

Delineation of Wetlands and Other Waters for:

**Proposed Ewing Young Park Bridge
over Chehalem Creek
Newberg, Yamhill County, Oregon**

Prepared for:

**Chehalem Parks and Recreation
District**

December 23, 2022

Prepared by

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Title: Delineation of Wetlands and Other Waters

Project: Proposed Ewing Young Park Bridge over Chehalem Creek
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A. Introduction

Chehalem Park and Recreation District (CPRD) contracted NV5 to conduct a wetland delineation of a proposed pedestrian trail bridge over Chehalem Creek at Ewing Young Park, Newberg, Oregon, to determine the location and extent of wetlands and non-wetland waters within the proposed project area. The project area is located in Township 3S, Range 2W, Section 19 (Figures 1 and 2). Chehalem Creek marks the boundary between the City of Newberg and Yamhill County and the study area includes portions of Tax Lots 00700 (Ewing Young Park, City of Newberg and Yamhill County) and 00200 (private property in Yamhill County, address 9900 NE Meadow Loop Rd, Newberg, OR 97132) (Figure 7). The proposed bridge will link City of Newberg and Yamhill County lands within tax lot 00700 and provide pedestrian and maintenance access to the currently inaccessible and undeveloped 11-acres of county land on the west side of Chehalem Creek.

B. Landscape Setting and Land Use

The wetland delineation study area is comprised of an approximately 425-foot reach of Chehalem Creek and the immediately adjacent riparian forest area within Ewing Young Park. Topography within the project area is relatively steep, with Chehalem Creek flowing through a rather narrow valley (photo 1). Within the project area, Chehalem Creek is bordered by a forested riparian area with red alder (*Alnus rubra*; FAC) and Oregon Ash (*Fraxinus latifolia*; FACW) growing along the stream channel (photo 2), and bigleaf maple (*Acer macrophyllum*; FACU), Douglas-fir (*Pseudotsuga menziesii*; FACU), and Oregon white oak (*Quercus garryana*; FACU) occurring as dominant species in the forest canopy on the hillsides above the stream (photo 3). Portions of the park adjacent to the study area contain bark-chip hiking trails and a disc golf course (photo 4).

Representative photos of the study area are included in Appendix A.

C. Site Alterations

NV5 is not aware of any recent site alterations that may have affected the location and extent of wetlands within the project area.

D. Precipitation Data and Analysis

Monthly average precipitation data for the water year leading up to the November 19, 2021 wetland investigation field work and monthly recorded precipitation for the three months preceding the field work were obtained from the REX 1S, Yamhill County, Oregon WETS station from the Natural Resources Conservation Service's, Agricultural Climate Information Service (<http://agacis.rcc-acis.org/?fips=41071>). The REX 1S WETS station is located approximately 3.3 miles ENE of the project area. Table 1 presents the average and observed monthly precipitation totals as well as a comparison of observed precipitation to average and normal levels.

During the three months preceding the wetland delineation site visit, only a trace of precipitation was recorded in August; but recorded precipitation was wetter than normal in September, within normal range in October, and wetter than normal during the first nineteen days of November. Precipitation for the water year from October 1, 2021 to November 19, 2021 was approximately 134 percent of normal.

The rainfall total for the 14 days prior to the survey (including the 11/19/2021 survey day) was 5.72 inches, taken from the geographically closer Dundee 1.0 NNW weather station, located approximately 1.5 miles west of the project area (Table 2). Daily and monthly average

precipitation data is not available from the Dundee 1.0 NNW weather station but the 5.72 inch total is similar to that collected from the REX 1S WETS station (5.6 inches total 11/5/21 – 11/19/21). It is NV5’s best professional judgement that the delineation of the wetland boundaries was not adversely affected by the generally wetter-than-normal conditions during the three months and the 14 days immediately preceding the wetland investigation.

Table 1. Monthly Precipitation Data

Month	Actual Precip. (in.)	Average Precip. (in.)*	Lower 30% (in.) *	Upper 30% (in.) *	Percent of Normal	Normal Range?
August 2021	Trace	0.89	0.29	1.00	0	No (drier)
September 2021	2.93	1.76	0.76	2.05	166	No (wetter)
October 2021	3.92	3.34	1.84	4.07	117	yes
November 1 – 19, 2022	6.32	4.33	2.94	5.16	146	No (wetter)
Totals	13.17	10.32	5.83	12.28	128	No (wetter)

Source: WETS Table, REX 1S, OR Wets Station, Natural Resources Conservation Services, Agricultural Climate Information Service (<http://agacis.rcc-acis.org/?fips=41071>).

Table 2. Daily Precipitation Data Prior to Survey

Date	Precipitation
2021-11-05	0.37
2021-11-06	0.4
2021-11-07	0.33
2021-11-08	0.33
2021-11-09	0.28
2021-11-10	0.06
2021-11-11	0.64
2021-11-12	1.79
2021-11-13	0.86
2021-11-14	0.04
2021-11-15	T
2021-11-16	0.24
2021-11-17	0.02
2021-11-18	0.02
2021-11-19	0.34
TOTAL	5.72

Source: Precipitation data, DUNDEE 1.0 NNW weather station, Yamhill OR, Natural Resources Conservation Services, Agricultural Climate Information Service (<http://agacis.rcc-acis.org/?fips=41071>).

E. Methods

NV5 conducted the wetland delineation site investigation on November 19, 2021. The investigation used the Routine Onsite methodology of the 1987 US Army Corps of Engineers

(USACE) Wetland Delineation Manual (USACE 1987) and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0) (USACE 2010).

