CRITICAL AREAS REPORT AND CONCEPTUAL MITIGATION PLAN

GUNSHY MANOR PRELIMINARY PLAT KING COUNTY, WASHINGTON

Prepared For:
THE ESTATE OF BARBARA J. NELSON AND THE WCN GST NONEXEMPT
MARITAL TRUST #2
Redmond, Washington

Prepared By: TALASAEA CONSULTANTS, INC. Woodinville, Washington

> 28 February 2018 (Revised 28 May 2019)

Critical Areas Report and Conceptual Mitigation Plan

Gushy Manor Preliminary Plat King County, Washington

Prepared For:

The Estate of Barbara J. Nelson and the WCN GST Nonexempt Marital Trust #2

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28 February 2018 (Revised 28 May 2019)

EXECUTIVE SUMMARY

PROJECT NAME: Gunshy Manor Preliminary Plat

SITE LOCATION: The Parent Property is an irregularly-shaped group of seven parcels

located south of and abutting NE Union Hill Road, abutting and extending

approximately 1,300 feet east from 196th Avenue in King County, Washington. The King County tax parcels that comprise the Parent Property are 0825069013 (Parcel A), 0825069103 (Parcel B),

0825069104 (Parcel C), 0825069105 (Parcel D), 0825069012 (Parcel E), 0825069102 (Parcel F), and 0825069067 (Parcel G). The proposed preliminary plat excludes the revised Parcel E according to BLAD18-0056. The Public Land Survey System location is the NW ½ of Section 8,

T25N, R6E, Willamette Meridian.

CLIENT: The Estate of Barbara J. Nelson, Buff Nelson

PROJECT STAFF: Bill Shiels, Principal; Ann Olsen, RLA, Senior Project Manager; Jennifer

Marriott, PWS, Senior Ecologist; Dave Teesdale, Senior Wetland

Ecologist; and Kristen Numata, Ecologist.

<u>DETERMINATION:</u> Thirteen (13) wetlands and eight (8) streams were identified on Gunshy Manor. Most of these critical areas have been evaluated and approved under CADS14-0327 and CADS18-0014, except for four (4) wetlands and one (1) stream south of Stream 1. Due to the presence of salmonid species in Evans Creek, Martin Creek is classified as a Type F stream per KCC 21A.24.355. Type F streams outside of Urban Growth Areas require 165-foot standard buffers. Non-fish-bearing streams require 65-foot standard buffers outside of Urban Growth Areas. The four (4) added wetlands on Parcel F were rated as Category IV wetlands requiring 40-foot standard buffers for a moderate intensity land use outside of an Urban Growth Area.

<u>PROPOSED DEVELOPMENT:</u> The project site, herein referred to as "Property" or "Project Property", consists of all parcels associated with the Parent Property excluding Parcel E. The Applicant plans to develop the Project Property with 23 single-family residences with associated tracts for critical areas, vehicle access, and amenities. A new bridge will be installed across Martin Creek to provide access to NE Union Hill Road.

ASSESSMENT OF DEVELOPMENT IMPACTS: The Gunshy Manor preliminary plat project has been designed to avoid and minimize critical area impacts to the maximum extent practicable. No wetlands or streams will be directly impacted by the project. No permanent impacts to critical area buffers are proposed, as all anticipated buffer encroachments will be offset through buffer replacement, enhancement, or averaging. An existing network of farm roads will be retained in the post-development condition to be used as passive recreation trails and limited access for maintenance vehicles.

PROPOSED MITIGATION: Mitigation sequencing following KCC 21A.24.125, which addresses avoiding impacts to critical areas and the sequence of actions that must be followed to justify impacts to any critical areas, including buffers, was followed for this project. The proposed mitigation plan will include buffer reestablishment to restore those portions of the Martin Creek buffer currently impacted by existing structures for the primary access road and the existing driveway as compensation for the new road intruding into the stream buffer; and buffer averaging to offset reduced buffers for the entry landscape tract, rock-lined swale, and pedestrian trail through the Martin Creek buffer. Additional buffer restoration is proposed to restore an area of temporary buffer disturbance to remove railroad ties and an existing shed. Buffer restoration will occur in select locations by removing existing man-made structures and

planting with native trees and shrubs. Buffer restoration and reestablishment areas will be monitored for a period of three years.

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1.1 Statement of Accuracy

Wetland characterizations and ratings were conducted by trained professionals at Talasaea Consultants, Inc., and adhered to the protocols, guidelines, and generally accepted industry standards available at the time the work was performed. The conclusions in this report are based on the results of analyses performed by Talasaea Consultants and represent our best professional judgment. To that extent and within the limitation of project scope and budget, we believe the information provided herein is accurate and true to the best of our knowledge. Talasaea does not warrant any assumptions or conclusions not expressly made in this report, or based on information or analyses other than what is included herein.

1.2 Qualifications

Field investigations and evaluations were conducted by Talasaea staff, including: Bill Shiels, Principal; Ann Olsen, RLA, Senior Project Manager; Jennifer Marriott, PWS, Senior Ecologist; David R. Teesdale, PWS, Senior Wetland Ecologist; and Kristen Numata, Ecologist. Bill Shiels has a Bachelor's Degree in Biology from Central Washington University and a Master's Degree in Biological Oceanography from the University of Alaska. He has over 40 years of experience in wetland delineations and mitigations. The conceptual mitigation design was prepared by Ann Olsen, Registered Landscape Architect, License #777. Ann has over 24 years in environmental planning, mitigation and landscape design, and project management. She serves as the firm's lead landscape architect and has successfully designed and implemented over 400 wetland/stream/shoreline mitigation projects in the Pacific Northwest for both the public and private sectors. Jennifer Marriott has a Bachelor's Degree and a Master's Degree in Biology from University of Central Florida, and a second Master's Degree in Soil and Environmental Science from the University of Florida. She has over 15 years of experience in wetland delineations and environmental permitting. David Teesdale has a Bachelor's Degree in Biology from Grinnell College, Iowa, and a Master's Degree in Ecology from Illinois State University. He has 20 years of experience in wetland delineations and biological evaluations. Kristen Numata has Bachelor's Degrees in Biology and Environmental Science from Santa Clara University.

CHAPTER 2.INTRODUCTION

2.1 Purpose of Report

This report is the result of a critical area study of Gunshy Manor. The project is located in unincorporated King County, Washington (**Figure 1**).

The purpose of this report is to outline the proposed project for the Gunshy Manor preliminary plat and how critical areas may be affected, including a discussion on existing conditions for those areas on Parcel G (**Figure 2**). A majority of Gunshy Manor, including nine (9) wetlands and seven (7) streams, have been previously classified and approved under CADS14-0327 and CADS18-0014 (**Figure 3**). The remaining wetlands south of Stream 1, including the upper reach of Stream 1, have not been incorporated into a previous CADS, but feature nomenclature is a continuation of CADS14-0327.

This report has been prepared to comply with the requirements of King County Code Title 21A.24.110 – Critical area report requirement. This report will provide and describe the following information:

- · General property description;
- Methodology for critical areas investigation;
- Regulatory review;
- Proposed development and critical area impacts; and
- Proposed conceptual mitigation for the preliminary plat.

CHAPTER 3.PROPERTY DESCRIPTION

3.1 Property Location

The Parent Property, Gunshy Manor, is an irregularly-shaped group of seven parcels located south of and abutting NE Union Hill Road in King County, Washington. The King County tax parcels that comprise Gunshy Manor are 0825069013 (Parcel A), 0825069103 (Parcel B), 0825069104 (Parcel C), 0825069105 (Parcel D), 0825069012 (Parcel E), 0825069102 (Parcel F), and 0825069067 (Parcel G) (**Figure 2**). The Public Land Survey System location is the NW ¼ of Section 8, T25N, R6E, Willamette Meridian. A boundary line adjustment (BLAD18-0056) has been approved to reduce Parcel E to approximately 10 acres that will include all of the Property's frontage along 196th Avenue NE (Red Brick Road) and a portion of Evans Creek. The revised Parcel E is not included in the proposed preliminary plat. The entirety of Wetlands C and D are on the revised Parcel E, including a small portion of Wetland B and the western half of Farm Ditch D2. These Critical Areas are not included in the proposed preliminary plat boundary.

3.2 General Property Description

Gunshy Manor is located east of the Redmond City limits and south of NE Union Hill Road. Parcel A is developed with equestrian and residential improvements and facilities. Portions of Parcels B, C, D, and F (portions that for the most part are located roughly in the central portion of the Property) are used for livestock grazing and hay production and storage. Parcel G is an existing residence with out-buildings.

The topography of the western and central portions of the Property are generally flat to slightly rolling. The eastern and southern portions are characterized by moderate to steep slopes.

There are three points of roadway access to the Property. One access point to the Property is a paved driveway off of NE Union Hill Road. This driveway extends to the south-southeast and connects to a gravel farm road that provides access to the remainder of the Gunshy Manor property. There is also a private driveway off NE Union Hill Road that serves Parcel G. The third access point is a gravel farm road off of 196th Avenue NE (Red Brick Road) that extends generally to the east into the Property. A maintenance road extends from the south-central portion of the Property, starting near Stream 1, and continuing south off-property.

3.3 Existing Site Development

The Parent Property is mostly undeveloped except for the single-family homes located on Parcels A, E, and G. The structures and home within Parcel E will be included within the boundary of the new parcel through the BLA and will not be part of this Project. Typical residential structures and outbuildings exist on the subject site, as well as farm buildings, including barns, run-in sheds, etc. There are two groundwater wells on the Site, located on Parcels D and G, that will be retained.

3.4 Gunshy Manor Site History

The Nelson Family originally purchased approximately 138 acres of property known as Gunshy Manor in 1957. Over the following approximately 55 years, the Nelson Family operated on the Gunshy Manor property, a Thoroughbred and Polled Hereford breeding farm.

The majority of Gunshy Manor has been evaluated under CADS14-0327 and CADS18-0014. Mitigation activities at Gunshy Manor have been required under US Environmental Protection Agency (EPA) Administrative Order on Consent ("AOC"), Docket No. CWA-10-2016-0087 and the Washington State Department of Ecology Agreed Administrative Order Docket No. 13182 for corrective actions relating to King County Code Enforcement File No. ENFR14-0512. The required mitigation activities were reconciled with the restoration work completed in August 2018.

CHAPTER 4.METHODOLOGY

The critical areas analysis of the Site involved a two-part effort. The first part consisted of a preliminary assessment of the Site and the immediate surrounding area using published environmental information. This information includes:

- 1) Wetland and soils information from resource agencies:
- 2) Environmentally Critical Areas Map information from King County;
- 3) GIS analysis of orthophotography and LiDAR data; and
- 4) Relevant studies completed or ongoing in the vicinity of the Property supplied to us by the Client (including historical uses of the Property).

The second part consisted of site investigations where direct observations and measurements of existing environmental conditions were made. Observations included plant communities, soils and hydrology. This information was used to help characterize the site and define the limits of critical areas onsite and offsite for regulatory purposes (see **Section 3.2 – Field Investigation** below).

This review of background materials was completed and thoroughly documented in the Critical Areas Report and Final Mitigation Plan, dated 17 August 2017 for those portions of the Site covered under CADS14-0327. This work has been updated within this report to include Parcel G as part of CADS18-0014.

4.1 Background Data Reviewed

Background information from the following sources was reviewed prior to field investigations:

- U.S. Fish and Wildlife (USFWS) National Wetlands Inventory for the Redmond Quadrangle;
- Natural Resources Conservation Service Soil Survey for the King County Area;
- King County GIS database;
- StreamNet and SalmonScape databases;
- Evans Creek Natural Area Site Management Guidelines (April 2005);
- Bear-Evans Watershed Temperature, Dissolved Oxygen and Fecal Coliform; Bacteria Total Maximum Daily Load, Water Quality Implementation Plan;
- Orthophotography from Earth Explorer, National Historical Aerials, NAIP, Bing Maps, and Google Earth; and
- LiDAR terrain data from the City of Redmond.

4.2 Field Investigation

Gunshy Manor was initially evaluated in the field by Talasaea Consultants, Inc. on 18 May 2012. Additional field work was performed on 14, 19, 21, 26 and 27 August and 15 October 2014; 15 February, 7, 8, 21, 22 April, and 16 May 2015; 2 and 12 February, 8 March, 8, 14 November, and 9 December 2016; and on 9 and 10 May 2017.

Parcel G of the Property was evaluated for critical areas on 7 December 2017. Critical areas along a 50-foot corridor along the maintenance road within the southern third of the Property were delineated on 6 December 2018. Critical areas were approximated, but not formally surveyed, outside of this corridor as no work is proposed in these areas.

Existing property conditions were documented, including relevant information concerning onsite and offsite wetlands and streams.

4.2.1 Wetland Delineation Methodology

Wetlands were delineated using the methodologies described in the U.S. Army Corps of Engineers Regional Supplement to the Corps of Engineers Wetland Delineation and Identification Manual: Western Mountains, Valleys, and Coast Region (U.S. Army Corps of Engineers, 2010). Wetland classes were determined with the U.S. Fish and Wildlife Service's system of wetland classification (Cowardin, et al. 1979).

Methodologies described in Chapter 5 (*Difficult Situations in the Western Mountains, Valleys, and Coast Region*) were utilized for wetland determinations on the Gunshy Manor property, which were later approved under CADS14-0327 and CADS18-0014. See *Critical Areas Report – Update*, dated 17 August 2017 for a discussion of Problematic Hydrophytic Vegetation. New datasheets are provided as **Appendix A**. Rating sheets for the newly added wetlands are provided as **Appendix B**.

4.2.2 Hydric Soils

Soils on the Property were considered hydric if one or more of the hydric soil indicators listed in the Corps Regional Supplement are present. Indicators include presence of organic soils, reduced, depleted, or gleyed soils, or redoximorphic features in association with reduced soils. Soils were also considered hydric if a combination of hydric soil indicators could be achieved. If the only parameter not meeting the indicator was the thickness of the layer containing the redox features, these instances were also

considered a hydric soil. Instances where redox features were lacking, started well below the depth threshold for any particular indicator, or were clearly relict features lacking diffuse boundaries were not considered as meeting a hydric soil indicator.

4.2.3 Plant Identification

Plant species were identified according to the taxonomy of Hitchcock and Cronquist (Hitchcock, et al. 1973). Taxonomic names were updated and plant wetland status was assigned according to *The National Wetland Plant List, Version 3.3* (Lichvar, et al. 2016). Vegetation was considered hydrophytic if greater than 50% of the dominant plant species had a wetland indicator status of facultative or wetter (i.e., facultative, facultative wetland, or obligate wetland).

4.2.4 Wetland Hydrology

Wetland hydrology was determined based on the presence of hydrologic indicators listed in the above-mentioned Corps Regional Supplement. These indicators are separated into Primary Indicators and Secondary Indicators. To confirm the presence of wetland hydrology, one Primary Indicator or two Secondary Indicators must be demonstrated to exist. Indicators of wetland hydrology may include, but are not necessarily limited to: drainage patterns, drift lines, sediment deposition, watermarks, stream gauge data and flood predictions, historic records, visual observation of saturated soils, and visual observation of inundation.

4.3 Ordinary High Water Mark (OHWM) Methodology

The OHWM for onsite streams and the OHWM for fish-bearing farm ditches were located and flagged in the field using wire flags. OHWM was delineated using the methodology described in *Determining the Ordinary High Water Mark for Shoreline Management Act Compliance in Washington State* (Anderson, *et al.* 2016).

CHAPTER 5.RESULTS

This section describes the results of our in-house research and field investigations for Parcels F and G only. A thorough analysis of existing information for Gunshy Manor can be found in Chapter 4.1 of the *Critical Areas Report – Update*, dated 17 August 2017, as provided to King County for CADS14-0327. For the purpose of this report, the term "vicinity" describes an area within 300 feet of the Site.

5.1 Analysis of Existing Information

The following sources provided information on site conditions based on data compiled from resource agencies and local government.

5.1.1 USFWS National Wetlands Inventory (NWI)

The NWI does not identify wetlands on, or in the vicinity of, Parcel G. A riverine intermittent streambed seasonally flooded (R4SBC) is mapped bisecting the parcel. This feature coincides with Martin Creek on the Property. A large wetland complex is mapped along the southwestern boundary of the Property and offsite to the west that coincides with Wetland B, which is part of the Evans Creek wetland complex. Another R4SBC stream feature is mapped that somewhat coincides with Stream 1, though the

feature is mapped on the NWI mapper as a split stream, which is not consistent with field conditions.

5.1.2 Natural Resources Conservation Service

The NRCS maps one soil in the entirety of Parcel G: Everett very gravelly sandy loam, 0 to 8 percent slopes. The NRCS maps two map units over Parcel F, Everett very gravelly sandy loam, 8 to 15 percent slopes and Alderwood and Kitsap soils, very steep. None of these soil series are considered hydric by the National Technical Committee on Hydric Soils (NTCHS).

5.1.3 King County GIS Database

King County identifies a stream bisecting Parcel G consistent with part of the NWI map and Martin Creek. Another stream is mapped across Parcel F that coincides with Stream 1. These streams are located within the Evans Creek basin.

5.1.4 WDFW Priority Habitat and Species (PHS) on the Web

WDFW PHS did not map any priority habitat or occurrence of ESA listed species on, or in the vicinity of, the Site.

5.2 Analysis of Existing Conditions

A majority of Gunshy Manor (Parcels A-E and a portion of Parcel F) was previously classified and approved under CADS14-0327, which includes nine (9) wetlands and seven (7) streams. One (1) stream, Martin Creek, was classified and approved under CADS18-0014 for Parcel G. The reach of Stream 1 downstream of the bird cage was included within CADS14-0327. The reach of Stream 1 upstream of the bird cage has not been included within a CADS determination, along with the remainder of Parcel F.

Four (4) wetlands were identified south of Stream 1, labeled as Wetlands L, M, N, and P. An additional stream, Stream 2, was also identified within Parcel F. Several swales, determined to not meet the definition of a stream, were identified that were constructed as part of a surface water management system for the farm property.

5.2.1 Wetlands

5.2.1.1 Wetland L

Wetland L is a forested wetland located adjacent to the existing maintenance road and Stream 1. Typical vegetation in Wetland L includes western redcedar and devil's club.

Wetland L rated as a Category IV wetland with an associated 40-foot buffer with a moderate intensity land use per King County Code (KCC) 21A.24.325.B for wetlands outside of a UGA.

5.2.1.2 Wetland M

Wetland M is a forested slope wetland located adjacent to the downhill side of the existing maintenance road. Vegetation within Wetland M includes western redcedar, salmonberry, white bark raspberry (*Rubus leucodermis*), and youth-on-age.

This wetland is presumed to be hydrologically connected to the Wetland B (discussed in CADS 14-0327), but is rated separately as a Category IV slope wetland based on a difference of Hydrogeomorphic (HGM) classification.

Wetland M rated as a Category IV wetland with an associated 40-foot buffer with a moderate intensity land use per King County Code (KCC) 21A.24.325.B for wetlands outside of a UGA.

5.2.1.3 Wetland N

Wetland N is a forested slope wetland located west of the maintenance road. Typical vegetation in Wetland M includes western redcedar, vine maple (*Acer circinatum*), devil's club, salmonberry, youth-on-age (*Tolmiea menziesii*), and fringecup (*Tellima grandiflora*).

This wetland is presumed to be hydrologically connected to the Wetland B (discussed in CADS 14-0327), but is rated separately as a Category IV slope wetland based on a difference of Hydrogeomorphic (HGM) classification.

Wetland N rated as a Category IV wetland with an associated 40-foot buffer with a moderate intensity land use per King County Code (KCC) 21A.24.325.B for wetlands outside of a UGA.

5.2.1.4 Wetland P

Wetland P is a forested slope wetland located east of the existing maintenance road. Vegetation within Wetland P includes western redcedar (*Thuja plicata*), devil's club (*Oplopanax horridus*), and salmonberry (*Rubus spectabilis*).

Wetland P rated as a Category IV wetland with an associated 40-foot buffer with a moderate intensity land use per King County Code (KCC) 21A.24.325.B for wetlands outside of a UGA.

5.2.2 Streams

5.2.2.1 Martin Creek

Martin Creek is a tributary to Evans Creek that flows westward across the north end of Parcel A before bisecting Parcel G. Martin Creek's headwaters are located off-site east of 208th Avenue NE, approximately 3,800 feet to the east. There are two small bridges located over Martin Creek within Parcel G. An additional vehicular bridge is located over Martin Creek within Parcel A that is the existing main entrance to the Property. All flows associated with Martin Creek are fully contained within the stream channel. There is no indication of flooding beyond the stream banks. No wetlands occur adjacent to Martin Creek.

The Martin Creek buffer through Parcel A is relatively undisturbed except where the driveway is located and is dominated with native vegetation such as western red cedar (*Thuja plicata*), Douglas fir (*Pseudotsuga menziesii*), and sword fern (*Polystichum munitum*). The stream buffer on Parcel G is heavily disturbed, as evidenced by the

adjacent single-family residence with maintained lawn, patio space, and other associated features.

5.2.2.2 Stream 1

Stream 1 is a perennially flowing stream located near the northern end of Parcel F that drains a relatively small basin (approximately 135 acres). Stream 1 originates within the eastern edge of Parcel F. This stream was previously identified as "Stream 1", a perennial Type F stream, in King County CADS 14-0327, though only the lower half of the stream onsite was included within that CADS.

The stream is fed primarily by groundwater and connects downstream with Evans Creek after passing through a large wetland complex associated with Evans Creek Natural Area, identified as Wetland B where it occurs within the Property. King County Type F streams located outside of the UGA require a 165-foot buffer measured from the OHWM.

5.2.2.3 Stream 2

Stream 2 is an intermittently flowing Type N stream located near the central area of the Property that drains a small area. The stream begins to channelize as surface water approximately 30 feet to the east of the access road, remaining less than two feet in width, and flows westward underneath the access road through an approximately eightinch metal culvert. After passing underneath the access road, the stream continues to flow west until it comingles with the wetland associated with Evans Creek Natural Area.

King County Type N streams located outside of the UGA require a 65-foot buffer measured from the OHWM.

5.2.2.4 Swales

Several short, narrow segments of constructed swales occur that were not considered as regulated features. These swales were constructed for the purpose of managing surface water on the Site as part of the general land management of the farm property.

5.3 Wildlife Surveys and Habitat Assessments

The Site was evaluated for wildlife and habitats concurrently with delineation efforts and observations of additional wildlife were recorded during the December 2017 field visit. The general habitat on the Site consists of maintained lawn and Douglas fir canopy. No unique habitats occur onsite. General wildlife observations during fieldwork included a several Red-tailed hawks and songbirds. No bald eagles were heard or seen over multiple field assessments. No bald eagle nests were observed, nor are any expected due to the lack of suitably sized trees in a landscape position preferred by bald eagles.

5.3.1 Listed Species - Salmonids

There are eight (8) streams located on the Property, including the main stems of Evans and Martin Creek, all of which are classified as Type F. Martin Creek and the unnamed streams are tributaries to Evans Creek, which is known to support runs of anadromous fish, including Puget Sound Chinook (*Oncorhynchus tshawytscha*), coho (*O. kisutch*), sockeye (*O. nerka*), steelhead (*O. mykiss*), and coastal cutthroat trout (*O. clarki*)

(SalmonScape). The Evans Creek Natural Area Site Management Guidelines, published in April 2005 by King County, identifies Evans Creek as the home to populations of Chinook, coho, and sockeye salmon (See Appendix F of the Critical Areas Report). Steelhead and cutthroat trout were identified as occurring within the greater Bear Creek basin, but were not specified for Evans Creek.

The following table provides a summary of identified salmonid species in Evans Creek at Gunshy Manor, and thus assumed present within Martin Creek, as well as the Federal or State status.

				-
Salmonid Species	StreamNet	SalmonScape	Federal Status	State Status
Fall Chinook	Migration Only	Documented Presence	Threatened	Candidate
Coho	Spawning and Rearing	Documented Spawning	None	None
Winter steelhead	Not Mapped	Documented Presence	Threatened	None
Sockeye	Not Mapped	Modeled	None	None

Table 1. Salmonid Presence in Evans Creek at Gunshy Manor (Parcel E)

CHAPTER 6. REGULATORY REVIEW

6.1 Critical Areas Ratings and Setbacks

The Site is located outside of the Urban Growth Area (UGA) of King County, therefore critical areas (wetlands and streams) are regulated under King County Code (KCC) 21A.24. Wetlands were rated using the *Washington State Wetland Rating System for Western Washington* (2004), as updated in 2008 (KCC 21A.24.318). Streams were typed according to KCC 21A.24.355.

Presence

The following is a summary of critical areas and their buffers either approved under CADS14-0327 or CADS18-0014, or as required under KCC 21A.24.

