WETLAND DELINEATION / DETERMINATION REPORT COVER FORM

This form must be included with any wetland delineation report submitted to the Department of State Lands for review and approval. A wetland delineation report submittal is not "complete" unless the fully completed and signed report cover form and the required fee are submitted. Attach this form to the front of an unbound report. A single PDF attachment of the completed cover from and report may be e-mailed to **Wetland_Delineation@dsl.state.or.us**.

Applicant Owner Name, Firm and Address:	Business phone # (503) 615-6770						
Niki Iverson, Water Resource Manager	Mobile phone # (optional)						
City of Hillsboro Water Department	E-mail: niki.iverson@hillsboro-oregon.gov						
150 E. Main Street							
Hillsboro, OR 97123-4028							
	Business phone # (503) 615-6770						
Niki Iverson, Water Resource Manager	Mobile phone # (optional)						
City of Hillsboro Water Department	E-mail: niki.iverson@hillsboro-oregon.gov						
	to allow access to the property. I authorize the Department to access the						
property for the purpose of confirming the information in the report, after prior notification to the primary contact. Typed/Printed Name: Niki Iverson Signature:							
Date: 16 17 Special instructions regarding site access:							
Special ilistructions regarding	ig site access.						
Project and Site Information (using decimal degree format	for lat/long.,enter centroid of site or start & end points of linear project)						
Project Name: Willamette Water Supply Program, PLW 2.0	Latitude: 45.522599 Longitude: -122.899808						
Proposed Use: Pipeline Installation	Tax Map # See Attachment						
Project Street Address (or other descriptive location):	Township Range Section QQ						
Approximately 4.4 miles in length, begins near the	Township Range Section QQ						
south end of Hillsboro at Reedville Creek, and follows							
NW Cornelius Pass Road north to US Hwy 26							
Tax Lot(s) See Attachment							
Waterway: Many River Mile: N/A							
City: N/A County: Washington	NWI Quad(s): Several						
Wetland Delineation Information							
Wetland Consultant Name, Firm and Address: Phone # 503-223-6663							
Phil Rickus Mobile phone #							
David Evans and Associates E-mail: prr@deainc.com							
2100 SW River Parkway	. 0						
Portland, OR 97201							
The information and conclusions on this form and in the attached r							
Consultant Signature:	Date: January 4, 2017						
Drivery Contact for result will sugard site access to M. C.	and the state of Annalisation (Company Company						
Primary Contact for report review and site access is Consultant Applicant/Owner Authorized Agent							
Wetland/Waters Present? X Yes No Study Area size: 57.1 acres Total Wetland Acreage: Approx. 1.45 acres							
Check Box Below if Applicable: Fees:							
☐ R-F permit application submitted ☐ ☐ Fee payment submitted \$ 419							
☐ Mitigation bank site	Fee (\$100) for resubmittal of rejected report						
☐ Wetland restoration/enhancement project (not mitigation)							
☐ Industrial Land Certification Program Site report							
Reissuance of a recently expired delineation							
Previous DSL # Expiration date							
Other Information:	Y N						
Has previous delineation/application been made on parcel?	☑ If known, previous DSL # See Report						
Does LWI, if any, show wetland or waters on parcel?							
	ice Use Only						
DSL Reviewer: Fee Paid Date:							
	Digect # DSL Site #						
Scanned: ☐ Final Scan: ☐ DSL WI	N# DSL App. #						

Wetland Delineation Report

Willamette Water Supply Program Cornelius Pass Pipeline Project (PLW 2.0)

Prepared for:

Willamette Water Supply Our Reliable Water

9600 SW Oak Street, Suite 238 Tigard, OR 97223

Prepared by:



David Evans and Associates, Inc. 2100 SW River Parkway Portland, Oregon 97201

January 2017

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1 INTRODUCTION

The Willamette Water Supply Program (WWSP or Program) has been identified by the Tualatin Valley Water District (TVWD) and the City of Hillsboro ((Hillsboro), collectively referred to as the Partners)) as the next infrastructure project to deliver drinking water to municipalities in Washington County by developing the mid-Willamette River at Wilsonville as an additional water supply source.

This delineation report is one of several produced by David Evans and Associates, Inc. (DEA) for the Program. The Program has been divided into work packages (i.e., construction projects) that cover pipeline alignments (including potential alternate alignments), water reservoirs (tanks), and a new water treatment plant facility. Separate delineation reports have been prepared to match each work package study area.

This wetland delineation only covers the Cornelius Pass Pipeline Project, also referred to as work package PLW 2.0 (Figure 1 of Appendix A). The PLW 2.0 study area occurs primarily in urban environs and along existing roads, except for the northernmost portion, and the majority is constrained and lies within developed curb and gutter sections. Portions of the study area in which site access was not available are noted in report figures.

2 LANDSCAPE SETTING AND LAND USE

PLW 2.0, approximately 3.4 miles in length, begins at the intersection of SW Frances Street and SW Cornelius Pass Road in Hillsboro, Oregon, and follows Cornelius Pass Road north to US Hwy 26. Much of the north end of PLW 2.0 also includes large portions of roadway currently under construction for the Cornelius Pass Road Project, which was delineated by others and has already been permitted and is under construction.

As mentioned, PLW 2.0 occurs primarily in urban environs and along existing roads, except for a few locations where study area deviates out of road right of ways and at the very northern end, which contains an open mostly weedy meadow owned by the City of Hillsboro, just south of Highway 26. The property is open and ruderal, and vegetation is dominated by non-native grasses and forbs and patches of Himalayan blackberry (*Rubus armeniacus*).

3 SITE ALTERATIONS

Given the large distance covered by the project, and the extensive history of disturbance, it is not possible to describe individually the historic site alterations that may have occurred over time. Although the majority of the study areas have experienced considerable disturbance resulting from road construction over the past 50 years or more, no new ground disturbance was present within the study area, and normal conditions were present during the delineation throughout.

4 PRECIPITATION DATA AND ANALYSIS

Table 1 shows the two-week precipitation total prior to the field work for PLW 2.0, which occurred on June 23, 2016. The precipitation record reveals that precipitation was below the range of normal for the short term but within the range of normal for the medium term prior to the site visit. March, April, and May were all below average, though precipitation in March was within a normal range (Table 2). The

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percent of normal precipitation for the water year through the field date in June 2016 was roughly 115 percent (Table 3). Therefore, it was assumed that hydrologic conditions were within the range of normal, and no change in methods was needed.

Table 1: Precipitation for June 2016 Field Investigations and Two Weeks Prior, in Inches

June 9	June 10	June 11	June 12	June 13	June 14	June 15
0.10	0.10	Trace	0.00	0.17	0.37	0.14
June 16	June 17	June 18	June 19	June 20	June 21	June 22
0.01	Trace	Trace	0.00	Trace	0.00	0.01
June 23*	2-wk Total					
0.26	0.90					

^{*}Days of field investigation. Source: (NWS 2016)

Table 2: Percent of Normal Precipitation for the Three Months Preceding the Field Investigations

Month	Normal Precipitation for Month (Inches)	Observed Precipitation for Month (Inches)	Departure from Normal (inches)	Within 30% of Normal Precipitation for Water Year?
March 2016	5.31	3.73	+1.58	Yes (70% of normal)
April 2016	3.01	1.88	-1.13	No (62% of normal)
May 2016	2.28	0.80	-1.48	No (35% of normal)

Source: (NWS 2016)

Table 3: Percent of Normal Precipitation for the Water Year Preceding the Field Investigation

Month	Normal Precipitation (Inches)	Observed Precipitation (Inches)	Departure from Normal (inches)	Within 30% of Normal Precipitation for Water Year?
June 23, 2016	37.08	42.81	+5.73	Yes (115% of normal)

Source: (NWS 2016)

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5 METHODS

5.1 PRELIMINARY RESOURCE REVIEW

Reference materials were reviewed prior to the field investigation to provide information regarding the possible presence of wetlands, water features, hydric soils, wetland hydrology, and site topography. The materials reviewed included:

- ESRI ArcGIS Online, USA area Topographic Maps, 30x60 GRID Quadrangles and World Imagery, Aerials Express (ESRI 2010).
- Tax Lots for Clackamas County Area and Washington County, Oregon (Metro RLIS Data).
- The Metro Data Resource Center RLIS (Regional Land Information System) Tax Lots for Clackamas County Area and Washington County, Oregon (Metro RLIS Data 2016).
- The Metro Data Resource Center RLIS National Wetlands Inventory (NWI) (Metro 2015).
- Natural Resource Inventory and Local Wetlands Inventory (LWI). City of Hillsboro, Oregon (2001).
- Natural Resource Conservation Service (NCRS). Web Soil Survey, Washington County, Oregon (OR067) and Clackamas County Area, Oregon (OR610) (NRCS 2014).

The topographic maps (Appendix A) were examined to determine water features and topography of the site, and adjacent properties that might influence on-site conditions (Figure 1, Appendix A: Vicinity Map). Tax lot maps are included in Figure 2. The National Wetland Inventory and Local Wetland Inventory maps (Figure 3) were examined to determine if wetlands are mapped on site. The Soil Survey map (Figure 4) was reviewed to determine if any hydric soils are mapped on site. Aerial photographs of the project corridor were reviewed and are included in Figure 5.

5.2 FIELD METHODS

Due to the long and linear nature of the project, the delineation was conducted and has been documented following guidance provided in "Delineations for Large or Linear Projects" prepared by the Oregon Department of State Lands (DSL 2013). Based on this guidance, delineation findings are described primarily in tables, which are provided in Appendix B.

The wetland delineation was conducted using the Level 2 Routine Delineation Method described in the U.S. Army Corps of Engineers (USACE) Wetlands Delineation Manual (Environmental Laboratory 1987) and further supported by the Regional Supplement (Supplement) to the Corps of Engineers Wetland Delineation Manual, Western Mountains, Valleys, and Coast Region (USACE 2010). This method requires the simultaneous presence of hydrophytic vegetation, hydric soils, and positive wetland hydrology in wetland delineations.

Areas in which wetland hydrology, hydric soils, and hydrophytic vegetation were all present were considered wetlands. Precipitation considerations were discussed in the previous section. Data sheets were completed at each sample plot documenting the vegetation, soils, and hydrology. Sample plots were chosen that represent typical wetland and upland plant communities encountered on the site. Wetland data sheets are included in Appendix C.

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As required by DSL, all mapped hydric soil units were sampled, except where no native soil was present within the study area. For example, in places sloped road fill occupied the entire road ROW, which was the study area for the project. Although hydric soil may underlie the road fill, no wetlands remained at the surface, and there was no place to sample the native soil.

On April 18, 2016, the Federal Register announced the Corps of Engineer's release of the 2016 National Wetland Plant List (NWPL). The plant list, announcement, and information about the ratings update can be accessed at http://rsgisias.crrel.usace.army.mil/NWPL/. The new list is effective as of May 1, 2016. DSL will accept determinations and delineations based on the former indicator status list (2014) if the field work was completed before May 1. All wetland delineation (field work) performed on or after May 1, 2016, used the new list, as reflected in the data sheets in Appendix C.

6 DESCRIPTION OF ALL WETLANDS AND OTHER NON-WETLAND WATERS

Descriptions of wetlands and other non-wetland waters are provided in the table in Appendix B. A brief synopsis of findings is provided below.

Most of PLW 2.0 consisted of finished road section containing curb and gutter, with developed lots adjacent to the road right of way. These areas lacked potential jurisdictional features (wetlands, waterways, jurisdictional ditches, etc.). Due to the highly developed nature of the study area, no ditches of any kind were present in the study area- only paved curb and gutter with associated connections to storm water systems were present.

The study area includes two creek crossings with adjacent or nearby floodplain wetlands. These include the crossing of Beaverton Creek and Rock Creek.

The northernmost portion of PLW 2.0, on the City of Hillsboro property just north of the Fred Meyer shopping center, is open and ruderal, and vegetation is dominated by non-native grasses and forbs and patches of Himalayan blackberry, with an emergent wetland fed by precipitation.

