

CRITICAL AREAS REPORT

May 17, 2022



Jackson Park III Chehalis/Lewis County, WA

Prepared for

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

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Biologist I

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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 21^{st} 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 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 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

Jackson Park III Critical Areas Report 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.

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

Table 1. Precipitation Data

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

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

¹Cowardin et al. 1979, ²NRCS 2008, ³Hruby 2014, ⁴CMC 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.

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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 Jackson Park III Ecological Land Services, Inc. Critical Areas Report 6 Revised May 17, 2022 (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).

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

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

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. 			

Table 4. Summary of Proposed Mitigation.

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.

Common Name	Scientific Name	Stock	Spacing (on-center)	Quantity
	acres)			
Oregon ash	Fraxinus latifolia		10 frat	30
Red alder	Alnus rubra		10 feet	30
Rose spirea	Spiraea douglasii	Bare-root		123
Nootka rose	Rosa nutkana		6 feet	123
Red-osier dogwood	Cornus sericea		o leet	123
Scouler willow	Salix scouleriana	Cutting		123
		Total	552	
	Wetland buffer enhanc	rement area (0	.66 acres)	
Oregon white oak	Quercus garryana	5 gallon	10 feet	40
Bigleaf Maple	Acer macrophyllum	1 gallon	10 leet	40
Red elderberry	Sambucus racemosa			165
Snowberry	Symphoricarpos albus	Done no ot	6 feet	165
Beaked hazelnut	Corylus cornuta	Bare-root	o leet	165
Tall Oregon Grape	Mahonia aquifolium			165
			Total	740

Table 5. Plant Specifications.

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

Table 6. Stormwater Facility Seed Mix.

Table 7. Upland Area Seed Mix.

Wetland Buffer– River Refuge Seed Native Upland Grass Mix						
Species	Composition	Rate	Quantity			
Blue wild rye (<i>Elymus glaucus</i>)	30%					
California brome (Bromus carinatus)	25%					
Meadow barely (Hordeum brachyantherum)	10%	15-25 lbs/acre	17/lb			
Roemer's fescue (Festuca roemeri)	10%					
Slender hairgrass (Deschampsia elongata)	10%					
Spike bentgrass (Agrostis exarata)	5%	105/ acre				
Tufted hairgrass (Deschampsia cespitosa)	5%					
Red fescue (Festuca rubra rubra)	5%]				
Tot	al 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, bareroot 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 1/4 to 1/2 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.

Туре	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.

<u>Performance Standard 1a</u>: 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.

<u>Performance Standard 1b.</u> 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.

<u>Performance Standard 1c.</u> 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.

<u>Performance Standard 1d.</u> 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.

<u>Performance Standard 1e.</u> 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.

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

<u>Performance Standard 1g.</u> 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.

<u>Performance Standard 1h.</u> 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.

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

<u>Performance Standard 1j.</u> 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.

<u>Performance Standard 2a.</u> 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.

<u>Performance Standard 3a:</u> 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.

<u>Performance Standard 3b:</u> 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.

<u>Performance Standard 3c:</u> 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.

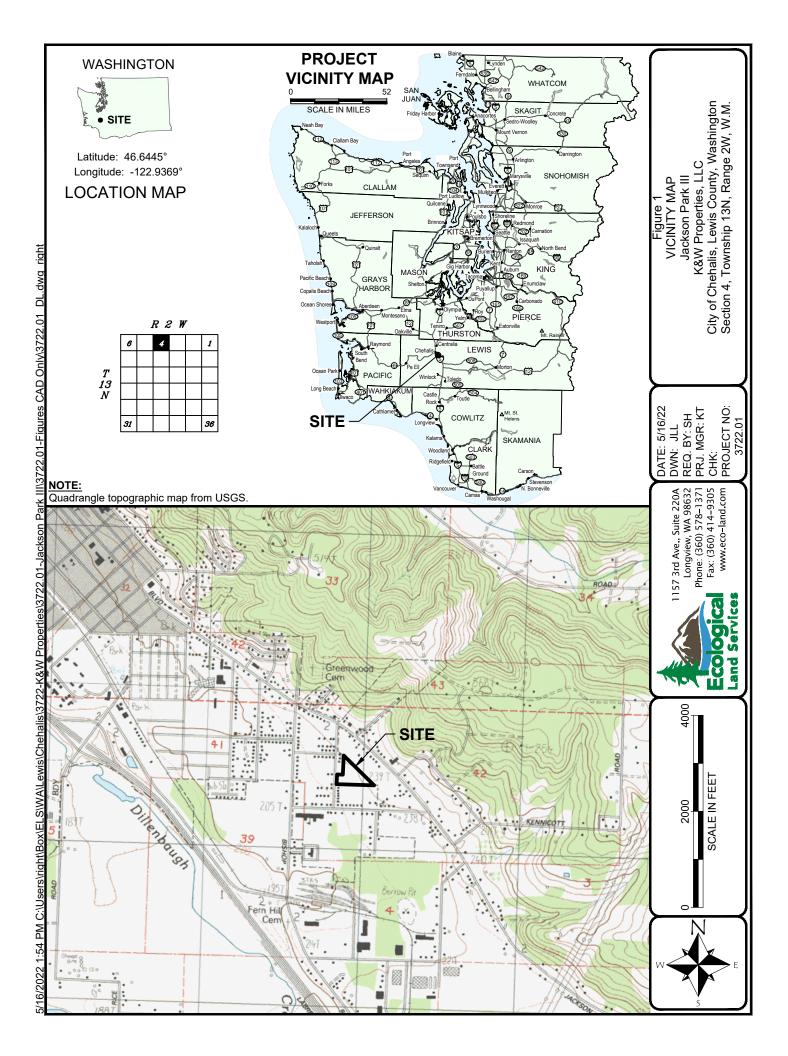
- Demarcate clearing limits.
- Designate staging areas, install silt fencing, and install a standard construction entrance, if needed.
- Remove trees and stockpile material needed for LWM piles and downed logs
- Complete site grading, control invasive species, and install LWM piles and downed logs
- 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

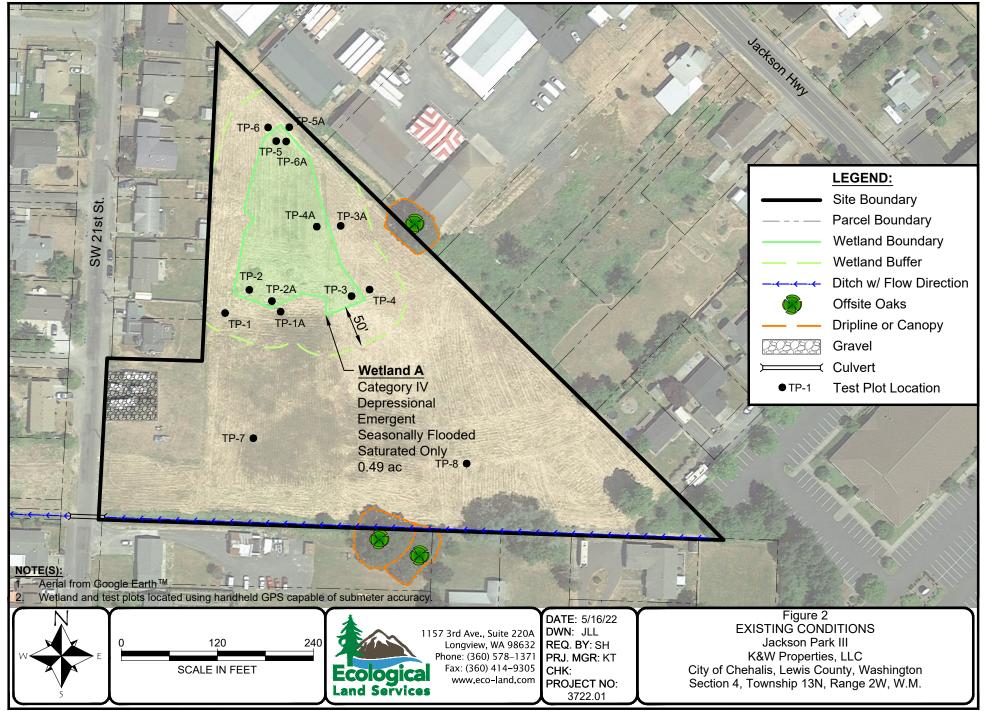
ELS bases this report's determinations on standard scientific methodology and best professional judgment. In our opinion, local, state, and federal regulatory agencies should agree with our determinations. However, the information contained in this report should be considered preliminary and used at 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.

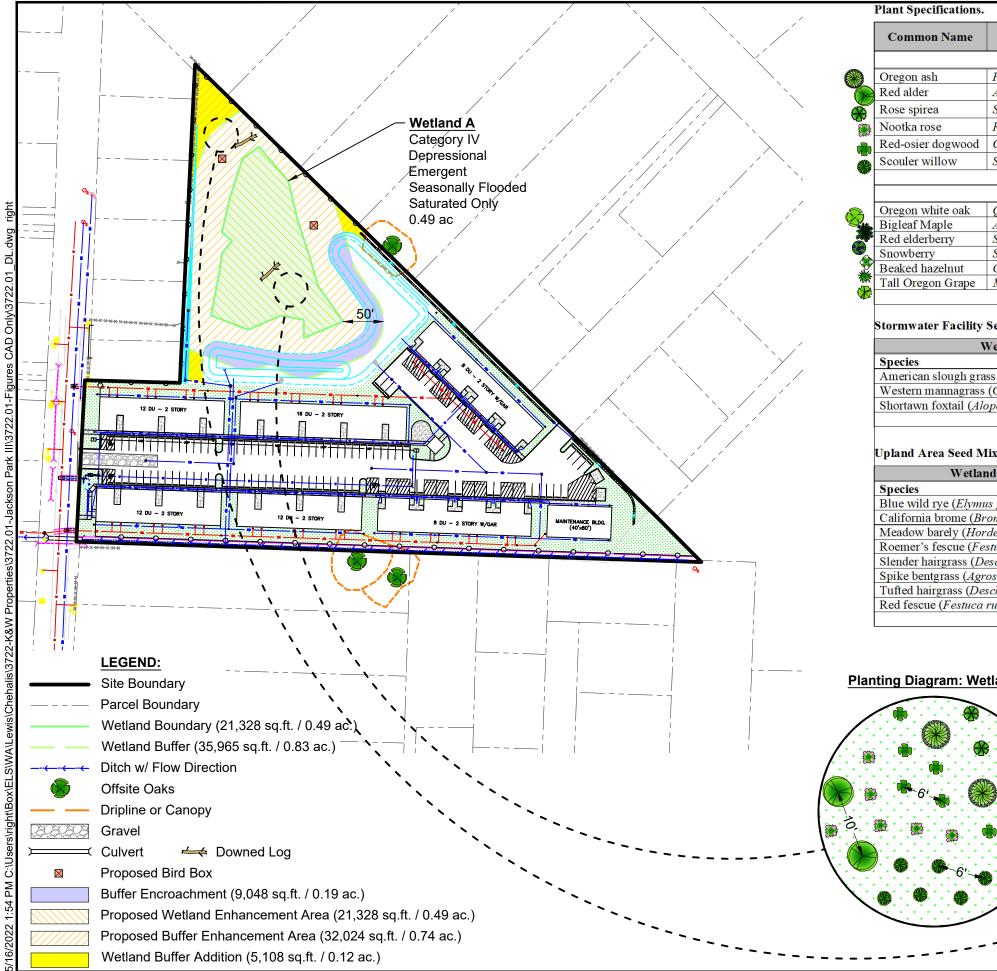
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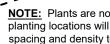
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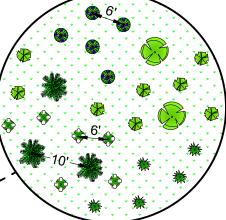




Wetland enhancement area (0.49 acres)Oregon ashFraxinus latifoliaRed alderAlnus rubraRose spireaSpiraea douglasiiBare-rootBare-rootNootka roseRosa nutkanaRed-osier dogwoodCornus sericeaScouler willowSalix scoulerianaCuttingTotalWetland buffer enhancement area (0.66 acres)Oregon white oakQuercus garryanaSigleaf MapleAcer macrophyllumI gallon10 feetBigleaf MapleAcer macrophyllumI gallon10 feetBeaked hazelnutCorylus cornutaTall Oregon GrapeMahonia aquifoliumStormwater Facility Seed Mix.TotalWetland – River Refuge Native Wetland Basic Mix	30 30 123 123 123 123 123 123 123 123 123 123 123 123 123 123 125 40 40 165 165 165 165 165 165
Red alderAlnus rubra10 feetRose spireaSpiraea douglasiiBare-root6 feetNootka roseRosa mutkanaCutting6 feetRed-osier dogwoodCornus sericeaCuttingTotalScouler willowSalix scoulerianaCuttingTotalWetland buffer enhancement area (0.66 acres)Oregon white oakQuercus garryana5 gallonBigleaf MapleAcer macrophyllum1 gallon10 feetRed elderberrySambucus racemosaBare-root6 feetSnowberrySymphoricarpos albusBare-root6 feetBeaked hazelnutCorylus cornutaTotalTall Oregon GrapeMahonia aquifoliumTotalTotal	30 123 123 123 123 123 552 40 40 165 165 165 165 165
Red alderAlmus rubraRose spireaSpiraea douglasiiBare-rootNootka roseRosa nutkanaBare-rootRed-osier dogwoodCornus sericea6 feetScouler willowSalix scoulerianaCuttingTotalWetland buffer enhancement area (0.66 acres)Oregon white oakQuercus garryana5 gallonBigleaf MapleAcer macrophyllum1 gallonRed elderberrySambucus racemosaSnowberrySymphoricarpos albusBeaked hazelnutCorylus cornutaTall Oregon GrapeMahonia aquifoliumTotal	123 123 123 123 552 40 40 40 165 165 165 165 165
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Red-osier dogwood Cornus sericea 6 feet Scouler willow Salix scouleriana Cutting Total Wetland buffer enhancement area (0.66 acres) Oregon white oak Quercus garryana 5 gallon Bigleaf Maple Acer macrophyllum 1 gallon Red elderberry Sambucus racemosa 10 feet Snowberry Symphoricarpos albus Bare-root 6 feet Tall Oregon Grape Mahonia aquifolium Total	123 123 552 40 40 165 165 165 165 165
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Snowberry Symphoricarpos albus Bare-root 6 feet Beaked hazelnut Corylus cornuta Bare-root 6 feet Tall Oregon Grape Mahonia aquifolium Total tormwater Facility Seed Mix. Total	165 165
Beaked hazelnut Corylus cornuta Tall Oregon Grape Mahonia aquifolium Total Stormwater Facility Seed Mix.	165
Total Stormwater Facility Seed Mix.	
Stormwater Facility Seed Mix.	740
Species Composition Ra	te Quantit
American slough grass (<i>Beckmannia syzigachne</i>) 60%	u Quantit
Western mannagrass (<i>Glyceria occidentalis</i>) 30% 8-1	5
Shortawn foxtail (Alopecurus aequalis) 10% lbs/a	cre 14/lb
Total 100%	
pland Area Seed Mix. Wetland Buffer– River Refuge Seed Native Upland Grass M pecies Composition Rate	
Blue wild rye (<i>Elymus glaucus</i>) 30%	Quantity
California brome (<i>Bromus carinatus</i>) 25%	
Meadow barely (Hordeum brachyantherum) 10%	
Roemer's fescue (Festuca roemeri) 10%	5
Slender hairgrass (Deschampsia elongata) 10%	17/lb
Spike bentgrass (Agrostis exarata) 5%	
Tufted hairgrass (Deschampsia cespitosa) 5%	
Red fescue (Festuca rubra rubra) 5% Total 100%	

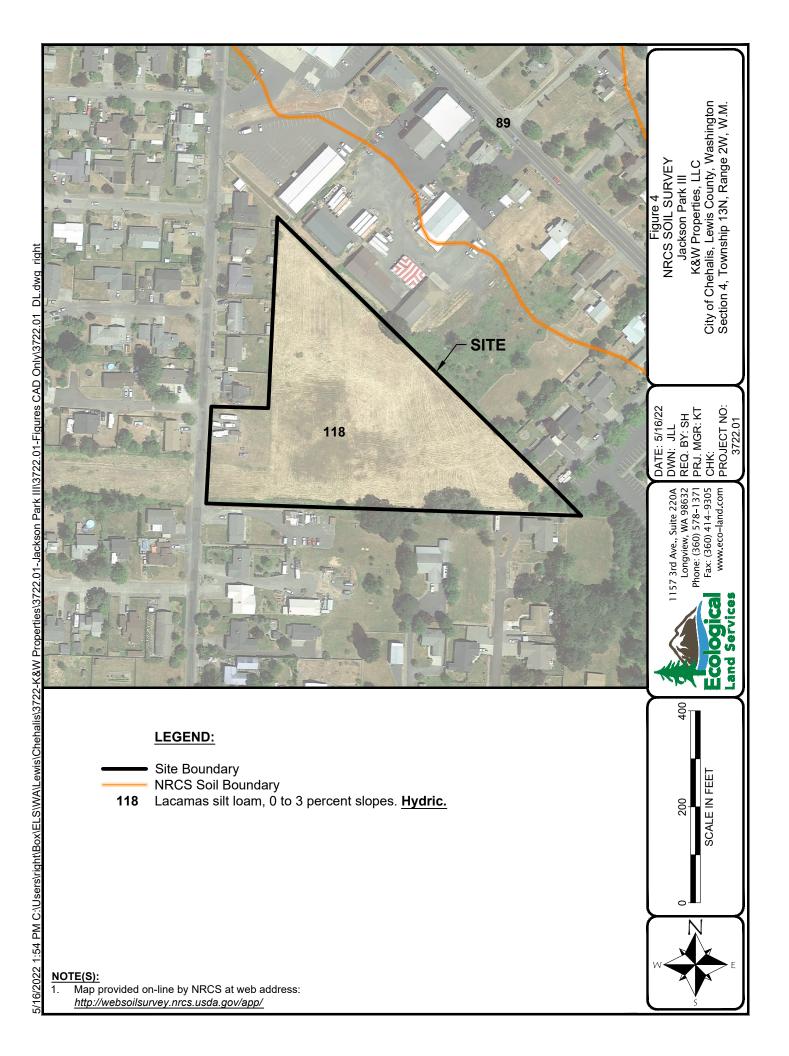
Common Name	Scientific Name	Ste	ock	Spac (on-ce		(Quantity
	Wetland enhanceme	ent area	(0.49	acres)			
Oregon ash	Fraxinus latifolia			10.4			30
Red alder	Alnus rubra			10 f	eet		30
Rose spirea	Spiraea douglasii	Bare	-root				123
Nootka rose	Rosa nutkana						123
Red-osier dogwood	Cornus sericea	-		6 fe	eet		123
Scouler willow	Salix scouleriana	Cut	ting				123
			0		Total		552
	Wetland buffer enhanc	ement a	rea (0.	66 acres)		
Oregon white oak	Quercus garryana	1	llon				40
Bigleaf Maple	Acer macrophyllum		llon	10 f	eet		40
Red elderberry	Sambucus racemosa						165
Snowberry	Symphoricarpos albus	Bare	-root	6 feet			165
Beaked hazelnut	Corylus cornuta	Dare	-1001	01	6 feet		165
Tall Oregon Grape	Mahonia aquifolium						165
					Total		740
ormwater Facility	Seed Mix.						
•		NT - 44 1	W - 41	1 Decte	\ <i>f</i> :		
	Wetland – River Refuge	Native			1		Quantity
Species	ss (Beckmannia syzigach	10)		position 0%	Rat	e	Quantity
American slough gra							
)			8-1	5	
Western mannagrass	(Glyceria occidentalis)	,	3	0%	8-1 lbs/a		14/lb
Vestern mannagrass	(Glyceria occidentalis)	Total	3				14/lb
Western mannagrass	(Glyceria occidentalis)		3	0% 0%			14/lb
Vestern mannagrass Shortawn foxtail (<i>Al</i> e	(Glyceria occidentalis) opecurus aequalis)		3	0% 0%			14/lb
Vestern mannagrass Shortawn foxtail (<i>Al</i> pland Area Seed N	(Glyceria occidentalis) opecurus aequalis)	Total	3 1 1(0% 0%)0%	lbs/a	cre	14/lb
Vestern mannagrass Shortawn foxtail (<i>Ale</i> pland Area Seed N Wetlan	(Glyceria occidentalis) opecurus aequalis) Iix.	Total Seed N	3 1 1(0% 0% 00% Upland (lbs/a	ix	14/lb Quantity
Western mannagrass Shortawn foxtail (<i>Ale</i> pland Area Seed N Wetlan Species Blue wild rye (<i>Elymn</i>	(Glyceria occidentalis) opecurus aequalis) Iix. nd Buffer– River Refuge us glaucus)	Total Seed N	3 1 1(Vative 1 Compo 30%	0% 0% 00% Upland (sition 6	lbs/ad	ix	
Western mannagrass Shortawn foxtail (<i>Ale</i> pland Area Seed M Wetlan Species Blue wild rye (<i>Elymn</i> California brome (<i>Br</i>	(Glyceria occidentalis) opecurus aequalis) Iix. nd Buffer– River Refuge us glaucus) omus carinatus)	Total Seed N	3 1 1 Vative V Compo 30% 25%	0% 0% 00% Upland (sition 6 6	lbs/ad	ix	
Western mannagrass Shortawn foxtail (<i>Ala</i> pland Area Seed N Wetlan Species Blue wild rye (<i>Elynn</i> California brome (<i>Br</i> Meadow barely (<i>Hor</i>	(Glyceria occidentalis) opecurus aequalis) Iix. nd Buffer– River Refuge us glaucus) omus carinatus) deum brachyantherum)	Total Seed N	3 1 10 Vative 1 Compo 30% 25% 10%	0% 0% 00% Upland C sition % %	lbs/ad	ix	
Western mannagrass Shortawn foxtail (Ala pland Area Seed M Wetlan Species Blue wild rye (Elymn California brome (Br Meadow barely (Hor Roemer's fescue (Fe	(Glyceria occidentalis) opecurus aequalis) Iix. nd Buffer– River Refuge us glaucus) omus carinatus) deum brachyantherum) ostuca roemeri)	Total Seed N	3 1 10 Vative 1 Compo 30% 25% 10% 10%	0% 0% 00% 00% 00% 00% 0% 0% 0% 0% 0%	lbs/ad	ix	Quantity
Western mannagrass Shortawn foxtail (Ala pland Area Seed M Wetlan Species Blue wild rye (Elymn California brome (Br Meadow barely (Hor Roemer's fescue (Fe Slender hairgrass (D	(Glyceria occidentalis) opecurus aequalis) Iix. nd Buffer– River Refuge us glaucus) romus carinatus) rdeum brachyantherum) istuca roemeri) eschampsia elongata)	Total Seed N	3 1 10 Native V Compo 30% 25% 10% 10% 10%	0% 0% 00% 00% 00% 0% 6 6 6 6 6 6 6 6	Ibs/ad Grass M Rate	ix	
Western mannagrass Shortawn foxtail (Ala Ipland Area Seed M Wetlan Species Blue wild rye (Elymu California brome (Br Meadow barely (Hor Roemer's fescue (Fe Slender hairgrass (D Spike bentgrass (Agr	(Glyceria occidentalis) opecurus aequalis) Iix. nd Buffer– River Refuge us glaucus) romus carinatus) rdeum brachyantherum) stuca roemeri) eschampsia elongata) rostis exarata)	Total Seed N	3 1 10 20mpo 30% 25% 10% 10% 10% 5%	0% 0% 00% Jpland (sition % % % % %	Ibs/ad Grass M Rate	ix	Quantity
Western mannagrass Shortawn foxtail (Ala Ipland Area Seed M Wetlan Species Blue wild rye (Elymu California brome (Br Meadow barely (Hor Roemer's fescue (Fe Slender hairgrass (D Spike bentgrass (Agr	(Glyceria occidentalis) opecurus aequalis) Iix. nd Buffer– River Refuge us glaucus) comus carinatus) cdeum brachyantherum) stuca roemeri) eschampsia elongata) costis exarata) schampsia cespitosa)	Total Seed N	3 1 10 Native V Compo 30% 25% 10% 10% 10%	0% 0% 0% 0% Upland (sition % % % % % % % % % % % % % % % % % % %	Ibs/ad Grass M Rate	ix	Quantity