Table 2. Critical Areas Summary

Critical			В	uffer Width (feet)
Area Name	Parcel	Classification*	Approved Per CAD14-0327	Approved per CAD18-0014	Standard Per KCC 21.24A
Wetland A	C&D	Category IV	40 feet		
Wetland B	C, E & F	Category I	225 feet		
Wetland C	E	Category III	60 feet		
Wetland D	E	Category III	60 feet		
Wetland E	С	Category III	60 feet		
Wetland G	D&F	Category IV	40 feet		
Wetland H	С	Category IV	40 feet		
Wetland I	С	Category IV	40 feet		
Wetland K	С	Category IV	40 feet		

Wetland L	F	Category IV			40 feet
Wetland M	F	Category IV			40 feet
Wetland N	F	Category IV			40 feet
Wetland P	F	Category IV			40 feet
Martin	Α	Type F	165 feet		
Creek					
Martin	G	Type F		165 feet	
Creek					
Evans	E	Type F	165 feet		
Creek					
Stream 1	F	Type F	165 feet		
Stream 2	F	Type N			65 feet
Farm Ditch	C, D, &	Type F	165 feet		
D1	F				
Farm Ditch	B, C & E	Type F	165 feet		
D2					
Farm Ditch	С	Type F	165 feet		
D3		-			
Spur Farm	С	Type F	165 feet		
Road Ditch	U		105 leet		

^{*} Classification of either wetland Category per KCC 21A.24.318 or Aquatic Area Type per KCC 21A.24.355

CHAPTER 7. PROPOSED DEVELOPMENT AND CRITICAL AREAS IMPACTS

7.1 Project Description

The Client plans to subdivide the Project Property into 23 single-family residences (**Appendix C**). Site elements will include a trail system, a private internal road, and utility infrastructure. Access will be provided from NE Union Hill Road with a new road and bridge over Martin Creek in order to maintain proper sight lines from the bend in Union Hill Road immediately east of the Site. In addition to the stream buffer impacts outlined below, a network of farm roads exists across the Site, both within and outside of critical areas buffers. These roads will be retained in the post-development condition to be converted to use as passive recreation trails and for limited maintenance vehicle use.

7.2 Stormwater Treatment

Stormwater facilities will be located on the individual lots, given the large size of the residential lots. A stormwater vault will be provided to address runoff from the internal road. The proposed stormwater runoff will be handled using flow control best management practices, such as dispersion, bioretention, and possibly infiltration, depending on location of septic drain fields and as verified by the geotechnical investigation. In addition to the above stormwater facilities, a rock-lined drainage swale will be provided west of the new access road by Union Hill Road to ensure no impact to the property immediately west of this new access road.

7.3 Assessment of Development Impacts

The Gunshy Manor preliminary plat has been designed to avoid critical area impacts to the maximum extent possible, and to minimize where avoidance is impossible. No

impacts to wetlands or streams are proposed for this Project. Minor encroachments to stream buffer will be necessary for the NE Union Road access to the Site and for the main entrance site-triangle for safety reasons, and trail access to a retained well. These required buffer impacts have been minimized to the greatest extent practicable to use the smallest footprint required to meet the King County requirements, as well as address potential safety concerns for future users. Where stream buffer impacts are unavoidable, appropriate mitigation is provided to compensate for the proposed impacts.

Permanent impacts proposed include:

- 20,136 square feet of Martin Creek buffer reduced for a linear alteration (access road);
- 4,924 square feet of reduced Martin Creek buffer for a landscaped buffer and adjacent drainage swale; and
- 448 square feet of reduced Martin Creek buffer for an access trail to connect the new entrance to an existing well to be maintained.

In addition to those permanent impacts, proposed temporary impacts include:

- 2,094 square feet of disturbance to the Martin Creek buffer to remove railroad ties and a shed; and
- 29,888 square feet of temporary disturbance to remove existing structures and asphalt as part of the buffer restoration/reestablishment.

The retention of the farm roads as passive recreation trails and limited access paths for maintenance vehicles are not being considered a buffer impact, where the farm roads occur within buffers, since these farm roads occur in the existing condition. These roads are used regularly by vehicles for farm management and access. The use of these roads by vehicles will be greatly diminished in the proposed condition since maintenance vehicles will only require access periodically.

7.3.1 Buffer Reduction for Linear Alterations

The project proposes to reduce stream buffer consistent with KCC 21A.24.070.A.1 to allow for the required access road to the development. Buffer intrusions will be the minimum necessary to meet King County standards. The access road will require a new bridge over Martin Creek that can handle two-way vehicular and pedestrian traffic. The existing Martin Creek road bridge on Parcel A is being abandoned and will be reestablished as stream buffer. The deck will be removed and the footings will remain to not disturb the creek bed or banks. This existing driveway does not meet the sight distance guidelines for King County and will not be used for vehicular access. Two existing bridge structures on Parcel G (both vehicular and pedestrian) over Martin Creek will be partially removed and replaced with a single bridge capable of handling the anticipated traffic. The upper decks of all existing bridges will be removed and the footings will be kept in place. A total of 20,136 square feet of Martin Creek buffer will be impacted for this access road off Union Hill Road. Buffer impacts due to this road have increased from previous site plan iterations due to the size of the road increasing now that this is the only access point to the Site.

Compensation for the Martin Creek buffer intrusion necessary for the new Union Hill Road entrance will be provided by removing the existing house and associated structures within the Martin Creek buffer and restoring these areas with native vegetation. Temporary impacts to the stream buffer will be necessary in conjunction with the removal of these existing structures, though these areas will be regraded and planted after removal of existing structures. The remainder of the Martin Creek buffer that does not contain structures will remain in its current vegetated condition. A native canopy exists that will be maintained where present. Native understory species will recruit into these areas once regular maintenance ceases. Other areas not contained within the post-development critical areas will be maintained by the Homeowner's Association for the development, once established. Vegetative enhancement is proposed over 29,888 square feet of Martin Creek buffer to restore those areas covered by structures.

7.3.2 Buffer Reduction for Landscaping, Swale, and Trail

There are three areas adjacent to the primary access point from NE Union Hill road that will be averaged out of the stream buffer. These areas include an entryway landscape tract (Tract H) along the east edge of the access point, a rock-lined swale along the west edge, and a surface trail extending eastward from the access point that will provide access to an existing groundwater well. The project proposes to reduce the Martin Creek stream buffer by 4,924 square feet for these three elements combined. The buffer will be replaced adjacent to the existing Martin Creek buffer within areas that are, at a minimum, equivalent to the structure and function provided by the stream buffer to be reduced. This 11,868 square foot buffer replacement area is being provided consistent with KCC 21A.24.358.E.1.a for no net loss of total buffer area, and ultimately will provide a net gain of 6,944 square feet of Martin Creek buffer.

7.3.3 Temporary Buffer Impact for Regrading

Approximately 2,094 square feet of Martin Creek buffer near where Martin Creek exits the property to the west will be temporarily impacted to remove several railroad ties and a shed to regrade and restore these areas as vegetated buffer.

CHAPTER 8.PROPOSED MITIGATION

8.1 Agency Policies and Guidelines

The mitigation proposed for critical areas impacts is in accordance with the following policies, codes, and regulatory guidance:

King County Code, Chapter 21A.24, "Critical Areas"

8.2 Mitigation Sequencing

KCC 21A.24.125 addresses avoiding impacts to critical areas and the sequence of actions that must be followed to justify impacts to any critical areas, including buffers. The code requires that "an applicant for a development proposal or alteration, shall apply the following sequential measures, which appear in order of priority, to avoid impacts to critical areas and critical area buffers:

- 1. Avoiding the impact or hazard by not taking a certain action;
 - a. Minimizing the impact or hazard by:
 - b. limiting the degree or magnitude of the action with appropriate technology;
 or
- 2. Taking affirmative steps, such as project redesign, relocation or timing;
- 3. Rectifying the impact to critical areas by repairing, rehabilitating or restoring the affected critical area or its buffer;
- 4. Minimizing or eliminating the hazard by restoring or stabilizing the hazard area through engineered or other methods;
- 5. Reducing or eliminating the impact or hazard over time by preservation or maintenance operations during the life of the development proposal or alteration;
- 6. Compensating for the adverse impact by enhancing critical areas and their buffers or creating substitute critical areas and their buffers; and
- 7. Monitoring the impact, hazard or success of required mitigation and taking remedial action."

The project has <u>avoided</u> all direct impacts to the on-site wetlands and streams. The project has <u>minimized</u> impacts to the wetland and stream buffers almost entirely, except where encroachments are necessary for the access road, landscape tract, rock-lined swale, a small access trail, and minor regrading in the Martin Creek stream buffer. Several iterations of site design options have been evaluated to determine the best site plan that meets both the restrictions of the Site and the requirements of a viable project. Critical areas on-site effectively block all access points to the unencumbered portions of the Site, thus requiring minor buffer encroachments to ensure safe access into and out of the Site.

In addition to the above requirements outlined within KCC 21A.24.125, modification to a critical area buffer is allowed for linear alterations pursuant to KCC 21A.24.070, *Alteration Exception*, if:

- A. The director may approve alterations to critical areas, critical area buffers and critical area setbacks not otherwise allowed by this chapter as follows:
 - 1. Except as otherwise provided in subsection A.2. of this section, for linear alterations, the director may approve alterations to critical areas, critical area buffers and critical area setbacks only when all of the following criteria are met:
 - a. there is no feasible alternative to the development proposal with less adverse impact on the critical area;
 - b. the proposal minimizes the adverse impact on critical areas to the maximum extent practical;
 - c. the approval does not require the modification of a critical area development standard established by this chapter;
 - d. the development proposal does not pose an unreasonable threat to the public health, safety or welfare on or off the development proposal site and is consistent with the general purposes of this chapter and the public interest;

- e. the linear alteration:
 - (1) connects to or is an alteration to a public roadway, regional light rail transit line, public trail, a utility corridor or utility facility or other public infrastructure owned or operated by a public utility; or
 - (2) is required to overcome limitations due to gravity;

No specifications are provided in the code to address compensation for buffer intrusions resulting from linear alterations. In lieu of detailed guidance, proposed compensation for buffer intrusions resulting from the required access road will be buffer restoration and buffer replacement, respectively. Portions of the Martin Creek buffer where the house and associated structures currently exist will be restored through the removal of the structures, and those areas subsequently restored with native soils, plants, and large woody material. An existing groundwater well, located inside of the garage, will be maintained in the post-development condition for use by the development. A small structure will be constructed around the well for protection that will remain within the buffer. Pedestrian access will be provided to this well and structure from the proposed new access road. Enhancement activities will occur in this area around this well and structure. No enhancement plantings are provided in other portions of the Martin Creek buffer where vegetation already exists; enhancement plantings are only proposed where structures, a house, shed, patio, driveways, etc. preclude the growth of any plants. A monitoring and maintenance plan will be developed to ensure the long-term success of the mitigation areas where enhancement plantings are proposed.

Modification to a stream buffer outside of a UGA must also meet the guidelines in KCC 21A.24.358 for buffer modifications not associated with a linear alteration:

- E. The department may approve a modification of buffer widths if:
- 1.a. The department determines that through buffer averaging the ecological structure and function of the resulting buffer is equivalent to or greater than the structure and function before averaging and meets the following standards:
 - (1) the total area of the buffer is not reduced;
 - (2) the buffer area is contiguous: and
 - (3) averaging does not result in the reduction of the minimum buffer for the buffer area waterward of the top of the associated steep slopes or for a severe channel migration hazard area;

The newly added buffers used to offset reduced buffers for the landscape tract, rock-lined swale, and access trail are equivalent or better than the buffer before averaging, especially given the maintained, disturbed nature of the existing buffer where reductions with averaging are proposed. The areas proposed to replace the buffer already have existing native vegetation, and at a minimum, there will be no net reduction of buffer structure or function, with a net improvement of buffer structure and function anticipated. As no enhancement is proposed within the areas identified as buffer replacement to compensate for lost buffer due to non-linear alterations, no performance monitoring is

proposed for these areas. These areas will be identified through the placement of critical area fencing and signage to prevent human intrusions.

8.3 Mitigation Summary

Mitigation proposed across the Site includes:

- 2,094 sf of buffer restoration after temporary grading impacts;
- 6,944 sf of buffer averaging (net gain) along Martin Creek;
- 27,794 sf of buffer reestablishment of pre-existing disturbances along Martin Creek.

8.4 Martin Creek Buffer Reestablishment

Martin Creek buffer reestablishment will occur on Parcel G through the removal of an existing single-family residence and other associated structures, except the groundwater well to be retained with a protective structure and access trail added. Stream buffer restoration within these areas where structures have been removed will include the following measures:

- 1) Remove bridges, residence, and above and below ground structures;
- 2) Scarify soils and amend with topsoil from on-site sources if possible;
- 3) Installation of habitat features such as rootwads, down logs, and stumps:
- 4) Plant a variety of native deciduous and evergreen tree and shrub species; and
- 5) Install of critical area fencing and signs at buffer boundaries where required.

The removal of the existing bridges to be decommissioned will include the removal of the decks, but not the associated footers. As the footers in their existing conditions do not affect stream flow, potential damage to the stream ecosystem will be reduced by only removing the upper portions (decking) of the bridges.

8.5 Performance Monitoring and Maintenance

Stream buffer restoration and reestablishment activities around Martin Creek, a total of 29,888 sf, will be monitored for a minimum of three (3) years, consistent with County requirements to ensure compliance with detailed performance objectives. Upon preliminary approval of this conceptual mitigation design, a final mitigation plan will be prepared that outlines the performance objectives, as well as detailed elements of the mitigation plant installation, long-term monitoring and maintenance, contingency plans, and other elements. Critical area fencing will be placed at the perimeter of the mitigation areas as required to ensure pedestrian and pet traffic is restricted into the designated mitigation areas.

CHAPTER 9. SUMMARY

This report is the result of a critical areas investigation for Gunshy Manor, located in King County, Washington.

Thirteen (13) wetlands and eight (8) streams were identified on Gunshy Manor. Most of these critical areas have been evaluated and approved under CADS14-0327 and CADS18-0014, except for four (4) wetlands and one (1) stream south of Stream 1 on

Parcel F. Due to the presence of salmonid species in Evans Creek, Martin Creek is classified as a Type F stream per KCC 21A.24.355. Type F streams outside of Urban Growth Areas require 165-foot standard buffers. Non-fish-bearing streams require 65-foot standard buffers outside of Urban Growth Areas. The four (4) added wetlands were rated as Category IV wetlands requiring 40-foot standard buffers for a moderate intensity land use outside of an Urban Growth Area.

The Applicant plans to develop the Project Property with 23 single-family residences. Primary access to the proposed development will be provided off Union Hill Road by a new bridge across Martin Creek on Parcel G.

The Gunshy Manor preliminary plat project has been designed to avoid and minimize critical area impacts to the maximum extent practicable. No wetlands or streams will be directly impacted by the project. No permanent impacts to critical area buffers are proposed as all anticipated buffer encroachments will be offset through buffer replacement, enhancement, or averaging. An existing network of farm roads will be retained in the post-development condition to be used as passive recreation trails and for limited access by maintenance vehicles.

Mitigation sequencing following KCC 21A.24.125, which addresses avoiding impacts to critical areas and the sequence of actions that must be followed to justify impacts to any critical areas, including buffers, was followed for this project. The proposed mitigation plan will include buffer reestablishment to restore those portions of the Martin Creek buffer currently impacted by existing structures for the primary access road and the existing driveway as compensation for the new road intruding into the stream buffer; and buffer averaging to offset reduced buffers for the landscape tract, rock-lined swale, and pedestrian trail through the Martin Creek buffer. Additional buffer restoration is proposed to restore an area of temporary buffer disturbance to remove railroad ties and an existing shed. Buffer restoration will occur in select locations by removing existing man-made structures and planting with native trees and shrubs. Buffer restoration and reestablishment areas will be monitored for a period of three years.

CHAPTER 10. REFERENCES

- Anderson, P., S. Meyer, P. Olson, and E. Stockdale. *Determining the Ordinary High Water Mark for Shoreline Management Act Compliance in Washington State*. Washington State Department of Ecology Publication # 16-06-029.
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- U.S. Army Corps of Engineers. 2010. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region. Wetland Regulatory Assistance Program. ERDC/EL TR-10-3
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- Washington State Department of Fish and Wildlife [Map Online], Olympia (WA): SalmonScape [12/21/2017]. URL: http://wdfw.wa.gov/mapping/salmonscape/index.html

FIGURES

Figure 1. Vicinity Map and Driving Directions

Figure 2. Parcel Map

Figure 3. Critical Areas Designations Map **Figure 4.** National Wetlands Inventory Map

DRIVING DIRECTIONS:

- I) FROM SEATTLE TAKE I-90 TO BELLEVUE
- 2) TAKE EXIT IIB FROM I-90E
- 3) TAKE WA-520E TO REDMOND
- 4) AT THE NEXT TRAFFIC SIGNAL, TURN RIGHT ONTO NE UNION HILL ROAD
- 5) AT THE TRAFFIC CIRCLE, CONTINUE ONTO ONTO NE UNION HILL ROAD
- 6) ARRIVE AT DESTINATION ON THE RIGHT: 20005 NE UNION HILL RD REDMOND, WA 98053

NOTE: EVANS CREEK LOCATION DOES NOT REFLECT FIELD CONDITIONS





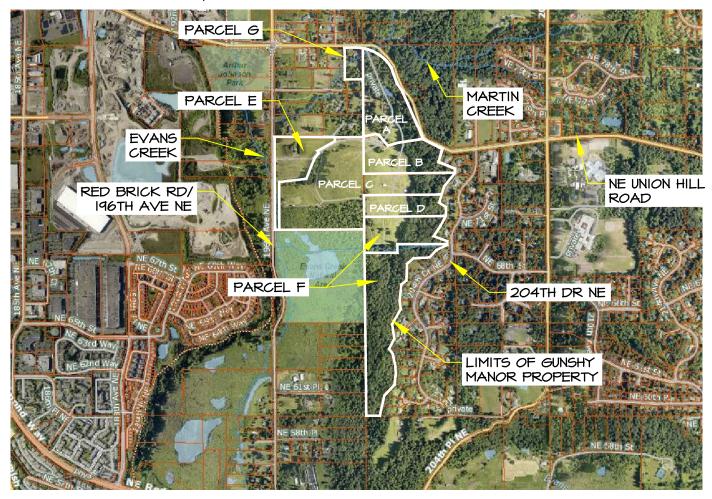
Resource & Environmental Planning 15020 Bear Creek Road Northeast Woodinville, Washington 98077 Bus (425)861-7550 - Fax (425)861-7549

FIGURE #3

VICINITY MAP & DRIVING DIRECTIONS GUNSHY MANOR - PARCEL F KING COUNTY, WASHINGTON

DESIGN	DRAWN	PROJECT
	KM	1147B
SCALE	•	
NTS		
DATE	7	
1-17-20	19	
REVISED		

NW & SECTION 8, TOWNSHIP 25N, RANGE 6E, WM



SOURCE: KING COUNTY IMAP; Http://www5.kingcounty.gov/iMAP/viewer.htm?mapset=kcproperty (ACCESSED 11-27-2018)

PARCEL A - 0825069013

PARCEL B - 0825069103

PARCEL C - 0825069104

PARCEL D - 0825069105

PARCEL E* - 0825069012

PARCEL F - 0825069102

PARCEL 6 - 0825069067

* NOT INCLUDED IN THE PROJECT AREA

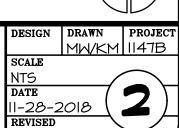


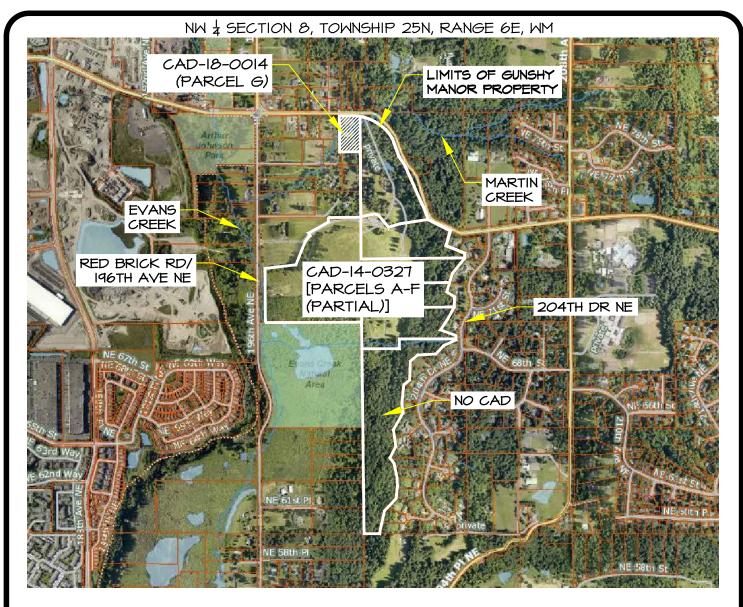


15020 Bear Creek Road Northeast Woodinville, Washington 98077 Bus (425)861-7550 - Fax (425)861-7549 FIGURE #2

PARCEL MAP GUNSHY MANOR

REDMOND, WASHINGTON





SOURCE: KING COUNTY IMAP; Http://www5.kingcounty.gov/iMAP/viewer.htm?mapset=kcproperty (ACCESSED 01-09-2018)

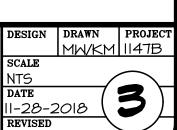


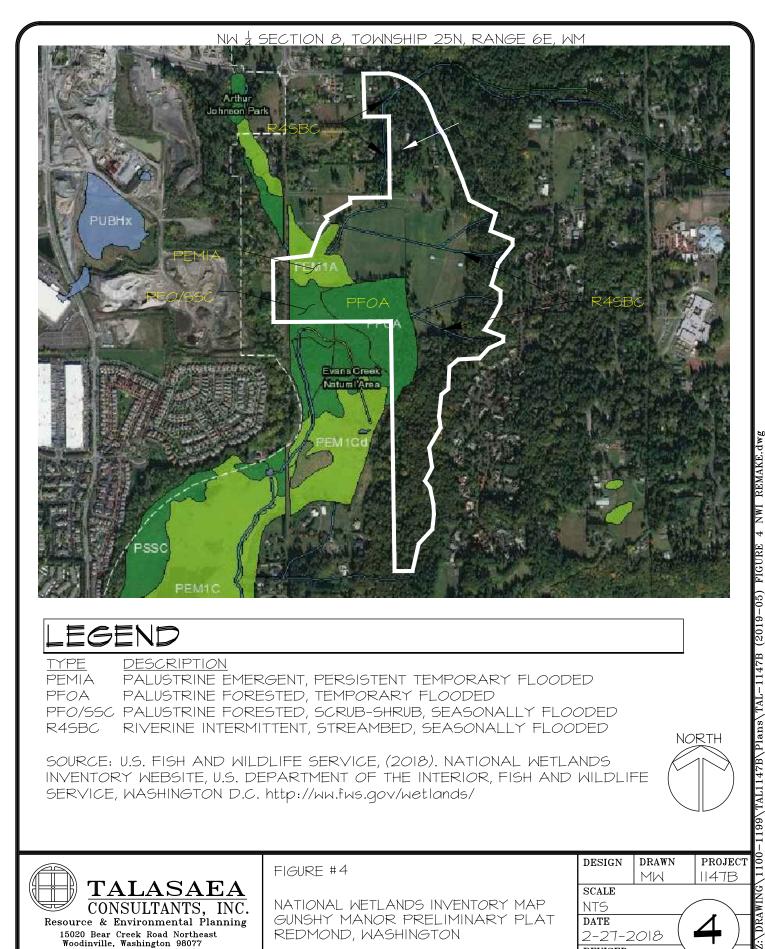


15020 Bear Creek Road Northeast Woodinville, Washington 98077 Bus (425)861-7550 - Fax (425)861-7549 FIGURE #3

CRITICAL AREA DESIGNATIONS MAP GUNSHY MANOR

REDMOND, WASHINGTON





EGEND

DESCRIPTION TYPE

PEMIA PALUSTRINE EMERGENT, PERSISTENT TEMPORARY FLOODED

PALUSTRINE FORESTED, TEMPORARY FLOODED PFOA

PFO/SSC PALUSTRINE FORESTED, SCRUB-SHRUB, SEASONALLY FLOODED R4SBC RIVERINE INTERMITTENT, STREAMBED, SEASONALLY FLOODED

SOURCE: U.S. FISH AND WILDLIFE SERVICE, (2018). NATIONAL WETLANDS INVENTORY WEBSITE, U.S. DEPARTMENT OF THE INTERIOR, FISH AND WILDLIFE SERVICE, WASHINGTON D.C. http://www.fws.gov/wetlands/





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FIGURE #4

NATIONAL WETLANDS INVENTORY MAP GUNSHY MANOR PRELIMINARY PLAT REDMOND, WASHINGTON

DESIGN	DRAWN	PROJECT
	MM	1147B
SCALE		
NTS		
DATE	7	Λ
2-27-2	1018 1	
REVISED		

APPENDIX A

USACE Datasheets, Talasaea 2019

Project/Site: TAL-1147B	Ci	ity/Coun	nty: King Count	y	Sampling Date: 12-6-2	2018
Applicant/Owner: Buff Nelson				State: WA	Sampling Point: TP-P	11
Investigator(s): KM/AE			_ Section, Tow	nship, Range: <u>S8, T25N</u>	I, R06E. W.M.	
Landform (hillslope, terrace, etc.): Hillslope						
Subregion (LRR): A			,		. ,	
Soil Map Unit Name: Alderwood and Kitsap Soils, very steep.				_		
Are climatic / hydrologic conditions on the site typical for this ti					·	
	•		,	mal Circumstances" pres		
Are Vegetation, Soil, or Hydrology signifi				•		
Are Vegetation, Soil, or Hydrology natura				l, explain any answers ir		
SUMMARY OF FINDINGS – Attach site map sh	nowing s	ampli	ng point lo	cations, transects,	<u>, important featur</u>	es, etc.
Hydrophytic Vegetation Present? Yes ☒ No ☐		Is	s the Sampled	Area		
Hydric Soil Present? Yes ☐ No ☒			vithin a Wetlar		No ⊠	
Wetland Hydrology Present? Yes ☐ No ☒						
Remarks: Upland point located 5' NW of flag P-1. Sample	point is indi	cative o	if upland condit	ions, despite the domina	ance of facultative vege	etation.
VEGETATION – Use scientific names of plants						
VEGETATION - OSC SCIENTING Harnes of plants		Domin:	ant Indicator	Dominance Test wor	ksheet:	
<u>Tree Stratum</u> (Plot size: <u>30 ft</u>)			es? Status	Number of Dominant S		
1. Acer macrophyllum	60	Yes	FACU		, or FAC: 4	(A)
2. Thuja plicata	<u>15</u>	Yes	<u>FAC</u>	Total Number of Domi	nant	
3.				Species Across All Str		(B)
4.				Percent of Dominant S	Species	
Sapling/Shrub Stratum (Plot size: 15 ft)	<u>75 </u>	= Tota	al Cover		, or FAC: <u>80</u>	(A/B)
1. Oplopanax horridus	80	Yes	FAC	Prevalence Index wo	rksheet:	
2. Rubus spectabilis			FAC		Multiply by	' :
3.					x 1 =	
4.				FACW species	x 2 =	
5.				FAC species	x 3 =	
	100	= Tota	al Cover	FACU species	x 4 =	
Herb Stratum (Plot size: <u>5 ft</u>)				UPL species	x 5 =	
1. Urtica dioica	5			Column Totals:	(A)	(B)
2. Tolmiea menziesii	60	Yes	<u>FAC</u>	Danielana a la da	D/A	
3.					x = B/A =	_
4				Hydrophytic Vegetat		
5				☐ Prevalence Index		
6.				_	is ≤3.0 aptations¹ (Provide supp	oorting
7.	-			data in Remarl	ks or on a separate she	eet)
8	C.F.	Tota	- Cover	☐ Problematic Hydro	phytic Vegetation¹ (Exp	plain)
Woody Vine Stratum (Plot size: 15ft)	65	= 108	ai Cover			
1. None					oil and wetland hydrolog	gy must
2.				be present, unless dis	turbed or problematic.	
	0	= Tota	al Cover	Hydrophytic		
9/ Para Cround in Harb Stratum 25	or of Diatic C	`ruo+ ^		Vegetation Present? Yes	es ⊠ No □	
% Bare Ground in Herb Stratum 35 % Cove Remarks: Hydrophytic vegetation criteria met.	er of Biotic C	rust <u>U</u>		i resent:		
remarks. Tryurophytic vegetation citteria met.						

