CRITICAL AREA STUDY
AND
BUFFER MITIGATION PLAN

FOR

ALLEN TOWNHOMES

ARLINGTON, WA

Wetland Resources, Inc. Project #21282

Prepared By
Wetland Resources, Inc.
9505 19th Avenue SE, Suite 106
Everett, WA 98208
(425) 337-3174

Prepared For
JM1 Holdings, LLC
c/o Land Pro Group, Inc.
10515 20th Street SE, #202
Lake Stevens, WA 98258

October 4, 2022

TABLE OF CONTENTS

LIST OF APPENDICES

LIST OF FIGURES

1.0 INTRODUCTION

Wetland Resources, Inc. (WRI) conducted a site investigation on December 6, 2021, to identify and evaluate wetlands, waterbodies, and fish and wildlife conservation areas on the subject property. The five-acre site is composed of two parcels (31052400300900 and 31052400301000), located at 8927 172nd Street NE, in the city limits of Arlington, Washington. The Public Land Survey System (PLSS) locator for the property is Section 24, Township 31N, Range 5E, W.M. The site is situated within the Portage Creek Sub-Basin of the Stillaguamish watershed (WRIA 5).

Figure 1 – Aerial view of the subject property (not to scale).

1.1 SITE DESCRIPTION

The property is currently developed with a single-family residence, several outbuildings, and associated infrastructure. A majority of the property was historically converted to pasture, with scattered trees. The eastern fringe of the site is forested. Vegetation on site includes Western red cedar (*Thuja plicata)*, red alder (*Alnus rubra)*, salmonberry (*Rubus spectabilis)*, mixed grasses, Himalayan blackberry (*Rubus armeniacus)*, reed canarygrass (*Phalaris arundinacea*), and lady fern (*Athyrium filix-femina*). Topography underlying the site is relatively flat with a gradual northeast aspect slope. Land use in the vicinity includes a mixture of high-density and low-density residential development and undeveloped land.

One wetland (Wetland A) was identified on the site and another wetland (Wetland B) was identified off-site to the north. Pursuant to the October, 2022, revised Arlington Municipal Code (AMC) 20.93.700(a), the wetlands were rated using the *Washington State Wetland Rating System for Western Washington: 2014 Update* (Hruby, 2014). Wetlands A and B are Category III wetlands with moderate habitat scores of 6. Pursuant to the revised AMC 20.93.730(a), Table Category III wetlands with moderate habitat scores (6-7) receive 110-foot standard buffers.

1.2 PROJECT DESCRIPTION

The applicant proposes to construct a residential townhome development on the site, with associated access, tracts, and utilities. Access will be provided from the south via two drive aisles from 172nd Street NE. Buffer averaging is proposed, as described in Section 5 of this report.

2.0 REVIEW OF PUBLICLY AVAILABLE INFORMATION

Prior to conducting the site investigation, public resource information was reviewed to gather background information on the subject property and the surrounding area in regard to wetlands, streams, and other critical areas. These sources included the following:

- USDA/Natural Resources Conservation Service (NRCS) Web Soil Survey: The Web Soil Survey indicates that the subject property is underlain by Tokul gravelly medial loam, 0-8 percent slopes and 15 to 30 percent slopes. Tokul is not rated as a hydric soil.
- United States Fish and Wildlife Service (USFWS) National Wetlands Inventory: The NWI map does not depicts any wetlands or streams on or near the subject property.
- WA DNR Wetlands of High Conservation Value Map Viewer: This source does not map any resources on or near of the subject site.
- Washington Department of Fish and Wildlife (WDFW) SalmonScape Interactive Mapping System: The Salmonscape interactive map does not depict any streams on or near the subject property. The nearest mapped stream is approximately 1,500 feet off-site to the east.

- WDFW Priority Habitat and Species (PHS) Interactive Map: The PHS Interactive Map does not depict any wetlands, streams, or other Priority Habitats on or near the subject property. The nearest mapped feature is a freshwater pond, approximately 750 feet off-site to the northeast.
- Washington Department of Natural Resources (WA DNR) Forest Practices Application Mapping Tool: DNR FPAMT does not depict any wetlands or streams on or near the subject property.
- Snohomish County PDS Map Portal: The PDS Map Portal does not depict any wetlands or streams on or near the subject property.

3.0 WETLAND AND STREAM DETERMINATION

3.1 ORDINARY HIGH WATER MARK DETERMINATION METHODOLOGY

The presence of the ordinary high water marks (OHWM) of streams was determined using the methodology described in *Determining the Ordinary High Water Mark for Shoreline Management Act Compliance in Washington State* (Anderson et. al. 2016). Streams are classified according to the water typing system provided in the Washington Administrative Code (WAC), section 222-16-030, and AMC 20.93.600.

3.2 WETLAND DETERMINATION METHODOLOGY

Wetland conditions were evaluated and delineated using routine methodology described in the *Corps of Engineers Wetlands Delineation Manual* (*Final Report*; January 1987), except where superseded by the *2010 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region* (*Version 2.0*, referred to as 2010 Regional Supplement). Our findings are consistent with these manuals. The following criteria descriptions were used in the boundary determination:

1.) Examination of the site for hydrophytic vegetation (species present and percent cover);

2.) Examination of the site for hydric soils;

3.) Determining the presence of wetland hydrology

3.2.1 Hydrophytic Vegetation Criteria

The manuals define hydrophytic vegetation as the sum total of macrophytic plant life that occurs in areas where the frequency and duration of inundation or soil saturation produce permanently or periodically saturated soils of sufficient duration to exert a controlling influence on the plant species present. One of the most common indicators for hydrophytic vegetation is when more than 50 percent of a plant community consists of species rated "Facultative" and wetter on lists of plant species that occur in wetlands.

3.2.2 Soils Criteria

The 2010 Regional Supplement (per the National Technical Committee for Hydric Soils) defines hydric soils as soils "that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part." Field indicators are used to determine whether a given soil meets the definition for hydric soils. Indicators are numerous and include, but are not limited to, presence of a histosol or histic epipedon, a sandy gleyed matrix, depleted matrix, and redoximorphic depressions.

3.2.3 Hydrology Criteria

The 2010 Regional Supplement defines wetland hydrology as "areas that are inundated (flooded or ponded) or the water table is less than or equal to 12 inches below the soil surface for 14 or more consecutive days during the growing season at a minimum frequency of 5 years in 10." During the early growing season, wetland hydrology determinations are made based on physical observation of surface water, a high water table, or saturation in the upper 12 inches. Outside of the early growing season, wetland hydrology determinations are made based on physical evidence of recent inundation or saturation (i.e. water marks, surface soil cracks, water-stained leaves).

3.3 BOUNDARY DETERMINATION FINDINGS

One wetland (Wetland A) was identified on the project site and one wetland (Wetland B) was identified off-site to the north. Wetlands are classified under the Cowardin classification system (Cowardin et al. 1979) and under the Hydrogeomorphic classification system (Brinson, 1993). Pursuant to AMC 20.93.700, wetlands were also rated according to the Department of Ecology *Washington State Wetland Rating System for Western Washington: 2014 Update* (Hruby 2014).

3.3.1 Wetland A

2014 DOE Rating: Category III, habitat score of 6
HGM Rating Classification: Depressional
Cowardin Classification: Palustrine, Forested Wetland, Broad-Leaved Deciduous, Saturated
City of Arlington Standard Buffer: 110 Feet

Wetland A is a depressional wetland located in the eastern and northeastern portions of the site. Vegetation within this wetland includes Western red cedar (*Thuja plicata; FAC*), red alder (*Alnus rubra; FAC*), Himalayan blackberry (*Rubus armeniacus*; *FAC*), salmonberry (*Rubus spectabilis; FAC*), common rush (*Juncus effuses; FACW*), lady fern (*Athyrium filix-femina; FAC*), and creeping buttercup (*Ranunculus repens; FAC*). Dominant vegetation is rated as facultative (FAC) or wetter and therefore represents a hydrophytic plant community.

The top eight inches of soil within Wetland A is black (10YR 2/1) sandy loam with dark yellowish brown (10YR 4/4) redoximorphic concentrations present in the matrix. From eight to 16 inches in depth, the soil is very dark grayish brown (10YR 3/2) and contains dark yellowish brown (10YR 4/4) redoximorphic concentrations. These soils meet the criteria for the hydric soil indicator Redox Dark Surface (F6). Wetland A is hydrologically supported by groundwater and precipitation. Soils were saturated at four inches below the surface during the December 2021 site visit. Sheet flow was observed within areas of the wetland.

The presence of hydrophytic vegetation, hydric soils, and multiple secondary wetland hydrology indicators indicate that the area mapped as Wetland A is saturated or inundated long enough during the growing season to develop anaerobic conditions in the upper portion of the soil profile.

Figure 2 – Wetland A (facing northeast; December 2021).

3.3.2 Wetland B

2014 DOE Rating: Category III, habitat score of 6
HGM Rating Classification: Depressional
Cowardin Classification: Palustrine, Forested Wetland, Broad-Leaved Deciduous, Saturated
City of Arlington Standard Buffer: 110 Feet

Wetland B is a depressional wetland that was historically an extension of Wetland A. A gravel road along the northern property line separates the two wetland units. Vegetation within this wetland includes Western red cedar (*Thuja plicata; FAC*), red alder (*Alnus rubra; FAC*), Himalayan blackberry (*Rubus armeniacus*; *FAC*), salmonberry (*Rubus spectabilis; FAC*), and lady fern (*Athyrium filix-femina; FAC*). Dominant vegetation is rated as facultative (FAC) or wetter and therefore represents a hydrophytic plant community.

Due to lack of legal access, soils within Wetland B were not observed. It is our best professional opinion based on a hydrophytic plant communty, observed saturation and sheet flow, and geomorphic postion that the area identified as Wetland B meets the critieria for a wetland. An approximate depiction of the wetland boundary is shown on the attached map and approximate wetland rating figures area provided in Appendix B.

3.3.3 Non-Wetland Areas

Vegetation in non-wetland portions of the site includes maintained lawn, pasture, red alder (*Alnus rubra*), Western red cedar (*Thuja plicata*), salmonberry (*Rubus spectabilis*), Himalayan blackberry (*Rubus armeniacus*), reed canarygrass (*Phalaris arundinacea*), creeping buttercup (*Ranunculus repens*), and trailing blackberry (*Rubus ursinus*).

Soils in the non-wetland areas are generally very dark brown (10YR 2/2) sandy loam in the upper seven inches. Soils between seven and 16 inches below the surface range from dark brown (10YR 3/3) to brown (10YR 4/3) with dark yellowish brown (10YR 3/6) redoximorphic features. The upper sixteen inches were dry to moist at the time of our December site investigation, during a period that was wetter than normal. Non-wetland soils do not meet any hydric soil indicators and were generally dry at the time of the investigation. These characteristics do not meet any wetland hydrology or hydric soil indicators.

3.3.4 Other Environmentally Critical Areas

In addition to wetlands, waterbodies, and fish and wildlife conservation areas, the City of Arlington regulates geologically hazardous areas and aquifer recharge areas under AMC 20.93. Snohomish County PDS Map Portal does not depict any aquifer recharge areas, erosion hazard areas, landslide hazard areas, seismic hazard areas, or steep slopes on the subject site. Further evaluation of these environmentally critical areas is outside the scope of this report.