Prior to conducting the site investigation, NV5 examined applicable U.S. Geological Service (USGS) topographic maps (Figure 1), recent aerial imagery (Figure 2), National Wetlands Inventory (NWI) maps (<https://www.fws.gov/program/national-wetlands-inventory/wetlands-mapper>) (Figure 3), and the National Resources Conservation Service (NRCS) Web Soil Survey maps (<https://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm>) to identify potential wetland areas. At the time of the site investigation, NV5 examined vegetation, soils, and hydrology within the study area to define areas that meet the three wetland parameters (hydrophytic vegetation, hydric soils, and wetland hydrology), in accordance with the USACE Wetland Delineation Manual and the Western Mountains, Valleys, and Coast Regional Supplement. Data collected at the representative sample plot was recorded on the wetland determination data form from the Regional Supplement. Copies of the data forms are included in Appendix B. NV5 delineated the limits of ordinary high water (OHW) along Chehalem Creek based on the evidence of surface scour, changes in topography, and drift lines of debris along the channel on the east side of the stream. At the time of the wetland delineation site visit, flow within the stream channel was too strong to cross the stream safely. The limits of an observed wetland (Wetland 2) and OHW on the west side of the stream were estimated based on topographic contours and the approximate elevations of the delineated OHW on the east side of the channel.

NV5 marked the wetland boundary and OHW limits on the east side of Chehalem Creek with flags and collected wetland boundary, sample points, and OHW limits coordinate points using a submeter accuracy Trimble GPS unit. The estimated accuracy of the GPS-located wetland boundaries is +/- one foot.

F. Description of All Wetlands and Other Waters

NV5 identified and delineated two wetlands adjacent to Chehalem Creek within the study area. Descriptions of the wetlands within the study area is provided below. Exact Latitude and Longitude coordinate points for Wetland 1 sample points 1 and 2 were lost during data transfer and were not able to be determined from the points delineating the wetland boundary and OHW mark.

Wetland 1

Wetland 1 (approximately 1,299 square feet) is on the east bank of Chehalem Creek and includes what appears to be an old roadbed that parallels the eastern side of Chehalem Creek (Figure 5, Photo 2). The Cowardin classification of this wetlands is palustrine forested, seasonally flooded/saturated (PFOE) wetlands. The HGM classification is slope. This wetland is not depicted on USGS topographic mapping (Figure 1) or National Wetland Inventory mapping (Figure 3).

Dominant species in the plant community in Wetland 1 include Oregon ash, ninebark (*Physocarpus capitatus*; FACW), Himalayan blackberry (*Rubus armeniacus*; FAC), common rush (*Juncus patens*; FACW), and California dewberry (*Rubus ursinus*; FACU), as characterized by Sample Point 2. Within the wetland, hydric soil conditions have formed in an apparent old roadbed, where water seeping from adjacent slope collects on the gently sloped roadbed and compacted gravel and soil impede drainage. Redoximorphic features and soil saturation within the six inches of soil above the compacted material provide evidence of hydric soils and

wetland hydrology. Wetland 1 is located south of the proposed bridge and will not be impacted by the project.

Wetland 2

Wetland 2 (estimated to be approximately 1,857 square feet) is on the west bank of Chehalem Creek and was not accessible at the time of the survey. It is located on a low bench just above the OHW mark (Figures 5 and 6). The upper limits of the wetland occur at the toe of the slope bordering the west bank of the creek. The Cowardin classification of this wetland is palustrine emergent, seasonally flooded/saturated (PEME) wetlands. The HGM classification is riverine. The plant community is dominated by reed canarygrass (*Phalaris arundinaceus*; FACW). The limits of the wetland were interpolated based on the elevation of OHW on the east bank of the creek as well as observation of non-wetland plant species such as Douglas-fir, bigleaf maple, and sword fern (*Polystichum munitum*; FACU) on the slopes above the stand of reed canarygrass.

Chehalem Creek

Within the study area, Chehalem Creek is approximately 40 to 50 feet wide. The reach is characterized by riffles and glides. The substrate is generally characterized by fine-grained sediments and exposed bedrock in the glides and cobbles and small boulders in the riffles (Photo 5). The stream is generally bordered by banks that rise approximately three to four feet above the stream and a narrow floodplain bordered by relatively steep forested slopes (Photo 6). The NWI describes Chehalem Creek's Cowardin classification as riverine, upper perennial 3 (high gradient, perennial), unconsolidated bottom, permanently flooded (R3UBH) (figure 3). There is a non-wetland forest community on the narrow floodplain immediately north of the proposed bridge crossing (Figure 6, low elevation terrace on the east bank, north of proposed bridge). In this area, the plant community is dominated by Oregon ash and red alder, with Oregon white oak, Himalayan blackberry, reed canarygrass, sword fern, and California dewberry in the shrub and herbaceous layers. The soils do not meet hydric soil indicators, and there is no evidence of wetland hydrology.

G. Deviation from NWI and Local Wetland Inventory Mapping

The NWI website showed Chehalem Creek as the only wetland within the project area but not Wetland 1 and Wetland 2 (Figure 3). The Oregon Department of State Land's Statewide Wetlands Inventory (<https://maps.dsl.state.or.us/swi/>) and the available City of Newberg's GIS map layers (<https://www.newbergoregon.gov/engineering/page/useful-maps>) did not show any local wetland inventory mapping in or near the project area.

H. Mapping Method and Accuracy Statement

Wetland boundaries and sample plots were mapped using a sub-meter GPS unit (Trimble ProXH) using real-time WAAS differential correction. The estimated accuracy is +/- one foot.

I. Additional Information Used to Establish Jurisdiction

No additional information.

J. Results and Conclusions

NV5 identified and delineated two wetlands within the study area. These wetlands do not have a surface connection to other waters of the U.S. (i.e., wetlands, streams, or other waterbodies) and would likely be considered isolated wetlands and non-jurisdictional under Section 404 of the Clean Water Act. An approved jurisdictional determination from the U.S. Army Corps of Engineers would be necessary to confirm that the wetlands are isolated and not subject to

regulation under the Clean Water Act. Regardless, isolated wetlands are regulated by the Oregon Department of State Lands and would be subject to regulation under the Oregon Removal-Fill Law.

