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## 7. Critical Areas

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# Camas Heights Subdivision Camas, Washington Critical Areas Assessment and Preliminary Mitigation Plan

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Date: October 2021

Prepared for: Lennar Northwest, Inc.  
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Study Area: 22630 NE 28<sup>th</sup> Street  
Camas, Washington 98607  
Clark County Maps, Parcel ID 173157-000

AKS Job Number: 8468



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## Introduction

AKS Engineering & Forestry, LLC (AKS) was contracted by the Lennar Homes (Applicant) to conduct a critical areas assessment on ±38.23 acres consisting of parcel 173157-000, located at 22630 NE 28<sup>th</sup> Street in Camas, Clark County, Washington (Figures 1 and 2 in Appendix A; latitude 45.643233, longitude -122.438436).

Two palustrine emergent (PEM) wetlands (referred to here as Wetlands A and B) were delineated within the study area. Conditions associated with Wetland A extend off site to the west. Wetland B is an isolated wetland; conditions do not extend off site. According to the Washington State Department of Ecology's (ECY) 2014 *Washington State Wetland Rating System for Western Washington*, Wetlands A and B were both rated as Category IV wetlands, with a habitat score of 5.

The project, referred to as Camas Heights Subdivision, consists of a single-family detached home subdivision. Development will avoid impact to the larger Wetland A and its associated 50-foot wide Category IV High Intensity Land Use buffer, but will require complete fill to isolate Wetland B and the associated high intensity land use wetland buffer in order to accommodate a safe transportation network. This action will require a Wetland Permit from the City of Camas. Total direct permanent wetland impacts are within the thresholds for approval under Nationwide Permit #29 Residential projects. The applicant will obtain a Section 404 nationwide permit authorization from the Seattle District US Army Corps of Engineers (USACE) and a Section 401 Water Quality Certification from (ECY) prior to any work within jurisdictional wetlands. The unavoidable direct wetland impacts will be mitigated for through purchase of wetland mitigation credits from the Terrace Bank, meeting the City's Alternative Wetland Mitigation standards.

Single Oregon white oak trees are scattered on the site. No stands of Oregon white oak greater than 1 acre were observed in the study area, nor were any Oregon white oak snags. According to Section 16.61.010.3.a. of City of Camas Code of Ordinance, several single Oregon white oaks trees meet the City's criteria for habitat of local importance, requiring a Habitat Permit for removal.

Permanent wetland and associated buffer encroachment associated with improvements along NE 28<sup>th</sup> Street are considered allowed per Section 16.53.050.C.4 of Camas Code. The permanent wetland buffer functions will be replaced through on-site buffer averaging. The permanent wetland impacts will be replaced through purchase of wetland mitigation bank credits. Impacts have been minimized by incorporating curb-tight sidewalks.

This report addresses City of Camas Code of Ordinances (CCC) Chapter 16.53 Wetlands and Chapter 16.61 Fish and Wildlife Habitat Conservation Areas. No other critical areas (Critical Aquifer Recharge Areas, frequently flooded areas, or geologically hazardous areas) are addressed in this report.

## A. Site Description and Land Use History

The site is located on a hill that slopes southwesterly towards Wetland A, which was delineated at the toe of the slope. A single-family home and farm outbuildings are present in the northwestern portion of the study area.

The majority of the undeveloped portions of the study area are and have been historically used for agriculture, both grazing and more recently for hay production. The fields were dominated by planted

grasses consisting of non-native field meadow foxtail, tall false rye grass (*Schedonorus arundinaceus*; FAC), bluegrass (*Poa* spp.; Assumed FAC), common velvetgrass (*Holcus lanatus*; FAC), and sweet vernal grass (*Anthoxanthum odoratum*; FACU). The upper-sloped northern hillside was dominated by invasive Himalayan blackberry (*Rubus armeniacus*; FAC). Scattered Oregon white oak (*Quercus garryana*; FACU) and Douglas-fir (*Pseudotsuga menziesii*; FACU) trees are present on a small terrace in the hillside in the northeastern portion of the site. A small cluster of Douglas-fir trees are also present in the northernmost portion of the site.

According to the property owner, the site was historically used as a dairy farm. This land use ceased on site over 10 years ago. Since the dairy farm, the site has been used for both grazing and managed for hay production.

The study area lies within the Lacamas Lake sub-watershed of the Lacamas Creek watershed, located within the Salmon-Washougal Water Resource Inventory Area (WRIA). Conditions associated with Wetland A extend off site to the west, with subsurface flow eventually reaching Lacamas Creek through a series of wetlands.

## B. Background Mapping

### Soils

According to the Natural Resources Conservation Service (NRCS) Clark County Area Soil Survey Map (Figure 3 in Appendix A), the following soil units are mapped within the study area:

- Dollar Loam, 0 – 5 percent Slopes (Unit DoB); Non-hydric
- Hesson Clay Loam, 0 – 8 percent Slopes (Unit HcB); Non-hydric
- Hesson Clay Loam, 8 – 20 percent Slopes (Unit HcD); Non-hydric
- Hesson Clay Loam, 20 – 30 percent Slopes (Unit HcE); Non-hydric
- Hockinson Loam, 0 – 3 percent Slopes (Unit HtA); Hydric

### Wetland and Waters Mapping

According to the US Fish and Wildlife Service (USFWS) National Wetland Inventory (NWI) Map, no wetlands or waters are mapped in the study area (Figure 4, Appendix A). According to Clark County's MapsOnline portal, no 'modeled and presence wetlands' or 'permitted wetlands' are mapped in the study area (Figure 5, Appendix A). Our study determined that two wetlands were present in the study area.

### DNR Mapping

According to Washington State Department of Natural Resources (DNR) mapping, no waters are mapped in or within 300 feet of the study area (Figure 6, Appendix A). No wetlands of high conservation value are mapped within or adjacent to the study area by DNR, nor were these features observed by AKS.

### WDFW Priority Habitat and Species Mapping

According to a Washington Department of Fish and Wildlife (WDFW) and a Clark County GIS MapsOnline Priority Habitat and Species (PHS) online query, no priority habitat or species are mapped on the site (Figure 7, Appendix A). AKS did not observe any priority habitat or species during our site visits. No priority habitat snags were observed within the study area. According to the WDFW PHS mapping, "Caves or Cave-Rich Areas" are mapped in the project township, but during our 2021 site visit, no caves were identified on the property. No on-site caves were identified in the applicant's geotechnical report.

### C. Wetland Delineation Methodology

Fieldwork was conducted on April 15, 2021, by AKS qualified professionals Stacey Reed, PWS, Senior Wetland Scientist, and Sonya Templeton, Natural Resource Specialist.

The methodology used to determine the presence of wetlands followed the USACE *Wetlands Delineation Manual* (Environmental Laboratory, 1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0)* (Wakeley et al., 2010). The *National Wetland Plant List 2018* (Lichvar, 2018) was used to assign wetland indicator status for plants for the appropriate region. The USFWS Cowardin classification system (Cowardin et al., 1979) was used to describe wetlands in terms of their vegetation communities (e.g. emergent, scrub-shrub, and forested community types).

Soils, vegetation, and indicators of hydrology were recorded at 19 sample plot locations on standardized wetland determination data forms to document site conditions (Appendix B). Test pits were left open for at least 30 minutes to allow for sufficient time for a groundwater table to equilibrate. Sample plots and the boundaries of the on-site wetlands were flagged in the field and their locations were professionally land surveyed by AKS. A map depicting the surveyed wetland boundaries is included as Figures 8 through 8B. Representative ground-level site photographs are included in Appendix C. References cited and literature used are listed at the end of this report.

### D. Precipitation Prior to Site Visit

Observed precipitation data were obtained from the Vancouver, Washington weather station via the National Weather Service (NWS). The closest Climate Analysis for Wetlands Tables (WETS) station to the project site is the Vancouver station. From this report, no rainfall was recorded on the day of the site visit (April 15, 2021), and 0.09 inches were recorded for the two weeks prior to the site visit. Observed water year-to-date (starting October 1, 2020) was 25.46 inches, which was 1.96 inches below normal. Table 1 shows antecedent rainfall according to the WETS Vancouver station for the three months prior to the April 15, 2021 site visit:

**Table 1: Precipitation Data**

Prior Months	Observed Precipitation (Inches)	Average WETS Precipitation (Inches)	30% Chance Will Have		Condition Dry, Wet, Normal	Condition Value (1=dry, 2=normal, 3=wet)	Month Weight	Multiply Previous Two Columns
			Less Than	More Than				
Mar-21	1.43	4.37	3.3	5.09	Dry	1	3	3
Feb-21	3.78	4.41	2.99	5.27	Normal	2	2	4
Jan-21	7.49	5.78	3.94	6.89	Wet	3	1	3
<b>Sum</b>								<b>10</b>
								<b>Normal</b>
Rainfall of prior period was: drier than normal (sum is 6-9), <b>normal</b> (sum is 10-14), wetter than normal (sum is 15-18)								

According to the WETS data, monthly observed precipitation for the Vancouver area was within normal range preceding the site visit; however, dry conditions were observed during the site visit, including the

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month prior to the site visit. Therefore, AKS relied heavily on hydric soil indicators when determining wetland conditions. Lack of primary wetland hydrology indicators were not relied upon to determine if the area was wetland. Plots that met hydric soil indicators were determined to be wetland.

## E. Delineation Results

### Wetlands

**Wetland A** is a (PEM) wetland located in the southwestern corner of the study area. Wetland conditions appear to extend off site to the west. The hydrology source of Wetland A is supported by a seasonal high groundwater table and upslope subsurface drainage. Generally speaking, water flows through a wetland setting in one direction, on a slope, leaving the wetland without being impounded. The outlet is the lowest elevational portion of the wetland. Therefore, Wetland A belongs to the Slope HGM wetland classification.

Wetland A is located on site within an agricultural field, mainly dominated by invasive reed canary grass (*Phalaris arundinacea*; [FACW]) and planted field meadow-foxtail (*Alopecurus pratensis*; FAC). Vegetation within the wetland is mowed regularly. Less dominant scattered tufts of soft rush (*Juncus effusus*; FACW) was observed in the lower elevation areas of the wetland.

Surface soils documented within Wetland A generally contained a low chroma matrix with distinct/prominent redoximorphic features meeting hydric soil indicator Redox Dark Surface F6. Wetland plots generally lacked primary indicators of wetland hydrology during the April 2021 site visit. Secondary wetland hydrology indicators consisting of FAC-Neutral and geomorphic position (concave depression along slope) were applied at plots meeting hydric soil indicators. Algal matting was observed in the very lowest elevations of the wetland. Wetland plots at the outer edge of Wetland A lacked primary and secondary wetland hydrology indicators. Since these plots met hydric soil indicators, wetland hydrology is assumed present in the early portion of the growing season within a normal rainfall period.

The wetland boundary was delineated based on a subtle change in landform from low-elevation concave wetland to higher elevation hillslope in the upland areas. The change in landform aligned with a change in vegetation from FACW vegetation in the wetland (reed canary grass) to lack of FACW vegetation in the adjacent upland. All adjacent upland plots lacked hydric soil indicators.

**Wetland B** is an isolated PEM wetland fed by hillside seeps in the eastern portion of the site. Wetland conditions do not extend off site. A groundwater seep was observed discharging into the upper-slope portion of the wetland. An average of approximately 1-inch-deep continuous flow was present within Wetland B during the April 15, 2021 site visit. Water flows through the wetland within a very shallowly defined unvegetated channel, lacking a well-defined bed and bank. We did not observe any inlet or outlet pipes during our site visit. While Wetland B lacks a direct surface hydrologic connection..

Vegetation at Wetland B is dominated by reed canary grass with lesser amounts of western buttercup (*Ranunculus occidentalis*; FACW) and common rush (*Juncus effusus*; FACW). The wetland boundary was delineated based on a well-defined change in topography from low elevation concave swale in the wetland areas to higher elevation convex hillslope in the upland portions. The adjacent upland lacked hydric soil and wetland hydrology indicators.



## F. Wetland Buffer Widths

The City of Camas requires wetlands to be rated using the methods described in the ECY's *Wetland Rating System for Western Washington, 2014 Update* (Hruby, 2014). Wetland rating forms and supporting figures are provided in Appendix D. Protective wetland buffers were assigned based on habitat scores and proposed land use intensity, per Chapter 16.53.040.B of the CCC.

Flow within Wetlands A and B is unconstrained, moves in one direction, and lacks micro-depressions; these were rated as Slope wetlands. The outlets were the lowest elevational area of each wetland. Both Wetlands A and B were rated as Category IV wetlands. Wetlands A and B lack native vegetation, structural diversity, and special habitat features; therefore, they each had low habitat scores (score of 5). Vegetation within Wetland A is mowed regularly. The seasonal unvegetated stream portion of Wetland B is less than 10 percent of the wetland unit. The project meets the high-intensity land use classification.

Per Table 16.53.040-1, Category IV wetlands adjacent to high-intensity land use require a 50-foot water quality buffer. According to Section 16.53.040.B.2, the water quality buffer is sufficient to protect habitat functions. Figures 8 through 8B illustrate the extent of high intensity land use wetland buffers within the study area.

**Table 2: Summary of Features Delineated in the Study Area**

Wetland ID	Area (acres)	HGM/ Cowardin Classifications	Wetland Rating Scores			Category	Land Use Intensity, Habitat Buffer Width (feet)
			Water Quality	Hydrologic	Habitat		
A	1.77 acres	PEM Slope	6	4	5	IV	High, 50 feet
B	0.15 acres	PEM Slope	6	4	5	IV	High, 50 feet

## G. Oregon White Oaks

Per Chapter 16.61.010.3.a.i, individual Oregon white oak trees with a 20-inch diameter at breast height (DBH) are considered locally important. According to WDFW, single oaks in an urban setting are considered priority if they are particularly valuable to fish and wildlife. To assess an individual tree's value to fish and wildlife, the WDFW criteria include trees with many cavities (>5), trees with large DBH (>20-inch DBH), trees that are used by priority species, or trees that have a large canopy. According to the arborist report, oaks on the site did not have many cavities or a large canopy. No nests were observed in the oaks during AKS' April 2021 site visit. The site is not used by any documented occurrences of priority species, including no evidence of Western gray squirrel use.

The driplines associated with single Oregon white oak trees with greater than 20-inch DBH were delineated by AKS certified arborists. The delineated dripline is shown on attached Figures 8 through 8B.

## H. Project Critical Area Impacts

This project consists of a single-family residential subdivision to meet the City of Camas' housing goals. This project will provide affordable homes on lots ranging from 7,000 square feet to 12,000 square feet to provide a diverse array of housing products for City of Camas residents.

Unavoidable fill to Wetland B is necessary to accommodate a layout with safe pedestrian and vehicular travel, while providing housing to meet the City's need for affordable housing. Wetland B is a small

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(0.15 acres in size) isolated Category IV wetland, not associated with a fish-bearing stream or shoreline wetland, and it does not contain habitat of local importance. Wetland B provides low overall function. Direct and indirect impacts to Wetland A have been avoided.

The project will require permanent encroachment within the buffer associated with Wetland A for frontage improvements along NE 28<sup>th</sup> Street.

The sections below illustrate how avoidance is impractical for wetlands, wetland buffers, and Oregon White oaks, how impacts to critical areas have been minimized, and how unavoidable impacts will be mitigated. The site plan figures illustrating critical area impacts are included as Figures 9 through 9A.

#### **Wetland Avoidance Sequencing**

There are no practical alternatives to avoid impact to Wetland B. The goal of the project is to provide affordable housing in Camas. Impacts to Wetland B are necessary to provide housing densities consistent with City's Growth Management Act (GMA) and a safe internal transportation network consistent with the City's transportation plan and emergency vehicle standards.

The applicant researched an alternative layout that avoided impact to Wetland B and the associated 50-foot wide protective buffer. This alternative resulted in the loss of  $\pm 10$  lots and required two cul-de-sacs. Cul-de-sacs are not preferred by emergency vehicle drivers, as there is not good circular access or easy turn around. A cul-de-sac provides only one way in and one way out, which results in limited response availability. In addition, compared to standard streets, cul-de-sacs have narrower turning radii.

A study conducted by the University of Connecticut indicates that cul-de-sacs have higher rates of traffic accidents involving young children. Small children tend to gather and play in the cul-de-sac dead end areas, thinking it to be a safe area to play. However, due to the configuration of cul-de-sacs, vehicles backing out of driveways onto a cul-de-sac have limited visibility and have inadvertently backed over small children. In addition, cul-de-sacs limit the amount of street parking, making homes on cul-de-sacs undesirable to buyers.

Wetland B is a small, isolated wetland dominated by non-native vegetation. It lacks woody vegetation and provides only low functional opportunity to the local watershed. The preferred layout provides a highly connected transportation network that provides multiple access points and shortens the physical distance emergency responders have to travel. Sidewalks will provide safe, walkable travel throughout the neighborhood.

Avoidance to Wetland B would require the loss of at least  $\pm 10$  affordable lots, which is significant, as removing lots increases the cost per lot to develop affordable homes. The City recently published a Housing Action Plan that outlines the need for affordable housing. The Building Industry Association of Clark County defines affordable as housing that costs 30 percent less of a household's income. This project will provide over 100 affordable homes for Camas, which in turn provides a public benefit to Camas. Wetland B is a small, hydrologically isolated wetland providing minimal habitat functions. Impacting this wetland to provide needed housing with a safe transportation network—while mitigating at a wetland mitigation bank that protects higher functioning wetlands—will result in an overall beneficial use of resources to the local community.

Therefore, there are no practical alternatives that meet the project goal of providing affordable housing to the City of Camas.

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### **Wetland Minimization**

The site plan was designed to avoid impacts to Wetland A (the larger wetland on the site) and the associated buffer.

Complete avoidance to Wetland B is infeasible. Due to the narrow linear configuration of Wetland B and its location on the site, minimizing impact to a portion of wetland would result in small, fragmented wetlands that would not likely sustain after the surrounding development was constructed. The unavoidable wetland impacts will be mitigated through purchase of wetland mitigation bank credits. The proposed wetland mitigation is located at an established wetland mitigation bank within the approved service area of the bank instrument. The wetland mitigation bank provides in-kind credits (PEM/Slope) as the impacted wetlands. The proposed mitigation is consistent with Section 16.53.050.D.5.a. of the CCC.

### **Locally Significant Oregon White Oak Impacts**

The project requires removal of nine single Oregon white oak trees. The single oaks that will be removed range from 21 inches DBH to 43 inches DBH. Per AKS' arborist, some of the trees required for removal exhibit decay at the base, a one-sided canopy, and/or top lean, all indicators of poor health.

### **Oregon White Oak Avoidance Sequencing**

Avoidance to locally significant priority single oak trees is not practical. Oak removal is necessary for the grading required to meet City of Camas Code requirements. Streets with driveway access are only allowed a maximum 12% grade. This requirement has a ripple effect across the site, requiring some portions of the site to be raised and other portions to be lowered. Additionally, lot grading is required to maintain the goal of providing affordable housing. Home construction on a steeper sloped lots can be significantly more expensive than a flatter lot, increasing end cost of the home.

As discussed above, alternative layouts to protect trees would require cul-de-sacs, which are less than ideal for emergency vehicle circulation and access and could potentially impact overall public safety.

### **Wetland Buffer Impacts**

Permanent buffer encroachment is necessary to accommodate the frontage improvements along NE 28<sup>th</sup> Street. Buffer impacts have been minimized by curb-tight sidewalk. Permanent buffer impacts will be mitigated on-site through buffer averaging. The total buffer area after averaging is the same as the total area prior to averaging. The buffer encroachment and averaged area is shown on attached Figures 9 and 9A.

Temporary wetland buffer encroachment is necessary to install the stormwater outfall. Encroachment has been minimized by utilizing a narrow construction corridor. No native woody vegetation will be removed from within buffer for the installation of the stormwater outfall. Contours will be restored to pre-impact contours and re-planted with native vegetation to ensure no net loss of wetland function.

Remaining wetland and buffers will be protected in a separate tract with a conservation easement covenant. Permanent fencing and signage along the outer edges of the remaining buffer will be installed in accordance with Chapter 16.53.040.C.2 of the CCC. The location of the signage and fencing is shown on attached Figure 9A.

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## I. Preliminary Mitigation Plan

### Wetland Mitigation

To mitigate for the direct permanent wetland impacts, the applicant will purchase credits from the Terrace Wetland Mitigation Bank. The Terrace Wetland Mitigation Bank was established in 2017 and approved by ECY to release credits within a prescribed service area. The project site is located within the service area watershed of the Terrace Wetland Mitigation Bank's certified bank instrument. Per the Terrace Mitigation Bank instrument, PEM Slope Wetlands were established. The impact wetlands are PEM Slope Wetlands. Therefore, the proposed use of credits from the Terrace Wetland Mitigation Bank is consistent with the terms and conditions of the certified bank instrument. The replacement ratios are also consistent with the bank instrument, requiring 0.18 credits to compensate for 0.18 acres of direct Cat IV PEM wetland impact. Wetland bank credits will be purchased prior to any work within wetlands, eliminating temporal functional loss.

### Oregon White Oak Mitigation

The applicant will purchase habitat credits to compensate for the removal of priority individual Oregon white oak trees from the Terrace Bank.

## J. Statement of Preparation

This report documents the investigation, best professional judgment, and conclusions of the investigator. It is correct and complete to the best of the author's knowledge. This assessment was prepared in accordance with USACE and ECY wetland delineation reporting standards and with the City's environmental protection ordinance (Chapter 16.53). Fieldwork and reporting were conducted by wetland professionals qualified to conduct natural resource projects in Washington. Information contained in this document should be considered preliminary and used at the reader's risk until it has been reviewed and approved in writing by the appropriate local, state, and/or federal agencies with jurisdiction over natural resources on the site.

## K. List of Preparers



Stacey Reed, PWS  
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Fieldwork, Report Preparation

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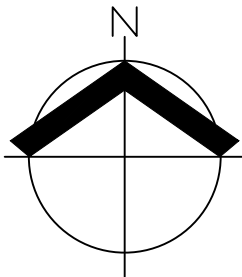
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## **Appendix A: Maps**

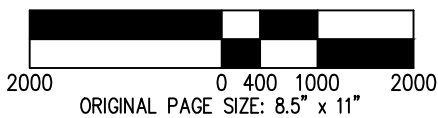
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USGS 7.5' TOPOGRAPHIC SERIES QUADRANGLE:  
LACAMAS CREEK, WA (2020)



SCALE: 1" = 2000 FEET



DATE: 10/06/2021

**USGS VICINITY MAP  
CAMAS HEIGHTS SUBDIVISION CRITICAL AREAS ASSESSMENT**

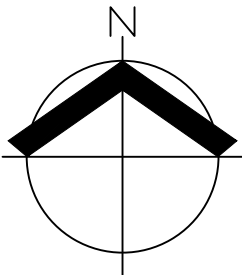
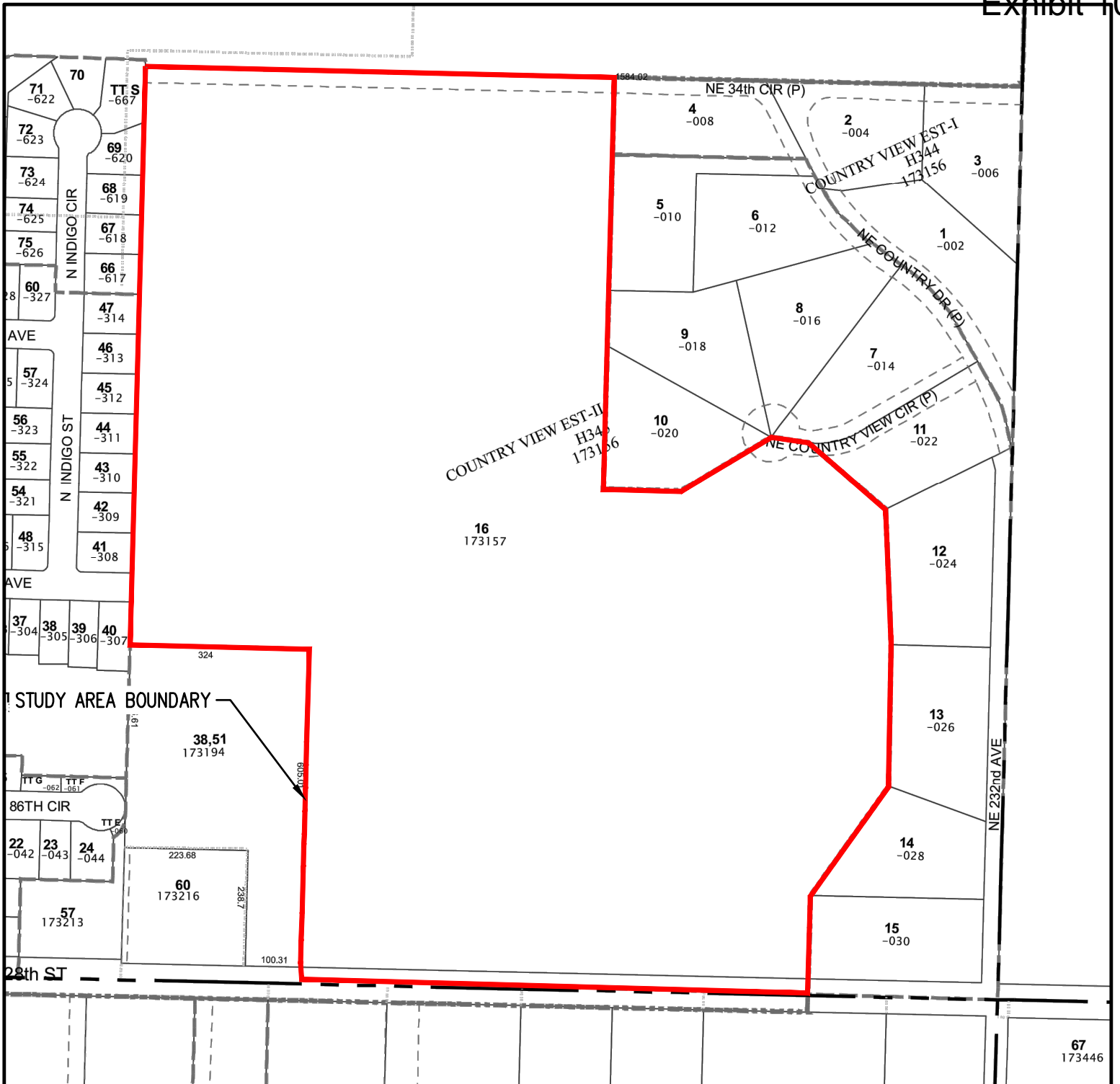
FIGURE  
**1**

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VANCOUVER, WA 98682  
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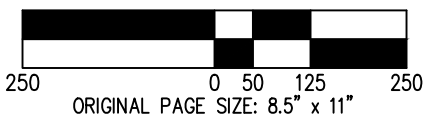


DRWN: SKT  
CHKD: SAR  
AKS JOB:  
8468





SCALE: 1" = 250 FEET



DATE: 10/06/2021

**PARCEL MAP**  
**CAMAS HEIGHTS SUBDIVISION CRITICAL AREAS ASSESSMENT**

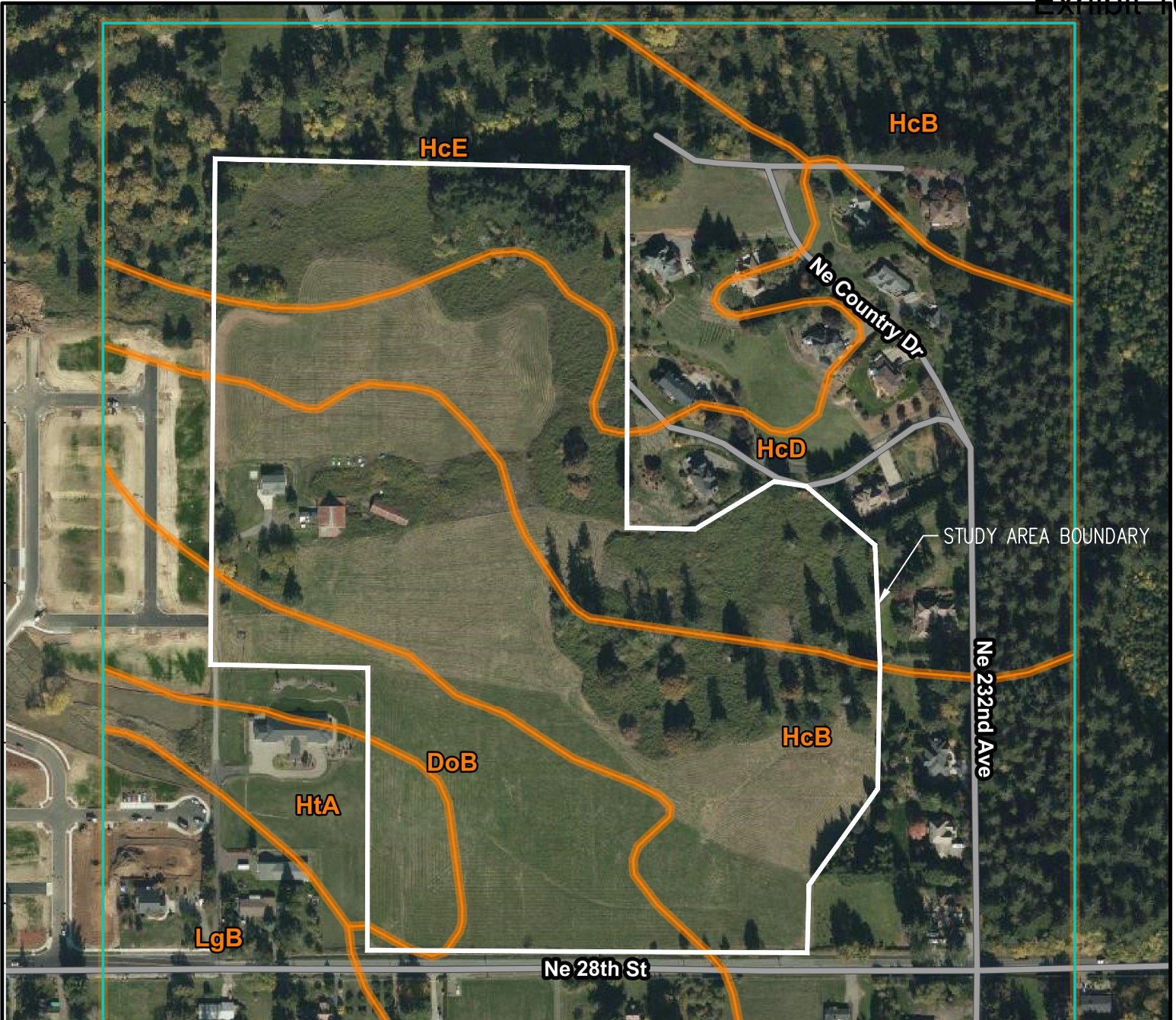
FIGURE  
**2**

AKS ENGINEERING & FORESTRY, LLC  
9600 NE 126TH AVE, STE 2520  
VANCOUVER, WA 98682



DRWN: SKT  
CHKD: SAR  
AKS JOB:  
8468

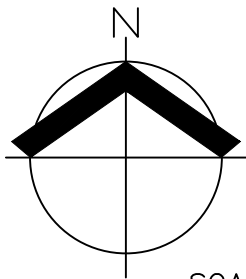
P: 360.882.0419 F: 360.882.0426 aks-eng.com



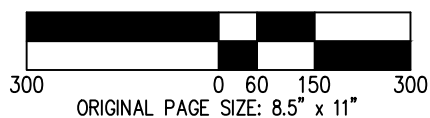
MAP UNIT SYMBOL	MAP UNIT NAME
DoB	DOLLAR LOAM, 0% TO 5% SLOPES; NON-HYDRIC
HcB	HESSON CLAY LOAM, 0% TO 8% SLOPES; NON-HYDRIC
HcD	HESSON CLAY LOAM, 8% TO 20% SLOPES; NON-HYDRIC
HcE	HESSON CLAY LOAM, 20% TO 30% SLOPES; NON-HYDRIC
HtA	HOCKINSON LOAM, 0% TO 3% SLOPES; HYDRIC