Depth	Matrix				dox Featur				_
(inches)	Color (moist)	%	Colo	or (moist)	%	<u>Type¹</u>	Loc ²	Texture	Remarks
0-12	10YR 2/2	100						silt loam	_
12-16	10YR 3/2	80	10YI	R 4/2	20	D	M	mucky silt	10YR 4/2 inclusion
16-20	10YR 2/2	100						silt loam	10% charcoal present in matrix
			_						
	oncentration, D=D Indicators: (App						ed Sand G		Location: PL=Pore Lining, M=Matrix.
		licable to				itea.)			ators for Problematic Hydric Soils ³ :
☐ Histosol☐ Histic Ep	oipedon (A2)			Sandy Redox Stripped Matri					cm Muck (A10) ed Parent Material (TF2)
☐ Black His				Loamy Mucky	. ,	1 (except	MLRA 1))		ery Shallow Dark Surface (TF12)
	n Sulfide (A4)			oamy Gleyed	•		,		ther (Explain in Remarks
	d Below Dark Surfa	ace (A11)		Depleted Matri	`	,			
☐ Thick Da	ark Surface (A12)		□ F	Redox Dark S	urface (F6)			
☐ Sandy M	lucky Mineral (S1)			Depleted Dark	Surface (F7)		³ Indic	cators of hydrophytic vegetation and
☐ Sandy G	lleyed Matrix (S4)		□ F	Redox Depres	ssions (F8)				etland hydrology must be present,
Poetrietive I	Layer (if present)							un	nless disturbed or problematic.
	Layer (II present)	•							
Type:	ches).							Hydric S	ioil Present? Ves 🗆 No 🕅
Depth (in	ydric soil criteria n	ot met. 12	2-16" laye	er is a mineral	soil with a	minor sap	ric organic	_	Soil Present? Yes No 🛭 It does not meet the NRCS definition of a
Depth (increments: Hydrue organic	ydric soil criteria n soil.		2-16" laye	er is a mineral	soil with a	minor sap	ric organic	_	soil Present? Yes ☐ No ☒ It does not meet the NRCS definition of a
Depth (increments: Hyperbolic Methods) DROLOG Wetland Hyperbolic Methods (increments)	ydric soil criteria nosoil. Y drology Indicator	'S:				minor sap	ric organic	component.	It does not meet the NRCS definition of a
Depth (increments: Hydrue organic DROLOG Wetland Hydrimary India	ydric soil criteria n soil.	'S:			ply) stained Lea			component.	It does not meet the NRCS definition of a
Depth (increments: Hydraue organic DROLOG Wetland Hydraue Surface	ydric soil criteria n soil. SY drology Indicator cators (minimum c	'S:		eck all that ap ☐ Water-S	ply) stained Lea			Se_RA 1, 2,	It does not meet the NRCS definition of a condary Indicators (2 or more required) Water Stained Leaves (B9) (MLRA 1,
Depth (increments: Hyperus organic DROLOG Wetland Hyperimary India Surface High W	ydric soil criteria na soil. SY drology Indicator cators (minimum company) e Water (A1)	'S:		eck all that ap Water-S 4A, and 4B	ply) Stained Lea 3) ust (B11)	ives (B9) (Se_RA 1, 2,	condary Indicators (2 or more required) Water Stained Leaves (B9) (MLRA 1, 4A, and 4B))
Depth (increments: Hyperus organic DROLOG Wetland Hyperimary India Surface High W	ydric soil criteria nosoil. GY drology Indicator cators (minimum company) e Water (A1) /ater Table (A2) tion (A3)	'S:		eck all that ap ☐ Water-S 4A, and 4B ☐ Salt Cru	ply) Stained Lea 3) ust (B11)	ives (B9) (d		Se_RA 1, 2,	condary Indicators (2 or more required) Water Stained Leaves (B9) (MLRA 1, 4A, and 4B)) Drainage Patterns (B10) Dry-Season Water Table (C2)
Depth (increments) Primary Indicate High W Saturat Water I	ydric soil criteria nosoil. GY drology Indicator cators (minimum company) e Water (A1) /ater Table (A2) tion (A3)	'S:		eck all that ap	ply) stained Lea 3) ust (B11) : Invertebra en Sulfide	ates (B13) Odor (C1)	except ML	Se_RA 1, 2,	condary Indicators (2 or more required) Water Stained Leaves (B9) (MLRA 1, 4A, and 4B)) Drainage Patterns (B10) Dry-Season Water Table (C2)
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Project/Site: TAL-1147B	c	ity/Cou	ınty: <u>King Coι</u>	ınty	Sampling Date: 12-6-2018
Applicant/Owner: <u>Buff Nelson</u>				State: WA	Sampling Point: TP-P2
Investigator(s): KM/AE			Section, T	ownship, Range: <u>S8, T2</u>	5N, R06E. W.M.
Landform (hillslope, terrace, etc.): Hillslope		Local r	elief (concave	, convex, none): None	Slope (%): <u>40</u>
Subregion (LRR): A	Lat: 47.66	552		_ Long: <u>-122.07169</u>	Datum: NAD83
Soil Map Unit Name: Alderwood and Kitsap soils, very steep				NWI classifi	cation: None
Are climatic / hydrologic conditions on the site typical for this	time of year	? Yes	No □ (f no, explain in Remarks	s.)
Are Vegetation, Soil, or Hydrology signi					resent? Yes 🛛 No 🗌
Are Vegetation, Soil, or Hydrology natur				led, explain any answers	in Remarks.)
SUMMARY OF FINDINGS – Attach site map s					
	<u> </u>		<u> </u>	<u></u>	<u>-,p</u>
Hydrophytic Vegetation Present? Yes ⊠ No ☐ Hydric Soil Present? Yes ⊠ No ☐			Is the Sample		
Wetland Hydrology Present? Yes ⊠ No □			within a Wetl	and? Yes ⊠	No 🗆
Remarks: Wetland sample point located 2' north of flag P-	-2				
VEGETATION – Use scientific names of plant					
Tree Stratum (Plot size: 30 ft)	Absolute % Cover		nant Indicator ies? Status		
1. Thuja plicata			FAC	- Number of Dominant	
2. Acer macrophyllum*			FACU		
3.			<u> </u>	Total Number of Don	
4.				'	
	100	= To	tal Cover	Percent of Dominant That Are OBL, FACV	•
Sapling/Shrub Stratum (Plot size: 15 ft)	05	V	E40	Prevalence Index w	workshoot.
Oplopanax horridus Rubus spectabilis			<u>FAC</u>	•	of: Multiply by:
				· ·	x 1 =
3. 4.				· · · · · · ·	x 2 =
5.				•	x 3 =
	50	= To	tal Cover	•	x 4 =
Herb Stratum (Plot size: 5 ft)				UPL species	x 5 =
1. None		· ——		Column Totals:	(A) (B)
2.			<u> </u>	. December of the	Local D/A
3.				Hydrophytic Vegeta	dex = B/A =
4			<u> </u>	☐ Dominance Test	
5.		· ——		☐ Prevalence Inde	
6.				.	daptations ¹ (Provide supporting
7.		-		data in Rema	arks or on a separate sheet)
8	0	- To	tal Cover	☐ Problematic Hyd	rophytic Vegetation¹ (Explain)
Woody Vine Stratum (Plot size: 15ft)	<u> </u>	10	tai Oovoi		
1. None			<u> </u>		soil and wetland hydrology must listurbed or problematic.
2.				be present, unless d	Isturbed of problematic.
	0	= To	tal Cover	Hydrophytic Vegetation	
	er of Biotic (Crust <u>0</u>	<u> </u>	Present?	Yes ⊠ No □
Remarks: Hydrophytic vegetation present					
*Acer macrophyllum rooted in upland.					

Depth Matrix							n the absenc	,
				ox Feature	31	. 2		
(inches) Color (moist)	%	Color	r (moist)	%	Type ¹	Loc ²	<u>Texture</u>	Remarks
<u>0-8</u> <u>10YR 3/1</u>	<u>100</u>	_ =		_=		<u>-</u>	MSL*	
8-14 10YR 4/1	95	10YF	R 4/4	5	<u>C</u>	<u>M</u>	MSL*	5% coal in matrix
14-20 Gley1-4N	100							undecomposed wood in matrix
					· 			
¹ Type: C=Concentration, D=D	epletion. R	 RM=Redu	uced Matrix, C	S=Covered	or Coate	ed Sand G	rains. ² l (ccation: PL=Pore Lining, M=Matrix.
Hydric Soil Indicators: (App						od Odina O		tors for Problematic Hydric Soils ³ :
☐ Histosol (A1)		□s	Sandy Redox (S	S5)			□ 2 c	m Muck (A10)
☐ Histic Epipedon (A2)			Stripped Matrix					d Parent Material (TF2)
☐ Black Histic (A3)			.oamy Mucky N	` '	(except	MLRA 1))	□ Ve	ry Shallow Dark Surface (TF12)
			oamy Gleyed N	•	•	,,		er (Explain in Remarks
☐ Depleted Below Dark Surf	ace (A11)		epleted Matrix					` '
☐ Thick Dark Surface (A12)	, ,	□R	Redox Dark Su	rface (F6)				
☐ Sandy Mucky Mineral (S1)			epleted Dark	Surface (F	7)		³ Indica	tors of hydrophytic vegetation and
☐ Sandy Gleyed Matrix (S4)		□R	Redox Depress	ions (F8)			wet	land hydrology must be present,
							unle	ess disturbed or problematic.
Restrictive Layer (if present)):							
Туре:								
Depth (inches):							Hydric So	il Present? Yes ⊠ No 🏻
Wetland Hydrology Indicator								
Wetland Hydrology Indicator		ired; che						ondary Indicators (2 or more required)
Wetland Hydrology Indicator		ired; che	ck all that app Water-Sta 4A, and 4B)	ained Leav	es (B9) (є	except ML	.RA 1, 2,	· · · · · ·
Wetland Hydrology Indicator		ired; che	☐ Water-Sta	ained Leav	es (B9) (6	except ML	.RA 1, 2, [☐ Water Stained Leaves (B9) (MLRA 1, 2
Wetland Hydrology Indicator Primary Indicators (minimum of Surface Water (A1)		ired; che	☐ Water-Sta 4A, and 4B) ☐ Salt Crus	ained Leav		except ML	RA 1, 2, [4	Water Stained Leaves (B9) (MLRA 1, 2 A, and 4B))
Wetland Hydrology Indicator Primary Indicators (minimum of Surface Water (A1) High Water Table (A2)		ired; che	☐ Water-Sta 4A, and 4B) ☐ Salt Crus	ained Leav st (B11) nvertebrat	es (B13)	except ML	.RA 1, 2, [4	Water Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)) Drainage Patterns (B10) Dry-Season Water Table (C2)
Wetland Hydrology Indicator Primary Indicators (minimum of Surface Water (A1) ☐ High Water Table (A2) ☐ Saturation (A3)		ired; che	☐ Water-Sta 4A, and 4B) ☐ Salt Crus ☐ Aquatic I ☐ Hydroge	ained Leav st (B11) nvertebrat	es (B13) dor (C1)		RA 1, 2, [4 [[Water Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)) Drainage Patterns (B10) Dry-Season Water Table (C2)
Wetland Hydrology Indicator Primary Indicators (minimum of the control of the c		ired; che	☐ Water-Sta 4A, and 4B) ☐ Salt Crus ☐ Aquatic I ☐ Hydrogei ☐ Oxidized	ained Leav st (B11) nvertebrat n Sulfide C	es (B13) dor (C1) eres along	g Living Ro	RA 1, 2,	Water Stained Leaves (B9) (MLRA 1, A, and 4B)) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C2)
Wetland Hydrology Indicator Primary Indicators (minimum of the content of the c		ired; che	Water-Sta 4A, and 4B) Salt Crus Aquatic I Hydroge Oxidized Presence	ained Leav et (B11) nvertebrat n Sulfide C Rhizosph	es (B13) dor (C1) eres along ed Iron (C	g Living Ro	RA 1, 2,	Water Stained Leaves (B9) (MLRA 1, 2, 4, and 4B)) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C2) Geomorphic Position (D2)
Wetland Hydrology Indicator Primary Indicators (minimum of Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3)		ired; che	Water-Sta 4A, and 4B) Salt Crus Aquatic I Hydroge Oxidized Presence Recent Is	ained Leavert (B11) nvertebrat n Sulfide C Rhizosph e of Reduce	es (B13) dor (C1) eres alonç ed Iron (C	g Living Ro C4) ed Soils (C	RA 1, 2,	Water Stained Leaves (B9) (MLRA 1, 2, 4, and 4B)) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C2) Geomorphic Position (D2) Shallow Aquitard (D3)
Wetland Hydrology Indicator Primary Indicators (minimum of Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4)	of one requ	ired; che	Water-Sta 4A, and 4B) Salt Crus Aquatic I Hydrogel Oxidized Presence Recent II	st (B11) nvertebrat n Sulfide C Rhizosph e of Reduc	es (B13) dor (C1) eres along ed Iron (C ion in Till d Plants (I	g Living Ro C4) ed Soils (C	RA 1, 2,	Water Stained Leaves (B9) (MLRA 1, 2, 4, and 4B)) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C2) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5)
Wetland Hydrology Indicator Primary Indicators (minimum of the content of the co	of one requ		Water-Sta 4A, and 4B) Salt Crus Aquatic I Hydrogel Oxidized Presence Recent II	et (B11) nvertebrat n Sulfide C Rhizosph e of Reduc ron Reduc or Stresse	es (B13) dor (C1) eres along ed Iron (C ion in Till d Plants (I	g Living Ro C4) ed Soils (C	RA 1, 2,	Water Stained Leaves (B9) (MLRA 1, A, and 4B)) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C2) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6(LRR A)
Wetland Hydrology Indicator Primary Indicators (minimum of Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6)	of one requ	r (B7)	Water-Sta 4A, and 4B) Salt Crus Aquatic I Hydrogel Oxidized Presence Recent II	et (B11) nvertebrat n Sulfide C Rhizosph e of Reduc ron Reduc or Stresse	es (B13) dor (C1) eres along ed Iron (C ion in Till d Plants (I	g Living Ro C4) ed Soils (C	RA 1, 2,	Water Stained Leaves (B9) (MLRA 1, A, and 4B)) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C2) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6(LRR A)
Wetland Hydrology Indicator Primary Indicators (minimum of Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6)	of one requ	r (B7)	Water-Sta 4A, and 4B) Salt Crus Aquatic I Hydrogel Oxidized Presence Recent II	et (B11) nvertebrat n Sulfide C Rhizosph e of Reduc ron Reduc or Stresse	es (B13) dor (C1) eres along ed Iron (C ion in Till d Plants (I	g Living Ro C4) ed Soils (C	RA 1, 2,	Water Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C2) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6(LRR A)
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Project/Site: TAL-1147B	Ci	ity/Coun	ity: King Count	y Sampling Date: <u>12-6-2018</u>			
Applicant/Owner: Buff Nelson		State: WA			Sampling Point: TP-N3		
Investigator(s): KM/AE			Section, Tow	nship, Range: <u>S8, T25N</u>	I, R06E. W.M.		
Landform (hillslope, terrace, etc.): Hillslope							
Subregion (LRR): A							
Soil Map Unit Name: Alderwood and Kitsap soils, very steep							
Are climatic / hydrologic conditions on the site typical for this ti					·		
				mal Circumstances" pres			
Are Vegetation, Soil, or Hydrology signif				•			
Are Vegetation, Soil, or Hydrology natura			,	l, explain any answers ir	,		
SUMMARY OF FINDINGS – Attach site map si	nowing s	amplii	ng point lo	cations, transects	<u>, important featur</u>	es, etc.	
Hydrophytic Vegetation Present? Yes ⊠ No ☐ Hydric Soil Present? Yes ⊠ No ☐ Wetland Hydrology Present? Yes ⊠ No ☐	Area nd? Yes ⊠	No 🗆					
Remarks: Wetland piont located 10' south of flag N-2. VEGETATION – Use scientific names of plants							
VEGETATION GOOGOGIAMO MAMOO OF PRANCE		Domina	ant Indicator	Dominance Test wor	ksheet:		
Tree Stratum (Plot size: 30 ft)			es? Status	Number of Dominant S			
1. Thuja plicata		Yes	FAC	That Are OBL, FACW	, or FAC: <u>5</u>	(A)	
2. Acer macrophyllum*	<u>75</u>	N/A	<u>FACU</u>	Total Number of Domi			
3.				Species Across All Str	rata: <u>6</u>	(B)	
4. Sapling/Shrub Stratum (Plot size: 15 ft)	100	= Tota	l Cover	Percent of Dominant S That Are OBL, FACW	Species , or FAC: <u>83</u>	(A/B)	
1. Acer circinatum	30	Yes	FAC	Prevalence Index wo	rksheet:		
2. Oplopanax horridus_	20	Yes	FAC	Total % Cover of:	Multiply by	<u>/:</u>	
3. Rubus spectabilis	15	Yes	FAC	OBL species	x 1 =		
4.				FACW species	x 2 =		
5				FAC species	x 3 =		
	65	= Tota	al Cover	FACU species	x 4 =		
Herb Stratum (Plot size: <u>5 ft</u>)	4.0	.,	540		x 5 =		
1. Tolmiea menziesii	10			Column Totals:	(A)	(B)	
Z. Tellima grandiflora 3.	20	Yes	<u>FACU</u>	Prevalence Inde	x = B/A =		
				Hydrophytic Vegetat		_	
4 5.				□ Dominance Test is			
			_	☐ Prevalence Index	is ≤3.0¹		
7.				☐ Morphological Ada	aptations ¹ (Provide sup	porting	
8.				data in Remarl	ks or on a separate she	eet)	
	30	= Tota	al Cover	☐ Problematic Hydro	phytic Vegetation ¹ (Ex	plain)	
Woody Vine Stratum (Plot size: 15ft)							
1. None				¹ Indicators of hydric so be present, unless dis	oil and wetland hydrolo turbed or problematic	gy must	
2.					turbed or problematic.		
	0	= Tota	al Cover	Hydrophytic Vegetation			
% Bare Ground in Herb Stratum 70 % Cove			es ⊠ No 🗆				
Remarks: Hydrophytic vegetation criteria met.							