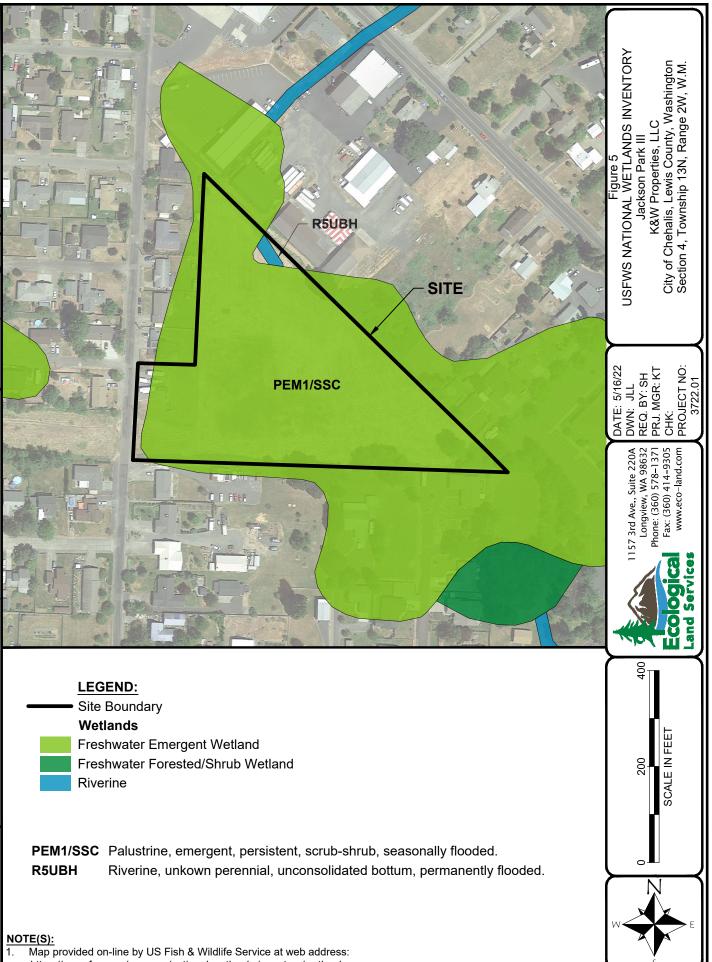




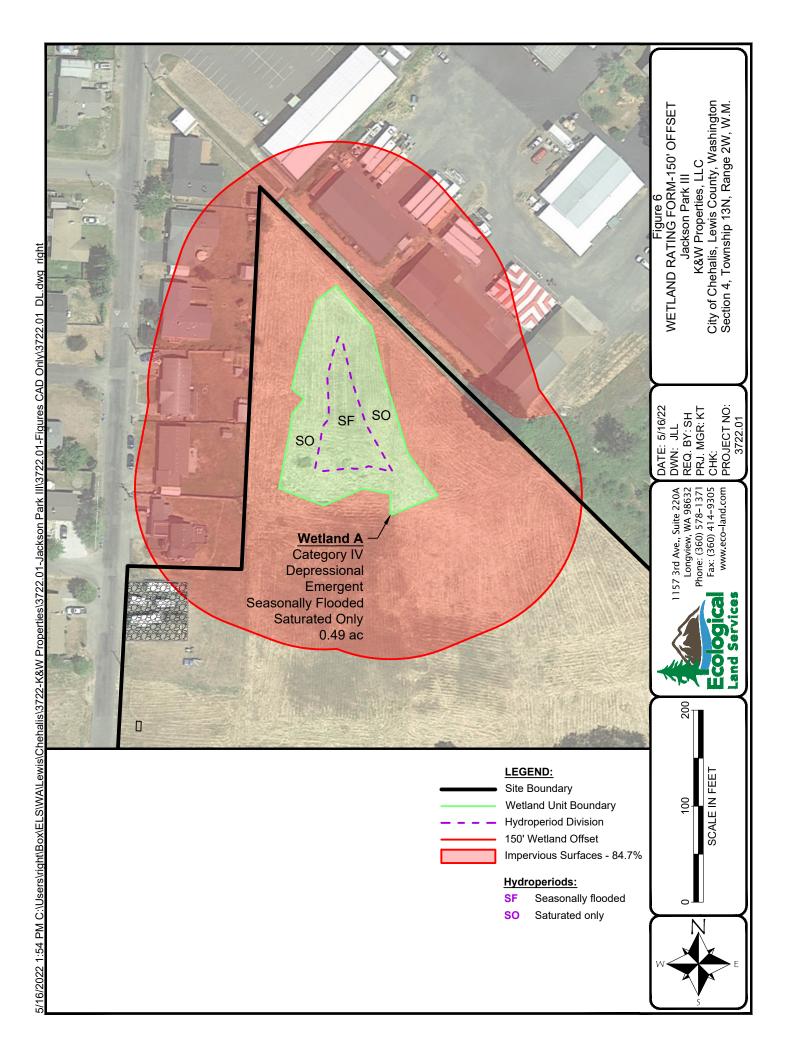
NOTE: Plants are not to scale and locations are approximate as shown. Actual planting locations will be determined in the field, with consideration to the listed spacing and density to produce the most natural appearance possible

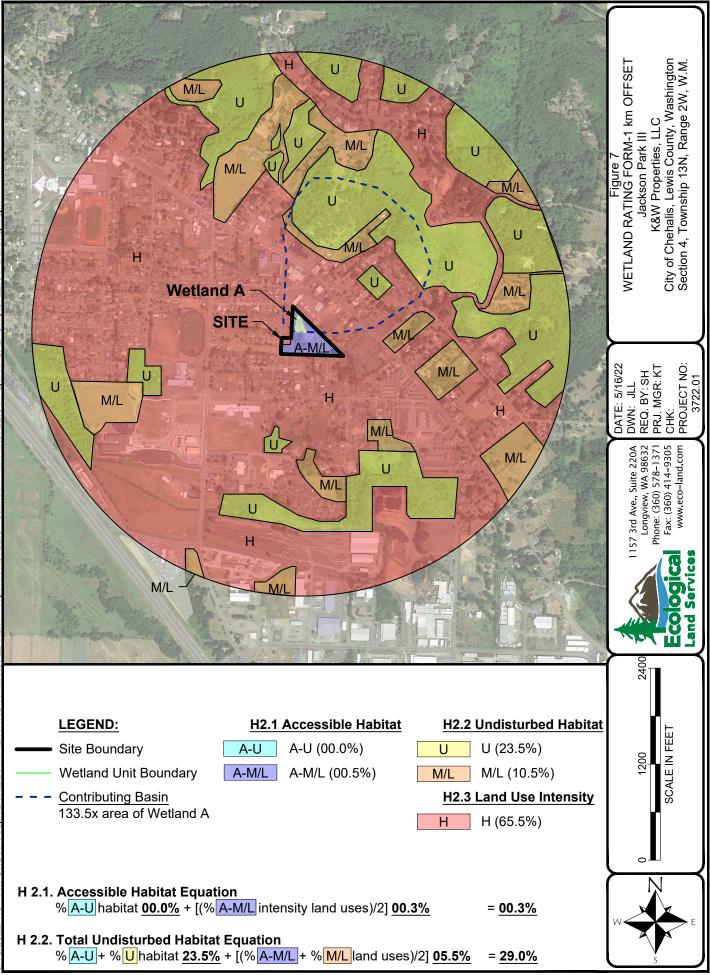


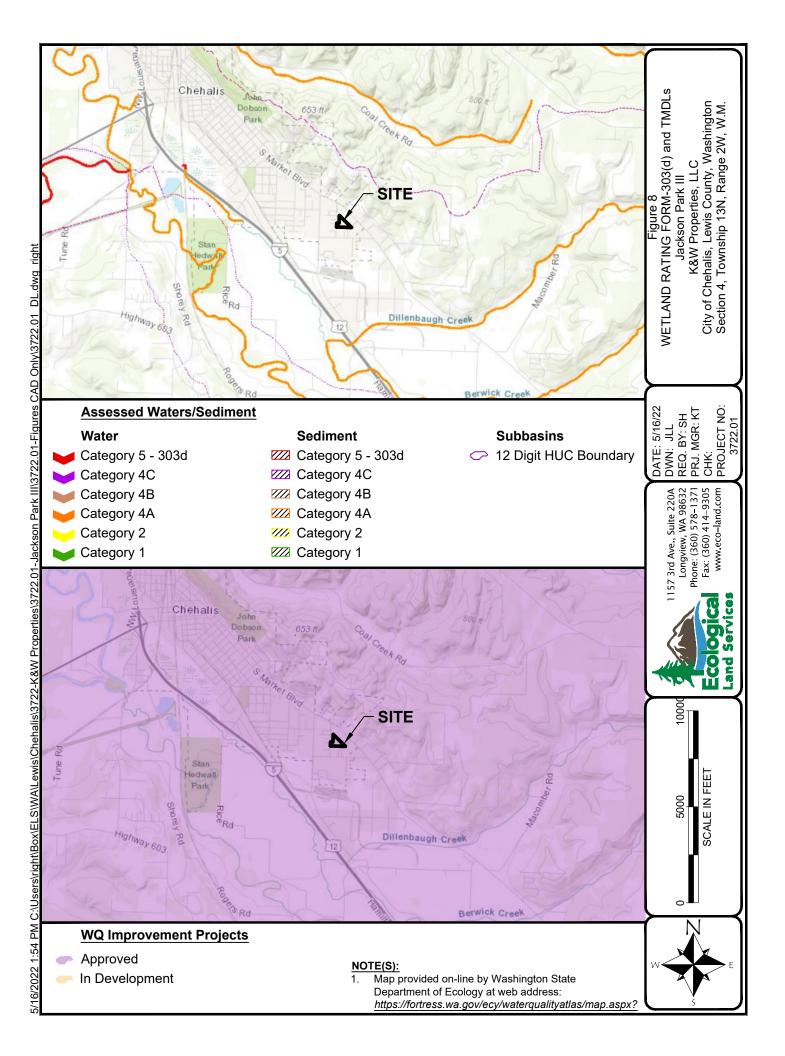




https://www.fws.gov/program/national-wetlands-inventory/wetlands-mapper







APPENDIX A: WETLAND DETERMINATION DATA FORMS

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

Project/Site: HJ Delineation		City/Co	unty:Chehal	is/Lewis Sam	pling Date: 8/27/2	020
Applicant/Owner: Herb Johnson			State: W		Sampling Point:	TP-1
Investigator(s): Wills, KT				, Range: 4, 13N, 2W		
Landform (hillslope, terrace, etc.): Terrace		Local relief: Co				ope (%): <u><3%</u>
Subregion (LRR): <u>A2</u>	Lat: 46.644	825	Long: <u>-122.</u>	937547	Datum: NAD8	33
Soil Map Unit Name: Lacamas silt loam, 0 to 3 percent	slopes			WI classification: PEM1	/SSC	
Are climatic / hydrologic conditions on the site typical fo						
Are Vegetation, Soil, or Hydrology significantly				Circumstances" present		
Are Vegetation, Soil, or Hydrology naturally p				any answers in Remark		
SUMMARY OF FINDINGS – Attach site map	0	ampling po	int locatio	ons, transects, imp	ortant feature	s, etc.
Hydrophytic Vegetation Present? Yes No		Is the Sa	mpled Area			
Hydric Soils Present? Yes No			Wetland?		o⊠	
Wetland Hydrology Present? Yes No 2 Remarks: This test plot was located along the wester		ny just southy	act of Motio	nd A. The vegetation in	this test plat con	victod of
herbaceous species only. This test plot met only one w therefore it does not meet the criteria of being wetland. arundinacea).	etland indicat	or for vegetati	on with 100	percent of the dominant	t vegetation being	hydrophytic;
VEGETATION (Use scientific names)						
Tree Stratum (Plot size:30 ft radius)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Wo	orksheet	
1.	<u>% 00101</u>	Opecies:	010103	Number of Dominant	Species	1 (A)
2	%			That Are OBL, FACV		<u> </u>
3.	%			-		
4.	%			Total Number of Dom		1 (B)
Total Cover:	%			Species Across All S	trata:	()
				Dereent of Deminent	Creation	100 (A/B)
Sapling/Shrub Stratum (Plot size: 5 ft. radius)				Percent of Dominant That Are OBL, FACV		
	%			Prevalence Index w		
<u></u>	%			Total % Cover		ultiply by:
3.	%			OBL species	x 1=	unipiy by.
4.	<u> </u>			FACW species	x 2=	
5.	%			FAC species	x 3=	
Total Cover:	%			FACU species	x 4=	
Herb Stratum (Plot size: 5 ft radius)				UPL species	x 5=	
1. Phalaris arundinacea	65%	yes	FACW	Column Totals:	(A)	(B)
2. Hypochaeris radicata	15%	no	FACU		nce Index = B/A=	
3. Dipsacus fullonum	10%	no	FAC	Hydrophytic Vegeta		
4. Daucus carota	5%	no	FACU	1 – Rapid Test		egetation
				2 – Dominance		
5. <u>Trifolium pratense</u>	5%	no	FACU	3 - Prevalence		Drovido
6.	%				cal Adaptations ¹ (n a separate shee
7.	%					n a separate shee
8.	<u> </u>			□ Wetland Non-V	ascular Plants ¹	
Total Cover:	100%				drophytic Vegeta	tion ¹ (Explain)
Woody Vine Stratum (Plot size: 30 ft radius)						()
<u></u> (<u></u> , <u></u>	%			¹ Indicators of hydric s	soil and wetland h	ydrology
2.	%			Must be present, unle		
Total Cover:	%					
				Hydrophytic Vegetat	ion Present?	
% Bare Ground in Herb Stratum 0%						Yes⊠ No⊡
Remarks: The hydrophytic vegetation criterion is met	due to 100%	of the domina	nt vegetation	within the test plot hav	ing either OBL. F.	
ndicator statuses.			- getador		g	,

SOIL

Depth Matrix Redox Features	
(inches) Color (moist) % Color (moist) % Type ¹ Loc ² Texture Rem	
0-6 10YR3/3 100% % gravelly loam See Remarks	Below
<u>%</u> <u>%</u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u>	
<u>%</u> <u>%</u> <u></u>	
<u>%</u> <u>%</u>	
% %	
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.) Indicators for Problematic Hydric Soils	6
Histosal (A1) Sandy Redox (S5) 2 cm Muck (A10)	
Histic Epipedon (A2) Stripped Matrix (S6) Red Parent Material (TF2) Very Shallow Dark Surface (TF12)	
Black Histic (A3) Loamy Mucky Mineral (F1) (except MLRA 1) Other (Explain in Remarks)	
Hydrogen Sulfide (A4)	
Depleted Below Dark Surface (A11)	
Thick Dark Surface (A12) Redox Dark Surface (F6)	
Sandy Mucky Minerals (S1) Depleted Dark Surface (F7) ³ Indicators of hydrophytic vegetation and	
Sandy Gleyed Matrix (S4) Redox Depressions (F8) Wetland hydrology must be present	
Restrictive Layer (if present):	
Type: Hard pan Hydric Soil Present?	
	es∏ No⊠
Depth (inches): <u>6</u>	
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: Secondary Indicators (2 or more required)	
Primary Indicators (min. of one required; check all that apply)	
Water Stained Leaves (B9)	
U Surface Water (A1) Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, & 4B) (MLRA 1, 2, 4A, and 4B)	
High Water Table (A2) Salt Crust (B11) Drainage Patterns (B10)	
Saturation (A3) Aquatic Invertebrates (B13) Dry-Season Water Table (C2)	
Water Marks (B1) Hydrogen Sulfide Odor (C1) Saturation Visible on Aerial Image	agery (C9)
Sediment Deposits (B2) Oxidized Rhizospheres along Living Roots (C3) Geomorphic Position (D2)	
Drift Deposits (B3) Presence of Reduced Iron (C4) Shallow Aquitard (D3)	
Algal Mat or crust (B4) Recent Iron Reduction in Tilled Soils (C6) FAC-Neutral Test (D5)	• `
Iron Deposits (B5) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR Deposits (B2)	A)
Surface Soil Cracks (B6) Other (Explain in Remarks) Frost-Heave Hummocks (D4)	
Inundation Visible on Aerial Imagery (B7)	
Field Observations:	
Surface Water Present? Yes No No Depth (Inches):	
Water Table Present? Yes No Depth (Inches): Wetland Hydrology Present?	
	🗋 No 🖂
(Includes Capillary fringe) 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 Applicant/Owner: Herb Johnson		City/Co	unty: <u>Chehali</u> State: W		ate: <u>8/27/2020</u> ling Point: TP-2
Investigator(s): 7Wills, KT		Sectio		, Range: 4, 13N, 2W	
Landform (hillslope, terrace, etc.): Terrace	i	Local relief: Co		,	Slope (%):<3%
Subregion (LRR): A2	Lat: 46.644		Long: -122.9	937431 Dati	um: NAD83
Soil Map Unit Name: Lacamas silt loam, 0 to 3 percent		020		WI classification: PEM1/SSC	am. 10.000
Are climatic / hydrologic conditions on the site typical for		vear? Ves			
Are Vegetation, Soil, or Hydrology significant				Circumstances" present? Yes	
Are Vegetation, Soil, or Hydrology asignificant				any answers in Remarks.)	
		•	•		• · ·
SUMMARY OF FINDINGS – Attach site map	0	ampling po	Int locatio	ns, transects, important	teatures, etc.
Hydrophytic Vegetation Present? Yes ⊠ No [Hydric Soils Present? Yes ⊠ No [With both the Present? Yes ⊠ No [Is the Sa within a	mpled Area Netland?	Yes⊠ No⊡	
Wetland Hydrology Present? Yes No Remarks: This test plot was located in the western po		o within the e	authwaatara	nortion of Wotland A. The year	estation in this test plat
(F3), and the presence of hydrologic indicators; Water majority of the site, wetlands and uplands, was vegeta	et all three we Stained Leave	tland indicator es (B9), Geom	s with 100 pe orphic Positi	ercent hydrophytic vegetation, on (D2), and a positive FAC-N	soils with a Depleted Matrix
VEGETATION (Use scientific names)					
Tree Stratum (Plot size: <u>30</u> ft radius)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Workshee	et
1.	%			Number of Dominant Specie	
2.	%			That Are OBL, FACW, or FA	.C:
3.	%			-	
4.	%			Total Number of Dominant	1 (B)
Total Cover:	%			Species Across All Strata:	
Cooling/Chryb Ctroture (District) 5.4 redius)				Percent of Dominant Specie	
Sapling/Shrub Stratum (Plot size: <u>5</u> ft. radius)	0/			That Are OBL, FACW, or FA Prevalence Index workshe	
1	<u> % </u>			5	
2.	<u>%</u> %			Total % Cover of:	Multiply by:
3.	<u> % </u> %			OBL species	x 1=
4 5	<u></u> %			FAC species	x 2= x 3=
Total Cover:	<u>%</u>			FACU species	x 3= x 4=
Herb Stratum (Plot size: 5 ft radius)	70			UPL species	x 5=
1. Phalaris arundinacea	100%	yes	FACW	Column Totals:	(A) (B)
2.	%	yes	TACI	Prevalence Ind	
3.	%			Hydrophytic Vegetation In	
4.				1 – Rapid Test for Hyd	
4.	%			\boxtimes 2 – Dominance Test is	
5.	%			3 - Prevalence Index is	
6.				4 - Morphological Ada	
	%				marks or on a separate sheet)
7.	%				
8.	%			U Wetland Non-Vascular	r Plants ¹
Total Cover:					tic Vegetation ¹ (Explain)
Woody Vine Stratum (Plot size: 30 ft radius)					
1.	%			¹ Indicators of hydric soil and	wetland hydrology
2.	%			Must be present, unless dist	
Total Cover:	%				
				Hydrophytic Vegetation Pre	esent?
% Para Ground in Harb Stratum 0%					
% Bare Ground in Herb Stratum <u>0%</u> Remarks: The hydrophytic vegetation criterion is met	due to 1000/	of the vocated	on within the	test plot beying EACW indian	Yes No
Remarks. The nyurophytic vegetation criterion is met		or the vegetall		test plot having FACW indica	IUI 31a1u303.

SOIL

					absence of indicators.)	
Depth Matrix		Redox Feat	Iroc			
(inches) Color (moist) %	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
0-2 10YR3/2 100%		%			loam	
2-16 10YR4/2 90%	10YR4/6	10%	С	PL	loamy clay	
<u> </u>		<u>%</u>				
· <u>%</u> %		<u>%</u> %			· ·	
<u> </u>		<u>%</u>				
<u> </u>		%				
<u> </u>		%				
¹ Type: C=Concentration, D=Depletion, R				and Grains		
Hydric Soil Indicators: (Applicable to all			.)		Indicators for Problematic	Hydric Soils
Histosal (A1)	Sandy Redox (S				 2 cm Muck (A10) Red Parent Material (TF2) 	
		(00)			Very Shallow Dark Surfac	
Black Histic (A3)	Loamy Mucky M	1ineral (F1) (except MLR	A 1)	Other (Explain in Remarks	s)
Hydrogen Sulfide (A4)	Loamy Gleyed I					
Depleted Below Dark Surface (A11)	Depleted Matrix					
Thick Dark Surface (A12)	Redox Dark Su	. ,				
Sandy Mucky Minerals (S1)	Depleted Dark S	. ,		:	³ Indicators of hydrophytic veg	
Sandy Gleyed Matrix (S4)	Redox Depress	ons (F8)			Wetland hydrology must l	be present
Restrictive Layer (if present):						
Туре:				Hyd	dric Soil Present?	
				-		Yes⊠ No⊡
Depth (inches):						
Remarks: The hydric soil indicator Deplete	ed Matrix (F3) was me	t due to a ma	atrix value of 4	4 and a ch	hroma of 1 with more than 2 p	percent redox
concentrations found in pore linings.						
HYDROLOGY						
Wetland Hydrology Indicators:					Secondary Indicators	•
Primary Indicators (min. of one required; cl	heck all that apply)				(2 or more required)	9
						,
Surface Water (A1)	U Water-Stained L				Water Stained Lea	
		eaves (B9)	(except MLR	A 1, 2, 4A	₩ater Stained Lea A, & 4B) (MLRA 1, 2, 4A, a	aves (B9)
High Water Table (A2)	Salt Crust (B11)		(except MLR	A 1, 2, 4A		aves (B9) and 4B)
Saturation (A3)	Salt Crust (B11)	orates (B13)		A 1, 2, 4A	A, & 4B) (MLRA 1, 2, 4A, a Drainage Patterns Dry-Season Wate	aves (B9) and 4B) s (B10) r Table (C2)
Saturation (A3)	 Salt Crust (B11) Aquatic Invertet Hydrogen Sulfic 	orates (B13) le Odor (C1)	 -		A, & 4B) (MLRA 1, 2, 4A, a Drainage Patterns Dry-Season Wate Saturation Visible	aves (B9) and 4B) s (B10) r Table (C2) on Aerial Imagery (C9)
 Saturation (A3) Water Marks (B1) Sediment Deposits (B2) 	Salt Crust (B11) Aquatic Invertet Hydrogen Sulfic Oxidized Rhizos	prates (B13) le Odor (C1) spheres alon	ig Living Root		A, & 4B) (MLRA 1, 2, 4A, a Drainage Patterns Dry-Season Wate Saturation Visible Geomorphic Posit	aves (B9) and 4B) s (B10) r Table (C2) on Aerial Imagery (C9) tion (D2)
 Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) 	Salt Crust (B11) Aquatic Invertet Hydrogen Sulfic Oxidized Rhizos Presence of Re	prates (B13) le Odor (C1) spheres alon duced Iron (ig Living Root	s (C3)	A, & 4B) (MLRA 1, 2, 4A, a Drainage Patterns Dry-Season Wate Saturation Visible Geomorphic Posit	aves (B9) and 4B) s (B10) r Table (C2) on Aerial Imagery (C9) tion (D2) (D3)
 Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or crust (B4) 	Salt Crust (B11) Aquatic Invertet Hydrogen Sulfic Oxidized Rhizos Presence of Re Recent Iron Rec	prates (B13) le Odor (C1) spheres alon duced Iron (duction in Til	ig Living Root C4) led Soils (C6)	s (C3)	A, & 4B) (MLRA 1, 2, 4A, a Drainage Patterns Dry-Season Wate Saturation Visible Geomorphic Posit Shallow Aquitard FAC-Neutral Test	aves (B9) and 4B) s (B10) r Table (C2) on Aerial Imagery (C9) tion (D2) (D3) (D5)
 Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or crust (B4) Iron Deposits (B5) 	Salt Crust (B11) Aquatic Invertet Hydrogen Sulfic Oxidized Rhizos Presence of Re Recent Iron Rec Stunted or Stres	prates (B13) le Odor (C1) spheres alon duced Iron (duction in Til ssed Plants	ig Living Root C4) led Soils (C6)	s (C3)	A, & 4B) (MLRA 1, 2, 4A, a Drainage Patterns Dry-Season Wate Saturation Visible Geomorphic Posit Shallow Aquitard FAC-Neutral Test Raised Ant Mound	aves (B9) and 4B) s (B10) r Table (C2) on Aerial Imagery (C9) tion (D2) (D3) (D5) ds (D6) (LRR A)
 Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) 	Salt Crust (B11) Aquatic Invertet Hydrogen Sulfic Oxidized Rhizos Presence of Re Recent Iron Rec Stunted or Stres Other (Explain ir	prates (B13) le Odor (C1) spheres alon duced Iron (duction in Til ssed Plants	ig Living Root C4) led Soils (C6)	s (C3)	A, & 4B) (MLRA 1, 2, 4A, a Drainage Patterns Dry-Season Wate Saturation Visible Geomorphic Posit Shallow Aquitard FAC-Neutral Test	aves (B9) and 4B) s (B10) r Table (C2) on Aerial Imagery (C9) tion (D2) (D3) (D5) ds (D6) (LRR A)
 Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or crust (B4) Iron Deposits (B5) 	Salt Crust (B11) Aquatic Invertet Hydrogen Sulfic Oxidized Rhizos Presence of Re Recent Iron Rec Stunted or Stres Other (Explain ir	prates (B13) le Odor (C1) spheres alon duced Iron (duction in Til ssed Plants	ig Living Root C4) led Soils (C6)	s (C3)	A, & 4B) (MLRA 1, 2, 4A, a Drainage Patterns Dry-Season Wate Saturation Visible Geomorphic Posit Shallow Aquitard FAC-Neutral Test Raised Ant Mound	aves (B9) and 4B) s (B10) r Table (C2) on Aerial Imagery (C9) tion (D2) (D3) (D5) ds (D6) (LRR A)
 Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) 	Salt Crust (B11) Aquatic Invertet Hydrogen Sulfic Oxidized Rhizos Presence of Re Recent Iron Rec Stunted or Stres Other (Explain ir	prates (B13) le Odor (C1) spheres alon duced Iron (duction in Til ssed Plants	ig Living Root C4) led Soils (C6)	s (C3)	A, & 4B) (MLRA 1, 2, 4A, a Drainage Patterns Dry-Season Wate Saturation Visible Geomorphic Posit Shallow Aquitard FAC-Neutral Test Raised Ant Mound	aves (B9) and 4B) s (B10) r Table (C2) on Aerial Imagery (C9) tion (D2) (D3) (D5) ds (D6) (LRR A)
 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 (B Field Observations: Surface Water Present? Yes	□ Salt Crust (B11) □ Aquatic Invertet □ Hydrogen Sulfic □ Oxidized Rhizos □ Presence of Re □ Recent Iron Red □ Stunted or Stres □ Other (Explain in 7) No ⊠ Dept	prates (B13) le Odor (C1) spheres alon duced Iron (duction in Til ssed Plants n Remarks) h (Inches):	ig Living Root C4) led Soils (C6) (D1) (LRR A)	s (C3)	A, & 4B) (MLRA 1, 2, 4A, a Drainage Patterns Dry-Season Wate Saturation Visible Geomorphic Posit Shallow Aquitard FAC-Neutral Test Raised Ant Mound Frost-Heave Hum	aves (B9) and 4B) s (B10) r Table (C2) on Aerial Imagery (C9) tion (D2) (D3) (D5) ds (D6) (LRR A)
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□ 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 (B Field Observations: Surface Water Present? Yes □ Water Table Present? Yes □ Saturation Present? Yes □	Salt Crust (B11) Aquatic Invertet Hydrogen Sulfic Oxidized Rhizos Presence of Re Recent Iron Rec Stunted or Stres Other (Explain in R) No Dept No Dept	prates (B13) le Odor (C1) spheres alon duced Iron (duction in Til ssed Plants n Remarks) h (Inches):	ig Living Root C4) led Soils (C6) (D1) (LRR A)	s (C3)	A, & 4B) (MLRA 1, 2, 4A, a Drainage Patterns Dry-Season Wate Saturation Visible Geomorphic Posit Shallow Aquitard FAC-Neutral Test Raised Ant Mound Frost-Heave Hum	aves (B9) and 4B) s (B10) r Table (C2) on Aerial Imagery (C9) tion (D2) (D3) (D5) ds (D6) (LRR A)
 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 (B Field Observations: Surface Water Present? Yes Water Table Present? Yes	Salt Crust (B11) Aquatic Invertet Hydrogen Sulfic Oxidized Rhizos Presence of Re Recent Iron Rec Stunted or Stres Other (Explain in 7) No Dept No Dept No Dept	h (Inches): h (Inches): h (Inches): h (Inches):	g Living Root: C4) led Soils (C6) (D1) (LRR A)	s (C3)	A, & 4B) (MLRA 1, 2, 4A, a Drainage Patterns Dry-Season Wate Saturation Visible Geomorphic Posit Shallow Aquitard FAC-Neutral Test Raised Ant Mound Frost-Heave Hum	aves (B9) and 4B) s (B10) r Table (C2) on Aerial Imagery (C9) tion (D2) (D3) (D5) ds (D6) (LRR A) mocks (D4)
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Saturation (A3) Vater 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 (B Field Observations: Surface Water Present? Yes Vater Table Present? Yes Saturation Present? Yes (Includes Capillary fringe) Describe Recorded Data (Stream gauge, r Remarks:The hydrology indicator, Water S	Salt Crust (B11) Aquatic Invertet Hydrogen Sulfic Oxidized Rhizos Presence of Re Recent Iron Rec Stunted or Stres Other (Explain in No Dept No Dept No Dept No Dept Control presence Recent Iron Recent Stained Seaves (B9) w	prates (B13) le Odor (C1) spheres alon duced Iron (duction in Til ssed Plants n Remarks) h (Inches): h (Inches): h (Inches): photos, prev ere found or	ig Living Root C4) led Soils (C6) (D1) (LRR A) vious inspection	s (C3) WetI	A, & 4B) (MLRA 1, 2, 4A, a Drainage Patterns Dry-Season Wate Saturation Visible Geomorphic Posit Shallow Aquitard FAC-Neutral Test Raised Ant Mound Frost-Heave Hum	aves (B9) and 4B) s (B10) r Table (C2) on Aerial Imagery (C9) tion (D2) (D3) (D5) ds (D6) (LRR A) mocks (D4) Yes ⊠ No □
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WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: <u>HJ Delineation</u> Applicant/Owner: Herb Johnson			unty: <u>Chehal</u> State: W	/A	ampling Date: <u>8/27/2</u> Sampling Point:	
Investigator(s): 7Wills, KT				o, Range: 4, 13N, 2		
Landform (hillslope, terrace, etc.): Terrace		Local relief: Co				Slope (%): <u><3%</u>
Subregion (LRR): <u>A2</u>	Lat: 46.644	928	Long: -122.	.936961	Datum: NAD	83
Soil Map Unit Name: Lacamas silt loam, 0 to 3 percent	slopes			IWI classification: PE		
Are climatic / hydrologic conditions on the site typical for						
Are Vegetation , Soil , or Hydrology significantly				Circumstances" pres		
Are Vegetation, Soil, or Hydrology naturally p	oblematic?	(If need	led, explain a	any answers in Rema	arks.)	
SUMMARY OF FINDINGS – Attach site map	showing s	ampling po	oint locatio	ons, transects, in	nportant feature	es, etc.
Hydrophytic Vegetation Present? Yes ⊠ No [Hydric Soils Present? Yes ⊠ No [Wetland Hydrology Present? Yes ⊠ No []		mpled Area Wetland?	Yes⊠	No	
Remarks: This test plot was located in the central por		within the sc	utheastern	ortion of Wetland A	The vegetation in t	his test plot
consisted of herbaceous species only. This test plot me (F3), and the presence of hydrologic indicators; Water majority of the site, wetlands and uplands, was vegetat	et all three we Stained Leav	etland indicator es (B9), Geom	rs with 100 p horphic Posit	ercent hydrophytic v ion (D2), and a positi	egetation, soils with	a Depleted Matrix
VEGETATION (Use scientific names)	Absoluto	Dominant	Indicator	Dominance Test	Workshoot	
Tree Stratum (Plot size:30 ft radius)	Absolute % Cover	Species?	Status	Dominance rest	worksneet	
1 , , ,	% COVEI %	Opecies:	Status	Number of Domina	ant Species	2 (A)
0	%			That Are OBL, FA		(A)
2	<u> </u>		·	,,		
3 4.	%			Total Number of D	Dominant	2 (B)
Total Cover:	%			Species Across Al	Il Strata:	<u> </u>
	70					100 (A/B)
Sapling/Shrub Stratum (Plot size: 5 ft. radius)				Percent of Domina That Are OBL, FA	CW, or FAC	(A/D)
1	%			Prevalence Index		
2	%			Total % Co		/lultiply by:
3	%			OBL species	x 1=	
4	%			FACW species	x 2=	
5	%			FAC species	x 3=	
Total Cover:	%			FACU species	x 4=	·
<u>Herb Stratum</u> (Plot size: <u>5</u> ft radius)				UPL species	x 5=	
1. Phalaris arundinacea	65%	yes	FACW	Column Totals:	(A)	(B)
2. Ranunculus repens	35%	yes	FAC		alence Index = B/A=	
3	%				etation Indicators:	
4.	%				est for Hydrophytic V	Vegetation
					nce Test is >50%	
5	%				ce Index is $\leq 3.0^1$	
6.	%				ogical Adaptations ¹	
-				supporting d	ata in Remarks or o	on a separate sheet)
7	%					
8 Total Cover:	<u>%</u>				n-Vascular Plants ¹	tion 1 (Eventein)
Woody Vine Stratum (Plot size: 30 ft radius)	100%				Hydrophytic Vegeta	
1	<u> % </u> %				ic soil and wetland I	
2	<u>%</u>			iviusi pe present, l	unless disturbed or p	orobiematic.
Total Cover:	%					
				Hydrophytic Vege	tation Present?	
% Bare Ground in Herb Stratum 0%						Yes⊠ No⊡
Remarks: The hydrophytic vegetation criterion is met statuses.	due to 100%	ot the vegetati	ion within the	e test plot having eit	her OBL, FACW, or	FAC indicator