4.0 WILDLIFE

Most of the southern portion of the site has previously been cleared and consists of a mix of emergent and scrub-shrub vegetation including native and non-native invasive species. The site provides resources that are beneficial to wildlife including, forage resources, seasonal water sources, thermal and hiding cover in close proximity, and large, woody debris.

Given the habitat available, mammalian species that are expected to utilize the site include: black-tailed deer (*Odocoileus hemionus ssp. columbianus*), coyote (*Canis latrans*), eastern cottontail rabbits (*Sylvilagus floridanus*), shrews (*Sorex spp.),* moles (*Scapanus spp.*), Douglas' squirrel (*Tamiasciurus douglasii*), eastern gray squirrel (*Sciurus carolinensis*), and deer mice (*Peromyscus maniculatus*).

Avian species expected to be found on the site include: American Crow (*Corvus brachyrhynchos*), Hairy Woodpecker (*Picoides villosus*), Downy Woodpecker (*Picoides pubescens*), Swainson's Thrush (*Catharus ustulatus*), American Robin (*Turdus migratorius*), House Finch (*Carpodacus mexicanus*), Black-capped Chickadee (*Poecile atricapillus*), Dark-eyed Junco (*Junco hyemalis*), and Bushtit (*Psaltriparus minimus*), Northern Flicker (*Colaptes auratus*).

Amphibians that may utilize the site include: pacific tree frog (*Hyla regilla*), northwestern salamander (*Ambystoma gracile*), and rough-skinned newt (*Taricha granulosa*).

These lists are not meant to be all-inclusive and may omit species that currently utilize or could utilize the site. The PHS online mapping tool does not identify any priority habitats or species on the subject site. No threatened or endangered species or species of local importance are known to be associated with the subject site.

5.0 BUFFER REQUIREMENTS AND PROPOSED MODIFICATIONS

5.1 BUFFER WIDTH

Pursuant to AMC 20.93.730(a)(1), for wetlands that score 6 points or more for habitat function, the application of the standard buffer widths provided in Table 20.93-4 requires analysis of a corridor connection between the wetland and other Priority Habitats. The applicable code sections are provided in italics below, with applicant responses following each in standard text.

(1) For wetlands that score 6 points or more for habitat function, the buffers in Table 20.93-4 can be used if both of the following criteria are met:

(A) A relatively undisturbed, vegetated corridor at least 100 feet wide is protected between the wetland and any other Priority Habitats as defined by the Washington State Department of Fish and Wildlife. The latest definitions of priority habitats and their locations are available on the WDFW website at: http://wdfw.wa.gov/hab/phshabs.htm.

As described in Section 2.0 above, no Priority Habitats are mapped on or near the subject property. Wetland B, located off-site to the north, meets the definition of a Priority Habitat, however, a gravel road is present between Wetlands A and B, so a vegetated corridor cannot be established between the two wetlands. No other wetlands or streams are present that could be connected with a corridor to Wetland A.

(B) The corridor must be protected for the entire distance between the wetland and the Priority Habitat by some type of legal protection such as a conservation easement.

As described above, there are no Priority Habitats present that could be connected with a corridor to Wetland A.

(C) Presence or absence of a nearby habitat must be confirmed by a qualified biologist. If no option for providing a corridor is available, Table 20.93-4 may be used with the required measures in Table 20.93-5 alone.

As a corridor is not available, Table 20.93-4 will be applied to this project. The measures required in Table 20.93-5 will also be applied, as described in Section 5.2 below.

(D) All of the measures in Table 20.93-5 are implemented, where applicable, to minimize the impacts of the adjacent land uses.

Section 5.2 below describes how the measures in Table 20.93-5 are being applied to the proposed development.

5.2 TABLE 20.93-5 MITIGATION MEASURES

As described in Section 5.1 above, the application of the standard buffer widths in Table 20.93-4 requires the implementation of the mitigation measures provided in Table 20.93-5. The following measures will be applied to this project.

Disturbance	Examples of Activities and Uses that Cause Disturbances	Required Measures to Minimize Impacts
Lights	• Parking lots • Residential	• The layout of the proposed townhomes will block a significant portion of the light generated from vehicles. • Residential building and yard lights will be low wattage lamps that will be manually controlled and generally used for short durations. • Lights along the access roads will be directed downward at the road surfaces and will not broadcast into Wetland A.
Noise	• Construction • Residential • Vehicles	• Noise from construction activities will be temporary, during daylight hours. Machinery will be turned off when not actively in use. • The layout of the proposed townhomes relative to the access roads will help block noise produced by vehicles. • Noise from the residences will be limited to low decibels that will dissipate quickly to ambient levels, consistent with other residential uses.
Toxic runoff	• Parking lots • Roads • Residential areas • Landscaping	• During the clearing and grading activities, runoff will be collected and directed to temporary stormwater facilities. • Erosion and sedimentation control measures will be in place while clearing, grading, and construction occurs. • Construction equipment will be kept outside of the wetland buffer. • All runoff from the proposed development will be collected and/or treated in a manner consistent with the applicable drainage manual.
Stormwater runoff	• Vegetation removal • Grading • Roads • Parking lots • Residential areas • Landscaping	• During clearing and grading activities, stormwater runoff will be collected and directed to temporary stormwater facilities. • Erosion and sedimentation control measures will be in place while clearing, grading, and construction occurs. • Stormwater from the proposed development will be collected and/or treated in a manner consistent with the applicable drainage manual.

Disturbance	Examples of Activities and Uses that Cause Disturbances	Required Measures to Minimize Impacts
Change in Water regime	• Impervious surfaces • Lawns • Forest and forest duff removal	• A small amount of impervious surface will be constructed for access to the project site during clearing and grading. • The stormwater management system for the proposed project, including a level spreader trench above Wetland A, is designed to ensure that hydrology within the wetland is maintained. • No forested areas will be impacted from this project.
Pets and human disturbance	• Future residents • Pets	• Critical area signage will be posted along the buffer boundary to educate residents about its location. • Critical area fencing will be constructed along the buffer boundary to keep pets and humans out of the wetland and buffer. • The townhomes will have privacy fencing around them, so the fences adjacent to buffer areas will prevent people and pets from entering them.
Dust	• Construction sites	• Dust will be controlled with best management practices, as described in the Stormwater Pollution Prevention Plan.
Disruption of corridors or connections	• Roads • Residential • Landscaping • Stormwater	• The wetland on this site is located in the northeastern portion of the site. The proposed development will not disrupt any corridors or connections to other systems.

5.3 BUFFER AVERAGING

Buffer averaging is proposed along the western buffer edge, as allowed by AMC 20.93.320. The applicable code sections are provided in italics below, with applicant responses following each in standard text.

AMC 20.93.320: Buffer widths may be modified by averaging. In no instance shall the buffer width be reduced by more than twenty-five percent of the standard buffer unless specifically identified in other sections of this chapter. Buffer width averaging shall be allowed only where the applicant demonstrates all of the following:

(1) That averaging is necessary to avoid an extraordinary hardship to the applicant caused by circumstances peculiar to the property or that there would be a benefit to the environmentally critical area;

Buffer averaging is required to allow for the proposed development. Wetland A will benefit from the buffer averaging proposal as a net increase in buffer area on the site will occur. A total of 6,909 square feet of additional buffer will be provided for 6,261 square feet of buffer reductions, yielding a net increase in 648 square feet of buffer.

(2) That the least impactive aspects of the proposed land use would be located adjacent to areas where the buffer width is reduced;

The buffer reduction areas are generally located along the backs and sides of the proposed residential units, along the stormwater vault at the northern end of Drive A, and at the northern end of Drive B. These uses are the least impactive aspects of the proposed development. Fencing and signage will be provided along the buffer edges to restrict access and educate the residents of the presence of Wetland A.

(3) That width averaging will not adversely impact the environmentally critical area functional values; and

The areas of buffer reduction will be replaced with buffer addition areas of similar vegetative quality. The net gain in buffer area on the site will result in a net lift in functional values provided by the buffer, so the averaging will not adversely impact the functional values of Wetland A.

(4) That the total area contained within the buffer after averaging is no less than that contained within the standard buffer prior to averaging.

A total of 6,909 square feet of additional buffer will be provided for 6,261 square feet of buffer reductions, yielding a net increase in 648 square feet of buffer. The total area contained within the buffer after averaging will not be less than that contained within the standard buffer prior to averaging.

5.4 BUFFER CONDITION

Pursuant to AMC 20.93.730(a)(4), the standard buffer widths provided in Table 20.93-4 "assume that the buffer is vegetated with a native plant community appropriate for the ecoregion. If the existing buffer is unvegetated, sparsely vegetated, or vegetated with invasive species that do not perform the needed functions, the buffer should either be planted to create the appropriate plant community, or the buffer should be widened to ensure that adequate functions of the buffer are provided."

The buffer is currently vegetated with scattered native trees with a dense shrub and emergent understory that is dominated by native plants. Although some invasives are present, the vegetation is dense and a majority of the vegetation community is native, so no planting or widening of the buffer is proposed.

5.5 LEVEL SPREADER TRENCH

A level spreader trench is required in the buffer of Wetland A to provide an outlet for the proposed stormwater treatment system. Due to elevation requirements to provide positive drainage from the vault, the level spreader trench cannot be placed outside of the buffer. Pursuant to AMC 20.93.720(3)(B), stormwater management facilities are allowed in the buffers of Category III and IV wetlands when there is no reasonable alternative on-site location. The trench will be placed in the outer portion of the buffer, in an area dominated by pasture grasses. Any temporary impacts associated with the installation of the trench will be restored through with the native buffer grass seed mixture below. The trench will benefit Wetland A by providing treated water to the wetland, helping to maintain wetland hydrology.

