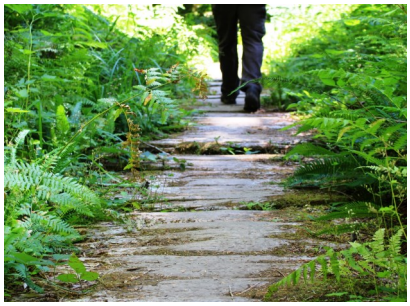
CRITICAL AREAS REPORT

May 17, 2022



Jackson Park III

Chehalis/Lewis County, WA

Prepared for

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SIGNATURE PAGE

The information and data in this report was compiled and prepared under the supervision and direction of the undersigned.

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INTRODUCTION

Ecological Land Services, Inc. (ELS) has completed this critical areas report on behalf of the applicant, K&W Properties, LLC. The site consists of Lewis County Parcel Number 005604183244, located south of 870 SW 21st Street in Chehalis, Washington, within a portion of Section 4, Township 13 North, and Range 2 West of the Willamette Meridian (Figure 1). This parcel was previously owned by Herbert and Linda Johnson and was sold to K&W Properties, LLC on March 29, 2021. ELS was contracted to by K&W Properties, LLC to reevaluate the hydrology onsite. This report summarizes the findings of critical areas onsite in accordance with the *Chehalis Municipal Code (CMC), Chapter 17.23 Wetlands* (2022).

SITE DESCRIPTION

The approximately 5.1-acre site is zoned as residential and is currently vacant except for a small gravel parking area in the southwestern corner of the property (Figure 2). The rest of the site has been mowed regularly for the past 10 years. Topographic elevation is higher in the southern portion of the site due to historic fill. The site is, otherwise, generally level. The subject property is located in Hydrologic Unit Code 171001030402 and is in Watershed Resource Inventory Area (WRIA) 23 – Dillenbaugh Creek-Chehalis River. Access to the site is located just south of 870 SW 21st Street. The triangular shaped site is fenced on all three sides and surrounded by single-family homes with commercial uses just to the north.

PROJECT DESCRIPTION

The applicant is proposing the development of six apartment buildings, a maintenance building, 95 parking spaces, and a stormwater facility. This will require clearing, grading, leveling of the site, installing utilities, constructing a stormwater facility, and a constructing a 4-foot wide pervious walking path (bark chips or pervious pavement). The walking path will be designed to meander through the enhancement area within the wetland buffer per *CMC 17.23.052 (G)*. Plans for the trail will be provided upon completion. To discourage disturbance of critical areas from human and pet use, a wooden split-rail fence will be installed along the final buffer edge and at the beginning of the walking path. Signage will be affixed to T-posts and placed every 100-feet along the path which will read, “Wetland and Buffer – Please remain on the path”, or similar wording.

A stormwater facility will encroach into a total of 0.19 acres (9,048 sq. ft.) of Category IV wetland buffer. Compensation for encroachment includes enhancement of the entirety of the remaining wetland buffer (0.74 acres, 32,024 square feet), an additional 0.12 acres, (5,108 square feet) of buffer addition, and the wetland itself (0.49 acres, 21,328 square feet). Enhancement activities will consist of planting native trees and shrubs, seeding with native seed mix, and invasive species control to provide an overall higher ecological function than currently exists (Figure 3). The total amount of enhancement in relation to the proposed wetland buffer impacts equates approximately a 3.5:1 ratio. Impacts will be avoided and minimized by the use of best management practices (BMPs) including installing silt fencing along the outer buffer boundary, applying native grass seed to disturbed areas not being paved when grading is complete, and making a water truck available to prevent dust blowing during construction. The development area will be cleared of vegetation and levelled prior to construction. Additional BMPs are

discussed in the Avoidance and Minimization Section later in this report. Construction is anticipated to start upon receipt of permits.

METHODOLOGY

The wetland delineation followed the Routine Determination Method according to the *Corps of Engineers Wetland 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)* (U.S. Army Corps of Engineers 2010).

The Routine Determination Method examines three parameters—vegetation, soils, and hydrology—to determine if wetlands exist in a given area. Hydrology is critical in determining what is wetland, but is often difficult to assess because hydrologic conditions can change periodically (hourly, daily, or seasonally). Consequently, it is necessary to determine if hydrophytic vegetation and hydric soils are present, which would indicate that water is present for long enough duration to support a wetland plant community. By definition, wetlands are those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands are regulated as "Waters of the United States" by the U.S. Army Corps of Engineers (USACE), as "Waters of the State" by the Washington Department of Ecology (Ecology), and locally by the City of Chehalis (City).

ELS biologists conducted a reconnaissance of the property on August 27, 2020 to determine the presence or absence of any wetlands, streams, and other critical areas on the site and map their approximate locations. ELS biologists conducted a secondary site visit during this year's growing season on March 17, 2022, to reevaluate hydrology as requested by previous project correspondence. Six additional test pits were dug in order to verify previously delineated wetland boundaries from August of 2020. Prior to conducting the site visit, an ELS biologist reviewed current and historic aerial photographs dating back to 1990 and reviewed the Lewis County GIS database information regarding soils, topography, wetlands, and habitat conservation areas. One depressional wetland (Wetland A) was located within the northern corner of the site (Figure 2). Vegetation, soil, and hydrology information was collected from eight test plots to determine the location and extent of the wetland onsite. Data sheets can be found in Appendix A. Test plot locations and the wetland boundary were flagged with consecutively numbered pink pin flags and GPS coordinates taken with a handheld GPS unit with sub meter accuracy. Additionally, the location, approximate diameter at breast height (dbh), and approximate canopy area of three adjacent Oregon white oak (*Quercus garryana*) trees were recorded and mapped.

VEGETATION

Wetlands

Vegetation found in the wetland test plot consisted primarily of **herbs:** reed canarygrass (*Phalaris arundinacea*, FACW), and creeping buttercup (*Ranunculus repens*, FACW).

Uplands
Vegetation found in the upland test plots was dominated by **herbs:** Fuller's teasel (*Dipsacus fullonum*, FAC), Queen Anne's lace (*Daucus carota*, FACU), hairy cat's ear (*Hypochaeris radicata*, FACU), red clover (*Trifolium pratense*, FACU), and reed canarygrass.

The indicator status, following the scientific names, indicates the likelihood of the species to be found in wetlands. Listed from most likely to least likely to be found in wetlands, the indicator status categories are:

- **OBL** (obligate wetland) - occur almost always under natural conditions in wetlands.
- **FACW** (facultative wetland) - usually occur in wetlands, but occasionally found in non-wetlands.
- **FAC** (facultative) - equally likely to occur in wetlands or non-wetlands.
- **FACU** (facultative upland) - usually occur in non-wetlands, but occasionally found in wetlands.
- **UPL** (obligate upland) - occur almost always under natural conditions in non-wetlands.
- **NI** (no indicator) - insufficient data to assign to an indicator category.

SOILS

Soils onsite are mapped as Lacamas silt loam, 0 to 3 percent slopes (118), as referenced on the Natural Resources Conservation Service (NRCS) Web Soil Survey website (NRCS 2022) (Figure 3). Lacamas silt loam is characterized as a poorly drained soil with an approximate depth to water table of about 12 to 18 inches below ground surface (BGS). This soil is generally found on floodplains and terraces. Soil within the wetland test plots from the August 27, 2020 site visit consisted of silty clay loam with a depleted matrix and at least 5 percent redoximorphic concentrations found in pore linings meeting hydric soil indicator; Depleted Matrix (F3). Soil within the wetland test plots from the March 17, 2022, site visit consisted of silty clay loam with a depleted matrix and at least 5 percent redoximorphic features found as soft masses. The hydric soil indicator was met from 0-16 BGS for Depleted Matrix (F3). Wetland soils in Test Plots 4 and 6 were unconsolidated and a hydrogen sulfide odor was present. The wetland soils are consistent with the mapped soil type (Figure 4). Specific soil information is recorded on the attached wetland determination data forms (Appendix A).

Lacamas silt loam is listed as a hydric soil (NRCS 2022). Mapped hydric soils do not necessarily mean that the area is a wetland—hydrology, wetland vegetation, and hydric soils must all be present to classify an area as a wetland. Conversely, wetlands may be found in areas where the soils are not mapped as hydric.

HYDROLOGY

Wetland A is located in a shallow depression within the northern corner of the site. Hydrology sources include a shallow groundwater table, runoff, and precipitation. The wetland has two hydroperiods; seasonally flooded and saturated only. It provides flood storage and delay, and groundwater recharge functions. No surface water or saturation was present in the wetland during the site visit on August 27, 2020; however, secondary hydrology indicators Water Stained Leaves (B9), Geomorphic Position (D2), and a positive FAC-Neutral Test (D5), were present within the wetland test plots. The upland test plots did not meet any hydrology indicators. During the March

17, 2022, concurrent site visit, ELS found surface water was present in the wetland. Primary hydrology indicators, Surface Water (A1), Hydrogen Sulfide Odor (C1), and Iron Deposits (B5) were present within the wetland test plots. The wetland test plots also met the following secondary indicators; Geomorphic Position (D2), and a positive FAC-Neutral Test (D5). The upland test plots did not meet any primary hydrology indicators, but all met secondary indicator; FAC Neutral Test (D5). Test plot data sheets can be found in Appendix A.

Precipitation data was gathered from the NOAA Regional Climate Centers AgACIS website WETS Station: Chehalis 0.0 N and Centralia, Washington, which is located closest to the project site and is summarized in the table below. Precipitation data was only gathered for the 2022 site visit. While February 2022 had well below average rainfall, December 2021 and January 2022 had above average rainfall. There were 1.32 inches of rain in the two weeks preceding the April 2022 site visit. Table 1 below summarizes the precipitation data.

Table 1. Precipitation Data

Date of Site Visit	Precipitation (inches)							
	Day of Site Visit[1]	2 Weeks Prior[1]	3 Months Prior			Deviation from Average	30% Below[2]	30% Above[2]
			Month	Average[1]	Actual[1]			
3/17/2022	0.01	0.13	2/2022	4.25	2.29	-46%	2.50	4.96
			1/2022	7.50	8.19	+1%	4.08	6.90
			12/2021	7.30	8.26	+13%	4.42	7.70

[1] Climatological data for Chehalis 0.0 N station, based on 2000-2022 data. [2] Climatological data for Centralia station, based on 1991-2022 data.

WETLAND INVENTORIES

The National Wetlands Inventory Map (NWI) indicated the presence of a palustrine, emergent, persistent, scrub-shrub, and seasonally flooded wetland and a riverine, unknown perennial, unconsolidated bottom, permanently flooded onsite (NWI 2022)(Figure 5). ELS' findings differed from the NWI as only a 0.49-acre wetland was delineated in the northern corner of the site and the remainder of the site consisted of uplands. Maps from the NWI should be used with discretion as they are typically used to gather wetland information about a region and, because of the large scale necessary for regional mapping, are limited in accuracy for localized analyses.

CRITICAL AREAS SUMMARY

Wetland

One emergent and depressional wetland (Wetland A) totaling 0.49-acres was delineated in a shallow depression with no outlet in the northern corner of the site. The wetland boundary was bordered by an obvious change in elevation and vegetation. Reed canarygrass and creeping buttercup dominated the wetland area. Hydrology sources include a shallow groundwater table, runoff, and precipitation. Wetland A has two hydroperiods; seasonally flooded and saturated only. The wetland provides flood storage and delay, and groundwater recharge functions. According to the *Washington State Wetland Rating System for Western Washington: 2014 Update* (Rating System); Wetland A is a Category IV wetland scoring a total of 15 points, with 6 points for water quality functions, 5 points for hydrologic functions, and 4 points for habitat functions (Hruby 2014). The wetland rating form can be found in Appendix B.

As a result of the site visit during the 2022 growing season, ELS' findings support the original data taken in August 2020 and confirms the wetland boundary as shown in Figure 2.

Buffer

Standard wetland buffers are based on wetland category in conjunction with the habitat function score from the Rating Form. The table in *CMC 17.23.030 (C)* states that wetland buffers for a Category IV wetland with low wildlife function have a buffer width of 50 feet. Wetland A scored four points for habitat function on the Rating System; therefore, is considered to have low wildlife function. Table 2 below summarizes the wetland characteristics.

Table 2. Summary of Wetland Onsite.

Wetland Area	**Area Onsite** (acres)	**Cowardin[1]/HGM[2]**	**Category[3]**	**Standard Buffer Width[4]** (feet)
Wetland A	0.49	Emergent/Depressional	Category IV	50

[1]Cowardin et al. 1979, [2]NRCS 2008, [3]Hruby 2014, [4]CMC 17.23.030(C)

Oregon White Oak

In urban or urbanizing areas west of the Cascades, Washington Department of Fish and Wildlife (WDFW) defines priority oak habitat as single oaks, or stands of pure oak, or oak/conifer associations, 1 acre or greater in size. WDFW may also consider individual Oregon white oak trees a priority habitat when found to be particularly valuable to wildlife (i.e., contains many cavities, has a large diameter at breast height (DBH), is used by priority species, or has a large canopy) (Larsen and Morgan 1998). The project site is within an urban growth boundary. WDFW recommendation is that in urban and urbanizing areas, single trees should be maintained if they are deemed important to species highly associated with Oregon white oak. Oaks and their associated floras comprise distinct woodland ecosystems with various plant communities providing valuable habitat that contributes to wildlife diversity; Oak woodlands provide a mix of feeding, resting, and breeding habitat for many wildlife species (Larsen and Morgan 1998).

Three Oregon white oak trees measuring approximately 24 to 36 inches DBH were mapped just offsite; however, their canopies overhang onto the project site. Two are located south of the southcentral site boundary and one is located just northeast of Wetland A (Figure 2). If impacts to oak canopies cannot be avoided, a mitigation plan shall be written to address and mitigate all impacts.

AVOIDANCE AND MINIMIZATION

The preferred mitigation sequencing of first avoidance, then minimization, and finally compensation for unavoidable wetland impacts was taken into consideration during the project design process. Stormwater facilities are allowed in the buffers of Category IV wetlands on a case-by-case basis in accordance with the criteria listed in *CMC 17.23.052 (E)* These criteria are listed in italics followed by our response on how these criteria are met in regular font.

1. *Due to topographic or other physical constraints, there are no feasible locations for these facilities to discharge to surface water through existing systems or outside the buffer.*

Locations and designs that infiltrate water shall be preferred over a design that crosses the buffer.

The project has been designed to be economically viable while avoiding critical areas to every extent practicable. The wetland and buffer encompass approximately 25 percent of the property. The triangular-shaped property also constrains the configuration of the apartment units. Stormwater facilities must be also located within natural low areas or within natural drainage patterns to route runoff. The proposed stormwater facility location is within a low area of the site, and in order to meet treatment and detention requirements, must encroach into the outer portion of the Category IV wetland buffer. The facility shape has been designed to limit intrusion into the buffer. The majority of water within the facility will infiltrate so the wetland will not be starved of hydrology.

2. *The discharge is located as far from the wetland edge as possible and in a manner that minimizes disturbance of soils and vegetation and avoids long-term rill or channel erosion.*

The stormwater facility overflow is located approximately 76 feet from the wetland edge outside the buffer. The surrounding buffer will also be planted with native trees and shrubs that will also prevent erosion.

Avoidance Measures

Project avoidance measures include.

- All direct impacts to the wetland have been avoided
- The stormwater facility will be situated as far outside the wetland buffer as possible
- Construction access and staging areas will be located outside all critical areas and buffers onsite

Minimization Measures

In addition to the avoidance measures made possible by the preliminary design, the following minimization measures will further reduce impacts to the wetland buffer and minimize habitat disruption beyond the extent required to undertake the proposal. The minimization measures are as follows:

- Disturbing only those areas necessary to construct project elements
- Grading to occur during the dry season to minimize surface runoff
- Appling native upland grass seed to temporarily disturbed areas
- Demarcating clearing limits with silt fencing or similar erosion control measure
- Making a water truck available to prevent wind erosion and dust from blowing during construction.