SOIL

Profile Description: (Describe to the dep	oth needed to docu	ment the ind	icator or conf	irm the a	absence of indicators.)	· -
Depth Matrix		Redox Feat	Iros			
(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%	С	PL	loamy clay	
		<u>%</u>				
· <u>%</u> %		<u>%</u> %				
· <u> </u>		<u>%</u>			· · ·	
<u> </u>		%			· ·	
%		%				
¹ Type: C=Concentration, D=Depletion, R				nd Grains		
Hydric Soil Indicators: (Applicable to all)	1	Indicators for Problematic Hy	dric Soils
Histosal (A1)	Sandy Redox (2 cm Muck (A10) Red Parent Material (TF2)	
		(30)			Very Shallow Dark Surface (1	(F12)
Black Histic (A3)	Loamy Mucky	Mineral (F1) (except MLRA	.1)	Other (Explain in Remarks)	,
Hydrogen Sulfide (A4)	Loamy Gleyed	Matrix (F2)				
Depleted Below Dark Surface (A11)	Depleted Matri	x (F3)				
Thick Dark Surface (A12)	🗌 Redox Dark Su	urface (F6)				
Sandy Mucky Minerals (S1)	Depleted Dark	. ,		3	³ Indicators of hydrophytic vegeta	ation and
Sandy Gleyed Matrix (S4)	Redox Depres	sions (F8)			Wetland hydrology must be p	present
Restrictive Layer (if present):						
Туре:				Hvd	Iric Soil Present?	
				inya		Yes⊠ No⊡
Depth (inches):						
Remarks: The hydric soil indicator Deplete	d Matrix (F3) was m	et due to a ma	atrix value of 4	and a ch	nroma of 1 with more than 2 perc	cent redox
concentrations found in pore linings.						
HYDROLOGY						
Wetland Hydrology Indicators:					Secondary Indicators	· · · · ·
					(2 or more required)	
Primary Indicators (min. of one required; cl	neck all that apply)					
Surface Water (A1)	U Water-Stained	$L_{00}(R_0)$		1 2 1	Water Stained Leave (MLRA 1, 2, 4A, and	
High Water Table (A2)	Salt Crust (B1			x 1, 2, 4 P	Drainage Patterns (B	
\Box Saturation (A3)	Aquatic Inverte	,			Dry-Season Water Ta	,
Water Marks (B1)	Hydrogen Sulfi				Saturation Visible on	
Sediment Deposits (B2)	Oxidized Rhizo			(C3)	Geomorphic Position	
Drift Deposits (B3)	Presence of R	-		. ,	Shallow Aquitard (D3	
☐ Algal Mat or crust (B4)	Recent Iron Re	eduction in Til	led Soils (C6)		☑ FAC-Neutral Test (D	5)
🔲 Iron Deposits (B5)	Stunted or Stre	essed Plants	(D1) (LRR A)		🗌 Raised Ant Mounds (D6) (LRR A)
Surface Soil Cracks (B6)	Other (Explain	in Remarks)			Frost-Heave Hummo	cks (D4)
Inundation Visible on Aerial Imagery (B)	7)					
Field Observations:						
Surface Water Present? Yes	No 🛛 🛛 Dep	oth (Inches):				
Water Table Present? Yes				Weth	and Hydrology Present?	
Saturation Present? Yes	No 🖂 🛛 Der	oth (Inches):		vveu		
		oth (Inches): oth (Inches):		wella	and Hydrology Fresenti	Yes 🖂 No 🗌
(Includes Capillary fringe)	No 🛛 🛛 Dep	oth (Inches):				Yes 🛛 No 🗌
	No 🛛 🛛 Dep	oth (Inches):				Yes 🛛 No 🗌
(Includes Capillary fringe)	No 🛛 🛛 Dep	oth (Inches):				Yes 🛛 No 🗌
(Includes Capillary fringe)	No 🛛 Dep nonitoring well, aeria	oth (Inches): I photos, prev	vious inspection	ns), if ava	ailable:	
(Includes Capillary fringe) Describe Recorded Data (Stream gauge, r	No 🛛 Dep nonitoring well, aeria tained Seaves (B9)	oth (Inches):	vious inspection	ns), if ava	ailable:	
(Includes Capillary fringe) Describe Recorded Data (Stream gauge, r Remarks:The hydrology indicator, Water S	No 🛛 Dep nonitoring well, aeria tained Seaves (B9)	oth (Inches):	vious inspection	ns), if ava	ailable:	
(Includes Capillary fringe) Describe Recorded Data (Stream gauge, r Remarks:The hydrology indicator, Water S	No 🛛 Dep nonitoring well, aeria tained Seaves (B9)	oth (Inches):	vious inspection	ns), if ava	ailable:	
(Includes Capillary fringe) Describe Recorded Data (Stream gauge, r Remarks:The hydrology indicator, Water S	No 🛛 Dep nonitoring well, aeria tained Seaves (B9)	oth (Inches):	vious inspection	ns), if ava	ailable:	

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

Project/Site: HJ Delineation		City/Co	unty:Chehal	
Applicant/Owner: Herb Johnson			State: W	
Investigator(s): 7Wills, KT				o, Range: 4, 13N, 2W
Landform (hillslope, terrace, etc.): Terrace		Local relief: Co		Slope (%): <u><3%</u>
Subregion (LRR): A2	Lat: 46.644	978	Long: -122.	
Soil Map Unit Name: Lacamas silt loam, 0 to 3 percent				IWI classification: PEM1/SSC
Are climatic / hydrologic conditions on the site typical fo				
Are Vegetation, Soil, or Hydrology significantly				Circumstances" present? Yes⊠ No⊡
Are Vegetation, Soil, or Hydrology naturally pr				any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map		ampling po	oint locatio	ons, transects, important features, etc.
Hydrophytic Vegetation Present? Yes 🗌 No 🛛		Is the Sa	mpled Area	
Hydric Soils Present? Yes 🗌 No 🖄			Wetland?	Yes ── No⊠
Wetland Hydrology Present? Yes No 🛛				
	tor for vegeta	ation with 100	percent of the	he vegetation in this test plot consisted of herbaceous e dominant vegetation being hydrophytic; therefore it does etated by reed canarygrass (Phalaris arundinacea).
VEGETATION (Use scientific names)				
Tree Stratum (Plot size: <u>30</u> ft radius)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet
1.	%			Number of Dominant Species 1 (A)
2.	%			That Are OBL, FACW, or FAC:
3.	%			
4	%			Total Number of Dominant (B)
Total Cover:	%			Species Across All Strata:
				Percent of Dominant Species (A/B)
<u>Sapling/Shrub Stratum</u> (Plot size: <u>5 f</u> t. radius)				That Are OBL, FACW, or FAC
1	%			Prevalence Index worksheet
2	%			Total % Cover of: Multiply by:
3	%			OBL species x 1=
4.	%			FACW species x 2=
5	%			FAC species x 3=
Total Cover: _ Herb Stratum (Plot size: 5 ft radius)	%			FACU species x 4= UPL species x 5=
1. Phalaris arundinacea	55%	yes	FACW	Column Totals: (A) (B)
2. Dipsacus fullonum	15%	no	FAC	Prevalence Index = B/A=
3. Daucus carota	10%	no	FACU	Hydrophytic Vegetation Indicators:
4		no	FACU	1 – Rapid Test for Hydrophytic Vegetation
Hypochaeris radicata	10%			2 – Dominance Test is >50%
5. Trifolium pratense	10%	no	FACU	□ 3 - Prevalence Index is $\leq 3.0^{1}$
6.	%			4 - Morphological Adaptations ¹ (Provide
				supporting data In Remarks or on a separate sheet)
7	%			
8Total Cavar	<u>%</u>			Wetland Non-Vascular Plants ¹
	100%			
	%			¹ Indicators of hydric soil and wetland hydrology
	%			
-				Hydrophytic Vegetation Present?
% Bare Ground In Herb Stratum <u>0%</u>	due to 100%	of the domina	ntvoqototion	Visithin the test plot having either OPL EACW or EAC
Total Cover: <u>Woody Vine Stratum</u> (Plot size: <u>30</u> ft radius) 1. 2. <u>* Bare Ground in Herb Stratum 0%</u> Remarks: The hydrophytic vegetation criterion is met indicator statuses.	<u>%</u> %	of the domina	nt vegetation	Yes⊠ No

SOIL

Thome Description. (Describe to the dep	th needed to documer		comminue	absence of indicators.)	
Depth Matrix	Re	dox Features			
(inches) Color (moist) %	Color (moist)	% Type ¹	Loc ²	Texture	Remarks
0-11 10YR3/3 100%	· · · · · · · · · · · · · · · · · · ·	%		loam	
<u>11-16 10YR4/2 98%</u>	10YR4/6	2% C	PL	loamy clay	
<u> </u>		<u>%</u>			
· ·		<u>%</u> %			
<u>~~~~</u>		<u> </u>			
<u> </u>		%			
<u> </u>		%			
¹ Type: C=Concentration, D=Depletion, RI	M=Reduced Matrix, CS=	-Covered or Coate	d Sand Grain	s. ² Location: PL=Pore Linin	g, M=Matrix
Hydric Soil Indicators: (Applicable to all				Indicators for Problemation	
🔲 Histosal (A1)	Sandy Redox (S5)			2 cm Muck (A10)	
Histic Epipedon (A2)	Stripped Matrix (Se	6)		Red Parent Material (TF2	
				Very Shallow Dark Surfac	. ,
Black Histic (A3)	Loamy Mucky Mine		ILRA 1)	Other (Explain in Remark	(S)
Hydrogen Sulfide (A4)	Loamy Gleyed Mat				
 Depleted Below Dark Surface (A11) Thick Dark Surface (A12) 	 Depleted Matrix (F Redox Dark Surface 				
	Depleted Dark Surfac	()		21 1	
Sandy Mucky Minerals (S1)		· · ·		³ Indicators of hydrophytic ve	
Sandy Gleyed Matrix (S4)	Redox Depression	S (F8)		Wetland hydrology must	be present
Restrictive Layer (if present):					
Туре:			Hv	dric Soil Present?	
					Yes⊡ No⊠
Depth (inches):					
Remarks: There was no evidence of hydric	soils within this test plot	t.			
HIDROLOGI					
HYDROLOGY Wetland Hydrology Indicators:				Secondary Indicator	s
Wetland Hydrology Indicators:				Secondary Indicators (2 or more required)	S
	eck all that apply)				s
Wetland Hydrology Indicators: Primary Indicators (min. of one required; ch				(2 or more required)	eaves (B9)
Wetland Hydrology Indicators: Primary Indicators (min. of one required; ch	Water-Stained Lea	aves (B9) (except I	1LRA 1, 2, 4/	(2 or more required)	eaves (B9) and 4B)
Wetland Hydrology Indicators: Primary Indicators (min. of one required; ch Surface Water (A1) High Water Table (A2)	☐ Water-Stained Lea ☐ Salt Crust (B11)		ILRA 1, 2, 4/	(2 or more required) Water Stained Le A, & 4B) (MLRA 1, 2, 4A, Drainage Pattern	eaves (B9) and 4B) s (B10)
Wetland Hydrology Indicators: Primary Indicators (min. of one required; ch Surface Water (A1) High Water Table (A2) Saturation (A3)	☐ Water-Stained Lea ☐ Salt Crust (B11) ☐ Aquatic Invertebrat	tes (B13)	ILRA 1, 2, 4	(2 or more required) Water Stained Le A, & 4B) (MLRA 1, 2, 4A, 3 Drainage Pattern Dry-Season Wate	eaves (B9) and 4B) s (B10) er Table (C2)
Wetland Hydrology Indicators: Primary Indicators (min. of one required; ch Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1)	 ☐ Water-Stained Lea ☐ Salt Crust (B11) ☐ Aquatic Invertebrat ☐ Hydrogen Sulfide 0 	tes (B13) Odor (C1)		(2 or more required) Water Stained Le (MLRA 1, 2, 4A, Drainage Pattern Dry-Season Wate Saturation Visible	eaves (B9) and 4B) s (B10) er Table (C2) e on Aerial Imagery (C9)
Wetland Hydrology Indicators: Primary Indicators (min. of one required; ch Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2)	Water-Stained Lea Salt Crust (B11) Aquatic Invertebrat Hydrogen Sulfide C Oxidized Rhizosph	tes (B13) Odor (C1) neres along Living F		(2 or more required) Water Stained Le A, & 4B) (MLRA 1, 2, 4A, Drainage Pattern Dry-Season Wate Saturation Visible Geomorphic Posi	eaves (B9) and 4B) s (B10) er Table (C2) e on Aerial Imagery (C9) ition (D2)
Wetland Hydrology Indicators: Primary Indicators (min. of one required; ch Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3)	Water-Stained Lea Salt Crust (B11) Aquatic Invertebrat Hydrogen Sulfide (Oxidized Rhizosph Presence of Reduc	tes (B13) Odor (C1) neres along Living F ced Iron (C4)	Roots (C3)	(2 or more required) Water Stained Le (MLRA 1, 2, 4A, 3 Drainage Pattern Dry-Season Wate Saturation Visible Geomorphic Posi Shallow Aquitard	eaves (B9) and 4B) s (B10) er Table (C2) e on Aerial Imagery (C9) ition (D2) (D3)
Wetland Hydrology Indicators: Primary Indicators (min. of one required; ch Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or crust (B4)	Water-Stained Lea Salt Crust (B11) Aquatic Invertebrat Hydrogen Sulfide C Oxidized Rhizosph Presence of Reduc	tes (B13) Odor (C1) heres along Living F ced Iron (C4) stion in Tilled Soils	Roots (C3) (C6)	(2 or more required) Water Stained Le (MLRA 1, 2, 4A, 4B) Drainage Pattern Dry-Season Wate Saturation Visible Geomorphic Posi Shallow Aquitard FAC-Neutral Test	eaves (B9) and 4B) s (B10) er Table (C2) e on Aerial Imagery (C9) ition (D2) (D3) t (D5)
Wetland Hydrology Indicators: Primary Indicators (min. of one required; ch 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)	Water-Stained Lea Salt Crust (B11) Aquatic Invertebrat Hydrogen Sulfide C Oxidized Rhizosph Presence of Reduc Recent Iron Reduc Stunted or Stresse	tes (B13) Odor (C1) heres along Living F ced Iron (C4) ction in Tilled Soils ed Plants (D1) (LRF	Roots (C3) (C6)	(2 or more required) Water Stained Le (MLRA 1, 2, 4A, Drainage Pattern Dry-Season Wate Saturation Visible Geomorphic Posi Shallow Aquitard FAC-Neutral Test Raised Ant Moun	eaves (B9) and 4B) s (B10) er Table (C2) e on Aerial Imagery (C9) ition (D2) (D3) t (D5) ids (D6) (LRR A)
Wetland Hydrology Indicators: Primary Indicators (min. of one required; ch 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)	 Water-Stained Lea Salt Crust (B11) Aquatic Invertebrat Hydrogen Sulfide C Oxidized Rhizosph Presence of Reduct Recent Iron Reduct Stunted or Stresse Other (Explain in Reduction) 	tes (B13) Odor (C1) heres along Living F ced Iron (C4) ction in Tilled Soils ed Plants (D1) (LRF	Roots (C3) (C6)	(2 or more required) Water Stained Le (MLRA 1, 2, 4A, 4B) Drainage Pattern Dry-Season Wate Saturation Visible Geomorphic Posi Shallow Aquitard FAC-Neutral Test	eaves (B9) and 4B) s (B10) er Table (C2) e on Aerial Imagery (C9) ition (D2) (D3) t (D5) ids (D6) (LRR A)
Wetland Hydrology Indicators: Primary Indicators (min. of one required; ch 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)	 Water-Stained Lea Salt Crust (B11) Aquatic Invertebrat Hydrogen Sulfide C Oxidized Rhizosph Presence of Reduct Recent Iron Reduct Stunted or Stresse Other (Explain in Reduction) 	tes (B13) Odor (C1) heres along Living F ced Iron (C4) ction in Tilled Soils ed Plants (D1) (LRF	Roots (C3) (C6)	(2 or more required) Water Stained Le (MLRA 1, 2, 4A, Drainage Pattern Dry-Season Wate Saturation Visible Geomorphic Posi Shallow Aquitard FAC-Neutral Test Raised Ant Moun	eaves (B9) and 4B) s (B10) er Table (C2) e on Aerial Imagery (C9) ition (D2) (D3) t (D5) ids (D6) (LRR A)
Wetland Hydrology Indicators: Primary Indicators (min. of one required; ch 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 Lea Salt Crust (B11) Aquatic Invertebrat Hydrogen Sulfide C Oxidized Rhizosph Presence of Reduct Recent Iron Reduct Stunted or Stresse Other (Explain in Reduction) 	tes (B13) Odor (C1) heres along Living F ced Iron (C4) ction in Tilled Soils ed Plants (D1) (LRF	Roots (C3) (C6)	(2 or more required) Water Stained Le (MLRA 1, 2, 4A, Drainage Pattern Dry-Season Wate Saturation Visible Geomorphic Posi Shallow Aquitard FAC-Neutral Test Raised Ant Moun	eaves (B9) and 4B) s (B10) er Table (C2) e on Aerial Imagery (C9) ition (D2) (D3) t (D5) ids (D6) (LRR A)
Wetland Hydrology Indicators: Primary Indicators (min. of one required; ch 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 Lea Salt Crust (B11) Aquatic Invertebrat Hydrogen Sulfide C Oxidized Rhizosph Presence of Reduct Recent Iron Reduct Stunted or Stresse Other (Explain in Ref. 	tes (B13) Odor (C1) heres along Living F ced Iron (C4) ction in Tilled Soils ed Plants (D1) (LRF emarks)	Roots (C3) (C6)	(2 or more required) Water Stained Le (MLRA 1, 2, 4A, Drainage Pattern Dry-Season Wate Saturation Visible Geomorphic Posi Shallow Aquitard FAC-Neutral Test Raised Ant Moun	eaves (B9) and 4B) s (B10) er Table (C2) e on Aerial Imagery (C9) ition (D2) (D3) t (D5) ids (D6) (LRR A)
Wetland Hydrology Indicators: Primary Indicators (min. of one required; ch 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 Lea Salt Crust (B11) Aquatic Invertebrat Hydrogen Sulfide (Oxidized Rhizosph Presence of Reduc Recent Iron Reduc Stunted or Stresse Other (Explain in Re)	tes (B13) Odor (C1) heres along Living F ced Iron (C4) ction in Tilled Soils ed Plants (D1) (LRF emarks)	Roots (C3) (C6) 2 A)	(2 or more required)	eaves (B9) and 4B) s (B10) er Table (C2) e on Aerial Imagery (C9) ition (D2) (D3) t (D5) ids (D6) (LRR A)
Wetland Hydrology Indicators: Primary Indicators (min. of one required; ch 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 Field Observations: Surface Water Present?	Water-Stained Lea Salt Crust (B11) Aquatic Invertebrat Hydrogen Sulfide (Oxidized Rhizosph Presence of Reduc Recent Iron Reduc Stunted or Stresse Other (Explain in Re)	tes (B13) Odor (C1) heres along Living F ced Iron (C4) ction in Tilled Soils ed Plants (D1) (LRF emarks)	Roots (C3) (C6) 2 A)	(2 or more required) Water Stained Le (MLRA 1, 2, 4A, Drainage Pattern Dry-Season Wate Saturation Visible Geomorphic Posi Shallow Aquitard FAC-Neutral Test Raised Ant Moun	eaves (B9) and 4B) s (B10) er Table (C2) e on Aerial Imagery (C9) ition (D2) (D3) t (D5) ids (D6) (LRR A)
Wetland Hydrology Indicators: Primary Indicators (min. of one required; ch 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 Field Observations: Surface Water Present? Yes Saturation Present? Yes Includes Capillary fringe)	□ Water-Stained Lea □ Salt Crust (B11) □ Aquatic Invertebrat □ Hydrogen Sulfide C □ Oxidized Rhizosph □ Presence of Reduct □ Recent Iron Reduct □ Stunted or Stresse □ Other (Explain in Reduct) No ☑ Depth (No ☑ Depth (No ☑ Depth (tes (B13) Odor (C1) heres along Living F ced Iron (C4) stion in Tilled Soils d Plants (D1) (LRF emarks)	Roots (C3) (C6) (A) (Wet	(2 or more required) Water Stained Le (MLRA 1, 2, 4A, Drainage Pattern Dry-Season Wate Saturation Visible Geomorphic Posi Shallow Aquitard FAC-Neutral Test Raised Ant Moun Frost-Heave Hur	eaves (B9) and 4B) s (B10) er Table (C2) e on Aerial Imagery (C9) ition (D2) (D3) t (D5) nds (D6) (LRR A) nmocks (D4)
Wetland Hydrology Indicators: Primary Indicators (min. of one required; ch 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 Field Observations: Surface Water Present? Yes Saturation Present?	□ Water-Stained Lea □ Salt Crust (B11) □ Aquatic Invertebrat □ Hydrogen Sulfide C □ Oxidized Rhizosph □ Presence of Reduct □ Recent Iron Reduct □ Stunted or Stresse □ Other (Explain in Reduct) No ☑ Depth (No ☑ Depth (No ☑ Depth (tes (B13) Odor (C1) heres along Living F ced Iron (C4) stion in Tilled Soils d Plants (D1) (LRF emarks)	Roots (C3) (C6) (A) (Wet	(2 or more required) Water Stained Le (MLRA 1, 2, 4A, Drainage Pattern Dry-Season Wate Saturation Visible Geomorphic Posi Shallow Aquitard FAC-Neutral Test Raised Ant Moun Frost-Heave Hur	eaves (B9) and 4B) s (B10) er Table (C2) e on Aerial Imagery (C9) ition (D2) (D3) t (D5) nds (D6) (LRR A) nmocks (D4)
Wetland Hydrology Indicators: Primary Indicators (min. of one required; ch 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 Field Observations: Surface Water Present? Yes Saturation Present? Yes Includes Capillary fringe)	□ Water-Stained Lea □ Salt Crust (B11) □ Aquatic Invertebrat □ Hydrogen Sulfide C □ Oxidized Rhizosph □ Presence of Reduct □ Recent Iron Reduct □ Stunted or Stresse □ Other (Explain in Reduct) No ☑ Depth (No ☑ Depth (No ☑ Depth (tes (B13) Odor (C1) heres along Living F ced Iron (C4) stion in Tilled Soils d Plants (D1) (LRF emarks)	Roots (C3) (C6) (A) (Wet	(2 or more required) Water Stained Le (MLRA 1, 2, 4A, Drainage Pattern Dry-Season Wate Saturation Visible Geomorphic Posi Shallow Aquitard FAC-Neutral Test Raised Ant Moun Frost-Heave Hur	eaves (B9) and 4B) s (B10) er Table (C2) e on Aerial Imagery (C9) ition (D2) (D3) t (D5) nds (D6) (LRR A) nmocks (D4)
Wetland Hydrology Indicators: Primary Indicators (min. of one required; ch 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 Field Observations: Surface Water Present? Yes Saturation Present? Yes Includes Capillary fringe) Describe Recorded Data (Stream gauge, m	□ Water-Stained Lea □ Salt Crust (B11) □ Aquatic Invertebrat □ Hydrogen Sulfide C □ Oxidized Rhizosph □ Presence of Reduc □ Recent Iron Reduc □ Stunted or Stresse □ Other (Explain in Reduct) No ⊠ Depth (No ⊠ Depth (No ⊠ Depth (No ⊠ Depth (tes (B13) Odor (C1) heres along Living F ced Iron (C4) stion in Tilled Soils d Plants (D1) (LRF emarks)	Roots (C3) (C6) (A) (Wet	(2 or more required) Water Stained Le (MLRA 1, 2, 4A, Drainage Pattern Dry-Season Wate Saturation Visible Geomorphic Posi Shallow Aquitard FAC-Neutral Test Raised Ant Moun Frost-Heave Hur	eaves (B9) and 4B) s (B10) er Table (C2) e on Aerial Imagery (C9) ition (D2) (D3) t (D5) nds (D6) (LRR A) nmocks (D4)
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Wetland Hydrology Indicators: Primary Indicators (min. of one required; ch 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 Field Observations: Surface Water Present? Yes Saturation Present? Yes Includes Capillary fringe) Describe Recorded Data (Stream gauge, m	□ Water-Stained Lea □ Salt Crust (B11) □ Aquatic Invertebrat □ Hydrogen Sulfide C □ Oxidized Rhizosph □ Presence of Reduc □ Recent Iron Reduc □ Stunted or Stresse □ Other (Explain in Reduct) No ⊠ Depth (No ⊠ Depth (No ⊠ Depth (No ⊠ Depth (tes (B13) Odor (C1) heres along Living F ced Iron (C4) stion in Tilled Soils d Plants (D1) (LRF emarks)	Roots (C3) (C6) (A) (Wet	(2 or more required) Water Stained Le (MLRA 1, 2, 4A, Drainage Pattern Dry-Season Wate Saturation Visible Geomorphic Posi Shallow Aquitard FAC-Neutral Test Raised Ant Moun Frost-Heave Hur	eaves (B9) and 4B) s (B10) er Table (C2) e on Aerial Imagery (C9) ition (D2) (D3) t (D5) nds (D6) (LRR A) nmocks (D4)
Wetland Hydrology Indicators: Primary Indicators (min. of one required; ch 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 Field Observations: Surface Water Present? Yes Saturation Present? Yes Includes Capillary fringe) Describe Recorded Data (Stream gauge, m	□ Water-Stained Lea □ Salt Crust (B11) □ Aquatic Invertebrat □ Hydrogen Sulfide C □ Oxidized Rhizosph □ Presence of Reduc □ Recent Iron Reduc □ Stunted or Stresse □ Other (Explain in Reduct) No ⊠ Depth (No ⊠ Depth (No ⊠ Depth (No ⊠ Depth (tes (B13) Odor (C1) heres along Living F ced Iron (C4) stion in Tilled Soils d Plants (D1) (LRF emarks)	Roots (C3) (C6) (A) (Wet	(2 or more required) Water Stained Le (MLRA 1, 2, 4A, Drainage Pattern Dry-Season Wate Saturation Visible Geomorphic Posi Shallow Aquitard FAC-Neutral Test Raised Ant Moun Frost-Heave Hur	eaves (B9) and 4B) s (B10) er Table (C2) e on Aerial Imagery (C9) ition (D2) (D3) t (D5) nds (D6) (LRR A) nmocks (D4)
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Project/Site: <u>HJ Delineation</u> Applicant/Owner: Herb Johnson		City/Co	unty: <u>Chehali</u> State: W		ling Date: <u>8/27/2</u> Sampling Point:		
Investigator(s): 7Wills, KT		Sectio		, Range: 4, 13N, 2W	· On		
Landform (hillslope, terrace, etc.): Terrace		_ocal relief: Co		,		ope (%):<	3%
Subregion (LRR): A2	Lat: 46.645		Long: -122.9	937408	Datum: NAD8		- / •
Soil Map Unit Name: Lacamas silt loam, 0 to 3 percent				WI classification: PEM1/S	<u>-</u> Satani <u>-Ny De</u>		
Are climatic / hydrologic conditions on the site typical for	or this time of y	vear? Yee		no explain Remarks)			
Are Vegetation, Soil, or Hydrology significantly	v disturhed?			Circumstances" present?			
Are Vegetation, Soli, or Hydrology asignificantly Are Vegetation, Soil, or Hydrology anaturally pr	oblematic?			iny answers in Remarks.			
					,	o to	
SUMMARY OF FINDINGS – Attach site map	•	amping po	int locatio	ns, transects, impo	itant leatures	s, eic.	
Hydrophytic Vegetation Present? Yes ⊠ No Hydric Soils Present? Yes ⊠ No Wetland Hydrology Present? Yes ⊠ No	3		mpled Area Wetland?	Yes⊠ No			
Remarks: This test plot was located in the central por		within the se	uthoastorn n	ortion of Wotland A The	vogotation in th	ic tost plat	•
consisted of herbaceous species only. This test plot me							
(F3), and the presence of hydrologic indicators; Water							
majority of the site, wetlands and uplands, was vegetat						(D0). III	C
	ica by reeu ca	narygrass (FI					
VEGETATION (Use scientific names)							
· · · · · · · · · · · · · · · · · · ·	Absoluto	Dominant	Indiactor	Dominance Test Mar	kehaat		
Tree Stratum (Plot size:30 ft radius)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Wor			
1	%			Number of Dominant S That Are OBL, FACW,		1	(A)
2	%			THAL ATE UBL, FACW,	UI FAG.		
3	%			Total Number of Domi	hant		(5)
4.	%			Species Across All Str		1	(B)
Total Cover:	%			Openies Anioss Ali Sli			
				Percent of Dominant S	necies -	100	(A/B)
<u>Sapling/Shrub Stratum</u> (Plot size: <u>5 f</u> t. radius)				That Are OBL, FACW,			
1	%			Prevalence Index wo			
	<u> </u>			Total % Cover of		ultiply by:	
	%			OBL species	<u>x 1=</u>	unipiy by.	_
							—
4 5	%			FAC species	x 2= x 3=		_
Total Cover:	<u>%</u>			FACU species	x 3= x 4=		_
Herb Stratum (Plot size: 5 ft radius)	70			UPL species	x 4= x 5=		_
1. Phalaris arundinacea	85%	yes	FACW	Column Totals:	X 3= (A)		(B)
2. Ranunculus repens	15%	no no	FAC		the lndex = $B/A=$		
3.	15% %		170	Hydrophytic Vegetati			
4.				1 – Rapid Test fo		agatation	
т.	%			\square 1 – Rapid Test id \square 2 – Dominance		Gyeralion	
5.	%			3 - Prevalence Ir			
5 6				4 - Morphologica		Drovido	
Ο.	%			supporting data			to shoot)
7.	%					n a sepala	ite sheet)
7 8	<u> </u>			U Wetland Non-Va	scular Plante ¹		
oTotal Cover:	100%					tion ¹ (Eval	ain)
	100%			Problematic Hyd	rophytic vegeta	uon (⊏xpla	a111)
<u>Woody Vine Stratum</u> (Plot size: <u>30</u> ft radius)	07			¹ Indicators of hydric so	il and watland h	vdrology	
1	<u>%</u> %			-			
	<u>%</u>			Must be present, unles	s distuibed of p		·.
Total Cover:	70						
				Hydrophytic Vegetatio	n Present?		
% Bare Ground in Herb Stratum 0%						Yes⊠	
Remarks: The hydrophytic vegetation criterion is met	due to 100% of	of the vegetati	ion within the	test plot having either C	BL, FACW, or F	AC indica	tor
statuses.		-					
	-						