NRCS WEB SOIL SURVEY FOR  
CLARK COUNTY

DATE: 10/06/2021



SCALE: 1" = 300 FEET



**NRCS SOIL SURVEY MAP**  
**CAMAS HEIGHTS SUBDIVISION CRITICAL AREAS ASSESSMENT**

AKS ENGINEERING & FORESTRY, LLC  
9600 NE 126TH AVE, STE 2520  
VANCOUVER, WA 98682  
P: 360.882.0419 F: 360.882.0426 aks-eng.com











FIGURE  
**3**

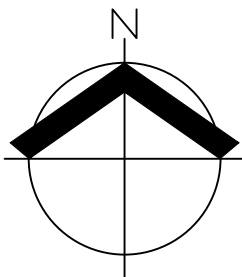
DRWN: SKT  
CHKD: SAR  
AKS JOB:  
8468



STUDY AREA BOUNDARY

Wetlands					
	Estuarine and Marine Deepwater		Freshwater Emergent Wetland		Lake
	Estuarine and Marine Wetland		Freshwater Forested/Shrub Wetland		Other
			Freshwater Pond		Riverine

US FISH & WILDLIFE SERVICE  
NATIONAL WETLAND INVENTORY



SCALE: 1" = 300 FEET



ORIGINAL PAGE SIZE: 8.5" x 11"

DATE: 10/06/2021

**NATIONAL WETLAND INVENTORY MAP  
CAMAS HEIGHTS SUBDIVISION CRITICAL AREAS ASSESSMENT**

FIGURE  
**4**

AKS ENGINEERING & FORESTRY, LLC  
9600 NE 126TH AVE, STE 2520  
VANCOUVER, WA 98682

P: 360.882.0419 F: 360.882.0426 aks-eng.com






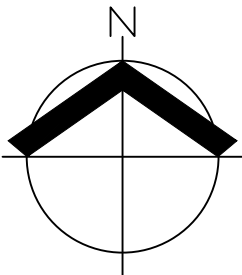
DRWN: SKT  
CHKD: SAR

AKS JOB:  
8468

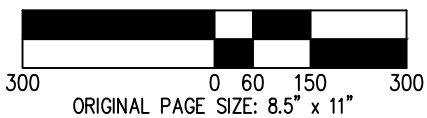


**Legend**

-  Taxlots
-  Permitted Wetland
-  Modeled Wetland



SCALE: 1" = 300 FEET



CLARK COUNTY GIS MAPS ONLINE  
(2018)

DATE: 10/06/2021

**MODELED AND PERMITTED MAP  
CAMAS HEIGHTS SUBDIVISION CRITICAL AREAS ASSESSMENT**

FIGURE  
**5**

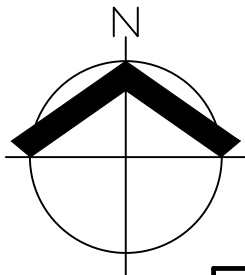
AKS ENGINEERING & FORESTRY, LLC  
9600 NE 126TH AVE, STE 2520  
VANCOUVER, WA 98682  
P: 360.882.0419 F: 360.882.0426 aks-eng.com



DRWN: SKT  
CHKD: SAR  
AKS JOB:  
8468



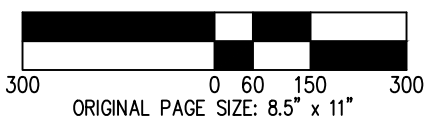
- Water Bodies (FP)**
- Water Bodies (FP)
- Other Impoundments
  - Open Freshwater
  - Subject to Inundation
  - Glacier / Snowfield
  - Wet Area
  - Open Saltwater
  - Artificial Feature
- Water Courses (FP)**
- Water Courses (FP)
- Type S
  - Type F
  - Type N, Np, Ns
  - U unknown
  - X, non-typed per WAC 222-16



WASHINGTON DEPARTMENT OF  
NATURAL RESOURCES  
(2018)

DATE: 10/06/2021

SCALE: 1" = 300 FEET

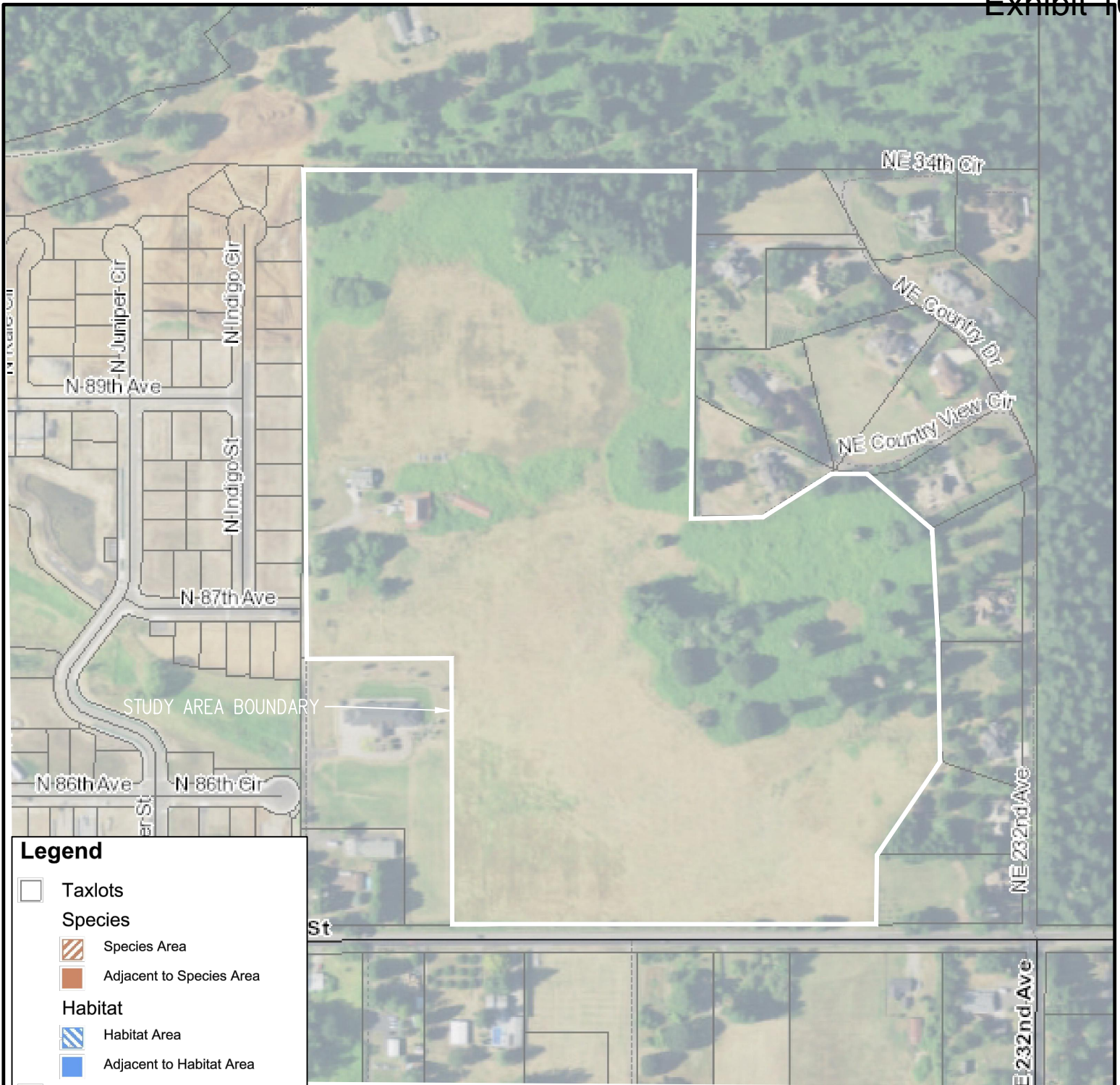


**DNR WATERS MAP**  
**CAMAS HEIGHTS SUBDIVISION CRITICAL AREAS ASSESSMENT**

AKS ENGINEERING & FORESTRY, LLC  
9600 NE 126TH AVE, STE 2520  
VANCOUVER, WA 98682  
P: 360.882.0419 F: 360.882.0426 aks-eng.com



FIGURE <b>6</b>
DRWN: SKT CHKD: SAR
AKS JOB: 8468



CLARK COUNTY GIS MAPS ONLINE  
(2018)

DATE: 10/06/2021

FIGURE  
**7**

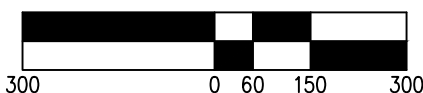
**PRIORITY HABITAT AND SPECIES MAP  
CAMAS HEIGHTS SUBDIVISION CRITICAL AREAS ASSESSMENT**

AKS ENGINEERING & FORESTRY, LLC  
9600 NE 126TH AVE, STE 2520  
VANCOUVER, WA 98682  
P: 360.882.0419 F: 360.882.0426 aks-eng.com



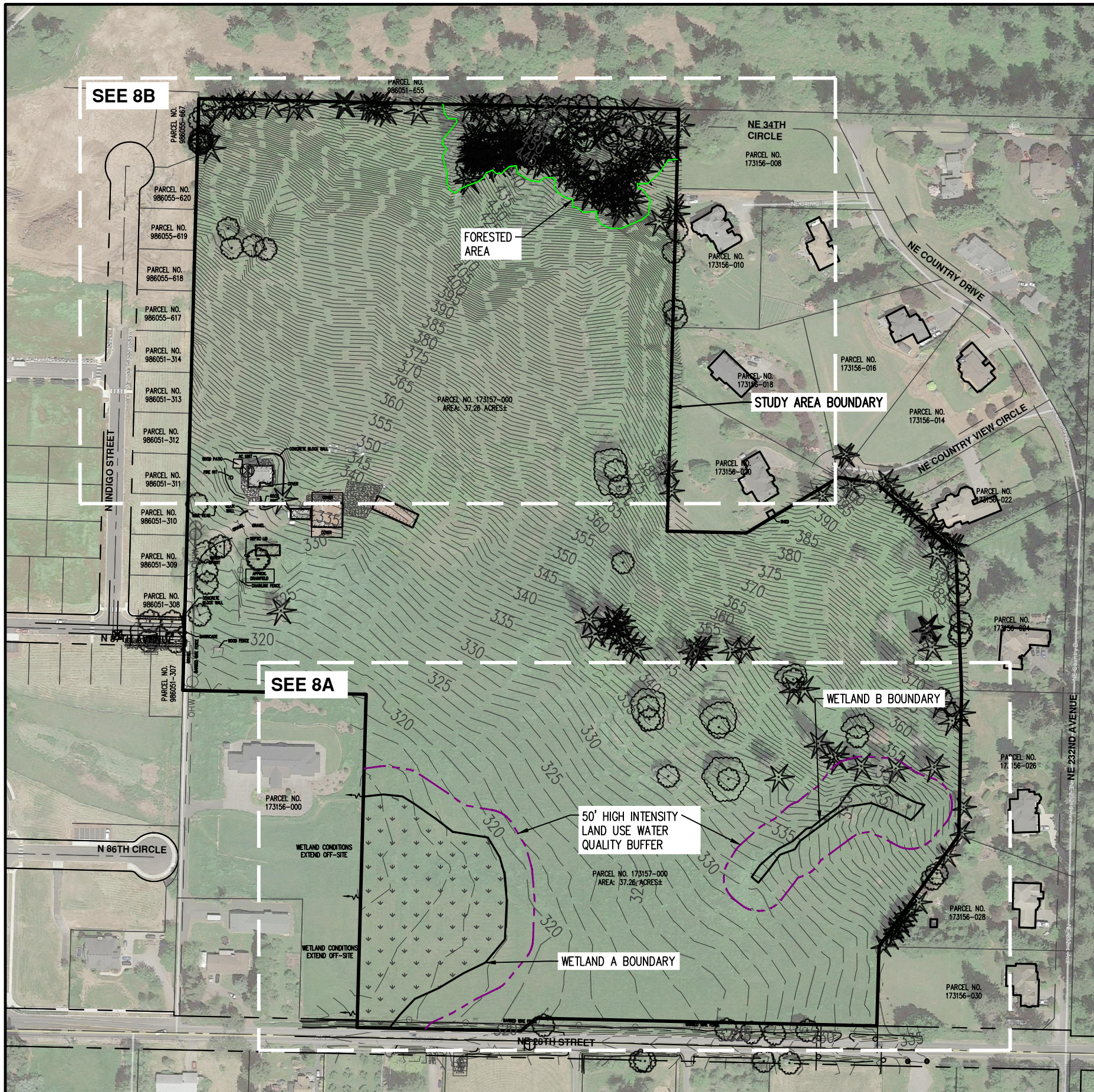
DRWN: SKT  
CHKD: SAR  
AKS JOB:  
8468

SCALE: 1" = 300 FEET

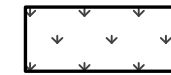


ORIGINAL PAGE SIZE: 8.5" x 11"

GOOGLE EARTH AERIAL IMAGERY  
MAY, 2019



**LEGEND (COLOR COPY):**



TOTAL ON-SITE WETLAND AREA: 85,274 SF± (1.95 ACRES±)

PEM/SLOPE WETLAND A (CAT IV): 78,525 SF± (1.80 ACRES±)

PEM/SLOPE WETLAND B (CAT IV): 6,749 SF± (0.15 ACRES±)



HIGH INTENSITY LAND USE WATER QUALITY BUFFER: 81,751 SF± (1.88 ACRES±)



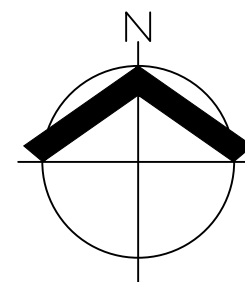
PHOTO LOCATION & ORIENTATION



APPROXIMATE PRIORITY OREGON WHITE OAK CANOPY DRIPLINE: 19,756 SF±

WETLAND BOUNDARIES SHOWN WERE DELINEATED BY AKS ENGINEERING & FORESTRY, LLC (AKS) ON APRIL 15, 2021 AND WERE PROFESSIONALLY LAND SURVEYED BY AKS ON MAY 10, 2021.

1-FOOT INTERVAL GROUND CONTOURS, EXISTING CONDITIONS, TREES >6" DBH, AND STUDY AREA BOUNDARY DERIVED FROM AKS PROFESSIONAL LAND SURVEY.



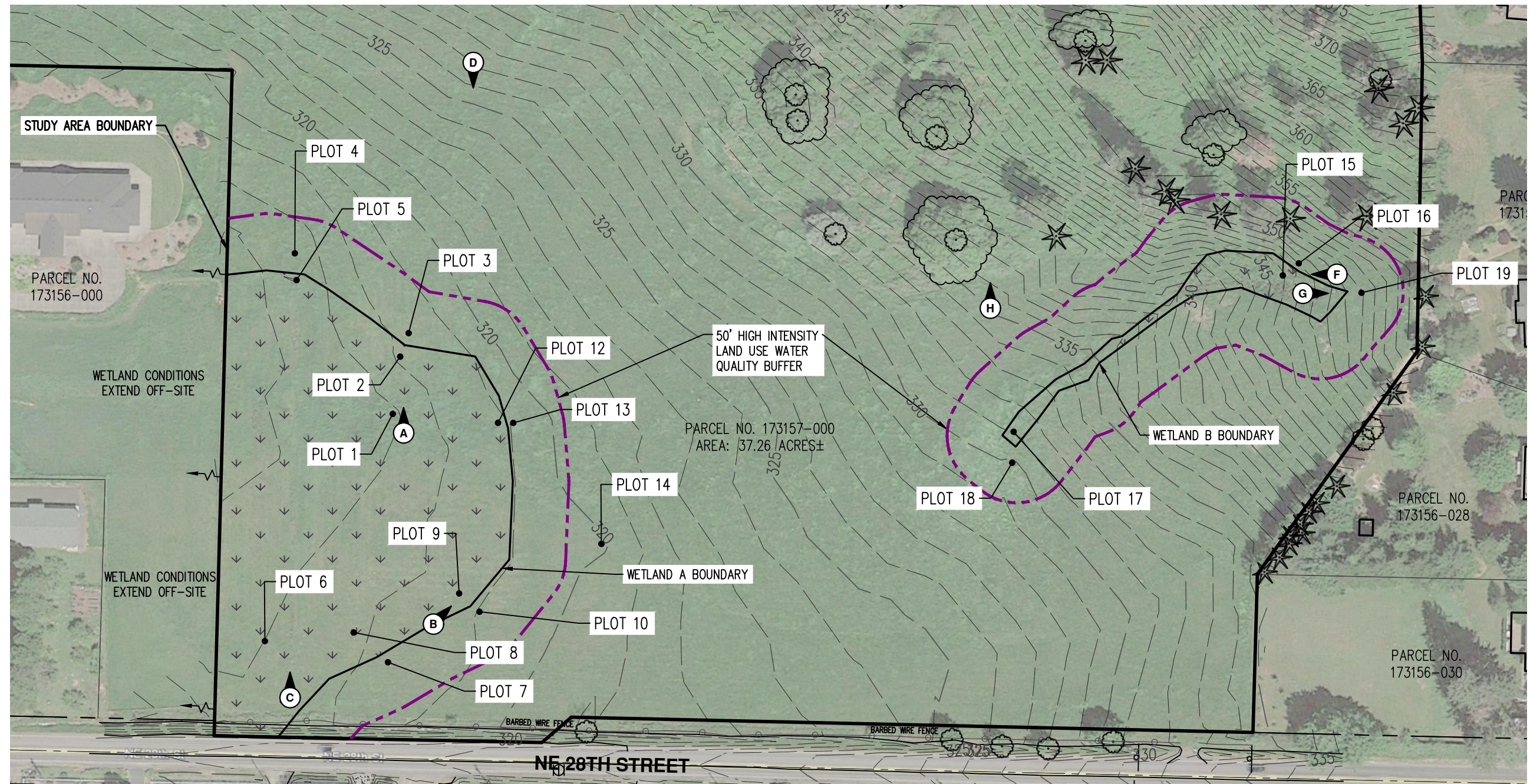
SCALE: 1" = 200 FEET







ORIGINAL PAGE SIZE: 11" x 17"

DATE: 10/28/2021

<b>WETLAND DELINEATION OVERVIEW MAP</b>		FIGURE
<b>CAMAS HEIGHTS SUBDIVISION CRITICAL AREAS ASSESSMENT</b>		<b>8</b>
AKS ENGINEERING & FORESTRY, LLC 9600 NE 126TH AVE, STE 2520 VANCOUVER, WA 98682 360.882.0419 WWW.AKS-ENG.COM		DRWN: SKT CHKD: SAR AKS JOB: 8468



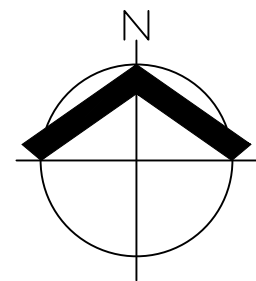
**LEGEND (COLOR COPY):**

-  TOTAL ON-SITE WETLAND AREA: 85,274 SF± (1.95 ACRES±)  
 PEM/SLOPE WETLAND A (CAT IV): 78,525 SF± (1.80 ACRES±)  
 PEM/SLOPE WETLAND B (CAT IV): 6,749 SF± (0.15 ACRES±)
-  HIGH INTENSITY LAND USE WATER QUALITY BUFFER: 81,751 SF± (1.88 ACRES±)
-  PHOTO LOCATION & ORIENTATION
-  APPROXIMATE PRIORITY OREGON WHITE OAK CANOPY DRIPLINE: 19,756 SF±

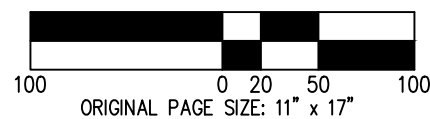
WETLAND BOUNDARIES SHOWN WERE DELINEATED BY AKS ENGINEERING & FORESTRY, LLC (AKS) ON APRIL 15, 2021 AND WERE PROFESSIONALLY LAND SURVEYED BY AKS ON MAY 10, 2021.

1-FOOT INTERVAL GROUND CONTOURS, EXISTING CONDITIONS, TREES >6" DBH, AND STUDY AREA BOUNDARY DERIVED FROM AKS PROFESSIONAL LAND SURVEY.

GOOGLE EARTH AERIAL IMAGERY  
MAY, 2019



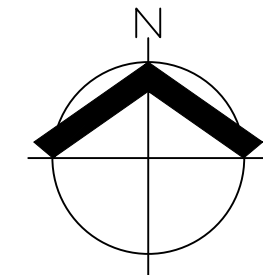
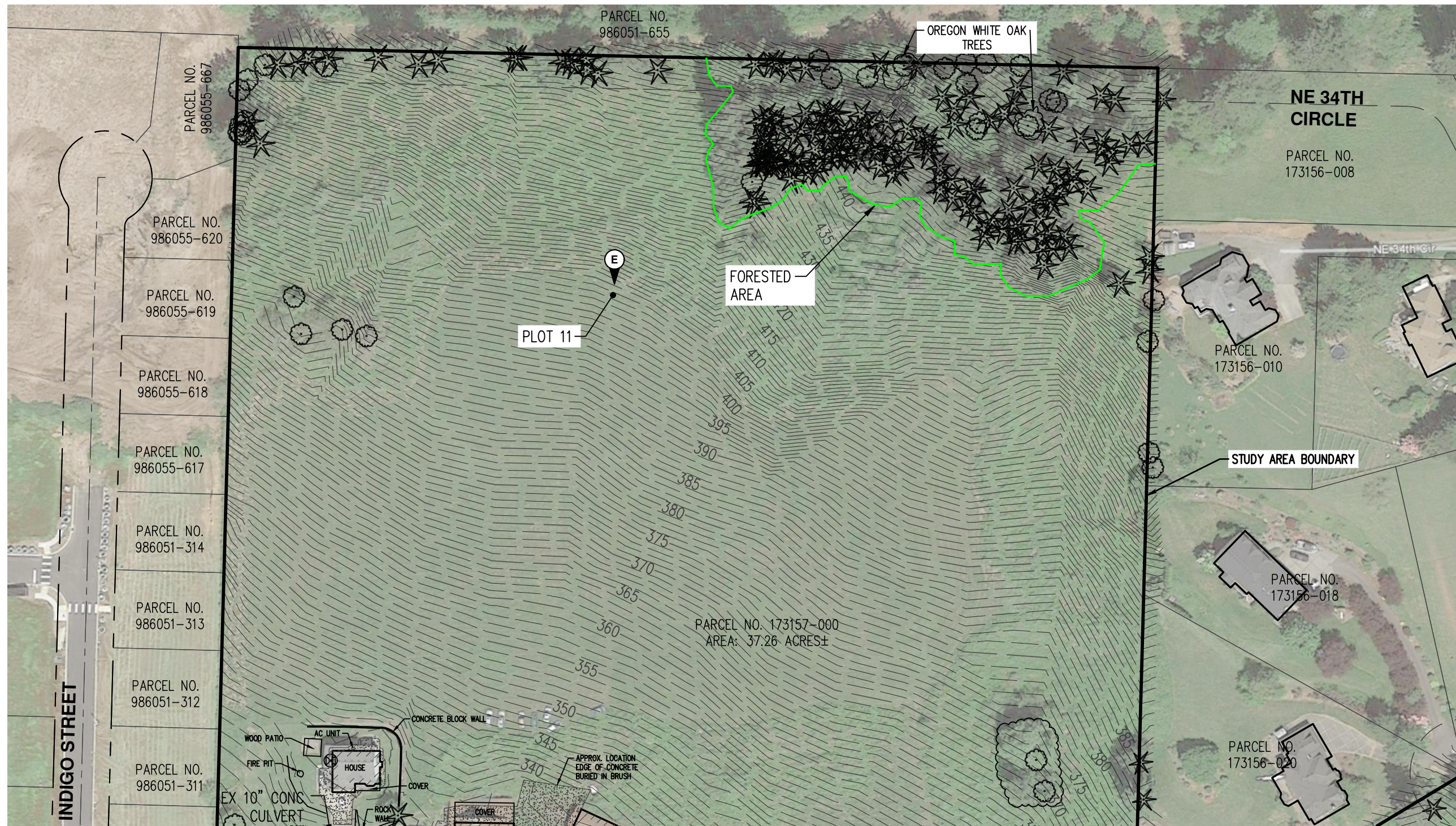
SCALE: 1" = 100 FEET







DATE: 10/28/2021

<b>WETLAND DELINEATION MAP</b>		FIGURE
<b>CAMAS HEIGHTS SUBDIVISION CRITICAL AREAS ASSESSMENT</b>		<b>8A</b>
AKS ENGINEERING & FORESTRY, LLC 9600 NE 126TH AVE, STE 2520 VANCOUVER, WA 98682 360.882.0419 WWW.AKS-ENG.COM		DRWN: SKT CHKD: SAR AKS JOB: 8468



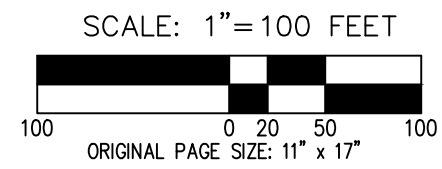


**LEGEND (COLOR COPY):**

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 PEM/SLOPE WETLAND A (CAT IV): 78,525 SF± (1.80 ACRES±)  
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-  HIGH INTENSITY LAND USE WATER QUALITY BUFFER: 81,751 SF± (1.88 ACRES±)
-  PHOTO LOCATION & ORIENTATION
-  APPROXIMATE PRIORITY OREGON WHITE OAK CANOPY DRIPLINE: 19,756 SF±

WETLAND BOUNDARIES SHOWN WERE DELINEATED BY AKS ENGINEERING & FORESTRY, LLC (AKS) ON APRIL 15, 2021 AND WERE PROFESSIONALLY LAND SURVEYED BY AKS ON MAY 10, 2021.

1-FOOT INTERVAL GROUND CONTOURS, EXISTING CONDITIONS, TREES >6" DBH, AND STUDY AREA BOUNDARY DERIVED FROM AKS PROFESSIONAL LAND SURVEY.



GOOGLE EARTH AERIAL IMAGERY  
MAY, 2019

DATE: 10/28/2021

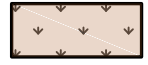
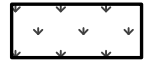



<b>WETLAND DELINEATION MAP</b>		FIGURE
<b>CAMAS HEIGHTS SUBDIVISION CRITICAL AREAS ASSESSMENT</b>		<b>8B</b>
AKS ENGINEERING & FORESTRY, LLC 9600 NE 126TH AVE, STE 2520 VANCOUVER, WA 98682 360.882.0419 WWW.AKS-ENG.COM		DRWN: SKT CHKD: SAR AKS JOB: 8468



PARCEL NO.  
986051-655

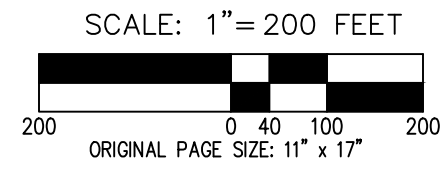
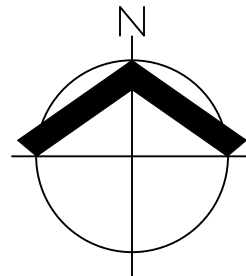


**LEGEND (COLOR COPY):**


-  TOTAL ON-SITE PERMANENT WETLAND IMPACTS: 8,284 SF± (0.18 ACRES±)  
PERMANENT PEM WETLAND A (CAT IV) IMPACT AREA: 1,535 SF± (0.03 ACRES±)  
PERMANENT PEM WETLAND B (CAT IV) IMPACT AREA: 6,749 SF± (0.15 ACRES±)
-  ON-SITE PEM WETLAND A (CAT IV) AREA TO REMAIN: 76,990 SF± (1.77 ACRES±)
-  PERMANENT HIGH INTENSITY LAND USE WATER QUALITY BUFFER IMPACT AREA: 47,063 SF± (1.08 ACRES±)
-  HIGH INTENSITY LAND USE WATER QUALITY BUFFER AREA TO REMAIN: 34,211 SF± (0.78 ACRES±)
-  APPROXIMATE PRIORITY OREGON WHITE OAK CANOPY DRIPLINE TO BE REMOVED: 19,756 SF±

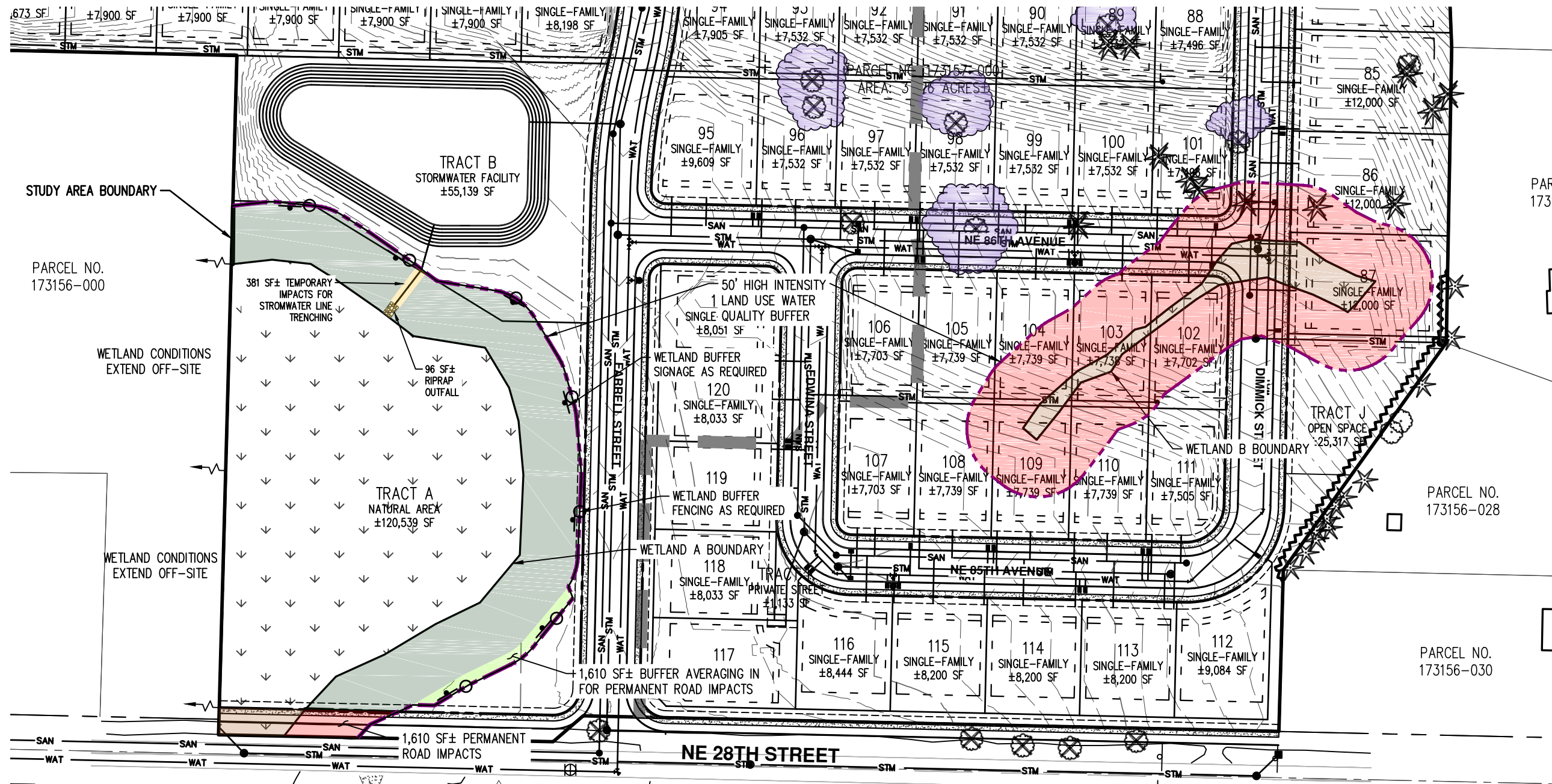
WETLAND BOUNDARIES SHOWN WERE DELINEATED BY AKS ENGINEERING & FORESTRY, LLC (AKS) ON APRIL 15, 2021 AND WERE PROFESSIONALLY LAND SURVEYED BY AKS ON MAY 10, 2021.