Compensation Measures

Wetland and Wetland Buffer Enhancement While stormwater facilities are allowed in Category IV wetland buffers on a case by case basis as described above, it is the Washington State Department of Ecology's (Ecology) preference that the stormwater facility be located outside the buffer for this project based on previous project correspondence. Based on the site constraints as listed above in the Avoidance and Minimization section, the entirety of the stormwater facility could not be located outside of the buffer. To ensure no net loss of ecological function of the wetland meeting Ecology's general standard, the remaining wetland buffer (0.74 acres, 32,024 square feet), an additional 0.12 acres, (5,108 square feet) of buffer addition, and the wetland itself

(0.49 acres, 21,328 square feet) will be enhanced with native trees, shrubs, and habitat features to offset 0.19 acres (9,048 sq. ft.) of buffer encroachment from the stormwater facility. Enhancement activities will consist of planting native trees and shrubs, seeding disturbed or graded areas with native seed mix appropriate to water regime, and controlling invasive species to provide an overall higher habitat function than currently exists in the wetland and buffer (Figure 3). The total amount of enhancement in relation to the proposed wetland buffer encroachment equates approximately a 3.5:1 ratio.

UNAVOIDABLE IMPACTS

Wetland Buffers

The proposed project will involve encroaching into 0.19 acres (9,048 square feet) of wetland buffer as summarized in the table below (Figure 3).

Table 3. Summary of Buffer Impacts.

Impact Area	Category[1]	Cowardin Class[2]	HGM Class[3]	Impact Amount
Wetland A Buffer	IV	Emergent	Depressional	0.19 acres (9,048 sq. ft.)

[1]Hruby 2004, [2]Cowardin et al. 1979, [3]NRCS 2008

MITIGATION PLAN

To fully compensate for the stormwater facility encroaching 0.19 acres (9,048 sq. ft.) into the wetland buffer, wetland and buffer enhancement measures will be implemented. These measures include enhancement of the entirety of the remaining wetland buffer (0.74 acres, 32,024 square feet), an additional 0.12 acres, (5,108 square feet) of buffer addition, and the wetland itself (0.49 acres, 21,328 square feet). Enhancement activities will consist of planting native trees and shrubs, seeding with native seed mix, and invasive species control to provide an overall higher habitat function than currently exists. Additionally, a native wetland seed mix will be planted in the stormwater facility and a buffer/upland seed mix on the stormwater facilities side slopes. (Figure 3). The total amount of enhancement in relation to the proposed wetland buffer encroachment equates to approximately a 3.5:1 ratio. Wetland and buffer enhancement measures are summarized in Table 4 below and will provide an ecological lift of critical area functions than currently exists in the mowed wetland and buffer habitat onsite, resulting in no net loss of wetland buffer functions.

Table 4. Summary of Proposed Mitigation.

Location	Proposed Mitigation Activities
Wetland	• Remove invasive species. • Enhance 0.49-acres by installing dense tree and shrub plantings. • Install habitat features including downed log.
Wetland Buffer	• Remove invasive species. • Enhance 0.74 -acres by installing dense tree and shrub plantings, and upland seed mix in encroachment area. • Install habitat features including 2 bird nest boxes and a downed log. • Install signage around final wetland buffer.

Location	Proposed Mitigation Activities
Wetland Buffer Addition	• Remove invasive species. • Enhance 0.12 -acres by installing dense tree and shrub plantings, and upland seed mix in graded areas.

Implementation Plan

Planting Schedule and Equipment

The native trees and shrubs will be installed in the enhancement area during the late fall to early spring when the plants are dormant, and the soil moisture conditions are favorable for planting. The trees and shrubs are intended to create forested habitat, with a multi-strata plant community that provides for wildlife habitat, protection, and food sources and mimics the less disturbed, existing native understory habitat in the local area (Figures 4 and 5).

The following equipment may be used to prepare and install plants within the enhancement area: brush hog, weed eater, tractor, rototiller, tree shovel, garden shovel, and power auger. Heavy equipment access will be limited within the enhancement area to prevent soil compaction but will be needed to place some habitat features.

Table 5 below summarizes the plant species, spacing, and quantities for the enhancement areas. Tables 6 and 7 detail seed mixes. Figure 3 details the enhancement area and planting plan.

Table 5. Plant Specifications.

Common Name	Scientific Name	Stock	Spacing (on-center)	Quantity
Wetland enhancement area (0.49 acres)				
Oregon ash	*Fraxinus latifolia*	Bare-root	10 feet	30
Red alder	*Alnus rubra*			30
Rose spirea	*Spiraea douglasii*		6 feet	123
Nootka rose	*Rosa nutkana*			123
Red-osier dogwood	*Cornus sericea*			123
Scouler willow	*Salix scouleriana*	Cutting		123
			Total	**552**
Wetland buffer enhancement area (0.66 acres)				
Oregon white oak	*Quercus garryana*	5 gallon	10 feet	40
Bigleaf Maple	*Acer macrophyllum*	1 gallon		40
Red elderberry	*Sambucus racemosa*	Bare-root	6 feet	**165**
Snowberry	*Symphoricarpos albus*			**165**
Beaked hazelnut	*Corylus cornuta*			**165**
Tall Oregon Grape	*Mahonia aquifolium*			**165**
			Total	**740**

Table 6. Stormwater Facility Seed Mix.

Wetland – River Refuge Native Wetland Basic Mix			
Species	**Composition**	**Rate**	**Quantity**
American slough grass (*Beckmannia syzigachne*)	60%	8-15 lbs/acre	14/lb
Western mannagrass (*Glyceria occidentalis*)	30%		
Shortawn foxtail (*Alopecurus aequalis*)	10%		
Total	**100%**		

Table 7. Upland Area Seed Mix.

Wetland Buffer– River Refuge Seed Native Upland Grass Mix			
Species	**Composition**	**Rate**	**Quantity**
Blue wild rye (*Elymus glaucus*)	30%	15-25 lbs/acre	17/lb
California brome (*Bromus carinatus*)	25%		
Meadow barely (*Hordeum brachyantherum*)	10%		
Roemer's fescue (*Festuca roemeri*)	10%		
Slender hairgrass (*Deschampsia elongata*)	10%		
Spike bentgrass (*Agrostis exarata*)	5%		
Tufted hairgrass (*Deschampsia cespitosa*)	5%		
Red fescue (*Festuca rubra rubra*)	5%		
Total	**100%**		

Planting, Plant Material, and Habitat Feature Specifications

Planting Implementation

- Plant the specified trees and shrubs in late fall to early spring (October-March) in accordance with specifications listed in Table 4. Space the plants somewhat irregularly and in groups to create heterogeneity in the density and appearance.
- Install plants with a tree shovel or comparable tool.
- Remove the plant from the pot and work the roots free from majority of potted soil.
- Place the potted or bare-root plant species in the planting holes so that their roots can extend down entirely and do not bend upward or circle inside the hole (no "J" or "U" roots).
- Position the root crowns so that they are at or slightly above the level of the surrounding soil.
- Compact the soil around the planted species to eliminate air spaces.

Gallon Stock

- Gallon potted species will be purchased from a native plant nursery.
- Gallon potted plants will be a minimum size of 18- to 36-inches tall.
- Gallon potted stock will be kept cool and moist prior to being planted.
- Gallon potted stock will have well-developed roots and sturdy stems, with an appropriate root-to-shoot ratio.
- Unplanted potted stock will be properly stored at the end of each day.
- The environmental consultant will be responsible for inspecting potted plant stock prior to and during planting, culling unacceptable plant materials.

Bare-root Stock

- Bare-root species will be purchased from a native plant nursery.
- Plants will be protected until installation by being refrigerated, covered with damp burlap, and placed in moist sand, peat, or other method of keeping the roots cool and moist.
- Plants will have well-developed roots and sturdy stems, with an appropriate root-to-shoot ratio.
- No damaged or desiccated roots or diseased plants will be accepted. In particular, bare-root trees must not have damaged or "J-rooted" taproots.
- Unused bare-root stock must be properly stored at the end of each planting day to prevent the roots from desiccating.
- The environmental consultant will be responsible for inspecting potted plant stock prior to and during planting, culling unacceptable plant materials.

Cutting Stock

- Cuttings will be collected onsite, where possible. Any remaining cuttings will be salvaged from local offsite sources or purchased from a native plant nursery.
- Cuttings will be a minimum of 3 feet long and between ¼ to ½ inches in diameter.
- Cuttings will be protected until installation by being refrigerated, covered in damp burlap, placed in moist sand or peat, or other method of keeping cool and moist.
- Cuttings will be installed within 1 to 2 days of harvesting.
- Unused cuttings must be properly stored at the end of each planting day to prevent drying out.
- The environmental consultant will be responsible for inspecting potted plant stock prior to and during planting, culling unacceptable plant materials.

Habitat Feature Specifications

Two standard bird nest boxes will be placed in the enhancement area. Bird nest boxes will be placed on treated wooden posts within the enhancement areas and will be at least 6 feet off the ground. Additionally, 2 downed logs will be placed in the enhancement areas, one in the wetland and one in the buffer. Horizonal log specifications are listed below.

Horizontal Log Specifications

- At least 12-inches dbh for at least 20 feet in length.
- Hard to medium decay.
- Root wad attached or ends rough cut, mashed, or ripped.
- Coniferous logs, preferably western red cedar.
- With lateral branches retained

Table 8. Habitat Feature Specifications.

Type	Amount
Downed Log	2
Bird Nest Box	2

Goals, Objectives, and Performance Standards

Goal. To replace any lost functions of the wetland buffer due to stormwater facility construction. To accomplish this goal, the following objectives and performance standards are appropriate to ensure the success of the enhancement area.

Objective 1. Enhance overall vegetative structure and habitat functions to compensate for impacts to the wetland buffer.

Performance Standard 1a: Install native trees and shrubs as specified in Table 5 of the mitigation plan. Document installed species amounts and planting locations in the as-built report.

Performance Standard 1b. Planted native trees and shrubs within the enhancement area will achieve 100 percent survival in Year 1. Dead plants will be replaced if this performance standard is not met.

Performance Standard 1c. The native seed mix spread in the enhancement area will have a minimum 40 percent ground cover in Year 1. Re-seeding will occur if this performance standard is not met.

Performance Standard 1d. Planted native trees and shrubs in the enhancement area will achieve at least 90 percent survival in Year 2. Dead plants will be replaced if this performance standard is not met.

Performance Standard 1e. The native seed mix spread in the graded buffer enhancement area will have a minimum 70 percent ground cover in Year 2. Re-seeding will occur if this performance standard is not met.

Performance Standard 1f. By Year 3, the native trees and shrubs will have a minimum 15 percent aerial cover.

Performance Standard 1g. The native seed mix spread in the enhancement area will have a minimum 80 percent ground cover in Year 3. Re-seeding will occur if this performance standard is not met.

Performance Standard 1h. By Year 5, the established native trees will have a minimum 25 percent aerial cover, and a minimum 35 percent aerial cover by native shrubs. Dead plants will be replaced if this performance standard is not met.

Performance Standard 1i. In all years, non-native invasive plant species, except for reed canarygrass, will not exceed 10 percent cover within the mitigation area.

Performance Standard 1j. In all years, reed canarygrass, will not increase during monitoring, a base line cover percentage will be taken and recorded in the As-built.

Objective 2. Install habitat features for wildlife to improve habitat functions.

Performance Standard 2a. Install a minimum of 2 bird boxes within the enhancement area. This performance standard is completed when the bird boxes are installed and documented in the final monitoring report.

Performance Standard 2b: Install two downed logs within enhancement area, one in the wetland and one in the buffer. This performance standard will be considered met when the downed log locations are documented in the as-built report.

Objective 3. Provide long-term protection for the enhancement area.

Performance Standard 3a: Record a conservation covenant with Lewis County protecting the enhancement and buffer increase areas in perpetuity. This performance standard will be met when the conservation covenant is recorded at the County and a copy will be provided in the as-built report.

Performance Standard 3b: Permanent fencing that allows wildlife passage will be installed along the final wetland buffer. This performance standard will be met when fencing is reported to be in place in the final monitoring report.

Performance Standard 3c: Wetland buffer signs reading, "Wetland and Buffer – Please Remain on the Path", or similar language will be posted every 100 feet along the path and will remain in legible condition. They will be replaced if they become missing or illegible. This performance standard will be met when signs are reported to be in place in the final monitoring report.

Monitoring, Maintenance, and Contingency Measures

Monitoring and maintenance of the enhancement area will occur for a 5-year period with annual monitoring and reporting occurring in Years, 1, 2, 3, and 5. Monitoring will be conducted by the applicant unless otherwise assigned. Five monitoring plots will be established following plant installation. Monitoring plots will be approximately 700 square feet and will be shaped to fit the monitored area. Monitoring plot locations will be shown on the as-built report. Additionally, at least eight photo stations will be established, one at each monitoring plot and at least three overall stations, to photo-document vegetation establishment. Photo station location and the direction in which the picture is taken will also be recorded on the as-built and included in annual monitoring reports.

The goal of monitoring will be to determine if the previously stated performance standards are being met. Monitoring reports will be submitted to the permitting agencies by December 31st of each monitoring year. At minimum, the following items will be included in the report:

- Location map and as-built drawing, including any changes.
- Historic description of project, including dates of plant installation, current year of monitoring, and remedial actions taken (if any).
- Description of monitoring methods.
- Documentation of performance standards and overall development of plant communities.
- Assessment of invasive plant species and recommendations for management.
- Photographs from established photopoints.
- Observations of wildlife, including, amphibians, invertebrates, reptiles, birds, and mammals. If photographs are taken, they will be included.
- Summary of maintenance and contingency measures completed for the past year and proposed for the next year.

Vegetation
Monitoring will occur annually during the growing season, preferably during the same two-week period to better compare data. The following information will be gathered within the established monitoring plots:

- Percent survival of other woody species in Year 1.
- Woody species density in Year 2.
- Percent cover of woody species in Years 3 and 5.
- Percent cover of non-native, invasive species in all monitoring years.
- General health of plants in the monitoring plots and overall enhancement area, noting specific problems and potential causes.
- Photographic documentation of vegetative changes over time from established photopoints.

Maintenance
Maintenance will occur during the growing season and will include the following:

- Irrigating planting areas as needed in the dry season for the first three years. Taper watering in Years 2 and 3.
- Remove competing herbaceous species as needed within a 3-foot radius of planted trees and shrubs and re-apply mulch as needed.
- Weed-eat, spray, or mow invasive species as needed during the growing season.
- Replace dead or failed plants as described for the original installation to meet the minimum performance standards.

Contingency Plan
If the performance criteria are being not by Year 3, steps will be taken to correct the situation in a timely manner. The following steps will be implemented when an area is identified as failing or potentially failing:

- Identify the cause(s) of the failure or potential failure.
- Identify the extent of the failure or potential failure.
- Implement corrective actions such as irrigating, fertilizing, and replanting.
- Document the activities and include this data in the monitoring reports.
- If a routine corrective action will not correct the problem, immediately consult with the appropriate agencies.
- Evaluate recommendations from resource agency staff and implement recommendations in a timely manner.

Funding for corrective actions will be the responsibility of the applicant.

Implementation Schedule
The following schedule reflects anticipated tasks and timing for completing project elements. Some tasks may occur currently or be modified by the contractor.

- Demarcate clearing limits.
- Designate staging areas, install silt fencing, and install a standard construction entrance, if needed.
- Remove trees and stockpile material needed for LWM piles and downed logs
- Complete site grading, control invasive species, and install LWM piles and downed logs
- Seed graded and disturbed areas that will not be paved or further developed
- Install enhancement plantings and remaining habitat features the following late October through March following seeding.
- Install permanent fencing and wetland buffer protection signs.
- Complete as-built report and submit to permitting agencies.
- Complete annual maintenance activities June through October.
- Complete annual monitoring activities between July and September.
- Submit annual monitoring report by December 31st.