Profile Description: (Describe to the dep	th needed to docu	ment the ind	icator or con	firm the	absence of indicators.)	· -
Depth Matrix		Redox Feat	IFOR			
(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%	С	PL	loamy clay	
<u> </u>		<u>%</u>				
<u> </u>		<u>%</u> %				
<u> </u>		%				
<u> </u>		%				
%		%				
¹ Type: C=Concentration, D=Depletion, R				and Grain		
Hydric Soil Indicators: (Applicable to all)		Indicators for Problematic H	ydric Soils
Histosal (A1)	Sandy Redox (2 cm Muck (A10) Red Parent Material (TF2) 	
		(30)			Very Shallow Dark Surface ((TF12)
Black Histic (A3)	Loamy Mucky	Mineral (F1) (except MLR/	A 1)	Other (Explain in Remarks)	, _ ,
Hydrogen Sulfide (A4)	Loamy Gleyed	Matrix (F2)				
Depleted Below Dark Surface (A11)	Depleted Matri	x (F3)				
Thick Dark Surface (A12)	🗌 Redox Dark Su	urface (F6)				
Sandy Mucky Minerals (S1)	Depleted Dark	. ,			³ Indicators of hydrophytic veget	ation and
Sandy Gleyed Matrix (S4)	Redox Depress	sions (F8)			Wetland hydrology must be	present
Restrictive Layer (if present):						
Туре:				Hve	dric Soil Present?	
- ypo				,		Yes⊠ No⊡
Depth (inches):						
Remarks: The hydric soil indicator Deplete	d Matrix (F3) was me	et due to a ma	atrix value of 4	4 and a c	hroma of 1 with more than 2 per	cent redox
concentrations found in pore linings.						
HYDROLOGY						
Wetland Hydrology Indicators:					Secondary Indicators	···
					(2 or more required)	
Primary Indicators (min. of one required; ch	eck all that apply)					(D0)
Surface Water (A1)	Water-Stained	Leaves (R9)	excent MI R	Δ124	Water Stained Leave (MLRA 1, 2, 4A, and (MLRA 1, 2, 4A)	
High Water Table (A2)	Salt Crust (B11	. ,	(except mert	~ 1, 2, 4/	Drainage Patterns (E	
\Box Saturation (A3)	Aquatic Inverte	,			Dry-Season Water T	
☐ Water Marks (B1)	Hydrogen Sulfi				Saturation Visible on	
Sediment Deposits (B2)	Oxidized Rhizo			s (C3)	Geomorphic Position	
Drift Deposits (B3)	Presence of Re	educed Iron (C4)		Shallow Aquitard (D3	3)
Algal Mat or crust (B4)	Recent Iron Re				🛛 FAC-Neutral Test (D	
Iron Deposits (B5)	Stunted or Stre		D1) (LRR A)		Raised Ant Mounds	. , . ,
Surface Soil Cracks (B6)	Other (Explain i	in Remarks)			Frost-Heave Hummo	ocks (D4)
☐ Inundation Visible on Aerial Imagery (B	7)					
Field Observations:						
Surface Water Present? Yes	No 🖂 🛛 Dep	oth (Inches):				
Water Table Present? Yes		oth (Inches):		Wet	land Hydrology Present?	
Saturation Present? Yes	No 🛛 🛛 Dep	oth (Inches):				Yes 🛛 No 🗌
(Includes Capillary fringe)		Inhoton			vailable.	
Describe Recorded Data (Stream gauge, n	ionitoring well, aeria	i priotos, prev	nous inspection	ons), if av		
Remarks: The hydrology indicator, Water S					ound within the test plot. Addtion	ally, the test plot was
located in a depression (Geomorphic Posit	on D2) and had a po	ositve FAC-N	eutral Test (D	5).		

	City/Co	unty: <u>Chehal</u> i	
		State: W	
			, Range: <u>4, 13N, 2W</u>
			Slope (%):<3%
	411		
			WI classification: PEM1/SSC
			Circumstances" present? Yes⊠ No⊡
	•		
owing sa	ampling po	int locatio	ons, transects, important features, etc.
	le the Sa	mplad Araa	
			Yes□ No⊠
			The vegetation in this test plot consisted of herbaceous
			e dominant vegetation being hydrophytic; therefore it does
ite, wetlar	nds and uplan	ds, was vege	etated by reed canarygrass (Phalaris arundinacea).
	Destin	In Part	Deminence Text West of each
			Dominance Test Worksheet
	Species?	Status	Number of Deminent Creation
			Number of Dominant Species 1 (A) That Are OBL, FACW, or FAC:
			That Ale OBL, FACIV, OF FAC.
			Total Number of Dominant
			Species Across All Strata:(B)
%			
			Percent of Dominant Species 100 (A/B)
			That Are OBL, FACW, or FAC
%			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=
	yes		Column Totals: (A) (B)
	no		Prevalence Index = B/A=
10%	no		Hydrophytic Vegetation Indicators:
10%	no	FACU	1 – Rapid Test for Hydrophytic Vegetation
			\boxtimes 2 – Dominance Test is >50%
10%	no	FACU	□ 3 - Prevalence Index is $\leq 3.0^{1}$
%			4 - Morphological Adaptations ¹ (Provide
			supporting data In Remarks or on a separate sheet
0/			
%			Watland Nan Vascular Planta
%			Wetland Non-Vascular Plants ¹ Replaced by the Vagetation ¹ (Explain)
			 Wetland Non-Vascular Plants¹ Problematic Hydrophytic Vegetation¹ (Explain)
% 100%			Problematic Hydrophytic Vegetation ¹ (Explain)
% 100% %			Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology
% 100% % %			Problematic Hydrophytic Vegetation ¹ (Explain)
% 100% %			 Problematic Hydrophytic Vegetation¹ (Explain) ¹Indicators of hydric soil and wetland hydrology Must be present, unless disturbed or problematic.
% 100% % %			Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology
	at: 46.645 bes is time of turbed? matic? Dwing s Dwing s for vegeta ite, wetlar D D D D S D D D S D D S D S D S D S D S D S D S D S D S D S D S D S D S D S D S D S D S D S D S D S D S D S D S D S D S D S D S D S D S D S D S D S D S D S D S D S D S D S D S D S D S D S D S D S D S D S D S D S D S D S D S D S D S D S D S D S D S D S D S D S D S D S D S D S D S D S D S S S S S S S S S S	Local relief: Co at: 46.645411 bes is time of year? Yes is time of year? Yes powing sampling po ls the Sa within a V n of the site, just west of for vegetation with 100 j ite, wetlands and uplan boolute Dominant Cover Species? % % % % % % % % % % % % % % % % % % %	Local relief: Convex at: 46.645411 Long:-122. bes N is time of year? Yes⊠ No[(If turbed? Area "Normal 0 ematic? (If needed, explain a owing sampling point location at: a within a Wetland? n of the site, just west of Wetland A. for vegetation with 100 percent of th ite, wetlands and uplands, was veget 0

Profile Description: (Describe to the dep	th needed to docu	ment the indi	cator or confi	rm the	absence of indicators.)	
Depth Matrix		Redox Featu	res			
(inches) Color (moist) %	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
0-11 10YR3/3 100%		%			loam	
<u>11-16</u> 10YR4/2 98%	10YR4/6	2%	С	PL	loamy clay	
· <u> </u>		<u>%</u> %				
· ///////////////////////////////		<u> </u>				
<u> </u>		%				
<u> </u>		%				
<u> </u>		%				
¹ Type: C=Concentration, D=Depletion, R				d Graii		
Hydric Soil Indicators: (Applicable to all Histosal (A1)	Sandy Redox				Indicators for Problematic Hy	varic Solis
Histic Epipedon (A2)	Stripped Matrix				Red Parent Material (TF2)	
		(00)			Very Shallow Dark Surface (TF12)
Black Histic (A3)	Loamy Mucky	Mineral (F1) (except MLRA	1)	Other (Explain in Remarks)	
Hydrogen Sulfide (A4)	Loamy Gleyed					
Depleted Below Dark Surface (A11)	Depleted Matri	· · /				
Thick Dark Surface (A12)	Redox Dark Su	. ,				
Sandy Mucky Minerals (S1)	Depleted Dark	()			³ Indicators of hydrophytic vegeta	
Sandy Gleyed Matrix (S4)	Redox Depres	sions (F8)		<u> </u>	Wetland hydrology must be	present
Restrictive Layer (if present):						
Туре:				Ну	dric Soil Present?	
				,		Yes⊡ No⊠
Depth (inches):						
Remarks: There was no evidence of hydric	soils within this test	plot.				
HYDROLOGY						
Wetland Hydrology Indicators:					Secondary Indicators	
Drimon Indiantan (min of an anning to the					(2 or more required)	
Primary Indicators (min. of one required; ch	eck all that apply)					
Surface Water (A1)	U Water-Stained	Leaves (B9) (excent MI RA	124	Water Stained Leave (MLRA 1, 2, 4A, and	
High Water Table (A2)	Salt Crust (B1			.,_, -	Drainage Patterns (E	
Saturation (A3)	Aquatic Inverte				Dry-Season Water T	,
☐ Water Marks (B1)	Hydrogen Sulf				Saturation Visible on	
Sediment Deposits (B2)	Oxidized Rhizo	. ,	g Living Roots	(C3)	Geomorphic Position	
Drift Deposits (B3)	Presence of R			· /	☐ Shallow Aquitard (D3	
Algal Mat or crust (B4)	Recent Iron Re	eduction in Till	ed Soils (C6)		FAC-Neutral Test (D	
Iron Deposits (B5)	Stunted or Stre				Raised Ant Mounds	
Surface Soil Cracks (B6)	Other (Explain		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		Frost-Heave Hummo	
Inundation Visible on Aerial Imagery (B7	<i>'</i>)					
				-		
Field Observations: Surface Water Present? Yes						
		th (Inchas);				
Water Table Present? Ves		oth (Inches):		We	tland Hydrology Present?	
Water Table Present? Yes	No 🛛 🛛 Dej	oth (Inches):	<u> </u>	We	tland Hydrology Present?	Yes 🗆 No 🖂
Saturation Present? Yes (Includes Capillary fringe)	No 🛛 Der No 🖾 Der	oth (Inches): _ oth (Inches): _				Yes 🗌 No 🛛
Saturation Present? Yes	No 🛛 Der No 🖾 Der	oth (Inches): _ oth (Inches): _				Yes 🗌 No 🛛
Saturation Present? Yes (Includes Capillary fringe)	No 🛛 Der No 🖾 Der	oth (Inches): _ oth (Inches): _				Yes 🗌 No 🛛
Saturation Present? Yes (Includes Capillary fringe) Describe Recorded Data (Stream gauge, m	No ⊠ Dep No ⊠ Dep nonitoring well, aeria	oth (Inches): _ oth (Inches): _ Il photos, previ				Yes 🗌 No 🛛
Saturation Present? Yes (Includes Capillary fringe)	No ⊠ Dep No ⊠ Dep nonitoring well, aeria	oth (Inches): _ oth (Inches): _ Il photos, previ				Yes 🗌 No 🛛
Saturation Present? Yes (Includes Capillary fringe) Describe Recorded Data (Stream gauge, m	No ⊠ Dep No ⊠ Dep nonitoring well, aeria	oth (Inches): _ oth (Inches): _ Il photos, previ				Yes 🗌 No 🛛
Saturation Present? Yes (Includes Capillary fringe) Describe Recorded Data (Stream gauge, m	No ⊠ Dep No ⊠ Dep nonitoring well, aeria	oth (Inches): _ oth (Inches): _ Il photos, previ				Yes 🗌 No 🛛
Saturation Present? Yes (Includes Capillary fringe) Describe Recorded Data (Stream gauge, m	No ⊠ Dep No ⊠ Dep nonitoring well, aeria	oth (Inches): _ oth (Inches): _ Il photos, previ				Yes 🗌 No 🛛

	City/Co	unty: <u>Chehal</u>	
		•	
			Slope (%):<3%
	389		
slopes			IWI classification: PEM1/SSC
			Circumstances" present? Yes⊠ No⊡
	,		
	ampling po	Int locatio	ons, transects, important features, etc.
	Is the Sa	mpled Area	
			Yes⊟ No⊠
ne site, wettai	nos ano upian	us, was vege	etated by reed canarygrass (Phalans arundinacea).
Absolute	Dominant	Indicator	Dominance Test Worksheet
% Cover	Species?	Status	
%			Number of Dominant Species 1 (A)
			That Are OBL, FACW, or FAC:
			Total Number of Deminent
			Total Number of Dominant1 (B)
%			Species Across All Strata:
			Percent of Dominant Species (A/B)
			That Are OBL, FACW, or FAC
%			Prevalence Index worksheet
%			Total % Cover of: Multiply by:
%			OBL species x 1=
%			FACW species x 2=
%			FAC species x 3=
%			FAC species x 3= FACU species x 4=
			UPL species x 5=
65%	yes	FACW	Column Totals: (A) (B)
	no		Prevalence Index = B/A=
10%	no	FACU	Hydrophytic Vegetation Indicators:
10%	no	FACU	1 – Rapid Test for Hydrophytic Vegetation
			2 – Dominance Test is >50%
10%	no	FACU	□ 3 - Prevalence Index is $\leq 3.0^1$
%			4 - Morphological Adaptations ¹ (Provide
0/			supporting data In Remarks or on a separate sheet)
%			
%			☐ Wetland Non-Vascular Plants ¹
% 100%			 Wetland Non-Vascular Plants¹ Problematic Hydrophytic Vegetation¹ (Explain)
% 100% %			Wetland Non-Vascular Plants ¹ Problematic Hydrophytic Vegetation ¹ (Explain) Indicators of hydric soil and wetland hydrology
% 100% %			 Wetland Non-Vascular Plants¹ Problematic Hydrophytic Vegetation¹ (Explain)
% 100% %			Wetland Non-Vascular Plants ¹ Problematic Hydrophytic Vegetation ¹ (Explain) Indicators of hydric soil and wetland hydrology Must be present, unless disturbed or problematic.
% 100% %			Wetland Non-Vascular Plants ¹ Problematic Hydrophytic Vegetation ¹ (Explain) Indicators of hydric soil and wetland hydrology
	Lat: 46.644 slopes or this time of y disturbed? oblematic? showing s showing s showing s and stor for vegeta he site, wetlan Absolute % Cover % % % % % % % % % % % % % % % % % % %	Section Local relief: Coll Lat: 46.644389 slopes or this time of year? Yes y disturbed? Arr oblematic? (If need showing sampling po Is the Sa within a V arr protion of the site, south tor for vegetation with 100 phe site, wetlands and uplan Absolute Dominant % Species? <	State: W Section, Township Local relief: Convex Lat: 46.644389 Long: -122. slopes No or this time of year? Yes No (If oblematic? (If needed, explain a showing sampling point locatic Is the Sampled Area within a Wetland? ern portion of the site, south of Wetland. tor for vegetation with 100 percent of th he site, wetlands and uplands, was veget %

Profile Description: (Describe to the dept	h needed to docu	ment the indi	cator or confir	m the a	absence of indicators.)	
Depth Matrix		Redox Featu	res			
(inches) Color (moist) %	Color (moist)	%	Type ¹ I	Loc ²	Texture	Remarks
<u>0-5 10YR3/3 100%</u>		%			gravelly loam	See Remarks Below
<u>%</u>		<u> % </u> %			·	
		<u> % </u> %			·	
<u></u>		%				
		%				
%		%				
<u> </u>		%				
¹ Type: C=Concentration, D=Depletion, RM				d Grains		
Hydric Soil Indicators: (Applicable to all Histosal (A1)	LRRs, unless othe				Indicators for Problemat	tic Hydric Soils
Histosal (A1)	Stripped Matrix				Red Parent Material (TF	2)
		(00)			Very Shallow Dark Surfa	
Black Histic (A3)	Loamy Mucky	Mineral (F1) (except MLRA 1		Other (Explain in Remai	
Hydrogen Sulfide (A4)	Loamy Gleyed	Matrix (F2)				
Depleted Below Dark Surface (A11)	Depleted Matri	x (F3)				
Thick Dark Surface (A12)	🗌 Redox Dark Su	urface (F6)				
Sandy Mucky Minerals (S1)	Depleted Dark	Surface (F7)			³ Indicators of hydrophytic v	egetation and
Sandy Gleyed Matrix (S4)	Redox Depress	sions (F8)			Wetland hydrology mus	st be present
Restrictive Layer (if present):						
Turney Hand a se					Inia Call Dreasen()	
Type: <u>Hard pan</u>				Нус	dric Soil Present?	Yes⊟ No⊠
Depth (inches): <u>5</u>						
Remarks: The soil consisted of historic com	pacted fill material a	and gravel. Th	ere was no evid	dence d	of hydric soils within this tes	st plot.
		giaren 11				
						· · · · · ·
HYDROLOGY						
Wetland Hydrology Indicators:					Secondary Indicato	
Drimony Indiantors (min. of one required; ch	alk all that apply)				(2 or more required	1)
Primary Indicators (min. of one required; che	eck all that apply)				Water Stained L	aavaa (P0)
Surface Water (A1)	U Water-Stained	Leaves (B9) (except MI RA	1. 2. 44		
High Water Table (A2)	Salt Crust (B11			.,_,	Drainage Patter	
Saturation (A3)	Aquatic Inverte				Dry-Season Wa	
Water Marks (B1)	Hydrogen Sulfi					le on Aerial Imagery (C9)
Sediment Deposits (B2)	Oxidized Rhizo	spheres alon	g Living Roots ((C3)	Geomorphic Po	sition (D2)
Drift Deposits (B3)	Presence of Re	educed Iron (C	24)		Shallow Aquitar	d (D3)
Algal Mat or crust (B4)	Recent Iron Re	duction in Till	ed Soils (C6)		FAC-Neutral Te	st (D5)
Iron Deposits (B5)	Stunted or Stre	essed Plants (D1) (LRR A)		Raised Ant Mou	ınds (D6) (LRR A)
Surface Soil Cracks (B6)	Other (Explain i	n Remarks)			Frost-Heave Hu	immocks (D4)
Inundation Visible on Aerial Imagery (B7))					
Field Olympic line				<u> </u>		
Field Observations: Surface Water Present? Yes □	No 🖂 🛛 Dep	th (Inchas);				
Water Table Present? Yes		oth (Inches): oth (Inches):		Wotl	and Hydrology Present?	
Saturation Present? Yes		oth (Inches):		Weti	and right flogy i resent:	Yes 🗌 No 🖂
(Includes Capillary fringe)						
Describe Recorded Data (Stream gauge, me	onitoring well, aeria	l photos, prev	ious inspections	s), if av	ailable:	
Remarks:There was no evidence of hydrolo	av within this test of	ot				
	gy within this test pi					