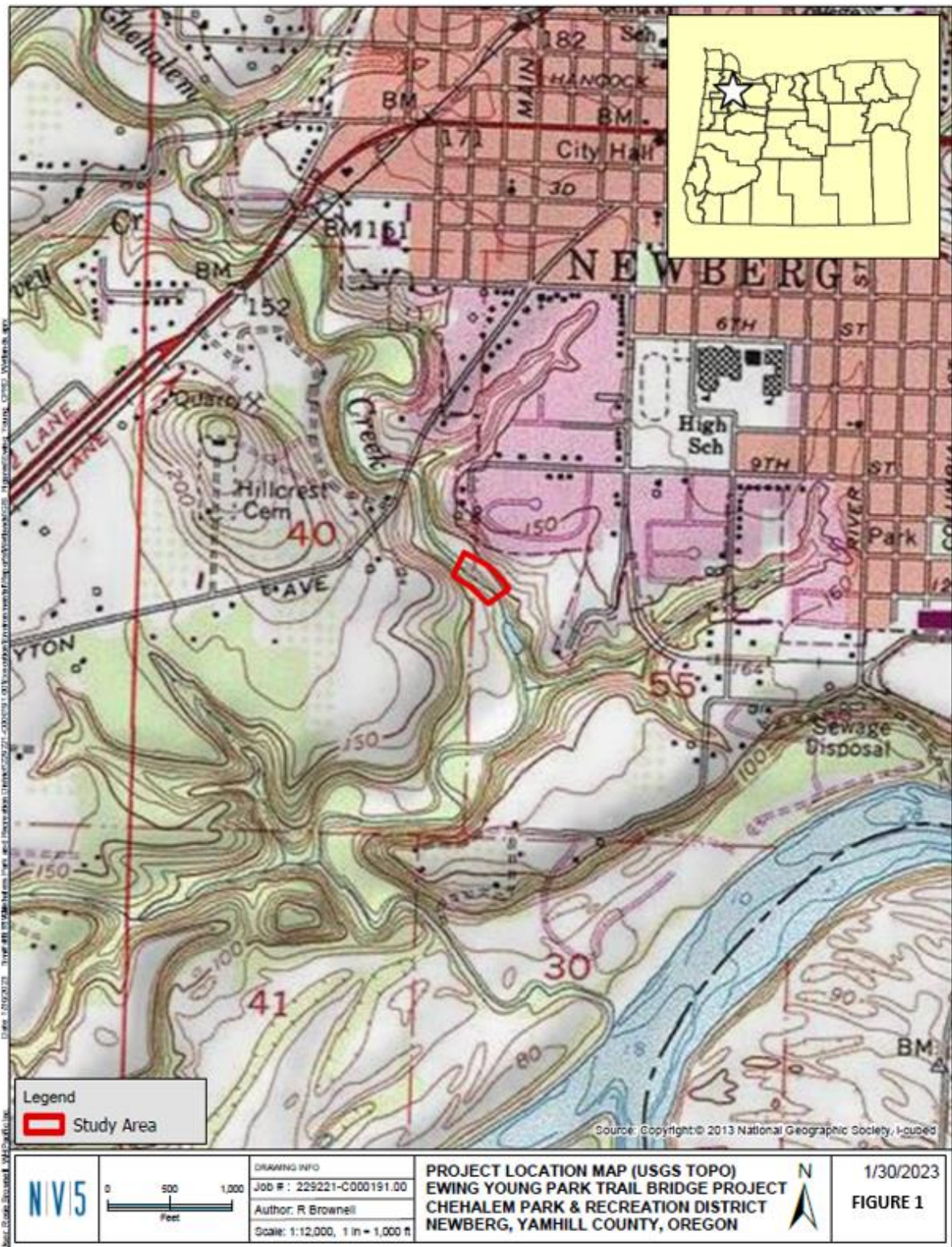
The proposed bridge will be over Chehalem Creek but, outside of shading the stream, project construction will not impact the stream channel. The east side abutment of the proposed bridge is located approximately 130 ft northwest of Wetland 1 and the wetland will not be impacted by project construction. Wetland 2 is located under the west side of the bridge and approximately 7 ft from the bridge abutment. Project construction will include vegetation clearing upslope of the wetland but will not include vegetation clearing within the wetland. Part of Wetland 2 will be shaded by the bridge. All project construction will occur outside of the Wetland 2 boundary.

K. Disclaimer

This report documents the investigation, best professional judgment and conclusions of the investigator. It is correct and complete to the best of our knowledge. It should be considered a preliminary delineation of wetlands and other waters and used at your own risk unless it has been reviewed and a letter of concurrence issued by the Oregon Department of State Lands. Similarly, this report is preliminary under USACE regulations until reviewed by the USACE and an Approved Jurisdictional Determination has been issued.