LIMITATIONS

ELS bases this report's determinations on standard scientific methodology and best professional judgment. In our opinion, local, state, and federal regulatory agencies should agree with our determinations. However, the information contained in this report should be considered preliminary and used at your own risk until it has been approved in writing by the appropriate regulatory agencies. ELS is not responsible for the impacts of any changes in environmental standards, practices, or regulations after the date of this report.

REFERENCES

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FIGURES

WASHINGTON

Latitude: 46.6445°
Longitude: -122.9369°

LOCATION MAP

PROJECT VICINITY MAP

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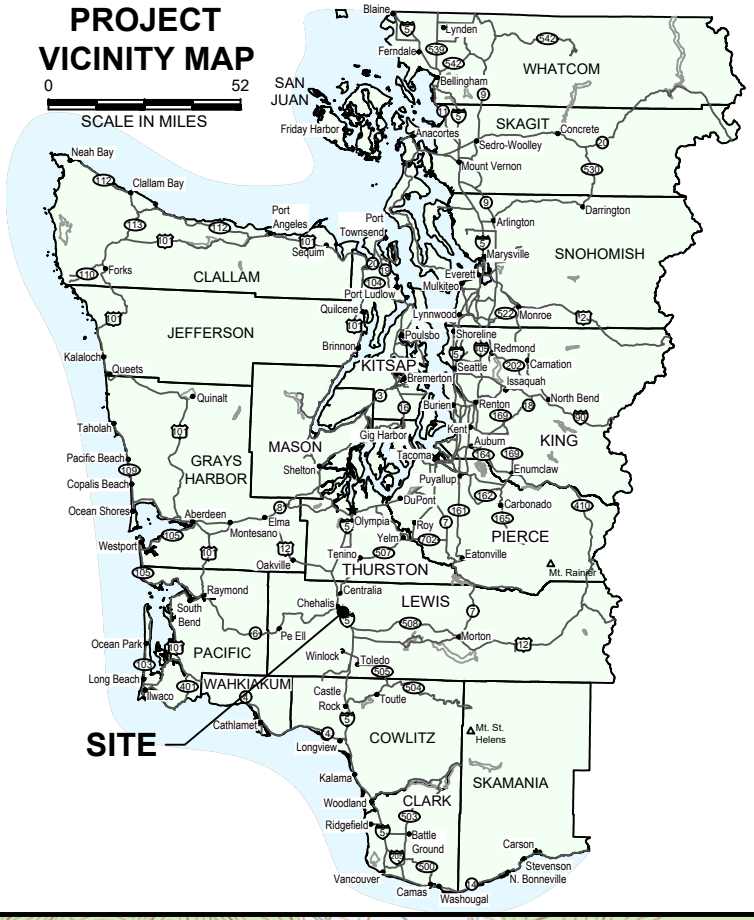

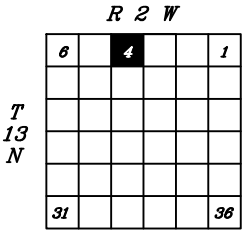

NOTE:
Quadrangle topographic map from USGS.

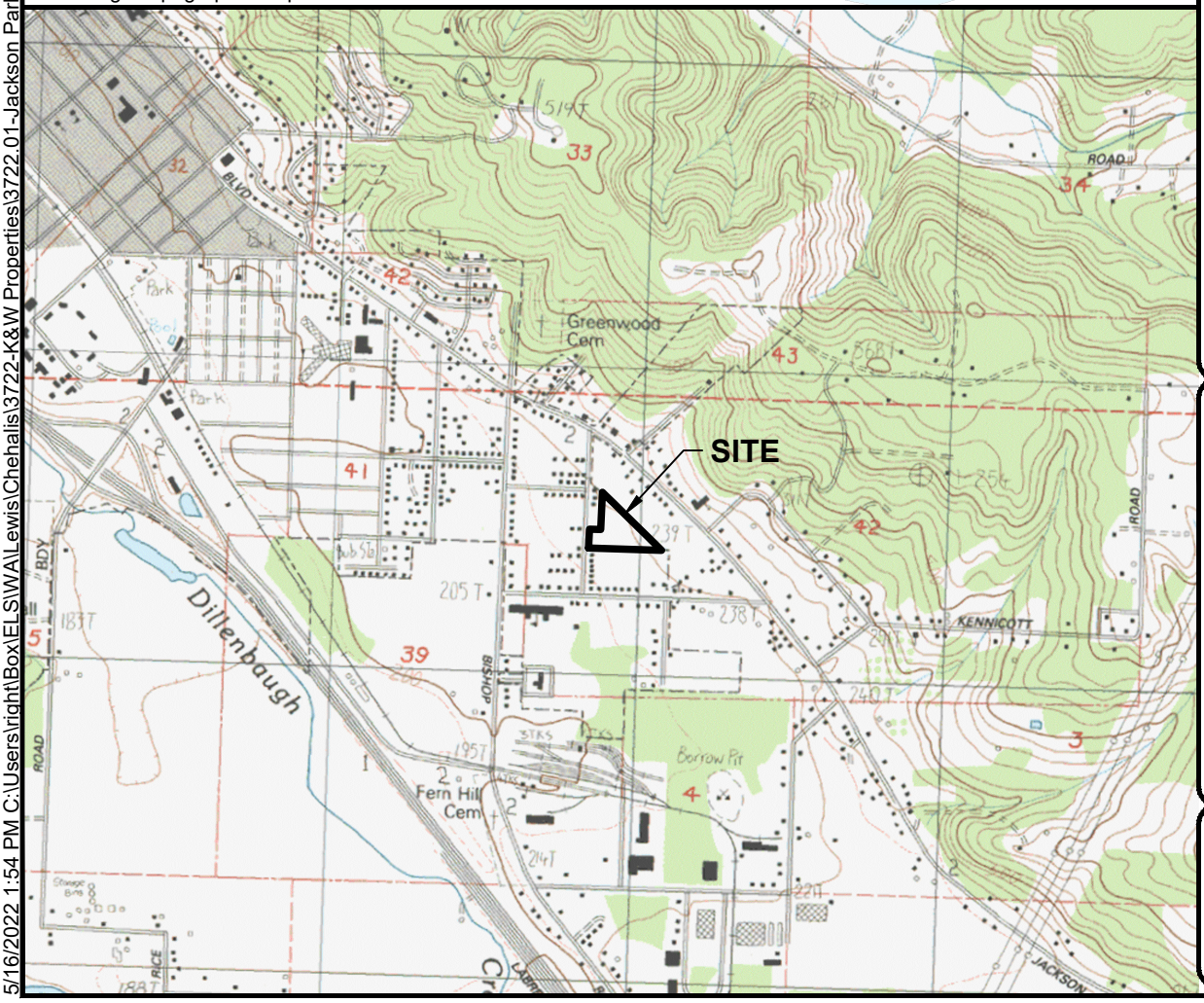

Figure 1
VICINITY MAP
Jackson Park III
K&W Properties, LLC
City of Chehalis, Lewis County, Washington
Section 4, Township 13N, Range 2W, W.M.

DATE: 5/16/22
DWN: JLL
REQ. BY: SH
PRJ. MGR: KT
CHK:
PROJECT NO: 3722.01

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Longview, WA 98632
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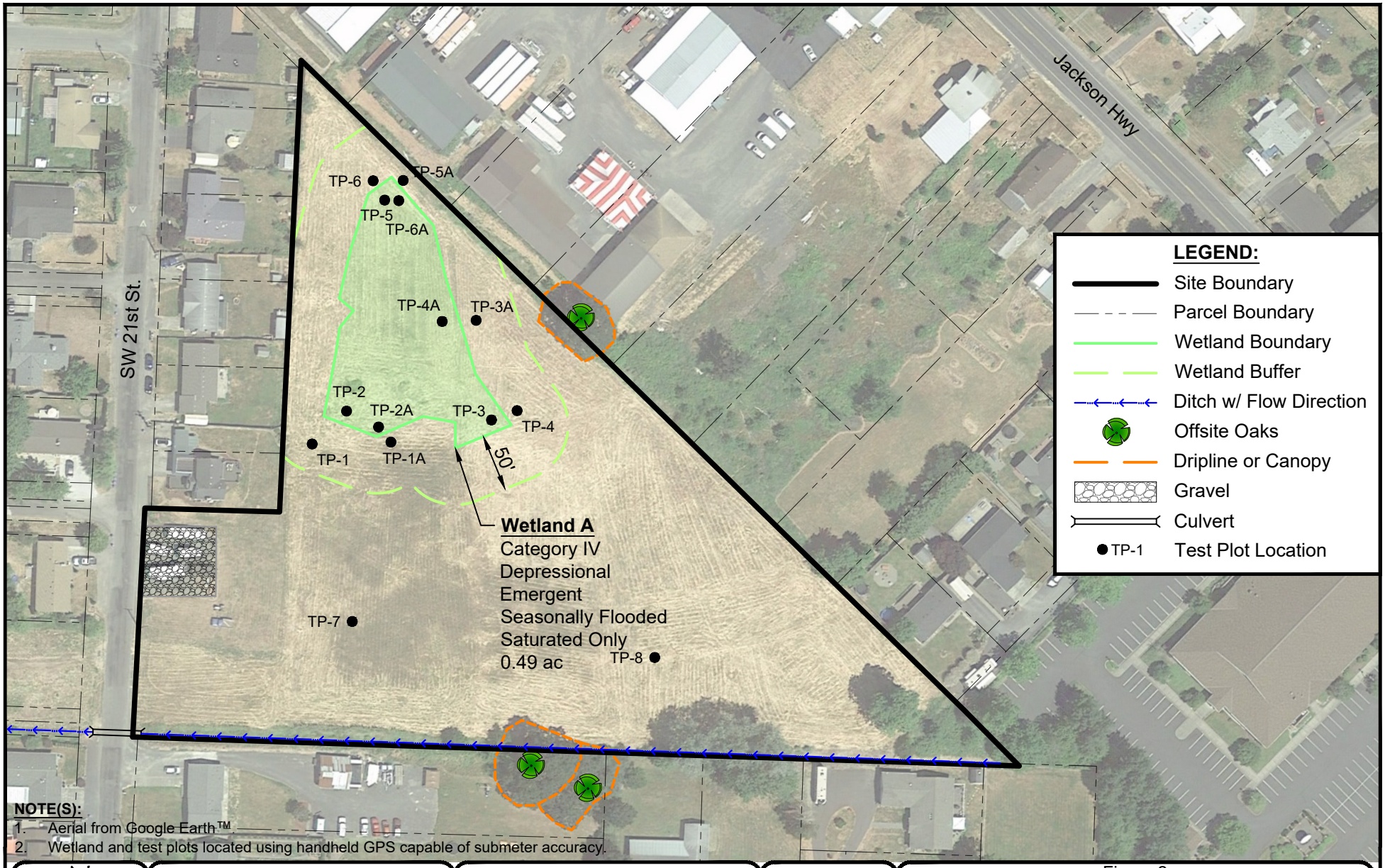

NOTE(S):
1. Aerial from Google Earth™.
2. Wetland and test plots located using handheld GPS capable of submeter accuracy.

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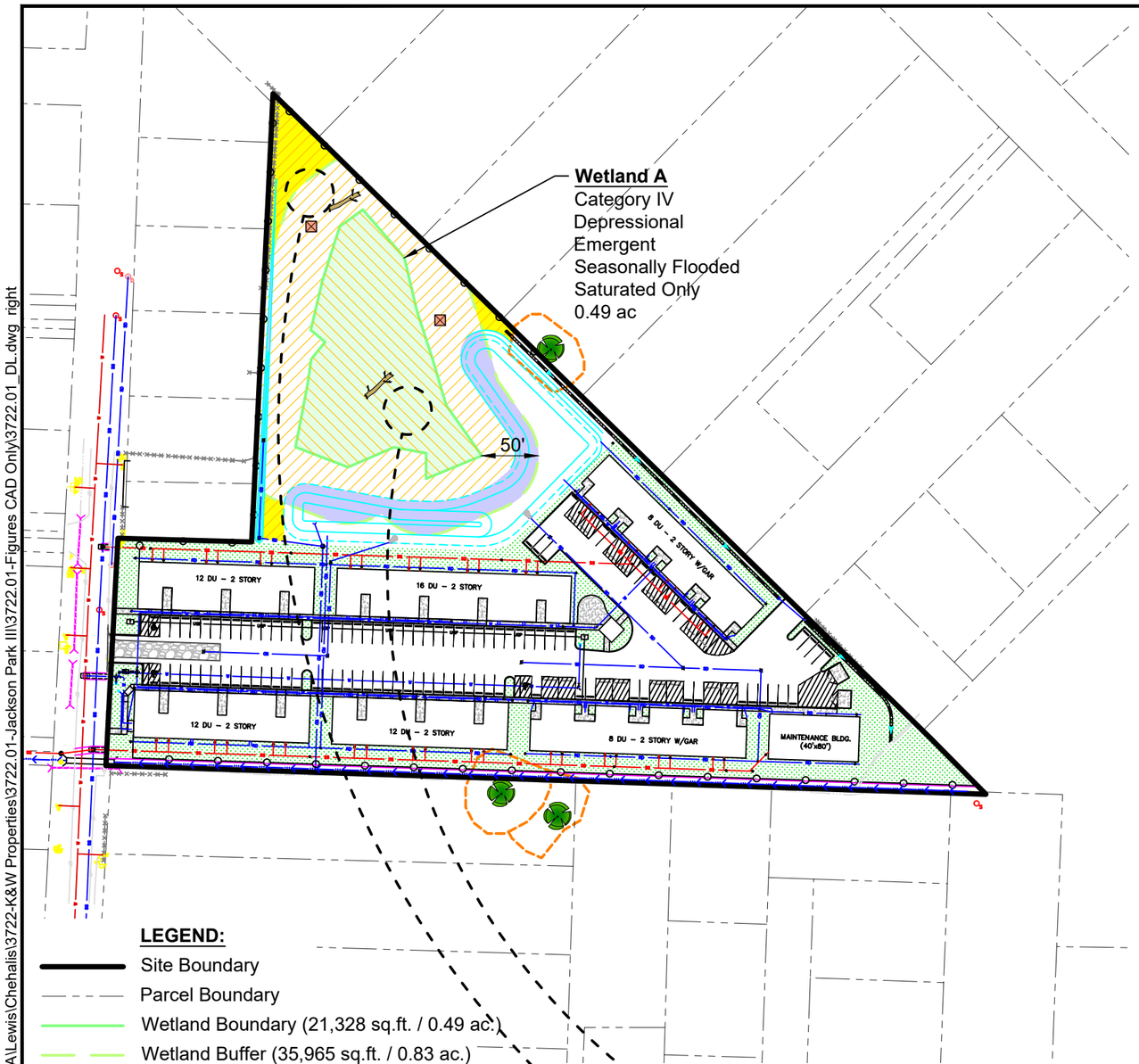
Figure 2
EXISTING CONDITIONS
Jackson Park III
K&W Properties, LLC
City of Chehalis, Lewis County, Washington
Section 4, Township 13N, Range 2W, W.M.



LEGEND:

- Site Boundary
- Parcel Boundary
- Wetland Boundary (21,328 sq.ft. / 0.49 ac.)
- Wetland Buffer (35,965 sq.ft. / 0.83 ac.)
- Ditch w/ Flow Direction
- Offsite Oaks
- Dripline or Canopy
- Gravel
- Culvert
- Downed Log
- Proposed Bird Box
- Buffer Encroachment (9,048 sq.ft. / 0.19 ac.)
- Proposed Wetland Enhancement Area (21,328 sq.ft. / 0.49 ac.)
- Proposed Buffer Enhancement Area (32,024 sq.ft. / 0.74 ac.)
- Wetland Buffer Addition (5,108 sq.ft. / 0.12 ac.)

Plant Specifications.