Project/Site: HJ Delineation		City/Co	unty:Chehal		ing Date: 8/27/2	
Applicant/Owner: Herb Johnson			State: W		ampling Point:	TP-8
Investigator(s): Wills, KT				, Range: <u>4, 13N, 2W</u>		
Landform (hillslope, terrace, etc.): Terrace		Local relief: Co				ope (%): <u><3%</u>
Subregion (LRR): A2	Lat: 46.644	369	Long: -122.		Datum: NAD8	3
Soil Map Unit Name: Lacamas silt loam, 0 to 3 percent				WI classification: PEM1/S	SC	
Are climatic / hydrologic conditions on the site typical fo						
Are Vegetation, Soil, or Hydrology significantly				Circumstances" present?		
Are Vegetation, Soil, or Hydrology naturally p		•	•	any answers in Remarks.)		
SUMMARY OF FINDINGS – Attach site map		ampling po	oint locatio	ons, transects, impor	tant features	s, etc.
Hydrophytic Vegetation Present? Yes □ No ∅ Hydric Soils Present? Yes □ No ∅		Is the Sa	mpled Area			
Wetland Hydrology Present? Yes Ves No 2		within a	Wetland?	Yes 🗌 No	3	
Remarks: This test plot was located in the southeaster		he site south	east of Wetla	and A. The vegetation in th	his test plot con	sisted of
herbaceous species only. This test plot met only one w	etland indicat	or for vegetati	on with 100	percent of the dominant v	egetation being	hvdrophytic:
therefore it does not meet the criteria of being wetland.						
arundinacea).	, ,	,		, , ,	,,,	,
VEGETATION (Use scientific names)						
	Absolute	Dominant	Indicator	Dominance Test Work	sheet	
Tree Stratum (Plot size:30 ft radius)	% Cover	Species?	Status			
1	%			Number of Dominant S		2 (A)
2	%		-	That Are OBL, FACW, o	or FAC:	
3	%			Total Number of Domin	ant	
4	%			Species Across All Stra		<u>2</u> (B)
Total Cover:	%					100 (A/D)
				Percent of Dominant Sp	becies -	100 (A/B)
Sapling/Shrub Stratum (Plot size: 5 ft. radius)				That Are OBL, FACW,	or FAC	
1	%			Prevalence Index wor		
2	%			Total % Cover of	: M	ultiply by:
3	%			OBL species	x 1=	
4	%			FACW species	x 2=	
5	%			FAC species	x 3=	
Total Cover:	%			FACU species	x 4= x 5=	
<u>Herb Stratum</u> (Plot size: <u>5</u> ft radius) 1. <i>Phalaris arundinacea</i>	50%	VOC	FACW	Column Totals:	X 3= (A)	(B)
2. Dipsacus fullonum	25%	yes yes	FAC		e Index = B/A=_	
3. Daucus carota	15%	no	FACU	Hydrophytic Vegetatio		
1		no	FACU	1 – Rapid Test fo		egetation
 Hypochaeris radicata 	5%	110	17100	2 – Dominance T		ogotation
5. Trifolium pratense	5%	no	FACU	3 - Prevalence Ind		
6.			-	4 - Morphological		Provide
	%			supporting data Ir	n Remarks or or	n a separate sheet)
7	%					
8	%			Wetland Non-Vas		
Total Cover:	100%			Problematic Hydr	ophytic Vegetat	tion ¹ (Explain)
Woody Vine Stratum (Plot size: <u>30</u> ft radius)	0/			1		
1	%			¹ Indicators of hydric soi		
2	<u>%</u> %			Must be present, unless	s disturbed or p	robiematic.
Total Cover:	70					
				Hydrophytic Vegetation	1 Present?	
% Bare Ground in Herb Stratum <u>0%</u>						Yes No
Remarks: The hydrophytic vegetation criterion is met	due to 100% (of the domina	nt vegetation	within the test plot having	Jeither OBL, F	ACW, or FAC
indicator statuses.						

Profile Description: (Describe to the dep	th needed to docu	ment the indi	cator or confir	m the	absence of indicators.)	
Depth Matrix		Redox Featu	res			
(inches) Color (moist) %	Color (moist)	%	Type ¹ I	Loc ²	Texture	Remarks
<u>0-7</u> <u>10YR3/3</u> <u>100%</u>		%			gravelly loam	See Remarks Below
<u> </u>		%				- <u> </u>
<u>%</u>		<u>%</u> %	<u> </u>		<u> </u>	- <u> </u>
<u> </u>		<u> </u>				·
<u> </u>		%				
		%				
<u> </u>		%				
¹ Type: C=Concentration, D=Depletion, R				d Grain		
Hydric Soil Indicators: (Applicable to all Histosal (A1)	LRRs, unless othe ☐ Sandy Redox				Indicators for Problema 2 cm Muck (A10)	tic Hydric Soils
Histosal (A1)	Stripped Matrix				Red Parent Material (TI	F2)
		(00)			Very Shallow Dark Surf	
Black Histic (A3)	Loamy Mucky	Mineral (F1) (except MLRA 1	1)	Other (Explain in Rema	
Hydrogen Sulfide (A4)	Loamy Gleyed	Matrix (F2)				
Depleted Below Dark Surface (A11)	Depleted Matri	ix (F3)				
Thick Dark Surface (A12)	Redox Dark S	urface (F6)				
Sandy Mucky Minerals (S1)	Depleted Dark	Surface (F7)			³ Indicators of hydrophytic v	egetation and
Sandy Gleyed Matrix (S4)	Redox Depres	sions (F8)			Wetland hydrology mus	st be present
Restrictive Layer (if present):						
Transitional and					daia Cail Dessauto	
Type: <u>Hard pan</u>				Нус	dric Soil Present?	Yes⊟ No⊠
Depth (inches): <u>7</u>						
Remarks: The soil consisted of historic con	pacted fill material	and gravel. Th	ere was no evid	dence	of hvdric soils within this te	st plot.
HYDROLOGY						
Wetland Hydrology Indicators:					Secondary Indicate	
Primary Indicators (min. of one required; ch	eck all that apply)				(2 or more required	u)
	oon an mar appry)				Water Stained	eaves (B9)
Surface Water (A1)	U Water-Stained	Leaves (B9) (except MLRA	1, 2, 4/	—	
High Water Table (A2)	Salt Crust (B1		•		Drainage Patte	
Saturation (A3)	Aquatic Inverte	ebrates (B13)			🗌 Dry-Season Wa	ater Table (C2)
Water Marks (B1)	Hydrogen Sulf	ide Odor (C1)			Saturation Visib	ble on Aerial Imagery (C9)
Sediment Deposits (B2)	Oxidized Rhize	ospheres along	g Living Roots ((C3)	🗌 Geomorphic Po	osition (D2)
Drift Deposits (B3)	Presence of R	educed Iron (C	(4)		Shallow Aquitar	rd (D3)
Algal Mat or crust (B4)	Recent Iron Re	eduction in Tille	ed Soils (C6)		FAC-Neutral Te	est (D5)
Iron Deposits (B5)	Stunted or Stre	essed Plants (I	D1) (LRR A)		Raised Ant Mou	unds (D6) (LRR A)
Surface Soil Cracks (B6)	Other (Explain	in Remarks)			Frost-Heave Hu	ummocks (D4)
□ Inundation Visible on Aerial Imagery (B7	7)					
Field Observations						
Field Observations: Surface Water Present? Yes	No 🛛 🛛 Dej	oth (Inches):				
Water Table Present? Yes		oth (Inches):		Wot	land Hydrology Present?	
Saturation Present? Yes		oth (Inches):		Wet	and hydrology i resent:	Yes 🗌 No 🖂
(Includes Capillary fringe)				Î		
Describe Recorded Data (Stream gauge, m	onitoring well, aeria	I photos, previ	ous inspections	s), if av	ailable:	
BemerkerThere was no evidence of hydrold	av within this test p	lot				
Remarks:There was no evidence of hydrolo	yy within this test p	ιοι.				

Project/Site: Jackson Park III	City/County	r: Chehalis/Lewis	Sampling Date: <u>3/17/2022</u>
Applicant/Owner: K & W Properties, LLC		State: WA	Sampling Point: TP-1A
Investigator(s): Wills, K.	Section, T	ownship, Range: S4, T13	N, R2W
Landform (hillslope, terrace, etc.): Flood plains, terrace	Local relief: (conc	cave, convex, none): Conve	ex Slope (%):0-3%
Subregion (LRR): LRRA	Lat: 46.644937 Lo	ng: -122.937189	Datum: 83
Soil Map Unit Name: Lacamas silt loam		NWI classification: F	PEM1/SSC
Are climatic / hydrologic conditions on the site typical for	this time of year? Yes N	o (If no, explain Remark	<s.)< td=""></s.)<>
Are Vegetation, Soil, or Hydrology significantly	listurbed? Are "N	lormal Circumstances" pres	ent? Yes No
Are Vegetation, Soil, or Hydrology naturally pro	olematic? (If needed,	explain any answers in Rer	narks.)
SUMMARY OF FINDINGS – Attach site map s	howing sampling point	locations, transects,	important features, etc.
Hydrophytic Vegetation Present? Yes 🛛 No 🗌	Is the Sample	ad Araa	
Hydric Soils Present? Yes 🛛 No 🗌	within a Wet		No⊠
Wetland Hydrology Present? Yes 🗌 No 🖂	within a wet		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.

	Absolute	Dominant	Indicator	Dominance Test Worksheet		
Tree Stratum (Plot size:30 ft radius)	% Cover	Species?	Status			
1.	%			Number of Dominant Species	2	(A)
2.	%			That Are OBL, FACW, or FAC:		. ,
3.	%			_		
4.	%			Total Number of Dominant	2	(B)
50% = 20% =		=Total Cover		Species Across All Strata:		,
				Percent of Dominant Species		
Sapling/Shrub Stratum (Plot size: 15 ft. radius)				That Are OBL, FACW, or FAC	<u>100</u>	(A/B)
1	%			Prevalence Index worksheet		
2.	%			Total % Cover of:	Multiply by:	
3.	%			OBL species	x 1=	
4	%			FACW species	x 2=	
5	%	<u> </u>		FAC species	x 3=	
50% = 20% =	%	=Total Cover		FACU species	x 4=	
Herb Stratum (Plot size: <u>5</u> ft radius)				UPL species	x 5=	_
1. Phalaris arundinacea	70%	yes	FACW	Column Totals:	(A)	(B)
2. Poa sp.*	30%	yes	FAC	Prevalence Index =		
3.	%			Hydrophytic Vegetation Indica	ators:	
4.	%			1 – Rapid Test for Hydropl	hytic Vegetation	
5				2 – Dominance Test is >50	0%	
6.	A (3 - Prevalence Index is ≤3	.0 ¹	
7.	^ /			4 - Morphological Adaptati	ions ¹ (Provide	
8.	0/			supporting data in Remark	ks or on a separate	е
9.	%			sheet)		
10.	%			5 - Wetland Non-Vascular	Plants ¹	
11.	%			7 —		
50% = 50 20% = 20	100%	=Total Cover		Problematic Hydrophytic V	/egetation ¹ (Explai	in)
Woody Vine Stratum (Plot size: <u>15</u> ft radius)		-			5 (1	,
1	%			¹ Indicators of hydric soil and wet	tland hydrology	
2.	%			must be present, unless disturbe		
	%	=Total Cover		,	<u></u>	
50% = 20% =		-		Hydrophytic		
				Vegetation		
				Present?	Yes⊠ No[
% Bare Ground in Herb Stratum 0%						_
Remarks:*Poa sp. assumed FAC.				•		

Depth <u>Matrix</u>		Redox Featu				
(inches) Color (moist) %	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
<u>0-6</u> <u>10YR 3/2</u> <u>100%</u> <u></u>	10YR 5/8	<u>%</u> 20%			Silty clay loam Silty clay loam	
<u> </u>	1018 3/0	<u> 20% </u>				
<u> </u>	<u> </u>	%			<u>.</u>	
<u>%</u>		%				
<u> </u>		%				
%		%				
<u> </u>		%		<u> </u>	<u> </u>	· · · · · · · · · · · · · · · · · · ·
¹ Type: C=Concentration, D=Depletion, RM= Hydric Soil Indicators: (Applicable to all Lf	RRs, unless other	wise noted.		Indi	² Location: PL=Pore I cators for Problematic	
Histosal (A1)	Sandy Redox				cm Muck (A10)	N N N N N N N N N N N N N N N N N N N
Histic Epipedon (A2)	Stripped Matr) (avaant MI		ed Parent Material (TF2)	
Black Histic (A3)	Loamy Mucky			-	ery Shallow Dark Surfac her (Explain in Remark:	
Depleted Below Dark Surface (A11)	Depleted Mat)			5)
Thick Dark Surface (A12)	Redox Dark S	. ,		³ Indic	ators of hydrophytic veg	netation and
Sandy Mucky Minerals (S1)	Depleted Dark	. ,	7)		etland hydrology must b	
Sandy Gleyed Matrix (S4)	Redox Depres	•	")		less disturbed or proble	
Restrictive Layer (if present):						
Type: Depth (inches):				Hydric S	oil Present?	Yes⊠ No⊡
Remarks:				-		
HYDROLOGY						
Wetland Hydrology Indicators: Primary Indicators (min. of one required; chec	k all that apply)				Secondary Indicato	rs (2 or more required)
Surface Water (A1)	Water-Stained	Leaves (B	9) (except ML	RA 1, 2, 4A,		eaves (B9) (MLRA 1, 2,
High Water Table (A2)	and 4B)	4)			4A, and 4B)	
Saturation (A3)	Salt Crust (B1	,			Drainage Patterr	
Water Marks (B1)			2)		-	
	— •		,		Dry-Season Wat	er Table (C2)
Sediment Deposits (B2)	Hydrogen Sul	fide Odor (C	;1)	ate (C3)	Dry-Season Wat Saturation Visible	er Table (C2) e on Aerial Imagery (C9)
 Sediment Deposits (B2) Drift Deposits (B3) 	Hydrogen Sul	fide Odor (C ospheres al	í) ong Living Roc	ots (C3)	Dry-Season Wat Saturation Visibl Geomorphic Pos	er Table (C2) e on Aerial Imagery (C9) sition (D2)
 Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or crust (B4) 	 Hydrogen Sul Oxidized Rhiz Presence of R 	fide Odor (C ospheres al educed Iror	í) ong Living Roc n (C4)		 Dry-Season Wat Saturation Visibl Geomorphic Pos Shallow Aquitare 	er Table (C2) e on Aerial Imagery (C9) sition (D2) I (D3)
 Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or crust (B4) Iron Deposits (B5) 	Hydrogen Sul	fide Odor (C ospheres al educed Iror eduction in	.1) ong Living Roo ι (C4) Tilled Soils (C6	5)	 Dry-Season Wat Saturation Visible Geomorphic Pose Shallow Aquitare FAC Neutral Test 	er Table (C2) e on Aerial Imagery (C9) sition (D2) d (D3) st (D5)
 Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) 	 Hydrogen Sul Oxidized Rhiz Presence of F Recent Iron R Stunted or Str 	fide Odor (C ospheres al educed Iror eduction in essed Plant	n (C4) Tilled Soils (C6 S (D1) (LRR A	5)	 Dry-Season Wat Saturation Visibl Geomorphic Pos Shallow Aquitarc FAC Neutral Tes Raised Ant Mout 	er Table (C2) e on Aerial Imagery (C9) sition (D2) d (D3) st (D5) nds (D6) (LRR A)
 Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B7) 	Hydrogen Sul Oxidized Rhiz Oxidized Rhiz Presence of F Recent Iron R Stunted or Str Other (Explain	fide Odor (C ospheres al educed Iror eduction in essed Plant	n (C4) Tilled Soils (C6 S (D1) (LRR A	5)	 Dry-Season Wat Saturation Visible Geomorphic Pose Shallow Aquitare FAC Neutral Test 	er Table (C2) e on Aerial Imagery (C9) sition (D2) d (D3) st (D5) nds (D6) (LRR A)
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Project/Site: Jackson Park III		City/Cou	unty: <u>Cheh</u>		ng Date: <u>3/17/2022</u>
Applicant/Owner: K & W Properties, LLC			State: V		ng Point: TP-2A
Investigator(s): Wills, K.		Sectio	n, Townshi	p, Range: S4, T13N, R2W	
Landform (hillslope, terrace, etc.): Flood plains, terrac	ce	Local relief: (c	concave, co	onvex, none): Concave	Slope (%):0-3%
Subregion (LRR): LRRA	Lat: 46.644	862	Long: -12	2.937458 Datu	ım: 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 (II	f no, explain Remarks.)	
Are Vegetation, Soil, or Hydrology significan				Circumstances" present? Yes	No
Are Vegetation, Soil, or Hydrology naturally		(If need	ed, explain	any answers in Remarks.)	
SUMMARY OF FINDINGS – Attach site ma	p showing s	ampling po	int locati	ons, transects, important	features, etc.
Hydrophytic Vegetation Present? Yes 🛛 No				_	
Hydric Soils Present? Yes X No			npled Area		
Wetland Hydrology Present? Yes X No		within a V	vetiand?	Yes⊠ No⊡	
Remarks: This test plot met all three wetland indicat		hvdrophytic ve	aetation. se	oils with Depleted Matrix (F3), an	d the presence of
hydrologic indicators: High Water Table (A2), Iron De					
VEGETATION – Use scientific names of pl	ante				
VEGETATION - Ose scientific fiames of pr		Destinat	L. P. de .		
Trees Otreture (Distaire 20 ft redius)	Absolute	Dominant	Indicator	Dominance Test Worksheet	
Tree Stratum (Plot size:30 ft radius)	% Cover	Species?	Status		
1	%			Number of Dominant Species	(A)
2	%			That Are OBL, FACW, or FAC	
3	%			Tatal Number of Daminant	
4	%			Total Number of Dominant	1 (B)
50% = 20% =	%	=Total Cover		Species Across All Strata:	
				Dereast of Deminent Creasian	
Sopling/Shrub Stratum (Distaized 15 ft radius)				Percent of Dominant Species	100 (A/P)
Sapling/Shrub Stratum (Plot size: <u>15</u> ft. radius)	0/			That Are OBL, FACW, or FAC	
1	0/			Prevalence Index worksheet	
2	%			Total % Cover of:	Multiply by:
3	%			OBL species	_ x 1=
4	%			FACW species	x 2=
5	%			FAC species	x 3=
50% = 20% =	%	=Total Cover		FACU species	x 4=
Herb Stratum (Plot size: <u>5</u> ft radius)				UPL species	x 5=
1. Phalaris arundinacea	50%	yes	FACW	Column Totals:	(A) (B)
2	%			Prevalence Index	
3	%			Hydrophytic Vegetation Indi	
4	%			🛛 1 – Rapid Test for Hydro	
5	%			🛛 2 – Dominance Test is >	50%
6	%			☐ 3 - Prevalence Index is ≤	≤3.0 ¹
7.	%			4 - Morphological Adapta	
8.	%			supporting data in Rema	irks or on a separate
9.	%			sheet)	
10.	0/			5 - Wetland Non-Vascula	ar Plants ¹
11.	%				
50% = 25 20% = 10	50%	=Total Cover		Problematic Hydrophytic	Vegetation ¹ (Explain)
Woody Vine Stratum (Plot size: 15 ft radius)					
	%			¹ Indicators of hydric soil and w	etland bydrology
2.	<u>%</u>	·		must be present, unless distur	
	<u>%</u>	=Total Cover			bed of problematic.
50% = 20% =	-70	- Total Cover		Hydrophytic	
				Hydrophytic Vegetation	
				Vegetation Present2	Yes⊠ No⊡
% Bare Ground in Herb Stratum 50%				Present?	
Remarks:					

	rpe ¹ Loc C M	· ·	
% % % % % % % % % % % % % % % % % % % % % % % % % %	<u>C M</u>		Remarks
% % % % % % % % % % % % % % % % % %		Silty clay loam	
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$			
% % % % % % % %			
<u>%</u> %			
<u>%</u>		·	
Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or C	Coated Sand Gr	rains. ² Location: PL=Pc	ore Lining, M=Matrix
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Histosal (A1) Sandy Redox (S5) Histic Epipedon (A2) Stripped Matrix (S6) Black Histic (A3) Loamy Mucky Mineral (F1) (ex Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Depleted Below Dark Surface (A11) Depleted Matrix (F3)	xcept MLRA 1)	Other (Explain in Rem	TF2) rface (TF12) parks)
Thick Dark Surface (A12) Redox Dark Surface (F6) Sandy Mucky Minerals (S1) Depleted Dark Surface (F7)		³ Indicators of hydrophytic Wetland hydrology mu unless disturbed or pr	ust be present,
□ Sandy Gleyed Matrix (S4) □ Redox Depressions (F8)		unless disturbed of pr	Oblematic
Restrictive Layer (if present):			
Type: Depth (inches):		Hydric Soil Present?	Yes⊠ No⊡
Remarks:			
Vetland Hydrology Indicators: Primary Indicators (min. of one required; check all that apply)		Secondary Indic	ators (2 or more required
□ Surface Water (A1) □ Water-Stained Leaves (B9) (e) ☑ High Water Table (A2) and 4B)	xcept MLRA 1		ed Leaves (B9) (MLRA 1,
□ Saturation (A3) □ Salt Crust (B11)		Drainage Pa	
□ Water Marks (B1) □ Aquatic Invertebrates (B13)			Water Table (C2)
Leadiment Dependence (P2)	Living Roots (C		isible on Aerial Imagery (
	. .		
Drift Deposits (B3)	+)	🗌 Shallow Aqu	liard (D3)
Drift Deposits (B3) Oxidized Rhizospheres along I Algal Mat or crust (B4) Presence of Reduced Iron (C4)	,		. ,
☐ Drift Deposits (B3) ☐ Oxidized Rhizospheres along I ☐ Algal Mat or crust (B4) ☐ Presence of Reduced Iron (C4 ☑ Iron Deposits (B5) ☐ Recent Iron Reduction in Tilled	d Soils (C6)	FAC Neutral	Test (D5)
□ Drift Deposits (B3) □ Oxidized Rhizospheres along I □ Algal Mat or crust (B4) □ Presence of Reduced Iron (C4 □ Iron Deposits (B5) □ Recent Iron Reduction in Tillec □ Surface Soil Cracks (B6) □ Stunted or Stressed Plants (D1)	d Soils (C6)	🗌 Raised Ant N	Test (D5) <i>I</i> ounds (D6) (LRR A)
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□ Drift Deposits (B3) □ Oxidized Rhizospheres along I □ Algal Mat or crust (B4) □ Presence of Reduced Iron (C4 ⊠ Iron Deposits (B5) □ Recent Iron Reduction in Tilled □ Surface Soil Cracks (B6) □ Stunted or Stressed Plants (D1 □ Inundation Visible on Aerial Imagery (B7) □ Other (Explain in Remarks) □ Sparsely Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes □ No ☑ Depth (Inches):	d Soils (C6) 1) (LRR A)	Raised Ant N Frost-Heave	Test (D5) <i>I</i> lounds (D6) (LRR A) Hummocks (D7)
□ Drift Deposits (B3) □ Oxidized Rhizospheres along I □ Algal Mat or crust (B4) □ Presence of Reduced Iron (C4 □ Iron Deposits (B5) □ Recent Iron Reduction in Tilled □ Surface Soil Cracks (B6) □ Stunted or Stressed Plants (D1 □ Inundation Visible on Aerial Imagery (B7) □ Other (Explain in Remarks) □ Sparsely Vegetated Concave Surface (B8) ■ ■ Field Observations: No □ Depth (Inches): □ Water Table Present? Yes □ No □ Depth (Inches): 8 □ Saturation Present? Yes □ No □ Depth (Inches): 8	d Soils (C6) 1) (LRR A)	🗌 Raised Ant N	Test (D5) <i>I</i> ounds (D6) (LRR A) Hummocks (D7)
□ Drift Deposits (B3) □ Oxidized Rhizospheres along I □ Algal Mat or crust (B4) □ Presence of Reduced Iron (C4 □ Iron Deposits (B5) □ Recent Iron Reduction in Tilled □ Surface Soil Cracks (B6) □ Stunted or Stressed Plants (D1 □ Inundation Visible on Aerial Imagery (B7) □ Other (Explain in Remarks) □ Sparsely Vegetated Concave Surface (B8) 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) Yes □	d Soils (C6) 1) (LRR A)	Raised Ant N Frost-Heave Vetland Hydrology Present	Test (D5) <i>I</i> ounds (D6) (LRR A) Hummocks (D7)
□ Drift Deposits (B3) □ Oxidized Rhizospheres along I □ Algal Mat or crust (B4) □ Presence of Reduced Iron (C4 ○ Iron Deposits (B5) □ Recent Iron Reduction in Tilled □ Surface Soil Cracks (B6) □ Stunted or Stressed Plants (D1 □ Inundation Visible on Aerial Imagery (B7) □ Other (Explain in Remarks) □ Sparsely Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes □ No □ Depth (Inches): Water Table Present? Yes □ Yes □ No □ Depth (Inches): Saturation Present? Yes □ No □ Depth (Inches): □ Includes Capillary fringe) Yes □ No □ Depth (Inches):	d Soils (C6) 1) (LRR A)	Raised Ant N Frost-Heave Vetland Hydrology Present	Test (D5) /lounds (D6) (LRR A) Hummocks (D7) ?
□ Drift Deposits (B3) □ Oxidized Rhizospheres along I □ Algal Mat or crust (B4) □ Presence of Reduced Iron (C4 ☑ Iron Deposits (B5) □ Recent Iron Reduction in Tilled □ Surface Soil Cracks (B6) □ Stunted or Stressed Plants (D1 □ Inundation Visible on Aerial Imagery (B7) □ Other (Explain in Remarks) □ Sparsely Vegetated Concave Surface (B8) Field Observations: No ☑ Depth (Inches): Water Table Present? Yes ☑ No ☑ Depth (Inches): 8	d Soils (C6) 1) (LRR A)	Raised Ant N Frost-Heave Vetland Hydrology Present	Test (D5) /lounds (D6) (LRR A) Hummocks (D7) ?
□ Drift Deposits (B3) □ Oxidized Rhizospheres along I □ Algal Mat or crust (B4) □ Presence of Reduced Iron (C4 ☑ Iron Deposits (B5) □ Recent Iron Reduction in Tilled □ Surface Soil Cracks (B6) □ Stunted or Stressed Plants (D1 □ Inundation Visible on Aerial Imagery (B7) □ Other (Explain in Remarks) □ Sparsely Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes □ No □ Depth (Inches): ☑ No □ Depth (Inches): ⑧ Saturation Present? Yes □ No □ Depth (Inches): ⑧ Saturation Present? Yes □ No □ Depth (Inches): □ Includes Capillary fringe)	d Soils (C6) 1) (LRR A)	Raised Ant N Frost-Heave Vetland Hydrology Present	Test (D5) <i>I</i> lounds (D6) (LRR A) Hummocks (D7)
□ Drift Deposits (B3) □ Oxidized Rhizospheres along I □ Algal Mat or crust (B4) □ Presence of Reduced Iron (C4 ○ Iron Deposits (B5) □ Recent Iron Reduction in Tillec □ Surface Soil Cracks (B6) □ Stunted or Stressed Plants (D7 □ Inundation Visible on Aerial Imagery (B7) □ Other (Explain in Remarks) □ Sparsely Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes □ Saturation Present? Yes □ No □ Depth (Inches): 8 Saturation Present? Yes □ Includes Capillary fringe) No □ Describe Recorded Data (Stream gauge, monitoring well, aerial photos, previous	d Soils (C6) 1) (LRR A)	Raised Ant N Frost-Heave Vetland Hydrology Present	Test (D5) <i>I</i> lounds (D6) (LRR A) Hummocks (D7)
□ Drift Deposits (B3) □ Oxidized Rhizospheres along I □ Algal Mat or crust (B4) □ Presence of Reduced Iron (C4 ○ Iron Deposits (B5) □ Recent Iron Reduction in Tilled □ Surface Soil Cracks (B6) □ Stunted or Stressed Plants (D1 □ Inundation Visible on Aerial Imagery (B7) □ Other (Explain in Remarks) □ Sparsely Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes □ No □ Depth (Inches): Water Table Present? Yes □ Yes □ No □ Depth (Inches): Saturation Present? Yes □ No □ Depth (Inches): □ Includes Capillary fringe) Yes □ No □ Depth (Inches):	d Soils (C6) 1) (LRR A)	Raised Ant N Frost-Heave Vetland Hydrology Present	Test (D5) /lounds (D6) (LRR A) Hummocks (D7) ?
□ Drift Deposits (B3) □ Oxidized Rhizospheres along I □ Algal Mat or crust (B4) □ Presence of Reduced Iron (C4 ☑ Iron Deposits (B5) □ Recent Iron Reduction in Tillec □ Surface Soil Cracks (B6) □ Stunted or Stressed Plants (D7 □ Inundation Visible on Aerial Imagery (B7) □ Other (Explain in Remarks) □ Sparsely Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes □ ○ No □ Depth (Inches): ○ Saturation Present? Yes □ ○ Saturation Present? Yes □ ○ No □ Depth (Inches): □ Includes Capillary fringe) □ ○ Describe Recorded Data (Stream gauge, monitoring well, aerial photos, previous	d Soils (C6) 1) (LRR A)	Raised Ant N Frost-Heave Vetland Hydrology Present	Test (D5) <i>I</i> lounds (D6) (LRR A) Hummocks (D7)
□ Drift Deposits (B3) □ Oxidized Rhizospheres along I □ Algal Mat or crust (B4) □ Presence of Reduced Iron (C4 □ Iron Deposits (B5) □ Recent Iron Reduction in Tillec □ Surface Soil Cracks (B6) □ Stunted or Stressed Plants (D7 □ Inundation Visible on Aerial Imagery (B7) □ Other (Explain in Remarks) □ Sparsely Vegetated Concave Surface (B8) Sturface Water Present? Yes □ Yetar Table Present? Yes □ Yets □ No □ Depth (Inches): <u>8</u> Saturation Present? Yes □ No □ Depth (Inches): <u>8</u> Includes Capillary fringe) Describe Recorded Data (Stream gauge, monitoring well, aerial photos, previous	d Soils (C6) 1) (LRR A)	Raised Ant N Frost-Heave Vetland Hydrology Present	Test (D5) /lounds (D6) (LRR A) Hummocks (D7) ?