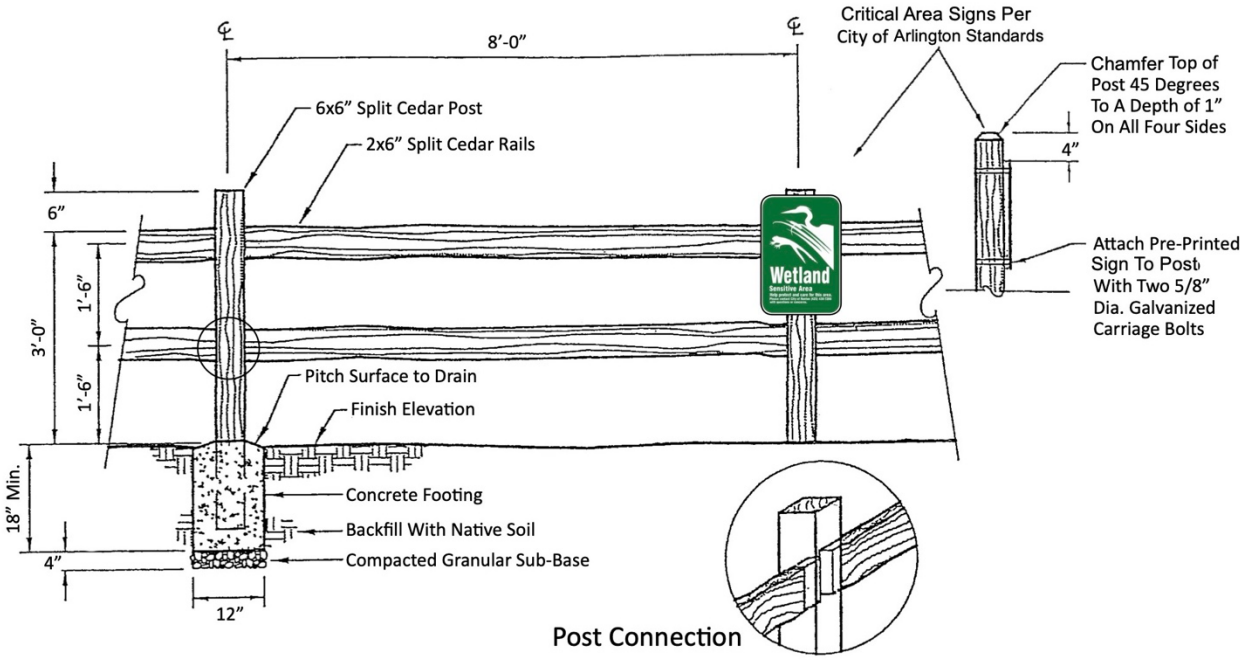
Common Name	**Latin Name**	**Percent Mixture**	**Seeding Rate**
Red fescue	*Festuca rubra*	40%	120 lbs/acre
Colonial bentgrass	*Agrostis tenuis*	5%	
Perennial ryegrass	*Lolium perenne*	50%	
White clover	*Trifolium repens*	5%	

5.6 BUILDING SETBACKS

Pursuant to AMC 20.93.340, a building setback of 15 feet is required from the edge of any critical area buffer. All proposed buildings are set back at least 15 feet from the edge of the buffer, as shown on the site plan.

5.7 BUFFER FENCING AND SIGNAGE

Pursuant to AMC 20.93.290(a), environmentally critical area tracts or easements shall be marked with appropriate permanent fencing and signage unless otherwise determined by the natural resources manager. Split-rail fencing, or similar alternative approved by the City, will be constructed along the western edge of the buffer, as shown on the attached map. Fencing shall be permanent, including quickset concrete to secure the posts. Critical area signs shall be affixed to the fence posts on 100 foot intervals, in the locations shown on the attached map. An example detail is provided below, but may be modified by City staff.



SPLIT-RAIL FENCE WITH CRITICAL AREA SIGNS

6.0 USE OF THIS REPORT

This report is based largely on readily observable conditions and, to a lesser extent, on readily ascertainable conditions. No attempt has been made to determine hidden or concealed conditions.

The laws applicable to critical areas are subject to varying interpretations and may be changed at any time by the courts or legislative bodies. This report is intended to provide information deemed relevant in the applicant's attempt to comply with the laws now in effect.

The work for this report has conformed to the standard of cares employed by wetland ecologists. No other representation or warranty is made concerning the work or this report and any implied representation or warranty is disclaimed.

Wetland Resources, Inc.

Shaun Sweeney
Associate Ecologist

John Laufenberg, PWS
Principal

7.0 REFERENCES

Arlington, City of., 2022. Title 20, Land Use Code, Chapter 20.93, Environmentally Critical Areas.

Cowardin, et al., 1979. *Classification of Wetlands and Deepwater Habitats of the United States*. U.S. Department of the Interior. FWS/OBS-79/31. December 1979.

Hruby, T. 2004. *Washington State Wetland Rating System for Western Washington – Revised*. Washington State Department of Ecology Publication # 04-06-025.

Hruby, T. 2014. *Washington State Wetland Rating System for Western Washington: 2014 Update*. Washington State Department of Ecology. Publication #14-06-029. October 2014.

Lichvar, R.W., M. Butterwick, N.C. Melvin, and W.N. Kirchner. 2014. *The National Wetland Plant List: 2014 Update of Wetland Ratings*. Phytoneuron 2014-41: 1-42.

Munsell Color. 2012. *Munsell Soil Color Book*. Munsell Color, Grand Rapids, MI.

Natural Resources Conservation Service (NRCS). 2021. *Web Soil Survey*. United States Department of Agriculture. http://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx.

U.S. Army Corps of Engineers. 1987. *Corps of Engineers Wetland Delineation Manual.* Technical Report Y-87-1. Environmental Laboratory, Vicksburg, MS.

U.S. Army Corps of Engineers. 2010. *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0).* Environmental Laboratory, Vicksburg, MS. Publication # ERDC/EL TR-10-3.

U.S. Fish & Wildlife Service. 2022a. *National Wetlands Inventory (NWI) Online Mapper*. http://www.fws.gov/wetlands/Data/Mapper.html.

WA State Department of Ecology. 1997. *Washington State Wetlands Identification and Delineation Manual*. Publication #96-94.

WA Department of Fish & Wildlife. 2022b. *Priority Habitat and Species (PHS) Interactive Map*. http://apps.wdfw.wa.gov/phsontheweb/

WA Department of Fish & Wildlife. 2022c. *SalmonScape Online Mapping Application*. http://apps.wdfw.wa.gov/salmonscape/map.html

WA Department of Natural Resources (DNR). 2022. Forest Practices Application Mapping Tool (FPAMT). https://fortress.wa.gov/dnr/protectiongis/fpamt/default.aspx.

Appendix A

Wetland Determination Data Forms

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

Project/Site: Allen Townhomes City/County: Arlington Sampling Date: 12/6/21

Applicant/Owner: JM1 Holdings, LLC State: WA Sampling Point: S1

Investigator(s): EC, SS Section, Township, Range: S24, T31N, R4E W.M.

Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): None Slope (%): 10%

Subregion (LRR): LRR-A Lat: 48.15266 Long: -122.10986 Datum: WGS84

Soil Map Unit Name: Tokul gravelly medial loam, 15 to 30 percent slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☐ No ☑ (If no, explain in Remarks.)

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☐ No ☑

Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks:

Climatic conditions prior to site visit are "Wetter than Normal" per WETS Table. Data taken near WRA13

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 5m radius)	Absolute % Cover	Dominant Species?	Indicator Status
1. Thuja plicata	10	Y	FAC
2. Alnus rubra	2	N	FAC
3.			
4.			
	12	= Total Cover	
Sapling/Shrub Stratum (Plot size: 3m radius)			
1. Rubus spectabilis	25	Y	FAC
2. Rubus armeniacus	5	N	FAC
3.			
4.			
5.			
	30	= Total Cover	
Herb Stratum (Plot size: 1m radius)			
1. Juncus effusus	40	Y	FACW
2. Ranunculus repens	40	Y	FAC
3. Athyrium filix-femina	30	Y	FAC
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	110	= Total Cover	
Woody Vine Stratum (Plot size: 1m radius)			
1. None	0		
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 = 0
FACW species	x 2 = 0
FAC species	x 3 = 0
FACU species	x 4 = 0
UPL species	x 5 = 0
Column Totals: 0 (A)	0 (B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ☐ Rapid Test for Hydrophytic Vegetation
- ☑ Dominance Test is >50%
- ☐ Prevalence Index is ≤3.0[1]
- ☐ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Wetland Non-Vascular Plants[1]
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes ☑ No ☐

Remarks:

SOIL

Sampling Point: S1

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR 2/1	95	10YR 4/4	5			sl	
8-16	10YR 3/2	95	10YR 4/4	5			sl	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☑ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ☐ 2 cm Muck (A10)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type:_____

Depth (inches):_____

Hydric Soil Present? Yes ☑ No ☐

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☑ High Water Table (A2)
- ☑ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A, and 4B**)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Stunted or Stressed Plants (D1) (**LRR A**)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A, and 4B**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)
- ☐ Raised Ant Mounds (D6) (**LRR A**)
- ☐ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ☐ No ☑ Depth (inches): _____

Water Table Present? Yes ☑ No ☐ Depth (inches): 7"

Saturation Present? (includes capillary fringe) Yes ☑ No ☐ Depth (inches): 4"

Wetland Hydrology Present? Yes ☑ No ☐

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

Remarks:

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

Project/Site: Allen Townhomes City/County: Arlington Sampling Date: 12/6/21

Applicant/Owner: JM1 Holdings, LLC State: WA Sampling Point: S2

Investigator(s): EC, SS Section, Township, Range: S24, T31N, R4E W.M.

Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): None Slope (%): 10%

Subregion (LRR): LRR-A Lat: 48.15266 Long: -122.10986 Datum: WGS84

Soil Map Unit Name: Tokul gravelly medial loam, 15 to 30 percent slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☐ No ☑ (If no, explain in Remarks.)

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☐ No ☑

Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks:

Climatic conditions prior to site visit are "Wetter than Normal" per WETS Table.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 5m radius)	Absolute % Cover	Dominant Species?	Indicator Status
1. Thuja plicata	10	Y	FAC
2.			
3.			
4.			
	10	= Total Cover	
Sapling/Shrub Stratum (Plot size: 3m radius)			
1. Rubus spectabilis	20	Y	FAC
2. Rubus armeniacus	15	Y	FAC
3.			
4.			
5.			
	35	= Total Cover	
Herb Stratum (Plot size: 1m radius)			
1. Agrostis Sp.	45	Y	
2. Ranunculus repens	40	Y	
3. Rubus ursinus	20	N	
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	105	= Total Cover	
Woody Vine Stratum (Plot size: 1m radius)			
1. None	0		
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 = 0
FACW species	x 2 = 0
FAC species	x 3 = 0
FACU species	x 4 = 0
UPL species	x 5 = 0
Column Totals: 0 (A)	0 (B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ☐ Rapid Test for Hydrophytic Vegetation
- ☐ Dominance Test is >50%
- ☐ Prevalence Index is ≤3.0[1]
- ☐ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Wetland Non-Vascular Plants[1]
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes ☑ No ☐

Remarks:

SOIL

Sampling Point: S2

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-7	10YR 2/2	100					sl	
7-10	10YR 3/3	95	10YR 3/6	5	C	M	sl	slightly moist
10-16	10YR 3/4	90	10YR 3/6	10	C	M	sl	moist

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ☐ 2 cm Muck (A10)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type:_____

Depth (inches):_____

Hydric Soil Present? Yes ☐ No ☑

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A, and 4B**)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Stunted or Stressed Plants (D1) (**LRR A**)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A, and 4B**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)
- ☐ Raised Ant Mounds (D6) (**LRR A**)
- ☐ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ☐ No ☑ Depth (inches): _____

Water Table Present? Yes ☐ No ☑ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ☑ No ☑ Depth (inches): 16"

Wetland Hydrology Present? Yes ☐ No ☑

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

Remarks:

Appendix B

Wetland Rating Forms and Figures

Wetland name or number **A**

RATING SUMMARY – Western Washington

Name of wetland (or ID #): Wetland A Date of site visit: 12/6/21

Rated by EC, SS Trained by Ecology? ✔ Yes ___No Date of training 10/2018

HGM Class used for rating DEPRESSIONAL Wetland has multiple HGM classes? ✔ Y ____N

NOTE: **Form is not complete without the figures requested** *(figures can be combined)*.
Source of base aerial photo/map Snohomish County

OVERALL WETLAND CATEGORY III (based on functions ✔ or special characteristics___)

1. Category of wetland based on FUNCTIONS

_____**Category I** – Total score = 23 - 27

_____**Category II** – Total score = 20 - 22

__✔__**Category III** – Total score = 16 - 19

_____**Category IV** – Total score = 9 - 15

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
	Circle the appropriate ratings			
Site Potential	H [M] L	H [M] L	H M [L]	
Landscape Potential	H [M] L	H [M] L	[H] M L	
Value	[H] M L	H [M] L	H [M] L	**TOTAL**
Score Based on Ratings	**7**	**6**	**6**	**19**

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

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

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY
Estuarine	**I** **II**
Wetland of High Conservation Value	**I**
Bog	**I**
Mature Forest	**I**
Old Growth Forest	**I**
Coastal Lagoon	**I** **II**
Interdunal	**I** **II** **III** **IV**
None of the above	✔

Wetland name or number **A**

Maps and figures required to answer questions correctly for Western Washington

Depressional Wetlands

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

Riverine Wetlands

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

Lake Fringe Wetlands

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

Slope Wetlands

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

Wetland name or number **A**___

HGM Classification of Wetlands in Western Washington

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

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 except during floods?