Common Name	Scientific Name	Stock	Spacing (on-center)	Quantity
Wetland enhancement area (0.49 acres)				
Oregon ash	*Fraxinus latifolia*	Bare-root	10 feet	30
Red alder	*Alnus rubra*			30
Rose spirea	*Spiraea douglasii*		6 feet	123
Nootka rose	*Rosa nutkana*			123
Red-osier dogwood	*Cornus sericea*			123
Scouler willow	*Salix scouleriana*	Cutting		123
			Total	**552**
Wetland buffer enhancement area (0.66 acres)				
Oregon white oak	*Quercus garryana*	5 gallon	10 feet	40
Bigleaf Maple	*Acer macrophyllum*	1 gallon		40
Red elderberry	*Sambucus racemosa*	Bare-root	6 feet	**165**
Snowberry	*Symphoricarpos albus*			**165**
Beaked hazelnut	*Corylus cornuta*			**165**
Tall Oregon Grape	*Mahonia aquifolium*			**165**
			Total	**740**

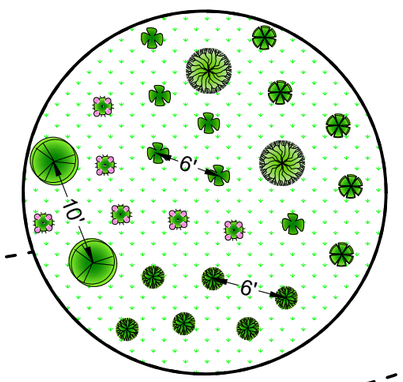
Stormwater Facility Seed Mix.

Wetland – River Refuge Native Wetland Basic Mix			
Species	**Composition**	**Rate**	**Quantity**
American slough grass (*Beckmannia syzigachne*)	60%	8-15 lbs/acre	14/lb
Western mannagrass (*Glyceria occidentalis*)	30%		
Shortawn foxtail (*Alopecurus aequalis*)	10%		
Total	**100%**		

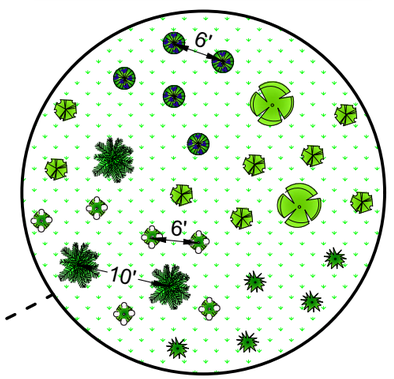
Upland Area Seed Mix.

Wetland Buffer– River Refuge Seed Native Upland Grass Mix			
Species	**Composition**	**Rate**	**Quantity**
Blue wild rye (*Elymus glaucus*)	30%	15-25 lbs/acre	17/lb
California brome (*Bromus carinatus*)	25%		
Meadow barely (*Hordeum brachyantherum*)	10%		
Roemer's fescue (*Festuca roemeri*)	10%		
Slender hairgrass (*Deschampsia elongata*)	10%		
Spike bentgrass (*Agrostis exarata*)	5%		
Tufted hairgrass (*Deschampsia cespitosa*)	5%		
Red fescue (*Festuca rubra rubra*)	5%		
Total	**100%**		

Planting Diagram: Wetland



Planting Diagram: Wetland Buffer



NOTE: Plants are not to scale and locations are approximate as shown. Actual planting locations will be determined in the field, with consideration to the listed spacing and density to produce the most natural appearance possible.

Figure 3
PROPOSED CONDITIONS
Jackson Park III
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City of Chehalis, Lewis County, Washington
Section 4, Township 13N, Range 2W, W.M.

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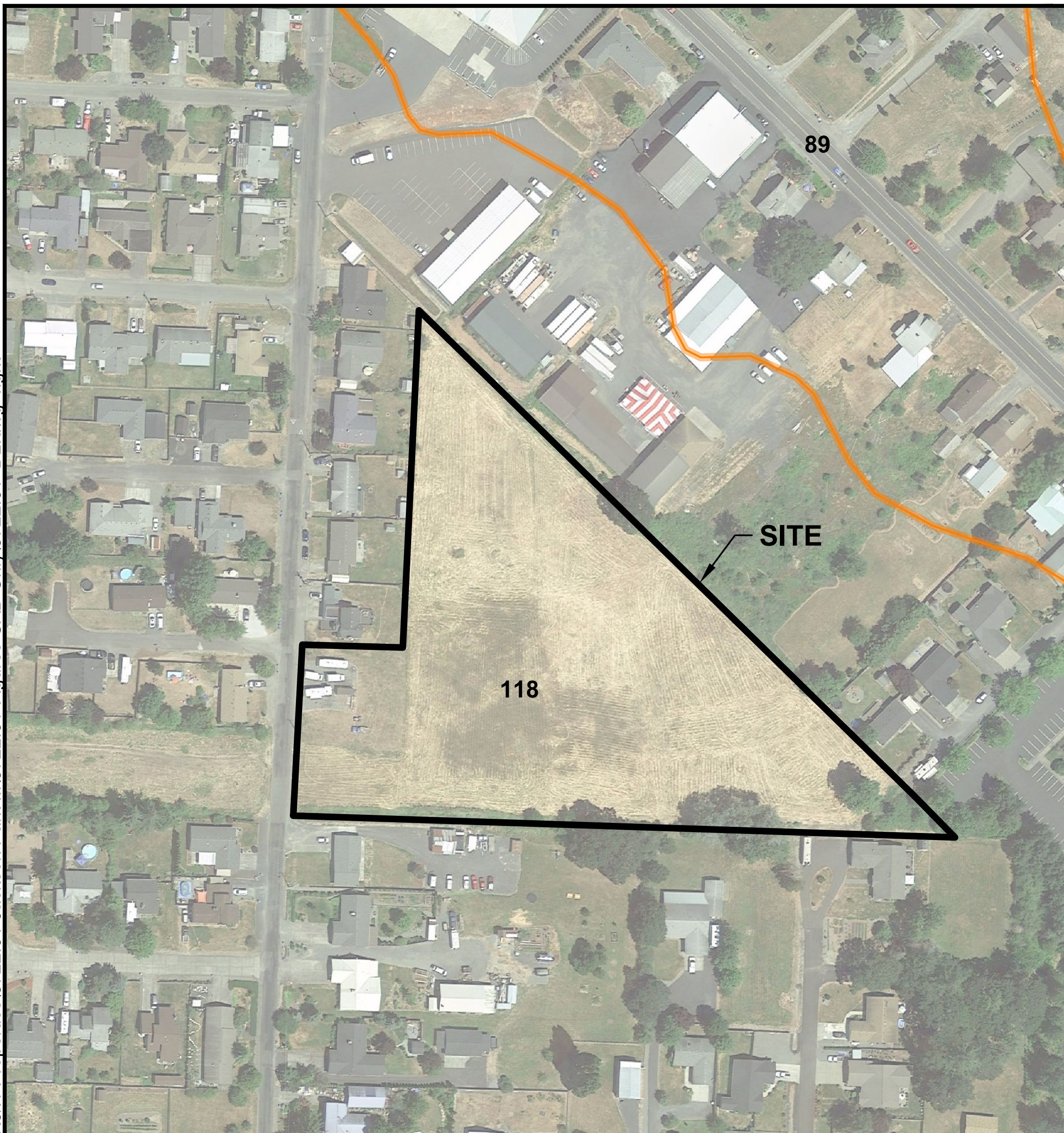

LEGEND:

Site Boundary
NRCS Soil Boundary
118 Lacamas silt loam, 0 to 3 percent slopes. **Hydric.**

NOTE(S):
1. Map provided on-line by NRCS at web address: *http://websoilsurvey.nrcs.usda.gov/app/*

Figure 4
NRCS SOIL SURVEY
Jackson Park III
K&W Properties, LLC
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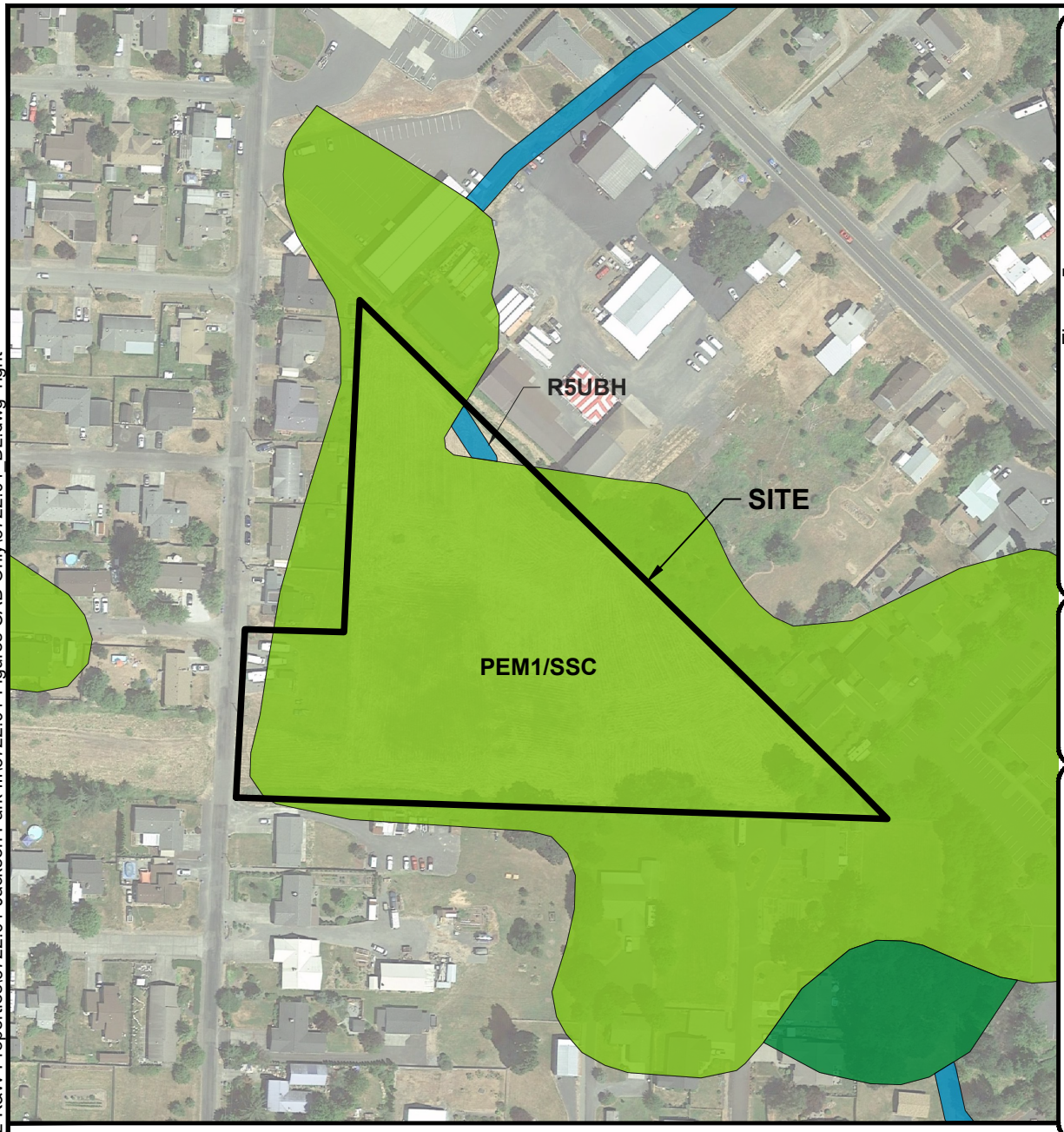

Figure 5
USFWS NATIONAL WETLANDS INVENTORY
Jackson Park III
K&W Properties, LLC
City of Chehalis, Lewis County, Washington
Section 4, Township 13N, Range 2W, W.M.

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LEGEND:

- Site Boundary

Wetlands

- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Riverine

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PEM1/SSC Palustrine, emergent, persistent, scrub-shrub, seasonally flooded.
R5UBH Riverine, unkown perennial, unconsolidated bottum, permanently flooded.

NOTE(S):
1. Map provided on-line by US Fish & Wildlife Service at web address: *https://www.fws.gov/program/national-wetlands-inventory/wetlands-mapper*

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LEGEND:

- Site Boundary
- Wetland Unit Boundary
- Hydroperiod Division
- 150' Wetland Offset
- Impervious Surfaces - 84.7%

Hydroperiods:

- SF Seasonally flooded
- SO Saturated only

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Figure 6
WETLAND RATING FORM-150' OFFSET
Jackson Park III
K&W Properties, LLC
City of Chehalis, Lewis County, Washington
Section 4, Township 13N, Range 2W, W.M.

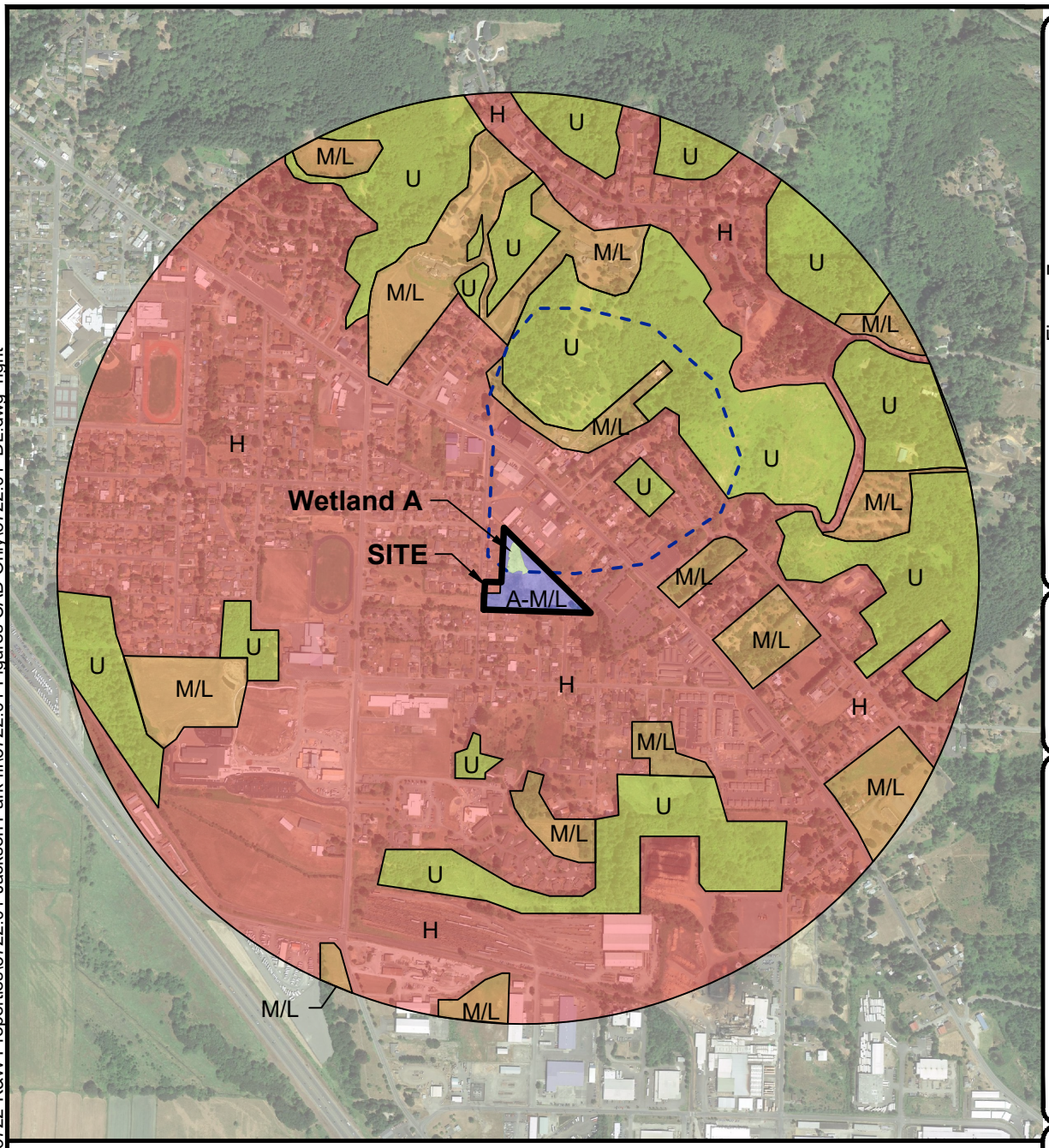

Figure 7
WETLAND RATING FORM-1 km OFFSET
Jackson Park III
K&W Properties, LLC
City of Chehalis, Lewis County, Washington
Section 4, Township 13N, Range 2W, W.M.