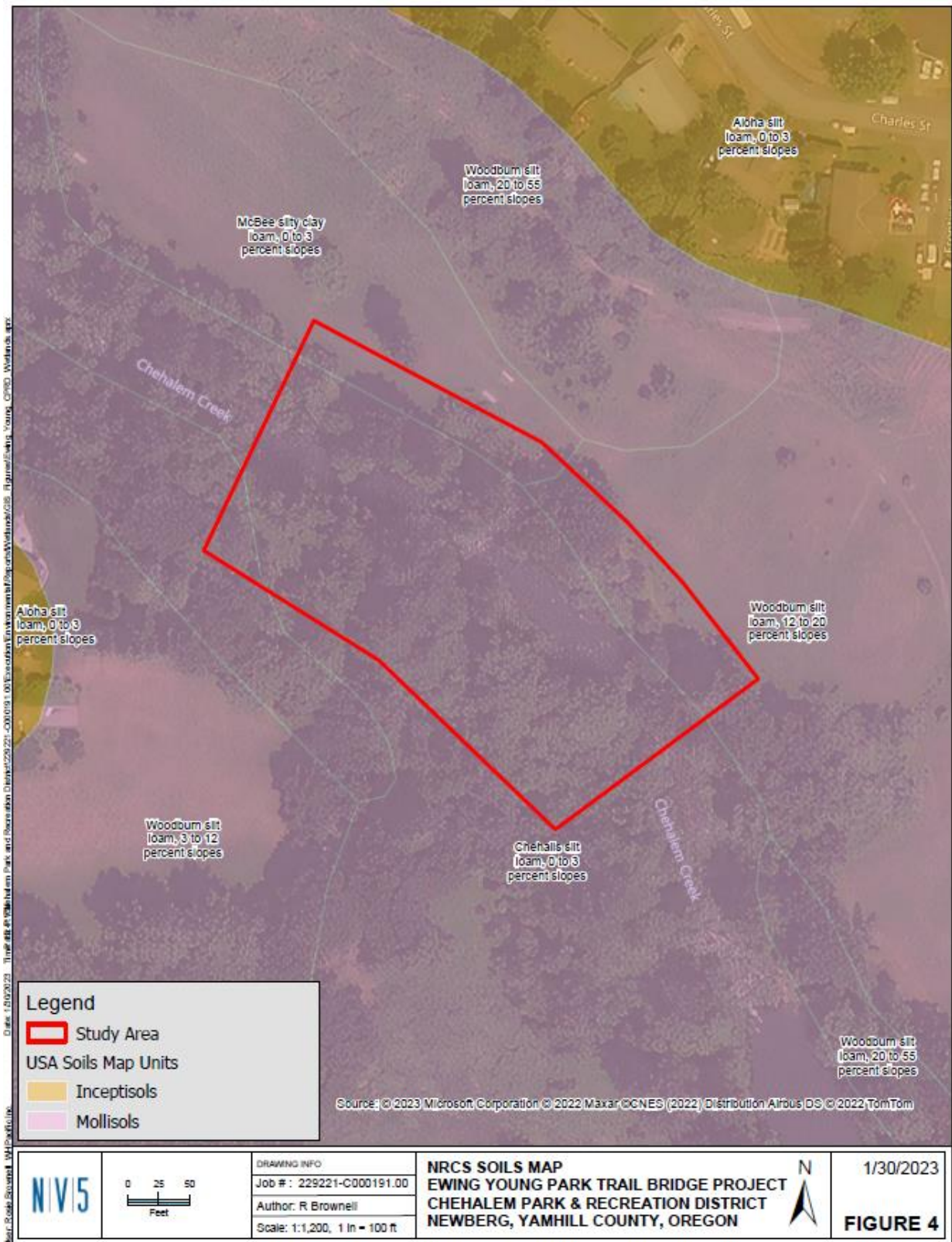
L. References

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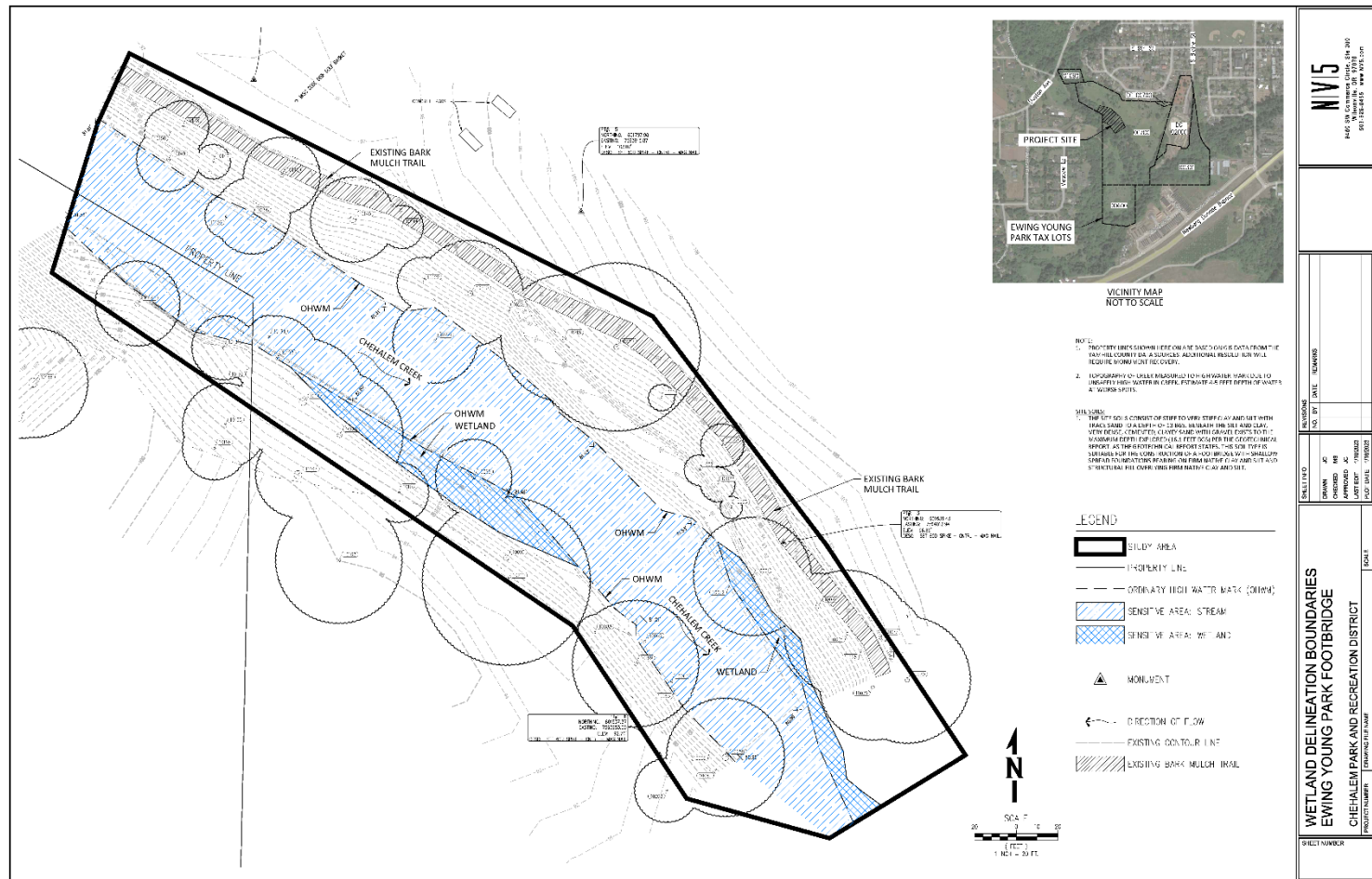