NO – go to 2 **YES** – the wetland class is **Tidal Fringe** – go to 1.1

1.1 Is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)?

NO – Saltwater Tidal Fringe (Estuarine) **YES – Freshwater Tidal Fringe**
*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 an **Estuarine** wetland and is not scored. This method **cannot** be used to score functions for estuarine wetlands.*

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.

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 all** of the following criteria?
   - The vegetated part of the wetland is on the shores of a body of permanent open water (without any plants on the surface at any time of the year) at least 20 ac (8 ha) in size;
   - At least 30% of the open water area is deeper than 6.6 ft (2 m).

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**.

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

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 <3 ft diameter and less than 1 ft deep).

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 2 years.

Wetland name or number **A**

NO – go to 6 **YES** – The wetland class is **Riverine**

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

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

NO – go to 7 **YES** – The wetland class is **Depressional**

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

NO – go to 8 **YES** – The wetland class is **Depressional**

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

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

HGM classes within the wetland unit 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 of depression	☐	Depressional
Depressional + Lake Fringe	☐	Depressional
Riverine + Lake Fringe	☐	Riverine
Salt Water Tidal Fringe and any other class of freshwater wetland	☐	Treat as ESTUARINE

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

Wetland name or number **A**

DEPRESSIONAL AND FLATS WETLANDS

Water Quality Functions - Indicators that the site functions to improve water quality

D 1.0. Does the site have the potential to improve water quality?	
D 1.1. Characteristics of surface water outflows from the wetland: ☐ Wetland is a depression or flat depression (QUESTION 7 on key) with no surface water leaving it (no outlet). points = 3 ☑ Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet. points = 2 ☐ Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing points = 1 ☐ Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch. points = 1	**2**
D 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic *(use NRCS definitions).* Yes = 4 [No = 0]	**0**
D 1.3. Characteristics and distribution of persistent plants (Emergent, Scrub-shrub, and/or Forested Cowardin classes): ☐ Wetland has persistent, ungrazed, plants > 95% of area points = 5 ☑ Wetland has persistent, ungrazed, plants > ½ of area points = 3 ☐ Wetland has persistent, ungrazed plants > $^{1}/_{10}$ of area points = 1 ☐ Wetland has persistent, ungrazed plants < $^{1}/_{10}$ of area points = 0	**3**
D 1.4. Characteristics of seasonal ponding or inundation: *This is the area that is ponded for at least 2 months. See description in manual.* ☑ Area seasonally ponded is > ½ total area of wetland points = 4 ☐ Area seasonally ponded is > ¼ total area of wetland points = 2 ☐ Area seasonally ponded is < ¼ total area of wetland points = 0	**4**
Total for D 1 Add the points in the boxes above	**9**

Rating of Site Potential If score is: ___ **12-16 = H** ✔ **6-11 = M** ___ **0-5 = L** *Record the rating on the first page*

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

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

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

Rating of Value If score is: ✔ **2-4 = H** ___ **1 = M** ___ **0 = L** *Record the rating on the first page*

Wetland name or number **A**

DEPRESSIONAL AND FLATS WETLANDS

Hydrologic Functions - Indicators that the site functions to reduce flooding and stream degradation

D 4.0. Does the site have the potential to reduce flooding and erosion?

D 4.1. Characteristics of surface water outflows from the wetland:

- ☐ Wetland is a depression or flat depression with no surface water leaving it (no outlet) points = 4
- ☑ Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet points = 2
- ☐ Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch points = 1
- ☐ Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing points = 0

2

D 4.2. Depth of storage during wet periods: *Estimate the height of ponding above the bottom of the outlet. For wetlands with no outlet, measure from the surface of permanent water or if dry, the deepest part.*

- ☐ Marks of ponding are 3 ft or more above the surface or bottom of outlet points = 7
- ☐ Marks of ponding between 2 ft to < 3 ft from surface or bottom of outlet points = 5
- ☑ Marks are at least 0.5 ft to < 2 ft from surface or bottom of outlet points = 3
- ☐ The wetland is a "headwater" wetland points = 3
- ☐ Wetland is flat but has small depressions on the surface that trap water points = 1
- ☐ Marks of ponding less than 0.5 ft (6 in) points = 0

3

D 4.3. Contribution of the wetland to storage in the watershed: *Estimate the ratio of the area of upstream basin contributing surface water to the wetland to the area of the wetland unit itself.*

- ☐ The area of the basin is less than 10 times the area of the unit points = 5
- ☑ The area of the basin is 10 to 100 times the area of the unit points = 3
- ☐ The area of the basin is more than 100 times the area of the unit points = 0
- ☐ Entire wetland is in the Flats class points = 5

3

Total for D 4 — Add the points in the boxes above — **8**

Rating of Site Potential If score is: ___ **12-16 = H** ✔ **6-11 = M** ___ **0-5 = L** *Record the rating on the first page*

D 5.0. Does the landscape have the potential to support hydrologic functions of the site?

D 5.1. Does the wetland receive stormwater discharges? Yes = 1 [No = 0] — **0**

D 5.2. Is >10% of the area within 150 ft of the wetland in land uses that generate excess runoff? [Yes = 1] No = 0 — **1**

D 5.3. Is more than 25% of the contributing basin of the wetland covered with intensive human land uses (residential at >1 residence/ac, urban, commercial, agriculture, etc.)? [Yes = 1] No = 0 — **1**

Total for D 5 — Add the points in the boxes above — **2**

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

D 6.0. Are the hydrologic functions provided by the site valuable to society?

D 6.1. The unit is in a landscape that has flooding problems. *Choose the description that best matches conditions around the wetland unit being rated. Do not add points. Choose the highest score if more than one condition is met.*
The wetland captures surface water that would otherwise flow down-gradient into areas where flooding has damaged human or natural resources (e.g., houses or salmon redds):

- ☐ • Flooding occurs in a sub-basin that is immediately down-gradient of unit. points = 2
- ☑ • Surface flooding problems are in a sub-basin farther down-gradient. points = 1
- ☐ Flooding from groundwater is an issue in the sub-basin. points = 1
- ☐ The existing or potential outflow from the wetland is so constrained by human or natural conditions that the water stored by the wetland cannot reach areas that flood. *Explain why* _____ points = 0
- ☐ There are no problems with flooding downstream of the wetland. points = 0

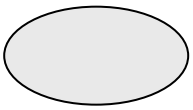
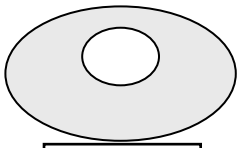
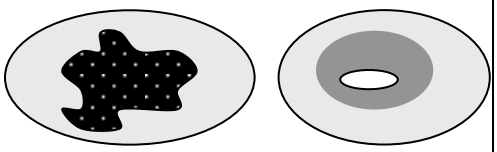
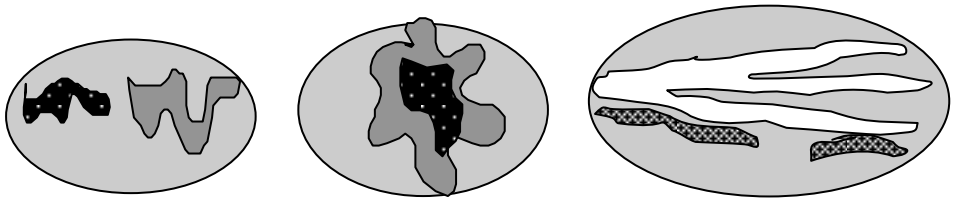
1

D 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan? Yes = 2 [No = 0] — **0**

Total for D 6 — Add the points in the boxes above — **1**

Rating of Value If score is: ___ **2-4 = H** ✔ **1 = M** ___ **0 = L** *Record the rating on the first page*

Wetland name or number **A**

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

Wetland name or number **A**

H 1.5. Special habitat features: Check the habitat features that are present in the wetland. *The number of checks is the number of points.* ✔ Large, downed, woody debris within the wetland (> 4 in diameter and 6 ft long). ____Standing snags (dbh > 4 in) within the wetland ____Undercut banks are present for at least 6.6 ft (2 m) **and/or** overhanging plants extends at least 3.3 ft (1 m) over a stream (or ditch) in, or contiguous with the wetland, for at least 33 ft (10 m) ____Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 30 degree slope) OR signs of recent beaver activity are present *(cut shrubs or trees that have not yet weathered where wood is exposed)* ____At least ¼ ac of thin-stemmed persistent plants or woody branches are present in areas that are permanently or seasonally inundated *(structures for egg-laying by amphibians)* ____Invasive plants cover less than 25% of the wetland area in every stratum of plants (*see H 1.1 for list of strata*)	**1**
Total for H 1 Add the points in the boxes above	**5**

Rating of Site Potential If score is: ___**15-18 = H** ___**7-14 = M** ✔ **0-6 = L** *Record the rating on the first page*

H 2.0. Does the landscape have the potential to support the habitat functions of the site?	
H 2.1. Accessible habitat (include *only habitat that directly abuts wetland unit*). *Calculate:* % undisturbed habitat 16 **+** [(% moderate and low intensity land uses)/2] 13 **=** 29 % If total accessible habitat is: ☐ > 1/3 (33.3%) of 1 km Polygon points = 3 ☑ 20-33% of 1 km Polygon points = 2 ☐ 10-19% of 1 km Polygon points = 1 ☐ < 10% of 1 km Polygon points = 0	**2**
H 2.2. Undisturbed habitat in 1 km Polygon around the wetland. *Calculate:* % undisturbed habitat 34 **+** [(% moderate and low intensity land uses)/2] 20 **=** 54 % ☑ Undisturbed habitat > 50% of Polygon points = 3 ☐ Undisturbed habitat 10-50% and in 1-3 patches points = 2 ☐ Undisturbed habitat 10-50% and > 3 patches points = 1 ☐ Undisturbed habitat < 10% of 1 km Polygon points = 0	**3**
H 2.3. Land use intensity in 1 km Polygon: If ☐ > 50% of 1 km Polygon is high intensity land use points = (- 2) ☑ ≤ 50% of 1 km Polygon is high intensity points = 0	**0**
Total for H 2 Add the points in the boxes above	**5**

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

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

Rating of Value If score is: ___**2 = H** ✔ **1 = M** ___**0 = L** *Record the rating on the first page*

Wetland name or number **A**

WDFW Priority Habitats

Priority habitats listed by WDFW (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp. http://wdfw.wa.gov/publications/00165/wdfw00165.pdf or access the list from here: http://wdfw.wa.gov/conservation/phs/list/)

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

☐ **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha).

