

LA CENTER CRITICAL AREAS REPORT



Enterprise Transmission Line

Submitted to Clark Public Utilities Vancouver, Washington

April 2018

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Submitted to

Clark Public Utilities P.O. Box 8900 Vancouver, Washington 98668

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Submitted by

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1.0 INTRODUCTION

Clark Public Utilities is proposing to install an overhead transmission line that would traverse right of way and properties in unincorporated Clark County (County) and the cities of Ridgefield and La Center. The purpose of the Enterprise transmission line is to improve service reliability and decrease outage time for the North County area during inclement weather.

In preparation for the proposed project, Clark Public Utilities contracted with BergerABAM to investigate the existence of critical areas as defined and regulated under Chapter 18.300 – Critical Areas of the La Center Municipal Code (LCMC).

The approximately 6-mile linear study area consists of portions of public right of way and private residential and commercial properties. The study area is located in Sections 4, 9, 15, 22, and 23 of Township 4 North, Range 1 East, of the Willamette Meridian (Figure 1; all figures are included as Appendix A). There are 16 utility poles proposed for placement within the jurisdiction of the City; only one pole will be located in critical areas identified within the City, it will be located in a riparian buffer. Clearing will be necessary within riparian buffers for the installation of the utility pole, as well as for a 20-foot wide utility line corridor.

2.0 PROJECT DESCRIPTION

The proposed Enterprise Transmission Line would extend approximately 0.85 miles along the City's western jurisdictional boundary. The Applicant has proposed to install a 115 kilovolt overhead transmission line, which will connect the Union Ridge substation in the City of Ridgefield to the site plan approved Enterprise substation, which has yet to be constructed, in Clark County, Washington, just north of the City of La Center. The transmission line will be supported by 76.5-foot-tall wood poles, typically spaced approximately 200 to 250 feet apart and framed in the "trim line style," which Clark Public Utilities describes as the lowest and most aesthetically pleasing profile. The transmission line alignment will also require a limited number of approximately 78-foottall steel poles to support the proposed line. Steel poles will be required at certain areas where tension of the transmission line will be too great for wooden poles. Based on the project's current design 16 poles will be placed within a combination of public road right-of-way and private easements adjacent to the public road right-of-way. 11 poles will be placed within the public right of way, and 5 poles will be placed within private easements. The proposed transmission line poles will follow the alignment of the existing overhead distribution lines along the east side of the unimproved NW Paradise Park Road. The purpose of the project is to improve service reliability and decrease outage time for the north County area during inclement weather.

The current design for the project consists of removing the existing distribution poles that parallel NW Paradise Park Road, and replace them with new transmission lines and poles. However, distribution and communications lines will be placed underground starting just north of the Shell Station, until the alignment exits La Center jurisdiction at the NW 31st Avenue/NW 324th Street intersection. Approximately 600 linear feet of distribution line has been proposed for undergrounding. Transmission lines will remain overhead throughout the entire alignment.

3.0 METHODS

This critical areas report has been prepared consistent with the submittal requirements of LCMC 18.300 – Critical Areas. In order to assess the presence or absence of critical areas and the project's potential impacts, BergerABAM scientists analyzed the site and reviewed pertinent reports, information, and available data. The scientists conducted a site investigation on 19 and 21 June 2017. Resources used during their investigation of critical areas included the following.

- Clark County (County) MapsOnline GIS online database
- Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM), Clark County, Washington, Map Number 53011C0202D
- StreamNet Fish Data for the Northwest online mapper
- U.S. Environmental Protection Agency (EPA) Troutdale aquifer system map
- U.S. Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI) online database
- Washington Department of Fish and Wildlife (WDFW) Priority Species and Habitat (PHS) PHS on the Web online database
- WDFW SalmonScape online database
- Washington Department of Natural Resources (WDNR) Liquefaction Susceptibility and Site Class Maps of Washington State, by County – Clark County. (Stephen P. Palmer et al.)

3.1 Regulated Activities and Required Permits

The project area is, in part, within the jurisdiction of the City and will be subject to the City's critical areas ordinance (LCMC 18.300). Clark Public Utilities is requesting a critical areas permit as part of the application package.

The site contains critical aquifer recharge areas (CARAs) regulated under LCMC 18.300.090(1), and fish and wildlife habitat conservation areas regulated under LCMC 18.300.090(2). Frequently flooded areas (18.300.090(3)), geological hazard areas (LCMC 18.300.090(4)), slopes with a gradient of 25 percent or greater (LCMC 18.300.090(5)), and wetlands (18.300.090(6)) are not present in the project area.

3.2 Construction Schedule

The project is scheduled to begin construction in Spring/Summer 2018 and to be completed in Winter 2019.

4.0 EXISTING CONDITIONS

4.1 Location

The approximately 6-mile proposed transmission line corridor spans sections of La Center, Clark County, and the City of Ridgefield. This report evaluates only the area within the jurisdiction of the City of La Center. Regulations affecting project elements within the other jurisdictions are addressed in separately prepared and submitted wetland and habitat mitigation plans.

The northern terminus of the proposed transmission line route is located near the intersection of NW 26th Avenue and NW 324th Street in the County's jurisdiction at the approved Enterprise substation. Starting from the substation heading west, the transmission line would run north of and parallel to NW 324th Street within the County jurisdiction. The northern terminus of the La Center portion of the proposed project starts at the NW 324th Street/NW 31st Avenue intersection, located north of the recently completed interchange. The proposed alignment heads south from the NW 324th Street/NW 31st Avenue intersection, along NW 31st Avenue, and then continues south along NW Paradise Park Road. As the alignment continues south along NW Paradise Park Road, it crosses the new interchange and eventually transitions into Clark County jurisdiction near parcel 211242000. The total length of the alignment within La Center jurisdiction is approximately 5,000 linear feet (0.85 miles).

4.2 Habitat and Vegetation

Vegetation varies, and largely results from the land use in this rural area. Generally, vegetation is characterized by one of two categories: roadside and pasture grasses or mature coniferous/deciduous forest species. Herbaceous species most often noted were colonial bentgrass (*Agrostis capillaris*), timothy (*Phleum pretense*), English plantain (*Plantago lanceolatea*), tall fescue (*Schedonorus arundinaceus*), reed canarygrass (*Phalaris arundinacea*), oxeye daisy (*Leucanthemum vulgare*), purple-leaf willowherb (*Epilobium ciliatum*), Himalayan blackberry (*Rubus aremeniacus*), sheep sorrel (*Rumex aetosella*), Siberian miner's lettuce (*Claytonia sibirica*), English ryegrass (*Lolium perenne*), horsetail (*Equisetum arvense*), bird's-foot trefoil (*Lotus corniculatus*), and velvetgrass (*Holcus lanatus*). Baldhip rose (*Rosa gymnocarpa*), Nootka rose (*Rosa nutkana*), snowberry (*Symphoricarpos albus*), and serviceberry (*Amelanchier alnifolia*) were common shrub species noted along the corridor, and cascara (*Rhamnus purshiana*), choke cherry (*Prunus virginiana*), and Oregon ash (*Fraxinus latifolia*) were common tree species.

Habitat in the area varies, and is the result of a combination of developed land uses and relatively undisturbed areas. The McCormick Creek stream corridor is known breeding, over-wintering, and year-round habitat for several resident and migratory bird species,

including birds of prey, songbirds, and waterfowl (U.S. Fish and Wildlife Service [USFWS] Information for Planning and Conservation [IPaC], 2017). A tributary to McCormick Creek, and the associated riparian habitat, are located within the transmission line corridor, and may provide limited habitat for these species.

4.3 Topography and Hydrology

Topography within the transmission line corridor is generally flat; however, steep slopes are present to the east of NW Paradise Park Road and are associated with the riparian areas of McCormick Creek and its tributaries (Figure 2). Hydrology on the site drains east to McCormick Creek.

Most of the study area is within the McCormick Creek sub-watershed, but north of NW La Center Road, a portion of the project area is within the East Fork Lewis sub-watershed (Figure 3).

5.0 REGULATED CRITICAL AREAS

Based on a review of existing available information, project reports, and site visits, the site contains two types of critical area that are subject to regulation by the City: CARAs and fish and wildlife habitat conservation areas. Critical areas are regulated under the City's critical areas ordinance (LCMC 18.300).

5.1 Critical Aquifer Recharge Areas

CARAs are regulated and defined as a critical area under LCMC 18.300.090(1) because of the exceptional susceptibility and/or vulnerability of ground waters underlying aquifer recharge areas to contamination and the importance of such ground waters as sources of public water supply. CARAs include areas with a critical recharging effect on an aquifer used for potable water and where an aquifer that is a source of drinking water is vulnerable to contamination that would affect the potability of the water (Figure 4).

Allowed uses under the code include:

Below or aboveground utilities, facilities and improvements, where necessary to serve development consistent with the La Center comprehensive plan and development code, including: streets, roads, highways, sidewalks, street and road lighting systems, traffic signals, domestic water systems, storm and sanitary sewer systems, open space, and parks and recreational facilities, where there is no other reasonable alternative, based on topographic and environmental conditions. LCMC 18.300.050.4(b).

The EPA maps the entire city, including the project area, within the Troutdale aquifer, which is a sole source aquifer. Clark County MapsOnline indicates that most of the site is within a Category II CARA while one small area, associated with the Shell gas station at 2814 NW 319th Street, is mapped as a Category I CARA (Figure 4). With reference to the Category II CARA that covers most of the site, although Category II CARA are listed under LCMC 18.300.040(2)(b) as a critical area, the code includes no special provisions or

performance standards for them. With reference to the Category I CARA at the gas station, LCMC 18.300.090(A)(v) lists prohibited land uses in Category I aquifer recharge areas, and transmission line utility poles are not included in this list. Therefore, the proposed transmission line project is an allowed use and is not prohibited by City code.

5.2 Fish and Wildlife Habitat Conservation Areas

As defined in LCMC 18.300.090(2), fish and wildlife habitat conservation areas are divided into four basic categories:

- **Riparian areas** they are immediately adjacent to waterways; these areas contain elements of both aquatic and terrestrial ecosystems that mutually influence each other.
- Endangered or threatened areas they have a primary association with federal listed endangered or threatened species of fish or wildlife, and, if altered, may reduce the likelihood that the species will maintain and reproduce over the long term; or are point locations where critical wildlife species are found.
- Local habitat areas these include species of local importance because of their population status or sensitivity to habitat manipulation, or game species. Habitats of local importance include a seasonal range or habitat element in which a given species has a primary association, and which, if altered, may reduce the likelihood that the species will maintain and produce over the long term.
- **Priority habitat and species (PHS) areas** those areas in which state-listed monitor or candidate species or federally listed candidate species have a primary association, and which, if altered, may reduce the likelihood that the species will maintain and reproduce over the long term.

5.2.1 Riparian

Each of the three streams mapped within the project area flows east towards McCormick Creek, and all three are mapped as Type Ns streams. During the site investigation, it was determined that the mapping for the northern and southern streams is inaccurate, as no streams were identified within the corridor in these locations. It is assumed that the headwaters of these streams are located farther east, beyond the project corridor. The mapping of the central stream is also inaccurate as the headwaters are farther west than shown on the mapping. Figure 5 shows the location of the streams as they are mapped by WDNR, while Figure 6 shows the GPS-recorded boundary of the central stream as located within the transmission line corridor. The identified stream flows east from NW Paradise Park Road before converging with another stream and heading north. Vegetation in the vicinity of this stream consists of sword fern (*Polystichum munitum*), Douglas spirea (*Spiraea douglasii*), elderberry (*Sambucus spp.*), Himalayan blackberry (*Rubus armeniacus*), trailing blackberry (*Rubus ursinus*), and bigleaf maple (*Acer macrophyllum*).

As a Type Ns waterbody, the unnamed stream identified on the site is provided with a 75-foot habitat buffer in LCMC Table 18.300.090(2)(f); the buffer protects the functions

and values of the stream and its associated riparian habitat. The proposed transmission line would require vegetation removal within this buffer for construction and maintenance. All trees and shrubs within 10 feet of a proposed utility pole would require removal to install and maintain the pole. Between poles, a 20-foot corridor will be cleared of trees and shrubs that may affect the transmission line, although shortstatured trees (those that will not grow to heights that may affect the utility lines) and shrubs would be allowed to remain.

5.2.2 Threatened and Endangered

According to the WDFW online database (PHS on the Web), there are no threatened or endangered species or habitat in the vicinity of the project area within the City.

The USFWS IPaC web application identifies the potential presence of four threatened or endangered species within the project area: streaked horned lark (*Eremophila alpestris strigata*), yellow-billed cuckoo (*Coccyzus americanus*), bull trout (*Salvelinus confluentus*), and golden paintbrush (*Castilleja levisecta*), but lack of suitable habitat for any of these species means their presence within or near the transmission line corridor is highly unlikely.

5.2.3 Local Habitat

According to the code, local habitat areas include the following.

- **Species of local importance** species of local concern because of their population status or their sensitivity to habitat manipulation or that are game species.
- Habitats of local importance include a seasonal range or habitat element with which a given species and a primary association and which, if altered, may reduce the likelihood that the species will maintain and reproduce over the long term. These might include areas of high relative density or species richness, breeding habitat, winter range, and movement corridors. They might also include habitats that are of limited availability or high vulnerability to alteration, such as cliffs, talus, and wetlands.
- Local habitat areas areas specifically identified as local habitat areas on the City's adopted critical areas map and the background maps used to prepare the critical areas maps.

No known local habitat areas occur within the project area.

5.2.4 Priority Habitat and Species

WDFW recognizes priority habitats as having unique or significant value to many species, and that priority species – such as particular fish and wildlife species – require protective measures and/or management guidelines to ensure their perpetuation (Knutson and Naef 1997). A review of WDFW's PHS on the Web indicates that no priority habitat areas are mapped within the study area.

5.2.5 Buffers

The critical areas ordinance specifies buffers for PHS (LCMC 18.300.090(2)(a)(v)) as well as fish and wildlife habitat conservation areas (LCMC 18.300.090(2)(f)). LCMC Table 18.300.090(2)(a) establishes buffers for PHS based on wildlife habitat resource type (e.g., local habitat, non-riparian priority habitat and species, and resources subject to the ESA). LCMC Table 18.300.090(2)(f) designates minimum riparian buffer widths based on WDNR classification system water types. The unnamed stream identified on site is designated a Type Ns waterbody, and is protected by a 75-foot riparian buffer (Figure 6).

No project activities are proposed to occur below the ordinary high water mark (OHWM) of the stream, but one utility pole is proposed within the riparian buffer of the stream. Vegetation clearing will be required to construct and maintain the pole at this location.

5.3 Frequently Flooded Areas

Frequently flooded areas are those areas of special flood hazard identified in flood insurance studies and accompanying flood insurance rate maps produced by FEMA's Federal Insurance Administration. According to FEMA FIRM panel number 53011C0202D, none of the area within the boundaries of the project corridor is within the 100-year floodplain or susceptible to flooding (Figure 7). The project does not propose to impact or alter the floodplain or increase the 100-year flood elevation. Therefore, there will be no impacts to frequently flooded areas, and these critical areas are not addressed further in this report.

5.4 Geologically Hazardous Areas

Geologically hazardous areas are regulated under LCMC 18.300.090(4) and are divided into these three main categories:

- Erosion hazard areas contain soils that, according to the U.S. Department of Agriculture Soil Conservation Service soil classification system, may experience severe to very severe erosion.
- Landslide hazard areas potentially subject to risk of mass movement due to a combination of geologic, topographic, and hydrologic factors.
- Seismic hazard areas subject to severe risk of damage as a result of earthquakeinduced ground shaking, slope failure, settlement, or soil liquefaction.

According to the Clark County GIS database MapsOnline, no portion of the site is mapped within a severe erosion hazard area. The entire site is mapped as Site Class C under the National Earthquake Hazards Reduction Program (NEHRP); according to the WDNR Natural Hazards Mapper's NEHRP Seismic Site Class layer information, site classes C, D, and E represent increasingly soft soil conditions that result in a progressively increasing amplification of ground shaking,. The entire site is mapped as having a very low susceptibility to liquefaction (Figure 8). Therefore, there are no geologic hazards within the boundaries of the transmission line corridor in the City, the project will not pose significant risk to public safety, and these critical areas are not addressed further in this report.

5.5 Slopes with Gradient of 25 Percent or Greater

According to the code, lands with slopes of 25 percent or greater are considered unbuildable and development is not allowed, while slopes between 15 and 25 percent are generally considered buildable. Clark County MapsOnline indicates that the steepest slopes within the project boundaries range from 10 to 15 percent; slopes ranging from 15 to 25 percent exist farther to east, associated with stream corridors of tributaries of McCormick Creek (Figure 8). The project is not proposing development within any areas mapped as having 15 to 25 percent slopes, and these critical areas are not addressed further in this report.

5.6 Wetlands

Wetlands are defined as those areas that are inundated or saturated by surface water 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 (LCMC 18.300.030(76)). Wetlands constitute important natural resources that provide significant environmental functions. They help floodwaters, maintain summer stream flows, filter pollutants, recharge ground water, and provide significant habitat for fish and wildlife. Wetlands are regulated under LCMC 18.300.090(6). Neither WDFW's PHS on the Web nor the USFWS NWI mapper indicate the presence of wetlands within the study area, and the on-site investigation by the BergerABAM scientists confirmed that no wetlands are present within the transmission line corridor within the City (Figure 9) (see Appendix B). As no impacts are proposed to any wetlands in the City, these critical areas are not addressed further in this report.

6.0 IMPACTS

Although it is the overall goal of the project to avoid impacts to critical areas, some impacts are unavoidable because of the nature of the project. The following sections discuss the proposed impacts to critical areas within the project area. Figure 10 shows the location of proposed impacts within the transmission line corridor. Only those critical areas that are present within the City are addressed.

6.1 Critical Aquifer Recharge Areas

The project is not proposing any of the prohibited activities listed under LCMC 18.300.090(1)(a)(v) and will not discharge any potentially harmful materials as a result of the project or its construction. Therefore, no impacts to CARAs are scheduled or anticipated as part of this project.

6.2 Fish and Wildlife Habitat Conservation Areas

The project corridor, which runs through the headwaters and riparian buffer of a tributary to McCormick Creek, will result in approximately 2,703 square feet of impacts to the 75-foot riparian buffer (Figure 10). The project has avoided direct impacts below the OHWM of the McCormick Creek tributary. The impacts will result from clearing

woody vegetation and installing a utility pole. All trees and shrubs within a 10-foot radius (314 square feet) at the proposed pole locations must be cleared for construction and maintenance, and a 20-foot-wide corridor along the length of the transmission line must be cleared of trees that could come into contact with the transmission line. Between poles, short-statured trees (those that will not grow to heights that may affect the transmission line) and shrubs would be allowed to remain. Vegetation removal cannot be avoided; vegetation must be cleared for the safety of maintenance workers and the surrounding community, and to ensure there is no disruption in power supply and protect the utility poles, lines, and conductors from damage. Vegetation clearing for the 20-foot transmission line corridor will result in 2,389 square feet of impacts to the riparian buffer, while an additional 314 square feet of impact will result from clearing for the installation of a utility pole, for a total of 2,703 square feet of impacts to the riparian buffer. These impacts have the potential to reduce riparian habitat functions for terrestrial wildlife and aquatic species associated with the McCormick Creek tributary, and will require mitigation.

The calculation of impacts assumed that heavy machinery for auguring and installation of the utility poles would be staged on the roadway and/or shoulder, and that machinery would not be required to enter vegetated areas; therefore, the heavy machinery would not result in additional impacts.

7.0 AVOIDING AND MINIMIZING IMPACTS

Total avoidance of critical areas is not feasible because of the location of critical areas and project requirements. To minimize the impacts to the riparian buffer, trees and shrubs that do not pose a threat to the transmission line will be allowed to remain, and wherever possible, trees will be limbed rather than removed. In addition, to avoid and minimize impacts, all stages of construction will employ the following best management practices (BMPs).

- Checking equipment for leaks and other problems that could result in the discharge of petroleum-based products or other material into critical areas.
- Taking corrective actions in the event of any discharge of oil, fuel, or chemicals into the water, including:
 - In the event of a spill, beginning containment and cleanup efforts immediately and completing them expeditiously according to all local, state, and federal regulations, and ensuring they take precedence over ordinary work. Cleanup will include proper disposal of any spilled material and used cleanup material.
 - Ascertaining the cause of the spill and taking appropriate action to prevent further incidents or environmental damage.
 - Reporting spills to the Washington State Department of Ecology's (Ecology) Southwest Regional Spill Response Office at 360-407-6300.
- Preventing the disposal or abandonment of excess or waste materials waterward of the OHWM or allowing these materials to enter waters of the state.

- Disposing of waste materials in an appropriate landfill.
- Keeping oil-absorbent materials present on site for use in the event of a spill or if any oil product is observed in critical areas.
- Employment of erosion and sediment control measures including, but not limited to:
 - Using filter fabric, silt fence, plastic covering, sodding, sediment bags, mulching, and/or soil stabilization
 - Hand seeding, hydro-seeding, live staking
 - Employing inlet protection, sandbags, silt mat, straw bale barriers, vegetative buffers
 - Sweeping area roadways after construction

8.0 COMPLIANCE WITH DEVELOPMENT STANDARDS

The following sections discuss how the transmission line project complies with the applicable review criteria for critical areas consistent with subtitle 18.300.110.

8.1 Avoid Impacts – LCMC 18.300.110(2)(a)

The project team has assessed all reasonable alternatives for locating utility poles in such a way as to avoid critical areas while still meeting engineering standards for overhead utility lines, and the proposed locations of the utility poles are located in the least environmentally sensitive areas as practicable, in accordance with development standards in the code (LCMC 18.300.110(2)(a)). Although total avoidance is not feasible because of the elements of the project and the constraints of the landscape, the proposed project includes avoidance measures to ensure no net loss of function of critical areas.

8.2 Minimize Impacts – LCMC 18.300.110(2)(a)

LCMC 18.300.110(2)(a) states that if avoidance is not practicable, development must minimize adverse impacts to critical areas and buffers consistent with the mitigation sequencing measures and mitigation and enhancement measures prescribed in the chapter. Avoidance of impacts to riparian buffers was not entirely feasible because of site constraints and project requirements. The project design minimizes the impacts of the project to the greatest extent practicable and includes a comprehensive set of BMPs that will prevent incidental impacts to critical areas within the site during construction and by mitigating for the loss of functions.

8.3 Vegetation Removal – LCMC 18.300.110(2)(b)

This section of the code states that projects are to receive City approval for vegetation removal methods and that the removal of native vegetation is to be avoided. The project will employ City-approved vegetation removal methods and avoid, where practicable, the removal of native vegetation.

8.4 Impacts Fully Mitigated – LCMC 18.300.110(2)(c)

As described in sections 7.1 and 7.2, the project design avoids and minimizes impacts to critical areas and critical area buffers to the greatest extent practicable. Unavoidable

impacts to riparian buffers will be fully mitigated, as described below in section 9.0 and in accordance with LCMC 18.300.120.

8.5 Cut and Fill Minimization – LCMC 18.300.110(2)(d)

The intent of cut and fill minimization is to limit impacts and/or alterations to 100-year flood elevations. There are no frequently flooded areas within the transmission line corridor within the City, and no cut or fill activities will occur within or near any frequently flooded areas. Within the City's jurisdiction, excavation is proposed for an approximately 600 linear-foot portion of the transmission line that would be placed underground. To complete the undergrounding of the communication and distribution lines, CPU intends to utilize open-cut trenching. It is anticipated that approximately 533 cubic yards of material will be temporarily displaced during the trenching process. Once the distribution lines are installed, the spoils will be backfilled into the trench to cover the undergrounded distribution lines

8.6 Rainy Season Construction – LCMC 18.300.110(2)(e)

This section of the code requires that soils not be exposed during the rainy season (1 November through 30 April) and limits construction activity to the dry season (1 May through 31 October). Ground disturbance will be minimal during the installation of the utility poles and likely will be only the result of auguring for pole installation, and soil exposure will be limited. For the 600-foot portion of the utility line that will be placed below ground, excavation and soil disturbance will be necessary, however, this portion of the alignment is not located within any critical areas. To prevent unanticipated impacts to critical areas as the result of soil exposure, erosion and sediment control methods will be used to prevent sediment from entering any nearby surface waters.

The intent of the rainy season restriction is to prevent water quality problems associated with construction that could impact downstream waters. Construction activities are not anticipated to substantially expose soils that may adversely impact water quality in the area.

8.7 Review and Approval of Appropriate Plans – LCMC 18.300.110(2)(f)

The City will have reviewed and approved any applicable project plans, including but not limited to, erosion control plans, grading plans, and/or vegetation removal plans prior to construction activities.

8.8 Applicable State and Federal Permits- LCMC 18.300.110(2)(g)

While the project does not propose work within or under any state-regulated streams, Clark Public Utilities will coordinate with state and federal agencies to determine applicable permits, and will obtain any necessary permits, including those required under sections of the Clean Water Act or Section 106 of National Historic Preservation Act of 1966.

Clark Public Utilities is the lead agency for review under the State Environmental Protection Act (SEPA) and will comply with all SEPA requirements.

8.9 Hydraulic Permits- LCMC 18.300.110(2)(h)

The project does not include work within, or under, any state-regulated streams, and while project power lines will be located overwater, the project will not use, divert, obstruct, or change the natural flow or bed of freshwaters of the state, and a hydraulic permit approval is not necessary (RCW 77.55.011(11)).

8.10 Compliance with State and Federal Standards – LCMC 18.300.110(2)(i)

The applicant has demonstrated compliance with state and federal environmental standards as mentioned above and has fulfilled this development standard.

9.0 MITIGATION - LCMC 18.300.120

The overall goal of mitigation as described in the code is to result in no net loss of critical area functions and values. Mitigation sequencing in LCMC 18.300.120 requires first that a project's mitigation plan receive City approval, and next that mitigation plans demonstrate no net loss of function. The project proposes impacts to just one critical area (fish and wildlife habitat conservation areas – specifically riparian buffers) that will require mitigation efforts. Impacts will be permanent in nature but overall, there will be no net loss of function or values of critical areas because interrupted or lost functions will be mitigated. No impacts are proposed for the remaining critical areas addressed in this report. In addition, minimization measures and BMPs included in the design will prevent any potential impacts to critical areas in or near the project site.

LCMC 18.300.110(2)(c) specifies that all adverse impacts to affected critical areas and buffers be either avoided or fully mitigated. For the proposed project, 2,703 square feet (0.061 acre) of riparian buffer will be permanently impacted by clearing vegetation and installing the transmission line. Impacts to the riparian buffers will occur within the proposed utility corridor on private property, Clark Public Utilities does not own the property or the land adjacent to the impacts; therefore, on-site buffer enhancements and buffer averaging are not feasible in accordance with LCMC 18.300.120(2)(c)(i).

LCMC 18.300.120(2)(c)(ii) states that "where the applicant can demonstrate that an offsite location is in the same drainage basin, and that greater biological and hydrological values will be achieved, the city may approve such off-site mitigation." The code requires off-site mitigation to be within the same drainage basin, but the City code does not define what constitutes a basin. The code does rely on best available science (LCMC 18.300.100). The U.S. Geological Survey (USGS) defines a drainage basin as "a part of the surface of the earth that is occupied by a drainage system, which consists of a surface stream or a body of impounded surface water together with all tributary surface streams and bodies of impounded surface water." The Washington Administrative Code (WAC) or Revised Code of Washington (RCW) do not define a basin, but in WAC Chapter 173-500, the state identifies 62 water resource inventories (WRIA) that cover the entire state. One of the 62 WRIAs is the Lewis River watershed, which includes the East Fork Lewis River, McCormick Creek, and the project site. The WAC and USGS definition indicate that that a basin comprises a larger drainage system, not smaller subbasins; in this case, the proposed use of a mitigation bank would occur within the same basin. Furthermore, the definition of a "service area" as defined by the WACs for mitigation banks is defined as "the designated geographic area in which a bank can reasonably be expected to provide appropriate compensation for unavoidable impacts (WAC 173-700-104)." The service area as determined by Ecology, USACE, and the EPA for the East Fork Lewis River mitigation bank includes McCormick Creek. Therefore, it is reasonable to assume that the use of the East Fork Lewis River Mitigation Bank (bank) would be within the same basin.

The permanent impacts to the riparian buffer will result in a loss of water quality and habitat functions. The existing vegetation consists of a combination of grass species and shrubs. These communities slow the downhill movement of water from precipitation events and provide nutrient uptake and habitat functions (biological functions). To ensure no net loss of buffer functions or values, the 2,703 square feet (0.061 acre) of riparian buffer impacts will be mitigated through the purchase of mitigation credits at the bank (Figure 11). The portion of the bank that has been released by the governing agencies for the sale of buffer credits has been planted with native trees and shrubs and has been maintained and monitored for at least 4 years. The biological value of the bank credits has had 4 years to become established and provide greater biological functions to the ecosystem than those of the project area. Because the bank has been certified by state and federal agencies and has already restored a variety of aquatic and terrestrial habitats, there will be no temporal loss of functions as a result of the project. Located in the East Fork Lewis River watershed, the mitigation bank will provide high-quality riparian habitats and functions in the same watershed in which impacts are proposed. The consolidated nature of mitigation banks promotes greater ecological and habitat diversity than small, isolated mitigation efforts, and helps to create a more sustainable ecosystem. The bank will provide the same types of ecological and habitat functions that are currently present at the project site, including water storage, nutrient uptake, and habitat functions. Therefore, the bank provides greater biological and hydrological values than could be achieved at the project site.

9.1 Proposed Mitigation Credits

Mitigation ratios for purchasing credits at the mitigation bank vary based on the resource impacted and the quality of that resource. For wetlands, mitigation ratios are based on the wetland category determined using Ecology's *Washington State Wetland Rating System for Western Washington* (2014). The wetland mitigation ratios for wetland impacts have been approved by the regulatory agencies. A mitigation ratio of 1:1 has been established for impacts to Category III wetlands and a ratio of 0.85:1 has been established for impacts to Category IV wetlands.

Riparian buffer mitigation ratios for this project were determined in cooperation with WDFW. Standard riparian buffer mitigation ratios are based on vegetation type and position within the inner or outer 50 percent of the buffer. Areas dominated by trees greater than 12 inches diameter at breast height (DBH) require mitigation at a ratio of

4:1 if the area is within the inner 50 percent of the buffer, and a ratio of 3:1 if the area is within the outer 50 percent of the buffer. Areas with trees or shrubs less than 12 inches DBH within the inner 50 percent of the buffer require mitigation at a ratio of 3:1, and 2:1 within the outer 50 percent. Grass and pasture species within the inner 50 percent of the buffer require mitigation at a 2:1 ratio, and at a 1:1 ratio in the outer 50 percent of the buffer.

Because the project has proposed to purchase credits from the mitigation bank, and the riparian areas at the bank have been functioning for at least 4 years, ratios to determine required acre-credits were determined based on the cost of wetland and riparian mitigation. Because mitigation bank credit prices are generally consistent with the cost of wetland creation, and because typical riparian mitigation costs are approximately one-quarter of those of wetland creation, the standard ratios for determining riparian mitigation were applied to the applicable area of impact and then multiplied by 0.25, to determine the acre-credits necessary for purchase to compensate for riparian buffer impacts. Table 1 below outlines the necessary mitigation ratios for riparian areas.

Dominant Vegetation	Location Within Buffer	Standard Mitigation Ratio	Acre-Credit Ratio
Shrubs/trees >12" DBH	Inner 50%	4:1	1:1
	Outer 50%	3:1	0.75:1
Shrubs/trees <12" DBH	Inner 50%	3:1	0.75:1
	Outer 50%	2:1	0.5:1
Pasture/Grass	Inner 50%	2:1	0.5:1
	Outer 50%	1:1	0.25:1

Table 1. Mitigation Ratios for Riparian Areas

All of the area within the riparian buffer consists of trees and shrubs less than 12 inches DBH, and so the appropriate mitigation ratios have been applied. Table 2 shows the buffer mitigation bank credit calculations.

Critical Area	Permanent Impacts (acres)	Acre-Credit Ratio	Credits Proposed for Use
Inner Riparian Buffer – Shrubs/trees <12" DBH	0.036	0.75:1	0.027
Outer Riparian Buffer – Shrubs/trees <12" DBH	0.025	0.5:1	0.0125
Total	0.061	-	0.04

Table 2. Buffer Mitigation Bank Credits Proposed for Use by Project

9.2 Objectives and Performance Standards

Performance standards are a basis for evaluating whether the project's goals and objectives are being met. This plan establishes the following objective and performance standard as the basis for evaluating mitigation compliance and success.

Objective No. 1. Replace lost critical area functions upon completion of the transmission line.

Performance Standard No. 1. Purchase 0.04-acre-credits from the East Fork Lewis River Mitigation Bank and provide documentation to the permitting agencies.

9.3 Monitoring Program

LCMC 18.300.120(1)(f) requires a monitoring program for the construction of the mitigation project and for assessing a completed project. However, because the project will be using the bank to compensate for critical area buffer impacts, the applicant will not be responsible for implementing a mitigation project. The bank owner will be responsible for conducting and reporting the annual monitoring that is intended to measure the success of the bank. Therefore, no monitoring program is proposed for this project.

9.4 Consistency with General Purposes

Section 18.300.020 of the code states that critical areas serve several important urban design functions such as providing "open space corridors separating and defining developed areas within the city, views which enhance property values and quality of life in developed neighborhoods, and educational opportunities." It is the intent of the ordinance to achieve no net loss of critical areas and buffers or their functions, first through avoidance of impacts, and then by minimization and mitigations where avoidance is not reasonably feasible. It is a goal of the ordinance to promote a balance between recreation and public use of critical areas, consistent with the maintenance of their natural appearance and functional values.

The project has taken the appropriate steps to avoid, minimize, and mitigate the loss of critical areas and their functions, and overall, there will be no net loss of the functions and values of the critical areas from the proposed project elements or construction activities.

9.5 Mitigation Plan – LCMC 18.300.090(2)(i)

The overall goal of the project is to redistribute existing power lines to new power poles for improved infrastructure, and to add additional transmission line capacity for anticipated growth of the community, all with no net loss of critical area ecological functions. This project, through avoidance, minimization, and mitigation measures, has documented that the project can be developed with no net loss of critical area functions and values consistent with the purposes and goals of the City's critical areas ordinance. Purchase of credits at the East Fork Lewis Mitigation Bank will allow the project to transfer the mitigation, monitoring, and reporting obligations to the mitigation bank.

9.6 No Net Loss

LCMC 18.300.120(2) requires that projects protect the critical area's functions and values and result in no net loss of critical area functions and values. No net loss of critical area functions and values will occur, because project activities have avoided, minimized, and mitigated proposed impacts. The project has avoided direct, permanent impacts below the OHWM of streams. The project has minimized impacts to the greatest extent practicable, and will mitigate for permanent critical area buffer impacts by purchasing credits at an agency-approved mitigation bank. The credits purchased from the bank provide habitat, water quality, and hydrologic functions that will replace the functions lost from the proposed transmission line. Based on these measures, the project will not result in a net loss in critical area functions and values.

LCMC 18.300.120(2)(C)(i) states that wherever possible, replacement or enhancement should occur on site. However, LCMC 18.300.120(2)(C)(ii) states that, where the applicant can demonstrate that an off-site location is in the same drainage basin, and that greater biological and hydrological values will be achieved, the City may approve off-site mitigation. As mentioned previously, the bank proposed for use is in the same drainage basin (i.e., East Fork Lewis River) and would provide greater biological and hydrological values. The portion of the bank that has been released by the governing agencies for the sale of buffer credits has been planted with native trees and shrubs and been maintained and monitored for at least 4 years. The biological value of the bank credits has had at least 4 years to become established and provide biological functions to the ecosystem. The mitigation bank provides a greater biological value than that of the project area, given its size, species diversity, and position in the landscape. Hydrologically, the bank sits within the Fargher Lake area, which provides greater hydrologic value than the project site, which is sloped and cannot store precipitation.

10.0 CONCLUSION

This report documents the presence of two regulated critical areas on the project site – CARAs and fish and wildlife habitat conservation areas – and evaluates the project against adopted standards for development. The project is not proposing a prohibited activities listed under LCMC 18.300.090(1)(a)(v) and therefore no impacts to CARAs are scheduled or anticipated as part of this project. Though fish and wildlife habitat conservation areas are present within the project site, measures are included in the project to avoid and minimize impacts to this areas to the extent practicable, and the proposed purchase of mitigation credits from the East Fork Lewis Mitigation Bank will fully offset the unavoidable impacts to the riparian buffer area. The project is in full compliance with the City's critical areas ordinance, and no net loss of functions or values of critical areas is proposed as a result of the project.

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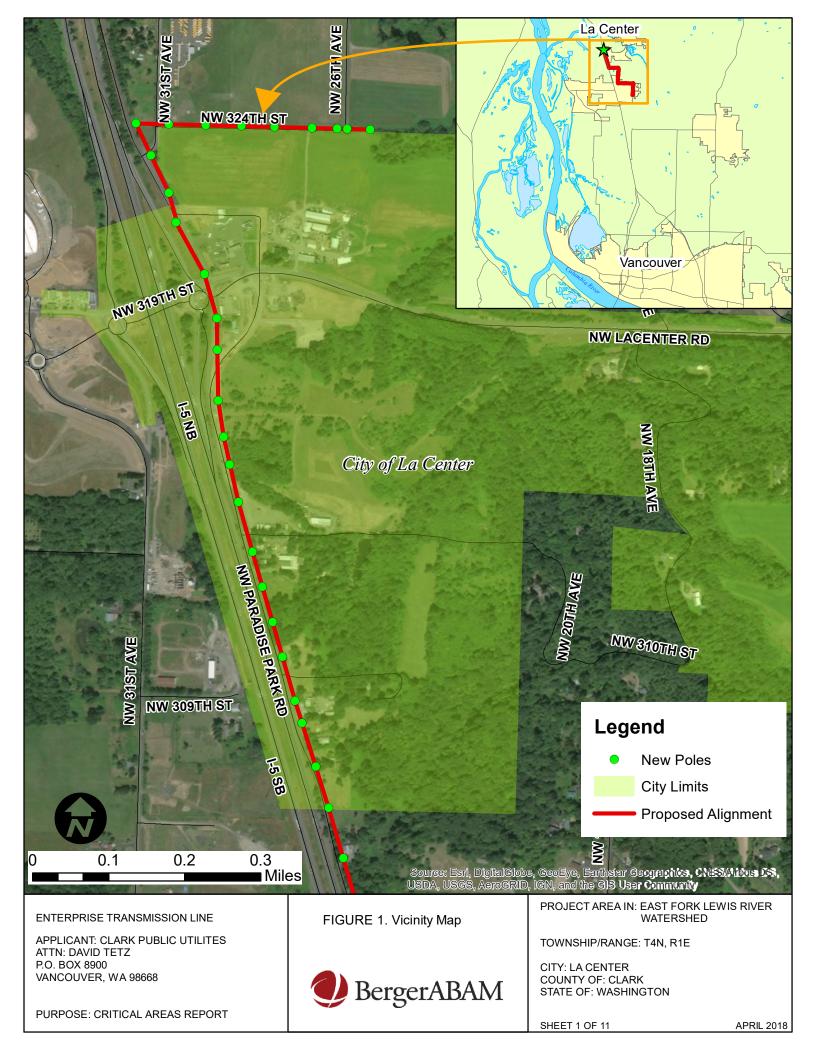
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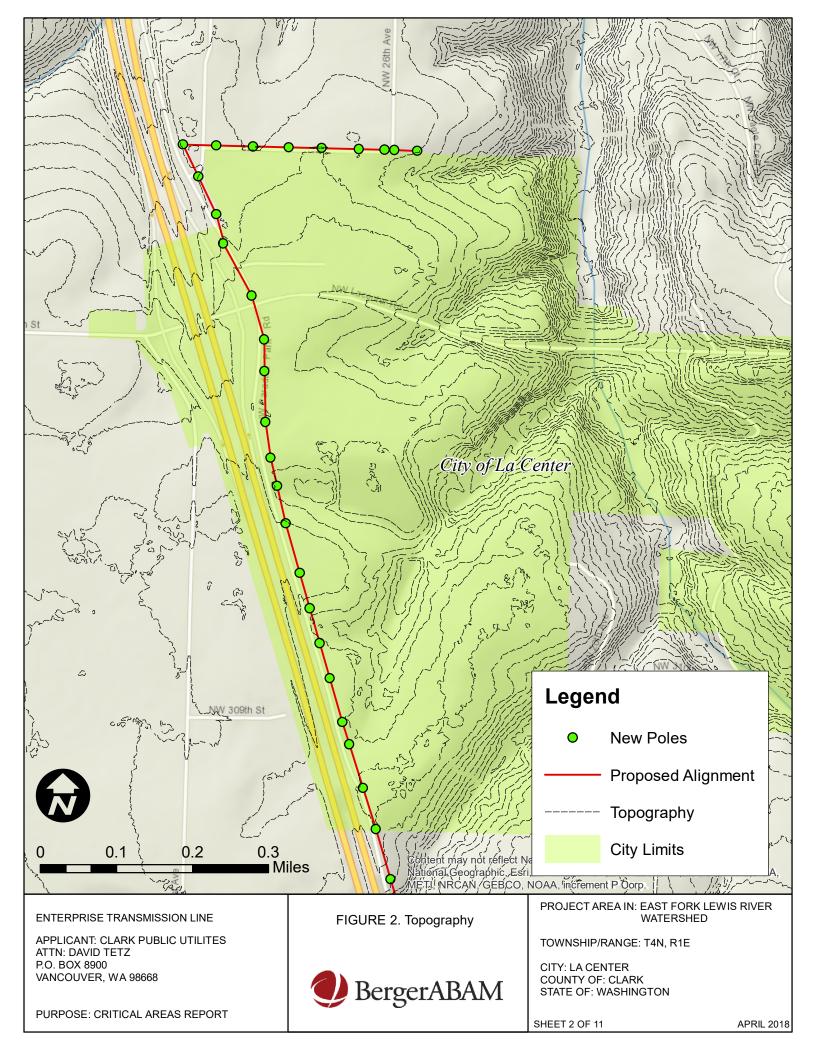
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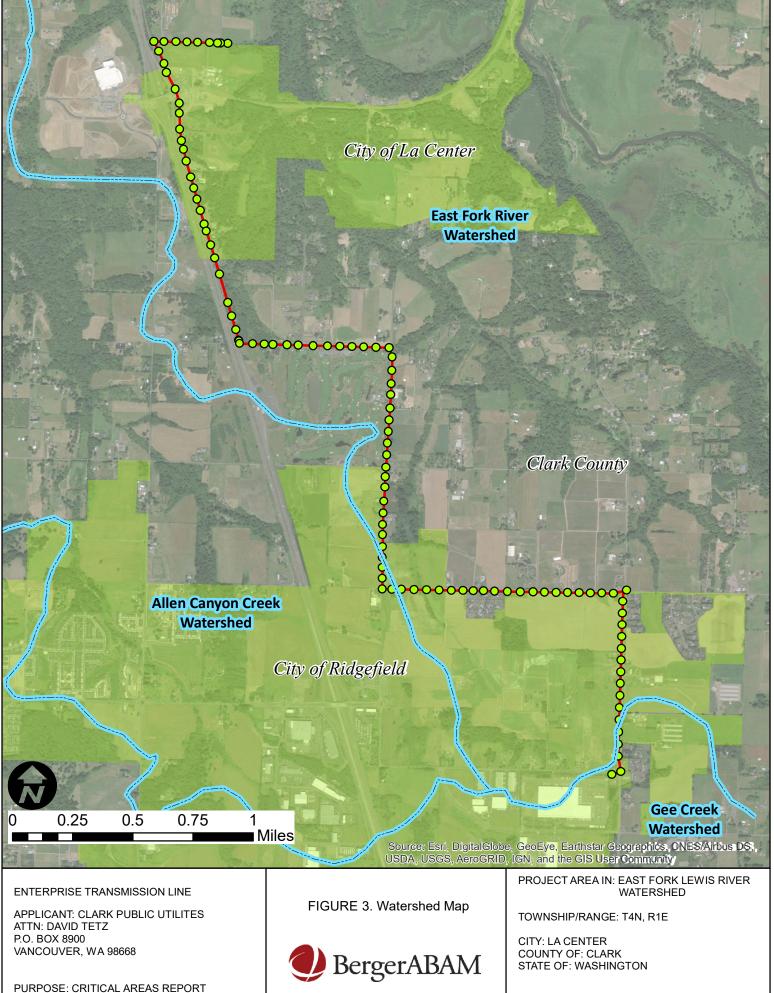
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> Appendix A Figures



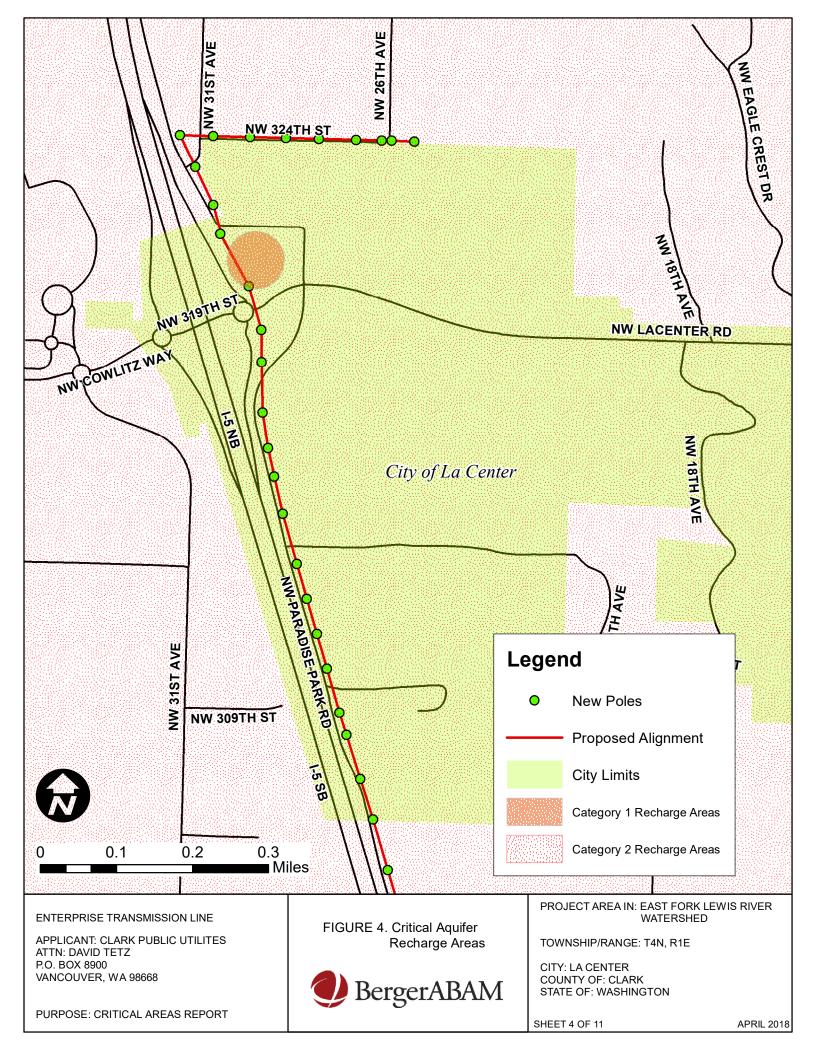


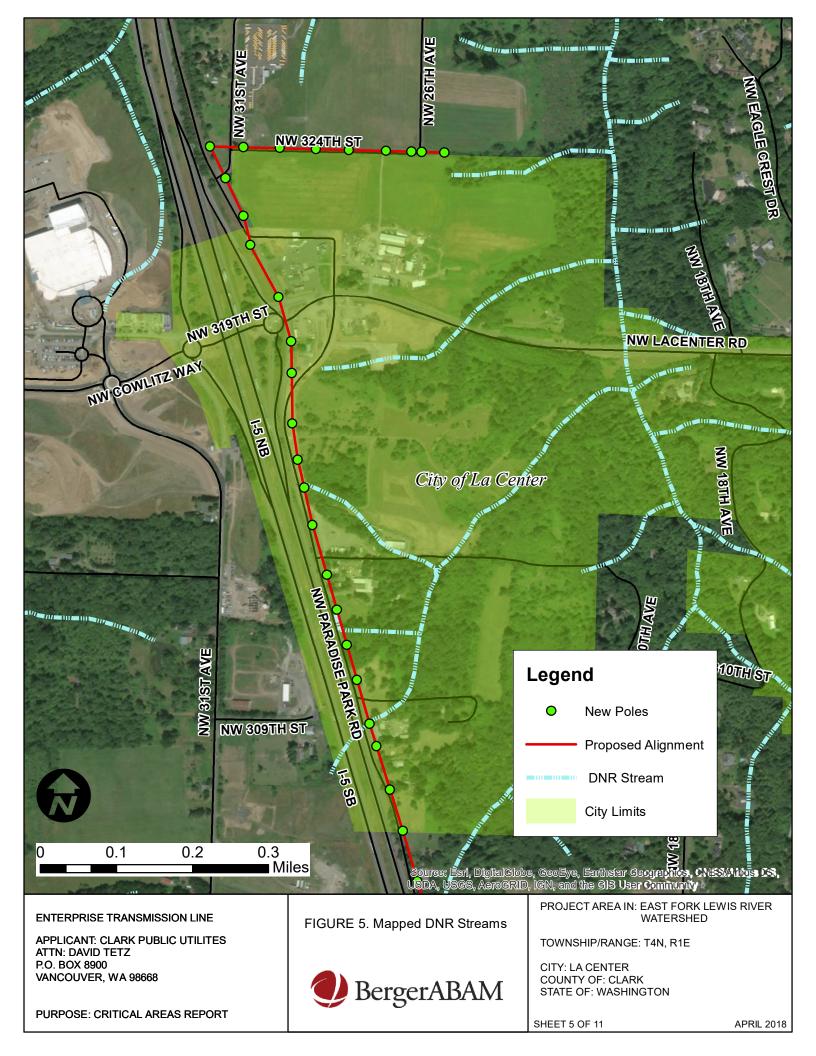


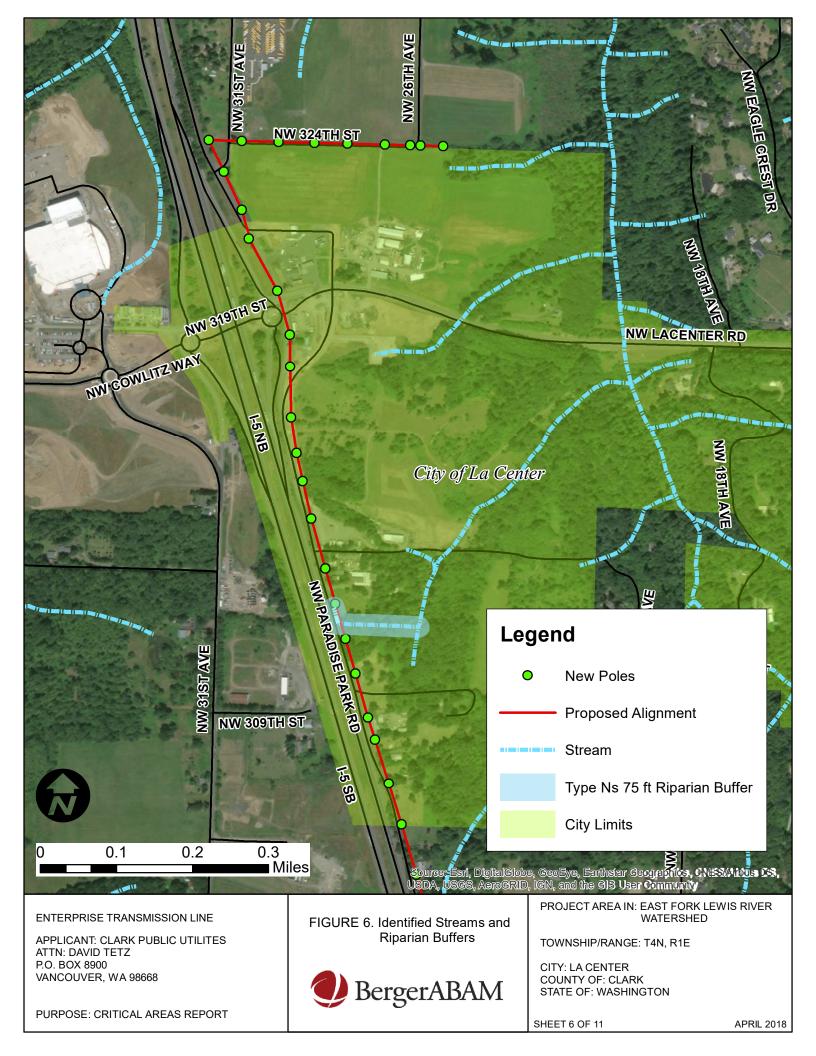
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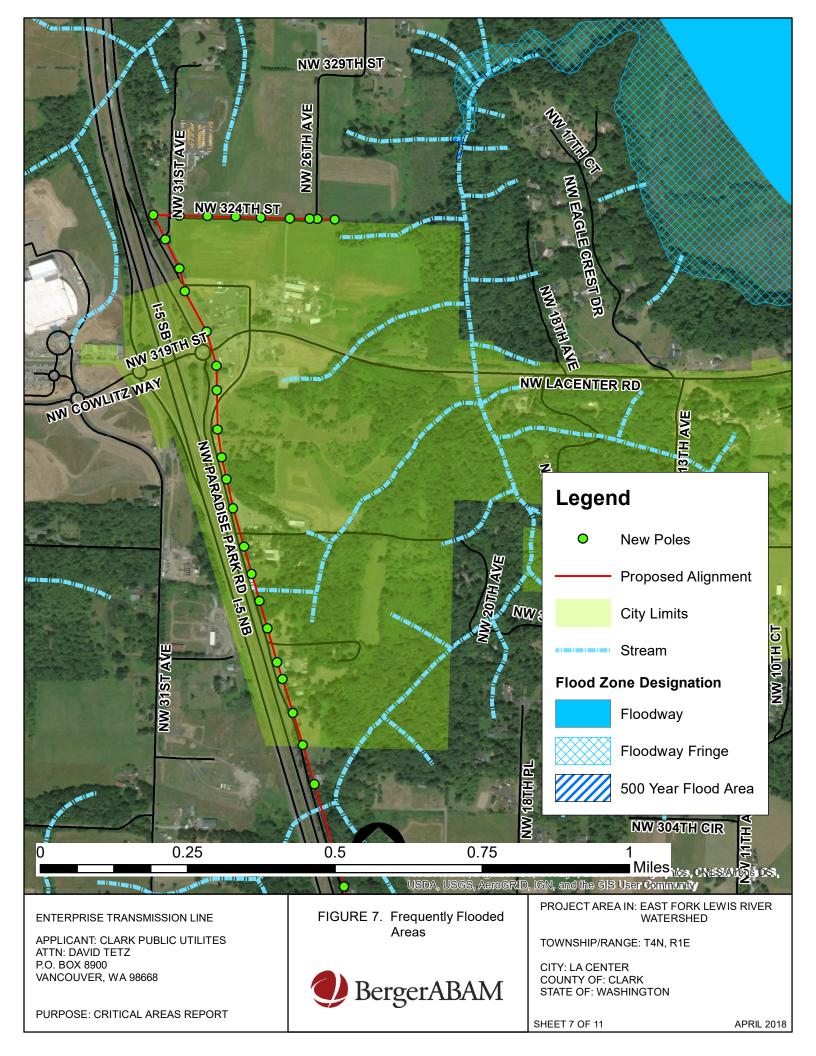
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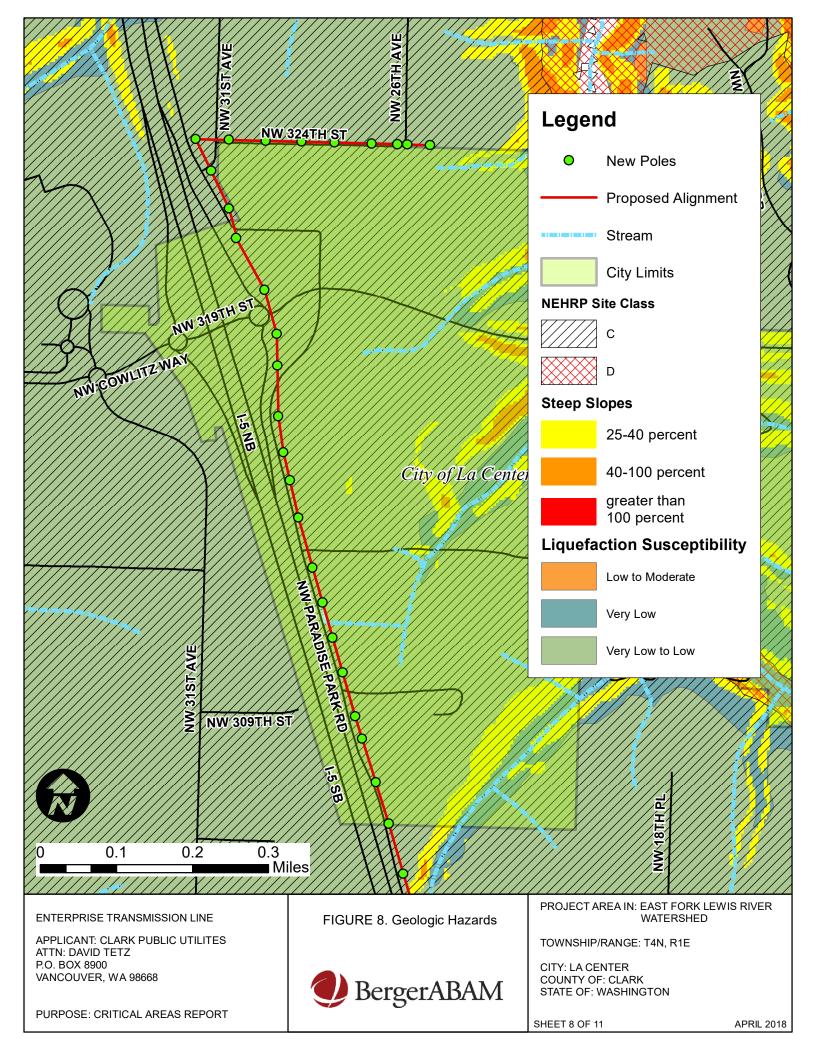
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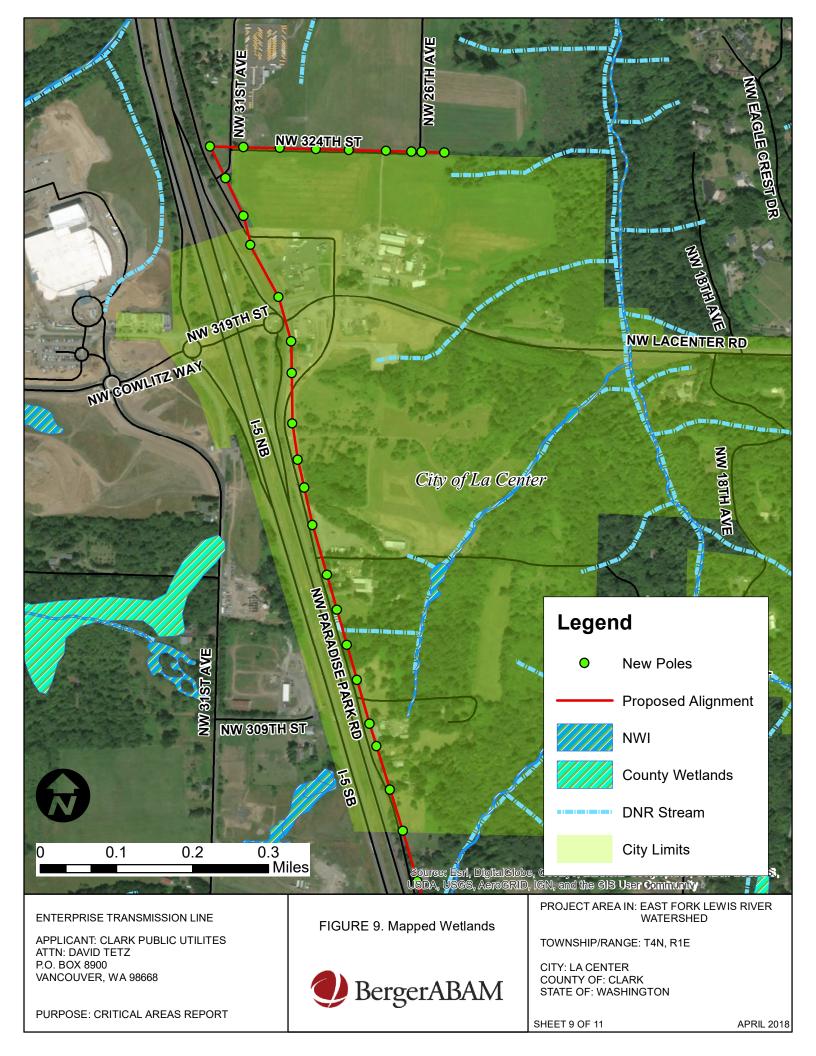


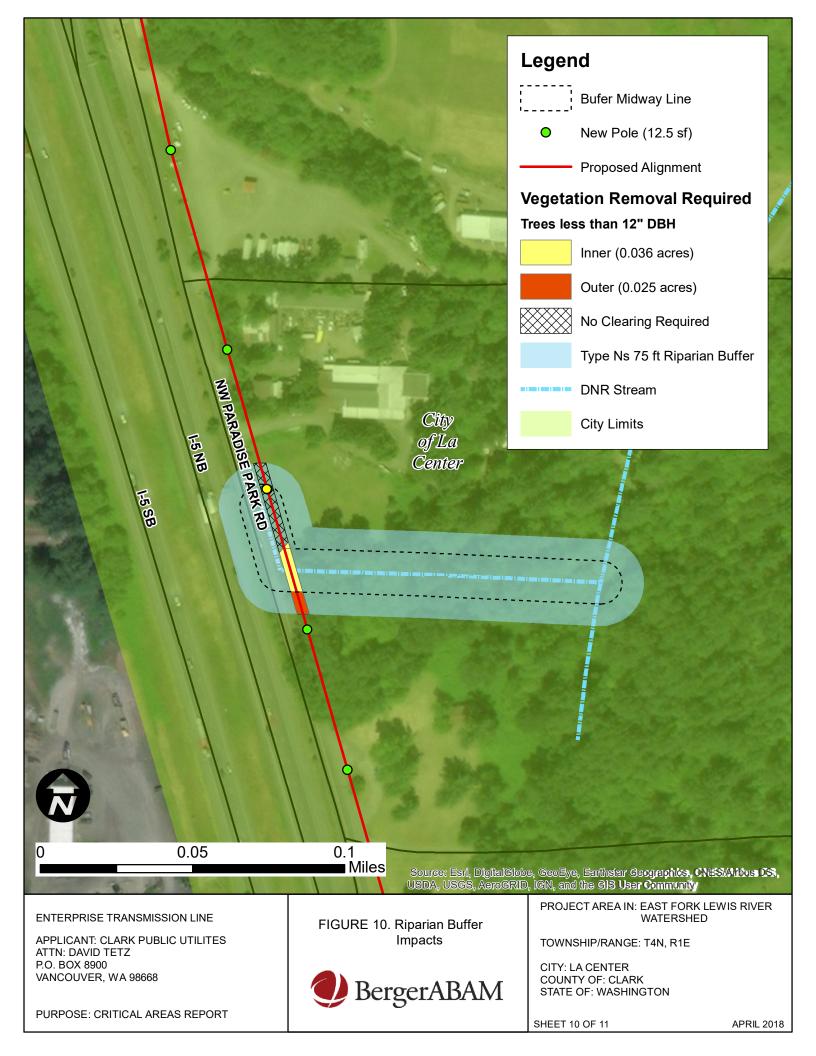


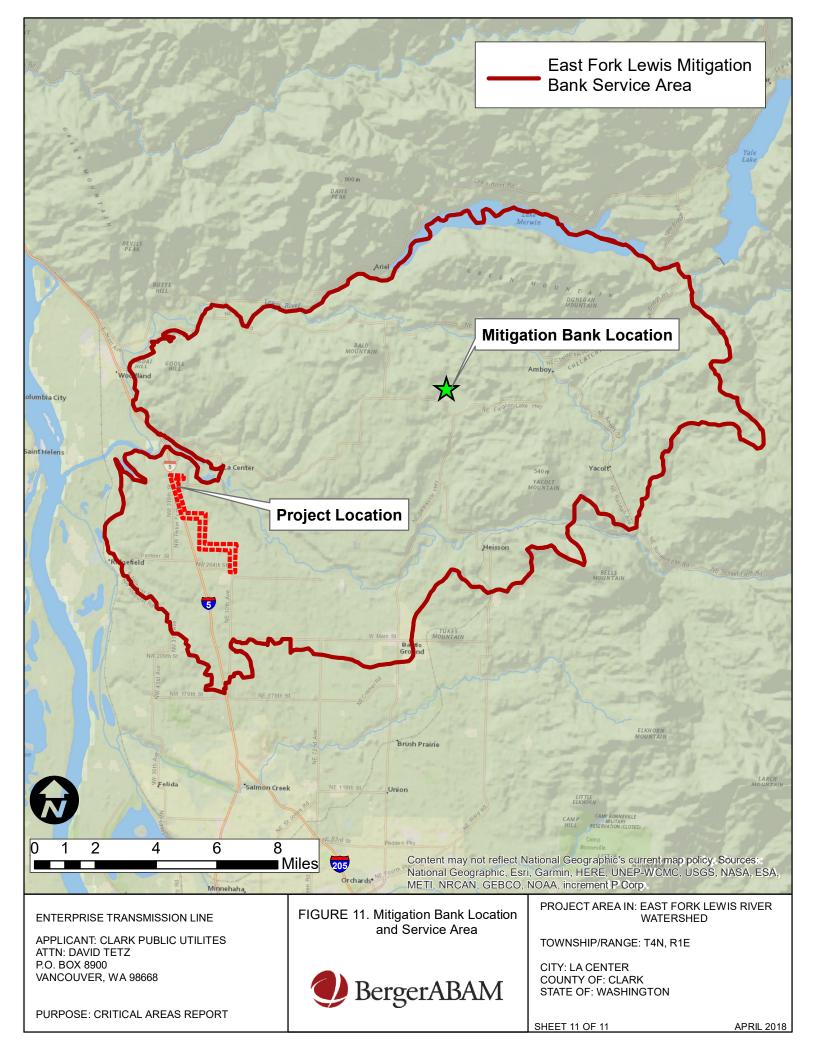












Critical Areas Report Clark Public Utilities – Enterprise Transmission Line City of La Center, Washington

Appendix B Delineation Report (BergerABAM 2017)



WETLAND DELINEATION AND ASSESSMENT



Enterprise Transmission Line

Prepared for Clark Public Utilities Vancouver, Washington

Wetland Delineation and Assessment

Clark Public Utilities Enterprise Transmission Line

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WETLAND DELINEATION AND ASSESSMENT

Clark Public Utilities Enterprise Transmission Line

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1.0 INTRODUCTION

Clark Public Utilities (CPU) is proposing to install an overhead transmission line that would traverse right of way and properties in unincorporated Clark County (county) and the cities of Ridgefield and La Center.

CPU is required to mitigate impacts to wetlands and waterbodies and their associated buffers that will result from the installation of the proposed transmission line. In preparation for the proposed project, CPU contracted with BergerABAM to investigate the existence of jurisdictional wetlands and waterbodies as defined and regulated by the U.S. Army Corps of Engineers (USACE), the Washington State Department of Ecology (Ecology), and/or the county/cities. BergerABAM conducted a wetland and waterbodies delineation and assessment along the proposed transmission line route (study area).

The approximately 6-mile linear study area consists of portions of public right of way and private residential and commercial properties. The study area is located in Sections 4, 9, 15, 22, and 23 of Township 4 North, Range 1 East, of the Willamette Meridian (Figures 1 and 2; all of the figures are included as Appendix A).

Dustin Day, BergerABAM Senior Scientist and Professional Wetland Scientist (PWS), and Allison Kinney, BergerABAM Environmental Scientist, used the routine on-site wetland delineation method described below for the delineation and assessment. They identified five palustrine emergent wetlands and one palustrine emergent/forested wetland within the study area. In addition, the scientists identified two perennial, fish-bearing streams and three intermittent, non-fish-bearing streams within the boundaries of the proposed transmission line corridor.

