Sulfide Rhizosph	2, 4A, an ates (B13) Odor (C1) eres on Liv aced Iron () ving Roots C4)	(C3)	2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3)
etland Hyd Primary Indi Surface High Wa Saturati Water M Sedime Drift De Algal Ma	cators (minimum of Water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5)	one is requi	Water-Si (except Salt Crus Aquatic Hydroge Oxidized Presence Recent I	tained Le MLRA 1, st (B11) Invertebra n Sulfide Rhizosph e of Redu	2, 4A, an ates (B13) Odor (C1) eres on Liv iced Iron (ction in Til	ving Roots C4) lled Soils ((C3) (C6) (C6)	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5)
etland Hyd Primary Indi Surface High Wa Saturati Water M Sedime Drift De Algal Ma Iron De Surface	cators (minimum of Water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4)		Water-Si (except Salt Crus Aquatic Hydroge Oxidized Presence Recent I Stunted	tained Le MLRA 1, st (B11) Invertebra n Sulfide Rhizosph e of Redu ron Redu or Stress	2, 4A, an ates (B13) Odor (C1) eres on Liv aced Iron (ving Roots C4) lled Soils ((C3) (C6) (C6) (C7)	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9 Geomorphic Position (D2) Shallow Aquitard (D3)
etland Hyd Primary Indi Surface High Wa Saturati Water M Sedime Drift De Algal Ma Iron De Surface Inundati	cators (minimum of Water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) cosits (B5) Soil Cracks (B6)	I Imagery (B	Water-Si (except Salt Crus Aquatic Hydroge Oxidized Presence Recent I Stunted	tained Le MLRA 1, st (B11) Invertebra n Sulfide Rhizosph e of Redu ron Redu or Stress	2, 4A, an ates (B13) Odor (C1) eres on Livingued Iron (ction in Tiled Plants	ving Roots C4) lled Soils ((C3) (C6) (C6) (C7)	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
etland Hyd Primary Indi Surface High Wa Saturati Water M Sedime Drift De Algal Ma Iron De Surface Inundati Sparsely	cators (minimum of Water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) ion Visible on Aerial Vegetated Concave S	I Imagery (B	Water-Si (except Salt Crus Aquatic Hydroge Oxidized Presence Recent I Stunted	tained Le MLRA 1, st (B11) Invertebra n Sulfide Rhizosph e of Redu ron Redu or Stress	2, 4A, an ates (B13) Odor (C1) eres on Livingued Iron (ction in Tiled Plants	ving Roots C4) lled Soils ((C3) (C6) (C6) (C7)	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
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etland Hyd Primary Indi Surface High Wa Saturati Water M Sedime Drift De Algal Ma Iron De Surface Inundati Sparsely Field Obsel Vater Table	rology Indicators cators (minimum of Water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) ion Visible on Aerial Vegetated Concave S rvations: ter Present?	I Imagery (B Surface (B8) Yes Yes	Water-Si (except Salt Crus Aquatic Hydroge Oxidized Presence Recent I Stunted Other (E	tained Le MLRA 1, st (B11) Invertebra n Sulfide Rhizosph e of Redu ron Redu or Stress xplain in X X	2, 4A, an ates (B13) Odor (C1) eres on Living a ced Iron (ction in Tiled Plants Remarks) Depth (in Depth (in Depth (in	ving Roots C4) lled Soils ((D1) (LRF ches):	(C3) (C6) (C6) (C7) (C7) (C7) (C7) (C7) (C7) (C7) (C7	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost Heave Hummocks (D7) Wetland Hydrology Present?
etland Hyd Primary Indi Surface High Wa Saturati Water M Sedime Drift De Algal Ma Iron De Surface Inundati Sparsely Field Obset Saturation F	rology Indicators cators (minimum of Water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) ion Visible on Aerial Vegetated Concave S rvations: ter Present? Present?	I Imagery (B' Surface (B8) Yes	Water-Si (except Salt Crus Aquatic Hydroge Oxidized Presence Recent I Stunted Other (E	tained Le MLRA 1, st (B11) Invertebra n Sulfide Rhizosph e of Redu ron Redu or Stress xplain in	2, 4A, an ates (B13) Odor (C1) eres on Living a ced Iron (ction in Tiled Plants Remarks)	ving Roots C4) lled Soils ((D1) (LRF ches):	(C3) (C6) (C6) (C6) (C7) (C7) (C7) (C7) (C7) (C7) (C7) (C7	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost Heave Hummocks (D7)
etland Hyd Primary Indi Surface High Wa Saturati Water M Sedime Drift De Algal Ma Iron De Surface Inundati Sparsely Field Obset Saturation F includes ca	rology Indicators cators (minimum of Water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) ion Visible on Aerial Vegetated Concave S rvations: ter Present?	I Imagery (B Gurface (B8) Yes Yes Yes	Water-Si (except Salt Crus Aquatic I Hydroge Oxidized Presence Recent I Stunted Other (E	tained Le MLRA 1, st (B11) Invertebra n Sulfide Rhizosph e of Redu ron Redu or Stress xplain in X X X	2, 4A, an ates (B13) Odor (C1) eres on Liver (C1) e	ches):	(C3) (C6) (C6) (C6) (C7) (C7) (C7) (C7) (C7) (C7) (C7) (C7	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost Heave Hummocks (D7) Wetland Hydrology Present? Yes NoX
etland Hyde Primary Indi Surface High Wa Saturati Water M Sedime Drift De Algal Ma Iron De Surface Inundati Sparsely Field Obset Saturation F includes ca	cators (minimum of Water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) cosits (B5) Soil Cracks (B6) ion Visible on Aerial Vegetated Concave Servations: ter Present? Present? Present? pillary fringe)	I Imagery (B Gurface (B8) Yes Yes Yes	Water-Si (except Salt Crus Aquatic I Hydroge Oxidized Presence Recent I Stunted Other (E	tained Le MLRA 1, st (B11) Invertebra n Sulfide Rhizosph e of Redu ron Redu or Stress xplain in X X X	2, 4A, an ates (B13) Odor (C1) eres on Liver (C1) e	ches):	(C3) (C6) (C6) (C6) (C7) (C7) (C7) (C7) (C7) (C7) (C7) (C7	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost Heave Hummocks (D7) Wetland Hydrology Present? Yes NoX
etland Hyd Primary Indi Surface High Wa Saturati Water N Sedime Drift De Algal Ma Iron Del Surface Inundati Sparsely Field Obset Surface Wa Vater Table Saturation Fincludes ca	cators (minimum of Water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) cosits (B5) Soil Cracks (B6) ion Visible on Aerial Vegetated Concave Servations: ter Present? Present? Present? pillary fringe)	I Imagery (B Gurface (B8) Yes Yes Yes	Water-Si (except Salt Crus Aquatic I Hydroge Oxidized Presence Recent I Stunted Other (E	tained Le MLRA 1, st (B11) Invertebra n Sulfide Rhizosph e of Redu ron Redu or Stress xplain in X X X	2, 4A, an ates (B13) Odor (C1) eres on Liver (C1) e	ches):	(C3) (C6) (C6) (C6) (C7) (C7) (C7) (C7) (C7) (C7) (C7) (C7	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost Heave Hummocks (D7) Wetland Hydrology Present? Yes NoX
etland Hyde Primary Indi Surface High Wa Saturati Water N Sedime Drift De Algal Ma Iron De Surface Inundati Sparsely Field Obset Surface Wa Water Table Saturation Fincludes ca Describe Re	cators (minimum of Water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) cosits (B5) Soil Cracks (B6) ion Visible on Aerial Vegetated Concave Servations: ter Present? Present? Present? pillary fringe)	I Imagery (B Surface (B8) Yes Yes Yes m gauge, mo	Water-Si (except Salt Crus Aquatic Hydroge Oxidized Presenc Recent I Stunted Other (E	tained Le MLRA 1, st (B11) Invertebra n Sulfide Rhizosph e of Redu ron Redu or Stress xplain in X X X	2, 4A, an ates (B13) Odor (C1) eres on Liver (C1) e	ches):	(C3) (C6) (C6) (C6) (C7) (C7) (C7) (C7) (C7) (C7) (C7) (C7	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost Heave Hummocks (D7) Wetland Hydrology Present? Yes NoX

Project/Site: TEWS HMS 2	City/	County: King		Sampling Date: 3/22/2022
Applicant/Owner: ADCOMM		State: WA		Sampling Point: HMS 2 1
Investigator(s): Patrick Togher and Mallory Phillips	Section	n, Township, Ra	ange: S21	, T25N, R7E
Landform (hillslope, terrace, etc.): Terrace	Lo	ocal relief (cond	cave, conve	x, none): Convex Slope (%): 0
Subregion (LRR): A		Lat: 47	7.637191	Long: -121.916078 Datum: WGS84
Soil Map Unit Name: Fluventic Haplumbrepts			NWI	Classification: Upland
Are climatic/hydrologic conditions of the site typical for	this time of	the year?	Yes X	No (If no, explain in remarks)
Are vegetation , Soil , or Hydrology		significantly of	disturbed?	Are "Normal Circumstances"
Are vegetation , Soil , or Hydrology		naturally prob	blematic?	present? (If needed, explain any answers in remarks) Yes X No
SUMMARY OF FINDINGS - Attach site map sh			location, tr	uny unswers in remarks,
Hydrophytic vegetation present? Yes	Х	No	lo the ee	manufad avaa
Hydric soil present? Yes		No X		mpled area a wetland?
Indicators of wetland hydrology present? Yes		No X	Within	Yes No X
Remarks: NE corner of SE 32nd and and SR 203. W	etland delin	eated north of	plot. Plot lo	cated directly downslope from stop sign on NE 32nd
st.			p.oo	
VEGETATION Use scientific names of plants				
VICE THE COS COLONIANS NAMES OF PLANE	Absolute	Dominant	Indicator	Dominance Test Worksheet
<u>Tree Stratum</u> (Plot size: 30' r)	% Cover	Species	Status	Number of Dominant Species that
1.				are OBL, FACW, or FAC: 3 (A)
2.				Total Number of Dominant
3.				Species Across all Strata: 3 (B)
4				Percent of Dominant Species that
	0 =	= Total Cover		are OBL, FACW, or FAC: 100% (A/B)
Sapling/Shrub Stratum (Plot size: 30' r)				
1				Prevalence Index Worksheet
2				Total % Cover of: Multiply by:
3				OBL species 0 x 1 = 0
4				FACW species 45 x 2 = 90
5				FAC species 87 x 3 = 261
Herb Stratum (Plot size: 5' r)	=	= Total Cover		FACU species 2 x 4 = 8 UPL species 6 x 5 = 30
1. Phalaris arundinacea	45	Υ	FACW	Column totals 140 (A) 389 (B)
2. Agrostis stolonifera	30	<u> </u>	FAC	Prevalence Index = B/A = 2.78
3. Schedonorus arundinaceus	17	N	FAC	Trevalence index = B/A = 2.70
4. Geranium molle	5	N	UPL	Hydrophytic Vegetation Indicators:
5. Taraxacum officinale	2		FACU	1 - Rapid Test for Hydrophytic Vegetation
6. Vicia sp.	1	N	UPL	X 2 - Dominance Test is >50%
7.				3 - Prevalence Index is ≤3.0
8.				4 - Morphological Adaptations* (Provide supporting
9.				data in Remarks or on a separate sheet)
10.				5 - Wetland Non-Vascular Plants ¹
11.				Problematic Hydrophytic Vegetation ¹
	100 =	Total Cover		(Explain)
Woody Vine Stratum (Plot size: 30' r)				¹ Indicators of hydric soil and wetland hydrology must be
1. Rubus armeniacus	40	Y	FAC	present, unless disturbed or problematic
2				Hydrophytic
	40 =	= Total Cover		vegetation
% Bare Ground in Herb Stratum 0				present? Yes X No
Remarks:				
Hydrophytic vegetation is dominant.				

SOIL

Sampling Point: HMS 2.1

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

Depth	Matrix	e to the dep		dox Feat		ator or c	ommin me	absence of indicators.)
(Inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
0-11	10YR 3/2	100					GSiCL	
11-14	10YR 3/3	100					GSiCL	
14-16	10YR 4/3	100					GSiCL	
16-22+	2.5Y 4/3	95	10YR 4/6	5	С	М	SCL	1-2mm
• • • • • • • • • • • • • • • • • • • •	oncentration, D=Depl					ed Sand G		Location: PL=Pore Lining, M=Matrix.
-	I Indicators: (Appli	cable to all	•		•		Indi	icators for Problematic Hydric Soils ³ :
Histoso	Epipedon (A2)			edox (S5 Matrix (S	-			2 cm Muck (A10) Red Parent Material (TF2)
	listic (A3)			•	eral (F1) (E	xcept MR		Very Shallow Dark Surface (TF12)
	en Sulfide (A4)			-	atrix (F2)		, <u> </u>	Other (Explain in Remarks
	ed Below Dark Surfa	ice (A11)		d Matrix (,			
	Park Surface (A12)			ark Surfa				dicators of hydrophytic vegetation and
	Mucky Mineral (S1) Gleyed Matrix (S4)			a Dark St Depressio	urface (F7)		wet	land hydrology must be present, unless disturbed or problematic
	Layer (if present):			- CPI COOIC	110 (1 0)	<u> </u>		distarbed of problematic
Type:	Layer (II present).							
Depth (inch	es):					Hydric	Soil Prese	ent? Yes No X
Remarks:			<u></u>					
	t meet hydric soil cri	teria.						
	•							
HYDROLO	icv							
	drology Indicators							
-	licators (minimum of	ono io rogui	rod: chock all th	act apply			Sec	ondary Indicators (2 or more required)
		one is requi	-		20100 (PO)			
	e Water (A1) /ater Table (A2)				eaves (B9) , 2, 4A, an	d 4B)		Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
	ion (A3)		Salt Cru		, _,,	,		Drainage Patterns (B10)
	Marks (B1)				ates (B13)			Dry-Season Water Table (C2)
	ent Deposits (B2)				Odor (C1)		(00)	Saturation Visible on Aerial Imagery (C9)
	eposits (B3) lat or Crust (B4)				neres on Liv uced Iron ((C3)	Geomorphic Position (D2) Shallow Aquitard (D3)
	posits (B5)				uction in Til	•	(C6)	FAC-Neutral Test (D5)
	Soil Cracks (B6)				ed Plants		`	Raised Ant Mounds (D6) (LRR A)
	tion Visible on Aeria		7)Other (E	xplain in	Remarks)			Frost Heave Hummocks (D7)
Sparsely	Vegetated Concave	Surface (B8)						
Field Obse	rvations:							
	iter Present?	Yes	No.	X	Depth (in	_	0	Wetland Hydrology Present?
Water Table Saturation		Yes Yes	X No	X	Depth (in Depth (in	· · ·	>22"	Yes No Y
	apillary fringe)				Deptii (iii		0-16"	Yes NoX
	ecorded Data (strea	m gauge, mo	onitoring well, a	erial pho	tos, previo	us inspec	tions), if ava	ailable:
	·			·	•		•	
Remarks:								
	s present in the A F	B. and C hori	zons from recei	nt rainfall	No indica	ators of w	etland hvdr	ology are present and therefore the
criteria is no		., 7 11011		annull			riyar	g, a p in and anonono and

Project/Site: HMS 3 TEWS	City	County: King		Sampling Date: 3/16/2022
Applicant/Owner: ADCOMM		State: WA		Sampling Point: HMS 3 (1)
Investigator(s): Patrick Togher and Mallory Phillips	Section	n, Township, Ra	ange: S14	; T24N; R7E
Landform (hillslope, terrace, etc.): Hillslope	Lo	ocal relief (con	cave, conve	x, none): Convex Slope (%): 15
Subregion (LRR): A		Lat: 4	7.569736	Long: -121.887273 Datum: WGS84
Soil Map Unit Name: Fluventic Haplumbrepts			NWI	Classification: Upland
Are climatic/hydrologic conditions of the site typical for	this time of	the year?	Yes X	No (If no, explain in remarks)
Are vegetation , Soil , or Hydrology		significantly	disturbed?	Are "Normal Circumstances"
Are vegetation , Soil , or Hydrology		naturally pro	blematic?	present? (If needed, explain any answers in remarks) Yes X No
SUMMARY OF FINDINGS - Attach site map sh		mpling point	location, tr	
Hydrophytic vegetation present? Yes	Х	No		
Hydric soil present? Yes		No X		impled area a wetland?
Indicators of wetland hydrology present? Yes		No X	within a	Yes No X
Remarks: Eastern side of 300-foot radius. Directly ac	cross from r	parking lot on th	ne slone	
Tremains. Lastern side of 500-100t radius. Directly at	01000 110111	barking lot on ti	ю зюро.	
VEGETATION Use scientific names of plant				_
VEGETATION Ose scientific flames of plant	Absolute	Dominant	Indicator	Dominance Test Worksheet
<u>Tree Stratum</u> (Plot size: 30' r)	% Cover	Species	Status	
1. Populus balsamifera	50	Y	FAC	Number of Dominant Species that are OBL, FACW, or FAC: 2 (A)
2.				Total Number of Dominant
3.				Species Across all Strata: 3 (B)
4.				Percent of Dominant Species that
	50	= Total Cover		are OBL, FACW, or FAC: 67% (A/B)
Sapling/Shrub Stratum (Plot size: 30' r)				
1. Cytisus scoparius	5	Y	UPL	Prevalence Index Worksheet
2				Total % Cover of: Multiply by:
3				OBL species 0 x 1 = 0
4				FACW species 0 x 2 = 0
5		Tatal Cavar		FACILIPROSIDE 130 x 3 = 390
Herb Stratum (Plot size: 5' r)	5	= Total Cover		FACU species 16 x 4 = 64 UPL species 10 x 5 = 50
1. Agrostis stolonifera	70	Y	FAC	Column totals 156 (A) 504 (B)
2. Schedonorus arundinaceus	10		FAC	Prevalence Index = $B/A = 3.23$
3. Hypochaeris radicata	10	N	FACU	- 1 Tovalence Index
4. Taraxacum officinale	5	N	FACU	Hydrophytic Vegetation Indicators:
5. Geranium molle	5	N	UPL	1 - Rapid Test for Hydrophytic Vegetation
6. Plantago lanceolata	1	N	FACU	X 2 - Dominance Test is >50%
7.				3 - Prevalence Index is ≤3.0
8.				4 - Morphological Adaptations* (Provide supporting
9				data in Remarks or on a separate sheet)
10				5 - Wetland Non-Vascular Plants ¹
11				Problematic Hydrophytic Vegetation ¹
	101	= Total Cover		—— (Explain)
Woody Vine Stratum (Plot size: 30' r)				¹ Indicators of hydric soil and wetland hydrology must be
1				present, unless disturbed or problematic
2		Tatal Cavar		Hydrophytic
% Bare Ground in Herb Stratum 0	0	= Total Cover		vegetation present? Yes X No
				present: res X
Remarks:				
Hydrophytic vegetation is dominant.				

SOIL Sampling Point: HMS 3 (1) Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Redox Features Depth Color (moist) (Inches) Color (moist) % Loc² Texture % Type¹ 0-20+10YR 4/2-4/3 100 GS ¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix. Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils³: 2 cm Muck (A10) Histosol (A1) Sandy Redox (S5) Histic Epipedon (A2) Stripped Matrix (S6) Red Parent Material (TF2) Black Histic (A3) Loamy Mucky Mineral (F1) (Except MRLA 1) Very Shallow Dark Surface (TF12) Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Other (Explain in Remarks Depleted Below Dark Surface (A11) Depleted Matrix (F3) Thick Dark Surface (A12) Redox Dark Surface (F6) ³Indicators of hydrophytic vegetation and Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) wetland hydrology must be present, unless Sandy Gleyed Matrix (S4) Redox Depressions (F8) disturbed or problematic Restrictive Layer (if present): Type: Depth (inches): **Hydric Soil Present?** No Χ Remarks: Appears to be roadfill. Soils do not satisfy hydric soils criteria. **HYDROLOGY** Wetland Hydrology Indicators Secondary Indicators (2 or more required) Primary Indicators (minimum of one is required; check all that apply Water-Stained Leaves (B9) (MLRA 1, Surface Water (A1) Water-Stained Leaves (B9) High Water Table (A2) (except MLRA 1, 2, 4A, and 4B) 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 on Living Roots (C3) Geomorphic Position (D2) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Shallow Aquitard (D3) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) FAC-Neutral Test (D5) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) Frost Heave Hummocks (D7) Sparsely Vegetated Concave Surface (B8) Field Observations:

Surface Water Present?	Yes	No	X	Depth (inches):	0	Wetland Hy	drology Present	?
Vater Table Present?	Yes	No	Х	Depth (inches):	>20"			
Saturation Present?	Yes	No	Х	Depth (inches):	>20"	Yes	No X	
includes capillary fringe)				_				
escribe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:								

No indicators of wetland hydrology are present.

Project/Site: HMS 3 TEWS	City/0	County: King		Sampling Date: 3/16/2022
Applicant/Owner: ADCOMM		State: WA		Sampling Point: HMS3 2
Investigator(s): Patrick Togher and Mallory Phillips	Section,	, Township, Ra	ange: S14	; T24N; R7E
Landform (hillslope, terrace, etc.): Depression w/in te	rrace Lo	cal relief (cond	cave, conve	x, none): Concave Slope (%): 0
Subregion (LRR): A		Lat: <u>4</u>	7.570182	Long: <u>-121.887366</u> Datum: <u>WGS84</u>
Soil Map Unit Name: Fluventic Haplumbrepts			NWI	Classification: Upland
Are climatic/hydrologic conditions of the site typical for	this time of t	the year?	Yes X	No (If no, explain in remarks)
Are vegetation , Soil , or Hydrology		significantly of	disturbed?	Are "Normal Circumstances"
Are vegetation , Soil , or Hydrology		naturally prol	olematic?	present? (If needed, explain any answers in remarks) Yes X No
SUMMARY OF FINDINGS - Attach site map sh	owing san	npling point	location, tr	
Hydrophytic vegetation present? Yes	Х	No	1- 41	and days
Hydric soil present? Yes		No X		mpled area a wetland?
Indicators of wetland hydrology present? Yes		No X	Within	Yes No X
Remarks: East side of SR 203, east of blue "Fall City	Community	Park" sign (or	posite side	of Fall City Carnation Rd).
	-	9 (- -		
VECETATION III a significant service of plants				
VEGETATION Use scientific names of plants				Dominance Test Worksheet
<u>Tree Stratum</u> (Plot size: 30' r)	Absolute % Cover	Dominant Species	Indicator Status	
1.	70 COVE	Opecies	Otatus	Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)
2.				Total Number of Dominant
3.				Species Across all Strata: 1 (B)
4.				Percent of Dominant Species that
	0 =	Total Cover		are OBL, FACW, or FAC: 100% (A/B)
Sapling/Shrub Stratum (Plot size: 30' r)				
1				Prevalence Index Worksheet
2				Total % Cover of: Multiply by:
3				OBL species 0 x 1 = 0
4				FACW species $0 \times 2 = 0$ FAC species $100 \times 3 = 300$
5	0 =	Total Cover		FACU species 0 x 4 = 0
Herb Stratum (Plot size: 5' r)		Total Gover		UPL species $0 \times 5 = 0$
1.				Column totals 100 (A) 300 (B)
2.				Prevalence Index = $B/A = 3.00$
3.				
4.				Hydrophytic Vegetation Indicators:
5.				1 - Rapid Test for Hydrophytic Vegetation
6				X 2 - Dominance Test is >50%
7				3 - Prevalence Index is ≤3.0
8				4 - Morphological Adaptations* (Provide supporting data in Remarks or on a separate sheet)
9				, ,
10. 11.				5 - Wetland Non-Vascular Plants ¹
· · · · · · · · · · · · · · · · · · ·	0 =	Total Cover		Problematic Hydrophytic Vegetation ¹ (Explain)
Woody Vine Stratum (Plot size: 30' r)		10101 00101		¹Indicators of hydric soil and wetland hydrology must be
1. Rubus armeniacus	100	Υ	FAC	present, unless disturbed or problematic
2.				Hydrophytic
	100 =	Total Cover		vegetation
% Bare Ground in Herb Stratum 100				present? Yes X No
Remarks:				
Dominant vegetation is hydrophytic.				

SOIL **Sampling Point: HMS32** Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Redox Features Depth (Inches) Color (moist) Color (moist) Loc² % Texture % Type¹ 0-11 10YR 2/2 100 **GSiL** 11-20+ **GSiL** 10YR 3/3 100 ¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix. Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils³: 2 cm Muck (A10) Histosol (A1) Sandy Redox (S5) Histic Epipedon (A2) Stripped Matrix (S6) Red Parent Material (TF2) Black Histic (A3) Loamy Mucky Mineral (F1) (Except MRLA 1) Very Shallow Dark Surface (TF12) Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Other (Explain in Remarks Depleted Below Dark Surface (A11) Depleted Matrix (F3) Thick Dark Surface (A12) Redox Dark Surface (F6) ³Indicators of hydrophytic vegetation and Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) wetland hydrology must be present, unless Sandy Gleyed Matrix (S4) Redox Depressions (F8) disturbed or problematic Restrictive Layer (if present): Type: Depth (inches): **Hydric Soil Present?** No Χ Remarks: A and B horizon are compacted. Soils do not meet hydric soils criteria. HYDROLOGY Wetland Hydrology Indicators Secondary Indicators (2 or more required) Primary Indicators (minimum of one is required; check all that apply Surface Water (A1) Water-Stained Leaves (B9) Water-Stained Leaves (B9) (MLRA 1, High Water Table (A2) (except MLRA 1, 2, 4A, and 4B) 2, 4A, and 4B) Saturation (A3) Drainage Patterns (B10) Salt Crust (B11) 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 on Living Roots (C3) Geomorphic Position (D2) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Shallow Aquitard (D3)

Recent Iron Reduction in Tilled Soils (C6) FAC-Neutral Test (D5) Iron Deposits (B5) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) Frost Heave Hummocks (D7) Sparsely Vegetated Concave Surface (B8) Field Observations: Yes Depth (inches): Surface Water Present? Wetland Hydrology Present? Yes Depth (inches): Water Table Present? No Saturation Present? Yes No Depth (inches): No X (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Top layer is moist from recent rainfall but lower horizon is totally dry. No indicators of wetland hydrology are present.