Profile Description: (Descri	ibe to the	aeptn ne				or commi	n the absence	e of mulcators.)			
Depth Matrix (inches) Color (moist) %				ox Feature	S1	. 2	Today				
	%	<u>Colo</u>	r (moist)	%	Type ¹	Loc ²	Texture	Remarks			
0-16 10YR 2/1	<u>100</u>	_ =		_ =			MSL*	*MSL = mucky silt loam			
16-22 10YR 4/1	<u>95</u>	<u>10YF</u>	₹ 4/4	5	<u>C</u>	<u>M</u>	silt loam	diffuse redox boundaries.			
¹ Type: C=Concentration, D=I Hydric Soil Indicators: (App						ed Sand G		ocation: PL=Pore Lining, M=Matrix.			
☐ Histosol (A1)	piloubic to		Sandy Redox (ou.,			•			
• •			Stripped Matrix				☐ 2 cm Muck (A10) ☐ Red Parent Material (TF2)				
					(except	MLRA 1))	, , ,				
☐ Hydrogen Sulfide (A4) ☐ Loamy Gleyed			Mineral (F1 (except MLRA 1)) Matrix (F2)			Other (Explain in Remarks					
☐ Depleted Below Dark Surf	face (A11)		epleted Matrix								
	, ,		Redox Dark Su								
☐ Sandy Mucky Mineral (S1				Surface (F	7)		³ Indicators of hydrophytic vegetation and				
☐ Sandy Gleyed Matrix (S4))	☐ F	Redox Depress	ions (F8)			wetland hydrology must be present,				
							unle	ess disturbed or problematic.			
Restrictive Layer (if present	t):										
Туре:											
Depth (inches):						Hydric Soil Present? Yes ⊠ No □					
soil.		3 a minici	ai soii with a m	inor sapric	organic o	componen	t. It does not n	neet the NKCS definition of a true organic			
			ai soii with a m	inor saprio	organic (componen	t. It does not n	neet the NKCS definition of a true organic			
soil.			ai soii with a m	inor saprio	organic o	component					
soil. /DROLOGY	ors:				organic (component		ondary Indicators (2 or more required)			
YDROLOGY Wetland Hydrology Indicator Primary Indicators (minimum Surface Water (A1)	ors:		eck all that app Water-Sta 4A, and 4B)	ly) ained Leav			Seco	ondary Indicators (2 or more required) Water Stained Leaves (B9) (MLRA 1, 2			
YDROLOGY Wetland Hydrology Indicator Primary Indicators (minimum Surface Water (A1) ☐ High Water Table (A2)	ors:		eck all that app Water-Sta 4A, and 4B) Salt Crus	ly) ained Leav	res (B9) (6		Seco RA 1, 2, [4	ondary Indicators (2 or more required) Water Stained Leaves (B9) (MLRA 1, 2 A, and 4B)) Drainage Patterns (B10)			
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Firmary Indicators (minimum Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6)	ors: of one requ) rial Imager	uired; che	eck all that app Water-Sta 4A, and 4B) Salt Crus Aquatic I Hydroge Oxidized Presence	ly) ained Leavest (B11) nvertebrate n Sulfide Conception Reduction Reduction Stressed	es (B9) (es (B13) Odor (C1) eres along ed Iron (Ction in Tillid Plants (I	g Living Ro	Secondary Second	ondary Indicators (2 or more required) Water Stained Leaves (B9) (MLRA 1, 2 A, and 4B)) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6(LRR A)			
VDROLOGY Wetland Hydrology Indicator Primary Indicators (minimum Surface Water (A1) ☐ High Water Table (A2) ☐ Saturation (A3) ☐ Water Marks (B1) ☐ Sediment Deposits (B2) ☐ Drift Deposits (B3) ☐ Algal Mat or Crust (B4) ☐ Iron Deposits (B5) ☐ Surface Soil Cracks (B6) ☐ Inundation Visible on Ael ☐ Sparsely Vegetated Conditions	ors: of one requ) rial Imager	uired; che	eck all that app Water-Sta 4A, and 4B) Salt Crus Aquatic I Hydroge Oxidized Presence	ly) ained Leavest (B11) nvertebrat n Sulfide C Rhizosphe e of Reduct ron Reduct or Stressee xplain in R	es (B9) (es (B13) Odor (C1) eres along ed Iron (Ction in Tillid Plants (I	g Living Ro	Secondary Second	ondary Indicators (2 or more required) Water Stained Leaves (B9) (MLRA 1, 2 A, and 4B)) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6(LRR A)			
VDROLOGY Wetland Hydrology Indicator Primary Indicators (minimum Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aei Sparsely Vegetated Conditions:	ors: of one requ) rial Imager cave Surfa	uired; che y (B7) ce (B8)	eck all that app Water-Sta 4A, and 4B) Salt Crus Aquatic I Hydroge Oxidized Presence Recent II Stunted o	ly) ained Leavest (B11) nvertebrate n Sulfide C Rhizosphe e of Reduction Reduction Reduction Reduction Reduction Stressee explain in R	es (B9) (es (B13) Odor (C1) eres along ed Iron (C tion in Till d Plants (I emarks)	g Living Ro	Secondary Second	ondary Indicators (2 or more required) Water Stained Leaves (B9) (MLRA 1, 2 A, and 4B)) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6(LRR A)			
Vetland Hydrology Indicator Primary Indicators (minimum Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aei Sparsely Vegetated Conditions: Surface Water Present? Water Table Present? Saturation Present?	ors: of one required in the second of the s	y (B7) ce (B8)	eck all that app Water-Sta 4A, and 4B) Salt Crus Aquatic I Hydroge Oxidized Presence Recent II Stunted of Other (Est	ly) ained Leavest (B11) nvertebraten Sulfide Con Reduction Reduction Stressed explain in Response (Section 1998): 0.25"	es (B9) (es (B13) odor (C1) eres along ed Iron (Ction in Tilled Plants (Iemarks)	g Living Ro	Secondary Second	ondary Indicators (2 or more required) Water Stained Leaves (B9) (MLRA 1, 2 A, and 4B)) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6(LRR A)			
VDROLOGY Wetland Hydrology Indicator Primary Indicators (minimum Surface Water (A1) ☐ High Water Table (A2) ☐ Saturation (A3) ☐ Water Marks (B1) ☐ Sediment Deposits (B2) ☐ Drift Deposits (B3) ☐ Algal Mat or Crust (B4) ☐ Iron Deposits (B5) ☐ Surface Soil Cracks (B6) ☐ Inundation Visible on Aei ☐ Sparsely Vegetated Cone Field Observations: Surface Water Present? Water Table Present?	ors: of one required of one required of one required or one re	y (B7) ce (B8) No No No No No No	eck all that app Water-Sta 4A, and 4B) Salt Crus Aquatic I Hydroge Oxidized Presence Recent II Stunted of Other (E: Depth (inchest	ly) ained Leavest (B11) nvertebrate n Sulfide C Rhizosphere of Reduction Reduction Stressed explain in R s): 0.25" s): +0.25"	es (B9) (es (B13)) dor (C1) eres along ed Iron (Ction in Tilled Plants (Iemarks)	g Living Ro	Secondary Second	ondary Indicators (2 or more required) Water Stained Leaves (B9) (MLRA 1, 2 A, and 4B)) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6(LRR A) Frost-Heave Hummocks (D7)			
VDROLOGY Wetland Hydrology Indicator Primary Indicators (minimum Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Ael Sparsely Vegetated Conditions: Surface Water Present? Water Table Present? Saturation Present? (includes capillary fringe) Describe Recorded Data (streen	ors: of one required of one required limager cave Surfa Yes Yes Yes Yes Cam gauge	y (B7) ce (B8) No No No No No No No No No No	eck all that app Water-Sta 4A, and 4B) Salt Crus Aquatic I Hydroge Oxidized Presence Recent II Stunted of Other (E: Depth (inchest Depth (inchest Depth (inchest Depth (inchest Depth (inchest	ly) ained Leavest (B11) nvertebrat n Sulfide Con Reduct or Stressed explain in R s): 0.25" s): +0.25" photos, pr	es (B9) (es (B13) odor (C1) eres along ed Iron (Cion in Tilled Plants (Iemarks)	g Living Ro	Secondary Second	Water Stained Leaves (B9) (MLRA 1, 2 A, and 4B)) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6(LRR A) Frost-Heave Hummocks (D7)			
Field Observations: Soil. Proposits (B4) □ Surface Water (A1) □ High Water Table (A2) □ Saturation (A3) □ Water Marks (B1) □ Sediment Deposits (B2) □ Drift Deposits (B3) □ Algal Mat or Crust (B4) □ Iron Deposits (B5) □ Surface Soil Cracks (B6) □ Inundation Visible on Ael □ Sparsely Vegetated Conditions: Surface Water Present? Water Table Present? Saturation Present? (includes capillary fringe)	ors: of one required of one required limager cave Surfa Yes Yes Yes Yes Cam gauge	y (B7) ce (B8) No No No No No No No No No No	eck all that app Water-Sta 4A, and 4B) Salt Crus Aquatic I Hydroge Oxidized Presence Recent II Stunted of Other (E: Depth (inchest Depth (inchest Depth (inchest Depth (inchest Depth (inchest	ly) ained Leavest (B11) nvertebrat n Sulfide Con Reduct or Stressed explain in R s): 0.25" s): +0.25" photos, pr	es (B9) (es (B13) odor (C1) eres along ed Iron (Cion in Tilled Plants (Iemarks)	g Living Ro	Secondary Second	ondary Indicators (2 or more required) Water Stained Leaves (B9) (MLRA 1, 2 A, and 4B)) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C2) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6(LRR A)) Frost-Heave Hummocks (D7)			

Project/Site: <u>TAL-1147B</u>	c	ity/Cou	unty: King Count	Sampling Date: <u>12-6-2018</u>			
Applicant/Owner: Buff Nelson	Buff Nelson					P-N4	
Investigator(s): KM/AE			Section, Tow	ınship, Range: <u>S8, T25</u>	N, R06E. W.M.		
Landform (hillslope, terrace, etc.): Hillslope		Local r	elief (concave, c	onvex, none): None	Slope	e (%): <u>35</u>	
Subregion (LRR): <u>A</u>	Lat: 47.666	604		Long: <u>-122.07127</u>	Datum:	NAD83	
Soil Map Unit Name: <u>Alderwood and Kitsap soils, very steep</u>				NWI classific	cation: None		
Are climatic / hydrologic conditions on the site typical for this	time of year	? Yes	⊠ No □ (If r	no, explain in Remarks.	.)		
Are Vegetation, Soil, or Hydrology signi	ficantly distu	ırbed?	Are "Nor	mal Circumstances" pre	esent? Yes 🛛 No		
Are Vegetation, Soil, or Hydrology natura				d, explain any answers	in Remarks.)		
SUMMARY OF FINDINGS – Attach site map s						turas atc	
	nowing s	amp	ing point io	cations, transcott	s, important rea	tures, etc.	
Hydrophytic Vegetation Present? Yes ☐ No ☒			Is the Sampled	Area			
Hydric Soil Present? Yes ☐ No ☒ Wetland Hydrology Present? Yes ☐ No ☒			within a Wetlar	nd? Yes □	No 🖾		
Remarks: Upland point located 10' west of flag N-2.							
VEGETATION - Use scientific names of plants	s.						
T 0: (D) (1: 00 ())	Absolute		nant Indicator	Dominance Test wo	rksheet:		
Tree Stratum (Plot size: 30 ft)		-	cies? Status	Number of Dominant		(4)	
1. Acer macrophyllum				That Are OBL, FACW	7, 01 FAC: 1	(A)	
2				Total Number of Dom Species Across All S		(D)	
4				Species Across Air S	ııala. <u>2</u>	(B)	
	30			Percent of Dominant That Are OBL, FACW		(A/B)	
Sapling/Shrub Stratum (Plot size: 15 ft) 1. Acer circinatum	20	Ves	FAC	Prevalence Index w	orksheet:		
			170		f: Multiply	v bv:	
3.				OBL species	·		
4.				FACW species			
5				FAC species	x 3 =		
	20	= To	tal Cover	FACU species	x 4 =		
Herb Stratum (Plot size: <u>5 ft</u>)				UPL species	x 5 =		
1. None				Column Totals:	(A)	(B)	
2.				Provolence Ind	ex = B/A =		
3				Hydrophytic Vegeta	·		
4.				☐ Dominance Test			
5				☐ Prevalence Index			
6 7.				☐ Morphological Ac		supporting	
					rks or on a separate		
8.	0	- To	tal Cover	☐ Problematic Hydr	ophytic Vegetation ¹	(Explain)	
Woody Vine Stratum (Plot size: 15ft)	<u> </u>	10	itai oovei				
1. None				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.			
2.			<u> </u>	be present, unless di	sturbed or problemat	iic.	
	0	= To	tal Cover	Hydrophytic			
% Bare Ground in Herb Stratum 100 % Cov	er of Biotic (Crust ()	Vegetation Present?	Yes □ No ⊠		
Remarks: Hydrophytic vegetation criteria not met. Domina				l			

Profile Des	cription: (Describ	e to the d	epth ne	eded to docu	ıment the i	ndicator	or confirm	m the absence of indicators.)
Depth	Matrix				ox Feature	s		
(inches)	Color (moist)	%	Colo	r (moist)	%	Type ¹	Loc ²	Texture Remarks
<u>0-14</u>	10YR 3/2	100						loam
14-20	10YR 4/1	80	10YF	R 4/4	20	С	М	loam
						-		
	•					-		
								
						-		
	oncentration, D=D						ed Sand G	
Hydric Soil	Indicators: (App	licable to	all LRR	s, unless oth	erwise not	ed.)		Indicators for Problematic Hydric Soils ³ :
☐ Histosol	` '			Sandy Redox (☐ 2 cm Muck (A10)
	pipedon (A2)			Stripped Matrix	` '			Red Parent Material (TF2)
☐ Black Hi	, ,			oamy Mucky		(except	MLRA 1))	
	en Sulfide (A4)			oamy Gleyed				☐ Other (Explain in Remarks
•	d Below Dark Surfa	ace (A11)		epleted Matrix				
	ark Surface (A12)			Redox Dark Su		7 \		31 adjustance of budges bution and
-	Mucky Mineral (S1) Bleyed Matrix (S4)			Depleted Dark Redox Depres	•	7)		³ Indicators of hydrophytic vegetation and wetland hydrology must be present,
□ Sanuy G	neyeu Mainx (34)			redux Deples	SIUIIS (I-U)			unless disturbed or problematic.
Restrictive	Layer (if present)							The state of the s
Type:	Layer (ii present)	•						
· · ·	abaa).		_					Undria Cail Draggert2 Vac No M
	iches):							Hydric Soil Present? Yes ☐ No ☒
Remarks: H	ydric soil criteria no	ot met.						
YDROLOG	aY .							
	drology Indicator	·e•						
•	cators (minimum o		irod: ch	ock all that ann	shy)			Secondary Indicators (2 or more required)
•	e Water (A1)	i one requ	ireu, crie	<u>عدد هاا دااهد هې.</u> Water-St □	-	(00 (BO) (oveent MI	
☐ Sullac	e water (AT)			4A, and 4B		es (ba) (except wit	4A, and 4B))
☐ High W	/ater Table (A2)			☐ Salt Cru				☐ Drainage Patterns (B10)
_	tion (A3)				Invertebrat	es (B13)		☐ Dry-Season Water Table (C2)
	Marks (B1)			•	en Sulfide C)	☐ Saturation Visible on Aerial Imagery (CS
	ent Deposits (B2)			☐ Oxidized				_
	eposits (B3)				e of Reduc		-	☐ Shallow Aquitard (D3)
	Mat or Crust (B4)				Iron Reduc			
_	eposits (B5)				or Stresse			
	e Soil Cracks (B6)				xplain in R		()(☐Frost-Heave Hummocks (D7)
	tion Visible on Aeri	al Imagery	(R7)			,		
		0,	` ,					
	ly Vegetated Conc	ave Surrac	e (Do)				<u> </u>	
Field Obser								
Surface Wat			No 🗵	Depth (inche	•			
Water Table	Present?	Yes	No 🛚	Depth (inche	es):			
Saturation P		Yes 🗌	No 🛚	Depth (inche	es):		Wet	land Hydrology Present? Yes ☐ No ⊠
	pillary fringe) ecorded Data (strea	m dalido	monitor	ing well serial	nhotos pr	avious in	enections)	if available:
Programe Re	oorded Data (Sife	an gauge,	monitul	ing well, aella	ριισισό, μι	OVIOUS III	opeciions),	, ii availabio.
Dame and 111	fathanal books							
Remarks: W	etland hydrology o	riteria not	met.					

Project/Site: TAL-1147B	c	ity/Cou	unty: <u>King Co</u>	unty	Sampling Date: 12-6-2	2018
Applicant/Owner: Buff Nelson				State: WA	_ Sampling Point: TP-N	\ 5
Investigator(s): KM/AE			Section, T	ownship, Range: S8, T25	N, R06E. W.M.	
Landform (hillslope, terrace, etc.): Hillslope				·		
Subregion (LRR): A						
Soil Map Unit Name: Alderwood and Kitsap soils, very steep				_		
Are climatic / hydrologic conditions on the site typical for this					·	
				lormal Circumstances" pre		
Are Vegetation, Soil, or Hydrology signi				•		
Are Vegetation, Soil, or Hydrology natur				ded, explain any answers i		
SUMMARY OF FINDINGS – Attach site map s	howing s	amp	ling point	ocations, transects	<u>s, important featur</u>	es, etc.
Hydrophytic Vegetation Present? Yes ☐ No ☒			Is the Sampl	ed Area		
Hydric Soil Present? Yes ⊠ No □			within a Wet		No 🗆	
Wetland Hydrology Present? Yes ⊠ No □						
Remarks: Wetland point located 3' south of flag M-6. Plot hydric soils and wetland hydrology.	labeled as v	wetiand	d, despite lack	or nydropnytic vegetatior	i, based on positive indi	cators or
VEGETATION – Use scientific names of plant	s.					
Tree Stratum (Plot size: 30 ft)			inant Indicato cies? Status			
1. Thuja plicata			FAC	- Number of Dominant	Species V, or FAC: <u>2</u>	(A)
2. Acer macrophyllum*			FACU			(/-)
3.				Total Number of Don		(B)
4.						(D)
	100	= To	otal Cover	Percent of Dominant That Are OBL, FACW	Species V, or FAC: <u>50</u>	(A/B)
Sapling/Shrub Stratum (Plot size: 15 ft) 1. Rubus spectabilis	5	Voc	FAC	Prevalence Index w	orksheet:	
2. Rubus leucodermis				-	f: Multiply by	<i>/</i> :
3.				-	x 1 =	
4.				- '	x 2 =	
5.				- '	x 3 =	
	7	= To	tal Cover	-	x 4 =	
Herb Stratum (Plot size: 5 ft)					x 5 =	
1. Tolmiea menziesii	20	Yes	<u>FACU</u>	- Column Totals:	(A)	(B)
2.				-	D/A	
3.		-		-	ex = B/A =	_
4.				Hydrophytic Vegeta Dominance Test		
5		-		Prevalence Index		
6.				- -	cis ≤3.0 daptations¹ (Provide sup	nortina
7.					irks or on a separate she	
8.				Problematic Hydr	rophytic Vegetation¹ (Ex	plain)
Woody Vine Stratum (Plot size: 15ft)	20	= 10	otal Cover			
1. None					soil and wetland hydrolo	gy must
2.				be present, unless di	sturbed or problematic.	
	0	= To	tal Cover	Hydrophytic		
% Bare Ground in Herb Stratum 80 % Cov	er of Biotic (Crust O)	Vegetation Present?	Yes □ No ⊠	
Remarks: Hydrophytic vegetation criteria not met. Domina						
Table To a spring to a spring to the state of the spring to the spring t		. J. J. O.		•		

Profile Description: (Descr		•		ov Fo-4							
Depth Matri (inches) Color (moist)	<u>x </u>	Colo	r (moist)	ox Feature %		Loc ²	Texture			Remarks	
0-20 10YR 2/1	100						MSL*			ky silt loai	
<u> </u>	100	_ =		_ =	_=		IVIOL	<u>IVI</u>	SL= IIIuC	Ky Siit iOai	111
		_									
							-				
		_									
¹ Type: C=Concentration, D=l	Depletion, F	RM=Redu	uced Matrix. C	S=Covere	d or Coate	ed Sand G	rains. ²	² Locatio	n: PL=P	ore Lining	ı, M=Matrix.
Hydric Soil Indicators: (Ap											/dric Soils³:
☐ Histosol (A1)		Πs	Sandy Redox (S5)			□ 2	2 cm Mu	ıck (A10)		
☐ Histic Epipedon (A2)			Stripped Matrix						ent Materi	ial (TF2)	
☐ Black Histic (A3)		⊠L	oamy Mucky I	Mineral (F	1 (except	MLRA 1))		ery Sh	allow Dar	k Surface	(TF12)
☐ Hydrogen Sulfide (A4)		□ Lo	oamy Gleyed I	Matrix (F2))				xplain in F		
□ Depleted Below Dark Sur	face (A11)	□ D	epleted Matrix	(F3)							
		□ F	Redox Dark Su	rface (F6)							
Sandy Mucky Mineral (S1)		Depleted Dark	Surface (F	7)		³ India	cators o	of hydroph	nytic vege	tation and
☐ Sandy Gleyed Matrix (S4)			Redox Depress	sions (F8)						must be	
							ıu	nless di	sturbed o	r problem	atic.
Restrictive Layer (if present	:):										
Type:											
Type: Depth (inches): Remarks: Hydric soil criteria r soil.		s a miner	ral soil with a r	ninor sapri	ic organic	componer				Yes ⊠ S definitio	
Depth (inches):Remarks: Hydric soil criteria r		s a miner	al soil with a r	ninor sapri	ic organic	componer					
Depth (inches): Remarks: Hydric soil criteria resoil. 'DROLOGY Wetland Hydrology Indicator	net. MSL i				ic organic	componer	nt. It does no	ot meet	the NRCS	S definitio	n of a true orga
Depth (inches):	net. MSL i		eck all that app	ly)			nt. It does no	ot meet	the NRCS	S definitio	n of a true orga
Depth (inches): Remarks: Hydric soil criteria resoil. 'DROLOGY Wetland Hydrology Indicator	net. MSL i			ly) ained Lea			nt. It does no	ot meet	the NRCS	S definitio	n of a true orga
Depth (inches):	net. MSL i		eck all that app Water-St 4A, and 4B) Salt Crus	ly) ained Leav	ves (B9) («		nt. It does no	econdar Wa 4A, an	ry Indicatorater Stain id 4B)) ainage Pa	ors (2 or ned Leaves	n of a true organic organi
Depth (inches): Remarks: Hydric soil criteria resoil. **DROLOGY** Wetland Hydrology Indicators (minimum Surface Water (A1)	net. MSL i		eck all that app Water-St 4A, and 4B) Salt Crus Aquatic	ly) ained Lea st (B11) nvertebra	ves (B9) (d		nt. It does no	econdar Wa 4A, an	ry Indicatorater Stain id 4B)) ainage Pa	S definition	n of a true organic organi
Depth (inches): Remarks: Hydric soil criteria resoil. **TOROLOGY** Wetland Hydrology Indicators* Primary Indicators (minimum) Surface Water (A1) High Water Table (A2)	net. MSL i		eck all that app Water-St 4A, and 4B) Salt Crus	ly) ained Lea st (B11) nvertebra	ves (B9) (d		nt. It does no	econdar Wa 4A, an Dra Dry	ry Indicatorater Stain ad 4B)) ainage Pary-Season	ors (2 or ned Leaves	n of a true organic organi
Depth (inches): Remarks: Hydric soil criteria risoil. **DROLOGY** Wetland Hydrology Indicators* Primary Indicators (minimum) Surface Water (A1) High Water Table (A2) Saturation (A3)	net. MSL i		eck all that app Water-St 4A, and 4B) Salt Crus Aquatic I Hydroge	ly) ained Lea st (B11) nvertebra n Sulfide (ves (B9) (c tes (B13) Odor (C1)		nt. It does no	econdar Wa 4A, an Dry Sa	the NRCS Ty Indicate ater Stain ad 4B)) ainage Pa y-Season turation V	ors (2 or ned Leaves	n of a true organore required) s (B9) (MLRA 1 10) able (C2) Aerial Imagery
Depth (inches): Remarks: Hydric soil criteria risoil. Prinary Indicators (minimum Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1)	net. MSL i		eck all that app Water-St 4A, and 4B) Salt Crus Aquatic Hydroge Oxidized	ly) ained Lea st (B11) nvertebra n Sulfide (ves (B9) (ottes (B13) Odor (C1) heres along	except ML	nt. It does no	econdar Wa 4A, an Dra Dra Sa Ge	ry Indicate ater Stain ad 4B)) ainage Pay-Season turation Vectors of the term	ors (2 or ned Leaves atterns (B Water Ta	n of a true organore required) s (B9) (MLRA 1 10) able (C2) Aerial Imagery (D2)
Depth (inches): Remarks: Hydric soil criteria risoil. Prince Wetland Hydrology Indicator Primary Indicators (minimum Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2)	net. MSL i		eck all that app Water-St 4A, and 4B) Salt Crus Aquatic Hydroge Oxidized Presenc	ly) ained Lear st (B11) nvertebrar n Sulfide (I Rhizosph	ves (B9) (etes (B13) Odor (C1) eres alone	except ML	Se_RA 1, 2,	econdar Wa 4A, an Dra Dra Ge Ge	ry Indicate ater Stain ad 4B)) ainage Pay-Season atturation Vector phicallow Aquallow Aquallo	ors (2 or ned Leaves atterns (B Water Ta	n of a true organore required) s (B9) (MLRA 1 10) able (C2) Aerial Imagery (D2)
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Project/Site: TAL-1147B	C	ity/Cou	nty: King Count	y	_ Sampling Date: 12-6	5-2018
Applicant/Owner: Buff Nelson				State: WA	Sampling Point: TP	-N6
Investigator(s): KM/AE			_ Section, Tow	nship, Range: <u>S8, T25N</u>	N, R06E. W.M.	
Landform (hillslope, terrace, etc.): Hillslope				-		
Subregion (LRR): A						
Soil Map Unit Name: Alderwood and Kitsap soils, very steep				-		
Are climatic / hydrologic conditions on the site typical for this ti				<u> </u>		
	•		,	mal Circumstances" pres		7
Are Vegetation, Soil, or Hydrology signifi				·		
Are Vegetation, Soil, or Hydrology natura	lly problema	atic?	(If needed	d, explain any answers ir	n Remarks.)	
SUMMARY OF FINDINGS – Attach site map sl	nowing s	ampli	ing point lo	cations, transects	<u>, important featu</u>	ıres, etc.
Hydrophytic Vegetation Present? Hydric Soil Present? Wes □ No ☑ Wetland Hydrology Present? Yes □ No ☑			s the Sampled within a Wetlar		No ⊠	
Remarks: Upland point located 10' south of flag M-7. VEGETATION – Use scientific names of plants		<u>'</u>				
VEGETATION - Ose scientific flames of plants	Absolute	Domin	nant Indicator	Dominance Test wor	rksheet:	
<u>Tree Stratum</u> (Plot size: <u>30 ft</u>)			es? Status	Number of Dominant		
1. Tsuga heterophylla	50	Yes	FACU	That Are OBL, FACW		(A)
2. Thuja plicata	<u>15</u>	No	<u>FAC</u>	Total Number of Domi	inant	
3. Acer macrophyllum	<u>35</u>	Yes	<u>FACU</u>	Species Across All Str		(B)
4.				Percent of Dominant S	Species	
Sapling/Shrub Stratum (Plot size: 15 ft)	100	= Tot	al Cover	That Are OBL, FACW	, or FAC: <u>25</u>	(A/B)
1. Rubus spectabilis	25	Yes	<u>FAC</u>	Prevalence Index wo	orksheet:	
2.				Total % Cover of:	Multiply I	oy:
3.				OBL species	x 1 =	
4.				FACW species	x 2 =	
5.				FAC species	x 3 =	
	25	= Tot	al Cover	FACU species		
Herb Stratum (Plot size: <u>5 ft</u>)				UPL species		
1. Polysitchum munitum	60	Yes	<u>FACU</u>	Column Totals:	(A)	(B)
Geranium roberteum 3.				Prevalence Inde	ex = B/A =	
				Hydrophytic Vegetat		
4				☐ Dominance Test is		
5				☐ Prevalence Index		
6. 7.				☐ Morphological Ada		pportina
8.				data in Remar	ks or on a separate sl	heet)
	62	= Tot	al Cover	☐ Problematic Hydro	ophytic Vegetation ¹ (E	xplain)
Woody Vine Stratum (Plot size: 15ft)	<u>UZ</u>	_ 100	ai oovoi			
1. None				¹ Indicators of hydric so be present, unless dis		
2.				be present, unless dis	turbed or problematic	
	0	= Tot	al Cover	Hydrophytic		
% Bare Ground in Herb Stratum 38 % Cove	er of Biotic (Crust 0		Vegetation Present? Y	es □ No ⊠	
Remarks: Hydrophytic vegetation criteria not met. Dominar				ı		