☐ **Biodiversity Areas and Corridors**: Areas of habitat that are relatively important to various species of native fish and wildlife (*full descriptions in WDFW PHS report*).

☐ **Herbaceous Balds:** Variable size patches of grass and forbs on shallow soils over bedrock.

☐ **Old-growth/Mature forests:** Old-growth west of Cascade crest – Stands of at least 2 tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) > 32 in (81 cm) dbh or > 200 years of age. Mature forests – Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west of the Cascade crest.

☐ **Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158 – see web link above*).

☐ **Riparian**: The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.

☐ **Westside Prairies:** Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (*full descriptions in WDFW PHS report p. 161 – see web link above*).

☐ **Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.

☐ **Nearshore**: Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. (*full descriptions of habitats and the definition of relatively undisturbed are in WDFW report – see web link on previous page).*

☐ **Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.

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

☐ **Talus:** Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.

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

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

Wetland name or number **A**

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

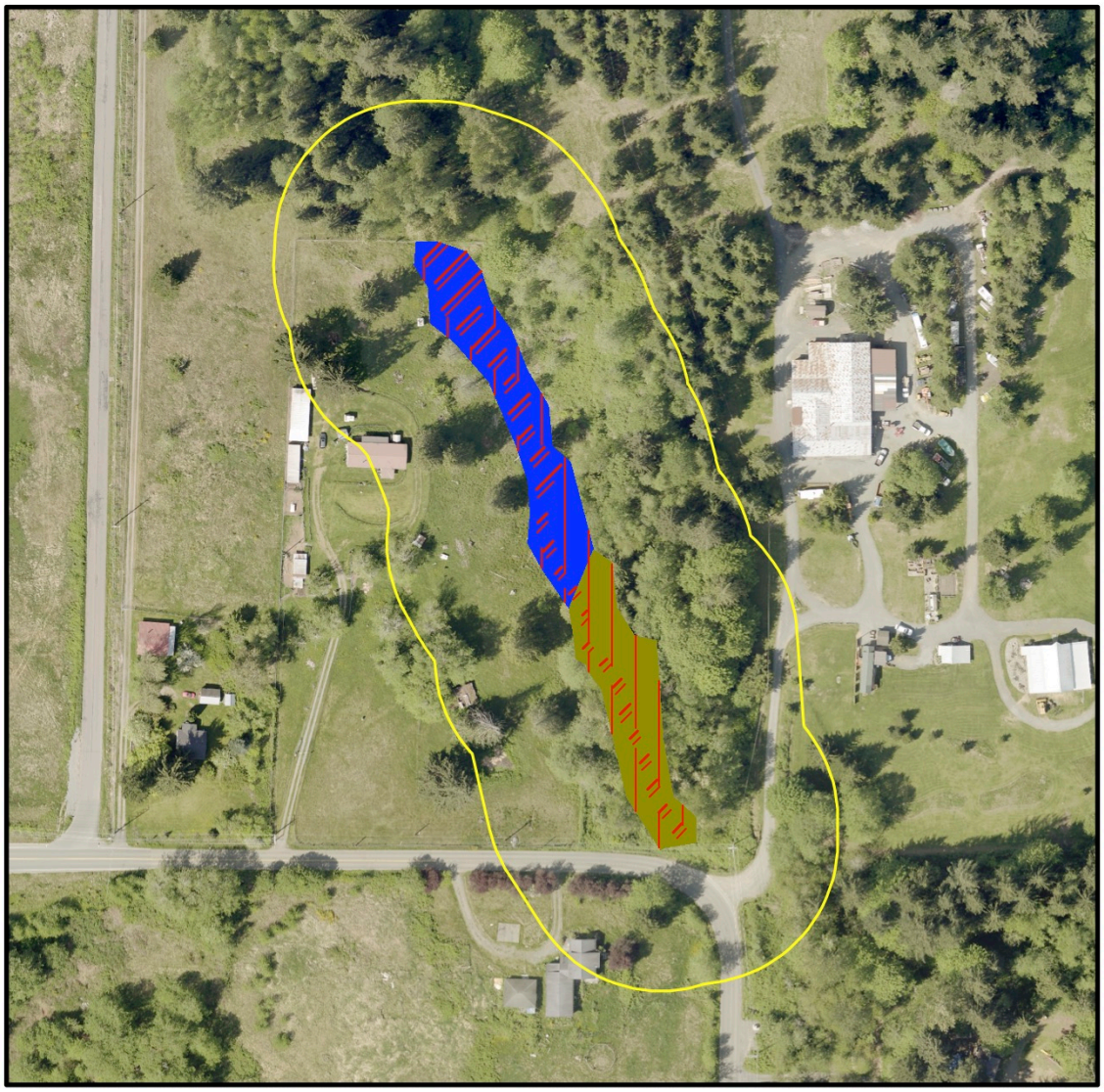
Wetland Type *Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.*	**Category**
SC 1.0. Estuarine wetlands Does the wetland meet the following criteria for Estuarine wetlands? ☐ The dominant water regime is tidal, ☐ Vegetated, and ☐ With a salinity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

Wetland name or number **A**

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

ALLEN TOWNHOMES

WETLAND RATING FIGURE 1 - WETLAND A



LEGEND

- EMERGENT VEGETATION
- FORESTED VEGETATION
- SATURATED ONLY
- SEASONALLY FLOODED
- 150' FROM WL BOUNDARY

Scale 1" = 200'

0 100 200 300 400

Wetland Resources, Inc.

Delineation / Mitigation / Restoration / Habitat Creation / Permit Assistance

9505 19th Avenue S.E. Suite 106 Everett, Washington 98208

Phone: (425) 337-3174

Fax: (425) 337-3045

Email: mailbox@wetlandresources.com

WETLAND RATING

Wetland A

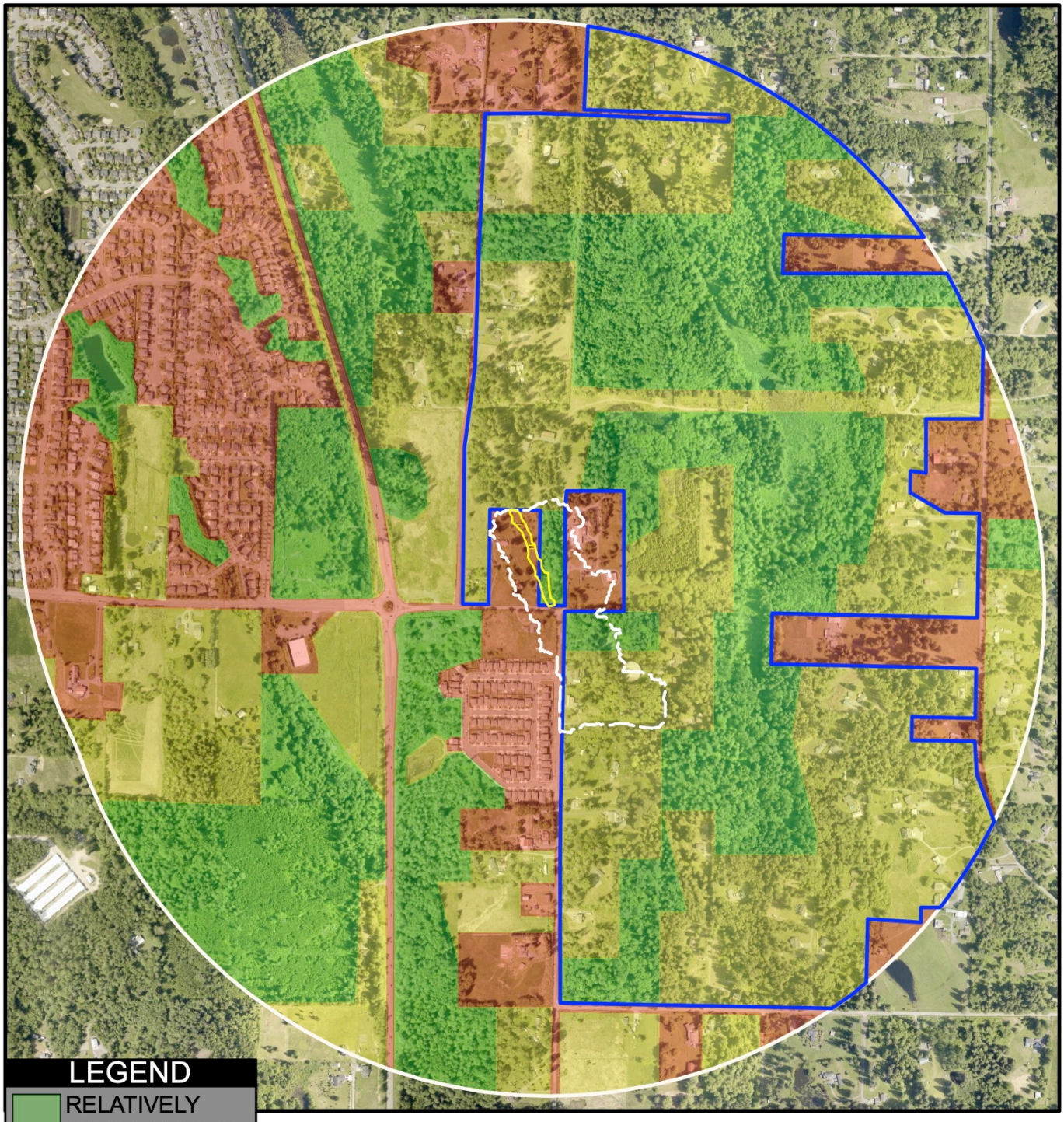
Figure A-1

WRI Job # 21282

Rated by: SS

ALLEN TOWNHOMES

WETLAND RATING FIGURE 2 - WETLAND A



LEGEND

- RELATIVELY UNDISTURBED
- LOW/MOD. INTENSITY
- HIGH INTENSITY
- ACCESSIBLE HABITAT
- WETLAND
- 1 KM FROM WETLAND
- CONTRIBUTING BASIN

Scale 1" = 1,000'

0 1,000 2,000

CONTRIBUTING BASIN AREA RELATIVE TO WETLAND UNIT IS 22:1

Wetland Resources, Inc.
Delineation / Mitigation / Restoration / Habitat Creation / Permit Assistance
9505 19th Avenue S.E. Suite 106 Everett, Washington 98208
Phone: (425) 337-3174
Fax: (425) 337-3045
Email: mailbox@wetlandresources.com

WETLAND RATING
Wetland A

Figure A-2
WRI Job # 21282
Rated by: SS

ALLEN TOWNHOMES

WETLAND RATING FIGURE 3 - WETLAND A

LEGEND

WETLAND

AQUATIC RESOURCES ON THE 303(d) LIST

Scale 1" = 1,000'

0 1,000 2,000

Wetland Resources, Inc.