Project/Site: HMS 4 TEWS	City/	County: King		Sampling Date: 3/16/2022		
Applicant/Owner: ADCOMM		State: WA		Sampling Point: HMS 4NE (1)		
Investigator(s): Patrick Togher and Mallory Phillips	Section	ı, Township, R	ange: S25	; T26N; R6E		
Landform (hillslope, terrace, etc.): Terrace	_ Lo	ocal relief (con	cave, conve	x, none): Concave Slope (%): 1		
Subregion (LRR): A		Lat: <u>4</u>	7.709379	Long: -121.983982 Datum: WGS84		
Soil Map Unit Name: Aquic Vitrixerands			NW	l Classification: PSS		
Are climatic/hydrologic conditions of the site typical for	this time of	the year?	Yes X	No (If no, explain in remarks)		
Are vegetation, Soil, or Hydrology		significantly	disturbed?	Are "Normal Circumstances" present? (If needed, explain		
Are vegetation, Soil, or Hydrology		naturally pro	blematic?	any answers in remarks) Yes X No		
SUMMARY OF FINDINGS - Attach site map s	howing sar	mpling point	location, to	ransects, important features, etc.		
Hydrophytic vegetation present? Yes	X	No	le the ca	impled area		
Hydric soil present? Yes	X			a wetland?		
Indicators of wetland hydrology present? Yes	X	No		Yes X No		
Remarks: NE quadrant of 300-foot radius near silver	utilities box	adjacent to roa	adway. Wetla	and plot.		
VEGETATION Use scientific names of plant	s					
Table to the second of the sec	Absolute	Dominant	Indicator	Dominance Test Worksheet		
<u>Tree Stratum</u> (Plot size: 30' r)	% Cover	Species	Status	Number of Dominant Species that		
1.		•		are OBL, FACW, or FAC: 3 (A)		
2.				Total Number of Dominant		
3				Species Across all Strata: 4 (B)		
4				Percent of Dominant Species that		
0 - 1' - (0) - 1 - 0 - 1	0 =	= Total Cover		are OBL, FACW, or FAC: 75% (A/B)		
Sapling/Shrub Stratum (Plot size: 30' r)	40	V	FACU	Prevalence Index Worksheet		
Symphoricarpos albus Cornus alba	<u>40</u> 35	<u>Y</u> Y	FACU	Total % Cover of: Multiply by:		
3.			TACW	OBL species 0 x 1 = 0		
4				FACW species 41 x 2 = 82		
5.				FAC species 90 x 3 = 270		
	75 =	Total Cover		FACU species 43 x 4 = 172		
Herb Stratum (Plot size: 5' r)				UPL species 1 x 5 = 5		
Agrostis stolonifera	60	Υ	FAC	Column totals 175 (A) 529 (B)		
2. Schedonorus arundinaceus	30	<u> </u>	FAC	Prevalence Index = B/A = 3.02		
3. Phalaris arundinacea	6	N	FACW			
4. Taraxacum officinale	1	N	FACU	Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation		
5. Geranium robertianum 6. Unidentified sedge 1	<u> </u>	N	FACU UPL	X 2 - Dominance Test is >50%		
7. Galium aparine	1	N	FACU	3 - Prevalence Index is ≤3.0		
8.				4 - Morphological Adaptations* (Provide supporting		
9.				data in Remarks or on a separate sheet)		
10.				5 - Wetland Non-Vascular Plants ¹		
11.				Problematic Hydrophytic Vegetation ¹		
	100 =	 Total Cover 		(Explain)		
Woody Vine Stratum (Plot size: 30' r)				¹ Indicators of hydric soil and wetland hydrology must be		
1				present, unless disturbed or problematic		
2		Total Cause	-	Hydrophytic		
% Bare Ground in Herb Stratum 0	0 =	= Total Cover		vegetation present? Yes X No		
				prosent: 165 A N		
Remarks:						
Dominant species satisfy hydrophytic vegetation criter	a.					

SOIL Sampling Point: HMS 4NE (1)

Depth	cription: (Describ Matrix		Re	edox Feat	ures						
(Inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Textu	re		Rema	rks
0-5	10YR 2/1	100					L				
5-11	10YR 4/2	80	10YR 5/3	20	С	М	GCL			5-10n	nm
11-20+									pparently	compa	cted fill materia
¹ Type: C=C	oncentration, D=Depl	etion RM-I	Reduced Matrix	CS-Cover	ed or Coate	ad Sand G	raine	² l ocat	ion: DI -D	ore Linin	g, M=Matrix.
	I Indicators: (Appli					eu Gariu C					ic Hydric Soil
Histoso		00010 to u.	·	Redox (S5					Muck (A		
	pipedon (A2)			d Matrix (S	•		_		Parent M	•	ΓF2)
Black H	listic (A3)		Loamy I	Mucky Min	eral (F1) (E	xcept MR	LA 1)	Very	Shallow	Dark Su	rface (TF12)
	en Sulfide (A4)			Gleyed M	, ,		_	Othe	er (Explair	n in Rem	arks
	ed Below Dark Surfa	ice (A11)	X Deplete	•				2			
	Park Surface (A12)			Dark Surfa	, ,						vegetation an
	Mucky Mineral (S1) Gleyed Matrix (S4)			ed Dark St Depressio	urface (F7)		,	wetland	hydrology disturbe		e present, unle
<u> </u>	. ,			Depressio	115 (1 0)	1			uistui bet	a or proc	леттанс
	Layer (if present):										
Type: Depth (inch	compacted fill mate es): 11"	riai				Hydric	Soil Pr	osont?	Yes	X	No
	es). <u>11</u>					Tiyunc	301111	esent:	163		
Remarks:											
D :-											
	very compacted wi										
matrix indic	ator (depleted layer	is 80% chr	oma of 2, thickn	ess of at l	least 6"). /	Additional	ly, soils	are depl	eted belo	w dark s	urface (B
matrix indic		is 80% chr	oma of 2, thickn	ess of at l	least 6"). /	Additional	ly, soils	are depl	eted belo	w dark s	urface (B
matrix indic horizon has criteria.	ator (depleted layer depleted matrix wit	is 80% chr	oma of 2, thickn	ess of at l	least 6"). /	Additional	ly, soils	are depl	eted belo	w dark s	urface (B
matrix indic horizon has criteria. HYDROLO	ator (depleted layer depleted matrix wit	is 80% chr	oma of 2, thickn	ess of at l	least 6"). /	Additional	ly, soils	are depl	eted belo	w dark s	urface (B
matrix indic horizon has criteria. HYDROLO Wetland Hyd	ator (depleted layer depleted matrix wit GY drology Indicators	is 80 ⁻ % chr h 80% chro	oma of 2, thicknoma of 2 starting	ess of at l within 12	least 6"). /	Additional	ly, soils is at lea	are depl ist 6" thic	eted belo ck). Soils	w dark s	urface (B nydric soil
matrix indic horizon has criteria. HYDROLO Wetland Hyd Primary Ind	ator (depleted layer depleted matrix with depleted	is 80 ⁻ % chr h 80% chro	oma of 2, thicknoma of 2 starting	ess of at I within 12	least 6"). /	Additionali	ly, soils is at lea	are depl ast 6" thic	eted belock). Soils	w dark s satisfy l	urface (B nydric soil r more required
matrix indice horizon has criteria. HYDROLO Wetland Hyde Primary Index X Surface	ator (depleted layer depleted matrix with depleted	is 80 ⁻ % chr h 80% chro	oma of 2, thicknoma of 2 starting uired; check all t	ess of at I I within 12 that apply Stained Le	least 6"). / " of the su	Additionall	ly, soils is at lea	are depl	eted belock). Soils ry Indicater-Stained	w dark s satisfy l	urface (B nydric soil
matrix indice horizon has criteria. HYDROLO Wetland Hyde Primary Index X Surface X High W	ator (depleted layer depleted matrix with depleted	is 80 ⁻ % chr h 80% chro	oma of 2, thicknoma of 2 starting uired; check all t	ess of at I within 12 that apply Stained Le	least 6"). /	Additionall	ly, soils is at lea	Seconda Wate	eted belock). Soils ary Indicater-Stained A, and 4E	w dark s satisfy l	urface (B nydric soil r more required s (B9) (MLRA 1
matrix indice horizon has criteria. HYDROLO Wetland Hyo Primary Index X Surface X High W X Saturat	ator (depleted layer depleted matrix with depleted	is 80 ⁻ % chr h 80% chro	uired; check all to water-S (exceptions)	ess of at I within 12 that apply Stained Le t MLRA 1 ust (B11)	least 6"). / of the su eaves (B9)	Additionaling and a second and a second	ly, soils is at lea	Seconda Wate 2, 44	eted belock). Soils ry Indicater-Stained	ors (2 of Leaves) erns (B1	urface (B nydric soil r more required s (B9) (MLRA 1
matrix indice horizon has criteria. HYDROLO Wetland Hyo Primary Index X Surface X High W X Saturat Water I	ator (depleted layer depleted matrix with depleted	is 80 ⁻ % chr h 80% chro	uired; check all to was a check all to was a check all to was a check all to check all to Aquatic	that apply Stained Let MLRA 1 Just (B11) Invertebr	least 6"). / " of the su	Additionall rface and	ly, soils is at lea	Seconda Wate 2, 44 Drail	eted belock). Soils ary Indicater-Stained A, and 4E hage Patt Season V	w dark s satisfy l ors (2 or d Leaves d) erns (B1	urface (B nydric soil r more required s (B9) (MLRA 1
matrix indice horizon has criteria. HYDROLO Wetland Hyde Primary Index X Surface X High W X Saturat Water I Sedime	ator (depleted layer depleted matrix with depleted	is 80 ⁻ % chr h 80% chro	uired; check all to water-S (exception Salt Crue Aquatic Hydrogo Oxidized	chat apply Stained Le t MLRA 1 Ust (B11) Invertebren Sulfided d Rhizosph	eaves (B9) , 2, 4A, an ates (B13) e Odor (C1 neres on Lir	Additionaling and the state of	ly, soils is at lea	Seconda Wate 2, 4, Drain Dry- Satu Geo	eted belock). Soils ary Indicate er-Stained A, and 4E hage Patt Season V ration Visi morphic F	ors (2 or d Leaves s) erns (B1 Vater Ta ble on A	r more required (B) (MLRA 1 (0) (ble (C2) erial Imagery (C(D2)
matrix indice horizon has criteria. HYDROLO Wetland Hyde Primary Index X Surface X High W X Saturat Water I Sedime Drift De Algal M	ator (depleted layer depleted matrix with depleted matrix (minimum of example with depleted matrix w	is 80 ⁻ % chr h 80% chro	uired; check all f Water-S (except Salt Cru Aquatic Hydrog Oxidized Presend	chat apply Stained Le t MLRA 1 Invertebren Sulfide d Rhizosphoe of Redi	eaves (B9) , 2, 4A, an ates (B13) e Odor (C1 neres on Liruced Iron (d 4B) ying Roots (C4)	ly, soils is at lea	Seconda	eted belock). Soils ary Indicate er-Stained A, and 4E nage Patt Season V ration Visi morphic F low Aquit	ors (2 or decrease) locate (2 or decrease) locate (2 or decrease) locate (3 or decrease) locate (4 or decrease) locate (5 or decrease) locate (5 or decrease) locate (5 or decrease)	r more required s (B9) (MLRA 1 0) ble (C2) erial Imagery (C
matrix indice horizon has criteria. HYDROLO Wetland Hyde Primary Index X Surface X High W X Saturat Water I Sedime Drift De Algal M Iron De	ator (depleted layer depleted matrix with depleted matrix (minimum of example with depleted matrix with depleted matrix (minimum of example with depleted matrix w	is 80 ⁻ % chr h 80% chro	uired; check all to water-s (except Salt Cru Aquatic Hydrogo Oxidized Present Recent	chat apply Stained Le t MLRA 1 Invertebr en Sulfide d Rhizosph ce of Redi	east 6"). / of the su eaves (B9) , 2, 4A, an ates (B13) e Odor (C1 neres on Livuced Iron (action in Ti	d 4B) or ving Roots (C4) lled Soils	ly, soils is at lea	Seconda	ary Indicate er-Stained A, and 4E hage Patt Season Viration Visimorphic Flow Aquit-Neutral	ors (2 or decrease) ors (81 or decrease) ors (82 or decrease) ors (81 or decrease) ors (82 or decrease) ors (83 or decrease)	r more required (B) (B9) (MLRA 10) (C2) (D2)
matrix indice horizon has criteria. HYDROLO Wetland Hyde Primary Index X Surface X High W X Saturat Water I Sedime Drift De Algal M Iron De Surface	ator (depleted layer depleted matrix with depleted matrix (minimum of experiment) with depleted matrix (minimum of experiment) depleted matrix with depleted matrix	is 80% chro	uired; check all f Water-S (except Salt Cru Aquatic Hydrog Oxidized Presend Recent Stunted	chat apply Stained Le t MLRA 1 Invertebr en Sulfide d Rhizosph ce of Redi Iron Redu I or Stress	east 6"). // eaves (B9) , 2, 4A, an ates (B13) e Odor (C1 neres on Livuced Iron (auction in Tied Plants	d 4B) d 4B) ving Roots (C4) lled Soils (D1) (LRF	ly, soils is at lea	Seconda Wate 2, 4, Drain Dry- Satu Geo Shal FAC Rais	ary Indicate er-Stained A, and 4E hage Patt Season Viration Visimorphic Flow Aquit-Neutral ded Ant Medical Season Medical Ant Medical Season	w dark s satisfy ors (2 or d Leaves s) erns (B1 Vater Ta ble on Ar Position ard (D3) Fest (D5 ounds (I	r more required (B) (MLRA 1 (D) (MLRA 1 (D) (D2) (D2) (D2) (D6) (LRR A)
matrix indice horizon has criteria. HYDROLO Wetland Hyde Primary Index X Surface X High W X Saturat Water I Sedime Drift De Algal M Iron De Surface Inundati	ator (depleted layer depleted matrix with depleted matrix (minimum of example with depleted matrix with depleted matrix (minimum of example with depleted matrix w	is 80% chro	uired; check all f water-s (except Salt Cru Aquatic Hydrog Oxidizer Present Recent Stunted B7) Other (I	chat apply Stained Le t MLRA 1 Invertebr en Sulfide d Rhizosph ce of Redi Iron Redu I or Stress	east 6"). / of the su eaves (B9) , 2, 4A, an ates (B13) e Odor (C1 neres on Livuced Iron (action in Ti	d 4B) d 4B) ving Roots (C4) lled Soils (D1) (LRF	ly, soils is at lea	Seconda	ary Indicate er-Stained A, and 4E hage Patt Season Viration Visimorphic Flow Aquit-Neutral	w dark s satisfy ors (2 or d Leaves s) erns (B1 Vater Ta ble on Ar Position ard (D3) Fest (D5 ounds (I	r more required (B) (MLRA 1 (D) (MLRA 1 (D) (D2) (D2) (D2) (D6) (LRR A)
matrix indice horizon has criteria. HYDROLO Wetland Hyde Primary Index X Surface X High W X Saturat Water I Sedime Drift De Algal M Iron De Surface Inundat Sparsely	ator (depleted layer depleted matrix with depleted matrix (minimum of experiment) depleted (a) and depleted (a) and depleted (b) and depleted (c) an	is 80% chro	uired; check all f water-s (except Salt Cru Aquatic Hydrog Oxidizer Present Recent Stunted B7) Other (I	chat apply Stained Le t MLRA 1 Invertebr en Sulfide d Rhizosph ce of Redi Iron Redu I or Stress	east 6"). // eaves (B9) , 2, 4A, an ates (B13) e Odor (C1 neres on Livuced Iron (auction in Tied Plants	d 4B) d 4B) ving Roots (C4) lled Soils (D1) (LRF	ly, soils is at lea	Seconda	ary Indicate er-Stained A, and 4E hage Patt Season Viration Visimorphic Flow Aquit-Neutral ded Ant Medical Season Medical Ant Medical Season	w dark s satisfy ors (2 or d Leaves s) erns (B1 Vater Ta ble on Ar Position ard (D3) Fest (D5 ounds (I	r more required (B) (MLRA 1 (D) (MLRA 1 (D) (D2) (D2) (D2) (D6) (LRR A)
matrix indice horizon has criteria. HYDROLO Wetland Hyde Primary Index X Surface X High W X Saturat Water I Sedime Drift De Algal M Iron De Surface Inundat Sparsely Field Obse	ator (depleted layer depleted matrix with depleted matrix (minimum of a Water (A1) dater Table (A2) dion (A3) darks (B1) deposits (B1) deposits (B2) deposits (B3) deposits (B3) deposits (B5) deposits (B5) deposits (B5) deposits (B6) dion Visible on Aeria depleted Concave Servations:	is 80% chro h 80% chro one is req I Imagery (I	uired; check all f water-S (except Salt Cru Aquatic Hydrog Oxidizer Present Recent Stunted B7) Other (I	chat apply Stained Le t MLRA 1 Invertebr en Sulfide d Rhizosph ce of Redi Iron Redu I or Stress Explain in	east 6"). / eaves (B9) , 2, 4A, an ates (B13) e Odor (C1 neres on Livuced Iron (auction in Ti sed Plants Remarks)	d 4B) or of the control of the cont	y, soils is at lea	Seconda Wate 2, 4/ Draii Dry- Satu Geo Shal FAC Rais Fros	ary Indicate er-Stained A, and 4E hage Patt Season V ration Visi morphic Flow Aquit -Neutral de Ant Met Heave F	ors (2 or decrease) lors (8 or decrease) lors (9 or decrease) lors (9 or decrease)	r more required s (B9) (MLRA 1 0) ble (C2) erial Imagery (C (D2)) 06) (LRR A) ks (D7)
matrix indice horizon has criteria. HYDROLO Wetland Hyde Primary Index X Surface X High W X Saturat Water I Sedime Drift De Algal M Iron De Surface Inundat Sparsely Field Obse Surface Water	ator (depleted layer depleted matrix with depleted matrix (a) and depleted matrix (b) depleted matrix (b) depleted matrix (b) depleted matrix (b) depleted matrix (c) depleted matrix (d) depleted depleted matrix (d) depleted d)	is 80% chro h 80% chro Tone is req I Imagery (i Surface (B8)	uired; check all f Water-S (except Salt Cru Aquatic Hydrog Oxidized Presend Recent Stunted Other (I	chat apply Stained Le th MLRA 1 Invertebren Sulfide d Rhizosphee of Redi Iron Redu or Stress Explain in	east 6"). / eaves (B9) , 2, 4A, an ates (B13) e Odor (C1 neres on Lived Iron (action in Ti sed Plants Remarks)	d 4B) or of the control of the cont	y, soils is at lea	Seconda Wate 2, 4/ Draii Dry- Satu Geo Shal FAC Rais Fros	ary Indicate er-Stained A, and 4E hage Patt Season V ration Visi morphic Flow Aquit -Neutral de Ant Met Heave F	ors (2 or decrease) lors (8 or decrease) lors (9 or decrease) lors (9 or decrease)	r more required (B) (MLRA 1 (D) (MLRA 1 (D) (D2) (D2) (D2) (D6) (LRR A)
matrix indice horizon has criteria. HYDROLO Wetland Hyde Primary Index X Surface X High W X Saturat Water I Sedime Drift De Algal M Iron De Surface Inundat Sparsely Field Obse	ator (depleted layer depleted matrix with depleted matrix (minimum of depleted matrix with depleted matrix with depleted matrix (minimum of depleted matrix (minimum of depleted matrix with depleted matrix (minimum of depleted matrix with depleted matrix with depleted matrix (minimum of depleted matrix with depleted matrix (minimum of depleted matrix	is 80% chro h 80% chro one is req I Imagery (I	uired; check all f water-S (except Salt Cru Aquatic Hydrog Oxidizer Present Recent Stunted B7) Other (I	chat apply Stained Le that apply Stained Le the MLRA 1 ust (B11) Invertebren Sulfide d Rhizosphoe of Redu Iron Redu I or Stress Explain in	east 6"). / eaves (B9) , 2, 4A, an ates (B13) e Odor (C1 neres on Livuced Iron (auction in Ti sed Plants Remarks)	d 4B) or d 4B)	y, soils is at lea	Seconda Wate 2, 4/ Draii Dry- Satu Geo Shal FAC Rais Fros	eted belock). Soils ery Indicate er-Stained A, and 4E nage Patt Season V ration Visi morphic F low Aquit -Neutral ed Ant M t Heave F	w dark s satisfy leaves (2 or d Leaves (3)) erns (B1) vater Table on Ar Position ard (D3) Fest (D5) ounds (I dummod	r more required s (B9) (MLRA 1 0) ble (C2) erial Imagery (C (D2)) 06) (LRR A) ks (D7)
matrix indice horizon has criteria. HYDROLO Wetland Hyde Primary Indice X X Surface X High W X Saturat Water I Sedime Orift De Algal M Iron De Surface Inundate Sparsely Field Obse Surface Water Table Saturation I	ator (depleted layer depleted matrix with depleted matrix (minimum of depleted matrix with depleted matrix with depleted matrix (minimum of depleted matrix (minimum of depleted matrix with depleted matrix (minimum of depleted matrix with depleted matrix with depleted matrix (minimum of depleted matrix with depleted matrix (minimum of depleted matrix	is 80% chro h 80% chro Tone is req Ulmagery (I Surface (B8) Yes Yes	uired; check all f water-s (except Salt Cru Aquatic Hydrog Oxidized Present Recent Stunted B7) X No	chat apply Stained Le that apply Stained Le the MLRA 1 ust (B11) Invertebren Sulfide d Rhizosphoe of Redu Iron Redu I or Stress Explain in	east 6"). // eaves (B9) , 2, 4A, an ates (B13) e Odor (C1 neres on Livuced Iron (auction in Ti aed Plants Remarks) Depth (ir Depth (ir	d 4B) or d 4B)	y, soils is at least lea	Seconda Wate 2, 4/ Drain Dry- Satu Geo Shal FAC Rais Fros	eted belock). Soils ery Indicate er-Stained A, and 4E nage Patt Season V ration Visi morphic F low Aquit -Neutral ed Ant M t Heave F	w dark s satisfy leaves (2 or d Leaves (3)) erns (B1) vater Table on Ar Position ard (D3) Fest (D5) ounds (I dummod	r more required (B) (B9) (MLRA 1 (D) (D2) (D2) (D2) (D6) (LRR A) (S (D7)
matrix indice horizon has criteria. HYDROLO Wetland Hyde Primary Index X Surface X High W X Saturat Water I Sedime Drift De Algal M Iron De Surface Inundat Sparsely Field Obse Surface Water Table Saturation I (includes ca	ator (depleted layer depleted matrix with depleted matrix (minimum of depleted (minimum of de	is 80% chro h 80% chro one is req I Imagery (I Surface (B8) Yes Yes Yes	uired; check all to water-S (exception — Water-S (exception — Aquatice — Hydrogon — Oxidizere — Presenting — Recenting — Stunted — Stunted — Stunted — No	that apply Stained Let MLRA 1 Invertebren Sulfided Rhizosph ce of Redu Iron Redu I or Stress Explain in	east 6"). / of the su eaves (B9) , 2, 4A, an ates (B13) odor (C1 neres on Livuced Iron (action in Ti sed Plants Remarks) Depth (in Depth (in	d 4B) (d 4B) (ving Roots (C4) (Illed Soils (D1) (LRF	y, soils is at least lea	Seconda Wate 2, 44 Drain Dry- Satu Geo Shal FAC Rais Fros	eted belock). Soils ery Indicater-Stained A, and 4E hage Patt Season V ration Visi morphic F low Aquit -Neutral t Heave F	w dark s satisfy leaves (2 or d Leaves (3)) erns (B1) vater Table on Ar Position ard (D3) Fest (D5) ounds (I dummod	r more required (B) (B9) (MLRA 1 (D) (D2) (D2) (D2) (D6) (LRR A) (S (D7)
matrix indice horizon has criteria. HYDROLO Wetland Hyde Primary Index X Surface X High W X Saturat Water I Sedime Drift De Algal M Iron De Surface Inundat Sparsely Field Obse Surface Water Table Saturation I (includes ca	ator (depleted layer depleted matrix with depleted matrix (minimum of depleted with depleted matrix (minimum of depleted matrix	is 80% chro h 80% chro one is req I Imagery (I Surface (B8) Yes Yes Yes	uired; check all to water-S (exception — Water-S (exception — Aquatice — Hydrogon — Oxidizere — Presenting — Recenting — Stunted — Stunted — Stunted — No	that apply Stained Let MLRA 1 Invertebren Sulfided Rhizosph ce of Redu Iron Redu I or Stress Explain in	east 6"). / of the su eaves (B9) , 2, 4A, an ates (B13) odor (C1 neres on Livuced Iron (action in Ti sed Plants Remarks) Depth (in Depth (in	d 4B) (d 4B) (ving Roots (C4) (Illed Soils (D1) (LRF	y, soils is at least lea	Seconda Wate 2, 44 Drain Dry- Satu Geo Shal FAC Rais Fros	eted belock). Soils ery Indicater-Stained A, and 4E hage Patt Season V ration Visi morphic F low Aquit -Neutral t Heave F	w dark s satisfy leaves (2 or d Leaves (3)) erns (B1) vater Table on Ar Position ard (D3) Fest (D5) ounds (I dummod	r more required (B) (B9) (MLRA 1 (D) (D2) (D2) (D2) (D6) (LRR A) (S (D7)
matrix indice horizon has criteria. HYDROLO Wetland Hyde Primary Index X Surface X High W X Saturat Water I Sedime Drift Dee Algal M Iron Dee Surface Inundat Sparsely Field Obse Surface Water Table Saturation I (includes ca	ator (depleted layer depleted matrix with depleted matrix (minimum of depleted with depleted matrix (minimum of depleted matrix	is 80% chro h 80% chro one is req I Imagery (I Surface (B8) Yes Yes Yes	uired; check all to water-S (exception — Water-S (exception — Aquatice — Hydrogon — Oxidizere — Presenting — Recenting — Stunted — Stunted — Stunted — No	that apply Stained Let MLRA 1 Invertebren Sulfided Rhizosph ce of Redu Iron Redu I or Stress Explain in	east 6"). / of the su eaves (B9) , 2, 4A, an ates (B13) odor (C1 neres on Livuced Iron (action in Ti sed Plants Remarks) Depth (in Depth (in	d 4B) (d 4B) (ving Roots (C4) (lled Soils (D1) (LRF	y, soils is at least lea	Seconda Wate 2, 44 Drain Dry- Satu Geo Shal FAC Rais Fros	eted belock). Soils ery Indicater-Stained A, and 4E hage Patt Season V ration Visi morphic F low Aquit -Neutral t Heave F	w dark s satisfy leaves (2 or d Leaves (3)) erns (B1) vater Table on Ar Position ard (D3) Fest (D5) ounds (I dummod	r more required (B) (B9) (MLRA 1 (D) (D2) (D2) (D2) (D6) (LRR A) (S (D7)
matrix indice horizon has criteria. HYDROLO Wetland Hyde Primary Index X Surface X High W X Saturat Water I Sedime Drift De Algal M Iron De Surface Inundat Sparsely Field Obse Surface Water Table Saturation I (includes ca Describe Re	ator (depleted layer depleted matrix with depleted matrix (a) and depleted matrix (a) depleted matrix (b) depleted matrix (b) depleted matrix (b) depleted matrix (c) depleted matrix (d) depleted d)	is 80% chro h 80% chro f one is req I Imagery (I Surface (B8) Yes Yes Yes Yes The surface of t	uired; check all to water-s (except Salt Cru Aquatic Hydrogo Oxidized Present Stunted B7) Other (I	chat apply Stained Le that apply Stained Le that (B11) Invertebren Sulfide d Rhizosph ce of Redu Iron Redu Iron Redu Iron Stress Explain in	east 6"). // eaves (B9) , 2, 4A, an ates (B13) e Odor (C1 neres on Livuced Iron (action in Ti sed Plants Remarks) Depth (in Depth (in Depth (in	d 4B) or d 4B)	(C3) _ (C6) _ (C6) _ (C7) (C7) (C7) (C7) (C7) (C7) _	Seconda Wate 2, 4, Drain Dry- Satu Geo Shal FAC Rais Fros We Ye:	eted belock). Soils ary Indicate er-Stained A, and 4E nage Patt Season V ration Visi morphic F low Aquit -Neutral ed Ant M t Heave F	w dark s satisfy ors (2 or d Leaves s) erns (B1 Vater Ta ble on Ar Position ard (D3) Fest (D5 counds (I dummod	more required (B) (B) (MLRA 10) (C) (D2) (D2) (D6) (LRR A) (D7) (Present?
matrix indice horizon has criteria. HYDROLO Wetland Hyde Primary Index X Surface X High W X Saturat Water I Sedime Drift De Algal M Iron De Surface Inundat Sparsely Field Obse Surface Water Table Saturation I (includes ca Describe Re	ator (depleted layer depleted matrix with depleted matrix (minimum of depleted with depleted matrix (minimum of depleted matrix	is 80% chro h 80% chro f one is req I Imagery (I Surface (B8) Yes Yes Yes Yes The surface of t	uired; check all to water-s (except Salt Cru Aquatic Hydrogo Oxidized Present Stunted B7) Other (I	chat apply Stained Le that apply Stained Le that (B11) Invertebren Sulfide d Rhizosph ce of Redu Iron Redu Iron Redu Iron Stress Explain in	east 6"). // eaves (B9) , 2, 4A, an ates (B13) e Odor (C1 neres on Livuced Iron (action in Ti sed Plants Remarks) Depth (in Depth (in Depth (in	d 4B) or d 4B)	(C3) _ (C6) _ (C6) _ (C7) (C7) (C7) (C7) (C7) (C7) _	Seconda Wate 2, 4, Drain Dry- Satu Geo Shal FAC Rais Fros We Ye:	eted belock). Soils ary Indicate er-Stained A, and 4E nage Patt Season V ration Visi morphic F low Aquit -Neutral ed Ant M t Heave F	w dark s satisfy ors (2 or d Leaves s) erns (B1 Vater Ta ble on Ar Position ard (D3) Fest (D5 counds (I dummod	more required (B) (B) (MLRA 10) (C) (D2) (D2) (D6) (LRR A) (D7) (Present?