TREES >6" DBH ARE SHOWN TO BE REMOVED.

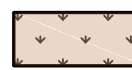
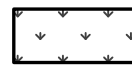
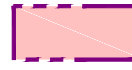




DATE: 10/28/2021

<b>NATURAL RESOURCES SITE PLAN</b>	FIGURE
<b>CAMAS HEIGHTS SUBDIVISION CRITICAL AREAS ASSESSMENT</b>	<b>9</b>
AKS ENGINEERING & FORESTRY, LLC 9600 NE 126TH AVE, STE 2520 VANCOUVER, WA 98682 360.882.0419 WWW.AKS-ENG.COM	DRWN: SKT CHKD: SAR AKS JOB: 8468
	

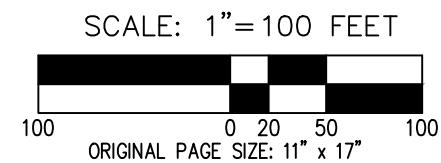
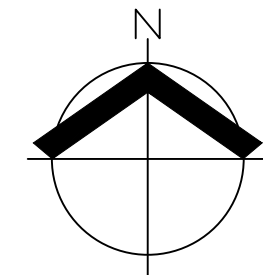


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 PERMANENT PEM WETLAND A (CAT IV) IMPACT AREA: 1,535 SF± (0.03 ACRES±)  
 PERMANENT PEM WETLAND B (CAT IV) IMPACT AREA: 6,749 SF± (0.15 ACRES±)
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-  HIGH INTENSITY LAND USE WATER QUALITY BUFFER AREA TO REMAIN: 34,211 SF± (0.78 ACRES±)
-  APPROXIMATE PRIORITY OREGON WHITE OAK CANOPY DRIPLINE TO BE REMOVED: 19,756 SF±

WETLAND BOUNDARIES SHOWN WERE DELINEATED BY AKS ENGINEERING & FORESTRY, LLC (AKS) ON APRIL 15, 2021 AND WERE PROFESSIONALLY LAND SURVEYED BY AKS ON MAY 10, 2021.

TREES >6" DBH ARE SHOWN TO BE REMOVED.



DATE: 10/28/2021

<b>NATURAL RESOURCES SITE PLAN</b>		FIGURE
<b>CAMAS HEIGHTS SUBDIVISION CRITICAL AREAS ASSESSMENT</b>		<b>9A</b>
AKS ENGINEERING & FORESTRY, LLC 9600 NE 126TH AVE, STE 2520 VANCOUVER, WA 98682 360.882.0419 WWW.AKS-ENG.COM		DRWN: SKT CHKD: SAR AKS JOB: 8468



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## **Appendix B: Wetland Determination Data Forms**

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

Project/Site: Camas Heights City/County: Camas/ Clark Sampling Date: 4/15/2021  
 Applicant/Owner: Lennar Northwest, Inc. State: WA Sampling Point: 1  
 Investigator(s): Stacey Reed, PWS and Sonya Templeton Section, Township, Range: Sec. 21, T.2N., R.3E., W.M.  
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Concave Slope (%): < 3  
 Subregion (LRR): A. Northwest Forests and Coast Lat: 45.644069 Long: -122.43908840 Datum: \_\_\_\_\_  
 Soil Map Unit Name: Hockinson loam (Unit HtA), 0% to 3% slopes; Hydric NWI classification: none  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No \_\_\_\_\_ (If no, explain in Remarks)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes X 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 <u>X</u>	No _____	<b>Is the Sampled Area within a Wetland?</b>	Yes <u>X</u>	No _____
Hydric Soil Present?	Yes <u>X</u>	No _____			
Wetland Hydrology Present?	Yes <u>X</u>	No _____			

**Precipitation:**  
 According to the NWS Vancouver weather station, 0.00 inches of rainfall was received on the day of the site visit and 0.09 inches within the two weeks prior.

**Remarks:**

**VEGETATION**

Tree Stratum (Plot Size: 30' r or _____)	Absolute % Cover	Dominant Species?	Indicator Status	<b>Dominance Test worksheet:</b>
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>1</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
4. _____	_____	_____	_____	<b>Prevalence Index worksheet:</b>
5. _____	_____	_____	_____	
0% = Total Cover				OBL species <u>0</u> x 1 = <u>0</u>
Sapling/Shrub Stratum (Plot Size: 10' r or _____)				FACW species <u>80</u> x 2 = <u>160</u>
1. _____	_____	_____	_____	FAC species <u>20</u> x 3 = <u>60</u>
2. _____	_____	_____	_____	FACU species <u>0</u> x 4 = <u>0</u>
3. _____	_____	_____	_____	UPL species <u>0</u> x 5 = <u>0</u>
4. _____	_____	_____	_____	Column Totals: <u>100</u> (A) <u>220</u> (B)
5. _____	_____	_____	_____	Prevalence Index = B/A = <u>2.20</u>
0% = Total Cover				<b>Hydrophytic Vegetation Indicators:</b>
Herb Stratum (Plot Size: 5' r or _____)				
1. <i>Phalaris arundinacea</i>	80%	Yes	FACW	
2. <i>Alopecurus pratensis</i>	10%	No	FAC	
3. <i>Poa species</i>	10%	No	FAC*	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
100% = Total Cover				
Woody Vine Stratum (Plot Size: 10' r or _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
0% = Total Cover				
% Bare Ground in Herb Stratum <u>0%</u>				

**Remarks:**  
 Scattered JUNEFF in wetland near plot. \*Assumed FAC.

**Hydrophytic Vegetation Present?** Yes X No \_\_\_\_\_

<b>SOIL</b>						<b>Sampling Point:</b>	<b>1</b>	
<b>Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators):</b>								
Depth	Matrix		Redox Features				Texture	Remarks
(inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0-11	10YR 3/2	90	7.5YR 3/4	10	C	M/ PL	SiCL	
11-16	10YR 3/2	85	7.5YR 4/6	15	C	M	SiCL	

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

<b>Hydric Soil Indicators (Applicable to all LRRs, unless otherwise noted):</b>	<b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b>
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> 2 cm Muck (A10)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	
<input type="checkbox"/> Thick Dark Surface (A12)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	
<input type="checkbox"/> Sandy Redox (S5)	
<input type="checkbox"/> Stripped Matrix (S6)	
<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	
<input type="checkbox"/> Loamy Gleyed Matrix (F2)	
<input type="checkbox"/> Depleted Matrix (F3)	
<input checked="" type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Redox Depressions (F8)	

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

<b>Restrictive Layer (if present):</b> Type: _____ Depth (inches): _____	<b>Hydric Soil Present?</b> Yes <input checked="" type="checkbox"/> No _____
--	--

**Remarks:**

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b>	<u>Primary Indicators (minimum of one required; check all that apply)</u>	<u>Secondary Indicators (2 or more required)</u>
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)	<input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Sediment Deposits (B2)	<input checked="" type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input checked="" type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input checked="" type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)	<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Frost-Heave Hummocks (D7)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		

<b>Field Observations:</b> Surface Water Present?    Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present?      Yes _____ No <input checked="" type="checkbox"/> Depth (inches): <u>&gt;16"</u> Saturation Present?        Yes _____ No <input checked="" type="checkbox"/> Depth (inches): <u>&gt;16"</u> (includes capillary fringe)	<b>Wetland Hydrology Present?</b> Yes <input checked="" type="checkbox"/> No _____
--	--

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

**Remarks:**  
 Left pit open for half hour- soils moist throughout.

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

Project/Site: Camas Heights City/County: Camas/ Clark Sampling Date: 4/15/2021  
 Applicant/Owner: Lennar Northwest, Inc. State: WA Sampling Point: 2  
 Investigator(s): Stacey Reed, PWS and Sonya Templeton Section, Township, Range: Sec. 21, T.2N., R.3E., W.M.  
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): None Slope (%): < 3  
 Subregion (LRR): A. Northwest Forests and Coast Lat: 45.644209 Long: -122.43906764 Datum: \_\_\_\_\_  
 Soil Map Unit Name: Hockinson loam (Unit HtA), 0% to 3% slopes; Hydric NWI classification: none  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No \_\_\_\_\_ (If no, explain in Remarks)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes X 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 <u>X</u>	No _____	<b>Is the Sampled Area within a Wetland?</b>	Yes <u>X</u> No _____
Hydric Soil Present?	Yes <u>X</u>	No _____		
Wetland Hydrology Present?	Yes <u>X</u>	No _____		

**Precipitation:**  
 According to the NWS Vancouver weather station, 0.00 inches of rainfall was received on the day of the site visit and 0.09 inches within the two weeks prior.

**Remarks:**

**VEGETATION**

Tree Stratum (Plot Size: 30' r or _____)	Absolute % Cover	Dominant Species?	Indicator Status	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)  Total Number of Dominant Species Across All Strata: <u>1</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)	
1. _____	_____	_____	_____		<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>100</u> x 3 = <u>300</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column Totals: <u>100</u> (A) <u>300</u> (B) Prevalence Index = B/A = <u>3.00</u>
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
_____	0% = Total Cover	_____	_____		
<b>Sapling/Shrub Stratum (Plot Size: 10' r or _____)</b>					
1. _____	_____	_____	_____	<b>Hydrophytic Vegetation Indicators:</b> <u>  </u> 1 - Rapid Test for Hydrophytic Vegetation <u>X</u> 2 - Dominance Test is >50% <u>X</u> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <u>  </u> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <u>  </u> 5 - Wetland Non-Vascular Plants <sup>1</sup> <u>  </u> Problematic Hydrophytic Vegetation (Explain) <sup>1</sup>  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present.	
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
_____	0% = Total Cover	_____	_____		
<b>Herb Stratum (Plot Size: 5' r or _____)</b>					
1. <u>Alopecurus pratensis</u>	90%	Yes	FAC		
2. <u>Schedonorus arundinaceus</u>	5%	No	FAC		
3. <u>Poa species</u>	5%	No	FAC*		
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
6. _____	_____	_____	_____		
7. _____	_____	_____	_____		
8. _____	_____	_____	_____		
9. _____	_____	_____	_____		
10. _____	_____	_____	_____		
11. _____	_____	_____	_____		
_____	100% = Total Cover	_____	_____		
<b>Woody Vine Stratum (Plot Size: 10' r or _____)</b>					
1. _____	_____	_____	_____	<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No _____	
2. _____	_____	_____	_____		
_____	0% = Total Cover	_____	_____		
% Bare Ground in Herb Stratum <u>0%</u>					

**Remarks:**  
 \*Assumed FAC

<b>SOIL</b>							<b>Sampling Point:</b>	<b>2</b>
<b>Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators):</b>								
Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0-14	10YR 3/2	95	5YR 3/4	4	C	M	SiCL	
			7.5YR 4/6	1	C	M	SiCL	
<sup>1</sup> Type: C=Concentration, D=Depletion, RM=Reduced Matrix CS=Covered or Coated Sand Grains. <sup>2</sup> Location: PL=Pore Lining, M=Matrix.								
<b>Hydric Soil Indicators (Applicable to all LRRs, unless otherwise noted):</b>						<b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b>		
<input type="checkbox"/> Histosol (A1)			<input type="checkbox"/> Sandy Redox (S5)			<input type="checkbox"/> 2 cm Muck (A10)		
<input type="checkbox"/> Histic Epipedon (A2)			<input type="checkbox"/> Stripped Matrix (S6)			<input type="checkbox"/> Red Parent Material (TF2)		
<input type="checkbox"/> Black Histic (A3)			<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)			<input type="checkbox"/> Very Shallow Dark Surface (TF12)		
<input type="checkbox"/> Hydrogen Sulfide (A4)			<input type="checkbox"/> Loamy Gleyed Matrix (F2)			<input type="checkbox"/> Other (Explain in Remarks)		
<input type="checkbox"/> Depleted Below Dark Surface (A11)			<input type="checkbox"/> Depleted Matrix (F3)			<sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.		
<input type="checkbox"/> Thick Dark Surface (A12)			<input checked="" type="checkbox"/> Redox Dark Surface (F6)					
<input type="checkbox"/> Sandy Mucky Mineral (S1)			<input type="checkbox"/> Depleted Dark Surface (F7)					
<input type="checkbox"/> Sandy Gleyed Matrix (S4)			<input type="checkbox"/> Redox Depressions (F8)					
<b>Restrictive Layer (if present):</b>						<b>Hydric Soil Present?</b>		
Type: _____						Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		
Depth (inches): _____								
<b>Remarks:</b>								
<b>HYDROLOGY</b>								
<b>Wetland Hydrology Indicators:</b>								
<u>Primary Indicators (minimum of one required; check all that apply)</u>						<u>Secondary Indicators (2 or more required)</u>		
<input type="checkbox"/> Surface Water (A1)			<input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)			<input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)		
<input type="checkbox"/> High Water Table (A2)			<input type="checkbox"/> Salt Crust (B11)			<input type="checkbox"/> Drainage Patterns (B10)		
<input type="checkbox"/> Saturation (A3)			<input type="checkbox"/> Aquatic Invertebrates (B13)			<input type="checkbox"/> Dry-Season Water Table (C2)		
<input type="checkbox"/> Water Marks (B1)			<input type="checkbox"/> Hydrogen Sulfide Odor (C1)			<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)		
<input type="checkbox"/> Sediment Deposits (B2)			<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)			<input checked="" type="checkbox"/> Geomorphic Position (D2)		
<input type="checkbox"/> Drift Deposits (B3)			<input type="checkbox"/> Presence of Reduced Iron (C4)			<input type="checkbox"/> Shallow Aquitard (D3)		
<input type="checkbox"/> Algal Mat or Crust (B4)			<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)			<input type="checkbox"/> FAC-Neutral Test (D5)		
<input type="checkbox"/> Iron Deposits (B5)			<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)			<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)		
<input type="checkbox"/> Surface Soil Cracks (B6)			<input checked="" type="checkbox"/> Other (Explain in Remarks)			<input type="checkbox"/> Frost-Heave Hummocks (D7)		
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)								
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)								
<b>Field Observations:</b>						<b>Wetland Hydrology Present?</b>		
Surface Water Present?		Yes _____	No <input checked="" type="checkbox"/>	Depth (inches): _____		Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		
Water Table Present?		Yes _____	No <input checked="" type="checkbox"/>	Depth (inches): > 14"				
Saturation Present? (includes capillary fringe)		Yes _____	No <input checked="" type="checkbox"/>	Depth (inches): > 14"				
<b>Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:</b>								
<b>Remarks:</b>								
Pit left open for half hour - soils slightly moist. Recommended site visit in the spring for potential hydrology. Assumed wetland based on presence of hydric soils.								



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

Project/Site: Camas Heights City/County: Camas/ Clark Sampling Date: 4/15/2021  
 Applicant/Owner: Lennar Northwest, Inc. State: WA Sampling Point: 3  
 Investigator(s): Stacey Reed, PWS and Sonya Templeton Section, Township, Range: Sec. 21, T.2N., R.3E., W.M.  
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Convex Slope (%): <3%  
 Subregion (LRR): A. Northwest Forests and Coast Lat: 45.644266 Long: -122.43904058 Datum: \_\_\_\_\_  
 Soil Map Unit Name: Hockinson loam (Unit HtA), 0% to 3% slopes; Hydric NWI classification: none  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No \_\_\_\_\_ (If no, explain in Remarks)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes X 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 <u>X</u>	No _____	<b>Is the Sampled Area within a Wetland?</b>	Yes _____	No <u>X</u>
Hydric Soil Present?	Yes _____	No <u>X</u>			
Wetland Hydrology Present?	Yes _____	No <u>X</u>			

**Precipitation:**  
 According to the NWS Vancouver weather station, 0.00 inches of rainfall was received on the day of the site visit and 0.09 inches within the two weeks prior.

**Remarks:**

**VEGETATION**

Tree Stratum (Plot Size: 30' r or _____)	Absolute % Cover	Dominant Species?	Indicator Status	<b>Dominance Test worksheet:</b>
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>1</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
4. _____	_____	_____	_____	<b>Prevalence Index worksheet:</b>
5. _____	_____	_____	_____	
0% = Total Cover				OBL species <u>0</u> x 1 = <u>0</u>
Sapling/Shrub Stratum (Plot Size: 10' r or _____)				FACW species <u>0</u> x 2 = <u>0</u>
1. _____	_____	_____	_____	FAC species <u>95</u> x 3 = <u>285</u>
2. _____	_____	_____	_____	FACU species <u>0</u> x 4 = <u>0</u>
3. _____	_____	_____	_____	UPL species <u>0</u> x 5 = <u>0</u>
4. _____	_____	_____	_____	Column Totals: <u>95</u> (A) <u>285</u> (B)
5. _____	_____	_____	_____	Prevalence Index = B/A = <u>3.00</u>
0% = Total Cover				<b>Hydrophytic Vegetation Indicators:</b>
Herb Stratum (Plot Size: 5' r or _____)				
1. <u>Alopecurus pratensis</u>	<u>75%</u>	<u>Yes</u>	<u>FAC</u>	
2. <u>Poa species</u>	<u>15%</u>	<u>No</u>	<u>FAC*</u>	
3. <u>Schedonorus arundinaceus</u>	<u>5%</u>	<u>No</u>	<u>FAC</u>	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
95% = Total Cover				
Woody Vine Stratum (Plot Size: 10' r or _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
0% = Total Cover				
% Bare Ground in Herb Stratum <u>5%</u>				

**Remarks:**  
 \*Assumed FAC

SOIL							Sampling Point:	3
Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators):								
Depth	Matrix		Redox Features			Loc <sup>2</sup>	Texture	Remarks
(inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>			
0-11	10YR 3/2	97	7.5YR 4/6	3	C	PL	SiCL	
11-16	10YR 3/2	95	2.5YR 2.5/1	3	C	M	SiCL	
			7.5YR 4/4	2	C	M		
<p><sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix CS=Covered or Coated Sand Grains.  <sup>2</sup>Location: PL=Pore Lining, M=Matrix.</p>								
<b>Hydric Soil Indicators (Applicable to all LRRs, unless otherwise noted):</b>						<b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b>		
<input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Sandy Redox (S5)			<input type="checkbox"/> Stripped Matrix (S6)			<input type="checkbox"/> 2 cm Muck (A10)		
<input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)			<input type="checkbox"/> Loamy Gleyed Matrix (F2)			<input type="checkbox"/> Red Parent Material (TF2)		
<input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Loamy Gleyed Matrix (F2)			<input type="checkbox"/> Depleted Matrix (F3)			<input type="checkbox"/> Very Shallow Dark Surface (TF12)		
<input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Depleted Matrix (F3)			<input type="checkbox"/> Redox Dark Surface (F6)			<input type="checkbox"/> Other (Explain in Remarks)		
<input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Redox Dark Surface (F6)			<input type="checkbox"/> Depleted Dark Surface (F7)			<p><sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.</p>		
<input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Depleted Dark Surface (F7)			<input type="checkbox"/> Redox Depressions (F8)					
<input type="checkbox"/> Sandy Mucky Mineral (S1)								
<input type="checkbox"/> Sandy Gleyed Matrix (S4)								
<b>Restrictive Layer (if present):</b>						<b>Hydric Soil</b>		
Type: _____						Present?      Yes _____      No <u>  X  </u>		
Depth (inches): _____								
<b>Remarks:</b>								
<b>HYDROLOGY</b>								
<b>Wetland Hydrology Indicators:</b>								
<u>Primary Indicators (minimum of one required; check all that apply)</u>						<u>Secondary Indicators (2 or more required)</u>		
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)			<input type="checkbox"/> Salt Crust (B11) <input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)			<input type="checkbox"/> Drainage Patterns (B10)		
<input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Invertebrates (B13)			<input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Dry-Season Water Table (C2)			<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)		
<input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)			<input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Geomorphic Position (D2)			<input type="checkbox"/> Shallow Aquitard (D3)		
<input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)			<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A) <input type="checkbox"/> FAC-Neutral Test (D5)			<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)		
<input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Other (Explain in Remarks)						<input type="checkbox"/> Frost-Heave Hummocks (D7)		
<input type="checkbox"/> Drift Deposits (B3)								
<input type="checkbox"/> Algal Mat or Crust (B4)								
<input type="checkbox"/> Iron Deposits (B5)								
<input type="checkbox"/> Surface Soil Cracks (B6)								
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)								
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)								
<b>Field Observations:</b>						<b>Wetland</b>		
Surface Water Present?		Yes _____	No <u>  X  </u>	Depth (inches): _____		Hydrology Present?      Yes _____      No <u>  X  </u>		
Water Table Present?		Yes _____	No <u>  X  </u>	Depth (inches): <u>  &gt; 16"  </u>				
Saturation Present? (includes capillary fringe)		Yes _____	No <u>  X  </u>	Depth (inches): <u>  &gt; 16"  </u>				
<b>Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:</b>								
<b>Remarks:</b>								
Pit left open for about 15 minutes- dry throughout.								

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

Project/Site: Camas Heights City/County: Camas/ Clark Sampling Date: 4/15/2021  
 Applicant/Owner: Lennar Northwest, Inc. State: WA Sampling Point: 4  
 Investigator(s): Stacey Reed, PWS and Sonya Templeton Section, Township, Range: Sec. 21, T.2N., R.3E., W.M.  
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Convex Slope (%): <3%  
 Subregion (LRR): A. Northwest Forests and Coast Lat: 45.644453 Long: -122.43944031 Datum: \_\_\_\_\_  
 Soil Map Unit Name: Hockinson loam (Unit HtA), 0% to 3% slopes; Hydric NWI classification: none  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No \_\_\_\_\_ (If no, explain in Remarks)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes X 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 <u>X</u>	No _____	<b>Is the Sampled Area within a Wetland?</b>	Yes _____	No <u>X</u>
Hydric Soil Present?	Yes _____	No <u>X</u>			
Wetland Hydrology Present?	Yes _____	No <u>X</u>			

**Precipitation:**  
 According to the NWS Vancouver weather station, 0.00 inches of rainfall was received on the day of the site visit and 0.09 inches within the two weeks prior.

**Remarks:**

**VEGETATION**

Tree Stratum (Plot Size: 30' r or _____)	Absolute % Cover	Dominant Species?	Indicator Status	<b>Dominance Test worksheet:</b>
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>1</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
4. _____	_____	_____	_____	<b>Prevalence Index worksheet:</b>
5. _____	_____	_____	_____	
0% = Total Cover				OBL species <u>0</u> x 1 = <u>0</u>
Sapling/Shrub Stratum (Plot Size: 10' r or _____)				FACW species <u>0</u> x 2 = <u>0</u>
1. _____	_____	_____	_____	FAC species <u>100</u> x 3 = <u>300</u>
2. _____	_____	_____	_____	FACU species <u>0</u> x 4 = <u>0</u>
3. _____	_____	_____	_____	UPL species <u>0</u> x 5 = <u>0</u>
4. _____	_____	_____	_____	Column Totals: <u>100</u> (A) <u>300</u> (B)
5. _____	_____	_____	_____	Prevalence Index = B/A = <u>3.00</u>
0% = Total Cover				<b>Hydrophytic Vegetation Indicators:</b>
Herb Stratum (Plot Size: 5' r or _____)				
1. <u>Alopecurus pratensis</u>	<u>100%</u>	<u>Yes</u>	<u>FAC</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
100% = Total Cover				1 - Rapid Test for Hydrophytic Vegetation
Woody Vine Stratum (Plot Size: 10' r or _____)				X 2 - Dominance Test is >50%
1. _____	_____	_____	_____	3 - Prevalence Index is ≤3.0 <sup>1</sup>
2. _____	_____	_____	_____	4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
0% = Total Cover				5 - Wetland Non-Vascular Plants <sup>1</sup>
% Bare Ground in Herb Stratum <u>0%</u>				Problematic Hydrophytic Vegetation (Explain) <sup>1</sup>
				<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present.
				<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No _____

**Remarks:**

<b>SOIL</b>	<b>Sampling Point: 4</b>
-------------	--------------------------

<b>Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators):</b>								
Depth	Matrix		Redox Features				Texture	Remarks
(inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-7	10YR 3/2	98	7.5YR 4/4	2	C	M	SiL	Many fine roots
7-16	10YR 3/2	100					SiL	

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

<b>Hydric Soil Indicators (Applicable to all LRRs, unless otherwise noted):</b>	<b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b>
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> 2 cm Muck (A10)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	
<input type="checkbox"/> Thick Dark Surface (A12)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	
<input type="checkbox"/> Sandy Redox (S5)	
<input type="checkbox"/> Stripped Matrix (S6)	
<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	
<input type="checkbox"/> Loamy Gleyed Matrix (F2)	
<input type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Redox Depressions (F8)	

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

<b>Restrictive Layer (if present):</b> Type: _____ Depth (inches): _____	<b>Hydric Soil Present?</b> Yes _____ No <u> X </u>
--	--

**Remarks:**  
Layer of charcoal at 7 inches.

### HYDROLOGY

<b>Wetland Hydrology Indicators:</b>		
<u>Primary Indicators (minimum of one required; check all that apply)</u>	<u>Secondary Indicators (2 or more required)</u>	
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)	<input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)	<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Frost-Heave Hummocks (D7)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		

<b>Field Observations:</b>				<b>Wetland Hydrology Present?</b>
Surface Water Present?	Yes _____ No <u> X </u>	Depth (inches): _____		Yes _____ No <u> X </u>
Water Table Present?	Yes _____ No <u> X </u>	Depth (inches): <u> &gt; 16" </u>		
Saturation Present? (includes capillary fringe)	Yes _____ No <u> X </u>	Depth (inches): <u> &gt; 16" </u>		

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

**Remarks:**  
Soils dry throughout.

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

Project/Site: Camas Heights City/County: Camas/ Clark Sampling Date: 4/15/2021  
 Applicant/Owner: Lennar Northwest, Inc. State: WA Sampling Point: 5  
 Investigator(s): Stacey Reed, PWS and Sonya Templeton Section, Township, Range: Sec. 21, T.2N., R.3E., W.M.  
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Concave Slope (%): <3%  
 Subregion (LRR): A. Northwest Forests and Coast Lat: 45.644388 Long: -122.43943206 Datum: \_\_\_\_\_  
 Soil Map Unit Name: Hockinson loam (Unit HtA), 0% to 3% slopes; Hydric NWI classification: none  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No \_\_\_\_\_ (If no, explain in Remarks)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes X 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 <u>X</u>	No _____	<b>Is the Sampled Area within a Wetland?</b>	Yes <u>X</u>	No _____
Hydric Soil Present?	Yes <u>X</u>	No _____			
Wetland Hydrology Present?	Yes <u>X</u>	No _____			

**Precipitation:**

According to the NWS Vancouver weather station, 0.00 inches of rainfall was received on the day of the site visit and 0.09 inches within the two weeks prior.

**Remarks:**

**VEGETATION**

Tree Stratum (Plot Size: 30' r or _____)	Absolute % Cover	Dominant Species?	Indicator Status	<b>Dominance Test worksheet:</b>
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>1</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
4. _____	_____	_____	_____	<b>Prevalence Index worksheet:</b>
5. _____	_____	_____	_____	
0% = Total Cover				OBL species <u>0</u> x 1 = <u>0</u>
Sapling/Shrub Stratum (Plot Size: 10' r or _____)				FACW species <u>75</u> x 2 = <u>150</u>
1. _____	_____	_____	_____	FAC species <u>10</u> x 3 = <u>30</u>
2. _____	_____	_____	_____	FACU species <u>0</u> x 4 = <u>0</u>
3. _____	_____	_____	_____	UPL species <u>0</u> x 5 = <u>0</u>
4. _____	_____	_____	_____	Column Totals: <u>85</u> (A) <u>180</u> (B)
5. _____	_____	_____	_____	Prevalence Index = B/A = <u>2.12</u>
0% = Total Cover				<b>Hydrophytic Vegetation Indicators:</b>
Herb Stratum (Plot Size: 5' r or _____)				
1. <u>Phalaris arundinacea</u>	<u>75%</u>	<u>Yes</u>	<u>FACW</u>	
2. <u>Alopecurus pratensis</u>	<u>10%</u>	<u>No</u>	<u>FAC</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
85% = Total Cover				
Woody Vine Stratum (Plot Size: 10' r or _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
0% = Total Cover				
% Bare Ground in Herb Stratum <u>15%</u>				

**Remarks:**

<b>SOIL</b>						<b>Sampling Point:</b>	<b>5</b>
<b>Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators):</b>							
Depth	Matrix		Redox Features				
(inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture
0-11	10YR 3/2	80	7.5YR 4/6	10	C	M	SiCL
			5YR 3/4	10	C	PL	
11-16	10YR 4/2	80	7.5YR 4/6	20	C	M	SiCL

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix CS=Covered or Coated Sand Grains.

<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

<b>Hydric Soil Indicators (Applicable to all LRRs, unless otherwise noted):</b>		<b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b>
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input checked="" type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)	<sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)	

<b>Restrictive Layer (if present):</b> Type: _____ Depth (inches): _____	<b>Hydric Soil Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
--	--

**Remarks:**

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b>	
<u>Primary Indicators (minimum of one required; check all that apply)</u>	<u>Secondary Indicators (2 or more required)</u>
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Salt Crust (B11)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input checked="" type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input checked="" type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Frost-Heave Hummocks (D7)

<b>Field Observations:</b>	<b>Wetland Hydrology Present?</b>
Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____	Yes <input checked="" type="checkbox"/> No _____
Water Table Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): > 16"	
Saturation Present? (includes capillary fringe) Yes _____ No <input checked="" type="checkbox"/> Depth (inches): > 16"	

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

**Remarks:**  
Algal matting approximately 5 feet away.

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

Project/Site: Camas Heights City/County: Camas/ Clark Sampling Date: 4/15/2021  
 Applicant/Owner: Lennar Northwest, Inc. State: WA Sampling Point: 6  
 Investigator(s): Stacey Reed, PWS and Sonya Templeton Section, Township, Range: Sec. 21, T.2N., R.3E., W.M.  
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Concave Slope (%): <3%  
 Subregion (LRR): A. Northwest Forests and Coast Lat: 45.643511 Long: -122.43951065 Datum: \_\_\_\_\_  
 Soil Map Unit Name: Hockinson loam (Unit HtA), 0% to 3% slopes; Hydric NWI classification: none  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No \_\_\_\_\_ (If no, explain in Remarks)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes X 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 <u>X</u>	No _____	<b>Is the Sampled Area within a Wetland?</b>	Yes <u>X</u>	No _____
Hydric Soil Present?	Yes <u>X</u>	No _____			
Wetland Hydrology Present?	Yes <u>X</u>	No _____			

**Precipitation:**  
 According to the NWS Vancouver weather station, 0.00 inches of rainfall was received on the day of the site visit and 0.09 inches within the two weeks prior.