7 DEVIATION FROM NWI

The NWI shows no wetlands within the study area, while the LWI matches the field results fairly closely, with the exception of two wetlands east of Cornelius Pass Road. As mapped in the LWI, wetlands were found primarily adjacent to larger waterways, and at the extreme northern end of the project.

8 MAPPING METHOD

Wetland boundaries and data points were mapped using a Trimble Geo 7 Series resource grade Global Positioning System (GPS) unit. GPS data was post-processed resulting in typical accuracy of three feet or better.

Delineation field mapping results are shown on Figure 6 and also documented in tables provided in Appendix B. The maps and tables use the terms and nomenclature provided in Table 4 to identify delineated features.

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Table 4: Mapping and Documentation Terms and Nomenclature

Nomenclature	Meaning			
W-a#-#, S-a#-#	W = wetland, S = stream. After the feature type, the alphanumeric combo is an abbreviation of the Program work package. For example, feature W-W2-1 refers to a wetland in PLW 2.0 with an ID number of 1.			
Delineated by Project	Features delineated by DEA within the study area that are specifically covered by this report.			
Delineated by Others	Areas along the proposed pipeline alignment with wetland delineations known to have been conducted by others. Not covered by this report, but features and names shown on maps where possible.			
No access	Study area intended to be covered by this report, but in which site access was not available. This is indicated by cross-hatching, and any features shown under the cross-hatching were delineated using offsite methods if not "delineated by others."			
Potential (Wetland or Water)	Located outside the study area. These features were observed from public right of way and are believed to be present but boundaries are approximate. Included in mapping to inform the location of features within the study area and to aid project planning. Where features delineated within the study area extend beyond, an asterisk is used (rather than a change in linework).			

9 ADDITIONAL INFORMATION

According to DSL records obtained in November 2015, portions of the study area are known to have already been delineated by others, as shown in Table 5.

Table 5: Project Areas Delineated by Other, PLW 2.0

Former WD#	Tax Lot ID#	Report Information
2006-0057	1N235DB07300	Rock Creek floodplain south of light rail. Original delineation by PHS in 2006. Redelineated by PHS on 05/18/2015; field confirmation by DEA on 06/23/2016. Concurrence letter not included in Appendix since DEA currently has not obtained a copy.
2009-0435	1N235CD0900, 1000, and 13600	Portions of Cornelius Pass Road and Beaverton Creek floodplain. Redelineated by DEA in 2016.
2013-0191	1N236BC01200	Approved with revisions. Poor mapping, but shows wetlands in ag field east of alignment. Likely lies outside SA.
2014-0226	Right of Way	Washington County's Cornelius Pass Road Improvement Project delineation by DEA. Covers large portion of north end of WWSP study area. Delineated wetlands not permitted for impact by County's project have been included in mapping in this report (Figure 6-Sheet 9, Wetlands CornPass-C and -E).

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10 RESULTS AND CONCLUSIONS

A summary of water resources is provided in the table in Appendix B, including the size of the resources mapped in Figure 6 of Appendix A (both in and out of the study area).

11 DISCLAIMER

This report documents the investigation, best professional judgment, and conclusions of the investigator. It is correct and complete to the best of his knowledge. It should be considered a Preliminary Jurisdictional Determination of wetlands and other waters and used at your own risk until it has been reviewed and approved in writing by DSL in Accordance with OAR 141-090-0005 through OAR 141-090-0555.

12 PREPARERS AND CONTRIBUTORS

DEA Ecologists Ethan Rosenthal and Phil Rickus, and DEA Biologist Tony Vingiello, performed the wetland delineation. Mr. Rickus is the primary author of this report, and Mr. Rosenthal provided quality control review. Dawn Afman, DEA Project Assistant, provided editing assistance. Sara Gilbert, DEA Geographic Information System Specialist, and Melissa Foltz, DEA Graphics Specialist, prepared the graphics.

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13 LITERATURE CITATIONS

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 http://www.usace.army.mil/Portals/2/docs/civilworks/regulatory/cwa_guide/jd_guidebook_0_51207final.pdf

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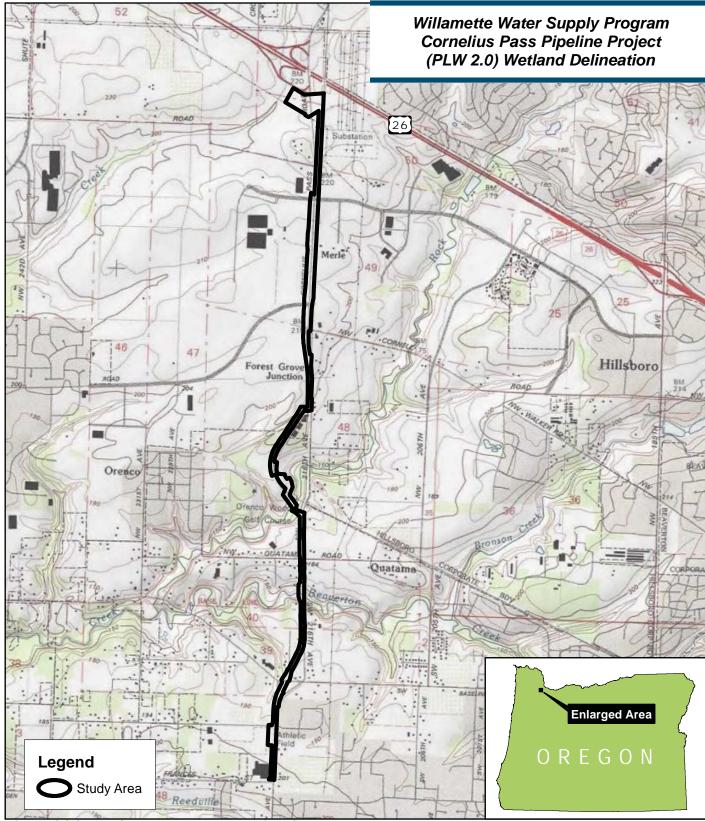
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14 APPENDICES

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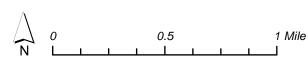
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APPENDIX A: FIGURES

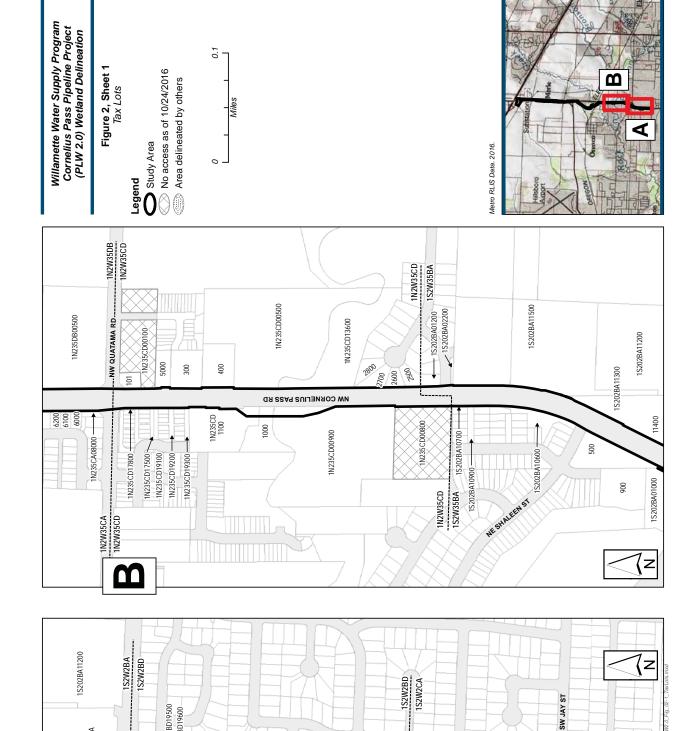


ESRI, ArcGIS Online, USA Topographic Maps. 30x60 GRID Quadrangles

Figure 1 Vicinity Map







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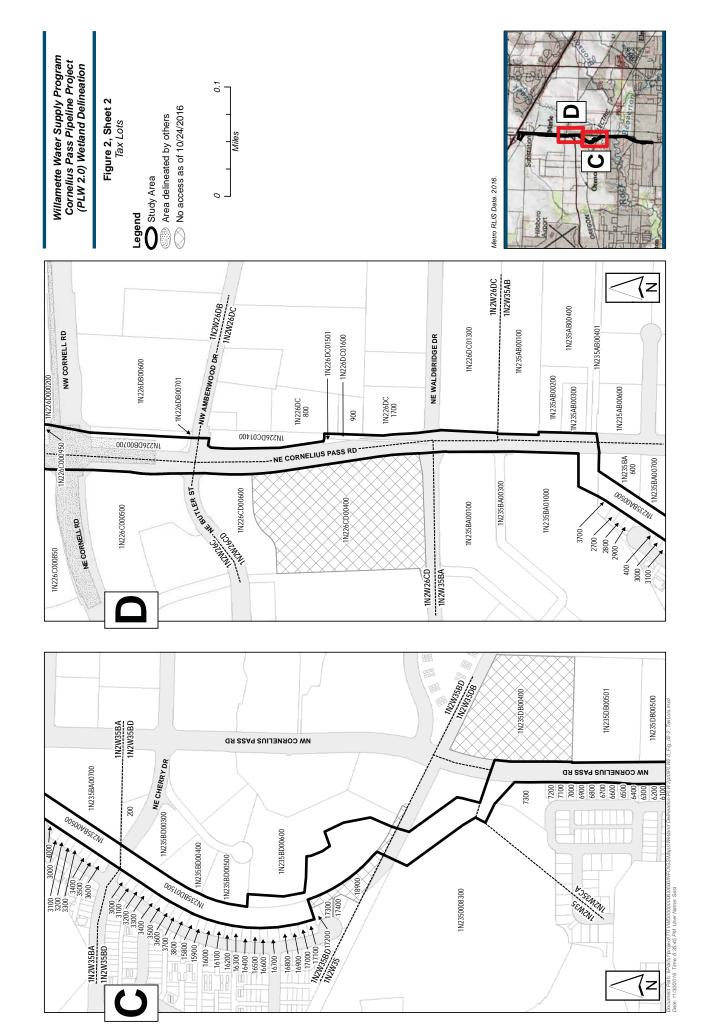
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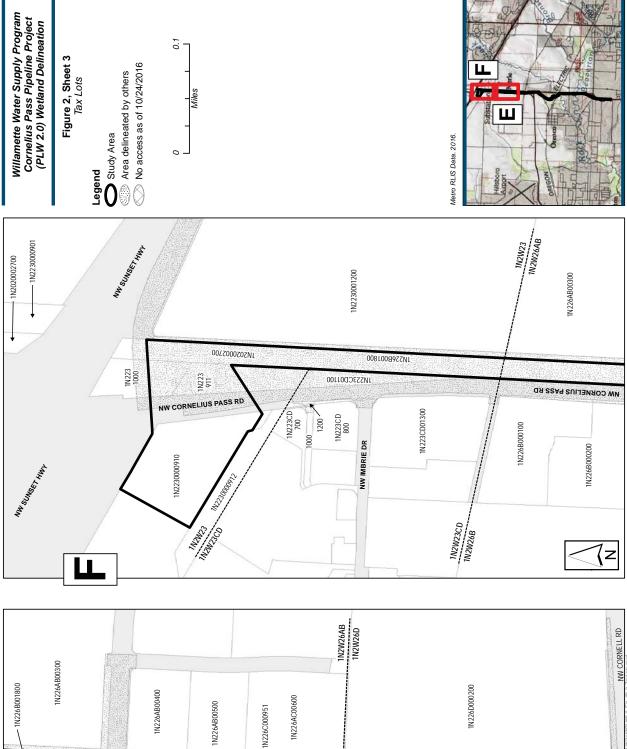
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1S202BA 900