	atrix	Redox Features	
(inches) Color (moist)		Color (moist) % Type ¹	Loc ² Texture Remarks
1-6 10YR 2/2	100	_ 	loam
10YR 4/2	100	_ 	- loam
		- <u></u>	
		- <u></u>	
		- <u> </u>	
			2
		M=Reduced Matrix, CS=Covered or Coated all LRRs, unless otherwise noted.)	d Sand Grains. Location: PL=Pore Lining, M=Matrix. Indicators for Problematic Hydric Soils ³ :
☐ Histosol (A1)		☐ Sandy Redox (S5)	☐ 2 cm Muck (A10)
☐ Histic Epipedon (A2)		☐ Stripped Matrix (S6)	☐ Red Parent Material (TF2)
☐ Black Histic (A3)		□ Loamy Mucky Mineral (F1 (except N	ILRA 1))
☐ Hydrogen Sulfide (A4)		☐ Loamy Gleyed Matrix (F2)	☐ Other (Explain in Remarks
Depleted Below Dark S	, ,	Depleted Matrix (F3)	
Thick Dark Surface (A1	,	Redox Dark Surface (F6)	2
Sandy Mucky Mineral (Depleted Dark Surface (F7)	³ Indicators of hydrophytic vegetation and
☐ Sandy Gleyed Matrix (S	54)	☐ Redox Depressions (F8)	wetland hydrology must be present, unless disturbed or problematic.
Restrictive Layer (if prese	ent):		
Туре:		<u> </u>	
Depth (inches):		<u> </u>	Hydric Soil Present? Yes ☐ No ☒
Remarks: Hydric soil criteria	a not met.		
DROLOGY	a not met.		
·			
DROLOGY	ators:	red; check all that apply)	Secondary Indicators (2 or more required)
DROLOGY Vetland Hydrology Indica	ators:	red; check all that apply) Water-Stained Leaves (B9) (example)	
DROLOGY Vetland Hydrology Indica Primary Indicators (minimu	ators: m of one requi	☐ Water-Stained Leaves (B9) (ex	kcept MLRA 1, 2, Water Stained Leaves (B9) (MLRA 1,
DROLOGY Vetland Hydrology Indications (minimum of the control of t	ators: m of one requi	☐ Water-Stained Leaves (B9) (ex 4A, and 4B)	xcept MLRA 1, 2, Water Stained Leaves (B9) (MLRA 1, 4A, and 4B))
DROLOGY Vetland Hydrology Indicators (minimumon Surface Water (A1) High Water Table (A2)	ators: m of one requi	☐ Water-Stained Leaves (B9) (ex 4A, and 4B) ☐ Salt Crust (B11)	wcept MLRA 1, 2, Water Stained Leaves (B9) (MLRA 1, 4A, and 4B)) Drainage Patterns (B10)
DROLOGY Vetland Hydrology Indicators (minimum of the control of t	ators: m of one requi	☐ Water-Stained Leaves (B9) (example 4A, and 4B) ☐ Salt Crust (B11) ☐ Aquatic Invertebrates (B13)	Water Stained Leaves (B9) (MLRA 1, 4A, and 4B)) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C2)
DROLOGY Vetland Hydrology Indicators (minimulations) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1)	ators: m of one requi	☐ Water-Stained Leaves (B9) (example 4A, and 4B) ☐ Salt Crust (B11) ☐ Aquatic Invertebrates (B13) ☐ Hydrogen Sulfide Odor (C1)	Water Stained Leaves (B9) (MLRA 1, 4A, and 4B)) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C2) Living Roots (C3) Geomorphic Position (D2)
DROLOGY Vetland Hydrology Indicators (minimum of the control of t	ators: m of one requi	☐ Water-Stained Leaves (B9) (example 4A, and 4B) ☐ Salt Crust (B11) ☐ Aquatic Invertebrates (B13) ☐ Hydrogen Sulfide Odor (C1) ☐ Oxidized Rhizospheres along	Water Stained Leaves (B9) (MLRA 1, 4A, and 4B)) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C2) Living Roots (C3) Geomorphic Position (D2) Shallow Aquitard (D3)
DROLOGY Vetland Hydrology Indicators (minimum of the primary Indicators (Marker Marker Table (A2 of Saturation (A3) of Water Marker (B1) of Sediment Deposits (B3)	ators: m of one requi	☐ Water-Stained Leaves (B9) (example 4A, and 4B) ☐ Salt Crust (B11) ☐ Aquatic Invertebrates (B13) ☐ Hydrogen Sulfide Odor (C1) ☐ Oxidized Rhizospheres along ☐ Presence of Reduced Iron (C4	Water Stained Leaves (B9) (MLRA 1, 4A, and 4B)) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C2) Living Roots (C3) Geomorphic Position (D2) Shallow Aquitard (D3) d Soils (C6) FAC-Neutral Test (D5)
DROLOGY Vetland Hydrology Indicators (minimum of the property	ators: m of one requi	☐ Water-Stained Leaves (B9) (e) 4A, and 4B) ☐ Salt Crust (B11) ☐ Aquatic Invertebrates (B13) ☐ Hydrogen Sulfide Odor (C1) ☐ Oxidized Rhizospheres along ☐ Presence of Reduced Iron (C4) ☐ Recent Iron Reduction in Tille	Water Stained Leaves (B9) (MLRA 1, 4A, and 4B)) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C2) Living Roots (C3) Geomorphic Position (D2) Shallow Aquitard (D3) d Soils (C6) FAC-Neutral Test (D5)
Process Primary Indicators (minimum Primary Indicators (minimum Primary Indicators (minimum Primary Indicators (minimum Primary Indicators (Material Primary Indi	ators: m of one requi	☐ Water-Stained Leaves (B9) (example 4A, and 4B) ☐ Salt Crust (B11) ☐ Aquatic Invertebrates (B13) ☐ Hydrogen Sulfide Odor (C1) ☐ Oxidized Rhizospheres along ☐ Presence of Reduced Iron (C4) ☐ Recent Iron Reduction in Tilled ☐ Stunted or Stressed Plants (D) ☐ Other (Explain in Remarks)	Water Stained Leaves (B9) (MLRA 1, 4A, and 4B)) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C2) Living Roots (C3) Geomorphic Position (D2) Shallow Aquitard (D3) d Soils (C6) FAC-Neutral Test (D5) 1)(LRR A) Raised Ant Mounds (D6(LRR A)
DROLOGY Vetland Hydrology Indicators (minimum of the property	ators: m of one requi 2) 32) 4) B6) Aerial Imagery	☐ Water-Stained Leaves (B9) (example 4A, and 4B) ☐ Salt Crust (B11) ☐ Aquatic Invertebrates (B13) ☐ Hydrogen Sulfide Odor (C1) ☐ Oxidized Rhizospheres along ☐ Presence of Reduced Iron (C4) ☐ Recent Iron Reduction in Tiller ☐ Stunted or Stressed Plants (D) ☐ Other (Explain in Remarks)	Water Stained Leaves (B9) (MLRA 1, 4A, and 4B)) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C2) Living Roots (C3) Geomorphic Position (D2) Shallow Aquitard (D3) d Soils (C6) FAC-Neutral Test (D5) 1)(LRR A) Raised Ant Mounds (D6(LRR A)
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DROLOGY Vetland Hydrology Indicators (minimum or minimum or minim	ators: m of one requi		Water Stained Leaves (B9) (MLRA 1, 4A, and 4B)) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C2) Living Roots (C3) Geomorphic Position (D2) Shallow Aquitard (D3) d Soils (C6) FAC-Neutral Test (D5) 1)(LRR A) Raised Ant Mounds (D6(LRR A)
DROLOGY Vetland Hydrology Indicators (minimum or minimum or minim	ators: m of one requi 2) 32) 4) B6) Aerial Imagery oncave Surfac Yes Yes Yes Yes Yes Yes Yes Yes		Water Stained Leaves (B9) (MLRA 1, 4A, and 4B)) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C2) Living Roots (C3) Geomorphic Position (D2) Shallow Aquitard (D3) d Soils (C6) FAC-Neutral Test (D5) 1)(LRR A) Raised Ant Mounds (D6(LRR A)) Frost-Heave Hummocks (D7) Wetland Hydrology Present? Yes No
DROLOGY Vetland Hydrology Indicators (minimum or minimum or minim	ators: m of one requi 2) 32) 4) B6) Aerial Imagery oncave Surfac Yes Yes Yes Yes Stream gauge,		Water Stained Leaves (B9) (MLRA 1, 4A, and 4B)) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C2) Living Roots (C3) Geomorphic Position (D2) Shallow Aquitard (D3) d Soils (C6) FAC-Neutral Test (D5) 1)(LRR A) Raised Ant Mounds (D6(LRR A)) Frost-Heave Hummocks (D7) Wetland Hydrology Present? Yes No

Project/Site: TAL-1147B	C	ity/Coun	ty: King Count	y	Sampling Date: 12-6-	2018
Applicant/Owner: Buff Nelson				State: WA	_ Sampling Point: <u>TP-L</u>	_7
Investigator(s): KM/AE			Section, Tow	ınship, Range: <u>S8, T25N</u>	N, R06E. W.M.	
Landform (hillslope, terrace, etc.): Hillslope	l	Local reli	ef (concave, c	convex, none): None	Slope (%	%): <u>40</u>
Subregion (LRR): A						
Soil Map Unit Name: Alderwood and Kitsap soils, very steep				_		
Are climatic / hydrologic conditions on the site typical for this ti					·	
Are Vegetation, Soil, or Hydrology signifi				mal Circumstances" pres		1
				•		
Are Vegetation, Soil, or Hydrology natura				d, explain any answers in		
SUMMARY OF FINDINGS – Attach site map sl	nowing s	sampiir	ig point io	cations, transects,	, important featur	res, etc.
Hydrophytic Vegetation Present? Yes ☒ No ☐		Is	the Sampled	Area		
Hydric Soil Present? Yes ⊠ No ☐		w	ithin a Wetlar	nd? Yes ⊠	No 🗆	
Wetland Hydrology Present? Yes ⊠ No ☐ Remarks: Wetland point located 5' north of flag L-3.						
Remarks. Wettand point located 3 Hortin of may 2-3.						
VEGETATION – Use scientific names of plants	5.					
	Absolute	Domina	nt Indicator	Dominance Test wor	ksheet:	
<u>Tree Stratum</u> (Plot size: <u>30 ft</u>)	% Cover	Specie	s? Status	Number of Dominant S		
1. Acer macrophyllum*			<u>FACU</u>	That Are OBL, FACW,	, or FAC: 2	(A)
2. Thuja plicata	10	Yes	<u>FAC</u>	Total Number of Domi		
3.		· ——		Species Across All Str	rata: <u>2</u>	(B)
4.		Total	L Cover	Percent of Dominant S	•	
Sapling/Shrub Stratum (Plot size: 15 ft)	100	_ = 10ta	Cover	That Are OBL, FACW,	, or FAC: <u>100</u>	(A/B)
1. Oplopanax horridus	90	Yes	FAC	Prevalence Index wo	rksheet:	
2.				Total % Cover of:	Multiply by	<u>y:</u>
3.				OBL species	x 1 =	
4.				FACW species	x 2 =	
5.				FAC species	x 3 =	
	90	= Tota	Cover	FACU species	x 4 =	
Herb Stratum (Plot size: <u>5 ft</u>)				UPL species	x 5 =	
1. None				Column Totals:	(A)	(B)
2.				Prevalence Inde	ex = B/A =	
3.				Hydrophytic Vegetati		_
4		· -		Dominance Test is		
5.		-		☐ Prevalence Index i		
6.					is <u>3</u> 3.0 aptations ¹ (Provide sup	norting
7.					ks or on a separate she	
8.	0	Total		☐ Problematic Hydro	ophytic Vegetation ¹ (Ex	plain)
Woody Vine Stratum (Plot size: 15ft)	<u>U</u>	= 10ta	Cover			
1. None					oil and wetland hydrolo	gy must
2.				be present, unless dis	turbed or problematic.	
	0	= Tota	Cover	Hydrophytic		
% Bare Ground in Herb Stratum 100 % Cove	er of Biotic (Oruge O		Vegetation Present? Yes	es⊠ No □	
Remarks: *Acer macrophyllum rooted in upland. Hydrophyl						
Tromano. Aco macrophynam rooted in upiand. Hydrophyn	uo vogetatio	JII UIIIUII	a 110t 1116t.			

Profile Description: (Descri		р	caca to acca				ii tiio abooii			,	
Depth Matri			Reder (moist)	ox Feature		Loc ²	T			Damania	
(inches) Color (moist)	%	<u> </u>	r (moist)	<u>%</u>	<u>i ype</u>	_LOC-	Texture			Remarks	
<u>0-6</u> <u>10YR 2/1</u>	100					-	mucky loa	<u>m</u>			
6-20 <u>10YR 5/1</u>	90	10YF	R 4/4	10	<u>C</u>	<u>M</u>	mucky loa	<u>m</u>			
							-				
					- ——						
				_							
¹ Type: C=Concentration, D=I	Depletion. I	RM=Red	uced Matrix. C	S=Covere	d or Coate	ed Sand G	rains. 2	2Locati	on: PL=F	Pore Linine	g, M=Matrix.
Hydric Soil Indicators: (App											ydric Soils³:
☐ Histosol (A1)			Sandy Redox (S5)			□ 2	cm M	uck (A10))	
☐ Histic Epipedon (A2)			Stripped Matrix	(S6)			□R	ed Pa	rent Mate	rial (TF2)	
☐ Black Histic (A3)		⊠L	₋oamy Mucky I	Mineral (F1	(except	MLRA 1))	□ ∨	ery Sl	nallow Da	rk Surface	∍ (TF12)
☐ Hydrogen Sulfide (A4)			oamy Gleyed I					ther (E	xplain in	Remarks	
Depleted Below Dark Sur	. ,		epleted Matrix	. ,							
☐ Thick Dark Surface (A12)			Redox Dark Su	, ,			2				
☐ Sandy Mucky Mineral (S1			Depleted Dark	•	7)				, ,	, ,	etation and
☐ Sandy Gleyed Matrix (S4))	∐ F	Redox Depress	sions (F8)					, .	y must be or problen	•
Restrictive Layer (if present	+)-						1	11033	iistai bea	or problem	iatio.
Type:	.,.										
Depth (inches):							Hydric 9	Sail Dr	ocont?	Yes ⊠	No 🗆
Deptii (inches).									COCIIL:		
Remarks: Hydric soil criteria r organic soil.	net. Mucky	loam is	a mineral soil v	with a mino	or sapric o	rganic cor	-				
organic soil.		loam is	a mineral soil v	with a mino	or sapric o	rganic cor	-				
organic soil. /DROLOGY Wetland Hydrology Indicato	ors:				or sapric o	rganic con	nponent. It d	does n	ot meet th	ne NRCS (definition of a tru
Organic soil. OROLOGY Wetland Hydrology Indicator Primary Indicators (minimum	ors:		eck all that app	ıly)			nponent. It c	does n	ot meet th	ne NRCS	definition of a tru
Organic soil. OROLOGY Wetland Hydrology Indicator Primary Indicators (minimum □ Surface Water (A1)	ors:		eck all that app Water-St 4A, and 4B)	ly) ained Leav			nponent. It c	econda	ot meet th ary Indicat dater Stain nd 4B))	tors (2 or r	more required) es (B9) (MLRA 1
Organic soil. OPROLOGY Wetland Hydrology Indicator Primary Indicators (minimum □ Surface Water (A1) □ High Water Table (A2)	ors:		eck all that app Water-St 4A, and 4B)	ly) ained Leav	/es (B9) (•		nponent. It c	econda	ot meet th ary Indicat /ater Stain nd 4B)) rainage P	tors (2 or inded Leave	more required) es (B9) (MLRA 1
Organic soil. ODROLOGY Wetland Hydrology Indicator Primary Indicators (minimum Surface Water (A1) ☐ High Water Table (A2) ☐ Saturation (A3)	ors:		eck all that app Water-St 4A, and 4B) Salt Crus Aquatic	ly) ained Leav st (B11) Invertebrat	/es (B9) (d		nponent. It c	econda	ot meet the ary Indicater Stain and 4B) rainage Pry-Season	tors (2 or in the decision of	more required) es (B9) (MLRA 1
Organic soil. /DROLOGY Wetland Hydrology Indicate Primary Indicators (minimum Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1)	ors: of one requ		eck all that app Water-St 4A, and 4B) Salt Crus Aquatic I Hydroge	ly) ained Leav st (B11) Invertebrat n Sulfide (ves (B9) (e es (B13) Odor (C1)	except ML	Se	econda W 4A, a D S	ary Indicat (ater Stair nd 4B)) rainage P ry-Seasor aturation	tors (2 or index of the decision of the decisi	more required) es (B9) (MLRA 1 310) able (C2) Aerial Imagery (
VDROLOGY Wetland Hydrology Indicator Primary Indicators (minimum Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2)	ors: of one requ		eck all that app Water-St 4A, and 4B) Salt Crus Aquatic Hydroge Oxidized	ly) ained Leav st (B11) Invertebrat n Sulfide C I Rhizosph	ves (B9) (e es (B13) Odor (C1) eres alon	except ML	Se	econda W 4A, a D D S G	ary Indicate (attention of the state of the	tors (2 or rended Leave Patterns (Brown Water T Visible on ic Position	more required) es (B9) (MLRA 1 B10) able (C2) Aerial Imagery (
Organic soil. /DROLOGY Wetland Hydrology Indicator Primary Indicators (minimum Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3)	ors: of one requ		eck all that app Water-St 4A, and 4B) Salt Crus Aquatic Hydroge Oxidized Presenc	ained Leaverst (B11) Invertebrate of Reduced to Sulfide Control of	res (B9) (e es (B13) Odor (C1) eres along eed Iron (C	except ML g Living Ro	Sean, 2,	econda AA, a AB G G S	ary Indicated Attention Attention Attention atturation atturation attention	tors (2 or ranged Leaver Tours) (2 or ranged Leaver Tours) (2 or ranged Leaver Tours) (3 or ranged Leaver Tours) (4 or ranged Leaver Tours) (5 or ranged Leaver Tours) (6 or ranged Leaver Tours) (7 or ranged Leaver Tours) (8 or ranged Lea	more required) es (B9) (MLRA 1 B10) Table (C2) Aerial Imagery (1 D2)
rorganic soil. /DROLOGY Wetland Hydrology Indicator Primary Indicators (minimum Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4)	ors: of one requ		eck all that app Water-St 4A, and 4B) Salt Crus Aquatic Hydroge Oxidized Presenc	ained Leavest (B11) Invertebrate Sulfide Coll Rhizosphe of Reduction Reduction	res (B9) (ees (B13) Odor (C1) eres along eed Iron (C	g Living Ro	Se.RA 1, 2,	econda AA, a AB, B G G G G G G G G G G G G G	ary Indicate (ater Stain 4B)) rainage Pry-Season aturation eomorphi hallow Ac-Neutr	tors (2 or rened Leave Patterns (En Water T Visible on the Position of the Pos	more required) es (B9) (MLRA 1 B10) able (C2) Aerial Imagery (1 D2) B) 5)
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rorganic soil. /DROLOGY Wetland Hydrology Indicator Primary Indicators (minimum Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6	ors: of one requ	uired; che	eck all that app Water-St 4A, and 4B) Salt Crus Aquatic Hydroge Oxidized Presenc Recent I	ained Leaver (B11) Invertebrate Sulfide Colle Reduction Reduction Reduction Stresse	es (B9) (es (B13) Odor (C1) eres along ed Iron (C tion in Till d Plants (I	g Living Ro	Se.RA 1, 2,	econda	ary Indicate / Ater Stain nd 4B)) rainage Pry-Season aturation eomorphi hallow AcAC-Neutraised Anti	tors (2 or Inned Leave Patterns (Bun Water T Visible on ic Position quitard (D3 al Test (D the Mounds (D3 the M	more required) es (B9) (MLRA 1 B10) able (C2) Aerial Imagery (1 D2) B) (D6(LRR A)
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VDROLOGY Wetland Hydrology Indicator Primary Indicators (minimum Surface Water (A1) ☐ High Water Table (A2) ☐ Saturation (A3) ☐ Water Marks (B1) ☐ Sediment Deposits (B2) ☐ Drift Deposits (B3) ☐ Algal Mat or Crust (B4) ☐ Iron Deposits (B5) ☐ Surface Soil Cracks (B6 ☐ Inundation Visible on Aei ☐ Sparsely Vegetated Confiled Observations:	ors: of one required in the property of the	y (B7) ce (B8) No □	eck all that app Water-St 4A, and 4B) Salt Crus Aquatic I Hydroge Oxidized Presenc Recent I Stunted Other (E	ained Leavest (B11) Invertebrate Sulfide Coll Rhizosphe of Reduction Reduction Stresse xplain in Response specific speci	es (B9) (es (B13) Odor (C1) eres along ed Iron (C tion in Till d Plants (I	g Living Ro	Se .RA 1, 2,	econda 4A, a A G S R Fro	ary Indicated Attention of the Attention	tors (2 or rened Leave Patterns (En Water T Visible on ic Position quitard (D3 al Test (D t Mounds (En Hummoc	more required) es (B9) (MLRA 1 B10) able (C2) Aerial Imagery (a (D2) B) 5) (D6(LRR A) eks (D7)
VDROLOGY Wetland Hydrology Indicator Primary Indicators (minimum Surface Water (A1) ☐ High Water Table (A2) ☐ Saturation (A3) ☐ Water Marks (B1) ☐ Sediment Deposits (B2) ☐ Drift Deposits (B3) ☐ Algal Mat or Crust (B4) ☐ Iron Deposits (B5) ☐ Surface Soil Cracks (B6) ☐ Inundation Visible on Aei ☐ Sparsely Vegetated Confiled Observations: Surface Water Present? Water Table Present? Saturation Present?	ors: of one required in the second of the s	y (B7) ce (B8)	eck all that app Water-St 4A, and 4B) Salt Crus Aquatic Hydroge Oxidized Presenc Recent I Stunted Other (E	ained Leavest (B11) Invertebrate Sulfide Coll Rhizosphe of Reduction Reduction Stresse xplain in Response specific speci	es (B9) (es (B13) Odor (C1) eres along ed Iron (C tion in Till d Plants (I	g Living Ro	Se.RA 1, 2,	econda 4A, a A G S R Fro	ary Indicated Attention of the Attention	tors (2 or rened Leave Patterns (En Water T Visible on ic Position quitard (D3 al Test (D t Mounds (En Hummoc	more required) es (B9) (MLRA 1 B10) able (C2) Aerial Imagery (a (D2) B) 5) (D6(LRR A) eks (D7)
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State: WA Sampling Point: TP-8	Project/Site: <u>TAL-1147B</u>	C	ity/County: King Cou	nty	Sampling Date:12-6	6-2018
	Applicant/Owner: Buff Nelson			State: WA	Sampling Point: <u>TP</u>	-8
Late	Investigator(s): KM/AE		Section, To	wnship, Range: <u>S8, T2</u>	25N, R06E. W.M.	
red imap Unit Name: Alderwood and Kitsap soils, very steep ver climatic / hydrologic conditions on the site typical for this time of year? Yes ⊠ No □ (If no, explain in Remarks.) ver Vegetation Soil or Hydrology isgnificantly siturbed? (If needed, explain in Remarks.) ver Vegetation Soil or Hydrology naturally problematic? (If needed, explain any answers in Remarks.) SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc. Hydrophytic Vegetation Present? Yes □ No □	Landform (hillslope, terrace, etc.): Hillslope		Local relief (concave,	convex, none): None	Slope	(%): <u>40</u>
red imap Unit Name: Alderwood and Kitsap soils, very steep ver climatic / hydrologic conditions on the site typical for this time of year? Yes ⊠ No □ (If no, explain in Remarks.) ver Vegetation Soil or Hydrology isgnificantly siturbed? (If needed, explain in Remarks.) ver Vegetation Soil or Hydrology naturally problematic? (If needed, explain any answers in Remarks.) SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc. Hydrophytic Vegetation Present? Yes □ No □	Subregion (LRR): <u>A</u>	Lat: <u>47.66</u>	692	Long: -122.06960	Datum: <u>l</u>	NAD83
re climatic / hydrologic conditions on the site typical for this time of year? Yes \[\] No \[\] (If no, explain in Remarks.) rev Vegetation \[\] Soil \[\] or Hydrology \[\] significantly disturbed? Are "Normal Circumstances" present? Yes \[\] No \[\] we Vegetation \[\] Soil \[\] or Hydrology \[\] naturally problematic? (If needed, explain any answers in Remarks.) SUMMARY OF FINDINGS — Attach site map showing sampling point locations, transects, important features, etc. Hydrophytic Vegetation Present? Yes \[\] No \[\] Is the Sampled Area within a Wetland? Yes \[\] No \[\] Wetland Hydrology Present? Yes \[\] No \[\] Is the Sampled Area within a Wetland? Yes \[\] No \[\] Wetland Hydrology Present? Yes \[\] No \[\] Absolute Owninant Indicator Secretary Species 2 Status (Plot size: 30 ft)				-		
Very Expectation	•				·	
Soll						7
SUMMARY OF FINDINGS — Attach site map showing sampling point locations, transects, important features, etc. Hydrophytic Vegetation Present? Yes □ No □				·		_
Hydrophytic Vegetation Present?						
Hydric Soil Present? Yes No	SUMMARY OF FINDINGS - Attach site map	showing s	sampling point le	ocations, transec	ts, important featu	ures, etc.
Hydric Soil Present? Yes	Hydrophytic Vegetation Present? Yes ⊠ No		Is the Sample	d Area		
Remarks: Test pit located 3' south of flag L-3. Sample plot located in upland, despite a dominance of facultative vegetation. Factor Factor			•] No⊠	
Absolute Secientific names of plants.						
Dominant Indicator	Remarks: Lest pit located 3' south of flag L-3. Sample	plot located in	upland, despite a dor	ninance of facultative v	egetation.	
Dominant Indicator						
Dominant Indicator	VEGETATION — Use scientific names of pla	nte				
Tree Stratum (Plot size: 30 ft)	VEGETATION – Use scientific flames of pla		Dominant Indicator	Dominance Test w	vorksheet:	
1. Thuja plicata	Tree Stratum (Plot size: 30 ft)					
3.	1. Thuja plicata	<u>75</u>	Yes FAC			(A)
3. 3. 3. 3. 3. 3. 3. 3.	2. Acer macrophyllum	<u>15</u>	No FACU	Total Number of Do	ominant	
Sapling/Shrub Stratum (Plot size: 15 ft)	3.					(B)
Sapling/Shrub Stratum (Plot size: 15 ft) 15	4.			Percent of Dominar	nt Species	
1. Oplopanax horridus 15 Yes FAC	Conline (Chrish Christian (Diet eine 45 ft)	90	= Total Cover			(A/B)
Total % Cover of: Multiply by:		15	Voc. EAC	Prevalence Index	worksheet:	
3.						hv.
4				'		
5.						
Herb Stratum (Plot size: 5ft) 15			· ——			
Herb Stratum (Plot size: 5 ft) UPL species			= Total Cover			
1. None Column Totals:	Herb Stratum (Plot size: 5 ft)					
3.	1. None		·			
4.	2					
5.	3.					
6. 7. 8. Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet) Problematic Hydrophytic Vegetation¹ (Explain) Monday Vine Stratum (Plot size: 15ft) I. None 2. O	4.	<u> </u>				
7. 8. Woody Vine Stratum (Plot size: 15ft) 1. None 2. O = Total Cover O = Total Cover Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Hydrophytic Vegetation Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Wegetation Yes No	5		. <u> </u>			
8	6.		· 			
8. Woody Vine Stratum (Plot size: 15ft) 1. None 2. 0 = Total Cover Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Hydrophytic Vegetation¹ (Explain) **Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Hydrophytic Vegetation **Yes □ No □	7					
Moody Vine Stratum (Plot size: 15ft) 1. None 2.	8		·		·	•
1. None	Woody Vine Stratum (Plot size: 15ft)	0	= Total Cover			
2	,			¹ Indicators of hydric	soil and wetland hydro	loav must
0 = Total Cover Wegetation Present? Yes ☑ No ☐			· ——			
% Bare Ground in Herb Stratum 100	<u></u>		= Total Cover	Hydrophytic		
70 0010 01 01 01 01 01 01 01 01 01 01 01				Vegetation	v	
Remarks: Hydrophytic vegetation criteria met.		Cover of Biotic (Crust <u>0</u>	Present?	Yes ⊠ No ⊔	
	Remarks: Hydrophytic vegetation criteria met.					