Delineation / Mitigation / Restoration / Habitat Creation / Permit Assistance

9505 19th Avenue S.E. Suite 106 Everett, Washington 98208

Phone: (425) 337-3174

Fax: (425) 337-3045

Email: mailbox@wetlandresources.com

WETLAND RATING

Wetland A

Figure A-3

WRI Job # 21282

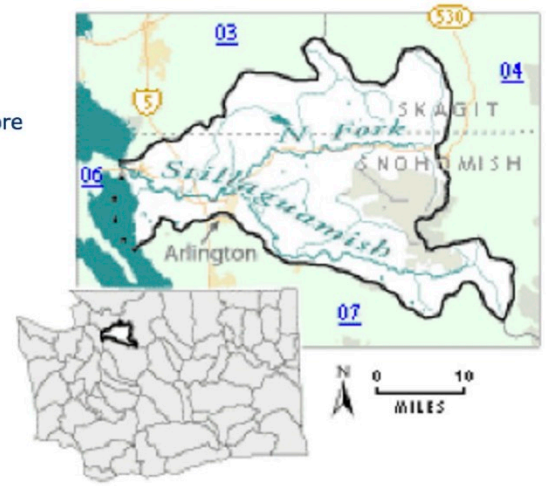
Rated by: SS

ALLEN TOWNHOMES

WETLAND RATING FIGURE 4 - WETLAND A

WRIA 5: Stillaguamish

The following table lists overview information and links to specific water quality improvement projects (including total maximum daily loads, or TMDLs) for this water resource inventory area (WRIA). Please use links (where available) for more information on a project.



Counties

- Skagit
- Snohomish

Waterbody Name	Pollutant(s)	Status**	TMDL Lead
Old Stillaguamish Channel	Dissolved Oxygen	On hold	Ralph Svrjcek 425-649-7165
Stillaguamish River	Arsenic Dissolved Oxygen Fecal Coliform Mercury pH Temperature	Approved by EPA Has an implementation plan	Ralph Svrjcek 425-649-7165

** ***Status*** *will be listed as one of the following: Approved by EPA, Under Development or Implementation*

Wetland Resources, Inc.
Delineation / Mitigation / Restoration / Habitat Creation / Permit Assistance
9505 19th Avenue S.E. Suite 106 Everett, Washington 98208
Phone: (425) 337-3174
Fax: (425) 337-3045
Email: mailbox@wetlandresources.com

WETLAND RATING
Wetland A

Figure A-4
WRI Job # 21282
Rated by: SS

Wetland name or number **B**

RATING SUMMARY – Western Washington

Name of wetland (or ID #): Wetland B (approx; off-site) Date of site visit: 12/6/21

Rated by EC, SS Trained by Ecology? ✔ Yes ___No Date of training 10/2018

HGM Class used for rating DEPRESSIONAL Wetland has multiple HGM classes? ___Y ✔ N

NOTE: **Form is not complete without the figures requested** *(figures can be combined)*.
Source of base aerial photo/map Snohomish County

OVERALL WETLAND CATEGORY III (based on functions ✔ or special characteristics ___)

1. Category of wetland based on FUNCTIONS

_____**Category I** – Total score = 23 - 27

_____**Category II** – Total score = 20 - 22

✔ **Category III** – Total score = 16 - 19

_____**Category IV** – Total score = 9 - 15

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
	Circle the appropriate ratings			
Site Potential	H [M] L	H [M] L	H M [L]	
Landscape Potential	H [M] L	H [M] L	[H] M L	
Value	[H] M L	H [M] L	H [M] L	TOTAL
Score Based on Ratings	**7**	**6**	**6**	**19**

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

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

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY
Estuarine	**I II**
Wetland of High Conservation Value	**I**
Bog	**I**
Mature Forest	**I**
Old Growth Forest	**I**
Coastal Lagoon	**I II**
Interdunal	**I II III IV**
None of the above	✔

Wetland name or number **B**

Maps and figures required to answer questions correctly for Western Washington

Depressional Wetlands

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

Riverine Wetlands

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

Lake Fringe Wetlands

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

Slope Wetlands

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

Wetland name or number **B**

HGM Classification of Wetlands in Western Washington

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

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 except during floods?

NO – go to 2 **YES** – the wetland class is **Tidal Fringe** – go to 1.1

1.1 Is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)?

NO – Saltwater Tidal Fringe (Estuarine) **YES – Freshwater Tidal Fringe**
*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 an **Estuarine** wetland and is not scored. This method **cannot** be used to score functions for estuarine wetlands.*

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.

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 all** of the following criteria?
   - The vegetated part of the wetland is on the shores of a body of permanent open water (without any plants on the surface at any time of the year) at least 20 ac (8 ha) in size;
   - At least 30% of the open water area is deeper than 6.6 ft (2 m).

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**.

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

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 <3 ft diameter and less than 1 ft deep).

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 2 years.

Wetland name or number **B**

NO – go to 6 **YES** – The wetland class is **Riverine**

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

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

NO – go to 7 **YES** – The wetland class is **Depressional**

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

NO – go to 8 **YES** – The wetland class is **Depressional**

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

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

HGM classes within the wetland unit 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 of depression	☐	Depressional
Depressional + Lake Fringe	☐	Depressional
Riverine + Lake Fringe	☐	Riverine
Salt Water Tidal Fringe and any other class of freshwater wetland	☐	Treat as ESTUARINE

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

Wetland name or number **B**

DEPRESSIONAL AND FLATS WETLANDS

Water Quality Functions - Indicators that the site functions to improve water quality

D 1.0. Does the site have the potential to improve water quality?	
D 1.1. Characteristics of surface water outflows from the wetland: ☐ Wetland is a depression or flat depression (QUESTION 7 on key) with no surface water leaving it (no outlet). points = 3 ☑ Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet. points = 2 ☐ Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing points = 1 ☐ Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch. points = 1	**2**
D 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic *(use NRCS definitions).* Yes = 4 [No = 0]	**0**
D 1.3. Characteristics and distribution of persistent plants (Emergent, Scrub-shrub, and/or Forested Cowardin classes): ☐ Wetland has persistent, ungrazed, plants > 95% of area points = 5 ☑ Wetland has persistent, ungrazed, plants > ½ of area points = 3 ☐ Wetland has persistent, ungrazed plants > $^1/_{10}$ of area points = 1 ☐ Wetland has persistent, ungrazed plants < $^1/_{10}$ of area points = 0	**3**
D 1.4. Characteristics of seasonal ponding or inundation: *This is the area that is ponded for at least 2 months. See description in manual.* ☑ Area seasonally ponded is > ½ total area of wetland points = 4 ☐ Area seasonally ponded is > ¼ total area of wetland points = 2 ☐ Area seasonally ponded is < ¼ total area of wetland points = 0	**4**
Total for D 1 Add the points in the boxes above	**9**

Rating of Site Potential If score is: ___ **12-16 = H** ✔ **6-11 = M** ___ **0-5 = L** *Record the rating on the first page*

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

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

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

Rating of Value If score is: ✔ **2-4 = H** ___ **1 = M** ___ **0 = L** *Record the rating on the first page*

Wetland name or number **B**

DEPRESSIONAL AND FLATS WETLANDS

Hydrologic Functions - Indicators that the site functions to reduce flooding and stream degradation

D 4.0. Does the site have the potential to reduce flooding and erosion?

D 4.1. Characteristics of surface water outflows from the wetland: **2**

- ☐ Wetland is a depression or flat depression with no surface water leaving it (no outlet) points = 4
- ☑ Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet points = 2
- ☐ Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch points = 1
- ☐ Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing points = 0

D 4.2. Depth of storage during wet periods: *Estimate the height of ponding above the bottom of the outlet. For wetlands with no outlet, measure from the surface of permanent water or if dry, the deepest part.* **3**

- ☐ Marks of ponding are 3 ft or more above the surface or bottom of outlet points = 7
- ☐ Marks of ponding between 2 ft to < 3 ft from surface or bottom of outlet points = 5
- ☑ Marks are at least 0.5 ft to < 2 ft from surface or bottom of outlet points = 3
- ☐ The wetland is a "headwater" wetland points = 3
- ☐ Wetland is flat but has small depressions on the surface that trap water points = 1
- ☐ Marks of ponding less than 0.5 ft (6 in) points = 0

D 4.3. Contribution of the wetland to storage in the watershed: *Estimate the ratio of the area of upstream basin contributing surface water to the wetland to the area of the wetland unit itself.* **3**

- ☐ The area of the basin is less than 10 times the area of the unit points = 5
- ☑ The area of the basin is 10 to 100 times the area of the unit points = 3
- ☐ The area of the basin is more than 100 times the area of the unit points = 0
- ☐ Entire wetland is in the Flats class points = 5

Total for D 4 — Add the points in the boxes above: **8**

Rating of Site Potential If score is: ___ **12-16 = H** ✔ **6-11 = M** ___ **0-5 = L** *Record the rating on the first page*

D 5.0. Does the landscape have the potential to support hydrologic functions of the site?

D 5.1. Does the wetland receive stormwater discharges?	Yes = 1 [No = 0]	**0**
D 5.2. Is >10% of the area within 150 ft of the wetland in land uses that generate excess runoff?	[Yes = 1] No = 0	**1**
D 5.3. Is more than 25% of the contributing basin of the wetland covered with intensive human land uses (residential at >1 residence/ac, urban, commercial, agriculture, etc.)?	[Yes = 1] No = 0	**1**
Total for D 5	Add the points in the boxes above	**2**

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

D 6.0. Are the hydrologic functions provided by the site valuable to society?

