CRITICAL AREAS REPORT

Revised August 2, 2022

Mid I-5 Industrial Park
Kelso, Washington

Prepared for

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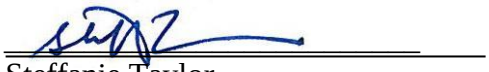
1157 3rd Avenue, Suite 220A • Longview, WA 98632

(360) 578-1371 • Project Number 3665.02

SIGNATURE PAGE

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



Steffanie Taylor
Senior Biologist/Principal

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INTRODUCTION

Ecological Land Services, Inc. (ELS) completed this report on behalf of Trammell Crow Portland Development, Inc. to document critical areas, including wetlands and fish and wildlife habitat conservation areas, within the study area of the subject property. The subject property totals approximately 120 acres and consists of Cowlitz County Tax Parcels 24095, 24385, and 439101 in the City of Kelso, Cowlitz County, Washington within Sections 12 and 13, Township 7N, Range 2W, W.M., (Figure 1). The study area subject to the critical areas delineation totals just over 93 acres and includes all of Parcel 24095, extending slightly into the northern portion of Parcel 24385 (Figures 2a and 2b). Field work occurred on November 30 and December 8, 2021. This report summarizes critical area findings within the study area in accordance with the City of Kelso Municipal Code (KMC), *Title 17 Unified Development Code Chapter 17.26 Environmentally Sensitive Areas*. This report has been updated to reflect a project name change from Segale Properties Site to the Mid I-5 Industrial Park.

SITE DESCRIPTION

The approximately 93-acre study area consists of Cowlitz County Tax Parcel 24095 and extends slightly into the northern portion of Parcel 2438524100. The property is currently zoned General Commercial (GC). An extension of Talley Way provides access to study area. This extension was constructed in approximately 2010 along with underground utilities and stormwater treatment facilities for street runoff (Photos 1 through 3; Figure 2). A utility easement with unimproved access road and above-ground utility poles extends along the eastern study area boundary. The State Route (SR) 432 on-ramp borders the study area to the north, the Burlington Northern Sante Fe (BNSF) railroad borders to the west, Interstate 5 (I-5) borders to the east, and undeveloped wetland area borders to the south.

The study area consists of approximately 15 to 20 feet of dredged material placed following the eruption of Mt. Saint Helens in 1980. The filled area is generally flat, with the southern extent dropping steeply approximately five feet in elevation. Side slopes of the fill are very steep, at an approximate 1:1 slope. Access points to the utility poles along the eastern study area boundary are approximately 10 feet lower in elevation than the top of the dredged material. Fill around the utility poles is gravel dominated. Low-lying areas surrounding the dredged material are within the 100-year floodplain of the Cowlitz, Coweeman, and Columbia Rivers. The confluence of the Coweeman and Cowlitz River is approximately 1,000 feet north of the study area, and the confluence of the Cowlitz with the Columbia River is located approximately one mile to the west.

A large wetland system is located along the base of the fill slope along the eastern, western, and southern perimeters of the study area. The wetland is confined to a channel on the eastern perimeter between the dredged material and the I-5 on-ramp and is also confined to a channel on the western perimeter between the dredged material and BNSF railroad berm. The western wetland channel connects to the Coweeman River approximately 1,000 feet north of the study area, and the eastern wetland channel dead-ends near the northeast property boundary. The wetland unit also extends south connecting with Owl Creek approximately 3,800 feet south of the study area.

Vegetation is establishing on the dredged material and is dominated by red alder (*Alnus rubra*) saplings and trees, Scot's broom (*Cytisus scoparius*), and mosses. Side slopes along the eastern boundary are predominantly vegetated by blackberries (*Rubus spp.*) with other shrubs intermingled. Utility pole maintenance access points consist of maintained grasses. The southern fill slope is similarly dominated by blackberries and other shrubs. A small, forested area lies along the southwestern fill slope dominated by mature red alder with a moderately dense understory typical of floodplain forests. The fill slope north of this area is dominated by blackberries, Scot's broom, and grasses with native shrubs in a narrow strip near the base.

METHODOLOGY

The wetland delineation followed the Routine Determination Method according to the U.S. Army Corps of Engineers, *Wetland Delineation Manual* (Environmental Laboratory 1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys and Coast Region (Version 2.0)* (U.S. Army Engineer Research and Development Center 2010).

The Routine Determination Method examines three parameters—vegetation, soils, and hydrology—to determine if wetlands exist in a given area. Hydrology is critical in determining what is wetland, but is often difficult to assess because hydrologic conditions can change periodically (hourly, daily, or seasonally). Consequently, it is necessary to determine if hydrophytic vegetation and hydric soils are present, which would indicate that water is present for long enough duration to support a wetland plant community. By definition, wetlands are those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands are regulated as "Waters of the United States" by the Corps and as "Waters of the State" by the Washington Department of Ecology (Ecology), and locally by KMC *Chapter 17.26.*

State and federal environmental databases and Google Earth aerial imagery dating back to 1990 were reviewed prior to conducting a site visit and to evaluate offsite portions of the wetland unit that were inaccessible or outside the study area. The wetland boundary was delineated and test plot data was gathered on November 30 and December 8, 2021. Vegetation, soil, and hydrology information was collected from 13 test plots to determine the extent of the wetland in the study area and to document overall representative site conditions (Appendix A). Wetland boundaries were flagged in the study area only, using consecutively numbered, pink flagging and were surveyed by Gibbs & Olson, Inc. Test plot locations were also flagged and GPS coordinates taken with a hand-held GPS unit with sub-meter accuracy. The wetland boundary distinctively followed topography. Where there were gaps in wetland boundary flagging due to inaccessibility along steeps slopes and/or dense blackberry overgrowth, flags were connected based on surveyed topography. Changes in vegetation from hydrophytic-dominated species to a mix of hydrophytic, non-hydrophytic and upland species was apparent along the wetland boundary.

VEGETATION

Vegetation observed during the site visit is recorded on the attached wetland determination data forms (Appendix A). The indicator status, following the scientific names, indicates the likelihood of the species to be found in wetlands. Listed from most likely to least likely to be found in wetlands, the indicator status categories are:

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

Uplands

The upland portion of the study area consisted of historically placed sandy dredged material that has become vegetated by red alder (FAC) saplings and trees, Scot's broom (FACU), blackberries (FAC to FACU), and weedy forbs, grasses and mosses. In addition to blackberries, the fill slopes also contain red osier dogwood (*Cornus sericea*, FACW), red elderberry (*Sambucus racemosa*, FACU), salmonberry (*Rubus* spectabilis, FAC), and snowberry (*Symphoricarpos* albus, FACU). Mature red alder trees are located near the base of the fill slope at the southern end of the western wetland channel.

Wetlands

Scrub-shrub wetland vegetation in the study area was primarily found near the base of the fill slope and consisted of willow species (*Salix* spp.), red-osier dogwood, rose spiraea (*Spiraea douglasii*, FACW), and Nootka rose (*Rosa nutkana*, FAC). Emergent wetland vegetation was heavily dominated by reed canarygrass (*Phalaris arundinacea*, FACW), as well as soft rush (*Juncus effusus*, FACW) and cattail (*Typha latifolia*, OBL). Aquatic vegetation included duckweed (*Lemna minor*, OBL); yellow pond-lily (*Nuphar lutea*, OBL) was visible on aerial photos. A wider variety of aquatic and emergent species are expected during the growing season as vegetation has senesced and was no longer visible during the site visit.

SOILS

The National Resources Conservation Service (NRCS) map depicts Caples silty clay loam, 0 to 3 percent slopes (17) over the entire study area (Figure 3). Caples silty clay loam consists of somewhat poorly drained soil on floodplains with a depth to water table between 18 and 24 inches below ground surface and is considered a hydric soil (NRCS 2021a and NRCS 2021b). The majority of the study area, however, consists of 15 to 20 feet of dredged material placed following the eruption of Mt. Saint Helens in 1980. Gravel-dominated fill has also been placed along the eastern study area boundary where the utility poles are located. Native soil appears to be present along the base of the fill slopes and within the wetland boundary.

Evaluated upland soils generally consisted of sand or coarse sand with no redoxomorphic features present. Some upland plots contained a thin layer of loam/loamy sand at the surface. Many of the wetland test plots were inundated or soils were unconsolidated so they were unable to be fully evaluated. Due to the presence of hydrophytic vegetation and wetland hydrology, these soils were assumed to be hydric. Test Plot 6 within with southern portion of the western channel of Wetland A appeared to also contain fill with soil textures consisting of sandy loam, clayey sand, and fine sand moving down through the profile. Redox concentrations were present starting at 6 inches below ground surface meeting hydric soil indicator Sandy Redox (S5). Specific soil information is recorded on the attached wetland determination data forms (Appendix A).

HYDROLOGY

Wetland A is a depressional and riverine wetland that is supported by groundwater, back-flooding from the Coweeman and potentially the Cowlitz Rivers during flood events, highway runoff, and precipitation. Historically, hydrology within the wetland unit was likely much different. Construction of the BNSF railroad berm, SR 432, and I-5 has likely impounded water causing more ponding and altered drainage patterns. Hydrology likely interchanged freely with the Coweeman, Cowlitz, and Columbia Rivers prior to this infrastructure construction.

Based on Google Earth imagery, a channel extends the entire length of the railroad berm within the wetland unit that is primarily permanently flooded. This channel connects to the Coweeman River at the north end of the wetland unit and extends to Owl Creek approximately 1,000 feet south of the subject property, south of the Owl Creek Quarry Road (Figure 7). Owl Creek flows west, just south of this road, then turns south and flows into the Columbia River approximately one mile farther the south. Fish present in Owl Creek and the Coweeman River can likely access Wetland A during the wet season.

Water movement within the wetland appears to flow both north and south but is mainly stagnant. It is not clear where the break in flow is located; however, based on a previous topographical survey, the channel along the railroad berm deepens near Owl Creek Quarry Road near the south end of the study area. The wetland unit does extend south of Owl Creek Quarry Road, but it is not likely that this hydrology influences flow patterns in the wetland north of the road. The wetland south of Owl Creek Quarry Road is topographically lower than the study area, preventing hydrological input to northern portion of Wetland A; therefore, the southern wetland unit boundary was drawn along the north side of Owl Creek Quarry Road, as the wetland unit south of the road could be considered a separate wetland unit due to hydrological differences.

Wetland A contains multiple hydroperiods including permanently flooded, seasonally flooded, and saturated only, with permanently flooded being the majority hydroperiod. Numerous snags in a portion of the wetland just south of the study area are an indication that surface hydrology is increasing, which is killing the trees. These areas also lack shrubs, an indication of persistent water, although it may be shallow. Ponding is likely greater than 3 feet deep within the channel along the railroad berm and in other areas. Water levels do not appear to fluctuate more than approximately two feet based on water marks observed on shrubs in the western Wetland A

channel and no water marks were observed on rocks along the railroad berm. Open water is present in some areas all year long.

NATIONAL WETLANDS INVENTORY

The National Wetlands Inventory (NWI) maps multiple wetland types over the entire study area including the following:

- Palustrine forested, seasonally flooded (PFOC)
- Palustrine, emergent, persistent/scrub-shrub, seasonally flooded (PEM1/SSC)
- Palustrine, unconsolidated bottom, permanently flooded, excavated (PUBHx)
- Riverine tidal, unconsolidated bottom, permanently flooded/tidal (R1UBV)
- Riverine, unknown perennial, unconsolidated bottom, permanently flooded (R5UBH)

NWI mapping within the subject property likely occurred prior to historic dredged material placement on the property. ELS did not observe any wetlands within the dredged material area. Wetland A was delineated within the mapped R1UBV, R5UBH, PFOC, and PEM1/SSC wetland types. ELS generally agrees with the R1UBH mapping along a portion of the western channel of the wetland, however, there are areas of scrub-shrub and emergent vegetation, as well as a small forested area in the southern portion of the finger. The channel also does not appear to be tidally influenced as there were no water marks or drift lines observed on the railroad berm (Photoplate 7). The R5UBH riverine channel along the eastern channel of Wetland A should extend the length of the eastern study area boundary. This channel appears to be permanently flooded containing both aquatic and emergent vegetation with a fringe of scrub-shrub vegetation near the base of the fill slope. The remaining wetland abutting the southern portion of the study area is best described as a permanently and seasonally flooded wetland with a mosaic of open water, emergent, and aquatic bed vegetation interspersed with areas of scrub-shrub vegetation and scattered trees.

CRITICAL AREAS SUMMARY

A portion of one wetland, Wetland A, was delineated within the study area extending offsite to the northwest and south. Wetland A is part of a large wetland complex that totals 7.58 acres onsite. According to the *Washington State Wetland Rating System for Western Washington: 2014 Update* (Rating System), Wetland A is a depressional and riverine Category II wetland scoring 8 points for water quality functions, 6 points for hydrologic functions, and 7 points for habitat functions for a total of 21 points. According to the Rating System, depressional and riverine wetlands should be rated as depressional. Vegetation classes include aquatic bed, emergent, and scrub-shrub, with some open water areas interspersed. There are areas of forested vegetation, but they do not comprise more than 10 percent of the wetland unit so are not considered a Cowardin class for rating purposes. The overall wetland unit contains multiple hydroperiods including permanently flooded, seasonally flooded, and saturated only, with permanently flooded being the majority hydroperiod. Hydrology in the wetland has been historically altered by construction of the BSNF railroad, SR 432, and I-5, as well as dredged material placement following the eruption of Mt. Saint Helens. Water movement within the wetland appears to flow both north and south but is mainly stagnant. Based on a previous

topographical survey, the break in flow appears to be located outside the study area near Owl Creek Quarry Road at the southern end of the subject property, which is where the wetland unit boundary was drawn.