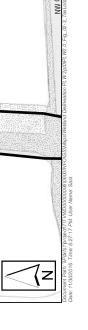


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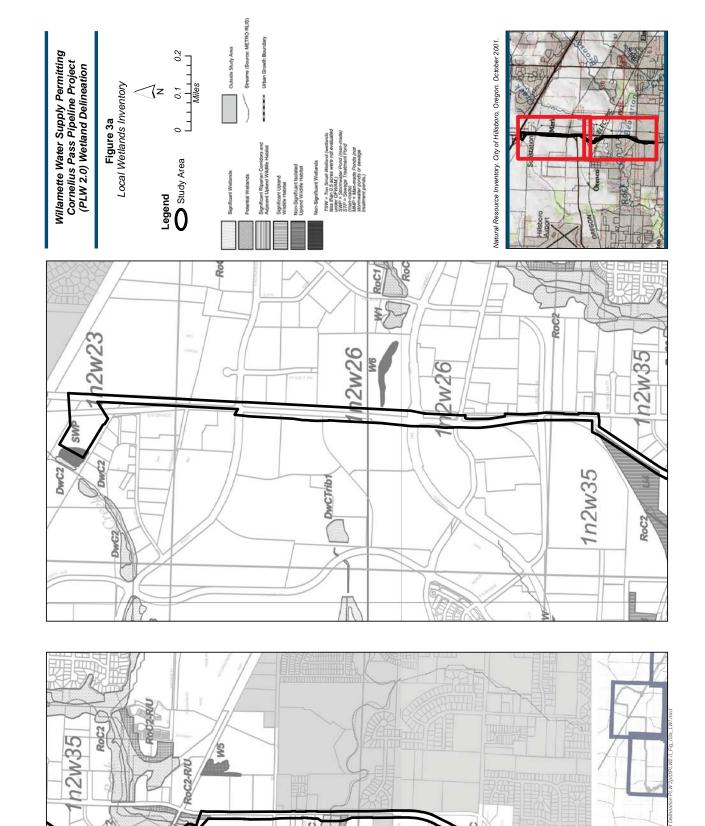
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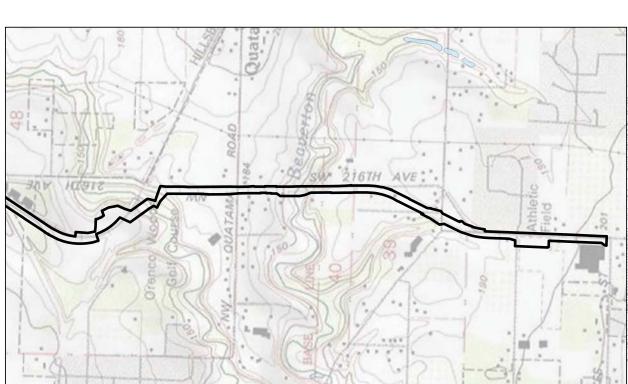
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NW CORNELIUS PASS RD

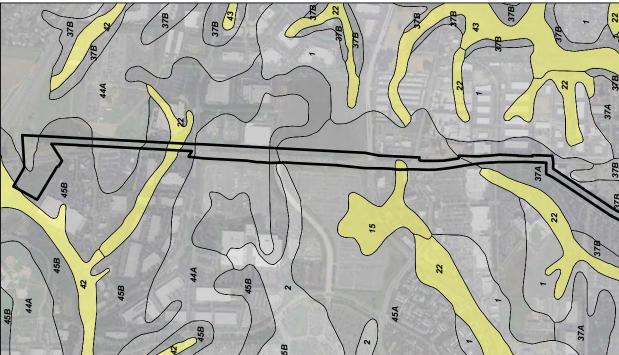


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Willamette Water Supply Permitting Cornelius Pass Pipeline Project (PLW 2.0) Wetland Delineation

Figure 4 Soil Survey

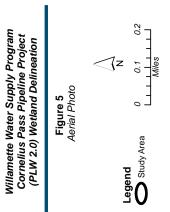
0 0.1 0.2 Legend Study Area Soil Unit Hydric Soil

NRCS Soil Units within the Study Area

- Aloha silt loam
- Amity silt loam Dayton silt loam Huberly silt loam
- Quatama loam, 0 to 3 percent slopes
- Quatama loam, 3 to 7 percent slopes
- Quatama loam, 7 to 12 percent slopes Quatama loam, 12 to 20 percent slopes Verboot silty day loam
- Wapato silty clay loam
- Willamette silt loam, 0 to 3 percent slopes Woodburn silt loam, 0 to 3 percent slope 1 2 2 115 22 37A 37B 37C 42 42 44 44A 45A
 - Woodburn silt loam, 3 to 7 percent slope

ESRI, ArcGIS Online, World Imagey, Microsoft, 2010. Portland, Oregon. Natural Resources Cons ervation Service (IMCS).
All Soil Survey Geographic (SSURGO) database for Clackamas County Area & Washingan County Oregon.





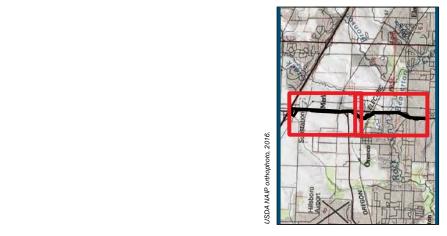
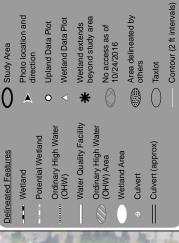


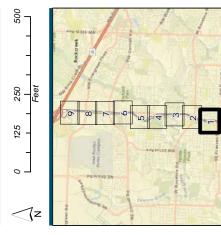




Figure 6, Sheet 1 of 9
Delineated Wetlands



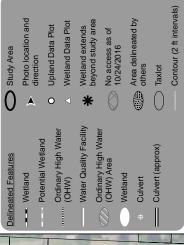
On-site features (wetlands, ditches, streams, culverts, and data plots) were mapped with a Trimble Pathfinder GEO XH receiver with typical accuracy of 3 feet or better. Off-site boundaries are approximate and were mapped based on field review from adjacent public right of way and aerial photo interpretation. An asterisk was included where jurisdictional features, with the accusion or lupland diffress, extend off site. Only taxlots which intersect the study area are labeled. Imagery: USDA NAIP 2016; inset maps show Bing Maps Aerial imagery.



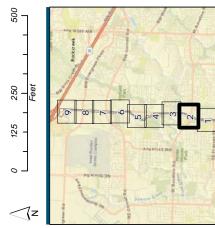


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Figure 6, Sheet 2 of 9
Delineated Wetlands



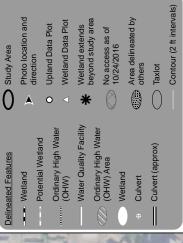
On-site features (wetlands, ditches, streams, culverts, and data plots) were mapped with a Trimble Pathlinder GEO XH receiver with typical accuracy of 3 feet or better. Off-site boundaries are approximated and were mapped based on field review from adjacent public right of way and aerial photo interpretation. An asterisk was included where jurisdictional features, with the exclusion or upland dirthes, extend off site. Only taxidis which intersect the study area are labeled. Imagery: USDA NAIP 2016; inset maps show Bing Maps Aerial imagery.



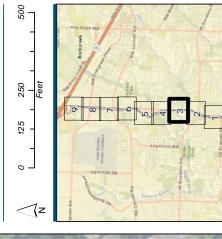
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.W 2.0) Wetland Delinea Figure 6, Sheet 3 of 9 Delineated Wetlands



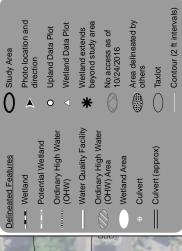
On-site features (wetlands, ditches, streams, culverts, and data plots) were mapped with a Trimble Pathfinder GEO XH receiver with typical accuracy of 3 feet or betate. Off-site boundaries are approximate and were mapped based on field review from adjacent public right of way and aerial photo interpretation. An asterisk was included where lurisdictional features, with the exclusion of upland ditches, extend off site. Only taxlots which intersect the study area are labeled. Imageny: USDA NAIP 2016; inset maps show Bing Maps Aerial imagery.



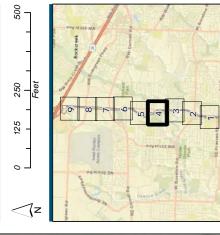


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Figure 6, Sheet 4 of 9 Delineated Wetlands



On-site features (wetlands, ditches, streams, culverts, and data plots) were mapped with a Timble Pathifinder GEO XH receiver with hybical accuracy of 3 feet or better. Off-site boundaries are approximate and were mapped based on field review from adjacent public right of way and aerial photo interpretation. An asterisk was included where jurisdictional features, with the exclusion of upland ditches, extend off site. Only taxlots which intersect the study area are labeled. Imagery. USDA NAIP 2016; inset maps show Bing Maps Aerial imagery.



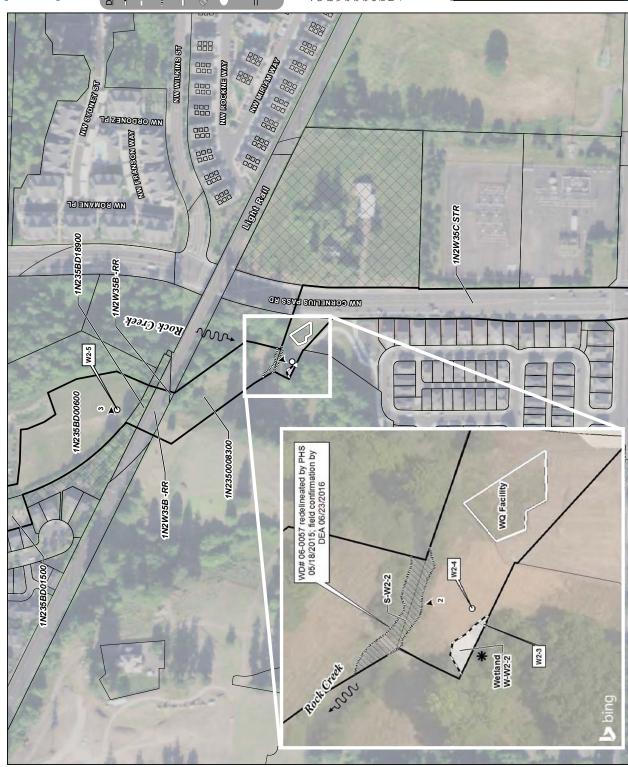
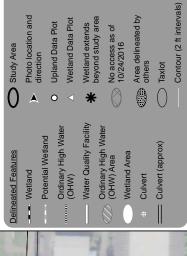
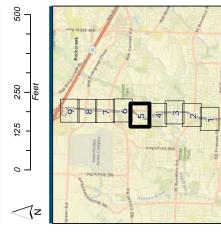


Figure 6, Sheet 5 of 9
Delineated Wetlands



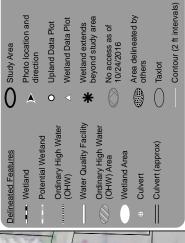
On-site features (wetlands, ditches, streams, culverts, and data plots) were mapped with a Trimble Pathfinder GEO XH receiver with typical accuracy of 3 feet or behate. Off-site boundaries are approximate and were mapped based on field review from adjacent public right of way and aerial photo interpretation. An asterisk was included where jurisdictional features, with the acculsion of upland ditches, extend off site. Only taxlots which intersect the study area are labeled. Imageny: USDA NAIP 2016; inset maps show Bing Maps Aerial imageny.



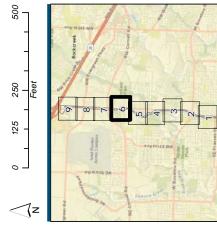


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LW 2.0) Wetland Delinea Figure 6, Sheet 6 of 9 Delineated Wetlands



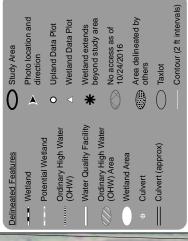
On-site features (wetlands, ditches, streams, culverts, and data plots) were mapped with a Trimble Pathfinder GEO XH receiver with typical accuracy of 3 feet or better. Off-site boundaries are approximate and were mapped based on field review from adjacent public right of way and aerial photo interpretation. An asterisk was included where jurisdictional features, with the accusion of upland differse, schand off site. Only taxlots which intersect the study area are labeled. Imagery: USDA NAIP 2016; inset maps show Bing Maps Aerial imagery.