The remaining sections of this report describe the methods used to delineate the wetlands and determine the ordinary high water mark (OHWM), the results of the delineation and assessment, and the regulations that protect the identified features.

2.0 METHODS

2.1 Wetland Delineation

On 19 and 21 June 2017, the wetland scientists conducted a field investigation for the wetland delineation and assessment. Guidance for determining wetland boundaries came from the 2010 *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region Version 2* (the regional supplement) (USACE 2010). According to the regional supplement, wetlands are defined as:

... 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 generally include swamps, marshes, bogs, and similar areas.

The regional supplement uses three parameters in making wetland determinations: wetland hydrology, hydrophytic vegetation, and hydric soils.

- Wetland hydrology is present when an area is inundated or the water table is within 12 inches of the surface for at least 14 consecutive days of the growing season at a minimum frequency of 5 years in 10. The growing season is defined as the portion of the year when soil temperature at 19.7 inches below the soil surface is greater than biologic zero (5 degrees C).
- Hydrophytic vegetation consists of plants that, because of morphological, physiological, and/or reproductive adaptations have the ability to grow, effectively compete, reproduce, and/or persist in anaerobic soil conditions.
- Hydric soils are soils that are saturated, flooded, or ponded long enough during the growing season to develop anaerobic conditions.

Except in atypical situations as defined in the regional supplement, evidence of a minimum of one positive wetland indicator from each of the three parameters (hydrology, vegetation, and soil) must be found in order to make a positive wetland determination.

In this case, the BergerABAM wetland scientists used the routine on-site wetland delineation method. In addition to the regional supplement, the scientists used the following information to develop a preliminary indication of where potential wetlands might exist and aid on-site data collection:

- Clark County GIS wetland inventory data, accessed at http://gis.clark.wa.gov/mapsonline/
- National List of Plant Species that Occur in Wetlands: Northwest Region 9 (Reed 1988)
- National Wetlands Inventory (NWI) Online Mapper, accessed at https://www.fws.gov/wetlands/Data/Mapper.html
- National Wetland Plant List (Lichvar et al. 2016)
- Preliminary Monthly Climate Data: Troutdale (National Weather Service, National Oceanic and Atmospheric Administration [NOAA]), accessed at http://w2.weather.gov/climate/index.php?wfo=pqr
- Supplement to List of Plant Species that Occur in Wetlands: Northwest Region 9 (Reed 1993)
- Washington State Wetland Rating System for Western Washington—Revised (Hruby 2014)
- Web Soil Survey (U.S. Department of Agriculture Natural Resources Conservation Service [USDA-NRCS]), accessed at http://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx
- Wetlands Delineation Manual, Technical Report Y-87-1 (USACE 1987)

The scientists used the methodology discussed in the regional supplement as well as technical guidance and documentation issued by USACE, Ecology, and the county to observe any visible wetland conditions. The scientists dug sample plots at the proposed locations of 34 utility poles. The scientists inspected the soils at each sample plot to a depth of 16 inches (or more) to determine the presence or absence of hydric soil characteristics and/or wetland hydrology. They dug sample plots only at pole locations that showed indications of potential wetland presence, as the purpose of the delineation was to identify those areas in which a utility pole would be situated within a wetland. While the scope of this delineation and assessment did not include the identification of the exact boundaries of the wetlands, the scientists used NWI, aerial imagery, and the on-site observation of wetland indicators to identify the approximate boundaries of the wetlands and rate them.

The on-site wetlands were classified according to the U.S. Fish and Wildlife Service (USFWS) classification system (Cowardin et al. 1979) and the hydrogeomorphic (HGM) classification system (Adamus 2001).

During the site visits, the scientists recorded hydrologic conditions, soils, and vegetation at the 34 sample plots. A GPS unit was used to record the sample plot locations. Each wetland in the study area is discussed in greater detail in section 4.0.

2.2 Ordinary High Water Mark Delineation

In addition to delineating the wetlands, BergerABAM also identified the OHWM of an unnamed stream and confirmed or disproved the location of several other streams that, flow through the study area. Guidance for the OHWM determination came from Ecology's *Determining the Ordinary High Water Mark for Shoreline Management Act Compliance in Washington State* (Anderson et al. 2016) and technical guidance and documentation issued by USACE and the county.

In addition, the scientists used the following information to develop a preliminary indication of where the OHWM might exist and aid on-site data collection.

- Clark County GIS database, MapsOnline
- USFWS NWI GIS database
- USDA-NRCS Web Soil Survey
- DNR Forest Practices Application Mapping Tool

During the site visits, the scientists identified the OHWM of the stream and recorded the ribbon locations with a handheld GPS unit.

3.0 SITE CHARACTERISTICS

The northern terminus of the proposed route of the transmission line is located near the intersection of NW 26th Avenue and 324th Street in Ridgefield. From there, the transmission line would run parallel to NW 324th Street to the north and then divert south along the eastern side of Paradise Park Road. Continuing to the south, where Paradise Park Road curves east and becomes 299th Street, the transmission line would

parallel the north side of 299th Street, until its intersection with NW 11th Avenue. The transmission line would then continue to the south, paralleling NW 11th Avenue (which becomes N 65th Avenue) to the east, before again diverting east along the south side of N 10th Street, which becomes, NW 279th. At the intersection of 279th Avenue and NE 10th Avenue, the transmission line would divert south along the western side of NE 10th Avenue, before reaching the southern terminus of the route, near the intersection of NE 10th Avenue and 264th Street (Figure 1).

Topographically, the study area is generally flat, except for steep slopes adjacent to the southern portion of Paradise Park Road associated with the stream crossing (Figure 2). Vegetation varies greatly, and largely results from the land use in this rural area. Generally, vegetation is characterized into one of three of the following categories: facultative roadside and pasture grasses, mature coniferous/deciduous forest species, and emergent wetland species. Herbaceous species most often noted were colonial bentgrass (Agrostis capillaris), timothy (Phleum pretense), English plantain (Plantago lanceolatea), tall fescue (Schedonorus arundinaceus), reed canarygrass (Phalaris arundinacea), oxeye daisy (Leucanthemum vulgare), purple leaved willowherb (*Epilobium ciliatum*), Himalayan blackberry (Rubus aremeniacus), cattail (Typha latifolia), sheep sorrel (Rumex aetosella), Siberian miner's lettuce (*Claytonia sibirica*), English ryegrass (*Lolium perenne*), toad rush (Juncus bufonius), horsetail (Equisetum arvense), bird's-foot trefoil (Lotus corniculatus), and velvet grass (Holcus lanatus). Baldhip rose (Rosa gymnocarpa), spiraea (Spiraea douglasii), Nootka rose (Rosa nutkana), snowberry (Symphoricarpos albus), and serviceberry (Amelanchier alnifolia) were common shrub species noted along the site; and cascara (Rhamnus purshiana), choke cherry (Prunus virginiana), and Oregon ash (Fraxinus latifolia) were common tree species.

Most of the study area is within the McCormick Creek sub-watershed; however, north of NW La Center Road, a portion of the study area is within the East Fork Lewis subwatershed, a section at the southern terminus is within the Gee Creek (upper) subwatershed, and a small section of NW 11th Avenue is within the Allen Canyon Creek sub-watershed (Figure 3).

3.1 Hydrology

3.1.1 Precipitation

The growing season for Clark County (Vancouver Station) is 331 days, starting on 11 February and ending on 1 December. This growing season is based on 28 degrees F, 5 out of 10 years in the soil survey of Clark County (McGee 1972). According to the USACE wetland delineation manual, flooding, ponding, or saturation in the upper 12 inches of the soil profile for a period of at least 14 consecutive days during the growing season is indicative of wetland hydrology.

Table 1 displays precipitation data for the 15 days prior to and during the 21 June 2017 site visit. The information comes from the National Weather Service station at Vancouver, approximately 13 miles south of the site.

Date	Rain (Inches)	Date	Rain (Inches)
June 6	0.00	June 14	Trace
June 7	0.01	June 15	0.50
June 8	0.27	June 16	0.06
June 9	0.21	June 17	Trace
June 10	0.09	June 18	0.00
June 11	Trace	June 19	0.00
June 12	Trace	June 20	0.00
June 13	Trace	Total:	1.14

Table 1. Precipitation Data for 15 Days Prior to 21 June 2017 Site Visit

Source: NOAA 2017

In addition to daily rainfall totals for the 15 days prior to the 21 June 2017 site visit, a BergerABAM wetland scientist reviewed other historic precipitation data available on the NOAA website. The data shows:

- For the 15 days preceding the site visit, the total of 1.14 inches of precipitation averaged 0.08 inch per day. According to historical rainfall data, 0.95 inch of precipitation is the normal record for these dates, averaging 0.06 inch per day; the 2017 amount is 0.19 inch above historical normal precipitation.
- For the entire month of June, precipitation totaled 1.24 inches as of 21 June, 0.16 inches below the observed normal of 1.40 inches for this time period.
- As of 21 June, the observed precipitation for the 2017 year was 29.02 inches, 9.04 inches above the historical normal.
- Additionally, 48.88 inches had fallen since the start of the water year (1 October 2016), 13.15 inches above the recorded historical normal of 35.73 inches.

During the site investigation, the scientists documented the presence or absence of field indicators for wetland hydrology in each of the 34 soil pits excavated in the sample plots. Data recorded included depth of inundation, depth to water table, and/or soil saturation, when found, as well as primary and secondary indicators of wetland hydrology, including redoximorphic features along living roots. Current hydrologic inputs come from direct precipitation, overbank flooding, overland flow from adjacent uplands, and a seasonally high water table.

3.1.2 Wetlands

While numerous wetlands and stream corridors are mapped throughout the general vicinity of the study area, few are mapped within or near the locations proposed for the utility poles that would support the transmission line. The NWI online mapper indicates there are four locations where wetlands are mapped within, or near, the proposed location of a utility pole (USFWS 2017). One is mapped in the central portion of NW 299th Street, two are mapped on NW 279th Street, and one is mapped in the northern portion of 10th Avenue (Figure 4). These mapped wetlands are identified on NWI as:

- **PFO1A** Palustrine (P), Forested (FO), Broad-Leaved Deciduous (1), Temporary Flooded (A)
- **R4SBC** Riverine (R), Intermittent (4), Streambed (SB), Seasonally Flooded (C)
- **PEM1C** Palustrine (P), Emergent (EM), Persistent (1), Seasonally Flooded (C)

While MapsOnline also indicates the presence of the four wetland areas mapped on NWI, this source shows an additional wetland on 279th Street. Though this additional wetland is not identified on the NWI mapper, the field investigation confirmed the existence of a wetland in this area that can be classified as palustrine emergent. In total, the scientists identified six wetlands throughout the study area. All of the wetlands are discussed in detail in section 4.0.

3.2 Soils

The Web Soil Survey identifies the following eight soil mapping units within the study area (Figure 5). The descriptions are excerpted from the Clark County soil survey.

- *Gee Silt Loam, 0 to 8 percent slopes (GeB).* The Gee series consist of deep, moderately well drained, rolling and hilly soils on eroded terraces. These are medium-textured soils that formed in old alluvium deposited by the Columbia River. Gee silt loam, 0 to 8 percent slopes, is the dominant soil on the terraces in the western part of the county. In a typical profile, the surface layer is very dark grayish-brown (10YR 3/2) silt loam about 5 inches thick. Below this is mottled, dark grayish brown (10YR 4/2) and dark-brown (10YR 4/3) silt loam about 8 inches thick. The next layer, to a depth of 72 inches, is firm, mottled, dark brown (10Ry 4/3) silty clay loam. This soil is not included on the USDA-NRCS States Soil Data Access (SDA) Hydric Soils List.
- *Gee Silt Loam, 8 to 20 percent slopes (GeC).* This soil is similar to Gee silt loam, 0 to 8 percent slopes, except that its surface layer is 1 to 3 inches thinner. Sidehill seeps are common on these slopes in winter and spring. Surface runoff is medium, and the erosion hazard is moderate. This soil is not included on the SDA Hydric Soils List.
- *Gee Silt Loam, 30 to 60 percent slopes (GeF).* This soil also is similar to Gee silt loam, 0 to 8 percent slopes, except that its surface layer is 2 to 4 inches thinner. Surface runoff is rapid to very rapid, and the erosion hazard is severe to very severe if the surface is left bare. This soil is not included on the SDA Hydric Soils List.
- *Puyallup Fine Sandy Loam, 0 to 3 percent slopes (PuA).* The Puyallup series consists of somewhat poorly drained, mostly nearly level to gently sloping soils that are shallow or moderately shallow over sand and gravel. These are loamy, stratified soils that formed in material of mixed origin on alluvial bottomlands along the Lewis River and the East Fork Lewis River. Puyallup fine sandy loam, 0 to 3 percent slopes, is found on low terraces along the Lewis River and the East Fork Lewis River. In a typical profile, the surface layer is about 18 inches thick. In sequence from the top, the upper 4 inches is very dark brown (10YR 2/2) fine sandy loam; the next 4 four inches is very dark grayish-brown loam (10YR 3/2); and the lower part is dark brown (10YR 3/3) loamy sand about 9 inches thick. The underlying material, to a depth of 60 inches, is very

dark grayish-brown (2.5Y 3/2) gravelly sand. This soil is not included on the SDA Hydric Soils List.

- *Sara Silt Loam, 0 to 8 percent slopes (SIB).* The Sara series consists of deep, moderately well drained, nearly level to very steep soils. These are loamy soils that formed on terraces in old alluvium deposits that contained volcanic ash in the upper part. Sara silt loam, 0 to 8 percent, is on the tops of ridges. In most places, the slopes are long and smooth. In a typical profile, the surface layer is dark brown (7.5YR 3/2) silt loam about 10 inches thick. The next layer is firm, mottled, dark brown (10YR 4/3) silty clay loam about 7 inches thick. The next layer is about 53 inches thick. The first 8 inches of this layer is firm, mottled, dark grayish-brown (10YR 4/2) silty clay loam; the next 13 inches is very firm, mottled, dark grayish-brown (10YR 4/2) silty clay loam; the next 22 inches is very firm, dark-brown (10YR 4/3) silty clay loam; and the lower 26 inches, to a depth of 96 inches, is very firm, strong-brown (7.5YR 5/3) silty clay loam. This soil is not included on the SDA Hydric Soils List.
- *Hillsboro Silt Loam, 3 to 8 percent slopes (HoB).* The Hillsboro series consists of deep, well-drained soils on terraces. These are medium-textured soil that developed in deposits of old Columbia River alluvium. Most areas are nearly level to gently sloping, but strongly slope to very steep areas are along drainageways and streams. Hillsboro silt loam, 3 to 8 percent slopes, is the dominant soil in the southwestern part of the county. In a typical profile, the surface layer is dark brown (10YR 3/3) silt loam about 7 inches thick. The next layer is about 48 inches thick. In sequence from the top, the upper 17 inches is friable, dark brown (10YR 3/3) silt loam; the next 16 inches is friable, dark grayish-brown (10YR 4/2) heavy silt loam; and the lower 15 inches is friable, dark grayish-brown (10YR 4/2) silt loam. The next layer to a depth of 86 inches, is dark grayish-brown (10YR 4/2) silt loam. This soil is not included on the SDA Hydric Soils List.
- *Hillsboro Silt Loam, 0 to 3 percent slopes (HoA).* Hillsboro loam, 0 to 3 percent slopes, is similar to Hillsboro silt loam, 3 to 8 percent slopes. Surface runoff is very slow, and there is no erosion hazard. This soil is not included on the SDA Hydric Soils List.
- *Odne Silt Loam, 0 to 5 percent slopes (OdB).* The Odne series consists of deep, poorly drained, mostly nearly level soils. These are loamy soils underlain by a compact subsoil at a depth of 16 to 24 inches. They developed in old Columbia River sediments of mixed origin. Odne silt loam, 0 to 5 percent slopes, is generally in concave areas in drainageways or depressions within areas of Gee soils. In a typical profile, the surface layer is about 10 inches thick. It is mottled, dark-gray (10YR 4/1) heavy silt loam in the upper part, and mottled, dark-gray (10YR 4/1) silty clay loam in the lower part. The subsurface layer is firm, mottled, gray (5Y 5/1) silt loam about 9 inches thick. The next 8 inches is very firm, mottled, dark-gray (5Y 4/1) clay loam. Below this, to a depth of 50 inches, is mottled dark-gray (5Y 4/1) loam. This soil is included on the SDA Hydric Soils List.

The locations of soil types within the study area were obtained from the USDA-NRCS Web Soil Survey (USDA-NRCS 2017), and the hydric classification of each type came from the SDA Hydric Soils List (USDA-NRCS 2017). The BergerABAM scientists examined each soil pit for hydric soil indicators and recorded its soil profile and characteristics (matrix color, redoximorphic features, texture, and other features). Observations of soil conditions during the site visits were typically consistent with the map units described and identified in the USDA-NRCS soil survey.

3.3 Vegetation

Hydrophytic vegetation consists of plant species that have adapted to growing in periodically inundated or saturated substrates. Five basic groups of vegetation are recognized based on how frequently they occur in wetlands (Reed 1988 and 1993).¹ From the wettest to the driest plant communities, the categories are obligate wetland (OBL), facultative wetland (FACW), facultative (FAC), facultative upland (FACU), and obligate upland (UPL) plants. Hydrophytic vegetation is present when more than 50 percent of the dominant species have an indicator status of OBL, FACW, and/or FAC.

The BergerABAM wetland scientists documented the visual percent cover of the dominant plant community species for key sample sites. Using the 34 soil pit locations as centers of reference, the scientists investigated sample plots of varying proportions for dominant species of trees, shrubs, herbs, and woody vines. The composition and orientation of the plant communities within the plot determined the size and shape of each sample plot. Sample plots were set up so that their boundaries included a representative cross section of the plant community within the plot. Estimating the percent of aerial cover of each species within each stratum determined the dominance of plant species.

The scientists listed species from each stratum in descending order of percent cover, and used the USACE's 50-20 technique to determine the predominance of hydrophytic vegetation. Using this method, when the most abundant plant species are ranked in descending order of abundance and cumulatively totaled, any species immediately exceeding 50 percent cover, plus any species comprising more than 20 percent cover, represent the dominant species. If more than 50 percent of the dominant species included by these criteria are FAC or wetter, the vegetation community is considered hydrophytic.

A prevalence index is used as another method of evaluating the presence or absence of hydrophytic vegetation based on the relative dominance of species within each indicator status. Using the prevalence index, vegetation percentages within each designation (OBL, FACW, FAC, FACU, and UPL) are added together and are given a different multiplier. Once calculated, the total in the multiplied column is divided by the original percentage total before multiplying. If the number given is less than or equal to 3.0, the vegetation

¹ Plant nomenclature in this report follows Reed (1988 and 1993) and the 2016 National Wetland Plant List.

community is considered hydrophytic. If the number is greater than 3.0, the vegetation community is not considered hydrophytic.

The indicator status of the various vegetation species commonly found along the transmission line route are:

- *Herbaceous species:* Colonial bentgrass (FAC), timothy (FAC), English plantain (FACU), fescue (FAC), reed canarygrass (FACW), oxeye daisy (FACU), purple leaved willowherb (FACW), Himalayan blackberry (FAC), cattail (OBL), sheep sorrel (FACU), Siberian miner's lettuce (FAC), English ryegrass (FAC), toad rush (FACW), horsetail (FAC), bird's-foot trefoil (FAC), and velvet grass (FAC)
- *Shrub species:* Baldhip rose (FACU), spiraea (FACW), Nootka rose (FAC), snowberry (FACU), and serviceberry (FACU)
- *Tree species:* Cascara (FAC), choke cherry (FACU), and Oregon ash (FACW) were common tree species.

4.0 WETLAND DESCRIPTIONS

BergerABAM's investigation of hydrology, soils, and vegetation identified six wetlands where a total of 10 potential utility poles would be situated; one each in Wetlands A, B, C, and E, four in Wetland D, and two in Wetland F.

Appendix B contains 34 wetland determination forms that show the data collected during the site visits. The numbers assigned to the data sheets correspond to the sample plots, which were numbered sequentially SP1 to SP34. Each sample plot was taken at the location of a proposed utility pole. The wetlands were rated using the revised wetland rating form that Ecology developed in 2014 (Appendix C). Wetlands A, C, E, and F were rated Category III wetlands, scoring within the range of 16 to 19 points; Wetlands B and D were rated as Category IV wetlands with a total score within the range of 9 to 15 points. Figure 6 shows the locations of the delineated wetlands overlaid on an aerial image of the study area.

4.1 Wetland A

Wetland A is a small (approximately 0.25-acre) palustrine emergent/forested wetland located north of 299th Street, west of the intersection of NW 299th Street and NW 18th Place. Vegetation in Wetland A consists of reed canarygrass, baldhip rose, Himalayan blackberry, and cattail, among other species. Precipitation, runoff, a seasonally high water table, and over-bank flooding by an associated stream influence this wetland hydrologically. Soils to a depth of 16 inches consisted of a very dark gray (10YR 3/1) loam with dark yellowish brown (10YR 3/4) mottling. This soil profile meets the criteria for the hydric soil indicator redox dark surface (F6). Indicators of wetland hydrology included saturation within 12 inches of the surface (A3) and oxidized rhizospheres along living root channels (C3). Wetland A meets the riverine HGM classification, and received a Category III classification with a total of 17 points using the updated wetland rating system for Western Washington (Hruby 2014).

4.2 Wetland B

Wetland B is located north of NW 299th Street, between NW 18th Place and NW 11th Avenue, and is approximately 4.9 acres in size. Hydrology in this HGM-classified depressional wetland is supported by runoff, precipitation, and a seasonally high water table. Vegetation consists of purple leaved willowherb, sheep sorrel, Siberian miner's lettuce, English ryegrass, and toad rush, among others. Indicators of wetland hydrology include oxidized rhizospheres along living root channels (C3) and inundation visible on aerial imagery (B7). Soils consist of a very dark greyish brown (10YR 3/2) layer 4 inches deep, followed by a 6-inch very dark grayish brown (10YR 3/2) layer with dark yellowish brown (10YR 3/6) concentrations within the matrix and along pore linings. Finally, to a depth of 16 inches, is a very dark grayish brown (10YR 3/2) layer with dark brown (10YR 3/3) mottles. This soil profile meets the criteria for the redox dark surface (F6) hydric soil indicator. Wetland B received 15 points for a Category IV rating.

4.3 Wetland C

Wetland C is an approximately 1.1-acre palustrine emergent wetland located southeast of the intersection of NW 299th Street and NW 11th Avenue. Vegetation within Wetland C consists of reed canarygrass, horsetail (*Equisetum arvense*, FAC), bird's-foot trefoil (*Lotus corniculatus*, FAC), and velvet grass (*Holcus lanatus*, FAC), among other species. Oxidized rhizospheres along living root channels was the primary hydric soil indicator for this wetland. Soils in Wetland C consisted of a very dark grayish brown (10YR 3/2) loam with dark yellowish brown (10YR 3/6) mottling, to a depth of 16 inches. This soil profile meets the criteria for the redox dark surface (F6) hydric soil indicator. Rated as a slope HGM classification, Wetland C received a Category III rating with a score of 16 points.

4.4 Wetland D

Wetland D is located directly south of the intersection of NW 279th Street and NE 2nd Avenue. Vegetation in this approximately 2.4-acre wetland consists of colonial bentgrass, baldhip rose, purple leaved willowherb, spiraea, and Himalayan blackberry. Hydrology is supported by precipitation, runoff, and a seasonally high water table, and indicators of hydrology in Wetland D include oxidized rhizospheres along living root channels (C3), saturation (A3), high water table (A2), geomorphic position (D2), and inundation visible on aerial imagery (B7). Soils in Wetland D consist of a very dark grayish brown (10YR 3/2) layer 9 inches thick, above a 7-inch layer of dark gray (10YR 4/1) soil with dark yellowish brown mottles. This soil profile meets the criteria for the depleted below dark surface (A11) hydric soil indicator. Rated as a slope HGM classification, Wetland D received 13 points for a Category IV rating.

4.5 Wetland E

Wetland E is located between Wetland D and the intersection of NW 279th and NE 10th Avenue. Wetland E is approximately 1.13 acres, and its vegetation consists primarily of Nootka rose and reed canarygrass. Hydrology is supported by precipitation, runoff, and a seasonally high water table. Indicators of wetland hydrology include a high water table (A2), saturation (A3), oxidized rhizospheres along living root channels (C3), stunted and stressed plants (D1), and geomorphic position (D2). Soils to a depth of 16 inches consist of a very dark gray (10YR 4/1) matrix with dark yellowish brown (10YR 4/6) mottling. This profile meets the criteria for the depleted matrix (F3) hydric soil indicator.

Wetland E was rated as a depressional HGM classification wetland and received 17 points for a Category III rating.

4.6 Wetland F

Wetland F is situated west of NE 10th Avenue, south of the intersection with 279th Street. The vegetation in this approximately 0.87-acre wetland consists of reed canarygrass, Nootka rose, tall fescue, and Oregon ash. Indicators of wetland hydrology include surface water (A1), a high water table (A2), and saturation (A3) while precipitation, a seasonally high water table, and runoff from surrounding uplands support hydrology. Soils consist of a dark gray (10YR 4/1) matrix with dark brown (7.5YR 3/4) mottles, to a depth of 16 inches. This soil profile meets the criteria for the depleted matrix (F3) hydric soil indicator. Rated using the depressional HGM classification, Wetland F received a Category III rating with a score of 18 points.

Table 2 is a summary of the identified wetlands.

Table 2. Summary of Identified Wettahu Areas						
	Wetland C	lassification				
Wetland	Cowardin ^a	HGM⁵	Wetland Rating ^d	Approximate Wetland Area (Acres)		
Wetland A	PEM	Riverine	III	0.25		
Wetland B	PEM	Depressional	IV	4.93		
Wetland C	PEM	Slope	III	1.10		
Wetland D	PEM	Slope	IV	2.40		
Wetland E	PEM	Depressional		1.13		
Wetland F	PEM	Depressional	III	0.87		

 Table 2. Summary of Identified Wetland Areas

Notes:

a Cowardin et al. (1979) or NWI class based on vegetation: PEM = Palustrine Emergent

b HGM classification according to Hruby (2014).

c Habitat score according to Hruby (2014).

d Wetland rating according to Hruby (2014).

5.0 STREAMS

According to MapsOnline, multiple unnamed streams flow within the proposed transmission line corridor. In an attempt to avoid confusion and provide geographic clarity, the streams are referred to in this report by their closest street. Where multiple streams are in the vicinity of a single street, their direction relative to each other is added (e.g., Paradise Park creek north). A lower case "c" on "creek" is intentionally used to emphasize these unofficial names. Within the 6-mile transmission line corridor, three streams are mapped within the jurisdiction of the City of La Center, five in the county's jurisdiction, and two in the jurisdiction of the City of Ridgefield. Figures 7a, 7b, and 7c, show the location of identified streams within each jurisdiction.

In La Center's jurisdiction, all of the streams flow east from Paradise Park Road, and are mapped as Type Ns streams. Mapping for the northern and southern streams is inaccurate, as no streams were identified within the corridor in these locations. It is assumed that the headwaters of these streams are located farther east, beyond the corridor. The mapping of the central stream is also inaccurate because the headwaters are farther west than shown on the mapping. A portion of this central stream is located within the transmission line corridor (Paradise Park creek north).

In the county's jurisdiction, the scientists were able to confirm the existence of the three streams mapped along Paradise Park Road (Paradise Park creek south) and NW 299th Street (299th creek west and 299th creek east), but not those mapped near NW 11th Avenue or N 65th Avenue.

In Ridgefield's jurisdiction, two streams are mapped – one crossing N 10th Street (10th creek) and one crossing NE 279th Street; however, the scientists could confirm the existence of only 10th creek.

- *La Center Jurisdiction:* Paradise Park creek north flows east from Paradise Park Road before converging with another stream and heading north (Figure 7a). Vegetation in the vicinity of Paradise Park creek north consists of sword fern, spiraea, elderberry, Himalayan blackberry, trailing blackberry, and bigleaf maple.
- *County Jurisdiction:* Because of its location within the transmission line corridor and potential riparian impacts, the scientists identified and flagged the portion of the OHWM of Paradise Park creek south, which is in the county's jurisdiction. This tributary to McCormick Creek flows northeast, east of Paradise Park Road (Figure 7a). According to the Washington Department of Natural Resources (DNR) Forest Practices Application Mapping Tool, this tributary is a perennial stream and is a Type F (fish-bearing) waterbody (Washington Administrative Code [WAC] 222-16-31(3)) as defined by DNR. The headwaters of this stream are located west of I-5; the culvert that connect the headwaters to the stream system to east have created a fish passage barrier and thus upstream portions are Type Ns waterbodies.

Along the portion that was delineated, the stream averages 3 to 5 feet wide and, at the time of the site visit, the stream averaged less than 1 foot deep. The streambed is composed of silts, sands, and gravels. The stream is in a valley with relatively steep slopes, and vegetation is a reflection of the abrupt change from wetland to upland. Along the valley floor, reed canarygrass and stinging nettle (*Urtica dioica*, FAC) dominate the vegetation, with scattered red-osier dogwood (*Cornus sericea*, FACW) and few mature trees. Upslope, the vegetation transitions rapidly to a canopy of Douglas fir (*Pseudotsuga menziesii*, FACU) and bigleaf maple (*Acer macrophyllum*, FACU), a subcanopy of vine maple (*Acer circinatum*, FAC) and hazelnut (*Corylus cornuta*, FACU), and an herbaceous layer of Siberian miner's lettuce, sword fern (*Polystichum munitum*, FACU), and trailing blackberry (*Rubus ursinus*, FACU), among other species.

The OHWM of the stream was delineated according to the methodology outlined by Ecology (Anderson et al. 2016). The OHWM determination used a combination of field indicators, including a break in topography, scour line, and vegetative characteristics.

Both 299th creek west and 299th creek east flow north across 299th Street, and eventually converge in the forested area west of Paradise Park Road (Figure 7b). The culverts through which they pass under NW 299th Street confirmed the location of these streams. The 299th creek west is a small (approximately 2-foot-wide) stream with a silt/sand substrate. Vegetation consists primarily of reed canarygrass along the roadside, but a canopy of Douglas fir and western white pine (*Pinus monticola*, FACU) dominates the forested area to the north. The 299th creek east is slightly larger, ranging from 3 to 5 feet wide, and also has a streambed composed of silts and sands. Vegetation consists of reed canarygrass and cattail, among other species within the boundaries of the corridor. Both of these streams are Type Ns waterbodies.

• *Ridgefield Jurisdiction:* 10th creek flows north beneath N 10th Street and is mapped as a Type F stream (Figure 7c). The canopy above this stream is composed mostly of Oregon ash; reed canarygrass, Himalayan blackberry, Canada thistle, and bittersweet nightshade (*Solanum dulcamara*, FAC) dominate the herbaceous layer of the riparian area associated with this stream.

6.0 REGULATORY REVIEW

This section is an overview of regulatory requirements for each jurisdiction as they pertain to wetlands and other stream/riparian areas identified within the study area that are located within the jurisdictions of the county and the cities of La Center and Ridgefield. The future transmission line will be subject to Clark County Code (CCC) Subtitle 40.4 Critical Areas and Shorelines, La Center Municipal Code (LCMC) Chapter 18.300 Critical Areas, and Ridgefield Municipal Code (RMC) Chapter 18.280 Critical Areas Protection.

6.1 Wetlands and Buffers

The wetlands sections of each of these ordinances establish protective buffers associated with wetlands and requires that proponents obtain certain permits or approvals for projects containing wetlands and/or their respective buffers. All of the ordinances require the use of Ecology's revised wetland rating system to determine a wetland's category and its score for habitat, water quality, and hydrologic functions.²

Per guidance found in the updated wetland rating system for Western Washington, Wetland A was rated as a riverine HGM classification, wetlands C and D were rated as slope HGM classification, and wetlands C, E, and F were all rated as depressional HGM classification. Wetlands A, C, E, and F all received Category III ratings, scoring within the range of 16 to 19 points. Wetlands B and D received Category IV ratings with total scores within the range of 9 to 15 points.

² Tom Hruby, Washington State Wetland Rating System for Western Washington-Revised, 2014.

The following sections discuss each jurisdiction's regulations for wetlands, streams, and riparian areas. Figure 6 shows the wetland buffers required for each wetland in their respective jurisdictions.

La Center

The wetland delineation and assessment determined that there are no power pole locations within wetlands or their buffers in the jurisdiction of the City of La Center and that city's regulatory requirements regarding wetlands are not discussed further.

Clark County

The delineation and assessment identified three wetlands within the county's jurisdiction, Wetlands A, B, and C. One power pole is proposed for placement in each of these three wetlands. They are subject to CCC 40.450 – Wetland Protection. CCC 40.450.030.E establishes buffer widths for wetlands by comparing the wetland category and the intensity of land uses proposed per CCC Tables 40.450.030-2 through -5. As shown in Table 40.450.030-5, underground and overhead utility lines, and power poles (without footings) are considered low intensity land uses. Table 40.450.030-2 establishes base buffers required to protect water quality functions of wetlands based on category and proposed land use intensity; Category III wetlands in low intensity land uses are provided a 40-foot base buffer. Furthermore, Table 40.450.030-4 establishes buffers required to protect habitat functions in Category III wetlands based on land use intensity and the habitat score determined for each individual wetland.

Wetlands A and C both received a habitat function score of six and would require a 65-foot buffer to protect habitat functions. The code states that the required water quality functions buffers are adequate to protect habitat features for Category IV wetlands, and thus Wetland B, a Category IV wetland, would require a 25-foot buffer. Additionally, CCC 40.450.030.E.4 states that areas that are functionally isolated from a wetland and do not protect the wetland from adverse impacts (including preexisting roads, structures, or vertical separation) are excluded from buffers otherwise required by Chapter 40.450 of the county code. Table 3 below summarizes the classifications and buffer widths for the wetlands identified within the county's jurisdiction.

	Wetland Classification			Low Land Use Intensity	
Wetland	HGM	Habitat Score	Wetland Rating	Water Quality Function Buffer (ft)	Habitat Functions Buffer (ft)
Wetland A	Riverine	6		40	65
Wetland B	Depressional	4	IV	25	25
Wetland C	Slope	6		40	65

 Table 3. Summary of Wetland Classifications and Buffer Widths – Clark County

Ridgefield

The delineation and assessment identified three wetlands (D, E, and F) within Ridgefield's jurisdictions. Within these three wetlands, the placement of seven utility poles are proposed for placement; four in Wetland D, one in Wetland E, and two in Wetland F.

RMC 18.280.150.C.2 states that standard buffer widths are based on wetland category, wetland characteristics, and land use intensity. Table 18.280.150-1 of the Ridgefield code designates land use intensities as follows: High – Residential, Commercial or Industrial; Moderate – Park or Open Space Green Way; Low – Open Space Greenway or Open Space Natural. The Ridgefield code does not specifically designated the land use intensity of transmissions lines, but it does reference Ecology's *Freshwater Wetlands in Washington State, Volume 2: Managing and Protecting Wetlands*, which states that utility corridors without maintenance roads and little or no vegetative management are low intensity land uses. This assessment therefore assumes that the project would be classified as a low intensity land use. Further guidance from the City during the permitting process may change this classification. Table 18.280.150-5 designates buffer widths for Category III wetlands based on the level of habitat function (based on the final habitat score in the rating system) and land use intensity. Table 18.280.150-6 designates buffer widths for all Category IV wetlands regardless of their level of habitat function.

According to the Ridgefield code, because Wetland D is a Category IV wetland, it would require a 25-foot buffer. Both wetlands E and F score 3 points for habitat function, which is considered a low level of function (RMC Table 18.280.150-2). Category III wetlands with a low level of function for habitat, and within areas of low land use intensity, are afforded a 40-foot buffer. Table 4 below summarizes the classifications and buffer widths required for the wetlands identified within Ridgefield's jurisdiction.

	W			
Wetland	HGM	Level of Habitat Function (Score)	Wetland Rating	Habitat Functions Buffer (ft)
Wetland D	Depressional	Moderate (5)	IV	25
Wetland E	Depressional	Low (3)		40
Wetland F	Depressional	Low (3)		40

Table 4. Summary of Wetland Classifications and Buffer Widths – Ridgefield

6.2 Streams and Riparian Buffers

The fish and wildlife habitat conservation areas section of each ordinance establishes and protects streams and rivers and their associated riparian buffers. The following sections discuss these regulations for each jurisdiction. Three potential utility poles are proposed within riparian buffers, two within the county's jurisdiction and one in Ridgefield's jurisdiction. Figures 7a through 7c show the buffers in each jurisdiction.

La Center

The La Center code establishes and protects riparian areas under the fish and wildlife habitat conservation areas section of the City's critical areas ordinance (LMC 18.300.090(2)). The code states riparian habitat includes those areas immediately adjacent to waterways that contain elements of both aquatic and terrestrial ecosystems that mutually influence each other. The critical area ordinance specifies minimum riparian buffers for streams in accordance with the DNR stream typing system (LCMC 18.300.090(2)(f)) and states that Type Ns streams require a 75-foot riparian buffer area. No utility poles locations are proposed within riparian buffers in the City of La Center. Table 5 summarizes the characteristics of the stream identified within La Center's jurisdiction.

Stream Cla	Buffer Width ^c	
Stream Order ^a	Stream Type ^b	(ft)
1	Ns	75

Table 5. Summary of Identified Streams – La Center

NOTES: a Strahler stream ordering system (A N, Strahler

^a Strahler stream ordering system (A.N. Strahler 1952)
 ^b DNR stream classification system (WAC 222-16)

DNR stream classification system (w
 Based on LCMC 18.300.090(2)(f)

Clark County

The Clark County habitat conservation ordinance designates and protects priority riparian habitat under CCC 40.440.010.C.1.a. Riparian habitats are those areas extending outward on each side of the stream from the OHWM to the edge of the 100-year floodplain, or the following distances, if greater:

- DNR Type S waters 250 feet
- DNR Type F waters 200 feet
- DNR Type Np waters 100 feet
- DNR Type Ns waters- 75 feet

Three streams were identified within the jurisdiction of the county, all tributaries of McCormick Creek. The first has headwaters west of I-5, flows northeast through culverts, and is discharged on the east side of Paradise Park Road. Upstream of the culverts, this stream is mapped as a Type Ns stream; downstream of the culverts, within the transmission line corridor, the stream is mapped as a Type F (fish-bearing) stream. The other two streams are located along the western portion of 279th Street; both are mapped as Type Ns streams as they cross the transmission line corridor. There are no utility poles proposed for placement in the riparian buffer of Paradise Park creek south; however, there is a single utility pole proposed for placement in the riparian buffer of summarizes the characteristics of the streams identified within the county's jurisdiction.

Table 0. Summary of Identified Streams – Olark County					
	Stream Cla	Riparian			
Stream	Stream Order ^a	Stream Type ^b	Buffer Width ^c		
Paradise Park creek south	1	F	200		
299th creek west	1	Ns	75		
299th creek east	1	Ns	75		

 Table 6. Summary of Identified Streams – Clark County

Notes:

^a Strahler stream ordering system (A.N. Strahler 1952)

^b DNR stream classification system (WAC 222-16)

^c Based on CCC 40.440.010.C.1.a

Ridgefield

RMC 18.280.110 designates and protects waterbodies including lakes, streams, rivers, and naturally occurring ponds under the fish and wildlife habitat conservation areas section of the critical areas protection ordinance. While two streams are mapped as occurring within the transmission line corridor, the assessment confirmed the existence of just one. While the stream to the east is mapped as flowing north, parallel to NE 10th Avenue, and associated with both Wetlands E and F, this stream was found not to exist as mapped. The stream to the west (10th creek) flows northwest across N 10th Street, parallel to NW 11th Avenue, and is mapped as a Type F stream. Table 18.280.110-1 shows the minimum riparian buffer width designated for streams in the jurisdiction of the city of Ridgefield, and indicates that Type F streams less than 5 feet wide require a 125-foot buffer. One utility pole is proposed for placement within the riparian buffer of 10th creek. Table 7 summarizes the characteristics of 10th creek as identified within the boundaries of the transmission line corridor in Ridgefield's jurisdiction.

	Stream Clas					
Stream	Stream Order ^a	Stream Type ^b	Buffer Width ^c			
10th creek	2	F	150			
Netoo						

Table 7. Summary of Identified Streams – Ridgefield

otes:

^a Strahler stream ordering system (A.N. Strahler 1952)

^b DNR stream classification system (WAC 222-16) ^c Based on RMC 18.280.110.B.1

7.0 CONCLUSIONS

Activities within the wetlands, streams, and buffers identified within the corridor study area are subject to regulation by the applicable city or the county, Ecology, and the USACE. Any fill placed within the regulated wetlands or below the OHWM would require a critical areas permit from the applicable local jurisdiction (city/county), a Section 401 permit through Ecology, and a Section 404 permit through the USACE. Any mitigation that would be required would be determined during the permitting process.

Finally, it should be noted that the wetland and stream boundaries and classifications in this report were determined using the most appropriate field techniques and best professional judgment of the wetland scientists. The local jurisdictions, Ecology, and the USACE have the final authority in determination of the boundaries, categories, and jurisdictional status of wetlands under their respective jurisdictions. Therefore, BergerABAM recommends submitting this report of the delineation and assessment to these agencies for their concurrence before beginning any development or planning activities that would affect the wetlands, stream, and/or their associated buffers within the study area.

8.0 REFERENCES

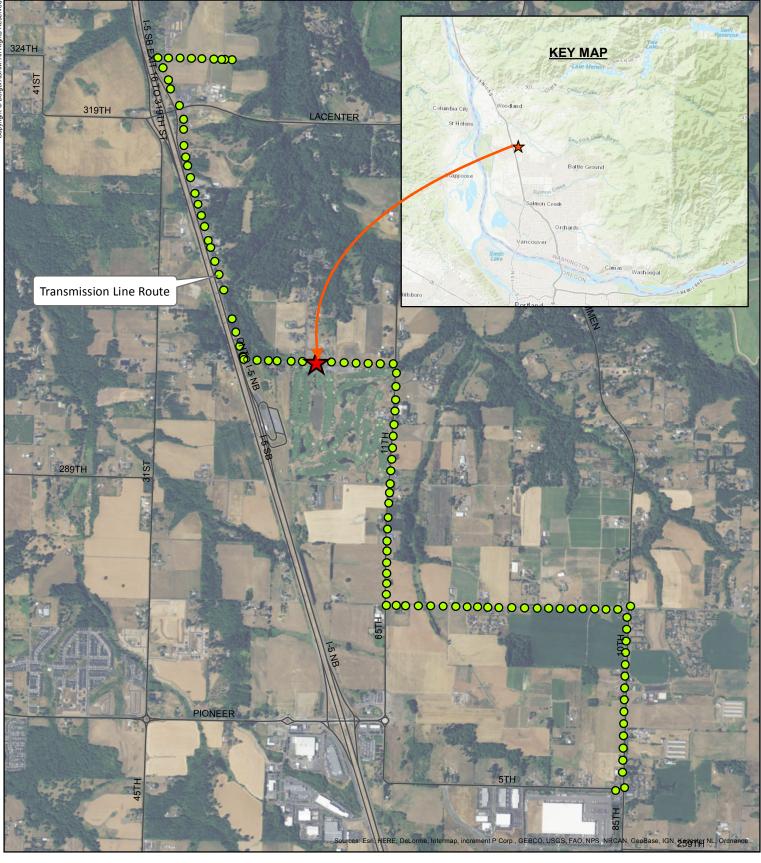
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Wetland Delineation and Assessment Clark Public Utilities Enterprise Transmission Line Clark County, Washington

> Appendix A Figures



Latitude: 45°50'14.30"N Longitude: 122°41'35.09"W Section/Town/Range: S9, T4N, R1E

Clark Public Utilities P.O. Box 8900 Vancouver, WA 98668

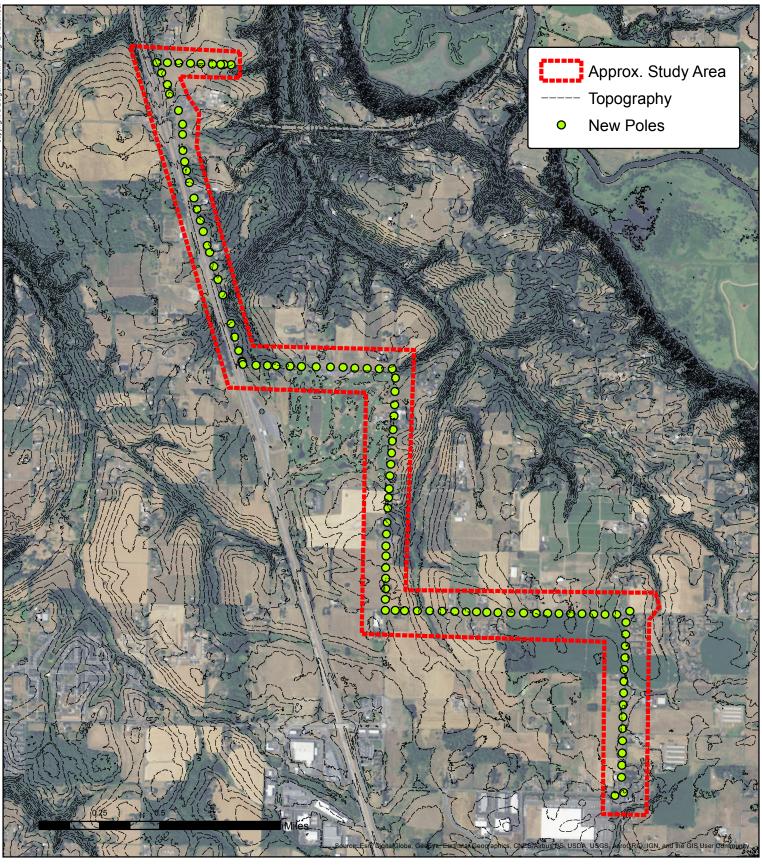
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Enterprise Transmission Line Utility Project BergerABAM

FIGURE 1: VICINITY MAP

In: East Fork Lewis River Watershed County: Clark State: WA Datum: NAD 1983





Latitude: 45°50'14.30"N Longitude: 122°41'35.09"W Section/Town/Range: S9, T4N, R1E

Clark Public Utilities P.O. Box 8900 Vancouver, WA 98668

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Enterprise Transmission Line Utility Project BergerABAM

0.25

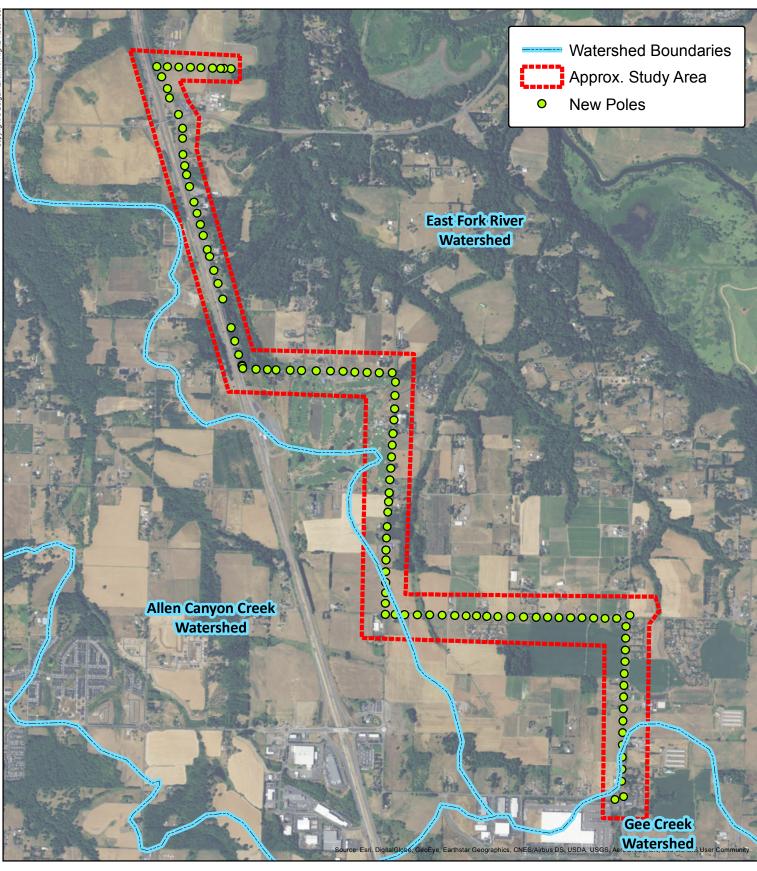
0.125

0.5 Miles

FIGURE: 2 TOPOGRAPHIC MAP

In: East Fork Lewis River Watershed County: Clark State: WA Datum: NAD 1983

 $\mathbf{\mathbf{i}}$



Latitude: 45°50'14.30"N Longitude: 122°41'35.09"W Section/Town/Range: S9, T4N, R1E

Clark Public Utilities P.O. Box 8900 Vancouver, WA 98668

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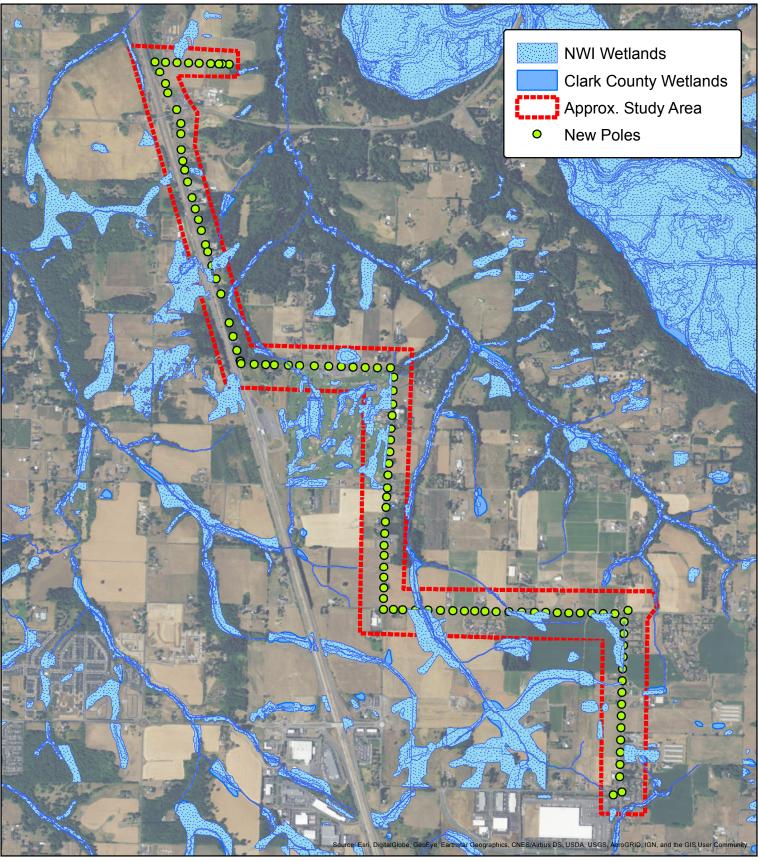
Enterprise Transmission Line Utility Project Description Description

Miles

FIGURE 3: WATERSHED MAP

In: East Fork Lewis River Watershed County: Clark State: WA Datum: NAD 1983





Latitude: 45°50'14.30"N Longitude: 122°41'35.09"W Section/Town/Range: S9, T4N, R1E

Clark Public Utilities P.O. Box 8900 Vancouver, WA 98668

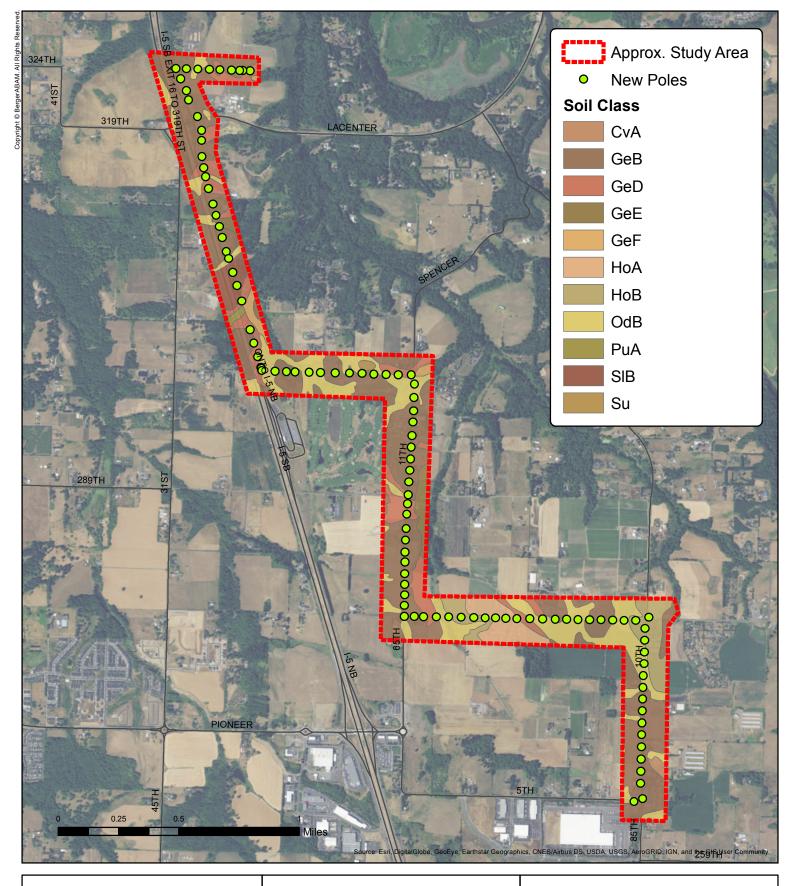
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Enterprise Transmission Line Utility Project BergerABAM

FIGURE 4: MAPPED WETLANDS

In: East Fork Lewis River Watershed County: Clark State: WA Datum: NAD 1983





Latitude: 45°50'14.30"N Longitude: 122°41'35.09"W Section/Town/Range: S9, T4N, R1E

Clark Public Utilities P.O. Box 8900 Vancouver, WA 98668

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0.25

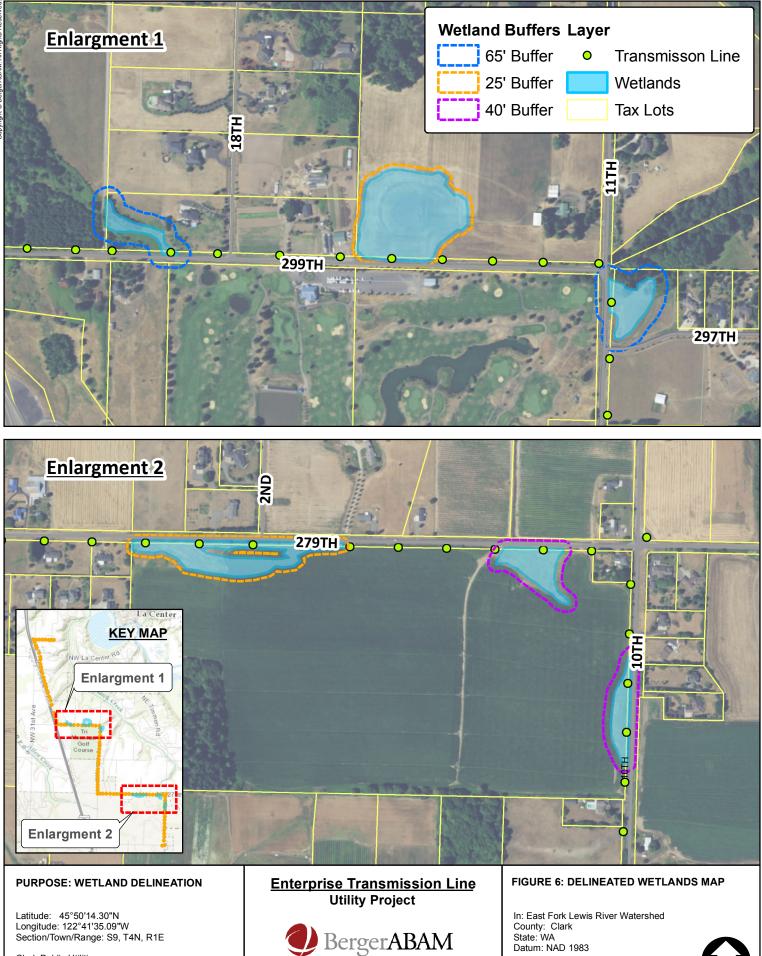
0.5 Miles

0.125

FIGURE 5: SOIL MAP

In: East Fork Lewis River Watershed County: Clark State: WA Datum: NAD 1983

 $\mathbf{\mathbf{F}}$



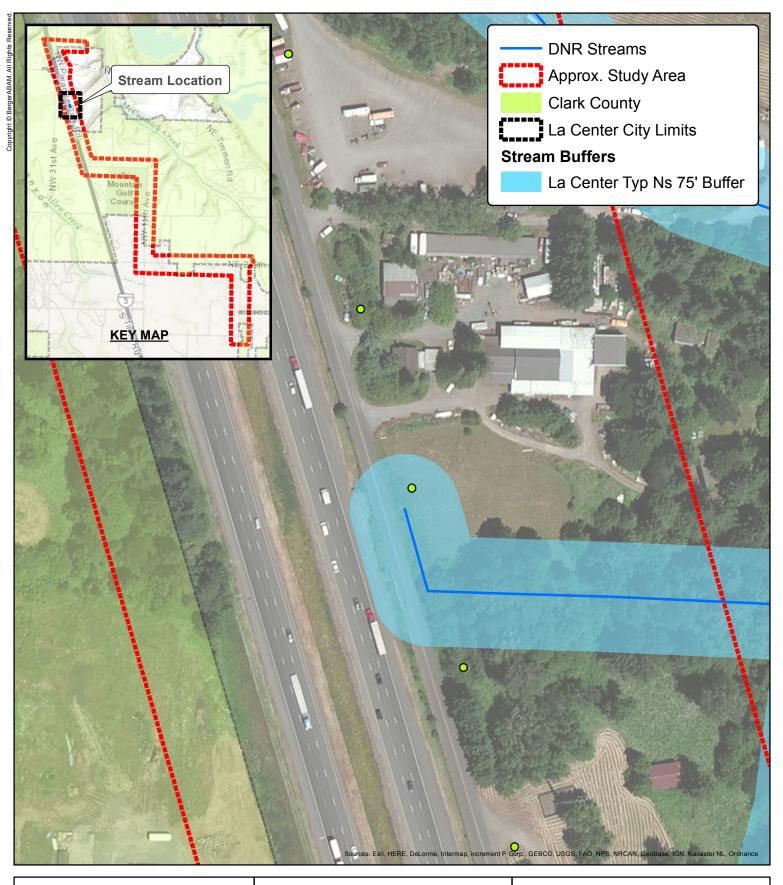
Clark Public Utilities P.O. Box 8900 Vancouver, WA 98668

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July 2017

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Latitude: 45°50'14.30"N Longitude: 122°41'35.09"W Section/Town/Range: S9, T4N, R1E

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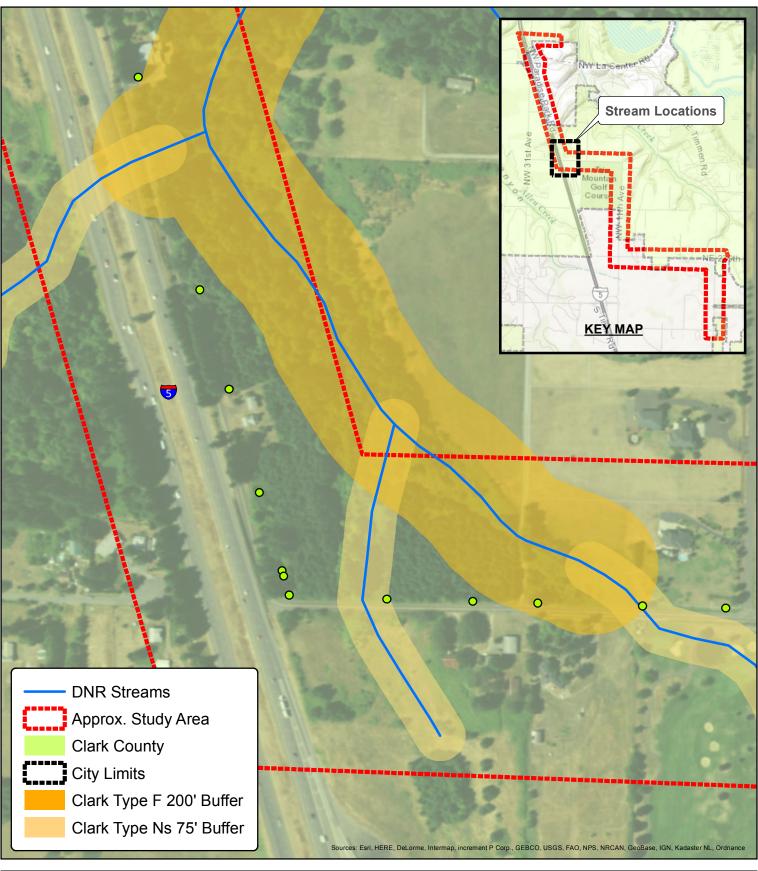
Enterprise Transmission Line Utility Project



FIGURE 7A: DNR STREAMS & BUFFERS

In: East Fork Lewis River Watershed County: Clark State: WA Datum: NAD 1983





Latitude: 45°50'14.30"N Longitude: 122°41'35.09"W Section/Town/Range: S9, T4N, R1E

Clark Public Utilities P.O. Box 8900 Vancouver, WA 98668

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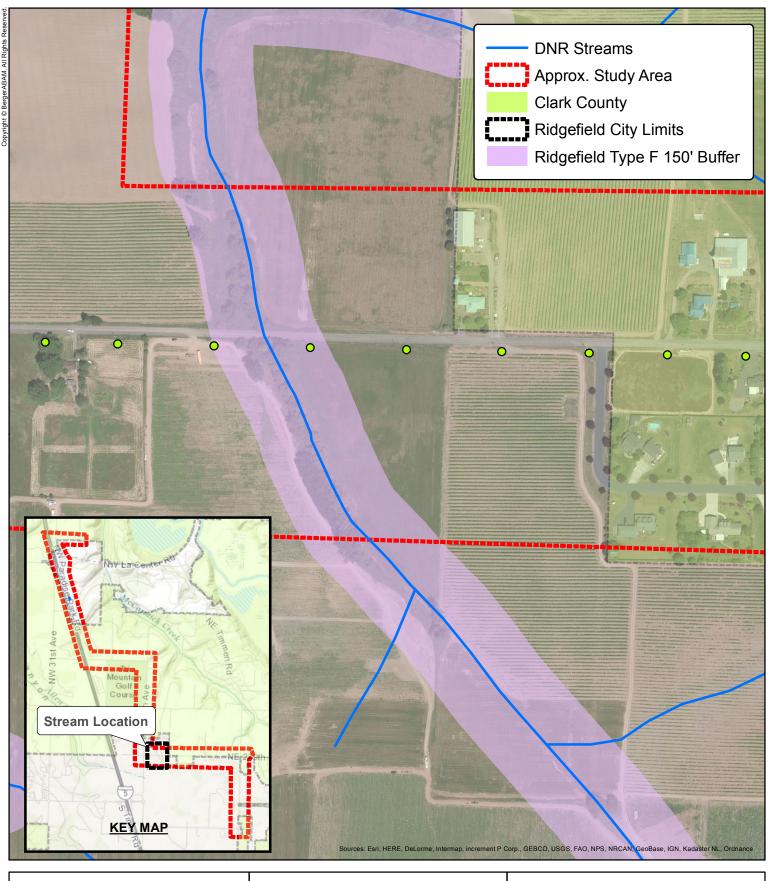
Enterprise Transmission Line Utility Project

BergerABAM

FIGURE 7B: DNR STREAMS & BUFFERS

In: East Fork Lewis River Watershed County: Clark State: WA Datum: NAD 1983





Latitude: 45°50'14.30"N Longitude: 122°41'35.09"W Section/Town/Range: S9, T4N, R1E

Clark Public Utilities P.O. Box 8900 Vancouver, WA 98668

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Enterprise Transmission Line Utility Project



FIGURE 7C: DNR STREAMS & BUFFERS

In: East Fork Lewisl River Watershed County: Clark State: WA Datum: NAD 1983





1. Wetland F - Depressional Wetland



2. Wetland C - Slope Wetland



3. Typical Roadside and Pasture NW 11th Ave -Proposed utility pole location in foreground



4. Proposed Utility Pole Location Near Stormwater Facility - NW 299th Street

PURPOSE: WETLAND DELINEATION

Latitude: 45°50'14.30"N Longitude: 122°41'35.09"W Section/Town/Range: S9, T4N, R1E

Clark Public Utilities P.O. Box 8900 Vancouver, WA 98668

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Enterprise Transmission Line Utility Project



FIGURE 8: Photo Sheet 1

In: East Fork Lewisl River Watershed County: Clark State: WA Datum: NAD 1983





1. Maintained Right of Way - NW 11th Ave



 Riparian Corridor - Ridgefield N 10th Street Facing East



2. Riparian Corridor- Ridgefield N 10th Street Facing West



4. Riparian Corridor and Steep Slopes

PURPOSE: WETLAND DELINEATION

Latitude: 45°50'14.30"N Longitude: 122°41'35.09"W Section/Town/Range: S9, T4N, R1E

Clark Public Utilities P.O. Box 8900 Vancouver, WA 98668

Path: Q:\Vancouver\2014\A14.0046\02\GIS\02_MXD\Wetland Delineation\Fig9_Photo Sheet 2.mxd

Enterprise Transmission Line Utility Project



FIGURE 9: Photo Sheet 2

In: East Fork Lewisl River Watershed County: Clark State: WA Datum: NAD 1983



Wetland Delineation and Assessment Clark Public Utilities Enterprise Transmission Line Clark County, Washington

> Appendix B Wetland Determination Data Forms

Project/Site: CPU Transmission Line	City/County: Clark Count	у	Sampling Date: 20 June 2017
Applicant/Owner: Clark Public Utility		State: WA	Sampling Point: 1
Investigator(s): Dustin Day and Allison Kinney	Section, Township, Rang	e: S22 T4N R1E	
Landform (hillslope, terrace, etc.): Flat	Local relief (concave, co	nvex, none): <u>none</u>	Slope (%): <u>0-8</u>
Subregion (LRR): LLRA Lat:	45°49'22.71"N	_ong: <u>122°40'57.04"</u> W	Datum: WGS84
Soil Map Unit Name: Gee silt loam, 0 to 8 percent slopes		NWI classific	ation: none
Are climatic / hydrologic conditions on the site typical for this time of	year? Yes 🖌 No	(If no, explain in R	emarks.)
Are Vegetation, Soil, or Hydrology significan	tly disturbed? Are "No	ormal Circumstances" p	present? Yes 🖌 No
Are Vegetation, Soil, or Hydrology naturally	problematic? (If need	ded, explain any answe	rs in Remarks.)
SUMMARY OF FINDINGS – Attach site map showing	ng sampling point loo	cations, transects	, important features, etc.

Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present?	Yes <u> </u>	\checkmark	Is the Sampled Area within a Wetland?	Yes	No
Remarks:					

	Absolute		Indicator	Dominance Test worksheet:		
Tree Stratum (Plot size:)	% Cover	Species?	Status	Number of Dominant Species		
1				That Are OBL, FACW, or FAC:	2	(A)
2				Total Number of Dominant		
3				Species Across All Strata:	3	(B)
4						``
		= Total Co		Percent of Dominant Species	66	
Sapling/Shrub Stratum (Plot size:)		rotar oc		That Are OBL, FACW, or FAC:		(A/B)
1				Prevalence Index worksheet:		
2				Total % Cover of:	Multiply by:	_
				OBL species x	(1 =	_
3				FACW species x	(2 =	_
4				FAC species x	(3 =	
5				FACU species		
		= Total Co	over	UPL species x		
Herb Stratum (Plot size:) 1. Schedonorus arundinaceus	30	1/00	FAC	Column Totals: (/		
		yes				_ (D)
2. Dactylis glomerata	20	yes	FACU	Prevalence Index = B/A =	:	_
3. Phleum pratense	15	no	FAC	Hydrophytic Vegetation Indica		
4. Cirsium arvense	10	no	FAC	1 - Rapid Test for Hydrophy	tic Vegetation	
5				✓ 2 - Dominance Test is >50%	%	
6				3 - Prevalence Index is ≤3.0	D ¹	
7				4 - Morphological Adaptatic		oortina
8				data in Remarks or on a	separate sheet)	· · · · J
9				5 - Wetland Non-Vascular F	Plants ¹	
10				Problematic Hydrophytic Ve	egetation ¹ (Explai	n)
	_			¹ Indicators of hydric soil and we		
11	75	= Total Co		be present, unless disturbed or		
Woody Vine Stratum (Plot size:)			ver			
1. Rubus armeniacus	45	yes	FAC	Hydrophytic		
	_	<u> </u>		Hydrophytic Vegetation		
2	45	Tatal Ca		Present? Yes	No	
% Bare Ground in Herb Stratum		= Total Co	vei			
Remarks:				1		

	Matrix		Redox	Features			
(inches)	Color (moist)	%	Color (moist)	<u>%</u> Type ¹	Loc ²	Texture	Remarks
0-16	10YR 3/2	100			S	ilt loam	
				·			
			Reduced Matrix, CS		d Sand Grain	s. ² Loc	ation: PL=Pore Lining, M=Matrix.
ydric Soil	Indicators: (Appli	cable to all	LRRs, unless other	wise noted.)		Indicato	rs for Problematic Hydric Soils ³ :
_ Histoso	. ,		Sandy Redox (S	,			n Muck (A10)
	pipedon (A2)		Stripped Matrix				Parent Material (TF2)
	istic (A3)			lineral (F1) (except	MLRA 1)		/ Shallow Dark Surface (TF12)
	en Sulfide (A4)	(////)	Loamy Gleyed N			Othe	er (Explain in Remarks)
	d Below Dark Surfa ark Surface (A12)	ce (A11)	Depleted Matrix			³ Indianta	rs of hydrophytic vegetation and
	Mucky Mineral (S1)		Redox Dark Sur Depleted Dark S				nd hydrology must be present,
	Gleyed Matrix (S4)		Redox Depressi				s disturbed or problematic.
	Layer (if present):					anioo	
					H	Hydric Soil	Present? Yes No 🗸
Depth (in	ches):					-	
Depth (in Remarks:	ches):						
	ches):						
	ches):						
	ches):						
	ches):						
emarks:							
emarks:							
remarks: YDROLC	IGY drology Indicators		; check all that apply)		<u>Secor</u>	ndary Indicators (2 or more required)
emarks: (DROLC /etland Hy rimary Indi	IGY drology Indicators			/) ned Leaves (B9) (e :	xcept		ndary Indicators (2 or more required) /ater-Stained Leaves (B9) (MLRA 1, 2
emarks: (DROLC) /etland Hy rimary Indi Surface	IGY drology Indicators cators (minimum of		Water-Stair	•	xcept		· · · ·
emarks: (DROLC) /etland Hy rimary Indi Surface	IGY drology Indicators cators (minimum of Water (A1) ater Table (A2)		Water-Stair	ned Leaves (B9) (e : I, 2, 4A, and 4B)	xcept	W	/ater-Stained Leaves (B9) (MLRA 1, 2
Pemarks: PROLC /etland Hy rimary Indi Surface High Wa Saturati	DGY drology Indicators cators (minimum of Water (A1) ater Table (A2) on (A3)		Water-Stair MLRA 1 Salt Crust (ned Leaves (B9) (e : I , 2, 4A, and 4B) (B11)	xcept	W D	/ater-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) rainage Patterns (B10)
emarks: (DROLC /etland Hy rimary Indi Surface High Wa Saturati Water N	GY drology Indicators cators (minimum of Water (A1) ater Table (A2) on (A3) flarks (B1)		Water-Stair MLRA 1 Salt Crust (Aquatic Inv	ned Leaves (B9) (e : I, 2, 4A, and 4B) (B11) rertebrates (B13)	xcept	w d	/ater-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) rainage Patterns (B10) ry-Season Water Table (C2)
Cemarks: (DROLC Vetland Hy Irimary Indi Surface High Wa Saturati Saturati Saturati Saturati Saturati	GY drology Indicators cators (minimum of Water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2)		Water-Stain MLRA 1 Salt Crust (Aquatic Inv Hydrogen 5	ned Leaves (B9) (e : I, 2, 4A, and 4B) (B11) ertebrates (B13) Sulfide Odor (C1)	-	W D D S	/ater-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) rainage Patterns (B10) ry-Season Water Table (C2) aturation Visible on Aerial Imagery (C
Permarks: (DROLC) Vetland Hy rimary Indi Saturati Saturati Water N Sedime Drift De	GY drology Indicators cators (minimum of Water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2) posits (B3)		Water-Stain MLRA 1 Salt Crust (Aquatic Inv Hydrogen S Oxidized R	ned Leaves (B9) (e : I , 2, 4A, and 4B) (B11) ertebrates (B13) Sulfide Odor (C1) hizospheres along	Living Roots (W D D S (C3) G	/ater-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) rainage Patterns (B10) ry-Season Water Table (C2) aturation Visible on Aerial Imagery (C eomorphic Position (D2)
YDROLC YDROLC Vetland Hy Primary Indi Surface High Wa Saturati Saturati Saturati Saturati Drift De Algal M	GY drology Indicators cators (minimum of Water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2)		Water-Stain MLRA 1 Salt Crust (Aquatic Inv Hydrogen S Oxidized R Presence c	ned Leaves (B9) (e : I, 2, 4A, and 4B) (B11) ertebrates (B13) Sulfide Odor (C1)	Living Roots (W D D S (C3) G S	/ater-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) rainage Patterns (B10) ry-Season Water Table (C2) aturation Visible on Aerial Imagery (C

____ Inundation Visible on Aerial Imagery (B7) ____ Other (Explain in Remarks)

Sparsely Vegetated Conca	ave Surface	(B8)				
Field Observations:						
Surface Water Present?	Yes	No	Depth (inches):			
Water Table Present?	Yes	No	Depth (inches):			
Saturation Present? (includes capillary fringe)	Yes	No	Depth (inches):	Wetland Hydrology Present?	Yes	No 🖌
Describe Recorded Data (strea	am gauge, n	nonitoring w	ell, aerial photos, previous inspec	tions), if available:		
Remarks:						

____ Frost-Heave Hummocks (D7)

Project/Site: CPU Transmission Line	City/County: Clark Cou	nty	Sampling Date: 20 June 2017
Applicant/Owner: Clark Public Utility		State: WA	Sampling Point:
Investigator(s): Dustin Day and Allison Kinney	Section, Township, Rar	nge: S22 T4N R1E	
Landform (hillslope, terrace, etc.): flat	Local relief (concave, c	convex, none): <u>none</u>	Slope (%): <u>0-8</u>
Subregion (LRR): LLRA Lat: _	45°49'22.71"N	Long: <u>122°40'57.04"W</u>	Datum: WGS84
Soil Map Unit Name: Gee silt loam, 0 to 8 percent slopes		NWI classific	ation:
Are climatic / hydrologic conditions on the site typical for this time of	i year? Yes 🖌 No _	(If no, explain in R	emarks.)
Are Vegetation, Soil, or Hydrology significar	ntly disturbed? Are "	Normal Circumstances" p	present? Yes 🖌 No
Are Vegetation, Soil, or Hydrology naturally	problematic? (If ne	eded, explain any answe	rs in Remarks.)
SUMMARY OF FINDINGS – Attach site map showi	ng sampling point le	ocations, transects	, important features, etc.

Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present?	Yes Yes Yes	No No _✓ No _✓	Is the Sampled Area within a Wetland?	Yes	No
Remarks:					

	Absolute		t Indicator	Dominance Test worksheet:	
Tree Stratum (Plot size:)	% Cover	Species?	Status	Number of Dominant Species	
1				That Are OBL, FACW, or FAC: 3	(A)
2				Total Number of Dominant	
3					(B)
4					(-)
··		= Total Co		Percent of Dominant Species	
Sapling/Shrub Stratum (Plot size:)			JVEI		(A/B)
1				Prevalence Index worksheet:	
				Total % Cover of: Multiply by:	-
2				OBL species x 1 =	-
3				FACW species x 2 =	
4				FAC species x 3 =	
5				FACU species x 4 =	
		= Total Co	over	· · · · · · · · · · · · · · · · · · ·	-
Herb Stratum (Plot size:)				UPL species x 5 =	
1. Phalaris arundinacea	30	yes	FACW	Column Totals: (A)	(B)
2. Agrostis capillaris	10	no	FAC	Prevalence Index = B/A =	
3. Lolium perenne	10	no	FAC	Hydrophytic Vegetation Indicators:	
4. Convolvulus arvensis	5	no	NL	1 - Rapid Test for Hydrophytic Vegetation	
5				\checkmark 2 - Dominance Test is >50%	
6				3 - Prevalence Index is ≤3.0 ¹	
7				4 - Morphological Adaptations ¹ (Provide support data in Remarks or on a separate sheet)	orting
8				5 - Wetland Non-Vascular Plants ¹	
9				Problematic Hydrophytic Vegetation ¹ (Explain)	
10					
11				¹ Indicators of hydric soil and wetland hydrology mube present, unless disturbed or problematic.	UST
	55	= Total Co	over		
Woody Vine Stratum (Plot size:)	00				
1. Rubus armeniacus	80	yes	FAC	Hydrophytic	
2				Vegetation Present? Yes No No	
	80	= Total Co	over	Present? res v No	
% Bare Ground in Herb Stratum					
Remarks:					l

Depth		e to the der	th needed to docu	ment the	indicator	or confirm	the absence	e of indicators.)
<i></i> .	Matrix			ox Feature				
(inches)	Color (moist)	%	Color (moist)	%	4	Loc ²	Texture	Remarks
0-16	10 YR 3/2	99	10YR 3/4	1	·	M	Silt loam	
ype: C=C	oncentration, D=De	pletion, RM	=Reduced Matrix, C	S=Covere	d or Coate	ed Sand Gra	ains. ² Lo	cation: PL=Pore Lining, M=Matrix.
ydric Soil I	ndicators: (Appli	cable to all	LRRs, unless othe	rwise not	ed.)		Indicate	ors for Problematic Hydric Soils ³ :
Histosol	(A1)		Sandy Redox ((S5)			2 c	m Muck (A10)
Histic Ep	pipedon (A2)		Stripped Matrix	. ,				d Parent Material (TF2)
Black Hi			Loamy Mucky			t MLRA 1)		y Shallow Dark Surface (TF12)
	n Sulfide (A4)		Loamy Gleyed		2)		Oth	ner (Explain in Remarks)
	Below Dark Surfa	ce (A11)	Depleted Matri				2	
	ark Surface (A12)		Redox Dark Su	. ,				ors of hydrophytic vegetation and
	lucky Mineral (S1)		Depleted Dark		-7)			and hydrology must be present,
	ileyed Matrix (S4) ayer (if present):		Redox Depres	sions (F8)			unie	ss disturbed or problematic.
Depth (inc	ches):						Hydric Soi	I Present? Yes No _♥
Remarks: YDROLO								
Remarks: YDROLO Wetland Hyd	drology Indicators		d; check all that app	ly)			Seco	ndary Indicators (2 or more required)
Remarks: YDROLO Vetland Hyd Primary Indic	drology Indicators ators (minimum of				res (B9) (e	xcept		
Remarks: YDROLO Vetland Hyd Primary Indic Surface	drology Indicators ators (minimum of Water (A1)		Water-Sta	ained Leav		xcept		Nater-Stained Leaves (B9) (MLRA 1,
YDROLO YDROLO Vetland Hyd Surface High Wa	drology Indicators ators (minimum of Water (A1) tter Table (A2)		Water-Sta	ained Leav 1, 2, 4A,		xcept	\	Water-Stained Leaves (B9) (MLRA 1, 4A, and 4B)
Provident Statemarks: Provident Statemark Sta	drology Indicators cators (minimum of Water (A1) ter Table (A2) on (A3)		Water-Sta MLRA Salt Crust	ained Leav 1, 2, 4A, t (B11)	and 4B)	xcept	\ [Water-Stained Leaves (B9) (MLRA 1, 4A, and 4B) Drainage Patterns (B10)
Remarks: YDROLO Vetland Hyd Primary Indic Surface High Wa Saturatic Water M	trology Indicators ators (minimum of Water (A1) ter Table (A2) on (A3) arks (B1)		Water-Sta MLRA Salt Crust Aquatic Ir	ained Leav 1, 2, 4A, t (B11) overtebrate	and 4B) es (B13)	xcept	\ [[Water-Stained Leaves (B9) (MLRA 1, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2)
Remarks: YDROLO Vetland Hyd Primary Indic Surface High Wa Saturatic Water M Sedimer	drology Indicators eators (minimum of Water (A1) tter Table (A2) on (A3) arks (B1) at Deposits (B2)		Water-Sta MLRA Salt Crusi Aquatic Ir Hydrogen	1, 2, 4A , t (B11) vertebrate Sulfide O	and 4B) es (B13) dor (C1)	-	\ [[[Water-Stained Leaves (B9) (MLRA 1, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (
Remarks: YDROLO Wetland Hyd Primary Indic Surface High Wa Saturatic Water M Sedimer Drift Dep	drology Indicators eators (minimum of Water (A1) tter Table (A2) on (A3) arks (B1) at Deposits (B2) posits (B3)		Water-Sta MLRA Salt Crust Aquatic Ir Hydrogen Oxidized	ained Leav 1, 2, 4A, t (B11) nvertebrate Sulfide O Rhizosphe	and 4B) es (B13) dor (C1) eres along	Living Root	[[[[[[[[Water-Stained Leaves (B9) (MLRA 1, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (Geomorphic Position (D2)
Primary Indic Primary Indic Surface High Wa Saturatic Water M Sedimer Drift Dep Algal Ma	drology Indicators eators (minimum of Water (A1) tter Table (A2) on (A3) arks (B1) at Deposits (B2) posits (B3) at or Crust (B4)		Water-Sta MLRA Salt Crust Aquatic Ir Hydrogen Oxidized Presence	ained Leav 1, 2, 4A, (B11) avertebrate Sulfide O Rhizosphe of Reduce	and 4B) es (B13) dor (C1) eres along ed Iron (C-	Living Root	[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[]]	Water-Stained Leaves (B9) (MLRA 1, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (Geomorphic Position (D2) Shallow Aquitard (D3)
Remarks: YDROLO Wetland Hyd Primary Indic Surface High Wa Saturatic Water M Sedimer Drift Dep Algal Ma Iron Dep	drology Indicators eators (minimum of Water (A1) tter Table (A2) on (A3) arks (B1) at Deposits (B2) posits (B3)		Water-Sta MLRA Salt Crust Aquatic Ir Hydrogen Oxidized Presence Recent Ird	ained Leav 1, 2, 4A, t (B11) wertebrate Sulfide O Rhizosphe of Reduce	and 4B) es (B13) dor (C1) eres along ed Iron (C- ion in Tille	Living Root	[[[[[ts (C3) [[[[Water-Stained Leaves (B9) (MLRA 1, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (Geomorphic Position (D2)

	ona mago)(=:) _		
Sparsely Vegetated Co	ncave Surfa	ice (B8)		
Field Observations:				
Surface Water Present?	Yes	No	Depth (inches):	
Water Table Present?	Yes	No	Depth (inches):	(
Saturation Present? (includes capillary fringe)	Yes	No	Depth (inches):	Wetland Hydrology Present? Yes No
Describe Recorded Data (st	tream gauge	e, monitorin	g well, aerial photos, previou	s inspections), if available:
Remarks:				

Project/Site: CPU Transmission Line	_ City/County: Clark Cou	nty	Sampling Date: 20 June 2017
Applicant/Owner: Clark Public Utility			Sampling Point: 3
Investigator(s): Dustin Day and Allison Kinney	_ Section, Township, Rar	nge: S22 T4N R1E	
Landform (hillslope, terrace, etc.): flat		convex, none): <u>none</u>	Slope (%): <u>0-8</u>
Subregion (LRR): LLRA Lat:	45°49'22.71"N	Long: <u>122°40'57.04"W</u>	Datum: WGS84
Soil Map Unit Name: Gee silt loam, 0 to 8 percent slopes		NWI classific	ation: none
Are climatic / hydrologic conditions on the site typical for this time of	year?Yes 🖌 No _	(If no, explain in R	emarks.)
Are Vegetation, Soil, or Hydrology significant	tly disturbed? Are "	Normal Circumstances" p	resent? Yes 🖌 No
Are Vegetation, Soil, or Hydrology naturally p	problematic? (If ne	eded, explain any answe	rs in Remarks.)
SUMMARY OF FINDINGS – Attach site map showir	ng sampling point le	ocations, transects	, important features, etc.

Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present?	Yes Yes Yes	No No No	Is the Sampled Area within a Wetland?	Yes	No
Remarks:					

	Absolute		t Indicator	Dominance Test worksh	eet:
Tree Stratum (Plot size:)	% Cover	Species?	Status	Number of Dominant Spec	cies
1			<u> </u>	That Are OBL, FACW, or I	
2					
3				Total Number of Dominant Species Across All Strata:	З (В)
				opecies Across Air otrata.	
4				Percent of Dominant Spec	
Sapling/Shrub Stratum (Plot size:)		= Total Co	ver	That Are OBL, FACW, or F	AC: <u>100</u> (A/B)
				Prevalence Index works	neet:
1				Total % Cover of:	Multiply by:
2				OBL species	x 1 =
3				FACW species	
4					
5				FAC species	
		= Total Co	Ver	FACU species	x 4 =
Herb Stratum (Plot size:)				UPL species	x 5 =
1. Agrostis capillaris	35	yes	FAC	Column Totals:	(A) (B)
2. Phleum pratense	30	yes	FAC	Developmente	
3. Rumex crispus	10	no	FAC		B/A =
4. Convolvulus arvensis	10	no	NL	Hydrophytic Vegetation	
			·	1 - Rapid Test for Hyd	., .
5				2 - Dominance Test is	>50%
6				3 - Prevalence Index i	s ≤3.0 ¹
7				4 - Morphological Ada	ptations ¹ (Provide supporting
					ptations ¹ (Provide supporting on a separate sheet)
8					on a separate sheet)
8 9				data in Remarks of	on a separate sheet) cular Plants ¹
8 9 10				data in Remarks of 5 - Wetland Non-Vaso Problematic Hydrophy	on a separate sheet) sular Plants ¹ ttic Vegetation ¹ (Explain)
8 9				data in Remarks of 5 - Wetland Non-Vaso Problematic Hydrophy	on a separate sheet) sular Plants ¹ ttic Vegetation ¹ (Explain) nd wetland hydrology must
8 9 10 11				data in Remarks of 5 - Wetland Non-Vaso Problematic Hydrophy ¹ Indicators of hydric soil ar	on a separate sheet) sular Plants ¹ ttic Vegetation ¹ (Explain) nd wetland hydrology must
8 9 10 11 <u>Woody Vine Stratum</u> (Plot size:)	85	_= Total Co	ver	data in Remarks of 5 - Wetland Non-Vaso Problematic Hydrophy ¹ Indicators of hydric soil ar be present, unless disturbe	on a separate sheet) sular Plants ¹ ttic Vegetation ¹ (Explain) nd wetland hydrology must
8.	 	= Total Co yes	ver FAC	data in Remarks of 5 - Wetland Non-Vaso Problematic Hydrophy ¹ Indicators of hydric soil ar be present, unless disturbo	on a separate sheet) sular Plants ¹ ttic Vegetation ¹ (Explain) nd wetland hydrology must
8 9 10 11 <u>Woody Vine Stratum</u> (Plot size:)	85 60	= Total Co yes	ver FAC	data in Remarks of 5 - Wetland Non-Vaso Problematic Hydrophy ¹ Indicators of hydric soil ar be present, unless disturbe Hydrophytic Vegetation	r on a separate sheet) sular Plants ¹ tric Vegetation ¹ (Explain) nd wetland hydrology must ed or problematic.
8.	85 60	= Total Co yes	ver FAC	data in Remarks of 5 - Wetland Non-Vaso Problematic Hydrophy ¹ Indicators of hydric soil ar be present, unless disturbe Hydrophytic Vegetation	on a separate sheet) sular Plants ¹ ttic Vegetation ¹ (Explain) nd wetland hydrology must
8.	85 60	= Total Co yes	ver FAC	data in Remarks of 5 - Wetland Non-Vaso Problematic Hydrophy ¹ Indicators of hydric soil ar be present, unless disturbe Hydrophytic Vegetation	r on a separate sheet) sular Plants ¹ tric Vegetation ¹ (Explain) nd wetland hydrology must ed or problematic.
8.	85 60	= Total Co yes	ver FAC	data in Remarks of 5 - Wetland Non-Vaso Problematic Hydrophy ¹ Indicators of hydric soil ar be present, unless disturbe Hydrophytic Vegetation	r on a separate sheet) sular Plants ¹ tric Vegetation ¹ (Explain) nd wetland hydrology must ed or problematic.

SOIL

Sampling Point: 3

Profile Desc	cription: (Describ	e to the de	oth needed to docur	nent the i	indicator	or confirm	the absence	e of indicators.)
Depth	Matrix		Redo	x Feature	s			
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
0-10	10YR 3/2	99	10YR 3/4	1		Μ	silt loam	
10-16	10YR 3/2	90	10YR 3/6	10		Μ		
								·
			. <u> </u>		·			
								·
¹ Type: C=C	oncentration, D=De	epletion, RM	l=Reduced Matrix, CS	S=Covere	d or Coate	ed Sand Gr	ains. ² Lo	ocation: PL=Pore Lining, M=Matrix.
			I LRRs, unless other					ors for Problematic Hydric Soils ³ :
Histosol	(A1)		Sandy Redox (S5)			2 c	m Muck (A10)
Histic E	pipedon (A2)		Stripped Matrix	(S6)			Re	d Parent Material (TF2)
	istic (A3)		Loamy Mucky Muc			t MLRA 1)		ry Shallow Dark Surface (TF12)
	en Sulfide (A4)	<i>(</i>)	Loamy Gleyed		2)		Oth	ner (Explain in Remarks)
	d Below Dark Surfa	ace (A11)	Depleted Matrix				31	and af hurdrands the constation and
	ark Surface (A12) /lucky Mineral (S1)		Redox Dark Su Depleted Dark \$					ors of hydrophytic vegetation and and hydrology must be present,
	Gleyed Matrix (S4)		Redox Depress		')			ss disturbed or problematic.
	Layer (if present):			(- /			1	
Type:								
Depth (in	ches):						Hydric Soi	il Present? Yes No 🖌
Remarks:	,							
HYDROLO	GY							
Wetland Hy	drology Indicators	s:						
Primary Indi	<u>cators (minimum of</u>	one require	ed; check all that appl	y)			Seco	ondary Indicators (2 or more required)
Surface	Water (A1)		Water-Sta	ined Leav	es (B9) (e	xcept		Water-Stained Leaves (B9) (MLRA 1, 2,
High Wa	ater Table (A2)		MLRA	1, 2, 4A, a	and 4B)			4A, and 4B)
Saturati	on (A3)		Salt Crust	(B11)			I	Drainage Patterns (B10)
Water M	larks (B1)		Aquatic In	vertebrate	es (B13)		I	Dry-Season Water Table (C2)
Sedimer	nt Deposits (B2)		Hydrogen					Saturation Visible on Aerial Imagery (C9)
	posits (B3)		Oxidized F		-	•	. ,	Geomorphic Position (D2)
-	at or Crust (B4)		Presence					Shallow Aquitard (D3)
Iron Dep	. ,		Recent Iro					FAC-Neutral Test (D5)
	Soil Cracks (B6)		Stunted or			1) (LRR A)		Raised Ant Mounds (D6) (LRR A)
	on Visible on Aeria	•••	· <u> </u>	plain in Re	emarks)		'	Frost-Heave Hummocks (D7)
	y Vegetated Conca	ve Surface	(B8)					
Field Obser								
Surface Wat			No Depth (in					
Water Table			No Depth (in					
Saturation P		Yes	No Depth (in	ches):		Wetla	and Hydrolog	gy Present? Yes No 🖌
(includes ca Describe Re		m gaude. m	onitoring well, aerial	photos. pr	evious ins	spections).	if available:	
		J		. , թ.		, , ,		
Remarks:								
. to man do.								

Project/Site: CPU Transmission Line	City/County: Clark C	County	Sampling Date: 20 June 2017
Applicant/Owner: Clark Public Utility			Sampling Point: 4
Investigator(s): Dustin Day and Allison Kinney	Section, Township,	Range: S22 T4N R1E	
Landform (hillslope, terrace, etc.): Flat	Local relief (concav	ve, convex, none): <u>none</u>	Slope (%): <u>0-8</u>
Subregion (LRR): LLRA Lat: _	45°49'22.71"N	Long: <u>122°40'57.04</u> "W	Datum: WGS84
Soil Map Unit Name: Gee silt loam, 0 to 8 percent slopes		NWI classific	ation: none
Are climatic / hydrologic conditions on the site typical for this time of	year? Yes 🖌 No	o (If no, explain in R	emarks.)
Are Vegetation, Soil, or Hydrology significar	ntly disturbed? A	re "Normal Circumstances" p	present? Yes 🖌 No
Are Vegetation, Soil, or Hydrology naturally	problematic? (If	f needed, explain any answe	rs in Remarks.)
SUMMARY OF FINDINGS – Attach site map showi	ng sampling poin	t locations, transects	, important features, etc.

Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present?	Yes Yes Yes	No No _✔ No _✔	Is the Sampled Area within a Wetland?	Yes	No
Remarks:					

	Absolute		Indicator	Dominance Test worksheet:
Tree Stratum (Plot size:)	% Cover	Species?	Status	Number of Dominant Species
1				That Are OBL, FACW, or FAC: 2 (A)
2				Tetel New Jone (Demission)
3				Total Number of Dominant Species Across All Strata: ³ (B)
4				Percent of Dominant Species
Sapling/Shrub Stratum (Plot size:)		= Total Co	ver	That Are OBL, FACW, or FAC: <u>66</u> (A/B)
				Prevalence Index worksheet:
1				Total % Cover of:Multiply by:
2				OBL species x 1 =
3				FACW species x 2 =
4				FAC species x 2 = x 3 = x 3 =
5				
		= Total Co	over	FACU species x 4 =
Herb Stratum (Plot size:)				UPL species x 5 =
1. Schedonorus arundinaceus	30	yes	FAC	Column Totals: (A) (B)
2. Dactylis glomerata	20	yes	FACU	Prevalence Index = B/A =
3. Phleum pratense	10	no	FAC	Hydrophytic Vegetation Indicators:
4				
				1 - Rapid Test for Hydrophytic Vegetation
5				✓ 2 - Dominance Test is >50%
6				3 - Prevalence Index is $≤3.0^1$
7				4 - Morphological Adaptations ¹ (Provide supporting
8				data in Romarke or on a congrate cheat)
				data in Remarks or on a separate sheet)
9				5 - Wetland Non-Vascular Plants ¹
9 10.				. ,
10				 5 - Wetland Non-Vascular Plants¹ Problematic Hydrophytic Vegetation¹ (Explain)
				5 - Wetland Non-Vascular Plants ¹
10 11				 5 - Wetland Non-Vascular Plants¹ Problematic Hydrophytic Vegetation¹ (Explain) ¹Indicators of hydric soil and wetland hydrology must
10. 11. <u>Woody Vine Stratum</u> (Plot size:)	60	= Total Co		 5 - Wetland Non-Vascular Plants¹ Problematic Hydrophytic Vegetation¹ (Explain) ¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
10. 11. <u>Woody Vine Stratum</u> (Plot size:) 1. Rubus armeniacus	60 60	_= Total Co yes	ver	 5 - Wetland Non-Vascular Plants¹ Problematic Hydrophytic Vegetation¹ (Explain) ¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Hydrophytic Vegetation
10. 11. <u>Woody Vine Stratum</u> (Plot size:)	60 60	 = Total Co yes	ver FAC	 5 - Wetland Non-Vascular Plants¹ Problematic Hydrophytic Vegetation¹ (Explain) ¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
10	60 60	_= Total Co yes	ver FAC	 5 - Wetland Non-Vascular Plants¹ Problematic Hydrophytic Vegetation¹ (Explain) ¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Hydrophytic Vegetation
10.	60 60	 = Total Co yes	ver FAC	 5 - Wetland Non-Vascular Plants¹ Problematic Hydrophytic Vegetation¹ (Explain) ¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Hydrophytic Vegetation
10	60 60	 = Total Co yes	ver FAC	 5 - Wetland Non-Vascular Plants¹ Problematic Hydrophytic Vegetation¹ (Explain) ¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Hydrophytic Vegetation

			pth needed to docu					or indicators.)
Depth inches)	Matrix Color (moist)	%	Color (moist)	ox Feature %		Loc ²	Texture	Remarks
)-10	10YR 3/2	100					- I OXIGIO	Kendike
0-16	10YR 3/2	99	10YR 3/4	1		Μ		
	·							
						·		
			I=Reduced Matrix, C			ed Sand Gr		ation: PL=Pore Lining, M=Matrix.
					ieu.)			•
Histoso	pipedon (A2)		Sandy Redox Stripped Matrix					Muck (A10) Parent Material (TF2)
	listic (A3)		Loamy Mucky					Shallow Dark Surface (TF12)
_	en Sulfide (A4)		Loamy Gleyed					r (Explain in Remarks)
	ed Below Dark Surfa	ce (A11)	Depleted Matri		<u>~</u>)			
	ark Surface (A12)		Redox Dark Si)		³ Indicator	rs of hydrophytic vegetation and
	Mucky Mineral (S1)		Depleted Dark	,	,			nd hydrology must be present,
	Gleyed Matrix (S4)		Redox Depres					s disturbed or problematic.
	Layer (if present):			()				
Туре:								
	iches):						Hydric Soil	Present? Yes No 🗸
emarks:								
)GY /drology Indicators							
-			ed; check all that app				Secon	dary Indicators (2 or more required)
	Water (A1)	Une require			ves (B9) (e	vcent		ater-Stained Leaves (B9) (MLRA 1,
	ater Table (A2)			1, 2, 4A,	. , .	sveept		
-	ion (A3)		Salt Crus		,			4A, and 4B)
								ainage Patterns (B10)
	Marks (B1)			nvertebrate	. ,			y-Season Water Table (C2)
	nt Deposits (B2)			Sulfide C	. ,	Liste B		aturation Visible on Aerial Imagery (C
	posits (B3)				0	Living Roo		eomorphic Position (D2)
	at or Crust (B4)				ed Iron (C			nallow Aquitard (D3)
	posits (B5)					d Soils (C6		AC-Neutral Test (D5)
Surface	e Soil Cracks (B6)					01) (LRR A)		aised Ant Mounds (D6) (LRR A)
	ion Visible on Aeria ly Vegetated Conca			plain in R	emarks)		Fr	ost-Heave Hummocks (D7)

Field Observations:				
Surface Water Present?	Yes	No	Depth (inches):	
Water Table Present?	Yes	No	Depth (inches):	
Saturation Present? (includes capillary fringe)	Yes	No	Depth (inches):	

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

Remarks:

Wetland Hydrology Present? Yes ____ No ____

Project/Site: CPU Transmission Line	City/County: Clark County	y	Sampling Date: 20 June 2017
Applicant/Owner: Clark Public Utility		State: WA	Sampling Point: 5
Investigator(s): Dustin Day and Allison Kinney	Section, Township, Rang	e: S22 T4N R1E	
Landform (hillslope, terrace, etc.): Depression	Local relief (concave, co		Slope (%): <u>0-5</u>
Subregion (LRR): LLRA Lat:	45°49'22.71"N	_ong: <u>122°40'57.04"</u> W	Datum: WGS84
Soil Map Unit Name: Odne silt loam, 0 to 5 percent slopes		NWI classific	ation: PEM1C
Are climatic / hydrologic conditions on the site typical for this time o	f year? Yes 🖌 No _	(If no, explain in R	emarks.)
Are Vegetation, Soil, or Hydrology significant	ntly disturbed? Are "No	ormal Circumstances" p	oresent? Yes 🖌 No
Are Vegetation, Soil, or Hydrology naturally	problematic? (If need	led, explain any answe	rs in Remarks.)
SUMMARY OF FINDINGS – Attach site map showi	ng sampling point loc	ations, transects	, important features, etc.

Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present?	Yes ✓ No Yes ✓ No Yes ✓ No	Is the Sampled Area within a Wetland?	(es No
Remarks:			

			Dominance Test worksheet:
<u>% Cover</u>	Species?	Status	Number of Dominant Species
			That Are OBL, FACW, or FAC: 1 (A)
			Total Number of Dominant
			Total Number of Dominant Species Across All Strata: 1 (B)
			Percent of Dominant Species
	= 1 otal Co	over	That Are OBL, FACW, or FAC: 100 (A/B)
1	no	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 =
	_ = 10101 00		UPL species x 5 =
99	yes	FACW	Column Totals: (A) (B)
			Prevalence Index = B/A =
			Hydrophytic Vegetation Indicators:
			1 - Rapid Test for Hydrophytic Vegetation
			✓ 2 - Dominance Test is >50%
			3 - Prevalence Index is ≤3.0 ¹
			4 - Morphological Adaptations ¹ (Provide supporting
			data in Remarks or on a separate sheet)
			5 - Wetland Non-Vascular Plants ¹
			Problematic Hydrophytic Vegetation ¹ (Explain)
			¹ Indicators of hydric soil and wetland hydrology must
~~			be present, unless disturbed or problematic.
99	= Total Co	ver	
			Hydrophytic
			Vegetation Present? Yes <u>No</u>
	= Total Co	ver	
			1
		% Cover Species?	% Cover Species? Status

SOIL

								Sampling Point: <u>-</u>
	cription: (Describe to	the dept				or confirm	n the abse	ence of indicators.)
Depth	Matrix			ox Feature		Loc ²	Tautur	Demerler
(inches) 0-16	Color (moist)	<u>%</u> 90	Color (moist)	%	Type ¹		Textur	
0-16	10YR 3/1	90	10YR 3/4	10		Μ	clay loa	
					-			
						·		
						·	·	
						·		
¹ Type: $C-C$	oncentration, D=Deplet	ion RM-I	Reduced Matrix C	S-Covere	d or Coat	ad Sand G	raine	² Location: PL=Pore Lining, M=Matrix.
	Indicators: (Applicat							icators for Problematic Hydric Soils ³ :
Histoso			Sandy Redox		,			2 cm Muck (A10)
	pipedon (A2)	-	Stripped Matrix					Red Parent Material (TF2)
	istic (A3)	_	Loamy Mucky		1) (excep	t MLRA 1)		Very Shallow Dark Surface (TF12)
Hydroge	en Sulfide (A4)	_	Loamy Gleyed	Matrix (F2	2)			Other (Explain in Remarks)
Deplete	d Below Dark Surface	(A11) _	Depleted Matri					
	ark Surface (A12)	-	✓ Redox Dark St	, ,				licators of hydrophytic vegetation and
	Mucky Mineral (S1)	-	Depleted Dark		=7)			wetland hydrology must be present,
	Gleyed Matrix (S4)		Redox Depres	sions (F8)			ر ا	unless disturbed or problematic.
	Layer (if present):							
Туре:								
Depth (in	ches):						Hydric	Soil Present? Yes <u>V</u> No
Remarks:								
IYDROLO	GV							
-	drology Indicators:							
	cators (minimum of one	e required;					5	Secondary Indicators (2 or more required)
✓ Surface				ained Leav		except	-	Water-Stained Leaves (B9) (MLRA 1, 2,
	ater Table (A2)			1, 2, 4A,				4A, and 4B)
✓ Saturati				t (B11)			-	_ Drainage Patterns (B10)
	/arks (B1)			nvertebrate	. ,		-	Dry-Season Water Table (C2)
	nt Deposits (B2)			Sulfide O	. ,	1111 B	-	Saturation Visible on Aerial Imagery (C9)
	posits (B3)				-	Living Roo	DIS (C3)	Geomorphic Position (D2)
	at or Crust (B4)			of Reduce	,			Shallow Aquitard (D3)
	posits (B5)					d Soils (Ce		_ FAC-Neutral Test (D5)
	Soil Cracks (B6)					01) (LRR A	.) _	_ Raised Ant Mounds (D6) (LRR A)
	ion Visible on Aerial Im			piain in Re	ernarks)		-	Frost-Heave Hummocks (D7)
	y Vegetated Concave S	burrace (B	8)					
Field Obser	vations:	,						

Field Observations:						
Surface Water Present?	Yes 🗸	No	Depth (inches):			
Water Table Present?	Yes 🗸	No	Depth (inches): surface			
Saturation Present? (includes capillary fringe)	Yes 🖌	No	Depth (inches): surface	Wetland Hydrology Present?	Yes 🖌	No
Describe Recorded Data (stre	eam gauge, n	nonitoring v	vell, aerial photos, previous inspe	ctions), if available:		
Remarks:						

Project/Site: CPU Transmission Line	City/County: Clark	k County	Sampling Date: 20 June 2017		
Applicant/Owner: Clark Public Utility		State: WA	Sampling Point: <u>6</u>		
Investigator(s): Dustin Day and Allison Kinney	Section, Township, Range: S22 T4N R1E				
Landform (hillslope, terrace, etc.): Depression		Local relief (concave, convex, none): <u>convex</u> Slope			
Subregion (LRR): LLRA Lat:	45°49'22.71"N	Long: <u>122°40'57.04</u> "W	Datum: WGS84		
Soil Map Unit Name: Odne silt loam, 0-5 percent slopes		NWI classific	cation: PEM1C		
Are climatic / hydrologic conditions on the site typical for this time o	f year?Yes 🖌	No (If no, explain in R	emarks.)		
Are Vegetation, Soil, or Hydrology significat	ntly disturbed?	Are "Normal Circumstances" p	present? Yes 🖌 No		
Are Vegetation, Soil, or Hydrology naturally	problematic?	(If needed, explain any answe	rs in Remarks.)		
SUMMARY OF FINDINGS – Attach site man showi	ing sampling poi	int locations transects	important features etc		

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

Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present?	Yes	Is the Sampled Area within a Wetland?	Yes 🖌 No
Remarks:			

	Absolute		Indicator	Dominance Test worksheet:
Tree Stratum (Plot size:)	% Cover	Species?		Number of Dominant Species
1. Fraxinus latifolia	10	yes	FACW	That Are OBL, FACW, or FAC: <u>3</u> (A)
2				
				Total Number of Dominant Species Across All Strata: ³ (B)
3				Species Across All Strata: <u>3</u> (B)
4	10			Percent of Dominant Species
	10	= Total Co	over	That Are OBL, FACW, or FAC: 100 (A/B)
Sapling/Shrub Stratum (Plot size:)				Prevalence Index worksheet:
1				Total % Cover of: Multiply by:
2				
3				OBL species x 1 =
4				FACW species x 2 =
				FAC species x 3 =
5				FACU species x 4 =
Herb Stratum (Plot size:)		= Total Co	over	UPL species x 5 =
1. Phalaris arundinacea	60	ves	FACW	Column Totals: (A) (B)
		,		
2. Schedonorus arundinaceus	40	yes	FAC	Prevalence Index = B/A =
3				Hydrophytic Vegetation Indicators:
4				1 - Rapid Test for Hydrophytic Vegetation
5				✓ 2 - Dominance Test is >50%
6				3 - Prevalence Index is $\leq 3.0^{1}$
78				4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
9				5 - Wetland Non-Vascular Plants ¹
				Problematic Hydrophytic Vegetation ¹ (Explain)
10				¹ Indicators of hydric soil and wetland hydrology must
11	400			be present, unless disturbed or problematic.
	100	= Total Co	ver	
Woody Vine Stratum (Plot size:)				
1				Hydrophytic
2				Vegetation Present? Yes No No
		= Total Co	ver	Present? Yes <u>V</u> No
% Bare Ground in Herb Stratum				
Remarks:				

Depth	Matrix			ment the indicator				
Depth (inches)	Color (moist)	%	Color (moist)	ox Features %Type ¹	Loc ²	Texture	Remarks	
)-16	10YR 4/1	85	7.5YR 3/4	15			Komano	
					· ·			
					· ·			
	Concentration D-De	nletion RM	-Reduced Matrix C	 S=Covered or Coate			n: PL=Pore Lining, M=	-Matrix
	Indicators: (Appli	, ,	,				or Problematic Hydrid	
Histoso			Sandy Redox				ıck (A10)	
	pipedon (A2)		Stripped Matrix (S6)				ent Material (TF2)	
	listic (A3)			Mineral (F1) (excep	t MLRA 1)			
	en Sulfide (A4)		Loamy Gleyed			Other (Explain in Remarks)		
	d Below Dark Surfa	ce (A11)	✓ Depleted Matri					
	ark Surface (A12)		Redox Dark S	. ,		³ Indicators o	f hydrophytic vegetatio	n and
	Mucky Mineral (S1)		Depleted Dark	()		wetland hydrology must be present,		
	Gleyed Matrix (S4)		Redox Depres			unless disturbed or problematic.		
	Layer (if present):			~ /			1	
Туре:								
Depth (ir	nches):					Hydric Soil Pre	sent? Yes 🖌	No
emarks:								
DROLO								
-	drology Indicators							
	cators (minimum of	one require					y Indicators (2 or more	
	Water (A1)			ained Leaves (B9) (e	except		r-Stained Leaves (B9)	(MLRA 1,
'_ High W	ater Table (A2)		MLRA	1, 2, 4A, and 4B)			, and 4B)	
/ Saturat	ion (A3)		Salt Crus	t (B11)		Drain	age Patterns (B10)	
Water M	/larks (B1)		Aquatic Ir	overtebrates (B13)		Dry-S	eason Water Table (C	2)
Sedime	nt Deposits (B2)		Hydroger	Sulfide Odor (C1)		Satur	ation Visible on Aerial	Imagery (C
	posits (B3)				Living Root	s (C3) Geom	norphic Position (D2)	(
	at or Crust (B4)			of Reduced Iron (C	-	· · · <u> </u>	ow Aquitard (D3)	
-	arcite(B5)			on Poduction in Tillo	,		Noutral Tast (D5)	

✓ Surface Water (A1)		Water-Stained Leaves (B9) (MLRA 1, 2,		
✓ High Water Table (A2)	MLRA 1, 2, 4A, and 4B)	4A, and 4B)		
✓ Saturation (A3)	Salt Crust (B11)	Drainage Patterns (B10)		
Water Marks (B1)	Aquatic Invertebrates (B13)	Dry-Season Water Table (C2)		
Sediment Deposits (B2)	Hydrogen Sulfide Odor (C1)	Saturation Visible on Aerial Imagery (C9)		
Drift Deposits (B3)	Oxidized Rhizospheres along Living R	s (C3) Geomorphic Position (D2)		
Algal Mat or Crust (B4)	Presence of Reduced Iron (C4)	Shallow Aquitard (D3)		
Iron Deposits (B5)	Recent Iron Reduction in Tilled Soils (C6) FAC-Neutral Test (D5)		
Surface Soil Cracks (B6)	Stunted or Stressed Plants (D1) (LRR	A) Raised Ant Mounds (D6) (LRR A)		
Inundation Visible on Aerial Imagery (B7)	Other (Explain in Remarks)	Frost-Heave Hummocks (D7)		
Sparsely Vegetated Concave Surface (B8)			
Field Observations:				
Surface Water Present? Yes 🖌 N	Depth (inches): <u>+8</u> "			
Water Table Present? Yes 🖌 N	Depth (inches):	1		
Saturation Present? Yes <u>✓</u> No (includes capillary fringe)	Depth (inches): Surface	etland Hydrology Present? Yes 🖌 No		
Describe Recorded Data (stream gauge, mon	toring well, aerial photos, previous inspections	s), if available:		
Remarks:				

Project/Site: CPU Transmission Line	_ City/County: Clark Cou	unty	Sampling Date: 20 June 2017
Applicant/Owner: Clark Public Utility		State: WA	Sampling Point: 7
Investigator(s): Dustin Day and Allison Kinney	Section, Township, Ra	ange: S22 T4N R1E	
Landform (hillslope, terrace, etc.): flat			Slope (%): <u>3-8</u>
Subregion (LRR): LLRA Lat:	45°49'22.71"N	_ Long: <u>122°40'57.04"</u> W	Datum: WGS84
Soil Map Unit Name: Hillsboro silt loam, 3-8 percent slopes		NWI classific	cation: PEM1C
Are climatic / hydrologic conditions on the site typical for this time of	year? Yes 🖌 No	(If no, explain in R	emarks.)
Are Vegetation, Soil, or Hydrology significan	tly disturbed? Are	"Normal Circumstances" p	present? Yes 🖌 No
Are Vegetation, Soil, or Hydrology naturally	problematic? (If no	eeded, explain any answe	rs in Remarks.)
SUMMARY OF FINDINGS – Attach site man showi	na samplina point l	locations transects	important features etc

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

Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present?	Yes Yes Yes	No <u>✓</u> No <u>✓</u> No <u>✓</u>	Is the Sampled Area within a Wetland?	Yes	No
Remarks:					

	Absolute	Dominant	Indicator	Dominance Test worksheet:	
Tree Stratum (Plot size:)	% Cover	Species?	Status	Number of Dominant Species	
1				That Are OBL, FACW, or FAC: 2	(A)
2				Total Number of Deminent	
3				Total Number of Dominant Species Across All Strata: 4	(B)
4					(=)
- T		= Total Co		Percent of Dominant Species	
Sapling/Shrub Stratum (Plot size:)			vei		(A/B)
1. Symphoricarpos albus	25	yes	FACU	Prevalence Index worksheet:	
2. Rosa nutkana	10	yes	FAC	Total % Cover of:Multiply by:	_
3. Rosa gymnocarpa	10	yes	FACU	OBL species x 1 =	!
4. Amelanchier alnifolia	5	no	FACU	FACW species x 2 =	_
				FAC species x 3 =	_
5			<u> </u>	FACU species x 4 =	
Herb Stratum (Plot size:)	50	= Total Co	ver	UPL species x 5 =	
4 farm field				Column Totals: (A)	
					_ (D)
2				Prevalence Index = B/A =	[
3				Hydrophytic Vegetation Indicators:	
4				1 - Rapid Test for Hydrophytic Vegetation	
5				2 - Dominance Test is >50%	
6				3 - Prevalence Index is ≤3.0 ¹	
7				4 - Morphological Adaptations ¹ (Provide supp	oorting
8				data in Remarks or on a separate sheet)	Johning
9				5 - Wetland Non-Vascular Plants ¹	
				Problematic Hydrophytic Vegetation ¹ (Explain	n)
10				¹ Indicators of hydric soil and wetland hydrology m	
11			<u> </u>	be present, unless disturbed or problematic.	1001
Woody Vine Stratum (Plot size:)		= Total Co	/er		
1. Rubus armeniacus	15	yes	FAC		
)		Hydrophytic Vegetation	
2	4 -			Present? Yes No	
% Bare Ground in Herb Stratum 20	15	= Total Co	/er		
Remarks:					
Tomano.					ļ

Depth	Matrix		Redo	x Features					
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	e Remarks	
0-16	10YR 3/3						silt loan	<u> </u>	
						·			
<u>.</u>									
						·			
vpe: C=C	oncentration, D=Deple	tion. RM=F	Reduced Matrix. CS	S=Covered	or Coate	d Sand Gra	uns.	² Location: PL=Pore Lining, M=Matrix.	
	Indicators: (Applicat						Indi	cators for Problematic Hydric Soils ³ :	
_ Histosol	. ,	-	Sandy Redox (2 cm Muck (A10)	
			Stripped Matrix					Red Parent Material (TF2)	
_ Black His		-	Loamy Mucky N		(except	MLRA 1)		Very Shallow Dark Surface (TF12)	
	n Sulfide (A4)	(~ 4 4)	Loamy Gleyed					Other (Explain in Remarks)	
	d Below Dark Surface ark Surface (A12)	(ATT) _	Depleted Matrix Redox Dark Su				³ Indi	cators of hydrophytic vegetation and	
	lucky Mineral (S1)	-	Depleted Dark	· · ·	.)		wetland hydrology must be present,		
	Gleyed Matrix (S4)	-	Redox Depress)		unless disturbed or problematic.		
	_ayer (if present):								
estrictive L								/	
estrictive L Type:	_ayer (if present):						Hydric	Soil Present? Yes No 🖌	
estrictive L Type: Depth (inc	_ayer (if present):						Hydric	Soil Present? Yes No	
estrictive L	_ayer (if present):						Hydric	Soil Present? Yes No	
estrictive L Type: Depth (inc	_ayer (if present):						Hydric :	Soil Present? Yes No	
estrictive L Type: Depth (inc emarks:	Layer (if present):						Hydric :	Soil Present? Yes No	
estrictive L Type: Depth (inc emarks: /DROLO	_ayer (if present): ches):						Hydric :	Soil Present? Yes No 🗸	
estrictive L Type: Depth (inc emarks: /DROLOO	Layer (if present):			γ)				Soil Present? Yes No	
Type: Depth (inc emarks: DROLOO etland Hyc imary Indic	GY GY Grology Indicators: cators (minimum of one		check all that appl		5 (B9) (e)	ccept	<u>S</u>	econdary Indicators (2 or more required)	
estrictive L Type: Depth (inc emarks: TDROLOG fetland Hyc rimary Indic _ Surface	GY GY Gate (Minimum of one Water (A1)		 check all that appl Water-Sta	ined Leaves		ccept	<u>S</u>	econdary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2	
Estrictive L Type: Depth (inc emarks:	GY GY drology Indicators: cators (minimum of one Water (A1) tter Table (A2)		 <u>check all that appl</u> Water-Sta MLRA	ined Leaves 1, 2, 4A, an		cept	<u>S</u>	econdary Indicators (2 or more required) _ Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B)	
estrictive L Type: Depth (inc emarks: /DROLOO /etland Hyc /imary Indic _ Surface ^ _ High Wa _ Saturatic	GY GY Water (A1) ther Table (A2) on (A3)		<u>check all that appl</u> Water-Sta Salt Crust	ined Leaves 1, 2, 4A, an (B11)	nd 4B)	ccept	<u>S</u>	econdary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Drainage Patterns (B10)	
estrictive L Type: Depth (inc emarks: // / / / / / / / / / / / / / / / / /	GY GY drology Indicators: cators (minimum of one Water (A1) tter Table (A2) on (A3) larks (B1)		<u>check all that appl</u> Water-Sta Salt Crust Aquatic In	ined Leaves 1, 2, 4A, an (B11) vertebrates	i d 4B) (B13)	ccept	<u>S</u>	econdary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2)	
estrictive L Type: Depth (inc emarks: //DROLOO /etland Hyc rimary Indic Surface V High Wa Saturatic Water M Sedimen	GY GY drology Indicators: cators (minimum of one Water (A1) ther Table (A2) on (A3) larks (B1) ht Deposits (B2)		check all that appl Water-Sta MLRA Salt Crust Aquatic In Hydrogen	ined Leaves 1, 2, 4A, an (B11) vertebrates Sulfide Odd	(B13) or (C1)	-	<u>S</u>	econdary Indicators (2 or more required) _ Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) _ Drainage Patterns (B10) _ Dry-Season Water Table (C2) _ Saturation Visible on Aerial Imagery (C	
estrictive L Type: Depth (inc emarks: //DROLOO /etland Hyc rimary Indic Surface V High Wa Saturatic Water M Sedimen Drift Dep	GY drology Indicators: cators (minimum of one Water (A1) tter Table (A2) on (A3) larks (B1) nt Deposits (B2) posits (B3)		<u>check all that appl</u> <u> </u>	ined Leaves 1, 2, 4A, an (B11) vertebrates Sulfide Odo Rhizosphere	d 4B) (B13) or (C1) es along l	_iving Root	<u>S</u>	econdary Indicators (2 or more required) _ Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) _ Drainage Patterns (B10) _ Dry-Season Water Table (C2) _ Saturation Visible on Aerial Imagery (C _ Geomorphic Position (D2)	
estrictive L Type: Depth (inc emarks: //DROLOO /etland Hyc //etland Hyc //etla	GY GY drology Indicators: cators (minimum of one Water (A1) ther Table (A2) on (A3) larks (B1) ht Deposits (B2)		<u>check all that appl</u> Water-Sta MLRA Salt Crust Aquatic In Hydrogen Oxidized F Presence	ined Leaves 1, 2, 4A, an (B11) vertebrates Sulfide Odd	(B13) or (C1) es along I Iron (C4	_iving Root	<u>S</u> s (C3)	econdary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C	

Project/Site: CPU Transmission Line	_ City/County: Clark Co	punty	Sampling Date: 20 June 2017
Applicant/Owner: Clark Public Utility		State: WA	Sampling Point: 8
Investigator(s): Dustin Day and Allison Kinney	Section, Township, R	ange: S22 T4N R1E	
Landform (hillslope, terrace, etc.): Depression	Local relief (concave	, convex, none): <u>conves</u>	Slope (%): <u>3-8</u>
Subregion (LRR): LLRA Lat:	45°49'22.71"N	Long: <u>122°40'57.04"</u> W	Datum: WGS84
Soil Map Unit Name: Hillsboro silt loam, 3-8 percent slopes		NWI classific	ation: none
Are climatic / hydrologic conditions on the site typical for this time of	year? Yes 🖌 No	(If no, explain in R	emarks.)
Are Vegetation, Soil, or Hydrology significan	tly disturbed? Are	"Normal Circumstances" p	oresent? Yes 🖌 No
Are Vegetation, Soil, or Hydrology naturally	problematic? (If r	needed, explain any answe	rs in Remarks.)
SUMMARY OF FINDINGS – Attach site map showing	ng sampling point	locations, transects	, important features, etc.

Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present?	Yes ✓ No Yes ✓ No Yes ✓ No	Is the Sampled Area within a Wetland?	Yes No
Remarks:			

			Dominance Test worksheet:
<u>% Cover</u>	Species?	Status	Number of Dominant Species
			That Are OBL, FACW, or FAC: 2 (A)
		. <u> </u>	Total Number of Dominant
			Species Across All Strata: <u>2</u> (B)
			Percent of Dominant Species
20	yes	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 =
	= Total Co	over	
			UPL species x 5 =
80	yes	FACW	Column Totals: (A) (B)
			Prevalence Index = B/A =
			Hydrophytic Vegetation Indicators:
			1 - Rapid Test for Hydrophytic Vegetation
			\checkmark 2 - Dominance Test is >50%
			3 - Prevalence Index is ≤3.0 ¹
			4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
			5 - Wetland Non-Vascular Plants ¹
			Problematic Hydrophytic Vegetation ¹ (Explain)
			¹ Indicators of hydric soil and wetland hydrology must
			be present, unless disturbed or problematic.
	= Total Co	ver	
			Hydrophytic
			Vocatation
			Vocatation
		% Cover Species?	<u>% Cover</u> <u>Species?</u> <u>Status</u>

	cription: (Describe	مماد مطغ مغ								
		to the dep	th needed to docu	ment the	indicator	or confirm	the abs	ence of	indicators.)	
Depth	Matrix									
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Textu	Texture Remarks		S
0-16	10YR 4/1	85	10YR 4/6	15	С	Μ				
						<u> </u>				
						·				
						·				
	oncentration, D=Dep					ed Sand Gra			ion: PL=Pore Lining	
-	Indicators: (Applic	able to all			ted.)				for Problematic Hy	dric Soils':
Histosol	()		Sandy Redox (-	Muck (A10)	
	pipedon (A2)		Stripped Matrix		A) (arent Material (TF2)	(7540)
Black Hi	en Sulfide (A4)		Loamy Mucky Loamy Gleyed			(MLRA 1)			Shallow Dark Surface (Explain in Remarks)	
	d Below Dark Surfac	ο (Δ11)	✓ Depleted Matri		∠)			Other		
	ark Surface (A12)		Redox Dark Su)		³ In	dicators	of hydrophytic veget	ation and
	/ucky Mineral (S1)		Depleted Dark		,				I hydrology must be p	
	Gleyed Matrix (S4)		Redox Depres						disturbed or problema	
				;					•	
	Layer (if present):									
Restrictive	Layer (if present):									
Restrictive	Layer (if present):						Hvdrid	: Soil P	resent?Yes 🗸	, No
Restrictive	Layer (if present):						Hydric	: Soil P	resent? Yes 🗸	, No
Restrictive	Layer (if present):						Hydric	: Soil P	resent? Yes 🗸	, No
Restrictive Type: Depth (in	Layer (if present):						Hydric	: Soil P	resent? Yes 🗸	, No
Restrictive Type: Depth (in	Layer (if present):						Hydrid	: Soil P	resent? Yes 🗸	, No
Restrictive Type: Depth (in	Layer (if present):						Hydrid	: Soil P	resent? Yes 🗸	, No
Restrictive Type: Depth (in Remarks:	Layer (if present):						Hydric	: Soil P	resent? Yes 🗸	, No
Restrictive Type: Depth (in Remarks: YDROLO	Layer (if present): ches): GY						Hydric	: Soil P	resent? Yes 🗸	, No
Restrictive Type: Depth (in Remarks: YDROLO Wetland Hy	Layer (if present): ches): GY drology Indicators:									
Restrictive Type: Depth (in Remarks: YDROLO Wetland Hy Primary India	Layer (if present): ches): GY drology Indicators: cators (minimum of c		d; check all that app		(BQ) (g	vcent		Seconda	ary Indicators (2 or m	ore required)
Restrictive I Type: Depth (in Remarks: YDROLO Wetland Hy Primary India Surface	Layer (if present): ches): GY drology Indicators: cators (minimum of c Water (A1)		d; check all that app Water-Sta	ained Leav	/es (B9) (€	xcept		Seconda	ary Indicators (2 or m ter-Stained Leaves (E	ore required)
Restrictive Type: Depth (in Remarks: YDROLO Wetland Hy Primary India Surface ✓ High Wa	Layer (if present): ches): GY drology Indicators: cators (minimum of c Water (A1) ater Table (A2)		d; check all that app Water-Sta MLRA	ained Leav 1, 2, 4A,	and 4B)	xcept		Seconda Wat	ary Indicators (2 or m ter-Stained Leaves (E 1A, and 4B)	<u>ore required)</u> 39) (MLRA 1, 2,
Restrictive Type: Depth (in Remarks: YDROLO Wetland Hy Primary India Surface ✓ High Wa ✓ Saturatio	Layer (if present): ches):		d <u>; check all that app</u> Water-Sta MLRA Salt Crust	ained Leav 1, 2, 4A, t (B11)	and 4B)	xcept		Seconda Wat	ary Indicators (2 or m ter-Stained Leaves (E 1A, and 4B) inage Patterns (B10)	ore required) 39) (MLRA 1, 2,
Restrictive Type: Depth (in Remarks: YDROLO Wetland Hy Primary India Surface ✓ High Wa ✓ Saturatia Water M	Layer (if present): ches): GY drology Indicators: cators (minimum of c Water (A1) ater Table (A2) on (A3) larks (B1)		d; check all that app Water-Sta MLRA Salt Crust Aquatic Ir	ained Leav 1, 2, 4A, t (B11) nvertebrate	and 4B) es (B13)	xcept		Seconda Wa Dra Dry	ary Indicators (2 or m ter-Stained Leaves (E 1A, and 4B) inage Patterns (B10) -Season Water Table	ore required) 39) (MLRA 1, 2, 9 (C2)
Restrictive Type: Depth (in Remarks: Primary India ✓ Saturatia ✓ High Wa ✓ Saturatia ✓ Water W Sedimen	Layer (if present): ches):		d; check all that app Water-Sta MLRA Salt Crust Aquatic Ir Hydrogen	ained Leav 1, 2, 4A, t (B11) nvertebrate Sulfide C	and 4B) es (B13) odor (C1)	-	·	Seconda Wat Dra Dra Satu	ary Indicators (2 or m ter-Stained Leaves (E 1A, and 4B) inage Patterns (B10) -Season Water Table uration Visible on Aer	ore required) 39) (MLRA 1, 2, • (C2) rial Imagery (C9
Restrictive I Type: Depth (in Remarks: YDROLO Wetland Hy Primary India ✓ Surface ✓ High Wa ✓ Saturatia ✓ Saturatia Water M Sedimen Drift Dep	Layer (if present): ches):		d; check all that app Water-Sta Salt Crust Salt Crust Aquatic Ir Hydrogen Oxidized	ained Leav 1, 2, 4A, t (B11) ivertebrate Sulfide C Rhizosphe	and 4B) es (B13) odor (C1) eres along	Living Root	·	Seconda Wat Dra Dry Satu ✔ Geo	ary Indicators (2 or m ter-Stained Leaves (E 4A, and 4B) inage Patterns (B10) -Season Water Table uration Visible on Aer omorphic Position (D2	ore required) 39) (MLRA 1, 2, • (C2) rial Imagery (C9
Restrictive Type: Depth (in/ Remarks: IYDROLO Wetland Hy/ Primary India ✓ High Wa ✓ Saturatio ✓ High Wa ✓ Saturatio Water M Sedimer Drift Dep Algal Ma	Layer (if present): ches):		d: check all that app Water-Sta Salt Crust Salt Crust Aquatic Ir Hydrogen Oxidized Presence	ained Leav 1, 2, 4A, (B11) avertebrate Sulfide C Rhizosphe of Reduc	and 4B) es (B13) odor (C1) eres along ed Iron (C4	Living Root	is (C3)	Seconda Wat Dra Dry Satu ✓ Geo Sha	ary Indicators (2 or m ter-Stained Leaves (E 1A, and 4B) inage Patterns (B10) -Season Water Table uration Visible on Aer omorphic Position (D2 illow Aquitard (D3)	ore required) 39) (MLRA 1, 2, • (C2) rial Imagery (C9
Restrictive I Type: Depth (in/ Remarks: IYDROLO Wetland Hy Primary India ✓ Surface ✓ High Wa ✓ Saturatio ✓ Saturatio ✓ Saturatio ✓ Jorift Dep Algal Ma Iron Dep	Layer (if present): ches):		d: check all that app Water-Sta Salt Crust Salt Crust Aquatic Ir Hydrogen Oxidized Presence Recent Iro	ained Leav 1, 2, 4A, t (B11) ivertebrate Sulfide C Rhizosphe of Reduct on Reduct	and 4B) es (B13) odor (C1) eres along ed Iron (C- ion in Tille	Living Root		Seconda Wat Dra Dry Satu ✓ Geo Sha FAC	ary Indicators (2 or m ter-Stained Leaves (E 4A, and 4B) inage Patterns (B10) -Season Water Table uration Visible on Aer omorphic Position (D2	ore required) 39) (MLRA 1, 2, 9 (C2) rial Imagery (C9 2)

Sparsely Vegetated Con	cave Surface	(B8)					
Field Observations:							
Surface Water Present?	Yes	No	Depth (inches):				
Water Table Present?	Yes 🗸	No	Depth (inches):			/	
Saturation Present? (includes capillary fringe)	Yes 🖌	No	_ Depth (inches): <u>{</u>	surface	Wetland Hydrology Present?	Yes 🖌	No
Describe Recorded Data (stre	eam gauge, n	nonitoring v	well, aerial photos,	previous inspec	tions), if available:		
Remarks:							

Project/Site: CPU Transmission Line	rk County	Sampling D	ate: 20 June 2017	
Applicant/Owner: <u>Clark Public Utility</u>		State: WA		
Investigator(s): Dustin Day and Allison Kinney	Section, Townsh	ip, Range: <u>S22 T4N R1</u>	IE	
Landform (hillslope, terrace, etc.): hill slope		cave, convex, none): <u>n</u>		_ Slope (%): <u>0-5</u>
Subregion (LRR): LLRA Lat:	45°49'22.71"N	Long: <u>122°40'5</u>	57.04"W	Datum: WGS84
Soil Map Unit Name: Odne silt loam, 0-5 percent slopes		NWI	classification: none	
Are climatic / hydrologic conditions on the site typical for this time o	f year? Yes	No (If no, exp	lain in Remarks.)	
Are Vegetation, Soil, or Hydrology significa	ntly disturbed?	Are "Normal Circumst	ances" present? Ye	s 🖌 No
Are Vegetation, Soil, or Hydrology naturally	problematic?	(If needed, explain an	y answers in Remark	s.)
SUMMARY OF FINDINGS - Attach site man show	ing sampling pr	int locations trai	nsects importa	nt features etc

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

Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present?	Yes Yes Yes	No <u>✓</u> No <u>✓</u> No <u>✓</u>	Is the Sampled Area within a Wetland?	Yes	No
Remarks:					

	Absolute		Indicator	Dominance Test worksheet:
Tree Stratum (Plot size:)	% Cover	Species?	Status	Number of Dominant Species
1				That Are OBL, FACW, or FAC: 2 (A)
2				Total Number of Dominant
3				Species Across All Strata: <u>2</u> (B)
4				
		= Total Co		Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)
Sapling/Shrub Stratum (Plot size:)				Prevalence Index worksheet:
1				
2				Total % Cover of: Multiply by:
3				OBL species x 1 =
4				FACW species x 2 =
			·	FAC species x 3 =
5			·	FACU species x 4 =
Herb Stratum (Plot size:)		= Total Co	over	UPL species x 5 =
1. Phalaris arundinacea	94	yes	FACW	Column Totals: (A) (B)
2. Rumex crispus	1	no	FAC	Dravalance Index D/A
3. Epilobium ciliatum	1	no	FACW	Prevalence Index = B/A = Hydrophytic Vegetation Indicators:
4. Cirsium arvense	1	no	FAC	
5. Hypericum perforatum	1	no	FACU	 1 - Rapid Test for Hydrophytic Vegetation ✓ 2 - Dominance Test is >50%
- Galium asprollum	1	no	NL	
				3 - Prevalence Index is $\leq 3.0^1$
7 8				4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
				5 - Wetland Non-Vascular Plants ¹
9				Problematic Hydrophytic Vegetation ¹ (Explain)
10				¹ Indicators of hydric soil and wetland hydrology must
11				be present, unless disturbed or problematic.
Woody Vine Stratum (Plot size:)		= Total Co	ver	
- Bubuo ormonicouo	1	VAS	FAC	
		yco	1710	Hydrophytic Vegetation
2			·	Present? Yes <u>No</u>
% Bare Ground in Herb Stratum	1	= Total Co	ver	
Remarks:				
Nemano.				

rofile Description: (Describe to the dep		Ded	av Faaturaa				
Depth (inches)	Matrix Color (moist)	%	Color (moist)	ox Features % Type ¹	Loc ²	Texture Remarks	
0-16	10YR 3/2	100					
	- <u>-</u>					·	
			Poducod Matrix C	S=Covered or Coate	d Sand Cr	rains. ² Location: PL=Pore Lining, M=Matrix	
	Indicators: (Appl				u Sanu Gr	Indicators for Problematic Hydric Soils	
Histoso			Sandy Redox			2 cm Muck (A10)	
	Epipedon (A2)		Stripped Matrix			Red Parent Material (TF2)	
	listic (A3)			Mineral (F1) (except	MLRA 1)		
_	en Sulfide (A4)		Loamy Gleyed		,	Other (Explain in Remarks)	
	ed Below Dark Surfa	ice (A11)	Depleted Matri	. ,			
·	ark Surface (A12)	()	Redox Dark Su			³ Indicators of hydrophytic vegetation and	
	Mucky Mineral (S1)		Depleted Dark	()		wetland hydrology must be present,	
Sandy	Gleyed Matrix (S4)		Redox Depres	sions (F8)		unless disturbed or problematic.	
estrictive	Layer (if present):						
Type:							/
Depth (ir	nches):					Hydric Soil Present? Yes No	\checkmark
emarks:							
YDROLO	DGY						
Vetland Hy	drology Indicators	8:					
rimary Ind	icators (minimum of	one required	l; check all that app	ly)		Secondary Indicators (2 or more requir	ed)
Surface	e Water (A1)		Water-Sta	ained Leaves (B9) (e	xcept	Water-Stained Leaves (B9) (MLRA	<u>م</u> 1, 2
	ater Table (A2)			1, 2, 4A, and 4B)	•	4A, and 4B)	,
-	ion (A3)		Salt Crus			Drainage Patterns (B10)	
	Marks (B1)			vertebrates (B13)		Dry-Season Water Table (C2)	
	ent Deposits (B2)			Sulfide Odor (C1)		Saturation Visible on Aerial Imager	rv (C
							, (0

- ____ Oxidized Rhizospheres along Living Roots (C3) ____ Geomorphic Position (D2)
 - ____ Shallow Aquitard (D3)
 - ____ FAC-Neutral Test (D5)
 - ____ Raised Ant Mounds (D6) (LRR A)
 - Frost Hoove Hummocks (D7)

	/	-		
Inundation Visible on A	erial Imagery	(B7)	Other (Explain in Remarks)	Frost-Heave Hummocks (D7)
Sparsely Vegetated Cor	ncave Surfac	e (B8)		
Field Observations:				
Surface Water Present?	Yes	No	Depth (inches):	_
Water Table Present?	Yes	No	Depth (inches):	_
Saturation Present? (includes capillary fringe)	Yes	No	Depth (inches):	Wetland Hydrology Present? Yes No
Describe Recorded Data (st	ream gauge,	monitorin	ng well, aerial photos, previous insp	ections), if available:
Remarks:				

Recent Iron Reduction in Tilled Soils (C6)

____ Stunted or Stressed Plants (D1) (LRR A)

Presence of Reduced Iron (C4)

____ Algal Mat or Crust (B4)

____ Surface Soil Cracks (B6)

____ Iron Deposits (B5)

Project/Site: CPU Transmission Line	City/County: Clark	County	Sampling Date: 20 June 2017
Applicant/Owner: Clark Public Utility			Sampling Point: 10
Investigator(s): Dustin Day and Allison Kinney	Section, Township	o, Range: <u>S22 T4N R1E</u>	
Landform (hillslope, terrace, etc.): none		ave, convex, none): <u>none</u>	Slope (%): <u>0-8</u>
Subregion (LRR): LLRA Lat: _	45°49'22.71"N	Long: <u>122°40'57.04</u> "W	Datum: WGS84
Soil Map Unit Name: Gee silt loam, 0 to 8 percent slopes		NWI classific	ation: none
Are climatic / hydrologic conditions on the site typical for this time of	year?Yes 🖌 I	No (If no, explain in R	emarks.)
Are Vegetation, Soil, or Hydrology significar	ntly disturbed?	Are "Normal Circumstances" p	resent? Yes 🖌 No
Are Vegetation, Soil, or Hydrology naturally	problematic?	(If needed, explain any answei	rs in Remarks.)
SUMMARY OF FINDINGS – Attach site map showi	ng sampling poi	int locations, transects	, important features, etc.

Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present?	Yes Yes Yes	No <u>✓</u> No <u>✓</u> No <u>✓</u>	Is the Sampled Area within a Wetland?	Yes	No
Remarks:					

	Absolute		Indicator	Dominance Test workshe	et:	
Tree Stratum (Plot size:)	% Cover	Species?	Status	Number of Dominant Spec	les	
1				That Are OBL, FACW, or F	AC: 0	(A)
2				Total Number of Dominant		
3				Species Across All Strata:	1	(B)
4						(_)
				Percent of Dominant Speci		(. (
Sapling/Shrub Stratum (Plot size:)		_ = Total Co	iver	That Are OBL, FACW, or F		(A/B)
Boog gympogorpo	90	ves	FACU	Prevalence Index worksh	eet:	
				Total % Cover of:	Multiply by:	_
2				OBL species	x 1 =	
3				FACW species		
4				FAC species		
5						
	00	= Total Co	ver	FACU species		
Herb Stratum (Plot size:)		-		UPL species		
1. Geranium dissectum	5	no	NL	Column Totals:	(A)	_ (B)
2. Rubus ursinus	1	no	FACU	Prevalence Index = I	B/A =	
3				Hydrophytic Vegetation I		_
4				1 - Rapid Test for Hydr	rophytic Vegetation	
5				2 - Dominance Test is		
6				3 - Prevalence Index is		
7				4 - Morphological Ada		porting
8					on a separate sheet)	porting
9				5 - Wetland Non-Vasc	ular Plants ¹	
10				Problematic Hydrophy	tic Vegetation ¹ (Explai	n)
11				¹ Indicators of hydric soil an	d wetland hydrology r	nust
····		= Total Co		be present, unless disturbe	d or problematic.	
Woody Vine Stratum (Plot size:)		_= 10tai 00	VEI			
1				Hydrophytic		
2				Vegetation	1	
				Present? Yes	No	
% Bare Ground in Herb Stratum		= Total Co				
Remarks:				1		

Depth	Matrix		Redox				
(inches)	Color (moist)	%	Color (moist)	<u>%</u> Type ¹	Loc ²	Texture	Remarks
0-16 10YR 3/2 100							
					· ·		
				·			
					· ·		
					· ·		
			Reduced Matrix, CS		ed Sand Gra		ocation: PL=Pore Lining, M=Matrix.
			RRs, unless other				tors for Problematic Hydric Soils ³ :
Histosol	. ,	-	Sandy Redox (S Stripped Metrix (,			cm Muck (A10)
	pipedon (A2) stic (A3)	-	Stripped Matrix (ineral (F1) (exce p			ed Parent Material (TF2) ery Shallow Dark Surface (TF12)
	en Sulfide (A4)	-	Loamy Gleyed N				her (Explain in Remarks)
	d Below Dark Surfac	e (A11)	Depleted Matrix			0	
	ark Surface (A12)		Redox Dark Surf			³ Indica	tors of hydrophytic vegetation and
	lucky Mineral (S1)	-	Depleted Dark S	()			land hydrology must be present,
	Bleyed Matrix (S4)	-	Redox Depression	ons (F8)		unle	ess disturbed or problematic.
estrictive	Layer (if present):						
controlive							1
Type:	ches):					Hydric So	il Present? Yes No 💙
Type:						Hydric So	il Present? Yes No _♥
Type: Depth (in						Hydric So	il Present? Yes No _♥
Type: Depth (in						Hydric So	il Present? Yes No _♥
Type: Depth (in						Hydric So	il Present? Yes No _♥
Type: Depth (in emarks:	ches):					Hydric So	il Present? Yes No _♥
Type: Depth (in Remarks:	ches):					Hydric So	il Present? Yes No _♥
Type: Depth (in emarks: (DROLO /etland Hy	ches): GY drology Indicators:)			il Present? Yes No _♥
Type: Depth (in emarks: /DROLO /etland Hy rimary Indi	ches): GY drology Indicators:		; check all that apply) ned Leaves (B9) (i	except	Sec	
Type: Depth (in emarks: //DROLO /etland Hy rimary India Surface	ches): GY drology Indicators: cators (minimum of c		; check all that apply	ned Leaves (B9) (except	Sec	ondary Indicators (2 or more required)
Type: Depth (in emarks: /DROLO /etland Hy rimary India Surface High Wa	GY drology Indicators: cators (minimum of c Water (A1) ater Table (A2)		; check all that apply	ned Leaves (B9) (, 2, 4A, and 4B)	except	Sec	ondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2
Type: Depth (in emarks: //DROLO /etland Hy rimary India Surface High Wa Saturati	GY drology Indicators: cators (minimum of c Water (A1) ater Table (A2)		<u>; check all that apply</u> Water-Stair MLRA 1 Salt Crust (ned Leaves (B9) (, 2, 4A, and 4B)	except	<u>Sec</u>	ondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B)
Type: Depth (in temarks: (DROLO Vetland Hy rimary India Surface High Wa Saturati Water M	GY drology Indicators: cators (minimum of c Water (A1) ater Table (A2) on (A3) larks (B1)		<u>; check all that apply</u> Water-Stair MLRA 1 Salt Crust (Aquatic Invo	ned Leaves (B9) (6 , 2, 4A, and 4B) B11) ertebrates (B13)	except	<u>Sec</u>	ondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2)
Type: Depth (in remarks: //DROLO /etland Hy /rimary India Surface High Wa Saturati Water M Sedime	GY drology Indicators: cators (minimum of c Water (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2)		; check all that apply Water-Stair MLRA 1 Salt Crust (Aquatic Invo Hydrogen S	ned Leaves (B9) (, 2, 4A, and 4B) B11)	-	<u>Sec</u>	ondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C
Type: Depth (in remarks: //DROLO /etland Hy rimary India Surface High Wa Saturati Water M Sedimei Drift De	GY drology Indicators: cators (minimum of c Water (A1) ater Table (A2) on (A3) larks (B1)		; check all that apply Water-Stair MLRA 1 Salt Crust (Aquatic Invo Hydrogen S Oxidized R	ned Leaves (B9) (, 2, 4A, and 4B) B11) ertebrates (B13) Sulfide Odor (C1)	Living Roots	<u>Sec</u>	ondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C Geomorphic Position (D2)
Type: Depth (in temarks: YDROLO Vetland Hy rimary India Surface High Wa Saturati Water M Sedimea Drift De Algal Ma	GY drology Indicators: cators (minimum of c Water (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2) posits (B3) at or Crust (B4)		<u>; check all that apply</u> Water-Stair MLRA 1 Salt Crust (Aquatic Inv Hydrogen S Oxidized RI Presence o	ned Leaves (B9) (, 2, 4A, and 4B) B11) ertebrates (B13) Sulfide Odor (C1) hizospheres along f Reduced Iron (C	Living Roots	<u>Sec</u>	ondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1 , 2 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C Geomorphic Position (D2) Shallow Aquitard (D3)
Type: Depth (in Remarks: YDROLO Yetland Hy Primary India Control of the Saturati Water M Saturati Water M Sedimer Drift De Algal Ma Iron Dep	GY drology Indicators: cators (minimum of c Water (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2) posits (B3)		<u>; check all that apply</u> <u>Water-Stair</u> <u>MLRA 1</u> <u>Salt Crust (</u> <u>Aquatic Invo</u> <u>Hydrogen S</u> <u>Oxidized RI</u> <u>Recent Iron</u>	ned Leaves (B9) (, 2, 4A, and 4B) B11) ertebrates (B13) Sulfide Odor (C1) hizospheres along	Living Roots 4) ed Soils (C6)	<u>Sec</u> 	ondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C Geomorphic Position (D2)

 Frost-Heave Hummocks (D7)

Sparsely Vegetated Col	ncave Surfa	ce (B8)					
Field Observations:							
Surface Water Present?	Yes	No	Depth (inches):				
Water Table Present?	Yes	No	Depth (inches):				
Saturation Present? (includes capillary fringe)	Yes	No	Depth (inches):		Wetland Hydrology Present?	Yes	No 🖌
Describe Recorded Data (st	ream gauge	, monitorin	g well, aerial photos, pre	vious inspec	tions), if available:		
Remarks:							

Project/Site: CPU Transmission Line	City/County: Clark Count	у	Sampling Date: 20 June 2017
Applicant/Owner: Clark Public Utility		State: WA	Sampling Point: 11
Investigator(s): Dustin Day and Allison Kinney	Section, Township, Rang	_{je:} S22 T4N R1E	
Landform (hillslope, terrace, etc.): flat	Local relief (concave, co		Slope (%): <u>0-8</u>
Subregion (LRR): LLRA Lat: _	45°49'22.71"N	Long: <u>122°40'57.04"</u> W	Datum: WGS84
Soil Map Unit Name: Gee silt loam, 0 to 8 percent slopes		NWI classific	cation: none
Are climatic / hydrologic conditions on the site typical for this time of	f year? Yes 🖌 No _	(If no, explain in R	Remarks.)
Are Vegetation, Soil, or Hydrology significar	ntly disturbed? Are "N	ormal Circumstances" p	present? Yes 🖌 No
Are Vegetation, Soil, or Hydrology naturally	problematic? (If need	ded, explain any answe	ers in Remarks.)
SUMMARY OF FINDINGS – Attach site map showi	ng sampling point lo	cations, transects	, important features, etc.

Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present?	Yes Yes Yes	No No _✔ No _✔	Is the Sampled Area within a Wetland?	Yes	No
Remarks:					

	Absolute	Dominant Indicator	Dominance Test worksheet:
Tree Stratum (Plot size:)	% Cover	Species? Status	Number of Dominant Species
1			That Are OBL, FACW, or FAC: 1 (A)
2			Total Number of Deminerat
3			Total Number of Dominant Species Across All Strata: 1 (B)
4			Percent of Dominant Species
Sapling/Shrub Stratum (Plot size:)		= Total Cover	That Are OBL, FACW, or FAC: 100 (A/B)
			Prevalence Index worksheet:
1			Total % Cover of: Multiply by:
2			OBL species x 1 =
3			FACW species x 2 =
4			
5			FAC species x 3 =
		= Total Cover	FACU species x 4 =
Herb Stratum (Plot size:)			UPL species x 5 =
1			Column Totals: (A) (B)
2			Prevalence Index = B/A =
3			Hydrophytic Vegetation Indicators:
4			1 - Rapid Test for Hydrophytic Vegetation
5			✓ 2 - Dominance Test is >50%
56			\checkmark 2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0 ¹
6			3 - Prevalence Index is ≤3.0 ¹
6 7			
6 7 8			 3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations¹ (Provide supporting
6 7 8 9	 		 3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet) 5 - Wetland Non-Vascular Plants¹
6 7 8 9 10			 3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet) 5 - Wetland Non-Vascular Plants¹ Problematic Hydrophytic Vegetation¹ (Explain)
6 7 8 9			 3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet) 5 - Wetland Non-Vascular Plants¹
6			 3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet) 5 - Wetland Non-Vascular Plants¹ Problematic Hydrophytic Vegetation¹ (Explain) ¹Indicators of hydric soil and wetland hydrology must
6			 3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet) 5 - Wetland Non-Vascular Plants¹ Problematic Hydrophytic Vegetation¹ (Explain) ¹Indicators of hydric soil and wetland hydrology must
6			 3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet) 5 - Wetland Non-Vascular Plants¹ Problematic Hydrophytic Vegetation¹ (Explain) ¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Hydrophytic
6			 3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet) 5 - Wetland Non-Vascular Plants¹ Problematic Hydrophytic Vegetation¹ (Explain) ¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
6	100		 3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet) 5 - Wetland Non-Vascular Plants¹ Problematic Hydrophytic Vegetation¹ (Explain) ¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Hydrophytic
6.	100		 3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet) 5 - Wetland Non-Vascular Plants¹ Problematic Hydrophytic Vegetation¹ (Explain) ¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
6	100		 3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet) 5 - Wetland Non-Vascular Plants¹ Problematic Hydrophytic Vegetation¹ (Explain) ¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Depth	Matrix	to the dep	h needed to document the indicator or confirm Redox Features	n the absent	e of indicators.)
(inches)	Color (moist)	%	$\frac{1}{1} \frac{1}{1} \frac{1}$	Texture	Remarks
)-16	10YR 3/3	100			
				21	
			Reduced Matrix, CS=Covered or Coated Sand G LRRs, unless otherwise noted.)		ocation: PL=Pore Lining, M=Matrix. tors for Problematic Hydric Soils ³ :
Histosol			Sandy Redox (S5)		cm Muck (A10)
-	pipedon (A2)		Stripped Matrix (S6)		ed Parent Material (TF2)
Black Hi			Loamy Mucky Mineral (F1) (except MLRA 1)		ery Shallow Dark Surface (TF12)
	en Sulfide (A4)		Loamy Gleyed Matrix (F2)		ther (Explain in Remarks)
	d Below Dark Surfac	ce (A11)	Depleted Matrix (F3)		
_ Thick Da	ark Surface (A12)		Redox Dark Surface (F6)	³ Indica	ators of hydrophytic vegetation and
	/lucky Mineral (S1)		Depleted Dark Surface (F7)		land hydrology must be present,
	Bleyed Matrix (S4)		Redox Depressions (F8)	unle	ess disturbed or problematic.
estrictive I	Layer (if present):				
	Layer (if present):				
Type: Depth (ind				Hydric Sc	oil Present? Yes No 🗸
Type: Depth (ind emarks:	ches):			Hydric Sc	oil Present? Yes No 🗸
Type: Depth (ind emarks: 'DROLO	ches):			Hydric Sc	oil Present? Yes No
Type: Depth (ind emarks: DROLO etland Hyd	ches): GY drology Indicators	:			
Type: Depth (ind emarks: DROLO etland Hyd imary Indic	ches): GY drology Indicators cators (minimum of	:	; check all that apply)	<u>Sec</u>	condary Indicators (2 or more required)
Type: Depth (ind emarks: DROLO etland Hyd imary Indid _ Surface	GY drology Indicators cators (minimum of Water (A1)	:	; check all that apply) Water-Stained Leaves (B9) (except	<u>Sec</u>	condary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1,
Type: Depth (inc emarks: DROLO etland Hyo imary Indic Surface High Wa	Ches): GY drology Indicators cators (minimum of Water (A1) ater Table (A2)	:	<u>; check all that apply)</u> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)	<u>Sec</u>	condary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 4A, and 4B)
Type: Depth (ind emarks: DROLO etland Hyd imary India _ Surface _ High Wa _ Saturatio	Ches): GY drology Indicators cators (minimum of Water (A1) ater Table (A2) on (A3)	:	<u>; check all that apply)</u> <u>Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11)</u>	<u>Sec</u>	condary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1 , 4A, and 4B) Drainage Patterns (B10)
Type: Depth (ind emarks: DROLO etland Hyd imary India _ Surface _ High Wa _ Saturatia _ Water M	GY drology Indicators cators (minimum of Water (A1) ater Table (A2) on (A3) larks (B1)	:	: check all that apply) — Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) — Salt Crust (B11) — Aquatic Invertebrates (B13)	<u>Sec</u>	condary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1 , 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2)
Type: Depth (inc emarks: DROLO etland Hyd imary Indic Surface Surface Saturatio Saturatio Saturatio Sedimer	GY drology Indicators cators (minimum of Water (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2)	:	I: check all that apply) — Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) — Salt Crust (B11) — Aquatic Invertebrates (B13) — Hydrogen Sulfide Odor (C1)	<u>Sec</u>	condary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1 , 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C
Type: Depth (ind emarks: DROLO etland Hyd imary Indic 	GY drology Indicators cators (minimum of Water (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2) posits (B3)	:	 <u>; check all that apply</u>) <u>Water-Stained Leaves (B9) (except</u> MLRA 1, 2, 4A, and 4B) <u>Salt Crust (B11)</u> <u>Aquatic Invertebrates (B13)</u> <u>Hydrogen Sulfide Odor (C1)</u> <u>Oxidized Rhizospheres along Living Rom</u> 	<u>Sec</u>	condary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1 , 4A , and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C Geomorphic Position (D2)
Type: Depth (inc emarks: DROLO Etland Hyd imary India Surface High Wa Saturatio Saturatio Water M Sedimer Drift Dep Algal Ma	GY drology Indicators cators (minimum of Water (A1) ater Table (A2) on (A3) farks (B1) nt Deposits (B2) posits (B3) at or Crust (B4)	:	 <u>check all that apply</u>) Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Roo Presence of Reduced Iron (C4) 	<u>Sec</u> 	condary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1 , 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C Geomorphic Position (D2) Shallow Aquitard (D3)
Type: Depth (inc emarks: 'DROLO 'etland Hyd <u>'asturatio</u> Surface High Wa Saturatio Saturatio Sedimer Drift Dep Algal Ma Iron Dep	GY drology Indicators cators (minimum of a Water (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5)	:	 <u>; check all that apply</u>) <u>Water-Stained Leaves (B9) (except</u> MLRA 1, 2, 4A, and 4B) <u>Salt Crust (B11)</u> <u>Aquatic Invertebrates (B13)</u> <u>Hydrogen Sulfide Odor (C1)</u> <u>Oxidized Rhizospheres along Living Rom</u> 	<u>Sec</u> 	condary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1 , 4A , and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C Geomorphic Position (D2)
Type: Depth (ind emarks: /DROLO /etland Hyd rimary India Surface High Wa Saturatia Saturatia Water M Sedimer Drift Dep Algal Ma Iron Dep Surface	GY drology Indicators cators (minimum of Water (A1) ater Table (A2) on (A3) farks (B1) nt Deposits (B2) posits (B3) at or Crust (B4)	: one requirec		<u>Sec</u> 	condary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1 , 4A , and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5)
Type: Depth (ind emarks: //DROLO /etland Hyd rimary India Surface High Wa Saturatia Saturatia Saturatia Surface Iron Dep Iron Dep Surface Inundatia	GY drology Indicators cators (minimum of Water (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6)	: one required	I: check all that apply)	<u>Sec</u> 	condary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1 , 4A , and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
Type: Depth (ind emarks: //DROLO /etland Hyd rimary Indid Surface High Wa Saturatid Saturatid Vater M Sedimer Drift Dep Algal Ma Iron Dep Surface Inundatid Sparsely	GY drology Indicators cators (minimum of Water (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) on Visible on Aerial y Vegetated Concav	: one required	I: check all that apply)	<u>Sec</u> 	condary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1 , 4A , and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
Type: Depth (ind remarks: //DROLO //etland Hyd rimary Indid Surface High Wa Saturatid Saturatid Sedimer Drift Dep Sedimer Drift Dep Surface Iron Dep Surface Inundatid Sparsely ield Obser	GY drology Indicators cators (minimum of Water (A1) ater Table (A2) on (A3) farks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) on Visible on Aerial y Vegetated Concav vations:	: one required Imagery (B7 re Surface (E	I: check all that apply)	<u>Sec</u> 	condary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1 , 2 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
Type: Depth (ind emarks: //DROLO /etland Hyd rimary Indid Surface High Wa Saturatid Saturatid Sedimer Drift Dep Sedimer Iron Dep Iron Dep Surface Inundatid Sparsely ield Obser	GY drology Indicators cators (minimum of a Water (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) on Visible on Aerial y Vegetated Concav vations: er Present?	Imagery (B7 re Surface (E res 1	: check all that apply)	<u>Sec</u> 	condary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1 , 4A , and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)

						J
(includes capillary fringe)						
Describe Recorded Data	(stream gauge,	monitoring w	ell, aerial photos	, previous inspe	ctions), if avai	lable:

Remarks:

Project/Site: CPU Transmission Line	City/County: Clark	County	Sampling Date: 20 June 2017
Applicant/Owner: Clark Public Utility		State: WA	Sampling Point: 12
Investigator(s): Dustin Day and Allison Kinney	Section, Township	Range: S22 T4N R1E	
Landform (hillslope, terrace, etc.): flat		ve, convex, none): <u>none</u>	Slope (%): <u>0-8</u>
Subregion (LRR): LLRA Lat:	45°49'22.71"N	Long: <u>122°40'57.04</u> "W	Datum: WGS84
Soil Map Unit Name: Gee silt loam, 0 to 8 percent slopes		NWI classific	ation: none
Are climatic / hydrologic conditions on the site typical for this time o	of year? Yes 🖌 N	lo (If no, explain in R	emarks.)
Are Vegetation, Soil, or Hydrology significa	ntly disturbed?	Are "Normal Circumstances" p	oresent? Yes 🖌 No
Are Vegetation, Soil, or Hydrology naturally	v problematic? (If needed, explain any answe	rs in Remarks.)
SUMMARY OF FINDINGS – Attach site map show	ing sampling poir	nt locations, transects	, important features, etc.

Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present?	Yes Yes Yes	No No No	Is the Sampled Area within a Wetland?	Yes	No
Remarks:					

	Absolute		Indicator	Dominance Test workshee	et:	
Tree Stratum (Plot size:)	<u>% Cover</u>	Species?	Status	Number of Dominant Specie		
1				That Are OBL, FACW, or FA	AC: <u>1</u>	(A)
2				Total Number of Dominant		
3				Species Across All Strata:	3	(B)
4						(-)
		= Total Co		Percent of Dominant Specie		
Sapling/Shrub Stratum (Plot size:)			lvei	That Are OBL, FACW, or FA	40	(A/B)
1. Rosa gymnocarpa	95	yes	FACU	Prevalence Index workshe	eet:	
				Total % Cover of:	Multiply by:	_
2				OBL species	x 1 =	_
3			·	FACW species		
4			·	FAC species		
5						
		= Total Co		FACU species		
Herb Stratum (Plot size:)		-		UPL species		
1. Cirsium arvense	10	yes	FAC	Column Totals:	_ (A)	(B)
2. Rubus ursinus	10	yes	FACU	Prevalence Index = B	·// _	
3				Hydrophytic Vegetation In		_
					luicators.	
				1 Donid Toot for Under	anhytic V/castation	
4				1 - Rapid Test for Hydro		
5				2 - Dominance Test is >	>50%	
5 6					>50%	
5				2 - Dominance Test is = 3 - Prevalence Index is 4 - Morphological Adap	 >50% ≤3.0¹ tations¹ (Provide supp 	oorting
5 6				2 - Dominance Test is 3 - Prevalence Index is 4 - Morphological Adap data in Remarks or e	 >50% ≤3.0¹ tations¹ (Provide suppon a separate sheet) 	porting
5 6 7 8				2 - Dominance Test is = 3 - Prevalence Index is 4 - Morphological Adap	 >50% ≤3.0¹ tations¹ (Provide suppon a separate sheet) 	oorting
5 6 7 8 9	 		·	2 - Dominance Test is 3 - Prevalence Index is 4 - Morphological Adap data in Remarks or e	 >50% ≤3.0¹ tations¹ (Provide suppon a separate sheet) lar Plants¹ 	-
5 6 7 8 9 10			·	2 - Dominance Test is = 3 - Prevalence Index is 4 - Morphological Adap data in Remarks or 5 - Wetland Non-Vascu	 >50% ≤3.0¹ tations¹ (Provide suppon a separate sheet) ar Plants¹ brown of the second second	1)
5 6 7 8 9				2 - Dominance Test is = 3 - Prevalence Index is 4 - Morphological Adap data in Remarks or 5 - Wetland Non-Vascu Problematic Hydrophyti	 >50% ≤3.0¹ tations¹ (Provide suppon a separate sheet) lar Plants¹ c Vegetation¹ (Explained wetland hydrology metabolic section) 	1)
5. 6. 7. 8. 9. 10. 11.				2 - Dominance Test is a 3 - Prevalence Index is 4 - Morphological Adap data in Remarks or o 5 - Wetland Non-Vascu Problematic Hydrophyti ¹ Indicators of hydric soil and	 >50% ≤3.0¹ tations¹ (Provide suppon a separate sheet) lar Plants¹ c Vegetation¹ (Explained wetland hydrology metabolic section) 	1)
5. 6. 7. 8. 9. 10. 11. Woody Vine Stratum (Plot size:)	20	 = Total Co		2 - Dominance Test is = 3 - Prevalence Index is 4 - Morphological Adap data in Remarks or of 5 - Wetland Non-Vascu Problematic Hydrophyti ¹ Indicators of hydric soil and be present, unless disturbed	 >50% ≤3.0¹ tations¹ (Provide suppon a separate sheet) lar Plants¹ c Vegetation¹ (Explained wetland hydrology metabolic section) 	1)
5. 6. 7. 8. 9. 10. 11. Woody Vine Stratum (Plot size:) 1.	20	 = Total Co		2 - Dominance Test is a 3 - Prevalence Index is 4 - Morphological Adap data in Remarks or o 5 - Wetland Non-Vascu Problematic Hydrophyti ¹ Indicators of hydric soil and be present, unless disturbed Hydrophytic Vegetation	 >50% ≤3.0¹ tations¹ (Provide suppon a separate sheet) lar Plants¹ to Vegetation¹ (Explain d wetland hydrology m d or problematic. 	1)
5. 6. 7. 8. 9. 10. 11. Woody Vine Stratum (Plot size:)	20	 = Total Co	ver	2 - Dominance Test is a 3 - Prevalence Index is 4 - Morphological Adap data in Remarks or o 5 - Wetland Non-Vascu Problematic Hydrophyti ¹ Indicators of hydric soil and be present, unless disturbed Hydrophytic Vegetation	 >50% ≤3.0¹ tations¹ (Provide suppon a separate sheet) lar Plants¹ to Vegetation¹ (Explain d wetland hydrology m d or problematic. 	1)
5.	20	 = Total Co	ver	2 - Dominance Test is a 3 - Prevalence Index is 4 - Morphological Adap data in Remarks or o 5 - Wetland Non-Vascu Problematic Hydrophyti ¹ Indicators of hydric soil and be present, unless disturbed Hydrophytic Vegetation	 >50% ≤3.0¹ tations¹ (Provide suppon a separate sheet) lar Plants¹ c Vegetation¹ (Explained wetland hydrology metabolic section) 	1)
5.	20	 = Total Co	ver	2 - Dominance Test is a 3 - Prevalence Index is 4 - Morphological Adap data in Remarks or o 5 - Wetland Non-Vascu Problematic Hydrophyti ¹ Indicators of hydric soil and be present, unless disturbed Hydrophytic Vegetation	 >50% ≤3.0¹ tations¹ (Provide suppon a separate sheet) lar Plants¹ to Vegetation¹ (Explain d wetland hydrology m d or problematic. 	1)
5.	20	 = Total Co	ver	2 - Dominance Test is a 3 - Prevalence Index is 4 - Morphological Adap data in Remarks or o 5 - Wetland Non-Vascu Problematic Hydrophyti ¹ Indicators of hydric soil and be present, unless disturbed Hydrophytic Vegetation	 >50% ≤3.0¹ tations¹ (Provide suppon a separate sheet) lar Plants¹ to Vegetation¹ (Explain d wetland hydrology m d or problematic. 	1)

Depth	Matrix		Redox Features		
(inches)	Color (moist)	%	Color (moist) % Type ¹ Loc ²	Textur	re Remarks
0-16	10YR 3/2	100			
			Reduced Matrix, CS=Covered or Coated Sand Gra		² Location: PL=Pore Lining, M=Matrix.
ydric Soil	Indicators: (Appl	cable to all	LRRs, unless otherwise noted.)	Ind	icators for Problematic Hydric Soils ³ :
_ Histoso	· · /		Sandy Redox (S5)		2 cm Muck (A10)
	pipedon (A2)		Stripped Matrix (S6)		Red Parent Material (TF2)
Black H			Loamy Mucky Mineral (F1) (except MLRA 1)	—	Very Shallow Dark Surface (TF12)
	en Sulfide (A4)	00 (111)	Loamy Gleyed Matrix (F2)		Other (Explain in Remarks)
	ed Below Dark Surfa ark Surface (A12)	ice (ATT)	Depleted Matrix (F3) Redox Dark Surface (F6)	³ lm a	licators of hydrophytic vegetation and
	Mucky Mineral (S1)		Depleted Dark Surface (F6)		wetland hydrology must be present,
	Gleyed Matrix (S4)		Redox Depressions (F8)		unless disturbed or problematic.
	Layer (if present):				uniess disturbed of problematic.
Type:	, , ,				
· · · _	nches):			Hydric	Soil Present? Yes No 🖌
emarks:				I	
-	drology Indicators		; check all that apply)	c	Secondary Indicators (2 or more required)
	Water (A1)		Water-Stained Leaves (B9) (except		Water-Stained Leaves (B9) (MLRA 1, 2
_	ater Table (A2)			-	4A, and 4B)
	ion (A3)		MLRA 1, 2, 4A, and 4B) Salt Crust (B11)		Drainage Patterns (B10)
	()			-	
	/larks (B1)		Aquatic Invertebrates (B13)	-	Dry-Season Water Table (C2)
	nt Deposits (B2)		Hydrogen Sulfide Odor (C1)	-	Saturation Visible on Aerial Imagery (C
	posits (B3)		Oxidized Rhizospheres along Living Root	–	Geomorphic Position (D2)
_ Aigai M	at or Crust (B4)		Presence of Reduced Iron (C4)		Shallow Aquitard (D3)
Las P					
	posits (B5) e Soil Cracks (B6)		Recent Iron Reduction in Tilled Soils (C6) Stunted or Stressed Plants (D1) (LRR A)	· –	FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)

Frost-Heave Hummocks (I	D7)	
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Inundation Visible on Aerial Imagery (B7) ____ Other (Explain in Remarks) Sparsely Vegetated Concave Surface (B8) Field Observations: Yes _____ No ____ Depth (inches): ____ Surface Water Present? Yes _____ No _____ Depth (inches): _____ Water Table Present? Yes _____ No ____ Depth (inches): _____ No 🗸 Wetland Hydrology Present? Yes Saturation Present? (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Remarks:

Project/Site: CPU Transmission Line	City/County: Clark Cou	nty	Sampling Date: 20 June 2017
Applicant/Owner: Clark Public Utility		State: WA	Sampling Point: 13
Investigator(s): Dustin Day and Allison Kinney	Section, Township, Rai	nge: S22 T4N R1E	
Landform (hillslope, terrace, etc.): ditch	Local relief (concave, o	convex, none): <u>convex</u>	Slope (%): <u>0-8</u>
Subregion (LRR): LLRA Lat:	45°49'22.71"N	Long: <u>122°40'57.04</u> "W	Datum: WGS84
Soil Map Unit Name: Odne silt loam, 0 to 8 percent slopes		NWI classific	ation: none
Are climatic / hydrologic conditions on the site typical for this time of	year? Yes No	(If no, explain in R	emarks.)
Are Vegetation, Soil, or Hydrology significan	tly disturbed? Are "	Normal Circumstances" p	present? Yes 🖌 No
Are Vegetation, Soil, or Hydrology naturally	problematic? (If ne	eded, explain any answe	rs in Remarks.)
SUMMARY OF FINDINGS – Attach site map showin	ng sampling point l	ocations, transects	, important features, etc.

Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present?	Yes _ ✓ No Yes _ ✓ No Yes _ ✓ No	Is the Sampled Area within a Wetland? Yes No
Remarks:		

	Absolute	Dominant		Dominance Test workshee	t:	
Tree Stratum (Plot size:)	% Cover	Species?	Status	Number of Dominant Species	S	
1				That Are OBL, FACW, or FA	C: <u>2</u>	(A)
2				Total Number of Dominant		
3				Species Across All Strata:	2	(B)
4						(2)
т				Percent of Dominant Species		
Sapling/Shrub Stratum (Plot size:)		_ = Total Co	iver	That Are OBL, FACW, or FA		(A/B)
	30	yes	FAC	Prevalence Index workshee	et:	
				Total % Cover of:	Multiply by:	
2				OBL species	x 1 =	
3				FACW species		
4						
5				FAC species		
	~~	= Total Co	ver	FACU species		
Herb Stratum (Plot size:)				UPL species		
1. Phalaris arundinacea	90	yes	FACW	Column Totals:	(A)	_ (B)
2		-				
				Prevalence Index = B/		_
3				Hydrophytic Vegetation Inc		
4				1 - Rapid Test for Hydro	phytic Vegetation	
5				✓ 2 - Dominance Test is >	50%	
6				3 - Prevalence Index is a	≤3.0 ¹	
7				4 - Morphological Adapta	ations ¹ (Provide sup	porting
8				data in Remarks or o	n a separate sheet)	
9				5 - Wetland Non-Vascula	ar Plants ¹	
10				Problematic Hydrophytic	Vegetation ¹ (Explai	in)
11				¹ Indicators of hydric soil and	wetland hydrology r	nust
		= Total Co		be present, unless disturbed	or problematic.	
Woody Vine Stratum (Plot size:)			vei			
				the draw head's		
1				Hydrophytic Vegetation	/	
2				Present? Yes	No	
% Bare Ground in Herb Stratum		= Total Co	ver			
Remarks:						

	cription: (Describe	to the depth	needed to docun	nent the ir	ndicator	or confirm	the abse	ence of indicators)
Depth	Matrix	to the depth						
(inches)	Color (moist)	Redox Features		Textur	e Remarks			
0-9	10YR 3/2	100						
9-16	10YR 4/1	85 10	DYR 3/6	15	С	М		
Туре: С=С	Concentration, D=Dep	pletion, RM=Re	educed Matrix, CS	S=Covered	l or Coate	ed Sand Gra	ains.	² Location: PL=Pore Lining, M=Matrix.
-	Indicators: (Applic	able to all LR	Rs, unless other	wise note	ed.)		Indi	icators for Problematic Hydric Soils ³ :
Histoso			Sandy Redox (S					2 cm Muck (A10)
	Epipedon (A2) Histic (A3)		Stripped Matrix Loamy Mucky M					Red Parent Material (TF2)
	en Sulfide (A4)	. <u></u>	Loamy Gleyed I			I WILKA I)		Very Shallow Dark Surface (TF12) Other (Explain in Remarks)
	ed Below Dark Surfac	e (A11)	Depleted Matrix)			
	Dark Surface (A12)		Redox Dark Sul				³ Ind	licators of hydrophytic vegetation and
	Mucky Mineral (S1)		Depleted Dark S	, ,	7)			wetland hydrology must be present,
	Gleyed Matrix (S4)		 Redox Depress		,			unless disturbed or problematic.
Restrictive	Layer (if present):							
Туре:			_					1
Depth (ir	nches):						Hydric	Soil Present? Yes 🖌 No
Remarks:								
YDROLO								
	ydrology Indicators:		had all the taxab				0	
	icators (minimum of c	one required; c					<u> </u>	Secondary Indicators (2 or more required)
	e Water (A1)		Water-Stai			xcept	_	Water-Stained Leaves (B9) (MLRA 1, 2,
High Water Table (A2) MLRA 1, 2, 4A, and 4B)						4A, and 4B)		
✓ Saturation (A3) Salt Crust (B11)				_	Drainage Patterns (B10)			
Water Marks (B1) Aquatic Invertebrates (B13)			_	Dry-Season Water Table (C2)				
Sediment Deposits (B2) Hydrogen Sulfide Odor (C1)						Saturation Visible on Aerial Imagery (C9		
Drift Deposits (B3) Oxidized Rhizospheres along Living Root				ts (C3) 🔄	Geomorphic Position (D2)			
Algal M	lat or Crust (B4)		Presence of	of Reduce	d Iron (C	4)		Shallow Aquitard (D3)
Iron De	eposits (B5)		Recent Iro	n Reductic	on in Tille	d Soils (C6))	FAC-Neutral Test (D5)
Surface	e Soil Cracks (B6)		Stunted or	Stressed	Plants (D	01) (LRR A)	_	Raised Ant Mounds (D6) (LRR A)
Inundat	tion Visible on Aerial	Imagery (B7)	Other (Exp	olain in Rer	marks)		_	Frost-Heave Hummocks (D7)
Sparse	ly Vegetated Concav	e Surface (B8)						

Sparsely Vegetated Cor	ncave Surfac	e (B8)						
Field Observations:								
Surface Water Present?	Yes	No	Depth (inches):					
Water Table Present?	Yes 🗸	No	Depth (inches): 8"					
Saturation Present? (includes capillary fringe)	Yes 🖌	No	Depth (inches): surf	ace	Wetland Hydrology Present?	Yes 🖌	No	
Describe Recorded Data (st	ream gauge,	monitorin	g well, aerial photos, pre	vious inspect	tions), if available:			
Remarks:								

Project/Site: CPU Transmission Line	_ City/County: Clark County		Sampling Date: 20 June 2017
Applicant/Owner: Clark Public Utility			
Investigator(s): Dustin Day and Allison Kinney	_ Section, Township, Range	S22 T4N R1E	
Landform (hillslope, terrace, etc.): Depression	Local relief (concave, con	vex, none): <u>convex</u>	Slope (%): <u>0-8</u>
Subregion (LRR): LLRA Lat:	45°49'22.71"N Lo	ong: <u>122°40'57.04"W</u>	Datum: WGS84
Soil Map Unit Name: Gee silt loam, 0 to 8 percent slopes		NWI classific	ation: none
Are climatic / hydrologic conditions on the site typical for this time of	year? Yes 🖌 No _	(If no, explain in R	emarks.)
Are Vegetation, Soil, or Hydrology significant	tly disturbed? Are "No:	rmal Circumstances" p	oresent? Yes 🖌 No
Are Vegetation, Soil, or Hydrology naturally p	problematic? (If neede	ed, explain any answe	rs in Remarks.)
SUMMARY OF FINDINGS – Attach site map showir	ng sampling point loc	ations, transects	, important features, etc.

Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present?	Yes ✓ No Yes ✓ No Yes ✓ No	Is the Sampled Area within a Wetland?	Yes No
Remarks:			

	Absolute		Indicator	Dominance Test workshee	et:	
Tree Stratum (Plot size:)	% Cover	Species?	Status	Number of Dominant Specie	es	
1				That Are OBL, FACW, or FA	AC: 2	(A)
2				Total Number of Dominant		
3				Species Across All Strata:	2	(B)
4						(=)
				Percent of Dominant Specie		
Sapling/Shrub Stratum (Plot size:)		= Total Co	over	That Are OBL, FACW, or FA		(A/B)
				Prevalence Index workshe	et:	
1				Total % Cover of:	Multiply by:	
2				OBL species	x 1 =	
3			·	FACW species		
4						
5				FAC species		
		= Total Co	over	FACU species		
Herb Stratum (Plot size:)				UPL species		
1. Phalaris arundinacea	90	yes	FACW	Column Totals:	_ (A)	(B)
2. Spiraea douglasii	20	no	FACW	Prevalence Index = B	/A _	
3. Rosa gymnocarpa	5	no	FACU	Hydrophytic Vegetation In		_
			·			
4				1 - Rapid Test for Hydro		
5				✓ 2 - Dominance Test is >		
6			·	3 - Prevalence Index is	≤3.0 ¹	
7				4 - Morphological Adapt	tations ¹ (Provide sup	porting
8			·	data in Remarks or o	on a separate sheet)	
9				5 - Wetland Non-Vascu	lar Plants ¹	
10				Problematic Hydrophyti	c Vegetation ¹ (Explai	in)
			·	¹ Indicators of hydric soil and		
11	405	Trial Or		be present, unless disturbed		
Woody Vine Stratum (Plot size:)	120	_= Total Co	ver			
1. Rubus armeniacus	10	ves	FAC			
		900		Hydrophytic Vegetation		
2			·	Present? Yes	No	
W. David Constant in Lineth Official and	10	= Total Co	ver		<u> </u>	
% Bare Ground in Herb Stratum						
Remarks:						

Depth	Matrix			ox Feature				
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Textur	re Remarks
0-16	10YR 4/2	85	10YR 3/6	15	C	PL		
	·							
Type: C=C	Concentration, D=De			 S=Covere	d or Coate	d Sand Gr	ains	² Location: PL=Pore Lining, M=Matrix.
7 1		•	I LRRs, unless othe					icators for Problematic Hydric Soils ³ :
Histoso	l (A1)		Sandy Redox	(S5)				2 cm Muck (A10)
Histic E	pipedon (A2)		Stripped Matrix					Red Parent Material (TF2)
	listic (A3)		Loamy Mucky		, ,	t MLRA 1)		Very Shallow Dark Surface (TF12)
_ , 0	en Sulfide (A4)		Loamy Gleyed		2)			Other (Explain in Remarks)
·	ed Below Dark Surfa	ce (A11)	✓ Depleted Matri	. ,			3.	
	Park Surface (A12)		Redox Dark Si					licators of hydrophytic vegetation and
	Mucky Mineral (S1)		Depleted Dark		,			wetland hydrology must be present,
	Gleyed Matrix (S4) Layer (if present):		Redox Depres	sions (F8)			1	unless disturbed or problematic.
	Layer (il present).							
Type:	abaa).						Lludria	Soil Present? Yes V No
	nches):						Hydric	Soil Present? Yes <u>V</u> No
Remarks:								
YDROLC	OGY /drology Indicators							
			d abook all that any	h.)			c	Cocondary Indicators (2 or more required)
		one require	ed; check all that app				3	Secondary Indicators (2 or more required)
Surface Water (A1) Water-Stained Leaves (B9) (except			xcept	-	Water-Stained Leaves (B9) (MLRA 1, 2,			
High Water Table (A2) MLRA 1, 2, 4A, and 4B)					4A, and 4B)			
	_ Saturation (A3) Salt Crust (B11)					-	Drainage Patterns (B10)	
Water Marks (B1) Aquatic Invertebrates (B13)					-	Dry-Season Water Table (C2)		
	ent Deposits (B2)		, 0	/drogen Sulfide Odor (C1) xidized Rhizospheres along Living Roots				Saturation Visible on Aerial Imagery (CS
	posits (B3)			•	0	Ũ	ts (C3)	Geomorphic Position (D2)
_ 0	at or Crust (B4)		Presence		`	,		Shallow Aquitard (D3)
Iron Deposits (B5) Recent Iron Reduction in Tilled Soils						d Soils (C6) _	FAC-Neutral Test (D5)

____ Stunted or Stressed Plants (D1) (LRR A)

____ Other (Explain in Remarks)

Yes _____ No _____ Depth (inches): _____

 Yes
 No
 Depth (inches):

 Yes
 No
 Depth (inches):

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

Remarks:

____ Surface Soil Cracks (B6)

Field Observations:

Surface Water Present?

Water Table Present?

Saturation Present? (includes capillary fringe)

____ Inundation Visible on Aerial Imagery (B7)

Sparsely Vegetated Concave Surface (B8)

____ Raised Ant Mounds (D6) (LRR A)

____ Frost-Heave Hummocks (D7)

Wetland Hydrology Present? Yes <u>Ves</u> No

Project/Site: CPU Transmission Line	_ City/County: Clark Co	unty	Sampling Date: 20 June 2017		
Applicant/Owner: Clark Public Utility		State: WA	Sampling Point: 15		
Investigator(s): Dustin Day and Allison Kinney	_ Section, Township, Range: <u>S22 T4N R1E</u>				
Landform (hillslope, terrace, etc.): Depression	Local relief (concave,	convex, none): <u>convex</u>	Slope (%): <u>0-5</u>		
Subregion (LRR): LLRA Lat:	45°49'22.71"N	Long: <u>122°40'57.04"</u> W	Datum: WGS84		
Soil Map Unit Name: Odne silt loam, 0 to 5 percent slopes		NWI classific	ation: none		
Are climatic / hydrologic conditions on the site typical for this time of	year? Yes 🖌 No	(If no, explain in R	emarks.)		
Are Vegetation, Soil, or Hydrology significan	tly disturbed? Are	"Normal Circumstances" p	present? Yes 🖌 No		
Are Vegetation, Soil, or Hydrology naturally	problematic? (If n	eeded, explain any answe	rs in Remarks.)		
SUMMARY OF FINDINGS – Attach site map showin	ng sampling point	locations, transects	, important features, etc.		

Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present?	Yes ✓ No Yes ✓ No Yes ✓ No	Is the Sampled Area within a Wetland?	Yes No
Remarks:			

	Absolute		t Indicator	Dominance Test workshe	et:	
Tree Stratum (Plot size:)	% Cover	Species?	Status	Number of Dominant Speci	es	
1				That Are OBL, FACW, or FA	AC: 2 (A	A)
2						
				Total Number of Dominant Species Across All Strata:	3 ()	B)
3				Species Across All Strata.	<u> </u>	D)
4				Percent of Dominant Specie		
Operations (Observerse (Distributions))		= Total Co	over	That Are OBL, FACW, or F	AC: <u>66</u> (/	A/B)
Sapling/Shrub Stratum (Plot size:)			E4 014/	Prevalence Index worksho	eet:	
1. Spiraea douglasii	20	yes	FACW	Total % Cover of:	Multiply by:	
2. Rosa gymnocarpa	10	yes	FACU			
3				OBL species		
4				FACW species	x 2 =	
				FAC species	x 3 =	
5			·	FACU species	x 4 =	
	30	= Total Co	over	UPL species		
Herb Stratum (Plot size:)			0.51			
1. Carex obnupta	90	yes	OBL	Column Totals:	(A)	(B)
2. Phalaris arundinacea	2	no	FACW	Prevalence Index = E	3/A =	
3				Hydrophytic Vegetation Ir		
· · ·				I Hydrophytic vegetation if	iuicators.	
4				1 - Rapid Test for Hydr	ophytic Vegetation	
4 5				1 - Rapid Test for Hydr ✓ 2 - Dominance Test is :	ophytic Vegetation >50%	
4 5 6			·	 1 - Rapid Test for Hydr 2 - Dominance Test is : 3 - Prevalence Index is 	ophytic Vegetation >50% s ≤3.0 ¹	
4 5 6 7				 1 - Rapid Test for Hydr ✓ 2 - Dominance Test is : 3 - Prevalence Index is 4 - Morphological Adap 	ophytic Vegetation >50% s ≤3.0 ¹	orting
4 5 6 7 8			·	 1 - Rapid Test for Hydr ✓ 2 - Dominance Test is : 3 - Prevalence Index is 4 - Morphological Adap data in Remarks or 	ophytic Vegetation >50% s ≤3.0 ¹ otations ¹ (Provide suppo on a separate sheet)	orting
4 5 6 7 8 9				 1 - Rapid Test for Hydr ✓ 2 - Dominance Test is : 3 - Prevalence Index is 4 - Morphological Adap data in Remarks or 5 - Wetland Non-Vascu 	ophytic Vegetation >50% ≤ 3.0 ¹ otations ¹ (Provide suppo on a separate sheet) ular Plants ¹	-
4				 1 - Rapid Test for Hydr ✓ 2 - Dominance Test is: 3 - Prevalence Index is 4 - Morphological Adap data in Remarks or 5 - Wetland Non-Vascu Problematic Hydrophyt 	ophytic Vegetation >50% : ≤3.0 ¹ otations ¹ (Provide suppo on a separate sheet) ular Plants ¹ ic Vegetation ¹ (Explain)	
4 5 6 7 8 9				1 - Rapid Test for Hydr 2 - Dominance Test is 3 - Prevalence Index is 4 - Morphological Adap data in Remarks or 5 - Wetland Non-Vascu Problematic Hydrophyt ¹ Indicators of hydric soil and	ophytic Vegetation >50% : ≤3.0 ¹ otations ¹ (Provide suppo on a separate sheet) ular Plants ¹ ic Vegetation ¹ (Explain) d wetland hydrology mu	
4	 			 1 - Rapid Test for Hydr ✓ 2 - Dominance Test is: 3 - Prevalence Index is 4 - Morphological Adap data in Remarks or 5 - Wetland Non-Vascu Problematic Hydrophyt 	ophytic Vegetation >50% : ≤3.0 ¹ otations ¹ (Provide suppo on a separate sheet) ular Plants ¹ ic Vegetation ¹ (Explain) d wetland hydrology mu	
4	 			1 - Rapid Test for Hydr 2 - Dominance Test is 3 - Prevalence Index is 4 - Morphological Adap data in Remarks or 5 - Wetland Non-Vascu Problematic Hydrophyt ¹ Indicators of hydric soil and	ophytic Vegetation >50% : ≤3.0 ¹ otations ¹ (Provide suppo on a separate sheet) ular Plants ¹ ic Vegetation ¹ (Explain) d wetland hydrology mu	
4	92			1 - Rapid Test for Hydr 2 - Dominance Test is 3 - Prevalence Index is 4 - Morphological Adap data in Remarks or 5 - Wetland Non-Vascu Problematic Hydrophyt ¹ Indicators of hydric soil and	ophytic Vegetation >50% : ≤3.0 ¹ otations ¹ (Provide suppo on a separate sheet) ular Plants ¹ ic Vegetation ¹ (Explain) d wetland hydrology mu	
4	92		ver	1 - Rapid Test for Hydr 2 - Dominance Test is: 3 - Prevalence Index is 4 - Morphological Adap data in Remarks or 5 - Wetland Non-Vascu Problematic Hydrophytt ¹ Indicators of hydric soil and be present, unless disturbe	ophytic Vegetation >50% s 3.0 ¹ otations ¹ (Provide suppo on a separate sheet) ular Plants ¹ ic Vegetation ¹ (Explain) d wetland hydrology mu d or problematic.	
4	92	 	ver	1 - Rapid Test for Hydr 2 - Dominance Test is 3 - Prevalence Index is 4 - Morphological Adap data in Remarks or 5 - Wetland Non-Vascu Problematic Hydrophyt ¹ Indicators of hydric soil and be present, unless disturbee	ophytic Vegetation >50% s 3.0 ¹ otations ¹ (Provide suppo on a separate sheet) ular Plants ¹ ic Vegetation ¹ (Explain) d wetland hydrology mu d or problematic.	
4	92		ver	1 - Rapid Test for Hydr 2 - Dominance Test is: 3 - Prevalence Index is 4 - Morphological Adap data in Remarks or 5 - Wetland Non-Vascu Problematic Hydrophytt ¹ Indicators of hydric soil and be present, unless disturbe	ophytic Vegetation >50% s 3.0 ¹ otations ¹ (Provide suppo on a separate sheet) ular Plants ¹ ic Vegetation ¹ (Explain) d wetland hydrology mu d or problematic.	
4	92	 	ver	1 - Rapid Test for Hydr 2 - Dominance Test is: 3 - Prevalence Index is 4 - Morphological Adap data in Remarks or 5 - Wetland Non-Vascu Problematic Hydrophytt ¹ Indicators of hydric soil and be present, unless disturbe	ophytic Vegetation >50% s 3.0 ¹ otations ¹ (Provide suppo on a separate sheet) ular Plants ¹ ic Vegetation ¹ (Explain) d wetland hydrology mu d or problematic.	
4. 5. 6. 7. 8. 9. 10. 11. Woody Vine Stratum (Plot size:) 1. 2. % Bare Ground in Herb Stratum	92	 	ver	1 - Rapid Test for Hydr 2 - Dominance Test is: 3 - Prevalence Index is 4 - Morphological Adap data in Remarks or 5 - Wetland Non-Vascu Problematic Hydrophytt ¹ Indicators of hydric soil and be present, unless disturbe	ophytic Vegetation >50% s 3.0 ¹ otations ¹ (Provide suppo on a separate sheet) ular Plants ¹ ic Vegetation ¹ (Explain) d wetland hydrology mu d or problematic.	

Depth	Matrix			ox Feature				
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
0-12	10YR 3/2	95	10YR 3/3	5	С	M		
12-16	10YR 5/2	85	10YR 3/6	15	С	Μ		
					- <u></u>			
			=Reduced Matrix, C LRRs, unless othe			ed Sand Grai		Location: PL=Pore Lining, M=Matrix.
Black H Hydrog Deplete Thick D Sandy I Sandy 0	pipedon (A2) listic (A3) en Sulfide (A4) ed Below Dark Surf Dark Surface (A12) Mucky Mineral (S1) Gleyed Matrix (S4))	 Sandy Redox (Stripped Matrix Loamy Mucky Loamy Gleyed Depleted Matri Redox Dark St Depleted Dark Redox Depres 	(S6) Mineral (F Matrix (F x (F3) urface (F6 Surface (2)) F7)	t MLRA 1)	F V C ³ Indic we	2 cm Muck (A10) Red Parent Material (TF2) /ery Shallow Dark Surface (TF12) Dther (Explain in Remarks) cators of hydrophytic vegetation and etland hydrology must be present, nless disturbed or problematic.
Type:	Layer (if present)							Soil Present? Yes 🖌 No
Depth (Ir Remarks:	nches):						Hydric S	Soil Present? Yes <u>▼</u> No
-	vdrology Indicator							
		f one require	ed; check all that app	ly)			<u>Se</u>	econdary Indicators (2 or more required)
High W	e Water (A1) /ater Table (A2)			1, 2, 4A,		except		Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
	Marks (B1)		Salt Crus	vertebrat	. ,			Drainage Patterns (B10) Dry-Season Water Table (C2)
_ Drift De	ent Deposits (B2) eposits (B3) lat or Crust (B4)			Rhizosph		Living Roots 4)	(C3)	Saturation Visible on Aerial Imagery (C Geomorphic Position (D2) Shallow Aquitard (D3)
	posits (B5) e Soil Cracks (B6)					d Soils (C6) 1) (LRR A)		_ FAC-Neutral Test (D5) _ Raised Ant Mounds (D6) (LRR A)

Inundation Visible on A	erial Imagery	(B7)	Other (Explain in Remarks)	Frost-Heave Hummocks (D7)
Sparsely Vegetated Cor	ncave Surfac	e (B8)		
Field Observations:				
Surface Water Present?	Yes	No	Depth (inches):	
Water Table Present?	Yes		Depth (inches):	
Saturation Present? (includes capillary fringe)	Yes 🖌	No	Depth (inches): Surface	Wetland Hydrology Present? Yes No
Describe Recorded Data (st	ream gauge,	monitorin	ng well, aerial photos, previous in	spections), if available:
Remarks:				
Saturation Present? (includes capillary fringe) Describe Recorded Data (st	Yes 🗸	No	Depth (inches): Surface	

Project/Site: CPU Transmission Line	City/County: Clark Co	ounty	Sampling Date: 20 June 2017
Applicant/Owner: Clark Public Utility		State: WA	
Investigator(s): Dustin Day and Allison Kinney	Section, Township, R	ange: S22 T4N R1E	
Landform (hillslope, terrace, etc.): Depression		e, convex, none): <u>convex</u>	Slope (%): <u>0-5</u>
Subregion (LRR): LLRA Lat:	45°49'22.71"N	Long: <u>122°40'57.04"W</u>	Datum: WGS84
Soil Map Unit Name: Odne silt loam, 0 to 5 percent slopes		NWI classific	ation: none
Are climatic / hydrologic conditions on the site typical for this time of	year? Yes 🖌 No	(If no, explain in R	emarks.)
Are Vegetation, Soil, or Hydrology significan	tly disturbed? Are	e "Normal Circumstances" p	oresent? Yes 🖌 No
Are Vegetation, Soil, or Hydrology naturally	problematic? (If	needed, explain any answe	rs in Remarks.)
SUMMARY OF FINDINGS – Attach site map showing	ng sampling point	locations, transects	, important features, etc.

Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present?	Yes <u>✓</u> No Yes <u>✓</u> No Yes <u>✓</u> No	Is the Sampled Area within a Wetland?	Yes 🖌 No
Remarks:			

	Absolute	Dominant		Dominance Test worksheet:	
Tree Stratum (Plot size:)	% Cover	Species?	Status	Number of Dominant Species	
1				That Are OBL, FACW, or FAC: 4	(A)
2				Total Number of Dominant	
3				Total Number of Dominant Species Across All Strata: 5	(B)
4				·	(_)
		= Total Co		Percent of Dominant Species	
Sapling/Shrub Stratum (Plot size:)			vei		(A/B)
1. Cornus stolonifera	15	yes	FACW	Prevalence Index worksheet:	
2. Spiraea douglasii	10	ves	FACW	Total % Cover of: Multiply by:	-
				OBL species x 1 =	-
3				FACW species x 2 =	
4				FAC species x 3 =	
5				FACU species x 4 =	
	10	= Total Co	ver		
Herb Stratum (Plot size:)				UPL species x 5 =	
1. Agrostis capillaris	40	yes	FAC	Column Totals: (A)	_ (B)
2. Rosa gymnocarpa	15	yes	FACU	Prevalence Index = B/A =	
3. Epilobium ciliatum	10	no	FACW	Hydrophytic Vegetation Indicators:	-
4. Cirsium arvense	5	no	FAC	1 - Rapid Test for Hydrophytic Vegetation	
5. Phleum pratense	1	no	FAC	✓ 2 - Dominance Test is >50%	
6				3 - Prevalence Index is $\leq 3.0^1$	
7				4 - Morphological Adaptations ¹ (Provide supplicate and the supplicated at a in Remarks or on a separate sheet)	orting
8				5 - Wetland Non-Vascular Plants ¹	
9				Problematic Hydrophytic Vegetation ¹ (Explain	
10					
11				¹ Indicators of hydric soil and wetland hydrology mube present, unless disturbed or problematic.	ust
	71	= Total Cov	/er		
Woody Vine Stratum (Plot size:)					
1. Rubus armeniacus	10	yes	FAC	Hydrophytic	
2				Vegetation Present? Yes No No	
	10	= Total Cov	/er	Present? Yes V No	
% Bare Ground in Herb Stratum		-			
Remarks:					

SOIL

Depth (inches)	Matrix Color (moist)	%	Rede Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
0-4	10 YR 3/2	100						
4-10	10 YR 3/1	90	5 YR 3/4	10	С	Μ		
10-16	10 YR 5/1	90	10 YR 3/6	10	С	Μ		
						·		
			M=Reduced Matrix, C			ed Sand G		Docation: PL=Pore Lining, M=Matrix.
Histosol			Sandy Redox (cuij			cm Muck (A10)
	pipedon (A2)		Stripped Matrix					d Parent Material (TF2)
Black Hi	istic (A3)		Loamy Mucky	Mineral (F		t MLRA 1)	Ve	ry Shallow Dark Surface (TF12)
	en Sulfide (A4)		Loamy Gleyed		2)		Oth	her (Explain in Remarks)
Thick Da Sandy N	d Below Dark Surfa ark Surface (A12) Mucky Mineral (S1) Gleyed Matrix (S4)	ce (A11)	Depleted Matri Redox Dark Su Depleted Dark Redox Depres	urface (F6) Surface (F			wetl	tors of hydrophytic vegetation and and hydrology must be present, ess disturbed or problematic.
				()				
	Layer (if present):			. ,				
Restrictive			·					1
Restrictive Type: Depth (in	Layer (if present):		·					il Present? Yes 🖌 No
Restrictive Type: Depth (in Remarks: YDROLO	Layer (if present): ches):		·					il Present? Yes <u>/</u> No
Restrictive Type: Depth (in Remarks: YDROLO Wetland Hy	Layer (if present): ches): GY drology Indicators	:					Hydric So	
Restrictive I Type: Depth (in Remarks: YDROLO Yetland Hy Primary India	Layer (if present): ches): GGY drology Indicators cators (minimum of	:	ed; check all that app	ly)			Hydric Soi	ondary Indicators (2 or more required)
Restrictive Type: Depth (in Remarks: YDROLO Yetland Hy Primary India Surface	Layer (if present): ches): GGY drology Indicators cators (minimum of Water (A1)	:	ed; check all that app Water-Sta	ly)	. , .	except	Hydric Soi	ondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2
Restrictive I Type: Depth (in: Remarks: YDROLO Yetland Hy Primary India Surface Y High Wa	Layer (if present): ches): DGY drology Indicators cators (minimum of Water (A1) ater Table (A2)	:	ed; check all that app Water-Sta	ly) ained Leav 1, 2, 4A, a	and 4B)	except	Hydric Sol	ondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
Restrictive Type: Depth (in/ Remarks: YDROLO YDROLO Vetland Hy Primary India Surface ✓ High Wa ✓ Saturatio	Layer (if present): ches): DGY drology Indicators cators (minimum of Water (A1) ater Table (A2)	:	ed; check all that app Water-Sta Water-Sta Salt Crus	ly) ained Leav 1, 2, 4A, a : (B11)	and 4B)	except	Hydric Soi	ondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2 , 4A, and 4B) Drainage Patterns (B10)
Restrictive Type: Depth (in: Remarks: YDROLO YDROLO Vetland Hy Primary India Surface ✓_ High Wa ✓_ Saturatio Water M	Layer (if present): ches): GGY drology Indicators cators (minimum of Water (A1) ater Table (A2) on (A3)	:	ed; check all that app Water-Sta MLRA Salt Cruss Aquatic Ir	ly) ained Leav 1, 2, 4A, a	and 4B) es (B13)	except	Hydric Soi	ondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2)
Restrictive Type: Depth (in Remarks: YDROLO YDROLO Yetland Hy Primary India Surface ✓ High Wa ✓ Saturatia Water M Sedimen	Layer (if present): ches): GGY drology Indicators cators (minimum of Water (A1) ater Table (A2) on (A3) farks (B1)	:	ed; check all that app Water-Sta MLRA Salt Crus Aquatic Ir Hydrogen	lỵ) ained Leav 1, 2, 4A, a t (B11) ivertebrate Sulfide O	and 4B) es (B13) dor (C1)	except	Hydric Soi	ondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2)
Restrictive Type: Depth (in Remarks: YDROLO Yetland Hy Primary India Surface / High Wa / Saturatia Water M Sedimei Drift Dep	Layer (if present): ches): DGY drology Indicators cators (minimum of Water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2)	:	ed; check all that app Water-Sta MLRA Salt Crus Aquatic Ir Hydrogen Oxidized	lỵ) ained Leav 1, 2, 4A, a t (B11) ivertebrate Sulfide O	and 4B) es (B13) dor (C1) eres along	Living Roo	Hydric Sol	ondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (CS
	Layer (if present): ches): OGY drology Indicators cators (minimum of Water (A1) ater Table (A2) on (A3) farks (B1) nt Deposits (B2) posits (B3)	:	ed; check all that app Water-Sta MLRA Salt Cruss Aquatic Ir Hydrogen Oxidized Presence Recent Iro	ly) ained Leav 1, 2, 4A, a t (B11) avertebrate Sulfide O Rhizosphe of Reduce on Reducti	and 4B) es (B13) dor (C1) eres along ed Iron (C ion in Tille	Living Roc 4) d Soils (C6	Hydric Sol	ondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (CS Geomorphic Position (D2)
Restrictive Type: Depth (in/ Depth (in/ Remarks: YDROLO YDROLO YDROLO YDROLO Yetland Hy Primary India Surface ✓ Yater M Sedimen Drift Dep Algal Ma Surface	Layer (if present): ches): GGY drology Indicators cators (minimum of Water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6)	: one requir	ed; check all that app Water-Sta MLRA Salt Cruss Aquatic Ir Hydrogen Oxidized Presence Recent Ird Stunted o	ly) ained Leav 1, 2, 4A, a t (B11) avertebrate Sulfide O Rhizosphe of Reduce on Reducti r Stressed	and 4B) es (B13) dor (C1) eres along ed Iron (C ion in Tille I Plants (E	Living Roo 4)	Hydric Soi	ondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (CS Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
	Layer (if present): ches):	: one requir Imagery (ed; check all that app Water-Sta MLRA Salt Crusi Aquatic Ir Hydrogen Oxidized Presence Recent Ira Stunted o B7) Other (Ex	ly) ained Leav 1, 2, 4A, a t (B11) avertebrate Sulfide O Rhizosphe of Reduce on Reducti	and 4B) es (B13) dor (C1) eres along ed Iron (C ion in Tille I Plants (E	Living Roc 4) d Soils (C6	Hydric Soi	ondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (CS Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5)
Restrictive Type: Depth (in Remarks: YDROLO YOROLO Yetland Hyr Primary Indic Surface ✓ High Wa ✓ Saturatii Vater M Sedimei Drift Deg Algal Ma Iron Deg Surface Inundatii Sparsely	Layer (if present): ches): DGY drology Indicators cators (minimum of Water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) ion Visible on Aerial y Vegetated Concav	: one requir Imagery (ed; check all that app Water-Sta MLRA Salt Crusi Aquatic Ir Hydrogen Oxidized Presence Recent Ira Stunted o B7) Other (Ex	ly) ained Leav 1, 2, 4A, a t (B11) avertebrate Sulfide O Rhizosphe of Reduce on Reducti r Stressed	and 4B) es (B13) dor (C1) eres along ed Iron (C ion in Tille I Plants (E	Living Roc 4) d Soils (C6	Hydric Soi	ondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2 , 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9 Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
Restrictive Type: Depth (in: Remarks: YDROLO YDROLO Vetland Hy: Primary India Vater M Surface ✓ High Wa ✓ Saturatio Water M Sedimer Drift De; Algal Ma Iron De; Surface Inundati Sparsel; Field Obser	Layer (if present): ches):	: one requir one requir	ed; check all that app Water-Sta MLRA Salt Cruss Aquatic Ir Hydrogen Oxidized Presence Recent Ira Stunted o B7) Other (Ex (B8)	ly) ained Leav 1, 2, 4A, a t (B11) avertebrate Sulfide O Rhizosphe of Reduce on Reducti r Stressed plain in Re	and 4B) es (B13) dor (C1) eres along ed Iron (C ion in Tille I Plants (E	Living Roc 4) d Soils (C6	Hydric Soi	ondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2 , 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9 Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
Restrictive I Type: Depth (in: Remarks: YDROLO Vetland Hy Primary India Surface ✓ High Wa ✓ Saturatia Vater M Saturatia Vater M Sedimer Nater M Sedimer Drift Dep Algal Ma Iron Dep Surface Inundati Sparsely Field Obser	Layer (if present): ches):	: one requir Imagery (ve Surface Yes	ed; check all that app 	ly) ained Leav 1, 2, 4A, a t (B11) avertebrate Sulfide O Rhizosphe of Reduce on Reducti r Stressed plain in Re	and 4B) es (B13) dor (C1) eres along ed Iron (C ion in Tille Plants (E emarks)	Living Roc 4) d Soils (C6	Hydric Soi	ondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2 , 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9 Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
Restrictive Type: Depth (in: Remarks: YDROLO YDROLO Vetland Hy Primary India ✓ Surface ✓ High Wa ✓ Saturatia ✓ Saturatia ✓ Jorift Deg Algal Ma Iron Dep Surface Inundati Sparsely Field Obser	Layer (if present): ches): drology Indicators cators (minimum of Water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) ion Visible on Aerial y Vegetated Concav vations: ter Present? Present?	: one requir one requir	ed; check all that app Water-Sta MLRA Salt Cruss Aquatic Ir Hydrogen Oxidized Presence Recent Ira Stunted o B7) Other (Ex (B8)	ly) ained Leav 1, 2, 4A, a t (B11) avertebrate Sulfide O Rhizosphe of Reducti r Stressed plain in Re plain in Re nches):	and 4B) es (B13) dor (C1) eres along ed Iron (C ion in Tille Plants (E emarks)	Living Roc 4) d Soils (C6 01) (LRR A	Hydric Soi	ondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2 , 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9 Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)

Project/Site: CPU Transmission Line	_ City/County: Clark C	County	Sampling Date: 20 June 2017
Applicant/Owner: Clark Public Utility		State: WA	Sampling Point: 17
Investigator(s): Dustin Day and Allison Kinney	Section, Township,	Range: S22 T4N R1E	
Landform (hillslope, terrace, etc.): hill slope			Slope (%): <u>3-8</u>
Subregion (LRR): LLRA Lat:	45°49'22.71"N	Long: <u>122°40'57.04</u> "W	Datum: WGS84
Soil Map Unit Name: Hillsboro silt loam, 3 to 8 percent slopes		NWI classific	ation: PFO1A
Are climatic / hydrologic conditions on the site typical for this time of	year? Yes 🖌 No	o (If no, explain in R	emarks.)
Are Vegetation, Soil, or Hydrology significan	tly disturbed? A	re "Normal Circumstances" p	present? Yes 🖌 No
Are Vegetation, Soil, or Hydrology naturally	problematic? (If	f needed, explain any answe	rs in Remarks.)
SUMMARY OF FINDINGS - Attach site man showi	na samplina poin	t locations transacts	important features etc

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

Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present?	Yes <u>✓</u> Yes <u> </u>	No No _✔ No _✔	Is the Sampled Area within a Wetland?	Yes No
Remarks:				

	Absolute	Dominant		Dominance Test worksheet:
Tree Stratum (Plot size:)	% Cover	Species?	Status	Number of Dominant Species
1				That Are OBL, FACW, or FAC: 2 (A)
2				Tatal Number of Device of
3				Total Number of Dominant Species Across All Strata: ³ (B)
4				Percent of Dominant Species
Sapling/Shrub Stratum (Plot size:)		= Total Co	over	That Are OBL, FACW, or FAC: <u>66</u> (A/B)
				Prevalence Index worksheet:
1				Total % Cover of: Multiply by:
2				OBL species x 1 =
3				FACW species x 2 =
4				FAC species x 2 =
5				
		= Total Co	over	FACU species x 4 =
Herb Stratum (Plot size:)				UPL species x 5 =
1. Phalaris arundinacea	40	yes	FACW	Column Totals: (A) (B)
2. Equisetum arvense	20	yes	FAC	Prevalence Index = B/A =
3. Vicia sativa	20	yes	UPL	Hydrophytic Vegetation Indicators:
4 Holcus lanatus	15	no	FAC	
5. Daucus carota	15	no	FACU	1 - Rapid Test for Hydrophytic Vegetation
6. Trifolium repens	10	no	FAC	\checkmark 2 - Dominance Test is >50%
				3 - Prevalence Index is ≤3.0 ¹
7				4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
8				. ,
9				5 - Wetland Non-Vascular Plants ¹
10				Problematic Hydrophytic Vegetation ¹ (Explain)
11				¹ Indicators of hydric soil and wetland hydrology must
	120	= Total Cov	ver	be present, unless disturbed or problematic.
Woody Vine Stratum (Plot size:)		-		
1				Hydrophytic
2				Vegetation
		= Total Co		Present? Yes <u>No</u>
% Bare Ground in Herb Stratum		10101 00		
Remarks:				1

Depth	Matrix		Redox Features	_	
(inches)	Color (moist)	<u>%</u>	Color (moist) % Type ¹ Loc ²	Textu	re Remarks
0-16	10YR 3/3	100			
	·				
					2
			Reduced Matrix, CS=Covered or Coated Sand Gra RRs, unless otherwise noted.)		² Location: PL=Pore Lining, M=Matrix. icators for Problematic Hydric Soils ³ :
Histoso			_ Sandy Redox (S5)		2 cm Muck (A10)
	pipedon (A2)		Stripped Matrix (S6)		Red Parent Material (TF2)
	listic (A3)	-	Loamy Mucky Mineral (F1) (except MLRA 1)		Very Shallow Dark Surface (TF12)
	en Sulfide (A4)		Loamy Gleyed Matrix (F2)	_	Other (Explain in Remarks)
Deplete	d Below Dark Surfac	e (A11)	_ Depleted Matrix (F3)		
_ Thick D	ark Surface (A12)	_	_ Redox Dark Surface (F6)	³ Inc	licators of hydrophytic vegetation and
	Mucky Mineral (S1)	_	Depleted Dark Surface (F7)	,	wetland hydrology must be present,
	Gleyed Matrix (S4)	_	_ Redox Depressions (F8)	1	unless disturbed or problematic.
estrictive	Layer (if present):				
					/
				Hydric	Soil Present? Yes No V
Depth (in	iches):			Tiyano	
	nches):		_	Tiyane	
	nches):			Tiyane	
	nches):			Tiyuno	
	nches):				
emarks:				Tiyuno	
emarks: /DROLC	DGY			Tyune	
emarks: /DROLC /etland Hy)GY /drology Indicators:				
emarks: /DROLC /etland Hy	DGY				Secondary Indicators (2 or more required)
emarks: (DROLC /etland Hy rimary Indi Surface	DGY /drology Indicators: cators (minimum of c water (A1)		Water-Stained Leaves (B9) (except		
emarks: (DROLC /etland Hy rimary Indi Surface	DGY /drology Indicators: icators (minimum of c				Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B)
emarks: /DROLC /etland Hy rimary Indi Surface High W	DGY /drology Indicators: cators (minimum of c water (A1)		Water-Stained Leaves (B9) (except		Water-Stained Leaves (B9) (MLRA 1, 2
emarks: /DROLC /etland Hy rimary Indi Surface High W. Saturati	DGY rdrology Indicators: icators (minimum of c water (A1) ater Table (A2)		Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)		Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B)
emarks: (DROLC /etland Hy rimary Indi Surface High W. Saturati Water M	OGY Idrology Indicators: icators (minimum of c Water (A1) ater Table (A2) ion (A3)		Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11)		Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Drainage Patterns (B10)
emarks: /DROLC /etland Hy rimary Indi Surface High W. Saturati Water M. Sedime	OGY rdrology Indicators: cators (minimum of c Water (A1) ater Table (A2) ion (A3) Marks (B1)		Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13)	<u>§</u> 	Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2)
Permarks: Permarks: Permary Indi Surface High W. Saturati Water M. Sedime Drift De	OGY rdrology Indicators: icators (minimum of c ater (A1) ater Table (A2) ion (A3) Marks (B1) int Deposits (B2)		 Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) 	<u>§</u> 	 Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C
Primary Indi Primary Indi Surface High W. Saturati Water N Sedime Drift De Algal M	DGY vdrology Indicators: icators (minimum of c Water (A1) ater Table (A2) ion (A3) Marks (B1) int Deposits (B2) posits (B3)		Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Room	<u>s</u> ts (C3)	 Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C3) Geomorphic Position (D2)
Primary Indi Primary Indi Surface High W. Saturati Water M Sedime Drift De Algal M Iron De	DGY rdrology Indicators: icators (minimum of c Water (A1) ater Table (A2) ion (A3) Marks (B1) int Deposits (B2) posits (B3) at or Crust (B4)		 Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Root Presence of Reduced Iron (C4) 	§	Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C Geomorphic Position (D2) Shallow Aquitard (D3)

Field	Observations:

____ Sparsely Vegetated Concave Surface (B8)

Field Observations:							
Surface Water Present?	Yes	No	Depth (inches):				
Water Table Present?	Yes	No	Depth (inches):		(
Saturation Present? (includes capillary fringe)	Yes	No	Depth (inches):	Wetland Hydrology Present? Y	Yes No 🖌		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:							
Remarks:							

Project/Site: CPU Transmission Line	_ City/County: Clark Coun	ty	Sampling Date: 20 June 2017
Applicant/Owner: Clark Public Utility		State: WA	Sampling Point: 18
Investigator(s): Dustin Day and Allison Kinney	_ Section, Township, Rang	ge: S22 T4N R1E	
Landform (hillslope, terrace, etc.): hill slope			Slope (%): <u>8-20</u>
Subregion (LRR): LLRA Lat: _4	15°49'22.71"N	Long: 122°40'57.04"W	Datum: WGS84
Soil Map Unit Name: Gee silt loam, 8 to 20 percent slopes		NWI classific	ation: none
Are climatic / hydrologic conditions on the site typical for this time of	year? Yes 🖌 No _	(If no, explain in R	emarks.)
Are Vegetation, Soil, or Hydrology significant	ly disturbed? Are "N	lormal Circumstances" p	present? Yes 🖌 No
Are Vegetation, Soil, or Hydrology naturally p	oroblematic? (If nee	eded, explain any answe	rs in Remarks.)
SUMMARY OF FINDINGS – Attach site map showin	ng sampling point lo	cations, transects	, important features, etc.

Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present?	Yes Yes Yes	No No _✓ No _✓	Is the Sampled Area within a Wetland?	Yes	No
Remarks:					

	Absolute		Indicator	Dominance Test worksheet:
Tree Stratum (Plot size:)		Species?		Number of Dominant Species
1				That Are OBL, FACW, or FAC: _1(A)
2				Total Number of Dominant
3				Species Across All Strata:(B)
4				
		= Total Co		Percent of Dominant Species
Sapling/Shrub Stratum (Plot size:)			vei	
1				Prevalence Index worksheet:
				Total % Cover of: Multiply by:
2				OBL species x 1 =
3				FACW species x 2 =
4				FAC species x 3 =
5				
		= Total Co	ver	FACU species x 4 =
Herb Stratum (Plot size:)				UPL species x 5 =
1. Festuca sp.	100	yes	FAC	Column Totals: (A) (B)
2				Prevalence Index = B/A =
3				Hydrophytic Vegetation Indicators:
4				
				1 - Rapid Test for Hydrophytic Vegetation
5				2 - Dominance Test is >50%
6				3 - Prevalence Index is $≤3.0^1$
7				4 - Morphological Adaptations ¹ (Provide supporting
8				data in Remarks or on a separate sheet)
9				5 - Wetland Non-Vascular Plants ¹
10				Problematic Hydrophytic Vegetation ¹ (Explain)
11				¹ Indicators of hydric soil and wetland hydrology must
	100			be present, unless disturbed or problematic.
Woody Vine Stratum (Plot size:)	100	= Total Co		be present, unless disturbed or problematic.
Woody Vine Stratum (Plot size:)	100	_= Total Co	/er	
1	100	= Total Co	ver	Hydrophytic
	100	_= Total Co	ver	Hydrophytic
1. 2.	100	= Total Co	ver	Hydrophytic Vegetation
	100	_= Total Co	ver	Hydrophytic
1. 2.	100	_= Total Co	ver	Hydrophytic

Depth	Matrix		Redox	k Features			
(inches)	Color (moist)	%	Color (moist)		Loc ²	Texture	Remarks
0-16	10 YR 4/3	100					
				·	·		
					· ·		
	· ·						
						2	
	Concentration, D=Deple I Indicators: (Applical				ed Sand Grain		n: PL=Pore Lining, M=Matrix. or Problematic Hydric Soils ³ :
Histoso			Sandy Redox (S			2 cm Mu	•
	Epipedon (A2)		Stripped Matrix				rent Material (TF2)
	Histic (A3)			lineral (F1) (excep	t MLRA 1)		allow Dark Surface (TF12)
	en Sulfide (A4)		Loamy Gleyed N		,		Explain in Remarks)
_ Deplete	ed Below Dark Surface	(A11)	Depleted Matrix	(F3)			
	Dark Surface (A12)		Redox Dark Sur	. ,		³ Indicators o	f hydrophytic vegetation and
	Mucky Mineral (S1)		Depleted Dark S			wetland h	nydrology must be present,
	Gleyed Matrix (S4)		Redox Depressi	ons (F8)	<u>.</u>	unless dis	sturbed or problematic.
	Layer (if present):						
· · ·							
Depth (ir	nches):		_			Hydric Soil Pre	sent? Yes No 🗸
Remarks:							
YDROLC	DGY						
-	ydrology Indicators:						
	licators (minimum of on	e required; c					y Indicators (2 or more required)
	e Water (A1)			ned Leaves (B9) (e	except		r-Stained Leaves (B9) (MLRA 1, 2
-	/ater Table (A2)			I, 2, 4A, and 4B)			A, and 4B)
	tion (A3)		Salt Crust (age Patterns (B10)
	Marks (B1)		·	vertebrates (B13)			Season Water Table (C2)
	ent Deposits (B2)			Sulfide Odor (C1)			ation Visible on Aerial Imagery (C
_ Drift De	eposits (B3)			hizospheres along	-		norphic Position (D2)
Drift De Algal M	lat or Crust (B4)		Presence of	of Reduced Iron (C	4)	Shalle	ow Aquitard (D3)
Drift De Algal M Iron De	lat or Crust (B4) eposits (B5)		Presence c	of Reduced Iron (C n Reduction in Tille	4) d Soils (C6)	Shallo FAC-	ow Aquitard (D3) Neutral Test (D5)
Drift De Algal M Iron De Surface	lat or Crust (B4)		Presence c	of Reduced Iron (C	4) d Soils (C6)	Shallo FAC-	ow Aquitard (D3)

	~ ~ ~ ~	(50)		·	()
Sparsely Vegetated Co	oncave Surfa	ace (B8)			
Field Observations:					
Surface Water Present?	Yes	No	Depth (inches):		
Water Table Present?	Yes	No	Depth (inches):		1
Saturation Present? (includes capillary fringe)	Yes	No	Depth (inches):	Wetland Hydrology Present? Yes	No 🗸
Describe Recorded Data (s	tream gauge	e, monitorir	ng well, aerial photos, previou	is inspections), if available:	
Remarks:					

Project/Site: CPU Transmission Line	City/County: Clark	County	Sampling Date: 20 June 2017
Applicant/Owner: Clark Public Utility			Sampling Point: 19
Investigator(s): Dustin Day and Allison Kinney	Section, Township	, Range: S21 T4N R1E	
Landform (hillslope, terrace, etc.): flat	Local relief (conca	ave, convex, none): <u>none</u>	Slope (%): <u>0-8</u>
Subregion (LRR): LLRA Lat: _	45°49'22.71"N	Long: <u>122°40'57.04</u> "W	Datum: WGS84
Soil Map Unit Name: Gee silt loam, 0 to 8 percent slopes		NWI classific	ation: none
Are climatic / hydrologic conditions on the site typical for this time of	fyear?Yes 🖌 N	No (If no, explain in R	emarks.)
Are Vegetation, Soil, or Hydrology significar	ntly disturbed?	Are "Normal Circumstances" p	resent? Yes 🖌 No
Are Vegetation, Soil, or Hydrology naturally	problematic? ((If needed, explain any answe	rs in Remarks.)
SUMMARY OF FINDINGS – Attach site map showi	ng sampling poi	nt locations, transects	, important features, etc.

Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present?	Yes Yes Yes	No <u>✓</u> No <u>✓</u> No <u>✓</u>	Is the Sampled Area within a Wetland?	Yes	No
Remarks:					

	Absolute		Indicator	Dominance Test worksheet		
Tree Stratum (Plot size:)	<u>% Cover</u>	Species?	Status	Number of Dominant Species		
1				That Are OBL, FACW, or FAC	D: <u>1</u>	(A)
2				Total Number of Dominant		
3				Species Across All Strata:	2	(B)
						(2)
4				Percent of Dominant Species		
Sapling/Shrub Stratum (Plot size:)		= Total Co	ver	That Are OBL, FACW, or FAC	C: 50	(A/B)
Boso gumposorpus	5	Vec	FACU	Prevalence Index workshee	et:	
		yes		Total % Cover of:	Multiply by:	
2				OBL species		
3						
4				FACW species		
5				FAC species		
		= Total Co	vor	FACU species	x 4 =	_
Herb Stratum (Plot size:)		_ = 10tal C0	VEI	UPL species	x 5 =	_
1 Phalaris arundinacea	95	yes	FACW	Column Totals:	(A)	(B)
2				Prevalence Index = B/A	7 —	
					. –	
3				Hydrophytic Vegetation Ind		
	<u> </u>				icators:	
34				Hydrophytic Vegetation Ind	l icators: ohytic Vegetation	
3				Hydrophytic Vegetation Ind 1 - Rapid Test for Hydrop	licators: ohytic Vegetation 50%	
3. 4. 5. 6.				Hydrophytic Vegetation Ind 1 - Rapid Test for Hydrop 2 - Dominance Test is >5 3 - Prevalence Index is ≤	licators: ohytic Vegetation 50% 3.0 ¹	
3.				Hydrophytic Vegetation Ind 1 - Rapid Test for Hydrop 2 - Dominance Test is >5	l icators: ohytic Vegetation 50% 3.0 ¹ ttions ¹ (Provide sup	
3.				Hydrophytic Vegetation Ind 1 - Rapid Test for Hydrop 2 - Dominance Test is >5 3 - Prevalence Index is ≤ 4 - Morphological Adapta data in Remarks or or	licators: ohytic Vegetation 50% 3.0 ¹ ations ¹ (Provide sup a separate sheet)	
3.				Hydrophytic Vegetation Ind 1 - Rapid Test for Hydrop 2 - Dominance Test is >5 3 - Prevalence Index is ≤ 4 - Morphological Adapta data in Remarks or or 5 - Wetland Non-Vascular	licators: ohytic Vegetation 50% 3.0 ¹ ntions ¹ (Provide sup n a separate sheet) n Plants ¹	porting
3.				Hydrophytic Vegetation Ind 1 - Rapid Test for Hydrop 2 - Dominance Test is >5 3 - Prevalence Index is ≤ 4 - Morphological Adapta data in Remarks or or 5 - Wetland Non-Vascula Problematic Hydrophytic	licators: ohytic Vegetation 50% 3.0 ¹ ations ¹ (Provide sup a separate sheet) ar Plants ¹ Vegetation ¹ (Expla	porting in)
3.				Hydrophytic Vegetation Ind 1 - Rapid Test for Hydrop 2 - Dominance Test is >5 3 - Prevalence Index is ≤ 4 - Morphological Adapta 4ata in Remarks or or 5 - Wetland Non-Vascula Problematic Hydrophytic ¹Indicators of hydric soil and to	licators: obytic Vegetation 50% 3.0 ¹ ations ¹ (Provide sup a separate sheet) ar Plants ¹ Vegetation ¹ (Expla wetland hydrology r	porting in)
3.				Hydrophytic Vegetation Ind 1 - Rapid Test for Hydrop 2 - Dominance Test is >5 3 - Prevalence Index is ≤ 4 - Morphological Adapta data in Remarks or or 5 - Wetland Non-Vascula Problematic Hydrophytic	licators: obytic Vegetation 50% 3.0 ¹ ations ¹ (Provide sup a separate sheet) ar Plants ¹ Vegetation ¹ (Expla wetland hydrology r	porting in)
3.	95			Hydrophytic Vegetation Ind 1 - Rapid Test for Hydrop 2 - Dominance Test is >5 3 - Prevalence Index is ≤ 4 - Morphological Adapta 4ata in Remarks or or 5 - Wetland Non-Vascula Problematic Hydrophytic ¹Indicators of hydric soil and to	licators: obytic Vegetation 50% 3.0 ¹ ations ¹ (Provide sup a separate sheet) ar Plants ¹ Vegetation ¹ (Expla wetland hydrology r	porting in)
3.	95			Hydrophytic Vegetation Ind 1 - Rapid Test for Hydrop 2 - Dominance Test is >5 3 - Prevalence Index is ≤ 4 - Morphological Adapta 4 ata in Remarks or or 5 - Wetland Non-Vascula Problematic Hydrophytic ¹Indicators of hydric soil and y be present, unless disturbed	licators: obytic Vegetation 50% 3.0 ¹ ations ¹ (Provide sup a separate sheet) ar Plants ¹ Vegetation ¹ (Expla wetland hydrology r	porting in)
3.	95			Hydrophytic Vegetation Ind 1 - Rapid Test for Hydrop 2 - Dominance Test is >5 3 - Prevalence Index is ≤ 4 - Morphological Adapta data in Remarks or or 5 - Wetland Non-Vascula Problematic Hydrophytic ¹ Indicators of hydric soil and y be present, unless disturbed Hydrophytic Variation	licators: ohytic Vegetation 50% 3.0 ¹ ations ¹ (Provide sup a separate sheet) ar Plants ¹ Vegetation ¹ (Expla wetland hydrology r or problematic.	porting in)
3.	95			Hydrophytic Vegetation Ind 1 - Rapid Test for Hydrop 2 - Dominance Test is >5 3 - Prevalence Index is ≤ 4 - Morphological Adapta data in Remarks or or 5 - Wetland Non-Vascula Problematic Hydrophytic ¹ Indicators of hydric soil and y be present, unless disturbed Hydrophytic Variation	licators: obytic Vegetation 50% 3.0 ¹ ations ¹ (Provide sup a separate sheet) ar Plants ¹ Vegetation ¹ (Expla wetland hydrology r	porting in)
3.	95			Hydrophytic Vegetation Ind 1 - Rapid Test for Hydrop 2 - Dominance Test is >5 3 - Prevalence Index is ≤ 4 - Morphological Adapta data in Remarks or or 5 - Wetland Non-Vascula Problematic Hydrophytic ¹ Indicators of hydric soil and y be present, unless disturbed Hydrophytic Variation	licators: ohytic Vegetation 50% 3.0 ¹ ations ¹ (Provide sup a separate sheet) ar Plants ¹ Vegetation ¹ (Expla wetland hydrology r or problematic.	porting in)
3.	95			Hydrophytic Vegetation Ind 1 - Rapid Test for Hydrop 2 - Dominance Test is >5 3 - Prevalence Index is ≤ 4 - Morphological Adapta data in Remarks or or 5 - Wetland Non-Vascula Problematic Hydrophytic ¹ Indicators of hydric soil and y be present, unless disturbed Hydrophytic Variation	licators: ohytic Vegetation 50% 3.0 ¹ ations ¹ (Provide sup a separate sheet) ar Plants ¹ Vegetation ¹ (Expla wetland hydrology r or problematic.	porting in)

Depth	Matrix		-	ox Feature				sence of indicators.)
(inches)	Color (moist)	%	Color (moist)	%		Loc ²	Textu	ure Remarks
0-16	10YR 4/3	70	10YR 5/2	30	С	Μ		
						·		
			/			ed Sand Gra		² Location: PL=Pore Lining, M=Matrix. dicators for Problematic Hydric Soils ³ :
Black H Hydroge Deplete Thick Da Sandy M Sandy O	pipedon (A2) istic (A3) en Sulfide (A4) d Below Dark Surf ark Surface (A12) Jucky Mineral (S1) Gleyed Matrix (S4))	Sandy Redox (Stripped Matrix Loamy Mucky Loamy Gleyed Depleted Matri Redox Dark Su Depleted Dark Redox Deprese	(S6) Mineral (F Matrix (F x (F3) urface (F6 Surface (2)) F7)	t MLRA 1)		 2 cm Muck (A10) Red Parent Material (TF2) Very Shallow Dark Surface (TF12) Other (Explain in Remarks) adicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
	Layer (if present)							/
Depth (in	ches):						Hydri	c Soil Present? Yes No 🖌
-	drology Indicator		ed; check all that app					Secondary Indicators (2 or more required)
					(DO) (4	veent		
High Wa	Water (A1) ater Table (A2) on (A3)		Water-Sta MLRA Salt Crust	1, 2, 4A,		except		 Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Drainage Patterns (B10)
Sedime	larks (B1) nt Deposits (B2) posits (B3)			Sulfide C Rhizosph)dor (C1) eres along	Living Root	s (C3)	Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C Geomorphic Position (D2)
Algal M	at or Crust (B4)		Presence	of Roduc	ad Iron (C	4)		Shallow Aquitard (D3)

Sparsely Vegetated Cor	ncave Surfa	ce (B8)			
Field Observations:					
Surface Water Present?	Yes	No	Depth (inches):		
Water Table Present?	Yes	No	Depth (inches):	(
Saturation Present? (includes capillary fringe)	Yes	No	Depth (inches):	Wetland Hydrology Present? Yes No _✔	-
Describe Recorded Data (st	ream gauge	, monitorin	g well, aerial photos, previou	is inspections), if available:	
Remarks:					

Project/Site: CPU Transmission Line	_ City/County: Clark Cour	nty	Sampling Date: 20 June 2017
Applicant/Owner: Clark Public Utility		State: WA	Sampling Point: 20
Investigator(s): Dustin Day and Allison Kinney	Section, Township, Rar	nge: S15 T4N R1E	
Landform (hillslope, terrace, etc.): flat	Local relief (concave, c	convex, none): <u>none</u>	Slope (%): <u>0-5</u>
Subregion (LRR): LLRA Lat:	45°49'22.71"N	Long: 122°40'57.04"W	Datum: WGS84
Soil Map Unit Name: Odne silt loam, 0 to 5 percent slopes		NWI classific	ation: none
Are climatic / hydrologic conditions on the site typical for this time of	year? Yes 🖌 No _	(If no, explain in R	emarks.)
Are Vegetation, Soil, or Hydrology significan	tly disturbed? Are "I	Normal Circumstances" p	oresent? Yes 🖌 No
Are Vegetation, Soil, or Hydrology naturally	problematic? (If ne	eded, explain any answe	rs in Remarks.)
SUMMARY OF FINDINGS – Attach site map showin	ng sampling point lo	ocations, transects	, important features, etc.

Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present?	Yes	Is the Sampled Area within a Wetland? Yes No
Remarks:		

	Absolute		Indicator	Dominance Test worksh	eet:	
Tree Stratum (Plot size:)	% Cover	Species?	Status	Number of Dominant Spec	cies	
1				That Are OBL, FACW, or	FAC: 1 (A	A)
2				Trichharden (Deniser		
3				Total Number of Dominan Species Across All Strata:		R)
						2)
4				Percent of Dominant Spec	cies	
Sapling/Shrub Stratum (Plot size:)		= Total Co	over	That Are OBL, FACW, or	FAC: 100 (A	A/B)
				Prevalence Index works	heet:	
1				Total % Cover of:	Multiply by:	
2				OBL species	x 1 =	
3			·	FACW species		
4			. <u></u>			
5				FAC species		
		= Total Co	over	FACU species		
Herb Stratum (Plot size:)		-		UPL species		
1. Phalaris arundinacea	75	yes	FACW	Column Totals:	(A)	(B)
2. Holcus lanatus	20	no	FAC	Dravalar as Indau		
3. Lotus corniculatus	20	no	FAC		B/A =	
4. Equisetum arvense	10	no	FAC	Hydrophytic Vegetation		
		-		1 - Rapid Test for Hyd		
5				✓ 2 - Dominance Test is		
5						
6				3 - Prevalence Index		
			·	3 - Prevalence Index	is $\leq 3.0^1$	rting
6 7				3 - Prevalence Index	is ≤3.0 ¹	rting
6 7 8				3 - Prevalence Index	is ≤3.0 ¹ aptations ¹ (Provide suppor r on a separate sheet)	rting
6 7 8 9				 3 - Prevalence Index i 4 - Morphological Ada data in Remarks o 	is ≤3.0 ¹ aptations ¹ (Provide suppor r on a separate sheet) cular Plants ¹	-
6 7 8 9 10				 3 - Prevalence Index i 4 - Morphological Ada data in Remarks o 5 - Wetland Non-Vaso Problematic Hydrophy 	is ≤3.0 ¹ aptations ¹ (Provide suppor r on a separate sheet) cular Plants ¹ /tic Vegetation ¹ (Explain)	
6 7 8 9				 3 - Prevalence Index 4 - Morphological Ada data in Remarks o 5 - Wetland Non-Vaso 	is ≤3.0 ¹ aptations ¹ (Provide suppor r on a separate sheet) cular Plants ¹ /tic Vegetation ¹ (Explain) nd wetland hydrology mus	
6 7 8 9 10 11				 3 - Prevalence Index i 4 - Morphological Ada data in Remarks o 5 - Wetland Non-Vaso Problematic Hydrophy ¹Indicators of hydric soil at 	is ≤3.0 ¹ aptations ¹ (Provide suppor r on a separate sheet) cular Plants ¹ /tic Vegetation ¹ (Explain) nd wetland hydrology mus	
6 7 8 9 10 11 <u>Woody Vine Stratum</u> (Plot size:)	125	 		3 - Prevalence Index i 4 - Morphological Ada data in Remarks o 5 - Wetland Non-Vasc Problematic Hydrophy ¹ Indicators of hydric soil at be present, unless disturb	is ≤3.0 ¹ aptations ¹ (Provide suppor r on a separate sheet) cular Plants ¹ /tic Vegetation ¹ (Explain) nd wetland hydrology mus	
6	125	 		3 - Prevalence Index i 4 - Morphological Ada data in Remarks o 5 - Wetland Non-Vaso Problematic Hydrophy ¹ Indicators of hydric soil ar be present, unless disturb Hydrophytic Variation	is ≤3.0 ¹ aptations ¹ (Provide suppor r on a separate sheet) cular Plants ¹ ytic Vegetation ¹ (Explain) nd wetland hydrology mus ed or problematic.	
6 7 8 9 10 11 <u>Woody Vine Stratum</u> (Plot size:)	125	 = Total Co	ver	3 - Prevalence Index i 4 - Morphological Ada data in Remarks o 5 - Wetland Non-Vaso Problematic Hydrophy ¹ Indicators of hydric soil ar be present, unless disturb Hydrophytic Variation	is ≤3.0 ¹ aptations ¹ (Provide suppor r on a separate sheet) cular Plants ¹ ytic Vegetation ¹ (Explain) nd wetland hydrology mus ed or problematic.	
6	125	 	ver	3 - Prevalence Index i 4 - Morphological Ada data in Remarks o 5 - Wetland Non-Vaso Problematic Hydrophy ¹ Indicators of hydric soil ar be present, unless disturb Hydrophytic Variation	is ≤3.0 ¹ aptations ¹ (Provide suppor r on a separate sheet) cular Plants ¹ /tic Vegetation ¹ (Explain) nd wetland hydrology mus	
6.	125	 = Total Co	ver	3 - Prevalence Index i 4 - Morphological Ada data in Remarks o 5 - Wetland Non-Vaso Problematic Hydrophy ¹ Indicators of hydric soil ar be present, unless disturb Hydrophytic Variation	is ≤3.0 ¹ aptations ¹ (Provide suppor r on a separate sheet) cular Plants ¹ ytic Vegetation ¹ (Explain) nd wetland hydrology mus ed or problematic.	
6	125	 = Total Co	ver	3 - Prevalence Index i 4 - Morphological Ada data in Remarks o 5 - Wetland Non-Vaso Problematic Hydrophy ¹ Indicators of hydric soil ar be present, unless disturb Hydrophytic Variation	is ≤3.0 ¹ aptations ¹ (Provide suppor r on a separate sheet) cular Plants ¹ ytic Vegetation ¹ (Explain) nd wetland hydrology mus ed or problematic.	

SOIL

Profile Des	cription: (Describe	e to the dept	h needed to docu	ment the	e indicator	or confirm	the absence	e of indicators.)
Depth	Matrix			ox Featur				
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
0-16	10YR 3/2	95	10YR 3/6	5	C	M/PL		
		·		 				
		·						
7 1	oncentration, D=De					ed Sand Gr		cation: PL=Pore Lining, M=Matrix.
Histoso Histic E Black H Hydrog Deplete Thick D Sandy I	Indicators: (Appli I (A1) pipedon (A2) istic (A3) en Sulfide (A4) d Below Dark Surfa ark Surface (A12) Mucky Mineral (S1) Gleyed Matrix (S4)	-	Sandy Redox (Stripped Matrix Loamy Mucky Loamy Gleyed Depleted Matri Redox Dark St Depleted Dark Redox Depres	(S5) ((S6) Mineral (I Matrix (F x (F3) urface (F6 Surface (F1) (excep F2) 6) (F7)	t MLRA 1)	2 cr Rec Ver Oth ³ Indicate wetla	ors for Problematic Hydric Soils ³ : m Muck (A10) d Parent Material (TF2) ry Shallow Dark Surface (TF12) ner (Explain in Remarks) ors of hydrophytic vegetation and and hydrology must be present, ss disturbed or problematic.
	Layer (if present):							
Type:								/
Depth (ir	ches):						Hydric Soi	l Present? Yes 🗡 No
YDROLO	JGY							
	drology Indicators	5:						
rimary Indi	cators (minimum of	one required	; check all that app	ly)			Seco	ndary Indicators (2 or more required)
Surface High W Saturat	Water (A1) ater Table (A2) on (A3)		Water-Sta MLRA Salt Crus	ained Lea . 1, 2, 4A , t (B11)		except	V [Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Drainage Patterns (B10)
	Aarks (B1)		Aquatic Ir		. ,			Dry-Season Water Table (C2)
	nt Deposits (B2)		Hydrogen		. ,			Saturation Visible on Aerial Imagery (C
	posits (B3)		Oxidized	•	0	0		Geomorphic Position (D2)
	at or Crust (B4)				ced Iron (C			Shallow Aquitard (D3)
	posits (B5)					d Soils (C6		FAC-Neutral Test (D5)
	Soil Cracks (B6)					01) (LRR A)		Raised Ant Mounds (D6) (LRR A)
	ion Visible on Aerial y Vegetated Conca			plain in F	(emarks)		F	Frost-Heave Hummocks (D7)

Sparsely Vegetated Cond	cave Surface	e (B8)				
Field Observations:						
Surface Water Present?	Yes	No	Depth (inches):			
Water Table Present?	Yes	No	Depth (inches):			
Saturation Present? (includes capillary fringe)	Yes	_ No	Depth (inches):	Wetland Hydrology Present?	Yes 🖌	No
Describe Recorded Data (stre	eam gauge,	monitoring	vell, aerial photos, previous inspec	tions), if available:		
Remarks:						

Project/Site: CPU Transmission Line	_ City/County: Clark Co	ounty	Sampling Date: 20 June 2017
Applicant/Owner: Clark Public Utility		State: WA	
Investigator(s): Dustin Day and Allison Kinney	Section, Township, R	ange: S09 T4N R1E	
Landform (hillslope, terrace, etc.): Depression		, convex, none): <u>convex</u>	Slope (%): <u>0-5</u>
Subregion (LRR): LLRA Lat:	45°49'22.71"N	Long: <u>122°40'57.04</u> "W	Datum: WGS84
Soil Map Unit Name: Odne silt loam, 0 to 5 percent slopes		NWI classific	cation: R4SBC
Are climatic / hydrologic conditions on the site typical for this time of	year? Yes 🖌 No	(If no, explain in R	emarks.)
Are Vegetation, Soil, or Hydrology significan	Itly disturbed? Are	e "Normal Circumstances" p	oresent? Yes 🖌 No
Are Vegetation, Soil, or Hydrology naturally	problematic? (If r	needed, explain any answe	rs in Remarks.)
SUMMARY OF FINDINGS – Attach site map showing	ng sampling point	locations, transects	, important features, etc.

Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present?	Yes ✓ No Yes ✓ No Yes ✓ No	Is the Sampled Area within a Wetland?	Yes No
Remarks:			

	Absolute		Indicator	Dominance Test worksheet:
Tree Stratum (Plot size:)	% Cover	Species?	Status	Number of Dominant Species
1				That Are OBL, FACW, or FAC: 2 (A)
2				Total Number of Dominant
3				Species Across All Strata: ³ (B)
4				
		= Total Co	wor	Percent of Dominant Species
Sapling/Shrub Stratum (Plot size:)		_ = 10tai 00		
1. Rosa gymnocarpa	20	yes	FACU	Prevalence Index worksheet:
			·	Total % Cover of: Multiply by:
2				OBL species x 1 =
3				FACW species x 2 =
4			·	FAC species x 3 =
5				
		= Total Co	over	FACU species x 4 =
Herb Stratum (Plot size:)				UPL species x 5 =
1. Phalaris arundinacea	85	yes	FACW	Column Totals: (A) (B)
2. Typha latifolia	5	no	OBL	Prevalence Index = B/A =
3			. <u> </u>	Hydrophytic Vegetation Indicators:
4			·	1 - Rapid Test for Hydrophytic Vegetation
5				✓ 2 - Dominance Test is >50%
6				$3 - Prevalence Index is \leq 3.0^{1}$
7				4 - Morphological Adaptations ¹ (Provide supporting
8				data in Remarks or on a separate sheet)
9				5 - Wetland Non-Vascular Plants ¹
10				Problematic Hydrophytic Vegetation ¹ (Explain)
				¹ Indicators of hydric soil and wetland hydrology must
11				be present, unless disturbed or problematic.
Woody Vine Stratum (Plot size:)	-	= Total Co	ver	
1. Rubus armeniacus	1	ves	FAC	
		<u>,</u>		Hydrophytic Vegetation
2	1		·	Present? Yes No No
% Bare Ground in Herb Stratum		= Total Co	ver	
Remarks:				1

SOIL

Profile Des	cription: (Describ	e to the dep	oth needed to docu	ment the	e indicator	or confirm	the absence	of indicators.)
Depth	Matrix		Redo	ox Featur	es			
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
0-16	10YR 3/1	95	10YR 3/4	5	C	M/PL		
21	Indicators: (Appl		=Reduced Matrix, C: LRRs, unless othe Sandy Redox (rwise no		ed Sand Gr	Indicator	ation: PL=Pore Lining, M=Matrix. rs for Problematic Hydric Soils ³ :
Histic E Black H	pipedon (A2) listic (A3) en Sulfide (A4)		Stripped Matrix Loamy Mucky I Loamy Gleyed	(S6) Mineral (,	t MLRA 1)	Red Very	Parent Material (TF2) Shallow Dark Surface (TF12) r (Explain in Remarks)
Thick D Sandy I Sandy (d Below Dark Surfa ark Surface (A12) Mucky Mineral (S1) Gleyed Matrix (S4)		 ✓ Depleted Matrix ✓ Redox Dark Su ✓ Depleted Dark ✓ Redox Depress 	irface (Fe Surface	(F7)		wetlar	rs of hydrophytic vegetation and nd hydrology must be present, s disturbed or problematic.
Restrictive Type:	Layer (if present):							
Depth (ir	iches):						Hydric Soil	Present? Yes 🗸 No
Remarks:								
YDROLC	OGY							
			d; check all that app				Sacan	dary Indicators (2 or more required)
	Water (A1)		· · · · · ·		ves (B9) (e	vcont		dary Indicators (2 or more required) ater-Stained Leaves (B9) (MLRA 1, 2
	ater Table (A2)			1, 2, 4A	and 4B)	except		4A, and 4B) rainage Patterns (B10)
	/larks (B1)		Aquatic In					ry-Season Water Table (C2)
	nt Deposits (B2)		Hydrogen		. ,			aturation Visible on Aerial Imagery (C
	posits (B3)		✓ Oxidized I		. ,	Livina Roc		eomorphic Position (D2)
	at or Crust (B4)			•	ced Iron (C	0		nallow Aquitard (D3)
	posits (B5)				tion in Tille			AC-Neutral Test (D5)
	Soil Cracks (B6)				d Plants (D			aised Ant Mounds (D6) (LRR A)
	ion Visible on Aeria	l Imagery (F				., (ost-Heave Hummocks (D7)
	y Vegetated Conca							

Sparsely vegetated Conc	ave Surrace	(B8)				
Field Observations:						
Surface Water Present?	Yes	No	Depth (inches):			
Water Table Present?	Yes	No	Depth (inches):			
Saturation Present? (includes capillary fringe)	Yes 🖌	No	Depth (inches): surface	Wetland Hydrology Present?	Yes 🖌	No
Describe Recorded Data (stre	am gauge, n	nonitoring w	vell, aerial photos, previous inspec	tions), if available:		
Remarks:						

Project/Site: CPU Transmission Line	City/County: Cla	ark County		Sampling Da	ate: 20 June 2017
Applicant/Owner: Clark Public Utility			State: WA	Sampling Po	
Investigator(s): Dustin Day and Allison Kinney	Section, Townsh	hip, Range: _	S09 T4N R1E		
Landform (hillslope, terrace, etc.): flat			x, none): <u>none</u>		Slope (%): 0-5
Subregion (LRR): LLRA Lat:	45°49'22.71"N	Lon	g: <u>122°40'57.04"W</u>		Datum: WGS84
Soil Map Unit Name: Odne silt loam, 0 to 5 percent slopes			NWI classific	ation: none	
Are climatic / hydrologic conditions on the site typical for this time o	f year? Yes 🧹	No	(If no, explain in R	emarks.)	
Are Vegetation, Soil, or Hydrology significat	ntly disturbed?	Are "Norm	al Circumstances" p	present? Yes	s No
Are Vegetation, Soil, or Hydrology naturally	problematic?	(If needed	, explain any answe	rs in Remarks	s.)
SUMMARY OF FINDINGS - Attach site man showi	ing sampling p	oint locat	ions transects	imnortan	t features etc

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

Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present?	Yes Yes Yes	No <u>✓</u> No <u>✓</u> No <u>✓</u>	Is the Sampled Area within a Wetland?	Yes	No
Remarks:					

	Absolute		Indicator	Dominance Test worksheet:	
Tree Stratum (Plot size:)		Species?	-	Number of Dominant Species	
1. Pinus monticola	80	yes	FACU	That Are OBL, FACW, or FAC: 1	(A)
2					
3				Total Number of Dominant Species Across All Strata: <u>4</u>	(B)
					(8)
4	80	Tatal Oa		Percent of Dominant Species	
Sapling/Shrub Stratum (Plot size:)	00	= Total Co	over	That Are OBL, FACW, or FAC: 25	(A/B)
1. Symphoricarpos albus	50	yes	FACU	Prevalence Index worksheet:	
2. Rosa gymnocarpa	10	no	FACU	Total % Cover of: Multiply by:	_
				OBL species x 1 =	
3				FACW species x 2 =	
4					
5				FAC species x 3 =	
	<u> </u>	= Total Co	over	FACU species x 4 =	
Herb Stratum (Plot size:)				UPL species x 5 =	_
1. Rubus ursinus	5	yes	FACU	Column Totals: (A)	(B)
2					
3				Prevalence Index = B/A =	_
				Hydrophytic Vegetation Indicators:	
4				1 - Rapid Test for Hydrophytic Vegetation	
5				2 - Dominance Test is >50%	
6				3 - Prevalence Index is ≤3.0 ¹	
7				4 - Morphological Adaptations ¹ (Provide sup	porting
8				data in Remarks or on a separate sheet)	
9				5 - Wetland Non-Vascular Plants ¹	
10				Problematic Hydrophytic Vegetation ¹ (Expla	in)
				¹ Indicators of hydric soil and wetland hydrology	
11				be present, unless disturbed or problematic.	naor
Woody Vine Stratum (Plot size:)		= Total Co	ver		
1. Rubus armeniacus	5	Ves	FAC		
		,		Hydrophytic Vegetation	
2				Present? Yes No	
W David Constant in Lineth Other trans	5	= Total Co	ver		
% Bare Ground in Herb Stratum					
Remarks:					

	cription: (Describe				loutor			. maleaterely	
Depth (inches)	Matrix Color (moist)	%	Color (moist)	x Features % 7	Tvpe ¹	Loc ²	Texture	Remarks	
)-16	10YR 3/2	100							
	·			·		·			
				·		·			
				·					
	·			·		. <u> </u>			
						· ·			
	Concentration, D=Depl					d Sand Gra		tion: PL=Pore Lining, M=Matrix.	
-	Indicators: (Applica	able to all LRF			.)			s for Problematic Hydric Soils ³ :	
Histoso	()		Sandy Redox (Muck (A10)	
	pipedon (A2)		Stripped Matrix		oveent			Parent Material (TF2)	
Black H	en Sulfide (A4)		Loamy Mucky M		except	WILKA I)		Shallow Dark Surface (TF12) · (Explain in Remarks)	
	· · ·	~ (^11)	Loamy Gleyed					(Explain in Remarks)	
	epleted Below Dark Surface (A11) Depleted Matrix (F3) hick Dark Surface (A12) Redox Dark Surface (F6)			³ Indicators	s of hydrophytic vegetation and				
	Mucky Mineral (S1)		Depleted Dark	. ,			wetland hydrology must be present,		
	Gleyed Matrix (S4)		Redox Depress					disturbed or problematic.	
	Layer (if present):								
			-						
Depth (ir	nches):		_				Hydric Soil F	Present? Yes No 🗸	
Remarks:									
YDROLO	DGY								
-	/drology Indicators:						C	den i la dissione (O su mono no mined)	
	icators (minimum of o	ne required; cr			(DO) (dary Indicators (2 or more required)	
Surface	e Water (A1)		Water-Sta		. , .	xcept		ater-Stained Leaves (B9) (MLRA 1,	
				1, 2, 4A, and				4A, and 4B)	
High W	ater Table (A2)				148)				
High W Saturat	ion (A3)		Salt Crust	(B11)			Dra	ainage Patterns (B10)	
High W Saturat Water N	ion (A3) Marks (B1)		Salt Crust Aquatic In	(B11) vertebrates (I	B13)		Dra Dry	ainage Patterns (B10) /-Season Water Table (C2)	
High W Saturat Water M Sedime	ion (A3) Marks (B1) ent Deposits (B2)		Salt Crust Aquatic In	(B11)	B13)		Dra Dry	ainage Patterns (B10)	
High W Saturat Water M Sedime	ion (A3) Marks (B1)		Salt Crust Aquatic In Hydrogen	(B11) vertebrates (I	B13) (C1)	Living Root	Dra Dry Sa	ainage Patterns (B10) /-Season Water Table (C2)	
High W Saturat Water M Sedime Drift De	ion (A3) Marks (B1) ent Deposits (B2)		Salt Crust Aquatic In Hydrogen Oxidized F	(B11) vertebrates (I Sulfide Odor	B13) (C1) along	-	Dra Dry Sa s (C3) Ge	ainage Patterns (B10) y-Season Water Table (C2) turation Visible on Aerial Imagery (C	
High W Saturat Water M Sedime Drift De Algal M	ion (A3) Marks (B1) ent Deposits (B2) eposits (B3)		Salt Crust Aquatic In Hydrogen Oxidized F Presence	(B11) vertebrates (I Sulfide Odor Rhizospheres	B13) (C1) along ron (C4	L)	Dra Dry Sa s (C3) Ge Sh	ainage Patterns (B10) y-Season Water Table (C2) turation Visible on Aerial Imagery (C omorphic Position (D2)	
High W Saturat Water I Sedime Drift De Algal M Iron De	ion (A3) Marks (B1) ent Deposits (B2) eposits (B3) lat or Crust (B4)		Salt Crust Aquatic In Hydrogen Oxidized F Presence Recent Iro	(B11) vertebrates (I Sulfide Odor Rhizospheres of Reduced I	B13) (C1) along ron (C4 in Tilleo	l) d Soils (C6)	Dra Dry Sa s (C3) Ge Sh FA	ainage Patterns (B10) y-Season Water Table (C2) turation Visible on Aerial Imagery (C omorphic Position (D2) allow Aquitard (D3)	
High W Saturat Saturat Water I Sedime Drift De Algal M Iron De Surface	ion (A3) Marks (B1) ent Deposits (B2) eposits (B3) lat or Crust (B4) eposits (B5)	magery (B7)	Salt Crust Aquatic Im Hydrogen Oxidized F Presence Recent Iro Stunted or	(B11) vertebrates (I Sulfide Odor Rhizospheres of Reduced I n Reduction	B13) (C1) along ron (C4 in Tilleo ants (D	l) d Soils (C6)	Dra Dry Sa s (C3) Ge Sh FA Ra	ainage Patterns (B10) y-Season Water Table (C2) turation Visible on Aerial Imagery (C omorphic Position (D2) allow Aquitard (D3) C-Neutral Test (D5)	

Sparsely vegetated Cor	icave Suna	се (ва)			
Field Observations:					
Surface Water Present?	Yes	No	Depth (inches):		
Water Table Present?	Yes	No	Depth (inches):	(
Saturation Present? (includes capillary fringe)	Yes	No	Depth (inches):	Wetland Hydrology Present? Yes No _	-
Describe Recorded Data (str	eam gauge	, monitorin	g well, aerial photos, previ	vious inspections), if available:	
Remarks:					

Project/Site: CPU Transmission Line	City/County: Clark	k County	Sampling Date: 20 June 2017
Applicant/Owner: Clark Public Utility		State: WA	Sampling Point: 23
Investigator(s): Dustin Day and Allison Kinney	Section, Township	o, Range: <u>S09 T4N R1E</u>	
Landform (hillslope, terrace, etc.): flat		ave, convex, none): <u>none</u>	Slope (%): <u>0-8</u>
Subregion (LRR): LLRA Lat:	45°49'22.71"N	Long: <u>122°40'57.04</u> "W	Datum: WGS84
Soil Map Unit Name: Gee silt loam, 0-8 percent slopes		NWI classific	ation: none
Are climatic / hydrologic conditions on the site typical for this time	of year? Yes 🖌	No (If no, explain in R	emarks.)
Are Vegetation, Soil, or Hydrologysignific	antly disturbed?	Are "Normal Circumstances" p	oresent? Yes 🖌 No
Are Vegetation, Soil, or Hydrology natural	ly problematic?	(If needed, explain any answe	rs in Remarks.)
SUMMARY OF FINDINGS – Attach site map show	ving sampling po	int locations, transects	, important features, etc.

Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present?	Yes Yes Yes	No∕ No∕	Is the Sampled Area within a Wetland?	Yes	No
Remarks:					

	Absolute	Dominant		Dominance Test worksheet:	
Tree Stratum (Plot size:)	% Cover	Species?	Status	Number of Dominant Species	
1				That Are OBL, FACW, or FAC: 1	(A)
2				Total Number of Device of	
3				Total Number of Dominant Species Across All Strata: 4	(B)
					(0)
4				Percent of Dominant Species	
Sapling/Shrub Stratum (Plot size:)		= Total Co	ver	That Are OBL, FACW, or FAC: 25	(A/B)
1. Corylus cornuta	60	ves	FACU	Prevalence Index worksheet:	
		· · · · ·		Total % Cover of: Multiply by:	
2. Amelanchier alnifolia	20	yes	FACU	OBL species x 1 =	
3				FACW species x 2 =	
4					
5				FAC species x 3 =	-
	00	= Total Co	vor	FACU species x 4 =	-
Herb Stratum (Plot size:)		_ 10tai 00	VEI	UPL species x 5 =	_
1. Rubus ursinus	5	ves	FACU	Column Totals: (A)	(B)
2				Prevalence Index = B/A =	_
3				Hydrophytic Vegetation Indicators:	
4				1 - Rapid Test for Hydrophytic Vegetation	
5				2 - Dominance Test is >50%	
6				3 - Prevalence Index is ≤3.0 ¹	
7				4 - Morphological Adaptations ¹ (Provide supp	orting
8				data in Remarks or on a separate sheet)	Jonung
				5 - Wetland Non-Vascular Plants ¹	
9				Problematic Hydrophytic Vegetation ¹ (Explain	n)
10				¹ Indicators of hydric soil and wetland hydrology m	
11				be present, unless disturbed or problematic.	iusi
	5	= Total Co	/er		
Woody Vine Stratum (Plot size:)	4.0				
1. Rubus armeniacus	10	yes	FAC	Hydrophytic	
2				Vegetation Present? Yes No	
	10	= Total Co	/er	Present? Yes No V	
% Bare Ground in Herb Stratum		-			
Remarks:					

SOIL						Sampling Point.	
Profile Desc	ription: (Describe to	o the depth	needed to document the indicato	or or confirm t	he absence o	of indicators.)	
Depth	Matrix		Redox Features	1 0			
(inches)	Color (moist)	%	Color (moist) % Type		Texture	Remarks	
0-16	10YR 3/2	100					
					·		
					· ·		
<u> </u>							
			educed Matrix, CS=Covered or Coa RRs, unless otherwise noted.)	ated Sand Grai		tion: PL=Pore Lining, M s for Problematic Hydri	
Histosol			_ Sandy Redox (S5)			Muck (A10)	
	bipedon (A2)	_	_ Stripped Matrix (S6)			Parent Material (TF2)	
Black Hi	• • •	_	Loamy Mucky Mineral (F1) (exce	ept MLRA 1)		Shallow Dark Surface (T	F12)
	en Sulfide (A4)		_ Loamy Gleyed Matrix (F2)	pr		(Explain in Remarks))
	d Below Dark Surface	(A11)	_ Depleted Matrix (F3)				
	ark Surface (A12)	(,,,,,)	Redox Dark Surface (F6)		³ Indicator	s of hydrophytic vegetation	on and
	lucky Mineral (S1)		_ Depleted Dark Surface (F7)			d hydrology must be pres	
	Gleyed Matrix (S4)		_ Redox Depressions (F8)			disturbed or problematic	
	Layer (if present):					'	
	, , , , , , , , , , , , , , , , , , ,						
	ches):		_		Hydric Soil F	Present? Yes	No 🗸
Remarks:				I_			
IYDROLO							
•	drology Indicators: cators (minimum of on	e required:	check all that apply)		Second	lary Indicators (2 or more	e required)
	Water (A1)	o roquirou,	Water-Stained Leaves (B9)	(excent		ater-Stained Leaves (B9)	
	ater Table (A2)		MLRA 1, 2, 4A, and 4B)			4A, and 4B)	
	. ,		· · · · · ·				
Saturatio			Salt Crust (B11)			ainage Patterns (B10)	
	larks (B1)		Aquatic Invertebrates (B13)			/-Season Water Table (C	,
	nt Deposits (B2)		Hydrogen Sulfide Odor (C1)			turation Visible on Aerial	Imagery (C9)
	posits (B3)		Oxidized Rhizospheres alon	0 0		omorphic Position (D2)	
-	at or Crust (B4)		Presence of Reduced Iron (allow Aquitard (D3)	
	oosits (B5)		Recent Iron Reduction in Til	led Soils (C6)		C-Neutral Test (D5)	
Surface	Soil Cracks (B6)		Stunted or Stressed Plants	(D1) (LRR A)	Ra	ised Ant Mounds (D6) (L	RR A)
Inundati	on Visible on Aerial Im	nagery (B7)	Other (Explain in Remarks)		Fro	ost-Heave Hummocks (D	7)
Sparsely	Vegetated Concave	Surface (B8)				
Field Obser	vations:						

Field Observations:					
Surface Water Present?	Yes	No	Depth (inches):		
Water Table Present?	Yes	No	Depth (inches):		1
Saturation Present? (includes capillary fringe)	Yes	No	Depth (inches):	Wetland Hydrology Present?	Yes No 🖌
Describe Recorded Data (stre	eam gauge, r	nonitoring v	vell, aerial photos, previous inspec	ctions), if available:	
Remarks:					

Project/Site: CPU Transmission Line	City/County: Clark	County	Sampling Date: 20 June 2017	
Applicant/Owner: Clark Public Utility		State: WA	Sampling Point: 24	
Investigator(s): Dustin Day and Allison Kinney	Section, Township,	, Range: <u>S09 T4N R1E</u>		
Landform (hillslope, terrace, etc.): flat		Local relief (concave, convex, none): <u>none</u> Slope (%):		
Subregion (LRR): LLRA La	t: 45°49'22.71"N	Long: <u>122°40'57.04</u> "W	Datum: WGS84	
Soil Map Unit Name: Gee silt loam, 0 to 8 percent slopes		NWI classifica	ation: none	
Are climatic / hydrologic conditions on the site typical for this time	e of year? Yes 🖌 N	lo (If no, explain in Re	emarks.)	
Are Vegetation, Soil, or Hydrology signified	cantly disturbed?	Are "Normal Circumstances" p	resent? Yes 🖌 No	
Are Vegetation, Soil, or Hydrology natura	ally problematic? (If needed, explain any answer	s in Remarks.)	
SUMMARY OF FINDINGS – Attach site map sho	wing sampling poir	nt locations, transects,	important features, etc.	

Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present?	Yes Yes Yes	No No No	Is the Sampled Area within a Wetland?	Yes	No _
Remarks:			•		

	Absolute		Indicator	Dominance Test worksheet:	
Tree Stratum (Plot size:)	% Cover	Species?	Status	Number of Dominant Species	
1				That Are OBL, FACW, or FAC: 2	(A)
2				Tetel Newborn (Device of	
3				Total Number of Dominant Species Across All Strata: 5	(B)
					(D)
4				Percent of Dominant Species	
Sapling/Shrub Stratum (Plot size:)		= Total Co	over	That Are OBL, FACW, or FAC: 40	(A/B)
1. Spiraea douglasii	20	yes	FACW	Prevalence Index worksheet:	
•••	20		FACU	Total % Cover of: Multiply by:	_
2. Sambucus racemosa		yes		OBL species x 1 =	
3				FACW species x 2 =	
4					
5				FAC species x 3 =	
	10	= Total Co	over	FACU species x 4 =	
Herb Stratum (Plot size:)				UPL species x 5 =	_
1. Rubus ursinus	10	yes	FACU	Column Totals: (A)	(B)
2. Polystichum munitum	5	yes	FACU	Prevalence Index = B/A =	
3				Hydrophytic Vegetation Indicators:	
4				1 - Rapid Test for Hydrophytic Vegetation	
5				2 - Dominance Test is >50%	
6				$_$ 3 - Prevalence Index is $\leq 3.0^1$	
7				4 - Morphological Adaptations ¹ (Provide sup data in Remarks or on a separate sheet)	porting
8				5 - Wetland Non-Vascular Plants ¹	
9					
10			·	Problematic Hydrophytic Vegetation ¹ (Explain	
11				¹ Indicators of hydric soil and wetland hydrology n	nust
	15	= Total Co	ver	be present, unless disturbed or problematic.	
Woody Vine Stratum (Plot size:)					
1. Rubus armeniacus	30	yes	FAC	Hydrophytic	
2				Vegetation	
	30	= Total Co	ver	Present? Yes No	
% Bare Ground in Herb Stratum					
Remarks:					

SOIL

	•					or contirn	n the absence of indicators.)	
Depth (inches)	<u>Matrix</u> Color (moist)	%	Color (moist)	<u>x Feature</u> %	es Type ¹	Loc ²	Texture Remarks	
0-16	10YR 4/3	90	10YR 3/6	10	C	M	silt loam	
¹ Type: C=C	oncentration, D=D	epletion, RM	=Reduced Matrix, CS	S=Covere	d or Coate	ed Sand G	rains. ² Location: PL=Pore Lining,	M=Matrix.
Hydric Soil	Indicators: (App	licable to al	LRRs, unless othe	wise not	ted.)		Indicators for Problematic Hyd	dric Soils ³ :
Histoso	l (A1)		Sandy Redox (S5)			2 cm Muck (A10)	
	pipedon (A2)		Stripped Matrix	. ,			Red Parent Material (TF2)	
	istic (A3)		Loamy Mucky Muc	/lineral (F	1) (excep	t MLRA 1)		(TF12)
Hydroge	en Sulfide (A4)		Loamy Gleyed	•	2)		Other (Explain in Remarks)	
	d Below Dark Surf	ace (A11)	Depleted Matrix				<u>.</u>	
	ark Surface (A12)		Redox Dark Su				³ Indicators of hydrophytic vegeta	
	Mucky Mineral (S1)		Depleted Dark	,	,		wetland hydrology must be p	
	Gleyed Matrix (S4)		Redox Depress	ions (F8)			unless disturbed or problema	tic.
	Layer (if present)	:						
Туре:								1
Depth (in	iches):						Hydric Soil Present? Yes	No♥
Remarks:								
IYDROLO	GY							
Wetland Hy	drology Indicator	's:						
Primary Indi	<u>cators (minimum o</u>	f one require	d; check all that appl	y)			Secondary Indicators (2 or mo	ore required)
Surface	Water (A1)		Water-Sta	ined Leav	/es (B9) (e	xcept	Water-Stained Leaves (B	9) (MLRA 1, 2
High Wa	ater Table (A2)		MLRA	1, 2, 4A,	and 4B)		4A, and 4B)	
	ion (A3)		Salt Crust	(B11)			Drainage Patterns (B10)	
Saturati					(m · · · ·)			
	/larks (B1)		Aquatic In	vertebrate	es (B13)		Dry-Season Water Table	(C2)
Water N	()		Aquatic In Hydrogen		. ,		Dry-Season Water Table Saturation Visible on Aeri	. ,
Water M	/larks (B1) nt Deposits (B2) posits (B3)		Hydrogen	Sulfide O	dor (C1)	Living Roo	·	ial Imagery (CS

Recent Iron Reduction in Tilled Soils (C6)

____ Stunted or Stressed Plants (D1) (LRR A)

____ Other (Explain in Remarks)

Yes _____ No ____ Depth (inches): ___

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

 Yes
 No
 Depth (inches):

 Yes
 No
 Depth (inches):

Remarks:

Iron Deposits (B5)
Surface Soil Cracks (B6)

Field Observations:

Surface Water Present?

(includes capillary fringe)

Water Table Present?

Saturation Present?

____ Inundation Visible on Aerial Imagery (B7)

Sparsely Vegetated Concave Surface (B8)

____ FAC-Neutral Test (D5)

Wetland Hydrology Present? Yes

____ Raised Ant Mounds (D6) (LRR A)

No 🖌

____ Frost-Heave Hummocks (D7)

Project/Site: CPU Transmission Line	_ City/County: Clark Cour	y: <u>Clark County</u> Sampling Date: 20 Ju			
Applicant/Owner: Clark Public Utility		State: WA	Sampling Point: 25		
Investigator(s): Dustin Day and Allison Kinney	Section, Township, Ran	ige: S04 T4N R1E			
Landform (hillslope, terrace, etc.): hill slope	Local relief (concave, convex, none): <u>none</u> Slope (%): <u>0-8</u>				
Subregion (LRR): LLRA Lat:	45°49'22.71"N	Long: <u>122°40'57.04</u> "W	Datum: WGS84		
Soil Map Unit Name: Gee silt loam, 8 to 20 percent slopes		NWI classific	ation: none		
Are climatic / hydrologic conditions on the site typical for this time of	year? Yes 🖌 No _	(If no, explain in R	emarks.)		
Are Vegetation, Soil, or Hydrology significan	tly disturbed? Are "	Normal Circumstances" p	present? Yes 🖌 No		
Are Vegetation, Soil, or Hydrology naturally	problematic? (If nee	eded, explain any answe	rs in Remarks.)		
SUMMARY OF FINDINGS – Attach site man showin	na samplina point la	cations transects	important features etc		

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

Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present?	Yes Yes Yes	No <u>✓</u> No <u>✓</u> No <u>✓</u>	Is the Sampled Area within a Wetland?	Yes	No
Remarks:					

	Absolute		Indicator	Dominance Test worksheet:		
Tree Stratum (Plot size:)	% Cover	Species?	Status	Number of Dominant Species		
1				That Are OBL, FACW, or FAC:	2	(A)
2				Total Number of Dominant		
3				Total Number of Dominant Species Across All Strata:	4	(B)
4						(-)
		= Total Co		Percent of Dominant Species	50	
Sapling/Shrub Stratum (Plot size:)		10tal 00		That Are OBL, FACW, or FAC:		(A/B)
1				Prevalence Index worksheet:		
2				Total % Cover of:	Multiply by:	_
				OBL species	x 1 =	_
3				FACW species >	x 2 =	_
4				FAC species	x 3 =	
5				FACU species		
Llorh Strotum (Distoire)		= Total Co	over	UPL species		
Herb Stratum (Plot size:) 1. Anthoxanthum odoratum	30	yes	FACU	Column Totals: (
••	30		UPL		~)	_ (D)
2. Vicia sativa		yes		Prevalence Index = B/A =	=	_
3. Agrostis capillaris	30	yes	FAC	Hydrophytic Vegetation Indic	ators:	
4. Hypericum perforatum	5	no	FACU	1 - Rapid Test for Hydrophy	ytic Vegetation	
5. Jacobaea vulgaris	5	no	FAC	2 - Dominance Test is >50°	%	
6. Rubus ursinus	1	no	FACU	3 - Prevalence Index is ≤3.		
7				4 - Morphological Adaptatio	ons ¹ (Provide sup	porting
8				data in Remarks or on a		Ũ
9				5 - Wetland Non-Vascular	Plants ¹	
10				Problematic Hydrophytic V	egetation ¹ (Explai	n)
11				¹ Indicators of hydric soil and we		
	101	= Total Co		be present, unless disturbed or		
Woody Vine Stratum (Plot size:)			vei			
1. Rubus ursinus	10	yes	FAC	Hydrophytic		
				Vegetation	1	
2	10	= Total Co		Present? Yes	No	
% Bare Ground in Herb Stratum		= 10tal 00	VEI			
Remarks:				1		

Profile Des	cription: (Describ	e to the dep	oth needed to doo	ument the i	ndicator	or confirn	n the absend	e of indicators.)
Depth	 Matrix	-		dox Features				
(inches)	Color (moist)	%	Color (moist)		Type ¹	Loc ²	Texture	Remarks
0-16	10YR 3/3	100					silt loam	
		·						
	oncentration, D=D					ed Sand G		ocation: PL=Pore Lining, M=Matrix.
-	Indicators: (Appl	icaple to all			÷a.)			tors for Problematic Hydric Soils ³ :
_ Histosol	pipedon (A2)		Sandy Redox					cm Muck (A10)
	istic (A3)		Stripped Mat					ed Parent Material (TF2) ery Shallow Dark Surface (TF12)
-	en Sulfide (A4)		Loamy Gleye					ther (Explain in Remarks)
	d Below Dark Surfa		Depleted Ma)		0	
	ark Surface (A12)		Redox Dark				³ Indica	tors of hydrophytic vegetation and
	Mucky Mineral (S1)		Depleted Dai		7)			land hydrology must be present,
	Gleyed Matrix (S4)		Redox Depre	,	,)			ess disturbed or problematic.
	Layer (if present):			.0010110 (1 0)				
	ches):						Hydric Sc	oil Present? Yes No 🖌
							Tryune Se	
Remarks:								
YDROLO	GY							
	drology Indicator							
rimary Indi	cators (minimum of	f one require					Sec	ondary Indicators (2 or more required)
_	Water (A1)		Water-S	stained Leave	es (B9) (e	xcept		Water-Stained Leaves (B9) (MLRA 1, 2
_ High Wa	ater Table (A2)			A 1, 2, 4A, a	ind 4B)			4A, and 4B)
_ Saturati	on (A3)		Salt Cru	st (B11)			_	Drainage Patterns (B10)
Water N	/larks (B1)		Aquatic	Invertebrate	s (B13)			Dry-Season Water Table (C2)
_ Sedime	nt Deposits (B2)		Hydroge	en Sulfide Od	dor (C1)			Saturation Visible on Aerial Imagery (C
Drift De	posits (B3)		Oxidize	d Rhizosphei	res along	Living Roo	ots (C3)	Geomorphic Position (D2)
_ Algal Ma	at or Crust (B4)		Presence	e of Reduce	d Iron (C4	4)	_	Shallow Aquitard (D3)
_ Iron De	posits (B5)		Recent	Iron Reduction	on in Tille	d Soils (Ce	5)	FAC-Neutral Test (D5)
Surface	Soil Cracks (B6)		Stunted	or Stressed	Plants (D	1) (LRR A	.)	Raised Ant Mounds (D6) (LRR A)
	ion Visible on Aeria	al Imagery (B		Explain in Re				Frost-Heave Hummocks (D7)
	y Vegetated Conca		, (,			× /
ield Obser			. ,					
	ter Present?	Yes	No Depth	(inches):				
Vater Table			No Depth					
Saturation P							and Undrale	gy Present? Yes No 🖌
	ICOCIIL!	165	No Depth	(110105).			anu nyurolo	ogy Present? Yes No _V

(includes capillary fringe)				, _				
Describe Recorded Data	(stream gauge,	monitoring w	ell, aerial	photos,	previous	inspectic	ons), if ava	ilable:

Remarks:

Project/Site: CPU Transmission Line	City/County: Clark	County	Sampling Date: 20 June 2017
Applicant/Owner: Clark Public Utility		State: WA	Sampling Point: 26
Investigator(s): Dustin Day and Allison Kinney	Section, Township	Range: S04 T4N R1E	
Landform (hillslope, terrace, etc.): flat		ve, convex, none): <u>none</u>	Slope (%): <u>0-8</u>
Subregion (LRR): LLRA Lat:	45°49'22.71"N	Long: <u>122°40'57.04</u> "W	Datum: WGS84
Soil Map Unit Name: Gee silt loam, 0 to 8 percent slopes		NWI classific	ation: none
Are climatic / hydrologic conditions on the site typical for this time o	of year? Yes 🖌 N	lo (If no, explain in R	emarks.)
Are Vegetation, Soil, or Hydrology significa	ntly disturbed?	Are "Normal Circumstances" p	oresent? Yes 🖌 No
Are Vegetation, Soil, or Hydrology naturally	v problematic? (If needed, explain any answe	rs in Remarks.)
SUMMARY OF FINDINGS – Attach site map show	ing sampling poir	nt locations, transects	, important features, etc.