A channel extends along the railroad berm the length of the overall wetland unit. This channel connects to the Coweeman River outside the study area approximately 1,000 feet north. The Coweeman River back-floods into this channel during flood events. The southern extent of this channel eventually connects to Owl Creek approximately 3,800 feet south of the study area. Both Owl Creek and the Coweeman River are fish-bearing, Type S (shoreline) waters. Salmonids are present within Owl Creek and the Coweeman River so the wetland may provide off-channel habitat for juvenile salmonids and other fish species.

Buffers

In accordance with *Table 1-A: Wetland Buffer Requirements* in KMC *17.26.050.D*, wetland buffers are based on the wetland category and habitat score from the Rating System. However, KMC *17.26.050.D.7* states "Buffer widths can be reduced below the minimums when site-specific, abrupt topographical changes such as cliffs, or human-made features such as levees, dikes, railroads, or streets, indicate that extending the buffer beyond such features will not improve wetland protection." The dredged material slopes along the wetland range between approximately 15 and 20 feet high with approximate 1:1 slopes. The dredged material beyond the top of the slope affords minimal protection to the wetland and is mainly vegetated with blackberries and Scot's broom, meeting this criterion. ELS, therefore, recommends a 50-foot buffer be applied to the wetland. Table 1 below summarizes the wetland characteristics.

Table 1. Wetland Summary.

Wetland	Size in Study Area	Category[1]/HGM Class[2]/Cowardin Class[3]	Habitat Score[4]	Buffer Width[5]
A	7.58 acres	Category II / Depressional and Riverine / Aquatic Bed, Emergent, and Scrub-Shrub	7	50 feet

[1] Hruby 2014
[2] NRCS 2008
[3] Cowardin et al. 1979
[4] *Washington State Wetland Rating System for Western Washington: 2014 Update*
[5] KMC *17.26.050.D.7*

LIMITATIONS

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

REFERENCES

City of Kelso. 2016. Kelso Municipal Code, *Title 17 Unified Development Code Chapter17.26 Environmentally Sensitive Areas.*

Cowardin, L.M., C. Carter, F.C. Golet, and E.T. LaRoe. 1979. *Classification of Wetlands and Deepwater Habitats of the United States*. FWS/OBS-78/31. U.S. Department of the Interior, Fish and Wildlife Service, Office of Biological Services, Washington D.C.

Environmental Laboratory. 1987. *Corps of Engineers Wetlands Delineation Manual*, Technical Report Y-87-1. U.S. Army Corps of Engineer Waterways Experiment Station, Vicksburg, Mississippi.

Hruby, T. 2014. *Washington State Wetland Rating System for Western Washington: 2014 Update.* Washington State Department of Ecology Publication #04-06-025.

U.S. Army Corps of Engineers. 2010. *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0),* ed. J.S. Wakeley, R.W. Lichvar, and C.V. Noble. ERDC/EL TR-08-13. Vicksburg, MS: U.S. Army Engineer Research and Development Center.

U.S. Fish & Wildlife Service (USFWS). Electronic Reference. National Wetlands Inventory. <http:www.wetlandsfws.er.usgs.gov/NWI/index.html>. Website accessed October 2016.

U.S.D.A. Natural Resource Conservation Service (NRCS). 2008. *Hydrogeomorphic Wetland Classification System: An Overview and Modification to Better Meet the Needs of the Natural Resources Conservation Service.* United States Department of Agriculture Technical Note, #190-8-76.

U.S.D.A. Natural Resource Conservation Service (NRCS). 2021a. Electronic Reference. Cowlitz County Area. <http://www.or.nrcs.usda.gov/pnw_soil/wa_reports.html>. Website accessed December 2021.

U.S.D.A. Natural Resources Conservation Service (NRCS). 2021b. *Hydric Soils List for Washington*. https://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx. Accessed December 2021.

Washington State Department of Ecology. Electronic Reference. Water Quality Assessment and 303(d) List. http://www.ecy.wa.gov/programs/wq/303d/index.html. Website accessed October 2016.

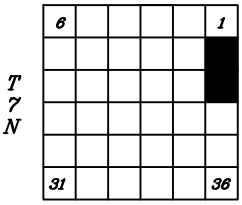
FIGURES AND PHOTOPLATES

WASHINGTON

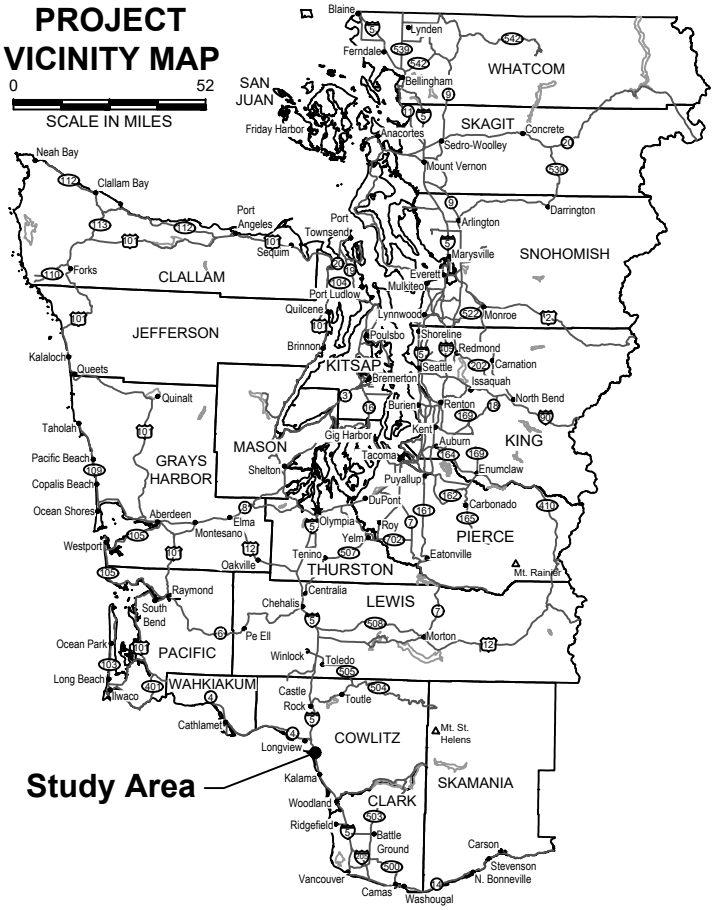
Latitude: 46.1036°
Longitude: -122.8809°

LOCATION MAP

R 2 W



PROJECT VICINITY MAP



NOTE:
Quadrangle topographic map from USGS.

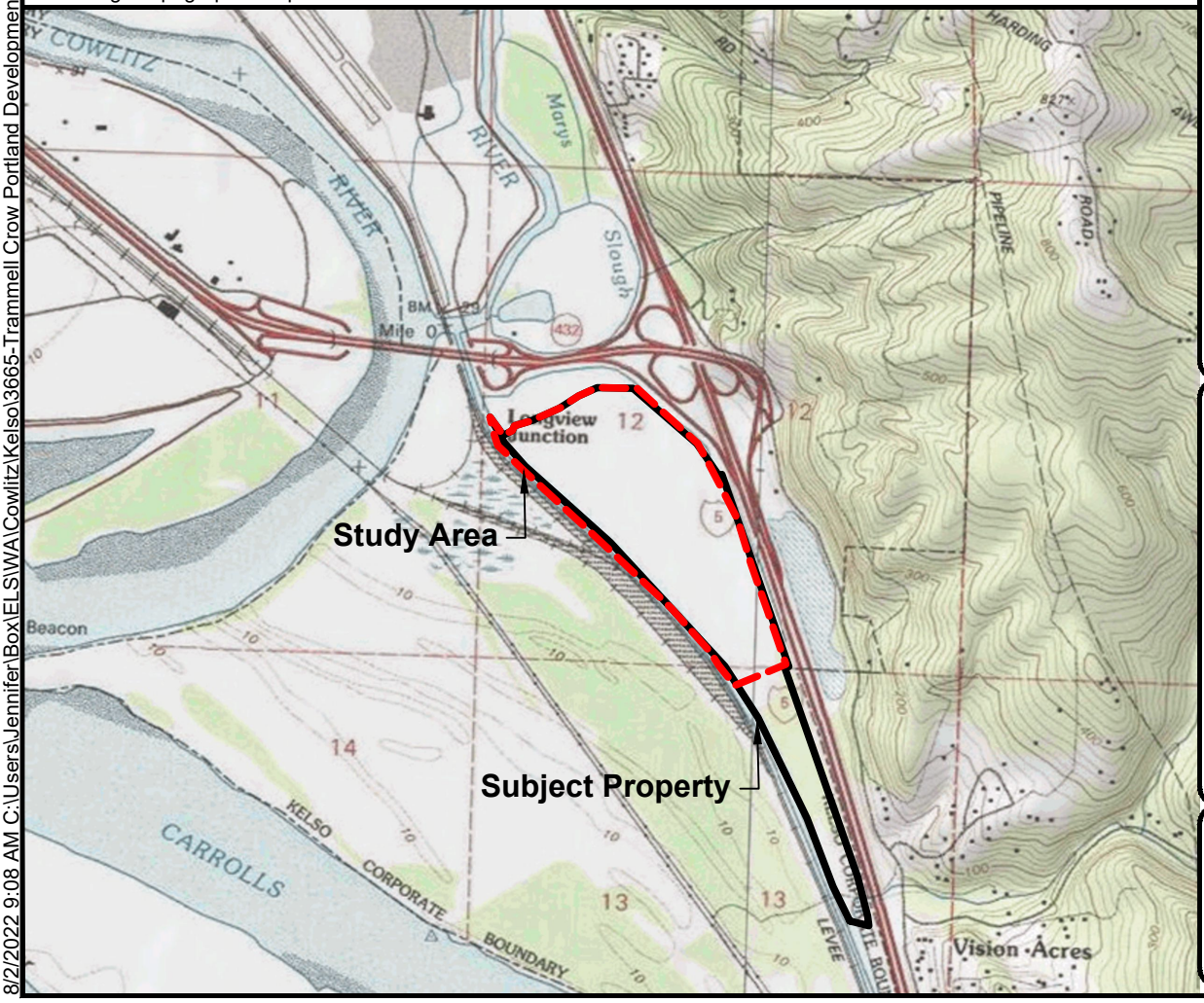


Figure 1
VICINITY MAP
Mid I-5 Industrial Park CAR
Trammell Crow Portland Development, Inc.
City of Kelso, Cowlitz County, WA
Section 12 & 13, Township 7N, Range 2W, W.M.

DATE: 8/2/22
DWN: EF
REQ. BY: ST
PRJ. MGR: ST
CHK: ST
PROJECT NO: 3665.02

1157 3rd Ave., Suite 220A
Longview, WA 98632
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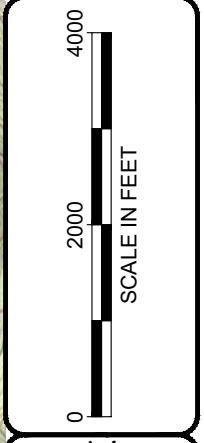
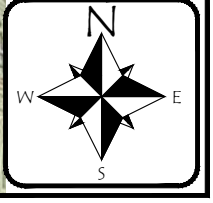
Ecological Land Services





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Coweeman River (Type S)

Coweeman Park Dr

Cowlitz River (Type S)

Talley Way

SR 432

Kelso Dr

BNSF Railroad

Parcel #: 24095

I-5

Wetland A
Category II
Depressional/Riverine
Emergent
Scrub-Shrub
Aquatic Bed
(7.58 ac. onsite)

Old Hwy 99

Parcel #: 24385

Parcel #: 2439101

Owl Creek Quarry Rd

Owl Creek
Type S

LEGEND:
- Subject Property
- Study Area
- Parcel Boundary
- Wetland Boundary
- Approx. Wetland Boundary
- Wetland Continues Offsite
- 50' Wetland Buffer
- Existing Road
- 100-Year Floodplain
- Approximate Stream Centerline with Flow Direction
- 2' Contour
- Railroad

NOTE(S):
1. Aerial imagery from Google Earth. (12/12/21).
2. Wetlands boundaries surveyed by G&O to within +/- 3cm.
3. Topography provided by G&O Engineering.
4. Test plots, and photo points were mapped by an ELS Biologist using a GPS unit with sub-meter accuracy.
5. 100-Year floodplain provided by FEMA.

N W E S

0 500 1000
SCALE IN FEET

Ecological Land Services
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Fax: (360) 414-9305
www.eco-land.com

DATE: 8/2/22
DWN: EF
REQ. BY: ST
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CHK: ST
PROJECT NO: 3665.02

Figure 2
EXISTING CONDITIONS
Mid I-5 Industrial Park CAR
Trammell Crow Portland Development, Inc.
City of Kelso, Cowlitz County, WA
Section 12 & 13, Township 7N, Range 2W, W.M.