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LEGEND:

- Site Boundary
- Wetland Unit Boundary
- Contributing Basin
  133.5x area of Wetland A

H2.1 Accessible Habitat

- A-U — A-U (00.0%)
- A-M/L — A-M/L (00.5%)

H2.2 Undisturbed Habitat

- U — U (23.5%)
- M/L — M/L (10.5%)

H2.3 Land Use Intensity

- H — H (65.5%)

H 2.1. Accessible Habitat Equation

% A-U habitat **00.0%** + [(% A-M/L intensity land uses)/2] **00.3%** = **00.3%**

H 2.2. Total Undisturbed Habitat Equation

% A-U + % U habitat **23.5%** + [(% A-M/L + % M/L land uses)/2] **05.5%** = **29.0%**

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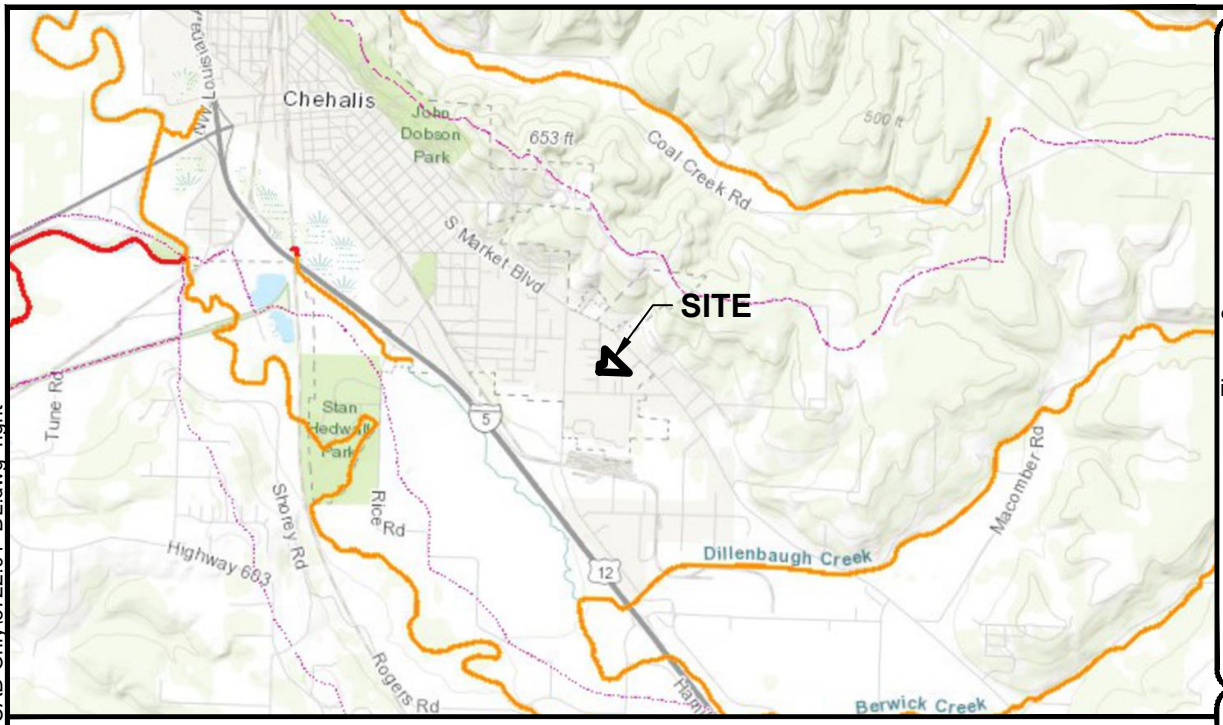
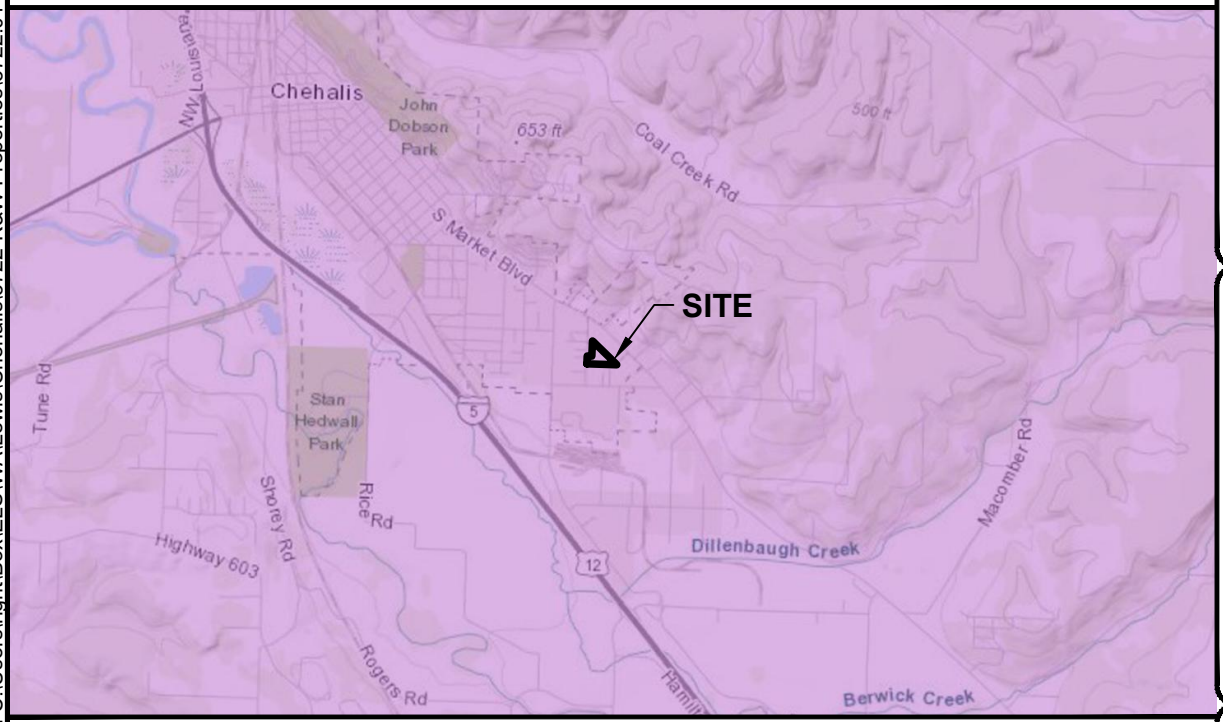


Figure 8
WETLAND RATING FORM-303(d) and TMDLs
Jackson Park III
K&W Properties, LLC
City of Chehalis, Lewis County, Washington
Section 4, Township 13N, Range 2W, W.M.

Assessed Waters/Sediment

Water	Sediment	Subbasins
Category 5 - 303d	Category 5 - 303d	12 Digit HUC Boundary
Category 4C	Category 4C	
Category 4B	Category 4B	
Category 4A	Category 4A	
Category 2	Category 2	
Category 1	Category 1	



WQ Improvement Projects

- Approved
- In Development

NOTE(S):

1. Map provided on-line by Washington State Department of Ecology at web address: *https://fortress.wa.gov/ecy/waterqualityatlas/map.aspx?*

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APPENDIX A: WETLAND DETERMINATION DATA FORMS

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

Project/Site: HJ Delineation City/County: Chehalis/Lewis Sampling Date: 8/27/2020
Applicant/Owner: Herb Johnson State: WA Sampling Point: TP-1
Investigator(s): Wills, KT Section, Township, Range: 4, 13N, 2W
Landform (hillslope, terrace, etc.): Terrace Local relief: Convex Slope (%): <3%
Subregion (LRR): A2 Lat: 46.644825 Long: -122.937547 Datum: NAD83
Soil Map Unit Name: Lacamas silt loam, 0 to 3 percent slopes NWI classification: PEM1/SSC
Are climatic / hydrologic conditions on the site typical for this time of year? Yes☒ No☐ (If no, explain Remarks.)
Are Vegetation☐, Soil☐, or Hydrology☐ significantly disturbed? Area "Normal Circumstances" present? Yes☒ No☐
Are Vegetation☐, Soil☐, or Hydrology☐ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks: This test plot was located along the western site boundary, just southwest of Wetland A. The vegetation in this test plot consisted of herbaceous species only. This test plot met only one wetland indicator for vegetation with 100 percent of the dominant vegetation being hydrophytic; therefore it does not meet the criteria of being wetland. The majority of the site, wetlands and uplands, was vegetated by reed canarygrass (Phalaris arundinacea).

VEGETATION (*Use scientific names*)

Tree Stratum (Plot size: 30 ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.	%		
2.	%		
3.	%		
4.	%		
Total Cover:	%		
Sapling/Shrub Stratum (Plot size: 5 ft. radius)			
1.	%		
2.	%		
3.	%		
4.	%		
5.	%		
Total Cover:	%		
Herb Stratum (Plot size: 5 ft radius)			
1. *Phalaris arundinacea*	65%	yes	FACW
2. *Hypochaeris radicata*	15%	no	FACU
3. *Dipsacus fullonum*	10%	no	FAC
4. *Daucus carota*	5%	no	FACU
5. *Trifolium pratense*	5%	no	FACU
6.	%		
7.	%		
8.	%		
Total Cover:	100%		
Woody Vine Stratum (Plot size: 30 ft radius)			
1.	%		
2.	%		
Total Cover:	%		

% Bare Ground in Herb Stratum 0%

Dominance Test Worksheet

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

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

Prevalence Index worksheet

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

Prevalence Index = B/A=

Hydrophytic Vegetation Indicators:

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

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

Hydrophytic Vegetation Present? **Yes☒ No☐**

Remarks: The hydrophytic vegetation criterion is met due to 100% of the dominant vegetation within the test plot having either OBL, FACW, or FAC indicator statuses.

SOIL

Sampling Point: TP-1

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR3/3	100%		%			gravelly loam	See Remarks Below
		%		%				
		%		%				
		%		%				
		%		%				
		%		%				
		%		%				
		%		%				
		%		%				

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

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

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

Indicators for Problematic Hydric Soils

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

[3]Indicators of hydrophytic vegetation and Wetland hydrology must be present

Restrictive Layer (if present):

Type: Hard pan

Depth (inches):6

Hydric Soil Present? **Yes**☐ **No**☒

Remarks: The soil consisted of historic compacted fill material and gravel. There was no evidence of hydric soils within this test plot.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

- ☐ Water Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)
- ☐ Raised Ant Mounds (D6) (**LRR A**)
- ☐ Frost-Heave Hummocks (D4)

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (Inches): ____

Water Table Present? Yes ☐ No ☒ Depth (Inches): ____

Saturation Present? Yes ☐ No ☒ Depth (Inches): ____

(Includes Capillary fringe)

Wetland Hydrology Present? **Yes** ☐ **No** ☒

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

Remarks:There was no evidence of hydrology within this test plot.

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

Project/Site: HJ Delineation City/County: Chehalis/Lewis Sampling Date: 8/27/2020
Applicant/Owner: Herb Johnson State: WA Sampling Point: TP-2
Investigator(s): 7Wills, KT Section, Township, Range: 4, 13N, 2W
Landform (hillslope, terrace, etc.): Terrace Local relief: Concave Slope (%): <3%
Subregion (LRR): A2 Lat: 46.644928 Long: -122.937431 Datum: NAD83
Soil Map Unit Name: Lacamas silt loam, 0 to 3 percent slopes NWI classification: PEM1/SSC
Are climatic / hydrologic conditions on the site typical for this time of year? Yes☒ No☐ (If no, explain Remarks.)
Are Vegetation☐, Soil☐, or Hydrology☐ significantly disturbed? Area "Normal Circumstances" present? Yes☒ No☐
Are Vegetation☐, Soil☐, or Hydrology☐ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks: This test plot was located in the western portion of the site, within the southwestern portion of Wetland A. The vegetation in this test plot consisted of herbaceous species only. This test plot met all three wetland indicators with 100 percent hydrophytic vegetation, soils with a Depleted Matrix (F3), and the presence of hydrologic indicators; Water Stained Leaves (B9), Geomorphic Position (D2), and a positive FAC-Neutral Test (D5). The majority of the site, wetlands and uplands, was vegetated by reed canarygrass (Phalaris arundinacea).

VEGETATION (*Use scientific names*)

Tree Stratum (Plot size: 30 ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.	%		
2.	%		
3.	%		
4.	%		
Total Cover:	%		
Sapling/Shrub Stratum (Plot size: 5 ft. radius)			
1.	%		
2.	%		
3.	%		
4.	%		
5.	%		
Total Cover:	%		
Herb Stratum (Plot size: 5 ft radius)			
1. *Phalaris arundinacea*	100%	yes	FACW
2.	%		
3.	%		
4.	%		
5.	%		
6.	%		
7.	%		
8.	%		
Total Cover:	100%		
Woody Vine Stratum (Plot size: 30 ft radius)			
1.	%		
2.	%		
Total Cover:	%		

% Bare Ground in Herb Stratum 0%

Dominance Test Worksheet

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

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

Prevalence Index worksheet

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

Prevalence Index = B/A=

Hydrophytic Vegetation Indicators:

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

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

Hydrophytic Vegetation Present? **Yes☒ No☐**

Remarks: The hydrophytic vegetation criterion is met due to 100% of the vegetation within the test plot having FACW indicator statuses.

SOIL

Sampling Point: TP-2

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2	10YR3/2	100%		%			loam	
2-16	10YR4/2	90%	10YR4/6	10%	C	PL	loamy clay	
		%		%				
		%		%				
		%		%				
		%		%				
		%		%				
		%		%				

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

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

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

Indicators for Problematic Hydric Soils

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

[3]Indicators of hydrophytic vegetation and Wetland hydrology must be present

Restrictive Layer (if present):

Type: _____

Depth (inches):_____

Hydric Soil Present? **Yes☒ No☐**

Remarks: The hydric soil indicator Depleted Matrix (F3) was met due to a matrix value of 4 and a chroma of 1 with more than 2 percent redox concentrations found in pore linings.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

- ☒ Water Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☒ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☒ FAC-Neutral Test (D5)
- ☐ Raised Ant Mounds (D6) (**LRR A**)
- ☐ Frost-Heave Hummocks (D4)

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (Inches): _____

Water Table Present? Yes ☐ No ☒ Depth (Inches): _____

Saturation Present? (Includes Capillary fringe) Yes ☐ No ☒ Depth (Inches): _____

Wetland Hydrology Present? **Yes ☒ No ☐**

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

Remarks:The hydrology indicator, Water Stained Seaves (B9) were found on the surface of the ground within the test plot. Addtionally, the test plot was located in a depression (Geomorphic Position D2) and had a positve FAC-Neutral Test (D5).

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

Project/Site: HJ Delineation City/County: Chehalis/Lewis Sampling Date: 8/27/2020
Applicant/Owner: Herb Johnson State: WA Sampling Point: TP-3
Investigator(s): 7Wills, KT Section, Township, Range: 4, 13N, 2W
Landform (hillslope, terrace, etc.): Terrace Local relief: Concave Slope (%): <3%
Subregion (LRR): A2 Lat: 46.644928 Long: -122.936961 Datum: NAD83
Soil Map Unit Name: Lacamas silt loam, 0 to 3 percent slopes NWI classification: PEM1/SSC
Are climatic / hydrologic conditions on the site typical for this time of year? Yes☒ No☐ (If no, explain Remarks.)
Are Vegetation☐, Soil☐, or Hydrology☐ significantly disturbed? Area "Normal Circumstances" present? Yes☒ No☐
Are Vegetation☐, Soil☐, or Hydrology☐ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks: This test plot was located in the central portion of the site, within the southeastern portion of Wetland A. The vegetation in this test plot consisted of herbaceous species only. This test plot met all three wetland indicators with 100 percent hydrophytic vegetation, soils with a Depleted Matrix (F3), and the presence of hydrologic indicators; Water Stained Leaves (B9), Geomorphic Position (D2), and a positive FAC-Neutral Test (D5). The majority of the site, wetlands and uplands, was vegetated by reed canarygrass (Phalaris arundinacea).