Hydrophytic Vegetation Present?	Yes 🗸	No			
Hydric Soil Present?	Yes	No 🖌	Is the Sampled Area		
Wetland Hydrology Present?	Yes	No 🖌	within a Wetland?	Yes	No <u>Y</u>
Remarks:					

	Absolute	Dominant		Dominance Test worksheet:
Tree Stratum (Plot size:)	% Cover	Species?	Status	Number of Dominant Species
1				That Are OBL, FACW, or FAC: <u>3</u> (A)
2				Total Number of Dominant
3				Species Across All Strata: <u>3</u> (B)
4				
				Percent of Dominant Species
Sapling/Shrub Stratum (Plot size:)		= Total Co	over	
A Rosa gympocarpa	25		FACU	Prevalence Index worksheet:
				Total % Cover of: Multiply by:
2				OBL species x 1 =
3				FACW species x 2 =
4				FAC species x 3 =
5				
		= Total Co	over	FACU species x 4 =
Herb Stratum (Plot size:)				UPL species x 5 =
1. Phalaris arundinacea	50	yes	FACW	Column Totals: (A) (B)
2. Agrostis capillaris	20	yes	FAC	Prevalence Index = B/A =
3. Poa pratensis	20	yes	FAC	Hydrophytic Vegetation Indicators:
Durburg consistence	5		FACU	
4. Rubus ursinus	5	no	1 400	1 - Rapid Test for Hydrophytic Vegetation
4. Rubus ursinus 5. Cirsium arvense	5	no	FAC	1 - Rapid Test for Hydrophytic Vegetation
••				✓ 2 - Dominance Test is >50%
5. Cirsium arvense 6. Plantago lanceolata	5	no	FAC	\checkmark 2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0 ¹
5. Cirsium arvense 6. Plantago lanceolata 7. Daucus carota	5 5 2	no no no	FAC FACU FACU	✓ 2 - Dominance Test is >50%
5. Cirsium arvense 6. Plantago lanceolata 7. Daucus carota 8.	5 5 2	no no no	FAC FACU FACU	 ✓ 2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
5. Cirsium arvense 6. Plantago lanceolata 7. Daucus carota 8 9	5 5 2	no no no	FAC FACU FACU	 ✓ 2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet) 5 - Wetland Non-Vascular Plants¹
5. Cirsium arvense 6. Plantago lanceolata 7. Daucus carota 8 9 10	5 5 2	no no no	FAC FACU FACU	 ✓ 2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet) 5 - Wetland Non-Vascular Plants¹ Problematic Hydrophytic Vegetation¹ (Explain)
5. Cirsium arvense 6. Plantago lanceolata 7. Daucus carota 8 9	5 5 2 		FAC FACU FACU	 ✓ 2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet) 5 - Wetland Non-Vascular Plants¹
5. Cirsium arvense 6. Plantago lanceolata 7. Daucus carota 8.	5 5 2 	no no no	FAC FACU FACU	 ✓ 2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet) 5 - Wetland Non-Vascular Plants¹ Problematic Hydrophytic Vegetation¹ (Explain) ¹Indicators of hydric soil and wetland hydrology must
5. Cirsium arvense 6. Plantago lanceolata 7. Daucus carota 8.	5 5 2 107	no no no 	FAC FACU FACU FACU	 ✓ 2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet) 5 - Wetland Non-Vascular Plants¹ Problematic Hydrophytic Vegetation¹ (Explain) ¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
5. Cirsium arvense 6. Plantago lanceolata 7. Daucus carota 8	5 5 2 107	no no no 	FAC FACU FACU	 ✓ 2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet) 5 - Wetland Non-Vascular Plants¹ Problematic Hydrophytic Vegetation¹ (Explain) ¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
5. Cirsium arvense 6. Plantago lanceolata 7. Daucus carota 8.	5 5 2 107	no no no = Total Co	FAC FACU FACU Ver	 ✓ 2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet) 5 - Wetland Non-Vascular Plants¹ Problematic Hydrophytic Vegetation¹ (Explain) ¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
5. Cirsium arvense 6. Plantago lanceolata 7. Daucus carota 8.	5 5 2 107	no no no 	FAC FACU FACU Ver	 ✓ 2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet) 5 - Wetland Non-Vascular Plants¹ Problematic Hydrophytic Vegetation¹ (Explain) ¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
5. Cirsium arvense 6. Plantago lanceolata 7. Daucus carota 8	5 5 2 107	no no no = Total Co	FAC FACU FACU Ver	 ✓ 2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet) 5 - Wetland Non-Vascular Plants¹ Problematic Hydrophytic Vegetation¹ (Explain) ¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
5. Cirsium arvense 6. Plantago lanceolata 7. Daucus carota 8.	5 5 2 107	no no no = Total Co	FAC FACU FACU Ver	 ✓ 2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet) 5 - Wetland Non-Vascular Plants¹ Problematic Hydrophytic Vegetation¹ (Explain) ¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Perth Matix Remarks 10YR 3/4 100 % Color (moist) % Type Loc" Texture Remarks 116 10YR 3/4 100 silt loam	Profile Desc	cription: (Describ	e to the dep	oth needed to d	ocument the	indicator	or confirn	n the absend	ce of indicators.)
1-16 10 YR 3/4 100	Depth		-						,
Ype:	(inches)	Color (moist)	%				Loc ²	Texture	Remarks
Ype: C-Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. *Location: PL=Pore Lining, M=Matrix, Suffice Soli Reduced Matrix, CS=Covered or Coated Sand Grains. *Location: PL=Pore Lining, M=Matrix, Suffice Soli Reduced Matrix, CS=Covered or Coated Sand Grains. *Location: PL=Pore Lining, M=Matrix, Suffice Soli Reduced Matrix, CS=Covered or Coated Sand Grains. *Location: PL=Pore Lining, M=Matrix, Suffice Soli Reduced Reduce	0-16	10YR 3/4	100					silt loam	
ype: C-Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ² Location: PL=Pore Lining, M=Matrix, Spift Soll Indicators for Problematic Hydric Solls': Histosol (A1)									
ydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils ¹ : Histos [041)						·			
ydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils ¹ : Histos [041)					·				
ydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils ¹ : Histos Epideon (A2) Sandy Redox (S5) 2 cm Muck (A10) Histos Epideon (A2) Stripped Matrix (S6) Red Parent Material (TF2) Black Histic (A3) Loamy Mucky Mineral (F1) (except MLRA 1) Very Shallow Dark Surface (TF12) Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Other (Explain in Remarks) Depleted Below Dark Surface (A11) Depleted Dark Surface (F6) ³ Indicators of hydrophytic vegetation and wetand hydrology must be present, unless disturbed or problematic. Sandy Gleyed Matrix (S4) Redox Dark Surface (F7) wetand hydrology must be present, unless disturbed or problematic. Sandy Gleyed Matrix (S4) Redox Depressions (F8) unless disturbed or problematic. estrictive Layer (if present): Type:					·		<u> </u>		
ydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils ¹ : Histos Epideon (A2) Sandy Redox (S5) 2 cm Muck (A10) Histos Epideon (A2) Stripped Matrix (S6) Red Parent Material (TF2) Black Histic (A3) Loamy Mucky Mineral (F1) (except MLRA 1) Very Shallow Dark Surface (TF12) Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Other (Explain in Remarks) Depleted Below Dark Surface (A11) Depleted Dark Surface (F6) ³ Indicators of hydrophytic vegetation and wetand hydrology must be present, unless disturbed or problematic. Sandy Gleyed Matrix (S4) Redox Dark Surface (F7) wetand hydrology must be present, unless disturbed or problematic. Sandy Gleyed Matrix (S4) Redox Depressions (F8) unless disturbed or problematic. estrictive Layer (if present): Type:						- <u> </u>			
							ed Sand G		
			icable to all			ed.)			-
Black Histic (A3) Loamy Mucky Mineral (F1) (except MLRA 1) Very Shallow Dark Surface (TF12) Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Other (Explain in Remarks) Depleted Below Dark Surface (A11) Depleted Dark Surface (F6) ³ Indicators of hydrophytic vegetation and wetland hydrology must be present, Sandy Gleyed Matrix (S4) Redox Depressions (F8) unless disturbed or problematic. estrictive Layer (if present): Type:		()							
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	-	()					(WILKAT)		
			100 (11)			<u>~</u>)		0	
			ace (ATT)			\ \		³ Indica	store of hydrophytic vogotation and
		, ,							
setrictive Layer (if present): Type:					,	,			
Type:								uni	ess disturbed of problematic.
Depth (inches):		,							
emarks: /DROLOGY /etland Hydrology Indicators:								Hydric Sc	nil Present? Yes No 🗸
/DROLOGY /etland Hydrology Indicators: rimary Indicators (minimum of one required; check all that apply) Secondary Indicators (2 or more required) _ Surface Water (A1) Water-Stained Leaves (B9) (except Water-Stained Leaves (B9) (MLRA 1, High Water Table (A2) MLRA 1, 2, 4A, and 4B) 4A, and 4B) _ Saturation (A3) _ Salt Crust (B11) _ Drainage Patterns (B10) _ Water Marks (B1) _ Aquatic Invertebrates (B13) _ Dry-Season Water Table (C2) _ Sediment Deposits (B2) _ Hydrogen Sulfide Odor (C1) _ Saturation Visible on Aerial Imagery (0 _ Drift Deposits (B3) _ Oxidized Rhizospheres along Living Roots (C3) _ Geomorphic Position (D2) _ Algal Mat or Crust (B4) _ Presence of Reduced Iron (C4) _ Shallow Aquitard (D3) _ Iron Deposits (B5) _ Recent Iron Reduction in Tilled Soils (C6) _ FAC-Neutral Test (D5) _ Surface Soil Cracks (B6) _ Stunted or Stressed Plants (D1) (LRR A) _ Raised Ant Mounds (D6) (LRR A) _ Inundation Visible on Aerial Imagery (B7) _ Other (Explain in Remarks) _ Frost-Heave Hummocks (D7) _ Sparsely Vegetated Concave Surface (B8) wide Observations:									
Vetland Hydrology Indicators: Surface Water (A1) Surface Water (A1) Water-Stained Leaves (B9) (except Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)	tomanto.								
Vetland Hydrology Indicators: Surface Water (A1) Surface Water (A1) Water-Stained Leaves (B9) (except Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)									
Vetland Hydrology Indicators: Surface Water (A1) Surface Water (A1) Water-Stained Leaves (B9) (except Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)									
Vetland Hydrology Indicators: Surface Water (A1) Surface Water (A1) Water-Stained Leaves (B9) (except Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)									
imary Indicators (minimum of one required; check all that apply) Secondary Indicators (2 or more required)									
Surface Water (A1) Water-Stained Leaves (B9) (except Water-Stained Leaves (B9) (MLRA 1, 1, 1, 1, 2, 4A, and 4B) High Water Table (A2) MLRA 1, 2, 4A, and 4B) 4A, and 4B) Saturation (A3) Salt Crust (B11) Drainage Patterns (B10) Water Marks (B1) Aquatic Invertebrates (B13) Dry-Season Water Table (C2) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Saturation Visible on Aerial Imagery (C Drift Deposits (B3) Oxidized Rhizospheres along Living Roots (C3) Geomorphic Position (D2) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Shallow Aquitard (D3) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) FAC-Neutral Test (D5) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) Frost-Heave Hummocks (D7) Sparsely Vegetated Concave Surface (B8) Imager Yes No Depth (inches): Water State Present? Yes No Depth (inches): Imager Yes Water State Present? Yes No Depth (inches): Imager Yes	•			d also also all de ar				0	
High Water Table (A2) MLRA 1, 2, 4A, and 4B) 4A, and 4B) Saturation (A3) Salt Crust (B11) Drainage Patterns (B10) Water Marks (B1) Aquatic Invertebrates (B13) Dry-Season Water Table (C2) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Saturation Visible on Aerial Imagery (C Drift Deposits (B3) Oxidized Rhizospheres along Living Roots (C3) Geomorphic Position (D2) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Shallow Aquitard (D3) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) FAC-Neutral Test (D5) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) Frost-Heave Hummocks (D7) Sparsely Vegetated Concave Surface (B8) Depth (inches): Image: Concave Surface (B8) ield Observations: Yes No Depth (inches): Image: Concave Surface (B8)			one require			(D0) (
Saturation (A3) Salt Crust (B11) Drainage Patterns (B10) Water Marks (B1) Aquatic Invertebrates (B13) Dry-Season Water Table (C2) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Saturation Visible on Aerial Imagery (C Drift Deposits (B3) Oxidized Rhizospheres along Living Roots (C3) Geomorphic Position (D2) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Shallow Aquitard (D3) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) FAC-Neutral Test (D5) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) Frost-Heave Hummocks (D7) Sparsely Vegetated Concave Surface (B8) Depth (inches): Peth (inches): wrface Water Present? Yes No Depth (inches): Water Table Present? Yes No Depth (inches):	_	()				. , .	xcept	—	
Water Marks (B1)	-					,			
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Drift Deposits (B3) Oxidized Rhizospheres along Living Roots (C3) Geomorphic Position (D2) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Shallow Aquitard (D3) Recent Iron Reduction in Tilled Soils (C6) FAC-Neutral Test (D5) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Other (Explain in Remarks) Frost-Heave Hummocks (D7) Sparsely Vegetated Concave Surface (B8) ield Observations: urface Water Present? YesNo Depth (inches): //ater Table Present? YesNo Depth (inches):		. ,							
		• • • •		Hydro	gen Sulfide O	dor (C1)			
Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) FAC-Neutral Test (D5) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) Frost-Heave Hummocks (D7) Sparsely Vegetated Concave Surface (B8) ield Observations: Depth (inches): urface Water Present? Yes No Depth (inches): Vater Table Present? Yes No Depth (inches):	Drift De	posits (B3)		Oxidiz	ed Rhizosphe	eres along	Living Roo		
	_ Algal Ma	at or Crust (B4)		Prese	nce of Reduce	ed Iron (C	4)		Shallow Aquitard (D3)
_ Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) Frost-Heave Hummocks (D7) _ Sparsely Vegetated Concave Surface (B8) ield Observations: urface Water Present? Yes No Depth (inches): /ater Table Present? Yes No Depth (inches):	Iron Dep	posits (B5)		Recei	nt Iron Reducti	ion in Tille	d Soils (C6	5)	FAC-Neutral Test (D5)
_ Sparsely Vegetated Concave Surface (B8) ield Observations: urface Water Present? Yes No Depth (inches): /ater Table Present? Yes No Depth (inches):	Surface	Soil Cracks (B6)		Stunte	ed or Stressed	l Plants (D	1) (LRR A	.)	Raised Ant Mounds (D6) (LRR A)
_ Sparsely Vegetated Concave Surface (B8) ield Observations: urface Water Present? Yes No Depth (inches): /ater Table Present? Yes No Depth (inches):			I Imagery (B						
ield Observations: urface Water Present? Yes Depth (inches): /ater Table Present? Yes Depth (inches):			•••	,		,			
urface Water Present? Yes No Depth (inches): /ater Table Present? Yes No Depth (inches):	-		- (*					
/ater Table Present? Yes No Depth (inches):			Yes	No Dept	h (inches):				
	Vater Table	Present?							
								and Hydrolo	ogy Present? Yes No 🗸

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

Remarks:

(includes capillary fringe)

Project/Site: CPU Transmission Line	City/County: Clark County		Sampling Date: 20 June 2017
Applicant/Owner: Clark Public Utility			Sampling Point: 27
Investigator(s): Dustin Day and Allison Kinney	Section, Township, Range:		
Landform (hillslope, terrace, etc.): hill slope			Slope (%): <u>0-8</u>
Subregion (LRR): LLRA Lat:	45°49'22.71"N Lo		
Soil Map Unit Name: Gee silt loam, 0 to 8 percent slopes		NWI classific	ation: none
Are climatic / hydrologic conditions on the site typical for this time of	of year? Yes 🖌 No	(If no, explain in R	emarks.)
Are Vegetation, Soil, or Hydrology significa	ntly disturbed? Are "Nor	mal Circumstances" p	present? Yes 🖌 No
Are Vegetation, Soil, or Hydrology naturally	v problematic? (If neede	d, explain any answe	rs in Remarks.)
SUMMARY OF EINDINGS Attach site man show	ing sampling point loca	tions transacts	important features atc

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

Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present?	Yes Yes Yes	No No No	Is the Sampled Area within a Wetland?	Yes	No
Remarks:					

	Absolute	Dominant	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size:)	% Cover	Species?	Status	Number of Dominant Species
1. Prunus virginiana	10	yes	FACU	That Are OBL, FACW, or FAC: (A)
2				
3				Total Number of Dominant Species Across All Strata: 6 (B)
4	10	= Total Co		Percent of Dominant Species
Sapling/Shrub Stratum (Plot size:)			over	That Are OBL, FACW, or FAC: <u>66</u> (A/B)
1. Rhamnus purshiana	30	yes	FAC	Prevalence Index worksheet:
2 Crataegus monogyna	15	yes	FACU	Total % Cover of: Multiply by:
				OBL species x 1 =
3				FACW species x 2 =
4				FAC species x 3 =
5				FACU species x 4 =
	45	= Total Co	over	UPL species x 5 =
Herb Stratum (Plot size:)	00		540	
1. Poa pratensis	30	yes	FAC	Column Totals: (A) (B)
2. Schedonorus arundinaceus	20	yes	FAC	Prevalence Index = $B/A =$
3. Hypericum perforatum	15	no	FACU	Hydrophytic Vegetation Indicators:
4. Anthoxanthum odoratum	10	no	FACU	1 - Rapid Test for Hydrophytic Vegetation
5. Epilobium ciliatum	5	no	FACW	2 - Dominance Test is >50%
6. Leucanthemum vulgare	5	no	FACU	3 - Prevalence Index is $\leq 3.0^{1}$
7. Polystichum munitum	5	no	FACU	4 - Morphological Adaptations ¹ (Provide supporting
8. Rubus ursinus	5	no	FACU	data in Remarks or on a separate sheet)
9. Phleum pratense	5	no	FAC	5 - Wetland Non-Vascular Plants ¹
				Problematic Hydrophytic Vegetation ¹ (Explain)
10				¹ Indicators of hydric soil and wetland hydrology must
11	100			be present, unless disturbed or problematic.
Woody Vine Stratum (Plot size:)	100	= Total Co	ver	
1. Rubus armeniacus	5	Ves	FAC	
		yco	17.0	Hydrophytic Veretetion
2				Vegetation Present? Yes <u>No</u>
% Pore Cround in Llork Stratum	5	= Total Co	ver	
% Bare Ground in Herb Stratum Remarks:				l
Nemaria.				

	Motrix		needed to document the indicator or c		·····,
Depth inches)	Matrix Color (moist)	%	<u>Redox Features</u> <u>Color (moist) % Type¹ L</u>	oc ² Tex	ture Remarks
)-16	10YR 4/3	100			
		<u>.</u>			
			duced Matrix, CS=Covered or Coated Sa		² Location: PL=Pore Lining, M=Matrix.
		DIE to all LR	Rs, unless otherwise noted.)		ndicators for Problematic Hydric Soils ³ :
_ Histosol	()		Sandy Redox (S5)		_ 2 cm Muck (A10)
	pipedon (A2)		Stripped Matrix (S6)		_ Red Parent Material (TF2)
Black H	en Sulfide (A4)		Loamy Mucky Mineral (F1) (except ML		Very Shallow Dark Surface (TF12) Other (Explain in Remarks)
	d Below Dark Surface	(011)	Loamy Gleyed Matrix (F2) Depleted Matrix (F3)	-	_ Other (Explain in Remarks)
	ark Surface (A12)	(///)	Redox Dark Surface (F6)	31	ndicators of hydrophytic vegetation and
	Aucky Mineral (S1)		Depleted Dark Surface (F7)	I	wetland hydrology must be present,
	Gleyed Matrix (S4)		Redox Depressions (F8)		unless disturbed or problematic.
estrictive	Layer (if present):				
					ic Soil Present? Yes No 🗸
Depth (in	ches):			Hydr	
			-	Hydr	
Depth (in				Hydr	
Depth (in			_	Hydr	
Depth (in emarks:	ches):			Hydr	
Depth (in emarks:	ches):			Hydr	
Depth (in emarks: DROLO etland Hy	ches): GY drology Indicators:			Hydr	
Depth (in emarks: DROLO etland Hy imary India	ches): GY drology Indicators: cators (minimum of one		neck all that apply)		Secondary Indicators (2 or more required)
Depth (in marks: DROLO etland Hy imary India	ches): GY drology Indicators: cators (minimum of one Water (A1)		neck all that apply) Water-Stained Leaves (B9) (exce		Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1,
Depth (in emarks: DROLO etland Hy imary India _ Surface _ High Wa	ches): GY drology Indicators: cators (minimum of one Water (A1) ater Table (A2)		neck all that apply) Water-Stained Leaves (B9) (exce MLRA 1, 2, 4A, and 4B)		Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 4A, and 4B)
Depth (in emarks: DROLO etland Hy imary Indio _ Surface _ High Wa _ Saturati	Ches): GY drology Indicators: cators (minimum of one Water (A1) ater Table (A2) on (A3)		neck all that apply) Water-Stained Leaves (B9) (exce MLRA 1, 2, 4A, and 4B) Salt Crust (B11)		Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 4A, and 4B) Drainage Patterns (B10)
Depth (in emarks: DROLO etland Hy imary India _ Surface _ High Wa _ Saturati _ Water M	ches): GGY drology Indicators: cators (minimum of one Water (A1) ater Table (A2) on (A3) farks (B1)		neck all that apply) Water-Stained Leaves (B9) (exce MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13)		Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1; 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2)
Depth (in emarks: DROLO Etland Hy imary India _ Surface _ High Wa _ Saturati _ Water M _ Sedime	ches): GY drology Indicators: cators (minimum of one Water (A1) ater Table (A2) on (A3) farks (B1) nt Deposits (B2)		neck all that apply) — Water-Stained Leaves (B9) (exce) MLRA 1, 2, 4A, and 4B) — Salt Crust (B11) — Aquatic Invertebrates (B13) — Hydrogen Sulfide Odor (C1)	pt	Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1; 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (
Depth (in emarks: DROLO Vetland Hy rimary India Surface High Wa Saturati Water M Sedimel Drift De	ches): GY drology Indicators: cators (minimum of one Water (A1) ater Table (A2) on (A3) farks (B1) nt Deposits (B2) posits (B3)		neck all that apply) Water-Stained Leaves (B9) (exce MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Livir	pt	Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1; 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (Geomorphic Position (D2)
Depth (in emarks:	Ches): GY drology Indicators: cators (minimum of one Water (A1) ater Table (A2) on (A3) farks (B1) nt Deposits (B2) posits (B3) at or Crust (B4)		neck all that apply) Water-Stained Leaves (B9) (exception of the second s	pt	Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (Geomorphic Position (D2) Shallow Aquitard (D3)
Depth (in emarks: DROLO etland Hy <u>rimary India</u> Surface High Wa Saturati Water M Sedimel Drift Del Algal Ma Iron Dep	drology Indicators: cators (minimum of one Water (A1) ater Table (A2) on (A3) farks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5)		neck all that apply) Water-Stained Leaves (B9) (exce MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Livir Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Sc	pt ng Roots (C3)	Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5)
Depth (in emarks: //DROLO /etland Hy rimary Indio 	Ches): GY drology Indicators: cators (minimum of one Water (A1) ater Table (A2) on (A3) farks (B1) nt Deposits (B2) posits (B3) at or Crust (B4)	e required; cl	neck all that apply) Water-Stained Leaves (B9) (exception of the second s	pt ng Roots (C3) vils (C6)	Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (Geomorphic Position (D2) Shallow Aquitard (D3)

Sparsely vegetated CO	ncave Suna						
Field Observations:							
Surface Water Present?	Yes	No	Depth (inches):				
Water Table Present?	Yes	No	Depth (inches):				
Saturation Present? (includes capillary fringe)	Yes	No	Depth (inches):		Wetland Hydrology Present?	Yes	No
Describe Recorded Data (st	ream gauge	e, monitorin	g well, aerial photos, pre	vious inspec	tions), if available:		
Remarks:							

Project/Site: CPU Transmission Line	_ City/County: Clark County	,	Sampling Date: 20 June 2017
Applicant/Owner: Clark Public Utility		State: WA	
Investigator(s): Dustin Day and Allison Kinney	_ Section, Township, Range	e: S04 T4N R1E	
Landform (hillslope, terrace, etc.): hill slope			Slope (%): <u>0-8</u>
Subregion (LRR): LLRA Lat: _4	5°49'22.71"N L	ong: <u>122°40'57.04"W</u>	Datum: WGS84
Soil Map Unit Name: Gee silt loam, 0 to 8 percent slopes		NWI classific	cation: none
Are climatic / hydrologic conditions on the site typical for this time of y	/ear? Yes 🖌 No _	(If no, explain in R	emarks.)
Are Vegetation, Soil, or Hydrology significant	y disturbed? Are "No	rmal Circumstances" p	oresent? Yes 🖌 No
Are Vegetation, Soil, or Hydrology naturally p	roblematic? (If need	ed, explain any answe	ers in Remarks.)
SUMMARY OF FINDINGS – Attach site map showin	g sampling point loc	ations, transects	, important features, etc.

Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present?	Yes Yes Yes	No No _ ✓ No _ ✓	Is the Sampled Area within a Wetland?	Yes	No
Remarks:					

	Absolute	Dominant Indicator	Dominance Test worksheet:
Tree Stratum (Plot size:)	% Cover	Species? Status	Number of Dominant Species
1			That Are OBL, FACW, or FAC: 1 (A)
2			Total Number of Dominant
3			Species Across All Strata: <u>1</u> (B)
4			Percent of Dominant Species
Sapling/Shrub Stratum (Plot size:)		= Total Cover	That Are OBL, FACW, or FAC: <u>100</u> (A/B)
			Prevalence Index worksheet:
1			Total % Cover of: Multiply by:
2			OBL species x 1 =
3			FACW species x 2 =
4			FAC species x 2 = FAC species x 3 =
5			
		= Total Cover	FACU species x 4 =
Herb Stratum (Plot size:)		-	UPL species x 5 =
1			Column Totals: (A) (B)
2			Prevalence Index = B/A =
3			
			Hydrophytic Vegetation Indicators:
4			1 - Rapid Test for Hydrophytic Vegetation
4 5			 1 - Rapid Test for Hydrophytic Vegetation ✓ 2 - Dominance Test is >50%
4			1 - Rapid Test for Hydrophytic Vegetation
4 5			 1 - Rapid Test for Hydrophytic Vegetation ✓ 2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations¹ (Provide supporting
4 5 6 7			 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0¹
4 5 6 7 8			 1 - Rapid Test for Hydrophytic Vegetation ✓ 2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations¹ (Provide supporting
4 5 6 7 8 9			 1 - Rapid Test for Hydrophytic Vegetation ✓ 2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
4			 1 - Rapid Test for Hydrophytic Vegetation ✓ 2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet) 5 - Wetland Non-Vascular Plants¹ Problematic Hydrophytic Vegetation¹ (Explain)
4 5 6 7 8 9			 1 - Rapid Test for Hydrophytic Vegetation ✓ 2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet) 5 - Wetland Non-Vascular Plants¹
4			 1 - Rapid Test for Hydrophytic Vegetation ✓ 2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet) 5 - Wetland Non-Vascular Plants¹ Problematic Hydrophytic Vegetation¹ (Explain) ¹Indicators of hydric soil and wetland hydrology must
4			 1 - Rapid Test for Hydrophytic Vegetation ✓ 2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet) 5 - Wetland Non-Vascular Plants¹ Problematic Hydrophytic Vegetation¹ (Explain) ¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
4			 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet) 5 - Wetland Non-Vascular Plants¹ Problematic Hydrophytic Vegetation¹ (Explain) ¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
4	100		 1 - Rapid Test for Hydrophytic Vegetation ✓ 2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet) 5 - Wetland Non-Vascular Plants¹ Problematic Hydrophytic Vegetation¹ (Explain) ¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
4	100		 1 - Rapid Test for Hydrophytic Vegetation ✓ 2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet) 5 - Wetland Non-Vascular Plants¹ Problematic Hydrophytic Vegetation¹ (Explain) ¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
4.	100		 1 - Rapid Test for Hydrophytic Vegetation ✓ 2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet) 5 - Wetland Non-Vascular Plants¹ Problematic Hydrophytic Vegetation¹ (Explain) ¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
4	100		 1 - Rapid Test for Hydrophytic Vegetation ✓ 2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet) 5 - Wetland Non-Vascular Plants¹ Problematic Hydrophytic Vegetation¹ (Explain) ¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Profile Desc	cription: (Describ	e to the de	pth needed to document the in	dicator or confir	m the absence	e of indicators.)
Depth	Matrix		Redox Features		_	
(inches)	Color (moist)	%		Type ¹ Loc ²	Texture	Remarks
0-16	10YR 3/3	100			loam	
			I=Reduced Matrix, CS=Covered of I LRRs, unless otherwise noted			cation: PL=Pore Lining, M=Matrix.
Histosol			Sandy Redox (S5)	,		m Muck (A10)
	pipedon (A2)		Stripped Matrix (S6)			d Parent Material (TF2)
	istic (A3)		Loamy Mucky Mineral (F1)	(except MLRA 1		y Shallow Dark Surface (TF12)
	en Sulfide (A4)		Loamy Gleyed Matrix (F2)	•		ner (Explain in Remarks)
	d Below Dark Surf	ace (A11)	Depleted Matrix (F3)			
Thick Da	ark Surface (A12)		Redox Dark Surface (F6)		³ Indicat	ors of hydrophytic vegetation and
Sandy N	Mucky Mineral (S1)		Depleted Dark Surface (F7)	wetla	and hydrology must be present,
_ Sandy G	Gleyed Matrix (S4)		Redox Depressions (F8)		unle	ss disturbed or problematic.
Restrictive	Layer (if present)					
Type:						1
Depth (in	ches):				Hydric Soi	I Present? Yes No 🗹
Remarks:						
YDROLO	GY drology Indicator					
•			ed; check all that apply)		Seco	ndary Indicators (2 or more required)
	Water (A1)			(PO) (avaant		
			Water-Stained Leaves		\	Vater-Stained Leaves (B9) (MLRA 1, 2
-	ater Table (A2)		MLRA 1, 2, 4A, an	ia 4B)	r	4A, and 4B)
Saturati			Salt Crust (B11)	(D40)		Drainage Patterns (B10)
	larks (B1)		Aquatic Invertebrates	. ,		Dry-Season Water Table (C2)
	nt Deposits (B2)		Hydrogen Sulfide Odd	. ,		Saturation Visible on Aerial Imagery (C
	posits (B3)		Oxidized Rhizosphere	0 0	· · /	Geomorphic Position (D2)
-	at or Crust (B4)		Presence of Reduced			Shallow Aquitard (D3)
	posits (B5)		Recent Iron Reduction	,		FAC-Neutral Test (D5)
Surtaco	Soil Cracks (B6)		Stunted or Stressed P			Raised Ant Mounds (D6) (LRR A)
	on Maible on Aorie	al Imagery (E	37) Other (Explain in Rem	narks)	F	Frost-Heave Hummocks (D7)
Inundati		o /				
Inundati Sparsel	y Vegetated Conca	ave Surface	(B8)	T		
Inundati Sparsely Field Obser	y Vegetated Conca vations:		· · ·			
Inundati Sparsel Field Obser	y Vegetated Conca	Yes	No Depth (inches):			
Inundati Sparsel Field Obser	y Vegetated Conca vations: er Present? Present?	Yes	· · ·			y Present? Yes No 🗸

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

Remarks:

Saturation Present? (includes capillary fringe)

Project/Site: CPU Transmission Line	_ City/County: Clark County		Sampling Date: 20 June 2017
Applicant/Owner: Clark Public Utility			Sampling Point: 29
Investigator(s): Dustin Day and Allison Kinney	_ Section, Township, Range:	S09 T4N R1E	
Landform (hillslope, terrace, etc.): flat	Local relief (concave, conv		Slope (%): <u>0-8</u>
Subregion (LRR): LLRA Lat: _4	15°49'22.71"N Lo	ng: <u>122°40'57.04"W</u>	Datum: WGS84
Soil Map Unit Name: Gee silt loam, 8 to 20 percent slopes		NWI classific	ation: none
Are climatic / hydrologic conditions on the site typical for this time of y	year? Yes 🖌 No	(If no, explain in R	emarks.)
Are Vegetation, Soil, or Hydrology significant	ly disturbed? Are "Nor	mal Circumstances" p	resent? Yes 🖌 No
Are Vegetation, Soil, or Hydrology naturally p	oroblematic? (If neede	d, explain any answe	s in Remarks.)
SUMMARY OF FINDINGS – Attach site map showin	ng sampling point loca	tions. transects	important features, etc.

Hydrophytic Vegetation Present?	Yes 🗸	No			
Hydric Soil Present?	Yes	No 🖌	Is the Sampled Area		
Wetland Hydrology Present?	Yes	No 🖌	within a Wetland?	Yes	No <u>Y</u>
Remarks:					

	Absolute	Dominant		Dominance Test worksheet:
Tree Stratum (Plot size:)	% Cover	Species?	Status	Number of Dominant Species
1				That Are OBL, FACW, or FAC: 2 (A)
2				
3				Total Number of Dominant Species Across All Strata: ³ (B)
4				
				Percent of Dominant Species
Sapling/Shrub Stratum (Plot size:)		= Total Co	iver	That Are OBL, FACW, or FAC: <u>66</u> (A/B)
				Prevalence Index worksheet:
1				Total % Cover of: Multiply by:
2				OBL species x 1 =
3				FACW species x 2 =
4				FAC species x 3 =
5				FACU species x 4 =
		= Total Co	ver	· · · · · · · · · · · · · · · · · · ·
Herb Stratum (Plot size:)				UPL species x 5 = (D)
1. Lolium perenne	40	yes	FAC	Column Totals: (A) (B)
2. Vicia sativa	30	yes	UPL	Prevalence Index = B/A =
3. Poa pratensis	20	no	FAC	Hydrophytic Vegetation Indicators:
4. Rumex crispus	10	no	FAC	1 - Rapid Test for Hydrophytic Vegetation
5. Leucanthemum vulgare	10	no	FACU	2 - Dominance Test is >50%
6. Trifolium repens	10	no	FAC	3 - Prevalence Index is $\leq 3.0^{1}$
7. Rubus ursinus	5	no	FACU	
8. Claytonia sibirica	5	no	FAC	4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
9. Rumex aetosella	5	no	FACU	5 - Wetland Non-Vascular Plants ¹
9 10. Medicago lupulina	5	no	FACU	Problematic Hydrophytic Vegetation ¹ (Explain)
				¹ Indicators of hydric soil and wetland hydrology must
11	140		<u> </u>	be present, unless disturbed or problematic.
Woody Vine Stratum (Plot size:)	140	= Total Co	ver	
1. Rubus armeniacus	15	yes	FAC	
		yco	17.0	Hydrophytic
2	45			Vegetation Present? Yes V No
% Para Cround in Llark Stratum	15	= Total Co	ver	
% Bare Ground in Herb Stratum Remarks:				
IVEIIIQINS.				

Brofilo Dosr	cription: (Describe to	the depth pr	adad ta dagun	oont tho in	dicator	or confirm	the above	nee of indicators)
		the depth he				or confirm	the abse	nce of indicators.)
Depth (inches)	Matrix Color (moist)	% C	Color (moist)	x Features %	Type ¹	Loc ²	Texture	e Remarks
0-16		00			1 9 90		<u> </u>	
0.10	1011(0,1			· ·				
				· ·				
				· ·				
	·							
¹ Type: C-C	oncentration, D=Depleti	on RM-Red	uced Matrix CS	Covered	or Coate	d Sand Gra	ine	² Location: PL=Pore Lining, M=Matrix.
	Indicators: (Applicabl							cators for Problematic Hydric Soils ³ :
Histosol			Sandy Redox (S		,			2 cm Muck (A10)
	pipedon (A2)		Stripped Matrix					Red Parent Material (TF2)
	istic (A3)		Loamy Mucky N	. ,	(except	MLRA 1)		Very Shallow Dark Surface (TF12)
	en Sulfide (A4)		Loamy Gleyed I	• • •	•	/		Other (Explain in Remarks)
	d Below Dark Surface (/		Depleted Matrix					
Thick Da	ark Surface (A12)		Redox Dark Su	rface (F6)			³ Indi	cators of hydrophytic vegetation and
	/lucky Mineral (S1)		Depleted Dark S		")			vetland hydrology must be present,
	Gleyed Matrix (S4)		Redox Depress	ions (F8)			u	nless disturbed or problematic.
Restrictive	Layer (if present):							
Type:								/
Depth (in	ches):						Hydric \$	Soil Present? Yes No 🖌
Remarks:								
IYDROLO	GY							
Wetland Hy	drology Indicators:							
Primary India	cators (minimum of one	required; che	eck all that apply	/)			Se	econdary Indicators (2 or more required)
Surface	Water (A1)		Water-Stai	ned Leaves	s (B9) (e	xcept		Water-Stained Leaves (B9) (MLRA 1, 2,
	ater Table (A2)			1, 2, 4A, ar				4A, and 4B)
Saturati			Salt Crust		,			_ Drainage Patterns (B10)
	larks (B1)		Aquatic Inv		(B13)			Dry-Season Water Table (C2)
	nt Deposits (B2)		·	Sulfide Odd	. ,			Saturation Visible on Aerial Imagery (C9)
	posits (B3)					Living Root	s (C3)	Geomorphic Position (D2)
	at or Crust (B4)			of Reduced	-	-		_ Shallow Aquitard (D3)
-	posits (B5)					d Soils (C6)		FAC-Neutral Test (D5)
	Soil Cracks (B6)					1) (LRR A)		Raised Ant Mounds (D6) (LRR A)
	ion Visible on Aerial Ima	gery (B7)		lain in Rem		, , , ,		Frost-Heave Hummocks (D7)
	v Vegetated Concave S				-,			
Field Obser	, 0	()						

		. ,					
Field Observations:							
Surface Water Present?	Yes	No	Depth (inches):				
Water Table Present?	Yes	No	Depth (inches):	(
Saturation Present? (includes capillary fringe)	Yes	No	Depth (inches):	Wetland Hydrology Present? Yes No _			
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:							
Remarks:							

Project/Site: CPU Transmission Line	City/County: Clark Co	unty	Sampling Date: 20 June 2017
Applicant/Owner: Clark Public Utility			Sampling Point: 30
Investigator(s): Dustin Day and Allison Kinney	Section, Township, Ra		
Landform (hillslope, terrace, etc.): hill slope		convex, none): <u>none</u>	Slope (%): <u>0-8</u>
Subregion (LRR): LLRA Lat:	45°49'22.71"N	Long: <u>122°40'57.04"W</u>	Datum: WGS84
Soil Map Unit Name: Gee silt loam, 8 to 20 percent slopes		NWI classific	ation: none
Are climatic / hydrologic conditions on the site typical for this time o	f year? Yes 🖌 No	(If no, explain in R	emarks.)
Are Vegetation, Soil, or Hydrology significant	ntly disturbed? Are	"Normal Circumstances" p	resent? Yes 🖌 No
Are Vegetation, Soil, or Hydrology naturally	problematic? (If n	eeded, explain any answe	s in Remarks.)

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

Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present?	Yes ✓ No Yes No ✓ Yes ✓ No ✓	Is the Sampled Area within a Wetland?	YesN	No 🖌
Remarks:				

	Absolute	Dominant		Dominance Test worksheet:	
Tree Stratum (Plot size:)	% Cover	Species?		Number of Dominant Species	
1. Fraxinus latifolia	30	yes	FACW		(A)
2. Salix scouleriana	5	not	FAC	Total Number of Deminent	
3				Total Number of Dominant Species Across All Strata: 5	(B)
4					(_)
	35	= Total Co		Percent of Dominant Species	
Sapling/Shrub Stratum (Plot size:)			vei		(A/B)
1. Symphoricarpos albus	15	yes	FACU	Prevalence Index worksheet:	
2 Spiraea douglasii	5	ves	FACW	Total % Cover of: Multiply by:	_
				OBL species x 1 =	_
3				FACW species x 2 =	_
4				FAC species x 3 =	
5				FACU species x 4 =	
	20	= Total Co	ver	UPL species x 5 =	
Herb Stratum (Plot size:)	05				
1. Epilobium ciliatum	35	yes	FACW	Column Totals: (A)	_ (D)
2. Geum macrophyllum	15	yes	FAC	Prevalence Index = B/A =	
3. Rubus laciniatus	10	no	FACU	Hydrophytic Vegetation Indicators:	
4. Leucanthemum vulgare	5	no	FACU	1 - Rapid Test for Hydrophytic Vegetation	
5. Urtica dioica	5	no	FAC	✓ 2 - Dominance Test is >50%	
6. Galium asprellum	5	no	NL	$_$ 3 - Prevalence Index is ≤3.0 ¹	
7. Hypericum perforatum	5	no	FACU		
8				4 - Morphological Adaptations ¹ (Provide supp data in Remarks or on a separate sheet)	oning
9				5 - Wetland Non-Vascular Plants ¹	
				Problematic Hydrophytic Vegetation ¹ (Explain	ר)
10				¹ Indicators of hydric soil and wetland hydrology m	,
11	00			be present, unless disturbed or problematic.	aor
Woody Vine Stratum (Plot size:)	00	= Total Cov	rer		
1				Hydrophytic Vegetation	
2				Present? Yes <u>No</u> No	
% Bare Ground in Herb Stratum		= Total Cov	rer		
Remarks:				1	

SOIL								Sampling Form.
Profile Desc	cription: (Describe	e to the depth i	needed to docun	nent the i	ndicator	or confirm	the absence	e of indicators.)
Depth	Matrix		Redo	x Features				
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
0-16	10YR 4/4	60		·	. <u> </u>		gravelly clay loam	mixed matrix
0-16	10YR 4/1	40					gravelly clay loam	mixed matrix
				·				
				·				
				·				
					. <u> </u>			
	oncentration, D=De					d Sand Gr		ocation: PL=Pore Lining, M=Matrix.
•	Indicators: (Appli	cable to all LR			ed.)			ors for Problematic Hydric Soils ³ :
Histosol	· · /		Sandy Redox (S					m Muck (A10)
	pipedon (A2)		Stripped Matrix) /			d Parent Material (TF2)
	istic (A3) en Sulfide (A4)		Loamy Mucky N Loamy Gleyed I			WILKA 1)		ry Shallow Dark Surface (TF12) ner (Explain in Remarks)
	d Below Dark Surfa	ce (A11)	Depleted Matrix)		0	
	ark Surface (A12)	<u> </u>	Redox Dark Su				³ Indicat	tors of hydrophytic vegetation and
	Aucky Mineral (S1)		Depleted Dark	· · ·	7)			and hydrology must be present,
	Gleyed Matrix (S4)		Redox Depress	,	,			ess disturbed or problematic.
Restrictive	Layer (if present):							
Туре:			_					
Depth (in	ches):						Hydric So	il Present? Yes No 🖌
Remarks:							-	
IYDROLO								
•	drology Indicators			``			0	
	cators (minimum of	one requirea; c						ondary Indicators (2 or more required)
Surface	()		Water-Stai			xcept	—	Water-Stained Leaves (B9) (MLRA 1, 2,
-	ater Table (A2)			1, 2, 4A, a	ind 4B)			4A, and 4B)
✓ Saturati			Salt Crust					Drainage Patterns (B10)
	larks (B1)		Aquatic Inv		. ,			Dry-Season Water Table (C2)
	nt Deposits (B2)		Hydrogen					Saturation Visible on Aerial Imagery (C9)
	posits (B3)		Oxidized F	•	•	U	. ,	Geomorphic Position (D2)
-	at or Crust (B4)		Presence					Shallow Aquitard (D3)
	posits (B5)		Recent Iro					FAC-Neutral Test (D5)
	Soil Cracks (B6)		Stunted or		,	1) (LRR A)		Raised Ant Mounds (D6) (LRR A)
	on Visible on Aerial		Other (Exp	plain in Re	marks)		—	Frost-Heave Hummocks (D7)
· ·	y Vegetated Concav	/e Surface (B8)						
Field Obser	vations:							

Field Observations:					
Surface Water Present?	Yes	No	Depth (inches):		
Water Table Present?	Yes	No	Depth (inches):		1
Saturation Present? (includes capillary fringe)	Yes 🖌	No	Depth (inches): surface	Wetland Hydrology Present?	Yes 🖌 No
Describe Recorded Data (stre	am gauge, n	nonitoring v	vell, aerial photos, previous inspec	ctions), if available:	
Remarks:					

Project/Site: CPU Transmission Line	k County	Sampling Date: 20 June 2017	
Applicant/Owner: Clark Public Utility		State: WA	_ Sampling Point: <u>31</u>
Investigator(s): Dustin Day and Allison Kinney	Section, Township	p, Range: <u>S09 T4N R1E</u>	
Landform (hillslope, terrace, etc.): flat			Slope (%): <u>0-8</u>
Subregion (LRR): LLRA Lat:	45°49'22.71"N	Long: <u>122°40'57.04</u> "W	Datum: WGS84
Soil Map Unit Name: Gee silt loam, 8 to 20 percent slopes		NWI classif	cation: none
Are climatic / hydrologic conditions on the site typical for this time of	year? Yes 🖌	No (If no, explain in	Remarks.)
Are Vegetation, Soil, or Hydrology significan	tly disturbed?	Are "Normal Circumstances"	present? Yes 🖌 No
Are Vegetation, Soil, or Hydrology naturally	problematic?	(If needed, explain any answ	ers in Remarks.)
SUMMARY OF FINDINGS - Attach site man showing	na samplina no	int locations transact	s important features etc

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

Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present?	Yes Yes Yes	No <u>✓</u> No <u>✓</u> No <u>✓</u>	Is the Sampled Area within a Wetland?	Yes	No
Remarks:					

	Absolute	Dominant		Dominance Test worksheet:		
Tree Stratum (Plot size:)	% Cover	Species?	Status	Number of Dominant Species		
1				That Are OBL, FACW, or FAC:	1	(A)
2				Total Number of Dominant		
3				Species Across All Strata:	4	(B)
4						. ,
		= Total Co		Percent of Dominant Species That Are OBL, FACW, or FAC:	25	(A/B)
Sapling/Shrub Stratum (Plot size:)						(A/D)
1. Corylus cornuta	10	yes	FACU	Prevalence Index worksheet:		
2				Total % Cover of:		-
3				OBL species x	1 =	-
				FACW species x	2 =	-
4				FAC species x	3 =	_
5	10			FACU species x	4 =	_
Herb Stratum (Plot size:)	10	= Total Co	over	UPL species x		
1. Schedonorus arundinaceus	30	yes	FAC	Column Totals: (A		
2. Plantago lanceolata	15	yes	FACU			
3. Hypochaeris radicata	15	ves	FACU	Prevalence Index = B/A =		-
4. Galium asprellum	10	no	NL	Hydrophytic Vegetation Indica		
			FACU	1 - Rapid Test for Hydrophyl	•	
E Leucanthemum vulgare	5	no			,	
5. Leucanthemum vulgare				2 - Dominance Test is >50%		
6. Stachys cooleyae	5	no	NL	3 - Prevalence Index is ≤3.0) ¹	
6. Stachys cooleyae 7. Rubus ursinus	5 5	no	NL FACU	3 - Prevalence Index is ≤3.0 4 - Morphological Adaptatior	¹ ns ¹ (Provide supp	orting
6. Stachys cooleyae 7. Rubus ursinus 8. Cirsium arvense	5 5 5 5	no no no	NL FACU FACU	 3 - Prevalence Index is ≤3.0 4 - Morphological Adaptation data in Remarks or on a state of the sta	¹ ns ¹ (Provide supp separate sheet)	orting
6. Stachys cooleyae 7. Rubus ursinus	5 5	no	NL FACU	 3 - Prevalence Index is ≤3.0 4 - Morphological Adaptatior data in Remarks or on a sector of the secto	¹ ns ¹ (Provide supp separate sheet) 'lants ¹	
6. Stachys cooleyae 7. Rubus ursinus 8. Cirsium arvense	5 5 5 5 5	no no no	NL FACU FACU FACW	 3 - Prevalence Index is ≤3.0 4 - Morphological Adaptation data in Remarks or on a second se	¹ ns ¹ (Provide supp separate sheet) 'lants ¹ getation ¹ (Explain	1)
6. Stachys cooleyae 7. Rubus ursinus 8. Cirsium arvense 9. Epilobium ciliatum	5 5 5 5 5	no no no	NL FACU FACU FACW	 3 - Prevalence Index is ≤3.0 4 - Morphological Adaptatior data in Remarks or on a second secon	¹ ns ¹ (Provide supp separate sheet) 'lants ¹ getation ¹ (Explain dand hydrology m	1)
6. Stachys cooleyae 7. Rubus ursinus 8. Cirsium arvense 9. Epilobium ciliatum 10.	5 5 5 5	no no no	NL FACU FACU FACW	 3 - Prevalence Index is ≤3.0 4 - Morphological Adaptation data in Remarks or on a second se	¹ ns ¹ (Provide supp separate sheet) 'lants ¹ getation ¹ (Explain dand hydrology m	1)
6. Stachys cooleyae 7. Rubus ursinus 8. Cirsium arvense 9. Epilobium ciliatum 10.	5 5 5 5	no no no	NL FACU FACU FACW	 3 - Prevalence Index is ≤3.0 4 - Morphological Adaptatior data in Remarks or on a second secon	¹ ns ¹ (Provide supp separate sheet) 'lants ¹ getation ¹ (Explain dand hydrology m	1)
6. Stachys cooleyae 7. Rubus ursinus 8. Cirsium arvense 9. Epilobium ciliatum 10.	5 5 5 5 95	no no no = Total Cor	NL FACU FACU FACW	 3 - Prevalence Index is ≤3.0 4 - Morphological Adaptatior data in Remarks or on a second secon	¹ ns ¹ (Provide supp separate sheet) 'lants ¹ getation ¹ (Explain dand hydrology m	1)
6. Stachys cooleyae 7. Rubus ursinus 8. Cirsium arvense 9. Epilobium ciliatum 10	5 5 5 5 95	no no no = Total Cor	NL FACU FACU FACW	 3 - Prevalence Index is ≤3.0 4 - Morphological Adaptation data in Remarks or on a second data in Remarks or on a sec	¹ ns ¹ (Provide supp separate sheet) lants ¹ getation ¹ (Explain land hydrology m problematic.	1)
6. Stachys cooleyae 7. Rubus ursinus 8. Cirsium arvense 9. Epilobium ciliatum 10. 11. Woody Vine Stratum 1. 2.	5 5 5 5 95	no no no = Total Cor	NL FACU FACU FACW	 3 - Prevalence Index is ≤3.0 4 - Morphological Adaptation data in Remarks or on a second second	¹ ns ¹ (Provide supp separate sheet) lants ¹ getation ¹ (Explain land hydrology m problematic.	1)
6. Stachys cooleyae 7. Rubus ursinus 8. Cirsium arvense 9. Epilobium ciliatum 10. 11. Woody Vine Stratum (Plot size:)) 1. 2. % Bare Ground in Herb Stratum	5 5 5 5 95	no no no = Total Cor	NL FACU FACU FACW	 3 - Prevalence Index is ≤3.0 4 - Morphological Adaptation data in Remarks or on a second data in Remarks or on a sec	¹ ns ¹ (Provide supp separate sheet) lants ¹ getation ¹ (Explain land hydrology m problematic.	1)
6. Stachys cooleyae 7. Rubus ursinus 8. Cirsium arvense 9. Epilobium ciliatum 10. 11. Woody Vine Stratum 1. 2.	5 5 5 5 95	no no no = Total Cor	NL FACU FACU FACW	 3 - Prevalence Index is ≤3.0 4 - Morphological Adaptation data in Remarks or on a second data in Remarks or on a sec	¹ ns ¹ (Provide supp separate sheet) lants ¹ getation ¹ (Explain land hydrology m problematic.	1)

SOIL						Sampling Point:
Profile Des	cription: (Descri	be to the dep	th needed to document the in	dicator or confirm	the absence	of indicators.)
Depth	Matrix	<	Redox Features			
(inches)	Color (moist)	%	Color (moist) %	Type ¹ Loc ²	Texture	Remarks
0-16	10YR 3/3	100			silt loam	
			Reduced Matrix, CS=Covered			cation: PL=Pore Lining, M=Matrix.
•		licable to all	LRRs, unless otherwise noted	1.)		ors for Problematic Hydric Soils ³ :
Histosol	pipedon (A2)		Sandy Redox (S5) Stripped Matrix (S6)			n Muck (A10) I Parent Material (TF2)
	listic (A3)		Loamy Mucky Mineral (F1)	(except MI DA 1)		y Shallow Dark Surface (TF12)
	en Sulfide (A4)		Loamy Gleyed Matrix (F2)	(except wilka I)		er (Explain in Remarks)
	d Below Dark Sur		Depleted Matrix (F3)		O	
	ark Surface (A12)	. ,	Redox Dark Surface (F6)		³ Indicate	ors of hydrophytic vegetation and
	Mucky Mineral (S1		Depleted Dark Surface (F7)		and hydrology must be present,
	Gleyed Matrix (S4)		Redox Depressions (F8))		ss disturbed or problematic.
	Layer (if present)					
-						
	-1					
Depth (In	iches):				Hydric Soil	Present? Yes No V
YDROLO	GY					
Vetland Hy	drology Indicato	rs:				
rimary Indi	cators (minimum c	of one require	d; check all that apply)		Seco	ndary Indicators (2 or more required)
Surface	Water (A1)		Water-Stained Leaves	s (B9) (except	V	Vater-Stained Leaves (B9) (MLRA 1, 2
High Wa	ater Table (A2)		MLRA 1, 2, 4A, an	id 4B)		4A, and 4B)
	ion (A3)		Salt Crust (B11)		C	Drainage Patterns (B10)
	Aarks (B1)		Aquatic Invertebrates	(B13)		Dry-Season Water Table (C2)
	nt Deposits (B2)		Hydrogen Sulfide Odd			Saturation Visible on Aerial Imagery (C
	posits (B3)		Oxidized Rhizosphere			Geomorphic Position (D2)
	at or Crust (B4)		Presence of Reduced			Shallow Aquitard (D3)
Iron De			Recent Iron Reduction	. ,		AC-Neutral Test (D5)
	Soil Cracks (B6)		Stunted or Stressed P			Raised Ant Mounds (D6) (LRR A)
		al Imagany (D				
	ion Visible on Aeri	• • •	· · · ·	iai 165)	F	rost-Heave Hummocks (D7)
	y Vegetated Conc	ave Surrace (00)			
		Voc	No Dopth (inches);			
	ter Present?		No Depth (inches):			
Water Table			No Depth (inches):			1
Saturation P	Present?	Yes	No Depth (inches):	Wetla	and Hydrolog	y Present? Yes No 🖌

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

Remarks:

(includes capillary fringe)

Project/Site: CPU Transmission Line	_ City/County: Clark C	county	Sampling Date: 20 June 2017
Applicant/Owner: Clark Public Utility		State: WA	Sampling Point: <u>32</u>
Investigator(s): Dustin Day and Allison Kinney	Section, Township, F	Range: S09 T4N R1E	
Landform (hillslope, terrace, etc.): flat			Slope (%): <u>0-8</u>
Subregion (LRR): LLRA Lat:	45°49'22.71"N	Long: <u>122°40'57.04</u> "W	Datum: WGS84
Soil Map Unit Name: Gee silt loam, 8 to 20 percent slopes		NWI classific	ation: none
Are climatic / hydrologic conditions on the site typical for this time of	year? Yes 🖌 No		emarks.)
Are Vegetation, Soil, or Hydrology significan	tly disturbed? Ar	e "Normal Circumstances" p	present? Yes 🖌 No
Are Vegetation, Soil, or Hydrology naturally	problematic? (If	needed, explain any answe	rs in Remarks.)
SUMMARY OF FINDINGS – Attach site man showin	ng sampling point	t locations, transects	important features, etc.

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

Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present?	Yes Yes Yes	No <u>✓</u> No <u>✓</u> No <u>✓</u>	Is the Sampled Area within a Wetland?	Yes	No 🖌
Remarks:					

	Absolute	Dominant		Dominance Test worksheet:	
Tree Stratum (Plot size:)	% Cover	Species?	Status	Number of Dominant Species	
1				That Are OBL, FACW, or FAC: 1	(A)
2				Total Number of Dominant	
3				Species Across All Strata: 5	(B)
4					. ,
		= Total Co		Percent of Dominant Species That Are OBL, FACW, or FAC: ²⁰	(A/B)
Sapling/Shrub Stratum (Plot size:)		-		Prevalence Index worksheet:	(/////
1					
2				Total % Cover of: Multiply b	-
3				OBL species x 1 =	
4				FACW species x 2 =	
5				FAC species x 3 =	
···		= Total Co	wor	FACU species x 4 =	
Herb Stratum (Plot size:)		_ 10tal 00		UPL species x 5 =	
1. Hypochaeris radicata	15	yes	FACU	Column Totals: (A)	(B)
2. Plantago lanceolata	15	yes	FACU	Prevalence Index = B/A =	
3. Trifolium repens	10	yes	FAC	Hydrophytic Vegetation Indicators:	
4. Taraxacum officinale	10	yes	FACU	1 - Rapid Test for Hydrophytic Vegetation	a
5. Anthoxanthum odoratum	10	yes	FACU	2 - Dominance Test is >50%	
6. Galium asprellum	5	no	NL	3 - Prevalence Index is $\leq 3.0^{1}$	
7. Rumex aetosella	5	no	FACU	4 - Morphological Adaptations ¹ (Provide	supporting
8. Leucanthemum vulgare	5	no	FACU	data in Remarks or on a separate sh	
9 Daucus carota	5	no	FACU	5 - Wetland Non-Vascular Plants ¹	
10. Lupinus sp.	1	no		Problematic Hydrophytic Vegetation ¹ (E	xplain)
11.				¹ Indicators of hydric soil and wetland hydrolo	ogy must
	86	= Total Cov	ver	be present, unless disturbed or problematic.	
Woody Vine Stratum (Plot size:)					
1				Hydrophytic	
2				Vegetation	,
		= Total Co	ver	Present? Yes No V	_
% Bare Ground in Herb Stratum					
Remarks:					

Profile Descriptions (Describe to the de	th peopled to decument the indicator or confirm	the choose	Samping Font.
	pth needed to document the indicator or confirm	i the absence	of indicators.)
Depth Matrix (inches) Color (moist) %	<u>Redox Features</u> <u>Color (moist)</u> <u>%</u> <u>Type¹</u> Loc ²	Texture	Remarks
0-16 10YR 3/3 100		silt loam	Temarks
101K 3/3 100		Siit ioain	
Type: C=Concentration, D=Depletion, RN	I=Reduced Matrix, CS=Covered or Coated Sand Gra	ains. ² Lo	cation: PL=Pore Lining, M=Matrix.
lydric Soil Indicators: (Applicable to al	I LRRs, unless otherwise noted.)	Indicate	ors for Problematic Hydric Soils ³ :
Histosol (A1)	Sandy Redox (S5)	2 ci	m Muck (A10)
Histic Epipedon (A2)	Stripped Matrix (S6)		d Parent Material (TF2)
Black Histic (A3)	Loamy Mucky Mineral (F1) (except MLRA 1)	Ver	ry Shallow Dark Surface (TF12)
Hydrogen Sulfide (A4)	Loamy Gleyed Matrix (F2)	Oth	ner (Explain in Remarks)
Depleted Below Dark Surface (A11)	Depleted Matrix (F3)		
Thick Dark Surface (A12)	Redox Dark Surface (F6)	³ Indicate	ors of hydrophytic vegetation and
Sandy Mucky Mineral (S1)	Depleted Dark Surface (F7)	wetla	and hydrology must be present,
Sandy Gleyed Matrix (S4)	Redox Depressions (F8)	unle	ss disturbed or problematic.
Restrictive Layer (if present):			
Туре:			1
Depth (inches):		Hydric Soi	I Present? Yes No 🗸
Remarks:			
(DROLOGY			
Vetland Hydrology Indicators:			
rimary Indicators (minimum of one require	ad: check all that apply)	Seco	ndary Indicators (2 or more required)
			· · · · ·
Surface Water (A1)	Water-Stained Leaves (B9) (except	\	Water-Stained Leaves (B9) (MLRA 1, 2
High Water Table (A2)	MLRA 1, 2, 4A, and 4B)	-	4A, and 4B)
_ Saturation (A3)	Salt Crust (B11)		Drainage Patterns (B10)
Water Marks (B1)	Aquatic Invertebrates (B13)		Dry-Season Water Table (C2)
Sediment Deposits (B2)	Hydrogen Sulfide Odor (C1)		Saturation Visible on Aerial Imagery (C
_ Drift Deposits (B3)	Oxidized Rhizospheres along Living Roo		Geomorphic Position (D2)
Algal Mat or Crust (B4)	Presence of Reduced Iron (C4)		Shallow Aquitard (D3)
Iron Deposits (B5)	Recent Iron Reduction in Tilled Soils (C6) F	FAC-Neutral Test (D5)
Surface Soil Cracks (B6)	Stunted or Stressed Plants (D1) (LRR A)) F	Raised Ant Mounds (D6) (LRR A)
Inundation Visible on Aerial Imagery (E	37) Other (Explain in Remarks)	F	Frost-Heave Hummocks (D7)
Sparsely Vegetated Concave Surface	(B8)		
ield Observations:			
Surface Water Present? Yes	No Depth (inches):		

	-			-			
Water Table Present?	Yes	No	Depth (inches):				/
Saturation Present? (includes capillary fringe)	Yes	No	Depth (inches):		Wetland Hydrology Present?	Yes	No 🖌
Describe Recorded Data (str	eam gauge	e, monitorin	g well, aerial photos,	previous inspec	tions), if available:		
Remarks:							

Project/Site: CPU Transmission Line	City/County: Clark Co	ounty	Sampling Date: 20 June 2017
Applicant/Owner: Clark Public Utility			Sampling Point: 33
Investigator(s): Dustin Day and Allison Kinney	Section, Township, R	ange: S09 T4N R1E	
Landform (hillslope, terrace, etc.): flat	Local relief (concave	, convex, none): <u>none</u>	Slope (%): <u>0-8</u>
Subregion (LRR): LLRA Lat: _	45°49'22.71"N	Long: <u>122°40'57.04"W</u>	Datum: WGS84
Soil Map Unit Name: Gee silt loam, 0 to 8 percent slopes		NWI classific	ation: none
Are climatic / hydrologic conditions on the site typical for this time of	year? Yes 🖌 No	(If no, explain in Re	emarks.)
Are Vegetation, Soil, or Hydrology significar	ntly disturbed? Are	e "Normal Circumstances" p	resent? Yes 🖌 No
Are Vegetation, Soil, or Hydrology naturally	problematic? (If r	needed, explain any answer	rs in Remarks.)
SUMMARY OF FINDINGS – Attach site map showi	na samplina point	locations, transects,	. important features. etc.

Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present?	Yes Yes <mark>√</mark> Yes √	No No No	Is the Sampled Area within a Wetland?	Yes	No
Remarks:					

	Absolute	Dominant		Dominance Test worksheet:	
Tree Stratum (Plot size:)	% Cover	Species?	Status	Number of Dominant Species	
1				That Are OBL, FACW, or FAC: 1	(A)
2				Total Number of Dominant	
3				Species Across All Strata: 6	(B)
4					
		= Total Co		Percent of Dominant Species That Are OBL, FACW, or FAC: 16	(A/B)
Sapling/Shrub Stratum (Plot size:)		-		Prevalence Index worksheet:	_ (' ' =)
1				Total % Cover of: Multiply by:	
2					
3				OBL species x 1 =	
4				FACW species x 2 =	
5				FAC species x 3 =	
		= Total Co	ver	FACU species x 4 =	
Herb Stratum (Plot size:)				UPL species x 5 =	
1. Hypochaeris radicata	30	yes	FACU	Column Totals: (A)	(B)
2. Rumex aetosella	20	yes	FACU	Prevalence Index = B/A =	
3. Anthoxanthum odoratum	20	yes	FACU	Hydrophytic Vegetation Indicators:	
4. Plantago lanceolata	10	yes	FACU	1 - Rapid Test for Hydrophytic Vegetation	
5. Leucanthemum vulgare	10	yes	FACU	2 - Dominance Test is >50%	
6. Poa pratensis	10	yes	FAC	3 - Prevalence Index is $\leq 3.0^{1}$	
7. Claytonia sibirica	5	no	FAC	4 - Morphological Adaptations ¹ (Provide su	pporting
8. Vicia sativa	5	no	UPL	data in Remarks or on a separate sheet	
9. Daucus carota	5	no	FACU	5 - Wetland Non-Vascular Plants ¹	
10. Trifolium repens	5	no	FAC	Problematic Hydrophytic Vegetation ¹ (Expl	ain)
11. Juncus bufonius	5	no	FACW	¹ Indicators of hydric soil and wetland hydrology	must
	125	= Total Co	ver	be present, unless disturbed or problematic.	
Woody Vine Stratum (Plot size:)					
1				Hydrophytic	
2				Vegetation	
		= Total Co		Present? Yes No	
% Bare Ground in Herb Stratum		-			
Remarks:					

SOIL	
------	--

OIL					In dia stan	or confirm		of indiactors)
Profile Desc	cription: (Describe	to the dep	oth needed to docu	ment the	Indicator	or commit	the absence	e or mulcalors.)
Depth	Matrix		Redo	ox Feature				
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
0-2	10YR 3/2	100						
2-8	10YR 3/2	90	10YR 3/6	10	С	M/PL		
8-12	10YR 4/2	90	10YR 3/3	10	С	М		
12-16	10YR 5/2	90	10YR 4/6	10	С	М		
				-				
				_				
¹ Type: C=C	oncentration D=De	oletion RM	=Reduced Matrix, C	S=Covere	d or Coate	d Sand Gr	ains ² Lo	cation: PL=Pore Lining, M=Matrix.
			LRRs, unless othe					ors for Problematic Hydric Soils ³ :
Histosol	(A1)		Sandy Redox (S5)			2 c	m Muck (A10)
	pipedon (A2)		Stripped Matrix	,				d Parent Material (TF2)
Black Hi			Loamy Mucky		1) (excep	t MLRA 1)		ry Shallow Dark Surface (TF12)
	en Sulfide (A4)		Loamy Gleyed			/		ner (Explain in Remarks)
	d Below Dark Surfa	ce (A11)	Depleted Matri		,			
	ark Surface (A12)	,	Redox Dark Su)		³ Indicat	ors of hydrophytic vegetation and
	/lucky Mineral (S1)		Depleted Dark		,			and hydrology must be present,
	Gleyed Matrix (S4)		Redox Depres					ss disturbed or problematic.
				, ,			1	•
Restrictive I	Layer (if present):							
Restrictive I Type:	Layer (if present):							
Type:							Hydric Soi	I Present? Yes 🖌 No
Type:							Hydric Soi	l Present? Yes 🖌 No
Type: Depth (ind							Hydric Soi	I Present? Yes 🖌 No
Type: Depth (ind	ches):						Hydric Soi	I Present? Yes 🖌 No
Type: Depth (ind Remarks:	ches):						Hydric Soi	I Present? Yes <u>No</u> No
Type: Depth (ind Remarks: IYDROLO Wetland Hyd Primary India	ches): GY drology Indicators cators (minimum of	:	d; check all that app				Seco	ondary Indicators (2 or more required)
Type: Depth (ind Remarks: IYDROLO Wetland Hyd Primary Indic Surface	GY drology Indicators cators (minimum of Water (A1)	:	d; check all that app	ained Leav	ves (B9) (€	xcept	Seco	
Type: Depth (ind Remarks: IYDROLO Wetland Hyd Primary Indid Surface High Wa	Ches): GY drology Indicators cators (minimum of Water (A1) ater Table (A2)	:	d; check all that app Water-Sta	ained Leav 1, 2, 4A,	. , .	xcept	<u>Seco</u>	ondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
Type: Depth (ind Remarks: IYDROLO Wetland Hyd Primary Indic Surface	Ches): GY drology Indicators cators (minimum of Water (A1) ater Table (A2)	:	d; check all that app	ained Leav 1, 2, 4A,	. , .	xcept	<u>Seco</u>	ondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2,
Type: Depth (ind Remarks: IYDROLO Wetland Hyd Primary Indid Surface High Wa Saturatio	Ches): GY drology Indicators cators (minimum of Water (A1) ater Table (A2)	:	d; check all that app Water-Sta	ained Leav 1, 2, 4A, : (B11)	and 4B)	xcept	<u>Seco</u> \	ondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
Type: Depth (ind Remarks: IYDROLO Wetland Hyd Primary India Surface High Wa Saturatia Water M	GY drology Indicators cators (minimum of Water (A1) ater Table (A2) on (A3)	:	d; check all that app Water-Sta MLRA Salt Crust	ained Leav 1, 2, 4A, : (B11) ivertebrate	and 4B) es (B13)	xcept	<u>Seco</u> \ [ondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10)
Type: Depth (ind Remarks: IYDROLO Wetland Hyd Primary Indic Surface High Wa Saturatic Water M Sedimer	GY drology Indicators cators (minimum of Water (A1) ater Table (A2) on (A3) larks (B1)	:	d; check all that app Water-Sta Salt Crust Salt Crust Aquatic Ir Hydrogen	ined Leav 1, 2, 4A, (B11) vertebrate Sulfide C	and 4B) es (B13) odor (C1)		<u>Seco</u> \ [[andary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2)
Type: Depth (ind Remarks: IYDROLO Wetland Hyd Primary Indid Surface Surface High Wa Saturatid Saturatid Water M Sedimer Drift Dep	GY drology Indicators cators (minimum of Water (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2)	:	d; check all that app Water-Sta Water-Sta Salt Crusi Aquatic Ir Hydrogen Oxidized	ined Leav 1, 2, 4A, (B11) ivertebrate Sulfide C Rhizosphe	and 4B) es (B13) odor (C1) eres along	Living Roo	<u>Seco</u> \ [[[[[[[[[[[[[[[[[]	ondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2)
Type: Depth (ind Remarks: IYDROLO Wetland Hyd Primary India Surface High Wa Saturatio Water M Sedimer Drift Dep Algal Ma	GY drology Indicators cators (minimum of Water (A1) ater Table (A2) on (A3) farks (B1) nt Deposits (B2) posits (B3) at or Crust (B4)	:	d; check all that app Water-Sta Vater-Sta Salt Crust Aquatic Ir Hydrogen _∕ Oxidized Presence	ined Leav 1, 2, 4A, (B11) vertebrate Sulfide C Rhizosphe of Reduc	and 4B) es (B13) odor (C1) eres along ed Iron (C-	Living Roo 4)	<u>Seco</u> \ [[[[[[[[[[[[[[[[[[]]	ondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3)
Type: Depth (ind Remarks: IYDROLO Wetland Hyd Primary India Mater Ma Saturatia Water M Saturatia Water M Sedimer Drift Dep Algal Ma Iron Dep	GY drology Indicators cators (minimum of Water (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5)	:	d; check all that app Water-Sta Water-Sta Salt Crust Aquatic Ir Hydrogen Presence Recent Iro	ined Leav 1, 2, 4A, (B11) wertebrate Sulfide C Rhizosphe of Reduct	and 4B) es (B13) odor (C1) eres along ed Iron (C- cion in Tille	Living Roo 4) d Soils (C6	<u>Seco</u> \ [[[[[[[[[[[[[[[] [[] [] [] [] [] [] [] []] [] []] []] []] []] []]	Andary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5)
Type: Depth (ind Remarks: IYDROLO Wetland Hyd Primary India Surface Surface High Wa Saturatio Saturatio Vater M Sedimer Drift Dep Algal Ma Iron Dep Surface	GY drology Indicators cators (minimum of Water (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6)	: one require	d; check all that app Water-Sta MLRA Salt Crust Aquatic Ir Hydrogen Presence Recent Iro Stunted o	ined Leav 1, 2, 4A , (B11) wertebrate Sulfide C Rhizosphe of Reduct on Reduct r Stressed	and 4B) es (B13) odor (C1) eres along ed Iron (C- cion in Tille d Plants (D	Living Roo 4)	<u>Seco</u> V [[[[ts (C3) [[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[]]	Andary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
Type: Depth (ind Remarks: IYDROLO Wetland Hyd Primary Indic Surface High Wa Saturatio Saturatio Water M Sedimer Drift Dep Algal Ma Iron Dep Surface Inundatio	GY drology Indicators cators (minimum of Water (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) on Visible on Aerial	: one require	d; check all that app Water-Sta MLRA Salt Crusi Aquatic Ir Hydrogen Presence Recent Iro Stunted o 57) Other (Ex	ined Leav 1, 2, 4A , (B11) wertebrate Sulfide C Rhizosphe of Reduct on Reduct r Stressed	and 4B) es (B13) odor (C1) eres along ed Iron (C- cion in Tille d Plants (D	Living Roo 4) d Soils (C6	<u>Seco</u> V [[[[ts (C3) [[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[]]	Andary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5)
Type: Depth (ind Remarks: IYDROLO Wetland Hyd Primary Indic Surface High Wa Saturatio Saturatio Water M Sedimer Drift Dep Algal Ma Iron Dep Surface Inundatio	GY drology Indicators cators (minimum of Water (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) on Visible on Aerial y Vegetated Concav	: one require	d; check all that app Water-Sta MLRA Salt Crusi Aquatic Ir Hydrogen Presence Recent Iro Stunted o 57) Other (Ex	ined Leav 1, 2, 4A , (B11) wertebrate Sulfide C Rhizosphe of Reduct on Reduct r Stressed	and 4B) es (B13) odor (C1) eres along ed Iron (C- cion in Tille d Plants (D	Living Roo 4) d Soils (C6	<u>Seco</u> V [[[[ts (C3) [[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[]]	Andary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
Type: Depth (ind Remarks: IYDROLO Wetland Hyd Primary Indid Surface High Wa Saturatid Water M Sedimer Drift Dep Algal Ma Iron Dep Surface Inundatid Sparsely Field Obser	GY drology Indicators cators (minimum of Water (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) on Visible on Aerial y Vegetated Concav vations:	: one require Imagery (B re Surface (d; check all that app Water-Sta MLRA Salt Crust Aquatic Ir Hydrogen Oxidized Presence Recent Ira Stunted o 57) Other (Ex [B8)	1, 2, 4A, (B11) (B11) (Sulfide C Rhizosphe of Reduct on Reduct r Stressed plain in R	and 4B) es (B13) odor (C1) eres along ed Iron (C- tion in Tille d Plants (D emarks)	Living Roo 4) d Soils (C6 1) (LRR A)	<u>Seco</u> V [[[[ts (C3) [[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[]]	Andary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
Type: Depth (ind Remarks: IYDROLO Wetland Hyd Primary India Surface High Wa Saturatio Saturatio Nater M Sedimer Drift Dep Algal Ma Iron Dep Algal Ma Iron Dep Surface Inundatio Sparsely Field Obser Surface Water	GY drology Indicators cators (minimum of Water (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) on Visible on Aerial y Vegetated Concav vations: er Present?	: one require Imagery (B re Surface (Yes	d; check all that app Water-Sta MLRA Salt Crust Aquatic Ir Hydrogen Oxidized Presence Recent Irr Stunted o 57) Other (Ex (B8)	1, 2, 4A, (B11) (Sulfide C Rhizosphe of Reductor Rhizosphe of Reductor r Stressed plain in R	and 4B) es (B13) odor (C1) eres along ed Iron (C- cion in Tille d Plants (D emarks)	Living Roo 4) d Soils (C6 1) (LRR A)	<u>Seco</u> V [[[[ts (C3) [[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[]]	Andary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
Type: Depth (ind Remarks: IYDROLO Wetland Hyd Primary Indic Surface High Wa Saturatic Water M Sedimer Drift Dep Algal Ma Iron Dep Surface Inundatic Sparsely Field Obser Surface Water	GY drology Indicators cators (minimum of Water (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) on Visible on Aerial y Vegetated Concav vations: er Present?	: one require Imagery (B re Surface (Yes Yes	d; check all that app Water-Sta MLRA Salt Crusi Aquatic Ir Hydrogen Oxidized Presence Recent Ira Stunted o 57) Other (Ex (B8) No Depth (ir	ined Leav 1, 2, 4A, (B11) wertebrate Sulfide C Rhizosphe of Reduct on Reduct r Stressed plain in R aches):	and 4B) es (B13) odor (C1) eres along ed Iron (C- cion in Tille d Plants (D emarks)	Living Roo 4) d Soils (C6 1) (LRR A)	<u>Seco</u> V [[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[]]	Andary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
Type: Depth (ind Remarks: IYDROLO Wetland Hyd Primary India Surface High Wa Saturatio Saturatio Nater M Sedimer Drift Dep Algal Ma Iron Dep Algal Ma Iron Dep Surface Inundatio Sparsely Field Obser Surface Water	GY drology Indicators cators (minimum of Water (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) on Visible on Aerial y Vegetated Concav vations: er Present? Present? resent?	: one require Imagery (B re Surface (Yes Yes	d; check all that app Water-Sta MLRA Salt Crust Aquatic Ir Hydrogen Oxidized Presence Recent Irr Stunted o 57) Other (Ex (B8)	ined Leav 1, 2, 4A, (B11) wertebrate Sulfide C Rhizosphe of Reduct on Reduct r Stressed plain in R aches):	and 4B) es (B13) odor (C1) eres along ed Iron (C- cion in Tille d Plants (D emarks)	Living Roo 4) d Soils (C6 1) (LRR A)	<u>Seco</u> V [[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[]]	Andary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)

Remarks:

Project/Site: CPU Transmission Line	City/County: Clark Co	Clark County Sampling Date: 20 June 2		
Applicant/Owner: Clark Public Utility		State: WA	Sampling Point: <u>34</u>	
Investigator(s): Dustin Day and Allison Kinney	Section, Township, Ra	ange: S09 T4N R1E		
Landform (hillslope, terrace, etc.): flat	Local relief (concave,	convex, none): <u>none</u>	Slope (%): <u>0-8</u>	
Subregion (LRR): LLRA Lat: _	45°49'22.71"N	Long: <u>122°40'57.04"</u> W	Datum: WGS84	
Soil Map Unit Name: Gee silt loam, 0 to 8 percent slopes		NWI classific	ation: none	
Are climatic / hydrologic conditions on the site typical for this time of	year? Yes 🖌 No	(If no, explain in R	emarks.)	
Are Vegetation, Soil, or Hydrology significar	ntly disturbed? Are	"Normal Circumstances" p	oresent? Yes 🖌 No	
Are Vegetation, Soil, or Hydrology naturally	problematic? (If n	eeded, explain any answe	rs in Remarks.)	
SUMMARY OF FINDINGS – Attach site map showi	ng sampling point	locations, transects	, important features, etc.	

Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present?	Yes	Is the Sampled Area within a Wetland? Yes No
Remarks:		

	Absolute	Dominant		Dominance Test worksheet:
Tree Stratum (Plot size:)	% Cover	Species?	Status	Number of Dominant Species
1				That Are OBL, FACW, or FAC: 6 (A)
2				Total Number of Dominant
3				Species Across All Strata: 8 (B)
4				
		= Total Co		Percent of Dominant Species That Are OBL, FACW, or FAC: .75 (A/B)
Sapling/Shrub Stratum (Plot size:)				Prevalence Index worksheet:
1				
2				Total % Cover of: Multiply by:
3				OBL species x 1 =
4				FACW species x 2 =
5				FAC species x 3 =
···		= Total Co	vor	FACU species x 4 =
Herb Stratum (Plot size:)		_ = 10tal C0		UPL species x 5 =
1. Lolium perenne	50	yes	FAC	Column Totals: (A) (B)
2. Juncus bufonius	20	yes	FACW	Prevalence Index = B/A =
3. Poa pratensis	20	yes	FAC	Hydrophytic Vegetation Indicators:
4. Hypochaeris radicata	20	yes	FACU	1 - Rapid Test for Hydrophytic Vegetation
5. Lotus corniculatus	10	yes	FAC	✓ 2 - Dominance Test is >50%
6. Rumex aetosella	10	yes	FACU	3 - Prevalence Index is $\leq 3.0^{1}$
7. Epilobium ciliatum	10	yes	FACW	4 - Morphological Adaptations ¹ (Provide supporting
8. Claytonia sibirica	10	yes	FAC	data in Remarks or on a separate sheet)
9. Rumex crispus	5	no	FAC	5 - Wetland Non-Vascular Plants ¹
10. Leucanthemum vulgare	5	no	FACU	Problematic Hydrophytic Vegetation ¹ (Explain)
11. Lupinus sp.	5	no		¹ Indicators of hydric soil and wetland hydrology must
	165	= Total Cov	ver	be present, unless disturbed or problematic.
Woody Vine Stratum (Plot size:)		-		
1				Hydrophytic
2				Vegetation
		= Total Cov		Present? Yes No
% Bare Ground in Herb Stratum				
Remarks:				

SOIL	
------	--

Depth	Matrix		Redo	x Feature	s			
(inches)	Color (moist)	%	Color (moist)	<u>%</u>	Type ¹	Loc ²	Texture	Remarks
0-4	10YR 3/2	100						
4-10	10YR 3/2	80	10YR 3/6	20	С	M/PL		
10-16	10YR 3/2	80	10YR 3/3	20	С	М		
			I=Reduced Matrix, C			ed Sand Grai		ation: PL=Pore Lining, M=Matrix.
Histoso			Sandy Redox (n Muck (A10)
	pipedon (A2)		Stripped Matrix					Parent Material (TF2)
	listic (A3)		Loamy Mucky I		1) (excen	t MLRA 1)		Shallow Dark Surface (TF12)
	en Sulfide (A4)		Loamy Gleyed					er (Explain in Remarks)
	d Below Dark Surfa	ace (A11)	Depleted Matrix		,			,
	ark Surface (A12)	· · ·	✓ Redox Dark Su)		³ Indicato	rs of hydrophytic vegetation and
Sandy M	Mucky Mineral (S1)		Depleted Dark	Surface (F	=7)		wetla	nd hydrology must be present,
Sandy (Gleyed Matrix (S4)		Redox Depress	sions (F8)			unles	s disturbed or problematic.
Restrictive	Layer (if present):							
Туре:								1
Depth (in	iches):						Hydric Soil	Present? Yes 🖌 No
YDROLO								
	drology Indicators)			Casar	
		one require	ed; check all that appl					idary Indicators (2 or more required)
	Water (A1)		Water-Sta		. , .	xcept	VV	(MLRA 1, 2) (MLRA 1, 2
-	ater Table (A2)			1, 2, 4A, a	,			4A, and 4B)
Saturati			Salt Crust					rainage Patterns (B10)
	/larks (B1)		Aquatic In		. ,			ry-Season Water Table (C2)
	nt Deposits (B2)		Hydrogen			Living Boots		aturation Visible on Aerial Imagery (CS
	posits (B3) at or Crust (B4)		✓ Oxidized I	•	0	0		eomorphic Position (D2)
	at or Crust (B4) posits (B5)		Presence			+) d Soils (C6)		hallow Aquitard (D3) AC-Neutral Test (D5)
	Soil Cracks (B6)					1) (LRR A)		aised Ant Mounds (D6) (LRR A)
	ion Visible on Aeria	l Imagery /F						ost-Heave Hummocks (D7)
	y Vegetated Conca	•••	,		sinains)		FI	
Snareol	y vegetateu contra	ve Sullace						
	vations.							
Field Obser		Vec	No Dooth (in	ches).				
Field Obser	ter Present?		No Depth (in					
Field Obser	ter Present? Present?	Yes	No Depth (in No Depth (in No Depth (in	ches):		_		/ Present? Yes 🖌 No

(includes capillary fringe)					
Describe Recorded Data	(stream gauge,	monitoring well,	aerial photos,	previous inspe	ctions), if available:

Remarks:

Wetland Delineation and Assessment Clark Public Utilities Enterprise Transmission Line Clark County, Washington

> Appendix C Wetland Rating Forms

RATING SUMMARY – Western Washington

 Name of wetland (or ID #): ______ Wetland A ______ Date of site visit: ______ Date of site visit: ______ Date of site visit: ______ Trained by Ecology? _____ Yes _____ No Date of training ______

 HGM Class used for rating Riverine
 Wetland has multiple HGM classes? Y × N

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

OVERALL WETLAND CATEGORY _____ (based on functions ____ or special characteristics ____)

1. Category of wetland based on FUNCTIONS

_____Category I – Total score = 23 - 27

____Category II – Total score = 20 - 22

x Category III – Total score = 16 - 19

Category IV – Total score = 9 - 15

FUNCTION		mprov ater Qu	-	Н	ydrolo	ogic	ł	labita	ət	
					Circle	the ap	propri	iate ra	tings	
Site Potential	Н	M	L	Н	M	L	Н	Μ		
Landscape Potential	Н	M	L	Н	M	L	H	Μ	L	
Value	Н	M	L	Н	М		Н	M	L	TOTA
Score Based on Ratings		6			5			6		17

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	Ι	II	
Wetland of High Conservation Value	Ι		
Bog	I		
Mature Forest	I		
Old Growth Forest	I		
Coastal Lagoon	I II		
Interdunal	I II	III IV	
None of the above	Not applicable		

Maps and figures required to answer questions correctly for Western Washington

Depressional Wetlands

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

Riverine Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	H 1.1, H 1.4	1
Hydroperiods	H 1.2	1
Ponded depressions	R 1.1	N/A
Boundary of area within 150 ft of the wetland (can be added to another figure)	R 2.4	1
Plant cover of trees, shrubs, and herbaceous plants	R 1.2, R 4.2	1
Width of unit vs. width of stream (can be added to another figure)	R 4.1	1
Map of the contributing basin	R 2.2, R 2.3, R 5.2	2
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	3
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	R 3.1	4
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	R 3.2, R 3.3	5

Lake Fringe Wetlands

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

Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	H 1.1, H 1.4	
Hydroperiods	H 1.2	
Plant cover of dense trees, shrubs, and herbaceous plants	S 1.3	
Plant cover of dense, rigid trees, shrubs, and herbaceous plants	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 polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	S 3.3	

HGM Classification of Wetlands in Western Washington

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

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

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

NO - go to 2

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

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

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

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

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

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

NO - go to 4

YES – The wetland class is **Lake Fringe** (Lacustrine Fringe)

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

NO - go to 5

YES – The wetland class is **Slope**

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

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

YES - Freshwater Tidal Fringe

NO – go to 6 **YES** – The wetland class is **Riverine NOTE**: The Riverine unit can contain depressions that are filled with water when the river is not flooding

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

NO – go to 7

YES – The wetland class is Depressional

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

NO – go to 8

YES – The wetland class is Depressional

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

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

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

RIVERINE AND FRESHWATER TIDAL FRINGE WETLANDS

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

R 1.0. Does the site have the potential to improve water quality	ı?	
R 1.1. Area of surface depressions within the Riverine wetland that ca	n trap sediments during a flooding event:	
Depressions cover $>^{3}/_{4}$ area of wetland	points = 8	
Depressions cover > ½ area of wetland	points = 4 0	
Depressions present but cover < ½ area of wetland	points = 2	
No depressions present	points = 0	
R 1.2. Structure of plants in the wetland (areas with >90% cover at per	rson height, not Cowardin classes)	
Trees or shrubs $> ^{2}/_{3}$ area of the wetland	points = 8	
Trees or shrubs $> 1/3$ area of the wetland	points = 6	
Herbaceous plants (> 6 in high) > $^{2}/_{3}$ area of the wetland	points = 6 6	
Herbaceous plants (> 6 in high) > $^{1}/_{3}$ area of the wetland	points = 3	
Trees, shrubs, and ungrazed herbaceous $< \frac{1}{3}$ area of the wetla	nd points = 0	
Total for R 1Add the points in the boxes	above 6	

Rating of Site Potential If score is: 12-16 = H ____6-11 = M ____0-5 = L

Record the rating on the first page

R 2.0. Does the landscape have the potential to support the water quality function of the site?			
R 2.1. Is the wetland within an incorporated city or within its UGA?	Yes = 2 No = 0	0	
R 2.2. Does the contributing basin to the wetland include a UGA or incorporated area?	Yes = 1 No = 0	0	
R 2.3. Does at least 10% of the contributing basin contain tilled fields, pastures, or forests that have been clearcut within the last 5 years? Yes = 1 No = 0		0	
R 2.4. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants? Yes = 1 No = 0			
R 2.5. Are there other sources of pollutants coming into the wetland that are not listed in questions R 2.1-R 2.4 Other sources Yes = 1 No = 0			
Total for R 2 Add the point	s in the boxes above	2	
Rating of Landscape Potential If score is: 3-6 = H × 1 or 2 = M 0 = L	Record the rating on t	he first naae	

Rating of Landscape Potential	If score is:	3-6 = H	* 1 or 2 = IVI	0 = L	
•					

Record the rating on the first page

R 3.0. Is the water quality improvement provided by the site valuable	e to society?	
R 3.1. Is the wetland along a stream or river that is on the 303(d) list or on a	tributary that drains to one within 1 mi?	
	Yes = 1 No = 0	1
R 3.2. Is the wetland along a stream or river that has TMDL limits for nutrier	nts, toxics, or pathogens?	0
	Yes = 1 No = 0	J. J
R 3.3. Has the site been identified in a watershed or local plan as important YES if there is a TMDL for the drainage in which the unit is found)	for maintaining water quality? (<i>answer</i> Yes = 2 No = 0	0
Total for R 3	Add the points in the boxes above	1
	- 1.1	

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

Record the rating on the first page

RIVERINE AND FRESHWATER TIDAL FR		
Hydrologic Functions - Indicators that site functions to re	duce flooding and stream erosion	n
R 4.0. Does the site have the potential to reduce flooding and erosion?		
R 4.1. Characteristics of the overbank storage the wetland provides:		
Estimate the average width of the wetland perpendicular to the direction of		
stream or river channel (distance between banks). Calculate the ratio: (av	verage width of wetland)/(average	
width of stream between banks).		
If the ratio is more than 20	points = 9	2
If the ratio is 10-20	points = 6	
If the ratio is 5-<10	points = 4	
If the ratio is 1-<5	points = 2	
If the ratio is < 1	points = 1	
R 4.2. Characteristics of plants that slow down water velocities during floods: Tr		
shrub. Choose the points appropriate for the best description (polygons ne	eed to have >90% cover at person	
height. These are <u>NOT Cowardin</u> classes).		4
Forest or shrub for $>^{1}/_{3}$ area OR emergent plants $>^{2}/_{3}$ area	points = 7	
Forest or shrub for $> 1/_{10}$ area OR emergent plants $> 1/_3$ area	points = 4	
Plants do not meet above criteria	points = 0	
Total for R 4	Add the points in the boxes above	6
Rating of Site Potential If score is:12-16 = H6-11 = M0-5 = L	Record the rating on th	he first pag
R 5.0. Does the landscape have the potential to support the hydrologic fu	nctions of the site?	
R 5.1. Is the stream or river adjacent to the wetland downcut?	Yes = 0 No = 1	1
R 5.2. Does the up-gradient watershed include a UGA or incorporated area?	Yes = 1 No = 0	0
R 5.3. Is the up-gradient stream or river controlled by dams?	Yes = 0 No = 1	1
Total for R 5	Add the points in the boxes above	2
Rating of Landscape Potential If score is: 3 = H _ X 1 or 2 = M0 = L	Record the rating on th	he first pag
R 6.0. Are the hydrologic functions provided by the site valuable to societ	v?	

R 6.1. Distance to the nearest areas downstream that have flooding problems? Choose the description that best fits the site.	
The sub-basin immediately down-gradient of the wetland has flooding problems that result in damage to human or natural resources (e.g., houses or salmon redds)points = 2Surface flooding problems are in a sub-basin farther down-gradientpoints = 1No flooding problems anywhere downstreampoints = 0	0
R 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan? Yes = 2 No = 0	0
Total for R 6 Add the points in the boxes above	0

Record the rating on the first page

H 1.0. Does the site have the potential to provide habitat?	
H 1.1. Structure of plant community: Indicators are Cowardin classes and	nd strata within the Forested class. Check the
Cowardin plant classes in the wetland. Up to 10 patches may be a	combined for each class to meet the threshold
of ¼ ac or more than 10% of the unit if it is smaller than 2.5 ac. A	dd the number of structures checked.
Aquatic bed	4 structures or more: points = 4
<u>×</u> Emergent	3 structures: points = 2
Scrub-shrub (areas where shrubs have > 30% cover)	2 structures: points = 1
Forested (areas where trees have > 30% cover)	1 structure: points = 0
If the unit has a Forested class, check if:	
The Forested class has 3 out of 5 strata (canopy, sub-canopy that each cover 20% within the Forested polygon	, shrubs, herbaceous, moss/ground-cover)
1.2. Hydroperiods	
Check the types of water regimes (hydroperiods) present within t	the wetland. The water regime has to cover
more than 10% of the wetland or ¼ ac to count (see text for desc	riptions of hydroperiods).
Permanently flooded or inundated	4 or more types present: points = 3
x Seasonally flooded or inundated	3 types present: points = 2 1
Occasionally flooded or inundated	2 types present: points = 1
Saturated only	1 type present: points = 0
Permanently flowing stream or river in, or adjacent to, the v	vetland
Seasonally flowing stream in, or adjacent to, the wetland	
Lake Fringe wetland	2 points
Freshwater tidal wetland	2 points
1 1.3. Richness of plant species	
Count the number of plant species in the wetland that cover at le	past 10 ft ²
Different patches of the same species can be combined to meet the	
the species. Do not include Eurasian milfoil, reed canarygrass,	nurnle loosestrife. Canadian thistle
If you counted: > 19 species	points = 2
5 - 19 species	points = 1
< 5 species	points = 0
1.4. Interspersion of habitats	· · · · · · · · · · · · · · · · · · ·
Decide from the diagrams below whether interspersion among C	owardin plants classes (described in H 1.1), or
the classes and unvegetated areas (can include open water or mu	udflats) is high, moderate, low, or none. <i>If you</i>
have four or more plant classes or three classes and open water,	the rating is always high.
None = 0 points Low = 1 point	Moderate = 2 points
-	
All three diagrams	A CONTRACTOR OF THE OWNER
n this row re HIGH = 3points	

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

Rating of Site Potential If score is: ___15-18 = H ___7-14 = M ___X 0-6 = L

Record the rating on the first page

H 2.0. Does the landscape have the potential to support the habitat functions of the site?	
H 2.1. Accessible habitat (include <i>only habitat that directly abuts wetland unit</i>). <i>Calculate:</i> % undisturbed habitat <u>16</u> + [(% moderate and low intensity land uses)/2] <u>4</u> = <u>20</u> %	
If total accessible habitat is:	
> ¹ / ₃ (33.3%) of 1 km Polygon points = 3	
20-33% of 1 km Polygon points = 2	2
10-19% of 1 km Polygon points = 1	
< 10% of 1 km Polygon points = 0	
H 2.2. Undisturbed habitat in 1 km Polygon around the wetland.	
<i>Calculate:</i> % undisturbed habitat $25 + [(\% \text{ moderate and low intensity land uses})/2] 25 = 50 \%$	
Undisturbed habitat > 50% of Polygon points = 3	2
Undisturbed habitat 10-50% and in 1-3 patches points = 2	
Undisturbed habitat 10-50% and > 3 patches points = 1	
Undisturbed habitat < 10% of 1 km Polygon points = 0	
H 2.3. Land use intensity in 1 km Polygon: If	
> 50% of 1 km Polygon is high intensity land use points = (- 2)	0
≤ 50% of 1 km Polygon is high intensity points = 0	
Total for H 2 Add the points in the boxes above	4
Rating of Landscape Potential If score is: <u>×</u> 4-6 = H <u>1-3</u> = M <u><1 = L</u> Record the rating on	the first page

H 3.0. Is the habitat provided by the site valuable to society?		
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? Choose only the	ne 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 		1
— It is a Wetland of High Conservation Value as determined by the Department of Natural Re	esources	
— It has been categorized as an important habitat site in a local or regional comprehensive p	lan, in a	
Shoreline Master Plan, or in a watershed plan		
Site has 1 or 2 priority habitats (listed on next page) within 100 m	points = 1	
Site does not meet any of the criteria above	points = 0	
Rating of Value If score is: 2 = H × 1 = M 0 = L Re	cord 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 multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) > 32 in (81 cm) dbh or > 200 years of age. <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.
- **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*).
- ^x **Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.
- Nearshore: Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. (*full descriptions of habitats and the definition of relatively undisturbed are in WDFW report – see web link on previous page*).
- **Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.
- **Cliffs:** Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.
- **Talus:** Homogenous areas of rock rubble ranging in average size 0.5 6.5 ft (0.15 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.
- Snags and Logs: Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 20 in (51 cm) in western Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.

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

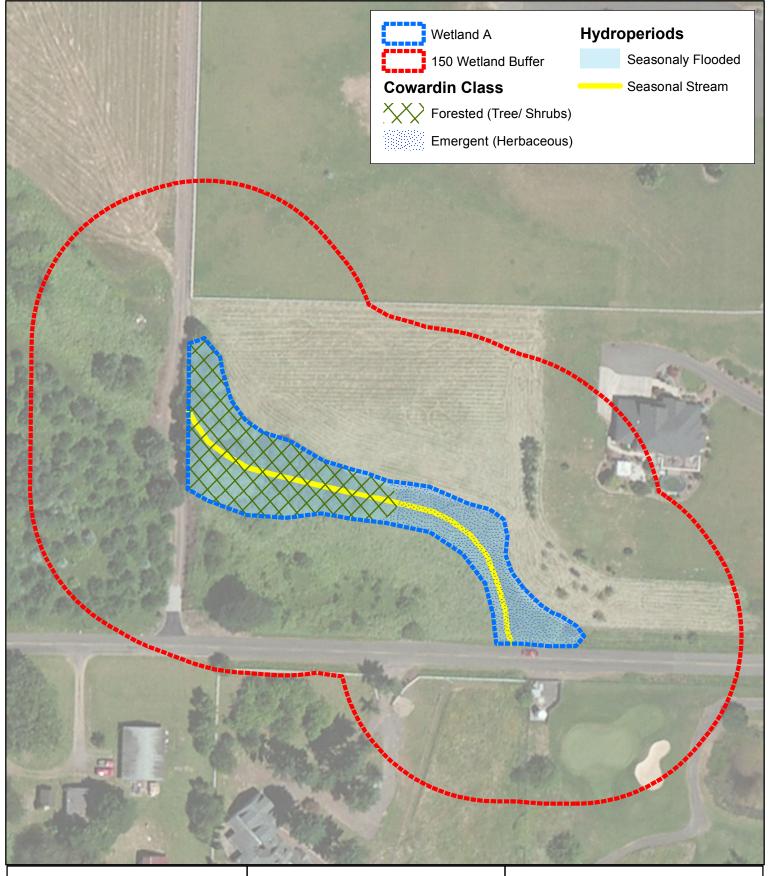
Wetland Rating System for Western WA: 2014 Update Rating Form – Effective January 1, 2015

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= Not an estuarine wetland	
SC 1.1. Is the wetland within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area	
Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-30-151?	
Yes = Category I No - Go to SC 1.2	Cat. I
SC 1.2. Is the wetland unit at least 1 ac in size and meets at least two of the following three conditions?	
— The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less	
than 10% cover of non-native plant species. (If non-native species are Spartina, see page 25)	Cat. I
— At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-	
mowed grassland.	Cat. II
- 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	
SC 2.0. Wetlands of High Conservation Value (WHCV)	
SC 2.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High	
Conservation Value? Yes – Go to SC 2.2 (No – Go to SC 2.3)	Cat. I
SC 2.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value?	
Yes = Category I No = Not a WHCV	
SC 2.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland?	
http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf	
Yes – Contact WNHP/WDNR and go to SC 2.4 (No = Not a WHCV) $SC = 2.4$ (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 – Go to SC 3.2)	
SC 3.2. Does an area within the wetland unit have organic soils, either peats or mucks, that are less than 16 in deep	
over bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or	
pond? Yes – Go to SC 3.3 (No = Is not a bog)	
SC 3.3. Does an area with peats or mucks have more than 70% cover of mosses at ground level, AND at least a 30%	
cover of plant species listed in Table 4? Yes = Is a Category I bog No – Go to SC 3.4	
NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by	
measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0 and the	Cat. I
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	
res - is a category r bog not a bog	

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

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APPLICANT: Clark Public Utilities IN: East Fork Lewis River Watershed COUNTY OF: Clark STATE OF: WA

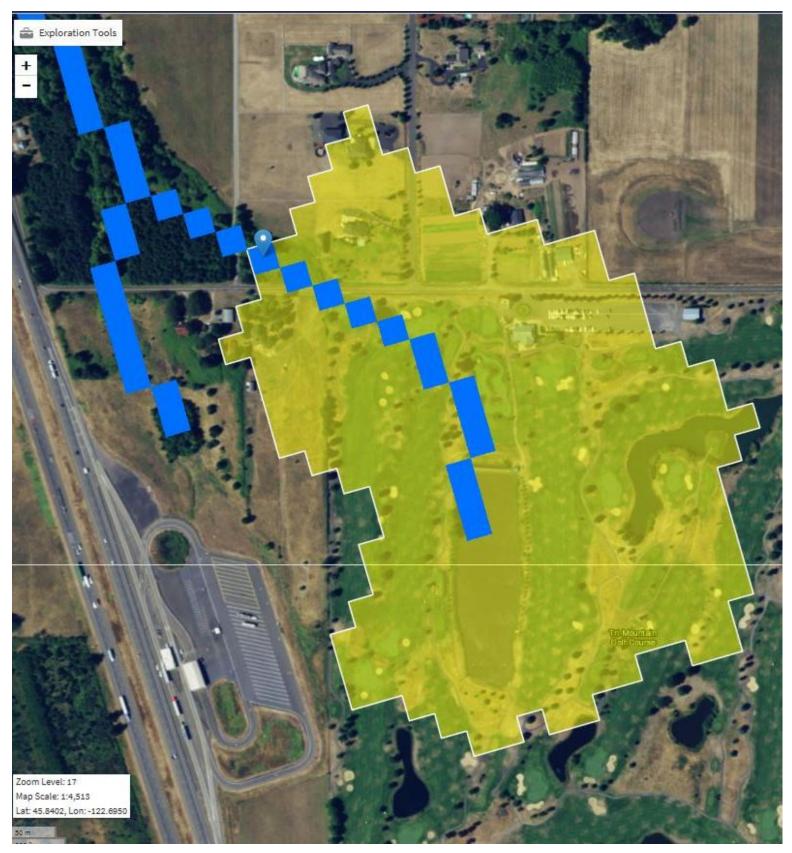
Figure 1

Wetland A Cowardin Class & Hydroperiods



PROJECT: Enterprise Transmission Line PURPOSE: Wetland Rating

July 2017





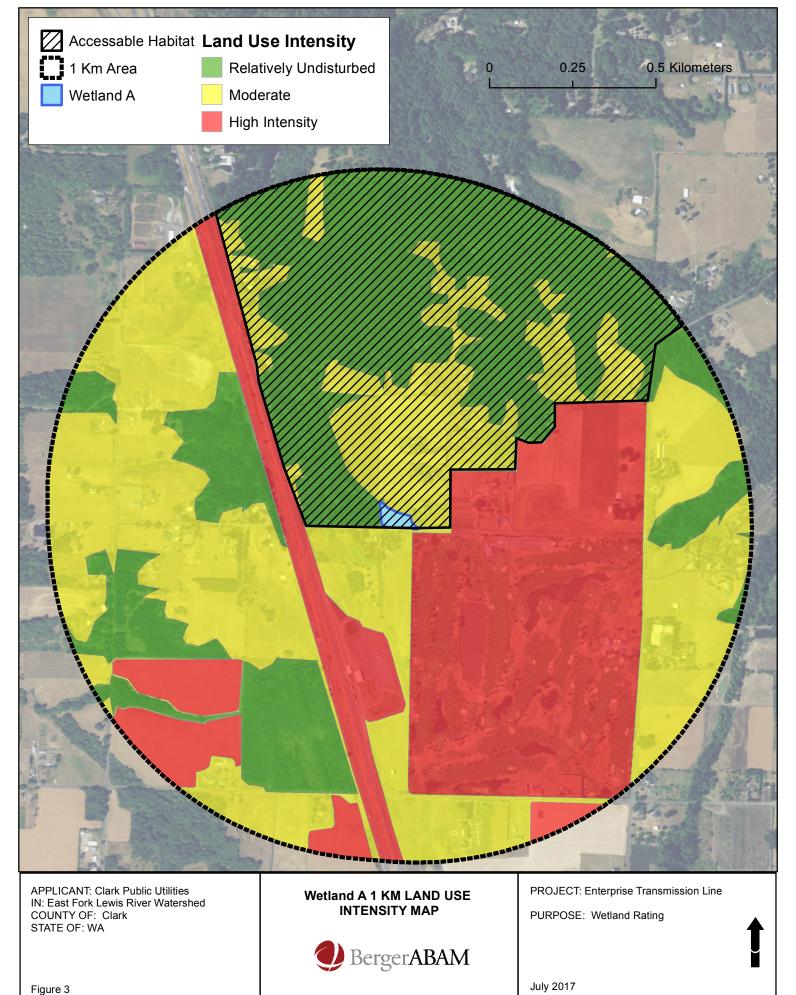




Figure 4

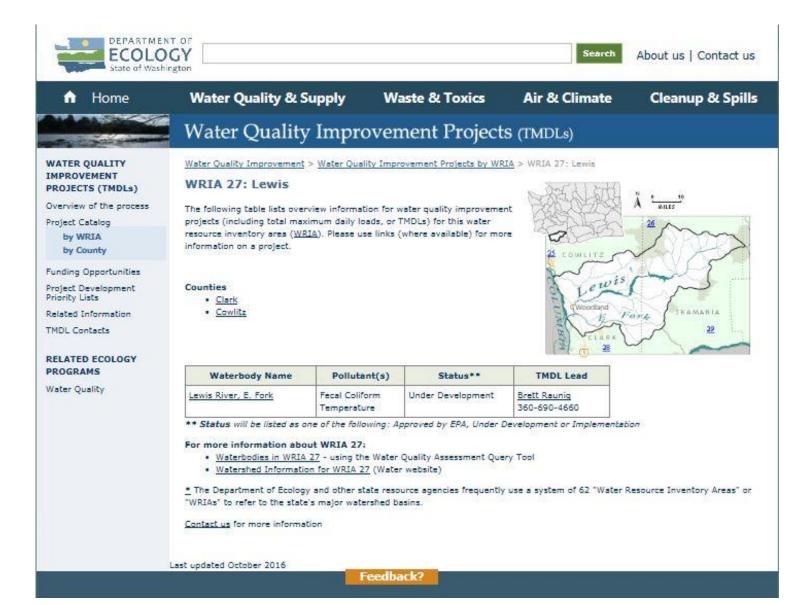


Figure 5

RATING SUMMARY – Western Washington

Name of wetland (or ID #): Wetland B Date of site visit: 21 June 2017

Rated by ______ Allison Kinney ______ Trained by Ecology? __ Yes ____No Date of training _____

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

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

OVERALL WETLAND CATEGORY <u>IV</u> (based on functions <u>×</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		mprov Iter Q	ving uality	Hy	/drolo	ogic		Habitat		
				(Circle t	the ap	propr	iate rati	ings	
Site Potential	Н	М		H	М	L	Н	м (L)	
Landscape Potential	Н	M	L	Н	M	L	Н	M	L	
Value	Н	M	L	Н	Μ		Н	м (Ŀ	ΤΟΤΑ
Score Based on Ratings		5			6			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

AL

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY		
Estuarine	Ι	II	
Wetland of High Conservation Value	I		
Bog	I		
Mature Forest	I		
Old Growth Forest	I		
Coastal Lagoon	Ι	II	
Interdunal	I II	III IV	
None of the above	Not Applicable		

Maps and figures required to answer questions correctly for Western Washington

Depressional Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	D 1.3, H 1.1, H 1.4	1
Hydroperiods	D 1.4, H 1.2	1
Location of outlet (can be added to map of hydroperiods)	D 1.1, D 4.1	N/A
Boundary of area within 150 ft of the wetland (can be added to another figure)	D 2.2, D 5.2	1
Map of the contributing basin	D 4.3, D 5.3	2
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	3
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	4
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	D 3.3	5

Riverine Wetlands

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

Lake Fringe Wetlands

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

Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	Н 1.1, Н 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 polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	S 3.3	

HGM Classification of Wetlands in Western Washington

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

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

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

NO - go to 2

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

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

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

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

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

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

NO - go to 4

YES – The wetland class is **Lake Fringe** (Lacustrine Fringe)

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

_____The water leaves the wetland **without being impounded**.

NO - go to 5

YES – The wetland class is **Slope**

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

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

YES - Freshwater Tidal Fringe

NO – go to 6 **YES** – The wetland class is **Riverine NOTE**: The Riverine unit can contain depressions that are filled with water when the river is not flooding

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

NO – go to 7

YES – The wetland class is Depressional

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

NO – go to 8

YES – The wetland class is Depressional

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

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

HGM classes within the wetland unit	HGM class to
being rated	use in rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake Fringe	Lake Fringe
Depressional + Riverine along stream	Depressional
within boundary of depression	
Depressional + Lake Fringe	Depressional
Riverine + Lake Fringe	Riverine
Salt Water Tidal Fringe and any other	Treat as
class of freshwater wetland	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. <u>Characteristics of surface water outflows from the wetland</u> : 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	3
Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowingpoints = 1Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch.points = 1D 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic (use NRCS definitions).Yes = 4No = 0	0
D 1.2. <u>The soli 2 in below the surface (of durfayer)</u> is the clay of the organic (<i>use withes definitions</i>). Fes = 4, No = 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 points = 5 Wetland has persistent, ungrazed, plants > ½ of area points = 3 Wetland has persistent, ungrazed plants > ¹ / ₁₀ of area points = 1 Wetland has persistent, ungrazed plants < ¹ / ₁₀ of area points = 0	0
D 1.4. Characteristics of seasonal ponding or inundation:This is the area that is ponded for at least 2 months. See description in manual.Area seasonally ponded is > ½ total area of wetlandArea seasonally ponded is > ½ total area of wetlandpoints = 2Area 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 = H 6-11 = M \times 0-5 = L Record the rating on the first page

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

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

D 3.0. Is the water quality improvement provided by the site valuable to society?	
D 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list? Yes = 1 No = 0	0
D 3.2. Is the wetland in a basin or sub-basin where an aquatic resource is on the 303(d) list? Yes = 1 No = 0	1
D 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (<i>answer YES if there is a TMDL for the basin in which the unit is found</i>)? Yes = 2 No = 0	0
Total for D 3Add the points in the boxes above	1
Rating of ValueIf score is: $2-4 = H$ $\times 1 = M$ $0 = L$ Record the rating on the first page	

DEPRESSIONAL AND FLATS WETLANDS		
Hydrologic Functions - Indicators that the site functions to reduce flooding and stream degradation		
D 4.0. Does the site have the potential to reduce flooding and erosion?		
D 4.1. <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) points = 4 Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outletpoints = 2 Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch points = 1 Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing points = 0	4	
D 4.2. Depth of storage during wet periods: Estimate the height of ponding above the bottom of the outlet. For wetlands with no outlet, measure from the surface of permanent water or if dry, the deepest part. Marks of ponding are 3 ft or more above the surface or bottom of outletpoints = 7Marks of ponding between 2 ft to < 3 ft from surface or bottom of outlet	3	
D 4.3. Contribution of the wetland to storage in the watershed: Estimate the ratio of the area of upstream basin contributing surface water to the wetland to the area of the wetland unit itself. The area of the basin is less than 10 times the area of the unitpoints = 5The area of the basin is 10 to 100 times the area of the unitpoints = 3The area of the basin is more than 100 times the area of the unitpoints = 0Entire wetland is in the Flats classpoints = 5	5	
Total for D 4Add the points in the boxes above	12	
Rating of Site Potential If score is:12-16 = H6-11 = M0-5 = L Record the rating on the	first page	
D 5.0. Does the landscape have the potential to support hydrologic functions of the site?		
D 5.1. Does the wetland receive stormwater discharges? Yes = 1 No = 0	0	
D 5.2. Is >10% of the area within 150 ft of the wetland in land uses that generate excess runoff? Yes = 1 No = 0	1	
D 5.3. Is more than 25% of the contributing basin of the wetland covered with intensive human land uses (residential at >1 residence/ac, urban, commercial, agriculture, etc.)? Yes = 1 No = 0	1	
Total for D 5Add the points in the boxes above	2	
Rating of Landscape Potential If score is: 3 = H × 1 or 2 = M 0 = L Record the rating on the	first page	
D 6.0. Are the hydrologic functions provided by the site valuable to society?		
 D 6.1. <u>The unit is in a landscape that has flooding problems</u>. Choose the description that best matches conditions around the wetland unit being rated. Do not add points. <u>Choose the highest score if more than one condition is met</u>. The wetland captures surface water that would otherwise flow down-gradient into areas where flooding has damaged human or natural resources (e.g., houses or salmon redds): Flooding occurs in a sub-basin that is immediately down-gradient of unit. points = 2 Surface flooding problems are in a sub-basin farther down-gradient. points = 1 Flooding from groundwater is an issue in the sub-basin. points = 1 The existing or potential outflow from the wetland is so constrained by human or natural conditions that the water stand by the wetland samet match areas that fload. <i>Currelain why</i> 	0	
water stored by the wetland cannot reach areas that flood. Explain whypoints = 0There are no problems with flooding downstream of the wetland.points = 0		
D 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan? Yes = 2 No = 0	0	
Total for D 6 Add the points in the boxes above	0	
Rating of Value If score is: $2-4 = H$ $1 = M$ $\times 0 = L$ Record the rating on the	first page	

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

H 1.5. Special habitat features:	
Check the habitat features that are present in the wetland. <i>The number of checks is the number of points.</i> Large, downed, woody debris within the wetland (> 4 in diameter and 6 ft long). Standing snags (dbh > 4 in) within the wetland Undercut banks are present for at least 6.6 ft (2 m) and/or overhanging plants extends at least 3.3 ft (1 m) over a stream (or ditch) in, or contiguous with the wetland, for at least 33 ft (10 m) Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 30 degree slope) OR signs of recent beaver activity are present (<i>cut shrubs or trees that have not yet weathered where wood is exposed</i>)	0
At least ¼ ac of thin-stemmed persistent plants or woody branches are present in areas that are permanently or seasonally inundated <i>(structures for egg-laying by amphibians)</i> Invasive plants cover less than 25% of the wetland area in every stratum of plants (<i>see H 1.1 for list of strata</i>)	
Total for H 1Add the points in the boxes above	3

Rating of Site Potential If score is: ___15-18 = H ___7-14 = M ___X 0-6 = L

Record the rating on the first page

H 2.0. Does the landscape have the potential to support the habitat funct	tions of the site?	
H 2.1. Accessible habitat (include <i>only habitat that directly abuts wetland unit</i>). <i>Calculate:</i> % undisturbed habitat <u>.05</u> + [(% moderate and low inter If total accessible habitat is:	ensity land uses)/2] $\frac{0}{}$ = $\frac{.05}{\%}$	
> 1/3 (33.3%) of 1 km Polygon	points = 3	0
20-33% of 1 km Polygon	points = 2	
10-19% of 1 km Polygon	points = 1	
< 10% of 1 km Polygon	points = 0	
H 2.2. Undisturbed habitat in 1 km Polygon around the wetland.		
<i>Calculate:</i> % undisturbed habitat <u>50</u> + [(% moderate and low integrate and low int	ensity land uses)/2] <u>15</u> = <u>65</u> %	
Undisturbed habitat > 50% of Polygon	points = 3	2
Undisturbed habitat 10-50% and in 1-3 patches	points = 2	3
Undisturbed habitat 10-50% and > 3 patches	points = 1	
Undisturbed habitat < 10% of 1 km Polygon	points = 0	
H 2.3. Land use intensity in 1 km Polygon: If		
> 50% of 1 km Polygon is high intensity land use	points = (- 2)	0
≤ 50% of 1 km Polygon is high intensity	points = 0	
Total for H 2	Add the points in the boxes above	3
Rating of Landscape Potential If score is: 4-6 = H × 1-3 = M < 1 = L	Record the rating on th	ne first nage

Rating of Landscape Potential If score is: _____4-6 = H _____ 1-3 = M ____< 1 = L

Record the rating on the first page

H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? <i>Choose that applies to the wetland being rated.</i>	only the highest score	
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 th 	e state or federal lists)	
 It is mapped as a location for an individual WDFW priority species 		0
 It is a Wetland of High Conservation Value as determined by the Department of Nat 	ural Resources	
 It has been categorized as an important habitat site in a local or regional compreher 	nsive plan, in a	
Shoreline Master Plan, or in a watershed plan		
Site has 1 or 2 priority habitats (listed on next page) within 100 m	points = 1	
Site does not meet any of the criteria above	points = 0	
Rating of Value If score is: 2 = H 1 = M × 0 = L	Record the rating on th	ne first pa

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 multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) > 32 in (81 cm) dbh or > 200 years of age. <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.
- **Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158 see web link above*).
- **Riparian**: The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.
- Westside Prairies: Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (*full descriptions in WDFW PHS report p. 161 see web link above*).
- **Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.
- Nearshore: Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and
 Puget Sound Nearshore. (*full descriptions of habitats and the definition of relatively undisturbed are in WDFW report –
 see web link on previous page*).
- **Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.
- **Cliffs:** Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.
- **Talus:** Homogenous areas of rock rubble ranging in average size 0.5 6.5 ft (0.15 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.
- Snags and Logs: Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 20 in (51 cm) in western Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.

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

Wetland Rating System for Western WA: 2014 Update Rating Form – Effective January 1, 2015

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= Not an estuarine wetland)
SC 1.1. Is the wetland within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area	
Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-30-151?	Cat. I
Yes = Category I No - Go to SC 1.2	
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	Cat I
than 10% cover of non-native plant species. (If non-native species are Spartina, see page 25)	Cat. I
— At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-	
mowed grassland.	Cat. II
- 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	
SC 2.0. Wetlands of High Conservation Value (WHCV)	
SC 2.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High	
Conservation Value? Yes – Go to SC 2.2 No – Go to SC 2.3	Cat. I
SC 2.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value?	
Yes = Category I No = Not a WHCV	
SC 2.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland?	
http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf	
Yes – Contact WNHP/WDNR and go to SC 2.4 No = Not a WHCV SC 2.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and listed it on	
their website? Yes = Category I No = Not a WHCV	
SC 3.0. Bogs	
Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? Use the key	
below. If you answer YES you will still need to rate the wetland based on its functions.	
SC 3.1. Does an area within the wetland unit have organic soil horizons, either peats or mucks, that compose 16 in or	
more of the first 32 in of the soil profile? Yes – Go to SC 3.3 No – Go to SC 3.2	
SC 3.2. Does an area within the wetland unit have organic soils, either peats or mucks, that are less than 16 in deep	
over bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on t op of a lake or	
pond? Yes – Go to SC 3.3 No = Is not a bog)
SC 3.3. Does an area with peats or mucks have more than 70% cover of mosses at ground level, AND at least a 30%	
cover of plant species listed in Table 4? Yes = Is a Category I bog No – Go to SC 3.4	
NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0 and the	
plant species in Table 4 are present, the wetland is a bog.	Cat. I
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	

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



APPLICANT: Clark Public Utilities IN: East Fork Lewis River Watershed COUNTY OF: Clark STATE OF: WA

Wetland B Cowardin Class & Hydroperiods



PROJECT: Enterprise Transmission Line PURPOSE: Wetland Rating

July 2017

StreamStats [Development Version: Alpha 4.1.3]

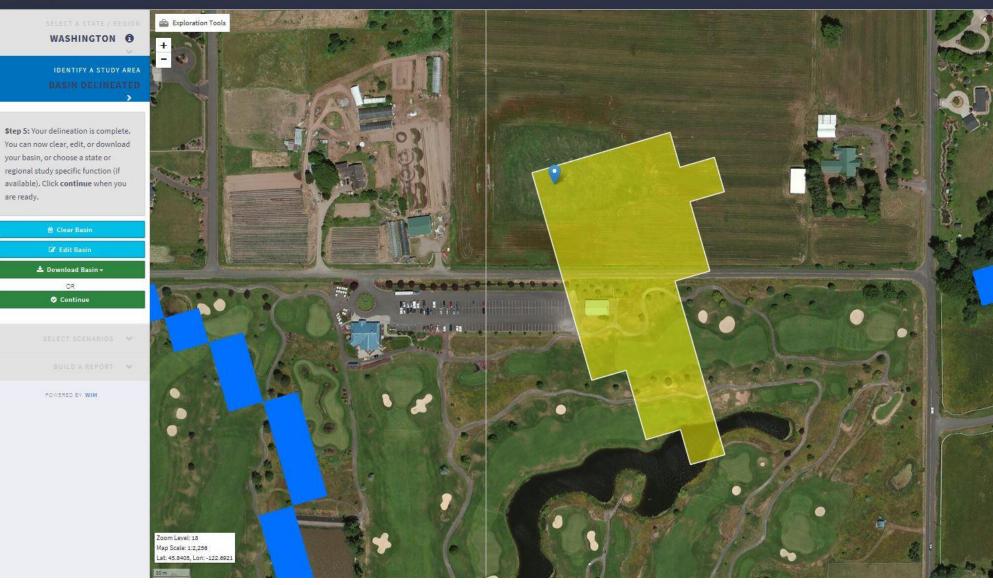
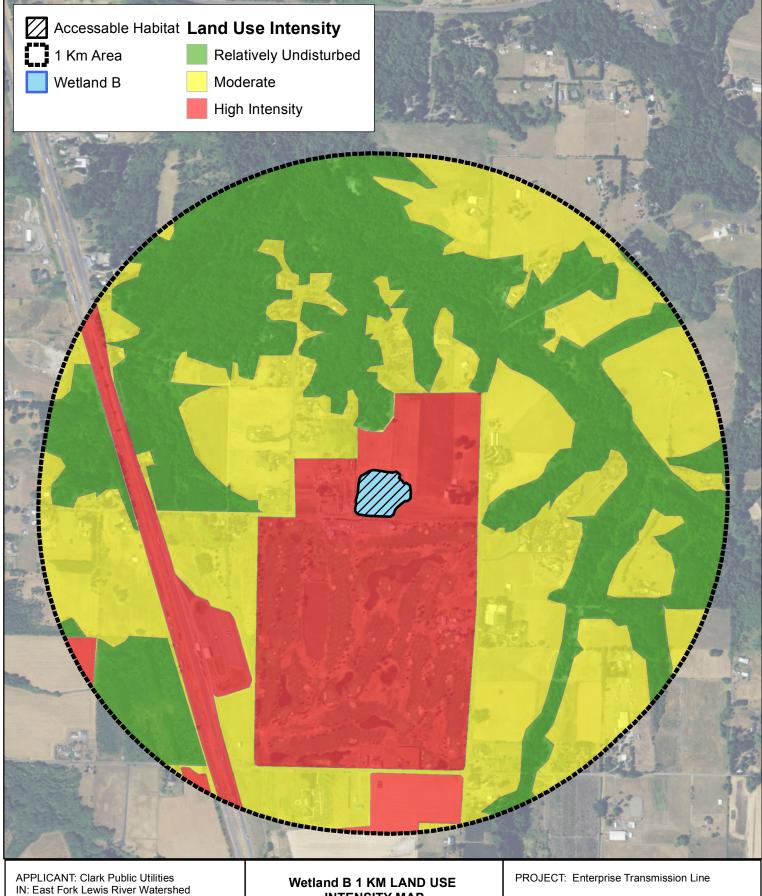


Figure 2



APPLICANT: Clark Public Utilities IN: East Fork Lewis River Watershed COUNTY OF: Clark STATE OF: WA

INTENSITY MAP



PURPOSE: Wetland Rating



Figure 4

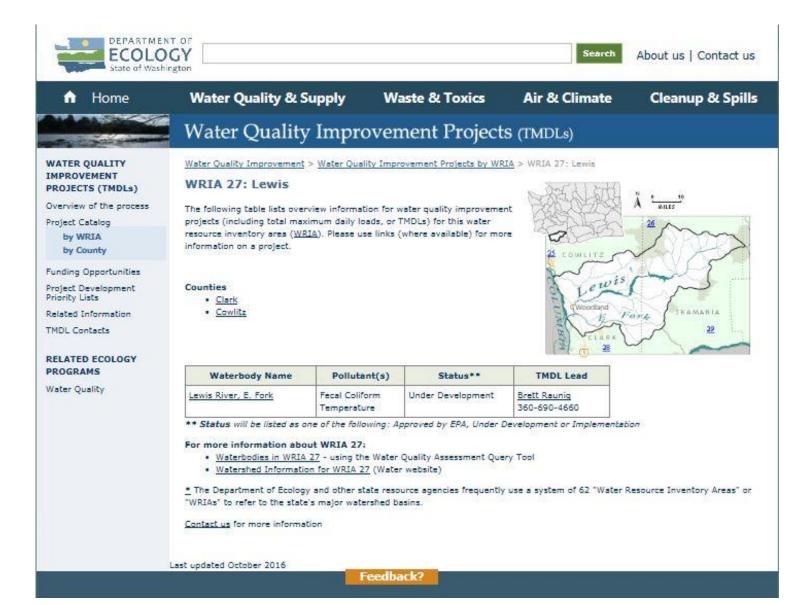


Figure 5

RATING SUMMARY – Western Washington

 Name of wetland (or ID #):
 Wetland C
 Date of site visit:
 19 June 2017

 Rated by
 Allison Kinney
 Trained by Ecology? × Yes
 No Date of training

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

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

OVERALL WETLAND CATEGORY <u>III</u> (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

X Category III – Total score = 16 - 19

Category IV – Total score = 9 - 15

FUNCTION		mprov Iter Q	/ing uality	Hy	ydrolo	ogic		Habita	ət	
					Circle	the ap	propr	iate ra	tings	
Site Potential	Н	Μ	L	Н	Μ	L	Н	Μ	L	
Landscape Potential	Н	Μ	L	Н	Μ	L	Н	Μ	L	
Value	Н	Μ	L	Н	Μ	L	Н	Μ	L	ΤΟΤΑ
Score Based on Ratings		6			4			6		16

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

'AL

5 = M,M,L 4 = M,L,L

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY	
Estuarine	Ι	II
Wetland of High Conservation Value	Ι	
Bog	I	
Mature Forest	I	
Old Growth Forest	I	
Coastal Lagoon	Ι	II
Interdunal	I II	III IV
None of the above	Not Aj	oplicable

Maps and figures required to answer questions correctly for Western Washington

Depressional Wetlands

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

Riverine Wetlands

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

Lake Fringe Wetlands

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

Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	H 1.1, H 1.4	1
Hydroperiods	H 1.2	1
Plant cover of dense trees, shrubs, and herbaceous plants	S 1.3	1
Plant cover of dense, rigid trees, shrubs, and herbaceous plants	S 4.1	1
(can be added to figure above)		1
Boundary of 150 ft buffer (can be added to another figure)	S 2.1, S 5.1	1
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	2
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	3
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	S 3.3	4

Wetland Rating System for Western WA: 2014 Update Rating Form – Effective January 1, 2015

HGM Classification of Wetlands in Western Washington

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

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

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

NO - go to 2

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

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

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

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

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

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

NO - go to 4

YES – The wetland class is **Lake Fringe** (Lacustrine Fringe)

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

_____The water leaves the wetland **without being impounded**.

NO - go to 5

YES – The wetland class is **Slope**

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

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

YES - Freshwater Tidal Fringe

Wetland name or number <u>C</u>

NO – go to 6 **YES** – The wetland class is **Riverine NOTE**: The Riverine unit can contain depressions that are filled with water when the river is not flooding

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

NO – go to 7

YES - The wetland class is Depressional

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

NO – go to 8

YES – The wetland class is Depressional

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

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

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

S 1.0. Does the site have the potential to improve water quality?		
 S 1.1. Characteristics of the average slope of the wetland: (a 1% slope has a 1 ft ve 100 ft of horizontal distance) Slope is 1% or less Slope is > 1%-2% 	ertical drop in elevation for every points = 3 points = 2	2
Slope is > 2%-5% Slope is greater than 5%	points = 1 points = 0	
S 1.2. <u>The soil 2 in below the surface (or duff layer)</u> is true clay or true organic <i>(use</i>	e NRCS definitions): Yes = 3 No = 0	0
 S 1.3. Characteristics of the plants in the wetland that trap sediments and pollutar Choose the points appropriate for the description that best fits the plants in have trouble seeing the soil surface (>75% cover), and uncut means not graz than 6 in. Dense, uncut, herbaceous plants > 90% of the wetland area Dense, uncut, herbaceous plants > ½ of area Dense, woody, plants > ½ of area Dense, uncut, herbaceous plants > ¼ of area Does not meet any of the criteria above for plants 	the wetland. Dense means you	1
Total for S 1	Add the points in the boxes above	3
Rating of Site Potential If score is: 12 = H 6-11 = M X 0-5 = L	Record the rating on th	he first p

52.1.157 1676 of the dred within 156 it of the upin side of the wetand in tand dses that Scherate politicities.		1
	Yes = 1 No = 0	-
S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?		0
Other sources	Yes = 1 No = 0	
Total for S 2	Add the points in the boxes above	1

Rating of Landscape Potential If score is: X1-2 = M ___0 = L

Record the rating on the first page

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

Rating of Value If score is: X 2-4 = H ___1 = M ___0 = L

Record the rating on the first page

SLOPE WETLANDS	
Hydrologic Functions - Indicators that the site functions to reduce flooding and stream erosion	
S 4.0. Does the site have the potential to reduce flooding and stream erosion?	
S 4.1. Characteristics of plants that reduce the velocity of surface flows during storms: Choose the points appropriate for the description that best fits conditions in the wetland. <i>Stems of plants should be thick enough (usually > ¹/₈</i> <i>in), or dense enough, to remain erect during surface flows.</i> Dense, uncut, rigid plants cover > 90% of the area of the wetland All other conditions	0
Rating of Site Potential If score is: $1 = M$ $X_0 = L$ Record the rating on the second the	he first page

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

Rating of Landscape Potential If score is: X1 = M ____0 = L

Record the rating on the first page

1

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

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

Record the rating on the first page

NOTES and FIELD OBSERVATIONS:

HABITAT FUNCTIONS - Indicators that site functions to provide H 1.0. Does the site have the potential to provide habitat?	important habitat	
The site have the potential to provide habitat:		
11.1.1. Church up of plant companyity Indiantors are Companyin places and star	to within the Forested along Charlythe	
H 1.1. Structure of plant community: <i>Indicators are Cowardin classes and stra</i> Cowardin plant classes in the wetland. <i>Up to 10 patches may be combir</i> of ¼ ac or more than 10% of the unit if it is smaller than 2.5 ac. Add the	ned for each class to meet the threshold	
Aquatic bed	4 structures or more: points = 4	
<u>X</u> Emergent	3 structures: points = 2	0
Scrub-shrub (areas where shrubs have > 30% cover)	2 structures: points = 1	· ·
Forested (areas where trees have > 30% cover)	1 structure: points = 0	
If the unit has a Forested class, check if:		
The Forested class has 3 out of 5 strata (canopy, sub-canopy, shru that each cover 20% within the Forested polygon	bs, herbaceous, moss/ground-cover)	
H 1.2. Hydroperiods		
Check the types of water regimes (hydroperiods) present within the we more than 10% of the wetland or ¼ ac to count (<i>see text for description</i>		
Permanently flooded or inundated	4 or more types present: points = 3	
X Seasonally flooded or inundated	3 types present: points = 2	
Occasionally flooded or inundated	2 types present: points = 1	1
X_Saturated only	1 type present: points = 0	
Permanently flowing stream or river in, or adjacent to, the wetland	d	
Seasonally flowing stream in, or adjacent to, the wetland		
Lake Fringe wetland	2 points	
Freshwater tidal wetland	2 points	
H 1.3. Richness of plant species		
Count the number of plant species in the wetland that cover at least 10) ft ² .	
Different patches of the same species can be combined to meet the size		1
the species. Do not include Eurasian milfoil, reed canarygrass, purple	e loosestrife, Canadian thistle	
If you counted: > 19 species	points = 2	
5 - 19 species	points = 1	
< 5 species	points = 0	
H 1.4. Interspersion of habitats		
Decide from the diagrams below whether interspersion among Coward		
the classes and unvegetated areas (can include open water or mudflats		
have four or more plant classes or three classes and open water, the rat	ting is always nign.	
		0
None = 0 points $I_{out} = 1$ point	Mederate - 2 points	
None = 0 points Low = 1 point	Moderate = 2 points	
All three diagrams in this row are HIGH = 3points		

H 1.5. Special habitat features:	
Check the habitat features that are present in the wetland. <i>The number of checks is the number of points.</i> Large, downed, woody debris within the wetland (> 4 in diameter and 6 ft long). Standing snags (dbh > 4 in) within the wetland Undercut banks are present for at least 6.6 ft (2 m) and/or overhanging plants extends at least 3.3 ft (1 m) over a stream (or ditch) in, or contiguous with the wetland, for at least 33 ft (10 m) Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 30 degree slope) OR signs of recent beaver activity are present (<i>cut shrubs or trees that have not yet weathered where wood is exposed</i>)	1
X At least ¼ ac of thin-stemmed persistent plants or woody branches are present in areas that are permanently or seasonally inundated <i>(structures for egg-laying by amphibians)</i> Invasive plants cover less than 25% of the wetland area in every stratum of plants (<i>see H 1.1 for list of strata</i>)	
Total for H 1Add the points in the boxes above	3

Rating of Site Potential If score is: ____**15-18 = H** ____**7-14 = M** ___**X** __**0-6 = L**

Record the rating on the first page

H 2.0. Does the landscape have the potential to support the habitat functions of the site?	
H 2.1. Accessible habitat (include only habitat that directly abuts wetland unit).	
<i>Calculate:</i> % undisturbed habitat <u>15</u> + [(% moderate and low intensity land uses)/2] <u>11</u> = <u>26</u> %	
If total accessible habitat is:	
> ¹ / ₃ (33.3%) of 1 km Polygon points = 3	2
20-33% of 1 km Polygon points = 2	-
10-19% of 1 km Polygon points = 1	
< 10% of 1 km Polygon points = 0	
H 2.2. Undisturbed habitat in 1 km Polygon around the wetland.	
<i>Calculate:</i> % undisturbed habitat <u>24</u> + [(% moderate and low intensity land uses)/2] <u>28.5</u> = <u>52.5</u> %	
Undisturbed habitat > 50% of Polygon points = 3	3
Undisturbed habitat 10-50% and in 1-3 patches points = 2	Ū
Undisturbed habitat 10-50% and > 3 patches points = 1	
Undisturbed habitat < 10% of 1 km Polygon points = 0	
H 2.3. Land use intensity in 1 km Polygon: If	
> 50% of 1 km Polygon is high intensity land use points = (- 2)	0
≤ 50% of 1 km Polygon is high intensity points = 0	
Total for H 2Add the points in the boxes above	5
Rating of Landscape Potential If score is: X 4-6 = H 1-3 = M < 1 = L Record the rating on the second the secon	ne first page

H 3.0. Is the habitat provided by the site valuable to society?		
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? Choose on	ly 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 s 	tate or federal lists)	
 It is mapped as a location for an individual WDFW priority species 		1
 It is a Wetland of High Conservation Value as determined by the Department of Natura 	al Resources	
— It has been categorized as an important habitat site in a local or regional comprehensive	ve plan, in a	
Shoreline Master Plan, or in a watershed plan		
Site has 1 or 2 priority habitats (listed on next page) within 100 m	points = 1	
Site does not meet any of the criteria above	points = 0	
Rating of Value If score is: 2 = H X 1 = M 0 = L	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 multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) > 32 in (81 cm) dbh or > 200 years of age. <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.
- **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*).
- **_X Riparian**: The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.
- Westside Prairies: Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (*full descriptions in WDFW PHS report p. 161 see web link above*).
- **Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.
- Nearshore: Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. (*full descriptions of habitats and the definition of relatively undisturbed are in WDFW report – see web link on previous page*).
- **Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.
- **Cliffs:** Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.
- **Talus:** Homogenous areas of rock rubble ranging in average size 0.5 6.5 ft (0.15 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.
- Snags and Logs: Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 20 in (51 cm) in western Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.