Figure 5. Wetland delineation boundaries. Wetland 1 is on the east bank of Chehalem Creek. Wetland 2 is on the west bank of Chehalem Creek. Note Wetland 2 was inaccessible during the delineation survey and its boundaries were interpolated based on the elevation of OHW on the east bank of the creek and the topography and limits of the wetland were interpolated based on the elevation of OHW on the east bank of the creek and the observed boundary between wetland and upland vegetation.

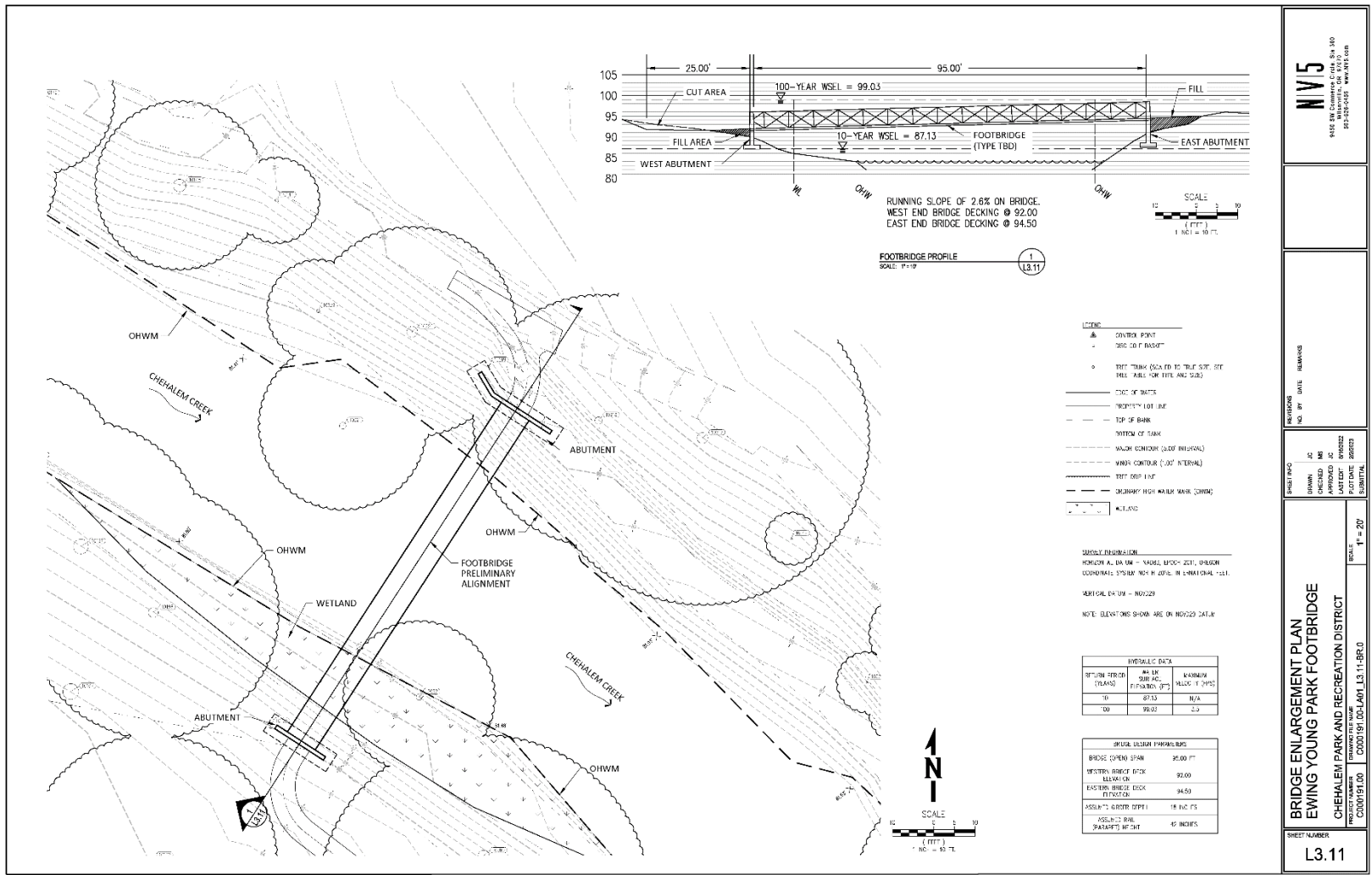
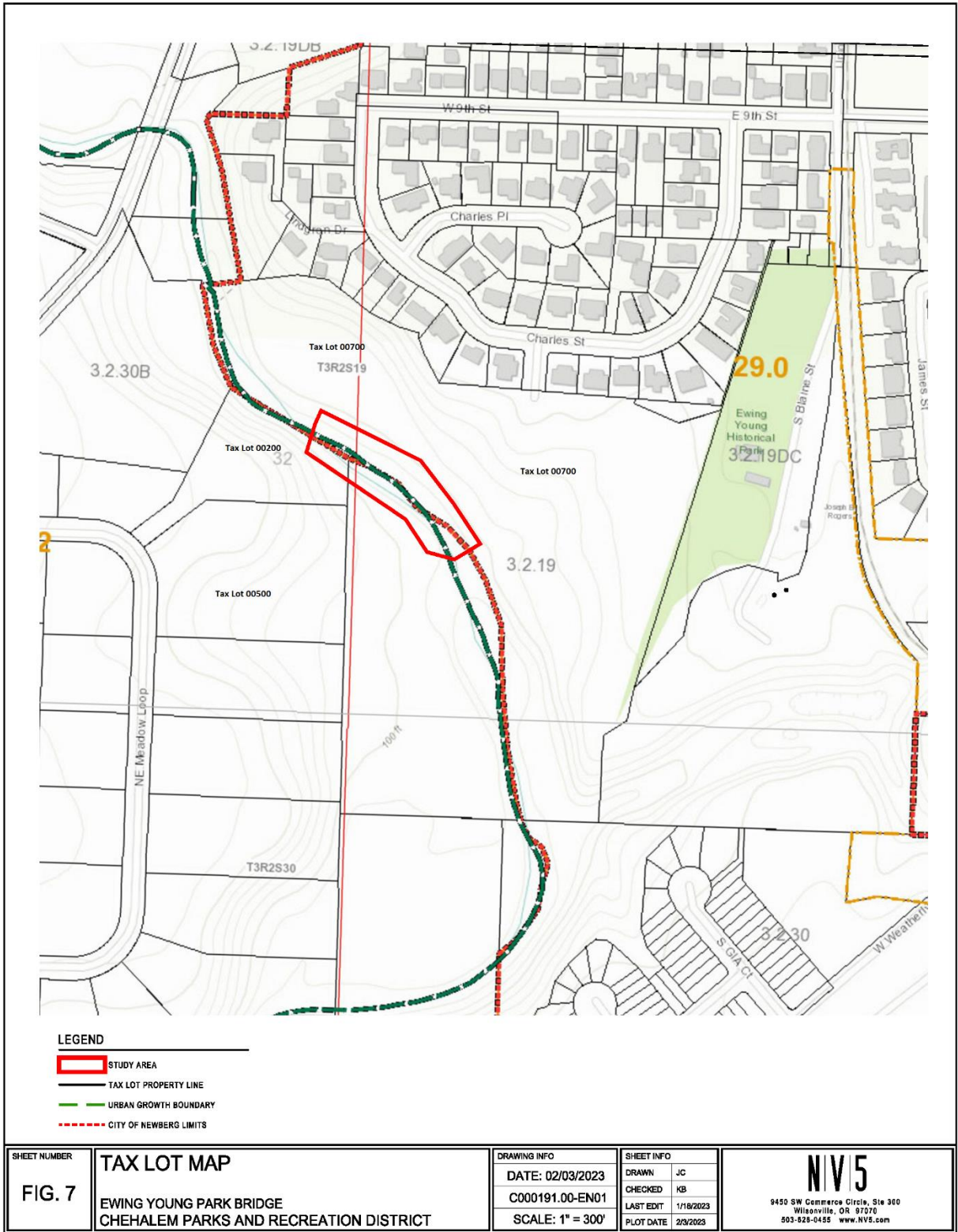