Project/Site: A	_ City/County: Chehalis/Lewis	Sampling Date: <u>3/17/2022</u>
Applicant/Owner: K & W Properties, LLC	State: WA	Sampling Point: TP-3A
Investigator(s): Wills, K.	Section, Township, Range: S4, T1	3N, R2W
Landform (hillslope, terrace, etc.): Flood plains, terrace Loo	cal relief: (concave, convex, none): Con	vex 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 yea Are Vegetation, Soil, or Hydrology significantly disturbed?	r? Yes⊠ No⊡ (If no, explain Rema Are "Normal Circumstances" pre	
Are Vegetation, Soil, or Hydrology naturally problematic?	(If needed, explain any answers in Re	emarks.)
SUMMARY OF FINDINGS – Attach site map showing sam	pling 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% hydroph criteria of being a wetland.	ytic vegetation and soils: Depleted Matri	x (F3); therefore, it does not meet the

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size:30 ft radius) % Cover Species? Status 1. %
2. % That Are OBL, FACW, or FAC: 3. %
3. <u>%</u>
3 %
Total Number of Dominant
70 Z (D)
50% = 20% = % =Total Cover Species Across All Strata:
Percent of Dominant Species
Sapling/Shrub Stratum (Plot size: 15 ft. radius) That Are OBL, FACW, or FAC 100 (A/I) 1. % Prevalence Index worksheet
4 <u>%</u> FACW species x 2=
5. % FAC species x 3= 50% = 20% = % =Total Cover FACU species x 4=
50% = 20% = % =Total Cover FACU species x 4=
Herb Stratum (Plot size: 5 ft radius)
1. Phalaris arundinacea 70% yes FACW Column Totals:
2. Poa sp.* 30% yes FAC Prevalence Index = B/A=
3. <u>%</u> Hydrophytic Vegetation Indicators:
4 M 1 – Rapid Test for Hydrophytic Vegetation
5. % X 2 – Dominance Test is >50%
6 3 - Prevalence Index is ≤3.0 ¹
7 4 - Morphological Adaptations ¹ (Provide
8 Supporting data in Remarks or on a separate
9. <u>%</u> sheet)
10 5 - Wetland Non-Vascular Plants ¹
11%
$50\% = 50$ $20\% = 20$ 100% = Total Cover \Box Problematic Hydrophytic Vegetation ¹ (Explain)
Woody Vine Stratum (Plot size: 15 ft radius)
1 [%] ¹ Indicators of hydric soil and wetland hydrology
2. % must be present, unless disturbed or problematic.
50% = 20% = % =Total Cover
Hydrophytic
Vegetation
% Bare Ground in Herb Stratum 0% Present? Yes⊠ No□
Remarks:* <i>Poa sp.</i> assumed FAC.

	needed to document the i			e er maiouterei,	
Depth Matrix	Redox Fe	atures			
(inches) Color (moist) %	Color (moist) %		Loc ²	Texture	Remarks
0-6 10YR 3/2 100%	%			Silty clay loam	
<u>6-16</u> 10YR 4/1 80%	10YR 5/8 20%	C	M	Silty clay loam	
<u> </u>	%		,		
<u>%</u>					
<u> </u>	%				
<u> </u>	%				
<u> </u>	%				
¹ Type: C=Concentration, D=Depletion, RM:				² Location: PL=Pore	
Hydric Soil Indicators: (Applicable to all L		ed.)		tors for Problemation	c Hydric Soils
Histosal (A1)	Sandy Redox (S5)			Muck (A10)	2
Histic Epipedon (A2)	Stripped Matrix (S6)			Parent Material (TF2	
Black Histic (A3)	Loamy Mucky Mineral (Shallow Dark Surfac	
Hydrogen Sulfide (A4)	Loamy Gleyed Matrix (I	-2)		er (Explain in Remark	(S)
Depleted Below Dark Surface (A11)	Depleted Matrix (F3)	0)	31	and the local discussion	and de la constant
Thick Dark Surface (A12)	Redox Dark Surface (F	,		ors of hydrophytic ve land hydrology must	
Sandy Mucky Minerals (S1)	Depleted Dark Surface		unle	ss disturbed or probl	lematic
Sandy Gleyed Matrix (S4)	Redox Depressions (F8	3)			omalo
Restrictive Layer (if present):					
Type:					
Depth (inches):			Hydric Soi	I Present?	Yes⊠ No⊡
Remarks:					
HYDROLOGY					
Wetland Hydrology Indicators:					
Drimony Indiantors (min of one required, the					
Primary Indicators (min. of one required; chee	ck all that apply)			Secondary Indicato	ors (2 or more required)
	11.27	(B9) (except MLR	A 1. 2. 4A.		
Surface Water (A1)	k all that apply) ☐ Water-Stained Leaves and 4B)	(B9) (except MLR	A 1, 2, 4A,	Water-Stained L	Leaves (B9) (MLRA 1, 2,
Surface Water (A1) High Water Table (A2)	Water-Stained Leaves and 4B)	(B9) (except MLR	A 1, 2, 4A,	Water-Stained L 4A, and 4B)	Leaves (B9) (MLRA 1, 2,)
 Surface Water (A1) High Water Table (A2) Saturation (A3) 	Water-Stained Leaves and 4B)		A 1, 2, 4A,	Water-Stained L 4A, and 4B)	Leaves (B9) (MLRA 1, 2,) rns (B10)
 Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) 	Water-Stained Leaves and 4B) Salt Crust (B11)	313)	A 1, 2, 4A,	Water-Stained I 4A, and 4B) Drainage Patter	Leaves (B9) (MLRA 1, 2,) rns (B10) ater Table (C2)
 Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) 	 ☐ Water-Stained Leaves and 4B) ☐ Salt Crust (B11) ☐ Aquatic Invertebrates (I ☐ Hydrogen Sulfide Odor 	313) (C1)		Water-Stained L 4A, and 4B) Drainage Patter Dry-Season Wa Saturation Visib	Leaves (B9) (MLRA 1, 2,) rns (B10) ater Table (C2) ole on Aerial Imagery (C9)
 Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) 	Water-Stained Leaves and 4B) Salt Crust (B11)	313) (C1) along Living Root		Water-Stained I 4A, and 4B) Drainage Patter	Leaves (B9) (MLRA 1, 2,) rns (B10) ater Table (C2) ole on Aerial Imagery (C9) osition (D2)
 Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) 	Water-Stained Leaves and 4B) Salt Crust (B11) Aquatic Invertebrates (f Hydrogen Sulfide Odor Oxidized Rhizospheres	313) (C1) along Living Root ron (C4)	rs (C3)	 □ Water-Stained I 4A, and 4B) □ Drainage Patter □ Dry-Season Wa □ Saturation Visib □ Geomorphic Po 	Leaves (B9) (MLRA 1, 2,) ms (B10) ater Table (C2) ole on Aerial Imagery (C9) osition (D2) rd (D3)
 Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or crust (B4) 	 Water-Stained Leaves and 4B) Salt Crust (B11) Aquatic Invertebrates (I Hydrogen Sulfide Odor Oxidized Rhizospheres Presence of Reduced In 	313) (C1) along Living Root ron (C4) in Tilled Soils (C6)	rs (C3)	□ Water-Stained I 4A, and 4B) □ Drainage Patter □ Dry-Season Wa □ Saturation Visib □ Geomorphic Po □ Shallow Aquitar	Leaves (B9) (MLRA 1, 2,) rns (B10) ater Table (C2) ble on Aerial Imagery (C9) psition (D2) rd (D3) est (D5)
 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) 	 Water-Stained Leaves and 4B) Salt Crust (B11) Aquatic Invertebrates (I Hydrogen Sulfide Odor Oxidized Rhizospheres Presence of Reduced II Recent Iron Reduction 	313) (C1) along Living Root ron (C4) in Tilled Soils (C6) ants (D1) (LRR A)	rs (C3)	□ Water-Stained I 4A, and 4B) □ Drainage Patter □ Dry-Season Wa □ Saturation Visib □ Geomorphic Po □ Shallow Aquitar ⊠ FAC Neutral Te	Leaves (B9) (MLRA 1, 2,) rns (B10) ater Table (C2) ble on Aerial Imagery (C9) isition (D2) rd (D3) est (D5) unds (D6) (LRR A)
 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) 	 Water-Stained Leaves and 4B) Salt Crust (B11) Aquatic Invertebrates (I Hydrogen Sulfide Odor Oxidized Rhizospheres Presence of Reduced II Recent Iron Reduction Stunted or Stressed Pla Other (Explain in Remainded) 	313) (C1) along Living Root ron (C4) in Tilled Soils (C6) ants (D1) (LRR A)	rs (C3)	Water-Stained I 4A, and 4B) Drainage Patter Dry-Season Wa Saturation Visib Geomorphic Po Shallow Aquitar FAC Neutral Te Raised Ant Mou	Leaves (B9) (MLRA 1, 2,) rns (B10) ater Table (C2) ble on Aerial Imagery (C9) isition (D2) rd (D3) est (D5) unds (D6) (LRR A)
 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 and 4B) Salt Crust (B11) Aquatic Invertebrates (I Hydrogen Sulfide Odor Oxidized Rhizospheres Presence of Reduced II Recent Iron Reduction Stunted or Stressed Pla Other (Explain in Remainded) 	313) (C1) along Living Root ron (C4) in Tilled Soils (C6) ants (D1) (LRR A)	rs (C3)	Water-Stained I 4A, and 4B) Drainage Patter Dry-Season Wa Saturation Visib Geomorphic Po Shallow Aquitar FAC Neutral Te Raised Ant Mou	Leaves (B9) (MLRA 1, 2,) rns (B10) ater Table (C2) ble on Aerial Imagery (C9) isition (D2) rd (D3) est (D5) unds (D6) (LRR A)
 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 Field Observations: Surface Water Present? Yes 	Water-Stained Leaves and 4B) Salt Crust (B11) Aquatic Invertebrates (f Hydrogen Sulfide Odor Oxidized Rhizospheres Presence of Reduced la Recent Iron Reduction Stunted or Stressed Pla Other (Explain in Rema Depth (Inches)	313) (C1) along Living Root ron (C4) in Tilled Soils (C6) ants (D1) (LRR A) rks)	s (C3)	 Water-Stained I 4A, and 4B) □ Drainage Patter □ Dry-Season Wa □ Saturation Visib □ Geomorphic Po □ Shallow Aquitar ⊠ FAC Neutral Te □ Raised Ant Mou □ Frost-Heave Hu 	Leaves (B9) (MLRA 1, 2,) rns (B10) ater Table (C2) ble on Aerial Imagery (C9) isition (D2) rd (D3) est (D5) unds (D6) (LRR A)
□ 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 Field Observations: Surface Water Present? Yes □ Water Table Present? Yes ⊠	Water-Stained Leaves and 4B) Salt Crust (B11) Aquatic Invertebrates (f Hydrogen Sulfide Odor Oxidized Rhizospheres Presence of Reduced li Recent Iron Reduction Stunted or Stressed Pla Other (Explain in Rema) No Depth (Inches)	313) (C1) along Living Root ron (C4) in Tilled Soils (C6) ants (D1) (LRR A) rks) : : : 14	s (C3)	Water-Stained I 4A, and 4B) Drainage Patter Dry-Season Wa Saturation Visib Geomorphic Po Shallow Aquitar FAC Neutral Te Raised Ant Mou	Leaves (B9) (MLRA 1, 2,) rns (B10) ater Table (C2) ole on Aerial Imagery (C9) osition (D2) rd (D3) ost (D5) unds (D6) (LRR A) ummocks (D7)
□ 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 Field Observations: Surface Water Present? Yes □ Water Table Present? Yes Saturation Present? Yes	Water-Stained Leaves and 4B) Salt Crust (B11) Aquatic Invertebrates (f Hydrogen Sulfide Odor Oxidized Rhizospheres Presence of Reduced la Recent Iron Reduction Stunted or Stressed Pla Other (Explain in Rema Depth (Inches)	313) (C1) along Living Root ron (C4) in Tilled Soils (C6) ants (D1) (LRR A) rks) : : : 14	s (C3)	 Water-Stained I 4A, and 4B) □ Drainage Patter □ Dry-Season Wa □ Saturation Visib □ Geomorphic Po □ Shallow Aquitar ⊠ FAC Neutral Te □ Raised Ant Mou □ Frost-Heave Hu 	Leaves (B9) (MLRA 1, 2,) rns (B10) ater Table (C2) ble on Aerial Imagery (C9) isition (D2) rd (D3) est (D5) unds (D6) (LRR A)
□ 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) Field Observations: Surface Water Present? Yes □ Water Table Present? Yes □ Saturation Present? Yes □ (Includes Capillary fringe) Yes □	Water-Stained Leaves and 4B) Salt Crust (B11) Aquatic Invertebrates (I Hydrogen Sulfide Odor Oxidized Rhizospheres Presence of Reduced II Recent Iron Reduction Stunted or Stressed Pla Other (Explain in Remain No Depth (Inches) No Depth (Inches)	313) (C1) along Living Root ron (C4) in Tilled Soils (C6) ants (D1) (LRR A) rks) : : : : : : :	s (C3)	 Water-Stained I 4A, and 4B) □ Drainage Patter □ Dry-Season Wa □ Saturation Visib □ Geomorphic Po □ Shallow Aquitar ⊠ FAC Neutral Te □ Raised Ant Mou □ Frost-Heave Hu 	Leaves (B9) (MLRA 1, 2,) rns (B10) ater Table (C2) ole on Aerial Imagery (C9) osition (D2) rd (D3) ost (D5) unds (D6) (LRR A) ummocks (D7)
□ 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 Field Observations: Surface Water Present? Yes □ Water Table Present? Yes Saturation Present? Yes	Water-Stained Leaves and 4B) Salt Crust (B11) Aquatic Invertebrates (I Hydrogen Sulfide Odor Oxidized Rhizospheres Presence of Reduced II Recent Iron Reduction Stunted or Stressed Pla Other (Explain in Remain No Depth (Inches) No Depth (Inches)	313) (C1) along Living Root ron (C4) in Tilled Soils (C6) ants (D1) (LRR A) rks) : : : : : : :	s (C3)	 Water-Stained I 4A, and 4B) □ Drainage Patter □ Dry-Season Wa □ Saturation Visib □ Geomorphic Po □ Shallow Aquitar ⊠ FAC Neutral Te □ Raised Ant Mou □ Frost-Heave Hu 	Leaves (B9) (MLRA 1, 2,) rns (B10) ater Table (C2) ole on Aerial Imagery (C9) osition (D2) rd (D3) ost (D5) unds (D6) (LRR A) ummocks (D7)
□ 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) Field Observations: Surface Water Present? Yes □ Water Table Present? Yes □ Saturation Present? Yes □ (Includes Capillary fringe) Yes □	Water-Stained Leaves and 4B) Salt Crust (B11) Aquatic Invertebrates (I Hydrogen Sulfide Odor Oxidized Rhizospheres Presence of Reduced II Recent Iron Reduction Stunted or Stressed Pla Other (Explain in Remain No Depth (Inches) No Depth (Inches)	313) (C1) along Living Root ron (C4) in Tilled Soils (C6) ants (D1) (LRR A) rks) : : : : : : :	s (C3)	 Water-Stained I 4A, and 4B) □ Drainage Patter □ Dry-Season Wa □ Saturation Visib □ Geomorphic Po □ Shallow Aquitar ⊠ FAC Neutral Te □ Raised Ant Mou □ Frost-Heave Hu 	Leaves (B9) (MLRA 1, 2,) rns (B10) ater Table (C2) ole on Aerial Imagery (C9) osition (D2) rd (D3) ost (D5) unds (D6) (LRR A) ummocks (D7)
□ 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) Field Observations: Surface Water Present? Yes □ Water Table Present? Yes □ Saturation Present? Yes □ (Includes Capillary fringe) Yes □	Water-Stained Leaves and 4B) Salt Crust (B11) Aquatic Invertebrates (I Hydrogen Sulfide Odor Oxidized Rhizospheres Presence of Reduced II Recent Iron Reduction Stunted or Stressed Pla Other (Explain in Remain No Depth (Inches) No Depth (Inches)	313) (C1) along Living Root ron (C4) in Tilled Soils (C6) ants (D1) (LRR A) rks) : : : : : : :	s (C3)	 Water-Stained I 4A, and 4B) □ Drainage Patter □ Dry-Season Wa □ Saturation Visib □ Geomorphic Po □ Shallow Aquitar ⊠ FAC Neutral Te □ Raised Ant Mou □ Frost-Heave Hu 	Leaves (B9) (MLRA 1, 2,) rns (B10) ater Table (C2) ole on Aerial Imagery (C9) osition (D2) rd (D3) ost (D5) unds (D6) (LRR A) ummocks (D7)
□ 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) Field Observations: Surface Water Present? Yes □ Water Table Present? Yes □ Saturation Present? Yes □ (Includes Capillary fringe) Yes □	Water-Stained Leaves and 4B) Salt Crust (B11) Aquatic Invertebrates (I Hydrogen Sulfide Odor Oxidized Rhizospheres Presence of Reduced II Recent Iron Reduction Stunted or Stressed Pla Other (Explain in Remain) No Depth (Inches) No No Depth (Inches)	313) (C1) along Living Root ron (C4) in Tilled Soils (C6) ants (D1) (LRR A) rks) : : : : : : :	s (C3)	 Water-Stained I 4A, and 4B) □ Drainage Patter □ Dry-Season Wa □ Saturation Visib □ Geomorphic Po □ Shallow Aquitar ⊠ FAC Neutral Te □ Raised Ant Mou □ Frost-Heave Hu 	Leaves (B9) (MLRA 1, 2,) rns (B10) ater Table (C2) ole on Aerial Imagery (C9) osition (D2) rd (D3) ost (D5) unds (D6) (LRR A) ummocks (D7)
□ 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 Field Observations: Surface Water Present? Yes □ Water Table Present? Yes □ Yes □ (Includes Capillary fringe) Describe Recorded Data (Stream gauge, mode)	Water-Stained Leaves and 4B) Salt Crust (B11) Aquatic Invertebrates (I Hydrogen Sulfide Odor Oxidized Rhizospheres Presence of Reduced II Recent Iron Reduction Stunted or Stressed Pla Other (Explain in Remain) No Depth (Inches) No No Depth (Inches)	313) (C1) along Living Root ron (C4) in Tilled Soils (C6) ants (D1) (LRR A) rks) : : : : : : :	s (C3)	 Water-Stained I 4A, and 4B) □ Drainage Patter □ Dry-Season Wa □ Saturation Visib □ Geomorphic Po □ Shallow Aquitar ⊠ FAC Neutral Te □ Raised Ant Mou □ Frost-Heave Hu 	Leaves (B9) (MLRA 1, 2,) rns (B10) ater Table (C2) ole on Aerial Imagery (C9) osition (D2) rd (D3) ost (D5) unds (D6) (LRR A) ummocks (D7)
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Project/Site: Jackson Park III	City/Cou	unty: Cheh	alis/Lewis Sar	mpling Date: <u>3/17/2022</u>		
Applicant/Owner: K & W Properties, LLC		<u>O s sti s</u>	State: V		npling Point: TP-4A	
Investigator(s): Wills, K. Landform (hillslope, terrace, etc.): Flood plains, terrac				p, Range: <u>S4, T13N, R2W</u> nvex, none): Concave	Slope (%):0-3%	
Subregion (LRR): LRRA	Lat: 46.644		Long: -12			<u> </u>
Soil Map Unit Name: Lacamas silt loam	Lat. <u>+0.044</u>	510		NWI classification: PEM1/SS		
Are climatic / hydrologic conditions on the site typical	for this time of	vear? Yes⊠				
Are Vegetation, Soil, or Hydrology significant				Circumstances" present? Yes	No	
Are Vegetation, Soil, or Hydrology naturally p	problematic?	(If need	ed, explain	any answers in Remarks.)		
SUMMARY OF FINDINGS – Attach site map	•	ampling po	int locati	ons, transects, importa	ant features, etc.	
Hydrophytic Vegetation Present? Yes X No		Is the Sar	npled Area	1		
Hydric Soils Present? Yes ⊠ No		within a V		Yes⊠ No⊡		
Wetland Hydrology Present? Yes X No Remarks: This test plot met all three wetland indicate		hydrophytic ye	notation se	hile with hydrogen sulfide (A/	1) and the presence of	
hydrologic indicators: Surface Water (A1), Hydrogen S					, and the presence of	
		, and a poon				
VEGETATION – Use scientific names of pla	onte					
VEGETATION – Use scientific names of pla		Desident	L. P. de l	Dentiser Test Wester		
Tree Otreture (Dist size 20 ft redive)	Absolute	Dominant	Indicator	Dominance Test Worksh	eet	
Tree Stratum (Plot size: <u>30</u> ft radius)	<u>% Cover</u> %	Species?	Status	Number of Dominant Spec		
1	0/			That Are OBL, FACW, or F	ries <u>1</u> (A	()
				······································		
3	<u> </u>			Total Number of Dominant	1 (E	3)
50% = 20% =		=Total Cover		Species Across All Strata:	(=	.,
Sapling/Shrub Stratum (Plat size: 15 ft, radius)				Percent of Dominant Spec That Are OBL, FACW, or F		(/D)
Sapling/Shrub Stratum (Plot size: <u>15</u> ft. radius) 1.	%			Prevalence Index worksh		√B)
2	0/			Total % Cover of:	Multiply by:	
3.				OBL species	x 1=	
4.	%			FACW species	x 2=	
5.	%			FAC species	x 3=	
50% = 20% =	%	=Total Cover		FACU species	x 4=	
Herb Stratum (Plot size: 5 ft radius)				UPL species	x 5=	
1. Phalaris arundinacea	100%	yes	FACW	Column Totals:		(B)
2	%			Prevalence Inc		
3	%			Hydrophytic Vegetation I		
4	%			X 1 – Rapid Test for Hy		
5	<u>%</u> %			2 – Dominance Test 3 - Prevalence Index		
6. 7.	%			4 - Morphological Ad		
8.	<u> </u>				emarks or on a separate	
9.	0/			sheet)		
10.	%			5 - Wetland Non-Vas	scular Plants ¹	
11.	%			1 —		
50% = 50 $20% = 20$	100%	=Total Cover		Problematic Hydroph	nytic Vegetation ¹ (Explain)	
Woody Vine Stratum (Plot size: <u>15</u> ft radius)						
1	%			¹ Indicators of hydric soil ar		
2	%			must be present, unless di	sturbed or problematic.	
50% = 20% =	%	=Total Cover		l hudron hudio		
				Hydrophytic Vegetation		
				Present?	Yes⊠ No⊡	
% Bare Ground in Herb Stratum 0%						
Remarks:						