	trix	Redox Features	
(inches) Color (moist)		Color (moist) % Type ¹ Loc	Z ² Texture Remarks
10YR 3/2	100	<u> </u>	loam
-20 <u>10YR 4/3</u>	100	<u> </u>	<u>loam</u>
		=Reduced Matrix, CS=Covered or Coated Sar LRRs, unless otherwise noted.)	nd Grains. 2Location: PL=Pore Lining, M=Matrix. Indicators for Problematic Hydric Soils ³ :
☐ Histosol (A1)		☐ Sandy Redox (S5)	2 cm Muck (A10)
☐ Histic Epipedon (A2)		Stripped Matrix (S6)	Red Parent Material (TF2)
☐ Black Histic (A3)		☐ Loamy Mucky Mineral (F1 (except MLRA	(TF12) Very Shallow Dark Surface (TF12)
☐ Hydrogen Sulfide (A4)		☐ Loamy Gleyed Matrix (F2)	☐ Other (Explain in Remarks
☐ Depleted Below Dark Su	, ,	☐ Depleted Matrix (F3)	
☐ Thick Dark Surface (A12	,	☐ Redox Dark Surface (F6)	
Sandy Mucky Mineral (S		Depleted Dark Surface (F7)	³ Indicators of hydrophytic vegetation and
☐ Sandy Gleyed Matrix (S	4)	Redox Depressions (F8)	wetland hydrology must be present, unless disturbed or problematic.
Restrictive Layer (if preser	nt):		
Туре:		-	
Depth (inches):		-	Hydric Soil Present? Yes ☐ No ☒
DROLOGY			
DROLOGY Vetland Hydrology Indicat	tors:		
		ed; check all that apply)	Secondary Indicators (2 or more required)
Vetland Hydrology Indica		ed; check all that apply) Water-Stained Leaves (B9) (exception 4A, and 4B)	
Vetland Hydrology Indicators (minimum	n of one require	☐ Water-Stained Leaves (B9) (except	t MLRA 1, 2,
Vetland Hydrology Indicators (minimum Surface Water (A1)	n of one require	☐ Water-Stained Leaves (B9) (except 4A, and 4B)	t MLRA 1, 2,
Vetland Hydrology Indicators (minimum Surface Water (A1) High Water Table (A2)	n of one require	☐ Water-Stained Leaves (B9) (except 4A, and 4B) ☐ Salt Crust (B11)	t MLRA 1, 2,
Primary Indicators (minimum Surface Water (A1) High Water Table (A2) Saturation (A3)	n of one require	☐ Water-Stained Leaves (B9) (except 4A, and 4B) ☐ Salt Crust (B11) ☐ Aquatic Invertebrates (B13)	t MLRA 1, 2, Water Stained Leaves (B9) (MLRA 1, 4A, and 4B)) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (
Vetland Hydrology Indicators Primary Indicators (minimum Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1)	n of one require	☐ Water-Stained Leaves (B9) (except 4A, and 4B) ☐ Salt Crust (B11) ☐ Aquatic Invertebrates (B13) ☐ Hydrogen Sulfide Odor (C1)	t MLRA 1, 2, Water Stained Leaves (B9) (MLRA 1, 4A, and 4B)) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C2)
Vetland Hydrology Indicators (minimum Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2)	n of one require	 	t MLRA 1, 2,
Vetland Hydrology Indicators (minimum Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3)	n of one require	☐ Water-Stained Leaves (B9) (except 4A, and 4B) ☐ Salt Crust (B11) ☐ Aquatic Invertebrates (B13) ☐ Hydrogen Sulfide Odor (C1) ☐ Oxidized Rhizospheres along Livin ☐ Presence of Reduced Iron (C4)	t MLRA 1, 2, Water Stained Leaves (B9) (MLRA 1, 4A, and 4B)) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (Garage Roots (C3) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5)
Primary Indicators (minimum Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4)	n of one require	☐ Water-Stained Leaves (B9) (except 4A, and 4B) ☐ Salt Crust (B11) ☐ Aquatic Invertebrates (B13) ☐ Hydrogen Sulfide Odor (C1) ☐ Oxidized Rhizospheres along Livin ☐ Presence of Reduced Iron (C4) ☐ Recent Iron Reduction in Tilled Soi	t MLRA 1, 2, Water Stained Leaves (B9) (MLRA 1, 4A, and 4B)) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (Garage Roots (C3) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5)
Primary Indicators (minimum Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5)	n of one require 2)	□ Water-Stained Leaves (B9) (except 4A, and 4B) □ Salt Crust (B11) □ Aquatic Invertebrates (B13) □ Hydrogen Sulfide Odor (C1) □ Oxidized Rhizospheres along Livin □ Presence of Reduced Iron (C4) □ Recent Iron Reduction in Tilled Soi □ Stunted or Stressed Plants (D1)(Li	t MLRA 1, 2,
Primary Indicators (minimum Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B	n of one require 2) 36) erial Imagery (E	☐ Water-Stained Leaves (B9) (except 4A, and 4B) ☐ Salt Crust (B11) ☐ Aquatic Invertebrates (B13) ☐ Hydrogen Sulfide Odor (C1) ☐ Oxidized Rhizospheres along Livin ☐ Presence of Reduced Iron (C4) ☐ Recent Iron Reduction in Tilled Soi ☐ Stunted or Stressed Plants (D1)(Liter (Explain in Remarks)	t MLRA 1, 2,
Vetland Hydrology Indicators (minimum Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B	n of one require 2) 36) erial Imagery (E	☐ Water-Stained Leaves (B9) (except 4A, and 4B) ☐ Salt Crust (B11) ☐ Aquatic Invertebrates (B13) ☐ Hydrogen Sulfide Odor (C1) ☐ Oxidized Rhizospheres along Livin ☐ Presence of Reduced Iron (C4) ☐ Recent Iron Reduction in Tilled Soi ☐ Stunted or Stressed Plants (D1)(Liter (Explain in Remarks)	t MLRA 1, 2,
Primary Indicators (minimum Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B Inundation Visible on A	n of one require 2) 36) erial Imagery (E	☐ Water-Stained Leaves (B9) (except 4A, and 4B) ☐ Salt Crust (B11) ☐ Aquatic Invertebrates (B13) ☐ Hydrogen Sulfide Odor (C1) ☐ Oxidized Rhizospheres along Livin ☐ Presence of Reduced Iron (C4) ☐ Recent Iron Reduction in Tilled Soi ☐ Stunted or Stressed Plants (D1)(Liter (Explain in Remarks)	t MLRA 1, 2,
Primary Indicators (minimum Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B3) In Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B1) Inundation Visible on A Sparsely Vegetated Co	2) 36) erial Imagery (Encave Surface	☐ Water-Stained Leaves (B9) (except 4A, and 4B) ☐ Salt Crust (B11) ☐ Aquatic Invertebrates (B13) ☐ Hydrogen Sulfide Odor (C1) ☐ Oxidized Rhizospheres along Livin ☐ Presence of Reduced Iron (C4) ☐ Recent Iron Reduction in Tilled Soi ☐ Stunted or Stressed Plants (D1)(Liter of the context of	t MLRA 1, 2,
Vetland Hydrology Indicators (minimum Indicators (Material Material Indicators (Material Material Indicators (Material I	2) 36) erial Imagery (Encave Surface Yes \(\square\) No		t MLRA 1, 2,
Vetland Hydrology Indicators (minimum Indicators (Material Material Indicators (Material Indicators In	2) 36) erial Imagery (Encave Surface Yes	□ Water-Stained Leaves (B9) (except 4A, and 4B) □ Salt Crust (B11) □ Aquatic Invertebrates (B13) □ Hydrogen Sulfide Odor (C1) □ Oxidized Rhizospheres along Livin □ Presence of Reduced Iron (C4) □ Recent Iron Reduction in Tilled Soi □ Stunted or Stressed Plants (D1)(Liiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiii	t MLRA 1, 2,
Vetland Hydrology Indicators (minimum Indicators (Material Material Indicators (Material Indicators In	2) 36) erial Imagery (Encave Surface Yes		t MLRA 1, 2,
Vetland Hydrology Indicators (minimum Indicators (Material Material Indicators (Material Indicators In	2) 2) 36) erial Imagery (Encave Surface Yes	□ Water-Stained Leaves (B9) (except 4A, and 4B) □ Salt Crust (B11) □ Aquatic Invertebrates (B13) □ Hydrogen Sulfide Odor (C1) □ Oxidized Rhizospheres along Livin □ Presence of Reduced Iron (C4) □ Recent Iron Reduction in Tilled Soi □ Stunted or Stressed Plants (D1)(Lit □ Other (Explain in Remarks) 37) (B8) Depth (inches): Depth (inches): Depth (inches): onitoring well, aerial photos, previous inspections.	t MLRA 1, 2,

APPENDIX B

Wetland Rating Sheets (2004, revised 2008), Talasaea 2019

WETLAND RATING FORM – WESTERN WASHINGTON

Version 2 - Updated July 2006 to increase accuracy and reproducibility among users Updated Oct 2008 with the new WDFW definitions for priority habitats

Name of wetland (if known): TAL- 1147B Wetland L and N Date of site visit: 12-6-2018
Rated by Kellen Maloney Trained by Ecology? Yes VNo Date of training 10-2018
SEC: 8 TWNSHP: 25N RNGE: 6E Is S/T/R in Appendix D? Yes No_
Map of wetland unit: Figure Estimated size 0.5 - 1 ac
SUMMARY OF RATING
Category based on FUNCTIONS provided by wetland
I II IV_ <u>~</u>
Category I = Score >=70 Category II = Score 51-69 Category III = Score 30-50 Category IV = Score < 30 Category IV = Score < 30 Score for Water Quality Functions 0 Score for Hydrologic Functions 21 TOTAL score for Functions 21
Category based on SPECIAL CHARACTERISTICS of wetland I II Does not Apply Final Category (choose the "highest" category from above) Cat. IV
Summary of basic information about the wetland unit

Summary of basic info	rmation about	the wetland unit
-----------------------	---------------	------------------

Wetland Unit has Special Characteristics	Wetland HGM Class used for Rating
Estuarine	Depressional
Natural Heritage Wetland	Riverine
Bog	Lake-fringe
Mature Forest	Slope
Old Growth Forest	Flats
Coastal Lagoon	Freshwater Tidal
Interdunal	
None of the above	Check if unit has multiple HGM classes present

Does the wetland unit being rated meet any of the criteria below?

If you answer YES to any of the questions below you will need to protect the wetland according to the regulations regarding the special characteristics found in the wetland.

Check List for Wetlands That May Need Additional Protection (in addition to the protection recommended for its category)	YES	NO
SP1. Has the wetland unit been documented as a habitat for any Federally listed Threatened or Endangered animal or plant species (T/E species)? For the purposes of this rating system, "documented" means the wetland is on the appropriate state or federal database.		V
SP2. Has the wetland unit been documented as habitat for any State listed Threatened or Endangered animal species? For the purposes of this rating system, "documented" means the wetland is on the appropriate state database. Note: Wetlands with State listed plant species are categorized as Category I Natural Heritage Wetlands (see p. 19 of data form).		~
SP3. Does the wetland unit contain individuals of Priority species listed by the WDFW for the state?		~
SP4. Does the wetland unit have a local significance in addition to its functions? For example, the wetland has been identified in the Shoreline Master Program, the Critical Areas Ordinance, or in a local management plan as having special significance.		~

To complete the next part of the data sheet you will need to determine the Hydrogeomorphic Class of the wetland being rated.

The hydrogeomorphic classification groups wetlands into those that function in similar ways. This simplifies the questions needed to answer how well the wetland functions. The Hydrogeomorphic Class of a wetland can be determined using the key below. See p. 24 for more detailed instructions on classifying wetlands.

Classification of Wetland Units in Western Washington

If the 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 (i.e. except during floods)?
 ✓ NO – go to 2
 YES – the wetland class is Tidal Fringe

If yes, is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)? YES – Freshwater Tidal Fringe NO – Saltwater Tidal Fringe (Estuarine)

If your wetland can be classified as a Freshwater Tidal Fringe use the forms for Riverine wetlands. If it is Saltwater Tidal Fringe it is rated as an Estuarine wetland. Wetlands that were called estuarine in the first and second editions of the rating system are called Salt Water Tidal Fringe in the Hydrogeomorphic Classification. Estuarine wetlands were categorized separately in the earlier editions, and this separation is being kept in this revision. To maintain consistency between editions, the term "Estuarine" wetland is kept. Please note, however, that the characteristics that define Category I and II estuarine wetlands have changed (see p.).

- 2. The entire wetland unit is flat and precipitation is the only source (>90%) of water to it. Groundwater and surface water runoff are NOT sources of water to the unit.
- \checkmark NO go to 3 **YES** The wetland class is **Flats**

If your wetland can be classified as a "Flats" wetland, use the form for **Depressional** wetlands.

- **3.** Does the entire wetland unit **meet both** of the following criteria?
 - The vegetated part of the wetland is on the shores of a body of permanent open water (without any vegetation on the surface) at least 20 acres (8 ha) in size;

At least 30% of the open water area is deeper than 6.6 ft (2 m)?

- ✓ NO go to 4 YES The wetland class is Lake-fringe (Lacustrine Fringe)
- **4.** Does the entire wetland unit **meet all** of the following criteria?
 - The wetland is on a slope (slope can be very gradual),
 - The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks.
 - The water leaves the wetland without being impounded?

 NOTE: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3ft diameter and less than 1 foot deep).

NO - go to 5 **✓ YES** – The wetland class is **Slope**

- 5. Does the entire wetland unit meet all of the following criteria?
 - The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river
 - _ The overbank flooding occurs at least once every two years.

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

- ✓ NO go to 6 YES The wetland class is Riverine
- 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.
- ✓ NO go to 7 YES The wetland class is **Depressional**
- 7. Is the entire wetland unit located in a very flat area with no obvious depression and no overbank flooding. The unit does not pond surface water more than a few inches. The unit seems to be maintained by high groundwater in the area. The wetland may be ditched, but has no obvious natural outlet.
- ✓ NO go to 8 YES The wetland class is **Depressional**
- **8**. Your wetland unit seems to be difficult to classify and probably contains several different HGM clases. 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 your wetland. 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 class listed in column 2 is less than 10% of the unit; classify the wetland using the class that represents more than 90% of the total area.

HGM Classes within the wetland unit being rated	HGM Class to Use in Rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake-fringe	Lake-fringe
Depressional + Riverine along stream within boundary	Depressional
Depressional + Lake-fringe	Depressional
Salt Water Tidal Fringe and any other class of freshwater	Treat as ESTUARINE under
wetland	wetlands with special
	characteristics

If you are unable still 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.

S	Slope Wetlands WATER QUALITY FUNCTIONS - Indicators that the wetland unit functions to improve water quality	Points (only 1 score per box)
S	S 1. Does the wetland unit have the <u>potential</u> to improve water quality?	(see p.64)
S	S 1.1 Characteristics of average slope of unit: Slope is 1% or less (a 1% slope has a 1 foot vertical drop in elevation for every 100 ft horizontal distance) Slope is 1% - 2% Slope is 2% - 5% Slope is greater than 5% points = 1 points = 0	0
S	S 1.2 The soil 2 inches below the surface (or duff layer) is clay or organic <i>(use NRCS definitions)</i> YES = 3 points NO = 0 points	0
S	S 1.3 Characteristics of the vegetation in the wetland that trap sediments and pollutants: Choose the points appropriate for the description that best fits the vegetation in the wetland. Dense vegetation means you have trouble seeing the soil surface (>75% cover), and uncut means not grazed or mowed and plants are higher than 6 inches. Dense, uncut, herbaceous vegetation > 90% of the wetland area points = 6 Dense, uncut, herbaceous vegetation > 1/2 of area points = 3 Dense, woody, vegetation > 1/2 of area points = 2 Dense, uncut, herbaceous vegetation > 1/4 of area points = 1 Does not meet any of the criteria above for vegetation points = 0 Aerial photo or map with vegetation polygons	Figure
S	Total for S 1 Add the points in the boxes above	0
S	Answer YES if you know or believe there are pollutants in groundwater or surface water coming into the wetland that would otherwise reduce water quality in streams, lakes or groundwater downgradient from the wetland. Note which of the following conditions provide the sources of pollutants. A unit may have pollutants coming from several sources, but any single source would qualify as opportunity.	(see p.67)
	 — Grazing in the wetland or within 150ft — Untreated stormwater discharges to wetland — Tilled fields, logging, or orchards within 150 feet of wetland — Residential, urban areas, or golf courses are within 150 ft upslope of wetland — Other YES multiplier is 2 NO multiplier is 1 	multiplier 1 ——
S	TOTAL - Water Quality Functions Multiply the score from S1 by S2 Add score to table on p. 1	0

S	Slope Wetlands HYDROLOGIC FUNCTIONS - Indicators that the wetland unit functions to reduce flooding and stream erosion	Points (only 1 score per box)
	S 3. Does the wetland unit have the <u>potential</u> to reduce flooding and stream erosion?	(see p.68)
S	S 3.1 Characteristics of vegetation that reduce the velocity of surface flows during storms. Choose the points appropriate for the description that best fit conditions in the wetland. (stems of plants should be thick enough (usually > 1/8in), or dense enough, to remain erect during surface flows) Dense, uncut, rigid vegetation covers > 90% of the area of the wetland. points = 6 Dense, uncut, rigid vegetation > 1/2 area of wetland points = 3 Dense, uncut, rigid vegetation > 1/4 area points = 1 More than 1/4 of area is grazed, mowed, tilled or vegetation is not rigid points = 0	0
S	S 3.2 Characteristics of slope wetland that holds back small amounts of flood flows: The slope wetland has small surface depressions that can retain water over at least 10% of its area. YES points = 2 NO points = 0	0
S	Add the points in the boxes above	0
S	S 4. Does the wetland have the <u>opportunity</u> to reduce flooding and erosion? Is the wetland in a landscape position where the reduction in water velocity it provides helps protect downstream property and aquatic resources from flooding or excessive and/or erosive flows? <i>Note which of the following conditions apply.</i> — Wetland has surface runoff that drains to a river or stream that has flooding problems	(see p. 70)
	— Other	multiplier
	(Answer NO if the major source of water is controlled by a reservoir (e.g. wetland is a seep that is on the downstream side of a dam) YES multiplier is 2 NO multiplier is 1	
S	TOTAL - Hydrologic Functions Multiply the score from S 3 by S 4 <i>Add score to table on p. 1</i>	0

These questions apply to wetlands of all HGM HABITAT FUNCTIONS - Indicators that unit function		habitat	Points (only 1 score per box)
H 1. Does the wetland unit have the <u>potential</u> to pr	ovide habitat for many	species?	
H 1.1 Vegetation structure (see p. 72)			Figure
Check the types of vegetation classes present (as defined		old for each	
class is ¼ acre or more than 10% of the area if unit is	s smaller than 2.5 acres.		
Aquatic bed			
Emergent plants Scrub/shrub (areas where shrubs have >30%)	cover)		
Forested (areas where trees have >30% cover			
If the unit has a forested class check if:	,		0
The forested class has 3 out of 5 strata (cano			
moss/ground-cover) that each cover 20%		l	
Add the number of vegetation structures that qualify. If			
	4 structures or more	points = 4 $points = 2$	
Map of Cowardin vegetation classes	3 structures 2 structures	points = 2 $points = 1$	
	1 structure	points $= 1$ points $= 0$	
H 1.2. <u>Hydroperiods</u> (see p. 73)		P	Figure
Check the types of water regimes (hydroperiods) pre	esent within the wetland. T	he water	
regime has to cover more than 10% of the wetland or	1/4 acre to count. (see text)	or	
descriptions of hydroperiods)	4		
Permanently flooded or inundated	4 or more types present		
Seasonally flooded or inundated Occasionally flooded or inundated	3 types present 2 types present	points = 2 $point = 1$	1
✓ Saturated only	1 type present	point $= 1$ points $= 0$	
Permanently flowing stream or river in, or adja	* 1 1	pomes	
Seasonally flowing stream in, or adjacent to, the			
Lake-fringe wetland = 2 points			
Freshwater tidal wetland = 2 points	Map of hydro	operiods	
H 1.3. Richness of Plant Species (see p. 75)			
Count the number of plant species in the wetland that		ferent patches	
of the same species can be combined to meet the size	e threshold)		
You do not have to name the species. Do not include Eurasian Milfoil, reed canarygra	uss nurnle loosestrife. Can	adian Thistle	
If you counted:	> 19 species	points = 2	
List species below if you want to:	5 - 19 species	points = 1	
1 32		points = 0	1

Total for page ____2

H 1.4. <u>Interspersion of habitats</u> (see p. 76) Decide from the diagrams below whether interspersion between Cowardin vegetation classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, medium, low, or none.	Figure
\sim None = 0 points Low = 1 point Moderate = 2 points	
High = 3 points It is a laways "high". Use map of Cowardin vegetation classes	0
H 1.5. Special Habitat Features: (see p. 77) Check the habitat features that are present in the wetland. The number of checks is the number of points you put into the next column.	
Large, downed, woody debris within the wetland (>4in. diameter and 6 ft long). Standing snags (diameter at the bottom > 4 inches) in the wetland	
Undercut banks are present for at least 6.6 ft (2m) and/or overhanging vegetation extends at least 3.3 ft (1m) over a stream (or ditch) in, or contiguous with the unit, for at least 33 ft (10m) 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 turned grey/brown) At least ½ acre of thin-stemmed persistent vegetation 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 each stratum of plants	3
NOTE: The 20% stated in early printings of the manual on page 78 is an error.	
H 1. TOTAL Score - potential for providing habitat Add the scores from H1.1, H1.2, H1.3, H1.4, H1.5	5