Figure 6. Proposed bridge over Chehalem Creek showing bridge abutments, Wetland 2 boundary, and OHW from both a top and side view.



Appendix A

Site Photographs



Photo 1. Chehalem Creek showing steep slopes and sediment bar.



Photo 2. Riparian forest and wetland vegetation near Wetland 1 wetland Sample Point 2.



Photo 3. Upland forest vegetation near Wetland 1 upland Sample Point 1.



Photo 4. Bark chip trail leading uphill from Chehalem Creek to the frisbee gold course.



Photo 5. Chehalem Creek showing riffles and off main channel pools.



Photo 6. Steep forested slopes above Chehalem Creek.

Appendix B

Data Forms

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

Project/Site: Ewing Young Park Bridge City/County: Newberg/Yamhill Sampling Date: 11/19/2021
 Applicant/Owner: Chehalem Park and Recreation State: OR Sampling Point: 1
 Investigator(s): C. Tumer Section, Township, Range: Sect. 19, T3S, R 2W
 Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): none Slope (%): <2%
 Subregion (LRR): LRR A Lat: N/A Long: N/A Datum: NAD 84
 Soil Map Unit Name: Woodburn silt loam 12 to 20 percent slopes NWI Classification: N/A
 Are climatic/hydrologic conditions on the site typical for this time of year? Yes X (if no, explain in Remarks)
 Are vegetation N Soil N or Hydrology N significantly disturbed? Are "Normal Circumstances" present? (Y/N) Y
 Are vegetation N Soil N or Hydrology N naturally problematic? If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <u> X </u> No <u> </u>	Is Sampled Area within a Wetland? Yes <u> </u> No <u> X </u>
Hydric Soil Present? Yes <u> </u> No <u> X </u>	
Wetland Hydrology Present? Yes <u> </u> No <u> X </u>	
Remarks: Exact Lat Long points for sample point 1 were lost during data transfer and were not able to be determined from points delineating the wetland boundary.	