Project/Site: TEWS HMS 4	City/	County: King		Sampling Date: 8/22/2022				
Applicant/Owner: ADCOMM		State: WA		Sampling Point: HMS 4NW-1				
Investigator(s): Patrick Togher and Mallory Phillips	Section	, Township, Ra	nge: S25;	T26N; R06E				
Landform (hillslope, terrace, etc.): Depression	- Lo	ocal relief (cond	ave, convex	, none): Concave Slope (%): 5				
Subregion (LRR): A		Lat: 47	7.710250	Long: -121.984751 Datum: WGS84				
Soil Map Unit Name: Aquic Vitrixerands		_	NWI	Classification: UPL				
Are climatic/hydrologic conditions of the site typical for	this time of	the year?	Yes X	No (If no, explain in remarks)				
Are vegetation, Soil, or Hydrology		significantly of	disturbed?	Are "Normal Circumstances"				
Are vegetation , Soil , or Hydrology		naturally prol		present? (If needed, explain any answers in remarks) Yes X No				
SUMMARY OF FINDINGS - Attach site map sh	nowing sar			any answers in remarks,				
Hydrophytic vegetation present? Yes		No X						
Hydric soil present? Yes		No X		mpled area				
Indicators of wetland hydrology present? Yes		No X	within a	wetland? Yes No X				
Remarks: Plot located in west of SR 203 and north of			on Spoauala					
Remarks. Plot located in west of SR 203 and north of	NE 12411, 1	in swale betwe	en Snoquain	lie Valley ITali alid SR 203.				
VEGETATION Use scientific names of plants	S.			-				
	Absolute	Dominant	Indicator	Dominance Test Worksheet				
<u>Tree Stratum</u> (Plot size: 30' r)	% Cover	Species	Status	Number of Dominant Species that				
1. Acer macrophyllum	55	<u>Y</u>	FACU	are OBL, FACW, or FAC: 1 (A)				
2. Cherry sp.	15	N	UPL	Total Number of Dominant				
3. <i>Plum sp.</i> 4.		N	UPL	Species Across all Strata: 3 (B)				
4	80 =	Total Cover		Percent of Dominant Species that are OBL, FACW, or FAC: 33% (A/B)				
Sapling/Shrub Stratum (Plot size: 30' r)		- Total Govel						
1. Cornus alba	70	Υ	FACW	Prevalence Index Worksheet				
2. Symphoricarpos albus	15	N	FACU	Total % Cover of: Multiply by:				
3. Rubus spectabilis	5	N	FAC	OBL species 0 x 1 = 0				
4. Rubus armeniacus	5	N	FAC	FACW species 75 x 2 = 150				
5. Spiraea douglasii	5	N	FACW	FAC species 12 x 3 = 36				
	100 =	Total Cover		FACU species 85 x 4 = 340				
Herb Stratum (Plot size: 5' r)				UPL species 25 x 5 = 125				
Equisetum arvense	2		FAC	Column totals <u>197</u> (A) <u>651</u> (B)				
2				Prevalence Index = B/A = 3.30				
3								
4				Hydrophytic Vegetation Indicators:				
5				1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50%				
6. 7.				3 - Prevalence Index is ≤3.0				
8.				4 - Morphological Adaptations* (Provide supporting				
9.				data in Remarks or on a separate sheet)				
10.				5 - Wetland Non-Vascular Plants ¹				
11.				Problematic Hydrophytic Vegetation ¹				
	2 =	Total Cover		(Explain)				
Woody Vine Stratum (Plot size: 30' r)				¹ Indicators of hydric soil and wetland hydrology must be				
1. Rubus laciniatus	15	Y	FACU	present, unless disturbed or problematic				
2				Hydrophytic				
W = 0 11 11 1 2 1 2	15=	Total Cover		vegetation				
% Bare Ground in Herb Stratum 98				present? Yes No X				
Remarks:								
The dominant vegetation does not satisfy hydrophytic v	egetation c	riterion.						

SOIL Sampling Point: HMS 4NW-1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth	Matrix			dox Featu				
(Inches)	Color (moist)	<u></u> Col	or (moist)	%	Type ¹	Loc ²	Textu	
								Angular spalls/fill
-								
¹ Type: C=C	oncentration, D=Deple	etion, RM=Redu	ced Matrix, C	S=Covere	d or Coate	ed Sand G	Frains.	² Location: PL=Pore Lining, M=Matrix.
	l Indicators: (Applic							Indicators for Problematic Hydric Soils ³ :
Histoso	· ,	_		edox (S5)			_	2 cm Muck (A10)
	Epipedon (A2)	_		Matrix (S	,		<u>-</u>	Red Parent Material (TF2)
	Histic (A3)	_		-	eral (F1) (E	xcept MF	RLA 1) _	Very Shallow Dark Surface (TF12)
	jen Sulfide (A4) ed Below Dark Surfac	(A11) <u> </u>		Gleyed Ma d Matrix (F			-	Other (Explain in Remarks
	ed Below Dark Suriad Dark Surface (A12)	Je (A11) _		ו Maurix (ה ark Surfa)	,			³ Indicators of hydrophytic vegetation and
	Mucky Mineral (S1)	_			rface (F7)			wetland hydrology must be present, unless
	Gleyed Matrix (S4)	_		epression	. ,			disturbed or problematic
	Layer (if present):				-	l		
Type:	, (
Depth (inch	ies):					Hydric	Soil Pr	resent? Yes NoX
Remarks:								
	ck at the surface. Car	not auger pat 4	4". Soil assu	med not h	nvdric.			
Ĭ		σ.			,			
ייאספטו כ								
HYDROLO								
1	drology Indicators							C
-	licators (minimum of	one is required					;	Secondary Indicators (2 or more required)
	e Water (A1)	_			aves (B9)	. 45)	-	Water-Stained Leaves (B9) (MLRA 1,
	/ater Table (A2) tion (A3)		(except Salt Cru		2, 4A, and	d 4B)		2, 4A, and 4B) Drainage Patterns (B10)
	Marks (B1)	_		. ,	ates (B13)		-	Dry-Season Water Table (C2)
	ent Deposits (B2)	<u>-</u>			Odor (C1)		<u>-</u>	Saturation Visible on Aerial Imagery (C9)
Drift De	eposits (B3)	- -	Oxidized	Rhizosph	eres on Liv	ing Roots	s (C3)	Geomorphic Position (D2)
	Mat or Crust (B4)	_			ced Iron (,	(20) <u>-</u>	Shallow Aquitard (D3)
	eposits (B5)	-			ction in Til		` '	FAC-Neutral Test (D5)
	e Soil Cracks (B6) tion Visible on Aerial	Imagery (B7)			ed Plants (Remarks)	(D1) (LN i	K A) _	Raised Ant Mounds (D6) (LRR A) Frost Heave Hummocks (D7)
	y Vegetated Concave S			.лрічі і і і і	(Omante,		-	TTOOTTIOAVO TIAIIIITIOSIIC (2.)
Field Obse								T
Field Obse	ervations: ater Present?	Yes	No	Х	Depth (in	ches):		Wetland Hydrology Present?
Water Tabl		Yes	No	X	Depth (in	_		Wettand Hydrology Freschit:
Saturation		Yes	No	X	Depth (in	· -		Yes No X
(includes c	apillary fringe)							
	ecorded Data (strear	n gauge, monit	oring well, a	erial photo	os, previou	us inspec	ctions), if	f available:
Aerial photo	ograph							
Remarks:								
	hydrology indicators	nresent.						
140	nyarology maissis.	process.						

Project/Site: TEWS HMS 4	City/	County: King		Sampling Date: 8/22/2022				
Applicant/Owner: ADCOMM	olicant/Owner: ADCOMM State: WA							
Investigator(s): Mallory Phillips and Patrick Togher	Section	n, Township, Ra	inge: S25;	T26N; R6E				
Landform (hillslope, terrace, etc.): Depression	- Lo	ocal relief (cond	ave, convex	, none): Concave Slope (%): 5				
Subregion (LRR): A		Lat: 47	7.710571	Long: -121.984551 Datum: WGS84				
Soil Map Unit Name: Aquic Vitrixerands			NWI	Classification: UPL				
Are climatic/hydrologic conditions of the site typical for	this time of	the vear?	Yes X	No (If no, explain in remarks)				
Are vegetation, Soil, or Hydrology		significantly of		Are "Normal Circumstances"				
Are vegetation , Soil , or Hydrology				present? (If needed, explain				
SUMMARY OF FINDINGS - Attach site map sh				any answers in remarks)				
Hydrophytic vegetation present? Yes	-	No X		-				
Hydric soil present? Yes		No X		mpled area				
Indicators of wetland hydrology present? Yes		No X	within a	wetland? Yes No X				
Remarks: Plot located in the ditch between Snoqualm								
Remarks. Flot located in the ditch between Shoquain	ile valley i	iali aliu SK 203	•					
VECETATION III i stifi f - I t	_							
VEGETATION Use scientific names of plants		Dominer	Indiaat	Dominance Test Worksheet				
<u>Tree Stratum</u> (Plot size: 30' r)	Absolute % Cover	Dominant Species	Indicator Status					
1. Acer macrophyllum	65	Y	FACU	Number of Dominant Species that are OBL, FACW, or FAC: 2 (A)				
2. Thuja plicata	5		FAC					
3.				Total Number of Dominant Species Across all Strata: 6 (B)				
4.				Percent of Dominant Species that				
	70 =	= Total Cover		are OBL, FACW, or FAC: 33% (A/B)				
Sapling/Shrub Stratum (Plot size: 30' r)								
1. Cornus alba	30	Υ	FACW	Prevalence Index Worksheet				
2. Acer circinatum	15	Υ	FAC	Total % Cover of: Multiply by:				
3. Oemleria cerasiformis	3	N	FACU	OBL species0x 1 =0				
4				FACW species 30 x 2 = 60				
5				FAC species 20 x 3 = 60				
(5)	48 =	= Total Cover		FACU species 103 x 4 = 412				
Herb Stratum (Plot size: 5' r)	45		FAOU	UPL species $0 \times 5 = 0$				
1. Polystichum munitum	15	<u> </u>	FACU	Column totals 153 (A) 532 (B)				
2. Rubus ursinus 3.	10	T	FACU	Prevalence Index = B/A = 3.48				
4.				Hydrophytic Vegetation Indicators:				
5.				1 - Rapid Test for Hydrophytic Vegetation				
6.				2 - Dominance Test is >50%				
7.				3 - Prevalence Index is ≤3.0				
8.				4 - Morphological Adaptations* (Provide supporting				
9.				data in Remarks or on a separate sheet)				
10.				5 - Wetland Non-Vascular Plants ¹				
11.				Problematic Hydrophytic Vegetation ¹				
	25 =	= Total Cover		(Explain)				
Woody Vine Stratum (Plot size: 30' r)	4.5			¹ Indicators of hydric soil and wetland hydrology must be				
1. Rubus laciniatus	10	<u> </u>	FACU	present, unless disturbed or problematic				
2	10	Total Cause		Hydrophytic				
% Bare Ground in Herb Stratum 75	10=	= Total Cover		vegetation present? Yes No X				
				Prodefit: 165				
Remarks:								
Dominant vegetation does not satisfy hydrophytic vege	tation criteri	ion.						

SOIL Sampling Point: HMS 4NW -2

Profile Des	scription: (Describe	e to the depth				ator or	confirn	the absence of	indicators.)
Depth	Matrix			dox Feat					
(Inches)	Color (moist)		olor (moist)	<u>%</u>	Type ¹	Loc ²	Text		Remarks
0-6	10YR 3/2	100					Si		
								Angular	rock material 1-3" below.
¹ Type: C=C	oncentration, D=Depl	etion, RM=Red	luced Matrix, C	S=Covere	ed or Coate	ed Sand 0	Grains.	² Location: PL=	Pore Lining, M=Matrix.
Hydric Soi	I Indicators: (Appli	cable to all LI	RRs, unless	otherwise	e noted.)			Indicators for F	Problematic Hydric Soils ³
Histoso	` '		Sandy R	ledox (S5)			2 cm Muck	•
	Epipedon (A2)			Matrix (S	•				Material (TF2)
	Histic (A3)			-	eral (F1) (E	xcept MI	RLA 1)		w Dark Surface (TF12)
	en Sulfide (A4)	(0.44)		Sleyed Ma				Other (Expl	ain in Remarks
	ed Below Dark Surfa Oark Surface (A12)	ce (ATT)		d Matrix (I)ark Surfa	,			31	
	Mucky Mineral (S1)				ırface (F7)				ydrophytic vegetation and gy must be present, unless
	Gleyed Matrix (S4)			epression	. ,				ed or problematic
			<u> </u>		(* •)				
Type:	Layer (if present):								
Depth (inch	ies):					Hvdrid	c Soil F	resent? Yes	No x
						,			
Remarks:	or poot 6" due to on	aular raak mai	torial Caila da	not ootis	afir budria a	oil indica	stor orit	rion	
Cannot aug	ger past 6" due to an	gulai Tock Illa	teriai. Solis ut	not saus	siy fiyafic s	on muica	ator Criti	HOH.	
HYDROLO	GY								
Wetland Hy	drology Indicators								
Primary Inc	licators (minimum of	one is require	ed; check all th	nat apply				Secondary Indic	ators (2 or more required)
Surface	e Water (A1)		Water-S	tained Le	aves (B9)			Water-Stain	ed Leaves (B9) (MLRA 1,
High W	ater Table (A2)				2, 4A, an	d 4B)		2, 4A, and 4	
	ion (A3)		Salt Cru						atterns (B10)
	Marks (B1)				ates (B13)				Water Table (C2)
	ent Deposits (B2) eposits (B3)				Odor (C1) eres on Liv		c (C3)		isible on Aerial Imagery (C9) c Position (D2)
	lat or Crust (B4)				iced Iron (-	3 (00)	Shallow Aqu	
	posits (B5)				ction in Ti	•	(C6)	FAC-Neutra	
	e Soil Cracks (B6)			or Stress	ed Plants	(D1) (LR	RA)		Mounds (D6) (LRR A)
	tion Visible on Aerial		Other (E	xplain in	Remarks)			Frost Heave	Hummocks (D7)
Sparser	y Vegetated Concave S	бипасе (В8)							
Field Obse	ervations:								
Surface Wa	ater Present?	Yes	No	Χ	Depth (in	-		Wetland H	lydrology Present?
Water Tabl		Yes	No	X	Depth (in				v
Saturation		Yes	No	X	Depth (in	cnes):		Yes	No X
	apillary fringe)	m dalida man	vitoring well a	orial phot	os provio	us inspe	otions)	f available:	
Aerial phot	ecorded Data (strea ograph	nı yauye, mon	mornig well, a	enai priot	os, previo	us mspec	cuoris),	ı avallable.	
, torial prior	-9.up.i								
Remarks:									
No indicato	rs of wetland hydrolo	ogy present.							

Project/Site: TEWS HMS 4	City/	County: King		Sampling Date: 8/22/2022			
Applicant/Owner: ADCOMM		State: WA		Sampling Point: HMS 4NW -3			
Investigator(s): Mallory Phillips and Patrick Togher	Section	, Township, Ra	nge: S25;	T26N; R6E			
Landform (hillslope, terrace, etc.): Depression	- Lo	ocal relief (cond	ave, convex	, none): Concave Slope (%): 5			
Subregion (LRR): A		Lat: 47	7.711037	Long: -121.984465 Datum: WGS84			
Soil Map Unit Name: Aquic Vitrixerands			NWI	Classification: PSS			
Are climatic/hydrologic conditions of the site typical for	this time of	the year?	Yes X	No (If no, explain in remarks)			
Are vegetation , Soil , or Hydrology		significantly of	listurbed?	Are "Normal Circumstances"			
Are vegetation , Soil , or Hydrology		naturally prob		present? (If needed, explain any answers in remarks) Yes X No			
SUMMARY OF FINDINGS - Attach site map sh	owing sar			arry answers in remarks)			
Hydrophytic vegetation present? Yes	Х	No	1- 41				
Hydric soil present? Yes	X	No		mpled area wetland?			
Indicators of wetland hydrology present? Yes	Х	No	within a	Yes X No			
Remarks: Plot is located in the northwest quadrant of	the interse	ction, south of t	he trail unde	rpass in a stand of redosier dogwoods near a			
downed log. A stream channel s present to	the north o	f the wetland a	nd paved tra	il.			
VEGETATION Use scientific names of plants							
Table 1 and	Absolute	Dominant	Indicator	Dominance Test Worksheet			
<u>Tree Stratum</u> (Plot size: 30' r)	% Cover	Species	Status	Number of Dominant Species that			
1.				are OBL, FACW, or FAC: 2 (A)			
2.				Total Number of Dominant			
3.				Species Across all Strata: 2 (B)			
4				Percent of Dominant Species that			
0 15 (0) 1 0 (5) (5)	0 =	Total Cover		are OBL, FACW, or FAC: 100% (A/B)			
Sapling/Shrub Stratum (Plot size: 30' r)	0.5	V	EA (C) A /	Describeras Index Workshoot			
Cornus alba Rubus spectabilis	85 10	N	FACW FAC	Prevalence Index Worksheet Total % Cover of: Multiply by:			
3.		IN	FAC	OBL species 0 x 1 = 0			
4.				FACW species 85 x 2 = 170			
5.				FAC species 29 x 3 = 87			
	95 =	Total Cover		FACU species 0 x 4 = 0			
Herb Stratum (Plot size: 5' r)				UPL species 0 x 5 = 0			
1. Tolmiea menziesii	15	Y	FAC	Column totals 114 (A) 257 (B)			
2. Athyrium cyclosorum	2	N	FAC	Prevalence Index = B/A = 2.25			
3. Equisetum arvense	2	N	FAC				
4				Hydrophytic Vegetation Indicators:			
5				1 - Rapid Test for Hydrophytic Vegetation			
6.				X 2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0			
7. 8.				4 - Morphological Adaptations* (Provide supporting			
9.				data in Remarks or on a separate sheet)			
10.				5 - Wetland Non-Vascular Plants ¹			
11.				Problematic Hydrophytic Vegetation ¹			
	19 =	Total Cover		(Explain)			
Woody Vine Stratum (Plot size: 30' r)				¹ Indicators of hydric soil and wetland hydrology must be			
1				present, unless disturbed or problematic			
2				Hydrophytic			
0/ Page Cround in 11-th Charter	=	Total Cover		vegetation			
% Bare Ground in Herb Stratum 81				present? Yes X No			
Remarks:							
Dominant vegetation satisfies hydrophytic vegetation of	riterion thro	ugh the domina	nce test.				