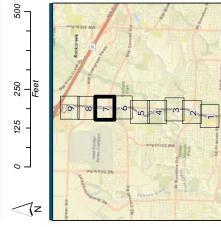
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Figure 6, Sheet 7 of 9
Delineated Wetlands

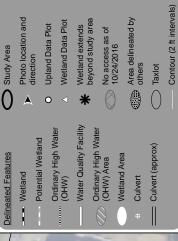


On-site features (wetlands, ditches, streams, culverts, and data plots) were mapped with a Trimble Pathfinder GEO XH receiver with typical accuracy of 3 feet or betaer. Off-site boundaries are approximate and were mapped based on field review from adjacent public right of way and aerial photo interpretation. An asterisk was included where lurisdictional features, with the exclusion of upland ditches, extend off site. Only taxlots which intersect the study area are labeled. Imageny: USDA NAIP 2016; inset maps show Bing Maps Aerial imageny.

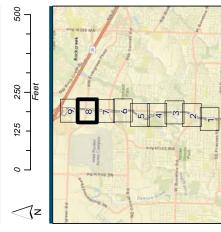




.w z.v) wetrand Delinea Figure 6, Sheet 8 of 9 Delineated Wetlands



On-site features (wetlands, ditches, streams, culverts, and data plots) were mapped with a Trimble Pathfinder GEO XH receiver with typical accuracy of 3 feet or better. Off-site boundaries are approximate and were mapped based on field review from adjacent public right of way and aerial photo interpretation. An asterisk was included where jurisdictional features, with the exclusion of upland ditches, axend off site. Only taxloss which intersect the study area are labeled. Imagery: USDA NAIP 2016; inset maps show Bing Maps Aerial imagery.





Document Path; IP dxfs1 project\TTVWD00000000000000000NFO\S S\Metiand Delineation PLW2pi0\PLW2.0_Fig_06_Wetland Delineation.mxd Date: 11/302016 Time: 7:38:48 PM User Name: Sast

Ordinary High Water (OHW) Water Quality Facility Ordinary High Water (OHW) Area Potential Wetland == Culvert (approx) **Delineated Features** Wetland Area -- Wetland Culvert \sqrt{z} EL COLOR DE LA COL MW RICKEY TER Brian Bonson CONTISTING PROSECULOS IN THE PARTY OF THE PA 1N223000091 WD #2014-0226 1N2020002700 Wetland CornPass-E NW CORNELIUS PASS RD CornPass-C Wetland 1NZWZ3C -STR 1N2230001000-NW IMBRIEDR Wetland W-W2-3 W2-6 1N2230000910

Willamette Water Supply Program Cornelius Pass Pipeline Project (PLW 2.0) Wetland Delineation

Figure 6, Sheet 9 of 9 Delineated Wetlands

Photo location and direction

O Study Area

Upland Data Plot

A •

On-site features (wetlands, ditches, streams, culverts, and date plots) were mapped with a Trimble Pathfinder GEO XH receiver with typical accuracy of 3 feet or better. Off-site boundaries are approximate and were mapped based on field review from adjacent public right of way and aerial photo interpretation. An asterisk was included where jurisdictional features, with the accusion of upland ditches, extend off site. Only taxlots witch intersect the study area are labeled. Imagery: USDA NAIP 2016; Inset maps show Bing Maps Aerial imagery.

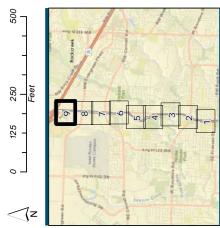
Contour (2 ft intervals)

Taxlot

Area delineated by others

Wetland Data Plot Wetland extends beyond study area

No access as of 10/24/2016



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Willamette Water Supply Program- PLW 2.0	Wetland Delineation Report
ADDENDLY D DELINEATION CLIMMA DY T	AD/ 50
APPENDIX B DELINEATION SUMMARY TA	ABLES

1-W = wetland feature, S =stream feature, D = ditch feature

2-Size in study area is given in acres for wetlands, and in length in feet for streams.

3-Ditches that did not meet wetland criteria or did not have signs of relatively permanent flow were not assumed to be under Corps jurisdiction.

t-All ditches in study area, except where specifically noted, met DSL exemption criteria for roadside ditches (i.e. <10ft wide, no fish, etc.)

See metho	See methods section of report for additional information	eport for	additional info	rmation o	n assumption	n of Corps ar	on assumption of Corps and DSL jurisdictional determination of dithes.	ictional deter	rminatio	on of dithes.
5-Coward	5-Cowardin Class: PEM=palustrine emergent, PSS=pal	-palustrii	ne emergent,		strine scrub-	shrub, PFO=	palustrine fo	rested, R3EI	M=river	ıstrine scrub-shrub, PFO=palustrine forested, R3EM=riverine upper perennial emergent
6-HGM C	6-HGM Class: DEP=depressional, RFT=riverine flow-thr	essional	, RFT=riverine	flow-thrc	rough					
lD ¹	Latitude/ Longitude	Sheet #	Sheet Delineation # Method	Size in Study Area ²	Assumed Corps JD ³	Assumed DSL JD ⁴	Cowardin Class ⁵	HGM Class ⁶	Data Plot ID	Notes (i.e., special circumstances)
S-W2-1	45.520935, - 122.900152	3	Onsite	26	Yes	Yes	-	-	:	Beaverton Creek. OHW approx 20' from scour, lies just below the incised bank.
W-W2-1	45.520936, - 122.900154	3	Onsite	88	Yes	Yes	PEM	Slope/RFT	W2-1	Large level reed canarygrass-dominated terrace above OHW of Beaverton Creek, but sporacically accessed by flood waters, based on drift lines from previous winter floods.
W-W2-2	45.526089, - 122.900886	4	Onsite	99	Yes	Yes	PFO/PSS	Slope/RFT	W2-3	Old oxbow of Rock Creek, above OHW, but sporacically accessed by flood waters, based on drift lines from previous winter floods. Boundary follows mapping from DSL WD2006-0057 and redelinated by DEA in 2016.
S-W2-2	45.526191, - 122.900644	4	Onsite	212	Yes	Yes	ı	-	1	Rock Creek, OHW approx 15' from scour. Boundary follows mapping from DSL WD2006-0057 as redlineated by PHS in 2015 and confirmed by DEA in 2016.
W-W2-3	45.552969, - 122.902016	6	Onsite	741	Yes	Yes	PEM	Slope/Flats	W2-6	Slope/Flats W2-6 south of Hwy 26. Drains to northwest outside study area. Assumed to connect to other waters.

APPENDIX C: DATA SHEETS

Plot ID	Latitude	Longitude	PLSS	Soil ID	Soil Type	Wetland ID	City	County
W2-1	45.520525	-122.900045	T1N R2W S35	43	Wapato silty clay loam		Hillsboro	Washington
W2-2	45.520493	-122.900042	T1N R2W S35	43	Wapato silty clay loam		Hillsboro	Washington
W2-3	45.526027	-122.900830	T1N R2W S35	43	Wapato silty clay loam		Hillsboro	Washington
W2-4	45.526052	-122.900782	T1N R2W S35	43	Wapato silty clay loam		Hillsboro	Washington
W2-5	45.527585	-122.901453	T1N R2W S35	37B	Quatama loam, 3 to 7 percent slopes		Hillsboro	Washington
W2-6	45.552484	-122.902162	T1N R2W S35	45B	Noodburn silt loam, 3 to 7 Hillsboro percent slopes		Hillsboro	Washington
W2-7	45.552451	-122.902082	T1N R2W S35	45B	Woodburn silt loam, 3 to 7 percent slopes		Hillsboro	Washington
W2-1	45.520525	-122.900045	T1N R2W S35	43	Wapato silty clay loam		Hillsboro	Washington

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

Project/Site: Willamette Water Supply Project- PLW 2.0		City/Coun	ty: see sprea	dsheet	_ Sampling	Date: June 2	23, 2016
Applicant/Owner: Tualatin Valley Water District and City	of Hillsboro			State: OR	Sampling	Point: Plot W	V2-1
Investigator(s): Rickus, Rosenthal		Section, 7	Γownship, Ra	nge: see spreadsheet			
Landform (hillslope, terrace, etc.): terrace		Local reli	ef (concave,	convex, none): concave)	Slope (%)): <u>0</u>
Subregion (LRR): A	Lat: see	spreadsh	eet	Long: see spreadshee	et	Datum: see	e spreadshe
Soil Map Unit Name: see spreadsheet				NWI classit			
Are climatic / hydrologic conditions on the site typical for	this time of ve	ar? Yes					
Are Vegetation, Soil, or Hydrology				"Normal Circumstances"		es X ı	No
							1 0
Are Vegetation, Soil, or Hydrology SUMMARY OF FINDINGS - Attach site ma				eeded, explain any answ			es. etc
	No			<u> </u>			
	No		the Sampled		./		
	No	Wi	thin a Wetlar	nd? Yes	✓ No _		
Remarks:	<u> </u>						
Plot lies within a wetland on a terrace on the sout	h side of Bea	verton C	r, above OF	HWM but within the ar	rea of occas	ional floodi	ng.
VEGETATION - Use scientific names of pl	ants.						
Tree Stratum (Plot size: 30 feet)	Absolute		nt Indicator	Dominance Test wo			
4 Alnus rubra	70	y	? Status FAC	Number of Dominant	Species	3	(A)
*** 	<u> </u>			That Are OBL, FACW	, OI FAC.		_ (A)
2. 3.				Total Number of Dom Species Across All St		3	(B)
4.				Species Across Air St	iala.		_ (D)
T	70	= Total C	Cover	Percent of Dominant		100	(A /D)
Sapling/Shrub Stratum (Plot size: 30 feet)		_ = 10101 0	50101	That Are OBL, FACW	, or FAC: _	100	_ (A/B)
1. Alnus rubra	5	n	FAC	Prevalence Index wo	orksheet:		
2. Rubus armeniacus	25	У	FAC	Total % Cover of	<u> </u>	Multiply by:	
3				OBL species	x 1	=	
4				FACW species	x 2	=	
5		-		FAC species			
Herb Stratum (Plot size: 5 feet)	30	_ = Total C	Cover	FACU species			
Phalaris arundinacea	80	У	FACW	UPL species			
2. Equisetum arvense	10	n	FAC	Column Totals:	(A)		(B)
		-		Prevalence Inde	ex = B/A =		
3 4				Hydrophytic Vegeta			
5.				Dominance Test			
6.				Prevalence Index			
7.				Morphological Ac	daptations¹ (P	rovide suppo	orting
8.				data in Remar			t)
9.				Wetland Non-Vas			
10				Problematic Hydr			
11.				¹ Indicators of hydric s be present, unless dis			must
	00	= Total C	over	Do prodont, unioss dis		, S.O.Hatio.	
Woody Vine Stratum (Plot size: 30 feet)							
1				Hydrophytic Vegetation			
2				Present? Y	′es <u>√</u>	No	
% Bare Ground in Herb Stratum 20	-						
% Bare Ground in Herb Stratum 20 Remarks:				<u> </u>			