H 2. Does the wetland unit have the opportunity to provide habitat for many species?	
H 2.1 <u>Buffers</u> (see p. 80)	Figure
Choose the description that best represents condition of buffer of wetland unit. The highest scoring	
criterion that applies to the wetland is to be used in the rating. See text for definition of	
"undisturbed."	
[✓] 100 m (330ft) of relatively undisturbed vegetated areas, rocky areas, or open water >95%	
of circumference. No structures are within the undisturbed part of buffer. (relatively	
undisturbed also means no-grazing, no landscaping, no daily human use) Points = 5	
— 100 m (330 ft) of relatively undisturbed vegetated areas, rocky areas, or open water >	
50% circumference. Points = 4	
— 50 m (170ft) of relatively undisturbed vegetated areas, rocky areas, or open water >95%	
circumference. Points = 4	
— 100 m (330ft) of relatively undisturbed vegetated areas, rocky areas, or open water > 25%	
circumference, . Points = 3	5
— 50 m (170ft) of relatively undisturbed vegetated areas, rocky areas, or open water for >	
50% circumference. Points = 3	
If buffer does not meet any of the criteria above	
— No paved areas (except paved trails) or buildings within 25 m (80ft) of wetland > 95%	
circumference. Light to moderate grazing, or lawns are OK. Points = 2	
 No paved areas or buildings within 50m of wetland for >50% circumference. Light to moderate grazing, or lawns are OK. Points = 2	
\mathcal{E}	
 Heavy grazing in buffer. Vegetated buffers are <2m wide (6.6ft) for more than 95% of the circumference (e.g. tilled 	
\sim Vegetated burners are \sim 211 wide (0.011) for more than 95% of the circumference (e.g. three fields, paving, basalt bedrock extend to edge of wetland Points = 0 .	
- Buffer does not meet any of the criteria above. Points = 1	
Aerial photo showing buffers	
H 2.2 Corridors and Connections (see p. 81)	
$\overline{4}$ H 2.2.1 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor	
(either riparian or upland) that is at least 150 ft wide, has at least 30% cover of shrubs, forest	
or native undisturbed prairie, that connects to estuaries, other wetlands or undisturbed	
uplands that are at least 250 acres in size? (dams in riparian corridors, heavily used gravel	
roads, paved roads, are considered breaks in the corridor).	
YES = 4 points $(go \ to \ H \ 2.3)$ NO = go to H 2.2.2	
H 2.2.2 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor	
(either riparian or upland) that is at least 50ft wide, has at least 30% cover of shrubs or	2
forest, and connects to estuaries, other wetlands or undisturbed uplands that are at least 25 acres in size? OR a Lake-fringe wetland, if it does not have an undisturbed corridor as in	
the question above?	
$\checkmark \text{ YES} = 2 \text{ points } (go \text{ to } H \text{ 2.3}) $ NO = H 2.2.3	
H 2.2.3 Is the wetland:	
within 5 mi (8km) of a brackish or salt water estuary OR	
within 3 mi of a large field or pasture (>40 acres) OR	
within 1 mi of a lake greater than 20 acres?	
YES = 1 point NO = 0 points	

Total for page 7

	T
H 2.3 Near or adjacent to other priority habitats listed by WDFW (see new and complete	
descriptions of WDFW priority habitats, and the counties in which they can be found, in	
the PHS report http://wdfw.wa.gov/hab/phslist.htm)	
Which of the following priority habitats are within 330ft (100m) of the wetland unit? <i>NOTE: the</i>	
connections do not have to be relatively undisturbed.	
Aspen Stands: Pure or mixed stands of aspen greater than 0.4 ha (1 acre).	
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 p. 152).	
Herbaceous Balds: Variable size patches of grass and forbs on shallow soils over bedrock.	
Old-growth/Mature forests: (Old-growth west of Cascade crest) Stands of at least 2 tree	
species, forming a multi-layered canopy with occasional small openings; with at least 20	
trees/ha (8 trees/acre) > 81 cm (32 in) dbh or > 200 years of age. (Mature forests) Stands	
with average diameters exceeding 53 cm (21 in) dbh; crown cover may be less that 100%;	
crown cover may be less that 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: Woodlands 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).	
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).	
Instream: The combination of physical, biological, and chemical processes and conditions	4
that interact to provide functional life history requirements for instream fish and wildlife	7
, , , , , , , , , , , , , , , , , , ,	
resources. Negrebore: Peletively undisturbed negrebore behitets. These include Coastel Negrebore	
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: pp. 167-169 and glossary in	
Appendix A).	
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 7.6 m (25 ft) high and occurring below 5000 ft.	
Talus: Homogenous areas of rock rubble ranging in average size 0.15 - 2.0 m (0.5 - 6.5 ft),	
composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine	
tailings. May be associated with cliffs.	
Snags and Logs: Trees are considered snags if they are dead or dying and exhibit sufficient	
decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a	
diameter at breast height of > 51 cm (20 in) in western Washington and are > 2 m (6.5 ft) in	
height. Priority logs are > 30 cm (12 in) in diameter at the largest end, and > 6 m (20 ft)	
long.	
If wetland has 3 or more priority habitats = 4 points	
If wetland has 2 priority habitats = 3 points	
If wetland has 1 priority habitat = 1 point No habitats = 0 points	
Note: All vegetated wetlands are by definition a priority habitat but are not included in this	
list. Nearby wetlands are addressed in question H 2.4)	

H 2.4 Wetland Landscape (choose the one description of the landscape around the wetland that best fits) (see p. 84) There are at least 3 other wetlands within ½ mile, and the connections between them are relatively undisturbed (light grazing between wetlands OK, as is lake shore with some boating, but connections should NOT be bisected by paved roads, fill, fields, or other development. The wetland is Lake-fringe on a lake with little disturbance and there are 3 other lake-fringe wetlands within ½ mile There are at least 3 other wetlands within ½ mile, BUT the connections between them are disturbed points = 3 The wetland is Lake-fringe on a lake with disturbance and there are 3 other lake-fringe wetland within ½ mile points = 3 There is at least 1 wetland within ½ mile. points = 2 There are no wetlands within ½ mile.	5
H 2 . TOTAL Score - opportunity for providing habitat <i>Add the scores from H2.1,H2.2, H2.3, H2.4</i>	16
TOTAL for H 1 from page 14	5
Total Score for Habitat Functions – add the points for H 1, H 2 and record the result on p. 1	21

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Please determine if the wetland meets the attributes described below and circle the appropriate answers and Category.

Wetland Type	Category
Check off any criteria that apply to the wetland. Circle the Category when the appropriate criteria are met.	
SC 1.0 Estuarine wetlands (see p. 86)	
Does the wetland unit meet the following criteria for Estuarine wetlands?	
 The dominant water regime is tidal, Vegetated, and With a salinity greater than 0.5 ppt. YES = Go to SC 1.1 NO 	
SC 1.1 Is the wetland unit 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 acre in size and meets at least two of the following three conditions? YES = Category I NO = Category II — The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less than 10% cover of non-native plant species. If the non-native <i>Spartina</i> spp. are the only species that cover more than 10% of the wetland, then the wetland should be given a dual rating (I/II). The area of Spartina would be rated a Category II while the relatively undisturbed upper marsh with native species would be a Category I. Do not, however, exclude the area of Spartina in determining the size threshold of 1 acre. — At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland. — The wetland has at least 2 of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands.	No

SC 2.0 Natural Heritage Wetlands (see p. 87) Natural Heritage wetlands have been identified by the Washington Natural Heritage Program/DNR as either high quality undisturbed wetlands or wetlands that support state Threatened, Endangered, or Sensitive plant species. SC 2.1 Is the wetland unit being rated in a Section/Township/Range that contains a Natural Heritage wetland? (this question is used to screen out most sites before you need to contact WNHP/DNR) S/T/R information from Appendix D or accessed from WNHP/DNR web site YES − contact WNHP/DNR (see p. 79) and go to SC 2.2 NO _v SC 2.2 Has DNR identified the wetland as a high quality undisturbed wetland or as or as a site with state threatened or endangered plant species? YES = Category I NO _v _ not a Heritage Wetland	No
SC 3.0 Bogs (see p. 87) Does the wetland unit (or any part of the unit) meet both the criteria for soils and vegetation in bogs? Use the key below to identify if the wetland is a bog. If you answer yes you will still need to rate the wetland based on its functions.	
1. Does the unit have organic soil horizons (i.e. layers of organic soil), either peats or mucks, that compose 16 inches or more of the first 32 inches of the soil profile? (See Appendix B for a field key to identify organic soils)? Yes - go to Q. 3	
2. Does the unit have organic soils, either peats or mucks that are less than 16 inches deep over bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on a lake or pond?	
Yes - go to Q. 3	
3. Does the unit have more than 70% cover of mosses at ground level, AND other plants, if present, consist of the "bog" species listed in Table 3 as a significant component of the vegetation (more than 30% of the total shrub and herbaceous cover consists of species in Table 3)?	No
Yes – Is a bog for purpose of rating No - go to Q. 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" deep. If the pH is less than 5.0 and the "bog" plant species in Table 3 are present, the wetland is a bog.	
1. Is the unit forested (> 30% cover) with sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Englemann's spruce, or western white pine, WITH any of the species (or combination of species) on the bog species plant list in Table 3 as a significant component of the ground cover (> 30% coverage of the total shrub/herbaceous cover)?	
2. YES = Category I No Is not a bog for purpose of rating	

SC 4.0 Forested Wetlands (see p. 90) Does the wetland unit have at least 1 acre of forest that meet one of these criteria for the Department of Fish and Wildlife's forests as priority habitats? If you answer yes you will still need to rate the wetland based on its functions. — Old-growth forests: (west of Cascade crest) Stands of at least two tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/acre (20 trees/hectare) that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 inches (81 cm) or more. NOTE: The criterion for dbh is based on measurements for upland forests. Two-hundred year old trees in wetlands will often have a smaller dbh because their growth rates are often slower. The DFW criterion is and "OR" so old-growth forests do not necessarily have to have trees of this diameter. — Mature forests: (west of the Cascade Crest) Stands where the largest trees are 80 − 200 years old OR have average diameters (dbh) exceeding 21 inches (53cm); crown cover may be less that 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth. YES = Category I NO rot a forested wetland with special characteristics	No
SC 5.0 Wetlands in Coastal Lagoons (see p. 91)	
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 surface water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (needs to be measured near the bottom) YES = Go to SC 5.1 NO not a wetland in a coastal lagoon SC 5.1 Does the wetland meets 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 invasive plant species (see list of invasive species on p. 74). — At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland. — The wetland is larger than 1/10 acre (4350 square feet) YES = Category I NO = Category II	No

SC 6.0 Interdunal Wetlands (see p. 93)	
Is the wetland unit west of the 1889 line (also called the Western Boundary of Upland	
Ownership or WBUO)?	
YES - go to SC 6.1 NO <u>v</u> not an interdunal wetland for rating	
If you answer yes you will still need to rate the wetland based on its	
functions.	
In practical terms that means the following geographic areas:	
 Long Beach Peninsula- lands west of SR 103 	No
Grayland-Westport- lands west of SR 105	INO
 Ocean Shores-Copalis- lands west of SR 115 and SR 109 	
SC 6.1 Is the wetland one acre or larger, or is it in a mosaic of wetlands that is once acre or larger?	
YES = Category II $NO - go to SC 6.2$	
SC 6.2 Is the unit between 0.1 and 1 acre, or is it in a mosaic of wetlands that is between 0.1 and 1 acre?	
YES = Category III	
Category of wetland based on Special Characteristics	
Choose the "highest" rating if wetland falls into several categories, and record on	NA
p. 1.	
If you answered NO for all types enter "Not Applicable" on p.1	

WETLAND RATING FORM – WESTERN WASHINGTON

Version 2 - Updated July 2006 to increase accuracy and reproducibility among users Updated Oct 2008 with the new WDFW definitions for priority habitats

Name of wet	land (if known): <u>TAL</u> -	1147B Wetla	and M and P	Date o	f site visit	:: <u>12-6-2</u> 018
Rated by	Kellen Maloney	Traine	ed by Ecology?	Yes_No_	_ Date of	f training 10-2018
SEC: <u>8</u> TV	WNSHP: 25N RNGE	6E Is S/T/R	in Appendix I)? Yes	No	
	Map of wetland	unit: Figure _	Estima	ated size 0.2	25 ac	
	S	SUMMARY	OF RATI	NG		
Category l	based on FUNCTI	ONS provide	ed by wetlan	d		
Ι		[V_•				
Catalana	- C>-70	So	core for Water	Quality Fund	etions	0
	= Score >=70 I = Score 51-69		Score for Hyd	drologic Func	etions	0
	II = Score 30-50		•	Habitat Func		20
	V = Score < 30			ore for Func		20
	based on SPECIA II Does not		ΓERISTICS	of wetland	i	
*	Final Category		nighest" catego	ory from abo	ove)	Cat. IV
	Summary of	f basic informat	tion about the	wetland uni	t	
	Wetland Unit has S			d HGM Cla		
	Characteristics			for Rating		
	Estuarine		Depressio	nal		
	N-41 III VI	7 - 411	D:			1

Summary of basic information about the wettand unit			
Wetland Unit has Special		Wetland HGM Class	
Characteristics		used for Rating	
Estuarine		Depressional	
Natural Heritage Wetland		Riverine	
Bog		Lake-fringe	
Mature Forest		Slope	~
Old Growth Forest		Flats	
Coastal Lagoon		Freshwater Tidal	
Interdunal			
None of the above	~	Check if unit has multiple	
		HGM classes present	

Does the wetland unit being rated meet any of the criteria below?

If you answer YES to any of the questions below you will need to protect the wetland according to the regulations regarding the special characteristics found in the wetland.

Check List for Wetlands That May Need Additional Protection (in addition to the protection recommended for its category)	YES	NO
SP1. Has the wetland unit been documented as a habitat for any Federally listed Threatened or Endangered animal or plant species (T/E species)? For the purposes of this rating system, "documented" means the wetland is on the appropriate state or federal database.		~
SP2. Has the wetland unit been documented as habitat for any State listed Threatened or Endangered animal species? For the purposes of this rating system, "documented" means the wetland is on the appropriate state database. Note: Wetlands with State listed plant species are categorized as Category I Natural Heritage Wetlands (see p. 19 of data form).		V
SP3. Does the wetland unit contain individuals of Priority species listed by the WDFW for the state?		~
SP4. Does the wetland unit have a local significance in addition to its functions? For example, the wetland has been identified in the Shoreline Master Program, the Critical Areas Ordinance, or in a local management plan as having special significance.		~

To complete the next part of the data sheet you will need to determine the Hydrogeomorphic Class of the wetland being rated.

The hydrogeomorphic classification groups wetlands into those that function in similar ways. This simplifies the questions needed to answer how well the wetland functions. The Hydrogeomorphic Class of a wetland can be determined using the key below. See p. 24 for more detailed instructions on classifying wetlands.

Classification of Wetland Units in Western Washington

If the 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 (i.e. except during floods)?
 ✓ NO – go to 2
 YES – the wetland class is Tidal Fringe
 If yes, is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per

thousand)? YES – Freshwater Tidal Fringe NO – Saltwater Tidal Fringe (Estuarine)

If your wetland can be classified as a Freshwater Tidal Fringe use the forms for Riverine

If your wetland can be classified as a Freshwater Tidal Fringe use the forms for **Riverine** wetlands. If it is Saltwater Tidal Fringe it is rated as an **Estuarine** wetland. Wetlands that were called estuarine in the first and second editions of the rating system are called Salt Water Tidal Fringe in the Hydrogeomorphic Classification. Estuarine wetlands were categorized separately in the earlier editions, and this separation is being kept in this revision. To maintain consistency between editions, the term "Estuarine" wetland is kept. Please note, however, that the characteristics that define Category I and II estuarine wetlands have changed (see p.).

- 2. The entire wetland unit is flat and precipitation is the only source (>90%) of water to it. Groundwater and surface water runoff are NOT sources of water to the unit.
- \checkmark NO go to 3 **YES** The wetland class is **Flats**

If your wetland can be classified as a "Flats" wetland, use the form for **Depressional** wetlands.

- **3.** Does the entire wetland unit **meet both** of the following criteria?
 - __The vegetated part of the wetland is on the shores of a body of permanent open water (without any vegetation on the surface) at least 20 acres (8 ha) in size;

At least 30% of the open water area is deeper than 6.6 ft (2 m)?

- ✓ NO go to 4 YES The wetland class is Lake-fringe (Lacustrine Fringe)
- **4.** Does the entire wetland unit **meet all** of the following criteria?
 - The wetland is on a slope (*slope can be very gradual*),
 - The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks.
 - The water leaves the wetland without being impounded?

 NOTE: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3ft diameter and less than 1 foot deep).

NO - go to 5 **✓ YES** – The wetland class is **Slope**

- 5. Does the entire wetland unit **meet all** of the following criteria?
 - The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river
 - The overbank flooding occurs at least once every two years.

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

- ✓ NO go to 6 YES The wetland class is Riverine
- 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.
- \checkmark NO go to 7 **YES** The wetland class is **Depressional**
- 7. Is the entire wetland unit located in a very flat area with no obvious depression and no overbank flooding. The unit does not pond surface water more than a few inches. The unit seems to be maintained by high groundwater in the area. The wetland may be ditched, but has no obvious natural outlet.
- ✓ NO go to 8 YES The wetland class is **Depressional**
- **8**. Your wetland unit seems to be difficult to classify and probably contains several different HGM clases. 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 your wetland. 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 class listed in column 2 is less than 10% of the unit; classify the wetland using the class that represents more than 90% of the total area.

HGM Classes within the wetland unit being rated	HGM Class to Use in Rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake-fringe	Lake-fringe
Depressional + Riverine along stream within boundary	Depressional
Depressional + Lake-fringe	Depressional
Salt Water Tidal Fringe and any other class of freshwater	Treat as ESTUARINE under
wetland	wetlands with special
	characteristics

If you are unable still 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.

S	Slope Wetlands WATER QUALITY FUNCTIONS - Indicators that the wetland unit functions to improve water quality	Points (only 1 score per box)
S	S 1. Does the wetland unit have the <u>potential</u> to improve water quality?	(see p.64)
S	S 1.1 Characteristics of average slope of unit: Slope is 1% or less (a 1% slope has a 1 foot vertical drop in elevation for every 100 ft horizontal distance) Slope is 1% - 2% Slope is 2% - 5% Slope is greater than 5% points = 1 points = 0	0
S	S 1.2 The soil 2 inches below the surface (or duff layer) is clay or organic <i>(use NRCS definitions)</i> YES = 3 points NO = 0 points	0
S	S 1.3 Characteristics of the vegetation in the wetland that trap sediments and pollutants: Choose the points appropriate for the description that best fits the vegetation in the wetland. Dense vegetation means you have trouble seeing the soil surface (>75% cover), and uncut means not grazed or mowed and plants are higher than 6 inches. Dense, uncut, herbaceous vegetation > 90% of the wetland area points = 6 Dense, uncut, herbaceous vegetation > 1/2 of area points = 3 Dense, woody, vegetation > $\frac{1}{2}$ of area points = 2 Dense, uncut, herbaceous vegetation > $\frac{1}{4}$ of area points = 1 Does not meet any of the criteria above for vegetation polygons	Figure
S	Total for S 1 Add the points in the boxes above	0
S	S 2. Does the wetland unit have the <u>opportunity</u> to improve water quality? Answer YES if you know or believe there are pollutants in groundwater or surface water coming into the wetland that would otherwise reduce water quality in streams, lakes or groundwater downgradient from the wetland. Note which of the following conditions provide the sources of pollutants. A unit may have pollutants coming from several sources, but any single source would qualify as opportunity. — Grazing in the wetland or within 150ft	(see p.67)
	 Untreated stormwater discharges to wetland Tilled fields, logging, or orchards within 150 feet of wetland Residential, urban areas, or golf courses are within 150 ft upslope of wetland Other YES multiplier is 2 NO multiplier is 1 	multiplier 1 ——
S	TOTAL - Water Quality Functions Multiply the score from S1 by S2 Add score to table on p. 1	0

S	Slope Wetlands HYDROLOGIC FUNCTIONS - Indicators that the wetland unit functions to reduce flooding and stream erosion	Points (only 1 score per box)
	S 3. Does the wetland unit have the <u>potential</u> to reduce flooding and stream erosion?	(see p.68)
S	S 3.1 Characteristics of vegetation that reduce the velocity of surface flows during storms. Choose the points appropriate for the description that best fit conditions in the wetland. (stems of plants should be thick enough (usually > 1/8in), or dense enough, to remain erect during surface flows) Dense, uncut, rigid vegetation covers > 90% of the area of the wetland. Dense, uncut, rigid vegetation > 1/2 area of wetland Dense, uncut, rigid vegetation > 1/4 area points = 1 More than 1/4 of area is grazed, mowed, tilled or vegetation is not rigid points = 0	0
S	S 3.2 Characteristics of slope wetland that holds back small amounts of flood flows: The slope wetland has small surface depressions that can retain water over at least 10% of its area. YES points = 2 NO points = 0	0
S	Add the points in the boxes above	0
S	S 4. Does the wetland have the <u>opportunity</u> to reduce flooding and erosion? Is the wetland in a landscape position where the reduction in water velocity it provides helps protect downstream property and aquatic resources from flooding or excessive and/or erosive flows? <i>Note which of the following conditions apply.</i> — Wetland has surface runoff that drains to a river or stream that has flooding problems	(see p. 70)
	— Other	multiplier
	(Answer NO if the major source of water is controlled by a reservoir (e.g. wetland is a seep that is on the downstream side of a dam) YES multiplier is 2 NO multiplier is 1	
S	TOTAL - Hydrologic Functions Multiply the score from S 3 by S 4 <i>Add score to table on p. 1</i>	0

These questions apply to wetlands of all HGM HABITAT FUNCTIONS - Indicators that unit function		habitat	Points (only 1 score per box)
H 1. Does the wetland unit have the potential to pr	ovide habitat for many	species?	
H 1.1 Vegetation structure (see p. 72)			Figure
Check the types of vegetation classes present (as defined		old for each	
class is ¼ acre or more than 10% of the area if unit is	s smaller than 2.5 acres.		
Aquatic bed			
Emergent plants Scrub/shrub (areas where shrubs have >30% of the shrubs have >	cover)		
Forested (areas where trees have >30% cover			
If the unit has a forested class check if:	,		
The forested class has 3 out of 5 strata (cano	py, sub-canopy, shrubs, her	baceous,	0
moss/ground-cover) that each cover 20%			
Add the number of vegetation structures that qualify. If			
	4 structures or more	points $= 4$	
Map of Cowardin vegetation classes	3 structures 2 structures	points = 2 $points = 1$	
	1 structure	points - 1 $points = 0$	
H 1.2. <u>Hydroperiods</u> (see p. 73)	1 Structure	pomis	Figure
Check the types of water regimes (hydroperiods) pre	esent within the wetland. T	he water	3
regime has to cover more than 10% of the wetland or			
descriptions of hydroperiods)			
Permanently flooded or inundated	4 or more types present	points $= 3$	
Seasonally flooded or inundated	3 types present	points $= 2$	
Occasionally flooded or inundated Saturated only	2 types present 1 type present	point = 1 $points = 0$	0
Permanently flowing stream or river in, or adja	~	points – o	
Seasonally flowing stream in, or adjacent to, the			
Lake-fringe wetland = 2 points	10 110111111		
Freshwater tidal wetland = 2 points	Map of hydro	periods	
H 1.3. Richness of Plant Species (see p. 75)			
Count the number of plant species in the wetland that	at cover at least 10 ft ² . (diff	erent patches	
of the same species can be combined to meet the size	e threshold)		
You do not have to name the species.	1 1	1. 771 1	
Do not include Eurasian Milfoil, reed canarygra			
If you counted: <i>List species below if you want to:</i>	> 19 species 5 - 19 species	points = 2 points = 1	
List species below if you want to.		points $= 1$ points $= 0$	
	v 5 species	points	1

Total for page ____1

H 1.4. <u>Interspersion of habitats</u> (see p. 76) Decide from the diagrams below whether interspersion between Cowardin vegetation classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, medium, low, or none.	Figure
None = 0 points Low = 1 point Moderate = 2 points	
High = 3 points NOTE: If you have four or more classes or three vegetation classes and open water the rating is always "high". Use map of Cowardin vegetation classes	0
H 1.5. Special Habitat Features: (see p. 77) Check the habitat features that are present in the wetland. The number of checks is the number of points you put into the next column. Large, downed, woody debris within the wetland (>4in. diameter and 6 ft long). Standing snags (diameter at the bottom > 4 inches) in the wetland Undercut banks are present for at least 6.6 ft (2m) and/or overhanging vegetation extends at least 3.3 ft (1m) over a stream (or ditch) in, or contiguous with the unit, for at least 33 ft (10m) 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 turned grey/brown) At least ¼ acre of thin-stemmed persistent vegetation 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 each stratum of plants NOTE: The 20% stated in early printings of the manual on page 78 is an error.	3
H 1. TOTAL Score - potential for providing habitat Add the scores from H1.1, H1.2, H1.3, H1.4, H1.5	4