**Remarks:**  
 Plot located in on-site lowest elevational area of wetland.

**VEGETATION**

Tree Stratum (Plot Size: 30' r or _____)	Absolute % Cover	Dominant Species?	Indicator Status	<b>Dominance Test worksheet:</b>	
1. _____	_____	_____	_____		Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>1</u> (B)	
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)	
4. _____	_____	_____	_____	<b>Prevalence Index worksheet:</b>	
0% = Total Cover					Total % Cover of: _____ Multiply by: _____
<b>Sapling/Shrub Stratum (Plot Size: 10' r or _____)</b>				OBL species <u>0</u> x 1 = <u>0</u>	
1. _____	_____	_____	_____	FACW species <u>0</u> x 2 = <u>0</u>	
2. _____	_____	_____	_____	FAC species <u>85</u> x 3 = <u>255</u>	
3. _____	_____	_____	_____	FACU species <u>0</u> x 4 = <u>0</u>	
4. _____	_____	_____	_____	UPL species <u>0</u> x 5 = <u>0</u>	
5. _____	_____	_____	_____	Column Totals: <u>85</u> (A) <u>255</u> (B)	
0% = Total Cover				Prevalence Index = B/A = <u>3.00</u>	
<b>Herb Stratum (Plot Size: 5' r or _____)</b>				<b>Hydrophytic Vegetation Indicators:</b>	
1. <u>Alopecurus pratensis</u>	<u>60%</u>	<u>Yes</u>	<u>FAC</u>		<u>1</u> - Rapid Test for Hydrophytic Vegetation
2. <u>Schedonorus arundinaceus</u>	<u>10%</u>	<u>No</u>	<u>FAC</u>		<u>X</u> 2 - Dominance Test is >50%
3. <u>Poa species</u>	<u>10%</u>	<u>No</u>	<u>FAC*</u>		<u>X</u> 3 - Prevalence Index is ≤3.0 <sup>1</sup>
4. <u>Holcus lanatus</u>	<u>5%</u>	<u>No</u>	<u>FAC</u>		4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
5. _____	_____	_____	_____		5 - Wetland Non-Vascular Plants <sup>1</sup>
6. _____	_____	_____	_____		Problematic Hydrophytic Vegetation (Explain) <sup>1</sup>
7. _____	_____	_____	_____		<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present.
8. _____	_____	_____	_____		
9. _____	_____	_____	_____		
10. _____	_____	_____	_____		
11. _____	_____	_____	_____		
85% = Total Cover					
<b>Woody Vine Stratum (Plot Size: 10' r or _____)</b>					
1. _____	_____	_____	_____		
2. _____	_____	_____	_____		
0% = Total Cover					
% Bare Ground in Herb Stratum <u>15%</u>					

**Remarks:**  
 \*Assumed FAC.

<b>SOIL</b>						<b>Sampling Point:</b>	<b>6</b>	
<b>Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators):</b>								
Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0-3	10YR 3/2	100					SiL	
3-16	10YR 3/2	90	7.5YR 3/4	10	C	M	SiCL	
<sup>1</sup> Type: C=Concentration, D=Depletion, RM=Reduced Matrix CS=Covered or Coated Sand Grains. <sup>2</sup> Location: PL=Pore Lining, M=Matrix.								
<b>Hydric Soil Indicators (Applicable to all LRRs, unless otherwise noted):</b>						<b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b>		
<input type="checkbox"/> Histosol (A1)		<input type="checkbox"/> Sandy Redox (S5)		<input type="checkbox"/> 2 cm Muck (A10)				
<input type="checkbox"/> Histic Epipedon (A2)		<input type="checkbox"/> Stripped Matrix (S6)		<input type="checkbox"/> Red Parent Material (TF2)				
<input type="checkbox"/> Black Histic (A3)		<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)		<input type="checkbox"/> Very Shallow Dark Surface (TF12)				
<input type="checkbox"/> Hydrogen Sulfide (A4)		<input type="checkbox"/> Loamy Gleyed Matrix (F2)		<input type="checkbox"/> Other (Explain in Remarks)				
<input type="checkbox"/> Depleted Below Dark Surface (A11)		<input type="checkbox"/> Depleted Matrix (F3)						
<input type="checkbox"/> Thick Dark Surface (A12)		<input checked="" type="checkbox"/> Redox Dark Surface (F6)						
<input type="checkbox"/> Sandy Mucky Mineral (S1)		<input type="checkbox"/> Depleted Dark Surface (F7)				<sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)		<input type="checkbox"/> Redox Depressions (F8)						
<b>Restrictive Layer (if present):</b>						<b>Hydric Soil Present?</b>		
Type: _____						Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		
Depth (inches): _____								
<b>Remarks:</b>								
<b>HYDROLOGY</b>								
<b>Wetland Hydrology Indicators:</b>								
<u>Primary Indicators (minimum of one required; check all that apply)</u>				<u>Secondary Indicators (2 or more required)</u>				
<input type="checkbox"/> Surface Water (A1)		<input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)		<input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)				
<input type="checkbox"/> High Water Table (A2)		<input type="checkbox"/> Salt Crust (B11)		<input type="checkbox"/> Drainage Patterns (B10)				
<input type="checkbox"/> Saturation (A3)		<input type="checkbox"/> Aquatic Invertebrates (B13)		<input type="checkbox"/> Dry-Season Water Table (C2)				
<input type="checkbox"/> Water Marks (B1)		<input type="checkbox"/> Hydrogen Sulfide Odor (C1)		<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)				
<input type="checkbox"/> Sediment Deposits (B2)		<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)		<input checked="" type="checkbox"/> Geomorphic Position (D2)				
<input type="checkbox"/> Drift Deposits (B3)		<input type="checkbox"/> Presence of Reduced Iron (C4)		<input type="checkbox"/> Shallow Aquitard (D3)				
<input type="checkbox"/> Algal Mat or Crust (B4)		<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)		<input type="checkbox"/> FAC-Neutral Test (D5)				
<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)		<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)				
<input type="checkbox"/> Surface Soil Cracks (B6)		<input checked="" type="checkbox"/> Other (Explain in Remarks)		<input type="checkbox"/> Frost-Heave Hummocks (D7)				
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)								
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)								
<b>Field Observations:</b>						<b>Wetland Hydrology Present?</b>		
Surface Water Present?		Yes _____ No <input checked="" type="checkbox"/>		Depth (inches): _____		Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		
Water Table Present?		Yes _____ No <input checked="" type="checkbox"/>		Depth (inches): <u>&gt; 16"</u>				
Saturation Present? (includes capillary fringe)		Yes _____ No <input checked="" type="checkbox"/>		Depth (inches): <u>&gt; 16"</u>				
<b>Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:</b>								
<b>Remarks:</b>								
Assume wetland hydrology present during the early portion of the growing season based on presence of hydric soils.								



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

Project/Site: Camas Heights City/County: Camas/ Clark Sampling Date: 4/15/2021  
 Applicant/Owner: Lennar Northwest, Inc. State: WA Sampling Point: 7  
 Investigator(s): Stacey Reed, PWS and Sonya Templeton Section, Township, Range: Sec. 21, T.2N., R.3E., W.M.  
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Convex Slope (%): ~3%  
 Subregion (LRR): A. Northwest Forests and Coast Lat: 45.643467 Long: -122.43908407 Datum: \_\_\_\_\_  
 Soil Map Unit Name: Hockinson loam (Unit HtA), 0% to 3% slopes; Hydric NWI classification: none  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No \_\_\_\_\_ (If no, explain in Remarks)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes X 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 <u>X</u>	No _____	<b>Is the Sampled Area within a Wetland?</b>	Yes _____	No <u>X</u>
Hydric Soil Present?	Yes _____	No <u>X</u>			
Wetland Hydrology Present?	Yes _____	No <u>X</u>			

**Precipitation:**

According to the NWS Vancouver weather station, 0.00 inches of rainfall was received on the day of the site visit and 0.09 inches within the two weeks prior.

**Remarks:**

**VEGETATION**

Tree Stratum (Plot Size: 30' r or _____)	Absolute % Cover	Dominant Species?	Indicator Status	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)  Total Number of Dominant Species Across All Strata: <u>2</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
0% = Total Cover				
Sapling/Shrub Stratum (Plot Size: 10' r or _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
0% = Total Cover				
Herb Stratum (Plot Size: 5' r or _____)				
1. <u>Alopecurus pratensis</u>	<u>40%</u>	<u>Yes</u>	<u>FAC</u>	
2. <u>Schedonorus arundinaceus</u>	<u>20%</u>	<u>Yes</u>	<u>FAC</u>	
3. <u>Holcus lanatus</u>	<u>15%</u>	<u>No</u>	<u>FAC</u>	
4. <u>Poa species</u>	<u>15%</u>	<u>No</u>	<u>FAC*</u>	
5. <u>Plantago lanceolata</u>	<u>5%</u>	<u>No</u>	<u>FACU</u>	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
95% = Total Cover				
Woody Vine Stratum (Plot Size: 10' r or _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
0% = Total Cover				
% Bare Ground in Herb Stratum	<u>5%</u>			

**Hydrophytic Vegetation Indicators:**  
 1 - Rapid Test for Hydrophytic Vegetation  
 X 2 - Dominance Test is >50%  
 3 - Prevalence Index is ≤3.0<sup>1</sup>  
 4 - Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)  
 5 - Wetland Non-Vascular Plants<sup>1</sup>  
 Problematic Hydrophytic Vegetation (Explain)<sup>1</sup>  
<sup>1</sup>Indicators of hydric soil and wetland hydrology must be present.

**Hydrophytic Vegetation Present?** Yes X No \_\_\_\_\_

**Remarks:**  
 \*Assumed FAC

<b>SOIL</b>							<b>Sampling Point:</b>	7
<b>Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators):</b>								
Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0-12	10YR 3/2	98	7.5YR 3/3	2	C	M	SiL	
12-14	10YR 3/2	85	7.5YR 4/6	15	C	M	SiCL	
<sup>1</sup> Type: C=Concentration, D=Depletion, RM=Reduced Matrix CS=Covered or Coated Sand Grains. <sup>2</sup> Location: PL=Pore Lining, M=Matrix.								
<b>Hydric Soil Indicators (Applicable to all LRRs, unless otherwise noted):</b>						<b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b>		
___ Histosol (A1)			___ Sandy Redox (S5)			___ 2 cm Muck (A10)		
___ Histic Epipedon (A2)			___ Stripped Matrix (S6)			___ Red Parent Material (TF2)		
___ Black Histic (A3)			___ Loamy Mucky Mineral (F1) (except MLRA 1)			___ Very Shallow Dark Surface (TF12)		
___ Hydrogen Sulfide (A4)			___ Loamy Gleyed Matrix (F2)			___ Other (Explain in Remarks)		
___ Depleted Below Dark Surface (A11)			___ Depleted Matrix (F3)			<sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.		
___ Thick Dark Surface (A12)			___ Redox Dark Surface (F6)					
___ Sandy Mucky Mineral (S1)			___ Depleted Dark Surface (F7)					
___ Sandy Gleyed Matrix (S4)			___ Redox Depressions (F8)					
<b>Restrictive Layer (if present):</b>						<b>Hydric Soil Present?</b>		
Type: _____						Yes _____ No <u>  X  </u>		
Depth (inches): _____								
<b>Remarks:</b>								
<b>HYDROLOGY</b>								
<b>Wetland Hydrology Indicators:</b>								
<u>Primary Indicators (minimum of one required; check all that apply)</u>						<u>Secondary Indicators (2 or more required)</u>		
___ Surface Water (A1)		___ Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)		___ Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)				
___ High Water Table (A2)		___ Salt Crust (B11)		___ Drainage Patterns (B10)				
___ Saturation (A3)		___ Aquatic Invertebrates (B13)		___ Dry-Season Water Table (C2)				
___ Water Marks (B1)		___ Hydrogen Sulfide Odor (C1)		___ Saturation Visible on Aerial Imagery (C9)				
___ Sediment Deposits (B2)		___ Oxidized Rhizospheres along Living Roots (C3)		___ Geomorphic Position (D2)				
___ Drift Deposits (B3)		___ Presence of Reduced Iron (C4)		___ Shallow Aquitard (D3)				
___ Algal Mat or Crust (B4)		___ Recent Iron Reduction in Tilled Soils (C6)		___ FAC-Neutral Test (D5)				
___ Iron Deposits (B5)		___ Stunted or Stressed Plants (D1) (LRR A)		___ Raised Ant Mounds (D6) (LRR A)				
___ Surface Soil Cracks (B6)		___ Other (Explain in Remarks)		___ Frost-Heave Hummocks (D7)				
___ Inundation Visible on Aerial Imagery (B7)								
___ Sparsely Vegetated Concave Surface (B8)								
<b>Field Observations:</b>						<b>Wetland Hydrology Present?</b>		
Surface Water Present?		Yes _____ No <u>  X  </u>		Depth (inches): _____		Yes _____ No <u>  X  </u>		
Water Table Present?		Yes _____ No <u>  X  </u>		Depth (inches): <u>  &gt; 14"  </u>				
Saturation Present? (includes capillary fringe)		Yes _____ No <u>  X  </u>		Depth (inches): <u>  &gt; 14"  </u>				
<b>Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:</b>								
<b>Remarks:</b>								
Soils dry throughout.								

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

Project/Site: Camas Heights City/County: Camas/ Clark Sampling Date: 4/14/2021  
 Applicant/Owner: Lennar Northwest, Inc. State: WA Sampling Point: 8  
 Investigator(s): Stacey Reed, PWS and Sonya Templeton Section, Township, Range: Sec. 21, T.2N., R.3E., W.M.  
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): concave Slope (%): <3%  
 Subregion (LRR): A. Northwest Forests and Coast Lat: 45.643537 Long: -122.43920506 Datum: \_\_\_\_\_  
 Soil Map Unit Name: Hockinson loam (Unit HtA), 0% to 3% slopes; Hydric NWI classification: none  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No \_\_\_\_\_ (If no, explain in Remarks)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes X 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 <u>X</u>	No _____	<b>Is the Sampled Area within a Wetland?</b>	Yes <u>X</u>	No _____
Hydric Soil Present?	Yes <u>X</u>	No _____			
Wetland Hydrology Present?	Yes <u>X</u>	No _____			

**Precipitation:**

According to the NWS Vancouver weather station, 0.00 inches of rainfall was received on the day of the site visit and 0.09 inches within the two weeks prior.

**Remarks:**

**VEGETATION**

Tree Stratum (Plot Size: 30' r or _____)	Absolute % Cover	Dominant Species?	Indicator Status	<b>Dominance Test worksheet:</b>	
1. _____	_____	_____	_____		Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>2</u> (B)	
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)	
4. _____	_____	_____	_____	<b>Prevalence Index worksheet:</b>	
0% = Total Cover					Total % Cover of: _____ Multiply by: _____
<b>Sapling/Shrub Stratum (Plot Size: 10' r or _____)</b>				OBL species <u>0</u> x 1 = <u>0</u>	
1. _____	_____	_____	_____	FACW species <u>3</u> x 2 = <u>6</u>	
2. _____	_____	_____	_____	FAC species <u>90</u> x 3 = <u>270</u>	
3. _____	_____	_____	_____	FACU species <u>0</u> x 4 = <u>0</u>	
4. _____	_____	_____	_____	UPL species <u>0</u> x 5 = <u>0</u>	
5. _____	_____	_____	_____	Column Totals: <u>93</u> (A) <u>276</u> (B)	
0% = Total Cover				Prevalence Index = B/A = <u>2.97</u>	
<b>Herb Stratum (Plot Size: 5' r or _____)</b>				<b>Hydrophytic Vegetation Indicators:</b>	
1. <u>Alopecurus pratensis</u>	<u>60%</u>	<u>Yes</u>	<u>FAC</u>		<u>1</u> - Rapid Test for Hydrophytic Vegetation
2. <u>Schedonorus arundinaceus</u>	<u>20%</u>	<u>Yes</u>	<u>FAC</u>		<u>X</u> <u>2</u> - Dominance Test is >50%
3. <u>Poa species</u>	<u>10%</u>	<u>No</u>	<u>FAC*</u>		<u>X</u> <u>3</u> - Prevalence Index is ≤3.0 <sup>1</sup>
4. <u>Phalaris arundinacea</u>	<u>3%</u>	<u>No</u>	<u>FACW</u>		<u>4</u> - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
5. _____	_____	_____	_____		<u>5</u> - Wetland Non-Vascular Plants <sup>1</sup>
6. _____	_____	_____	_____		Problematic Hydrophytic Vegetation (Explain) <sup>1</sup>
7. _____	_____	_____	_____		<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present.
8. _____	_____	_____	_____		
9. _____	_____	_____	_____		
10. _____	_____	_____	_____		
11. _____	_____	_____	_____		
93% = Total Cover					
<b>Woody Vine Stratum (Plot Size: 10' r or _____)</b>					
1. _____	_____	_____	_____		
2. _____	_____	_____	_____		
0% = Total Cover					
% Bare Ground in Herb Stratum <u>7%</u>				<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No _____	

**Remarks:**

\*Assumed FAC.

<b>SOIL</b>							<b>Sampling Point:</b>	<b>8</b>
<b>Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators):</b>								
Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0-5	10YR 3/2	100					SiL	
5-11	10YR 3/2	95	5YR 3/4	5	C	M/ PL	SiCL	
11-14	10YR 3/2	85	7.5YR 4/4	15	C	M	SiCL	
<sup>1</sup> Type: C=Concentration, D=Depletion, RM=Reduced Matrix CS=Covered or Coated Sand Grains. <sup>2</sup> Location: PL=Pore Lining, M=Matrix.								
<b>Hydric Soil Indicators (Applicable to all LRRs, unless otherwise noted):</b>						<b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b>		
<input type="checkbox"/> Histosol (A1)			<input type="checkbox"/> Sandy Redox (S5)			<input type="checkbox"/> 2 cm Muck (A10)		
<input type="checkbox"/> Histic Epipedon (A2)			<input type="checkbox"/> Stripped Matrix (S6)			<input type="checkbox"/> Red Parent Material (TF2)		
<input type="checkbox"/> Black Histic (A3)			<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)			<input type="checkbox"/> Very Shallow Dark Surface (TF12)		
<input type="checkbox"/> Hydrogen Sulfide (A4)			<input type="checkbox"/> Loamy Gleyed Matrix (F2)			<input type="checkbox"/> Other (Explain in Remarks)		
<input type="checkbox"/> Depleted Below Dark Surface (A11)			<input type="checkbox"/> Depleted Matrix (F3)			<sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.		
<input type="checkbox"/> Thick Dark Surface (A12)			<input checked="" type="checkbox"/> Redox Dark Surface (F6)					
<input type="checkbox"/> Sandy Mucky Mineral (S1)			<input type="checkbox"/> Depleted Dark Surface (F7)					
<input type="checkbox"/> Sandy Gleyed Matrix (S4)			<input type="checkbox"/> Redox Depressions (F8)					
<b>Restrictive Layer (if present):</b>						<b>Hydric Soil Present?</b>		
Type: _____						Yes <input checked="" type="checkbox"/> No _____		
Depth (inches): _____								
<b>Remarks:</b>								
<b>HYDROLOGY</b>								
<b>Wetland Hydrology Indicators:</b>								
<u>Primary Indicators (minimum of one required; check all that apply)</u>						<u>Secondary Indicators (2 or more required)</u>		
<input type="checkbox"/> Surface Water (A1)			<input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)			<input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)		
<input type="checkbox"/> High Water Table (A2)			<input type="checkbox"/> Salt Crust (B11)			<input type="checkbox"/> Drainage Patterns (B10)		
<input type="checkbox"/> Saturation (A3)			<input type="checkbox"/> Aquatic Invertebrates (B13)			<input type="checkbox"/> Dry-Season Water Table (C2)		
<input type="checkbox"/> Water Marks (B1)			<input type="checkbox"/> Hydrogen Sulfide Odor (C1)			<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)		
<input type="checkbox"/> Sediment Deposits (B2)			<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)			<input checked="" type="checkbox"/> Geomorphic Position (D2)		
<input type="checkbox"/> Drift Deposits (B3)			<input type="checkbox"/> Presence of Reduced Iron (C4)			<input type="checkbox"/> Shallow Aquitard (D3)		
<input type="checkbox"/> Algal Mat or Crust (B4)			<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)			<input type="checkbox"/> FAC-Neutral Test (D5)		
<input type="checkbox"/> Iron Deposits (B5)			<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)			<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)		
<input type="checkbox"/> Surface Soil Cracks (B6)			<input checked="" type="checkbox"/> Other (Explain in Remarks)			<input type="checkbox"/> Frost-Heave Hummocks (D7)		
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)								
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)								
<b>Field Observations:</b>						<b>Wetland Hydrology Present?</b>		
Surface Water Present?		Yes _____	No <input checked="" type="checkbox"/>	Depth (inches): _____		Yes <input checked="" type="checkbox"/> No _____		
Water Table Present?		Yes _____	No <input checked="" type="checkbox"/>	Depth (inches): > 14"				
Saturation Present? (includes capillary fringe)		Yes _____	No <input checked="" type="checkbox"/>	Depth (inches): > 14"				
<b>Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:</b>								
<b>Remarks:</b>								
Soils slightly moist. Assumed wetland hydrology present during the early portion of the growing season within a normal rainfall period based on presence of hydric soils.								

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

Project/Site: Camas Heights City/County: Camas/ Clark Sampling Date: 4/14/2021  
 Applicant/Owner: Lennar Northwest, Inc. State: WA Sampling Point: 9  
 Investigator(s): Stacey Reed, PWS and Sonya Templeton Section, Township, Range: Sec. 21, T.2N., R.3E., W.M.  
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Concave Slope (%): <3%  
 Subregion (LRR): A. Northwest Forests and Coast Lat: 45.643638 Long: -122.43884397 Datum: \_\_\_\_\_  
 Soil Map Unit Name: Hockinson loam (Unit HtA), 0% to 3% slopes; Hydric NWI classification: none  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No \_\_\_\_\_ (If no, explain in Remarks)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes X 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 <u>X</u>	No _____	<b>Is the Sampled Area within a Wetland?</b>	Yes <u>X</u>	No _____
Hydric Soil Present?	Yes <u>X</u>	No _____			
Wetland Hydrology Present?	Yes <u>X</u>	No _____			

**Precipitation:**  
 According to the NWS Vancouver weather station, 0.00 inches of rainfall was received on the day of the site visit and 0.09 inches within the two weeks prior.

**Remarks:**  
 Plot is about 6 inches lower than plot 10.

**VEGETATION**

Tree Stratum (Plot Size: 30' r or _____)	Absolute % Cover	Dominant Species?	Indicator Status	<b>Dominance Test worksheet:</b>
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>2</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
4. _____	_____	_____	_____	<b>Prevalence Index worksheet:</b>
5. _____	_____	_____	_____	
0% = Total Cover				OBL species <u>0</u> x 1 = <u>0</u>
Sapling/Shrub Stratum (Plot Size: 10' r or _____)				FACW species <u>5</u> x 2 = <u>10</u>
1. _____	_____	_____	_____	FAC species <u>95</u> x 3 = <u>285</u>
2. _____	_____	_____	_____	FACU species <u>0</u> x 4 = <u>0</u>
3. _____	_____	_____	_____	UPL species <u>0</u> x 5 = <u>0</u>
4. _____	_____	_____	_____	Column Totals: <u>100</u> (A) <u>295</u> (B)
5. _____	_____	_____	_____	Prevalence Index = B/A = <u>2.95</u>
0% = Total Cover				<b>Hydrophytic Vegetation Indicators:</b>
Herb Stratum (Plot Size: 5' r or _____)				
1. <u>Alopecurus pratensis</u>	<u>60%</u>	<u>Yes</u>	<u>FAC</u>	
2. <u>Poa species</u>	<u>30%</u>	<u>Yes</u>	<u>FAC*</u>	
3. <u>Schedonorus arundinaceus</u>	<u>5%</u>	<u>No</u>	<u>FAC</u>	
4. <u>Phalaris arundinacea</u>	<u>5%</u>	<u>No</u>	<u>FACW</u>	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
100% = Total Cover				1 - Rapid Test for Hydrophytic Vegetation _____
Woody Vine Stratum (Plot Size: 10' r or _____)				X 2 - Dominance Test is >50% _____
1. _____	_____	_____	_____	X 3 - Prevalence Index is ≤3.0 <sup>1</sup> _____
2. _____	_____	_____	_____	4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) _____
0% = Total Cover				5 - Wetland Non-Vascular Plants <sup>1</sup> _____
% Bare Ground in Herb Stratum <u>0%</u>				Problematic Hydrophytic Vegetation (Explain) <sup>1</sup> _____
Remarks:				<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present.
*Assumed FAC.				<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No _____

<b>SOIL</b>							<b>Sampling Point:</b>	<b>9</b>
<b>Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators):</b>								
Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0-4	10YR 3/2	100					SiL	
4-9	10YR 3/2	95	5YR 3/3	5	C	M/ PL	SiCL	
9-16	10YR 3/2	90	5YR 3/4	10	C	M	SiCL	
<sup>1</sup> Type: C=Concentration, D=Depletion, RM=Reduced Matrix CS=Covered or Coated Sand Grains. <sup>2</sup> Location: PL=Pore Lining, M=Matrix.								
<b>Hydric Soil Indicators (Applicable to all LRRs, unless otherwise noted):</b>						<b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b>		
<input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> Sandy Gleyed Matrix (S4)			<input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input checked="" type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)			<input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Red Parent Material (TF2) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks)		
						<sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.		
<b>Restrictive Layer (if present):</b>						<b>Hydric Soil Present?</b>		
Type: _____ Depth (inches): _____						Yes <input checked="" type="checkbox"/> No _____		
<b>Remarks:</b>								
<b>HYDROLOGY</b>								
<b>Wetland Hydrology Indicators:</b>								
<u>Primary Indicators (minimum of one required; check all that apply)</u>						<u>Secondary Indicators (2 or more required)</u>		
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)			<input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) <input type="checkbox"/> Salt Crust (B11) <input type="checkbox"/> Aquatic Invertebrates (B13) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A) <input type="checkbox"/> Other (Explain in Remarks)			<input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input checked="" type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Raised Ant Mounds (D6) (LRR A) <input type="checkbox"/> Frost-Heave Hummocks (D7)		
<b>Field Observations:</b>						<b>Wetland Hydrology Present?</b>		
Surface Water Present? Yes _____ No <input checked="" type="checkbox"/>			Depth (inches): _____			Yes <input checked="" type="checkbox"/> No _____		
Water Table Present? Yes _____ No <input checked="" type="checkbox"/>			Depth (inches): <u>&gt; 16"</u>					
Saturation Present? (includes capillary fringe) Yes _____ No <input checked="" type="checkbox"/>			Depth (inches): <u>&gt; 16"</u>					
<b>Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:</b>								
<b>Remarks:</b>								

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

Project/Site: Camas Heights City/County: Camas/ Clark Sampling Date: 4/14/2021  
 Applicant/Owner: Lennar Northwest, Inc. State: WA Sampling Point: 10  
 Investigator(s): Stacey Reed, PWS and Sonya Templeton Section, Township, Range: Sec. 21, T.2N., R.3E., W.M.  
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Convex Slope (%): <3%  
 Subregion (LRR): A. Northwest Forests and Coast Lat: 45.643595 Long: -122.4387724 Datum: \_\_\_\_\_  
 Soil Map Unit Name: Hockinson loam (Unit HtA), 0% to 3% slopes; Hydric NWI classification: none  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No \_\_\_\_\_ (If no, explain in Remarks)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes X 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 <u>X</u>	No _____	<b>Is the Sampled Area within a Wetland?</b>	Yes _____	No <u>X</u>
Hydric Soil Present?	Yes _____	No <u>X</u>			
Wetland Hydrology Present?	Yes _____	No <u>X</u>			

**Precipitation:**  
 According to the NWS Vancouver weather station, 0.00 inches of rainfall was received on the day of the site visit and 0.09 inches within the two weeks prior.

**Remarks:**

**VEGETATION**

Tree Stratum (Plot Size: 30' r or _____)	Absolute % Cover	Dominant Species?	Indicator Status	<b>Dominance Test worksheet:</b>
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>2</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
4. _____	_____	_____	_____	<b>Prevalence Index worksheet:</b>
5. _____	_____	_____	_____	
0% = Total Cover				OBL species <u>0</u> x 1 = <u>0</u>
Sapling/Shrub Stratum (Plot Size: 10' r or _____)				FACW species <u>0</u> x 2 = <u>0</u>
1. _____	_____	_____	_____	FAC species <u>100</u> x 3 = <u>300</u>
2. _____	_____	_____	_____	FACU species <u>0</u> x 4 = <u>0</u>
3. _____	_____	_____	_____	UPL species <u>0</u> x 5 = <u>0</u>
4. _____	_____	_____	_____	Column Totals: <u>100</u> (A) <u>300</u> (B)
5. _____	_____	_____	_____	Prevalence Index = B/A = <u>3.00</u>
0% = Total Cover				<b>Hydrophytic Vegetation Indicators:</b>
Herb Stratum (Plot Size: 5' r or _____)				
1. <u>Schedonorus arundinaceus</u>	<u>50%</u>	<u>Yes</u>	<u>FAC</u>	
2. <u>Alopecurus pratensis</u>	<u>40%</u>	<u>Yes</u>	<u>FAC</u>	
3. <u>Poa species</u>	<u>10%</u>	<u>No</u>	<u>FAC*</u>	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
100% = Total Cover				
Woody Vine Stratum (Plot Size: 10' r or _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
0% = Total Cover				
% Bare Ground in Herb Stratum <u>0%</u>				

**Remarks:**  
 \*Assumed FAC.

**Hydrophytic Vegetation Present?** Yes X No \_\_\_\_\_

<b>SOIL</b>							<b>Sampling Point:</b>	10			
<b>Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators):</b>											
Depth	Matrix		Redox Features								
(inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks			
0-4	10YR 3/2	100	7.5YR 3/3	2	C	M	SiL				
4-14	10YR 3/2	98					SiCL				
<sup>1</sup> Type: C=Concentration, D=Depletion, RM=Reduced Matrix CS=Covered or Coated Sand Grains.											
<sup>2</sup> Location: PL=Pore Lining, M=Matrix.											
<b>Hydric Soil Indicators (Applicable to all LRRs, unless otherwise noted):</b>						<b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b>					
<input type="checkbox"/> Histosol (A1)		<input type="checkbox"/> Sandy Redox (S5)		<input type="checkbox"/> 2 cm Muck (A10)							
<input type="checkbox"/> Histic Epipedon (A2)		<input type="checkbox"/> Stripped Matrix (S6)		<input type="checkbox"/> Red Parent Material (TF2)							
<input type="checkbox"/> Black Histic (A3)		<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)		<input type="checkbox"/> Very Shallow Dark Surface (TF12)							
<input type="checkbox"/> Hydrogen Sulfide (A4)		<input type="checkbox"/> Loamy Gleyed Matrix (F2)		<input type="checkbox"/> Other (Explain in Remarks)							
<input type="checkbox"/> Depleted Below Dark Surface (A11)		<input type="checkbox"/> Depleted Matrix (F3)									
<input type="checkbox"/> Thick Dark Surface (A12)		<input type="checkbox"/> Redox Dark Surface (F6)									
<input type="checkbox"/> Sandy Mucky Mineral (S1)		<input type="checkbox"/> Depleted Dark Surface (F7)									
<input type="checkbox"/> Sandy Gleyed Matrix (S4)		<input type="checkbox"/> Redox Depressions (F8)									
						<sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.					
<b>Restrictive Layer (if present):</b>											
Type: _____											
Depth (inches): _____											
						<b>Hydric Soil Present?</b>					
						Yes _____ No <u>  X  </u>					
<b>Remarks:</b>											
<b>HYDROLOGY</b>											
<b>Wetland Hydrology Indicators:</b>											
<u>Primary Indicators (minimum of one required; check all that apply)</u>						<u>Secondary Indicators (2 or more required)</u>					
<input type="checkbox"/> Surface Water (A1)		<input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)		<input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)							
<input type="checkbox"/> High Water Table (A2)		<input type="checkbox"/> Salt Crust (B11)		<input type="checkbox"/> Drainage Patterns (B10)							
<input type="checkbox"/> Saturation (A3)		<input type="checkbox"/> Aquatic Invertebrates (B13)		<input type="checkbox"/> Dry-Season Water Table (C2)							
<input type="checkbox"/> Water Marks (B1)		<input type="checkbox"/> Hydrogen Sulfide Odor (C1)		<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)							
<input type="checkbox"/> Sediment Deposits (B2)		<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)		<input type="checkbox"/> Geomorphic Position (D2)							
<input type="checkbox"/> Drift Deposits (B3)		<input type="checkbox"/> Presence of Reduced Iron (C4)		<input type="checkbox"/> Shallow Aquitard (D3)							
<input type="checkbox"/> Algal Mat or Crust (B4)		<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)		<input type="checkbox"/> FAC-Neutral Test (D5)							
<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)		<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)							
<input type="checkbox"/> Surface Soil Cracks (B6)		<input type="checkbox"/> Other (Explain in Remarks)		<input type="checkbox"/> Frost-Heave Hummocks (D7)							
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)											
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)											
<b>Field Observations:</b>											
Surface Water Present?		Yes _____ No <u>  X  </u>		Depth (inches): _____		<b>Wetland Hydrology Present?</b>					
Water Table Present?		Yes _____ No <u>  X  </u>		Depth (inches): <u>  &gt; 14"  </u>					Yes _____ No <u>  X  </u>		
Saturation Present? (includes capillary fringe)		Yes _____ No <u>  X  </u>		Depth (inches): <u>  &gt; 14"  </u>							
<b>Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:</b>											
<b>Remarks:</b>											
Soils dry throughout.											