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SR 432

Talley Way

BNSF Railroad

I-5

Old Hwy 99

TP-1
TP-2
TP-3
TP-4
TP-5
TP-6
TP-7
TP-8
TP-9
TP-10
TP-11
TP-12
TP-13

Parcel #: 24095

Parcel #: 24385

Wetland A
Category II
Depressional/Riverine
Emergent
Scrub-Shrub
Aquatic Bed
(7.58 ac. onsite)

LEGEND:

- Subject Property
- Study Area
- Parcel Boundary
- Wetland Boundary
- Approx. Wetland Boundary
- 50' Wetland Buffer
- Wetland Continues Offsite
- TP-1 Test Plot Location
- 1 Photo Point Location
- Existing Road
- 100-Year Floodplain
- 2' Contour
- Railroad

NOTE(S):

1. Aerial imagery from Google Earth. (12/12/21).
2. Wetlands boundaries surveyed by G&O to within +/- 3cm.
3. Topography provided by G&O Engineering.
4. Test plots, and photo points were mapped by an ELS Biologist using a GPS unit with sub-meter accuracy.
5. 100-Year floodplain provided by FEMA.

0 300 600
SCALE IN FEET

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DATE: 8/2/22
DWN: EF
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CHK: ST
PROJECT NO: 3665.02

Figure 2A
EXISTING CONDITIONS DETAIL
Mid I-5 Industrial Park CAR
Trammell Crow Portland Development, Inc.
City of Kelso, Cowlitz County, WA
Section 12 & 13, Township 7N, Range 2W, W.M.

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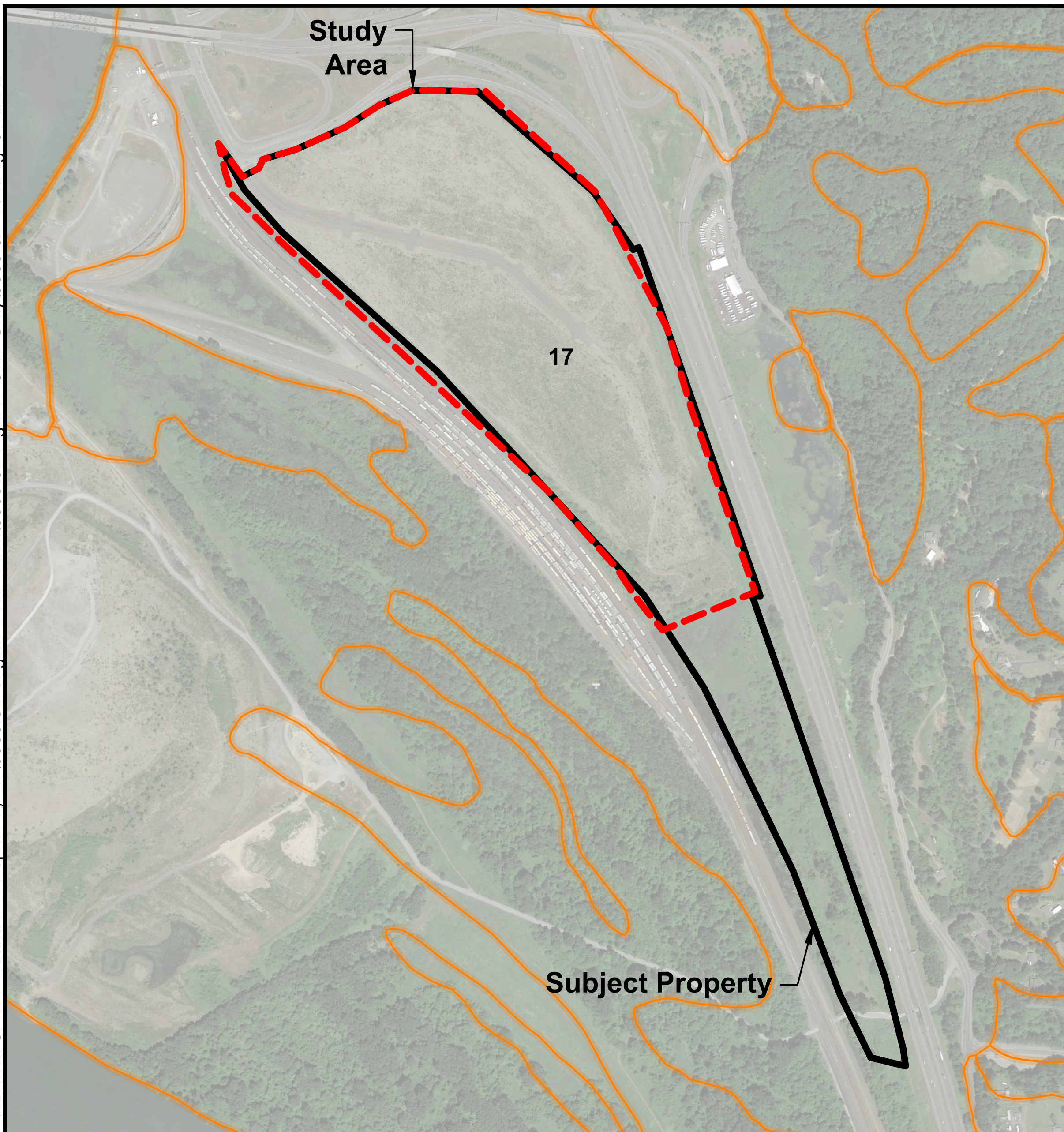

Figure 3
NRCS SOIL SURVEY
Mid I-5 Industrial Park CAR
Trammell Crow Portland Development, Inc.
City of Kelso, Cowlitz County, WA
Section 12 & 13, Township 7N, Range 2W, W.M.

DATE: 8/2/22
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SCALE IN FEET: 0 – 1000 – 2000

N, E, S, W

LEGEND:

- Subject Property
- Study Area
- NRCS Soil Boundary
- 17 Caples silty clay loam, 0 to 3 percent slopes. **Hydric.**

NOTE(S):

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

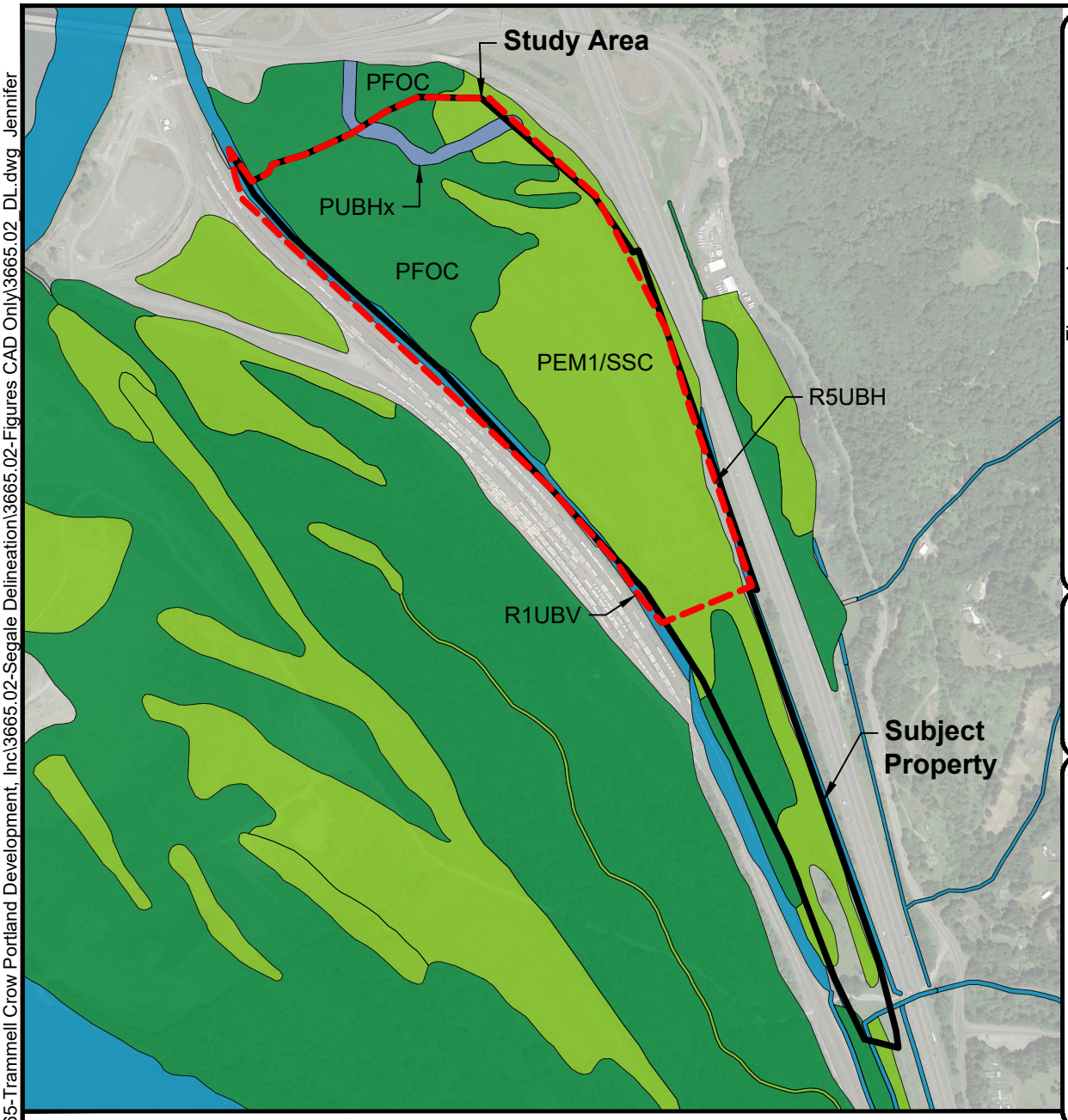

Figure 4
USFWS NATIONAL WETLANDS INVENTORY
Mid I-5 Industrial Park CAR
Trammell Crow Portland Development, Inc.
City of Kelso, Cowlitz County, WA
Section 12 & 13, Township 7N, Range 2W, W.M.

DATE: 8/2/22
DWN: EF
REQ. BY: ST
PRJ. MGR: ST
CHK: ST
PROJECT NO: 3665.02

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Mapped wetlands indicated onsite by US Fish & Wildlife Service.

LEGEND:

- Subject Property
- Study Area

Wetlands

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

PEM1/SSC	Palustrine, emergent, persistent, scrub-shrub, seasonally flooded.
PFOC	Palustrine, forested, seasonally flooded.
PUBHx	Palustrine, unconsolidated bottom, permanently flooded, excavated.
R1UBV	Riverine, tidal, unconsolidated bottom, permanently flooded/tidal.
R5UBH	Riverine, unknown perennial, unconsolidated bottom, permanently flooded.

0 1000 2000
SCALE IN FEET

N W E S

NOTE(S):
1. Map provided on-line by US Fish & Wildlife Service at web address: *http://www.fws.gov/wetlands/data/index.html*

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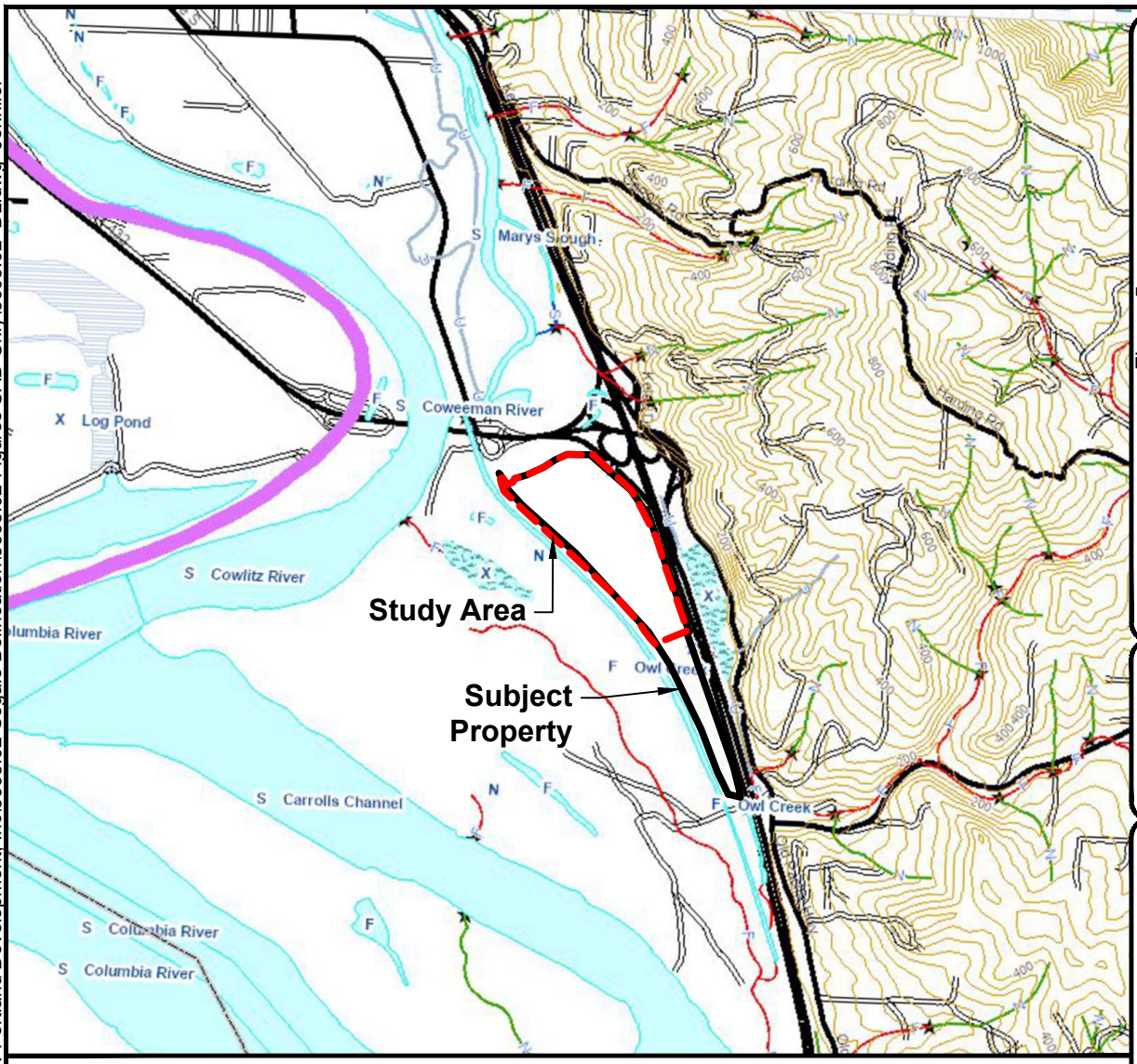

Figure 5
WDNR FPAMT
Mid I-5 Industrial Park CAR
Trammell Crow Portland Development, Inc.
City of Kelso, Cowlitz County, WA
Section 12 & 13, Township 7N, Range 2W, W.M.