D 6.1. The unit is in a landscape that has flooding problems. *Choose the description that best matches conditions around the wetland unit being rated. Do not add points. Choose the highest score if more than one condition is met.* **1**

The wetland captures surface water that would otherwise flow down-gradient into areas where flooding has damaged human or natural resources (e.g., houses or salmon redds):

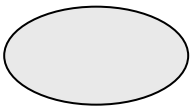
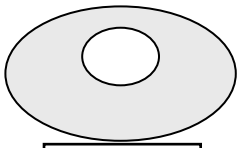
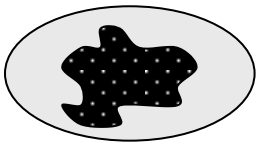
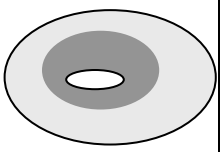
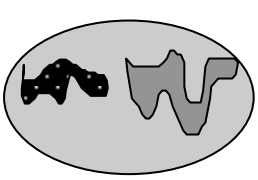
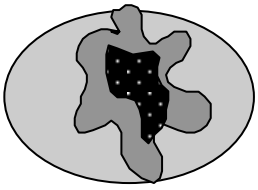
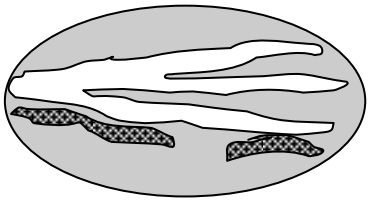
- ☐ • Flooding occurs in a sub-basin that is immediately down-gradient of unit. points = 2
- ☑ • Surface flooding problems are in a sub-basin farther down-gradient. points = 1
- ☐ Flooding from groundwater is an issue in the sub-basin. points = 1
- ☐ The existing or potential outflow from the wetland is so constrained by human or natural conditions that the water stored by the wetland cannot reach areas that flood. *Explain why* _____ points = 0
- ☐ There are no problems with flooding downstream of the wetland. points = 0

D 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan? Yes = 2 [No = 0] **0**

Total for D 6 — Add the points in the boxes above: **1**

Rating of Value If score is: ___ **2-4 = H** ✔ **1 = M** ___ **0 = L** *Record the rating on the first page*

Wetland name or number **B**

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

Wetland name or number **B**

H 1.5. Special habitat features: Check the habitat features that are present in the wetland. *The number of checks is the number of points.* ✔ Large, downed, woody debris within the wetland (> 4 in diameter and 6 ft long). ___ Standing snags (dbh > 4 in) within the wetland ___ Undercut banks are present for at least 6.6 ft (2 m) **and/or** overhanging plants extends at least 3.3 ft (1 m) over a stream (or ditch) in, or contiguous with the wetland, for at least 33 ft (10 m) ___ Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 30 degree slope) OR signs of recent beaver activity are present *(cut shrubs or trees that have not yet weathered where wood is exposed)* ___ At least ¼ ac of thin-stemmed persistent plants or woody branches are present in areas that are permanently or seasonally inundated *(structures for egg-laying by amphibians)* ___ Invasive plants cover less than 25% of the wetland area in every stratum of plants (*see H 1.1 for list of strata*)	**1**
Total for H 1 Add the points in the boxes above	**5**

Rating of Site Potential If score is: ___ **15-18 = H** ___ **7-14 = M** ✔ **0-6 = L** *Record the rating on the first page*

H 2.0. Does the landscape have the potential to support the habitat functions of the site?	
H 2.1. Accessible habitat (include *only habitat that directly abuts wetland unit*). *Calculate:* % undisturbed habitat 23 **+** [(% moderate and low intensity land uses)/2] 14 **=** 37 % If total accessible habitat is: ☑ > 1/3 (33.3%) of 1 km Polygon points = 3 ☐ 20-33% of 1 km Polygon points = 2 ☐ 10-19% of 1 km Polygon points = 1 ☐ < 10% of 1 km Polygon points = 0	**3**
H 2.2. Undisturbed habitat in 1 km Polygon around the wetland. *Calculate:* % undisturbed habitat 35 **+** [(% moderate and low intensity land uses)/2] 20 **=** 55 % ☑ Undisturbed habitat > 50% of Polygon points = 3 ☐ Undisturbed habitat 10-50% and in 1-3 patches points = 2 ☐ Undisturbed habitat 10-50% and > 3 patches points = 1 ☐ Undisturbed habitat < 10% of 1 km Polygon points = 0	**3**
H 2.3. Land use intensity in 1 km Polygon: If ☐ > 50% of 1 km Polygon is high intensity land use points = (- 2) ☑ ≤ 50% of 1 km Polygon is high intensity points = 0	**0**
Total for H 2 Add the points in the boxes above	**6**

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

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

Rating of Value If score is: ___ **2 = H** ✔ **1 = M** ___ **0 = L** *Record the rating on the first page*

Wetland name or number **B**

WDFW Priority Habitats

Priority habitats listed by WDFW (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp. http://wdfw.wa.gov/publications/00165/wdfw00165.pdf or access the list from here: http://wdfw.wa.gov/conservation/phs/list/)

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

☐ **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha).

☐ **Biodiversity Areas and Corridors**: Areas of habitat that are relatively important to various species of native fish and wildlife (*full descriptions in WDFW PHS report*).

☐ **Herbaceous Balds:** Variable size patches of grass and forbs on shallow soils over bedrock.

☐ **Old-growth/Mature forests:** Old-growth west of Cascade crest – Stands of at least 2 tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) > 32 in (81 cm) dbh or > 200 years of age. Mature forests – Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west of the Cascade crest.

☐ **Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158 – see web link above*).

☐ **Riparian**: The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.

☐ **Westside Prairies:** Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (*full descriptions in WDFW PHS report p. 161 – see web link above*).

☐ **Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.

☐ **Nearshore**: Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. (*full descriptions of habitats and the definition of relatively undisturbed are in WDFW report – see web link on previous page).*

☐ **Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.

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

☐ **Talus:** Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.

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

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

Wetland name or number **B**

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

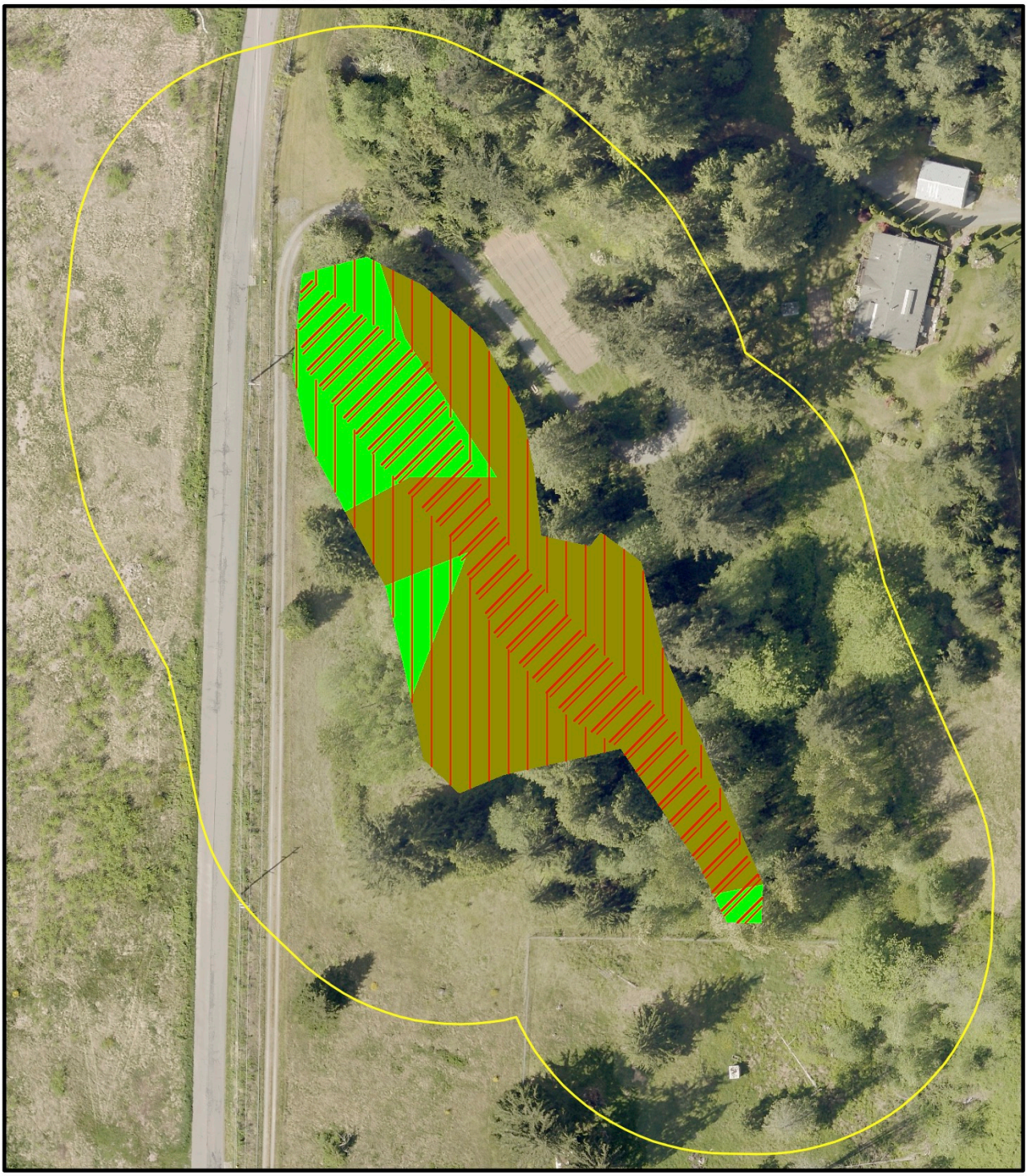
Wetland Type *Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.*	**Category**
SC 1.0. Estuarine wetlands Does the wetland meet the following criteria for Estuarine wetlands? ☐ The dominant water regime is tidal, ☐ Vegetated, and ☐ With a salinity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

Wetland name or number **B**

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

ALLEN TOWNHOMES

WETLAND RATING FIGURE 1 - WETLAND B



LEGEND

- SCRUB-SHRUB
- FORESTED VEGETATION
- SATURATED ONLY
- SEASONALLY FLOODED
- 150' FROM WL BOUNDARY

Scale 1" = 100'

0 50 100 150 200

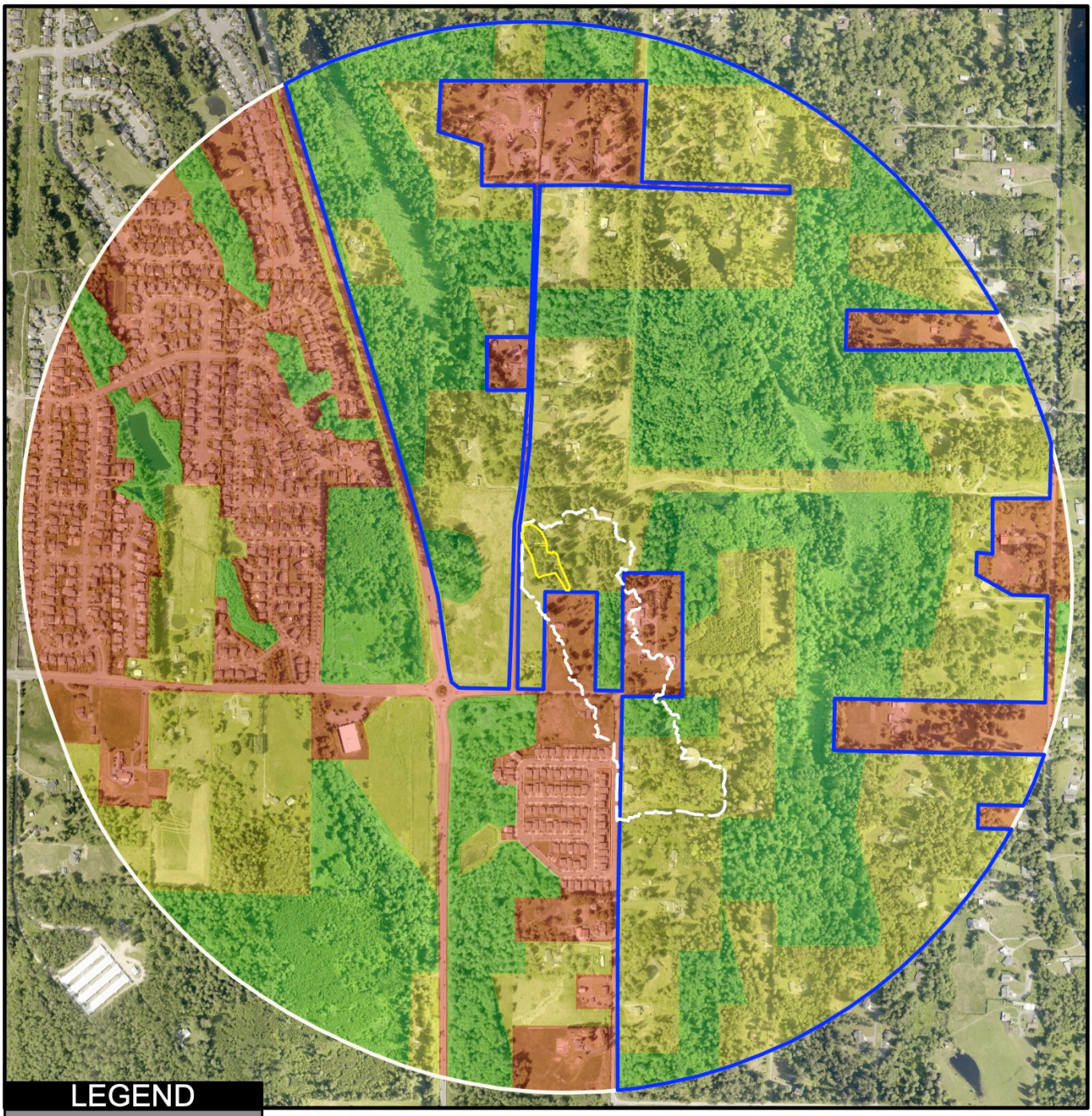
Wetland Resources, Inc.
Delineation / Mitigation / Restoration / Habitat Creation / Permit Assistance
9505 19th Avenue S.E. Suite 106 Everett, Washington 98208
Phone: (425) 337-3174
Fax: (425) 337-3045
Email: mailbox@wetlandresources.com