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

Project/Site: Camas Heights City/County: Camas/ Clark Sampling Date: 4/14/2021  
 Applicant/Owner: Lennar Northwest, Inc. State: WA Sampling Point: 11  
 Investigator(s): Stacey Reed, PWS and Sonya Templeton Section, Township, Range: Sec. 21, T.2N., R.3E., W.M.  
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Convex Slope (%): 15-20%  
 Subregion (LRR): A. Northwest Forests and Coast Lat: 45.647154 Long: -122.43955681 Datum: \_\_\_\_\_  
 Soil Map Unit Name: Hesson clay loam (Unit HcE), 20% to 30% slopes; Non-hydric NWI classification: none  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No \_\_\_\_\_ (If no, explain in Remarks)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes X 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 <u>X</u>	No _____	<b>Is the Sampled Area within a Wetland?</b>	Yes _____	No <u>X</u>
Hydric Soil Present?	Yes _____	No <u>X</u>			
Wetland Hydrology Present?	Yes _____	No <u>X</u>			

**Precipitation:**  
 According to the NWS Vancouver weather station, 0.00 inches of rainfall was received on the day of the site visit and 0.09 inches within the two weeks prior.

**Remarks:**  
 Plot located in county mapped wetlands. Drain tile present.

**VEGETATION**

Tree Stratum (Plot Size: 30' r or _____)	Absolute % Cover	Dominant Species?	Indicator Status	<b>Dominance Test worksheet:</b>	
1. _____	_____	_____	_____		Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>4</u> (B)	
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>75%</u> (A/B)	
4. _____	_____	_____	_____	<b>Prevalence Index worksheet:</b>	
0% = Total Cover					Total % Cover of: _____ Multiply by: _____
<b>Sapling/Shrub Stratum (Plot Size: 10' r or _____)</b>				OBL species <u>0</u> x 1 = <u>0</u>	
1. <u>Rubus armeniacus</u>	<u>25%</u>	<u>Yes</u>	<u>FAC</u>	FACW species <u>0</u> x 2 = <u>0</u>	
2. _____	_____	_____	_____	FAC species <u>95</u> x 3 = <u>285</u>	
3. _____	_____	_____	_____	FACU species <u>30</u> x 4 = <u>120</u>	
4. _____	_____	_____	_____	UPL species <u>0</u> x 5 = <u>0</u>	
5. _____	_____	_____	_____	Column Totals: <u>125</u> (A) <u>405</u> (B)	
5% = Total Cover				Prevalence Index = B/A = <u>3.24</u>	
<b>Herb Stratum (Plot Size: 5' r or _____)</b>				<b>Hydrophytic Vegetation Indicators:</b>	
1. <u>Alopecurus pratensis</u>	<u>50%</u>	<u>Yes</u>	<u>FAC</u>		<input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation
2. <u>Anthoxanthum odoratum</u>	<u>20%</u>	<u>Yes</u>	<u>FACU</u>		<input checked="" type="checkbox"/> 2 - Dominance Test is >50%
3. <u>Poa species</u>	<u>20%</u>	<u>Yes</u>	<u>FAC*</u>		<input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup>
4. <u>Plantago lanceolata</u>	<u>10%</u>	<u>No</u>	<u>FACU</u>		<input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
5. _____	_____	_____	_____		<input type="checkbox"/> 5 - Wetland Non-Vascular Plants <sup>1</sup>
6. _____	_____	_____	_____		Problematic Hydrophytic Vegetation (Explain) <sup>1</sup>
7. _____	_____	_____	_____		<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present.
8. _____	_____	_____	_____		
9. _____	_____	_____	_____		
10. _____	_____	_____	_____		
11. _____	_____	_____	_____		
100% = Total Cover					
<b>Woody Vine Stratum (Plot Size: 10' r or _____)</b>					
1. _____	_____	_____	_____		
2. _____	_____	_____	_____		
0% = Total Cover					
% Bare Ground in Herb Stratum <u>0%</u>					

**Remarks:**  
 \*Assumed FAC

<b>SOIL</b>							<b>Sampling Point:</b>	11
<b>Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators):</b>								
Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0-16	7.5YR 3/3	100					SiL	
<sup>1</sup> Type: C=Concentration, D=Depletion, RM=Reduced Matrix CS=Covered or Coated Sand Grains. <sup>2</sup> Location: PL=Pore Lining, M=Matrix.								
<b>Hydric Soil Indicators (Applicable to all LRRs, unless otherwise noted):</b> <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Redox Depressions (F8)						<b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b> <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Red Parent Material (TF2) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks)		
<b>Restrictive Layer (if present):</b> Type: _____ Depth (inches): _____						<b>Hydric Soil Present?</b> Yes _____            No <b>X</b> _____		
<b>Remarks:</b> Pieces of drain tile present.								
<b>HYDROLOGY</b>								
<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one required; check all that apply)</u>						<u>Secondary Indicators (2 or more required)</u>		
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)		<input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)					
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Salt Crust (B11)		<input type="checkbox"/> Drainage Patterns (B10)					
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)		<input type="checkbox"/> Dry-Season Water Table (C2)					
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)		<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)					
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)		<input type="checkbox"/> Geomorphic Position (D2)					
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)		<input type="checkbox"/> Shallow Aquitard (D3)					
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)		<input type="checkbox"/> FAC-Neutral Test (D5)					
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)		<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)					
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Other (Explain in Remarks)		<input type="checkbox"/> Frost-Heave Hummocks (D7)					
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)								
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)								
<b>Field Observations:</b> Surface Water Present?    Yes _____ No <b>X</b> _____    Depth (inches): _____ Water Table Present?      Yes _____ No <b>X</b> _____    Depth (inches): <u>&gt; 16"</u> Saturation Present?        Yes _____ No <b>X</b> _____    Depth (inches): <u>&gt; 16"</u> (includes capillary fringe)						<b>Wetland Hydrology Present?</b> Yes _____            No <b>X</b> _____		
<b>Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:</b>								
<b>Remarks:</b> Soils dry throughout.								

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

Project/Site: Camas Heights City/County: Camas/ Clark Sampling Date: 4/15/2021  
 Applicant/Owner: Lennar Northwest, Inc. State: WA Sampling Point: 12  
 Investigator(s): Stacey Reed, PWS and Sonya Templeton Section, Township, Range: Sec. 21, T.2N., R.3E., W.M.  
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Concave Slope (%): <3%  
 Subregion (LRR): A. Northwest Forests and Coast Lat: 45.644054 Long: 122.438724 Datum: \_\_\_\_\_  
 Soil Map Unit Name: Dollar loam (Unit DoB), 0% to 5% slopes; Non-hydric NWI classification: none  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No \_\_\_\_\_ (If no, explain in Remarks)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes X 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 <u>X</u>	No _____	<b>Is the Sampled Area within a Wetland?</b>	Yes <u>X</u> No _____
Hydric Soil Present?	Yes <u>X</u>	No _____		
Wetland Hydrology Present?	Yes <u>X</u>	No _____		

**Precipitation:**  
 According to the NWS Vancouver weather station, 0.00 inches of rainfall was received on the day of the site visit and 0.09 inches within the two weeks prior.

**Remarks:**  
 Wetland A

**VEGETATION**

Tree Stratum (Plot Size: 30' r or _____)	Absolute % Cover	Dominant Species?	Indicator Status	<b>Dominance Test worksheet:</b>
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>1</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
4. _____	_____	_____	_____	<b>Prevalence Index worksheet:</b>
5. _____	_____	_____	_____	
0% = Total Cover				OBL species <u>0</u> x 1 = <u>0</u>
Sapling/Shrub Stratum (Plot Size: 10' r or _____)				FACW species <u>10</u> x 2 = <u>20</u>
1. _____	_____	_____	_____	FAC species <u>90</u> x 3 = <u>270</u>
2. _____	_____	_____	_____	FACU species <u>0</u> x 4 = <u>0</u>
3. _____	_____	_____	_____	UPL species <u>0</u> x 5 = <u>0</u>
4. _____	_____	_____	_____	Column Totals: <u>100</u> (A) <u>290</u> (B)
5. _____	_____	_____	_____	Prevalence Index = B/A = <u>2.90</u>
0% = Total Cover				<b>Hydrophytic Vegetation Indicators:</b>
Herb Stratum (Plot Size: 5' r or _____)				
1. <u>Alopecurus pratensis</u>	<u>90%</u>	<u>Yes</u>	<u>FAC</u>	
2. <u>Phalaris arundinacea</u>	<u>10%</u>	<u>No</u>	<u>FACW</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
100% = Total Cover				1 - Rapid Test for Hydrophytic Vegetation
Woody Vine Stratum (Plot Size: 10' r or _____)				X 2 - Dominance Test is >50%
1. _____	_____	_____	_____	X 3 - Prevalence Index is ≤3.0 <sup>1</sup>
2. _____	_____	_____	_____	4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
0% = Total Cover				5 - Wetland Non-Vascular Plants <sup>1</sup>
% Bare Ground in Herb Stratum <u>0%</u>				Problematic Hydrophytic Vegetation (Explain) <sup>1</sup>
				<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present.
				<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No _____

**Remarks:**

<b>SOIL</b>	<b>Sampling Point:</b> 12
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**Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators):**

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-6	10YR 3/2	95	7.5YR 4/6	5	C	M	SiL	
6-16	10YR 3/2	95	7.5YR 3/4	5	C	M	SiCL	

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

<b>Hydric Soil Indicators (Applicable to all LRRs, unless otherwise noted):</b>	<b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b>
<input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Thick Dark Surface (A12) <input checked="" type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Red Parent Material (TF2) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks)  <sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

<b>Restrictive Layer (if present):</b> Type: _____ Depth (inches): _____	<b>Hydric Soil Present?</b> Yes <input checked="" type="checkbox"/> No _____
--	--

**Remarks:**  
 Few rounded gravels throughout.

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b>	
<u>Primary Indicators (minimum of one required; check all that apply)</u>	<u>Secondary Indicators (2 or more required)</u>
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Salt Crust (B11) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Aquatic Invertebrates (B13) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input checked="" type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Raised Ant Mounds (D6) (LRR A) <input type="checkbox"/> Frost-Heave Hummocks (D7)

<b>Field Observations:</b>	<b>Wetland Hydrology Present?</b>
Surface Water Present?    Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present?      Yes _____ No <input checked="" type="checkbox"/> Depth (inches): <u>&gt; 16"</u> Saturation Present?        Yes _____ No <input checked="" type="checkbox"/> Depth (inches): <u>&gt; 16"</u> (includes capillary fringe)	Yes <input checked="" type="checkbox"/> 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: Camas Heights City/County: Camas/ Clark Sampling Date: 4/15/2021  
 Applicant/Owner: Lennar Northwest, Inc. State: WA Sampling Point: 13  
 Investigator(s): Stacey Reed, PWS and Sonya Templeton Section, Township, Range: Sec. 21, T.2N., R.3E., W.M.  
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): convex Slope (%): <3%  
 Subregion (LRR): A. Northwest Forests and Coast Lat: 45.644055 Long: -122.43867149 Datum: \_\_\_\_\_  
 Soil Map Unit Name: Dollar loam (Unit DoB), 0% to 5% slopes; Non-hydric NWI classification: none  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No \_\_\_\_\_ (If no, explain in Remarks)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes X 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 <u>X</u>	No _____	<b>Is the Sampled Area within a Wetland?</b>	Yes _____	No <u>X</u>
Hydric Soil Present?	Yes _____	No <u>X</u>			
Wetland Hydrology Present?	Yes _____	No <u>X</u>			

**Precipitation:**  
 According to the NWS Vancouver weather station, 0.00 inches of rainfall was received on the day of the site visit and 0.09 inches within the two weeks prior.

**Remarks:**

**VEGETATION**

Tree Stratum (Plot Size: 30' r or _____)	Absolute % Cover	Dominant Species?	Indicator Status	<b>Dominance Test worksheet:</b>
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>1</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
4. _____	_____	_____	_____	<b>Prevalence Index worksheet:</b>
5. _____	_____	_____	_____	
0% = Total Cover				OBL species <u>0</u> x 1 = <u>0</u>
Sapling/Shrub Stratum (Plot Size: 10' r or _____)				FACW species <u>0</u> x 2 = <u>0</u>
1. _____	_____	_____	_____	FAC species <u>100</u> x 3 = <u>300</u>
2. _____	_____	_____	_____	FACU species <u>0</u> x 4 = <u>0</u>
3. _____	_____	_____	_____	UPL species <u>0</u> x 5 = <u>0</u>
4. _____	_____	_____	_____	Column Totals: <u>100</u> (A) <u>300</u> (B)
5. _____	_____	_____	_____	Prevalence Index = B/A = <u>3.00</u>
0% = Total Cover				<b>Hydrophytic Vegetation Indicators:</b>
Herb Stratum (Plot Size: 5' r or _____)				
1. <u>Alopecurus pratensis</u>	<u>100%</u>	<u>Yes</u>	<u>FAC</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
100% = Total Cover				
Woody Vine Stratum (Plot Size: 10' r or _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
0% = Total Cover				
% Bare Ground in Herb Stratum <u>0%</u>				

**Remarks:**

<b>SOIL</b>	<b>Sampling Point:</b> 13
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Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators):								
Depth (inches)	Matrix		Redox Features			Texture	Remarks	
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>			Loc <sup>2</sup>
0-12	10YR 3/2	100				SIL		
12-16	10YR 4/3	40				SiCL	mixed matrix	
	10YR 3/2	60				SIL		

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

<b>Hydric Soil Indicators (Applicable to all LRRs, unless otherwise noted):</b> <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Redox Depressions (F8)	<b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b> <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Red Parent Material (TF2) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks)  <sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
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<b>Restrictive Layer (if present):</b> Type: _____ Depth (inches): _____	<b>Hydric Soil Present?</b> Yes _____      No <b>X</b> _____
--	--

**Remarks:**  
 Pieces of charcoal in lower layer.

### HYDROLOGY

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Salt Crust (B11) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Aquatic Invertebrates (B13) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<u>Secondary Indicators (2 or more required)</u> <input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Raised Ant Mounds (D6) (LRR A) <input type="checkbox"/> Frost-Heave Hummocks (D7)
--	--

<b>Field Observations:</b> Surface Water Present?    Yes _____ No <b>X</b> _____    Depth (inches): _____ Water Table Present?      Yes _____ No <b>X</b> _____      Depth (inches): > 16" Saturation Present?        Yes _____ No <b>X</b> _____        Depth (inches): > 16" (includes capillary fringe)	<b>Wetland Hydrology Present?</b> Yes _____      No <b>X</b> _____
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**Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:**

**Remarks:**  
 Soils dry throughout.

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

Project/Site: Camas Heights City/County: Camas/ Clark Sampling Date: 4/15/2021  
 Applicant/Owner: Lennar Northwest, Inc. State: WA Sampling Point: 14  
 Investigator(s): Stacey Reed, PWS and Sonya Templeton Section, Township, Range: Sec. 21, T.2N., R.3E., W.M.  
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): SI Concave Slope (%): <3%  
 Subregion (LRR): A. Northwest Forests and Coast Lat: 45.643767 Long: -122.43835699 Datum: \_\_\_\_\_  
 Soil Map Unit Name: Dollar loam (Unit DoB), 0% to 5% slopes; Non-hydric NWI classification: none  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No \_\_\_\_\_ (If no, explain in Remarks)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes X 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 <u>X</u>	No _____	<b>Is the Sampled Area within a Wetland?</b>	Yes _____	No <u>X</u>
Hydric Soil Present?	Yes _____	No <u>X</u>			
Wetland Hydrology Present?	Yes _____	No <u>X</u>			

**Precipitation:**  
 According to the NWS Vancouver weather station, 0.00 inches of rainfall was received on the day of the site visit and 0.09 inches within the two weeks prior.

**Remarks:**

**VEGETATION**

Tree Stratum (Plot Size: 30' r or _____)	Absolute % Cover	Dominant Species?	Indicator Status	<b>Dominance Test worksheet:</b>
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>1</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
4. _____	_____	_____	_____	<b>Prevalence Index worksheet:</b>
5. _____	_____	_____	_____	
0% = Total Cover				OBL species <u>0</u> x 1 = <u>0</u>
Sapling/Shrub Stratum (Plot Size: 10' r or _____)				FACW species <u>5</u> x 2 = <u>10</u>
1. _____	_____	_____	_____	FAC species <u>95</u> x 3 = <u>285</u>
2. _____	_____	_____	_____	FACU species <u>0</u> x 4 = <u>0</u>
3. _____	_____	_____	_____	UPL species <u>0</u> x 5 = <u>0</u>
4. _____	_____	_____	_____	Column Totals: <u>100</u> (A) <u>295</u> (B)
5. _____	_____	_____	_____	Prevalence Index = B/A = <u>2.95</u>
0% = Total Cover				<b>Hydrophytic Vegetation Indicators:</b>
Herb Stratum (Plot Size: 5' r or _____)				
1. <u>Alopecurus pratensis</u>	<u>95%</u>	<u>Yes</u>	<u>FAC</u>	
2. <u>Phalaris arundinacea</u>	<u>5%</u>	<u>No</u>	<u>FACW</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
100% = Total Cover				1 - Rapid Test for Hydrophytic Vegetation _____
Woody Vine Stratum (Plot Size: 10' r or _____)				X 2 - Dominance Test is >50% _____
1. _____	_____	_____	_____	X 3 - Prevalence Index is ≤3.0 <sup>1</sup> _____
2. _____	_____	_____	_____	4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) _____
0% = Total Cover				5 - Wetland Non-Vascular Plants <sup>1</sup> _____
% Bare Ground in Herb Stratum <u>0%</u>				Problematic Hydrophytic Vegetation (Explain) <sup>1</sup> _____
				<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present.
				<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No _____

**Remarks:**

<b>SOIL</b>							<b>Sampling Point:</b>	<b>14</b>												
<b>Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators):</b>																				
Depth	Matrix		Redox Features																	
(inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks												
0-9	10YR 3/2	100					SiL													
9-16	10YR 3/2	70	7.5YR 4/4	10	C	M	SiL	mixed matrix												
	10YR 4/3	20					SiCL													
<sup>1</sup> Type: C=Concentration, D=Depletion, RM=Reduced Matrix CS=Covered or Coated Sand Grains. <sup>2</sup> Location: PL=Pore Lining, M=Matrix.																				
<b>Hydric Soil Indicators (Applicable to all LRRs, unless otherwise noted):</b>						<b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b>														
<input type="checkbox"/> Histosol (A1)			<input type="checkbox"/> Sandy Redox (S5)			<input type="checkbox"/> 2 cm Muck (A10)														
<input type="checkbox"/> Histic Epipedon (A2)			<input type="checkbox"/> Stripped Matrix (S6)			<input type="checkbox"/> Red Parent Material (TF2)														
<input type="checkbox"/> Black Histic (A3)			<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)			<input type="checkbox"/> Very Shallow Dark Surface (TF12)														
<input type="checkbox"/> Hydrogen Sulfide (A4)			<input type="checkbox"/> Loamy Gleyed Matrix (F2)			<input type="checkbox"/> Other (Explain in Remarks)														
<input type="checkbox"/> Depleted Below Dark Surface (A11)			<input type="checkbox"/> Depleted Matrix (F3)			<sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.														
<input type="checkbox"/> Thick Dark Surface (A12)			<input type="checkbox"/> Redox Dark Surface (F6)																	
<input type="checkbox"/> Sandy Mucky Mineral (S1)			<input type="checkbox"/> Depleted Dark Surface (F7)																	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)			<input type="checkbox"/> Redox Depressions (F8)																	
<b>Restrictive Layer (if present):</b>						<table style="width:100%; border: none;"> <tr> <td style="text-align: center;"><b>Hydric Soil</b></td> <td></td> <td></td> <td></td> </tr> <tr> <td style="text-align: center;"><b>Present?</b></td> <td style="text-align: center;">Yes</td> <td style="text-align: center;">_____</td> <td style="text-align: center;">No <b>X</b></td> </tr> </table>			<b>Hydric Soil</b>				<b>Present?</b>	Yes	_____	No <b>X</b>				
<b>Hydric Soil</b>																				
<b>Present?</b>	Yes	_____	No <b>X</b>																	
Type: _____																				
Depth (inches): _____																				
<b>Remarks:</b> Disturbed soils- pieces of charcoal and rounded gravels in lower layer.																				
<b>HYDROLOGY</b>																				
<b>Wetland Hydrology Indicators:</b>																				
<u>Primary Indicators (minimum of one required; check all that apply)</u>						<u>Secondary Indicators (2 or more required)</u>														
<input type="checkbox"/> Surface Water (A1)			<input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)			<input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)														
<input type="checkbox"/> High Water Table (A2)			<input type="checkbox"/> Salt Crust (B11)			<input type="checkbox"/> Drainage Patterns (B10)														
<input type="checkbox"/> Saturation (A3)			<input type="checkbox"/> Aquatic Invertebrates (B13)			<input type="checkbox"/> Dry-Season Water Table (C2)														
<input type="checkbox"/> Water Marks (B1)			<input type="checkbox"/> Hydrogen Sulfide Odor (C1)			<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)														
<input type="checkbox"/> Sediment Deposits (B2)			<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)			<input type="checkbox"/> Geomorphic Position (D2)														
<input type="checkbox"/> Drift Deposits (B3)			<input type="checkbox"/> Presence of Reduced Iron (C4)			<input type="checkbox"/> Shallow Aquitard (D3)														
<input type="checkbox"/> Algal Mat or Crust (B4)			<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)			<input type="checkbox"/> FAC-Neutral Test (D5)														
<input type="checkbox"/> Iron Deposits (B5)			<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)			<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)														
<input type="checkbox"/> Surface Soil Cracks (B6)			<input type="checkbox"/> Other (Explain in Remarks)			<input type="checkbox"/> Frost-Heave Hummocks (D7)														
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)																				
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)																				
<b>Field Observations:</b>						<table style="width:100%; border: none;"> <tr> <td style="text-align: center;"><b>Wetland</b></td> <td></td> <td></td> <td></td> </tr> <tr> <td style="text-align: center;"><b>Hydrology</b></td> <td style="text-align: center;">Yes</td> <td style="text-align: center;">_____</td> <td style="text-align: center;">No <b>X</b></td> </tr> <tr> <td style="text-align: center;"><b>Present?</b></td> <td></td> <td></td> <td></td> </tr> </table>			<b>Wetland</b>				<b>Hydrology</b>	Yes	_____	No <b>X</b>	<b>Present?</b>			
<b>Wetland</b>																				
<b>Hydrology</b>	Yes	_____	No <b>X</b>																	
<b>Present?</b>																				
Surface Water Present?	Yes _____	No <b>X</b> _____	Depth (inches): _____																	
Water Table Present?	Yes _____	No <b>X</b> _____	Depth (inches): <u>&gt; 16"</u>																	
Saturation Present? (includes capillary fringe)	Yes _____	No <b>X</b> _____	Depth (inches): <u>&gt; 16"</u>																	
<b>Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:</b>																				
<b>Remarks:</b> Soils dry throughout.																				



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

Project/Site: Camas Heights City/County: Camas/ Clark Sampling Date: 4/14/2021  
 Applicant/Owner: Lennar Northwest, Inc. State: WA Sampling Point: 15  
 Investigator(s): Stacey Reed, PWS and Sonya Templeton Section, Township, Range: Sec. 21, T.2N., R.3E., W.M.  
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Concave Slope (%): <5%  
 Subregion (LRR): A. Northwest Forests and Coast Lat: 45.644458 Long: -122.43602664 Datum: \_\_\_\_\_  
 Soil Map Unit Name: Hesson clay loam (Unit HcB), 0% to 8% slopes; Non-hydric NWI classification: none  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No \_\_\_\_\_ (If no, explain in Remarks)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes X 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 <u>X</u>	No _____	<b>Is the Sampled Area within a Wetland?</b>	Yes <u>X</u>	No _____
Hydric Soil Present?	Yes <u>X</u>	No _____			
Wetland Hydrology Present?	Yes <u>X</u>	No _____			

**Precipitation:**  
 According to the NWS Vancouver weather station, 0.00 inches of rainfall was received on the day of the site visit and 0.09 inches within the two weeks prior.

**Remarks:**  
 Wetland B

**VEGETATION**

Tree Stratum (Plot Size: 30' r or _____)	Absolute % Cover	Dominant Species?	Indicator Status	<b>Dominance Test worksheet:</b>
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>2</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
4. _____	_____	_____	_____	<b>Prevalence Index worksheet:</b>
5. _____	_____	_____	_____	
0% = Total Cover				OBL species <u>0</u> x 1 = <u>0</u>
Sapling/Shrub Stratum (Plot Size: 10' r or _____)				FACW species <u>90</u> x 2 = <u>180</u>
1. _____	_____	_____	_____	FAC species <u>15</u> x 3 = <u>45</u>
2. _____	_____	_____	_____	FACU species <u>2</u> x 4 = <u>8</u>
3. _____	_____	_____	_____	UPL species <u>0</u> x 5 = <u>0</u>
4. _____	_____	_____	_____	Column Totals: <u>107</u> (A) <u>233</u> (B)
5. _____	_____	_____	_____	Prevalence Index = B/A = <u>2.18</u>
0% = Total Cover				<b>Hydrophytic Vegetation Indicators:</b>
Herb Stratum (Plot Size: 5' r or _____)				
1. <u>Juncus effusus</u>	<u>60%</u>	<u>Yes</u>	<u>FACW</u>	
2. <u>Phalaris arundinacea</u>	<u>30%</u>	<u>Yes</u>	<u>FACW</u>	
3. <u>Holcus lanatus</u>	<u>15%</u>	<u>No</u>	<u>FAC</u>	
4. <u>Galium aparine</u>	<u>2%</u>	<u>No</u>	<u>FACU</u>	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
107% = Total Cover				1 - Rapid Test for Hydrophytic Vegetation _____
Woody Vine Stratum (Plot Size: 10' r or _____)				X 2 - Dominance Test is >50% _____
1. _____	_____	_____	_____	X 3 - Prevalence Index is ≤3.0 <sup>1</sup> _____
2. _____	_____	_____	_____	4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) _____
0% = Total Cover				5 - Wetland Non-Vascular Plants <sup>1</sup> _____
% Bare Ground in Herb Stratum <u>0%</u>				Problematic Hydrophytic Vegetation (Explain) <sup>1</sup> _____
				<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present.
				<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No _____

**Remarks:**

<b>SOIL</b>							<b>Sampling Point:</b>	<b>15</b>
<b>Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators):</b>								
Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0-10	10YR 3/2	90	5YR 3/4	10	C	M	SiCL	
10-14	10YR 3/2	80	5YR 3/4	10	C	M	SiCL	
			7.5YR 3/4	10	C	M		
<sup>1</sup> Type: C=Concentration, D=Depletion, RM=Reduced Matrix CS=Covered or Coated Sand Grains. <sup>2</sup> Location: PL=Pore Lining, M=Matrix.								
<b>Hydric Soil Indicators (Applicable to all LRRs, unless otherwise noted):</b>						<b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b>		
<input type="checkbox"/> Histosol (A1)			<input type="checkbox"/> Sandy Redox (S5)			<input type="checkbox"/> 2 cm Muck (A10)		
<input type="checkbox"/> Histic Epipedon (A2)			<input type="checkbox"/> Stripped Matrix (S6)			<input type="checkbox"/> Red Parent Material (TF2)		
<input type="checkbox"/> Black Histic (A3)			<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)			<input type="checkbox"/> Very Shallow Dark Surface (TF12)		
<input type="checkbox"/> Hydrogen Sulfide (A4)			<input type="checkbox"/> Loamy Gleyed Matrix (F2)			<input type="checkbox"/> Other (Explain in Remarks)		
<input type="checkbox"/> Depleted Below Dark Surface (A11)			<input type="checkbox"/> Depleted Matrix (F3)			<sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.		
<input type="checkbox"/> Thick Dark Surface (A12)			<input checked="" type="checkbox"/> Redox Dark Surface (F6)					
<input type="checkbox"/> Sandy Mucky Mineral (S1)			<input type="checkbox"/> Depleted Dark Surface (F7)					
<input type="checkbox"/> Sandy Gleyed Matrix (S4)			<input type="checkbox"/> Redox Depressions (F8)					
<b>Restrictive Layer (if present):</b>						<b>Hydric Soil Present?</b>		
Type: _____						Yes <input checked="" type="checkbox"/> No _____		
Depth (inches): _____								
<b>Remarks:</b>								
<b>HYDROLOGY</b>								
<b>Wetland Hydrology Indicators:</b>								
<u>Primary Indicators (minimum of one required; check all that apply)</u>						<u>Secondary Indicators (2 or more required)</u>		
<input type="checkbox"/> Surface Water (A1)			<input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)			<input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)		
<input type="checkbox"/> High Water Table (A2)			<input type="checkbox"/> Salt Crust (B11)			<input type="checkbox"/> Drainage Patterns (B10)		
<input type="checkbox"/> Saturation (A3)			<input type="checkbox"/> Aquatic Invertebrates (B13)			<input type="checkbox"/> Dry-Season Water Table (C2)		
<input type="checkbox"/> Water Marks (B1)			<input type="checkbox"/> Hydrogen Sulfide Odor (C1)			<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)		
<input type="checkbox"/> Sediment Deposits (B2)			<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)			<input checked="" type="checkbox"/> Geomorphic Position (D2)		
<input type="checkbox"/> Drift Deposits (B3)			<input type="checkbox"/> Presence of Reduced Iron (C4)			<input type="checkbox"/> Shallow Aquitard (D3)		
<input type="checkbox"/> Algal Mat or Crust (B4)			<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)			<input checked="" type="checkbox"/> FAC-Neutral Test (D5)		
<input type="checkbox"/> Iron Deposits (B5)			<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)			<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)		
<input type="checkbox"/> Surface Soil Cracks (B6)			<input type="checkbox"/> Other (Explain in Remarks)			<input type="checkbox"/> Frost-Heave Hummocks (D7)		
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)								
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)								
<b>Field Observations:</b>						<b>Wetland Hydrology Present?</b>		
Surface Water Present?	Yes _____	No <input checked="" type="checkbox"/>	Depth (inches): _____			Yes <input checked="" type="checkbox"/> No _____		
Water Table Present?	Yes _____	No <input checked="" type="checkbox"/>	Depth (inches): <u>&gt; 14"</u>					
Saturation Present? (includes capillary fringe)	Yes <input checked="" type="checkbox"/>	No _____	Depth (inches): <u>14"</u>					
<b>Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:</b>								
<b>Remarks:</b>								

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

Project/Site: Camas Heights City/County: Camas/ Clark Sampling Date: 4/14/2021  
 Applicant/Owner: Lennar Northwest, Inc. State: WA Sampling Point: 16  
 Investigator(s): Stacey Reed, PWS and Sonya Templeton Section, Township, Range: Sec. 21, T.2N., R.3E., W.M.  
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Convex Slope (%): 5-10  
 Subregion (LRR): A. Northwest Forests and Coast Lat: 45.644488 Long: -122.43597244 Datum: \_\_\_\_\_  
 Soil Map Unit Name: Hesson clay loam (Unit HcB), 0% to 8% slopes; Non-hydric NWI classification: none  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No \_\_\_\_\_ (If no, explain in Remarks)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes X 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 <u>X</u>	No _____	<b>Is the Sampled Area within a Wetland?</b>	Yes _____	No <u>X</u>
Hydric Soil Present?	Yes _____	No <u>X</u>			
Wetland Hydrology Present?	Yes _____	No <u>X</u>			

**Precipitation:**  
 According to the NWS Vancouver weather station, 0.00 inches of rainfall was received on the day of the site visit and 0.09 inches within the two weeks prior.