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Mapped streams indicated onsite by the Washington State Department of Natural Resources (WDNR).

Contours - 40ft. Interval
Contours - 40ft. Interval

Fire Shutdown Zones
Fire Shutdown Zones

Water Bodies
Water Bodies
- Flats/Gravel Bars
- Ice
- Man Made Features
- Open Water
- Wet Area

Streams
Streams
- Type S
- Type F
- Type N, Np, Ns
- U, unknown
- X, non-typed per WAC 222-16

WRIA
WRIA

WAU
WAU

Roads
Roads
- Unpaved Road/Surface Unknown
- Paved Road

Water Type Break
Water Type Break

Section Survey Lines
Section Survey Lines

Townships
Townships

SCALE IN FEET
0
3000
6000

N
W
E
S

NOTE: Map provided on-line by Washington State Department of Natural Resources at web address: *http://fortress.wa.gov/dnr/app1/Fpars/viewer.htm*

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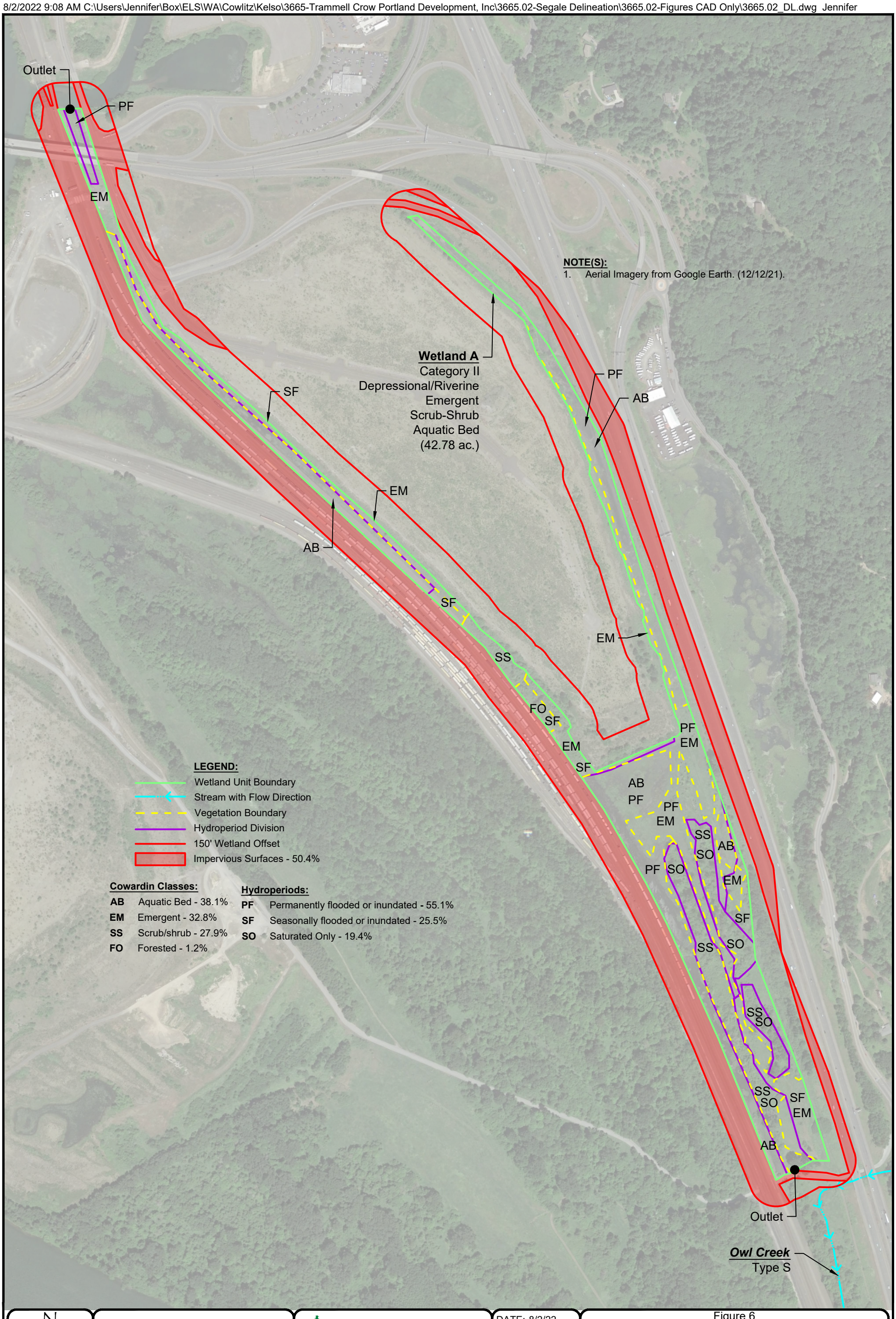

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W E
S

0 500 1000
SCALE IN FEET

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Figure 6
WETLAND RATING FORM- 150' OFFSET
Mid I-5 Industrial Park CAR
Trammell Crow Portland Development, Inc.
City of Kelso, Cowlitz County, WA
Section 12 & 13, Township 7N, Range 2W, W.M.

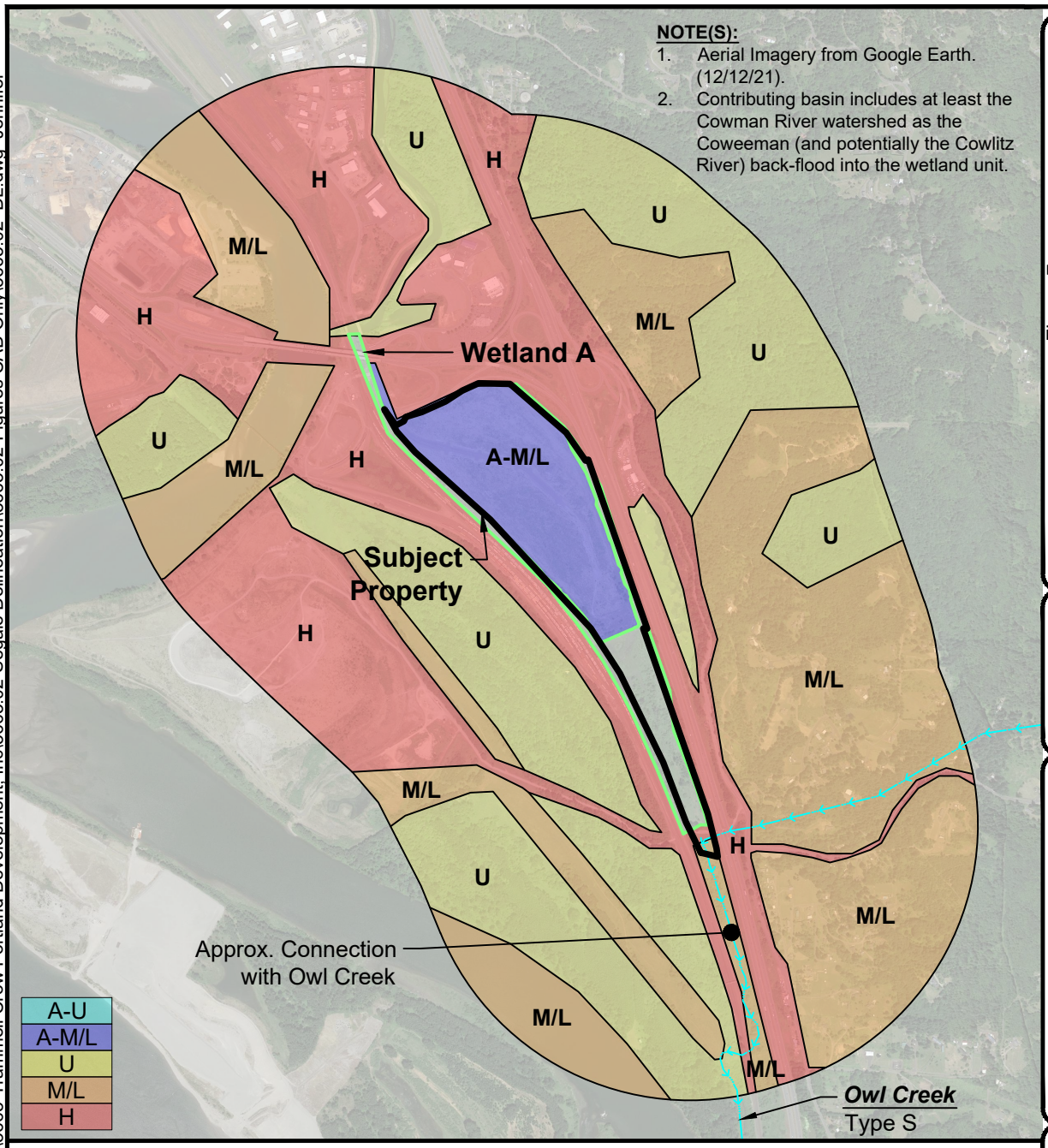

Figure 7
WETLAND RATING FORM-1 km OFFSET
Mid I-5 Industrial Park CAR
Trammell Crow Portland Development, Inc.
City of Kelso, Cowlitz County, WA
Section 12 & 13, Township 7N, Range 2W, W.M.

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SCALE IN FEET
0
2000
4000

N
W
E
S

LEGEND:

Study Area

Wetland Unit Boundary

H2.1 Accessible Habitat

A-U — A-U (0.0%)

A-M/L — A-M/L (4.5%)

H2.2 Undisturbed Habitat

U — U (26.8%)

M/L — M/L (34.0)

H2.3 Land Use Intensity

H — H (34.7%)

H 2.1. Accessible Habitat Equation

% A-U habitat **0.0%** + [(% A-M/L intensity land uses)/2] **2.3%** = **2.3%**

H 2.2. Total Undisturbed Habitat Equation

% A-U + % U habitat **26.8%** + [(% A-M/L + % M/L land uses)/2] **19.3%** = **46.1%**

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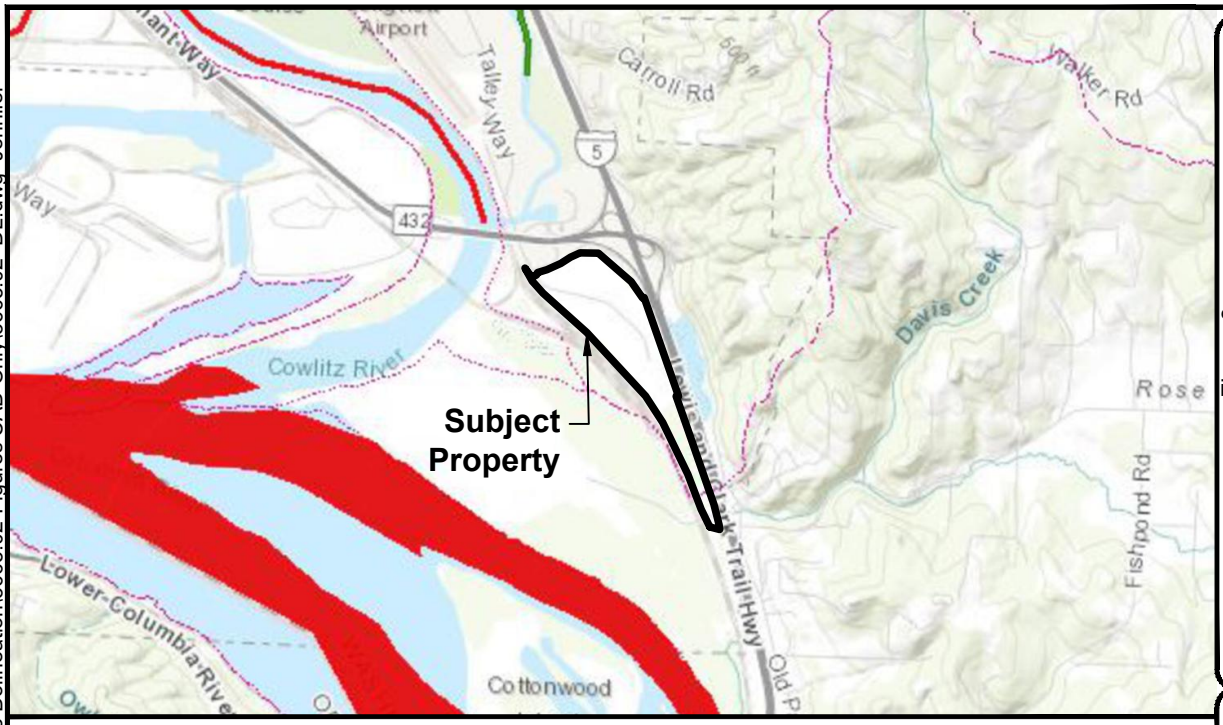

Figure 8
WETLAND RATING FORM-303(d) and TMDLs
Mid I-5 Industrial Park CAR
Trammell Crow Portland Development, Inc.
City of Kelso, Cowlitz County, WA
Section 12 & 13, Township 7N, Range 2W, W.M.