SOIL Sampling Point: Plot W2-1

Profile Desc	cription: (Describe	to the dep	th needed to docu	ment the	indicator	or confirm	the absence	of indicators.)
Depth	Matrix			ox Feature				
(inches)	Color (moist)	<u>%</u>	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
0-16	10YR 3/2	90	10YR 3/4	10	С	M	silty clay loam	
16-20	Gley 1 5/N	100					silty clay loam	
						·		
					·		-	
					·	<u> </u>		
					-	-		
					· ———			
		 		-		· ——		
	oncentration, D=Dep					ed Sand Gr		cation: PL=Pore Lining, M=Matrix.
1 -	Indicators: (Applic	cable to all			ed.)			ors for Problematic Hydric Soils ³ :
Histosol	` '		Sandy Redox					m Muck (A10)
	pipedon (A2)		Stripped Matrix Loamy Mucky	` '	1) (2)	4 MI DA 4\		Parent Material (TF2)
	istic (A3) en Sulfide (A4)		Loamy Gleyed			T WILKA 1)	Oth	er (Explain in Remarks)
	d Below Dark Surfac	ce (A11)	Depleted Matri		-)			
	ark Surface (A12)) (/ \	✓ Redox Dark St)		³ Indicate	ors of hydrophytic vegetation and
	Mucky Mineral (S1)		Depleted Dark					and hydrology must be present,
Sandy G	Bleyed Matrix (S4)		Redox Depres	sions (F8)				ss disturbed or problematic.
Restrictive	Layer (if present):							
Type:								
Depth (in	ches):						Hydric Soil	Present? Yes No
Remarks:							1	
HYDROLO	GY							
Wetland Hy	drology Indicators	:						
Primary India	cators (minimum of	one required	d; check all that app	ly)			Seco	ndary Indicators (2 or more required)
Surface	Water (A1)		Water-Sta	ained Leav	es (B9) (e	except MLF	RA V	Vater-Stained Leaves (B9) (MLRA 1, 2,
High Wa	ater Table (A2)		1, 2, 4	A, and 4B)	•	· · · · · · · · · · · · · · · · · · ·	4A, and 4B)
✓ Saturation	on (A3)		Salt Crus		•			Prainage Patterns (B10)
Water M	larks (B1)		Aquatic Ir		es (B13)			Ory-Season Water Table (C2)
	nt Deposits (B2)			Sulfide O				Saturation Visible on Aerial Imagery (C9)
	posits (B3)					Living Roo		Geomorphic Position (D2)
	at or Crust (B4)		Presence		_	_		Shallow Aquitard (D3)
_	posits (B5)		Recent Ire		,	•		AC-Neutral Test (D5)
	Soil Cracks (B6)					01) (LRR A)		Raised Ant Mounds (D6) (LRR A)
	on Visible on Aerial	Imagery (B	· · · · · · · · · · · · · · · · · · ·	plain in Re	,) (L ICIC A)		rost-Heave Hummocks (D7)
	y Vegetated Concav		,	piairi iii ixc	Jiliai Koj		<u> </u>	Tost Fleave Flammooks (B7)
Field Obser	=	C Odnace (i	50)			1		
Surface Wat		/oc	No <u>✓</u> Depth (ir	ochee).				
						_		
Water Table			No Depth (ir			— I		
Saturation P (includes car		res <u>v</u>	No Depth (ir	nches): <u>'</u>		Wetla	and Hydrolog	y Present? Yes <u>√</u> No
	corded Data (strean	n gauge, mo	nitoring well, aerial	photos, pr	evious in:	spections),	if available:	
	,	0 0 7	<i>y</i>	. ,,		,,,		
Remarks:								
rtomanto.								

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

Project/Site: Willamette Water Supply Program- PLW 2.0		City/Count	y: See sprea	dsheet	Sampling Date: June 23, 2016
Applicant/Owner: Tualatin Valley Water District and City of H	illsboro			Sampling Point: Plot W2-2	
Investigator(s): Rickus, Rosenthal	;	Section, T	ownship, Raı	nge: see spreadsheet	
					Slope (%): <u>45</u>
Subregion (LRR): A	_ Lat: see	spreadshe	et	Long: see spreadsheet	Datum: see spreadshe
Soil Map Unit Name: see spreadsheet				NWI classifica	ation: see spreadsheet
Are climatic / hydrologic conditions on the site typical for this	time of vea	ar? Yes			
Are Vegetation, Soil, or Hydrologys					resent? Yes X No
Are Vegetation, Soil, or Hydrology n				eded, explain any answer	
SUMMARY OF FINDINGS – Attach site map					
Hydrophytic Vegetation Present? Yes No	· /				
Hydric Soil Present? Yes No			he Sampled		
Wetland Hydrology Present? Yes No	o <u>√</u>	wit	hin a Wetlar	nd? Yes	No
Remarks:					
Plot lies on the slope 2.5 feet higher than the wetland	d plot.				
VEGETATION – Use scientific names of plant	ts.				
Table Street in (Diet sine, 30 feet	Absolute		t Indicator	Dominance Test works	heet:
Tree Stratum (Plot size: 30 feet) 1	% Cover			Number of Dominant Sp That Are OBL, FACW, o	
2				Total Number of Domina	ant
3				Species Across All Strat	a: <u>4</u> (B)
4				Percent of Dominant Sp	
Sapling/Shrub Stratum (Plot size: 30 feet)		= Lotal C	over	That Are OBL, FACW, o	r FAC: 50 (A/B)
1. Rubus armeniacus	40	у	FAC	Prevalence Index work	sheet:
2				Total % Cover of:	Multiply by:
3				OBL species	x 1 =
4				· ·	x 2 =
5					x 3 =
Herb Stratum (Plot size: 5 feet)	40	= Total C	over		x 4 =
1. Phalaris arundinacea	30	у	FACW		x 5 = (A) (B)
2. Avena sativa	50	у	UPL	Column rotals.	(A) (B)
3. Lapsana communis	20	у	FACU	Prevalence Index	= B/A =
4				Hydrophytic Vegetatio	
5				Dominance Test is :	
6				Prevalence Index is	
7				data in Remarks	otations ¹ (Provide supporting or on a separate sheet)
8				Wetland Non-Vascu	. ,
9				Problematic Hydrop	hytic Vegetation ¹ (Explain)
10.		-	<u> </u>		and wetland hydrology must
11	400	= Total Co	over	be present, unless distu	bed or problematic.
Woody Vine Stratum (Plot size: 30 feet)		_ 10141 00	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		
1				Hydrophytic	
2				Vegetation Present? Yes	s No✓_
% Bare Ground in Herb Stratum 5		= Total Co	over		
Remarks:				<u> </u>	
wheat appears to have been planted for erosion con-	trol.				