SOIL Sampling Point: HMS 4NW -3

Profile Des	scription: (Describ	e to the de	pth needed to d	ocumen	t the indic	cator or c	onfirm the a	absence of indicators.)
Depth	Matrix			dox Feat	ures			
(Inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
0-6	10YR 4/2	100					SiL	
6-10	10YR 4/2	95	10YR 4/4	5	С	M	SiL	Compact at 6", distinct
10-15	10YR 4/2	90	10YR 5/4	10	С	М	SiL	Fine, distinct
15-18	10YR 4/2	70	10YR 5/6	30	С	М	SiCL	Damp, medium (2-5mm), distinct
			_					
			_					
			-					
	oncentration, D=Depl					ed Sand G		ocation: PL=Pore Lining, M=Matrix.
_	I Indicators: (Appli	cable to all			-			cators for Problematic Hydric Soils ³ :
Histoso			Sandy R	-	-			2 cm Muck (A10)
	Epipedon (A2) Histic (A3)		Stripped	•	oo <i>)</i> eral (F1) (E	veent MP		Red Parent Material (TF2) /ery Shallow Dark Surface (TF12)
	en Sulfide (A4)			-	erar (F1) (E atrix (F2)	xcept win		Other (Explain in Remarks
l —	ed Below Dark Surfa	ce (A11)	X Depleted	-	, ,			Stror (Explain in Nomanc
	ark Surface (A12)	,	Redox D	•	•		³ Inc	licators of hydrophytic vegetation and
	Mucky Mineral (S1)		Depleted	l Dark Sι	ırface (F7)			and hydrology must be present, unless
Sandy	Gleyed Matrix (S4)		Redox D	epressio	ns (F8)			disturbed or problematic
Restrictive	Layer (if present):							
Type:								
Depth (inch	es):					Hydric	Soil Preser	nt? Yes X No
Remarks:								
Likely satis	fies Depleted Matrix	(F3) hydric	soil indicators. D	epths ca	an be skew	ved when ເ	using an auថู	ger. The B horizon does not meet the
criteria by 2	" and the C horizon	by 1". Assu	med that hydric	soils are	present.			
HYDROLO	OGY							
	drology Indicators							
Primary Ind	icators (minimum of	one is requ	ired; check all th	at apply			Seco	ndary Indicators (2 or more required)
	e Water (A1)				aves (B9)		\	Water-Stained Leaves (B9) (MLRA 1,
	ater Table (A2)				2, 4A, an	d 4B)		2, 4A, and 4B)
	ion (A3)		Salt Crus					Orainage Patterns (B10)
	Marks (B1)				ates (B13)			Ory-Season Water Table (C2)
	ent Deposits (B2)				Odor (C1)			Saturation Visible on Aerial Imagery (C9)
	eposits (B3) lat or Crust (B4)				neres on Liv uced Iron (_		Geomorphic Position (D2) Shallow Aquitard (D3)
	posits (B5)				iction in Ti	,		FAC-Neutral Test (D5)
	Soil Cracks (B6)				ed Plants	,	` ′	Raised Ant Mounds (D6) (LRR A)
	tion Visible on Aerial		37) Other (E	xplain in	Remarks)		<u> </u>	Frost Heave Hummocks (D7)
Sparsely	/ Vegetated Concave S	Surface (B8)						
Field Obse	rvations:							
Surface Wa	iter Present?	Yes	No_	Χ	Depth (in	_		Wetland Hydrology Present?
Water Table		Yes _	X No		Depth (in		18	v v u
Saturation I	resent? apillary fringe)	Yes _	No_	Х	Depth (in	cries).		Yes X No
	ecorded Data (strea	m dalide m	onitoring well a	erial nho	tos previo	us inspect	ions) if avai	ilahle:
Aerial photo		m gauge, n	iorinoring well, at	enai pilo	ios, previo	us mapeoi	.ioris), ii ava	ilabie.
Remarks:								
	al Test (D5) satisfied	by the pres	sence of 1 domin	ant FAC	W species	and 0 FA	CU/UPL spe	ecies. Water table present at
	ely 18" which satisfie							,

Project/Site: HMS 4 TEWS	City/	County: King		Sampling Date: 3/16/2022
Applicant/Owner: ADCOMM		State: WA		Sampling Point: HMS 4NE(2)
Investigator(s): Patrick Togher and Mallory Phillips	Section	, Township, R	ange: S25	; T26N; R6E
Landform (hillslope, terrace, etc.): Bottomland	Lo	ocal relief (con	cave, conve	x, none): <u>Convex</u> Slope (%): <u>20</u>
Subregion (LRR): A		Lat: <u>4</u>	7.709442	Long: -121.984106 Datum: WGS84
Soil Map Unit Name: Aquic Vitrixerands			NW	Classification: Upland
Are climatic/hydrologic conditions of the site typical for	this time of	the year?	Yes X	No (If no, explain in remarks)
Are vegetation , Soil , or Hydrology		significantly	disturbed?	Are "Normal Circumstances"
Are vegetation , Soil , or Hydrology		naturally pro	blematic?	present? (If needed, explain any answers in remarks) Yes X No
SUMMARY OF FINDINGS - Attach site map si	nowing sar	mpling point	location, tı	
Hydrophytic vegetation present? Yes	Х	No	1. 41	and the discourse
Hydric soil present? Yes		No X		impled area a wetland?
Indicators of wetland hydrology present? Yes		No X	Within	Yes No X
Remarks: In NE quadrant of the 300-foot radius off or	f Carnation I	Duvall Rd. Upl	and plot NW	/ of corresponding wetland plot.
			•	1 3 1
VEGETATION Use scientific names of plant				
VEGETATION Ose scientific flames of plant		Dominant	Indicator	Dominance Test Worksheet
<u>Tree Stratum</u> (Plot size: 30' r)	Absolute % Cover	Dominant Species	Indicator Status	
1.	70 00001	Сробіос	Otatao	Number of Dominant Species that are OBL, FACW, or FAC: 2 (A)
2.				Total Number of Dominant
3.		-		Species Across all Strata: 2 (B)
4.				Percent of Dominant Species that
	0 =	Total Cover		are OBL, FACW, or FAC: 100% (A/B)
Sapling/Shrub Stratum (Plot size: 30' r)				
1				Prevalence Index Worksheet
2				Total % Cover of: Multiply by:
3				OBL species 0 x 1 = 0
4		-		FACW species 0 x 2 = 0 FAC species 80 x 3 = 240
J	0 =	Total Cover		FACU species 15 x 4 = 60
Herb Stratum (Plot size: 5' r)		rotal Gover		UPL species 0 x 5 = 0
1. Agrostis stolonifera	40	Υ	FAC	Column totals 95 (A) 300 (B)
Schedonorus arundinaceus	40	Y	FAC	Prevalence Index = $B/A = 3.16$
3. Hypochaeris radicata	10	N	FACU	
4. Plantago lanceolata	5	N	FACU	Hydrophytic Vegetation Indicators:
5				1 - Rapid Test for Hydrophytic Vegetation
6				X 2 - Dominance Test is >50%
7				3 - Prevalence Index is ≤3.0
8. 9.		-		4 - Morphological Adaptations* (Provide supporting data in Remarks or on a separate sheet)
10.				5 - Wetland Non-Vascular Plants ¹
11.				Problematic Hydrophytic Vegetation ¹
···	95 =	Total Cover		(Explain)
Woody Vine Stratum (Plot size: 30' r)				¹Indicators of hydric soil and wetland hydrology must be
1.				present, unless disturbed or problematic
2.				Hydrophytic
	0 =	Total Cover		vegetation
% Bare Ground in Herb Stratum 5				present? Yes X No
Remarks:				•
Dominant species do not satisfy hydrophytic vegetation	n criteria.			

SOIL Sampling Point: HMS 4NE(2)

Profile Des	cription: (Describe	to the depth	needed to d	documen	t the indic	ator or	confirm	the abse	ence of indicators	.)
Depth	Matrix			dox Feat						
(Inches)	Color (moist)		lor (moist)	%	Type ¹	Loc ²	Text		Remark	
0-13	2.5Y 4/2	100					GS	<u> </u>	Gravelly sandy f	ll material
										_
¹ Type: C=C	oncentration, D=Deple	etion. RM=Redu	ced Matrix. C	S=Covere	ed or Coate	ed Sand 0	Grains.	² Location	on: PL=Pore Lining,	M=Matrix.
	I Indicators: (Applic								s for Problematic	
Histoso	ol (A1)		Sandy R	Redox (S5	i)			2 cm	Muck (A10)	-
Histic E	pipedon (A2)	-		Matrix (S	•				Parent Material (Ti	•
	listic (A3)	_		-	eral (F1) (E	xcept MI	RLA 1)		Shallow Dark Surf	` ,
	en Sulfide (A4)			Sleyed Ma				Othe	r (Explain in Rema	rks
	ed Below Dark Surfa	ce (A11)		d Matrix (I	,			3		
	Oark Surface (A12) Mucky Mineral (S1)	-		ark Surfa	ıce (ғь) ırface (F7)				ors of hydrophytic onlydrology must be	
	Gleyed Matrix (S4)	-)epressio	. ,				disturbed or proble	
		-			113 (1 0)	ı			disturbed or proble	matio
	Layer (if present):									
Type: Depth (inch	es).					Hydrid	c Soil P	resent?	Yes	No X
						riyari	COOIII	icociit:		
Remarks:										
Less compa	acted than correspor	iding wetland p	olot. Pit enco	ounterea i	roadbase a	at 13". S	olis do	not satisty	nydric soli criteria.	
HYDROLO	GY									
Wetland Hy	drology Indicators									
Primary Inc	licators (minimum of	one is required	l· check all th	nat apply				Secondar	ry Indicators (2 or r	nore required)
	e Water (A1)	one is required			aves (B9)				r-Stained Leaves (
	ater Table (A2)	-			2, 4A, an	d 4B)			, and 4B)	D9) (WILITA I,
	ion (A3)		Salt Cru		_,,	,			age Patterns (B10)
	Marks (B1)	-			ates (B13)			Dry-S	Season Water Tabl	e (C2)
	ent Deposits (B2)	-			Odor (C1)				ation Visible on Aer	• • • •
	eposits (B3)	-			eres on Liv	-	s (C3)		norphic Position (D	02)
	lat or Crust (B4) posits (B5)	-			uced Iron (oction in Til	,	(C6)		ow Aquitard (D3) Neutral Test (D5)	
	Soil Cracks (B6)	-			ed Plants				ed Ant Mounds (D6	6) (LRR A)
	tion Visible on Aerial	Imagery (B7)			Remarks)	(= -) (=	,		Heave Hummock	
Sparsel	Vegetated Concave S	Surface (B8)	<u></u>							
Field Obse	rvations:									
	iter Present?	Yes	No	X	Depth (in	ches):	0	Wet	tland Hydrology F	Present?
Water Tabl		Yes	No	Х	Depth (in	-	>13"	-	, , , , , ,	
Saturation		Yes	No	Χ	Depth (in	ches):	>13"	Yes	N	lo <u>X</u>
	apillary fringe)									
Describe R	ecorded Data (strear	n gauge, moni	toring well, a	erial phot	os, previo	us inspe	ctions),	if available	e :	
Remarks:										
	hydrology indicators	are present								
	,									

Project/Site: TEWS HMS 5	City/	County: King		Sampling Date: 3/22/2022
Applicant/Owner: ADCOMM		State: WA		Sampling Point: HMS5
Investigator(s): Patrick Togher and Mallory Phillips	Section	i, Township, Ra	ange: S20	, T25N, R7E
Landform (hillslope, terrace, etc.): Hillslope	Lo	ocal relief (cond	cave, conve	x, none): None Slope (%): 5
Subregion (LRR): A		Lat: <u>4</u>	7.637756	Long: <u>-121.930550</u> Datum: WGS84
Soil Map Unit Name: Humic Dystroxerepts			NW	l Classification: Upland
Are climatic/hydrologic conditions of the site typical for	this time of	the year?	Yes X	No (If no, explain in remarks)
Are vegetation , Soil , or Hydrology		significantly	disturbed?	Are "Normal Circumstances"
Are vegetation , Soil , or Hydrology		naturally prol	olematic?	present? (If needed, explain any answers in remarks) Yes X No
SUMMARY OF FINDINGS - Attach site map sh	nowing sa	mpling point	location, t	
Hydrophytic vegetation present? Yes	Х	No		
Hydric soil present? Yes		No X		ampled area a wetland?
Indicators of wetland hydrology present? Yes		No X	Within	Yes No X
Remarks: southeast corner of intersection at edge of	gravel park	ing area. South	of the begi	nning of guard rail, and SE of proposed HMS
location.	gravor park	ing area. eeain	i oi tilo bogi	Tilling of guara rail, and ob of proposed rilling
VEOETATION 11 : 05				
VEGETATION Use scientific names of plants				I Davidson Trad Westerland
Troe Stratum (Diet size: 20'r.)	Absolute % Cover	Dominant	Indicator	Dominance Test Worksheet
Tree Stratum (Plot size: 30' r) 1. Alnus rubra	% Cover	Species Y	Status FAC	Number of Dominant Species that are OBL, FACW, or FAC: 3 (A)
2. Populus balsamifera	25	<u> </u>	FAC	``
3. Thuja plicata	7	<u>.</u>	FAC	Total Number of Dominant Species Across all Strata: 4 (B)
4.	<u> </u>		1710	 '
	62 =	= Total Cover		Percent of Dominant Species that are OBL, FACW, or FAC: 75% (A/B)
Sapling/Shrub Stratum (Plot size: 30' r)				`` ,
1. Acer macrophyllum	5	Υ	FACU	Prevalence Index Worksheet
2.				Total % Cover of: Multiply by:
3.				OBL species 0 x 1 = 0
4				FACW species 0 x 2 = 0
5				FAC species 152 x 3 = 456
(5)	5 =	Total Cover		FACU species 5 x 4 = 20
Herb Stratum (Plot size: 5' r)				UPL species $0 \times 5 = 0$
1				Column totals 157 (A) 476 (B)
2 3.				Prevalence Index = B/A = 3.03
4.				Hydrophytic Vegetation Indicators:
5.				1 - Rapid Test for Hydrophytic Vegetation
6.				X 2 - Dominance Test is >50%
7.				3 - Prevalence Index is ≤3.0
8.				4 - Morphological Adaptations* (Provide supporting
9.				data in Remarks or on a separate sheet)
10.				5 - Wetland Non-Vascular Plants ¹
11.				Problematic Hydrophytic Vegetation ¹
	0 =	Total Cover		(Explain)
Woody Vine Stratum (Plot size: 30' r)				¹ Indicators of hydric soil and wetland hydrology must be
1. Rubus armeniacus	90	<u> </u>	FAC	present, unless disturbed or problematic
2		T. 1. 1. 0		Hydrophytic
% Bare Ground in Herb Stratum 100	90 =	= Total Cover		vegetation present? Yes X No
				present? Yes X No
Remarks:				
Hydrophytic vegetation is dominant.				

SOIL Sampling Point: HMS5 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Matrix Redox Features Depth (Inches) Color (moist) Color (moist) Loc² % Texture % Type¹ 0-2 10YR 2/2 100 **GSL** Cobble @ 8" 2-18+ 10YR 3/3 100 GSL ¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix. Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils³: 2 cm Muck (A10) Histosol (A1) Sandy Redox (S5) Histic Epipedon (A2) Stripped Matrix (S6) Red Parent Material (TF2) Black Histic (A3) Loamy Mucky Mineral (F1) (Except MRLA 1) Very Shallow Dark Surface (TF12) Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Other (Explain in Remarks Depleted Below Dark Surface (A11) Depleted Matrix (F3) Thick Dark Surface (A12) Redox Dark Surface (F6) ³Indicators of hydrophytic vegetation and Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) wetland hydrology must be present, unless Sandy Gleyed Matrix (S4) Redox Depressions (F8) disturbed or problematic Restrictive Layer (if present): Type: Depth (inches): **Hydric Soil Present?** Χ Remarks: Soils do not satisfy hydric soil criteria. HYDROLOGY Wetland Hydrology Indicators Secondary Indicators (2 or more required) Primary Indicators (minimum of one is required; check all that apply Water-Stained Leaves (B9) (MLRA 1, Surface Water (A1) Water-Stained Leaves (B9) High Water Table (A2) (except MLRA 1, 2, 4A, and 4B) 2, 4A, and 4B) Saturation (A3) Drainage Patterns (B10) Salt Crust (B11) 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 on Living Roots (C3) Geomorphic Position (D2) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Shallow Aquitard (D3) Recent Iron Reduction in Tilled Soils (C6) FAC-Neutral Test (D5) Iron Deposits (B5) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) Frost Heave Hummocks (D7) Sparsely Vegetated Concave Surface (B8) Field Observations: Yes Depth (inches): Surface Water Present? 0 Wetland Hydrology Present? Yes Depth (inches): Water Table Present? No >18' Saturation Present? Yes No Depth (inches): >18' No X (includes capillary fringe)

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

No indicators of wetland hydrology are present.

Project/Site: TEWS HMS 8	City/	County: King		Sampling Date:	3/22/	2022		
Applicant/Owner: ADCOMM		State: WA		Sampling Point: HMS 8				
Investigator(s): Patrick Togher and Mallory Phillips	Section	, Township, R	ange: S21,	T25N, R7E				
Landform (hillslope, terrace, etc.): Terrace	Lo	ocal relief (con	cave, convex	, none): Convex Slop	pe (%): 1			
Subregion (LRR): A		Lat: 4	7.629914	Long: -121.911981	Datum: W	/GS84		
Soil Map Unit Name: Vitrandic Xerochrepts			NWI	Classification: Upland				
Are climatic/hydrologic conditions of the site typical for	this time of	the year?	Yes X	No (If no, explain in	remarks)			
Are vegetation, Soil, or Hydrology		significantly	disturbed?	Are "Normal Circumstances"				
Are vegetation , Soil , or Hydrology		naturally pro	blematic?	present? (If needed, explain any answers in remarks)	Yes X No	0		
SUMMARY OF FINDINGS - Attach site map sh	owing sar	npling point	location, tr		, etc.			
Hydrophytic vegetation present? Yes		No X						
Hydric soil present? Yes		No X		mpled area wetland?				
Indicators of wetland hydrology present? Yes		No X	Within a	Yes	No	X		
Remarks: At proposed HMS 8 location on NE corner	of intersecti	on of SR 203 a	and NF 24th	Street.				
Trainaine. The proposed Time of Issuador Strike Sollies		011 01 011 200 0		O. 1001.				
VEGETATION - Harris 100 Community of the 1								
VEGETATION Use scientific names of plants				Dominance Test Workshee	4			
<u>Tree Stratum</u> (Plot size: 30' r)	Absolute % Cover	Dominant Species	Indicator Status		н			
Tree Stratum (Plot size: 30' r) 1.	76 COVEI	Species	Status	Number of Dominant Species that are OBL, FACW, or FAC:	1	(A)		
2.				Total Number of Dominant		_ (/ ()		
3.				Species Across all Strata:	4	(B)		
4.				Percent of Dominant Species that		- ` ′		
	0 =	Total Cover		are OBL, FACW, or FAC:	25%	(A/B)		
Sapling/Shrub Stratum (Plot size: 30' r)				_				
1				Prevalence Index Workshe	et			
2. Ilex aquifolium	3	Y	FACU		iply by:			
3. Cytissus scoparius	3	Y	UPL	OBL species 0 x 1 =		_		
4				FACW species 0 x 2 =		_		
5	6 =	Total Cover		FAC species 100 x 3 =		_		
Herb Stratum (Plot size: 5' r)		- Total Cover		FACU species 23 x 4 = UPL species 3 x 5 =		_		
1. Agrostis stolonifera	80	Υ	FAC	Column totals 126 (A)		(B)		
2. Schedonorus arundinaceus	20		FAC	Prevalence Index = B/A =	3.23	_(5)		
3. Pteridium aquilinum	10	N	FACU			_		
4.				Hydrophytic Vegetation Inc	dicators:			
5.				1 - Rapid Test for Hydro	phytic Veg	etation		
6.				2 - Dominance Test is >	50%			
7				3 - Prevalence Index is ≤				
8.				4 - Morphological Adaptations data in Remarks or on a separ		upporting		
9				·	· .			
10.				5 - Wetland Non-Vascula		1		
11	110 -	Total Cavar		Problematic Hydrophytic	Vegetatio	n'		
Woody Vine Stratum (Plot size: 30' r)	110=	Total Cover		(Explain)	al Inc. 1			
1. Rubus ursinus	10	Υ	FACU	¹ Indicators of hydric soil and wetlan present, unless disturbed or proble	, ,,	must be		
2.								
	10 =	Total Cover		Hydrophytic vegetation				
% Bare Ground in Herb Stratum 0				present? Yes	No	X		
Remarks:								
Phalaris arundinacea in ditch. Dominant species do not	satisfy hyd	rophytic veget	ation criteria					
		F, 1090						

SOIL Sampling Point: HMS 8 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Matrix Redox Features Depth (Inches) Color (moist) Color (moist) Loc² % Texture % Type¹ 0-9 10YR 2/2 100 SL 100 9-20+ 10YR 3/4 SL ¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix. Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils³: 2 cm Muck (A10) Histosol (A1) Sandy Redox (S5) Histic Epipedon (A2) Stripped Matrix (S6) Red Parent Material (TF2) Black Histic (A3) Loamy Mucky Mineral (F1) (Except MRLA 1) Very Shallow Dark Surface (TF12) Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Other (Explain in Remarks Depleted Below Dark Surface (A11) Depleted Matrix (F3) Thick Dark Surface (A12) Redox Dark Surface (F6) ³Indicators of hydrophytic vegetation and Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) wetland hydrology must be present, unless Sandy Gleyed Matrix (S4) Redox Depressions (F8) disturbed or problematic Restrictive Layer (if present): Type: Depth (inches): **Hydric Soil Present?** Χ Remarks: Soils do not satisfy hydric soil criteria. HYDROLOGY Wetland Hydrology Indicators Secondary Indicators (2 or more required) Primary Indicators (minimum of one is required; check all that apply Water-Stained Leaves (B9) (MLRA 1, Surface Water (A1) Water-Stained Leaves (B9) High Water Table (A2) (except MLRA 1, 2, 4A, and 4B) 2, 4A, and 4B) Saturation (A3) Drainage Patterns (B10) Salt Crust (B11) 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 on Living Roots (C3) Geomorphic Position (D2) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Shallow Aquitard (D3) Recent Iron Reduction in Tilled Soils (C6) FAC-Neutral Test (D5) Iron Deposits (B5) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) Frost Heave Hummocks (D7) Sparsely Vegetated Concave Surface (B8) Field Observations: Yes Depth (inches): Surface Water Present? Wetland Hydrology Present? Yes Depth (inches): Water Table Present? No Saturation Present? Yes No Depth (inches): No X (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

No indicators of wetland hydrology are present.

Project/Site: TEWS HMS 7	City/	County: King		Sampling Date: 8/22/2022				
Applicant/Owner: ADCOMM		State: WA		Sampling Point: HMS 7 (1)				
Investigator(s): Patrick Togher and Mallory Phillips	Section	, Township, Ra	ange: S4;	T25N; R7E				
Landform (hillslope, terrace, etc.): Terrace	Lo	ocal relief (cond	cave, conve	x, none): Concave Slope (%): 2				
Subregion (LRR): A		Lat: 4	7.682888	Long: -121.920062 Datum: WGS84				
Soil Map Unit Name: Typic Vitrixerands		-	NWI	Classification: UPL				
Are climatic/hydrologic conditions of the site typical for	this time of	the year?	Yes X	No (If no, explain in remarks)				
Are vegetation, Soil, or Hydrology		significantly	disturbed?	Are "Normal Circumstances"				
Are vegetation , Soil , or Hydrology		naturally prol	blematic?	present? (If needed, explain any answers in remarks) Yes X No				
SUMMARY OF FINDINGS - Attach site map sh	owing sar	mpling point	location, tr	· · · · · · · · · · · · · · · · · · ·				
Hydrophytic vegetation present? Yes		No X	1- 41	and days				
Hydric soil present? Yes		No X		mpled area a wetland?				
Indicators of wetland hydrology present? Yes		No X	Within	Yes No X				
Remarks: Plot located near stopsign and guardrail no	rth of Stillwa	ater Hill Road a	and east of S	SR 203. east of water utility marker.				
				···				
VECETATION III a significant service of plants								
VEGETATION Use scientific names of plants		D	L. P. A.	Dominance Test Worksheet				
<u>Tree Stratum</u> (Plot size: 30' r)	Absolute % Cover	Dominant Species	Indicator Status					
1.	70 COVEI	Opecies	Otatus	Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)				
2.				Total Number of Dominant				
3.				Species Across all Strata: 1 (B)				
4.				Percent of Dominant Species that				
	0 =	Total Cover		are OBL, FACW, or FAC: 0% (A/B)				
Sapling/Shrub Stratum (Plot size: 30' r)								
1				Prevalence Index Worksheet				
2				Total % Cover of: Multiply by:				
3				OBL species 0 x 1 = 0				
4 5.				FACW species $0 \times 2 = 0$ FAC species $0 \times 3 = 0$				
5	0 =	Total Cover		FACU species 2 x 4 = 8				
Herb Stratum (Plot size: 5' r)		- Total Gover		UPL species 98 x 5 = 490				
1. Mixed grasses	98	Υ	UPL	Column totals 100 (A) 498 (B)				
2. Taraxacum officinale	2	N	FACU	Prevalence Index = $B/A = 4.98$				
3.								
4.				Hydrophytic Vegetation Indicators:				
5.				1 - Rapid Test for Hydrophytic Vegetation				
6				2 - Dominance Test is >50%				
7				3 - Prevalence Index is ≤3.0				
8				4 - Morphological Adaptations* (Provide supporting data in Remarks or on a separate sheet)				
9				' '.				
10. 11.				5 - Wetland Non-Vascular Plants ¹				
· · · · · · · · · · · · · · · · · · ·	100 =	Total Cover		Problematic Hydrophytic Vegetation ¹ (Explain)				
Woody Vine Stratum (Plot size: 30' r)	100	- Total Cover		¹Indicators of hydric soil and wetland hydrology must be				
1.				present, unless disturbed or problematic				
2.				Hydrophytic				
	0 =	Total Cover		vegetation				
% Bare Ground in Herb Stratum0_				present? Yes No X				
Remarks:								
Dominant vegetation does not satisfy hydrophytic veget	ation criteri	on.						
, , , , ,								

SOIL Sampling Point: HMS 7 (1) Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Matrix Redox Features Depth Color (moist) (Inches) Color (moist) %__ Loc² % Texture Type¹ 0-15 10YR 2/2 100 SiL ¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix. Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils³: 2 cm Muck (A10) Histosol (A1) Sandy Redox (S5) Histic Epipedon (A2) Stripped Matrix (S6) Red Parent Material (TF2) Black Histic (A3) Loamy Mucky Mineral (F1) (Except MRLA 1) Very Shallow Dark Surface (TF12) Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Other (Explain in Remarks Depleted Below Dark Surface (A11) Depleted Matrix (F3) Thick Dark Surface (A12) Redox Dark Surface (F6) ³Indicators of hydrophytic vegetation and Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) wetland hydrology must be present, unless Sandy Gleyed Matrix (S4) Redox Depressions (F8) disturbed or problematic Restrictive Layer (if present): Type: Depth (inches): **Hydric Soil Present?** Χ Remarks: Soil does not meet any hydric soil criterion. HYDROLOGY Wetland Hydrology Indicators Secondary Indicators (2 or more required) Primary Indicators (minimum of one is required; check all that apply Water-Stained Leaves (B9) (MLRA 1, Surface Water (A1) Water-Stained Leaves (B9) High Water Table (A2) (except MLRA 1, 2, 4A, and 4B) 2, 4A, and 4B) Saturation (A3) Drainage Patterns (B10) Salt Crust (B11) 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 on Living Roots (C3) Geomorphic Position (D2) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Shallow Aquitard (D3) Recent Iron Reduction in Tilled Soils (C6) FAC-Neutral Test (D5) Iron Deposits (B5) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) Frost Heave Hummocks (D7) Sparsely Vegetated Concave Surface (B8) Field Observations: Yes Depth (inches): Surface Water Present? Wetland Hydrology Present? Yes Depth (inches): Water Table Present? No

Aerial photograph

Saturation Present?