Profile Description: (Describe to the depth	n needed to document the indicator or confi	rm the absend	ce of indicators.)	
Depth Matrix	Redox Features			
(inches) Color (moist) %		Loc ²	Texture	Remarks
<u> </u>	%			See Remarks Below
	%			
%	%			
<u>%</u>	%			
<u>%</u>	<u>%</u>			
<u>%</u>	<u>%</u>			
<u> </u>	<u> </u>			
	=Reduced Matrix, CS=Covered or Coated San	d Grains	² Location: PL=Pore	Lining M-Matrix
Hydric Soil Indicators: (Applicable to all L			ators for Problemat	
☐ Histosal (A1)	Sandy Redox (S5)		n Muck (A10)	
Histic Epipedon (A2)	Stripped Matrix (S6)		Parent Material (TF	2)
Black Histic (A3)	Loamy Mucky Mineral (F1) (except MLR		y Shallow Dark Surfa	
Hydrogen Sulfide (A4)	Loamy Gleyed Matrix (F2)		er (Explain in Remar	
Depleted Below Dark Surface (A11)	Depleted Matrix (F3)			,
Thick Dark Surface (A12)	Redox Dark Surface (F6)	³ Indica	tors of hydrophytic v	egetation and
Sandy Mucky Minerals (S1)	Depleted Dark Surface (F7)		tland hydrology must	
Sandy Gleyed Matrix (S4)	Redox Depressions (F8)	unle	ess disturbed or prob	olematic
Restrictive Layer (if present):				
Restrictive Layer (in present).				
Туре:				
Depth (inches):		Hydric So	il Present?	Yes⊠ No⊡
Remarks: Soils were unconsolidated and a h	ydrogen sulfide odor was present.			
HYDROLOGY				
Wetland Hydrology Indicators:	ck all that apply)		Secondary Indicat	ars (2 or more required)
Wetland Hydrology Indicators: Primary Indicators (min. of one required; che ⊠ Surface Water (A1)	Water-Stained Leaves (B9) (except MLR	A 1, 2, 4A,	Water-Stained	tors (2 or more required) Leaves (B9) (MLRA 1, 2,
Wetland Hydrology Indicators: Primary Indicators (min. of one required; che Surface Water (A1) High Water Table (A2)	Water-Stained Leaves (B9) (except MLR and 4B)	A 1, 2, 4A,	Water-Stained 4A, and 4B	Leaves (B9) (MLRA 1, 2, 3)
Wetland Hydrology Indicators: Primary Indicators (min. of one required; che Surface Water (A1) High Water Table (A2) Saturation (A3)	☐ Water-Stained Leaves (B9) (except MLR and 4B) ☐ Salt Crust (B11)	A 1, 2, 4A,	Water-Stained 4A, and 4B	Leaves (B9) (MLRA 1, 2, 3) erns (B10)
Wetland Hydrology Indicators: Primary Indicators (min. of one required; che Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1)	 ☐ Water-Stained Leaves (B9) (except MLF and 4B) ☐ Salt Crust (B11) ☐ Aquatic Invertebrates (B13) 	A 1, 2, 4A,	Water-Stained 4A, and 4B Drainage Patte Dry-Season W	Leaves (B9) (MLRA 1, 2, 3) erns (B10) ater Table (C2)
Wetland Hydrology Indicators: Primary Indicators (min. of one required; che Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2)	 ☐ Water-Stained Leaves (B9) (except MLF and 4B) ☐ Salt Crust (B11) ☐ Aquatic Invertebrates (B13) ☑ Hydrogen Sulfide Odor (C1) 		Water-Stained 4A, and 4B Drainage Patte Dry-Season W Saturation Visil	Leaves (B9) (MLRA 1, 2, B) erns (B10) ater Table (C2) ble on Aerial Imagery (C9)
Wetland Hydrology Indicators: Primary Indicators (min. of one required; che Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3)	 □ Water-Stained Leaves (B9) (except MLR and 4B) □ Salt Crust (B11) □ Aquatic Invertebrates (B13) ○ Hydrogen Sulfide Odor (C1) □ Oxidized Rhizospheres along Living Roo 		Water-Stained 4A, and 4B Drainage Patte Dry-Season W Saturation Visil	Leaves (B9) (MLRA 1, 2, b) erns (B10) ater Table (C2) ble on Aerial Imagery (C9) osition (D2)
Wetland Hydrology Indicators: Primary Indicators (min. of one required; che Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or crust (B4)	 □ Water-Stained Leaves (B9) (except MLR and 4B) □ Salt Crust (B11) □ Aquatic Invertebrates (B13) □ Hydrogen Sulfide Odor (C1) □ Oxidized Rhizospheres along Living Roo □ Presence of Reduced Iron (C4) 	ts (C3)	Water-Stained 4A, and 4B Drainage Patte Dry-Season W Saturation Visil Geomorphic Pe	Leaves (B9) (MLRA 1, 2, erns (B10) ater Table (C2) ble on Aerial Imagery (C9) osition (D2) ard (D3)
Wetland Hydrology Indicators: Primary Indicators (min. of one required; che 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)	 □ Water-Stained Leaves (B9) (except MLR and 4B) □ Salt Crust (B11) □ Aquatic Invertebrates (B13) □ Hydrogen Sulfide Odor (C1) □ Oxidized Rhizospheres along Living Roo □ Presence of Reduced Iron (C4) □ Recent Iron Reduction in Tilled Soils (C6 	ts (C3)	Water-Stained 4A, and 4B Drainage Patte Dry-Season W Saturation Visil Geomorphic Patte Shallow Aquita K FAC Neutral To	Leaves (B9) (MLRA 1, 2, erns (B10) ater Table (C2) ble on Aerial Imagery (C9) osition (D2) urd (D3) est (D5)
Wetland Hydrology Indicators: Primary Indicators (min. of one required; che 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)	 Water-Stained Leaves (B9) (except MLR and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) ⊠ Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Roo Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6 Stunted or Stressed Plants (D1) (LRR A) 	ts (C3)	Water-Stained 4A, and 4B □ Drainage Patter □ Dry-Season W □ Saturation Visil □ Geomorphic Patter □ Shallow Aquita ☑ FAC Neutral To □ Raised Ant Mo	Leaves (B9) (MLRA 1, 2, erns (B10) ater Table (C2) ble on Aerial Imagery (C9) osition (D2) urd (D3) est (D5) unds (D6) (LRR A)
Wetland Hydrology Indicators: Primary Indicators (min. of one required; che 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 MLR and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) ⊠ Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Roo Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6 Stunted or Stressed Plants (D1) (LRR A) Other (Explain in Remarks) 	ts (C3)	Water-Stained 4A, and 4B Drainage Patte Dry-Season W Saturation Visil Geomorphic Patte Shallow Aquita K FAC Neutral To	Leaves (B9) (MLRA 1, 2, erns (B10) ater Table (C2) ble on Aerial Imagery (C9) osition (D2) urd (D3) est (D5) unds (D6) (LRR A)
Wetland Hydrology Indicators: Primary Indicators (min. of one required; che 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 MLR and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) ⊠ Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Roo Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6 Stunted or Stressed Plants (D1) (LRR A) Other (Explain in Remarks) 	ts (C3)	Water-Stained 4A, and 4B □ Drainage Patter □ Dry-Season W □ Saturation Visil □ Geomorphic Patter □ Shallow Aquita ☑ FAC Neutral To □ Raised Ant Mo	Leaves (B9) (MLRA 1, 2, erns (B10) ater Table (C2) ble on Aerial Imagery (C9) osition (D2) urd (D3) est (D5) unds (D6) (LRR A)
Wetland Hydrology Indicators: Primary Indicators (min. of one required; che 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) Field Observations:	 Water-Stained Leaves (B9) (except MLR and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) ⋈ Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Roo Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6 Stunted or Stressed Plants (D1) (LRR A) Other (Explain in Remarks) 	ts (C3)	Water-Stained 4A, and 4B □ Drainage Patter □ Dry-Season W □ Saturation Visil □ Geomorphic Patter □ Shallow Aquita ☑ FAC Neutral To □ Raised Ant Mo	Leaves (B9) (MLRA 1, 2, erns (B10) ater Table (C2) ble on Aerial Imagery (C9) osition (D2) urd (D3) est (D5) unds (D6) (LRR A)
Wetland Hydrology Indicators: Primary Indicators (min. of one required; che 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) Field Observations: Surface Water Present?	□ Water-Stained Leaves (B9) (except MLR and 4B) □ Salt Crust (B11) □ Aquatic Invertebrates (B13) ⊠ Hydrogen Sulfide Odor (C1) □ Oxidized Rhizospheres along Living Roo □ Presence of Reduced Iron (C4) □ Recent Iron Reduction in Tilled Soils (C6 □ Stunted or Stressed Plants (D1) (LRR A) □ Other (Explain in Remarks) B)	ts (C3)	Water-Stained 4A, and 4B □ Drainage Patter □ Dry-Season W □ Saturation Visil □ Geomorphic Per □ Shallow Aquita ○ FAC Neutral Ter □ Raised Ant Mo □ Frost-Heave H	Leaves (B9) (MLRA 1, 2, erns (B10) ater Table (C2) ble on Aerial Imagery (C9) osition (D2) urd (D3) est (D5) unds (D6) (LRR A)
Wetland Hydrology Indicators: Primary Indicators (min. of one required; che 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) Field Observations: Surface Water Present? Yes	□ Water-Stained Leaves (B9) (except MLR and 4B) □ Salt Crust (B11) □ Aquatic Invertebrates (B13) ⊠ Hydrogen Sulfide Odor (C1) □ Oxidized Rhizospheres along Living Roo □ Presence of Reduced Iron (C4) □ Recent Iron Reduction in Tilled Soils (C6 □ Stunted or Stressed Plants (D1) (LRR A) □ Other (Explain in Remarks) 3) No □ Depth (Inches): 2 No ⊠ Depth (Inches):	ts (C3)	Water-Stained 4A, and 4B □ Drainage Patter □ Dry-Season W □ Saturation Visil □ Geomorphic Patter □ Shallow Aquita ☑ FAC Neutral To □ Raised Ant Mo	Leaves (B9) (MLRA 1, 2, 3) erns (B10) ater Table (C2) ble on Aerial Imagery (C9) osition (D2) ard (D3) est (D5) ounds (D6) (LRR A) ummocks (D7)
Wetland Hydrology Indicators: Primary Indicators (min. of one required; che 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) Field Observations: Surface Water Present? Yes Saturation Present? Yes	□ Water-Stained Leaves (B9) (except MLR and 4B) □ Salt Crust (B11) □ Aquatic Invertebrates (B13) ⊠ Hydrogen Sulfide Odor (C1) □ Oxidized Rhizospheres along Living Roo □ Presence of Reduced Iron (C4) □ Recent Iron Reduction in Tilled Soils (C6 □ Stunted or Stressed Plants (D1) (LRR A) □ Other (Explain in Remarks) B)	ts (C3)	Water-Stained 4A, and 4B □ Drainage Patter □ Dry-Season W □ Saturation Visil □ Geomorphic Per □ Shallow Aquita ○ FAC Neutral Ter □ Raised Ant Mo □ Frost-Heave H	Leaves (B9) (MLRA 1, 2, erns (B10) ater Table (C2) ble on Aerial Imagery (C9) osition (D2) urd (D3) est (D5) unds (D6) (LRR A)
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Project/Site: Jackson Park III		City/County: Chehalis/Lewis	Sampling	Date: 3/17/2022
Applicant/Owner: K & W Properties, LLC		State: WA	Sampling I	Point: TP-5A
Investigator(s): Wills, K.		Section, Township, Range:	S4, T13N, R2W	
Landform (hillslope, terrace, etc.): Flood plains, terrace	Loca	Il 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 classifi	cation: PEM1/SSC	
Are climatic / hydrologic conditions on the site typical for	or this time of year?	? Yes🛛 No🗌 (If no, explair	Remarks.)	
Are Vegetation, Soil, or Hydrology significantly	<pre>/ disturbed?</pre>	Are "Normal Circumstand	es" present? Yes⊠ N	o 🗌
Are Vegetation, Soil, or Hydrology naturally pr	oblematic?	(If needed, explain any answe	rs in Remarks.)	
SUMMARY OF FINDINGS – Attach site map	showing samp	ling point locations, tran	sects, important fea	atures, etc.
Hydrophytic Vegetation Present? Yes 🛛 No 🗌		s the Sampled Area		
Hydric Soils Present? Yes 🛛 No 🗌		vithin a Wetland?	Yes⊟ No⊠	
Wetland Hydrology Present? Yes 🗌 No 🗵				
Remarks: This test plot met two wetland indicators wit	h 100% hydrophyt	ic vegetation and soils: Deplete	d Matrix (F3); therefore,	it does not meet the
criteria of being a wetland.				

VEGETATION – Use scientific names of plants.

	Absolute	Dominant	Indicator	Dominance Test Worksheet		
Tree Stratum (Plot size:30 ft radius)	% Cover	Species?	Status			
1.	%			Number of Dominant Species	3	(A)
2.	%			That Are OBL, FACW, or FAC:		<u> </u>
3.	0/					
4.	%			Total Number of Dominant	3	(B)
50% = 20% =	%	=Total Cover		Species Across All Strata:		,
				Percent of Dominant Species		
Sapling/Shrub Stratum (Plot size: <u>15 ft.</u> radius)				That Are OBL, FACW, or FAC	<u>100</u>	(A/B)
1	%			Prevalence Index worksheet		
2.	%			Total % Cover of:	Multiply by:	
3					x 1=	_
4.	%				x 2=	_
5.	%				x 3= x 4=	_
50% = 20% =	%	=Total Cover			x 4=	_
Herb Stratum (Plot size: <u>5</u> ft radius)				UPL species	x 5=	_
1. Phalaris arundinacea	33%	yes	FACW	Column Totals:	(A)	(B)
2. Dipsacus fullonum	33%	yes	FAC	Prevalence Index = B/	/A=	
3.	%			Hydrophytic Vegetation Indicate	ors:	
4.	%			1 – Rapid Test for Hydrophy	tic Vegetation	
5.	%			2 – Dominance Test is >50%		
6.	%			3 - Prevalence Index is ≤3.0	1	
7.	%			4 - Morphological Adaptatior	ns ¹ (Provide	
8.	%			supporting data in Remarks		e
9.	0/			sheet)		
10.	%			5 - Wetland Non-Vascular P	lants ¹	
11.	%					
50% = 50 20% = 20	66%	=Total Cover		Problematic Hydrophytic Ver	detation ¹ (Explai	n)
Woody Vine Stratum (Plot size: 15 ft radius)					getation (=/pia	,
1. Rubus armeniacus	33%	ves	FAC	¹ Indicators of hydric soil and wetla	and hydrology	
2.	<u> </u>		1710	must be present, unless disturbed		
	%	=Total Cover			or problemate.	
$50\% = \underline{17} \ 20\% = \underline{7}$	70	-		Hydrophytic		
				Vegetation		
				Present?	Yes⊠ No	
% Bare Ground in Herb Stratum 34%						_
Remarks:				L		

Depth Matrix	O al an (maint)	Redox Feat		12		Demender
(inches) Color (moist) %	Color (moist)	<u>%</u> %	Type ¹	Loc ²	Texture	Remarks
<u>0-6</u> <u>10YR 3/2</u> <u>100%</u> <u>-</u>	10YR 5/8	20%		М	Silty clay loam Silty clay loam	
<u> </u>	10110 3/0	<u> 2078 </u>		IVI		
<u> </u>		%				
<u> </u>		%				
<u>%</u>		%				
<u> </u>		%				
%		%				
¹ Type: C=Concentration, D=Depletion, RM				nd Grain		
Hydric Soil Indicators: (Applicable to all L)		Indicators for Problemat	ic Hydric Soils
Histosal (A1)	Sandy Redo				2 cm Muck (A10)	-0)
Histic Epipedon (A2)	Stripped Mat				Red Parent Material (TF	
Black Histic (A3)	Loamy Muck			RA 1)	Very Shallow Dark Surfa	
Hydrogen Sulfide (A4)	Loamy Gleye)		Other (Explain in Remar	rks)
Depleted Below Dark Surface (A11)	Depleted Ma	. ,			2	
Thick Dark Surface (A12)	Redox Dark	. ,			³ Indicators of hydrophytic v	
Sandy Mucky Minerals (S1)	Depleted Dar	•	7)		Wetland hydrology must unless disturbed or prob	
Sandy Gleyed Matrix (S4)	Redox Depre	ssions (F8)			uniess disturbed of proc	nemalic
Restrictive Layer (if present):						
Туре:						
Depth (inches):				Hy	dric Soil Present?	Yes⊠ No⊡
Remarks:						
HYDROLOGY						
Wetland Hydrology Indicators:						
	ck all that apply)				Secondary Indicat	tors (2 or more required)
Wetland Hydrology Indicators: Primary Indicators (min. of one required; cher Surface Water (A1)	Water-Staine	d Leaves (B	9) (except ML	RA 1, 2,	4A, 🗌 Water-Stained	Leaves (B9) (MLRA 1, 2,
Wetland Hydrology Indicators: Primary Indicators (min. of one required; chea Surface Water (A1) High Water Table (A2)	Water-Staine and 4B)		9) (except ML	RA 1, 2,	4A, 🗌 Water-Stained 4A, and 4B	Leaves (B9) (MLRA 1, 2, 3)
Wetland Hydrology Indicators: Primary Indicators (min. of one required; chere) Surface Water (A1) High Water Table (A2) Saturation (A3)	Water-Staine and 4B)	11)		RA 1, 2,	4A, Dater-Stained 4A, and 4B Drainage Patte	Leaves (B9) (MLRA 1, 2, 3) erns (B10)
Wetland Hydrology Indicators: Primary Indicators (min. of one required; check Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1)	Water-Staine and 4B) Salt Crust (B	11) tebrates (B1	3)	RA 1, 2,	4A, Discrete Water-Stained 4A, and 4B Discrete Discrete Discrete Discrete Discrete D	Leaves (B9) (MLRA 1, 2, 3) erns (B10) ater Table (C2)
Wetland Hydrology Indicators: Primary Indicators (min. of one required; cher Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2)	Water-Staine and 4B) Salt Crust (B Aquatic Inver	11) tebrates (B1 lfide Odor (C	3) :1)		4A, Water-Stained 4A, and 4B Drainage Patte Dry-Season W Saturation Visi	Leaves (B9) (MLRA 1, 2, 3) erns (B10) ater Table (C2) ble on Aerial Imagery (C9)
Wetland Hydrology Indicators: Primary Indicators (min. of one required; cher Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3)	Water-Staine and 4B) Salt Crust (B Aquatic Inver Hydrogen Su Oxidized Rhi	11) tebrates (B1 lfide Odor (C zospheres al	3) :1) ong Living Ro		4A, Water-Stained 4A, and 4E Drainage Patte Dry-Season W Saturation Visi Geomorphic Po	Leaves (B9) (MLRA 1, 2, B) erns (B10) ater Table (C2) ble on Aerial Imagery (C9) osition (D2)
Wetland Hydrology Indicators: Primary Indicators (min. of one required; cheater) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or crust (B4)	Water-Staine and 4B) Salt Crust (B Aquatic Inver Hydrogen Su Oxidized Rhi:	11) tebrates (B1 lfide Odor (C zospheres al Reduced Iror	3) 1) ong Living Ro 1 (C4)	ots (C3)	4A, Water-Stained 4A, and 4E Drainage Patte Dry-Season W Saturation Visi Geomorphic Pe	Leaves (B9) (MLRA 1, 2, erns (B10) ater Table (C2) ble on Aerial Imagery (C9) osition (D2) ard (D3)
Wetland Hydrology Indicators: Primary Indicators (min. of one required; cher 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)	Water-Staine and 4B) Salt Crust (B Aquatic Inver Hydrogen Su Oxidized Rhi: Presence of I Recent Iron F	11) tebrates (B1 lfide Odor (C zospheres al Reduced Iror Reduction in	3) :1) ong Living Ro n (C4) Tilled Soils (C	ots (C3) 6)	4A, ☐ Water-Stained 4A, and 4E ☐ Drainage Patte Dry-Season W Saturation Visi Geomorphic Pe Shallow Aquita X FAC Neutral Te	Leaves (B9) (MLRA 1, 2, erns (B10) ater Table (C2) ble on Aerial Imagery (C9) osition (D2) urd (D3) est (D5)
Wetland Hydrology Indicators: Primary Indicators (min. of one required; cheat 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)	Water-Staine and 4B) Salt Crust (B Aquatic Inver Hydrogen Su Oxidized Rhi: Presence of I Recent Iron F Stunted or St	11) tebrates (B1 lfide Odor (C zospheres al Reduced Iror Reduction in ressed Plant	3) i1) ong Living Ro n (C4) Tilled Soils (C s (D1) (LRR 4	ots (C3) 6)	 4A, ☐ Water-Stained 4A, and 4E ☐ Drainage Patter ☐ Dry-Season W ☐ Saturation Visite ☐ Geomorphic Peres ☐ Shallow Aquitate ☑ FAC Neutral Teres ☑ Raised Ant Motor 	Leaves (B9) (MLRA 1, 2, erns (B10) ater Table (C2) ble on Aerial Imagery (C9) osition (D2) urd (D3) est (D5) unds (D6) (LRR A)
Wetland Hydrology Indicators: Primary Indicators (min. of one required; cheat 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-Staine and 4B) Salt Crust (B Aquatic Inver Hydrogen Su Oxidized Rhi: Presence of I Recent Iron F Stunted or St Other (Explain	11) tebrates (B1 lfide Odor (C zospheres al Reduced Iror Reduction in ressed Plant	3) i1) ong Living Ro n (C4) Tilled Soils (C s (D1) (LRR 4	ots (C3) 6)	4A, ☐ Water-Stained 4A, and 4E ☐ Drainage Patte Dry-Season W Saturation Visi Geomorphic Pe Shallow Aquita X FAC Neutral Te	Leaves (B9) (MLRA 1, 2, erns (B10) ater Table (C2) ble on Aerial Imagery (C9) osition (D2) urd (D3) est (D5) unds (D6) (LRR A)
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Wetland Hydrology Indicators: Primary Indicators (min. of one required; cheat 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 Field Observations: Surface Water Present?	Water-Staine and 4B) Salt Crust (B Aquatic Inver Hydrogen Su Oxidized Rhi: Presence of I Recent Iron F Stunted or St Other (Explaine) No ⊠ Dep	11) tebrates (B1 lfide Odor (C zospheres al Reduced Iror Reduction in ressed Plant n in Remark th (Inches):	3) ong Living Ro n (C4) Tilled Soils (C s (D1) (LRR <i>A</i> s)	ots (C3) 6) V)	 4A, ☐ Water-Stained 4A, and 4E ☐ Drainage Patter ☐ Dry-Season W ☐ Saturation Visite ☐ Geomorphic Peter ☐ Shallow Aquitate ☑ FAC Neutral Term ☐ Raised Ant Mote ☐ Frost-Heave Herm 	Leaves (B9) (MLRA 1, 2, erns (B10) ater Table (C2) ble on Aerial Imagery (C9) osition (D2) urd (D3) est (D5) unds (D6) (LRR A)
Wetland Hydrology Indicators: Primary Indicators (min. of one required; cheat 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) Field Observations: Surface Water Present? Yes	Water-Staine and 4B) Salt Crust (B Aquatic Inver Hydrogen Su Oxidized Rhi: Presence of I Recent Iron F Stunted or St Other (Explaine) No ⊠ Dep No ⊠ Dep	11) tebrates (B1 lfide Odor (C zospheres al Reduced Iror Reduction in ressed Plant n in Remark th (Inches): th (Inches):	3) ong Living Ro n (C4) Tilled Soils (C s (D1) (LRR <i>A</i> s)	ots (C3) 6) V)	 4A, ☐ Water-Stained 4A, and 4E ☐ Drainage Patter ☐ Dry-Season W ☐ Saturation Visite ☐ Geomorphic Peres ☐ Shallow Aquitate ☑ FAC Neutral Teres ☑ Raised Ant Motor 	Leaves (B9) (MLRA 1, 2, 3) erns (B10) ater Table (C2) ble on Aerial Imagery (C9) osition (D2) ard (D3) est (D5) ounds (D6) (LRR A) ummocks (D7)
Wetland Hydrology Indicators: Primary Indicators (min. of one required; cheat 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) Field Observations: Surface Water Present? Yes Saturation Present? Yes	Water-Staine and 4B) Salt Crust (B Aquatic Inver Hydrogen Su Oxidized Rhi: Presence of I Recent Iron F Stunted or St Other (Explaine) No ⊠ Dep No ⊠ Dep	11) tebrates (B1 lfide Odor (C zospheres al Reduced Iror Reduction in ressed Plant n in Remark th (Inches):	3) ong Living Ro n (C4) Tilled Soils (C s (D1) (LRR <i>A</i> s)	ots (C3) 6) V)	 4A, ☐ Water-Stained 4A, and 4E ☐ Drainage Patter ☐ Dry-Season W ☐ Saturation Visite ☐ Geomorphic Peter ☐ Shallow Aquitate ☑ FAC Neutral Term ☐ Raised Ant Mote ☐ Frost-Heave Herm 	Leaves (B9) (MLRA 1, 2, erns (B10) ater Table (C2) ble on Aerial Imagery (C9) osition (D2) urd (D3) est (D5) unds (D6) (LRR A)
Wetland Hydrology Indicators: Primary Indicators (min. of one required; cheat 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) Field Observations: Surface Water Present? Yes Saturation Present? Yes Includes Capillary fringe)	Water-Staine and 4B) Salt Crust (B Aquatic Inver Hydrogen Su Oxidized Rhi: Presence of I Recent Iron F Stunted or St Other (Explain No ⊠ Dep No ⊠ Dep No ⊠ Dep No ⊠ Dep	11) tebrates (B1 lfide Odor (C zospheres al Reduced Iror Reduction in ressed Plant n in Remark th (Inches): th (Inches): th (Inches):	3) ong Living Ro n (C4) Tilled Soils (C s (D1) (LRR A s)	ots (C3) 6) N) Wet	 4A, Water-Stained 4A, and 4E Drainage Patte Dry-Season W Saturation Visi Geomorphic Pe Shallow Aquita FAC Neutral Te Raised Ant Mo Frost-Heave H 	Leaves (B9) (MLRA 1, 2, 3) erns (B10) ater Table (C2) ble on Aerial Imagery (C9) osition (D2) ard (D3) est (D5) ounds (D6) (LRR A) ummocks (D7)
Wetland Hydrology Indicators: Primary Indicators (min. of one required; cheat 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) Field Observations: Surface Water Present? Yes Saturation Present? Yes	Water-Staine and 4B) Salt Crust (B Aquatic Inver Hydrogen Su Oxidized Rhi: Presence of I Recent Iron F Stunted or St Other (Explain No ⊠ Dep No ⊠ Dep No ⊠ Dep No ⊠ Dep	11) tebrates (B1 lfide Odor (C zospheres al Reduced Iror Reduction in ressed Plant n in Remark th (Inches): th (Inches): th (Inches):	3) ong Living Ro n (C4) Tilled Soils (C s (D1) (LRR A s)	ots (C3) 6) N) Wet	 4A, Water-Stained 4A, and 4E Drainage Patte Dry-Season W Saturation Visi Geomorphic Pe Shallow Aquita FAC Neutral Te Raised Ant Mo Frost-Heave H 	Leaves (B9) (MLRA 1, 2, 3) erns (B10) ater Table (C2) ble on Aerial Imagery (C9) osition (D2) ard (D3) est (D5) ounds (D6) (LRR A) ummocks (D7)
Wetland Hydrology Indicators: Primary Indicators (min. of one required; cheat 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) Field Observations: Surface Water Present? Yes Saturation Present? Yes Includes Capillary fringe)	Water-Staine and 4B) Salt Crust (B Aquatic Inver Hydrogen Su Oxidized Rhi: Presence of I Recent Iron F Stunted or St Other (Explain No ⊠ Dep No ⊠ Dep No ⊠ Dep No ⊠ Dep	11) tebrates (B1 lfide Odor (C zospheres al Reduced Iror Reduction in ressed Plant n in Remark th (Inches): th (Inches): th (Inches):	3) ong Living Ro n (C4) Tilled Soils (C s (D1) (LRR A s)	ots (C3) 6) N) Wet	 4A, Water-Stained 4A, and 4E Drainage Patte Dry-Season W Saturation Visi Geomorphic Pe Shallow Aquita FAC Neutral Te Raised Ant Mo Frost-Heave H 	Leaves (B9) (MLRA 1, 2, a) erns (B10) ater Table (C2) ble on Aerial Imagery (C9) osition (D2) ard (D3) est (D5) bunds (D6) (LRR A) ummocks (D7)
Wetland Hydrology Indicators: Primary Indicators (min. of one required; cheat 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) Field Observations: Surface Water Present? Yes Saturation Present? Yes Includes Capillary fringe)	Water-Staine and 4B) Salt Crust (B Aquatic Inver Hydrogen Su Oxidized Rhi: Presence of I Recent Iron F Stunted or St Other (Explain No ⊠ Dep No ⊠ Dep No ⊠ Dep No ⊠ Dep	11) tebrates (B1 lfide Odor (C zospheres al Reduced Iror Reduction in ressed Plant n in Remark th (Inches): th (Inches): th (Inches):	3) ong Living Ro n (C4) Tilled Soils (C s (D1) (LRR A s)	ots (C3) 6) N) Wet	 4A, Water-Stained 4A, and 4E Drainage Patte Dry-Season W Saturation Visi Geomorphic Pe Shallow Aquita FAC Neutral Te Raised Ant Mo Frost-Heave H 	Leaves (B9) (MLRA 1, 2, a) erns (B10) ater Table (C2) ble on Aerial Imagery (C9) osition (D2) ard (D3) est (D5) bunds (D6) (LRR A) ummocks (D7)
Wetland Hydrology Indicators: Primary Indicators (min. of one required; chere 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 Field Observations: Surface Water Present? Yes Saturation Present? Yes Describe Recorded Data (Stream gauge, mother	Water-Staine and 4B) Salt Crust (B Aquatic Inver Hydrogen Su Oxidized Rhi: Presence of I Recent Iron F Stunted or St Other (Explain No ⊠ Dep No ⊠ Dep No ⊠ Dep No ⊠ Dep	11) tebrates (B1 lfide Odor (C zospheres al Reduced Iror Reduction in ressed Plant n in Remark th (Inches): th (Inches): th (Inches):	3) ong Living Ro n (C4) Tilled Soils (C s (D1) (LRR A s)	ots (C3) 6) N) Wet	 4A, Water-Stained 4A, and 4E Drainage Patte Dry-Season W Saturation Visi Geomorphic Pe Shallow Aquita FAC Neutral Te Raised Ant Mo Frost-Heave H 	Leaves (B9) (MLRA 1, 2, 3) erns (B10) ater Table (C2) ble on Aerial Imagery (C9) osition (D2) ard (D3) est (D5) ounds (D6) (LRR A) ummocks (D7)
Wetland Hydrology Indicators: Primary Indicators (min. of one required; cher 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 Field Observations: Surface Water Present? Yes Saturation Present? Yes Describe Recorded Data (Stream gauge, model)	Water-Staine and 4B) Salt Crust (B Aquatic Inver Hydrogen Su Oxidized Rhi: Presence of I Recent Iron F Stunted or St Other (Explain No ⊠ Dep No ⊠ Dep No ⊠ Dep No ⊠ Dep	11) tebrates (B1 lfide Odor (C zospheres al Reduced Iror Reduction in ressed Plant n in Remark th (Inches): th (Inches): th (Inches):	3) ong Living Ro n (C4) Tilled Soils (C s (D1) (LRR A s)	ots (C3) 6) N) Wet	 4A, Water-Stained 4A, and 4E Drainage Patte Dry-Season W Saturation Visi Geomorphic Pe Shallow Aquita FAC Neutral Te Raised Ant Mo Frost-Heave H 	Leaves (B9) (MLRA 1, 2, 3) erns (B10) ater Table (C2) ble on Aerial Imagery (C9) osition (D2) ard (D3) est (D5) ounds (D6) (LRR A) ummocks (D7)
Wetland Hydrology Indicators: Primary Indicators (min. of one required; chere 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 Field Observations: Surface Water Present? Yes Saturation Present? Yes Describe Recorded Data (Stream gauge, mother	Water-Staine and 4B) Salt Crust (B Aquatic Inver Hydrogen Su Oxidized Rhi: Presence of I Recent Iron F Stunted or St Other (Explaine) No ⊠ Dep No ⊠ Dep No ⊠ Dep No ⊠ Dep	11) tebrates (B1 lfide Odor (C zospheres al Reduced Iror Reduction in ressed Plant n in Remark th (Inches): th (Inches): th (Inches):	3) ong Living Ro n (C4) Tilled Soils (C s (D1) (LRR A s)	ots (C3) 6) N) Wet	 4A, Water-Stained 4A, and 4E Drainage Patte Dry-Season W Saturation Visi Geomorphic Pe Shallow Aquita FAC Neutral Te Raised Ant Mo Frost-Heave H 	Leaves (B9) (MLRA 1, 2, 3) erns (B10) ater Table (C2) ble on Aerial Imagery (C9) osition (D2) ard (D3) est (D5) ounds (D6) (LRR A) ummocks (D7)