VEGETATION (*Use scientific names*)

Tree Stratum (Plot size: 30 ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.	%		
2.	%		
3.	%		
4.	%		
Total Cover:	%		
Sapling/Shrub Stratum (Plot size: 5 ft. radius)			
1.	%		
2.	%		
3.	%		
4.	%		
5.	%		
Total Cover:	%		
Herb Stratum (Plot size: 5 ft radius)			
1. *Phalaris arundinacea*	65%	yes	FACW
2. *Ranunculus repens*	35%	yes	FAC
3.	%		
4.	%		
5.	%		
6.	%		
7.	%		
8.	%		
Total Cover:	100%		
Woody Vine Stratum (Plot size: 30 ft radius)			
1.	%		
2.	%		
Total Cover:	%		

% Bare Ground in Herb Stratum 0%

Dominance Test Worksheet

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

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

Prevalence Index worksheet

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

Prevalence Index = B/A=

Hydrophytic Vegetation Indicators:

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

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

Hydrophytic Vegetation Present? **Yes☒ No☐**

Remarks: The hydrophytic vegetation criterion is met due to 100% of the vegetation within the test plot having either OBL, FACW, or FAC indicator statuses.

SOIL

Sampling Point: TP-3

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-3	10YR3/2	100%		%			loam	
3-16	10YR4/2	90%	10YR4/6	10%	C	PL	loamy clay	
		%		%				
		%		%				
		%		%				
		%		%				
		%		%				
		%		%				

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

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

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

Indicators for Problematic Hydric Soils

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

[3]Indicators of hydrophytic vegetation and Wetland hydrology must be present

Restrictive Layer (if present):

Type: _____

Depth (inches):_____

Hydric Soil Present? **Yes☒ No☐**

Remarks: The hydric soil indicator Depleted Matrix (F3) was met due to a matrix value of 4 and a chroma of 1 with more than 2 percent redox concentrations found in pore linings.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

- ☒ Water Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☒ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☒ FAC-Neutral Test (D5)
- ☐ Raised Ant Mounds (D6) (**LRR A**)
- ☐ Frost-Heave Hummocks (D4)

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (Inches): _____

Water Table Present? Yes ☐ No ☒ Depth (Inches): _____

Saturation Present? (Includes Capillary fringe) Yes ☐ No ☒ Depth (Inches): _____

Wetland Hydrology Present? **Yes ☒ No ☐**

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

Remarks:The hydrology indicator, Water Stained Seaves (B9) were found on the surface of the ground within the test plot. Addtionally, the test plot was located in a depression (Geomorphic Position D2) and had a positve FAC-Neutral Test (D5).

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

Project/Site: HJ Delineation City/County: Chehalis/Lewis Sampling Date: 8/27/2020
Applicant/Owner: Herb Johnson State: WA Sampling Point: TP-4
Investigator(s): 7Wills, KT Section, Township, Range: 4, 13N, 2W
Landform (hillslope, terrace, etc.): Terrace Local relief: Convex Slope (%): <3%
Subregion (LRR): A2 Lat: 46.644978 Long: -122.936975 Datum: NAD83
Soil Map Unit Name: Lacamas silt loam, 0 to 3 percent slopes NWI classification: PEM1/SSC
Are climatic / hydrologic conditions on the site typical for this time of year? Yes☒ No☐ (If no, explain Remarks.)
Are Vegetation☐, Soil☐, or Hydrology☐ significantly disturbed? Area "Normal Circumstances" present? Yes☒ No☐
Are Vegetation☐, Soil☐, or Hydrology☐ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks: This test plot was located in the central portion of the site, just east of Wetland A. The vegetation in this test plot consisted of herbaceous species only. This test plot met only one wetland indicator for vegetation with 100 percent of the dominant vegetation being hydrophytic; therefore it does not meet the criteria of being wetland. The majority of the site, wetlands and uplands, was vegetated by reed canarygrass (Phalaris arundinacea).

VEGETATION (*Use scientific names*)

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: 30 ft radius)			
1.	%		
2.	%		
3.	%		
4.	%		
Total Cover:	%		
Sapling/Shrub Stratum (Plot size: 5 ft. radius)			
1.	%		
2.	%		
3.	%		
4.	%		
5.	%		
Total Cover:	%		
Herb Stratum (Plot size: 5 ft radius)			
1. *Phalaris arundinacea*	55%	yes	FACW
2. *Dipsacus fullonum*	15%	no	FAC
3. *Daucus carota*	10%	no	FACU
4. *Hypochaeris radicata*	10%	no	FACU
5. *Trifolium pratense*	10%	no	FACU
6.	%		
7.	%		
8.	%		
Total Cover:	100%		
Woody Vine Stratum (Plot size: 30 ft radius)			
1.	%		
2.	%		
Total Cover:	%		

% Bare Ground in Herb Stratum 0%

Dominance Test Worksheet

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

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

Prevalence Index worksheet

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

Prevalence Index = B/A=

Hydrophytic Vegetation Indicators:

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

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

Hydrophytic Vegetation Present? **Yes☒ No☐**

Remarks: The hydrophytic vegetation criterion is met due to 100% of the dominant vegetation within the test plot having either OBL, FACW, or FAC indicator statuses.

SOIL

Sampling Point: TP-4

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-11	10YR3/3	100%		%			loam	
11-16	10YR4/2	98%	10YR4/6	2%	C	PL	loamy clay	
		%		%				
		%		%				
		%		%				
		%		%				
		%		%				
		%		%				
		%		%				

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

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

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

Indicators for Problematic Hydric Soils

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

[3]Indicators of hydrophytic vegetation and Wetland hydrology must be present

Restrictive Layer (if present):

Type: _____

Depth (inches):_____

Hydric Soil Present? **Yes☐ No☒**

Remarks: There was no evidence of hydric soils within this test plot.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

- ☐ Water Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)
- ☐ Raised Ant Mounds (D6) (**LRR A**)
- ☐ Frost-Heave Hummocks (D4)

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (Inches): _____

Water Table Present? Yes ☐ No ☒ Depth (Inches): _____

Saturation Present? Yes ☐ No ☒ Depth (Inches): _____

(Includes Capillary fringe)

Wetland Hydrology Present? **Yes ☐ No ☒**

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

Remarks:There was no evidence of hydrology within this test plot.

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

Project/Site: HJ Delineation City/County: Chehalis/Lewis Sampling Date: 8/27/2020
Applicant/Owner: Herb Johnson State: WA Sampling Point: TP-5
Investigator(s): 7Wills, KT Section, Township, Range: 4, 13N, 2W
Landform (hillslope, terrace, etc.): Terrace Local relief: Concave Slope (%): <3%
Subregion (LRR): A2 Lat: 46.645353 Long: -122.937408 Datum: NAD83
Soil Map Unit Name: Lacamas silt loam, 0 to 3 percent slopes NWI classification: PEM1/SSC
Are climatic / hydrologic conditions on the site typical for this time of year? Yes☒ No☐ (If no, explain Remarks.)
Are Vegetation☐, Soil☐, or Hydrology☐ significantly disturbed? Area "Normal Circumstances" present? Yes☒ No☐
Are Vegetation☐, Soil☐, or Hydrology☐ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks: This test plot was located in the central portion of the site, within the southeastern portion of Wetland A. The vegetation in this test plot consisted of herbaceous species only. This test plot met all three wetland indicators with 100 percent hydrophytic vegetation, soils with a Depleted Matrix (F3), and the presence of hydrologic indicators; Water Stained Leaves (B9), Geomorphic Position (D2), and a positive FAC-Neutral Test (D5). The majority of the site, wetlands and uplands, was vegetated by reed canarygrass (Phalaris arundinacea).

VEGETATION (*Use scientific names*)

Tree Stratum (Plot size: 30 ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.	%		
2.	%		
3.	%		
4.	%		
Total Cover:	%		
Sapling/Shrub Stratum (Plot size: 5 ft. radius)			
1.	%		
2.	%		
3.	%		
4.	%		
5.	%		
Total Cover:	%		
Herb Stratum (Plot size: 5 ft radius)			
1. *Phalaris arundinacea*	85%	yes	FACW
2. *Ranunculus repens*	15%	no	FAC
3.	%		
4.	%		
5.	%		
6.	%		
7.	%		
8.	%		
Total Cover:	100%		
Woody Vine Stratum (Plot size: 30 ft radius)			
1.	%		
2.	%		
Total Cover:	%		

% Bare Ground in Herb Stratum 0%

Dominance Test Worksheet

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

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

Prevalence Index worksheet

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

Prevalence Index = B/A=

Hydrophytic Vegetation Indicators:

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

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

Hydrophytic Vegetation Present? **Yes☒ No☐**

Remarks: The hydrophytic vegetation criterion is met due to 100% of the vegetation within the test plot having either OBL, FACW, or FAC indicator statuses.

SOIL

Sampling Point: TP-5

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-3	10YR3/2	100%		%			loam	
3-16	10YR4/2	90%	10YR4/6	10%	C	PL	loamy clay	
		%		%				
		%		%				
		%		%				
		%		%				
		%		%				
		%		%				

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

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

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

Indicators for Problematic Hydric Soils

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

[3]Indicators of hydrophytic vegetation and Wetland hydrology must be present

Restrictive Layer (if present):

Type: _____

Depth (inches):_____

Hydric Soil Present? **Yes☒ No☐**

Remarks: The hydric soil indicator Depleted Matrix (F3) was met due to a matrix value of 4 and a chroma of 1 with more than 2 percent redox concentrations found in pore linings.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

- ☒ Water Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☒ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☒ FAC-Neutral Test (D5)
- ☐ Raised Ant Mounds (D6) (**LRR A**)
- ☐ Frost-Heave Hummocks (D4)

Field Observations:

Surface Water Present?	Yes ☐	No ☒	Depth (Inches): _____
Water Table Present?	Yes ☐	No ☒	Depth (Inches): _____
Saturation Present? (Includes Capillary fringe)	Yes ☐	No ☒	Depth (Inches): _____

Wetland Hydrology Present? **Yes ☒ No ☐**

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

Remarks:The hydrology indicator, Water Stained Seaves (B9) were found on the surface of the ground within the test plot. Addtionally, the test plot was located in a depression (Geomorphic Position D2) and had a positve FAC-Neutral Test (D5).

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

Project/Site: HJ Delineation City/County: Chehalis/Lewis Sampling Date: 8/27/2020
Applicant/Owner: Herb Johnson State: WA Sampling Point: TP-6
Investigator(s): 7Wills, KT Section, Township, Range: 4, 13N, 2W
Landform (hillslope, terrace, etc.): Terrace Local relief: Convex Slope (%): <3%
Subregion (LRR): A2 Lat: 46.645411 Long: -122.9375 Datum: NAD83
Soil Map Unit Name: Lacamas silt loam, 0 to 3 percent slopes NWI classification: PEM1/SSC
Are climatic / hydrologic conditions on the site typical for this time of year? Yes☒ No☐ (If no, explain Remarks.)
Are Vegetation☐, Soil☐, or Hydrology☐ significantly disturbed? Area "Normal Circumstances" present? Yes☒ No☐
Are Vegetation☐, Soil☐, or Hydrology☐ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks: This test plot was located in the northern portion of the site, just west of Wetland A. The vegetation in this test plot consisted of herbaceous species only. This test plot met only one wetland indicator for vegetation with 100 percent of the dominant vegetation being hydrophytic; therefore it does not meet the criteria of being wetland. The majority of the site, wetlands and uplands, was vegetated by reed canarygrass (Phalaris arundinacea).

VEGETATION (*Use scientific names*)

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: 30 ft radius)			
1.	%		
2.	%		
3.	%		
4.	%		
Total Cover:	%		
Sapling/Shrub Stratum (Plot size: 5 ft. radius)			
1.	%		
2.	%		
3.	%		
4.	%		
5.	%		
Total Cover:	%		
Herb Stratum (Plot size: 5 ft radius)			
1. *Phalaris arundinacea*	65%	yes	FACW
2. *Dipsacus fullonum*	5%	no	FAC
3. *Daucus carota*	10%	no	FACU
4. *Hypochaeris radicata*	10%	no	FACU
5. *Trifolium pratense*	10%	no	FACU
6.	%		
7.	%		
8.	%		
Total Cover:	100%		
Woody Vine Stratum (Plot size: 30 ft radius)			
1.	%		
2.	%		
Total Cover:	%		

% Bare Ground in Herb Stratum 0%

Dominance Test Worksheet

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

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

Prevalence Index worksheet

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

Prevalence Index = B/A=

Hydrophytic Vegetation Indicators:

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

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

Hydrophytic Vegetation Present? **Yes☒ No☐**

Remarks: The hydrophytic vegetation criterion is met due to 100% of the dominant vegetation within the test plot having either OBL, FACW, or FAC indicator statuses.

SOIL

Sampling Point: TP-6

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-11	10YR3/3	100%		%			loam	
11-16	10YR4/2	98%	10YR4/6	2%	C	PL	loamy clay	
		%		%				
		%		%				
		%		%				
		%		%				
		%		%				
		%		%				
		%		%				

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

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

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

Indicators for Problematic Hydric Soils

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

[3]Indicators of hydrophytic vegetation and Wetland hydrology must be present

Restrictive Layer (if present):

Type: _____

Depth (inches):_____

Hydric Soil Present? **Yes☐ No☒**

Remarks: There was no evidence of hydric soils within this test plot.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

- ☐ Water Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)
- ☐ Raised Ant Mounds (D6) (**LRR A**)
- ☐ Frost-Heave Hummocks (D4)

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (Inches): _____

Water Table Present? Yes ☐ No ☒ Depth (Inches): _____

Saturation Present? Yes ☐ No ☒ Depth (Inches): _____

(Includes Capillary fringe)

Wetland Hydrology Present? **Yes ☐ No ☒**

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

Remarks:There was no evidence of hydrology within this test plot.

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

Project/Site: HJ Delineation | City/County: Chehalis/Lewis | Sampling Date: 8/27/2020
Applicant/Owner: Herb Johnson | State: WA | Sampling Point: TP-7
Investigator(s): 7Wills, KT | Section, Township, Range: 4, 13N, 2W
Landform (hillslope, terrace, etc.): Terrace | Local relief: Convex | Slope (%): <3%
Subregion (LRR): A2 | Lat: 46.644389 | Long: -122.937322 | Datum: NAD83
Soil Map Unit Name: Lacamas silt loam, 0 to 3 percent slopes | NWI classification: PEM1/SSC
Are climatic / hydrologic conditions on the site typical for this time of year? Yes☒ No☐ (If no, explain Remarks.)
Are Vegetation☐, Soil☐, or Hydrology☐ significantly disturbed? Area "Normal Circumstances" present? Yes☒ No☐
Are Vegetation☐, Soil☐, or Hydrology☐ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks: This test plot was located in the southwestern portion of the site, south of Wetland A. The vegetation in this test plot consisted of herbaceous species only. This test plot met only one wetland indicator for vegetation with 100 percent of the dominant vegetation being hydrophytic; therefore it does not meet the criteria of being wetland. The majority of the site, wetlands and uplands, was vegetated by reed canarygrass (Phalaris arundinacea).

VEGETATION (*Use scientific names*)

Tree Stratum (Plot size: 30 ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.	%		
2.	%		
3.	%		
4.	%		
Total Cover:	%		
Sapling/Shrub Stratum (Plot size: 5 ft. radius)			
1.	%		
2.	%		
3.	%		
4.	%		
5.	%		
Total Cover:	%		
Herb Stratum (Plot size: 5 ft radius)			
1. *Phalaris arundinacea*	65%	yes	FACW
2. *Dipsacus fullonum*	5%	no	FAC
3. *Daucus carota*	10%	no	FACU
4. *Hypochaeris radicata*	10%	no	FACU
5. *Trifolium pratense*	10%	no	FACU
6.	%		
7.	%		
8.	%		
Total Cover:	100%		
Woody Vine Stratum (Plot size: 30 ft radius)			
1.	%		
2.	%		
Total Cover:	%		

% Bare Ground in Herb Stratum 0%

Dominance Test Worksheet

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

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

Prevalence Index worksheet

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

Prevalence Index = B/A=

Hydrophytic Vegetation Indicators:

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

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

Hydrophytic Vegetation Present? **Yes☒ No☐**

Remarks: The hydrophytic vegetation criterion is met due to 100% of the dominant vegetation within the test plot having either OBL, FACW, or FAC indicator statuses.