SOIL Sampling Point: Plot W2-2

Depth	Matrix Color (moist)	%	Color (moist	Redox Features) %	Type ¹	Loc ²	Texture	Remarks
(inches)	10YR 3/2	 100	Color (moist	<u> </u>	Type	LOC	silt loam	with gravel
	1011 3/2	_ 100					SIILIUAIII	
0+								gravel
			-					
			-					
Гуре: C=Cond	centration, D=De	pletion, RM	l=Reduced Matrix	k, CS=Covered	or Coate	d Sand Gi	rains. ² Lo	cation: PL=Pore Lining, M=Matrix
ydric Soil Inc	dicators: (Appli	cable to al	l LRRs, unless o	therwise note	ed.)		Indicat	ors for Problematic Hydric Soils
_ Histosol (A	.1)		Sandy Red	ox (S5)			2 c	m Muck (A10)
_ Histic Epipe	edon (A2)		Stripped M	, ,				d Parent Material (TF2)
_ Black Histic	. ,			cky Mineral (F1		MLRA 1)	Oth	er (Explain in Remarks)
	Sulfide (A4)			yed Matrix (F2)			
	Below Dark Surfa	ce (A11)	Depleted M				31	and of hardman hardle are well-there.
	Surface (A12)		· · · · · · · · · · · · · · · · · · ·	k Surface (F6)	7)			ors of hydrophytic vegetation and and hydrology must be present,
	cky Mineral (S1) yed Matrix (S4)		-	ark Surface (F ressions (F8)	7)			ss disturbed or problematic.
	yer (if present):		Nedox Dep	163310113 (1 0)			unie.	as disturbed of problematic.
Type: grave								
турс. <u>о</u>							Usalvia Cai	I Present? Yes No
Depth (inche	₂₆). 10							
							Hydric Soi	
remarks:		:					nyaric soi	
YDROLOG	Y ology Indicators		ed; check all that	apply)				ndary Indicators (2 or more require
emarks: 'DROLOG' Vetland Hydro	Y blogy Indicators ors (minimum of			apply) -Stained Leave	es (B9) (e	xcept MLI	Seco	
emarks: /DROLOG` /etland Hydro rimary Indicate _ Surface Wa	Y blogy Indicators ors (minimum of		Water			xcept MLI	Seco	ndary Indicators (2 or more require
emarks: /DROLOG` /etland Hydro rimary Indicate _ Surface Wa	Y Dlogy Indicators ors (minimum of ater (A1) r Table (A2)		Water	-Stained Leave		xcept MLI	<u>Secc</u> RA \	ndary Indicators (2 or more require Water-Stained Leaves (B9) (MLRA 4A, and 4B) Drainage Patterns (B10)
PEROLOG Petland Hydro rimary Indicate Surface Wa High Watel	Y plogy Indicators ors (minimum of ater (A1) r Table (A2) (A3)		Water 1, 2 Salt C	-Stained Leave 2, 4A, and 4B)		xcept MLI	<u>Secc</u> RA \	ndary Indicators (2 or more require Vater-Stained Leaves (B9) (MLRA 4A, and 4B)
PROLOG' Vetland Hydro rimary Indicate Surface Wa High Water Saturation Water Marl	Y plogy Indicators ors (minimum of ater (A1) r Table (A2) (A3)		Water	-Stained Leave 2, 4A, and 4B) rust (B11)	s (B13)	xcept MLI	Seco	ndary Indicators (2 or more require Water-Stained Leaves (B9) (MLRA 4A, and 4B) Drainage Patterns (B10)
PROLOG' Vetland Hydro rimary Indicate Surface Wa High Water Saturation Water Marl	Y plogy Indicators ors (minimum of ater (A1) r Table (A2) (A3) ks (B1) Deposits (B2)		Water 1, 2 Salt C Aquat Hydro	-Stained Leave 2, 4A, and 4B) rust (B11) ic Invertebrate gen Sulfide Oc	s (B13) dor (C1)		Secc RA \ [[ndary Indicators (2 or more require Vater-Stained Leaves (B9) (MLRA 4A, and 4B) Orainage Patterns (B10) Ory-Season Water Table (C2)
/DROLOG` /etland Hydro rimary Indicate Surface Wa High Water Saturation Water Marl Sediment I Drift Depos	Y plogy Indicators ors (minimum of ater (A1) r Table (A2) (A3) ks (B1) Deposits (B2)		Water 1, ; Salt C Aquat Hydro Oxidiz	-Stained Leave 2, 4A, and 4B) rust (B11) ic Invertebrate gen Sulfide Oc	s (B13) dor (C1) res along	Living Roc	Secondary Second	ndary Indicators (2 or more require Water-Stained Leaves (B9) (MLRA 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imager Geomorphic Position (D2) Shallow Aquitard (D3)
POROLOG Vetland Hydro Verimary Indicate Surface Wa High Water Saturation Water Marl Sediment I Drift Depos Algal Mat o Iron Depos	y blogy Indicators ors (minimum of ater (A1) r Table (A2) (A3) ks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5)		Water 1, 2 Salt C Aquat Hydro Oxidiz Prese	-Stained Leave 2, 4A, and 4B) trust (B11) ic Invertebrate gen Sulfide Oc ted Rhizosphe	s (B13) dor (C1) res along d Iron (C4	Living Roc	Secondary Second	ndary Indicators (2 or more require Water-Stained Leaves (B9) (MLRA 4A, and 4B) Orainage Patterns (B10) Ory-Season Water Table (C2) Saturation Visible on Aerial Imager Geomorphic Position (D2)
YDROLOG Vetland Hydro Yimary Indicate Surface Wa High Water Saturation Water Marl Sediment I Drift Depos Algal Mat o Iron Depos	y blogy Indicators ors (minimum of ater (A1) r Table (A2) (A3) ks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5)		Water 1, 2 Salt C Aquat Hydro Oxidiz Prese Recer	-Stained Leave 2, 4A, and 4B) trust (B11) ic Invertebrate: gen Sulfide Oc ted Rhizosphei nce of Reduce	s (B13) dor (C1) res along d Iron (C4 on in Tille	Living Roc I) d Soils (C6	Secondary Second	ndary Indicators (2 or more require Water-Stained Leaves (B9) (MLRA 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imager Geomorphic Position (D2) Shallow Aquitard (D3)
YDROLOG` Vetland Hydro Vetland Hydro Vetland Hydro Surface Wa High Watel Saturation Water Marl Sediment [Drift Depos Algal Mat o Iron Depos Surface So Inundation	y plogy Indicators ors (minimum of ater (A1) r Table (A2) (A3) ks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) oil Cracks (B6) Visible on Aerial	one require	Water 1, 2 Salt C Aquat Hydro Oxidiz Prese Recer Stunte 37) Owner	-Stained Leave 2, 4A, and 4B) trust (B11) ic Invertebrate: gen Sulfide Oct red Rhizosphei nce of Reduce at Iron Reduction	s (B13) dor (C1) res along d Iron (C ² on in Tilled Plants (D	Living Roc I) d Soils (C6	Secondary Second	ndary Indicators (2 or more require Vater-Stained Leaves (B9) (MLRA 4A, and 4B) Orainage Patterns (B10) Ory-Season Water Table (C2) Saturation Visible on Aerial Imager Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5)
YDROLOGY Vetland Hydro Vetland Hydro Trimary Indicate Surface Wa High Water Saturation Water Marl Sediment I Drift Depos Algal Mat of Iron Depos Surface So Inundation Sparsely V	y plogy Indicators ors (minimum of ater (A1) r Table (A2) (A3) ks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) oil Cracks (B6) Visible on Aerial (egetated Concav	one require	Water 1, 2 Salt C Aquat Hydro Oxidiz Prese Recer Stunte 37) Owner	-Stained Leave 2, 4A, and 4B) trust (B11) ic Invertebrate gen Sulfide Oc red Rhizosphei nce of Reduce at Iron Reduction	s (B13) dor (C1) res along d Iron (C ² on in Tilled Plants (D	Living Roc I) d Soils (C6	Secondary Second	Indary Indicators (2 or more require Water-Stained Leaves (B9) (MLRA 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imager Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
POROLOG Vetland Hydro Inimary Indicate Surface Wa High Water Saturation Water Marl Sediment I Drift Depos Algal Mat o Iron Depos Surface So Inundation Sparsely V ield Observat	y blogy Indicators ors (minimum of ater (A1) r Table (A2) (A3) ks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) oil Cracks (B6) Visible on Aerial degetated Concavitions:	one require Imagery (E ve Surface	Water 1, 2 Salt C Aquat Hydro Oxidiz Prese Recer Stunte 87) Other (B8)	-Stained Leave 2, 4A, and 4B) trust (B11) ic Invertebrate: gen Sulfide Oc red Rhizospher nce of Reduce nt Iron Reduction ed or Stressed (Explain in Re	s (B13) dor (C1) res along d Iron (C ² on in Tilled Plants (D marks)	Living Roo l) d Soils (C6 1) (LRR A	Secondary Second	Indary Indicators (2 or more require Water-Stained Leaves (B9) (MLRA 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imager Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
POROLOG Vetland Hydro Inimary Indicate Surface Wa High Water Saturation Water Marl Sediment I Drift Depos Algal Mat o Iron Depos Surface So Inundation Sparsely V ield Observat	Y Dlogy Indicators ors (minimum of ater (A1) r Table (A2) (A3) ks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) bil Cracks (B6) Visible on Aerial regetated Concavitions: Present?	one require Imagery (E ve Surface	— Water 1, 2 — Salt C — Aquat — Hydro — Oxidiz — Prese — Recer — Stunte 87) — Other (B8)	-Stained Leave 2, 4A, and 4B) trust (B11) ic Invertebrate: gen Sulfide Oct ed Rhizospher nce of Reduce nt Iron Reduction ed or Stressed (Explain in Re	s (B13) dor (C1) res along d Iron (C ² on in Tiller Plants (D marks)	Living Roo I) d Soils (C6 1) (LRR A	Secondary Second	Indary Indicators (2 or more require Water-Stained Leaves (B9) (MLRA 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imager Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
YDROLOG` Vetland Hydro Primary Indicate Surface Water Saturation Water Marl Sediment D Drift Depos Algal Mat o Iron Depos Surface So Inundation Sparsely V Geld Observate Surface Water	y plogy Indicators ors (minimum of ater (A1) r Table (A2) (A3) ks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) oil Cracks (B6) Visible on Aerial (egetated Concavitions: Present?	Imagery (E /e Surface Yes Yes	— Water 1, 2 — Salt C — Aquat — Hydro — Oxidiz — Prese — Recer — Stunte 37) — Other (B8) No ✓ Deptl No ✓ Deptl	-Stained Leave 2, 4A, and 4B) trust (B11) ic Invertebrate: gen Sulfide Octed Rhizosphei nce of Reduce at Iron Reducticed or Stressed (Explain in Re	s (B13) dor (C1) res along d Iron (C4 on in Tilled Plants (D marks)	Living Rock Soils (C6 1) (LRR A	Secondary Second	Indary Indicators (2 or more require Water-Stained Leaves (B9) (MLRA 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imager Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
YDROLOG` Wetland Hydro Primary Indicate Surface Wa High Watel Saturation Water Marl Sediment D Drift Depos Algal Mat o Iron Depos Surface So Inundation Sparsely V Field Observat Surface Water I Water Table Present Table Presen	y blogy Indicators ors (minimum of ater (A1) or Table (A2) (A3) ks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) oil Cracks (B6) Visible on Aerial (egetated Concavitions: Present? esent?	Imagery (E /e Surface Yes Yes	— Water 1, 2 — Salt C — Aquat — Hydro — Oxidiz — Prese — Recer — Stunte 87) — Other (B8)	-Stained Leave 2, 4A, and 4B) trust (B11) ic Invertebrate: gen Sulfide Octed Rhizosphei nce of Reduce at Iron Reducticed or Stressed (Explain in Re	s (B13) dor (C1) res along d Iron (C4 on in Tilled Plants (D marks)	Living Rock Soils (C6 1) (LRR A	Secondary Second	Indary Indicators (2 or more require Water-Stained Leaves (B9) (MLRA 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imager Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
YDROLOG' Wetland Hydro Primary Indicate Surface Water High Water Saturation Water Marl Sediment D Drift Depos Algal Mat o Iron Depos Surface So Inundation Sparsely V Field Observat Surface Water I Saturation Presincludes capilla	y plogy Indicators ors (minimum of ater (A1) or Table (A2) (A3) or Crust (B4) or Crust (B4) or Crust (B5) or Crust (B5) or Crust (B6) Visible on Aerial (egetated Concavitions: Present? present? pearly fringe)	Imagery (Eve Surface Yes Yes	— Water 1, 2 — Salt C — Aquat — Hydro — Oxidiz — Prese — Recer — Stunte 37) — Other (B8) No ✓ Depti No ✓ Depti	-Stained Leave 2, 4A, and 4B) trust (B11) ic Invertebrate: gen Sulfide Octed Rhizosphei nce of Reduce nt Iron Reducticed or Stressed (Explain in Re	s (B13) dor (C1) res along d Iron (C4 on in Tilled Plants (D marks)	Living Rock Soils (C6 1) (LRR A	Second RA [Indary Indicators (2 or more require Water-Stained Leaves (B9) (MLRA 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imager Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
YDROLOG' Wetland Hydro Primary Indicate Surface Water High Water Saturation Water Marl Sediment D Drift Depos Algal Mat o Iron Depos Surface So Inundation Sparsely V Field Observat Surface Water I Saturation Presincludes capilla	y plogy Indicators ors (minimum of ater (A1) or Table (A2) (A3) or Crust (B4) or Crust (B4) or Crust (B5) or Crust (B5) or Crust (B6) Visible on Aerial (egetated Concavitions: Present? present? pearly fringe)	Imagery (Eve Surface Yes Yes	— Water 1, 2 — Salt C — Aquat — Hydro — Oxidiz — Prese — Recer — Stunte 37) — Other (B8) No ✓ Deptl No ✓ Deptl	-Stained Leave 2, 4A, and 4B) trust (B11) ic Invertebrate: gen Sulfide Octed Rhizosphei nce of Reduce nt Iron Reducticed or Stressed (Explain in Re	s (B13) dor (C1) res along d Iron (C4 on in Tilled Plants (D marks)	Living Rock Soils (C6 1) (LRR A	Second RA [Indary Indicators (2 or more require Water-Stained Leaves (B9) (MLRA 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imager Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
YDROLOGY Vetland Hydro Primary Indicate Surface Water Mark Sediment D Drift Depose Algal Mat of Iron Depose Surface So Inundation Sparsely V Field Observate Surface Water Table Pro Saturation Pressincludes capillate Describe Recore	y plogy Indicators ors (minimum of ater (A1) or Table (A2) (A3) or Crust (B4) or Crust (B4) or Crust (B5) or Crust (B5) or Crust (B6) Visible on Aerial (egetated Concavitions: Present? present? pearly fringe)	Imagery (Eve Surface Yes Yes	— Water 1, 2 — Salt C — Aquat — Hydro — Oxidiz — Prese — Recer — Stunte 37) — Other (B8) No ✓ Depti No ✓ Depti	-Stained Leave 2, 4A, and 4B) trust (B11) ic Invertebrate: gen Sulfide Octed Rhizosphei nce of Reduce nt Iron Reducticed or Stressed (Explain in Re	s (B13) dor (C1) res along d Iron (C4 on in Tilled Plants (D marks)	Living Rock Soils (C6 1) (LRR A	Second RA [Indary Indicators (2 or more require Water-Stained Leaves (B9) (MLRA 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imager Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
YDROLOG` Vetland Hydro Primary Indicate Surface Wa High Water Saturation Water Marl Sediment D Drift Depos Algal Mat o Iron Depos Surface So Inundation Sparsely V Tield Observat Surface Water I Saturation Presincludes capilla	y plogy Indicators ors (minimum of ater (A1) or Table (A2) (A3) or Crust (B4) or Crust (B4) or Crust (B5) or Crust (B5) or Crust (B6) Visible on Aerial (egetated Concavitions: Present? present? pearly fringe)	Imagery (Eve Surface Yes Yes	— Water 1, 2 — Salt C — Aquat — Hydro — Oxidiz — Prese — Recer — Stunte 37) — Other (B8) No ✓ Depti No ✓ Depti	-Stained Leave 2, 4A, and 4B) trust (B11) ic Invertebrate: gen Sulfide Octed Rhizosphei nce of Reduce nt Iron Reducticed or Stressed (Explain in Re	s (B13) dor (C1) res along d Iron (C4 on in Tilled Plants (D marks)	Living Rock Soils (C6 1) (LRR A	Second RA [Indary Indicators (2 or more require Water-Stained Leaves (B9) (MLRA 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imager Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
YDROLOGY Vetland Hydro Vetland	y plogy Indicators ors (minimum of ater (A1) or Table (A2) (A3) or Crust (B4) or Crust (B4) or Crust (B5) or Crust (B5) or Crust (B6) Visible on Aerial (egetated Concavitions: Present? present? pearly fringe)	Imagery (Eve Surface Yes Yes	— Water 1, 2 — Salt C — Aquat — Hydro — Oxidiz — Prese — Recer — Stunte 37) — Other (B8) No ✓ Depti No ✓ Depti	-Stained Leave 2, 4A, and 4B) trust (B11) ic Invertebrate: gen Sulfide Octed Rhizosphei nce of Reduce nt Iron Reducticed or Stressed (Explain in Re	s (B13) dor (C1) res along d Iron (C4 on in Tilled Plants (D marks)	Living Rock Soils (C6 1) (LRR A	Second RA [Indary Indicators (2 or more require Water-Stained Leaves (B9) (MLRA 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imager Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)