Assessed Waters/Sediment

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

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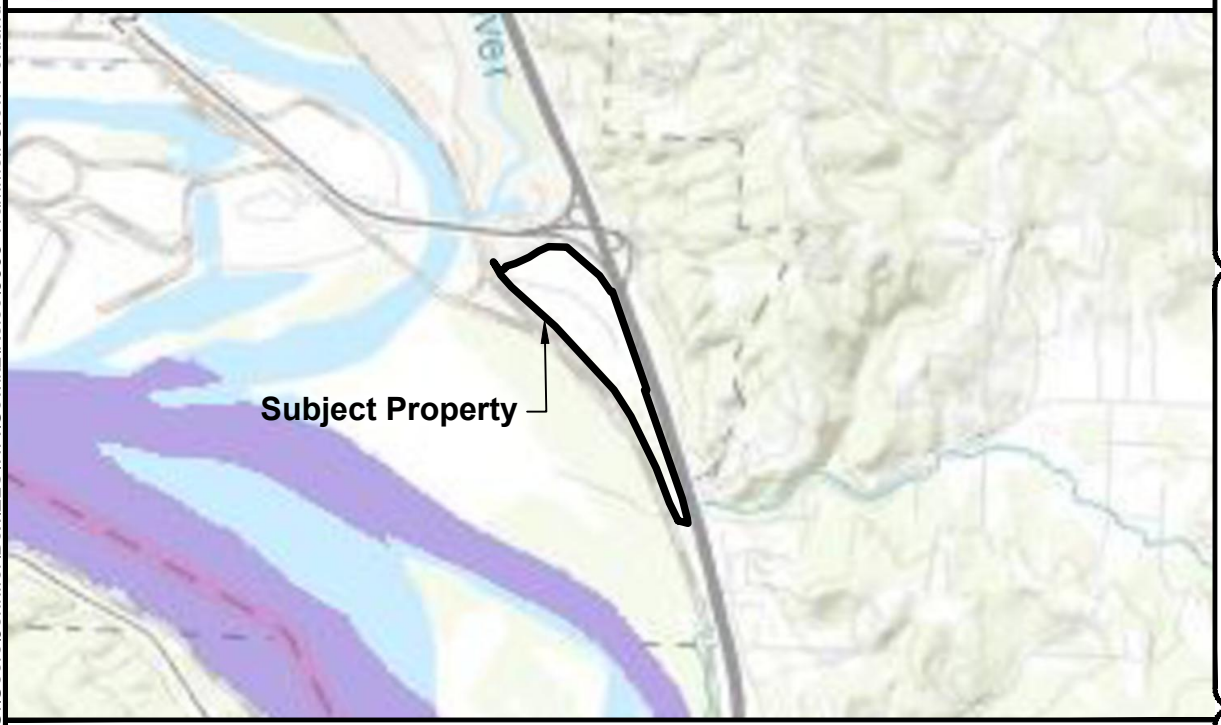

0 4000 8000
SCALE IN FEET

N W E S

WQ Improvement Projects

- Approved
- In Development

NOTE(S):

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

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Photo 1: Southern end of Talley Way facing north in the central portion of the study area.

Photo 2: Southern end of Talley Way facing south in the central portion of the study area.

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Photoplate 1
Site Photos
Mid I-5 Industrial Park CAR
Trammell Crow Portland Development, Inc.
Kelso, Cowlitz County, Washington

Photo 3: Northern end of Talley Way facing south at the northern end of the study area.
Photo 5: Overall representative upland photo in southern portion of the study area facing southwest. Trees pictured in center right are offsite along a railroad berm.

Photo 4: Facing east along northern property line.
Photo 6a: Facing east in a lower elevation area in the southern end of the study area. Truck and trailer pictured at center are traveling south on I-5 offsite.

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Photoplate 2
Site Photos
Mid I-5 Industrial Park CAR
Trammell Crow Portland Development, Inc.
Kelso, Cowlitz County, Washington

Photo 6b: Facing south from the same location as Photo 6a. The row of trees in the central right are offsite along a railroad berm.
Photo 6d: Facing north and upslope from the same location as Photo 6a.

Photo 6c: Facing west from the same location as Photo 6a. Railroad cars are visible on track offsite.
Photo 7: Facing north from TP-13 located in the central portion of the study area.

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Photoplate 3
Site Photos
CAR
Trammell Crow Portland Development, Inc.
Kelso, Cowlitz County, Washington

Photo 8: Facing north in the vicinity of TP-1, which was located in a topographically low area in the southeast portion of the study area.

Photo 9: Facing southeast at the northeastern finger of Wetland A. TP-10 is visible in the foreground. TP-9 and a wetland flag are visible downslope.

Photo 10a: View looking northeasterly at TP-8 located on the fill slope of the utility pole. The I-5 southbound onramp is visible across the center.

Photo 10b: Looking northerly at the utility access along the eastern portion of the study area in the vicinity of TP-8.

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Photoplate 4
Site Photos
Mid I-5 Industrial Park CAR
Trammell Crow Portland Development, Inc.
Kelso, Cowlitz County, Washington

Photo 11a: Facing west from the berm along the southern fill boundary, upslope of TP-4. Vegetation generally consists of blackberries, Scot's broom, and occasional alder trees.

Photo 12a: Facing southeast at Wetland A from TP-3.

Photo 11b: Facing southwest from the same location as Photo 11a across Wetland A at the southern end of the study area.

Photo 12b: Facing south across Wetland A from TP-3.

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Photoplate 5
Site Photos
Mid I-5 Industrial Park CAR
Trammell Crow Portland Development, Inc.
Kelso, Cowlitz County, Washington

Photo 13: Facing north at the southern end of the western finger of Wetland A. The corner of the fill slope is visible at right.

Photo 14: Facing north at the western finger of Wetland A from TP-5. TP-5 is located on fill approximately 4 feet higher than Wetland A.

Photo 15: Facing north at the channel that extends through the southern portion of the western finger of Wetland A. This channel may be maintained by beavers.

Photo 16: Facing north at the central portion of the western finger of Wetland A that contains permanent water.

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Photoplate 6
Site Photos
Mid I-5 Industrial Park CAR
Trammell Crow Portland Development, Inc.
Kelso, Cowlitz County, Washington

Photo 17a: Facing south from the northern portion of the western finger of Wetland A. Limited vegetation is present on the fill slope.

Photo 17b: Facing north from the same location as Photo 17a. Permanent flooding transitions to seasonal flooding near the light brown vegetation pictured in the upper right.

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PROJ.#: 3665.02

Photoplate 7
Site Photos
Mid I-5 Industrial Park CAR
Trammell Crow Portland Development, Inc.
Kelso, Cowlitz County, Washington

APPENDIX A

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

Project/Site: Segale Delineation City/County: Kelso/Cowlitz County Sampling Date: 12/8/2021
Applicant/Owner: Trammell Crow Company State: WA Sampling Point: TP-1
Investigator(s): Baker, Erin; Taylor, Steffanie Section, Township, Range: S12, T07N, R02W
Landform (hillslope, terrace, etc.): Floodplain Local relief: (concave, convex, none): Convex Slope (%): 0-3 %
Subregion (LRR): A2 Lat: 46.0991345 Long: -122.8761587 Datum: NAD83
Soil Map Unit Name: Caples silty clay loam NWI classification: PEM1/SSC
Are climatic / hydrologic conditions on the site typical for this time of year? Yes☒ No☐ (If no, explain Remarks.)
Are Vegetation☐, Soil☐, or Hydrology☐ significantly disturbed? Are "Normal Circumstances" present? Yes☒ No☐
Are Vegetation☐, Soil☐, or Hydrology☐ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks: General study area is located on a large area of dredge spoils. TP-1 was selected to investigate a topographical low area in the southeast portion of the parcel. The feature apeared to be an abandoned excavated road bed. Neither hydric soils nor wetland hydrology were present; therefore, it was concluded that TP-1 was in an upland area.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Populus balsamifera*	40%	yes	FAC
2.	%		
3.	%		
4.	%		
50% = 20 20% = 8	40%	=Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft. radius)			
1.	%		
2.	%		
3.	%		
4.	%		
5.	%		
50% = ___ 20% = ___	%	=Total Cover	
Herb Stratum (Plot size: 5 ft radius)			
1. *Daucus carota*	15%	yes	FACU
2. *Various grasses**	10%	yes	FAC
3.	%		
4.	%		
5.	%		
6.	%		
7.	%		
8.	%		
9.	%		
10.	%		
11.	%		
50% = 13 20% = 5	25%	=Total Cover	
Woody Vine Stratum (Plot size: 15 ft radius)			
1.	%		
2.	%		
50% = ___ 20% = ___	%	=Total Cover	

% Bare Ground in Herb Stratum 75%

Dominance Test Worksheet

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC 67 (A/B)

Prevalence Index worksheet

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

Prevalence Index = B/A=

Hydrophytic Vegetation Indicators:

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

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

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

Remarks:*Various grasses have an assumed FAC indicator status. Bareground in the vicinity of TP-1 was covered in leaf litter.

SOIL

Sampling Point: TP-1

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16	10YR 4/3	100%		%			Sand	
		%		%				
		%		%				
		%		%				
		%		%				
		%		%				
		%		%				
		%		%				

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

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

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

Indicators for Problematic Hydric Soils

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

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

Restrictive Layer (if present):

Type: _____
Depth (inches):_____

Hydric Soil Present? **Yes☐ No☒**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

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

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

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

Remarks:

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

Project/Site: Segale Delineation City/County: Kelso/Cowlitz County Sampling Date: 12/8/2021
Applicant/Owner: Trammell Crow Company State: WA Sampling Point: TP-2
Investigator(s): Baker, Erin; Taylor, Steffanie Section, Township, Range: S12, T07N, R02W
Landform (hillslope, terrace, etc.): Floodplain Local relief: (concave, convex, none): Convex Slope (%): 0-3 %
Subregion (LRR): A2 Lat: 46.0981422 Long: -122.8758418 Datum: NAD83
Soil Map Unit Name: Caples silty clay loam NWI classification: PEM1/SSC
Are climatic / hydrologic conditions on the site typical for this time of year? Yes☒ No☐ (If no, explain Remarks.)
Are Vegetation☐, Soil☐, or Hydrology☐ significantly disturbed? Are "Normal Circumstances" present? Yes☒ No☐
Are Vegetation☐, Soil☐, or Hydrology☐ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks: General study area is located on a large area of dredge spoils.TP-2 was selected to investigate a topographical low area in the southeast portion of the parcel. No wetland indicators were present; therefore, it was concluded that TP-2 was in an upland area.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.	%		
2.	%		
3.	%		
4.	%		
50% = ___ 20% = ___	%	=Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft. radius)			
1. *Cytisus scoparius*	60%	yes	UPL
2.	%		
3.	%		
4.	%		
5.	%		
50% = 30 20% = 12	60%	=Total Cover	
Herb Stratum (Plot size: 5 ft radius)			
1. *Mosses*	100%		
2.	%		
3.	%		
4.	%		
5.	%		
6.	%		
7.	%		
8.	%		
9.	%		
10.	%		
11.	%		
50% = ___ 20% = ___	%	=Total Cover	
Woody Vine Stratum (Plot size: 15 ft radius)			
1.	%		
2.	%		
50% = ___ 20% = ___	%	=Total Cover	

% Bare Ground in Herb Stratum ____ %

Dominance Test Worksheet

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC 0 (A/B)

Prevalence Index worksheet

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

Prevalence Index = B/A=____

Hydrophytic Vegetation Indicators:

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

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

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

Remarks: Trace amount of annual weeds present.