**Remarks:**

**VEGETATION**

Tree Stratum (Plot Size: 30' r or _____)	Absolute % Cover	Dominant Species?	Indicator Status	<b>Dominance Test worksheet:</b>	
1. _____	_____	_____	_____		Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>2</u> (B)	
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)	
4. _____	_____	_____	_____	<b>Prevalence Index worksheet:</b>	
5. _____	_____	_____	_____		Total % Cover of: _____ Multiply by: _____
0% = Total Cover				OBL species <u>0</u> x 1 = <u>0</u>	
Sapling/Shrub Stratum (Plot Size: 10' r or _____)				FACW species <u>0</u> x 2 = <u>0</u>	
1. _____	_____	_____	_____	FAC species <u>100</u> x 3 = <u>300</u>	
2. _____	_____	_____	_____	FACU species <u>6</u> x 4 = <u>24</u>	
3. _____	_____	_____	_____	UPL species <u>0</u> x 5 = <u>0</u>	
4. _____	_____	_____	_____	Column Totals: <u>106</u> (A) <u>324</u> (B)	
5. _____	_____	_____	_____	Prevalence Index = B/A = <u>3.06</u>	
0% = Total Cover				<b>Hydrophytic Vegetation Indicators:</b>	
Herb Stratum (Plot Size: 5' r or _____)					
1. <u>Schedonorus arundinaceus</u>	<u>60%</u>	<u>Yes</u>	<u>FAC</u>		<u>1</u> - Rapid Test for Hydrophytic Vegetation
2. <u>Alopecurus pratensis</u>	<u>40%</u>	<u>Yes</u>	<u>FAC</u>		<u>X</u> <u>2</u> - Dominance Test is >50%
3. <u>Taraxacum officinale</u>	<u>5%</u>	<u>No</u>	<u>FACU</u>		<u>3</u> - Prevalence Index is ≤3.0 <sup>1</sup>
4. <u>Galium aparine</u>	<u>1%</u>	<u>No</u>	<u>FACU</u>		<u>4</u> - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
5. _____	_____	_____	_____		<u>5</u> - Wetland Non-Vascular Plants <sup>1</sup>
6. _____	_____	_____	_____		Problematic Hydrophytic Vegetation (Explain) <sup>1</sup>
7. _____	_____	_____	_____		<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present.
8. _____	_____	_____	_____		
9. _____	_____	_____	_____		
10. _____	_____	_____	_____		
11. _____	_____	_____	_____		
106% = Total Cover				<b>Hydrophytic Vegetation Present?</b>	
Woody Vine Stratum (Plot Size: 10' r or _____)					
1. _____	_____	_____	_____	Yes <u>X</u> No _____	
2. _____	_____	_____	_____		
0% = Total Cover					
% Bare Ground in Herb Stratum <u>0%</u>					

**Remarks:**

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

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

Project/Site: Camas Heights City/County: Camas/ Clark Sampling Date: 4/15/2021  
 Applicant/Owner: Lennar Northwest, Inc. State: WA Sampling Point: 17  
 Investigator(s): Stacey Reed, PWS and Sonya Templeton Section, Township, Range: Sec. 21, T.2N., R.3E., W.M.  
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): None Slope (%): <3%  
 Subregion (LRR): A. Northwest Forests and Coast Lat: 45.644063 Long: -122.43694304 Datum: \_\_\_\_\_  
 Soil Map Unit Name: Hesson clay loam (Unit HcB), 0% to 8% slopes; Non-hydric NWI classification: none  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No \_\_\_\_\_ (If no, explain in Remarks)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes X 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 <u>X</u>	No _____	<b>Is the Sampled Area within a Wetland?</b>	Yes <u>X</u>	No _____
Hydric Soil Present?	Yes <u>X</u>	No _____			
Wetland Hydrology Present?	Yes <u>X</u>	No _____			

**Precipitation:**

According to the NWS Vancouver weather station, 0.00 inches of rainfall was received on the day of the site visit and 0.09 inches within the two weeks prior.

**Remarks:**

Wetland B

**VEGETATION**

Tree Stratum (Plot Size: 30' r or _____)	Absolute % Cover	Dominant Species?	Indicator Status	<b>Dominance Test worksheet:</b>
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>2</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
4. _____	_____	_____	_____	<b>Prevalence Index worksheet:</b>
5. _____	_____	_____	_____	
0% = Total Cover				OBL species <u>0</u> x 1 = <u>0</u>
Sapling/Shrub Stratum (Plot Size: 10' r or _____)				FACW species <u>0</u> x 2 = <u>0</u>
1. _____	_____	_____	_____	FAC species <u>100</u> x 3 = <u>300</u>
2. _____	_____	_____	_____	FACU species <u>0</u> x 4 = <u>0</u>
3. _____	_____	_____	_____	UPL species <u>0</u> x 5 = <u>0</u>
4. _____	_____	_____	_____	Column Totals: <u>100</u> (A) <u>300</u> (B)
5. _____	_____	_____	_____	Prevalence Index = B/A = <u>3.00</u>
0% = Total Cover				<b>Hydrophytic Vegetation Indicators:</b>
Herb Stratum (Plot Size: 5' r or _____)				
1. <u>Alopecurus pratensis</u>	<u>60%</u>	<u>Yes</u>	<u>FAC</u>	
2. <u>Holcus lanatus</u>	<u>20%</u>	<u>Yes</u>	<u>FAC</u>	
3. <u>Juncus tenuis</u>	<u>10%</u>	<u>No</u>	<u>FAC</u>	
4. <u>Poa species</u>	<u>10%</u>	<u>No</u>	<u>FAC*</u>	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
100% = Total Cover				
Woody Vine Stratum (Plot Size: 10' r or _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
0% = Total Cover				
% Bare Ground in Herb Stratum <u>0%</u>				

**Remarks:**

\*Assumed FAC.

<b>SOIL</b>	<b>Sampling Point:</b> 17
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Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators):								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-7	10YR 3/2	100					SiL	
7-16	10YR 3/2	95	7.5YR 3/4	5	C	M	SiL	

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

<b>Hydric Soil Indicators (Applicable to all LRRs, unless otherwise noted):</b> <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Thick Dark Surface (A12) <input checked="" type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Redox Depressions (F8)	<b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b> <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Red Parent Material (TF2) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks)
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<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

<b>Restrictive Layer (if present):</b> Type: _____ Depth (inches): _____	<table style="width: 100%;"> <tr> <td style="text-align: right;"><b>Hydric Soil Present?</b></td> <td style="text-align: center;">Yes <input checked="" type="checkbox"/></td> <td style="text-align: center;">No <input type="checkbox"/></td> </tr> </table>	<b>Hydric Soil Present?</b>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
<b>Hydric Soil Present?</b>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		

**Remarks:**  
 Pieces of charcoal in lower layer.

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b>	
<b>Primary Indicators (minimum of one required; check all that apply)</b> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Salt Crust (B11) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Aquatic Invertebrates (B13) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A) <input type="checkbox"/> Surface Soil Cracks (B6) <input checked="" type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<b>Secondary Indicators (2 or more required)</b> <input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Raised Ant Mounds (D6) (LRR A) <input type="checkbox"/> Frost-Heave Hummocks (D7)

<b>Field Observations:</b> Surface Water Present?   Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present?     Yes _____ No <input checked="" type="checkbox"/> Depth (inches): > 16" Saturation Present?      Yes _____ No <input checked="" type="checkbox"/> Depth (inches): > 16" (includes capillary fringe)	<table style="width: 100%;"> <tr> <td style="text-align: right;"><b>Wetland Hydrology Present?</b></td> <td style="text-align: center;">Yes <input checked="" type="checkbox"/></td> <td style="text-align: center;">No <input type="checkbox"/></td> </tr> </table>	<b>Wetland Hydrology Present?</b>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
<b>Wetland Hydrology Present?</b>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		

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

**Remarks:**  
 Plot likely has wetland hydrology indicators during early portion of the growing season during a normal rainfall period based on presence of hydric soil indicators.

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

Project/Site: Camas Heights City/County: Camas/ Clark Sampling Date: 4/15/2021  
 Applicant/Owner: Lennar Northwest, Inc. State: WA Sampling Point: 18  
 Investigator(s): Stacey Reed, PWS and Sonya Templeton Section, Township, Range: Sec. 21, T.2N., R.3E., W.M.  
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): None Slope (%): <3%  
 Subregion (LRR): A. Northwest Forests and Coast Lat: 45.643988 Long: -122.43694515 Datum: \_\_\_\_\_  
 Soil Map Unit Name: Hesson clay loam (Unit HcB), 0% to 8% slopes; Non-hydric NWI classification: none  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No \_\_\_\_\_ (If no, explain in Remarks)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes X 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 <u>X</u>	No _____	<b>Is the Sampled Area within a Wetland?</b>	Yes _____	No <u>X</u>
Hydric Soil Present?	Yes _____	No <u>X</u>			
Wetland Hydrology Present?	Yes _____	No <u>X</u>			

**Precipitation:**  
 According to the NWS Vancouver weather station, 0.00 inches of rainfall was received on the day of the site visit and 0.09 inches within the two weeks prior.

**Remarks:**

**VEGETATION**

Tree Stratum (Plot Size: 30' r or _____)	Absolute % Cover	Dominant Species?	Indicator Status	<b>Dominance Test worksheet:</b>
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>1</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
4. _____	_____	_____	_____	<b>Prevalence Index worksheet:</b>
5. _____	_____	_____	_____	
0% = Total Cover				OBL species <u>0</u> x 1 = <u>0</u>
Sapling/Shrub Stratum (Plot Size: 10' r or _____)				FACW species <u>0</u> x 2 = <u>0</u>
1. _____	_____	_____	_____	FAC species <u>100</u> x 3 = <u>300</u>
2. _____	_____	_____	_____	FACU species <u>0</u> x 4 = <u>0</u>
3. _____	_____	_____	_____	UPL species <u>0</u> x 5 = <u>0</u>
4. _____	_____	_____	_____	Column Totals: <u>100</u> (A) <u>300</u> (B)
5. _____	_____	_____	_____	Prevalence Index = B/A = <u>3.00</u>
0% = Total Cover				<b>Hydrophytic Vegetation Indicators:</b>
Herb Stratum (Plot Size: 5' r or _____)				
1. <u>Alopecurus pratensis</u>	<u>80%</u>	<u>Yes</u>	<u>FAC</u>	
2. <u>Holcus lanatus</u>	<u>10%</u>	<u>No</u>	<u>FAC</u>	
3. <u>Poa species</u>	<u>10%</u>	<u>No</u>	<u>FAC*</u>	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
100% = Total Cover				
Woody Vine Stratum (Plot Size: 10' r or _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
0% = Total Cover				
% Bare Ground in Herb Stratum <u>0%</u>				

**Remarks:**  
 \*Assumed FAC.

<b>SOIL</b>						<b>Sampling Point:</b> 18	
<b>Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators):</b>							
Depth	Matrix		Redox Features				
(inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture
0-12	10YR 3/2	100					SiL
12-16	10YR 3/2	95	7.5YR 3/3	5	C	M	SiL+
<p><sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix CS=Covered or Coated Sand Grains.  <sup>2</sup>Location: PL=Pore Lining, M=Matrix.</p>							
<b>Hydric Soil Indicators (Applicable to all LRRs, unless otherwise noted):</b>						<b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b>	
<input type="checkbox"/> Histosol (A1)			<input type="checkbox"/> Sandy Redox (S5)			<input type="checkbox"/> 2 cm Muck (A10)	
<input type="checkbox"/> Histic Epipedon (A2)			<input type="checkbox"/> Stripped Matrix (S6)			<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Black Histic (A3)			<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)			<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> Hydrogen Sulfide (A4)			<input type="checkbox"/> Loamy Gleyed Matrix (F2)			<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)			<input type="checkbox"/> Depleted Matrix (F3)			<sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.	
<input type="checkbox"/> Thick Dark Surface (A12)			<input type="checkbox"/> Redox Dark Surface (F6)				
<input type="checkbox"/> Sandy Mucky Mineral (S1)			<input type="checkbox"/> Depleted Dark Surface (F7)				
<input type="checkbox"/> Sandy Gleyed Matrix (S4)			<input type="checkbox"/> Redox Depressions (F8)				
<b>Restrictive Layer (if present):</b>							
Type: _____							
Depth (inches): _____						<b>Hydric Soil Present?</b> Yes _____ No <input checked="" type="checkbox"/>	
<b>Remarks:</b>							
<b>HYDROLOGY</b>							
<b>Wetland Hydrology Indicators:</b>							
<u>Primary Indicators (minimum of one required; check all that apply)</u>						<u>Secondary Indicators (2 or more required)</u>	
<input type="checkbox"/> Surface Water (A1)			<input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)			<input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)	
<input type="checkbox"/> High Water Table (A2)			<input type="checkbox"/> Salt Crust (B11)			<input type="checkbox"/> Drainage Patterns (B10)	
<input type="checkbox"/> Saturation (A3)			<input type="checkbox"/> Aquatic Invertebrates (B13)			<input type="checkbox"/> Dry-Season Water Table (C2)	
<input type="checkbox"/> Water Marks (B1)			<input type="checkbox"/> Hydrogen Sulfide Odor (C1)			<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	
<input type="checkbox"/> Sediment Deposits (B2)			<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)			<input type="checkbox"/> Geomorphic Position (D2)	
<input type="checkbox"/> Drift Deposits (B3)			<input type="checkbox"/> Presence of Reduced Iron (C4)			<input type="checkbox"/> Shallow Aquitard (D3)	
<input type="checkbox"/> Algal Mat or Crust (B4)			<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)			<input type="checkbox"/> FAC-Neutral Test (D5)	
<input type="checkbox"/> Iron Deposits (B5)			<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)			<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)	
<input type="checkbox"/> Surface Soil Cracks (B6)			<input type="checkbox"/> Other (Explain in Remarks)			<input type="checkbox"/> Frost-Heave Hummocks (D7)	
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)							
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)							
<b>Field Observations:</b>							
Surface Water Present?		Yes _____	No <input checked="" type="checkbox"/>	Depth (inches): _____		<b>Wetland Hydrology Present?</b> Yes _____ No <input checked="" type="checkbox"/>	
Water Table Present?		Yes _____	No <input checked="" type="checkbox"/>	Depth (inches): > 16"			
Saturation Present? (includes capillary fringe)		Yes _____	No <input checked="" type="checkbox"/>	Depth (inches): > 16"			
<b>Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:</b>							
<b>Remarks:</b>							
Soils dry throughout.							



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

Project/Site: Camas Heights City/County: Camas/ Clark Sampling Date: 4/14/2021  
 Applicant/Owner: Lennar Northwest, Inc. State: WA Sampling Point: 19  
 Investigator(s): Stacey Reed, PWS and Sonya Templeton Section, Township, Range: Sec. 21, T.2N., R.3E., W.M.  
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Convex Slope (%): 5-10%  
 Subregion (LRR): A. Northwest Forests and Coast Lat: 45.644421 Long: -122.43575355 Datum: \_\_\_\_\_  
 Soil Map Unit Name: Hesson clay loam (Unit HcB), 0% to 8% slopes; Non-hydric NWI classification: none  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No \_\_\_\_\_ (If no, explain in Remarks)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes X 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 <u>X</u>	No _____	<b>Is the Sampled Area within a Wetland?</b>	Yes _____	No <u>X</u>
Hydric Soil Present?	Yes _____	No <u>X</u>			
Wetland Hydrology Present?	Yes _____	No <u>X</u>			

**Precipitation:**  
 According to the NWS Vancouver weather station, 0.00 inches of rainfall was received on the day of the site visit and 0.09 inches within the two weeks prior.

**Remarks:**  
 Plot located upslope of Wetland B.

**VEGETATION**

Tree Stratum (Plot Size: 30' r or _____)	Absolute % Cover	Dominant Species?	Indicator Status	<b>Dominance Test worksheet:</b>
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>2</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
4. _____	_____	_____	_____	<b>Prevalence Index worksheet:</b>
5. _____	_____	_____	_____	
0% = Total Cover				OBL species <u>0</u> x 1 = <u>0</u>
Sapling/Shrub Stratum (Plot Size: 10' r or _____)				FACW species <u>0</u> x 2 = <u>0</u>
1. _____	_____	_____	_____	FAC species <u>100</u> x 3 = <u>300</u>
2. _____	_____	_____	_____	FACU species <u>0</u> x 4 = <u>0</u>
3. _____	_____	_____	_____	UPL species <u>0</u> x 5 = <u>0</u>
4. _____	_____	_____	_____	Column Totals: <u>100</u> (A) <u>300</u> (B)
5. _____	_____	_____	_____	Prevalence Index = B/A = <u>3.00</u>
0% = Total Cover				<b>Hydrophytic Vegetation Indicators:</b>
Herb Stratum (Plot Size: 5' r or _____)				
1. <u>Alopecurus pratensis</u>	<u>60%</u>	<u>Yes</u>	<u>FAC</u>	
2. <u>Schedonorus arundinaceus</u>	<u>40%</u>	<u>Yes</u>	<u>FAC</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
100% = Total Cover				1 - Rapid Test for Hydrophytic Vegetation _____
Woody Vine Stratum (Plot Size: 10' r or _____)				X 2 - Dominance Test is >50% _____
1. _____	_____	_____	_____	X 3 - Prevalence Index is ≤3.0 <sup>1</sup> _____
2. _____	_____	_____	_____	4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) _____
0% = Total Cover				5 - Wetland Non-Vascular Plants <sup>1</sup> _____
% Bare Ground in Herb Stratum <u>0%</u>				Problematic Hydrophytic Vegetation (Explain) <sup>1</sup> _____
				<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present.
				<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No _____

**Remarks:**

<b>SOIL</b>							<b>Sampling Point:</b>	<b>19</b>
<b>Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators):</b>								
Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0-16	10YR 3/2	100					SiCL	
<sup>1</sup> Type: C=Concentration, D=Depletion, RM=Reduced Matrix CS=Covered or Coated Sand Grains. <sup>2</sup> Location: PL=Pore Lining, M=Matrix.								
<b>Hydric Soil Indicators (Applicable to all LRRs, unless otherwise noted):</b>						<b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b>		
<input type="checkbox"/> Histosol (A1)			<input type="checkbox"/> Sandy Redox (S5)			<input type="checkbox"/> 2 cm Muck (A10)		
<input type="checkbox"/> Histic Epipedon (A2)			<input type="checkbox"/> Stripped Matrix (S6)			<input type="checkbox"/> Red Parent Material (TF2)		
<input type="checkbox"/> Black Histic (A3)			<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)			<input type="checkbox"/> Very Shallow Dark Surface (TF12)		
<input type="checkbox"/> Hydrogen Sulfide (A4)			<input type="checkbox"/> Loamy Gleyed Matrix (F2)			<input type="checkbox"/> Other (Explain in Remarks)		
<input type="checkbox"/> Depleted Below Dark Surface (A11)			<input type="checkbox"/> Depleted Matrix (F3)			<sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.		
<input type="checkbox"/> Thick Dark Surface (A12)			<input type="checkbox"/> Redox Dark Surface (F6)					
<input type="checkbox"/> Sandy Mucky Mineral (S1)			<input type="checkbox"/> Depleted Dark Surface (F7)					
<input type="checkbox"/> Sandy Gleyed Matrix (S4)			<input type="checkbox"/> Redox Depressions (F8)					
<b>Restrictive Layer (if present):</b>						<b>Hydric Soil</b>		
Type: _____						<b>Present?</b>		
Depth (inches): _____						Yes _____ No <u>  X  </u>		
<b>Remarks:</b>								
<b>HYDROLOGY</b>								
<b>Wetland Hydrology Indicators:</b>								
<u>Primary Indicators (minimum of one required; check all that apply)</u>						<u>Secondary Indicators (2 or more required)</u>		
<input type="checkbox"/> Surface Water (A1)			<input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)			<input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)		
<input type="checkbox"/> High Water Table (A2)			<input type="checkbox"/> Salt Crust (B11)			<input type="checkbox"/> Drainage Patterns (B10)		
<input type="checkbox"/> Saturation (A3)			<input type="checkbox"/> Aquatic Invertebrates (B13)			<input type="checkbox"/> Dry-Season Water Table (C2)		
<input type="checkbox"/> Water Marks (B1)			<input type="checkbox"/> Hydrogen Sulfide Odor (C1)			<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)		
<input type="checkbox"/> Sediment Deposits (B2)			<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)			<input type="checkbox"/> Geomorphic Position (D2)		
<input type="checkbox"/> Drift Deposits (B3)			<input type="checkbox"/> Presence of Reduced Iron (C4)			<input type="checkbox"/> Shallow Aquitard (D3)		
<input type="checkbox"/> Algal Mat or Crust (B4)			<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)			<input type="checkbox"/> FAC-Neutral Test (D5)		
<input type="checkbox"/> Iron Deposits (B5)			<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)			<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)		
<input type="checkbox"/> Surface Soil Cracks (B6)			<input type="checkbox"/> Other (Explain in Remarks)			<input type="checkbox"/> Frost-Heave Hummocks (D7)		
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)								
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)								
<b>Field Observations:</b>						<b>Wetland Hydrology Present?</b>		
Surface Water Present?		Yes _____	No <u>  X  </u>	Depth (inches): _____		Yes _____ No <u>  X  </u>		
Water Table Present?		Yes _____	No <u>  X  </u>	Depth (inches): <u>  &gt; 16"  </u>				
Saturation Present? (includes capillary fringe)		Yes _____	No <u>  X  </u>	Depth (inches): <u>  &gt; 16"  </u>				
<b>Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:</b>								
<b>Remarks:</b>								
Soils dry throughout.								



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## **Appendix C: Site Photographs**

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**Photo A.** View north of wetland Plot 1 towards Plots 2-5 and Wetland A boundary.



**Photo B.** View northeast of Wetland A boundary with Plots 9 and 10.



**Photo C.** View north of Wetland A, in vicinity of Plot 6.



**Photo D.** View south of Wetland A at a lower topography location within the study area boundary.



**Photo E.** View south of upland Plot 11.



**Photo F.** View south west of Wetland B with Plots 15 and 16.



**Photo G.** View east of Wetland B boundary and Plot 19.



**Photo H.** View north of priority Oregon white oaks .



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## **Appendix D: Wetland Rating Forms and Figures**

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# RATING SUMMARY – Western Washington

Name of wetland (or ID #): Wetland A Date of site visit: 4/15/2021

Rated by Stacey Reed, PWS Trained by Ecology?  Yes  No Date of training 2014 & 2019

HGM Class used for rating Slope Wetland has multiple HGM classes?  Yes  No

**NOTE: Form is not complete with out the figures requested (figures can be combined).**

Source of base aerial photo/map ESRI/ArcGIS Online

**OVERALL WETLAND CATEGORY** IV (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
- X           Category IV - Total score = 9 - 15

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

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

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
<i>List appropriate rating (H, M, L)</i>				
Site Potential	L	L	L	
Landscape Potential	M	L	H	
Value	H	M	L	<b>Total</b>
<b>Score Based on Ratings</b>	6	4	5	<b>15</b>

## 2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	Category
Estuarine	
Wetland of High Conservation Value	
Bog	
Mature Forest	
Old Growth Forest	
Coastal Lagoon	
Interdunal	
None of the above	<b>X</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	
Hydroperiods	D 1.4, H 1.2	
Location of outlet ( <i>can be added to map of hydroperiods</i> )	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland ( <i>can be added to another figure</i> )	D 2.2, D 5.2	
Map of the contributing basin	D 4.3, D 5.3	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	D 3.3	

### Riverine Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	H 1.1, H 1.4	
Hydroperiods	H 1.2	
Ponded depressions	R 1.1	
Boundary of area within 150 ft of the wetland ( <i>can be added to another figure</i> )	R 2.4	
Plant cover of trees, shrubs, and herbaceous plants	R 1.2, R 4.2	
Width of unit vs. width of stream ( <i>can be added to another figure</i> )	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 ( <i>can be added to another figure</i> )	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	1
Hydroperiods	H 1.2	2
Plant cover of <b>dense</b> trees, shrubs, and herbaceous plants	S 1.3	N/A
Plant cover of <b>dense, rigid</b> trees, shrubs, and herbaceous plants ( <i>can be added to another figure</i> )	S 4.1	N/A
Boundary of area within 150 ft of the wetland ( <i>can be added to another figure</i> )	S 2.1, S 5.1	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	3
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	4
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	S 3.3	5



## HGM Classification of Wetland in Western Washington

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

1. Are 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.

- 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.*

**SLOPE WETLANDS**

<b>Water Quality Functions - Indicators that the site functions to improve water quality</b>		
<b>S 1.0. Does the site have the potential to improve water quality?</b>		
<b>S 1.1. Characteristics of the average slope of the wetland: (a 1% slope has a 1 ft vertical drop in elevation for every 100 ft of horizontal distance)</b>		
Slope is 1% or less	points = 3	1
Slope is > 1% - 2%	points = 2	
Slope is > 2% - 5%	points = 1	
Slope is greater than 5%	points = 0	
<b>S 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic (use NRCS definitions):</b>		
	Yes = 3 No = 0	0
<b>S 1.3. Characteristics of the plants in the wetland that trap sediments and pollutants: Choose the points appropriate for the description that best fits the plants in the wetland. Dense means you have trouble seeing the soil surface (&gt;75% cover), and uncut means not grazed or mowed and plants are higher than 6 in.</b>		
Dense, uncut, herbaceous plants > 90% of the wetland area	points = 6	0
Dense, uncut, herbaceous plants > ½ of area	points = 3	
Dense, woody, plants > ½ of area	points = 2	
Dense, uncut, herbaceous plants > ¼ of area	points = 1	
Does not meet any of the criteria above for plants	points = 0	
<b>Total for S 1</b>	<b>Add the points in the boxes above</b>	<b>1</b>

**Rating of Site Potential** If score is:  12 = H  9 - 11 = M  5 = L Record rating on the first page

<b>S 2.0. Does the landscape have the potential to support the water quality function of the site?</b>		
<b>S 2.1. Is &gt; 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?</b>		
	Yes = 1 No = 0	1
<b>Other Sources- G</b>		
	Yes = 1 No = 0	1
<b>Total for S 2</b>	<b>Add the points in the boxes above</b>	<b>2</b>

**Rating of Landscape Potential** If score is:  1 - 2 = M  = L Record rating on the first page

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

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

<b>SLOPE WETLANDS</b>
<b>Hydrologic Functions - Indicators that the site functions to reduce flooding and stream erosion</b>

<b>S 4.0. Does the site have the potential to reduce flooding and stream erosion?</b>	
S 4.1. Characteristics of plants that reduce the velocity of surface flows during storms: Choose the points appropriate for the description that best fits conditions in the wetland. <i>Stems of plants should be thick enough (usually &gt; 1/8 in), or dense enough, to remain erect during surface flows.</i>	0
Dense, uncut, <b>rigid</b> plants cover > 90% of the area of the wetland	points = 1
All other conditions	points = 0

**Rating of Site Potential** If score is:  1 = M     0 = L

*Record rating on the first page*

<b>S 5.0. Does the landscape have the potential to support hydrologic functions of the site?</b>	
S 5.1. Is more than 25% of the area within 150 ft upslope of wetland in land uses or cover that generate excess surface runoff?	0
	Yes = 1    No = 0

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

*Record rating on the first page*

<b>S 6.0. Are the hydrologic functions provided by the site valuable to society?</b>	
S 6.1. Distance to the nearest areas downstream that have flooding problems:	1
The sub-basin immediately down-gradient of site has flooding problems that result in damage to human or natural resources (e.g., houses or salmon redds)	points = 2
Surface flooding problems are in a sub-basin farther down-gradient	points = 1
No flooding problems anywhere downstream	points = 0
S 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan?	0
	Yes = 2    No = 0
<b>Total for S 6</b>	<b>1</b>
	<i>Add the points in the boxes above</i>


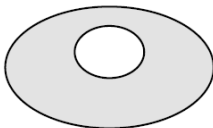

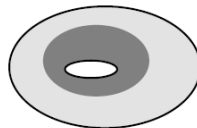
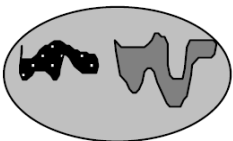

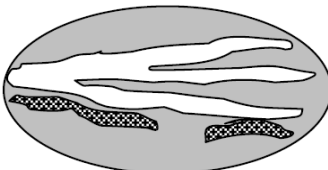
**Rating of Value** If score is:  2 - 4 = H     1 = M     0 = L

*Record rating on the first page*

NOTES and FIELD OBSERVATIONS:

**These questions apply to wetlands of all HGM classes.**

**HABITAT FUNCTIONS** - Indicators that site functions to provide important habitat

<p>H 1.0. Does the site have the potential to provide habitat?</p>		
<p>H 1.1. Structure of plant community: <i>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.</i></p> <p> <input type="checkbox"/> Aquatic bed <span style="float: right;">4 structures or more: points = 4</span>  <input checked="" type="checkbox"/> Emergent <span style="float: right;">3 structures: points = 2</span>  <input type="checkbox"/> Scrub-shrub (areas where shrubs have &gt; 30% cover) <span style="float: right;">2 structures: points = 1</span>  <input type="checkbox"/> Forested (areas where trees have &gt; 30% cover) <span style="float: right;">1 structure: points = 0</span>  <i>If the unit has a Forested class, check if:</i>  <input type="checkbox"/> 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                 </p>		0
<p>H 1.2. Hydroperiods</p> <p>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).</p> <p> <input type="checkbox"/> Permanently flooded or inundated <span style="float: right;">4 or more types present: points = 3</span>  <input type="checkbox"/> Seasonally flooded or inundated <span style="float: right;">3 types present: points = 2</span>  <input checked="" type="checkbox"/> Occasionally flooded or inundated <span style="float: right;">2 types present: points = 1</span>  <input checked="" type="checkbox"/> Saturated only <span style="float: right;">1 types present: points = 0</span>  <input type="checkbox"/> Permanently flowing stream or river in, or adjacent to, the wetland  <input type="checkbox"/> Seasonally flowing stream in, or adjacent to, the wetland  <input type="checkbox"/> <b>Lake Fringe wetland</b> <span style="float: right;"><b>2 points</b></span>  <input type="checkbox"/> <b>Freshwater tidal wetland</b> <span style="float: right;"><b>2 points</b></span> </p>		1
<p>H 1.3. Richness of plant species</p> <p>Count the number of plant species in the wetland that cover at least 10 ft<sup>2</sup>. Different patches of the same species can be combined to meet the size threshold and you do not have to name the species. <b>Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Canadian thistle</b></p> <p>If you counted:      &gt; 19 species <span style="float: right;">points = 2</span>                                                       5 - 19 species <span style="float: right;">points = 1</span>                                                       &lt; 5 species <span style="float: right;">points = 0</span></p>		0
<p>H 1.4. Interspersion of habitats</p> <p>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. <i>If you have four or more plant classes or three classes and open water, the rating is always high.</i></p> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  <p><b>None</b> = 0 points</p> </div> <div style="text-align: center;">  <p><b>Low</b> = 1 point</p> </div> <div style="text-align: center;">  <p><b>Moderate</b> = 2 points</p> </div> <div style="text-align: center;">  </div> </div> <div style="display: flex; justify-content: space-around; align-items: center; margin-top: 20px;"> <div style="text-align: center;">  </div> <div style="text-align: center;">  </div> <div style="text-align: center;">  </div> </div> <p>All three diagrams in this row are <b>HIGH</b> = 3 points</p>		0

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

H 2.0. Does the landscape have the potential to support the habitat function of the site?