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

Applicant/Owner: Tualatin Valley Water District and City of Hillsboro State: OR Sampling Point: Plot W2-3	Project/Site: Willamette Water Supply Project- PLW 2.0	dsheet	Sampling Date: June 23, 201			
Lacration (hilistope, terrace, etc.): letrace Lat: see spreadsheet Long: see spreadsheet Datum: see spreadsheet	Applicant/Owner: Tualatin Valley Water District and City of	f Hillsboro				
Landom (fillslope, terrace, etc.): terrace Local relief (concave, convex, cone): concave Slope (%): 2 Subregion (LRR): A Lat: see spreadsheet Long: see spreadsheet Datum: see spreadsheet Novi classification: See spreadsheet Novi classification: See spreadsheet Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.) 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	Investigator(s): Rickus, Rosenthal		Section, T			
Solf Map Junk Name: see spreadsheet Solf Map Junk Name: see spreadsheet Solf Map Junk Name: see spreadsheet Notification: see					Slope (%): 2	
Soil Map Unit Name: see spreadsheet Are climator / hydrologic conditions on the site typical for this time of year? Yes X No		Lat: see	spreadshe	eet	Long: see spreadsheet	Datum: see spreads
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.) Are Vegetation Soil or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X 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 Hydrophylic Vegetation Present? Yes Y No					=	
Are Vegetation		his time of ve				
Soli						
Hydrophytic Vegetation Present? Hydrophytic Vegetation Presen						
Substitution Subs						
Substitution Subs	Hydrophytic Vegetation Present? Yes ✓	No	1- (l 0 l	1.4	
Remarks: Plot lies within a wetland on a terrace on the south bank of a creek.	Hydric Soil Present? Yes ✓	No		_		, No
Plot lies within a wetland on a terrace on the south bank of a creek. VEGETATION – Use scientific names of plants. Tree Stratum (Plot size: 30 feet	Wetland Hydrology Present? Yes✓	No	WIL	iiiii a vvetiai	iu: les	
VEGETATION - Use scientific names of plants. Absolute Species Status Species	Remarks:					
Absolute Spacies Stratum (Plot size: 30 feet Spacies Spac	Plot lies within a wetland on a terrace on the south	bank of a c	reek.			
Absolute Spacies Stratum (Plot size: 30 feet Spacies Spac						
Number of Dominant Species Status Number of Dominant Species That Are OBL, FACW, or FAC: 5	VEGETATION – Use scientific names of pla	ants.				
1	Table Stratium (Diet size, 30 feet				Dominance Test work	sheet:
3. 4. Species Across All Strata: 5 (B) 4. 2. = Total Cover Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B) 1. Crataegus douglasii 40 y FAC Prevalence Index worksheet: Total % Cover of: Multiply by: Al = FACW species x 1 = FACW species x 2 = x 4 = UPL species						pecies or FAC: 5 (A)
Sapling/Shrub Stratum (Plot size: 30 feet 100 (A/B) 1. Crataegus douglasii 40					Total Number of Domin	ant
Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)	3				Species Across All Stra	ta: <u>5</u> (B)
Crataegus douglasii 20	4				Percent of Dominant Sp	pecies
1. Crataegus douglasii 20 y FAC Spirea douglasii 20 y FACW 3. Rosa pisocarpa 40 y FAC OBL species x1 =	Sapling/Shrub Stratum (Plot size: 30 feet)	-	_ = Total C	over	That Are OBL, FACW, o	or FAC: 100 (A/B
2. Spirea douglasii 20 y FACW Total % Cover of: Multiply by: 3. Rosa pisocarpa 40 y FAC OBL species x 1 =		40	у	FAC	Prevalence Index worl	ksheet:
4		20	У	FACW	Total % Cover of:	Multiply by:
FAC species x 3 =		40	у	FAC		
5	4.				FACW species	x 2 =
Herb Stratum (Plot size: 5 feet 10			-		FAC species	x 3 =
1. Impatiens capensis 2. Holcus lanatus 3.			_ = Total C	over	FACU species	x 4 =
Holcus lanatus 10					UPL species	x 5 =
3. Prevalence Index = B/A =			У		Column Totals:	(A) (B)
4			У		Prevalence Index	– R/Δ –
5						
6						
7						
9	7				Morphological Ada	ptations ¹ (Provide supporting
9 Problematic Hydrophytic Vegetation¹ (Explain) 11						
11						
Woody Vine Stratum (Plot size: 30 feet 1			-			
Woody Vine Stratum (Plot size: 30 feet) 1	11	0.0	Tatal C		be present, unless distu	irbed or problematic.
1	Woody Vine Stratum (Plot size: _30 feet)		_= rotal Co	ovei		
2 = Total Cover Vegetation Present? Yes No		<u> </u>			Hydrophytic	
% Bare Ground in Herb Stratum 40					Vegetation	o √ No
			= Total Co	over	rresent? Yes	> <u>*</u> NO
Remarks:						
	Remarks:					

SOIL Sampling Point: Plot W2-3

Profile Desc	cription: (Describe	to the dep	oth needed to docu	ment the	indicator	or confirm	n the absence o	of indicators.)
Depth	Matrix		Redo	ox Feature	s			
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	<u>Loc²</u>	Texture	Remarks
0-10	10YR 3/2	95	10YR 3/4	5	С	M	silty clay loam	
10-20	10YR 3/2	85	10YR 3/4	15	С	M	silty clay loam	
					-			
	-		-					
	-				-			
1			5 1 111 11 0				. 21	
			=Reduced Matrix, C LRRs, unless othe			ed Sand Gr		ntion: PL=Pore Lining, M=Matrix. s for Problematic Hydric Soils ³ :
_		able to all			eu.)			•
Histosol	,		Sandy Redox (Stripped Matrix					Muck (A10) Parent Material (TF2)
	pipedon (A2) istic (A3)		Loamy Mucky	. ,	1) (evcen	t MI RA 1)		· (Explain in Remarks)
	en Sulfide (A4)		Loamy Gleyed			T WEICH I)	0	(Explain in Remarks)
	d Below Dark Surfac	ce (A11)	Depleted Matri	•	-/			
	ark Surface (A12)	,	✓ Redox Dark Su)		³ Indicators	s of hydrophytic vegetation and
Sandy N	Mucky Mineral (S1)		Depleted Dark	Surface (F	- 7)		wetlan	d hydrology must be present,
	Gleyed Matrix (S4)		Redox Depress	sions (F8)			unless	disturbed or problematic.
Restrictive	Layer (if present):							
Type:								
Depth (in	ches):						Hydric Soil F	Present? Yes No
Remarks:							l	
HYDROLO	GY							
Wetland Hy	drology Indicators	:						
Primary India	cators (minimum of	one require	d; check all that app	ly)			Second	dary Indicators (2 or more required)
Surface	Water (A1)		Water-Sta	ained Leav	res (B9) (e	except MLF	RA Wa	ater-Stained Leaves (B9) (MLRA 1, 2,
High Wa	ater Table (A2)		1, 2, 4	A, and 4B	5)			4A, and 4B)
_✓ Saturati	on (A3)		Salt Crust	t (B11)			Dra	ainage Patterns (B10)
Water M	1arks (B1)		Aquatic In	vertebrate	es (B13)		Dry	y-Season Water Table (C2)
Sedime	nt Deposits (B2)		Hydrogen	Sulfide O	dor (C1)		Sa	turation Visible on Aerial Imagery (C9)
Drift De	posits (B3)		Oxidized	Rhizosphe	eres along	Living Roo	ots (C3) <u>√</u> Ge	omorphic Position (D2)
Algal Ma	at or Crust (B4)		Presence	of Reduce	ed Iron (C	4)	Sh	allow Aquitard (D3)
_	posits (B5)		Recent Iro					C-Neutral Test (D5)
	Soil Cracks (B6)					01) (LRR A		ised Ant Mounds (D6) (LRR A)
	on Visible on Aerial	Imagery (B			•	, (ost-Heave Hummocks (D7)
	y Vegetated Concav			,	,			(= -)
Field Obser	=		(20)					
Surface Wat		/es	No <u>✓</u> Depth (in	iches).				
Water Table			No ✓ Depth (in		<u> </u>	_		
			No Depth (ir			—	and Usalesians	Present? Yes No
Saturation P (includes car		res <u> </u>	No Depth (in	icnes): <u> </u>		vveti	and Hydrology	Present? res No
		n gauge, m	onitoring well, aerial	photos, pi	revious in	spections),	if available:	
Remarks:								

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

Project/Site: Willamette Water Supply Program- PLW 2.0		City/C	ounty: See sprea	adsheet	_ Sampling Date:	ne 23, 2016
Applicant/Owner: Tualatin Valley Water District and City of	y of Hillsboro State: OR				_ Sampling Point: Plo	ot W2-4
Investigator(s): Rickus, Rosenthal		Section	n, Township, Ra	nge: see spreadsheet		
Landform (hillslope, terrace, etc.): slope		Local	relief (concave,	convex, none): none	Slope	(%): <u>10</u>
Subregion (LRR): A				Long: see spreadshee		
Soil Map Unit Name: see spreadsheet				NWI classifi		
Are climatic / hydrologic conditions on the site typical for	this time of ve	ar? Y				
Are Vegetation, Soil, or Hydrology				"Normal Circumstances"		No
						140
Are Vegetation, Soil, or Hydrology SUMMARY OF FINDINGS – Attach site ma				eeded, explain any answeeded, explain any answers		ures. etc.
Hydrophytic Vegetation Present? Yes	<u> </u>			· · · · · · · · · · · · · · · · · · ·		
Hydric Soil Present? Yes			Is the Sampled		🗸	
Wetland Hydrology Present? Yes			within a Wetlar	nd? Yes	No <u></u> ✓	
Remarks:		!				
Plot lies on a slope 3 feet higher than the wetland	plot.					
VEGETATION – Use scientific names of pl	ants.					
Tree Stratum (Plot size: 30 feet)	Absolute % Cover		ninant Indicator cies? Status	Dominance Test wor Number of Dominant S	Species	
1				That Are OBL, FACW,	or FAC: 2	(A)
2				Total Number of Domi		
3				Species Across All Str	ata: <u>5</u>	(B)
4		_ = Tot	tal Cover	Percent of Dominant S That Are OBL, FACW,		(A/B)
Sapling/Shrub Stratum (Plot size: 30 feet) 1. Amalanchier alnifolia	5	V	FACU	Prevalence Index wo	wleah a a to	
Acer macrophyllum	<u>5</u>	<u>у</u> У	FACU		rksneet: Multiply b	
3. Symphoricarpus albus		<u>у</u> У	FACU	OBL species		
				FACW species		
45				FAC species		
o	20	= Tot	tal Cover	FACU species		
Herb Stratum (Plot size: 5 feet)		_		UPL species		
1. Leucanthemum vulgare		n		Column Totals:		
2. Holcus lanatus	30	у	FAC			
3. Hypochaeris radicata	10	n	FACU		x = B/A =	
4. Lolium perenne	30	у	FAC	Hydrophytic Vegetat		
5. Cirsium arvense	10	n	FAC	Dominance Test is		
6				Prevalence Index		
7				Morphological Ada data in Remark	aptations (Provide su ks or on a separate sh	ipporting neet)
8				Wetland Non-Vas	cular Plants ¹	,
9				Problematic Hydro	ophytic Vegetation ¹ (E	Explain)
10				¹ Indicators of hydric so		
11	00	Total	al Cayor	be present, unless dis	urbed or problematic	
Woody Vine Stratum (Plot size: 30 feet)		_= 1018	al Cover			
1				Hydrophytic		
2.				Vegetation	es No	
		= Tota	al Cover	Present? Yo	zo o/i▼_	_
% Bare Ground in Herb Stratum 10						
Remarks:						