SOIL

Sampling Point: TP-2

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-1	10YR 2/2	100%		%			Loam	
1-4	10YR 4/3	100%		%			Sand	
4-16	10YR 4/1	100%		%			Sand	
		%		%				
		%		%				
		%		%				
		%		%				
		%		%				

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

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

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

Indicators for Problematic Hydric Soils

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

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

Restrictive Layer (if present):

Type: _____
Depth (inches):_____

Hydric Soil Present? **Yes**☐ **No**☒

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

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

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

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

Remarks:

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

Project/Site: Segale Delineation | City/County: Kelso/Cowlitz County | Sampling Date: 12/8/2021
Applicant/Owner: Trammell Crow Company | State: WA | Sampling Point: TP-3
Investigator(s): Baker, Erin; Taylor, Steffanie | Section, Township, Range: S12, T07N, R02W
Landform (hillslope, terrace, etc.): Floodplain | Local relief: (concave, convex, none): Concave | Slope (%): 0-3 %
Subregion (LRR): A2 | Lat: 46.0977484 | Long: -122.8756122 | Datum: NAD83
Soil Map Unit Name: Caples silty clay loam | NWI classification: PEM1/SSC
Are climatic / hydrologic conditions on the site typical for this time of year? Yes☒ No☐ (If no, explain Remarks.)
Are Vegetation☐, Soil☐, or Hydrology☐ significantly disturbed? Are "Normal Circumstances" present? Yes☒ No☐
Are Vegetation☐, Soil☐, or Hydrology☐ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks: General study area is located on a large area of dredge spoils. TP-3, a paired plot with TP-4, was taken in near the southernmost extent of the parcel beyond the edge of dredge spoil placement and approximately 15 to 20 feet below the top of the dredge spoils. All wetland indicators were present; therefore, it was concluded that TP-3 was in a wetland.

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: 30 ft radius)			
1. *Salix spp.**	40%	yes	FAC
2.	%		
3.	%		
4.	%		
50% = 20 20% = 8	40%	=Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft. radius)			
1. *Cornus sericea*	30%	yes	FACW
2. *Spirea douglasii*	15%	yes	FACW
3.	%		
4.	%		
5.	%		
50% = 23 20% = 9	45%	=Total Cover	
Herb Stratum (Plot size: 5 ft radius)			
1. *Lemna minor*	50%	yes	OBL
2. *Phalaris arundinacea*	20%	yes	FACW
3. *Typha latifolia*	10%	no	OBL
4.	%		
5.	%		
6.	%		
7.	%		
8.	%		
9.	%		
10.	%		
11.	%		
50% = 40 20% = 16	80%	=Total Cover	
Woody Vine Stratum (Plot size: 15 ft radius)			
1.	%		
2.	%		
50% = ___ 20% = ___	%	=Total Cover	

% Bare Ground in Herb Stratum 20**%

Dominance Test Worksheet

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

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

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

Prevalence Index worksheet

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

Prevalence Index = B/A=

Hydrophytic Vegetation Indicators:

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

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

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

Remarks:*Salix spp. has an assumed FAC indicator status. **Bare ground consists of open water.

SOIL

Sampling Point: TP-3

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

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

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

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

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

Indicators for Problematic Hydric Soils

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

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

Restrictive Layer (if present):

Type: _____
Depth (inches):_____

Hydric Soil Present? **Yes☒ No☐**

Remarks: 1 inch of standing water present at test pit location. Soils unconsolidated, unable to color or differentiate matrix features.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

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

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

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

Remarks:Up to 6 inches of surface water present within test plot radius.

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

Project/Site: Segale Delineation City/County: Kelso/Cowlitz County Sampling Date: 12/8/2021
Applicant/Owner: Trammell Crow Company State: WA Sampling Point: TP-4
Investigator(s): Baker, Erin; Taylor, Steffanie Section, Township, Range: S12, T07N, R02W
Landform (hillslope, terrace, etc.): Floodplain Local relief: (concave, convex, none): Convex Slope (%): 0-3 %
Subregion (LRR): A2 Lat: 46.0977601 Long: -122.8756306 Datum: NAD83
Soil Map Unit Name: Caples silty clay loam NWI classification: PEM1/SSC
Are climatic / hydrologic conditions on the site typical for this time of year? Yes☒ No☐ (If no, explain Remarks.)
Are Vegetation☐, Soil☐, or Hydrology☐ significantly disturbed? Are "Normal Circumstances" present? Yes☒ No☐
Are Vegetation☐, Soil☐, or Hydrology☐ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks: General study area is located on a large area of dredge spoils. TP-4 was taken near the southernmost extent of the parcel on a steep slope approximately 7 feet above TP-3. Neither hydric soil nor wetland hydrology were present; therefore, it was concluded that TP-4 was in an upland area.

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: 30 ft radius)			
1. *Salix spp.**	40%	yes	FAC
2.	%		
3.	%		
4.	%		
50% = 20 20% = 8	40%	=Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft. radius)			
1.	%		
2.	%		
3.	%		
4.	%		
5.	%		
50% = ___ 20% = ___	%	=Total Cover	
Herb Stratum (Plot size: 5 ft radius)			
1. *Various grasses and mosses**	55%	yes	FAC
2. *Phalaris arundinacea*	30%	yes	FACW
3. *Cirsium vulgare*	15%	no	FACU
4.	%		
5.	%		
6.	%		
7.	%		
8.	%		
9.	%		
10.	%		
11.	%		
50% = 50 20% = 20	100%	=Total Cover	
Woody Vine Stratum (Plot size: 15 ft radius)			
1. *Rubus armeniacus*	40%	yes	FAC
2.	%		
50% = 20 20% = 8	40%	=Total Cover	

% Bare Ground in Herb Stratum 0%

Dominance Test Worksheet

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

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

Prevalence Index worksheet

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

Prevalence Index = B/A=

Hydrophytic Vegetation Indicators:

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

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

Hydrophytic Vegetation Present? Yes☒ No☐

Remarks:*Assumed FAC indicator status.

SOIL

Sampling Point: TP-4

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2	10YR 2/1	100%		%			Sandy loam	
2-16	10YR 4/1	100%		%			Sand	
		%		%				
		%		%				
		%		%				
		%		%				
		%		%				
		%		%				

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

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

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

Indicators for Problematic Hydric Soils

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

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

Restrictive Layer (if present):

Type: _____
Depth (inches):_____

Hydric Soil Present? **Yes☐ No☒**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

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

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

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

Remarks:

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

Project/Site: Segale Delineation City/County: Kelso/Cowlitz County Sampling Date: 12/8/2021
Applicant/Owner: Trammell Crow Company State: WA Sampling Point: TP-5
Investigator(s): Baker, Erin; Taylor, Steffanie Section, Township, Range: S12, T07N, R02W
Landform (hillslope, terrace, etc.): Floodplain Local relief: (concave, convex, none): Convex Slope (%): 0-3 %
Subregion (LRR): A2 Lat: 46.0979105 Long: -122.8775998 Datum: NAD83
Soil Map Unit Name: Caples silty clay loam NWI classification: PEM1/SSC
Are climatic / hydrologic conditions on the site typical for this time of year? Yes☒ No☐ (If no, explain Remarks.)
Are Vegetation☐, Soil☐, or Hydrology☐ significantly disturbed? Are "Normal Circumstances" present? Yes☒ No☐
Are Vegetation☐, Soil☐, or Hydrology☐ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks: General study area is located on a large area of dredge spoils. TP-5 was taken in the southwest portion of the parcel on a steep slope approximately 4 feet above TP-6. Neither hydric soil nor wetland hydrology were present; therefore, it was concluded that TP-5 was in an upland area

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: 30 ft radius)			
1. *Alnus rubra*	30%	yes	FAC
2.	%		
3.	%		
4.	%		
50% = 15 20% = 6	30%	=Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft. radius)			
1. *Cytisus scoparius*	20%	yes	UPL
2.	%		
3.	%		
4.	%		
5.	%		
50% = 10 20% = 4	20%	=Total Cover	
Herb Stratum (Plot size: 5 ft radius)			
1. *Various grasses and weeds**	90%	yes	FAC
2.	%		
3.	%		
4.	%		
5.	%		
6.	%		
7.	%		
8.	%		
9.	%		
10.	%		
11.	%		
50% = 45 20% = 18	90%	=Total Cover	
Woody Vine Stratum (Plot size: 15 ft radius)			
1. *Rubus armeniacus*	30%	yes	FAC
2.	%		
50% = 15 20% = 6	30%	=Total Cover	

% Bare Ground in Herb Stratum 10%

Dominance Test Worksheet

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

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC 75 (A/B)

Prevalence Index worksheet

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

Prevalence Index = B/A=

Hydrophytic Vegetation Indicators:

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

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

Hydrophytic Vegetation Present? Yes☒ No☐

Remarks:*Asssumed FAC indicator status.

SOIL

Sampling Point: TP--5

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-15	10YR 4/2	100%		%			Sand	
15-16	10YR 4/1	98%		%			Sand	
	10YR5/3	2%		%			Clay	See Remarks Below
		%		%				
		%		%				
		%		%				
		%		%				
		%		%				

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

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

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

Indicators for Problematic Hydric Soils

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

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

Restrictive Layer (if present):

Type: _____
Depth (inches):_____

Hydric Soil Present? **Yes☐ No☒**

Remarks: Clay inclusions present between 15 and 15 inches depth.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

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

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

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

Remarks:

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

Project/Site: Segale Delineation City/County: Kelso/Cowlitz County Sampling Date: 12/8/2021
Applicant/Owner: Trammell Crow Company State: WA Sampling Point: TP-6
Investigator(s): Baker, Erin; Taylor, Steffanie Section, Township, Range: S12, T07N, R02W
Landform (hillslope, terrace, etc.): Floodplain Local relief: (concave, convex, none): Concave Slope (%): 0-3 %
Subregion (LRR): A2 Lat: 46.0979098 Long: -122.8776484 Datum: NAD83
Soil Map Unit Name: Caples silty clay loam NWI classification: PEM1/SSC
Are climatic / hydrologic conditions on the site typical for this time of year? Yes☒ No☐ (If no, explain Remarks.)
Are Vegetation☐, Soil☐, or Hydrology☐ significantly disturbed? Are "Normal Circumstances" present? Yes☒ No☐
Are Vegetation☐, Soil☐, or Hydrology☐ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks: General study area is located on a large area of dredge spoils. TP-6, a paired plot with TP-5, was taken in the southwest portion of the parcel. TP-6 is located approximately 4 feet lower in elevation than TP-5 and is beyond dredge spoil slope. Evidence of beaver activity in the vicinity of TP-6All wetland indicators were present; therefore, it was concluded that TP-6 was in a wetland.

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: 30 ft radius)			
1. *Salix spp.**	60%	yes	FAC
2. *Alnus rubra*	30%	yes	FAC
3.	%		
4.	%		
50% = 45 20% = 18	90%	=Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft. radius)			
1. *Cornus sericea*	30%	yes	FACW
2. *Alnus rubra*	10%	yes	FAC
3.	%		
4.	%		
5.	%		
50% = 20 20% = 8	40%	=Total Cover	
Herb Stratum (Plot size: 5 ft radius)			
1. *Phalaris arundinacea*	20%	yes	FACW
2. *Various weeds**	15%	yes	FAC
3.	%		
4.	%		
5.	%		
6.	%		
7.	%		
8.	%		
9.	%		
10.	%		
11.	%		
50% = 18 20% = 7	35%	=Total Cover	
Woody Vine Stratum (Plot size: 15 ft radius)			
1.	%		
2.	%		
50% = ___ 20% = ___	%	=Total Cover	

% Bare Ground in Herb Stratum 65%

Dominance Test Worksheet

Number of Dominant Species That Are OBL, FACW, or FAC: 6 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

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

Prevalence Index worksheet

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

Prevalence Index = B/A=

Hydrophytic Vegetation Indicators:

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

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

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

Remarks:*Assumed FAC indicator status.

SOIL

Sampling Point: TP-6

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 3/3	100%		%			Sandy Loam	
6-10	10YR 3/1	90%	7.5YR 4/6	10%	C	M	Clayey Sand	See Remarks Below
10-16	Gley1 4/N	95%	10YR 4/2	5%	C	M	Fine Sand	
		%		%				
		%		%				
		%		%				
		%		%				
		%		%				

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

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

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

Indicators for Problematic Hydric Soils

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

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

Restrictive Layer (if present):

Type: _____
Depth (inches):_____

Hydric Soil Present? **Yes☒ No☐**

Remarks: Ample roots in first layer of soil profile.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

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

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

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

Remarks:

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

Project/Site: Segale Delineation City/County: Kelso/Cowlitz County Sampling Date: 12/8/2021
Applicant/Owner: Trammell Crow Company State: WA Sampling Point: TP-7
Investigator(s): Baker, Erin; Taylor, Steffanie Section, Township, Range: S12, T07N, R02W
Landform (hillslope, terrace, etc.): Floodplain Local relief: (concave, convex, none): Concave Slope (%): 0-3 %
Subregion (LRR): A2 Lat: 46.1030139 Long: -122.8778142 Datum: NAD83
Soil Map Unit Name: Caples silty clay loam NWI classification: PEM1/SSC
Are climatic / hydrologic conditions on the site typical for this time of year? Yes☒ No☐ (If no, explain Remarks.)
Are Vegetation☐, Soil☐, or Hydrology☐ significantly disturbed? Are "Normal Circumstances" present? Yes☒ No☐
Are Vegetation☐, Soil☐, or Hydrology☐ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks: General study area is located on a large area of dredge spoils. The eastern portion of the study area also contains fill for utility pole maintenance access. TP-7 is located beyond the fill slope. TP-7, a paired plot with TP-8, was taken in along the eastern boundary of the parcel. All wetland indicators were present; therefore, it was concluded that TP-7 was in a wetland.