<p>H 2.1 Accessible habitat (include <i>only habitat that directly abuts wetland unit</i>). <i>Calculate:</i></p> <p>0 % undisturbed habitat + ( 54 % moderate &amp; low intensity land uses / 2 ) = 27%</p> <p>If total accessible habitat is:</p> <p>&gt; 1/3 (33.3%) of 1 km Polygon points = 3</p> <p>20 - 33% of 1 km Polygon points = 2</p> <p>10 - 19% of 1 km Polygon points = 1</p> <p>&lt; 10 % of 1 km Polygon points = 0</p>	1
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H 2.2. Undisturbed habitat in 1 km Polygon around the wetland.

<p><i>Calculate:</i></p> <p>32 % undisturbed habitat + ( 54 % moderate &amp; low intensity land uses / 2 ) = 59%</p> <p>Undisturbed habitat &gt; 50% of Polygon points = 3</p> <p>Undisturbed habitat 10 - 50% and in 1-3 patches points = 2</p> <p>Undisturbed habitat 10 - 50% and &gt; 3 patches points = 1</p> <p>Undisturbed habitat &lt; 10% of 1 km Polygon points = 0</p>	3
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<p>H 2.3 Land use intensity in 1 km Polygon: If</p> <p>&gt; 50% of 1 km Polygon is high intensity land use points = (-2)</p> <p>≤ 50% of 1km Polygon is high intensity points = 0</p>	0
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Total for H 2	Add the points in the boxes above	4
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**Rating of Landscape Potential** If Score is:  4 - 6 = H  - 3 = M  1 = L *Record rating on the first page*

H 3.0. Is the habitat provided by the site valuable to society?

<p>H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? <i>Choose only the highest score that applies to the wetland being rated.</i></p> <p>Site meets ANY of the following criteria: points = 2</p> <p><input type="checkbox"/> It has 3 or more priority habitats within 100 m (see next page)</p> <p><input type="checkbox"/> It provides habitat for Threatened or Endangered species (any plant or animal on the state or federal lists)</p> <p><input type="checkbox"/> It is mapped as a location for an individual WDFW priority species</p> <p><input type="checkbox"/> It is a Wetland of High Conservation Value as determined by the Department of Natural Resources</p> <p><input type="checkbox"/> 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</p> <p>Site has 1 or 2 priority habitats (listed on next page) with in 100m points = 1</p> <p>Site does not meet any of the criteria above points = 0</p>	0
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**Rating of Value** If Score is:  2 = H  1 = M  = L *Record rating on the first page*

## 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.

**CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS**



Wetland Type	Category
<p><i>Check off any criteria that apply to the wetland. List the category when the appropriate criteria are met.</i></p>	
<p><b>SC 1.0. Estuarine Wetlands</b></p> <p>Does the wetland meet the following criteria for Estuarine wetlands?</p> <p><input type="checkbox"/> The dominant water regime is tidal,  <input type="checkbox"/> Vegetated, and  <input type="checkbox"/> With a salinity greater than 0.5 ppt</p> <p style="text-align: right;"><input type="checkbox"/> Yes - Go to <b>SC 1.1</b>      <input checked="" type="checkbox"/> No = <b>Not an estuarine wetland</b></p>	
<p>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?</p> <p style="text-align: right;"><input type="checkbox"/> Yes = <b>Category I</b>      <input type="checkbox"/> No - Go to <b>SC 1.2</b></p>	
<p>SC 1.2. Is the wetland unit at least 1 ac in size and meets at least two of the following three conditions?</p> <p><input type="checkbox"/> The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less than 10% cover of non-native plant species. (If non-native species are <i>Spartina</i>, see page 25))</p> <p><input type="checkbox"/> 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.</p> <p><input type="checkbox"/> The wetland has at least two of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands.</p> <p style="text-align: right;"><input type="checkbox"/> Yes = <b>Category I</b>      <input type="checkbox"/> No = <b>Category II</b></p>	
<p><b>SC 2.0. Wetlands of High Conservation Value (WHCV)</b></p>	
<p>SC 2.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High Conservation Value?</p> <p style="text-align: right;"><input type="checkbox"/> Yes - Go to <b>SC 2.2</b>      <input checked="" type="checkbox"/> No - Go to <b>SC 2.3</b></p>	
<p>SC 2.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value?</p> <p style="text-align: right;"><input type="checkbox"/> Yes = <b>Category I</b>      <input type="checkbox"/> No = <b>Not WHCV</b></p>	
<p>SC 2.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland?  <a href="http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf">http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf</a></p> <p style="text-align: right;"><input type="checkbox"/> Yes - <b>Contact WNHP/WDNR and to SC 2.4</b>      <input checked="" type="checkbox"/> No = <b>Not WHCV</b></p>	
<p>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?</p> <p style="text-align: right;"><input type="checkbox"/> Yes = <b>Category I</b>      <input type="checkbox"/> No = <b>Not WHCV</b></p>	
<p><b>SC 3.0. Bogs</b></p>	
<p>Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? Use the key below. <b>If you answer YES you will still need to rate the wetland based on its functions.</b></p>	
<p>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?</p> <p style="text-align: right;"><input type="checkbox"/> Yes - Go to <b>SC 3.3</b>      <input checked="" type="checkbox"/> No - Go to <b>SC 3.2</b></p>	
<p>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?</p> <p style="text-align: right;"><input type="checkbox"/> Yes - Go to <b>SC 3.3</b>      <input checked="" type="checkbox"/> No = <b>Is not a bog</b></p>	
<p>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?</p> <p style="text-align: right;"><input type="checkbox"/> Yes = <b>Is a Category I bog</b>      <input type="checkbox"/> No - Go to <b>SC 3.4</b></p>	
<p><b>NOTE:</b> If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0 and the plant species in Table 4 are present, the wetland is a bog.</p>	
<p>SC 3.4. Is an area with peats or mucks forested (&gt; 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?</p> <p style="text-align: right;"><input type="checkbox"/> Yes = <b>Is a Category I bog</b>      <input type="checkbox"/> No = <b>Is not a bog</b></p>	

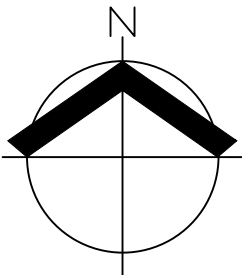


<p><b>SC 4.0. Forested Wetlands</b></p> <p>Does the wetland have at least <u>1 contiguous acre</u> of forest that meets one of these criteria for the WA Department of Fish and Wildlife's forests as priority habitats? <b><i>If you answer YES you will still need to rate the wetland based on its functions.</i></b></p> <p><input type="checkbox"/> <b>Old-growth forests</b> (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.</p> <p><input type="checkbox"/> <b>Mature forests</b> (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).</p> <p style="text-align: right;"><input type="checkbox"/> Yes = <b>Category I</b>      <input checked="" type="checkbox"/> No = <b>Not a forested wetland for this section</b></p>	
<p><b>SC 5.0. Wetlands in Coastal Lagoons</b></p> <p>Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?</p> <p><input type="checkbox"/> 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</p> <p><input type="checkbox"/> The lagoon in which the wetland is located contains ponded water that is saline or brackish (&gt; 0.5 ppt) during most of the year in at least a portion of the lagoon (<i>needs to be measured near the bottom</i>)</p> <p style="text-align: right;"><input type="checkbox"/> Yes - Go to <b>SC 5.1</b>      <input checked="" type="checkbox"/> No = <b>Not a wetland in a coastal lagoon</b></p> <p><b>SC 5.1. Does the wetland meet all of the following three conditions?</b></p> <p><input type="checkbox"/> 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).</p> <p><input type="checkbox"/> 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.</p> <p><input type="checkbox"/> The wetland is larger than 1/10 ac (4350 ft<sup>2</sup>)</p> <p style="text-align: right;"><input type="checkbox"/> Yes = <b>Category I</b>      <input type="checkbox"/> No = <b>Category II</b></p>	
<p><b>SC 6.0. Interdunal Wetlands</b></p> <p>Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership or WBUO)? <b><i>If you answer yes you will still need to rate the wetland based on its habitat functions.</i></b></p> <p>In practical terms that means the following geographic areas:</p> <p><input type="checkbox"/> Long Beach Peninsula: Lands west of SR 103</p> <p><input type="checkbox"/> Grayland-Westport: Lands west of SR 105</p> <p><input type="checkbox"/> Ocean Shores-Copalis: Lands west of SR 115 and SR 109</p> <p style="text-align: right;"><input type="checkbox"/> Yes - Go to <b>SC 6.1</b>      <input checked="" type="checkbox"/> No = <b>Not an interdunal wetland for rating</b></p> <p><b>SC 6.1. Is the wetland 1 ac or larger and scores an 8 or 9 for the habitat functions on the form (rates H,H,H or H,H,M for the three aspects of function)?</b></p> <p style="text-align: right;"><input type="checkbox"/> Yes = <b>Category I</b>      <input type="checkbox"/> No - Go to <b>SC 6.2</b></p> <p><b>SC 6.2. Is the wetland 1 ac or larger, or is it in a mosaic of wetlands that is 1 ac or larger?</b></p> <p style="text-align: right;"><input type="checkbox"/> Yes = <b>Category II</b>      <input type="checkbox"/> No - Go to <b>SC 6.3</b></p> <p><b>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?</b></p> <p style="text-align: right;"><input type="checkbox"/> Yes = <b>Category III</b>      <input type="checkbox"/> No = <b>Category IV</b></p>	
<p><b>Category of wetland based on Special Characteristics</b></p> <p>If you answered No for all types, enter "Not Applicable" on Summary Form</p>	N/A

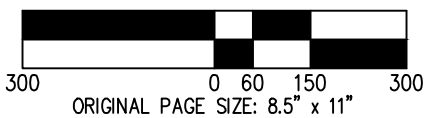


MAY 2019 GOOGLE EARTH AERIAL  
WESTERN WA WETLAND RATING FORM

LEGEND:	
	PEM/SLOPE WETLAND A (CAT IV): 76,965 SF± (1.77 ACRES±)
	PEM/SLOPE WETLAND B (CAT IV): 6,749 SF± (0.15 ACRES±)



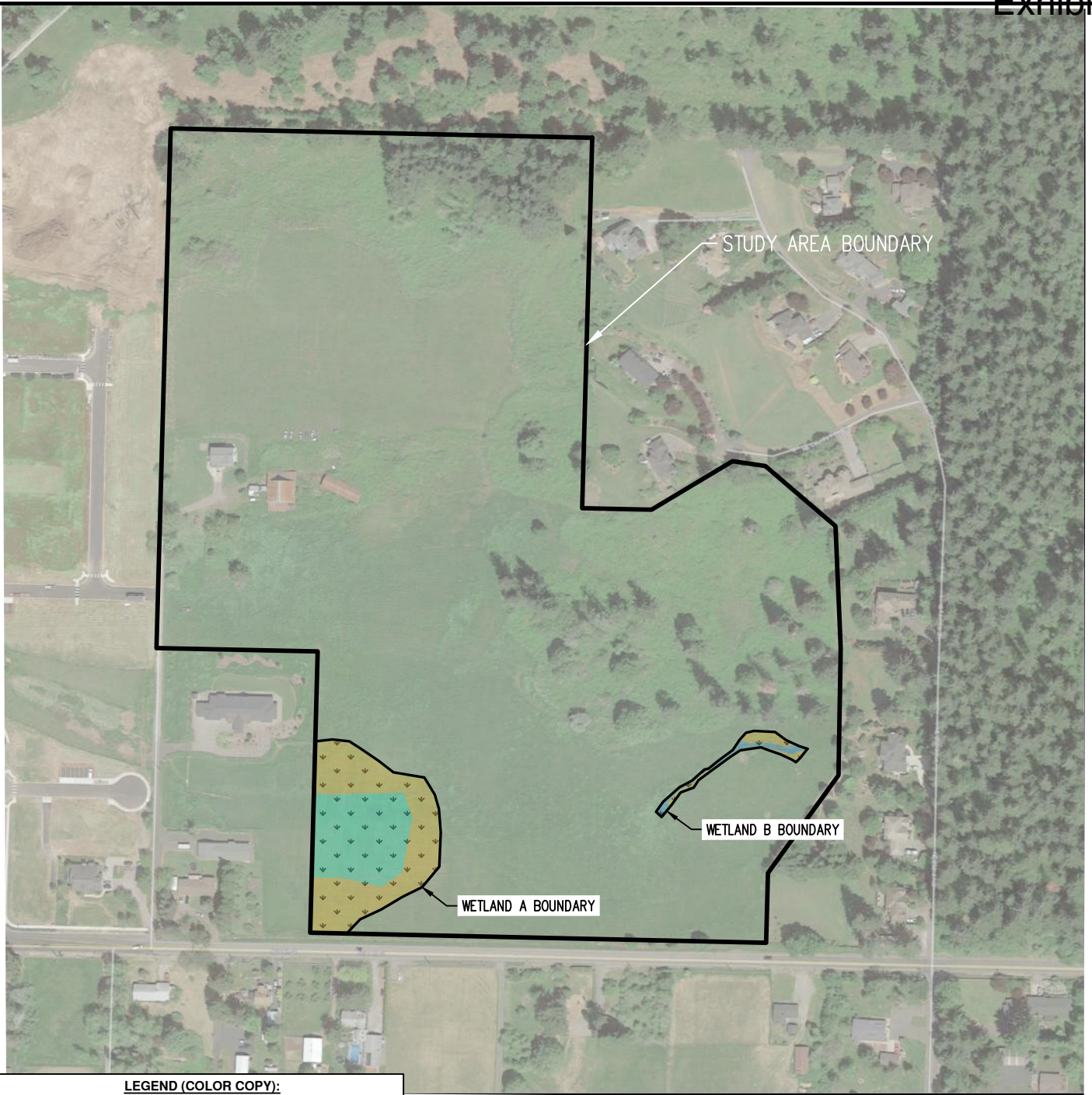
SCALE: 1" = 300 FEET



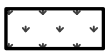



DATE: 09/01/2021

<b>COWARDIN CLASSIFICATION AND 150' BUFFER NE 28TH STREET CRITICAL AREAS ASSESSMENT</b>		<b>FIGURE 1</b>
AKS ENGINEERING & FORESTRY, LLC 9600 NE 126TH AVE, STE 2520 VANCOUVER, WA 98682 P: 360.882.0419 F: 360.882.0426 aks-eng.com		DRWN: SKT CHKD: SAR AKS JOB: 8468

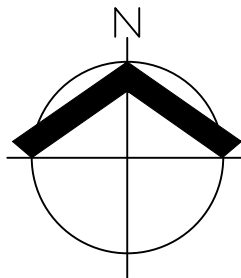




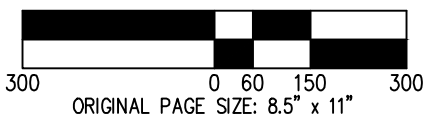
**LEGEND (COLOR COPY):**

-  PEM/SLOPE WETLAND A (CAT IV): 76,965 SF± (1.77 ACRES±)  
PEM/SLOPE WETLAND B (CAT IV): 6,749 SF± (0.15 ACRES±)
-  SATURATED ONLY
-  OCCASIONALLY FLOODED OR INUNDATED
-  SEASONALLY FLOODED OR INUNDATED

MAY 2019 GOOGLE EARTH AERIAL  
WESTERN WA WETLAND RATING FORM

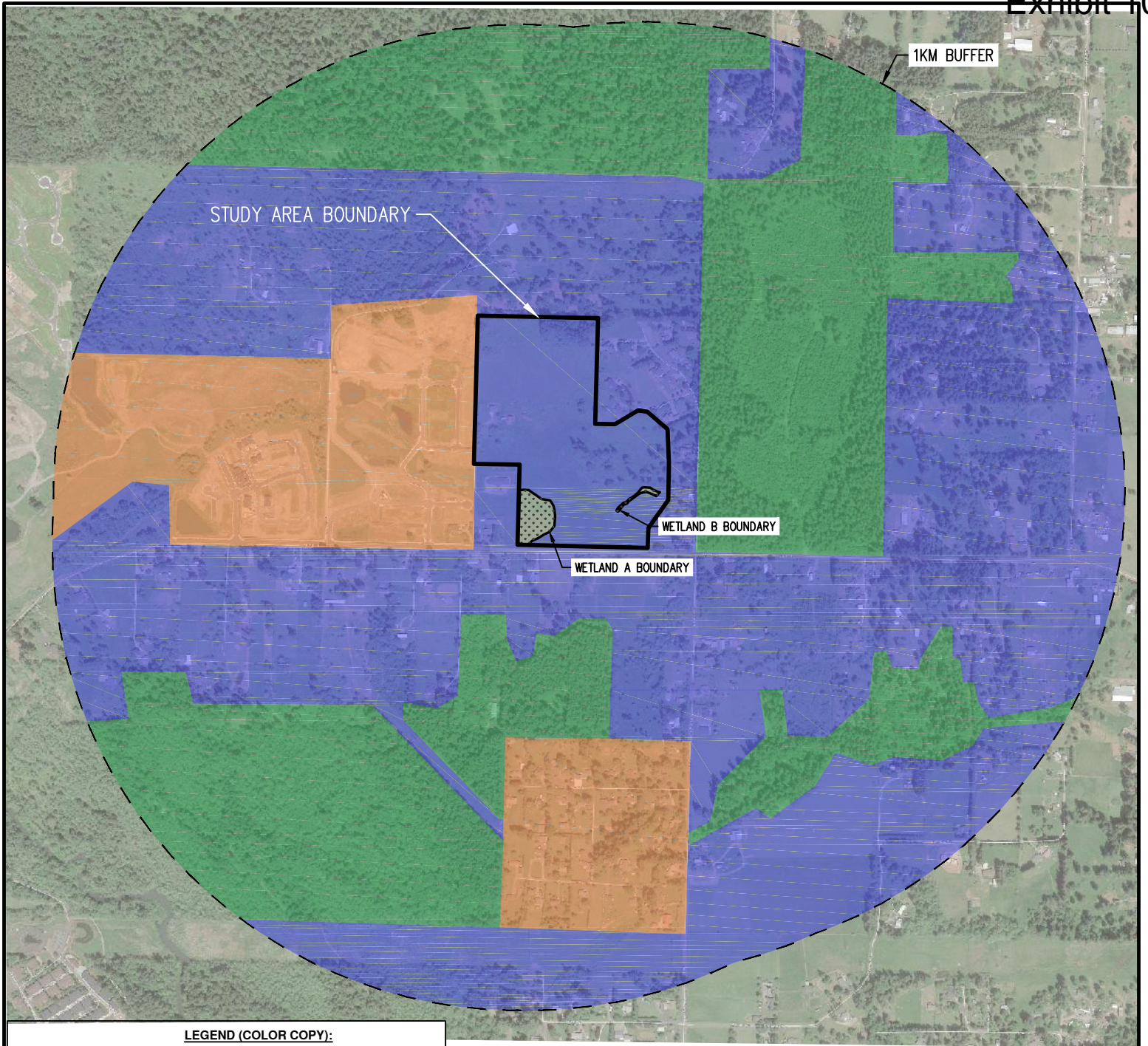


SCALE: 1" = 300 FEET



DATE: 09/01/2021

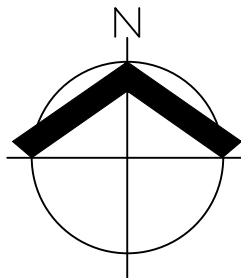
<b>HYDROPERIODS</b>		<b>FIGURE</b>
<b>NE 28TH STREET CRITICAL AREAS ASSESSMENT</b>		<b>2</b>
AKS ENGINEERING & FORESTRY, LLC 9600 NE 126TH AVE, STE 2520 VANCOUVER, WA 98682 P: 360.882.0419 F: 360.882.0426 aks-eng.com		DRWN: SKT CHKD: SAR AKS JOB: 8468
		



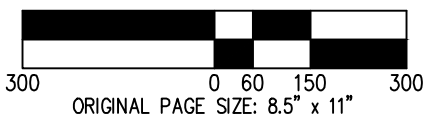
**LEGEND (COLOR COPY):**

- PEM/SLOPE WETLAND A (CAT IV): 76,965 SF± (1.77 ACRES±)
- PEM/SLOPE WETLAND B (CAT IV): 6,749 SF± (0.15 ACRES±)
- RELATIVELY UNDISTURBED HABITAT
- MODERATE/LOW INTENSITY LAND USE
- HIGH INTENSITY LAND USE

MAY 2019 GOOGLE EARTH AERIAL  
WESTERN WA WETLAND RATING FORM



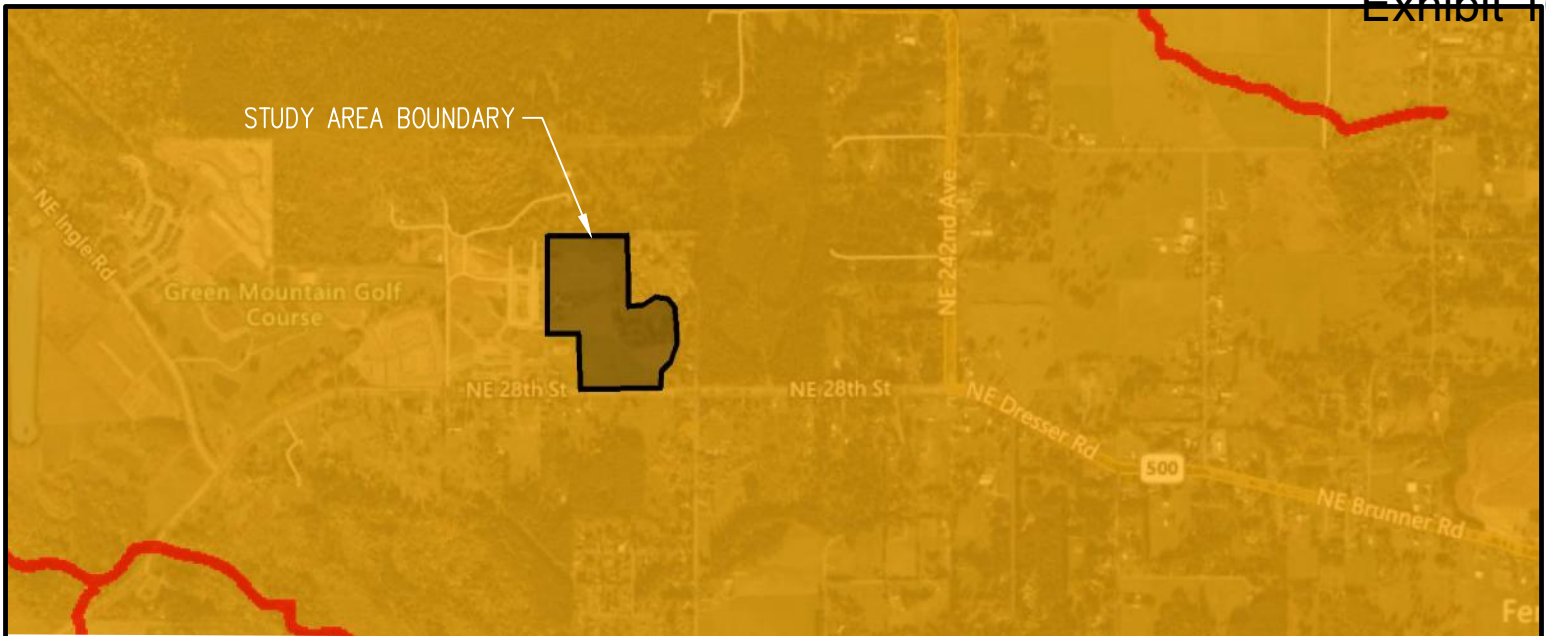
SCALE: 1" = 300 FEET



DATE: 09/01/2021

<b>1KM BUFFER AND LAND USE INTENSITY NE 28TH STREET CRITICAL AREAS ASSESSMENT</b>		<b>FIGURE 3</b>
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TITLE	<b>Lacamas Creek Fecal Coliform, Temperature, Dissolved Oxygen, and pH Total Maximum Daily Load: Water Quality Study Design (Quality Assurance Project Plan)</b>	
	Publication number	Date Published
	11-03-102	February 2011
VIEW NOW	<a href="#">Lacamas Creek Fecal Coliform, Temperature, Dissolved Oxygen, and pH Total Maximum Daily Load: Water Quality Study Design (Quality Assurance Project Plan)</a> (Number of pages: 71) (Publication Size: 2MB)	
	<p>Trouble viewing? Try these free options.</p> <ul style="list-style-type: none"> <li>Get the latest <a href="#">Adobe Reader</a> for PDFs.</li> <li>For Excel or Word viewing get <a href="#">Open Office</a>, <a href="#">Microsoft OneDrive</a>, <a href="#">DropBox Basic</a> or a mobile app at your favorite app store.</li> </ul>	
AUTHOR(S)	Swanson, T.	
DESCRIPTION	This is the study plan for Lacamas Creek Fecal Coliform, Temperature, Dissolved Oxygen, and pH Total Maximum Daily Load.	
REQUEST A COPY	<p><b>ADA Accessibility</b> The Department of Ecology is committed to providing people with disabilities access to information and services by meeting or exceeding the requirements of the Americans with Disabilities Act (ADA), Section 504 and 508 of the Rehabilitation Act, and Washington State Policy #188. Visit <a href="#">Ecology's website</a> for more information.</p> <ul style="list-style-type: none"> <li><a href="#">Environmental Assessment Order Form</a></li> </ul>	
CONTACT	Joan LeTourneau at 360-407-6764 or <a href="mailto:jlet461@ecy.wa.gov">jlet461@ecy.wa.gov</a>	
KEYWORDS	pellet, form, inventory, Clark County, WRIA 28, clean water, county, creek, internet, sampling, resource, temperature, model, 303(d), water, water quality, Ecology, quality, water resource, Total Maximum Daily Load, pH, lake, dissolved oxygen, fecal coliform	
WEB PAGE	<a href="#">Water Quality Improvement Project, Lacamas Creek Area: Multi-Parameter</a>	
WATERSHED	<a href="#">Water Resource Inventory Area 28 Salmon-Washougal</a>	
DATA	<a href="#">Environmental Information Management (EIM) #TSWA0003</a>	
RELATED PUBLICATIONS	<p>Title:</p> <a href="#">Surface-Water/Groundwater Interactions and Near-Stream Groundwater Quality, Lacamas Creek, Clark County</a>	

**Assessed Water/Sediment**

Water

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

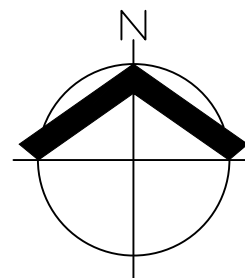
Sediment

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

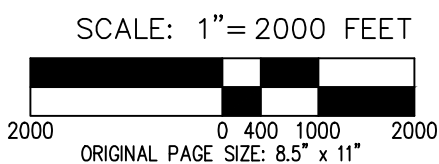
**WQ Improvement Projects**

- Approved
- In Development

WASHINGTON DEPARTMENT OF ECOLOGY  
WESTERN WA WETLAND RATING FORM



DATE: 09/01/2021



<b>303d AND TMDLs NE 28TH STREET CRITICAL AREAS ASSESSMENT</b>		<b>FIGURE 4</b>
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# RATING SUMMARY – Western Washington

Name of wetland (or ID #): Wetland B Date of site visit: 4/15/2021

Rated by Stacey Reed, PWS Trained by Ecology?  Yes  No Date of training 2014 & 2019

HGM Class used for rating Slope Wetland has multiple HGM classes?  Yes  No

**NOTE: Form is not complete with out the figures requested (figures can be combined).**

Source of base aerial photo/map ESRI/ArcGIS Online

**OVERALL WETLAND CATEGORY** IV (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
- X           Category IV - Total score = 9 - 15

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

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

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
<i>List appropriate rating (H, M, L)</i>				
Site Potential	L	L	L	
Landscape Potential	M	L	H	
Value	H	M	L	<b>Total</b>
<b>Score Based on Ratings</b>	6	4	5	<b>15</b>

## 2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	Category
Estuarine	
Wetland of High Conservation Value	
Bog	
Mature Forest	
Old Growth Forest	
Coastal Lagoon	
Interdunal	
None of the above	<b>X</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	
Hydroperiods	D 1.4, H 1.2	
Location of outlet ( <i>can be added to map of hydroperiods</i> )	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland ( <i>can be added to another figure</i> )	D 2.2, D 5.2	
Map of the contributing basin	D 4.3, D 5.3	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	D 3.3	

### Riverine Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	H 1.1, H 1.4	
Hydroperiods	H 1.2	
Ponded depressions	R 1.1	
Boundary of area within 150 ft of the wetland ( <i>can be added to another figure</i> )	R 2.4	
Plant cover of trees, shrubs, and herbaceous plants	R 1.2, R 4.2	
Width of unit vs. width of stream ( <i>can be added to another figure</i> )	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 ( <i>can be added to another figure</i> )	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	1
Hydroperiods	H 1.2	2
Plant cover of <b>dense</b> trees, shrubs, and herbaceous plants	S 1.3	N/A
Plant cover of <b>dense, rigid</b> trees, shrubs, and herbaceous plants ( <i>can be added to another figure</i> )	S 4.1	N/A
Boundary of area within 150 ft of the wetland ( <i>can be added to another figure</i> )	S 2.1, S 5.1	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	3
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	4
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	S 3.3	5

## HGM Classification of Wetland in Western Washington

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

1. Are 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.

- 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.*

**SLOPE WETLANDS**

<b>Water Quality Functions - Indicators that the site functions to improve water quality</b>		
<b>S 1.0. Does the site have the potential to improve water quality?</b>		
<b>S 1.1. Characteristics of the average slope of the wetland: (a 1% slope has a 1 ft vertical drop in elevation for every 100 ft of horizontal distance)</b>		
Slope is 1% or less	points = 3	<b>3</b>
Slope is > 1% - 2%	points = 2	
Slope is > 2% - 5%	points = 1	
Slope is greater than 5%	points = 0	
<b>S 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic (use NRCS definitions):</b>		
	Yes = 3 No = 0	<b>0</b>
<b>S 1.3. Characteristics of the plants in the wetland that trap sediments and pollutants: Choose the points appropriate for the description that best fits the plants in the wetland. Dense means you have trouble seeing the soil surface (&gt;75% cover), and uncut means not grazed or mowed and plants are higher than 6 in.</b>		
Dense, uncut, herbaceous plants > 90% of the wetland area	points = 6	<b>0</b>
Dense, uncut, herbaceous plants > ½ of area	points = 3	
Dense, woody, plants > ½ of area	points = 2	
Dense, uncut, herbaceous plants > ¼ of area	points = 1	
Does not meet any of the criteria above for plants	points = 0	
<b>Total for S 1</b>	<b>Add the points in the boxes above</b>	<b>3</b>

**Rating of Site Potential** If score is:  12 = H  8 - 11 = M  5 = L Record rating on the first page

<b>S 2.0. Does the landscape have the potential to support the water quality function of the site?</b>		
<b>S 2.1. Is &gt; 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?</b>		
	Yes = 1 No = 0	<b>1</b>
<b>Other Sources- G</b>		
	Yes = 1 No = 0	<b>1</b>
<b>Total for S 2</b>	<b>Add the points in the boxes above</b>	<b>2</b>

**Rating of Landscape Potential** If score is:  1 - 2 = M  = L Record rating on the first page

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

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

<b>SLOPE WETLANDS</b>
<b>Hydrologic Functions - Indicators that the site functions to reduce flooding and stream erosion</b>

<b>S 4.0. Does the site have the potential to reduce flooding and stream erosion?</b>		
S 4.1. Characteristics of plants that reduce the velocity of surface flows during storms: Choose the points appropriate for the description that best fits conditions in the wetland. <i>Stems of plants should be thick enough (usually &gt; 1/8 in), or dense enough, to remain erect during surface flows.</i>		0
Dense, uncut, <b>rigid</b> plants cover > 90% of the area of the wetland	points = 1	
All other conditions	points = 0	

**Rating of Site Potential** If score is:  1 = M  0 = L *Record rating on the first page*

<b>S 5.0. Does the landscape have the potential to support hydrologic functions of the site?</b>		
S 5.1. Is more than 25% of the area within 150 ft upslope of wetland in land uses or cover that generate excess surface runoff?		0
Yes = 1 No = 0		