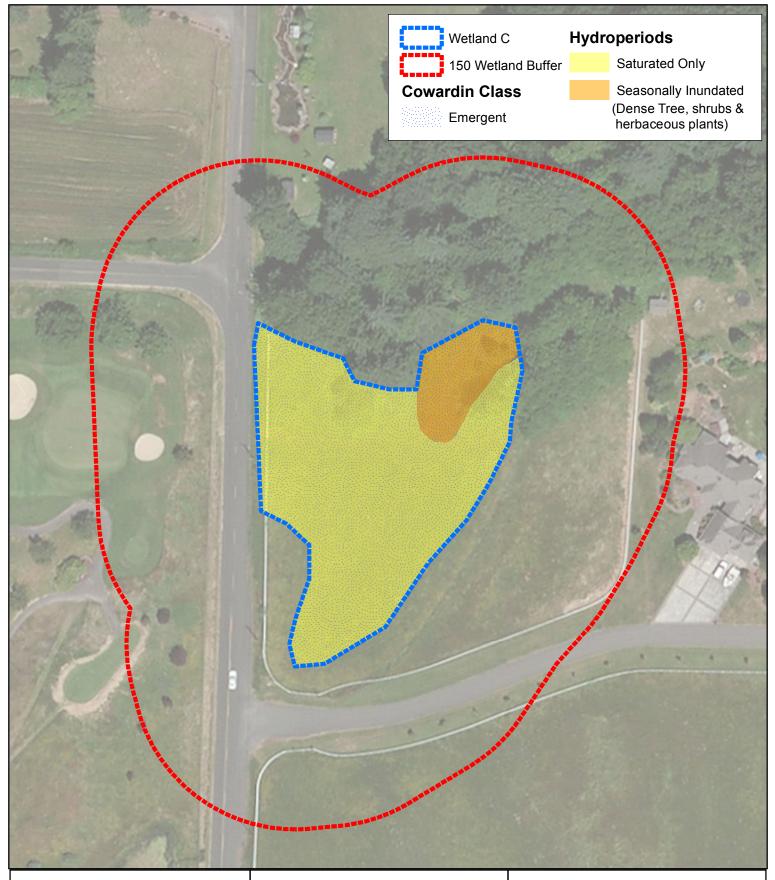
Note: All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

Wetland Rating System for Western WA: 2014 Update Rating Form – Effective January 1, 2015

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= Not an estuarine wetland)
SC 1.1. Is the wetland within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area	
Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-30-151?	Cat. I
Yes = Category I No - Go to SC 1.2	
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	Cat I
than 10% cover of non-native plant species. (If non-native species are Spartina, see page 25)	Cat. I
— At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-	
mowed grassland.	Cat. II
- 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	
SC 2.0. Wetlands of High Conservation Value (WHCV)	
SC 2.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High	
Conservation Value? Yes – Go to SC 2.2 No – Go to SC 2.3	Cat. I
SC 2.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value?	
Yes = Category I No = Not a WHCV	
SC 2.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland?	
http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf	
Yes – Contact WNHP/WDNR and go to SC 2.4 No = Not a WHCV SC 2.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and listed it on	
their website? Yes = Category I No = Not a WHCV	
SC 3.0. Bogs	
Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? Use the key	
below. If you answer YES you will still need to rate the wetland based on its functions.	
SC 3.1. Does an area within the wetland unit have organic soil horizons, either peats or mucks, that compose 16 in or	
more of the first 32 in of the soil profile? Yes – Go to SC 3.3 No – Go to SC 3.2	
SC 3.2. Does an area within the wetland unit have organic soils, either peats or mucks, that are less than 16 in deep	
over bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on t op of a lake or	
pond? Yes – Go to SC 3.3 No = Is not a bog)
SC 3.3. Does an area with peats or mucks have more than 70% cover of mosses at ground level, AND at least a 30%	
cover of plant species listed in Table 4? Yes = Is a Category I bog No – Go to SC 3.4	
NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0 and the	
plant species in Table 4 are present, the wetland is a bog.	Cat. I
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	

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



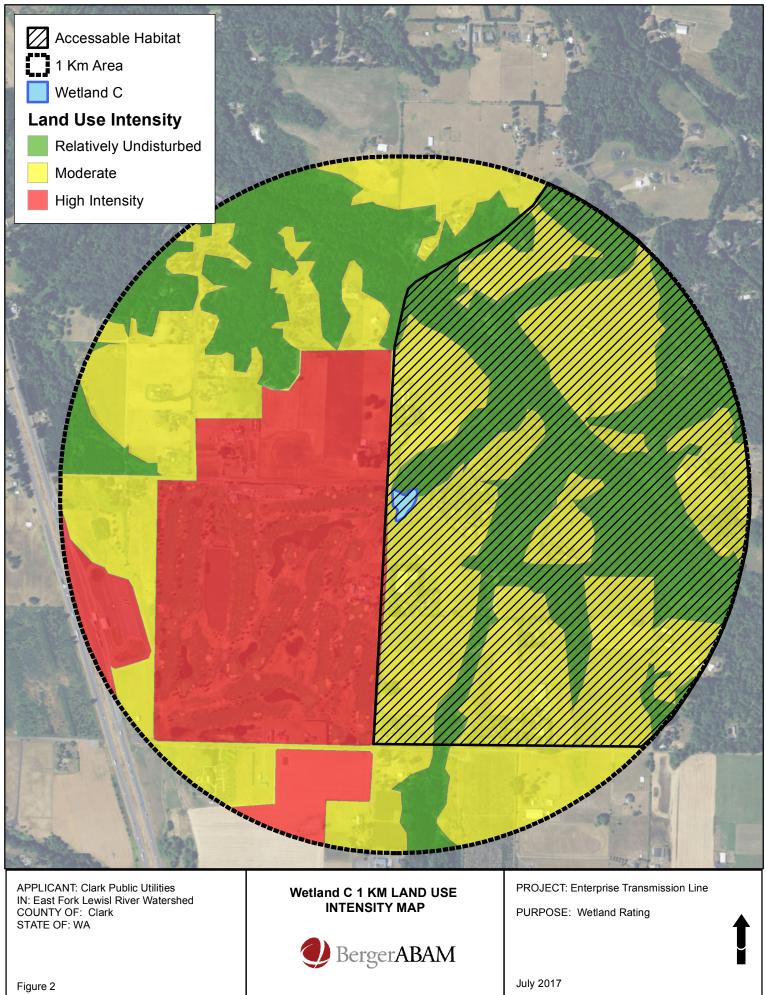
APPLICANT: Clark Public Utilities IN: East Fork Lewisl River Watershed COUNTY OF: Clark STATE OF: WA

Wetland C Cowardin Class & Hydroperiods



PROJECT: Enterprise Transmission Line PURPOSE: Wetland Rating





Path: Q:\Vancouver\2014\A14.0046\02\GIS\02_MXD\1km Intensity Maps\Wetland C.mxd



Figure 3

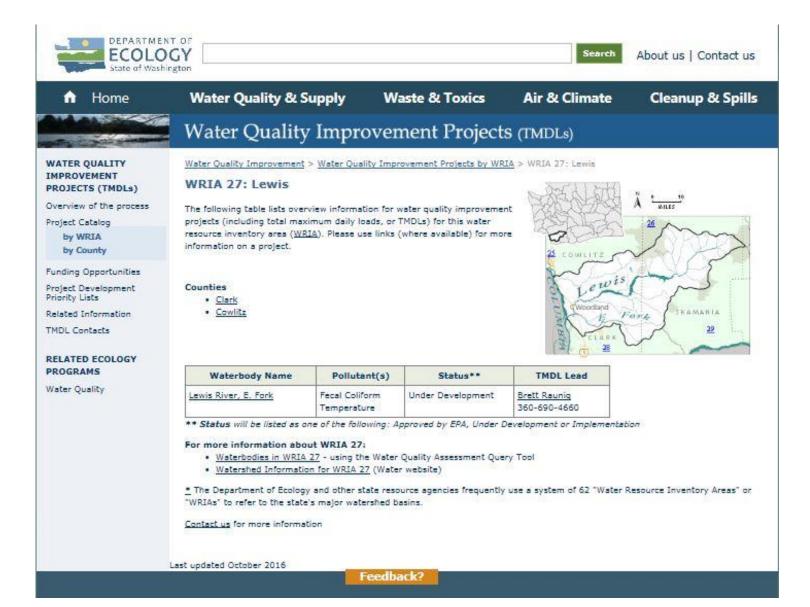


Figure 4

RATING SUMMARY – Western Washington

 Name of wetland (or ID #):
 Wetland D
 Date of site visit:
 19 June 2017

 Rated by
 Allison Kinney
 Trained by Ecology? × Yes ____No Date of training_____

 HGM Class used for rating
 Slope
 Wetland has multiple HGM classes? ___Y _ × _N

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

OVERALL WETLAND CATEGORY <u>IV</u> (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		mprov iter Q	ving uality	н	ydrolo	ogic	i	Habit	at	
					Circle	the ap	propr	iate r	atings	
Site Potential	Н	Μ	L	Н	Μ		Н	Μ		
Landscape Potential	Н	Μ	Ū	Н	M	L	Н	Μ	L	
Value	Н	M	L	Н	Μ	L	H	Μ	L	TOTA
Score Based on Ratings		4			4			5		13

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

3 = L,L,L

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY		
Estuarine	Ι	II	
Wetland of High Conservation Value		I	
Bog	I		
Mature Forest	Ι		
Old Growth Forest	I		
Coastal Lagoon	Ι	II	
Interdunal	I II	III IV	
None of the above	Not Applicable		

Maps and figures required to answer questions correctly for Western Washington

Depressional Wetlands

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

Riverine Wetlands

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

Lake Fringe Wetlands

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

Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	H 1.1, H 1.4	1
Hydroperiods	H 1.2	1
Plant cover of dense trees, shrubs, and herbaceous plants	S 1.3	1
Plant cover of dense, rigid trees, shrubs, and herbaceous plants (can be added to figure above)	S 4.1	1
Boundary of 150 ft buffer (can be added to another figure)	S 2.1, S 5.1	1
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	2
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	3
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	S 3.3	4

Wetland Rating System for Western WA: 2014 Update Rating Form – Effective January 1, 2015

HGM Classification of Wetlands in Western Washington

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

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

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

NO - go to 2

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

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

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

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

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

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

NO - go to 4

YES – The wetland class is **Lake Fringe** (Lacustrine Fringe)

- 4. Does the entire wetland unit **meet all** of the following criteria?
 - <u>X</u> The wetland is on a slope (*slope can be very gradual*).
 - ^x 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,
 - <u>X</u> The water leaves the wetland **without being impounded**.

NO - go to 5

YES – The wetland class is **Slope**

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

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

YES - Freshwater Tidal Fringe

Wetland name or number <u>D</u>

NO – go to 6 **YES** – The wetland class is **Riverine NOTE**: The Riverine unit can contain depressions that are filled with water when the river is not flooding

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

NO – go to 7

YES – The wetland class is Depressional

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

NO – go to 8

YES – The wetland class is Depressional

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

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

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

ality Functions - Indicators that the site functions to improve water quality	
the potential to improve water quality?	
average slope of the wetland: (a 1% slope has a 1 ft vertical drop in elevation for every listance)	
points = 3	h
points = 2	2
points = 1	
5% points = 0	
<u>e surface (or duff layer)</u> is true clay or true organic <i>(use NRCS definitions)</i> : Yes = 3 No = 0	0
plants in the wetland that trap sediments and pollutants: ppropriate for the description that best fits the plants in the wetland. <i>Dense means you</i> the soil surface (>75% cover), and uncut means not grazed or mowed and plants are higher	
ceous plants > 90% of the wetland area points = 6	1
ceous plants > ½ of area points = 3	
s > ½ of area points = 2	
ceous plants > ¼ of area points = 1	
f the criteria above for plants points = 0	
Add the points in the boxes above	3

S 2.0. Does the landscape have the potential to support the water quality function of the site?	
S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?	
Yes = 1 No = 0	1
S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?	
Other sources Yes = 1 No = 0	-
Total for S 2Add the points in the boxes above	1

Rating of Landscape Potential If score is: <u>x</u>1-2 = M ____0 = L

Record the rating on the first page

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

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

Record the rating on the first page

SLOPE WETLANDS	
Hydrologic Functions - Indicators that the site functions to reduce flooding and stream eros	ion
S 4.0. Does the site have the potential to reduce flooding and stream erosion?	
S 4.1. Characteristics of plants that reduce the velocity of surface flows during storms: Choose the points appropriate for the description that best fits conditions in the wetland. <i>Stems of plants should be thick enough (usually > ¹/₈</i> <i>in), or dense enough, to remain erect during surface flows.</i> Dense, uncut, rigid plants cover > 90% of the area of the wetland All other conditions points = 0	0
Rating of Site Potential If score is: $1 = M$ \times $0 = L$ Record the rating on a	the first page

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

Rating of Landscape Potential If score is: <u>x</u>1 = M ____0 = L

Record the rating on the first page

1

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

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

Record the rating on the first page

NOTES and FIELD OBSERVATIONS:

Th	ese questions apply to we	tlands of all HGM classes.	
HABITAT FUNCTIONS - Indica		provide important habitat	
H 1.0. Does the site have the pote	ential to provide habitat?		
Cowardin plant classes in the	vetland. Up to 10 patches may l	and strata within the Forested class. Check the be combined for each class to meet the threshold . Add the number of structures checked. 4 structures or more: points = 4	
<u>x</u> Emergent Scrub-shrub (areas where Forested (areas where tre <i>If the unit has a Forested</i> The Forested class has 3 o	<i>class, check if:</i> out of 5 strata (canopy, sub-can	0 3 structures: points = 2 2 structures: points = 1 1 structure: points = 0 opy, shrubs, herbaceous, moss/ground-cover)	
that each cover 20% with	iin the Forested polygon		
more than 10% of the wetland Permanently flooded or in Seasonally flooded or inu Occasionally flooded or in Saturated only Permanently flowing stree	or ¼ ac to count (<i>see text for d</i> nundated nundated aundated am or river in, or adjacent to, th n in, or adjacent to, the wetland	4 or more types present: points = 3 3 types present: points = 2 2 types present: points = 1 1 type present: points = 0 1 e wetland 2 points	
Freshwater tidal wetland		2 points	
Different patches of the same	urasian milfoil, reed canarygra	t least 10 ft ² . It the size threshold and you do not have to name ss, purple loosestrife, Canadian thistle points = 2 points = 1 points = 0	
the classes and unvegetated a have four or more plant classe	reas (can include open water or s or three classes and open water		
None = 0 points All three diagrams in this row are HIGH = 3points	Low = 1 point	Moderate = 2 points	

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

Rating of Site Potential If score is: ___15-18 = H ___7-14 = M ___X0-6 = L

Record the rating on the first page

H 2.0. Does the landscape have the potential to support the habitat function	ons of the site?	
H 2.1. Accessible habitat (include <i>only habitat that directly abuts wetland unit</i>). <i>Calculate:</i> % undisturbed habitat <u>.03</u> + [(% moderate and low inter If total accessible habitat is:	nsity land uses)/2]_0_=03_%	
> ¹ / ₃ (33.3%) of 1 km Polygon	points = 3	0
20-33% of 1 km Polygon	points = 2	
10-19% of 1 km Polygon	points = 1	
< 10% of 1 km Polygon	points = 0	
H 2.2. Undisturbed habitat in 1 km Polygon around the wetland.		
Calculate: % undisturbed habitat <u>10</u> + [(% moderate and low inte	nsity land uses)/2] <u>17</u> = <u>27</u> %	
Undisturbed habitat > 50% of Polygon	points = 3	
Undisturbed habitat 10-50% and in 1-3 patches	points = 2	1
Undisturbed habitat 10-50% and > 3 patches	points = 1	
Undisturbed habitat < 10% of 1 km Polygon	points = 0	
H 2.3. Land use intensity in 1 km Polygon: If		
> 50% of 1 km Polygon is high intensity land use	points = (- 2)	-2
≤ 50% of 1 km Polygon is high intensity	points = 0	
Total for H 2	Add the points in the boxes above	-1
Rating of Landscape Potential If score is: 4-6 = H 1-3 = M X < 1 = L	Record the rating on the	he first naag

Rating of Landscape Potential If score is: _____4-6 = H ____1-3 = M ____X < 1 = L

Record the rating on the first page

H 3.0. Is the habitat provided by the site valuable to society?		-
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? <i>Choose only that applies to the wetland being rated.</i> Site meets ANY of the following criteria:	y the highest score 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 of the second state of th	Resources	2
Site does not meet any of the criteria above	points = 0	
Rating of Value If score is: <u>×</u> 2 = H1 = M0 = L	Record the rating on t	he first pag

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 multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) > 32 in (81 cm) dbh or > 200 years of age. <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.
- **Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158 see web link above*).
- **Riparian**: The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.
- Westside Prairies: Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (*full descriptions in WDFW PHS report p. 161 see web link above*).
- **Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.
- Nearshore: Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and
 Puget Sound Nearshore. (*full descriptions of habitats and the definition of relatively undisturbed are in WDFW report –
 see web link on previous page*).
- **Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.
- **Cliffs:** Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.
- **Talus:** Homogenous areas of rock rubble ranging in average size 0.5 6.5 ft (0.15 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.
- Snags and Logs: Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 20 in (51 cm) in western Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.

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

Wetland Rating System for Western WA: 2014 Update Rating Form – Effective January 1, 2015

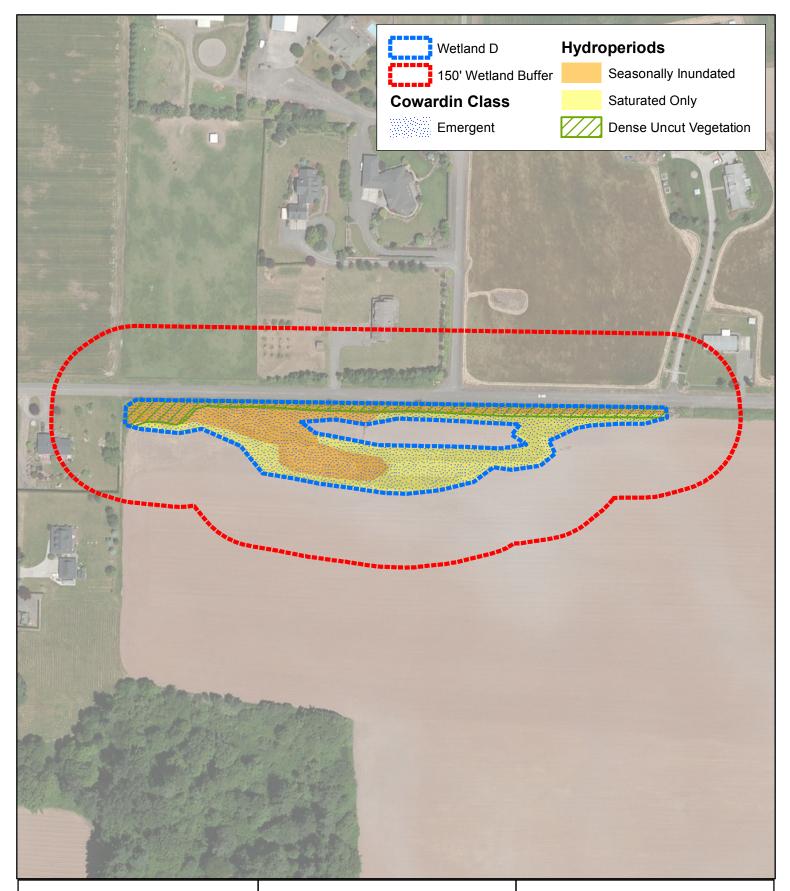
CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

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= Not an estuarine wetland	>
SC 1.1. Is the wetland within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area	
Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-30-151?	Cat. I
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	Cat. I
than 10% cover of non-native plant species. (If non-native species are Spartina, see page 25)	Cat. I
— At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-	
mowed grassland.	Cat. II
— 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	
SC 2.0. Wetlands of High Conservation Value (WHCV)	
SC 2.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High	
Conservation Value? Yes – Go to SC 2.2 No – Go to SC 2.3	Cat. I
SC 2.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value?	
Yes = Category I No = Not a WHCV	
SC 2.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland?	
http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf Yes – Contact WNHP/WDNR and go to SC 2.4 No = Not a WHCV	
SC 2.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and listed it on	
their website? Yes = Category I No = Not a WHCV	
SC 3.0. Bogs	
Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? Use the key	
below. If you answer YES you will still need to rate the wetland based on its functions.	
SC 3.1. Does an area within the wetland unit have organic soil horizons, either peats or mucks, that compose 16 in or	
more of the first 32 in of the soil profile? Yes – Go to SC 3.3 No – Go to SC 3.2	
SC 3.2. Does an area within the wetland unit have organic soils, either peats or mucks, that are less than 16 in deep	
over bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or	
pond? Yes – Go to SC 3.3 No = Is not a bog	1
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.	Cat. I
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	

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

Wetland name or number _____

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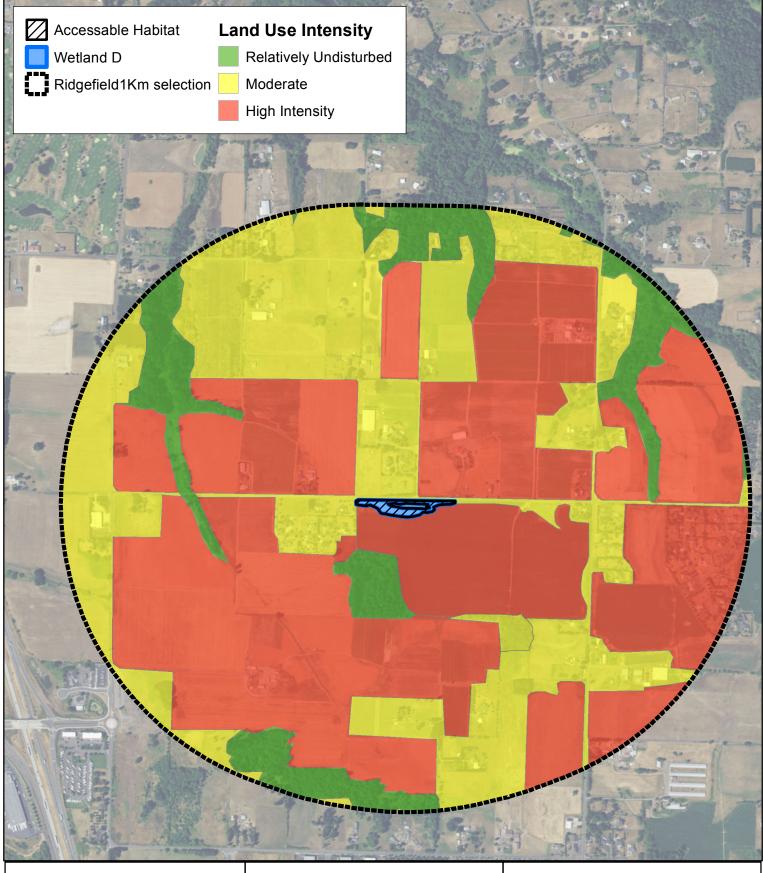
APPLICANT: Clark Public Utilities IN: East Fork Lewis River Watershed COUNTY OF: Clark STATE OF: WA

Wetland D Cowardin Class & Hydroperiods



PROJECT: Enterprise Transmission Line

PURPOSE: Wetland Rating



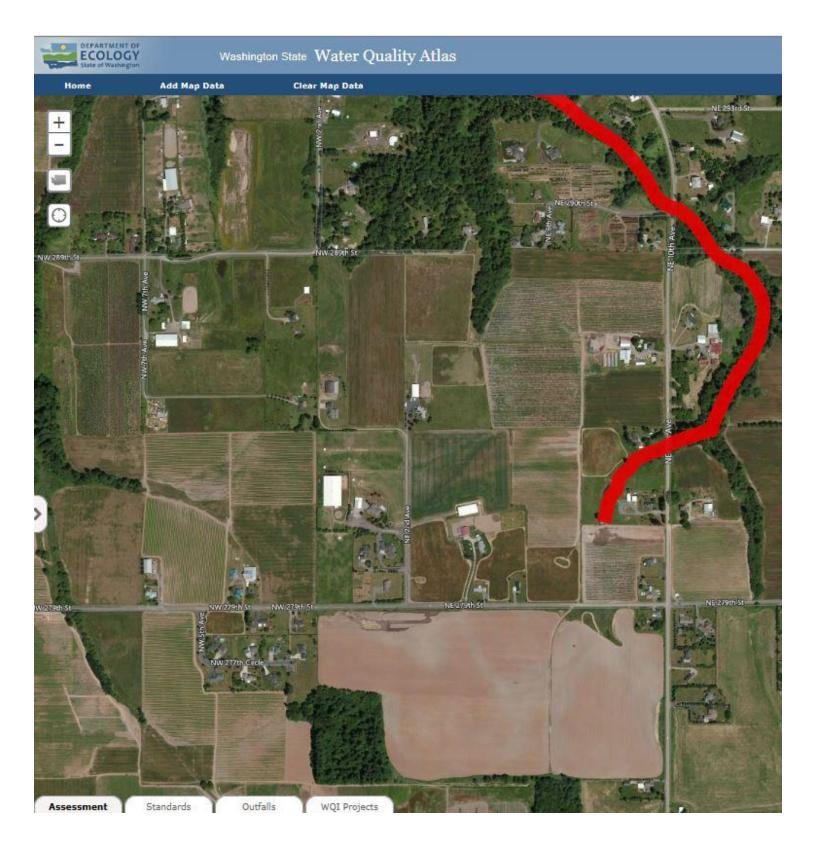
APPLICANT: Clark Public Utilities IN: East Fork Lewis River Watershed COUNTY OF: Clark STATE OF: WA

Wetland D 1 KM LAND USE INTENSITY MAP



PROJECT: Enterprise Transmission Line PURPOSE: Wetland Rating

July 2017





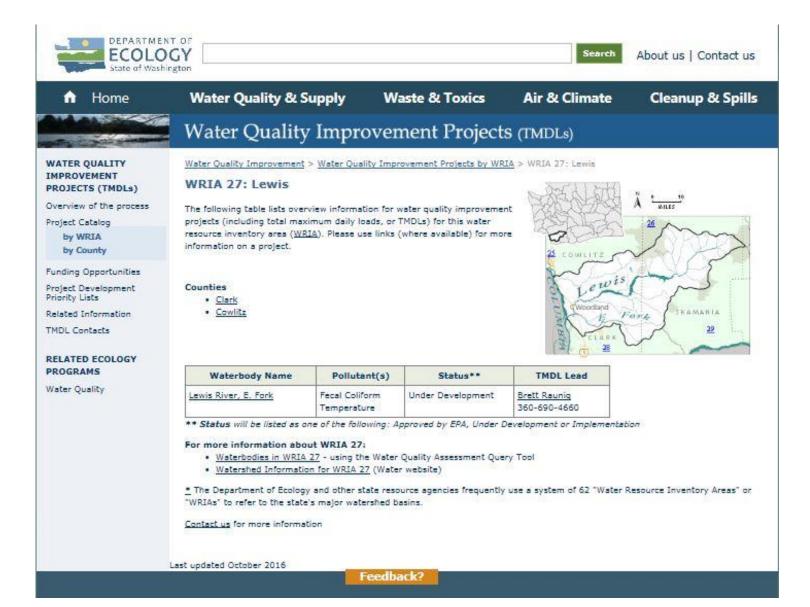


Figure 4

RATING SUMMARY – Western Washington

 Name of wetland (or ID #):
 Wetland E
 Date of site visit:
 21 June 2017

 Rated by
 Allison Kinney
 Trained by Ecology? X Yes
 No Date of training

HGM Class used for rating Depressional Wetland has multiple HGM classes?___Y __X N

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

OVERALL WETLAND CATEGORY []] (based on functions <u>×</u> or special characteristics_)

1. Category of wetland based on FUNCTIONS

Category I – Total score = 23 - 27

____Category II – Total score = 20 - 22

X Category III – Total score = 16 - 19

Category IV – Total score = 9 - 15

FUNCTION	Improving Water Quality		Hydrologic		Hydrologic		Habitat			
				(Circle	the ap	oropr	iate r	atings	
Site Potential	Н	M	L	Н	M	L	Н	Μ		
Landscape Potential	Н	M	L	H	Μ	L	Н	Μ	L	
Value	H	Μ	L	Н	Μ		Н	Μ	L	TOTAL
Score Based on Ratings		8			6			3		17

Score for each function based on three ratings (order of ratings is not important) 9 = H,H,H

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

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY		
Estuarine	I II		
Wetland of High Conservation Value	I		
Bog	I		
Mature Forest	I		
Old Growth Forest	I		
Coastal Lagoon	Ι	II	
Interdunal	I II	III IV	
None of the above	Not Applicable		

Maps and figures required to answer questions correctly for Western Washington

Depressional Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	D 1.3, H 1.1, H 1.4	1
Hydroperiods	D 1.4, H 1.2	1
Location of outlet (can be added to map of hydroperiods)	D 1.1, D 4.1	1
Boundary of area within 150 ft of the wetland (can be added to another figure)	D 2.2, D 5.2	1
Map of the contributing basin	D 4.3, D 5.3	2
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	3
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	4
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	D 3.3	5

Riverine Wetlands

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

Lake Fringe Wetlands

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

Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	Н 1.1, Н 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 polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	S 3.3	

HGM Classification of Wetlands in Western Washington

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

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

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

NO - go to 2

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

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

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

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

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

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

NO - go to 4

YES – The wetland class is **Lake Fringe** (Lacustrine Fringe)

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

_____The water leaves the wetland **without being impounded**.

NO - go to 5

YES – The wetland class is **Slope**

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

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

YES - Freshwater Tidal Fringe

Wetland name or number <u>E</u>

NO – go to 6 **YES** – The wetland class is **Riverine NOTE**: The Riverine unit can contain depressions that are filled with water when the river is not flooding

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

NO – go to 7

YES – The wetland class is Depressional

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

NO – go to 8

YES – The wetland class is Depressional

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

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

HGM classes within the wetland unit	HGM class to
being rated	use in rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake Fringe	Lake Fringe
Depressional + Riverine along stream	Depressional
within boundary of depression	
Depressional + Lake Fringe	Depressional
Riverine + Lake Fringe	Riverine
Salt Water Tidal Fringe and any other	Treat as
class of freshwater wetland	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 wa	ter 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 (r	no outlet). points = 3	
Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing	g outlet. points = 2	2
Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch.	points = 1 points = 1	
D 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic (use NRCS definitions). Yes	s = 4 No = 0	0
D 1.3. Characteristics and distribution of persistent plants (Emergent, Scrub-shrub, and/or Forested Cow	ardin classes):	
Wetland has persistent, ungrazed, plants > 95% of area	points = 5	
Wetland has persistent, ungrazed, plants > ½ of area	points = 3	5
Wetland has persistent, ungrazed plants $> 1/10$ of area	points = 1	
Wetland has persistent, ungrazed plants $<^{1}/_{10}$ of area	points = 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 > $\frac{1}{2}$ total area of wetland	points = 4	2
Area seasonally ponded is > ¼ total area of wetland	points = 2	
Area seasonally ponded is < ¼ total area of wetland	points = 0	
Total for D 1Add the points in the b	oxes above	9

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

D 2.0. Does the landscape have the potential to support the water quality function of the site?		
D 2.1. Does the wetland unit receive stormwater discharges? Yes = 1 No = 0	1	
D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants? Yes = 1 No = 0	1	
D 2.3. Are there septic systems within 250 ft of the wetland? Yes = 1 No = 0	1	
D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions D 2.1-D 2.3? SourceYes = 1 No = 0	0	
Total for D 2Add the points in the boxes above	3	

Rating of Landscape Potential If score is: <u>x</u> 3 or 4 = H <u>1 or 2 = M</u> <u>0 = L</u> Record the rating on the first page

D 3.0. Is the water quality improvement provided by the site valuable to society?		
D 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list? Yes = 1 No = 0	1	
D 3.2. Is the wetland in a basin or sub-basin where an aquatic resource is on the 303(d) list? Yes = 1 No = 0	1	
D 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (<i>answer YES if there is a TMDL for the basin in which the unit is found</i>)? Yes = 2 No = 0		
Total for D 3Add the points in the boxes above	2	
Rating of Value If score is: <u>×</u> 2-4 = H 1 = M 0 = L Record the rating on the first page		

DEPRESSIONAL AND FLATS WETLANDS Hydrologic Functions - Indicators that the site functions to reduce flooding and stream degr	radation
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) points Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outletpoin Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing points	ots = 2 2 = 1
D 4.2. Depth of storage during wet periods: Estimate the height of ponding above the bottom of the outlet. For weth with no outlet, measure from the surface of permanent water or if dry, the deepest part. Marks of ponding are 3 ft or more above the surface or bottom of outlet points = 7 Marks of ponding between 2 ft to < 3 ft from surface or bottom of outlet points = 5 Marks are at least 0.5 ft to < 2 ft from surface or bottom of outlet points = 3 The wetland is a "headwater" wetland points = 1 Marks of ponding less than 0.5 ft (6 in) points = 0	ands 3
D 4.3. <u>Contribution of the wetland to storage in the watershed</u> : <i>Estimate the ratio of the area of upstream basin 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 points = 5 The area of the basin is 10 to 100 times the area of the unit points = 3 The area of the basin is more than 100 times the area of the unit points = 0 Entire wetland is in the Flats class points = 5	3
Total for D 4Add the points in the boxes above	
Rating of Site Potential If score is: 12-16 = H × 6-11 = M 0-5 = L Record the rating of the start of the st	on the first 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 = 0	1
D 5.2. Is >10% of the area within 150 ft of the wetland in land uses that generate excess runoff? Yes = 1 No = 0	1
D 5.3. Is more than 25% of the contributing basin of the wetland covered with intensive human land uses (residentia >1 residence/ac, urban, commercial, agriculture, etc.)? Yes = 1 No = 0	L 1
Total for D 5 Add the points in the boxes above	3
Rating of Landscape Potential If score is: x 3 = H 1 or 2 = M 0 = L Record the rating of the score is: x 3 = H	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 matches conditions are the wetland unit being rated</i>. <i>Do not add points</i>. <u>Choose the highest score if more than one condition is met</u>. The wetland captures surface water that would otherwise flow down-gradient into areas where flooding has damaged human or natural resources (e.g., houses or salmon redds): Flooding occurs in a sub-basin that is immediately down-gradient of unit. points = 2 Surface flooding problems are in a sub-basin farther down-gradient. points = 1 Flooding from groundwater is an issue in the sub-basin. points = 1 	0
The existing or potential outflow from the wetland is so constrained by human or natural conditions that the	
water stored by the wetland cannot reach areas that flood. <i>Explain why</i> points = 0	
water stored by the wetland cannot reach areas that flood. <i>Explain why</i> points = 0	n? 0

1.0. Does the site have the potent	al to provide habitat?		
		and strate within the Ferested slags, Check the	
		tes and strata within the Forested class. Check the y be combined for each class to meet the threshold	
-		ac. Add the number of structures checked.	
Aquatic bed	int ij it is sinuner thun 2.5	4 structures or more: points = 4	
Addate bed Emergent		3 structures: points = 2	
Scrub-shrub (areas where sh	ruhs have > 30% cover)	2 structures: points = 1	0
Forested (areas where trees	•	1 structure: points = 0	
If the unit has a Forested cla			
-	=	anopy, shrubs, herbaceous, moss/ground-cover)	
that each cover 20% within t			
1.2. Hydroperiods			
	(hydroperiods) present wi	ithin the wetland. The water regime has to cover	
more than 10% of the wetland or		-	
Permanently flooded or inun		4 or more types present: points = 3	
		3 types present: points = 2	
Occasionally flooded or inun		2 types present: points = 1	
x_Saturated only		1 type present: points = 0	
Permanently flowing stream	or river in, or adjacent to,	the wetland	1
Seasonally flowing stream in	or adjacent to, the wetlar	nd	
Lake Fringe wetland		2 points	
Freshwater tidal wetland		2 points	
1.2. Diskusses of allocations are			
1.3. Richness of plant species		r at least 10 t^2	
Count the number of plant specie		eet the size threshold and you do not have to name	
		rass, purple loosestrife, Canadian thistle	
If you counted: > 19 species	siun ningon, reeu cunuryg	points = 2	1
5 - 19 species		points = 2 points = 1	
<pre>< 5 species</pre>		points = 1 points = 0	
1.4. Interspersion of habitats		points - 0	
•	whether interspersion amo	ong Cowardin plants classes (described in H 1.1), or	
•	•	or mudflats) is high, moderate, low, or none. If you	
have four or more plant classes or			
		, , , , ,	
			0
None = 0 points	Low = 1 point	Moderate = 2 points	
II three diagrams			
n this row			

H 1.5. Special habitat features:	
 Check the habitat features that are present in the wetland. <i>The number of checks is the number of points.</i> Large, downed, woody debris within the wetland (> 4 in diameter and 6 ft long). Standing snags (dbh > 4 in) within the wetland Undercut banks are present for at least 6.6 ft (2 m) and/or overhanging plants extends at least 3.3 ft (1 m) over a stream (or ditch) in, or contiguous with the wetland, for at least 33 ft (10 m) Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 30 degree slope) OR signs of recent beaver activity are present <i>(cut shrubs or trees that have not yet weathered where wood is exposed)</i> 	1
 <u>x</u> At least ¼ ac of thin-stemmed persistent plants or woody branches are present in areas that are permanently or seasonally inundated <i>(structures for egg-laying by amphibians)</i> <u>Invasive plants cover less than 25% of the wetland area in every stratum of plants (<i>see H 1.1 for list of strata</i>)</u> 	
Total for H 1Add the points in the boxes above	3

Rating of Site Potential If score is: ___15-18 = H ___7-14 = M ___X 0-6 = L

Record the rating on the first page

-1

H 2.0. Does the landscape have the potential to support the habitat functions of the site?	
H 2.1. Accessible habitat (include only habitat that directly abuts wetland unit).	
<i>Calculate:</i> % undisturbed habitat <u>.01</u> + [(% moderate and low intensity land uses)/2] <u>0</u> = <u>.01</u> %	
If total accessible habitat is:	
> ¹ / ₃ (33.3%) of 1 km Polygon points = 3	0
20-33% of 1 km Polygon points = 2	Ū
10-19% of 1 km Polygon points = 1	
< 10% of 1 km Polygon points = 0	
H 2.2. Undisturbed habitat in 1 km Polygon around the wetland.	
<i>Calculate:</i> % undisturbed habitat 9 + [(% moderate and low intensity land uses)/2]15.5= 24.5 %	
Undisturbed habitat > 50% of Polygon points = 3	
Undisturbed habitat 10-50% and in 1-3 patches points = 2	1
Undisturbed habitat 10-50% and > 3 patches points = 1	
Undisturbed habitat < 10% of 1 km Polygon points = 0	
H 2.3. Land use intensity in 1 km Polygon: If	
> 50% of 1 km Polygon is high intensity land use points = (- 2)	-2
≤ 50% of 1 km Polygon is high intensity points = 0	
Total for H 2 Add the points in the boxes above	-1
Rating of Landscape Potential If score is:4-6 = H1-3 = MX < 1 = L Record the rating on the	he first page

H 3.0. Is the habitat provided by the site valuable to society?		
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? Choose only	y 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 st 	ate or federal lists)	
 It is mapped as a location for an individual WDFW priority species 		0
 It is a Wetland of High Conservation Value as determined by the Department of Natural 	Resources	
— It has been categorized as an important habitat site in a local or regional comprehensive plan, in a		
Shoreline Master Plan, or in a watershed plan		
Site has 1 or 2 priority habitats (listed on next page) within 100 m	points = 1	
Site does not meet any of the criteria above	points = 0	
Rating of Value If score is: 2 = H 1 = M × 0 = L	Record the rating on	the first page

r

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 multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) > 32 in (81 cm) dbh or > 200 years of age. <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.
- **Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158 see web link above*).
- **Riparian**: The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.
- Westside Prairies: Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (*full descriptions in WDFW PHS report p. 161 see web link above*).
- **Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.
- Nearshore: Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and
 Puget Sound Nearshore. (*full descriptions of habitats and the definition of relatively undisturbed are in WDFW report –
 see web link on previous page*).
- **Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.
- **Cliffs:** Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.
- **Talus:** Homogenous areas of rock rubble ranging in average size 0.5 6.5 ft (0.15 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.
- Snags and Logs: Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 20 in (51 cm) in western Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.

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

Wetland Rating System for Western WA: 2014 Update Rating Form – Effective January 1, 2015

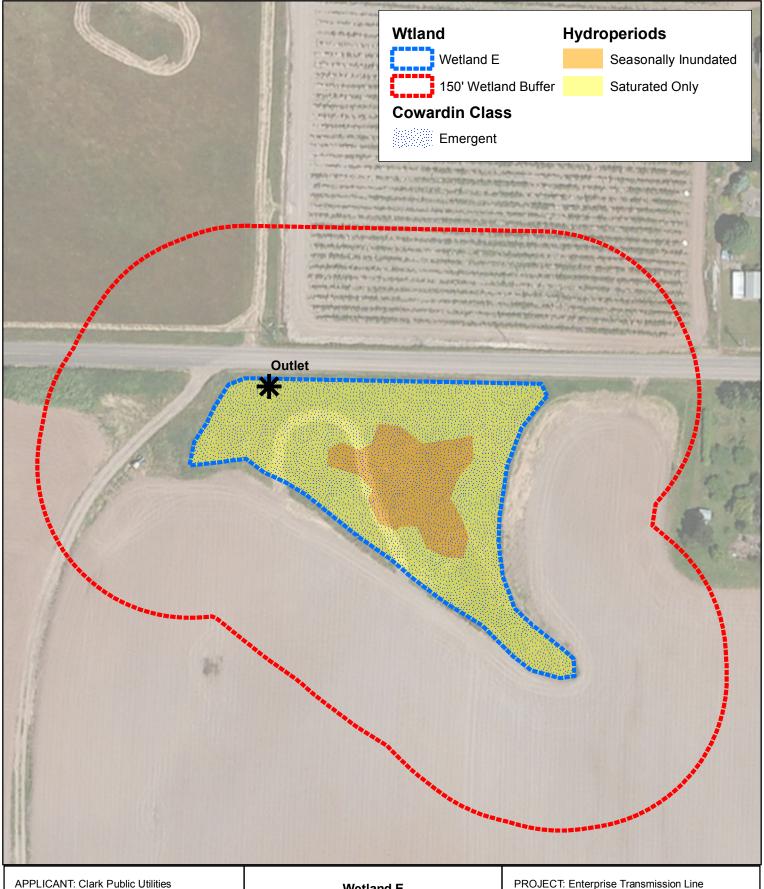
CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

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= Not an estuarine wetland)
SC 1.1. Is the wetland within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area	
Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-30-151?	Cat. I
Yes = Category I No - Go to SC 1.2	
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	Cat. I
than 10% cover of non-native plant species. (If non-native species are Spartina, see page 25)	Cat. I
— At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-	
mowed grassland.	Cat. II
— 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	
SC 2.0. Wetlands of High Conservation Value (WHCV)	
SC 2.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High	Cat. I
Conservation Value? Yes – Go to SC 2.2 No – Go to SC 2.3	Cat. I
SC 2.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value?	
Yes = Category I SC 2.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland?	
http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf	
Yes – Contact WNHP/WDNR and go to SC 2.4 No = Not a WHCV	
SC 2.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and listed it on	
their website? Yes = Category I No = Not a WHCV	
SC 3.0. Bogs	
Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? Use the key	
below. If you answer YES you will still need to rate the wetland based on its functions.	
SC 3.1. Does an area within the wetland unit have organic soil horizons, either peats or mucks, that compose 16 in or	
more of the first 32 in of the soil profile? Yes – Go to SC 3.3 No – Go to SC 3.2	
SC 3.2. Does an area within the wetland unit have organic soils, either peats or mucks, that are less than 16 in deep	
over bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or	
pond? 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.	Cat. I
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	

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

Wetland name or number _____

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IN: East Fork Lewis River Watershed COUNTY OF: Clark STATE OF: WA

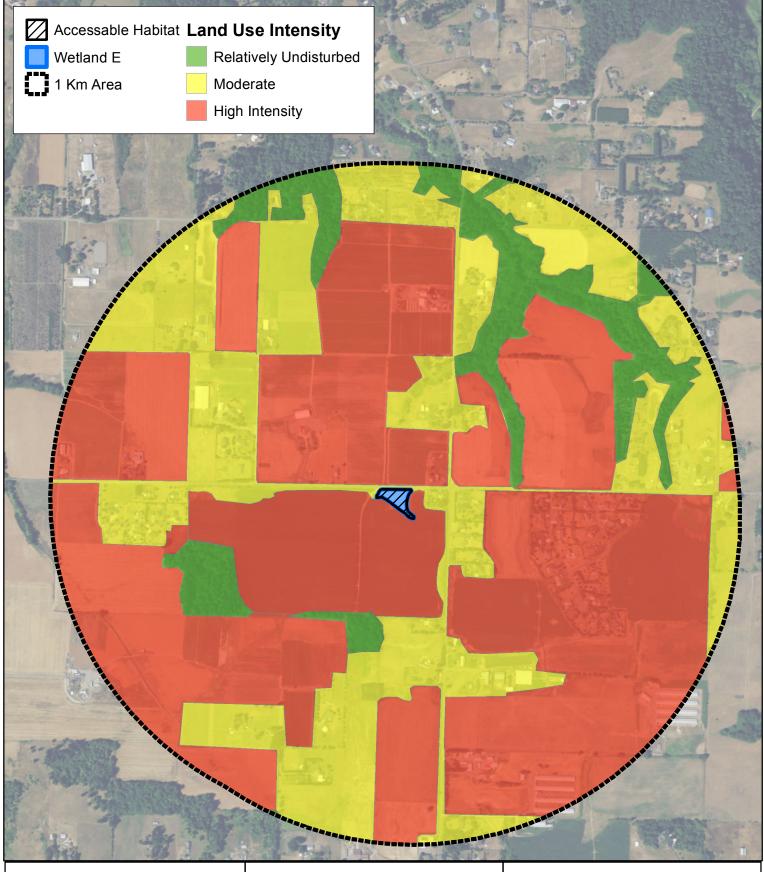
Wetland E **Cowardin Class & Hydroperiods**



PROJECT: Enterprise Transmission Line

PURPOSE: Wetland Rating





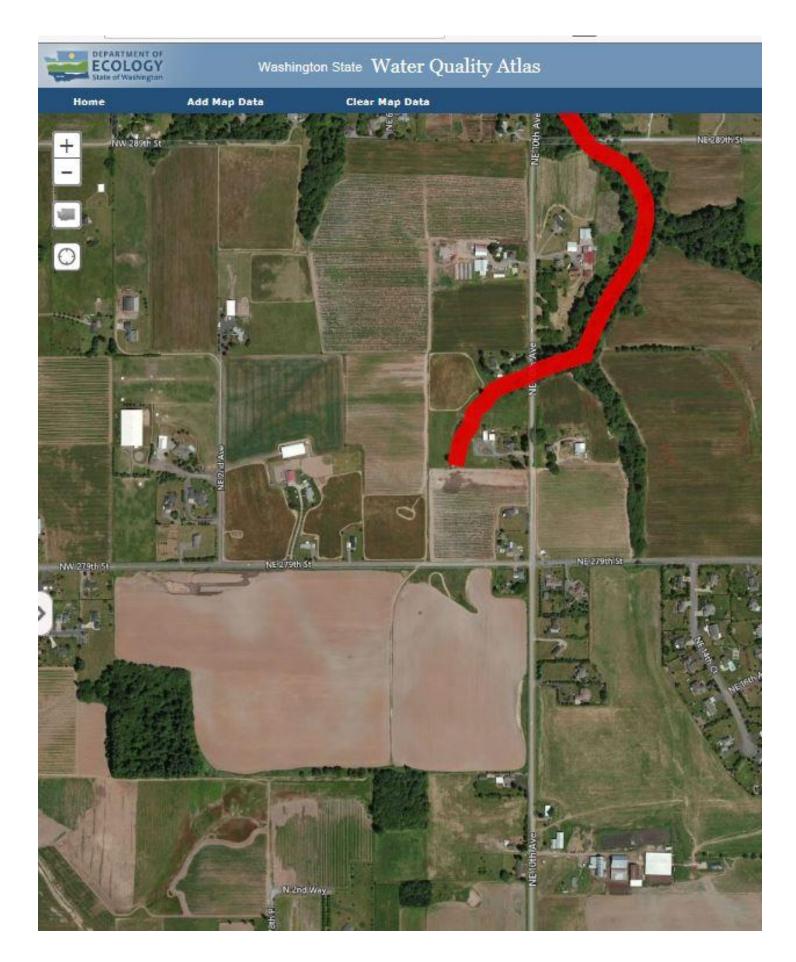
APPLICANT: Clark Public Utilities IN: East Fork Lewis River Watershed COUNTY OF: Clark STATE OF: WA

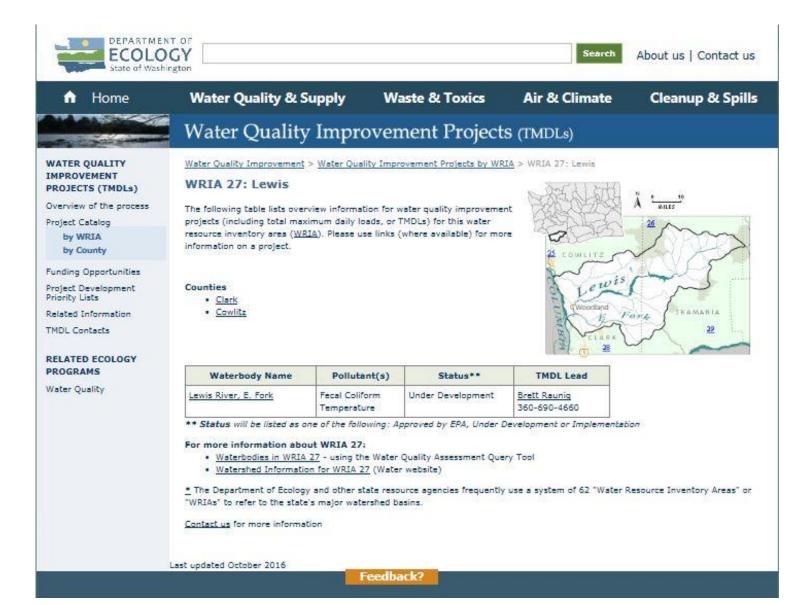
Wetland E 1 KM LAND USE INTENSITY MAP



PROJECT: Enterprise Transmission Line PURPOSE: Wetland Rating







RATING SUMMARY – Western Washington

 Name of wetland (or ID #):
 Wetland F
 Date of site visit: 21 June 2017

 Rated by
 Allison Kinney
 Trained by Ecology? x Yes _____No Date of training______

 HGM Class used for rating
 Depressional
 Wetland has multiple HGM classes? ____Y ___X_N

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

OVERALL WETLAND CATEGORY []] (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

X Category III – Total score = 16 - 19

Category IV – Total score = 9 - 15

FUNCTION		nprov ter Qı	•	Ну	drol	ogic		Habit	at	
				(Circle	the ap	oropr	iate r	atings	
Site Potential	Н	M	L	H	Μ	L	Н	Μ		
Landscape Potential	H	М	L	H	Μ	L	Н	Μ	L	
Value	H	Μ	L	Н	Μ	Ŀ	Н	Μ	L	TOTAL
Score Based on Ratings		8			7			3		18

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	Ι	II	
Wetland of High Conservation Value	I		
Bog	I		
Mature Forest	I		
Old Growth Forest		Ι	
Coastal Lagoon	Ι	II	
Interdunal	I II	III IV	
None of the above	Not A	pplicable	

Maps and figures required to answer questions correctly for Western Washington

Depressional Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	D 1.3, H 1.1, H 1.4	1
Hydroperiods	D 1.4, H 1.2	1
Location of outlet (can be added to map of hydroperiods)	D 1.1, D 4.1	1
Boundary of area within 150 ft of the wetland (can be added to another figure)	D 2.2, D 5.2	1
Map of the contributing basin	D 4.3, D 5.3	2
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	3
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	4
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	D 3.3	5

Riverine Wetlands

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

Lake Fringe Wetlands

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

Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	Н 1.1, Н 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 polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	S 3.3	

HGM Classification of Wetlands in Western Washington

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

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

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

NO - go to 2

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

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

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

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

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

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

NO - go to 4

YES – The wetland class is **Lake Fringe** (Lacustrine Fringe)

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

_____The water leaves the wetland **without being impounded**.

NO - go to 5

YES – The wetland class is **Slope**

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

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

YES - Freshwater Tidal Fringe

Wetland name or number <u>F</u>

NO – go to 6 **YES** – The wetland class is **Riverine NOTE**: The Riverine unit can contain depressions that are filled with water when the river is not flooding

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

NO – go to 7

YES – The wetland class is Depressional

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

NO – go to 8

YES – The wetland class is Depressional

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

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

HGM classes within the wetland unit	HGM class to
being rated	use in rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake Fringe	Lake Fringe
Depressional + Riverine along stream	Depressional
within boundary of depression	
Depressional + Lake Fringe	Depressional
Riverine + Lake Fringe	Riverine
Salt Water Tidal Fringe and any other	Treat as
class of freshwater wetland	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 wa	iter 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	2
Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing	g outlet. points = 2	
Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch.	points = 1 points = 1	
D 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic (use NRCS definitions). Ye	s = 4 No = 0	0
D 1.3. Characteristics and distribution of persistent plants (Emergent, Scrub-shrub, and/or Forested Cow	vardin classes):	
Wetland has persistent, ungrazed, plants > 95% of area	points = 5	
Wetland has persistent, ungrazed, plants > ½ of area	points = 3	3
Wetland has persistent, ungrazed plants $> 1/10$ of area	points = 1	
Wetland has persistent, ungrazed plants $<^{1}/_{10}$ of area	points = 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 > $\frac{1}{2}$ total area of wetland	points = 4	4
Area seasonally ponded is > ¼ total area of wetland	points = 2	
Area seasonally ponded is < ¼ total area of wetland	points = 0	
Total for D 1 Add the points in the b	ooxes above	9

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

D 2.0. Does the landscape have the potential to support the water quality function of the site?	
D 2.1. Does the wetland unit receive stormwater discharges? Yes = 1 No = 0	1
D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants? Yes = 1 No = 0	1
D 2.3. Are there septic systems within 250 ft of the wetland? Yes = 1 No = 0	1
D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions D 2.1-D 2.3? SourceYes = 1 No = 0	0
Total for D 2Add the points in the boxes above	3

Rating of Landscape Potential If score is: <u>x</u> **3 or 4 = H 1 or 2 = M 0 = L** Record the rating on the first page

D 3.0. Is the water quality improvement provided by the site valuable to society?	
D 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list? Yes = 1 No = 0	1
D 3.2. Is the wetland in a basin or sub-basin where an aquatic resource is on the 303(d) list? Yes = 1 No = 0	1
D 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (<i>answer YES if there is a TMDL for the basin in which the unit is found</i>)? Yes = 2 No = 0	
Total for D 3Add the points in the boxes above	2
Rating of Value If score is: X2-4 = 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 floodi	-	ion
D 4.0. Does the site have the potential to reduce flooding and erosion?	<u> </u>	
D 4.1. Characteristics of surface water outflows from the wetland:		
Wetland is a depression or flat depression with no surface water leaving it (no outlet) Wetland has an intermittently flowing stream or ditch, OR highly constricted permane Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowi Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently	ng ditch points = 1	2
D 4.2. <u>Depth of storage during wet periods</u> : Estimate the height of ponding above the bottom with no outlet, measure from the surface of permanent water or if dry, the deepest par 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	t. points = 7 points = 5 points = 3	3
Wetland is a flat but has small depressions on the surface that trap water Marks of ponding less than 0.5 ft (6 in) D 4.3. <u>Contribution of the wetland to storage in the watershed</u> : <i>Estimate the ratio of the area</i>	points = 3 points = 1 points = 0	
 D 4.3. <u>Contribution of the wetland to storage in the watershed</u>. Estimate the ratio of the area of the vetland unit itself. 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 Entire wetland is in the Flats class 	points = 5 points = 3 points = 0 points = 5	5
Total for D 4 Add the poi	ints in the boxes above	10
Rating of Site Potential If score is: 12-16 = H × 6-11 = M 0-5 = L	Record the rating on the	first pag
D 5.0. Does the landscape have the potential to support hydrologic functions of the s	site?	-
D 5.1. Does the wetland receive stormwater discharges?	Yes = 1 No = 0	1
D 5.2. Is >10% of the area within 150 ft of the wetland in land uses that generate excess runc	off? Yes = 1 No = 0	1
D 5.3. Is more than 25% of the contributing basin of the wetland covered with intensive huma >1 residence/ac, urban, commercial, agriculture, etc.)?	an land uses (residential at Yes = 1 No = 0	1
Total for D 5 Add the poi	ints in the boxes above	3
Rating of Landscape Potential If score is: X 3 = H1 or 2 = M0 = 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>. Choose the description that best is the wetland unit being rated. Do not add points. <u>Choose the highest score if more than</u> The wetland captures surface water that would otherwise flow down-gradient into are 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. 	one condition is met.	0
Flooding from groundwater is an issue in the sub-basin.	points = 1	0
The existing or potential outflow from the wetland is so constrained by human or nature water stored by the wetland cannot reach areas that flood. <i>Explain why</i>	ral conditions that the points = 0	
There are no problems with flooding downstream of the wetland.	points = 0	
D 6.2. Has the site been identified as important for flood storage or flood conveyance in a reg	ional flood control plan? Yes = 2 No = 0	0
Total for D 6 Add the poi	ints in the boxes above	0
Rating of Value If score is: 2-4 = H 1 = M × 0 = L	Record the rating on the	first is a

These questions apply to wetland		
HABITAT FUNCTIONS - Indicators that site functions to provi H 1.0. Does the site have the potential to provide habitat?	de important habitat	
	strate within the Ferented class. Check the	
H 1.1. Structure of plant community: <i>Indicators are Cowardin classes and</i> Cowardin plant classes in the wetland. <i>Up to 10 patches may be cor</i>		
of ¼ ac or more than 10% of the unit if it is smaller than 2.5 ac. Add	-	
Aquatic bed	4 structures or more: points = 4	
Emergent	3 structures: points = 2	0
Scrub-shrub (areas where shrubs have > 30% cover)	2 structures: points = 1	
Forested (areas where trees have > 30% cover)	1 structure: points = 0	
If the unit has a Forested class, check if:		
The Forested class has 3 out of 5 strata (canopy, sub-canopy, s that each cover 20% within the Forested polygon	hrubs, herbaceous, moss/ground-cover)	
I 1.2. Hydroperiods		
Check the types of water regimes (hydroperiods) present within the more than 10% of the wetland or ¼ ac to count (<i>see text for descrip</i>	_	
Permanently flooded or inundated	4 or more types present: points = 3	
<u> </u>	3 types present: points = 2	2
<u>×</u> Occasionally flooded or inundated	2 types present: points = 1	
Saturated only	1 type present: points = 0	
Permanently flowing stream or river in, or adjacent to, the we	land	
Seasonally flowing stream in, or adjacent to, the wetland		
Lake Fringe wetland	2 points	
Freshwater tidal wetland	2 points	
1 1.3. Richness of plant species		
Count the number of plant species in the wetland that cover at leas	t 10 ft ² .	
Different patches of the same species can be combined to meet the		
the species. Do not include Eurasian milfoil, reed canarygrass, pu	-	1
If you counted: > 19 species	points = 2	
5 - 19 species	points = 1	
< 5 species	points = 0	
1.4. Interspersion of habitats		
Decide from the diagrams below whether interspersion among Cov		
the classes and unvegetated areas (can include open water or mud		
have four or more plant classes or three classes and open water, the	e rating is always high.	
		0
Nene - O points	Madavata = 2 points	
None = 0 points Low = 1 point	Moderate = 2 points	
All three diagrams		
n this row		
re HIGH = 3points		

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

Rating of Site Potential If score is: ___15-18 = H ___7-14 = M __X 0-6 = L

Record the rating on the first page

-1

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>.01</u> + [(% moderate and low intensity land uses)/2] <u>0</u> = <u>.01</u> % If total accessible habitat is:	
> $^{1}/_{3}$ (33.3%) of 1 km Polygon points = 3 20-33% of 1 km Polygon points = 2	0
10-19% of 1 km Polygon points = 1 < 10% of 1 km Polygon	
H 2.2. Undisturbed habitat in 1 km Polygon around the wetland. $Calculate:$ % undisturbed habitat 7 + [(% moderate and low intensity land uses)/2]17.5 = 24.5 %Undisturbed habitat > 50% of Polygonpoints = 3Undisturbed habitat 10-50% and in 1-3 patchespoints = 2Undisturbed habitat 10-50% and > 3 patchespoints = 1Undisturbed habitat < 10% of 1 km Polygon	1
H 2.3. Land use intensity in 1 km Polygon: If > 50% of 1 km Polygon is high intensity land use ≤ 50% of 1 km Polygon is high intensity Total for H 2. Add the points in the bayes above	-2 -1
Total for H 2Add the points in the boxes aboveRating of Landscape Potential If score is:4-6 = H1-3 = M0 < 1 = LRecord the rating on the second the s	

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? <i>Choose only that applies to the wetland being rated.</i>	y the highest score	
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 st 	ate or federal lists)	
 It is mapped as a location for an individual WDFW priority species 		0
 It is a Wetland of High Conservation Value as determined by the Department of Natural 	l Resources	
 It has been categorized as an important habitat site in a local or regional comprehensive 	e plan, in a	
Shoreline Master Plan, or in a watershed plan		
Site has 1 or 2 priority habitats (listed on next page) within 100 m	points = 1	
Site does not meet any of the criteria above	points = 0	
Rating of Value If score is: 2 = H 1 = M × 0 = L	Record the rating on	the first page

r

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 multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) > 32 in (81 cm) dbh or > 200 years of age. <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.
- **Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158 see web link above*).
- **Riparian**: The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.
- Westside Prairies: Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (*full descriptions in WDFW PHS report p. 161 see web link above*).
- **Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.
- Nearshore: Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and
 Puget Sound Nearshore. (*full descriptions of habitats and the definition of relatively undisturbed are in WDFW report –
 see web link on previous page*).
- **Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.
- **Cliffs:** Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.
- **Talus:** Homogenous areas of rock rubble ranging in average size 0.5 6.5 ft (0.15 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.
- Snags and Logs: Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 20 in (51 cm) in western Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.

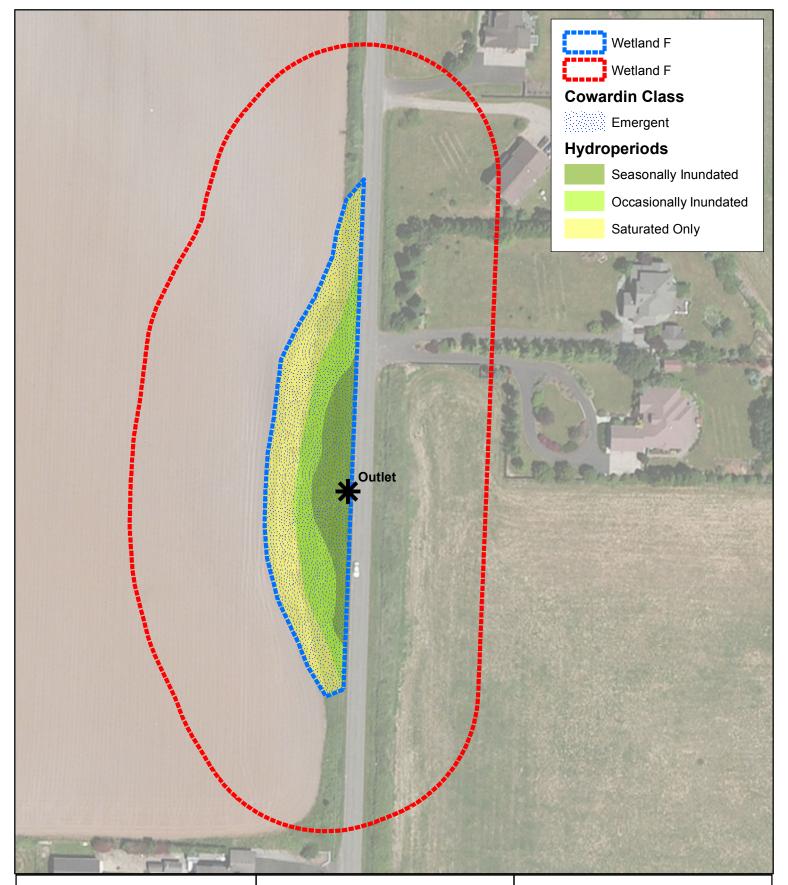
Note: All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

Wetland Rating System for Western WA: 2014 Update Rating Form – Effective January 1, 2015 Wetland name or number _____F

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

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



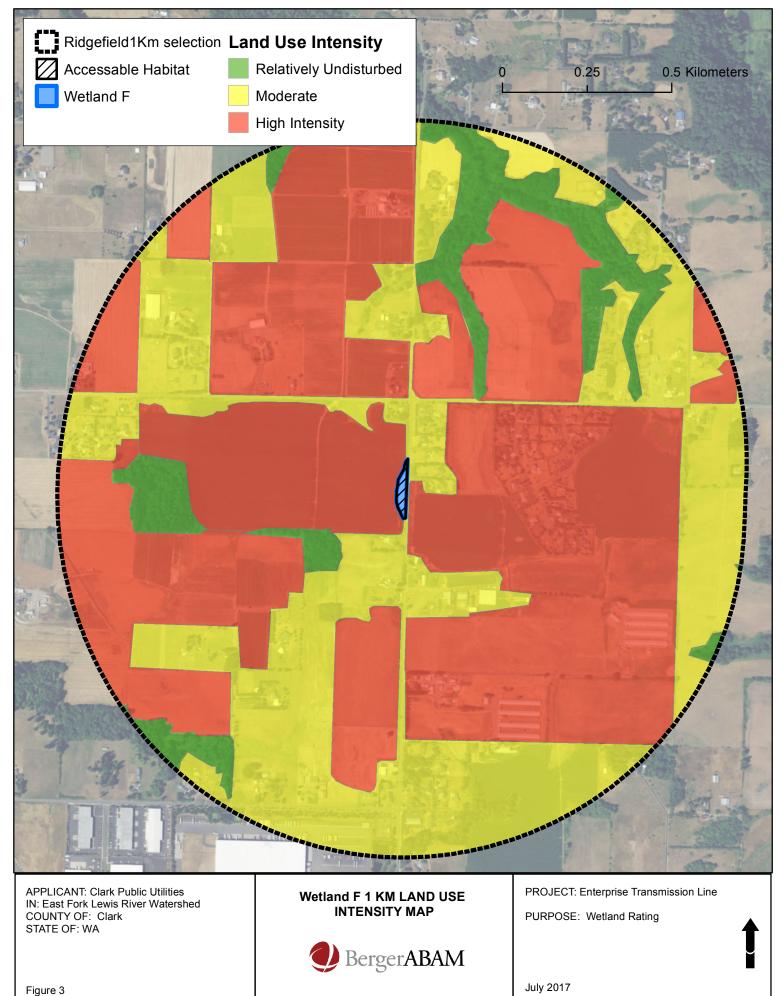
APPLICANT: Clark Public Utilities IN: East Fork Lewis River Watershed COUNTY OF: Clark STATE OF: WA

Wetland F Cowardin Class & Hydroperiods



PROJECT: Enterprise Transmission Line PURPOSE: Wetland Rating





-Path: Q:\Vancouver\2014\A14.0046\02\GIS\02_MXD\1km Intensity Maps\Wetland F.mxd