SOIL

Sampling Point: TP-7

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-5	10YR3/3	100%		%			gravelly loam	See Remarks Below
		%		%				
		%		%				
		%		%				
		%		%				
		%		%				
		%		%				
		%		%				
		%		%				

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

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

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

Indicators for Problematic Hydric Soils

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

[3]Indicators of hydrophytic vegetation and Wetland hydrology must be present

Restrictive Layer (if present):

Type: Hard pan

Depth (inches):5

Hydric Soil Present? **Yes**☐ **No**☒

Remarks: The soil consisted of historic compacted fill material and gravel. There was no evidence of hydric soils within this test plot.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

- ☐ Water Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)
- ☐ Raised Ant Mounds (D6) (**LRR A**)
- ☐ Frost-Heave Hummocks (D4)

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (Inches): ____

Water Table Present? Yes ☐ No ☒ Depth (Inches): ____

Saturation Present? Yes ☐ No ☒ Depth (Inches): ____

(Includes Capillary fringe)

Wetland Hydrology Present? **Yes** ☐ **No** ☒

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

Remarks:There was no evidence of hydrology within this test plot.

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

Project/Site: HJ Delineation City/County: Chehalis/Lewis Sampling Date: 8/27/2020
Applicant/Owner: Herb Johnson State: WA Sampling Point: TP-8
Investigator(s): Wills, KT Section, Township, Range: 4, 13N, 2W
Landform (hillslope, terrace, etc.): Terrace Local relief: Convex Slope (%): <3%
Subregion (LRR): A2 Lat: 46.644369 Long: -122.936464 Datum: NAD83
Soil Map Unit Name: Lacamas silt loam, 0 to 3 percent slopes NWI classification: PEM1/SSC
Are climatic / hydrologic conditions on the site typical for this time of year? Yes☒ No☐ (If no, explain Remarks.)
Are Vegetation☐, Soil☐, or Hydrology☐ significantly disturbed? Area "Normal Circumstances" present? Yes☒ No☐
Are Vegetation☐, Soil☐, or Hydrology☐ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks: This test plot was located in the southeastern portion of the site, southeast of Wetland A. The vegetation in this test plot consisted of herbaceous species only. This test plot met only one wetland indicator for vegetation with 100 percent of the dominant vegetation being hydrophytic; therefore it does not meet the criteria of being wetland. The majority of the site, wetlands and uplands, was vegetated by reed canarygrass (Phalaris arundinacea).

VEGETATION (*Use scientific names*)

Tree Stratum (Plot size: 30 ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.	%		
2.	%		
3.	%		
4.	%		
Total Cover:	%		
Sapling/Shrub Stratum (Plot size: 5 ft. radius)			
1.	%		
2.	%		
3.	%		
4.	%		
5.	%		
Total Cover:	%		
Herb Stratum (Plot size: 5 ft radius)			
1. *Phalaris arundinacea*	50%	yes	FACW
2. *Dipsacus fullonum*	25%	yes	FAC
3. *Daucus carota*	15%	no	FACU
4. *Hypochaeris radicata*	5%	no	FACU
5. *Trifolium pratense*	5%	no	FACU
6.	%		
7.	%		
8.	%		
Total Cover:	100%		
Woody Vine Stratum (Plot size: 30 ft radius)			
1.	%		
2.	%		
Total Cover:	%		

% Bare Ground in Herb Stratum 0%

Dominance Test Worksheet

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

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

Prevalence Index worksheet

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

Prevalence Index = B/A=

Hydrophytic Vegetation Indicators:

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

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

Hydrophytic Vegetation Present? **Yes☒ No☐**

Remarks: The hydrophytic vegetation criterion is met due to 100% of the dominant vegetation within the test plot having either OBL, FACW, or FAC indicator statuses.

SOIL

Sampling Point: TP-8

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-7	10YR3/3	100%		%			gravelly loam	See Remarks Below
		%		%				
		%		%				
		%		%				
		%		%				
		%		%				
		%		%				
		%		%				
		%		%				

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

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

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

Indicators for Problematic Hydric Soils

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

[3]Indicators of hydrophytic vegetation and Wetland hydrology must be present

Restrictive Layer (if present):

Type: Hard pan

Depth (inches):7

Hydric Soil Present? **Yes**☐ **No**☒

Remarks: The soil consisted of historic compacted fill material and gravel. There was no evidence of hydric soils within this test plot.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

- ☐ Water Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)
- ☐ Raised Ant Mounds (D6) (**LRR A**)
- ☐ Frost-Heave Hummocks (D4)

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (Inches): ____

Water Table Present? Yes ☐ No ☒ Depth (Inches): ____

Saturation Present? Yes ☐ No ☒ Depth (Inches): ____

(Includes Capillary fringe)

Wetland Hydrology Present? **Yes** ☐ **No** ☒

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

Remarks:There was no evidence of hydrology within this test plot.

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

Project/Site: Jackson Park III City/County: Chehalis/Lewis Sampling Date: 3/17/2022
Applicant/Owner: K & W Properties, LLC State: WA Sampling Point: TP-1A
Investigator(s): Wills, K. Section, Township, Range: S4, T13N, R2W
Landform (hillslope, terrace, etc.): Flood plains, terrace Local relief: (concave, convex, none): Convex Slope (%): 0-3%
Subregion (LRR): LRRA Lat: 46.644937 Long: -122.937189 Datum: 83
Soil Map Unit Name: Lacamas silt loam NWI classification: PEM1/SSC
Are climatic / hydrologic conditions on the site typical for this time of year? Yes☐ No☐ (If no, explain Remarks.)
Are Vegetation☐, Soil☐, or Hydrology☐ significantly disturbed? Are "Normal Circumstances" present? Yes☐ No☐
Are Vegetation☐, Soil☐, or Hydrology☐ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks: This test plot met two wetland indicators with 100% hydrophytic vegetation and soils: Depleted Matrix (F3); therefore, it does not meet the criteria of being a wetland.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.	%		
2.	%		
3.	%		
4.	%		
50% = ___ 20% = ___	%	=Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft. radius)			
1.	%		
2.	%		
3.	%		
4.	%		
5.	%		
50% = ___ 20% = ___	%	=Total Cover	
Herb Stratum (Plot size: 5 ft radius)			
1. *Phalaris arundinacea*	70%	yes	FACW
2. *Poa sp.**	30%	yes	FAC
3.	%		
4.	%		
5.	%		
6.	%		
7.	%		
8.	%		
9.	%		
10.	%		
11.	%		
50% = 50 20% = 20	100%	=Total Cover	
Woody Vine Stratum (Plot size: 15 ft radius)			
1.	%		
2.	%		
50% = ___ 20% = ___	%	=Total Cover	

% Bare Ground in Herb Stratum 0%

Dominance Test Worksheet

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

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

Prevalence Index worksheet

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

Prevalence Index = B/A=

Hydrophytic Vegetation Indicators:

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

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

Hydrophytic Vegetation Present? Yes☒ No☐

Remarks: **Poa sp.* assumed FAC.

SOIL

Sampling Point: TP-1A

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 3/2	100%		%			Silty clay loam	
6-16	10YR 4/1	80%	10YR 5/8	20%	C	M	Silty clay loam	
		%		%				
		%		%				
		%		%				
		%		%				
		%		%				
		%		%				

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

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

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

Indicators for Problematic Hydric Soils

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

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

Restrictive Layer (if present):

Type: ____
Depth (inches):

Hydric Soil Present? **Yes☒ No☐**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present?	Yes ☐	No ☒	Depth (Inches):
Water Table Present?	Yes ☐	No ☒	Depth (Inches):
Saturation Present? (Includes Capillary fringe)	Yes ☐	No ☒	Depth (Inches):

Wetland Hydrology Present? **Yes ☐ No ☒**

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

Remarks:

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

Project/Site: Jackson Park III City/County: Chehalis/Lewis Sampling Date: 3/17/2022
Applicant/Owner: K & W Properties, LLC State: WA Sampling Point: TP-2A
Investigator(s): Wills, K. Section, Township, Range: S4, T13N, R2W
Landform (hillslope, terrace, etc.): Flood plains, terrace Local relief: (concave, convex, none): Concave Slope (%): 0-3%
Subregion (LRR): LRRA Lat: 46.644862 Long: -122.937458 Datum: 83
Soil Map Unit Name: Lacamas silt loam NWI classification: PEM1/SSC
Are climatic / hydrologic conditions on the site typical for this time of year? Yes☒ No☐ (If no, explain Remarks.)
Are Vegetation☐, Soil☐, or Hydrology☐ significantly disturbed? Are "Normal Circumstances" present? Yes☒ No☐
Are Vegetation☐, Soil☐, or Hydrology☐ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks: This test plot met all three wetland indicators with 100% hydrophytic vegetation, soils with Depleted Matrix (F3), and the presence of hydrologic indicators: High Water Table (A2), Iron Deposits (B5), Geomorphic Position (D2) and FAC Neutral Test (D5).

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.	%		
2.	%		
3.	%		
4.	%		
50% = ___ 20% = ___	%	=Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft. radius)			
1.	%		
2.	%		
3.	%		
4.	%		
5.	%		
50% = ___ 20% = ___	%	=Total Cover	
Herb Stratum (Plot size: 5 ft radius)			
1. *Phalaris arundinacea*	50%	yes	FACW
2.	%		
3.	%		
4.	%		
5.	%		
6.	%		
7.	%		
8.	%		
9.	%		
10.	%		
11.	%		
50% = 25 20% = 10	50%	=Total Cover	
Woody Vine Stratum (Plot size: 15 ft radius)			
1.	%		
2.	%		
50% = ___ 20% = ___	%	=Total Cover	

% Bare Ground in Herb Stratum 50%

Dominance Test Worksheet

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

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

Prevalence Index worksheet

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

Prevalence Index = B/A=

Hydrophytic Vegetation Indicators:

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

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

Hydrophytic Vegetation Present? **Yes☒ No☐**

Remarks:

SOIL

Sampling Point: TP-2A

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16	10YR 4/1	70%	10YR 4/6	30%	C	M	Silty clay loam	
		%		%				
		%		%				
		%		%				
		%		%				
		%		%				
		%		%				
		%		%				

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

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

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

Indicators for Problematic Hydric Soils

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

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

Restrictive Layer (if present):

Type: ____
Depth (inches): ____

Hydric Soil Present? **Yes** ☒ **No** ☐

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present?	Yes ☐	No ☒	Depth (Inches): ____
Water Table Present?	Yes ☒	No ☐	Depth (Inches): 8
Saturation Present? (Includes Capillary fringe)	Yes ☐	No ☒	Depth (Inches): ____

Wetland Hydrology Present? **Yes** ☒ **No** ☐

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

Remarks:

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

Project/Site: A City/County: Chehalis/Lewis Sampling Date: 3/17/2022
Applicant/Owner: K & W Properties, LLC State: WA Sampling Point: TP-3A
Investigator(s): Wills, K. Section, Township, Range: S4, T13N, R2W
Landform (hillslope, terrace, etc.): Flood plains, terrace Local relief: (concave, convex, none): Convex Slope (%): 0-3%
Subregion (LRR): LRRA Lat: 46.644967 Long: -122.937171 Datum: 83
Soil Map Unit Name: Lacamas silt loam NWI classification: PEM1/SSC
Are climatic / hydrologic conditions on the site typical for this time of year? Yes☒ No☐ (If no, explain Remarks.)
Are Vegetation☐, Soil☐, or Hydrology☐ significantly disturbed? Are "Normal Circumstances" present? Yes☒ No☐
Are Vegetation☐, Soil☐, or Hydrology☐ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks: This test plot met two wetland indicators with 100% hydrophytic vegetation and soils: Depleted Matrix (F3); therefore, it does not meet the criteria of being a wetland.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.	%		
2.	%		
3.	%		
4.	%		
50% = ___ 20% = ___	%	=Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft. radius)			
1.	%		
2.	%		
3.	%		
4.	%		
5.	%		
50% = ___ 20% = ___	%	=Total Cover	
Herb Stratum (Plot size: 5 ft radius)			
1. *Phalaris arundinacea*	70%	yes	FACW
2. *Poa sp.**	30%	yes	FAC
3.	%		
4.	%		
5.	%		
6.	%		
7.	%		
8.	%		
9.	%		
10.	%		
11.	%		
50% = 50 20% = 20	100%	=Total Cover	
Woody Vine Stratum (Plot size: 15 ft radius)			
1.	%		
2.	%		
50% = ___ 20% = ___	%	=Total Cover	

% Bare Ground in Herb Stratum 0%

Dominance Test Worksheet

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

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

Prevalence Index worksheet

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

Prevalence Index = B/A=

Hydrophytic Vegetation Indicators:

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

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

Hydrophytic Vegetation Present? **Yes☒ No☐**

Remarks: **Poa sp.* assumed FAC.

SOIL

Sampling Point: TP-3A

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 3/2	100%		%			Silty clay loam	
6-16	10YR 4/1	80%	10YR 5/8	20%	C	M	Silty clay loam	
		%		%				
		%		%				
		%		%				
		%		%				
		%		%				
		%		%				

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

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

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

Indicators for Problematic Hydric Soils

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

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

Restrictive Layer (if present):

Type: ____
Depth (inches):

Hydric Soil Present? **Yes☒ No☐**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present?	Yes ☐	No ☒	Depth (Inches):
Water Table Present?	Yes ☒	No ☐	Depth (Inches): 14
Saturation Present? (Includes Capillary fringe)	Yes ☐	No ☒	Depth (Inches):

Wetland Hydrology Present? **Yes ☐ No ☒**

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

Remarks:Water table too deep to meet hydrology criteria.

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

Project/Site: Jackson Park III City/County: Chehalis/Lewis Sampling Date: 3/17/2022
Applicant/Owner: K & W Properties, LLC State: WA Sampling Point: TP-4A
Investigator(s): Wills, K. Section, Township, Range: S4, T13N, R2W
Landform (hillslope, terrace, etc.): Flood plains, terrace Local relief: (concave, convex, none): Concave Slope (%): 0-3%
Subregion (LRR): LRRA Lat: 46.644916 Long: -122.937102 Datum: 83
Soil Map Unit Name: Lacamas silt loam NWI classification: PEM1/SSC
Are climatic / hydrologic conditions on the site typical for this time of year? Yes☒ No☐ (If no, explain Remarks.)
Are Vegetation☐, Soil☐, or Hydrology☐ significantly disturbed? Are "Normal Circumstances" present? Yes☒ No☐
Are Vegetation☐, Soil☐, or Hydrology☐ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks: This test plot met all three wetland indicators with 100% hydrophytic vegetation, soils with hydrogen sulfide (A4), and the presence of hydrologic indicators: Surface Water (A1), Hydrogen Sulfide Odor (C1), and a positive FAC Neutral Test (D5).