VEGETATION - Use scientific names of plants.

	absolute % cover	Dominant Species?	Indicator Status		
Tree Stratum (plot size: <u> </u>)				Dominance Test worksheet:	
1 <u>Fraxinus latifolia</u>	<u>20</u>	<u>X</u>	<u>FACW</u>	Number of Dominant Species	
2 <u> </u>	<u> </u>	<u> </u>	<u> </u>	That are OBL, FACW, or FAC: <u> 3 </u> (A)	
3 <u> </u>	<u> </u>	<u> </u>	<u> </u>	Total Number of Dominant	
4 <u> </u>	<u> </u>	<u> </u>	<u> </u>	Species Across All Strata: <u> 5 </u> (B)	
	<u>20</u>	= Total Cover		Percent of Dominant Species	
Sapling/Shrub Stratum (plot size: <u> </u>)				That are OBL, FACW, or FAC: <u> 60% </u> (A/B)	
1 <u>Rubus armeniacus</u>	<u>60</u>	<u>X</u>	<u>FAC</u>	Prevalence Index Worksheet:	
2 <u>Quercus garryana</u>	<u>10</u>	<u> </u>	<u>FACU</u>		Total % Cover of <u> </u> Multiply by: <u> </u>
3 <u> </u>	<u> </u>	<u> </u>	<u> </u>		OBL Species <u> </u> x 1 = <u> 0 </u>
4 <u> </u>	<u> </u>	<u> </u>	<u> </u>		FACW species <u> </u> x 2 = <u> 0 </u>
5 <u> </u>	<u> </u>	<u> </u>	<u> </u>		FAC Species <u> </u> x 3 = <u> 0 </u>
	<u>70</u>	= Total Cover		FACU Species <u> </u> x 4 = <u> 0 </u>	
Herb Stratum (plot size: <u> 5 </u>)				UPL Species <u> </u> x 5 = <u> 0 </u>	
1 <u>Phalaris arundinacea</u>	<u>20</u>	<u>X</u>	<u>FACW</u>	Column Totals <u> 0 </u> (A) <u> 0 </u> (B)	
2 <u>Polystichum munitum</u>	<u>10</u>	<u>X</u>	<u>FACU</u>	Prevalence Index = B/A = <u> #DIV/0! </u>	
3 <u>Carex obnupta</u>	<u>5</u>	<u> </u>	<u>OBL</u>	Hydrophytic Vegetation Indicators:	
4 <u> </u>	<u> </u>	<u> </u>	<u> </u>		<u> </u> 1- Rapid Test for Hydrophytic Vegetation
5 <u> </u>	<u> </u>	<u> </u>	<u> </u>		<u> X </u> 2- Dominance Test is >50%
6 <u> </u>	<u> </u>	<u> </u>	<u> </u>		<u> </u> 3- Prevalence Index is ≤ 3.0 ¹
7 <u> </u>	<u> </u>	<u> </u>	<u> </u>		<u> </u> 4- Morphological Adaptations ¹ (provide supporting
8 <u> </u>	<u> </u>	<u> </u>	<u> </u>		data in Remarks or on a separate sheet)
	<u>35</u>	= Total Cover			<u> </u> 5- Wetland Non-Vascular Plants ¹
Woody Vine Stratum (plot size: <u> </u>)					<u> </u> Problematic Hydrophytic Vegetation ¹ (Explain)
1 <u>Rubus ursinus</u>	<u>10</u>	<u>X</u>	<u>FACU</u>	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
2 <u> </u>	<u> </u>	<u> </u>	<u> </u>	Hydrophytic Vegetation Present? Yes <u> X </u> No <u> </u>	
	<u>10</u>	= Total Cover			
% Bare Ground in Herb Stratum <u> 0 </u>					
Remarks:					

SOIL

Sampling Point: 1

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

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-8	10YR 3/3	100	-	-	-	-	Silt Loam	
8-20	10YR 4/3	95	10YR 4/4	5	C	M	Silt Loam	

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

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

<input type="checkbox"/> Histosol (A 1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A 10)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F 1) (except M LRA 1)	<input type="checkbox"/> Very Shallow Dark Surface (TF 2)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Other (explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A 11)	<input type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Thick Dark Surface (A 12)	<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)	

³Indicators 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 X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (2 or more required)
<input type="checkbox"/> Surface Water (A 1)	<input type="checkbox"/> Water stained Leaves (B9) (Except M LRA 1, 2, 4A, and 4B)	<input type="checkbox"/> Water stained Leaves (B9) (M LRA 1, 2, 4A, and 4B)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Salt Crust (B 11)	<input type="checkbox"/> Drainage Patterns (B 10)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B 13)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Water Marks (B 1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C 1)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6)	<input type="checkbox"/> Fac-Neutral Test (D5)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Stunted or Stressed Plants (D 1) (LRR A)	<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Frost-Heave Hummocks (D7)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		

Field Observations:

Surface Water Present? Yes _____ No <u>X</u>	Depth (inches): <u>n/a</u>	Wetland Hydrology Present? Yes _____ No <u>X</u>
Water Table Present? Yes _____ No <u>X</u>	Depth (inches): <u>>20</u>	
Saturation Present? Yes _____ No <u>X</u> (includes capillary fringe)	Depth (inches): <u>>20</u>	

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: Ewing Young Park Bridge City/County: Newberg/Yamhill Sampling Date: 11/19/2021
 Applicant/Owner: Chehalem Park and Recreation State: OR Sampling Point: 2
 Investigator(s): C. Tumer Section, Township, Range: Sect. 19, T3S, R 2W
 Landform (hillslope, terrace, etc.): old roadbed Local relief (concave, convex, none): none Slope (%): <2%
 Subregion (LRR): LRR A Lat: N/A Long: N/A Datum: NAD 84
 Soil Map Unit Name: Chehalis silt loam 0 to 3 percent slopes NWI Classification: N/A
 Are climatic/hydrologic conditions on the site typical for this time of year? Yes X (if no, explain in Remarks)
 Are vegetation N Soil N or Hydrology N significantly disturbed? Are "Normal Circumstances" present? (Y/N) Y
 Are vegetation N Soil N or Hydrology N naturally problematic? If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <u> X </u> No <u> </u> Hydric Soil Present? Yes <u> X </u> No <u> </u> Wetland Hydrology Present? Yes <u> X </u> No <u> </u>	Is Sampled Area within a Wetland? Yes <u> X </u> No <u> </u>
Remarks: Exact Lat Long points for sample point 2 were lost during data transfer and were not able to be determined from points delineating the wetland boundary.	