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: 30 ft radius)			
1. *Salix spp.**	15%	yes	FAC
2.	%		
3.	%		
4.	%		
50% = 8 20% = 3	15%	=Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft. radius)			
1. *Spiraea douglasii*	30%	yes	FACW
2.	%		
3.	%		
4.	%		
5.	%		
50% = 15 20% = 6	30%	=Total Cover	
Herb Stratum (Plot size: 5 ft radius)			
1. *Phalaris arundinacea*	75%	yes	FACW
2. *Juncus effusus*	15%	no	FACW
3. *Typha latifolia*	10%	no	OBL
4.	%		
5.	%		
6.	%		
7.	%		
8.	%		
9.	%		
10.	%		
11.	%		
50% = 50 20% = 20	100%	=Total Cover	
Woody Vine Stratum (Plot size: 15 ft radius)			
1.	%		
2.	%		
50% = ___ 20% = ___	%	=Total Cover	

% Bare Ground in Herb Stratum 0%

Dominance Test Worksheet

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

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

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

Prevalence Index worksheet

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

Prevalence Index = B/A=

Hydrophytic Vegetation Indicators:

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

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

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

Remarks:*Assumed FAC indicator status.

SOIL

Sampling Point: TP-7

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 4/1	90%		%			Coarse Sand	
	7.5YR 2.5/2	10%		%			Silty Sand	See Remarks Below
		%		%				
		%		%				
		%		%				
		%		%				
		%		%				
		%		%				

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

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

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

Indicators for Problematic Hydric Soils

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

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

Restrictive Layer (if present):

Type: _____
Depth (inches):_____

Hydric Soil Present? **Yes☒ No☐**

Remarks: Soils between 0 and 6 inches are part of a mixed matrix. Soils below 6 inches were unconsolidated, unable to color or differentiate matrix features.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present?	Yes ☐	No ☒	Depth (Inches): _____
Water Table Present?	Yes ☒	No ☐	Depth (Inches): 4
Saturation Present? (Includes Capillary fringe)	Yes ☒	No ☐	Depth (Inches): 2

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

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

Remarks:

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

Project/Site: Segale Delineation City/County: Kelso/Cowlitz County Sampling Date: 12/8/2021
Applicant/Owner: Trammell Crow Company State: WA Sampling Point: TP-8
Investigator(s): Baker, Erin; Taylor, Steffanie Section, Township, Range: S12, T07N, R02W
Landform (hillslope, terrace, etc.): Floodplain Local relief: (concave, convex, none): Convex Slope (%): 0-3 %
Subregion (LRR): A2 Lat: 46.1029728 Long: -122.8778659 Datum: NAD83
Soil Map Unit Name: Caples silty clay loam NWI classification: PEM1/SSC
Are climatic / hydrologic conditions on the site typical for this time of year? Yes☒ No☐ (If no, explain Remarks.)
Are Vegetation☐, Soil☐, or Hydrology☐ significantly disturbed? Are "Normal Circumstances" present? Yes☒ No☐
Are Vegetation☐, Soil☐, or Hydrology☐ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks: General study area is located on a large area of dredge spoils. The eastern portion of the study area also contains fill for utility pole maintenance access. TP-8 was taken along the eastern boundary of the parcel on a steep slope approximately 6 feet above TP-7. Neither hydric soil nor wetland hydrology were present; therefore, it was concluded that TP-8 was in an upland area.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.	%		
2.	%		
3.	%		
4.	%		
50% = ___ 20% = ___	%	=Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft. radius)			
1.	%		
2.	%		
3.	%		
4.	%		
5.	%		
50% = ___ 20% = ___	%	=Total Cover	
Herb Stratum (Plot size: 5 ft radius)			
1. *Phalaris arundinacea*	60%	yes	FACW
2. *Galium aparine*	15%	no	FACU
3. *Dipsacus fullonum*	15%	no	FAC
4. *Equisetum arvense*	10%	no	FAC
5.	%		
6.	%		
7.	%		
8.	%		
9.	%		
10.	%		
11.	%		
50% = 50 20% = 20	100%	=Total Cover	
Woody Vine Stratum (Plot size: 15 ft radius)			
1. *Rubus armeniacus*	60%	yes	FAC
2.	%		
50% = 30 20% = 12	60%	=Total Cover	

% Bare Ground in Herb Stratum 0%

Dominance Test Worksheet

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

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

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

Prevalence Index worksheet

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

Prevalence Index = B/A=

Hydrophytic Vegetation Indicators:

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

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

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

Remarks:

SOIL

Sampling Point: TP-8

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

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

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

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

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

Indicators for Problematic Hydric Soils

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

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

Restrictive Layer (if present):

Type: _____
Depth (inches):_____

Hydric Soil Present? **Yes☐ No☒**

Remarks: Profile consists entirely of gravel fill. Test plot is located approximately 6 feet higher in elevation than the adjacent wetland plot.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

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

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

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

Remarks:

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

Project/Site: Segale Delineation City/County: Kelso/Cowlitz County Sampling Date: 12/8/2021
Applicant/Owner: Trammell Crow Company State: WA Sampling Point: TP-9
Investigator(s): Baker, Erin; Taylor, Steffanie Section, Township, Range: S12, T07N, R02W
Landform (hillslope, terrace, etc.): Floodplain Local relief: (concave, convex, none): Concave Slope (%): 0-3 %
Subregion (LRR): A2 Lat: 46.1058508 Long: -122.8814694 Datum: NAD83
Soil Map Unit Name: Caples silty clay loam NWI classification: PEM1/SSC
Are climatic / hydrologic conditions on the site typical for this time of year? Yes☒ No☐ (If no, explain Remarks.)
Are Vegetation☐, Soil☐, or Hydrology☐ significantly disturbed? Are "Normal Circumstances" present? Yes☒ No☐
Are Vegetation☐, Soil☐, or Hydrology☐ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks: General study area is located on a large area of dredge spoils. The eastern portion of the study area also contains fill for utility pole maintenance access. TP-9 is located beyond the fill slope. TP-9, a paired plot with TP-10, was taken along the northeastern boundary of the parcel. All wetland indicators were present; therefore, it was concluded that TP-9 was in a wetland.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.	%		
2.	%		
3.	%		
4.	%		
50% = ___ 20% = ___	%	=Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft. radius)			
1. *Populus balsamifera*	15%	yes	FAC
2.	%		
3.	%		
4.	%		
5.	%		
50% = 8 20% = 3	15%	=Total Cover	
Herb Stratum (Plot size: 5 ft radius)			
1. *Phalaris arundinacea*	65%	yes	FACW
2. *Lemma minor*	20%	yes	OBL
3. *Juncus effusus*	10%	no	FACW
4.	%		
5.	%		
6.	%		
7.	%		
8.	%		
9.	%		
10.	%		
11.	%		
50% = 48 20% = 19	95%	=Total Cover	
Woody Vine Stratum (Plot size: 15 ft radius)			
1.	%		
2.	%		
50% = ___ 20% = ___	%	=Total Cover	

% Bare Ground in Herb Stratum 5*%

Dominance Test Worksheet

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

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

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

Prevalence Index worksheet

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

Prevalence Index = B/A=

Hydrophytic Vegetation Indicators:

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

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

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

Remarks:*Bareground consisted of open water.

SOIL

Sampling Point: TP-9

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

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

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

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

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

Indicators for Problematic Hydric Soils

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

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

Restrictive Layer (if present):

Type: _____
Depth (inches):_____

Hydric Soil Present? **Yes☒ No☐**

Remarks: Test plot area inundated with approximately 6 inches of water. No test pit dug, soils assumed hydric.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present?	Yes ☒	No ☐	Depth (Inches): 6
Water Table Present?	Yes ☐	No ☐	Depth (Inches): _____
Saturation Present? (Includes Capillary fringe)	Yes ☐	No ☐	Depth (Inches): _____

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

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

Remarks:

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

Project/Site: Segale Delineation City/County: Kelso/Cowlitz County Sampling Date: 12/8/2021
Applicant/Owner: Trammell Crow Company State: WA Sampling Point: TP-10
Investigator(s): Baker, Erin; Taylor, Steffanie Section, Township, Range: S12, T07N, R02W
Landform (hillslope, terrace, etc.): Floodplain Local relief: (concave, convex, none): Convex Slope (%): 0-3 %
Subregion (LRR): A2 Lat: 46.1058234 Long: -122.8816031 Datum: NAD83
Soil Map Unit Name: Caples silty clay loam NWI classification: PEM1/SSC
Are climatic / hydrologic conditions on the site typical for this time of year? Yes☒ No☐ (If no, explain Remarks.)
Are Vegetation☐, Soil☐, or Hydrology☐ significantly disturbed? Are "Normal Circumstances" present? Yes☒ No☐
Are Vegetation☐, Soil☐, or Hydrology☐ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks: General study area is located on a large area of dredge spoils. The eastern portion of the study area also contains fill for utility pole maintenance access.TP-10 is located beyond the fill slope. TP-10 was taken near the northeastern boundary of the parcel on a steep slope approximately 15 feet above TP-9. Neither hydric soil nor wetland hydrology were present; therefore, it was concluded that TP-10 was in an upland area

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: 30 ft radius)			
1. *Pseudotsuga menziesii*	45%	yes	FACU
2.	%		
3.	%		
4.	%		
50% = 23 20% = 9	45%	=Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft. radius)			
1. *Populus balsamifera*	20%	yes	FAC
2.	%		
3.	%		
4.	%		
5.	%		
50% = 10 20% = 4	20%	=Total Cover	
Herb Stratum (Plot size: 5 ft radius)			
1. *Various weeds**	50%	yes	FAC
2.	%		
3.	%		
4.	%		
5.	%		
6.	%		
7.	%		
8.	%		
9.	%		
10.	%		
11.	%		
50% = 25 20% = 10	50%	=Total Cover	
Woody Vine Stratum (Plot size: 15 ft radius)			
1.	%		
2.	%		
50% = ___ 20% = ___	%	=Total Cover	

% Bare Ground in Herb Stratum 50%

Dominance Test Worksheet

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC 67 (A/B)

Prevalence Index worksheet

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

Prevalence Index = B/A=

Hydrophytic Vegetation Indicators:

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

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

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

Remarks:*Assumed FAC indicator status.

SOIL

Sampling Point: TP-10

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16	10YR 4/1	100%		%			Sand	
		%		%				
		%		%				
		%		%				
		%		%				
		%		%				
		%		%				
		%		%				

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

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

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

Indicators for Problematic Hydric Soils

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

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

Restrictive Layer (if present):

Type: _____
Depth (inches):_____

Hydric Soil Present? **Yes☐ No☒**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

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

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

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

Remarks:

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

Project/Site: Segale Delineation | City/County: Kelso/Cowlitz County | Sampling Date: 12/8/2021
Applicant/Owner: Trammell Crow Company | State: WA | Sampling Point: TP-11
Investigator(s): Baker, Erin; Taylor, Steffanie | Section, Township, Range: S12, T07N, R02W
Landform (hillslope, terrace, etc.): Floodplain | Local relief: (concave, convex, none): Concave | Slope (%): 0-3 %
Subregion (LRR): A2 | Lat: 46.1033284 | Long: -122.8858642 | Datum: NAD83
Soil Map Unit Name: Caples silty clay loam | NWI classification: PFOC
Are climatic / hydrologic conditions on the site typical for this time of year? Yes☒ No☐ (If no, explain Remarks.)
Are Vegetation☐, Soil☐, or Hydrology☐ significantly disturbed? Are "Normal Circumstances" present? Yes☒ No☐
Are Vegetation☐, Soil☐, or Hydrology☐ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks: General study area is located on a large area of dredge spoils. TP-11, a paired plot with TP-12, was taken in the northwestern portion of the study area beyond the base of the slope near the parcel boundary. All wetland indicators were present; therefore, it was concluded that TP-11 was in a wetland.

VEGETATION – Use scientific names of plants.

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

% Bare Ground in Herb Stratum 80*%

Dominance Test Worksheet

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

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

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

Prevalence Index worksheet

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

Prevalence Index = B/A=

Hydrophytic Vegetation Indicators:

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

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

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

Remarks:*The area surrounding the test plot was approximately 80% open water.