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.	%		
2.	%		
3.	%		
4.	%		
50% = ___ 20% = ___	%	=Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft. radius)			
1.	%		
2.	%		
3.	%		
4.	%		
5.	%		
50% = ___ 20% = ___	%	=Total Cover	
Herb Stratum (Plot size: 5 ft radius)			
1. *Phalaris arundinacea*	100%	yes	FACW
2.	%		
3.	%		
4.	%		
5.	%		
6.	%		
7.	%		
8.	%		
9.	%		
10.	%		
11.	%		
50% = 50 20% = 20	100%	=Total Cover	
Woody Vine Stratum (Plot size: 15 ft radius)			
1.	%		
2.	%		
50% = ___ 20% = ___	%	=Total Cover	

% Bare Ground in Herb Stratum 0%

Dominance Test Worksheet

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

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

Prevalence Index worksheet

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

Prevalence Index = B/A=

Hydrophytic Vegetation Indicators:

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

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

Hydrophytic Vegetation Present? **Yes☒ No☐**

Remarks:

SOIL

Sampling Point: TP-4A

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
		%		%				See Remarks Below
		%		%				
		%		%				
		%		%				
		%		%				
		%		%				
		%		%				
		%		%				

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

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

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

Indicators for Problematic Hydric Soils

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

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

Restrictive Layer (if present):

Type: _____
Depth (inches):_____

Hydric Soil Present? **Yes☒ No☐**

Remarks: Soils were unconsolidated and a hydrogen sulfide odor was present.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present?	Yes ☒	No ☐	Depth (Inches): 2
Water Table Present?	Yes ☐	No ☒	Depth (Inches): _____
Saturation Present? (Includes Capillary fringe)	Yes ☐	No ☒	Depth (Inches): _____

Wetland Hydrology Present? **Yes ☒ No ☐**

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

Remarks:

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

Project/Site: Jackson Park III City/County: Chehalis/Lewis Sampling Date: 3/17/2022
Applicant/Owner: K & W Properties, LLC State: WA Sampling Point: TP-5A
Investigator(s): Wills, K. Section, Township, Range: S4, T13N, R2W
Landform (hillslope, terrace, etc.): Flood plains, terrace Local relief: (concave, convex, none): Convex Slope (%): 0-3%
Subregion (LRR): LRRA Lat: 46.645386 Long: -122.937019 Datum: 83
Soil Map Unit Name: Lacamas silt loam NWI classification: PEM1/SSC
Are climatic / hydrologic conditions on the site typical for this time of year? Yes☒ No☐ (If no, explain Remarks.)
Are Vegetation☐, Soil☐, or Hydrology☐ significantly disturbed? Are "Normal Circumstances" present? Yes☒ No☐
Are Vegetation☐, Soil☐, or Hydrology☐ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks: This test plot met two wetland indicators with 100% hydrophytic vegetation and soils: Depleted Matrix (F3); therefore, it does not meet the criteria of being a wetland.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.	%		
2.	%		
3.	%		
4.	%		
50% = ___ 20% = ___	%	=Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft. radius)			
1.	%		
2.	%		
3.	%		
4.	%		
5.	%		
50% = ___ 20% = ___	%	=Total Cover	
Herb Stratum (Plot size: 5 ft radius)			
1. *Phalaris arundinacea*	33%	yes	FACW
2. *Dipsacus fullonum*	33%	yes	FAC
3.	%		
4.	%		
5.	%		
6.	%		
7.	%		
8.	%		
9.	%		
10.	%		
11.	%		
50% = 50 20% = 20	66%	=Total Cover	
Woody Vine Stratum (Plot size: 15 ft radius)			
1. *Rubus armeniacus*	33%	yes	FAC
2.	%		
50% = 17 20% = 7	%	=Total Cover	

% Bare Ground in Herb Stratum 34%

Dominance Test Worksheet

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

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

Prevalence Index worksheet

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

Prevalence Index = B/A=

Hydrophytic Vegetation Indicators:

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

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

Hydrophytic Vegetation Present? **Yes☒ No☐**

Remarks:

SOIL

Sampling Point: TP-5A

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 3/2	100%		%			Silty clay loam	
6-16	10YR 4/1	80%	10YR 5/8	20%	C	M	Silty clay loam	
		%		%				
		%		%				
		%		%				
		%		%				
		%		%				
		%		%				

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

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

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

Indicators for Problematic Hydric Soils

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

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

Restrictive Layer (if present):

Type: ____
Depth (inches):

Hydric Soil Present? **Yes**☒ **No**☐

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present?	Yes ☐	No ☒	Depth (Inches): ____
Water Table Present?	Yes ☐	No ☒	Depth (Inches): ____
Saturation Present? (Includes Capillary fringe)	Yes ☐	No ☒	Depth (Inches):

Wetland Hydrology Present? **Yes** ☐ **No** ☒

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

Remarks:

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

Project/Site: Jackson Park III City/County: Chehalis/Lewis Sampling Date: 3/17/2022
Applicant/Owner: K & W Properties, LLC State: WA Sampling Point: TP-6A
Investigator(s): Wills, K. Section, Township, Range: S4, T13N, R2W
Landform (hillslope, terrace, etc.): Flood plains, terrace Local relief: (concave, convex, none): Concave Slope (%): 0-3%
Subregion (LRR): LRRA Lat: 46.6453301 Long: -122.937143 Datum: 83
Soil Map Unit Name: Lacamas silt loam NWI classification: PEM1/SSC
Are climatic / hydrologic conditions on the site typical for this time of year? Yes☒ No☐ (If no, explain Remarks.)
Are Vegetation☐, Soil☐, or Hydrology☐ significantly disturbed? Are "Normal Circumstances" present? Yes☒ No☐
Are Vegetation☐, Soil☐, or Hydrology☐ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks: This test plot met all three wetland indicators with 100% hydrophytic vegetation, soils with hydrogen sulfide (A4), and the presence of hydrologic indicators: Surface Water (A1), Hydrogen Sulfide Odor (C1), and a positive FAC Neutral Test (D5).

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.	%		
2.	%		
3.	%		
4.	%		
50% = ___ 20% = ___	%	=Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft. radius)			
1.	%		
2.	%		
3.	%		
4.	%		
5.	%		
50% = ___ 20% = ___	%	=Total Cover	
Herb Stratum (Plot size: 5 ft radius)			
1. *Phalaris arundinacea*	50%	yes	FACW
2. *Juncus effusus*	10%	no	FACW
3.	%		
4.	%		
5.	%		
6.	%		
7.	%		
8.	%		
9.	%		
10.	%		
11.	%		
50% = 30 20% = 12	60%	=Total Cover	
Woody Vine Stratum (Plot size: 15 ft radius)			
1.	%		
2.	%		
50% = ___ 20% = ___	%	=Total Cover	

% Bare Ground in Herb Stratum 40%

Dominance Test Worksheet

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

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

Prevalence Index worksheet

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

Prevalence Index = B/A=

Hydrophytic Vegetation Indicators:

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

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

Hydrophytic Vegetation Present? **Yes☒ No☐**

Remarks:

SOIL

Sampling Point: TP-6A

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
		%		%				See Remarks Below
		%		%				
		%		%				
		%		%				
		%		%				
		%		%				
		%		%				
		%		%				

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

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

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

Indicators for Problematic Hydric Soils

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

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

Restrictive Layer (if present):

Type: _____
Depth (inches):_____

Hydric Soil Present? **Yes**☒ **No**☐

Remarks: Soils were unconsolidated and a hydrogen sulfide odor was present.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present?	Yes ☒	No ☐	Depth (Inches): 1
Water Table Present?	Yes ☐	No ☒	Depth (Inches): _____
Saturation Present? (Includes Capillary fringe)	Yes ☐	No ☒	Depth (Inches): _____

Wetland Hydrology Present? **Yes** ☒ **No** ☐

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

Remarks:

APPENDIX B: WETLAND RATING FORM

Wetland name or number A

RATING SUMMARY – Western Washington

Name of wetland (or ID #): Wetland A Date of site visit: August 27, 2020

Rated by KT Wills Trained by Ecology? Yes Date of training 9/2016

HGM Class used for rating Depressional Wetland has multiple HGM classes? X Y N

NOTE: **Form is not complete without the figures requested** *(figures can be combined)*.

Source of base aerial photo/map Google Earth

OVERALL WETLAND CATEGORY IV (based on functions X 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

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
		Circle the appropriate ratings		
Site Potential	H M (L)	H (M) L	H M (L)	
Landscape Potential	H (M) L	H (M) L	H M (L)	
Value	(H) M L	H M (L)	H (M) L	TOTAL
Score Based on Ratings	**6**	**5**	**4**	**15**

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

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

2. Category based on SPECIAL CHARACTERISTICS of wetland

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

Wetland name or number A

Maps and figures required to answer questions correctly for Western Washington

Depressional Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	D 1.3, H 1.1, H 1.4	5
Hydroperiods	D 1.4, H 1.2	5
Location of outlet (*can be added to map of hydroperiods)*	D 1.1, D 4.1	5
Boundary of area within 150 ft of the wetland *(can be added to another figure)*	D 2.2, D 5.2	5
Map of the contributing basin	D 4.3, D 5.3	6
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	6
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	7
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	D 3.3	7

Riverine Wetlands

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

Lake Fringe Wetlands

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

Slope Wetlands

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

Wetland name or number A

HGM Classification of Wetlands in Western Washington

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

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

1. Are the water levels in the entire unit usually controlled by tides except during floods?

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

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

   NO – Saltwater Tidal Fringe (Estuarine) **YES – Freshwater Tidal Fringe**
   *If your wetland can be classified as a Freshwater Tidal Fringe use the forms for **Riverine** wetlands. If it is Saltwater Tidal Fringe it is an **Estuarine** wetland and is not scored. This method **cannot** be used to score functions for estuarine wetlands.*

2. The entire wetland unit is flat and precipitation is the only source (>90%) of water to it. Groundwater and surface water runoff are NOT sources of water to the unit.

   NO – go to 3 **YES** – The wetland class is **Flats**
   *If your wetland can be classified as a Flats wetland, use the form for **Depressional** wetlands.*

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

   NO – go to 4 **YES –** The wetland class is **Lake Fringe** (Lacustrine Fringe)

4. Does the entire wetland unit **meet all** of the following criteria?
   ___The wetland is on a slope (*slope can be very gradual*),
   ___The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks,
   ___The water leaves the wetland **without being impounded**.

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

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

5. Does the entire wetland unit **meet all** of the following criteria?
   ___The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river,
   ___The overbank flooding occurs at least once every 2 years.

Wetland name or number A

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

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

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

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

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

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

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

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

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

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

Wetland name or number A

DEPRESSIONAL AND FLATS WETLANDS

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

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

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

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

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

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

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

Wetland name or number A

DEPRESSIONAL AND FLATS WETLANDS

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

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

D 4.1. Characteristics of surface water outflows from the wetland: (●) Wetland is a depression or flat depression with no surface water leaving it (no outlet) points = 4 Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet points = 2 Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch points = 1 Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing points = 0	**4**
D 4.2. Depth of storage during wet periods: *Estimate the height of ponding above the bottom of the outlet. For wetlands with no outlet, measure from the surface of permanent water or if dry, the deepest part.* Marks of ponding are 3 ft or more above the surface or bottom of outlet points = 7 Marks of ponding between 2 ft to < 3 ft from surface or bottom of outlet points = 5 Marks are at least 0.5 ft to < 2 ft from surface or bottom of outlet points = 3 The wetland is a "headwater" wetland points = 3 Wetland is flat but has small depressions on the surface that trap water points = 1 (●) Marks of ponding less than 0.5 ft (6 in) points = 0	**0**
D 4.3. Contribution of the wetland to storage in the watershed: *Estimate the ratio of the area of upstream basin contributing surface water to the wetland to the area of the wetland unit itself.* The area of the basin is less than 10 times the area of the unit points = 5 (●) The area of the basin is 10 to 100 times the area of the unit points = 3 The area of the basin is more than 100 times the area of the unit points = 0 Entire wetland is in the Flats class points = 5	**3**
Total for D 4 Add the points in the boxes above	**7**

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

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

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

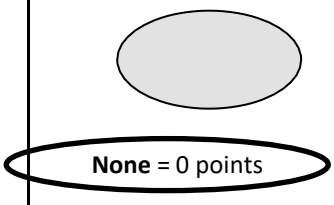
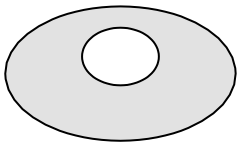
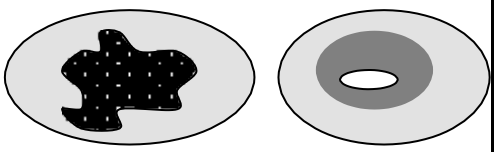
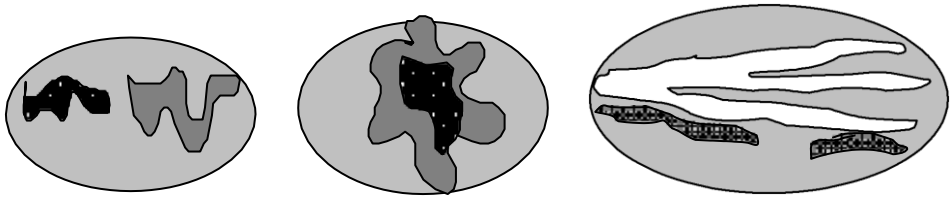
Rating of Landscape Potential If score is: ___ **3 = H** __X__ **1 or 2 = M** ___ **0 = L** *Record the rating on the first page*

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

D 6.1. The unit is in a landscape that has flooding problems. *Choose the description that best matches conditions around the wetland unit being rated. Do not add points. Choose the highest score if more than one condition is met.* The wetland captures surface water that would otherwise flow down-gradient into areas where flooding has damaged human or natural resources (e.g., houses or salmon redds): • Flooding occurs in a sub-basin that is immediately down-gradient of unit. points = 2 • Surface flooding problems are in a sub-basin farther down-gradient. points = 1 Flooding from groundwater is an issue in the sub-basin. points = 1 The existing or potential outflow from the wetland is so constrained by human or natural conditions that the water stored by the wetland cannot reach areas that flood. *Explain why* _____ points = 0 (●) There are no problems with flooding downstream of the wetland. points = 0	**0**
D 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan? Yes = 2 (No = 0)	**0**
Total for D 6 Add the points in the boxes above	**0**

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

Wetland name or number A

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

Wetland name or number A

H 1.5. Special habitat features: Check the habitat features that are present in the wetland. *The number of checks is the number of points.* ____Large, downed, woody debris within the wetland (> 4 in diameter and 6 ft long). ____Standing snags (dbh > 4 in) within the wetland ____Undercut banks are present for at least 6.6 ft (2 m) **and/or** overhanging plants extends at least 3.3 ft (1 m) over a stream (or ditch) in, or contiguous with the wetland, for at least 33 ft (10 m) ____Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 30 degree slope) OR signs of recent beaver activity are present *(cut shrubs or trees that have not yet weathered where wood is exposed)* ____At least ¼ ac of thin-stemmed persistent plants or woody branches are present in areas that are permanently or seasonally inundated *(structures for egg-laying by amphibians)* ____Invasive plants cover less than 25% of the wetland area in every stratum of plants (*see H 1.1 for list of strata*)	**0**
Total for H 1 Add the points in the boxes above	**2**

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

H 2.0. Does the landscape have the potential to support the habitat functions of the site?	
H 2.1. Accessible habitat (include *only habitat that directly abuts wetland unit*). *Calculate:* % undisturbed habitat 0 **+**[(% moderate and low intensity land uses)0.5/2] 0.25**= 0.25**% If total accessible habitat is: > 1/3 (33.3%) of 1 km Polygon points = 3 20-33% of 1 km Polygon points = 2 10-19% of 1 km Polygon points = 1 < 10% of 1 km Polygon points = 0	**0**
H 2.2. Undisturbed habitat in 1 km Polygon around the wetland. *Calculate:* % undisturbed habitat23.5**+**[(% moderate and low intensity land uses)11/2] **5.5= 29**% Undisturbed habitat > 50% of Polygon points = 3 Undisturbed habitat 10-50% and in 1-3 patches points = 2 Undisturbed habitat 10-50% and > 3 patches points = 1 Undisturbed habitat < 10% of 1 km Polygon points = 0	**1**
H 2.3. Land use intensity in 1 km Polygon: If > 50% of 1 km Polygon is high intensity land use points = (- 2) ≤ 50% of 1 km Polygon is high intensity points = 0	**-2**
Total for H 2 Add the points in the boxes above	**-1**

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

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

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

Wetland name or number A

WDFW Priority Habitats

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Wetland name or number A

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

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

Wetland name or number A

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

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