(includes capillary fringe)

No wetland hydrology indicators present.

Yes

No

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

Depth (inches):

No X

Project/Site: TEWS Passive Ant.	City/	County: King		Sampling Date: 3/11/2022					
Applicant/Owner: ADCOMM		State: WA		Sampling Point: Passive Ant (55)					
Investigator(s): Patrick Togher and Mallory Phillips	Section	, Township, Ra	ange: S32;	T226N; R9E					
Landform (hillslope, terrace, etc.): Hillslope	- Lo	ocal relief (cond	ave, convex	x, none): Convex Slope (%): 10					
Subregion (LRR): A		•	7.696335	Long: -121.690941 Datum: WGS84					
Soil Map Unit Name: Typic Vitrixerands			NWI	Classification: Upland					
Are climatic/hydrologic conditions of the site typical for	this time of	the year?	Yes X	No (If no, explain in remarks)					
Are vegetation, Soil, or Hydrology		significantly		Are "Normal Circumstances"					
Are vegetation , Soil , or Hydrology				present? (If needed, explain					
SUMMARY OF FINDINGS - Attach site map sh				any answers in remarks,					
Hydrophytic vegetation present? Yes		No X		, , , , , , , , , , , , , , , , , , , ,					
Hydric soil present? Yes		No X		mpled area					
Indicators of wetland hydrology present? Yes		No X	within a	wetland? Yes No X					
Remarks: Plot located about 35 feet southeast of curi									
remarks. Flot located about 33 leet southeast of curi	eni iowei a	nu proposeu ac	clivity locatio	11.					
VECETATION III i stifi f - i t	_								
VEGETATION Use scientific names of plants		Danainant	l.,	Dominance Test Worksheet					
<u>Tree Stratum</u> (Plot size: 30' r)	Absolute % Cover	Dominant Species	Indicator Status						
1. Pseudotsuga menziesii	60	Y	FACU	Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)					
2. Tsuga heterophylla	30	<u>'</u>	FACU						
3. Picea sitchensis	10		FAC	Total Number of Dominant Species Across all Strata: 7 (B)					
4.				Percent of Dominant Species that					
	100 =	Total Cover		are OBL, FACW, or FAC: 14% (A/B)					
Sapling/Shrub Stratum (Plot size: 30' r)									
1. Tsuga heterophylla	60	Υ	FACU	Prevalence Index Worksheet					
2. Rubus spectabilis	20	Y	FAC	Total % Cover of: Multiply by:					
3. Sambucus racemosa	2	N	FACU	OBL species0 _ x 1 =0					
4. Picea sitchensis	1	N	FAC	FACW species 0 x 2 = 0					
5				FAC species 31 x 3 = 93					
(5)	83 =	Total Cover		FACU species 177 x 4 = 708					
Herb Stratum (Plot size: 5' r)	40		FAOU	UPL species $1 \times 5 = 5$					
1. Rubus ursinus	<u>10</u> 5	<u> </u>	FACU	Column totals 209 (A) 806 (B)					
2. Polystichum munitum 3.		<u> </u>	FACU	Prevalence Index = B/A = 3.86					
4.				Hydrophytic Vegetation Indicators:					
5.				1 - Rapid Test for Hydrophytic Vegetation					
6.				2 - Dominance Test is >50%					
7.				3 - Prevalence Index is ≤3.0					
8.				4 - Morphological Adaptations* (Provide supporting					
9.				data in Remarks or on a separate sheet)					
10.				5 - Wetland Non-Vascular Plants ¹					
11.				Problematic Hydrophytic Vegetation ¹					
	15 =	Total Cover		(Explain)					
Woody Vine Stratum (Plot size: 30' r)				¹ Indicators of hydric soil and wetland hydrology must be					
1. Rubus ursinus	10	<u>Y</u>	FACU	present, unless disturbed or problematic					
2. Rubus armeniacus	1	N T-4-1 C	UPL	Hydrophytic					
% Bare Ground in Herb Stratum 85	11=	Total Cover		vegetation present? Yes No X					
Remarks:									
	oritorio								
Dominant species do not satisfy hydrophytic vegetation	i ontena.			· ·					
				· ·					

(Inches)	Matrix		Re	dox Feat	ures				
(11101100)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Textur	e	Remarks
5-0	Duff								Duff
0-8	7.5YR 3/3	100					L		
8-20+	10YR 4/3	100					L		
		·	_				. '		
¹ Type: C=C	oncentration, D=Depl	etion, RM=R	teduced Matrix, C	S=Covere	ed or Coate	ed Sand 0	Grains.	² Location: F	PL=Pore Lining, M=Matrix.
Hydric Soi	l Indicators: (Appli	cable to all	LRRs, unless of	therwise	e noted.)		I		r Problematic Hydric Soil
Histoso	, ,		Sandy R	-	•			2 cm Muc	• •
	Epipedon (A2)		Stripped	•	•		_		nt Material (TF2)
	Histic (A3)			-	eral (F1) (E	Except MI	RLA 1) _		llow Dark Surface (TF12)
	jen Sulfide (A4)	(0.44)		•	atrix (F2)		_	Other (Ex	plain in Remarks
	ed Below Dark Surfa Dark Surface (A12)	ice (A11)	Depleted Redox D	•	•			3,	f
	Mucky Mineral (S1)				ice (F6) irface (F7)	\	,		of hydrophytic vegetation ar blogy must be present, unle
	Gleyed Matrix (S4)		Redox D		. ,	'	,		urbed or problematic
	Layer (if present):				(. 0)				
Type:	Layer (II present).	i							
Depth (inch	nes):					Hvdrid	c Soil Pre	esent? Ye	es No X
Remarks:									
HYDROLO)GY								
	OGY drology Indicators								
-		f one is requ	iired; check all th	at apply			<u>s</u>	Secondary Inc	dicators (2 or more required
Wetland Hye	drology Indicators	f one is requ			aves (B9)		<u>§</u>		dicators (2 or more required
Wetland Hyde Primary Income Surface High W	drology Indicators licators (minimum of e Water (A1) /ater Table (A2)	f one is requ	Water-St (except	ained Le	aves (B9) 2, 4A, an		<u>§</u>	Water-Sta	ained Leaves (B9) (MLRA d
Wetland Hyd Primary Inc Surface High W	drology Indicators licators (minimum of e Water (A1) /ater Table (A2) tion (A3)	f one is requ	Water-Si (except Salt Crus	ained Le MLRA 1, st (B11)	2, 4A, an	d 4B)	<u> </u>	Water-Sta 2, 4A, and Drainage	ained Leaves (B9) (MLRA d 4B) Patterns (B10)
Wetland Hyden Primary Income Surface High Western Water	drology Indicators licators (minimum of e Water (A1) /ater Table (A2) tion (A3) Marks (B1)	f one is requ	Water-Si (except Salt Crus Aquatic I	ained Le MLRA 1, st (B11) nvertebra	2, 4A, an ates (B13)	d 4B)	<u>§</u> 	Water-Sta 2, 4A, and Drainage Dry-Seas	ained Leaves (B9) (MLRA d d 4B) Patterns (B10) on Water Table (C2)
Primary Inc Surface High W Saturat Water Sedime	drology Indicators licators (minimum of e Water (A1) /ater Table (A2) tion (A3) Marks (B1) ent Deposits (B2)	f one is requ	Water-Si (except Salt Crus Aquatic I Hydroge	tained Le MLRA 1, st (B11) nvertebra n Sulfide	2, 4A, an ates (B13) Odor (C1	d 4B)	- - -	Water-Sta 2, 4A, and Drainage Dry-Seas Saturation	nined Leaves (B9) (MLRA d d 4B) Patterns (B10) on Water Table (C2) v Visible on Aerial Imagery (C
Primary Inc Surface High W Saturat Water Sedime	drology Indicators licators (minimum of e Water (A1) /ater Table (A2) tion (A3) Marks (B1)	f one is requ	Water-Si (except Salt Crus Aquatic I Hydroge Oxidized	tained Le MLRA 1, st (B11) nvertebra n Sulfide Rhizosph	2, 4A, an ates (B13)	d 4B) i i ving Roots	- - -	Water-Sta 2, 4A, and Drainage Dry-Seas Saturation Geomorp	ained Leaves (B9) (MLRA d d 4B) Patterns (B10) on Water Table (C2)
Primary Inc Surface High W Saturat Water I Sedime Drift De Algal M Iron De	drology Indicators licators (minimum of e Water (A1) /ater Table (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) lat or Crust (B4) eposits (B5)	f one is requ	Water-St (except Salt Crus Aquatic I Hydroge Oxidized Presence Recent I	cained Le MLRA 1, st (B11) nvertebra n Sulfide Rhizosph e of Redu ron Redu	2, 4A, an ates (B13) Odor (C1 aeres on Lived Iron (action in Ti	d 4B)) ving Roots (C4) Iled Soils	s (C3)	Water-Sta 2, 4A, and Drainage Dry-Seas Saturation Geomorp Shallow A	nained Leaves (B9) (MLRA d d 4B) Patterns (B10) on Water Table (C2) I Visible on Aerial Imagery (Chic Position (D2)
Primary Inc Surface High W Satural Water I Sedime Drift De Algal M Iron De	drology Indicators dicators (minimum of 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)		Water-Si (except Salt Crus Aquatic I Hydroge Oxidized Presence Recent I Stunted	cained Le MLRA 1, st (B11) nvertebra n Sulfide Rhizosph e of Redu ron Redu or Stress	2, 4A, an ates (B13) Odor (C1 aeres on Livuced Iron (action in Ti ed Plants	d 4B) ving Root: (C4) Iled Soils (D1) (LR	s (C3)	Water-Sta 2, 4A, and Drainage Dry-Seas Saturation Geomorp Shallow A FAC-Neur Raised Ai	ained Leaves (B9) (MLRA d 4B) Patterns (B10) on Water Table (C2) I Visible on Aerial Imagery (Chic Position (D2) Aquitard (D3) tral Test (D5) Int Mounds (D6) (LRR A)
Primary Inc Surface High W Satural Water I Sedime Drift De Algal M Iron De Surface Inunda	drology Indicators dicators (minimum of 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) tion Visible on Aeria	l Imagery (E	Water-Si (except Salt Crus Aquatic I Hydroge Oxidized Presence Recent I Stunted	cained Le MLRA 1, st (B11) nvertebra n Sulfide Rhizosph e of Redu ron Redu or Stress	2, 4A, an ates (B13) Odor (C1 aeres on Lived Iron (action in Ti	d 4B) ving Root: (C4) Iled Soils (D1) (LR	s (C3)	Water-Sta 2, 4A, and Drainage Dry-Seas Saturation Geomorp Shallow A FAC-Neur Raised Ai	nained Leaves (B9) (MLRA d d 4B) Patterns (B10) on Water Table (C2) I Visible on Aerial Imagery (Chic Position (D2) Aquitard (D3) tral Test (D5)
Primary Inc Surface High W Saturat Water I Sedime Drift De Algal M Iron De Surface Inunda Sparsel	drology Indicators dicators (minimum of e Water (A1) /ater Table (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) dat or Crust (B4) eposits (B5) e Soil Cracks (B6) tion Visible on Aeria y Vegetated Concave S	l Imagery (E	Water-Si (except Salt Crus Aquatic I Hydroge Oxidized Presence Recent I Stunted	cained Le MLRA 1, st (B11) nvertebra n Sulfide Rhizosph e of Redu ron Redu or Stress	2, 4A, an ates (B13) Odor (C1 aeres on Livuced Iron (action in Ti ed Plants	d 4B) ving Root: (C4) Iled Soils (D1) (LR	s (C3)	Water-Sta 2, 4A, and Drainage Dry-Seas Saturation Geomorp Shallow A FAC-Neur Raised Ai	ained Leaves (B9) (MLRA d 4B) Patterns (B10) on Water Table (C2) I Visible on Aerial Imagery (Chic Position (D2) Aquitard (D3) tral Test (D5) Int Mounds (D6) (LRR A)
Primary Inc Surface High W Satural Water I Sedime Drift De Algal M Iron De Surface Inunda Sparsel	drology Indicators dicators (minimum of 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) tion Visible on Aeria y Vegetated Concave servations:	I Imagery (E Surface (B8)	Water-Si (except Salt Crus Aquatic I Hydroge Oxidized Presence Recent I Stunted Other (E	rained Le MLRA 1, st (B11) nvertebra n Sulfide Rhizosph e of Redu ron Redu or Stress xplain in	2, 4A, an ates (B13) Odor (C1 acres on Living aced Iron (action in Ti ed Plants Remarks)	d 4B)) ving Roots (C4) Iled Soils (D1) (LR	s (C3) s (C6) R A)	Water-Sta 2, 4A, and Drainage Dry-Seas Saturation Geomorp Shallow A FAC-Neur Raised Al Frost Hea	ained Leaves (B9) (MLRA d 4B) Patterns (B10) on Water Table (C2) Visible on Aerial Imagery (Chic Position (D2) Aquitard (D3) tral Test (D5) nt Mounds (D6) (LRR A) ave Hummocks (D7)
Primary Inc Surface High W Satural Water I Sedime Drift De Algal M Iron De Surface Inunda Sparsel	drology Indicators dicators (minimum of e Water (A1) /ater Table (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) dat or Crust (B4) eposits (B5) e Soil Cracks (B6) tion Visible on Aeria y Vegetated Concave s ervations: ater Present?	I Imagery (E Surface (B8) Yes	Water-Si (except Salt Crus Aquatic I Hydroge Oxidized Presence Recent I Stunted Other (E	rained Le MLRA 1, st (B11) nvertebra n Sulfide Rhizosph e of Redu or Stress xplain in	2, 4A, an ates (B13) Odor (C1 teres on Living aced Iron (action in Tiled Plants Remarks)	d 4B) ving Roots (C4) Illed Soils (D1) (LR	s (C3)	Water-Sta 2, 4A, and Drainage Dry-Seas Saturation Geomorp Shallow A FAC-Neur Raised Al Frost Hea	ained Leaves (B9) (MLRA d 4B) Patterns (B10) on Water Table (C2) I Visible on Aerial Imagery (Chic Position (D2) Aquitard (D3) tral Test (D5) Int Mounds (D6) (LRR A)
Primary Inc Surface High W Satural Water I Sedime Drift De Algal M Iron De Surface Inunda Sparsel Field Obse Surface Water Tabl	drology Indicators dicators (minimum of e Water (A1) /ater Table (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) dat or Crust (B4) eposits (B5) e Soil Cracks (B6) tion Visible on Aeria y Vegetated Concave s ervations: ater Present? e Present?	I Imagery (E Surface (B8)	Water-Si (except Salt Crus Aquatic I Hydroge Oxidized Presence Recent I Stunted Other (E	rained Le MLRA 1, st (B11) nvertebra n Sulfide Rhizosph e of Redu or Stress xplain in X X	2, 4A, an ates (B13) Odor (C1 teres on Living ated Iron (action in Tied Plants Remarks) Depth (in Depth (in Depth (in ates (B13)))	d 4B) ving Roots (C4) Illed Soils (D1) (LR	s (C3)	Water-Sta 2, 4A, and Drainage Dry-Seas Saturation Geomorp Shallow A FAC-Neur Raised Al Frost Hea	ained Leaves (B9) (MLRA d 4B) Patterns (B10) on Water Table (C2) Visible on Aerial Imagery (Chic Position (D2) Aquitard (D3) tral Test (D5) nt Mounds (D6) (LRR A) ave Hummocks (D7) d Hydrology Present?
Primary Inc Surface High W Satural Water I Sedime Drift De Algal M Iron De Surface Inunda Sparsel Surface Water Tabl Saturation	drology Indicators dicators (minimum of e Water (A1) /ater Table (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) dat or Crust (B4) eposits (B5) e Soil Cracks (B6) tion Visible on Aeria y Vegetated Concave s ervations: ater Present? e Present?	I Imagery (E Surface (B8) Yes Yes	Water-Si (except Salt Crus Aquatic I Hydroge Oxidized Presence Recent I Stunted Other (E	rained Le MLRA 1, st (B11) nvertebra n Sulfide Rhizosph e of Redu or Stress xplain in	2, 4A, an ates (B13) Odor (C1 teres on Living aced Iron (action in Tiled Plants Remarks)	d 4B) ving Roots (C4) Illed Soils (D1) (LR	s (C3)	Water-Sta 2, 4A, and Drainage Dry-Seas Saturation Geomorp Shallow A FAC-Neur Raised Al Frost Hea	ained Leaves (B9) (MLRA d 4B) Patterns (B10) on Water Table (C2) Visible on Aerial Imagery (Chic Position (D2) Aquitard (D3) tral Test (D5) nt Mounds (D6) (LRR A) ave Hummocks (D7)
Primary Inc Surface High W Saturat Water I Sedime Drift De Algal M Iron De Surface Inunda Sparsel: Field Obse Surface Water Tabl Saturation (includes ca	drology Indicators dicators (minimum of e Water (A1) /ater Table (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) dat or Crust (B4) eposits (B5) e Soil Cracks (B6) tion Visible on Aeria y Vegetated Concave servations: ater Present? Present?	I Imagery (E Surface (B8) Yes Yes Yes	Water-Si (except Salt Crus Aquatic I Hydroge Oxidized Presence Recent I Stunted Other (E	mined Le MLRA 1, st (B11) nvertebra n Sulfide Rhizosph e of Redu or Stress xplain in X X X	2, 4A, an ates (B13) Odor (C1 peres on Livered Iron (action in Tied Plants Remarks) Depth (in D	d 4B)) ving Roote (C4) Illed Soils (D1) (LR nches):	s (C3)	Water-Sta 2, 4A, and Drainage Dry-Seas Saturation Geomorp Shallow A FAC-Neur Raised Al Frost Hea	ained Leaves (B9) (MLRA d 4B) Patterns (B10) on Water Table (C2) Visible on Aerial Imagery (Chic Position (D2) Aquitard (D3) tral Test (D5) nt Mounds (D6) (LRR A) ave Hummocks (D7) d Hydrology Present?
Primary Inc Surface High W Saturat Water I Sedime Drift De Algal M Iron De Surface Inunda Sparsel Field Obse Surface Wa Water Tabl Saturation (includes ca	drology Indicators dicators (minimum of e Water (A1) /ater Table (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) dat or Crust (B4) eposits (B5) e Soil Cracks (B6) tion Visible on Aeria y Vegetated Concave servations: ater Present? Present? Present?	I Imagery (E Surface (B8) Yes Yes Yes	Water-Si (except Salt Crus Aquatic I Hydroge Oxidized Presence Recent I Stunted Other (E	mined Le MLRA 1, st (B11) nvertebra n Sulfide Rhizosph e of Redu or Stress xplain in X X X	2, 4A, an ates (B13) Odor (C1 peres on Livered Iron (action in Tied Plants Remarks) Depth (in D	d 4B)) ving Roote (C4) Illed Soils (D1) (LR nches):	s (C3)	Water-Sta 2, 4A, and Drainage Dry-Seas Saturation Geomorp Shallow A FAC-Neur Raised Al Frost Hea	ained Leaves (B9) (MLRA d 4B) Patterns (B10) on Water Table (C2) Visible on Aerial Imagery (Chic Position (D2) Aquitard (D3) tral Test (D5) nt Mounds (D6) (LRR A) ave Hummocks (D7) d Hydrology Present?
Primary Inc Surface High W Saturat Water I Sedime Drift De Algal M Iron De Surface Inunda Sparsel Field Obse Surface Water Tabl Saturation (includes ca Describe R	drology Indicators dicators (minimum of e Water (A1) /ater Table (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) dat or Crust (B4) eposits (B5) e Soil Cracks (B6) tion Visible on Aeria y Vegetated Concave servations: ater Present? Present? Present?	I Imagery (E Surface (B8) Yes Yes Yes Mes m	Water-Si (except Salt Crus Aquatic I Hydroge Oxidized Presence Recent I Stunted Other (E	mined Le MLRA 1, st (B11) nvertebra n Sulfide Rhizosph e of Redu or Stress xplain in X X X	2, 4A, an ates (B13) Odor (C1 peres on Livered Iron (action in Tied Plants Remarks) Depth (in D	d 4B)) ving Roote (C4) Illed Soils (D1) (LR nches):	s (C3)	Water-Sta 2, 4A, and Drainage Dry-Seas Saturation Geomorp Shallow A FAC-Neur Raised Al Frost Hea	ained Leaves (B9) (MLRA d 4B) Patterns (B10) on Water Table (C2) Visible on Aerial Imagery (Chic Position (D2) Aquitard (D3) tral Test (D5) nt Mounds (D6) (LRR A) ave Hummocks (D7) d Hydrology Present?

Project/Site: TEWS PSERN	City/	County: King		Sampling Date: 3/11/2022
Applicant/Owner: ADCOMM		State: WA		Sampling Point: PSERN 1 (1)
Investigator(s): Patrick Togher and Mallory Phillips	Section	n, Township, Ra	ange: S29	; T26N; R8E
Landform (hillslope, terrace, etc.): Terrace	Lo	ocal relief (con	cave, conve	x, none): Concave Slope (%): 0
Subregion (LRR): A		Lat: <u>4</u>	7.706849	Long: -121.817670 Datum: WGS84
Soil Map Unit Name: Typic Vitrixerands			NW	Classification: Upland
Are climatic/hydrologic conditions of the site typical for	this time of	the year?	Yes X	No (If no, explain in remarks)
Are vegetation, Soil, or Hydrology	<u></u>	significantly	disturbed?	Are "Normal Circumstances"
Are vegetation, Soil, or Hydrology	<u></u>	naturally pro	blematic?	present? (If needed, explain any answers in remarks) Yes X No
SUMMARY OF FINDINGS - Attach site map sh	nowing sai	mpling point	location, tr	ansects, important features, etc.
Hydrophytic vegetation present? Yes	Х	No	la tha aa	manufad area
Hydric soil present? Yes	No X within a			impled area a wetland?
Indicators of wetland hydrology present? Yes				Yes No X
Remarks: Plot located on the southwest edge of when	re the two a	ccess roads in	tersect.	<u> </u>
· ·				
VEGETATION Use scientific names of plants				
VEGETATION Ose scientific flames of plants	Absolute	Dominant	Indicator	Dominance Test Worksheet
<u>Tree Stratum</u> (Plot size: 30' r)	% Cover	Species	Status	
1.	75 0010.	орос		Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)
2.				Total Number of Dominant
3.				Species Across all Strata: 1 (B)
4.				Percent of Dominant Species that
	0 =	= Total Cover		are OBL, FACW, or FAC: 100% (A/B)
Sapling/Shrub Stratum (Plot size: 30' r)				
1				Prevalence Index Worksheet
2				Total % Cover of: Multiply by:
3				OBL species $0 \times 1 = 0$ FACW species $85 \times 2 = 170$
5.				FACW species $\begin{array}{c cccc} 85 & x & 2 & 170 \\ \hline FAC species & 0 & x & 3 & 0 \\ \hline \end{array}$
·	0 :	Total Cover		FACU species 1 x 4 = 4
Herb Stratum (Plot size: 5' r)		. 515 5515.		UPL species 0 x 5 = 0
1. Juncus effusus	80	Υ	FACW	Column totals 86 (A) 174 (B)
2. Phalaris arundinacea	5	N	FACW	Prevalence Index = $B/A = 2.02$
3. Anthoxanthum odoratum	1	N	FACU	
4.				Hydrophytic Vegetation Indicators:
5				1 - Rapid Test for Hydrophytic Vegetation
6				X 2 - Dominance Test is >50%
7				3 - Prevalence Index is ≤3.0 4 - Morphological Adaptations* (Provide supporting
8. 9.				data in Remarks or on a separate sheet)
10.				5 - Wetland Non-Vascular Plants ¹
11.				Problematic Hydrophytic Vegetation ¹
··· <u> </u>	86 =	Total Cover		(Explain)
Woody Vine Stratum (Plot size: 30' r)				¹ Indicators of hydric soil and wetland hydrology must be
1.				present, unless disturbed or problematic
2.				Hydrophytic
	0 =	Total Cover		vegetation
% Bare Ground in Herb Stratum 14				present? Yes X No
Remarks:				•
Hydrophytic vegetation dominant.				