**Rating of Landscape Potential** If score is:  1 = M  0 = L *Record rating on the first page*


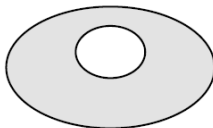

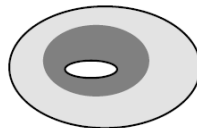
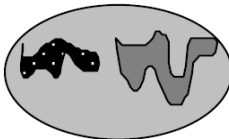

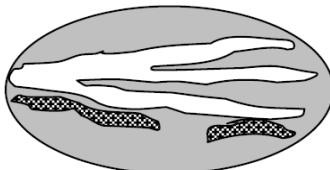
<b>S 6.0. Are the hydrologic functions provided by the site valuable to society?</b>		
S 6.1. Distance to the nearest areas downstream that have flooding problems:		1
The sub-basin immediately down-gradient of site has flooding problems that result in damage to human or natural resources (e.g., houses or salmon redds)	points = 2	
Surface flooding problems are in a sub-basin farther down-gradient	points = 1	
No flooding problems anywhere downstream	points = 0	
S 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan?		0
Yes = 2 No = 0		
<b>Total for S 6</b>		<b>1</b>

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

NOTES and FIELD OBSERVATIONS:

**These questions apply to wetlands of all HGM classes.**

**HABITAT FUNCTIONS** - Indicators that site functions to provide important habitat

<p>H 1.0. Does the site have the potential to provide habitat?</p>		
<p>H 1.1. Structure of plant community: <i>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.</i></p> <p> <input type="checkbox"/> Aquatic bed <span style="float: right;">4 structures or more: points = 4</span>  <input checked="" type="checkbox"/> Emergent <span style="float: right;">3 structures: points = 2</span>  <input type="checkbox"/> Scrub-shrub (areas where shrubs have &gt; 30% cover) <span style="float: right;">2 structures: points = 1</span>  <input type="checkbox"/> Forested (areas where trees have &gt; 30% cover) <span style="float: right;">1 structure: points = 0</span>  <i>If the unit has a Forested class, check if:</i>  <input type="checkbox"/> 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                 </p>		0
<p>H 1.2. Hydroperiods</p> <p>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).</p> <p> <input type="checkbox"/> Permanently flooded or inundated <span style="float: right;">4 or more types present: points = 3</span>  <input checked="" type="checkbox"/> Seasonally flooded or inundated <span style="float: right;">3 types present: points = 2</span>  <input type="checkbox"/> Occasionally flooded or inundated <span style="float: right;">2 types present: points = 1</span>  <input checked="" type="checkbox"/> Saturated only <span style="float: right;">1 types present: points = 0</span>  <input type="checkbox"/> Permanently flowing stream or river in, or adjacent to, the wetland  <input type="checkbox"/> Seasonally flowing stream in, or adjacent to, the wetland  <input type="checkbox"/> <b>Lake Fringe wetland</b> <span style="float: right;"><b>2 points</b></span>  <input type="checkbox"/> <b>Freshwater tidal wetland</b> <span style="float: right;"><b>2 points</b></span> </p>		1
<p>H 1.3. Richness of plant species</p> <p>Count the number of plant species in the wetland that cover at least 10 ft<sup>2</sup>. <i>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</i></p> <p>If you counted:      &gt; 19 species <span style="float: right;">points = 2</span>                                                       5 - 19 species <span style="float: right;">points = 1</span>                                                       &lt; 5 species <span style="float: right;">points = 0</span></p>		0
<p>H 1.4. Interspersion of habitats</p> <p>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. <i>If you have four or more plant classes or three classes and open water, the rating is always high.</i></p> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  <p><b>None</b> = 0 points</p> </div> <div style="text-align: center;">  <p><b>Low</b> = 1 point</p> </div> <div style="text-align: center;">  <p><b>Moderate</b> = 2 points</p> </div> <div style="text-align: center;">  </div> </div> <div style="display: flex; justify-content: space-around; align-items: center; margin-top: 20px;"> <div style="text-align: center;">  </div> <div style="text-align: center;">  </div> <div style="text-align: center;">  </div> </div> <p>All three diagrams in this row are <b>HIGH</b> = 3 points</p>		0

<p>H 1.5. Special habitat features: Check the habitat features that are present in the wetland. <i>The number of checks is the number of points.</i></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Large, downed, woody debris within the wetland (&gt; 4 in diameter and 6 ft long)</li> <li><input type="checkbox"/> Standing snags (dbh &gt; 4 in) within the wetland</li> <li><input type="checkbox"/> Undercut banks are present for at least 6.6 ft (2 m) <b>and/or</b> overhanging plants extends at least 3.3 ft (1 m) over a stream (or ditch) in, or contiguous with the wetland, for at least 33 ft (10 m)</li> <li><input type="checkbox"/> Stable steep banks of fine material that might be used by beaver or muskrat for denning (&gt; 30 degree slope) OR signs of recent beaver activity are present (<i>cut shrubs or trees that have not yet weathered where wood is exposed</i>)</li> <li><input type="checkbox"/> At least ¼ ac of thin-stemmed persistent plants or woody branches are present in areas that are permanently or seasonally inundated (<i>structures for egg-laying by amphibians</i>)</li> <li><input type="checkbox"/> Invasive plants cover less than 25% of the wetland area in every stratum of plants (see H 1.1 for list of strata)</li> </ul>	0
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<b>Total for H 1</b>	<b>Add the points in the boxes above</b>	<b>1</b>
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**Rating of Site Potential** If Score is:  15 - 18 = H  7 - 14 = M  - 6 = L *Record rating on the first page*

**H 2.0. Does the landscape have the potential to support the habitat function of the site?**

<p>H 2.1 Accessible habitat (include <i>only habitat that directly abuts wetland unit</i>). <i>Calculate:</i> 0 % undisturbed habitat + ( 54 % moderate &amp; low intensity land uses / 2 ) = 27%</p> <p>If total accessible habitat is:          &gt; 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          &lt; 10 % of 1 km Polygon points = 0</p>	2
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**H 2.2. Undisturbed habitat in 1 km Polygon around the wetland.**

<p><i>Calculate:</i> 32 % undisturbed habitat + ( 54 % moderate &amp; low intensity land uses / 2 ) = 59%</p> <p>Undisturbed habitat &gt; 50% of Polygon points = 3          Undisturbed habitat 10 - 50% and in 1-3 patches points = 2          Undisturbed habitat 10 - 50% and &gt; 3 patches points = 1          Undisturbed habitat &lt; 10% of 1 km Polygon points = 0</p>	3
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<p>H 2.3 Land use intensity in 1 km Polygon: If          &gt; 50% of 1 km Polygon is high intensity land use points = (-2)          ≤ 50% of 1km Polygon is high intensity points = 0</p>	0
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<b>Total for H 2</b>	<b>Add the points in the boxes above</b>	<b>5</b>
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**Rating of Landscape Potential** If Score is:  4 - 6 = H  - 3 = M  1 = L *Record rating on the first page*

**H 3.0. Is the habitat provided by the site valuable to society?**

<p>H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? <i>Choose only the highest score that applies to the wetland being rated.</i></p> <p>Site meets ANY of the following criteria: points = 2</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> It has 3 or more priority habitats within 100 m (see next page)</li> <li><input type="checkbox"/> It provides habitat for Threatened or Endangered species (any plant or animal on the state or federal lists)</li> <li><input type="checkbox"/> It is mapped as a location for an individual WDFW priority species</li> <li><input type="checkbox"/> It is a Wetland of High Conservation Value as determined by the Department of Natural Resources</li> <li><input type="checkbox"/> It has been categorized as an important habitat site in a local or regional comprehensive plan, in a Shoreline Master Plan, or in a watershed plan</li> </ul> <p>Site has 1 or 2 priority habitats (listed on next page) with in 100m points = 1          Site does not meet any of the criteria above points = 0</p>	0
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**Rating of Value** If Score is:  2 = H  1 = M  = L *Record rating on the first page*

## 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.

**CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS**



Wetland Type	Category
<i>Check off any criteria that apply to the wetland. List the category when the appropriate criteria are met.</i>	
<b>SC 1.0. Estuarine Wetlands</b>	
Does the wetland meet the following criteria for Estuarine wetlands? <input type="checkbox"/> The dominant water regime is tidal, <input type="checkbox"/> Vegetated, and <input type="checkbox"/> With a salinity greater than 0.5 ppt <input type="checkbox"/> Yes - Go to <b>SC 1.1</b> <input checked="" type="checkbox"/> No = <b>Not an estuarine wetland</b>	
SC 1.1.	Is the wetland within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-30-151? <input type="checkbox"/> Yes = <b>Category I</b> <input type="checkbox"/> No - Go to <b>SC 1.2</b>
SC 1.2.	Is the wetland unit at least 1 ac in size and meets at least two of the following three conditions? <input type="checkbox"/> The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less than 10% cover of non-native plant species. (If non-native species are <i>Spartina</i> , see page 25) <input type="checkbox"/> 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. <input type="checkbox"/> The wetland has at least two of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands. <input type="checkbox"/> Yes = <b>Category I</b> <input type="checkbox"/> No = <b>Category II</b>
<b>SC 2.0. Wetlands of High Conservation Value (WHCV)</b>	
SC 2.1.	Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High Conservation Value? <input type="checkbox"/> Yes - Go to <b>SC 2.2</b> <input checked="" type="checkbox"/> No - Go to <b>SC 2.3</b>
SC 2.2.	Is the wetland listed on the WDNR database as a Wetland of High Conservation Value? <input type="checkbox"/> Yes = <b>Category I</b> <input type="checkbox"/> No = <b>Not WHCV</b>
SC 2.3.	Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? <a href="http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf">http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf</a> <input type="checkbox"/> Yes - <b>Contact WNHP/WDNR and to SC 2.4</b> <input checked="" type="checkbox"/> No = <b>Not WHCV</b>
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? <input type="checkbox"/> Yes = <b>Category I</b> <input type="checkbox"/> No = <b>Not WHCV</b>
<b>SC 3.0. Bogs</b>	
Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? <i>Use the key below. If you answer YES you will still need to rate the wetland based on its functions.</i>	
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? <input type="checkbox"/> Yes - Go to <b>SC 3.3</b> <input checked="" type="checkbox"/> No - Go to <b>SC 3.2</b>
SC 3.2.	Does an area within the wetland unit have organic soils, either peats or mucks, that are less than 16 in deep over bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? <input type="checkbox"/> Yes - Go to <b>SC 3.3</b> <input checked="" type="checkbox"/> No = <b>Is not a bog</b>
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? <input type="checkbox"/> Yes = <b>Is a Category I bog</b> <input type="checkbox"/> No - Go to <b>SC 3.4</b>
<p><b>NOTE:</b> If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0 and the plant species in Table 4 are present, the wetland is a bog.</p>	
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? <input type="checkbox"/> Yes = <b>Is a Category I bog</b> <input type="checkbox"/> No = <b>Is not a bog</b>

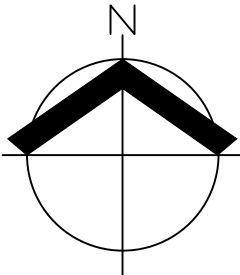
<p><b>SC 4.0. Forested Wetlands</b></p> <p>Does the wetland have at least <u>1 contiguous acre</u> of forest that meets one of these criteria for the WA Department of Fish and Wildlife's forests as priority habitats? <b><i>If you answer YES you will still need to rate the wetland based on its functions.</i></b></p> <p><input type="checkbox"/> <b>Old-growth forests</b> (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.</p> <p><input type="checkbox"/> <b>Mature forests</b> (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).</p> <p style="text-align: right;"><input type="checkbox"/> Yes = <b>Category I</b>      <input checked="" type="checkbox"/> No = <b>Not a forested wetland for this section</b></p>	
<p><b>SC 5.0. Wetlands in Coastal Lagoons</b></p> <p>Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?</p> <p><input type="checkbox"/> 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</p> <p><input type="checkbox"/> The lagoon in which the wetland is located contains ponded water that is saline or brackish (&gt; 0.5 ppt) during most of the year in at least a portion of the lagoon (<i>needs to be measured near the bottom</i>)</p> <p style="text-align: right;"><input type="checkbox"/> Yes - Go to <b>SC 5.1</b>      <input checked="" type="checkbox"/> No = <b>Not a wetland in a coastal lagoon</b></p> <p><b>SC 5.1.</b> Does the wetland meet all of the following three conditions?</p> <p><input type="checkbox"/> 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).</p> <p><input type="checkbox"/> 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.</p> <p><input type="checkbox"/> The wetland is larger than 1/10 ac (4350 ft<sup>2</sup>)</p> <p style="text-align: right;"><input type="checkbox"/> Yes = <b>Category I</b>      <input type="checkbox"/> No = <b>Category II</b></p>	
<p><b>SC 6.0. Interdunal Wetlands</b></p> <p>Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership or WBUO)? <b><i>If you answer yes you will still need to rate the wetland based on its habitat functions.</i></b></p> <p>In practical terms that means the following geographic areas:</p> <p><input type="checkbox"/> Long Beach Peninsula: Lands west of SR 103</p> <p><input type="checkbox"/> Grayland-Westport: Lands west of SR 105</p> <p><input type="checkbox"/> Ocean Shores-Copalis: Lands west of SR 115 and SR 109</p> <p style="text-align: right;"><input type="checkbox"/> Yes - Go to <b>SC 6.1</b>      <input checked="" type="checkbox"/> No = <b>Not an interdunal wetland for rating</b></p> <p><b>SC 6.1.</b> 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)?</p> <p style="text-align: right;"><input type="checkbox"/> Yes = <b>Category I</b>      <input type="checkbox"/> No - Go to <b>SC 6.2</b></p> <p><b>SC 6.2.</b> Is the wetland 1 ac or larger, or is it in a mosaic of wetlands that is 1 ac or larger?</p> <p style="text-align: right;"><input type="checkbox"/> Yes = <b>Category II</b>      <input type="checkbox"/> No - Go to <b>SC 6.3</b></p> <p><b>SC 6.3.</b> 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?</p> <p style="text-align: right;"><input type="checkbox"/> Yes = <b>Category III</b>      <input type="checkbox"/> No = <b>Category IV</b></p>	
<p><b>Category of wetland based on Special Characteristics</b></p> <p>If you answered No for all types, enter "Not Applicable" on Summary Form</p>	N/A



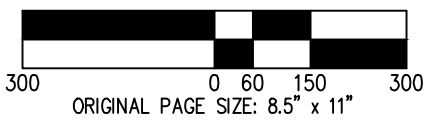


MAY 2019 GOOGLE EARTH AERIAL  
WESTERN WA WETLAND RATING FORM

LEGEND:	
	PEM/SLOPE WETLAND A (CAT IV): 76,965 SF± (1.77 ACRES±)
	PEM/SLOPE WETLAND B (CAT IV): 6,749 SF± (0.15 ACRES±)



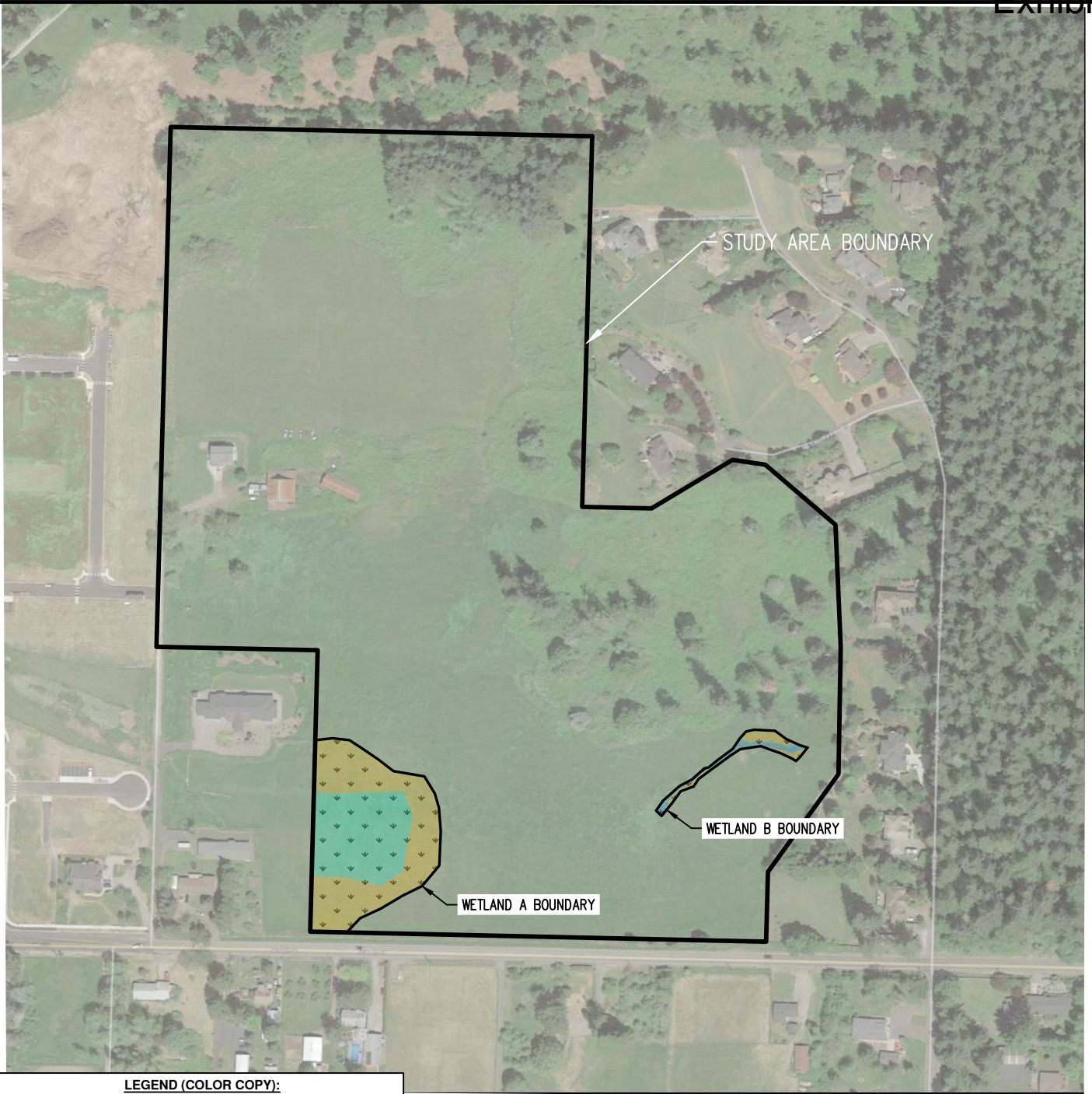
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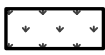



DATE: 09/01/2021

<b>COWARDIN CLASSIFICATION AND 150' BUFFER NE 28TH STREET CRITICAL AREAS ASSESSMENT</b>		<b>FIGURE 1</b>
AKS ENGINEERING & FORESTRY, LLC 9600 NE 126TH AVE, STE 2520 VANCOUVER, WA 98682 P: 360.882.0419 F: 360.882.0426 aks-eng.com		DRWN: SKT CHKD: SAR AKS JOB: 8468

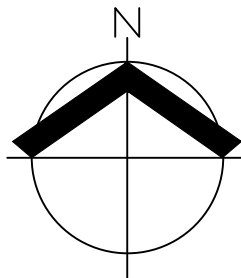




**LEGEND (COLOR COPY):**

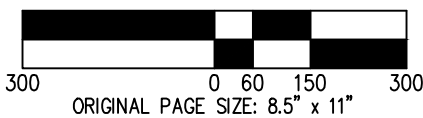
-  PEM/SLOPE WETLAND A (CAT IV): 76,965 SF± (1.77 ACRES±)  
PEM/SLOPE WETLAND B (CAT IV): 6,749 SF± (0.15 ACRES±)
-  SATURATED ONLY
-  OCCASIONALLY FLOODED OR INUNDATED
-  SEASONALLY FLOODED OR INUNDATED

MAY 2019 GOOGLE EARTH AERIAL  
WESTERN WA WETLAND RATING FORM

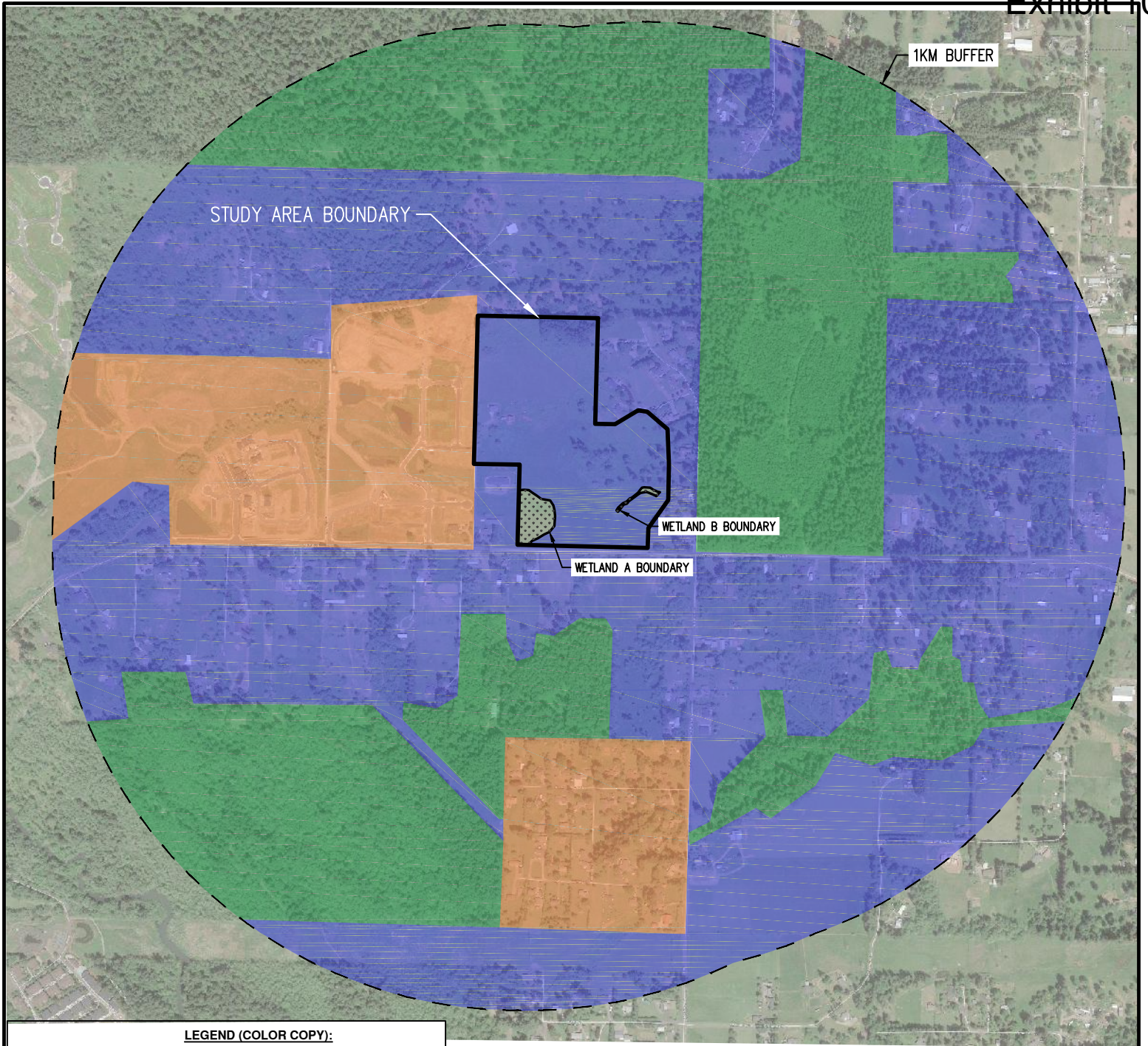


DATE: 09/01/2021

SCALE: 1" = 300 FEET



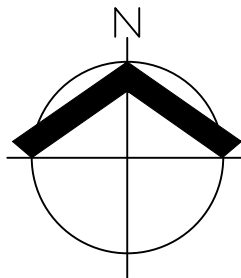
<b>HYDROPERIODS</b>		<b>FIGURE</b>
<b>NE 28TH STREET CRITICAL AREAS ASSESSMENT</b>		<b>2</b>
AKS ENGINEERING & FORESTRY, LLC 9600 NE 126TH AVE, STE 2520 VANCOUVER, WA 98682 P: 360.882.0419 F: 360.882.0426 aks-eng.com		DRWN: SKT CHKD: SAR AKS JOB: 8468
		



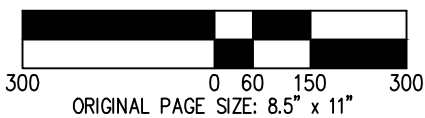
**LEGEND (COLOR COPY):**

- PEM/SLOPE WETLAND A (CAT IV): 76,965 SF± (1.77 ACRES±)
- PEM/SLOPE WETLAND B (CAT IV): 6,749 SF± (0.15 ACRES±)
- RELATIVELY UNDISTURBED HABITAT
- MODERATE/LOW INTENSITY LAND USE
- HIGH INTENSITY LAND USE

MAY 2019 GOOGLE EARTH AERIAL  
WESTERN WA WETLAND RATING FORM



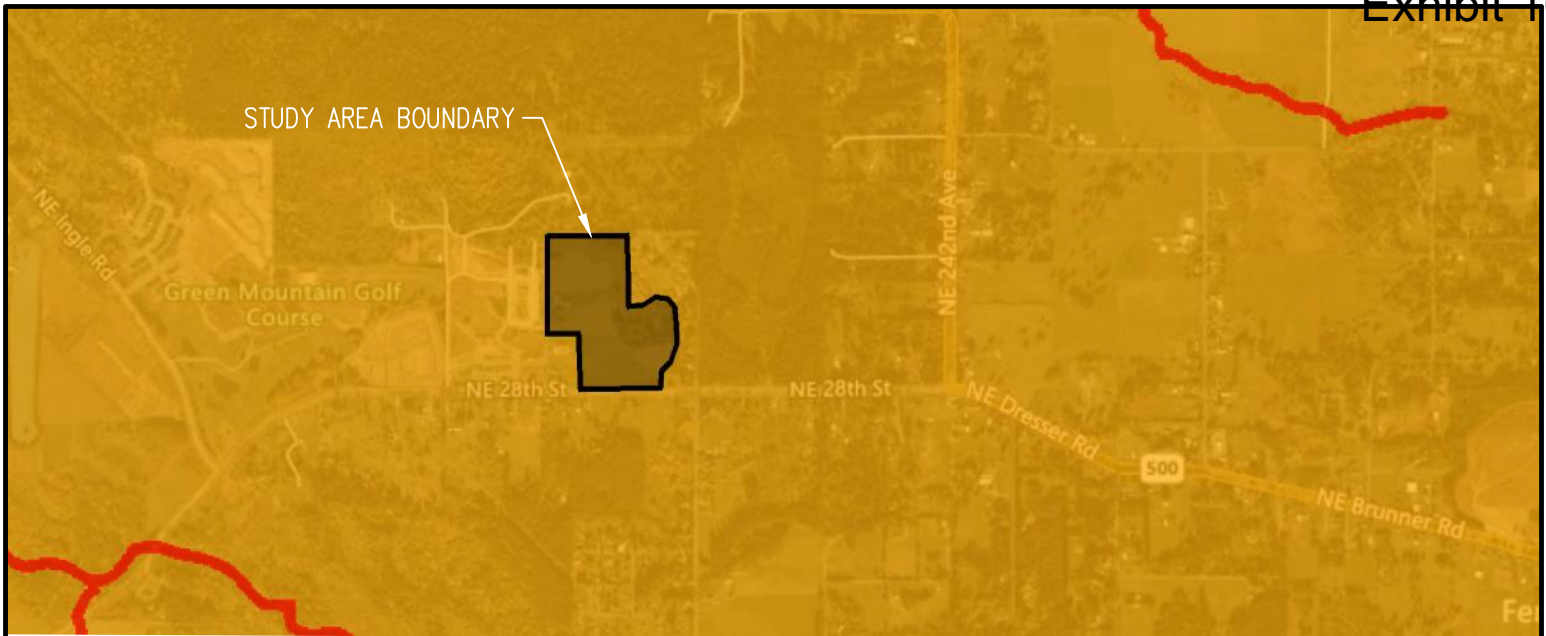
SCALE: 1" = 300 FEET



DATE: 09/01/2021

<b>1KM BUFFER AND LAND USE INTENSITY NE 28TH STREET CRITICAL AREAS ASSESSMENT</b>		<b>FIGURE 3</b>
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TITLE	<b>Lacamas Creek Fecal Coliform, Temperature, Dissolved Oxygen, and pH Total Maximum Daily Load: Water Quality Study Design (Quality Assurance Project Plan)</b>	
	Publication number	Date Published
	11-03-102	February 2011
VIEW NOW	<a href="#">Lacamas Creek Fecal Coliform, Temperature, Dissolved Oxygen, and pH Total Maximum Daily Load: Water Quality Study Design (Quality Assurance Project Plan)</a> (Number of pages: 71) (Publication Size: 2MB)	
	Trouble viewing? Try these free options. <ul style="list-style-type: none"> <li>• Get the latest <a href="#">Adobe Reader</a> for PDFs.</li> <li>• For Excel or Word viewing get <a href="#">Open Office</a>, <a href="#">Microsoft OneDrive</a>, <a href="#">DropBox Basic</a> or a mobile app at your favorite app store.</li> </ul>	
AUTHOR(S)	Swanson, T.	
DESCRIPTION	This is the study plan for Lacamas Creek Fecal Coliform, Temperature, Dissolved Oxygen, and pH Total Maximum Daily Load.	
REQUEST A COPY	The mission of the Department of Ecology is to protect, preserve, and enhance Washington's environment. To help us meet that goal, please consider the environment before you print or request a copy. <b>ADA Accessibility</b> The Department of Ecology is committed to providing people with disabilities access to information and services by meeting or exceeding the requirements of the Americans with Disabilities Act (ADA), Section 504 and 508 of the Rehabilitation Act, and Washington State Policy #188. Visit <a href="#">Ecology's website</a> for more information. • <a href="#">Environmental Assessment Order Form</a>	
CONTACT	Joan LeTourneau at 360-407-6764 or jlet461@ecy.wa.gov	
KEYWORDS	pellet, form, inventory, Clark County, WRIA 28, clean water, county, creek, internet, sampling, resource, temperature, model, 303(d), water, water quality, Ecology, quality, water resource, Total Maximum Daily Load, pH, lake, dissolved oxygen, fecal coliform	
WEB PAGE	<a href="#">Water Quality Improvement Project, Lacamas Creek Area: Multi-Parameter</a>	
WATERSHED	<a href="#">Water Resource Inventory Area 28 Salmon-Washougal</a>	
DATA	<a href="#">Environmental Information Management (EIM) #TSWA0003</a>	
RELATED PUBLICATIONS	Title: <a href="#">Surface-Water/Groundwater Interactions and Near-Stream Groundwater Quality, Lacamas Creek, Clark County</a>	

**Assessed Water/Sediment**

Water

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

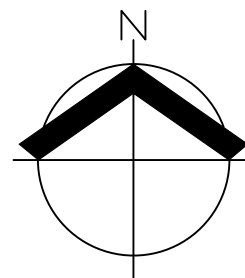
Sediment

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

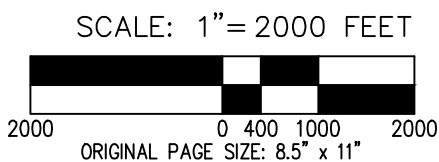
**WQ Improvement Projects**

- Approved
- In Development

WASHINGTON DEPARTMENT OF ECOLOGY  
WESTERN WA WETLAND RATING FORM



DATE: 09/01/2021



<b>303d AND TMDLs NE 28TH STREET CRITICAL AREAS ASSESSMENT</b>		<b>FIGURE 4</b>
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