SOIL

Sampling Point: TP-11

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

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

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

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

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

Indicators for Problematic Hydric Soils

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

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

Restrictive Layer (if present):

Type: _____
Depth (inches):_____

Hydric Soil Present? **Yes☒ No☐**

Remarks: Test plot area inundated with approximately 8 inches of water. No test pit dug, soils assumed hydric.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

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

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

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

Remarks:

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

Project/Site: Segale Delineation City/County: Kelso/Cowlitz County Sampling Date: 12/8/2021
Applicant/Owner: Trammell Crow Company State: WA Sampling Point: TP-12
Investigator(s): Baker, Erin; Taylor, Steffanie Section, Township, Range: S12, T07N, R02W
Landform (hillslope, terrace, etc.): Floodplain Local relief: (concave, convex, none): Convex Slope (%): 0-3 %
Subregion (LRR): A2 Lat: 46.1033939 Long: -122.8858356 Datum: NAD83
Soil Map Unit Name: Caples silty clay loam NWI classification: PFOC
Are climatic / hydrologic conditions on the site typical for this time of year? Yes☒ No☐ (If no, explain Remarks.)
Are Vegetation☐, Soil☐, or Hydrology☐ significantly disturbed? Are "Normal Circumstances" present? Yes☒ No☐
Are Vegetation☐, Soil☐, or Hydrology☐ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks: General study area is located on a large area of dredge spoils. TP-12 was taken near the northwestern boundary of the parcel on a steep slope approximately 6 feet above TP-11. Neither hydric soil nor wetland hydrology were present; therefore, it was concluded that TP-12 was in an upland area

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.	%		
2.	%		
3.	%		
4.	%		
50% = ___ 20% = ___	%	=Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft. radius)			
1. *Cystisus scoparius*	25%	yes	UPL
2.	%		
3.	%		
4.	%		
5.	%		
50% = 13 20% = 5	25%	=Total Cover	
Herb Stratum (Plot size: 5 ft radius)			
1. *Holcus lanatus*	75%	yes	FAC
2. *Rubus ursinus*	15%	no	FACU
3. *Dipsacus fullonum*	10%	no	FAC
4.	%		
5.	%		
6.	%		
7.	%		
8.	%		
9.	%		
10.	%		
11.	%		
50% = 50 20% = 20	100%	=Total Cover	
Woody Vine Stratum (Plot size: 15 ft radius)			
1. *Rubus armeniacus*	40%	yes	FAC
2.	%		
50% = 20 20% = 8	40%	=Total Cover	

% Bare Ground in Herb Stratum 0%

Dominance Test Worksheet

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC 67 (A/B)

Prevalence Index worksheet

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

Prevalence Index = B/A=

Hydrophytic Vegetation Indicators:

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

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

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

Remarks:

SOIL

Sampling Point: TP-12

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16	10YR 4/3	100%		%			Sand	
		%		%				
		%		%				
		%		%				
		%		%				
		%		%				
		%		%				
		%		%				

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

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

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

Indicators for Problematic Hydric Soils

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

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

Restrictive Layer (if present):

Type: _____
Depth (inches):_____

Hydric Soil Present? **Yes☐ No☒**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

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

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

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

Remarks:

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

Project/Site: Segale Delineation City/County: Kelso/Cowlitz County Sampling Date: 12/8/2021
Applicant/Owner: Trammell Crow Company State: WA Sampling Point: TP-13
Investigator(s): Baker, Erin; Taylor, Steffanie Section, Township, Range: S12, T07N, R02W
Landform (hillslope, terrace, etc.): Floodplain Local relief: (concave, convex, none): Convex Slope (%): 0-3 %
Subregion (LRR): A2 Lat: 46.1033239 Long: -122.8806658 Datum: NAD83
Soil Map Unit Name: Caples silty clay loam NWI classification: PFOC
Are climatic / hydrologic conditions on the site typical for this time of year? Yes☒ No☐ (If no, explain Remarks.)
Are Vegetation☐, Soil☐, or Hydrology☐ significantly disturbed? Are "Normal Circumstances" present? Yes☒ No☐
Are Vegetation☐, Soil☐, or Hydrology☐ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks: General study area is located on a large area of dredge spoils. TP-13 was taken as an overall representation of the central part of the parcel. Neither hydric soils nor wetland hydrology were present; therefore, it was concluded that TP-13 was located in an upland area.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.	%		
2.	%		
3.	%		
4.	%		
50% = ___ 20% = ___	%	=Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft. radius)			
1. *Cytisus scoparius*	40%	yes	UPL
2. *Alnus rubra*	20%	yes	FAC
3.	%		
4.	%		
5.	%		
50% = 30 20% = 12	60%	=Total Cover	
Herb Stratum (Plot size: 5 ft radius)			
1. *Various grasses and mosses**	100%	yes	FAC
2.	%		
3.	%		
4.	%		
5.	%		
6.	%		
7.	%		
8.	%		
9.	%		
10.	%		
11.	%		
50% = 50 20% = 20	100%	=Total Cover	
Woody Vine Stratum (Plot size: 15 ft radius)			
1.	%		
2.	%		
50% = ___ 20% = ___	%	=Total Cover	

% Bare Ground in Herb Stratum 0%

Dominance Test Worksheet

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC 67 (A/B)

Prevalence Index worksheet

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

Prevalence Index = B/A=

Hydrophytic Vegetation Indicators:

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

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

Hydrophytic Vegetation Present? Yes☒ No☐

Remarks:*Assumed FAC indicator status.

SOIL

Sampling Point: TP-13

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16	10YR 4/1	100%		%			Sand	
		%		%				
		%		%				
		%		%				
		%		%				
		%		%				
		%		%				
		%		%				

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

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

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

Indicators for Problematic Hydric Soils

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

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

Restrictive Layer (if present):

Type: _____
Depth (inches):_____

Hydric Soil Present? **Yes☐ No☒**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

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

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

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

Remarks:

APPENDIX B

Wetland name or number A

RATING SUMMARY – Western Washington

Name of wetland (or ID #): Wetland A Date of site visit: 11/30/21

Rated by S. Taylor Trained by Ecology? X Date of training 2012

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

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

OVERALL WETLAND CATEGORY II (based on functions X or special characteristics _)

1. Category of wetland based on FUNCTIONS

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

X **Category II** – Total score = 20 – 22

_____**Category III** – Total score = 16 – 19

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

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
	Circle the appropriate ratings			
Site Potential	H (M) L	H M (L)	H (M) L	
Landscape Potential	(H) M L	(H) M L	H (M) L	
Value	(H) M L	H (M) L	(H) M L	**TOTAL**
Score Based on Ratings	**8**	**6**	**7**	**21**

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

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

2. Category based on SPECIAL CHARACTERISTICS of wetland

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

Wetland name or number A

Maps and figures required to answer questions correctly for Western Washington

Depressional Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	D 1.3, H 1.1, H 1.4	6
Hydroperiods	D 1.4, H 1.2	6
Location of outlet (*can be added to map of hydroperiods)*	D 1.1, D 4.1	6
Boundary of area within 150 ft of the wetland *(can be added to another figure)*	D 2.2, D 5.2	6
Map of the contributing basin Includes entire Coweeman River watershed	D 4.3, D 5.3	--
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	7
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	8
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	D 3.3	8

Riverine Wetlands

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

Lake Fringe Wetlands

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

Slope Wetlands

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

Wetland name or number A

HGM Classification of Wetlands in Western Washington

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Wetland name or number A

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

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

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

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

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

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

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

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

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

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

Wetland name or number A

DEPRESSIONAL AND FLATS WETLANDS

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

D 1.0. Does the site have the potential to improve water quality?	
D 1.1. Characteristics of surface water outflows from the wetland: Wetland is a depression or flat depression (QUESTION 7 on key) with no surface water leaving it (no outlet). points = 3 Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet. points = 2 Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing points = 1 Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch. points = 1	**1**
D 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic *(use NRCS definitions)*. Yes = 4 No = 0	**0**
D 1.3. Characteristics and distribution of persistent plants (Emergent, Scrub-shrub, and/or Forested Cowardin classes): Wetland has persistent, ungrazed, plants > 95% of area points = 5 Wetland has persistent, ungrazed, plants > ½ of area points = 3 Wetland has persistent, ungrazed plants > 1/10 of area points = 1 Wetland has persistent, ungrazed plants < 1/10 of area points = 0	**3**
D 1.4. Characteristics of seasonal ponding or inundation: Most of ponding is permanent *This is the area that is ponded for at least 2 months. See description in manual.* Area seasonally ponded is > ½ total area of wetland points = 4 Area seasonally ponded is > ¼ total area of wetland points = 2 Area seasonally ponded is < ¼ total area of wetland points = 0	**2**
Total for D 1 Add the points in the boxes above	**6**

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

D 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	**0**
D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions D 2.1-D 2.3? Source waterfowl concentrations Yes = 1 No = 0	**1**
Total for D 2 Add the points in the boxes above	**3**

Rating of Landscape Potential If score is: __X__ **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 (*answer YES if there is a TMDL for the basin in which the unit is found*)? Yes = 2 No = 0	**0**
Total for D 3 Add 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*

Wetland name or number A

DEPRESSIONAL AND FLATS WETLANDS

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

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

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

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

D 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 (residential at >1 residence/ac, urban, commercial, agriculture, etc.)? Yes = 1 No = 0	**1**
Total for D 5 Add the points in the boxes above	**3**

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

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

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

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

Wetland name or number A

These questions apply to wetlands of all HGM classes.

HABITAT FUNCTIONS - Indicators that site functions to provide important habitat

H 1.0. Does the site have the potential to provide habitat?

H 1.1. Structure of plant community: *Indicators are Cowardin classes and strata within the Forested class.* Check the Cowardin plant classes in the wetland. *Up to 10 patches may be combined for each class to meet the threshold of ¼ ac or more than 10% of the unit if it is smaller than 2.5 ac. Add the number of structures checked.*

__X__ Aquatic bed — 4 structures or more: points = 4
__X__ Emergent — 3 structures: points = 2
__X__ Scrub-shrub (areas where shrubs have > 30% cover) — 2 structures: points = 1
____ Forested (areas where trees have > 30% cover) 1 structure: points = 0

If the unit has a Forested class, check if:

____ The Forested class has 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover) that each cover 20% within the Forested polygon

FO areas are not >1/4ac and or do not have >30% cover within polygon.

2

H 1.2. Hydroperiods

Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or ¼ ac to count (*see text for descriptions of hydroperiods*).

__X__ Permanently flooded or inundated — 4 or more types present: points = 3
__X__ Seasonally flooded or inundated — 3 types present: points = 2
_____ Occasionally flooded or inundated — 2 types present: points = 1
__X__ Saturated only — 1 type present: points = 0
___ Permanently flowing stream or river in, or adjacent to, the wetland Not 10% or ¼ acre of unit
____ Seasonally flowing stream in, or adjacent to, the wetland
____ **Lake Fringe wetland** — **2 points**
____ **Freshwater 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.

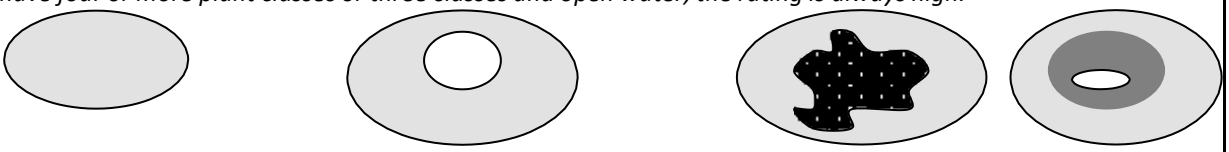
Different patches of the same species can be combined to meet the size threshold and you do not have to name the species. ***Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Canadian thistle***

If you counted: > 19 species — points = 2
5 - 19 species — points = 1
< 5 species — points = 0

2

H 1.4. Interspersion of habitats

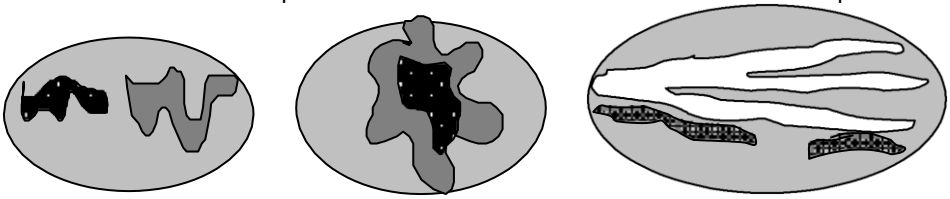
Decide from the diagrams below whether interspersion among Cowardin plants classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, moderate, low, or none. *If you have four or more plant classes or three classes and open water, the rating is always high.*



None = 0 points

Low = 1 point

Moderate = 2 points



All three diagrams in this row are **HIGH** = 3points

3

Wetland name or number A

H 1.5. Special habitat features: Check the habitat features that are present in the wetland. *The number of checks is the number of points.* _X___Large, downed, woody debris within the wetland (> 4 in diameter and 6 ft long). _X___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) _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 *(cut shrubs or trees that have not yet weathered where wood is exposed)* __X_At least ¼ ac of thin-stemmed persistent plants or woody branches are present in areas that are permanently or seasonally inundated *(structures for egg-laying by amphibians)* ____Invasive plants cover less than 25% of the wetland area in every stratum of plants (*see H 1.1 for list of strata*)	**4**
Total for H 1 Add the points in the boxes above	**13**

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

H 2.0. Does the landscape have the potential to support the habitat functions of the site?	
H 2.1. Accessible habitat (include *only habitat that directly abuts wetland unit*). *Calculate:* % undisturbed habitat_0__ **+** [(% moderate and low intensity land uses)/2]2.3__ **= __2.3___**% If total accessible habitat is: > 1/3 (33.3%) of 1 km Polygon points = 3 20-33% of 1 km Polygon points = 2 10-19% of 1 km Polygon points = 1 < 10% of 1 km Polygon points = 0	**0**
H 2.2. Undisturbed habitat in 1 km Polygon around the wetland. *Calculate:* % undisturbed habitat 26.8 **+** [(% moderate and low intensity land uses)/2]19.3 **= __46.1__**% Undisturbed habitat > 50% of Polygon points = 3 Undisturbed habitat 10-50% and in 1-3 patches points = 2 Undisturbed habitat 10-50% and > 3 patches points = 1 Undisturbed habitat < 10% of 1 km Polygon points = 0	**1**
H 2.3. Land use intensity in 1 km Polygon: If > 50% of 1 km Polygon is high intensity land use points = (- 2) ≤ 50% of 1 km Polygon is high intensity points = 0	**0**
Total for H 2 Add the points in the boxes above	**1**

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

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

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

Wetland name or number A

WDFW Priority Habitats

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

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

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

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

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

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

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

__Ξ__**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*).

__Ξ__**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.

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

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

Wetland name or number A

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

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

Wetland name or number A

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

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