H 2. Does the wetland unit have the opportunity to provide habitat for many species?	
H 2.1 <u>Buffers</u> (see p. 80)	Figure
Choose the description that best represents condition of buffer of wetland unit. The highest scoring	
criterion that applies to the wetland is to be used in the rating. See text for definition of	
"undisturbed."	
[✓] 100 m (330ft) of relatively undisturbed vegetated areas, rocky areas, or open water >95%	
of circumference. No structures are within the undisturbed part of buffer. (relatively	
undisturbed also means no-grazing, no landscaping, no daily human use) Points = 5	
— 100 m (330 ft) of relatively undisturbed vegetated areas, rocky areas, or open water >	
50% circumference. Points = 4	
— 50 m (170ft) of relatively undisturbed vegetated areas, rocky areas, or open water >95%	
circumference. Points = 4	
— 100 m (330ft) of relatively undisturbed vegetated areas, rocky areas, or open water > 25%	
circumference, . Points = 3	5
— 50 m (170ft) of relatively undisturbed vegetated areas, rocky areas, or open water for >	
50% circumference. Points = 3	
If buffer does not meet any of the criteria above	
— No paved areas (except paved trails) or buildings within 25 m (80ft) of wetland > 95%	
circumference. Light to moderate grazing, or lawns are OK. Points = 2	
 No paved areas or buildings within 50m of wetland for >50% circumference. Light to moderate grazing, or lawns are OK. Points = 2	
\mathcal{E}	
 Heavy grazing in buffer. Vegetated buffers are <2m wide (6.6ft) for more than 95% of the circumference (e.g. tilled 	
\sim Vegetated burners are \sim 211 wide (0.011) for more than 95% of the circumference (e.g. three fields, paving, basalt bedrock extend to edge of wetland Points = 0 .	
- Buffer does not meet any of the criteria above. Points = 1	
Aerial photo showing buffers	
H 2.2 Corridors and Connections (see p. 81)	
$\overline{4}$ H 2.2.1 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor	
(either riparian or upland) that is at least 150 ft wide, has at least 30% cover of shrubs, forest	
or native undisturbed prairie, that connects to estuaries, other wetlands or undisturbed	
uplands that are at least 250 acres in size? (dams in riparian corridors, heavily used gravel	
roads, paved roads, are considered breaks in the corridor).	
YES = 4 points $(go \ to \ H \ 2.3)$ NO = go to H 2.2.2	
H 2.2.2 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor	
(either riparian or upland) that is at least 50ft wide, has at least 30% cover of shrubs or	2
forest, and connects to estuaries, other wetlands or undisturbed uplands that are at least 25 acres in size? OR a Lake-fringe wetland, if it does not have an undisturbed corridor as in	
the question above?	
$\checkmark \text{ YES} = 2 \text{ points } (go \text{ to } H \text{ 2.3}) $ NO = H 2.2.3	
H 2.2.3 Is the wetland:	
within 5 mi (8km) of a brackish or salt water estuary OR	
within 3 mi of a large field or pasture (>40 acres) OR	
within 1 mi of a lake greater than 20 acres?	
YES = 1 point NO = 0 points	

Total for page 7

H 2.3 Near or adjacent to other priority habitats listed by WDFW (see new and complete	
descriptions of WDFW priority habitats, and the counties in which they can be found, in	
the PHS report http://wdfw.wa.gov/hab/phslist.htm)	
Which of the following priority habitats are within 330ft (100m) of the wetland unit? NOTE: the	
connections do not have to be relatively undisturbed.	
Aspen Stands: Pure or mixed stands of aspen greater than 0.4 ha (1 acre).	
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 p. 152).	
Herbaceous Balds: Variable size patches of grass and forbs on shallow soils over bedrock.	
Old-growth/Mature forests: (Old-growth west of Cascade crest) Stands of at least 2 tree	
species, forming a multi-layered canopy with occasional small openings; with at least 20	
trees/ha (8 trees/acre) $>$ 81 cm (32 in) dbh or $>$ 200 years of age. (Mature forests) Stands	
with average diameters exceeding 53 cm (21 in) dbh; crown cover may be less that 100%;	
crown cover may be less that 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: Woodlands 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).	
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).	
Instream: The combination of physical, biological, and chemical processes and conditions	4
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: pp. 167-169 and glossary in	
Appendix A).	
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 7.6 m (25 ft) high and occurring below 5000 ft.	
Talus: Homogenous areas of rock rubble ranging in average size 0.15 - 2.0 m (0.5 - 6.5 ft),	
composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine	
tailings. May be associated with cliffs.	
Snags and Logs: Trees are considered snags if they are dead or dying and exhibit sufficient	
decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a	
diameter at breast height of > 51 cm (20 in) in western Washington and are > 2 m (6.5 ft) in	
height. Priority logs are > 30 cm (12 in) in diameter at the largest end, and > 6 m (20 ft)	
long.	
If wetland has 3 or more priority habitats = 4 points	
If wetland has 2 priority habitats = 3 points	
If wetland has 1 priority habitat = 1 point No habitats = 0 points	
Note: All vegetated wetlands are by definition a priority habitat but are not included in this	
list. Nearby wetlands are addressed in question H 2.4)	

H 2.4 Wetland Landscape (choose the one description of the landscape around the wetland that best fits) (see p. 84) There are at least 3 other wetlands within ½ mile, and the connections between them are relatively undisturbed (light grazing between wetlands OK, as is lake shore with some boating, but connections should NOT be bisected by paved roads, fill, fields, or other development. The wetland is Lake-fringe on a lake with little disturbance and there are 3 other lake-fringe wetlands within ½ mile There are at least 3 other wetlands within ½ mile, BUT the connections between them are disturbed The wetland is Lake-fringe on a lake with disturbance and there are 3 other lake-fringe wetland within ½ mile There is at least 1 wetland within ½ mile. There are no wetlands within ½ mile. There are no wetlands within ½ mile.	5
H 2. TOTAL Score - opportunity for providing habitat Add the scores from H2.1,H2.2, H2.3, H2.4	16
TOTAL for H 1 from page 14	4
Total Score for Habitat Functions – add the points for H 1, H 2 and record the result on p. 1	20

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Please determine if the wetland meets the attributes described below and circle the appropriate answers and Category.

Wetland Type	Category		
Check off any criteria that apply to the wetland. Circle the Category when the			
appropriate criteria are met.			
SC 1.0 Estuarine wetlands (see p. 86)			
Does the wetland unit meet the following criteria for Estuarine wetlands?			
— The dominant water regime is tidal,			
— Vegetated, and			
— With a salinity greater than 0.5 ppt.			
$YES = Go to SC 1.1 \qquad NO \underline{\hspace{1em}}$			
SC 1.1 Is the wetland unit 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 acre in size and meets at least two of the following three conditions? YES = Category I NO = Category II — The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less than 10% cover of non-native plant species. If the non-native <i>Spartina</i> spp. are the only species that cover more than 10% of the wetland, then the wetland should be given a dual rating (I/II). The area of Spartina would be rated a Category II while the relatively undisturbed upper marsh with native species would be a Category I. Do not, however, exclude the area of Spartina in determining the size threshold of 1 acre. — At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland. — The wetland has at least 2 of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands.	No		

SC 2.0 Natural Heritage Wetlands (see p. 87) Natural Heritage wetlands have been identified by the Washington Natural Heritage Program/DNR as either high quality undisturbed wetlands or wetlands that support state Threatened, Endangered, or Sensitive plant species. SC 2.1 Is the wetland unit being rated in a Section/Township/Range that contains a Natural Heritage wetland? (this question is used to screen out most sites before you need to contact WNHP/DNR) S/T/R information from Appendix D or accessed from WNHP/DNR web site YES contact WNHP/DNR (see p. 79) and go to SC 2.2 NO SC 2.2 Has DNR identified the wetland as a high quality undisturbed wetland or as or as a site with state threatened or endangered plant species? YES = Category I NO not a Heritage Wetland	No			
SC 3.0 Bogs (see p. 87) Does the wetland unit (or any part of the unit) meet both the criteria for soils and vegetation in bogs? Use the key below to identify if the wetland is a bog. If you answer yes you will still need to rate the wetland based on its functions.				
1. Does the unit have organic soil horizons (i.e. layers of organic soil), either peats or mucks, that compose 16 inches or more of the first 32 inches of the soil profile? (See Appendix B for a field key to identify organic soils)? Yes - go to Q. 3 No - go to Q. 2				
2. Does the unit have organic soils, either peats or mucks that are less than 16 inches deep over bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on a lake or pond?				
Yes - go to Q. 3 No - Is not a bog for purpose of rating				
3. Does the unit have more than 70% cover of mosses at ground level, AND other plants, if present, consist of the "bog" species listed in Table 3 as a significant component of the vegetation (more than 30% of the total shrub and herbaceous cover consists of species in Table 3)?	No			
Yes – Is a bog for purpose of rating No - go to Q. 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" deep. If the pH is less than 5.0 and the "bog" plant species in Table 3 are present, the wetland is a bog.				
1. Is the unit forested (> 30% cover) with sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Englemann's spruce, or western white pine, WITH any of the species (or combination of species) on the bog species plant list in Table 3 as a significant component of the ground cover (> 30% coverage of the total shrub/herbaceous cover)?				
2. YES = Category I No Is not a bog for purpose of rating				

Does the wetland unit have at least 1 acre of forest that meet one of these criteria for the Department of Fish and Wildlife's forests as priority habitats? If you answer yes you will still need to rate the wetland based on its functions. — Old-growth forests: (west of Cascade crest) Stands of at least two tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/acre (20 trees/hectare) that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 inches (81 cm) or more. NOTE: The criterion for dbh is based on measurements for upland forests. Two-hundred year old trees in wetlands will often have a smaller dbh because their growth rates are often slower. The DFW criterion is and "OR" so old-growth forests do not necessarily have to have trees of this diameter. — Mature forests: (west of the Cascade Crest) Stands where the largest trees are 80 – 200 years old OR have average diameters (dbh) exceeding 21 inches (53cm); crown cover may be less that 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth.	No
YES = Category I NOnot a forested wetland with special characteristics	
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 surface water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (needs to be measured near the bottom) YES = Go to SC 5.1 NO not a wetland in a coastal lagoon SC 5.1 Does the wetland meets 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 invasive plant species (see list of invasive species on p. 74). — At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland. — The wetland is larger than 1/10 acre (4350 square feet) YES = Category I NO = Category II	No

SC 6.0 Interdunal Wetlands (see p. 93)			
Is the wetland unit west of the 1889 line (also called the Western Boundary of Upland			
Ownership or WBUO)?			
YES - go to SC 6.1 NO not an interdunal wetland for rating			
If you answer yes you will still need to rate the wetland based on its			
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			
SC 6.1 Is the wetland one acre or larger, or is it in a mosaic of wetlands that is once acre or larger?			
YES = Category II $NO - go to SC 6.2$			
SC 6.2 Is the unit between 0.1 and 1 acre, or is it in a mosaic of wetlands that is between 0.1 and 1 acre?			
YES = Category III			
Category of wetland based on Special Characteristics			
Choose the "highest" rating if wetland falls into several categories, and record on			
p. 1.			
If you answered NO for all types enter "Not Applicable" on p.1			

APPENDIX C

Sheet W1.0 – Existing Conditions Plan

Sheet W1.1 – Existing Conditions Plan

Sheet W1.2 – Proposed Site Plan, Impacts & Mitigation Overview Plan

Sheet W1.3 - Impacts & Mitigation Viewport & Conceptual Planting List





CONTACTS

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PROPERTY OWNER

THE ESTATE OF BARBARA J. NELSON AND THE WCN GST NONEXEMPT MARITAL TRUST #2

16508 NE 79TH STREET REDMOND, WA 98052 (425) 881-7831

PHONE: CONTACT: WILLIAM C. NELSON, JR.

ENGINEER AND SURVEYOR

ESM CONSULTING ENGINEERS, LLC 33400 8TH AVE S, SUITE 205 ADDRESS: FEDERAL WAY, WA 98003 PHONE: (800) 345-5694 ERIC LABRIE, A.I.C.P.

ENVIRONMENTAL CONSULTANT

TALASAEA CONSULTANTS, INC. NAME: ADDRESS: 15020 BEAR CREEK RD. NE WOODINVILLE, WA 98077

PHONE: (425) 861-7550

ANN OLSEN, SENIOR PROJECT MANAGAER JENNIFER MARRIOTT

PWS, SENIOR WETLAND ECOLOGIST

SHEET INDEX

SHE	- '	
NUM	BER_	SHEET TITLE
MI.	0	EXISTING CONDITIONS PLAN
MI.		EXISTING CONDITIONS PLAN
MI	2	PROPOSED SITE PLAN, IMPACTS & MITIGATION OVERVIEW PLAN
	_	IMPACTS & MITIGATION VIEWPORT
MI.	3	IMPACTS & MITIGATION VIEWPORT & CONCEPTUAL PLANTING LIST

NOT FOR CONSTRUCTION THESE PLANS HAVE BEEN SUBMITTED TO THE APPROPRIATE AGENCIES FOR REVIEW AND APPROVAL. UNTIL APPROVED,

THESE PLANS ARE: SUBJECT TO REVISION

Know what's **below.** Call before you dig.

SURVEY AND SITE PLAN PROVIDED BY ESM CONSULTING ENGINEERS, LLC , 33400 8TH AVE S, FEDERAL WAY, WA 98003, (800) 345-9694.
SOURCE DRAWING WAS MODIFIED BY
TALASAEA CONSULTANTS FOR VISUAL

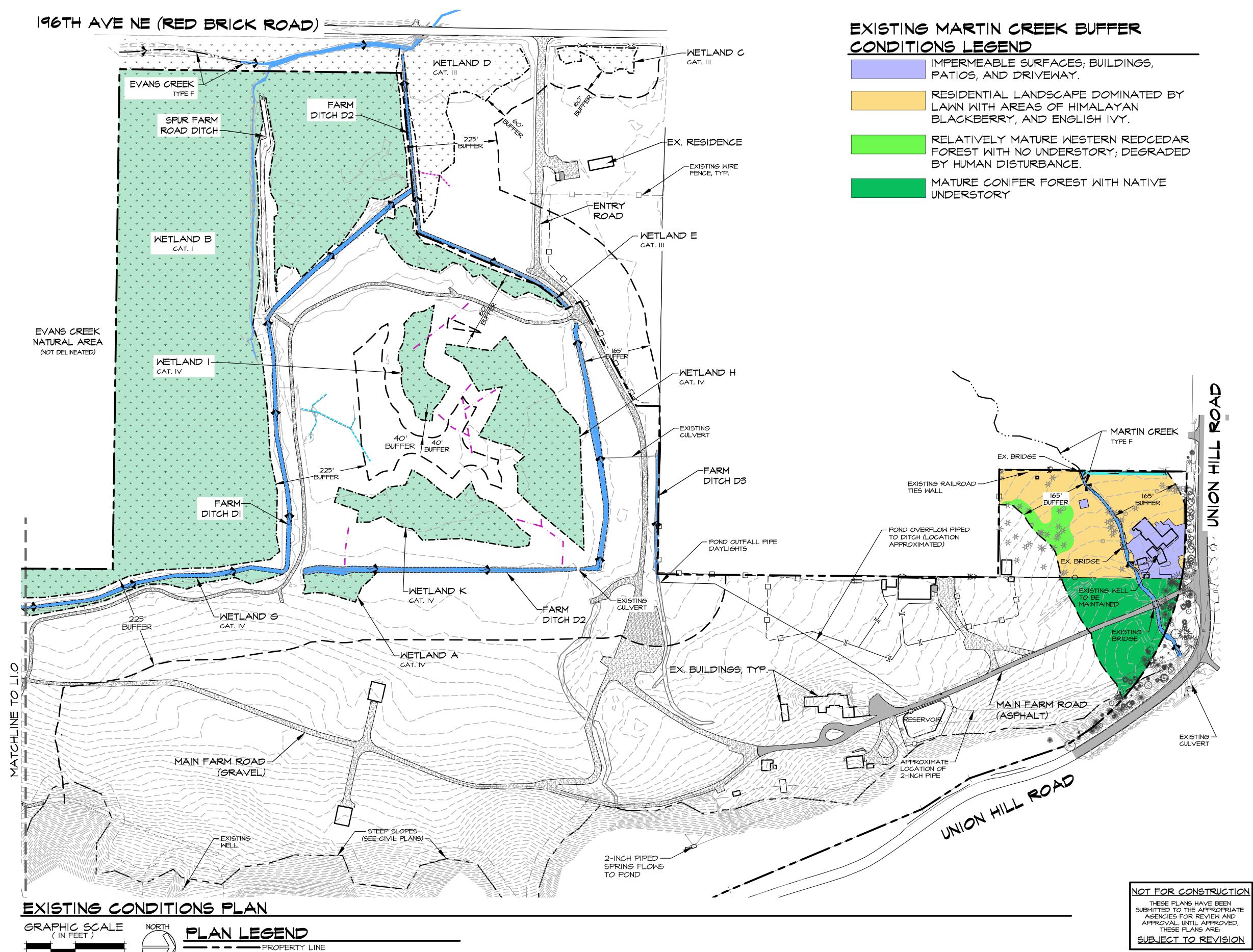
ENHANCEMENT. THIS PLAN IS AN ATTACHMENT TO THE

CRITICAL AREAS REPORT PREPARED BY TALASAEA CONSULTANTS IN FEBRUARY, 2018.

2-27-2018 AS NOTED Scale Designed AO
Drawn MM
Checked AO
Approved BS

Project #<u>1147B</u>

Sheet # M.O



0 60 120

SCALE: | "=|20"

EXISTING WETLAND

- - APPROXIMATE STREAM CENTERLINE

FIELD DRAIN CENTERLINE

(NOT SURVEYED)

- - - - - - - - - SWALE CENTERLINE

---- EXISTING 2-FT CONTOUR

- APPROXIMATED WETLAND BOUNDARY

STREAM ORDINARY HIGH WATER MARK (OHWM)

- CRITICAL AREAS BUFFER / SPLIT RAIL FENCE

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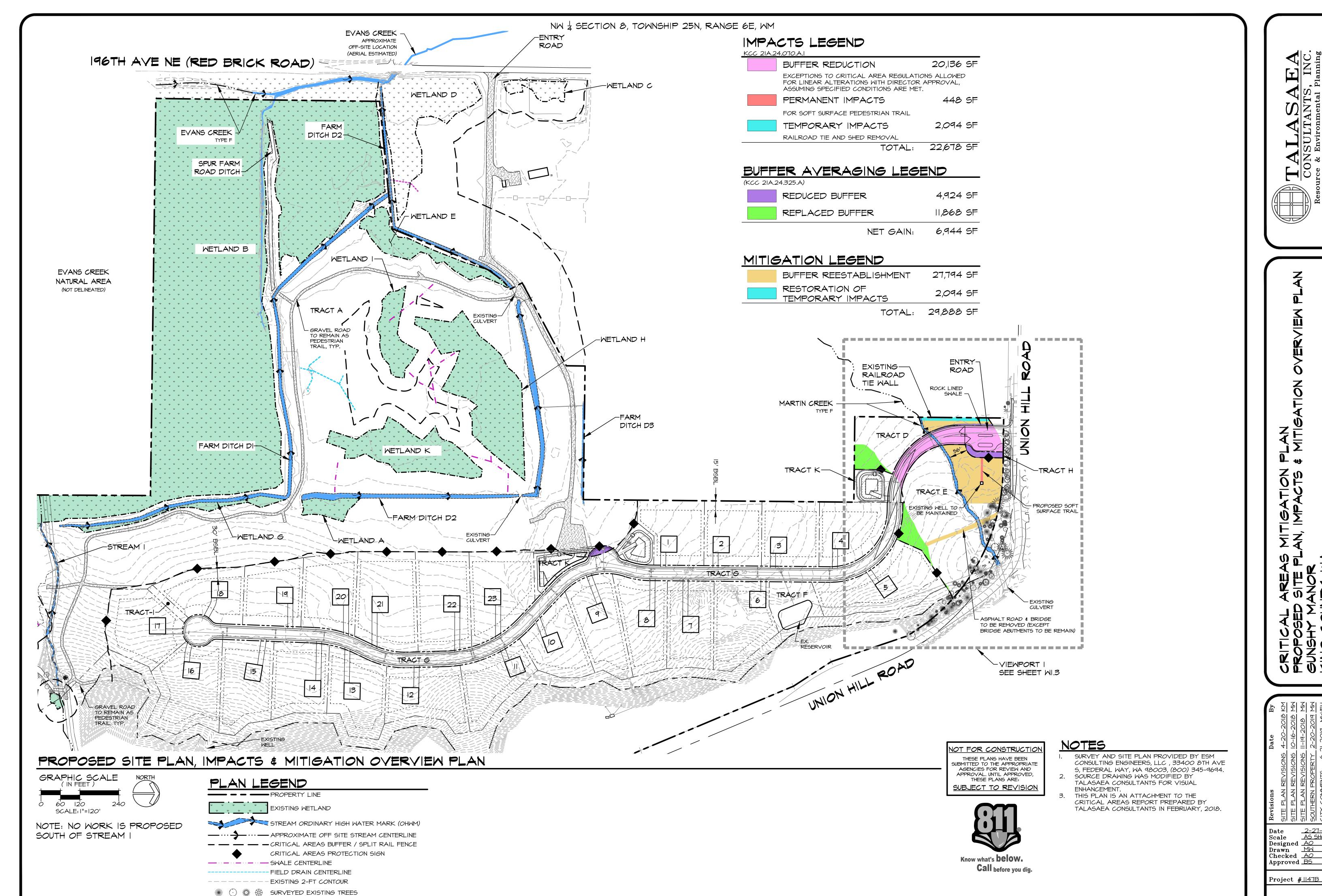
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Sheet # MI



 $\frac{O}{N}$

2-27-2018 AS SHOWN

Sheet # M.2

CONCEPTUAL PLANT LIST

OUTION TO THE	
TREES SCIENTIFIC NAME	COMMON NAME
ACER MACROPHYLLUM	BIGLEAF MAPLE
BETULA PAPYRIFERA	PAPER BIRCH
CORNUS NUTTALLII	PACIFIC DOGWOOD
FRANGULA PURSHIANA	CASCARA
PRUNUS EMARGINATA	BITTERCHERRY
PSEUDOTSUGA MENZIESII	DOUGLAS FIR
PSEUDOTUSGA MENZIESII	DOUGLAS FIR
THUJA PICATA	WESTERN RED CEDAR
SMALL TREES/LARGE S	SHRUBS COMMON NAME
ACER CIRCINATUM	VINE MAPLE
AMELANCHIED ALNIEGLIA	SEDVICERED DY

AMELANCHIER ALNIFOLIA SERVICEBERRY CORYLUS CORNUTA WESTERN HAZELNUT INDIAN PLUM OEMLERIA CERASIFORMIS RIBES SANGUINEUM RED CURRANT SALIX STICHENSIS SITKA WILLOW SAMBUCUS RACEMOSA RED ELDERBERRY

MASSING SHRUBS

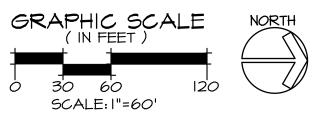
SCIENTIFIC NAME COMMON NAME CORNUS ALBA (SERICEA) RED-OSIER DOGWOOD ROSA NUTKANA NOOTKA ROSE RUBUS PARVIFLORUS THIMBLEBERRY RUBUS SPECTABILIS SALMONBERRY SYMPHORICARPOS ALBUS COMMON SNOWBERRY

GROUNDCOVER

SCIENTIFIC NAME COMMON NAME GAULTHERIA SHALLON SALAL POLYSTICHUM MUNITUM SWORD FERN

YIEMPORT I:

IMPACT & MITIGATION



NOTE: NO WORK IS PROPOSED SOUTH OF STREAM I

PLAN LEGEND EXISTING WETLAND STREAM ORDINARY HIGH WATER MARK (OHWM) - - - CRITICAL AREAS BUFFER / SPLIT RAIL FENCE CRITICAL AREAS PROTECTION SIGN - - - - - - - - - SWALE CENTERLINE FIELD DRAIN CENTERLINE ----EXISTING 2-FT CONTOUR ※
※
※
※
SURVEYED EXISTING TREES

MITIGATION LEGEND BUFFER REDUCTION REPLACED BUFFER REDUCED BUFFER PERMANENT IMPACTS BUFFER REESTABLISHMENT RESTORATION OF TEMPORARY IMPACTS

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 2-27-2018

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 MM

 Checked AO
 Approved BS

Project #<u>1147B</u>

Sheet # **M.3**