SOIL Sampling Point: PSERN 1 (1)

Profile Des	cription: (Describ	e to the dep	th needed to d	ocumen	t the indic	ator or o	confirm	the absence of indicators.)
Depth	Matrix			dox Feat	ures			
(Inches)	Color (moist)		Color (moist)	<u>%</u>	Type ¹	Loc ²	Text	
0-5	10YR 3/3	90	10YR 3/4	10	C	M	GS	
5-7	10YR 3/2	100					GS	SL Angular gravels
7-8.5	10YR 4/3	100					GS	Gravel fill; cannot auger more
			_					
						,		
¹ Type: C=C	oncentration, D=Depl	etion, RM=R	educed Matrix, C	S=Cover	ed or Coate	d Sand C	Grains.	² Location: PL=Pore Lining, M=Matrix.
Hydric Soi	l Indicators: (Appli	cable to all						Indicators for Problematic Hydric Soils ³ :
Histoso	` '		Sandy Re					2 cm Muck (A10)
	pipedon (A2)		Stripped	•	•			Red Parent Material (TF2)
	listic (A3)			-	eral (F1) (E	xcept MF	RLA 1)	Very Shallow Dark Surface (TF12)
	en Sulfide (A4) ed Below Dark Surfa	00 (111)	Loamy G	-	. ,			Other (Explain in Remarks
	ed Below Dark Suria Park Surface (A12)	ce (ATT)	Depleted Redox Da	•	•			3 Indicators of budrouphytic variation and
	Mucky Mineral (S1)				ırface (F7)			³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless
	Gleyed Matrix (S4)		Redox D		, ,			disturbed or problematic
	Layer (if present):			•	` ,			·
Type:	Layer (ii present).							
Depth (inch	es):					Hydric	Soil P	resent? Yes No X
Remarks:	, <u> </u>							
	t satisfy hydric soils	critoria						
Oolis do no	t satisty flydfic solis	criteria.						
HYDROLC	GY							
Wetland Hy	drology Indicators							
Primary Inc	icators (minimum of	one is requi	ired; check all th	at apply				Secondary Indicators (2 or more required)
X Surface	e Water (A1)		Water-St	ained Le	aves (B9)			Water-Stained Leaves (B9) (MLRA 1,
	ater Table (A2)				2, 4A, and	d 4B)		2, 4A, and 4B)
X Saturat			Salt Crus		. t (D40)			Drainage Patterns (B10)
	Marks (B1) ent Deposits (B2)				ates (B13) Odor (C1)			Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9)
	eposits (B3)				neres on Liv		s (C3)	Geomorphic Position (D2)
	lat or Crust (B4)				uced Iron (-	(00)	Shallow Aquitard (D3)
Iron De	posits (B5)		Recent Ir	on Redu	ıction in Til	led Soils		FAC-Neutral Test (D5)
	Soil Cracks (B6)				ed Plants ((D1) (LR	RA)	Raised Ant Mounds (D6) (LRR A)
	tion Visible on Aeria / Vegetated Concave 9	0 , (7)Other (Ex	kplain in	Remarks)			Frost Heave Hummocks (D7)
Sparser	vegetated Coricave C	bullace (bo)						
Field Obse								
	iter Present?	Yes _	X No_		Depth (in	- : - : -	4"	Wetland Hydrology Present?
Water Tabl		Yes Yes	X No No		Depth (in		Surface	
Saturation (includes ca	apillary fringe)	163	<u> </u>		Deptil (iii	ciies). <u>.</u>	Surface	<u> Yes X No</u>
	ecorded Data (strea	m gauge, m	onitoring well as	erial nhot	tos, previou	us inspec	ctions)	if available:
2 200, 100 10		ჟააყა, 111	won, ac	pi 101	, p. 5 1 10 t		,	
Remarks:								
Water pond	ling at road edge on	gravel fill m	aterial.					

Project/Site: TEWS PSERN	City/	County: King		Sampling Date: 3/11/2022
Applicant/Owner: ADCOMM		State: WA		Sampling Point: PSERN 2 (3)
Investigator(s): Patrick Togher and Mallory Phillips	Section	i, Township, Ra	ange: S30	, T26N, R8E
Landform (hillslope, terrace, etc.): Terrace	Lc	ocal relief (cond	cave, conve	x, none): None Slope (%): 0
Subregion (LRR): A		Lat: <u>47</u>	7.706867	Long: -121.817163 Datum: WGS84
Soil Map Unit Name: Typic Vitrixerands			NWI	Classification: Upland
Are climatic/hydrologic conditions of the site typical for	this time of	the year?	Yes X	No (If no, explain in remarks)
Are vegetation , Soil , or Hydrology		significantly o	disturbed?	Are "Normal Circumstances"
Are vegetation , Soil , or Hydrology		naturally prob	olematic?	present? (If needed, explain any answers in remarks) Yes X No
SUMMARY OF FINDINGS - Attach site map sh	owing sar	npling point l	location, tr	
Hydrophytic vegetation present? Yes	Х	No	la tha aa	mulad avaa
Hydric soil present? Yes		No X		mpled area a wetland?
Indicators of wetland hydrology present? Yes		No X	Within t	Yes No X
Remarks: Plot located east of where the two roads int	tersect, on t	he southern ed	lge just wes	t of the tree line.
	,		J	
VEGETATION Use scientific names of plants				
VEGETATION Ose scientific flames of plants	Absolute	Dominant	Indicator	Dominance Test Worksheet
<u>Tree Stratum</u> (Plot size: 30' r)	% Cover	Species	Status	Number of Dominant Species that
1. Alnus rubra	25	Y	FAC	are OBL, FACW, or FAC: 3 (A)
2. Acer macrophyllum	5	N	FACU	Total Number of Dominant
3.				Species Across all Strata: 4 (B)
4.				Percent of Dominant Species that
	30 =	Total Cover		are OBL, FACW, or FAC: 75% (A/B)
Sapling/Shrub Stratum (Plot size: 30' r)				
1				Prevalence Index Worksheet
2				Total % Cover of: Multiply by:
3				OBL species 0 x 1 = 0
4				FACW species $0 \times 2 = 0$ FAC species $125 \times 3 = 375$
5	0 =	= Total Cover		FACU species 20 x 4 = 80
Herb Stratum (Plot size: 5' r)		- Total Govel		UPL species $0 \times 5 = 0$
1. Agrostis stolonifera	85	Υ	FAC	Column totals 145 (A) 455 (B)
2. Polystichum munitum	5	N	FACU	Prevalence Index = $B/A = 3.14$
3. Schedonorus arundinaceus	5	N	FAC	
4.				Hydrophytic Vegetation Indicators:
5.				1 - Rapid Test for Hydrophytic Vegetation
6				X 2 - Dominance Test is >50%
7				3 - Prevalence Index is ≤3.0
8				4 - Morphological Adaptations* (Provide supporting data in Remarks or on a separate sheet)
9				i '.
10				5 - Wetland Non-Vascular Plants ¹
11	95 =	= Total Cover		Problematic Hydrophytic Vegetation ¹ (Explain)
Woody Vine Stratum (Plot size: 30' r)		- Total Cover		¹Indicators of hydric soil and wetland hydrology must be
1. Rubus armeniacus	10	Υ	FAC	present, unless disturbed or problematic
2. Rubus ursinus	10	Y	FACU	Hydrophytic
	20 =	Total Cover		vegetation
% Bare Ground in Herb Stratum 5				present? Yes X No
Remarks:				<u> </u>
Hydrophytic vegetation is dominant.				
, , , ,				

SOIL Sampling Point: PSERN 2 (3)

Profile Des	cription: (Describ	e to the depth				cator or	confirn	n the al	bsence of indicators.)
Depth	Matrix			dox Feat					
(Inches)	Color (moist)		olor (moist)	<u>%</u>	Type ¹	Loc ²	Text		Remarks
0-12	10YR 4/3	100					GS		Gravelly fill
12-19	10YR 4/3	100					GS	SL	Cobbles; cannot auger further
¹ Type: C=C	oncentration, D=Depl	etion, RM=Red	uced Matrix, C	S=Cover	ed or Coate	ed Sand (Grains.	² Loc	cation: PL=Pore Lining, M=Matrix.
Hydric Soi	l Indicators: (Appli	cable to all LI						Indica	ators for Problematic Hydric Soils³
Histoso	` '			Redox (S5					cm Muck (A10)
	pipedon (A2)			Matrix (S	•				ed Parent Material (TF2)
	listic (A3)			-	eral (F1) (E	xcept M	RLA 1)		ery Shallow Dark Surface (TF12)
	en Sulfide (A4) ed Below Dark Surfa	ce (A11)		Gleyed Ma d Matrix (l					ther (Explain in Remarks
	oark Surface (A12)	(/(11)		ark Surfa	•			3India	cators of hydrophytic vegetation and
	Mucky Mineral (S1)				ırface (F7)				nd hydrology must be present, unless
	Gleyed Matrix (S4))epressio	, ,				disturbed or problematic
Restrictive	Layer (if present):								
Type:									
Depth (inch	es):					Hydri	c Soil F	Present	:? Yes No <u>X</u>
Remarks:						<u> </u>			
Soils do no	t satisfy hydric soil c	riteria.							
HYDROLO	GY								
	drology Indicators								
	licators (minimum of	one is require	nd: check all th	nat apply				Secon	ndary Indicators (2 or more required)
		one is require			aves (DO)				
	e Water (A1) ater Table (A2)				aves (B9) 2, 4A, an	d 4B)			ater-Stained Leaves (B9) (MLRA 1, 4A, and 4B)
	ion (A3)		Salt Cru		2 , 77, an	u 4 D)			rainage Patterns (B10)
	Marks (B1)			` ,	ates (B13)				ry-Season Water Table (C2)
	ent Deposits (B2)				Odor (C1)				aturation Visible on Aerial Imagery (C9)
	eposits (B3)				eres on Liv	-	s (C3)		eomorphic Position (D2)
	lat or Crust (B4) posits (B5)				uced Iron (action in Til	,	(C6)		hallow Aquitard (D3) AC-Neutral Test (D5)
	e Soil Cracks (B6)				ed Plants				aised Ant Mounds (D6) (LRR A)
	tion Visible on Aeria	I Imagery (B7)			Remarks)	`	,		rost Heave Hummocks (D7)
Sparsel	Vegetated Concave S	Surface (B8)							
Field Obse	rvations:								
Surface Wa	iter Present?	Yes	No	Χ	Depth (in	ches):	>19"	١	Wetland Hydrology Present?
Water Tabl		Yes	No	Χ	Depth (in		>19"	_	
Saturation		Yes	No	X	Depth (in	ches):	>19"	- `	Yes No X
	apillary fringe)	m dalide mon	itoring well o	erial phot	toe provio	ue ineno	ctions)	if availe	ahle:
Describe K	ecorded Data (strea	ın yauye, mon	morniy well, a	enai piioi	wa, previo	us mspe	ouoris),	ıı avalla	able.
Remarks:									
No indicato	rs of wetland hydrol	ogy are preser	nt.						

Appendix E

2014 Wetland Rating Forms – Western Washington

RATING SUMMARY – Western Washington

Name of wetland (or	r ID #):	OWS 5-1	<u> </u>	·	Dat	te of site visit:	03/11/22
Rated by	Mallory Phillips	Trained l	oy Ecology?	Yes X	No	Date of training	
HGM Class used for ra	ting Slo	ppe	Wetland has m	ultiple H	IGM cl	asses? Yes	X No
	not complete with of base aerial photo	_	requested (figu	res can	be con	mbined).	
VERALL WETLAND	CATEGORY	(base	ed on functions	X	or s	pecial characteristi	ics)
1. Category of we	etland based o	n FUNCTION	S				
	Category I - To	otal score = 23	- 27			Score for each	
	Category II - T	otal score = 20) - 22			function based of	on
	Category III -	Total score = 1	6 - 19			three ratings	
X	Category IV -	Total score = 9	- 15			(order of ratings	s
						is not	
FUNCTION	Improving Water Quality	Hydrologic	Habitat			important)	
Approp	riate ratings incl. ("H	" - High, "M" - Me	edium, "L" - Low)			9 = H, H, H	
Site Potential	L	L	L			8 = H, H, M	
Landscape Potential	L	L	Н		•	7 = H, H, L	
Value	Н	L	Н	Total		7 = H, M, M	
Score Based on	5	3	7	15		6 = H, M, L	
Ratings		,	,	13		6 = M, M, M	
						5 = H, 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

1

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

Maps and Figures required to answer questions correctly for Western Washington

Depressional Wetlands

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

Slope Wetlands

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

HGM Classification of Wetland in Western Washington

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

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

1.	Are the water levels in the en	tire unit usually controlled b	y tides except during floods?	
	X NO - go to 2	YES -	- the wetland class is Tidal Fringe - go to 1.1	
1	1 Is the salinity of the	water during periods of an	nual low flow below 0.5 ppt (parts per thousand)	?
		ssified as a Freshwater Tidal an Estuarine wetland and	YES - Freshwater Tidal Fringe I Fringe use the forms for Riverine wetlands. If it is not scored. This method cannot be used to sco	
2.	The entire wetland unit is flat water runoff are NOT sources	· · ·	y source (>90%) of water to it. Groundwater and	surface
	X NO - go to 3 If your wetland can be classifications	ed as a Flats wetland, use th	YES - The wetland class is Flats ne form for Depressional wetlands.	
3.	on the surface at any time		a body of permanent open water (without any p (8 ha) in size;	lants
	X NO - go to 4	YES -	- The wetland class is Lake Fringe (Lacustrine Frin	ge)
4.		(slope can be very gradual), the wetland in one direction flow, or in a swale without d	, n (unidirectional) and usually comes from seeps. I distinct banks.	t may
			ands except occasionally in very small and shallow ly <3 ft diameter and less than 1 ft deep).	W
5.	river,		s inundated by overbank flooding from that strea	am or

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

6. Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year? This means that any outlet, if present, is higher than the interior of the wetland.

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.

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	Donrossional		
within boundary of depression	Depressional		
Depressional + Lake Fringe	Depressional		
Riverine + Lake Fringe	Riverine		
Salt Water Tidal Fringe and any other class of	Treat as Estuarine		
freshwater wetland	i i eat as Estudi ii e		

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	
Water Quality Functions - Indicators that the site functions to improve water quality S 1.0. Does the site have the potential to improve water quality?	
S 1.1. Characteristics of the average slope of the wetland: (a 1% slope has a 1 ft vertical drop in elevation for every 100 ft of	
horizontal distance)	
Slope is 1% or less points = 3	•
Slope is > 1% - 2% points = 2	U
Slope is > 2% - 5% points = 1	
X Slope is greater than 5% points = 0	
S 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic (use NRCS definitions): Yes = 3 No = 0	0
S 1.3. Characteristics of the plants in the wetland that trap sediments and pollutants:	
Choose the points appropriate for the description that best fits the plants in the wetland. Dense means you have trouble	
seeing the soil surface (>75% cover), and uncut means not grazed or mowed and plants are higher than 6 in.	
Dense, uncut, herbaceous plants > 90% of the wetland area points = 6	1
Dense, uncut, herbaceous plants > ½ of area points = 3	-
Dense, woody, plants > ½ of area points = 2	
X Dense, uncut, herbaceous plants > ¼ 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 = H6 - 11 = MX0 - 5 = LRecord the rating on the first positive in the site is:12 = H6 - 11 = MX0 - 5 = LRecord the rating on the first positive is:12 = H6 - 11 = MX0 - 5 = LRecord the rating on the first positive is:12 = H6 - 11 = MX0 - 5 = LRecord the rating on the first positive is:12 = H6 - 11 = MX0 - 5 = LRecord the rating on the first positive is:12 = H6 - 11 = MX0 - 5 = LRecord the rating on the first positive is:12 = H6 - 11 = MX0 - 5 = LRecord the rating on the first positive is:12 = H6 - 11 = MX0 - 5 = LRecord the rating on the first positive is:12 = H6 - 11 = MX0 - 5 = L	ige
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 No = 0	0
S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?	_
Other Sources Yes = 1 No = 0	0
Total for S 2 Add the points in the boxes above	0
Rating of Landscape Potential If score is: 1 - 2 = M x 0 = L Record the rating on the first po	age
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	0
303(d) list? Yes = 1 No = 0	Ū
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	0
is on the 303(d) list. Yes = 1 No = 0	· ·
S 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality? Answer YES	2
if there is a TMDL for the basin in which the unit is found? Yes = 2 No = 0	2
Total for S 3 Add the points in the boxes above	2
Rating of Value If score is: X 2-4 = H 1 = M 0 = L Record the rating on the first page 1	

<u>S</u>	LOPE WE	TLANDS		
Hydrologic Functions - Indicators tha	it the site fu	nctions to redu	ce flooding and stream erosion	
S 4.0. Does the site have the potential to reduce floo	ding and stre	am erosion?		
S 4.1. Characteristics of plants that reduce the velocity of description that best fits conditions in the wetland. enough, to remain erect during surface flows.				0
Dense, uncut, rigid plants cover > 90% of the area of X All other conditions	of the wetland		points = 1 points = 0	
Rating of Site Potential If score is:	1 = M	X 0 = L	Record the rating on the first p	age
S 5.0. Does the landscape have the potential to supp	ort hydrologi	c functions of th	e site?	
S 5.1. Is more than 25% of the area within 150 ft upslope surface runoff?	of wetland in	land uses or cover	r that generate excess Yes = 1 No = 0	0
Rating of Landscape Potential If score is:	1 = M	X 0 = L	Record the rating on the first p	age
S 6.0. Are the hydrologic functions provided by the s	ite valuable t	o society?		
S 6.1. Distance to the nearest areas downstream that have The sub-basin immediately down-gradient of site			ılt in damage to human or	
natural resources (e.g., houses or salmon redds) Surface flooding problems are in a sub-basin fartl X No flooding problems anywhere downstream	her down-grad	lient	points = 2 points = 1 points = 0	0
S 6.2. Has the site been identified as important for flood	storage or floo	od conveyance in a	regional flood control plan? Yes = 2 No = 0	0
Total for S 6			Add the points in the boxes above	0
Pating of Value If score is: $2 - 4 = H$	1 = M	x 0=1	Record the rating on the first n	naae

NOTES and FIELD OBSERVATIONS:

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

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 24 in diameter and 6 ft long) X 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 for ditch) in, or contiguous with the wetland, for at least 3.3 ft (10 m) Stable steep banks of fine material that might be used by beaver or mustrat 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 X ac of thin-stemmed persistent plants or woody branches are present in areas that are permanently or seasonally inundated (structures for egg-laying by amphibions) Invasive plants cover less than 25% of the wetland area in every stratum of plants (see H 1.1 for list of strato) Total for H 1	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 (2 4 in diameter and 6 ft long) X Standing rangs (bho + 4 in) within the wetland Undercut banks are present for at least 6.6 ft (2 m) and/or overhanging plants extends at least 3.3 ft (1 m) over a stream (or ditch) in, or contiguous with the wetland, for at least 33 ft (10 m) Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 30 degree slope) OR signs of recent beaver activity are present (cut shrubs or trees that have not yet weathered where wood is exposed) At least % ac of thin-stemmed persistent plants or woody branches are present in areas that are permanently or seasonally inundated (structures for egg-laying by amphibinas) 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 X 0 - 6 = L Record the rating on the first page of the wetland behint at 10 - 50% and 3 a patches Undisturbed habit			
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X 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)	X 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 3.3 ft (1 m) over a stream (or ditch) in, or contiguous with the wetland, for at least 3.3 ft (1 m) over a 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 X ac of thin-stemmed persistent plants or woody branches are present in areas that are permanently or seasonally inundated (structures for egg-laying by omphibions)	·	umber of points.	
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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 amphibitans) 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 Rating of Site Potential If Score is: 15-18 = H 7-14 = M X 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: 87 % undisturbed habitat + (13 moderate & low intensity land uses / 2) = 93.5 If total accessible habitat is: > ½ (33.3%) of 1 km Polygon 20-33% of 1 km Polygon 20-33% of 1 km Polygon 20-30% of 1 km Polygon 20-30% of 1 km Polygon 20-30% of 1 km Polygon around the wetland. Calculate: 87 % undisturbed habitat + (13 moderate & low intensity land uses / 2) = 93.5 Undisturbed habitat in 1 km Polygon around the wetland. Calculate: 87 % undisturbed habitat + (13 moderate & low intensity land uses / 2) = 93.5 Undisturbed habitat 10-50% and > 3 patches Undisturbed habitat 10-50% and > 3 pa	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 X 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 strato) Total for H 1 Rating of Site Potential If Score is: 15 - 18 = H 7 - 14 = M X 0 - 6 = L Record the rating on the first page of the solution of the site? 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: 87 % undisturbed habitat 1: > \(^1\)_1 (33.3%) of 1 km Polygon 20 - 33% of 1 km Polygon 21 - 19% of 1 km Polygon 21 - 19% of 1 km Polygon 21 - 19% of 1 km Polygon 22 - 30 - 30 - 30 - 30 - 30 - 30 - 30 -		at least 3.3 ft (1 m) over a	
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20 - 33% of 1 km Polygon	20 - 33% of 1 km Polygon 10 - 19% of 1 km Polygon 210 - 19% of 1 km Polygon around the wetland. 210 - 19% of 1 km Polygon around the wetland. 210 - 19% of 1 km Polygon is high intensity land use 250% of 1 km Polygon is high intensity land use 250% of 1 km Polygon is high intensity 210 - 100	If total accessible habitat is:		
10 - 19% of 1 km Polygon	10 - 19% of 1 km Polygon	$> \frac{1}{3}$ (33.3%) of 1 km Polygon	points = 3	3
H 2.2. Undisturbed habitat in 1 km Polygon around the wetland. Calculate: 87	A continue Calculate: St. S	20 - 33% of 1 km Polygon	points = 2	
H 2.2. Undisturbed habitat in 1 km Polygon around the wetland. Calculate: 87	H 2.2. Undisturbed habitat in 1 km Polygon around the wetland. Calculate: 87 % undisturbed habitat + (13 moderate & low intensity land uses / 2) = 93.5 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 H 2.3 Land use intensity in 1 km Polygon: If > 50% of 1 km Polygon is high intensity land use ≤ 50% of 1 km Polygon is high intensity and use ≤ 50% of 1 km Polygon is high intensity Total for H 2 Add the points in the boxes above 6 Rating of Landscape Pot. If Score is: X 4 - 6 = H 1 - 3 = M < 1 = L Record the rating on the first page of the wetland being rated. Site meets ANY of the following criteria: points = 2 X It has 3 or more priority habitats within 100 m (see next page) It provides habitat for Threatened or Endangered species (any plant or animal on the state or federal lists) X It is mapped as a location for an individual WDFW priority species It is a Wetland of High Conservation Value as determined by the Department of Natural Resources	10 - 19% of 1 km Polygon	points = 1	
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Site meets ANY of the following criteria: X	Site meets ANY of the following criteria: X	H 2.3 Land use intensity in 1 km Polygon: If		
Total for H 2 Rating of Landscape Pot. If Score is: X 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 X It has 3 or more priority habitats within 100 m (see next page) It provides habitat for Threatened or Endangered species (any plant or animal on the state or federal lists) X It is mapped as a location for an individual WDFW priority species It is a Wetland of High Conservation Value as determined by the Department of Natural Resources	Total for H 2 Rating of Landscape Pot. If Score is: X 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 X It has 3 or more priority habitats within 100 m (see next page) It provides habitat for Threatened or Endangered species (any plant or animal on the state or federal lists) X It is mapped as a location for an individual WDFW priority species It is a Wetland of High Conservation Value as determined by the Department of Natural Resources	> 50% of 1 km Polygon is high intensity land use	points = (-2)	0
Rating of Landscape Pot. If Score is: X 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 X It has 3 or more priority habitats within 100 m (see next page) It provides habitat for Threatened or Endangered species (any plant or animal on the state or federal lists) X It is mapped as a location for an individual WDFW priority species It is a Wetland of High Conservation Value as determined by the Department of Natural Resources	Rating of Landscape Pot. If Score is: X 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 X It has 3 or more priority habitats within 100 m (see next page) It provides habitat for Threatened or Endangered species (any plant or animal on the state or federal lists) X It is mapped as a location for an individual WDFW priority species It is a Wetland of High Conservation Value as determined by the Department of Natural Resources	≤ 50% of 1km Polygon is high intensity	points = 0	
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 X It has 3 or more priority habitats within 100 m (see next page) It provides habitat for Threatened or Endangered species (any plant or animal on the state or federal lists) X It is mapped as a location for an individual WDFW priority species It is a Wetland of High Conservation Value as determined by the Department of Natural Resources	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 X It has 3 or more priority habitats within 100 m (see next page) It provides habitat for Threatened or Endangered species (any plant or animal on the state or federal lists) X It is mapped as a location for an individual WDFW priority species It is a Wetland of High Conservation Value as determined by the Department of Natural Resources	Total for H 2 Add	the points in the boxes above	6
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 X It has 3 or more priority habitats within 100 m (see next page) It provides habitat for Threatened or Endangered species (any plant or animal on the state or federal lists) X It is mapped as a location for an individual WDFW priority species It is a Wetland of High Conservation Value as determined by the Department of Natural Resources	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 X It has 3 or more priority habitats within 100 m (see next page) It provides habitat for Threatened or Endangered species (any plant or animal on the state or federal lists) X It is mapped as a location for an individual WDFW priority species It is a Wetland of High Conservation Value as determined by the Department of Natural Resources	Rating of Landscape Pot. If Score is: X 4 - 6 = H 1 - 3 = M < 1 = L	Record the rating on the j	first page
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 X It has 3 or more priority habitats within 100 m (see next page) It provides habitat for Threatened or Endangered species (any plant or animal on the state or federal lists) X It is mapped as a location for an individual WDFW priority species It is a Wetland of High Conservation Value as determined by the Department of Natural Resources	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 X It has 3 or more priority habitats within 100 m (see next page) It provides habitat for Threatened or Endangered species (any plant or animal on the state or federal lists) X It is mapped as a location for an individual WDFW priority species It is a Wetland of High Conservation Value as determined by the Department of Natural Resources	H 3.0. Is the habitat provided by the site valuable to society?		
to the wetland being rated. Site meets ANY of the following criteria: X It has 3 or more priority habitats within 100 m (see next page) It provides habitat for Threatened or Endangered species (any plant or animal on the state or federal lists) X It is mapped as a location for an individual WDFW priority species It is a Wetland of High Conservation Value as determined by the Department of Natural Resources			nly the highest score that applies	
Site meets ANY of the following criteria: X It has 3 or more priority habitats within 100 m (see next page) It provides habitat for Threatened or Endangered species (any plant or animal on the state or federal lists) X It is mapped as a location for an individual WDFW priority species It is a Wetland of High Conservation Value as determined by the Department of Natural Resources	Site meets ANY of the following criteria: X It has 3 or more priority habitats within 100 m (see next page) It provides habitat for Threatened or Endangered species (any plant or animal on the state or federal lists) X It is mapped as a location for an individual WDFW priority species It is a Wetland of High Conservation Value as determined by the Department of Natural Resources		my the ingress score that applies	
X It has 3 or more priority habitats within 100 m (see next page) It provides habitat for Threatened or Endangered species (any plant or animal on the state or federal lists) X It is mapped as a location for an individual WDFW priority species It is a Wetland of High Conservation Value as determined by the Department of Natural Resources	X It has 3 or more priority habitats within 100 m (see next page) It provides habitat for Threatened or Endangered species (any plant or animal on the state or federal lists) X It is mapped as a location for an individual WDFW priority species It is a Wetland of High Conservation Value as determined by the Department of Natural Resources		points = 2	
It provides habitat for Threatened or Endangered species (any plant or animal on the state or federal lists) X It is mapped as a location for an individual WDFW priority species It is a Wetland of High Conservation Value as determined by the Department of Natural Resources	It provides habitat for Threatened or Endangered species (any plant or animal on the state or federal lists) X It is mapped as a location for an individual WDFW priority species It is a Wetland of High Conservation Value as determined by the Department of Natural Resources		F	
lists) X It is mapped as a location for an individual WDFW priority species It is a Wetland of High Conservation Value as determined by the Department of Natural Resources	lists) X It is mapped as a location for an individual WDFW priority species It is a Wetland of High Conservation Value as determined by the Department of Natural Resources		ate or federal	
X It is mapped as a location for an individual WDFW priority species It is a Wetland of High Conservation Value as determined by the Department of Natural Resources	X It is mapped as a location for an individual WDFW priority species It is a Wetland of High Conservation Value as determined by the Department of Natural Resources			
		X It is mapped as a location for an individual WDFW priority species		2
			Resources	
It has been categorized as an important habitat site in a local or regional comprehensive plan, in a Shoreline Master	• • • • • • • • • • • • • • • • • • • •			
Plan, or in a watershed plan				
Site has 1 or 2 priority habitats (listed on next page) with in 100m points = 1	Site has 1 or 2 priority habitats (listed on next page) with in 100m points = 1	Site has 1 or 2 priority habitats (listed on next page) with in 100m	points = 1	
	Site does not meet any of the criteria above points = 0	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: X 2 = H 1 = M 0 = L Record the rating on the first page	Rating of Value If Score is: X 2 = H 1 = M 0 = L	Record the rating on the j	first page
Construction of the construction			·	