Project/Site: Jackson Park III Applicant/Owner: K & W Properties, LLC	City/Cou	unty: <u>Cheh</u> a State: V		mpling Date: <u>3/17/2022</u> mpling Point: TP-6A	
Investigator(s): Wills, K.					ing Follit. TF-0A
Landform (hillslope, terrace, etc.): Flood plains, terrac	e			nvex, none): Concave	Slope (%):0-3%
Subregion (LRR): LRRA	Lat: 46.645		Long: -12		tum: 83
Soil Map Unit Name: Lacamas silt loam				NWI classification: PEM1/SSC	
Are climatic / hydrologic conditions on the site typical	for this time of	vear? Yes⊠			
Are Vegetation, Soil, or Hydrology significant				Circumstances" present? Yes 🛛	No
Are Vegetation, Soil, or Hydrology naturally p	problematic?	(If need	ed, explain	any answers in Remarks.)	
SUMMARY OF FINDINGS – Attach site map	•	ampling po	int locati	ons, transects, important	features, etc.
Hydrophytic Vegetation Present? Yes 🛛 No		Is the Sar	npled Area	3	
Hydric Soils Present? Yes ⊠ No		within a V		Yes⊠ No⊡	
Wetland Hydrology Present? Yes 🛛 No					
Remarks: This test plot met all three wetland indicate hydrologic indicators: Surface Water (A1), Hydrogen S					and the presence of
nyurologic indicators. Surface water (AT), Hyurogen a		, and a positi	IVE FAC IN	euliai Tesi (D5).	
VEGETATION – Use scientific names of pla	ants.				
· · ·	Absolute	Dominant	Indicator	Dominance Test Workshee	ł
Tree Stratum (Plot size:30 ft radius)	% Cover	Species?	Status		
1	<u>% 00761</u> %	Opecies:	Olalus	Number of Dominant Species	5 1 (A)
				That Are OBL, FACW, or FAC	
				- , ,	
3. 4				Total Number of Dominant	1 (B)
50% = 20% =		=Total Cover		Species Across All Strata:	<u> </u>
20,0 =	/0				
				Percent of Dominant Species	
Sapling/Shrub Stratum (Plot size: <u>15 ft.</u> radius)	0/			That Are OBL, FACW, or FAC	
1	<u> % </u>			Prevalence Index workshee	
2	0/			Total % Cover of: OBL species	Multiply by: x 1=
3. 4.	%			FACW species	x 2=
5.	%			FAC species	
50% = 20% =		=Total Cover		FACU species	x 3= x 4=
Herb Stratum (Plot size: 5 ft radius)	/0			UPL species	x 5=
1. Phalaris arundinacea	50%	yes	FACW	Column Totals:	(A) (B)
2. Juncus effusus	10%	no	FACW	Prevalence Index	
3.	%			Hydrophytic Vegetation Ind	
4.	<u> </u>			☐ 1 – Rapid Test for Hydr	
5.	%			2 – Dominance Test is	
6.	%			3 - Prevalence Index is	
7.	%			4 - Morphological Adap	tations ¹ (Provide
8.	%			supporting data in Rem	arks or on a separate
9.	%			sheet)	
10.	%			5 - Wetland Non-Vascu	lar Plants ¹
11.	%				
50% = 30 20% = 12	60%	=Total Cover		Problematic Hydrophyti	c Vegetation ¹ (Explain)
Woody Vine Stratum (Plot size: <u>15</u> ft radius)					
1	%			¹ Indicators of hydric soil and v	
2	%			must be present, unless distu	rbed or problematic.
50% = 20% =	%	=Total Cover			
				Hydrophytic	
				Vegetation	
% Bare Ground in Herb Stratum 40%				Present?	Yes⊠ No⊡
Remarks:				1	
Nemana.					

Profile Description: (Describe to the depth	needed to docu	ument the ind	icator or confi	rm the absen	ce of indicators.)	
Depth Matrix		Redox Featu	Ires			
(inches) Color (moist) %	Color (moist)	%		Loc ²	Texture	Remarks
		%				See Remarks Below
%		%				
<u>%</u>		<u>%</u>				
<u>%</u>		<u>%</u> %				
<u></u>		<u>%</u>				
<u> </u>		%	· · · · · · · · · · · · · · · · · · ·			
<u>%</u>		%				
¹ Type: C=Concentration, D=Depletion, RM	=Reduced Matrix	CS=Covered	or Coated San	d Grains.	² Location: PL=Po	re Lining, M=Matrix
Hydric Soil Indicators: (Applicable to all L)		cators for Problema	tic Hydric Soils
Histosal (A1)	Sandy Red				cm Muck (A10)	
Histic Epipedon (A2)	Stripped Ma				ed Parent Material (T	
Black Histic (A3)		•) (except MLR	-	ry Shallow Dark Sur	
Hydrogen Sulfide (A4)	Loamy Gley			∐ Ot	her (Explain in Rema	arks)
Depleted Below Dark Surface (A11)	Depleted M			<u>.</u>		
Thick Dark Surface (A12)	Redox Dark	. ,			ators of hydrophytic	
Sandy Mucky Minerals (S1)		ark Surface (F	7)		etland hydrology mu less disturbed or pro	
Sandy Gleyed Matrix (S4)	Redox Dep	ressions (F8)		un	less disturbed of pro	biematic
Restrictive Layer (if present):						
-						
Type: Depth (inches):				Hydric S	oil Present?	Yes⊠ No□
Remarks: Soils were unconsolidated and a h	udrogon gulfido o	dar waa proop	ot	Tryune of		
Remarks. Sons were unconsolidated and a m	yulogen suillue o	uur was prese	n.			
HYDROLOGY						
Wetland Hydrology Indicators:						
Primary Indicators (min. of one required; che	ck all that apply)				Secondary Indica	ators (2 or more required)
Surface Water (A1)		•) (except MLR	A 1, 2, 4A,		d Leaves (B9) (MLRA 1, 2,
High Water Table (A2)		,			4A, and 4	-
Saturation (A3)	Salt Crust (I		2		Drainage Pat	
Water Marks (B1)	Aquatic Inve				Dry-Season V	
Sediment Deposits (B2)	Hydrogen S			(00)		sible on Aerial Imagery (C9)
Drift Deposits (B3)		-	ong Living Root	s (C3)		()
Algal Mat or crust (B4)	Presence of		. ,		Shallow Aquit	
Iron Deposits (B5)			Filled Soils (C6)		FAC Neutral	
Surface Soil Cracks (B6)			s (D1) (LRR A)			ounds (D6) (LRR A)
Inundation Visible on Aerial Imagery (B7)	Other (Expl	ain in Remarks	5)		Frost-Heave I	Hummocks (D7)
Sparsely Vegetated Concave Surface (B8)					
Field Observations:						
Surface Water Present? Yes		pth (Inches):				
Water Table Present? Yes		pth (Inches):		Wetland F	lydrology Present?	
Saturation Present? Yes (Includes Capillary fringe)	No 🛛 🛛 De	pth (Inches):				Yes 🛛 No 🗌
Describe Recorded Data (Stream gauge, mo	nitoring well aeri:	al photos prev	ious inspection	s) if available	7.	
Describe recorded Data (Orean gauge, me	intoring wen, don					
Remarks:						

APPENDIX B: WETLAND RATING FORM

RATING SUMMARY – Western Washington

Name of wetland (or ID #):Wetland ADate of site visit:August 27, 2020Rated byKT WillsTrained by Ecology?YesDate of training9/2016HGM Class used for ratingDepressionalWetland has multiple HGM classes?XYN

NOTE: Form is not complete without the figures requested (figures can be combined). Source of base aerial photo/map <u>Google Earth</u>

OVERALL WETLAND CATEGORY IV (based on functions <u>X</u> 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 ap	prop	riate rat	ings	
Site Potential	Н	Μ	\bigcirc	Н	M	L	Н	м (D	
Landscape Potential	Н	M	L	Н	$\overline{\mathbb{N}}$	L	Н	м (D	
Value	\square	M	L	Н	М	\bigcirc	Н	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	1 11	
Wetland of High Conservation Value	I	
Bog	I	
Mature Forest	I	
Old Growth Forest	I	
Coastal Lagoon	1 11	
Interdunal	I II III IV	
None of the above	N/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	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	L 3.1, L 3.2	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	L 3.3	

Slope Wetlands

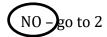
Map of:	To answer questions:	Figure #
Cowardin plant classes	H 1.1, H 1.4	
Hydroperiods	H 1.2	
Plant cover of dense trees, shrubs, and herbaceous plants	S 1.3	
Plant cover of dense, rigid trees, shrubs, and herbaceous plants	S 4.1	
(can be added to figure above)		
Boundary of 150 ft buffer (can be added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

HGM Classification of 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?



YES – the wetland class is **Tidal Fringe** – go to 1.1

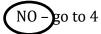
1.1 Is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)?

NO - Saltwater Tidal Fringe (Estuarine) *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.

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).



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**.



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 <u>A</u>

NO – **t**o 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.

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. <u>Characteristics and distribution of persistent plants</u> (Emergent, Scrub-shrub, and/or Forested Cowardin classes): Wetland has persistent, ungrazed, plants > 95% of area Wetland has persistent, ungrazed, plants > ½ of area Wetland has persistent, ungrazed plants > ¹ / ₁₀ of area 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 Area seasonally ponded is > ½ total area of wetland Area seasonally ponded is > ½ total area of wetland Area seasonally ponded is < ½ total area of wetland	2
Total for D 1Add the points in the boxes above	5
Rating of Site Potential If score is: 12-16 = H6-11 = MX0-5 = L Record the rating on the first potential.	nge
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?	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 2Add the points in the boxes above	1
Rating of Landscape Potential If score is: <u>3 or 4 = H X</u> 1 or 2 = M <u>0 = L</u> Record the rating on the fin	rst page
D 3.0. Is the water quality improvement provided by the site valuable to society?	
D 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list?	0
D 3.2. Is the wetland in a basin or sub-basin where an aquatic resource is on the $303(d)$ list? (es = 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)?	2
Total for D 3 Add the points in the boxes above	3
Rating of Value If score is: X 2-4 = H I = M 0 = L Record the rating on the first page	

DEPRESSIONAL AND FLATS WETLANDS		
Hydrologic Functions - Indicators that the site functions to reduce flooding	g and stream degradati	on
D 4.0. Does the site have the potential to reduce flooding and erosion?		
D 4.1. <u>Characteristics of surface water outflows from the wetland</u> : Wetland is a depression or flat depression with no surface water leaving it (no outlet) Wetland has an intermittently flowing stream or ditch, OR highly constricted permanent Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently	ditch points = 1	4
 D 4.2. Depth of storage during wet periods: Estimate the height of ponding above the bottom of 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 Marks of ponding between 2 ft to < 3 ft from surface or bottom of outlet Marks are at least 0.5 ft to < 2 ft from surface or bottom of outlet The wetland is a "headwater" wetland Wetland is flat but has small depressions on the surface that trap water Marks of ponding less than 0.5 ft (6 in) 	f the outlet. For wetlands points = 7 points = 5 points = 3 points = 3 points = 1 points = 0	0
 D 4.3. <u>Contribution of the wetland to storage in the watershed</u>: <i>Estimate the ratio of the area of contributing surface water to the wetland to the area of the wetland unit itself</i>. The area of the basin is less than 10 times the area of the unit The area of the basin is 10 to 100 times the area of the unit The area of the basin is more than 100 times the area of the unit 	points = 5 points = 3 points = 0 points = 5	3
	ts 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	jirst pag
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 = O	0
D 5.2. Is >10% of the area within 150 ft of the wetland in land uses that generate excess runoff	? $(es = 1)$ No = 0	1
D 5.3. Is more than 25% of the contributing basin of the wetland covered with intensive human >1 residence/ac, urban, commercial, agriculture, etc.)?	land uses (residential at $ves = 1$ No = 0	1
Total for D 5Add the point	ts 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 pag
D 6.0. Are the hydrologic functions provided by the site valuable to society?		
 D 6.1. <u>The unit is in a landscape that has flooding problems</u>. <i>Choose the description that best me the wetland unit being rated</i>. <i>Do not add points</i>. <u>Choose the highest score if more than on</u> The wetland captures surface water that would otherwise flow down-gradient into areas damaged human or natural resources (e.g., houses or salmon redds): Flooding occurs in a sub-basin that is immediately down-gradient of unit. Surface flooding problems are in a sub-basin farther down-gradient. Flooding from groundwater is an issue in the sub-basin. The existing or potential outflow from the wetland is so constrained by human or natural water stored by the wetland cannot reach areas that flood. Explain why	<u>ne condition is met</u> . where flooding has points = 2 points = 1 points = 1	0
There are no problems with flooding downstream of the wetland.	points = 0	
D 6.2. Has the site been identified as important for flood storage or flood conveyance in a region	nal flood control plan? Yes = 2 $\sqrt{No} = 0$	0
Total for D 6 Add the point	ts in the boxes above	0
Rating of Value If score is:2-4 = H1 = MX0 = L	Record the rating on the	first pa

IABITAT FUNCTIONS - Indicators that site function	is to provide important habitat
1.0. Does the site have the potential to provide habita	
1.1. Structure of plant community: Indicators are Cowardin of	
Cowardin plant classes in the wetland. Up to 10 patches	
of ¼ ac or more than 10% of the unit if it is smaller than	
Aquatic bed	4 structures or more: points = 4
<u>X</u> Emergent	3 structures: points = 2
Scrub-shrub (areas where shrubs have > 30% cover	
Forested (areas where trees have > 30% cover)	1 structure: points = 0
If the unit has a Forested class, check if:	
	b-canopy, shrubs, herbaceous, moss/ground-cover)
that each cover 20% within the Forested polygon	
I 1.2. Hydroperiods	
Check the types of water regimes (hydroperiods) preser	it within the wetland. The water regime has to cover
more than 10% of the wetland or ¼ ac to count (see tex	
Permanently flooded or inundated	4 or more types present: points = 3
<u>X</u> Seasonally flooded or inundated	3 types present: points = 2
Occasionally flooded or inundated	2 types present: points = 1
<u>X</u> Saturated only	1 type present: points = 0
Permanently flowing stream or river in, or adjacent	
Seasonally flowing stream in, or adjacent to, the w	
Lake Fringe wetland	2 points
Freshwater tidal wetland	2 points
1.3. Richness of plant species	<u> </u>
Count the number of plant species in the wetland that of	over at least 10 ft ²
Different patches of the same species can be combined	
the species. Do not include Eurasian milfoil, reed can	
If you counted: > 19 species	points = 2
5 - 19 species	points = 1
< 5 species	points = 0
1.4. Interspersion of habitats	
•	among Cowardin plants classes (described in H 1.1), or
	ater or mudflats) is high, moderate, low, or none. <i>If you</i>
have four or more plant classes or three classes and ope	
None = 0 points Low = 1 point	Moderate = 2 points
Il three diagrams / 🖾 🛌 📁 🛛 🖉 🗸 🔶 🔪	
Ill three diagrams (HATE TO CONTROL ())	

 H 1.5. Special habitat features: Check the habitat features that are present in the wetland. The number of checks is the number of p 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 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 slope) OR signs of recent beaver activity are present (cut shrubs or trees that have not yet we 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) 	3.3 ft (1 m) D degree Pathered	0
Invasive plants cover less than 25% of the wetland area in every stratum of plants (see H 1.1 for strata) Total for H 1 Add the points in the bo	_	2
Rating of Site Potential If score is: 15-18 = H 7-14 = M X 0-6 = L Record	d the rating on	the first pag
H 2.0. Does the landscape have the potential to support the habitat functions of the site?		
H 2.1. Accessible habitat (include <i>only habitat that directly abuts wetland unit</i>). <i>Calculate:</i> % undisturbed habitat <u>0</u> +[(% moderate and low intensity land uses) <u>0.5</u> /2] <u>0.25</u> = <u>0.</u> If total accessible habitat is: > ¹ / ₃ (33.3%) of 1 km Polygon 20-33% of 1 km Polygon 10-19% of 1 km Polygon < 10% of 1 km Polygon	<u>25</u> % points = 3 points = 2 points = 1 points = 0	0
Calculate: % undisturbed habitat 0_+[(% moderate and low intensity land uses)0.5/2] 0.25= 0. If total accessible habitat is: > 1/3 (33.3%) of 1 km Polygon 20-33% of 1 km Polygon 10-19% of 1 km Polygon < 10% of 1 km Polygon	points = 3 points = 2 points = 1 points = 0	0

 Total for H 2

 Rating of Landscape Potential If score is:

 4-6 = H

 1-3 = M

 X

 \leq 50% of 1 km Polygon is high intensity

Record the rating on the first page

-1

points = 0

Add the points in the boxes above

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	
Site does not meet any of the criteria above points = 0	1

Record the rating on the first page

WDFW Priority Habitats

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

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: <u>Old-growth west of Cascade crest</u> Stands of at least 2 tree species, forming a multilayered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) > 32 in (81 cm) dbh or > 200 years of age. <u>Mature forests</u> – 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.
- <u>Nearshore</u>: Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. (*full descriptions of habitats and the definition of relatively undisturbed are in WDFW report see web link on previous page*).
- **Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.
- **Cliffs:** Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.
- **Talus:** Homogenous areas of rock rubble ranging in average size 0.5 6.5 ft (0.15 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.
- **Snags and Logs:** Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 20 in (51 cm) in western Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.

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

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Wetland Type	Category
Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.	
SC 1.0. Estuarine wetlands Does the wetland meet the following criteria for Estuarine wetlands? — The dominant water regime is tidal, — Vegetated, and	
— With a salinity greater than 0.5 ppt Yes –Go to SC 1.1 No= ot 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 <i>Spartina</i>, see page 25) — At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un- 	Cat. I
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. 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 Conservation Value? Yes – Go to SC 2.2 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	Cat. I
SC 2.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? <u>http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf</u> 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	
 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 – to 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 = s 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

Category of wetland based on Special Characteristics	
Yes = Category III No = Category IV	Cat. IV
Yes = Category II No – Go to SC 6.3 SC 6.3. Is the unit between 0.1 and 1 ac, or is it in a mosaic of wetlands that is between 0.1 and 1 ac?	Cat. III
SC 6.1. Is the wetland 1 ac or larger and scores an 8 or 9 for the habitat functions on the form (rates H,H,H or H,H,M for the three aspects of function)? Yes = Category I No – Go to SC 6.2 SC 6.2. Is the wetland 1 ac or larger, or is it in a mosaic of wetlands that is 1 ac or larger?	Cat. II
— Ocean Shores-Copalis: Lands west of SR 115 and SR 109 Yes – Go to SC 6.1 No = rot an interdunal wetland for rating	
 Long Beach Peninsula: Lands west of SR 103 Grayland-Westport: Lands west of SR 105 Oppon Shares, Consiling Lands west of SR 115, and SR 100 	Cat I
In practical terms that means the following geographic areas:	
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.	
SC 6.0. Interdunal Wetlands	
Yes = Category I No = Category I	
mowed grassland. — The wetland is larger than $1/_{10}$ ac (4350 ft ²)	
— At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-	
— 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).	Cat. II
Yes – Go to SC 5.1 No = Not a wetland in a coastal lagoon SC 5.1. Does the wetland meet all of the following three conditions?	
during most of the year in at least a portion of the lagoon (needs to be measured near the bottom)	Cat. I
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)	
— The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from	
SC 5.0. Wetlands in Coastal Lagoons Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?	
Yes = Category I No = Jot a forested wetland for this section	Cat. I
species that make up the canopy have an average diameter (dbh) exceeding 21 in (53 cm).	
— Mature forests (west of the Cascade Crest): Stands where the largest trees are 80-200 years old OR the	
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.	
— Old-growth forests (west of Cascade crest): Stands of at least two tree species, forming a multi-layered	
Department of Fish and Wildlife's forests as priority habitats? <i>If you answer YES you will still need to rate the wetland based on its functions.</i>	
Does the wetland have at least <u>1 contiguous acre</u> of forest that meets one of these criteria for the WA	
SC 4.0. Forested Wetlands	

Wetland name or number \underline{A}

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