WETLAND RATING
Wetland B

Figure B-1
WRI Job # 21282
Rated by: SS

ALLEN TOWNHOMES

WETLAND RATING FIGURE 2 - WETLAND B



Scale 1" = 1,000'

0 1,000 2,000

CONTRIBUTING BASIN AREA RELATIVE TO WETLAND UNIT IS 23:1

Wetland Resources, Inc.
Delineation / Mitigation / Restoration / Habitat Creation / Permit Assistance
9505 19th Avenue S.E. Suite 106 Everett, Washington 98208
Phone: (425) 337-3174
Fax: (425) 337-3045
Email: mailbox@wetlandresources.com

WETLAND RATING
Wetland B

Figure B-2
WRI Job # 21282
Rated by: SS

ALLEN TOWNHOMES

WETLAND RATING FIGURE 3 - WETLAND B

LEGEND

WETLAND

AQUATIC RESOURCES ON THE 303(d) LIST

Scale 1" = 1,000'

0 1,000 2,000

Wetland Resources, Inc.

Delineation / Mitigation / Restoration / Habitat Creation / Permit Assistance

9505 19th Avenue S.E. Suite 106 Everett, Washington 98208

Phone: (425) 337-3174

Fax: (425) 337-3045

Email: mailbox@wetlandresources.com

WETLAND RATING

Wetland B

Figure B-3

WRI Job # 21282

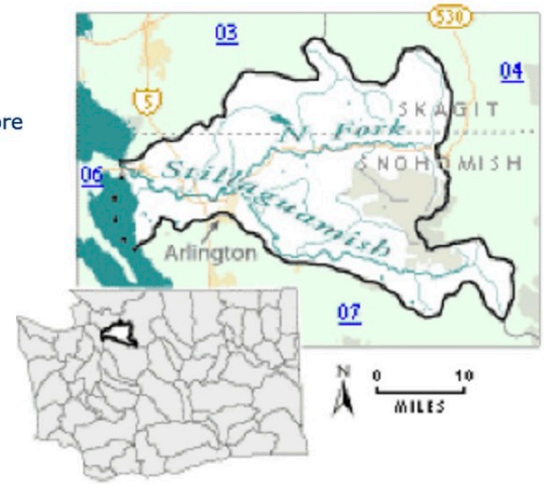
Rated by: SS

ALLEN TOWNHOMES

WETLAND RATING FIGURE 4 - WETLAND B

WRIA 5: Stillaguamish

The following table lists overview information and links to specific water quality improvement projects (including total maximum daily loads, or TMDLs) for this water resource inventory area (WRIA). Please use links (where available) for more information on a project.



Counties

- Skagit
- Snohomish

Waterbody Name	Pollutant(s)	Status**	TMDL Lead
Old Stillaguamish Channel	Dissolved Oxygen	On hold	Ralph Svrjcek 425-649-7165
Stillaguamish River	Arsenic Dissolved Oxygen Fecal Coliform Mercury pH Temperature	Approved by EPA Has an implementation plan	Ralph Svrjcek 425-649-7165

*** Status** will be listed as one of the following: Approved by EPA, Under Development or Implementation*

Wetland Resources, Inc.
Delineation / Mitigation / Restoration / Habitat Creation / Permit Assistance
9505 19th Avenue S.E. Suite 106 Everett, Washington 98208
Phone: (425) 337-3174
Fax: (425) 337-3045
Email: mailbox@wetlandresources.com

WETLAND RATING
Wetland B

Figure B-4
WRI Job # 21282
Rated by: SS

Appendix C

Critical Area Study Maps

CRITICAL AREA STUDY MAP
ALLEN TOWNHOMES

PORTION OF SECTION 24, TOWNSHIP 31N, RANGE 5E, W.M.

LEGEND

- WETLAND (SURVEYED)
- WETLAND (APPROX.)
- STANDARD BUFFER
- PROPERTY BOUNDARY
- (S) DATA SITE

Scale 1" = 60'

0 30 60 90 120

Wetland Resources, Inc.
Delineation / Mitigation / Restoration / Habitat Creation / Permit Assistance
9505 19th Avenue S.E. Suite 106 Everett,Washington 98208
Phone: (425) 337-3174
Fax: (425) 337-3045
Email: mailbox@wetlandresources.com

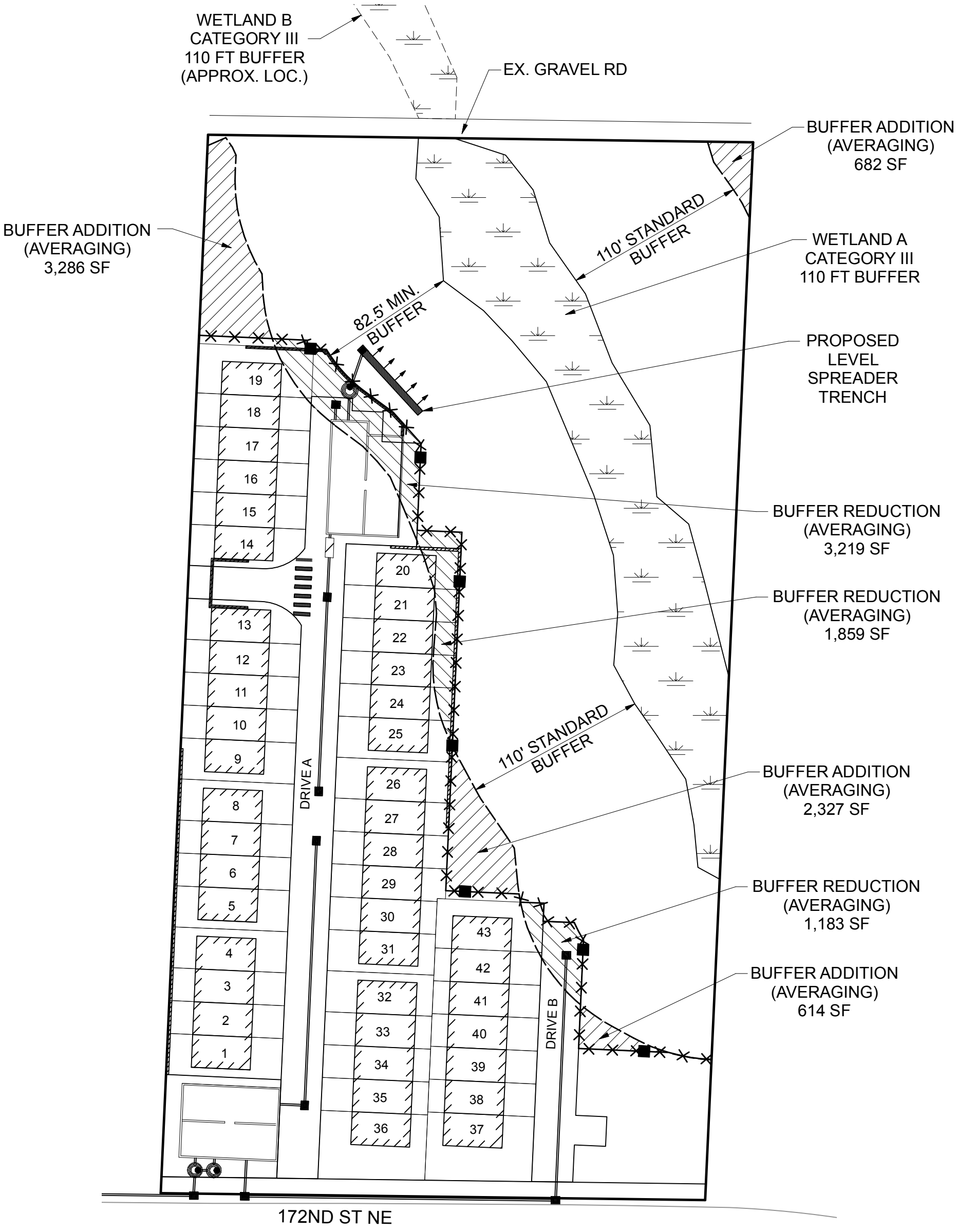
CRITICAL AREA STUDY MAP
ALLEN TOWNHOMES
ARLINGTON, WA

JM1 Holdings, LLC
c/o Land Pro Group, Inc.
10515 20th St SE, #202
Lake Stevens, WA 98258

Sheet 1/2
WRI #: 21282
Drawn by: SS
Date: 10.04.2022

CRITICAL AREA STUDY MAP
ALLEN TOWNHOMES

PORTION OF SECTION 24, TOWNSHIP 31N, RANGE 5E, W.M.



LEGEND

- WETLAND (SURVEYED)
- WETLAND (APPROX.)
- BUFFER ADDITION (AVG.)
- BUFFER REDUCTION (AVG.)
- CRITICAL AREA FENCE
- CRITICAL AREA SIGN

Scale 1" = 60'

0 30 60 90 120

Wetland Resources, Inc.
Delineation / Mitigation / Restoration / Habitat Creation / Permit Assistance
9505 19th Avenue S.E. Suite 106 Everett,Washington 98208
Phone: (425) 337-3174
Fax: (425) 337-3045
Email: mailbox@wetlandresources.com

CRITICAL AREA STUDY MAP
ALLEN TOWNHOMES
ARLINGTON, WA

JM1 Holdings, LLC
c/o Land Pro Group, Inc.
10515 20th St SE, #202
Lake Stevens, WA 98258

Sheet 2/2
WRI #: 21282
Drawn by: SS
Date: 10.04.2022