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 question is independent of the

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

land use between the wetland unit and the priority habitat. Aspen Stands: Pure or mixed stands of aspen greater than 1 ac (0.4 ha). X Biodiversity Areas and Corridors: Areas of habitat that are relatively important to various species of native fish and wildlife (full descriptions in WDFW PHS report). Herbaceous Balds: Variable size patches of grass and forbs on shallow soils over bedrock. X 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. X 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

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

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

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Wetla	nd Type	Category
Check (off any criteria that apply to the wetland. List the category when the appropriate criteria are met.	
SC 1.0.	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 X 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 <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 unmowed grassland.	
	The wetland has at least two of the following features: tidal channels, depressions with open water,	
	or contiguous freshwater wetlands. Yes = Category I No = Category II	
SC 2.0.	Wetlands of High Conservation Value (WHCV)	
SC 2.1.	Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High Conservation Value?	
	X 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 X No = Not WHCV	
SC 2.3.	Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland?	
	Updated WA Wetlands of High Conservation Value Web Map (WA DNR) [ORIGINAL DOC]	
	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? <i>Use the key below.</i> If you answer YES you will still need to rate the wetland based on its functions.	
SC 3.1.	Does an area within the wetland unit have organic soil horizons, either peats or mucks, that compose 16 in	
	or more of the first 32 in of the soil profile? Yes - Go to SC 3.3 X No - Go to SC 3.2	
SC 3.2.	Does an area within the wetland unit have organic soils, either peats or mucks, that are less than 16 in deep over bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake	
	or pond? Yes - Go to SC 3.3 X 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	
	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 <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 answer YES you will still need to rate the wetland based on its functions.</i>				
	Old-growth forests (west of Cascade crest): Stands of at least two tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/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).				
6650	Yes = Category X 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 X 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 unmowed 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)? <i>If you answer yes you will still need to rate the wetland based on its habitat functions.</i>				
	In practical terms that means the following geographic areas: Long Beach Peninsula: Lands west of SR 103 Grayland-Westport: Lands west of SR 105				
	Ocean Shores-Copalis: Lands west of SR 115 and SR 109 Yes - Go to SC 6.1 X No = Not an interdunal wetland for rating				
SC 6.1.	Is the wetland 1 ac or larger and scores an 8 or 9 for the habitat functions on the form (rates H,H,H or H,H,M for the three aspects of function)? Yes = Category I No - Go to SC 6.2				
SC 6.2.	Is the wetland 1 ac or larger, or is it in a mosaic of wetlands that is 1 ac or larger? Yes = Category II No - Go to SC 6.3				
SC 6.3.	Is the unit between 0.1 and 1 ac, or is it in a mosaic of wetlands that is between 0.1 and 1 ac? Yes = Category III No = Category IV				
Catego	ry of wetland based on Special Characteristics	NOT			
If you a	nswered No for all types, enter "Not Applicable" on Summary Form	APPLICABLE			

RATING SUMMARY – Western Washington

N	lame of wet	land (or I	D #):	OWS 6-1	<u>L</u>		Dat	e of site visit:	03/11/22
	Rated by	Ma	allory Phillips	Trained I	oy Ecology?	Yes X	No	Date of training	g
н	IGM Class us	ed for ratii	ng Depressio	nal / Flats	Wetland has m	ultiple H	IGM cl	asses?Ye	s <u>X</u> No
			et complete with base aerial photo	_	requested (figu	res can	be con	nbined).	
OVE	RALL WET	TLAND C	ATEGORY	(base	ed on functions	X	or s	pecial characteris	stics)
1. Category of wetland based on FUNCTIONS									
			Category I - To	otal score = 23	- 27			Score for each	ı
	-			otal score = 20				function based	lon
	-	Х		Total score = 1				three ratings	
	-		_	Total score = 9				(order of rating	as
	-		_ category iv	Total score – 5	13			is not	95
	FUNCT	ION	Improving Water Quality	Hydrologic	Habitat	•		important)	
		Appropria	te ratings incl. ("H	" - High, "M" - Me	edium, "L" - Low)			9 = H, H, H	
S	ite Potential		М	L	L	i.		8 = H, H, M	
L	andscape Pot	tential	М	L	Н	•		7 = H, H, L	
٧	/alue		Н	L	Н	Total		7 = H, M, M	
ς	core Based o	n						6=H M I	

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

1

Ratings

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

Maps and Figures required to answer questions correctly for Western Washington

Depressional Wetlands

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

Slope Wetlands

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

HGM Classification of Wetland in Western Washington

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

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

1.	. Are the water levels in the entire unit	t usually controlled by tides except during floods?
	X 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 periods of annual low flow below 0.5 ppt (parts per thousand)?
		arine) YES - Freshwater Tidal Fringe as a Freshwater Tidal Fringe use the forms for Riverine wetlands. If it is uarine wetland and is not scored. This method cannot be used to score
2.	 The entire wetland unit is flat and pre water runoff are NOT sources of water 	ecipitation is the only source (>90%) of water to it. Groundwater and surface er to the unit.
	X NO - go to 3 If your wetland can be classified as a	YES - The wetland class is Flats Flats wetland, use the form for Depressional wetlands.
3.	. Does the entire wetland unit meet al The vegetated part of the wetlan on the surface at any time of the At least 30% of the open water and	d is on the shores of a body of permanent open water (without any plants year) at least 20 ac (8 ha) in size;
	X NO - go to 4	YES - The wetland class is Lake Fringe (Lacustrine Fringe)
4.	. Does the entire wetland unit meet al The wetland is on a slope (slope of	——————————————————————————————————————
		land in one direction (unidirectional) and usually comes from seeps. It may in a swale without distinct banks. thout being impounded.
		YES - The wetland class is Slope n these type of wetlands except occasionally in very small and shallow epressions are usually <3 ft diameter and less than 1 ft deep).
5.	. Does the entire wetland unit meet al The unit is in a valley, or stream or river, The overbank flooding occurs at l	channel, where it gets inundated by overbank flooding from that stream or

Χ	NO - go to 6	YES - The wetland class is Riverine
	- 0	

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

Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year? This means that any outlet, if present, is higher than the interior of the wetland.

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
NO go to o	IES 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	Donrossional	
within boundary of depression	Depressional	
Depressional + Lake Fringe	Depressional	
Riverine + Lake Fringe	Riverine	
Salt Water Tidal Fringe and any other class of	Treat as Estuarine	
freshwater wetland	i i eat as Estudi ii e	

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.

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: X 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 Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing, points = 1 D 1.2. The soil 2 in below the surface (OUESTION 7 on key), whose outlet is a permanently flowing ditch. 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 Wetland has persistent, ungrazed plants > 7/10 of area Wetland has persistent, ungrazed plants > 7/10 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 > ½ total area of wetland Area seasonally ponded is > ½ total area of wetland Area seasonally ponded is > ½ total area of wetland Area seasonally ponded is > ½ total area of wetland 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 D 2.2. Is > 10% of the area within 150 ft of the wetland? Yes = 1 No = 0 D 2.4. Are there esptic systems within 250 ft of the wetland? Yes = 1 No = 0 Add the points in the boxes above I Rating of Landscape Potential If score is: 3 - 4 - 4 - 4 - 4 - 4 - 4 - 4 - 4 - 4 -		DEDDECCIONAL	AND ELATOMET	LANDC		
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Total for D 1 Rating of Site Potential If score is: 12 - 16 = H X 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? D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants? D 2.3. Are there septic systems within 250 ft of the wetland? D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions D 2.1-D 2.3? Source Total for D 2 Add the points in the boxes above 1	X Area seasonally ponded is > 1/4 tota	al area of wetland			points = 2	
Rating of Site Potential If score is: 12 - 16 = H X 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? D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants? D 2.3. Are there septic systems within 250 ft of the wetland? D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions D 2.1-D 2.3? Source Total for D 2 Add the points in the boxes above 1	Area seasonally ponded is < ¼ tota	al area of wetland			points = 0	
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? D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants? D 2.3. Are there septic systems within 250 ft of the wetland? D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions D 2.1-D 2.3? Source Total for D 2 Add the points in the boxes above	Total for D 1			Add the points in	the boxes above	6
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? D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants? D 2.3. Are there septic systems within 250 ft of the wetland? D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions D 2.1-D 2.3? Source Total for D 2 Add the points in the boxes above	Rating of Site Potential If score is:	12 - 16 = H)	X 6-11=M 0-5	= L Record th	he rating on the first p	page
D 2.1. Does the wetland unit receive stormwater discharges? D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants? D 2.3. Are there septic systems within 250 ft of the wetland? D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions D 2.1-D 2.3? Source Total for D 2 Add the points in the boxes above	G				, , ,	J
D 2.1. Does the wetland unit receive stormwater discharges? D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants? D 2.3. Are there septic systems within 250 ft of the wetland? D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions D 2.1-D 2.3? Source Total for D 2 Add the points in the boxes above	D 2.0. Does the landscape have the pot	ential to support th	e water quality functio	on of the site?		
D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants? D 2.3. Are there septic systems within 250 ft of the wetland? D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions D 2.1-D 2.3? Source Total for D 2 Add the points in the boxes above			, ,		Yes = 1 No = 0	0
D 2.3. Are there septic systems within 250 ft of the wetland? D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions D 2.1-D 2.3? Source Total for D 2 Add the points in the boxes above		_	ses that generate polluta	ints?	Yes = 1 No = 0	1
D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions D 2.1-D 2.3? Source Total for D 2 Add the points in the boxes above						0
Source Yes = 1 No = 0 Total for D 2 Add the points in the boxes above 1			land that are not listed in	n auestions D 2 1-D 3		
Total for D 2 Add the points in the boxes above 1		3 coming into the wet	iand that are not listed if	r questions D 2.1-D 2		0
				Add the points in		1
Rating of Landscape Potential il score is 3-4-11 X 1-2-19 U=L Record in Proling on the lifst bode		io. 2.4.	- U V 1 2 - M	•		_
	Rating of Landscape Potential if score	IS:3 - 4 =	= H X 1-2= W	U = L	a the rating on the Jii	rst page
D 3.0. Is the water quality improvement provided by the site valuable to society?	D 3.0. Is the water quality improvemen	it provided by the si	te 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	D 3.1. Does the wetland discharge directly	(i.e., within 1 mi) to a	stream, river, lake, or m	arine water that is o	n 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	<u> </u>	n where an aquatic re	source is on the 303(d) li	ist?		0
D 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (answer YES		•				<u> </u>
if there is a TMDL for the basin in which the unit is found)? Yes = $2 \text{ No} = 0$		·	•	Justice Addition (all		2
Total for D 3 Add the points in the boxes above 2		vinen the unit is journa	•//•	Add the points in		2
Rating of Value If score is: X 2-4=H 1=M 0=L Record the rating on the first page		y 2 - /1 = H	1 = M 0 - 1			

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:	
X 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 perm. 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	
Marks are at least 0.5 ft to < 2 ft from surface or bottom of outlet points = 3	0
The wetland is a "headwater" wetland points = 3	
Wetland is flat but has small depressions on the surface that trap water points = 1	
X 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	0
The area of the basin is 10 to 100 times the area of the unit points = 3	
X 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	
· · · · · · · · · · · · · · · · · · ·	4
Rating of Value If score is: 12 - 16 = H 6 - 11 = M X 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	0
D 5.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate excess runoff? Yes = 1 No = 0	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.)? Yes = 1 No = 0	0
Total for D 5 Add the points in the boxes above	0
Rating of Value If score is: 3 = H 1 - 2 = M X 0 = L Record the rating on the	first page
<u> </u>	
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-gradient points = 1	0
Surface flooding problems are in a sub-basin farther down-gradient. Flooding from groundwater is an issue in the sub-basin	0
Flooding from groundwater is an issue in the sub-basin. points = 1	0
Flooding from groundwater is an issue in the sub-basin. The existing or potential outflow from the wetland is so constrained by human or natural conditions that the	0
Flooding from groundwater is an issue in the sub-basin. The existing or potential outflow from the wetland is so constrained by human or natural conditions that the water stored by the wetland cannot reach areas that flood. Explain why points = 0	0
Flooding from groundwater is an issue in the sub-basin. The existing or potential outflow from the wetland is so constrained by human or natural conditions that the water stored by the wetland cannot reach areas that flood. Explain why There are no problems with flooding downstream of the wetland. points = 0	0
Flooding from groundwater is an issue in the sub-basin. The existing or potential outflow from the wetland is so constrained by human or natural conditions that the water stored by the wetland cannot reach areas that flood. Explain why There are no problems with flooding downstream of the wetland. D 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan?	0
Flooding from groundwater is an issue in the sub-basin. The existing or potential outflow from the wetland is so constrained by human or natural conditions that the water stored by the wetland cannot reach areas that flood. Explain why X There are no problems with flooding downstream of the wetland. D 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan? Yes = 2 No = 0	·
Flooding from groundwater is an issue in the sub-basin. The existing or potential outflow from the wetland is so constrained by human or natural conditions that the water stored by the wetland cannot reach areas that flood. Explain why There are no problems with flooding downstream of the wetland. D 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan?	0

DEPRESSIONAL AND FLATS WETLANDS

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

<u>—</u>		
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.	
X Large, downed, woody debris within the wetland (> 4 in diameter and 6 ft long)		
Standing snags (dbh > 4 in) within the wetland		
Undercut banks are present for at least 6.6 ft (2 m) and/or overhanging plants extends stream (or ditch) in, or contiguous with the wetland, for at least 33 ft (10 m)	s at least 3.3 ft (1 m) over a	
Stable steep banks of fine material that might be used by beaver or muskrat for dennir	ng (> 30 degree slope) OR signs of	2
recent beaver activity are present (cut shrubs or trees that have not yet weathered who		
At least ¼ ac of thin-stemmed persistent plants or woody branches are present in area seasonally inundated (structures for egg-laying by amphibians)	s that are permanently or	
	11 4 4 For Bot of streets \	
X Invasive plants cover less than 25% of the wetland area in every stratum of plants (see		2
Total for H 1	Add the points in the boxes above	3
Rating of Site Potential If Score is:15 - 18 = H7 - 14 = MX _ 0 - 6 = L	Record the rating on the j	first page
H 2.0. Does the landscape have the potential to support the habitat function of the site	2?	
H 2.1 Accessible habitat (include only habitat that directly abuts wetland unit).		
Calculate: 95 % undisturbed habitat + (5 moderate & low intensity land uses /	(2)= 97.5	
If total accessible habitat is:		
$> \frac{1}{3}$ (33.3%) of 1 km Polygon	points = 3	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.	pomito c	
Calculate: 95 % undisturbed habitat + (5 moderate & low intensity land uses /	(2) = 97.5	
Undisturbed habitat > 50% of Polygon	points = 3	
Undisturbed habitat 10 - 50% and in 1-3 patches	points = 2	3
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	politis – o	
> 50% of 1 km Polygon is high intensity land use	points = (-2)	0
≤ 50% of 1km Polygon is high intensity	points = (-2)	O
	d the points in the boxes above	6
Rating of Landscape Pot. If Score is: X 4 - 6 = H 1 - 3 = M < 1 = L	Record the rating on the j	
	,	, 3
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	
X It has 3 or more priority habitats within 100 m (see next page)		
It provides habitat for Threatened or Endangered species (any plant or animal on the s	tate or federal	
lists)		2
It is mapped as a location for an individual WDFW priority species	1.5	
It is a Wetland of High Conservation Value as determined by the Department of Natura		
It has been categorized as an important habitat site in a local or regional comprehensive Plan, or in a watershed plan	e plan, in a Shoreline Master	
Site has 1 or 2 priority habitats (listed on next page) with in 100m	noints = 1	
Site does not meet any of the criteria above	points = 1 points = 0	
	· ·	first nace
Rating of Value If Score is: X 2 = H 1 = M 0 = L	Record the rating on the j	пѕі раде

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.

<u>PDF here: https://wdfw.wa.gov/sites/default/files/publications/00165/wdfw00165.pdf</u> or access the file 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).
х	Biodiversity Areas and Corridors : Areas of habitat that are relatively important to various species of native fish and wildlife (<i>full descriptions in WDFW PHS report</i>).
	Herbaceous Balds: Variable size patches of grass and forbs on shallow soils over bedrock.
X	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 (<i>full descriptions in WDFW PHS report p. 158 – see web link above</i>).
	Riparian : The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.
	Westside Prairies : Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (<i>full descriptions in WDFW PHS report p. 161 – see web link above</i>).
	Instream : The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.
	Nearshore : Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. (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.
х	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

Wetla	nd 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 Yes - Go to SC 1.1 X No = Not an estuarine wetland			
SC 1.1.				
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 unmowed 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?			
	X 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 X No = Not WHCV			
SC 2.3.	Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland?			
	Updated WA Wetlands of High Conservation Value Web Map (WA DNR) [ORIGINAL DOC]			
	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.				
30 3.0.	Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? <i>Use the key below.</i> If you answer YES you will still need to rate the wetland based on its functions.			
SC 3.1.	Does an area within the wetland unit have organic soil horizons, either peats or mucks, that compose 16 in			
	or more of the first 32 in of the soil profile? Yes - Go to SC 3.3 X No - Go to SC 3.2			
SC 3.2.	Does an area within the wetland unit have organic soils, either peats or mucks, that are less than 16 in deep over bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake			
	or pond? Yes - Go to SC 3.3 X 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			

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 answer YES you will still need to rate the wetland based on its functions.</i>	
_	Old-growth forests (west of Cascade crest): Stands of at least two tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/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 X 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 X 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 $\frac{1}{10}$ 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)? <i>If you</i>	
	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 X No = Not an interdunal wetland for rating	
SC 6.1.	Is the wetland 1 ac or larger and scores an 8 or 9 for the habitat functions on the form (rates H,H,H or H,H,M	
	for the three aspects of function)? Yes = Category I No - Go to SC 6.2	
SC 6.2.	Is the wetland 1 ac or larger, or is it in a mosaic of wetlands that is 1 ac or larger? Yes = Category II No - Go to SC 6.3	
SC 6.3.	Is the unit between 0.1 and 1 ac, or is it in a mosaic of wetlands that is between 0.1 and 1 ac?	
	Yes = Category III No = Category IV	
Categor	y of wetland based on Special Characteristics	NOT
If you ar	nswered No for all types, enter "Not Applicable" on Summary Form	APPLICABLE

RATING SUMMARY – Western Washington

Name of wetland (or	ID #):	OWS 6-2	2		Dat	e of site visit:03/1	1/22
Rated byN	lallory Phillips	Trained I	oy Ecology?	Yes X	No	Date of training	
HGM Class used for rat	ing Depressio	nal / Flats	Wetland has m	ultiple F	IGM cl	asses? Yes X	_No
	ot complete with f base aerial photo	•	requested (figu	res can	be con	nbined).	
OVERALL WETLAND	CATEGORY	III (base	ed on functions	Х	or sp	oecial characteristics	_)
1. Category of we	tland based o	n FUNCTION	S				
	Category I - To	otal score = 23	- 27			Score for each	1
	Category II - T					function based on	
X	Category III - 7					three ratings	
	Category IV - 1					(order of ratings	
	_ category iv	10(a) 30010 - 3	13			is not	
FUNCTION	Improving Water Quality	Hydrologic	Habitat	,		important)	
Appropr	iate ratings incl. ("H	" - High, "M" - Me	edium, "L" - Low)			9 = H, H, H	
Site Potential	M	M	L			8 = H, H, M	
Landscape Potential	М	L	Н	i.		7 = H, H, L	
Value	Н	L	Н	Total		7 = H, M, M	
Score Based on	7	4	7	18		6 = H, M, L	

2. Category based on SPECIAL CHARACTERISTICS of wetland

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

1

Ratings

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

Maps and Figures required to answer questions correctly for Western Washington

Depressional Wetlands

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

Slope Wetlands

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

HGM Classification of Wetland in Western Washington

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

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

1.	. Are the water levels in the entire ur	nit usually controlled by tides except during floods?
	X NO - go to 2	YES - the wetland class is Tidal Fringe - go to 1.1
1	1.1 Is the salinity of the wate	r during periods of annual low flow below 0.5 ppt (parts per thousand)?
		as a Freshwater Tidal Fringe use the forms for Riverine wetlands. If it is stuarine wetland and is not scored. This method cannot be used to score
2.	 The entire wetland unit is flat and p water runoff are NOT sources of wa 	recipitation is the only source (>90%) of water to it. Groundwater and surface ster to the unit.
	X NO - go to 3 If your wetland can be classified as	YES - The wetland class is Flats a Flats wetland, use the form for Depressional wetlands.
3.		nd is on the shores of a body of permanent open water (without any plants e year) at least 20 ac (8 ha) in size;
	X NO - go to 4	YES - The wetland class is Lake Fringe (Lacustrine Fringe)
4.	. Does the entire wetland unit meet a The wetland is on a slope (slope	<u> </u>
		etland in one direction (unidirectional) and usually comes from seeps. It may or in a swale without distinct banks. without being impounded.
		YES - The wetland class is Slope I in these type of wetlands except occasionally in very small and shallow depressions are usually <3 ft diameter and less than 1 ft deep).
5.	. Does the entire wetland unit meet a The unit is in a valley, or stream river, The overbank flooding occurs as	channel, where it gets inundated by overbank flooding from that stream or

Χ	NO - go to 6	YES - The wetland class is Riverine

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

6. Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year? This means that any outlet, if present, is higher than the interior of the wetland.

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	Donrossional
within boundary of depression	Depressional
Depressional + Lake Fringe	Depressional
Riverine + Lake Fringe	Riverine
Salt Water Tidal Fringe and any other class of	Treat as Estuarine
freshwater wetland	i i eat as Estudi ii e

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.