VEGETATION - Use scientific names of plants.

	absolute % cover	Dominant Species?	Indicator Status	
Tree Stratum (plot size: <u> </u>)				Dominance Test worksheet:
1 <u><i>Fraxinus latifolia</i></u>	<u>10</u>	<u>X</u>	<u>FACW</u>	Number of Dominant Species
2 <u> </u>	<u> </u>	<u> </u>	<u> </u>	That are OBL, FACW, or FAC: <u> 4 </u> (A)
3 <u> </u>	<u> </u>	<u> </u>	<u> </u>	Total Number of Dominant
4 <u> </u>	<u> </u>	<u> </u>	<u> </u>	Species Across All Strata: <u> 4 </u> (B)
	<u>10</u>	= Total Cover		
Sapling/Shrub Stratum (plot size: <u> </u>)				Percent of Dominant Species
1 <u><i>Physocarpus capitatus</i></u>	<u>20</u>	<u>X</u>	<u>FACW</u>	That are OBL, FACW, or FAC: <u> 100% </u> (A/B)
2 <u><i>Rubus armeniacus</i></u>	<u>15</u>	<u>X</u>	<u>FAC</u>	
3 <u> </u>	<u> </u>	<u> </u>	<u> </u>	
4 <u> </u>	<u> </u>	<u> </u>	<u> </u>	
5 <u> </u>	<u> </u>	<u> </u>	<u> </u>	
	<u>35</u>	= Total Cover		
Herb Stratum (plot size: <u> 5 </u>)				Prevalence Index Worksheet:
1 <u><i>Juncus patens</i></u>	<u>60</u>	<u>X</u>	<u>FACW</u>	Total % Cover of <u> </u> Multiply by: <u> </u>
2 <u><i>Ranunculus repens</i></u>	<u>10</u>	<u> </u>	<u>FAC</u>	OBL Species <u> </u> x 1 = <u> 0 </u>
3 <u><i>Carex sp.</i></u>	<u>2</u>	<u> </u>	<u>(FAC)</u>	FACW species <u> </u> x 2 = <u> 0 </u>
4 <u> </u>	<u> </u>	<u> </u>	<u> </u>	FAC Species <u> </u> x 3 = <u> 0 </u>
5 <u> </u>	<u> </u>	<u> </u>	<u> </u>	FACU Species <u> </u> x 4 = <u> 0 </u>
6 <u> </u>	<u> </u>	<u> </u>	<u> </u>	UPL Species <u> </u> x 5 = <u> 0 </u>
7 <u> </u>	<u> </u>	<u> </u>	<u> </u>	Column Totals <u> 0 </u> (A) <u> 0 </u> (B)
8 <u> </u>	<u> </u>	<u> </u>	<u> </u>	Prevalence Index = B/A = <u> #DIV/0! </u>
	<u>72</u>	= Total Cover		
Woody/Vine Stratum (plot size: <u> </u>)				Hydrophytic Vegetation Indicators:
1 <u><i>Rubus ursinus</i></u>	<u>10</u>	<u>X</u>	<u>FACU</u>	<u> </u> 1- Rapid Test for Hydrophytic Vegetation
2 <u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> X </u> 2- Dominance Test is >50%
	<u>10</u>	= Total Cover		<u> </u> 3- Prevalence Index is ≤ 3.0 ¹
				<u> </u> 4- Morphological Adaptations ¹ (provide supporting data in Remarks or on a separate sheet)
				<u> </u> 5- Wetland Non-Vascular Plants ¹
				<u> </u> Problematic Hydrophytic Vegetation ¹ (Explain)
% Bare Ground in Herb Stratum <u> 0 </u>				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Remarks:				Hydrophytic Vegetation Present? Yes <u> X </u> No <u> </u>

SOIL

Sampling Point: 2

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

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-6	10YR 3/2	80	7.5YR 4/6	10	C	M	Silty Clay Loam	
			7.5YR 4/4	5	C	M		
			7.5YR 4/6	5	OR	PL		

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histosol (A 1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A 10)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F 1) (except M LRA 1)	<input type="checkbox"/> Very Shallow Dark Surface (TF 12)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Other (explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A 11)	<input type="checkbox"/> Depleted Matrix (F3)		
<input type="checkbox"/> Thick Dark Surface (A 12)	<input checked="" type="checkbox"/> Redox Dark Surface (F6)		
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)		³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)		

Restrictive Layer (if present): Type: <u>compacted gravel and dirt</u> Depth (inches): <u>6 inches</u>	Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks: hydric soils formed in apparent old roadbed, where water seeping from adjacent slope collects on flat roadbed and compacted gravel and soil impede drainage.	

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (2 or more required)	
<input type="checkbox"/> Surface Water (A 1)	<input type="checkbox"/> Water stained Leaves (B9) (Except M LRA 1, 2, 4A, and 4B)	<input type="checkbox"/> Water stained Leaves (B9) (M LRA 1, 2, 4A, and 4B)	
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Salt Crust (B 11)	<input type="checkbox"/> Drainage Patterns (B 10)	
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B 13)	<input type="checkbox"/> Dry-Season Water Table (C2)	
<input type="checkbox"/> Water Marks (B 1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C 1)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	
<input type="checkbox"/> Sediment Deposits (B2)	<input checked="" type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input checked="" type="checkbox"/> Geomorphic Position (D2)	
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Shallow Aquitard (D3)	
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6)	<input checked="" type="checkbox"/> Fac-Neutral Test (D5)	
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Stunted or Stressed Plants (D 1) (LRR A)	<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)	
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Frost-Heave Hummocks (D7)	
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)			
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)			

Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <u>n/a</u> Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0-6</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: _____ _____	
Remarks: _____ _____	