DEPRESSIONAL AND FLATS WETLANDS		
Water Quality Functions - Indicators that the site functions to improve wat	er 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:		
X 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 ou	tlet.	3
	points = 2	
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. 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	1
X 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.		
X Area seasonally ponded is > ½ total area of wetland	points = 4	4
Area seasonally ponded is > ¼ 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 X 6 - 11 = M 0 - 5 = L Record the	ne rating on the first p	oage
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	0
D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants?	Yes = 1 No = 0	1
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	2.3?	
Source	Yes = 1 No = 0	0
Total for D 2 Add the points in	the boxes above	1
Rating of Landscape Potential If score is: 3 - 4 = H X 1 - 2 = M 0 = L Recor	d the rating on the fi	rst 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 or	n 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	0
D 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (an	swer YES	_
if there is a TMDL for the basin in which the unit is found)?	Yes = 2 No = 0	2
Total for D 3 Add the points in	the boxes above	2
Rating of Value If score is: X 2-4=H 1=M 0=L Record th	ne rating on the first p	page

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:			
X 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 perm. 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			
Marks are at least 0.5 ft to < 2 ft from surface or bottom of outlet points = 3	0		
The wetland is a "headwater" wetland points = 3			
Wetland is flat but has small depressions on the surface that trap water points = 1			
X 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	3		
X 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	7		
Rating of Value If score is: $12 - 16 = H \times 6 - 11 = M = 0 - 5 = L$ Record the rating on the j	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? Yes = 1 No = 0	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.)? Yes = 1 No = 0	0		
Total for D 5 Add the points in the boxes above	0		
Rating of Value If score is: 3 = H 1 - 2 = M X 0 = L Record the rating on the j	first page		
D.C.O. Assults to disclose the contract of the disclosure of the d			
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	0		
	U		
Surface flooding problems are in a sub-basin farther down-gradient. points = 1			
Surface flooding problems are in a sub-basin farther down-gradient. points = 1			
Surface flooding problems are in a sub-basin farther down-gradient. Flooding from groundwater is an issue in the sub-basin. points = 1 points = 1			
Surface flooding problems are in a sub-basin farther down-gradient. Flooding from groundwater is an issue in the sub-basin. The existing or potential outflow from the wetland is so constrained by human or natural conditions that the			
Surface flooding problems are in a sub-basin farther down-gradient. Flooding from groundwater is an issue in the sub-basin. The existing or potential outflow from the wetland is so constrained by human or natural conditions that the water stored by the wetland cannot reach areas that flood. Explain why points = 0			
Surface flooding problems are in a sub-basin farther down-gradient. Flooding from groundwater is an issue in the sub-basin. The existing or potential outflow from the wetland is so constrained by human or natural conditions that the water stored by the wetland cannot reach areas that flood. Explain why X There are no problems with flooding downstream of the wetland. points = 0	0		
Surface flooding problems are in a sub-basin farther down-gradient. Flooding from groundwater is an issue in the sub-basin. The existing or potential outflow from the wetland is so constrained by human or natural conditions that the water stored by the wetland cannot reach areas that flood. Explain why X There are no problems with flooding downstream of the wetland. D 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan?	0		

These questions apply to wetlands of all HGM classes. HABITAT FUNCTIONS - Indicators that site functions to provide important habitat H 1.0. Does the site have the potential to provide habitat? H 1.1. Structure of plant community: Indicators are Cowardin classes and strata within the Forested class. Check the Cowardin plant classes in the wetland. Up to 10 patches may be combined for each class to meet the threshold of ¼ ac or more than 10% of the unit if it is smaller than 2.5 ac. Add the number of structures checked. Aquatic bed 4 structures or more: points = 4 X Emergent 3 structures: points = 2 0 Scrub-shrub (areas where shrubs have > 30% cover) 2 structures: points = 1 Forested (areas where trees have > 30% cover) 1 structure: points = 0 If the unit has a Forested class, check if: The Forested class has 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover) that each cover 20% within the Forested polygon H 1.2. Hydroperiods Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or ¼ ac to count (see text for descriptions of hydroperiods). Permanently flooded or inundated X Seasonally flooded or inundated Occasionally flooded or inundated 4 or more types present: points = 3 1 X Saturated only 3 types present: points = 2 Permanently flowing stream or river in, or adjacent to, the wetland 2 types present: points = 1 Seasonally flowing stream in, or adjacent to, the wetland 1 types present: points = 0 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 ft². Different patches of the same species can be combined to meet the size threshold and you do not have to name the species. Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Canadian thistle 0 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 Moderate = 2 points None = 0 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	r of points.	
X Large, downed, woody debris within the wetland (> 4 in diameter and 6 ft long)		
Standing snags (dbh > 4 in) within the wetland		
Undercut banks are present for at least 6.6 ft (2 m) and/or overhanging plants extends at least	st 3.3 ft (1 m) over a	
stream (or ditch) in, or contiguous with the wetland, for at least 33 ft (10 m)	o leave and a color of	2
Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 30 recent beaver activity are present (cut shrubs or trees that have not yet weathered where woo		
At least ¼ ac of thin-stemmed persistent plants or woody branches are present in areas that a seasonally inundated (structures for egg-laying by amphibians)	re permanently or	
	for list of strata	
X Invasive plants cover less than 25% of the wetland area in every stratum of plants (see H 1.1 f	· · · · · · · · · · · · · · · · · · ·	2
	ne points in the boxes above	3
Rating of Site Potential If Score is: 15 - 18 = H 7 - 14 = M X 0 - 6 = L	Record the rating on the j	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: 95 % undisturbed habitat + (5 moderate & low intensity land uses / 2) =	97.5	
If total accessible habitat is:	37.3	
	noints = 2	3
> ¹ / ₃ (33.3%) of 1 km Polygon	points = 3	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.	07.5	
Calculate: 95 % undisturbed habitat + (5 moderate & low intensity land uses / 2) =	97.5	
Undisturbed habitat > 50% of Polygon	points = 3	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)	0
≤ 50% of 1km Polygon is high intensity	points = 0	
Total for H 2 Add the po	oints in the boxes above	6
Rating of Landscape Pot. If Score is: X 4 - 6 = H 1 - 3 = M < 1 = L	Record the rating on the	first page
II 2.0. In the helitat was ideal by the cite valuable to cociety?		
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 only the to the wetland being rated.</i>	e nignest score that applies	
	mainte 2	
Site meets ANY of the following criteria:	points = 2	
X It has 3 or more priority habitats within 100 m (see next page)	f . I I	
It provides habitat for Threatened or Endangered species (any plant or animal on the state or lists)	rederal	
, ,		2
It is mapped as a location for an individual WDFW priority species It is a Wetland of High Conservation Value as determined by the Department of Natural Resou	Irces	
It has been categorized as an important habitat site in a local or regional comprehensive plan,		
Plan, or in a watershed plan	iii a siidieiiile Mastel	
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: X 2 = H 1 = M 0 = L	Record the rating on the	first nage
TACHING OF VALUE IT SCORE IS.	necord the ruthly on the j	iii si puye

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.

<u>PDF here: https://wdfw.wa.gov/sites/default/files/publications/00165/wdfw00165.pdf</u> or access the file 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).
х	Biodiversity Areas and Corridors : Areas of habitat that are relatively important to various species of native fish and wildlife (<i>full descriptions in WDFW PHS report</i>).
	Herbaceous Balds: Variable size patches of grass and forbs on shallow soils over bedrock.
X	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 (<i>full descriptions in WDFW PHS report p. 158 – see web link above</i>).
	Riparian : The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.
	Westside Prairies : Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (<i>full descriptions in WDFW PHS report p. 161 – see web link above</i>).
	Instream : The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.
	Nearshore : Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. (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.
х	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

Wetla	nd 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 Yes - Go to SC 1.1 X 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 <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 unmowed 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?	
	X 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?	
66.3.3	Yes = Category I X No = Not WHCV	
SC 2.3.	Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? Updated WA Wetlands of High Conservation Value Web Map (WA DNR) [ORIGINAL DOC]	
	Yes - Contact WNHP/WDNR and to SC 2.4 X 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	
JC 2.4.	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? <i>Use the key below.</i> If you answer YES you will still need to rate the wetland based on its functions.	
SC 3.1.	Does an area within the wetland unit have organic soil horizons, either peats or mucks, that compose 16 in	
	or more of the first 32 in of the soil profile? Yes - Go to SC 3.3 X No - Go to SC 3.2	
SC 3.2.	Does an area within the wetland unit have organic soils, either peats or mucks, that are less than 16 in deep over bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake	
	or pond? Yes - Go to SC 3.3 X 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	

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 answer YES you will still need to rate the wetland based on its functions.</i>	
	Old-growth forests (west of Cascade crest): Stands of at least two tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/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 X 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 X 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 unmowed 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)? <i>If you answer yes you will still need to rate the wetland based on its habitat functions.</i>	
	In practical terms that means the following geographic areas:	
	Long Beach Peninsula: Lands west of SR 103	
	Grayland-Westport: Lands west of SR 105	
	Ocean Shores-Copalis: Lands west of SR 115 and SR 109	
	Yes - Go to SC 6.1 X No = Not an interdunal wetland for rating	
SC 6.1.	Is the wetland 1 ac or larger and scores an 8 or 9 for the habitat functions on the form (rates H,H,H or H,H,M	
	for the three aspects of function)? Yes = Category I No - Go to SC 6.2	
SC 6.2.	Is the wetland 1 ac or larger, or is it in a mosaic of wetlands that is 1 ac or larger? Yes = Category II No - Go to SC 6.3	
SC 6.3.	Is the unit between 0.1 and 1 ac, or is it in a mosaic of wetlands that is between 0.1 and 1 ac? Yes = Category III No = Category IV	
Categor	ry of wetland based on Special Characteristics	NOT
	nswered No for all types, enter "Not Applicable" on Summary Form	APPLICABLE
. , 50 01		

RATING SUMMARY – Western Washington

Name of wetland (or ID #):		OWS 6-3	OWS 6-3		Date of site visit: 03/11/2		
Rated by Ma	llory Phillips	Trained l	by Ecology?	Yes X	No	Date of training	
HGM Class used for ratin	g Slo	pe	Wetland has m	ultiple H	IGM c	lasses?YesX_No	
NOTE: Form is not Source of b VERALL WETLAND CA	ease aerial photo	o/map				mbined) pecial characteristics)	
1. Category of wetl							
	Category I - To					Score for each	
	Category II - T					function based on	
X	Category III - 7					three ratings	
	Category IV -	Total score = 9	score = 9 - 15			(order of ratings	
				•		is not	
FUNCTION	Improving Water Quality	Hydrologic	Habitat			important)	
Appropriat	" - High, "M" - Me	edium, "L" - Low)			9 = H, H, H		
Site Potential	L	L	L			8 = H, H, M	
Landscape Potential	M	L	Н		_	7 = H, H, L	
Value	Н	L	Н	Total		7 = H, M, M	
Score Based on Ratings	6	3	7	16		6 = H, M, L 6 = M, M, M	

2. Category based on SPECIAL CHARACTERISTICS of wetland

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

1

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

Maps and Figures required to answer questions correctly for Western Washington

Depressional Wetlands

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

Slope Wetlands

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

HGM Classification of Wetland in Western Washington

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

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

1.	Are the water levels	in the entire unit usually controlled by tides except during floods?
	X NO - go to 2	YES - the wetland class is Tidal Fringe - go to 1.1
1	.1 Is the sali	nity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)?
	If your wetland	YES - Freshwater Tidal Fringe an be classified as a Freshwater Tidal Fringe use the forms for Riverine wetlands. If it is fringe it is an Estuarine wetland and is not scored. This method cannot be used to score warine wetlands.
2.		init is flat and precipitation is the only source (>90%) of water to it. Groundwater and surface Γ sources of water to the unit.
	X NO - go to 3 If your wetland can	YES - The wetland class is Flats be classified as a Flats wetland, use the form for Depressional wetlands.
3.	The vegetated pon the surface a	and unit meet all of the following criteria? art of the wetland is on the shores of a body of permanent open water (without any plants any time of the year) at least 20 ac (8 ha) in size; the open water area is deeper than 6.6 ft (2 m).
	X NO - go to 4	YES - The wetland class is Lake Fringe (Lacustrine Fringe)
4.	X The wetland is onX The water flowsflow subsurface	and unit meet all of the following criteria? In a slope (slope can be very gradual), Ithrough the wetland in one direction (unidirectional) and usually comes from seeps. It may as sheetflow, or in a swale without distinct banks. It the wetland without being impounded.
		X YES - The wetland class is Slope does not pond in these type of wetlands except occasionally in very small and shallow hummocks (depressions are usually <3 ft diameter and less than 1 ft deep).
5.	The unit is in a v	and unit meet all of the following criteria? alley, or stream channel, where it gets inundated by overbank flooding from that stream or coding occurs at least once every 2 years.
		, ,

3

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

6. Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year? This means that any outlet, if present, is higher than the interior of the wetland.

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.

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	Donrossional
within boundary of depression	Depressional
Depressional + Lake Fringe	Depressional
Riverine + Lake Fringe	Riverine
Salt Water Tidal Fringe and any other class of	Treat as Estuarine
freshwater wetland	i i eat as 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.

4

SLOPE WETLANDS Water Quality Functions Indicators that the site functions to improve water quality	
Water Quality Functions - Indicators that the site functions to improve water quality S 1.0. Does the site have the potential to improve water quality?	
S 1.1. Characteristics of the average slope of the wetland: (a 1% slope has a 1 ft vertical drop in elevation for every 100 ft of	
horizontal distance)	
Slope is 1% or less points = 3	
X Slope is > 1% - 2% points = 2	2
Slope is > 2% - 5% points = 1	
Slope is greater than 5% points = 0	
S 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic (use NRCS definitions): Yes = 3 No = 0	0
S 1.3. Characteristics of the plants in the wetland that trap sediments and pollutants:	
Choose the points appropriate for the description that best fits the plants in the wetland. Dense means you have trouble	
seeing the soil surface (>75% cover), and uncut means not grazed or mowed and plants are higher than 6 in.	
Dense, uncut, herbaceous plants > 90% of the wetland area points = 6	1
Dense, uncut, herbaceous plants > ½ of area points = 3	_
Dense, woody, plants > ½ of area points = 2	
X 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	3
Rating of Site Potential If score is: $12 = H$ $6 - 11 = M$ X $0 - 5 = L$ Record the rating on the first page $12 = H$ $12 = H$ $13 = H$ Record the rating on the first page $13 = H$ Record the rating of the size $13 = H$ Record the rating o	ge
S 2.0. Does the landscape have the potential to support the water quality function of the site?	
S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants? Yes = 1 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?	0
Other Sources Yes = 1 No = 0	U
Total for S 2 Add the points in the boxes above	1
Rating of Landscape Potential If score is: X 1 - 2 = M 0 = L Record the rating on the first page	ge
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	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	0
is on the 303(d) list. Yes = 1 No = 0	0
S 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality? Answer YES	2
if there is a TMDL for the basin in which the unit is found? Yes = 2 No = 0	2
Total for S 3 Add the points in the boxes above	-
Total for S 3 Add the points in the boxes above	2

SLOPE WETLANDS					
Hydrologic Functions - Indicators that the site functions to reduce flooding and stream erosion					
S 4.0. Does the site have the potential to reduce floo	ding and stre	am erosion?			
S 4.1. Characteristics of plants that reduce the velocity of surface flows during storms: Choose the points appropriate for the description that best fits conditions in the wetland. Stems of plants should be thick enough (usually > 1/8 in), or dense enough, to remain erect during surface flows.				0	
Dense, uncut, rigid plants cover > 90% of the area of X All other conditions	of the wetland		points = 1 points = 0		
Rating of Site Potential If score is:	1 = M	X 0 = L	Record the rating on the first p	age	
S 5.0. Does the landscape have the potential to supp	ort hydrologi	c functions of th	e site?		
S 5.1. Is more than 25% of the area within 150 ft upslope surface runoff?	of wetland in	land uses or cover	r that generate excess Yes = 1 No = 0	0	
Rating of Landscape Potential If score is:	1 = M	X 0 = L	Record the rating on the first p	age	
S 6.0. Are the hydrologic functions provided by the s	ite valuable t	o society?			
S 6.1. Distance to the nearest areas downstream that have flooding problems: The sub-basin immediately down-gradient of site has flooding problems that result in damage to human or					
natural resources (e.g., houses or salmon redds) Surface flooding problems are in a sub-basin fartl X No flooding problems anywhere downstream	her down-grad	lient	points = 2 points = 1 points = 0	0	
S 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan? Yes = 2 No = 0				0	
Total for S 6			Add the points in the boxes above	0	
Pating of Value If score is: $2 - 4 = H$	1 = M	x 0=1	Record the rating on the first n	naae	

NOTES and FIELD OBSERVATIONS:

These questions apply to wetlands of all HGM classes. **HABITAT FUNCTIONS** - Indicators that site functions to provide important habitat H 1.0. Does the site have the potential to provide habitat? H 1.1. Structure of plant community: Indicators are Cowardin classes and strata within the Forested class. Check the Cowardin plant classes in the wetland. Up to 10 patches may be combined for each class to meet the threshold of ¼ ac or more than 10% of the unit if it is smaller than 2.5 ac. Add the number of structures checked. Aquatic bed 4 structures or more: points = 4 **Emergent** 3 structures: points = 2 0 X Scrub-shrub (areas where shrubs have > 30% cover) 2 structures: points = 1 Forested (areas where trees have > 30% cover) 1 structure: points = 0 If the unit has a Forested class, check if: The Forested class has 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover) that each cover 20% within the Forested polygon H 1.2. Hydroperiods Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or ¼ ac to count (see text for descriptions of hydroperiods). Permanently flooded or inundated Seasonally flooded or inundated Occasionally flooded or inundated 4 or more types present: points = 3 O X Saturated only 3 types present: points = 2 Permanently flowing stream or river in, or adjacent to, the wetland 2 types present: points = 1 Seasonally flowing stream in, or adjacent to, the wetland 1 types present: points = 0 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 ft². Different patches of the same species can be combined to meet the size threshold and you do not have to name the species. Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Canadian thistle 1 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 Moderate = 2 points None = 0 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 numbe	r of points.	
X Large, downed, woody debris within the wetland (> 4 in diameter and 6 ft long)		
Standing snags (dbh > 4 in) within the wetland		
Undercut banks are present for at least 6.6 ft (2 m) and/or overhanging plants extends at least stream (or ditch) in, or contiguous with the wetland, for at least 33 ft (10 m)	st 3.3 ft (1 m) over a	
Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 30	degree slope) OR signs of	1
recent beaver activity are present (cut shrubs or trees that have not yet weathered where woo	od is exposed)	
At least ¼ ac of thin-stemmed persistent plants or woody branches are present in areas that a	are permanently or	
seasonally inundated (structures for egg-laying by amphibians)	Contract of Contract	
Invasive plants cover less than 25% of the wetland area in every stratum of plants (see H 1.1 j	-	2
	he points in the boxes above	
Rating of Site Potential If Score is:15 - 18 = H7 - 14 = MX _ 0 - 6 = L	Record the rating on the j	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: 95 % undisturbed habitat + (5 moderate & low intensity land uses / 2) =	97.5	
If total accessible habitat is:		
> ¹ / ₃ (33.3%) of 1 km Polygon	points = 3	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.	points = 0	
Calculate: 95 % undisturbed habitat + (5 moderate & low intensity land uses / 2) =	97.5	
Undisturbed habitat > 50% of Polygon	points = 3	
Undisturbed habitat 10 - 50% and in 1-3 patches	points = 2	3
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	points - 0	
> 50% of 1 km Polygon is high intensity land use	points = (-2)	0
≤ 50% of 1km Polygon is high intensity	points = 0	
	oints in the boxes above	6
Rating of Landscape Pot. If Score is: X 4-6=H 1-3=M <1=L	Record the rating on the	
<u></u>	necera and rading on the j	,ocpuge
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 th	e highest score that applies	
to the wetland being rated.		
Site meets ANY of the following criteria:	points = 2	
X It has 3 or more priority habitats within 100 m (see next page)		
It provides habitat for Threatened or Endangered species (any plant or animal on the state or	federal	
lists)		2
It is mapped as a location for an individual WDFW priority species		_
It is a Wetland of High Conservation Value as determined by the Department of Natural Resor		
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: X 2 = H 1 = M 0 = L	Record the rating on the j	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.

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

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

land use between the wetland unit and the priority habitat. Aspen Stands: Pure or mixed stands of aspen greater than 1 ac (0.4 ha). X Biodiversity Areas and Corridors: Areas of habitat that are relatively important to various species of native fish and wildlife (full descriptions in WDFW PHS report). Herbaceous Balds: Variable size patches of grass and forbs on shallow soils over bedrock. X 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. X 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

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

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

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Wetland Type		
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 Yes - Go to SC 1.1 X 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 <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 unmowed grassland.	
	The wetland has at least two of the following features: tidal channels, depressions with open water,	
	or contiguous freshwater wetlands. Yes = Category I No = Category II	
SC 2.0.	Wetlands of High Conservation Value (WHCV)	
SC 2.1.	Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High Conservation Value?	
	X 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 X No = Not WHCV	
SC 2.3.	Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland?	
	Updated WA Wetlands of High Conservation Value Web Map (WA DNR) [ORIGINAL DOC]	
	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? <i>Use the key below.</i>	
	If you answer YES you will still need to rate the wetland based on its functions .	
SC 3.1.	Does an area within the wetland unit have organic soil horizons, either peats or mucks, that compose 16 in	
	or more of the first 32 in of the soil profile? Yes - Go to SC 3.3 X No - Go to SC 3.2	
SC 3.2.	Does an area within the wetland unit have organic soils, either peats or mucks, that are less than 16 in deep over bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake	
	or pond? Yes - Go to SC 3.3 X 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	

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 answer YES you will still need to rate the wetland based on its functions.</i>		
	Old-growth forests (west of Cascade crest): Stands of at least two tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/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).		
6650	Yes = Category X 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 X 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 unmowed 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)? <i>If you answer yes you will still need to rate the wetland based on its habitat functions.</i>		
	In practical terms that means the following geographic areas: Long Beach Peninsula: Lands west of SR 103 Grayland-Westport: Lands west of SR 105		
	Ocean Shores-Copalis: Lands west of SR 115 and SR 109 Yes - Go to SC 6.1 X No = Not an interdunal wetland for rating		
SC 6.1.	Is the wetland 1 ac or larger and scores an 8 or 9 for the habitat functions on the form (rates H,H,H or H,H,M for the three aspects of function)? Yes = Category I No - Go to SC 6.2		
SC 6.2.	Is the wetland 1 ac or larger, or is it in a mosaic of wetlands that is 1 ac or larger? Yes = Category II No - Go to SC 6.3		
SC 6.3.	Is the unit between 0.1 and 1 ac, or is it in a mosaic of wetlands that is between 0.1 and 1 ac? Yes = Category III No = Category IV		
Categor	ry of wetland based on Special Characteristics	NOT	
If you a	nswered No for all types, enter "Not Applicable" on Summary Form	APPLICABLE	

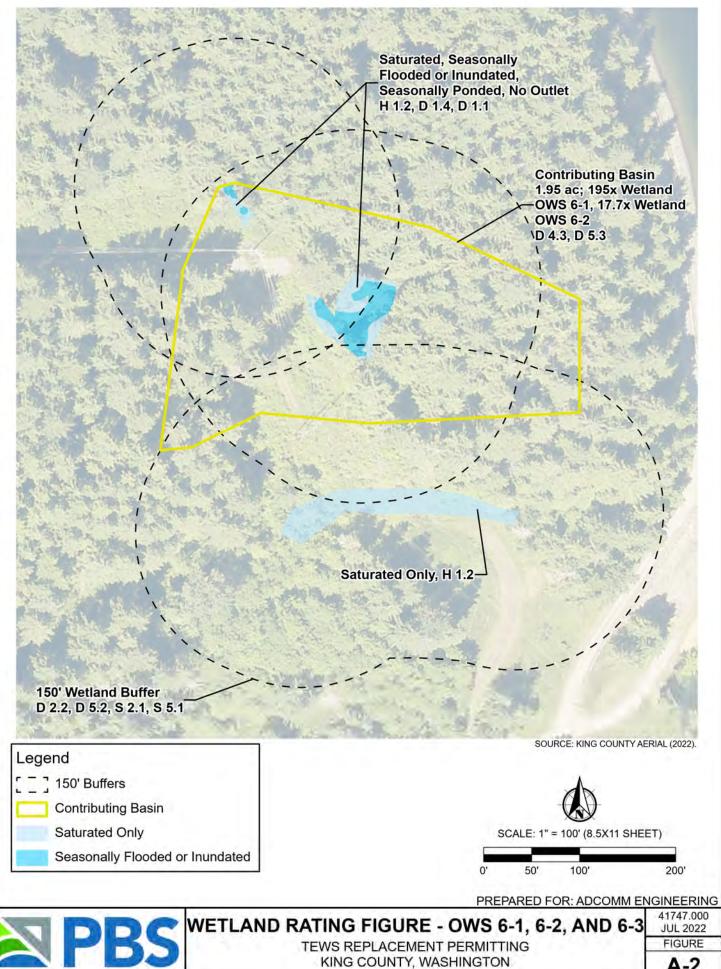
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KING COUNTY, WASHINGTON

FIGURE

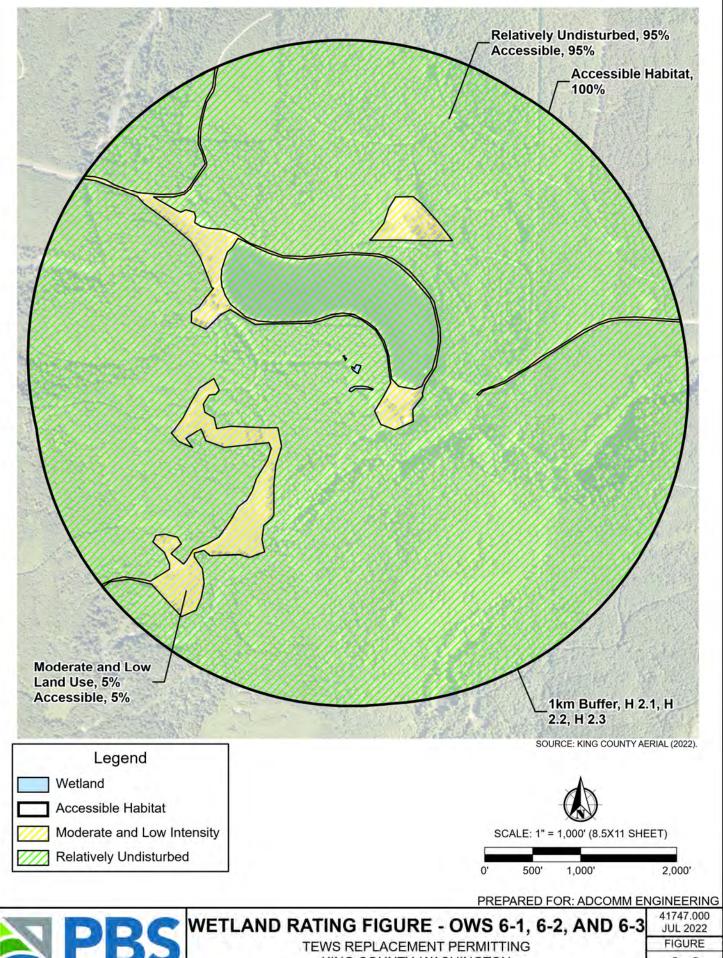
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KING COUNTY, WASHINGTON

FIGURE

B-2

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TEWS REPLACEMENT PERMITTING KING COUNTY, WASHINGTON

FIGURE

B-3

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WETLAND RATING MAP

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41747.000 JUL 2022

PREPARED FOR: ADCOMM ENGINEERING

FIGURE

A-4