SOIL Sampling Point: Plot W2-4

Trome Description. (Descrip	o to the acpth i	eeded to document the indicator or co	onfirm the absence of indicators.)
DepthMatrix		Redox Features	
(inches) Color (moist)	%	Color (moist) % Type ¹ Lo	oc ² Texture Remarks
0-20 10YR 3/3	100		silt loam
	_		<u> </u>
	<u> </u>		
¹ Type: C=Concentration, D=D	epletion, RM=Re	duced Matrix, CS=Covered or Coated Sa	nd Grains. ² Location: PL=Pore Lining, M=Matrix.
Hydric Soil Indicators: (App	licable to all LRI	Rs, unless otherwise noted.)	Indicators for Problematic Hydric Soils ³ :
Histosol (A1)		Sandy Redox (S5)	2 cm Muck (A10)
Histic Epipedon (A2)		Stripped Matrix (S6)	Red Parent Material (TF2)
Black Histic (A3)		Loamy Mucky Mineral (F1) (except MLF	RA 1) Other (Explain in Remarks)
Hydrogen Sulfide (A4)		Loamy Gleyed Matrix (F2)	
Depleted Below Dark Surf	ace (A11)	Depleted Matrix (F3)	•
Thick Dark Surface (A12)		Redox Dark Surface (F6)	³ Indicators of hydrophytic vegetation and
Sandy Mucky Mineral (S1)	_	Depleted Dark Surface (F7)	wetland hydrology must be present,
Sandy Gleyed Matrix (S4)		Redox Depressions (F8)	unless disturbed or problematic.
Restrictive Layer (if present)			
		-	
Depth (inches):		-	Hydric Soil Present? Yes No✓
Remarks:			
HYDROLOGY			
Wetland Hydrology Indicator			
Primary Indicators (minimum o	f one required; ch		Secondary Indicators (2 or more required)
Surface Water (A1)		Water-Stained Leaves (B9) (excep	water-Stained Leaves (B9) (MLRA 1, 2,
High Water Table (A2)		1, 2, 4A, and 4B)	4A, and 4B)
Saturation (A3)		Salt Crust (B11)	Drainage Patterns (B10)
Water Marks (B1)		Aquatic Invertebrates (B13)	Dry-Season Water Table (C2)
Sediment Deposits (B2)		Hydrogen Sulfide Odor (C1)	Saturation Visible on Aerial Imagery (C9)
Drift Deposits (B3)		Oxidized Rhizospheres along Livin	g Roots (C3) Geomorphic Position (D2)
Algal Mat or Crust (B4)			g : 10010 (00) 000
Algai Wat of Ordst (D4)		Presence of Reduced Iron (C4)	Shallow Aquitard (D3)
Iron Deposits (B5)		Presence of Reduced Iron (C4)Recent Iron Reduction in Tilled Soi	Shallow Aquitard (D3)
			Shallow Aquitard (D3) Is (C6) FAC-Neutral Test (D5)
Iron Deposits (B5)	al Imagery (B7)	Recent Iron Reduction in Tilled Soi	Shallow Aquitard (D3) Is (C6) FAC-Neutral Test (D5)
Iron Deposits (B5) Surface Soil Cracks (B6)		Recent Iron Reduction in Tilled Soi Stunted or Stressed Plants (D1) (L	Shallow Aquitard (D3) Ils (C6) FAC-Neutral Test (D5) RR A) Raised Ant Mounds (D6) (LRR A)
Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aeria		Recent Iron Reduction in Tilled Soi Stunted or Stressed Plants (D1) (L	Shallow Aquitard (D3) Ils (C6) FAC-Neutral Test (D5) RR A) Raised Ant Mounds (D6) (LRR A)
Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aeria Sparsely Vegetated Conca	ave Surface (B8)	Recent Iron Reduction in Tilled Soi Stunted or Stressed Plants (D1) (L Other (Explain in Remarks)	Shallow Aquitard (D3) Ils (C6) FAC-Neutral Test (D5) RR A) Raised Ant Mounds (D6) (LRR A)
Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aeria Sparsely Vegetated Conca Field Observations: Surface Water Present?	Yes No	Recent Iron Reduction in Tilled Soi Stunted or Stressed Plants (D1) (L Other (Explain in Remarks) ✓ Depth (inches):	Shallow Aquitard (D3) Ils (C6) FAC-Neutral Test (D5) RR A) Raised Ant Mounds (D6) (LRR A)
Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aeria Sparsely Vegetated Conca Field Observations: Surface Water Present? Water Table Present?	Yes No	Recent Iron Reduction in Tilled Soi Stunted or Stressed Plants (D1) (L Other (Explain in Remarks) ✓ Depth (inches):	Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aeria Sparsely Vegetated Conca Field Observations: Surface Water Present?	Yes No	Recent Iron Reduction in Tilled Soi Stunted or Stressed Plants (D1) (L Other (Explain in Remarks) ✓ Depth (inches):	Shallow Aquitard (D3) Ils (C6) FAC-Neutral Test (D5) RR A) Raised Ant Mounds (D6) (LRR A)
Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aeria Sparsely Vegetated Conca Field Observations: Surface Water Present? Water Table Present? Saturation Present? (includes capillary fringe)	Yes No Yes No Yes No	Recent Iron Reduction in Tilled Soi Stunted or Stressed Plants (D1) (L Other (Explain in Remarks) ✓ Depth (inches):	Shallow Aquitard (D3) lls (C6) FAC-Neutral Test (D5) RR A) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7) Wetland Hydrology Present? Yes No ✓
Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aeria Sparsely Vegetated Conca Field Observations: Surface Water Present? Water Table Present? Saturation Present? (includes capillary fringe)	Yes No Yes No Yes No	Recent Iron Reduction in Tilled Soi Stunted or Stressed Plants (D1) (L Other (Explain in Remarks) ✓ Depth (inches): Depth (inches): Depth (inches):	Shallow Aquitard (D3) lls (C6) FAC-Neutral Test (D5) RR A) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7) Wetland Hydrology Present? Yes No ✓
Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aeria Sparsely Vegetated Conca Field Observations: Surface Water Present? Water Table Present? Saturation Present? (includes capillary fringe)	Yes No Yes No Yes No	Recent Iron Reduction in Tilled Soi Stunted or Stressed Plants (D1) (L Other (Explain in Remarks) ✓ Depth (inches): Depth (inches): Depth (inches):	Shallow Aquitard (D3) lls (C6) FAC-Neutral Test (D5) RR A) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7) Wetland Hydrology Present? Yes No ✓
Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aeria Sparsely Vegetated Conca Field Observations: Surface Water Present? Water Table Present? Saturation Present? (includes capillary fringe) Describe Recorded Data (streat	Yes No Yes No Yes No	Recent Iron Reduction in Tilled Soi Stunted or Stressed Plants (D1) (L Other (Explain in Remarks) ✓ Depth (inches): Depth (inches): Depth (inches):	Shallow Aquitard (D3) lls (C6) FAC-Neutral Test (D5) RR A) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7) Wetland Hydrology Present? Yes No ✓
Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aeria Sparsely Vegetated Conca Field Observations: Surface Water Present? Water Table Present? Saturation Present? (includes capillary fringe) Describe Recorded Data (streat	Yes No Yes No Yes No	Recent Iron Reduction in Tilled Soi Stunted or Stressed Plants (D1) (L Other (Explain in Remarks) ✓ Depth (inches): Depth (inches): Depth (inches):	Shallow Aquitard (D3) lls (C6) FAC-Neutral Test (D5) RR A) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7) Wetland Hydrology Present? Yes No ✓
Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aeria Sparsely Vegetated Conca Field Observations: Surface Water Present? Water Table Present? Saturation Present? (includes capillary fringe) Describe Recorded Data (streat	Yes No Yes No Yes No	Recent Iron Reduction in Tilled Soi Stunted or Stressed Plants (D1) (L Other (Explain in Remarks) ✓ Depth (inches): Depth (inches): Depth (inches):	Shallow Aquitard (D3) lls (C6) FAC-Neutral Test (D5) RR A) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7) Wetland Hydrology Present? Yes No ✓

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

Project/Site: Willamette Water Supply Project- PLW 2.0	Sampling Date: Jun	e 23, 2016				
Applicant/Owner: Tualatin Valley Water District and City of	f Hillsboro			Sampling Point: Plot		
Investigator(s): Rickus, Rosenthal		Sectio	n, Township, Ra	nge: see spreadsheet		
				convex, none): concave	Slope ((%): ⁰
Subregion (LRR): A						
Soil Map Unit Name: see spreadsheet				NWI classific		
Are climatic / hydrologic conditions on the site typical for	this time of ve	ar2 V				
Are Vegetation, Soil, or Hydrology				"Normal Circumstances" p		No
						_ NO
Are Vegetation, Soil, or Hydrology				eeded, explain any answe		
SUMMARY OF FINDINGS – Attach site ma	p snowing	sam	pling point i	ocations, transects	, important feati	ures, etc.
Hydrophytic Vegetation Present? Yes			Is the Sampled	l Area		
Hydric Soil Present? Yes	No		within a Wetlar		No <u></u> ✓	
Wetland Hydrology Present? Yes	No <u> </u>					
Remarks:						
Plot lies in a low spot within a level, mowed field.						
VEGETATION – Use scientific names of pla	nnte					
VEGETATION – Ose scientific flames of pie	Absolute	Dom	inant Indicator	Dominance Test work	sheet:	
<u>Tree Stratum</u> (Plot size: 30 feet)			cies? Status	Number of Dominant S		
1				That Are OBL, FACW,	· .	(A)
2				Total Number of Domin	ant	
3				Species Across All Stra		(B)
4				Percent of Dominant S	nacias	
Cooling Object Cooling (District 30 feet		_ = Tot	al Cover	That Are OBL, FACW,		(A/B)
Sapling/Shrub Stratum (Plot size: 30 feet) 1. Cytisus scoparius	5	V	UPL	Prevalence Index wor	kshoot:	
		,			Multiply by	ı.
2				OBL species		
3 4				FACW species		
5				FAC species		
	5	= Tot	al Cover	FACU species		
Herb Stratum (Plot size: 5 feet)				UPL species		
1. Daucus carota	10	n	FACW	Column Totals:		
2. Poa pratensis	40	У	FAC			
3. Hypochaeris radicata	30	У	FACU		= B/A =	
4. Agrostis capillaris		n	FAC	Hydrophytic Vegetation		
5. Plantago lanceolata		n	FACU	Dominance Test is		
6. Leucanthemum vulgare	10	n	FACU FACU	Prevalence Index i Morphological Ada		an artin a
7				data in Remark	s or on a separate she	eet)
8				Wetland Non-Vasc		,
9				Problematic Hydro	phytic Vegetation ¹ (E)	xplain)
10				¹ Indicators of hydric soi		gy must
11	4.4.0	Total	al Cavar	be present, unless distr	urbed or problematic.	
Woody Vine Stratum (Plot size: 30 feet)	110	_= 10ta	al Cover			
1				Hydrophytic		
2.				Vegetation	s No_ ✓	
		= Tota		Present? Ye	2 NO 4	_
% Bare Ground in Herb Stratum						
Remarks:						
I .						

SOIL Sampling Point: Plot W2-5

Depth (inches) Colo	Matrix or (moist)	<u></u> %	Redo Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
0-16 10YR			COIOI (IIIOISI)		<u></u>		silt loam	with gravel
16+				-				gravel
								giavei
							. 21	
Type: C=Concentrative Soil Indicato						d Sand Gi		cation: PL=Pore Lining, M=Matrix. ors for Problematic Hydric Soils ³ :
Histosol (A1)	io. (Applioc	ibic to all Ert	Sandy Redox (,u.,			m Muck (A10)
Histic Epipedon ((A2)	_	Stripped Matrix					d Parent Material (TF2)
Black Histic (A3)			Loamy Mucky) (except	MLRA 1)		er (Explain in Remarks)
Hydrogen Sulfide	e (A4)		Loamy Gleyed					
Depleted Below		(A11)	_ Depleted Matrix					
Thick Dark Surfa	` ,	_	Redox Dark Su	` '	- '			ors of hydrophytic vegetation and
Sandy Mucky Mi		-	Depleted Dark Redox Depress		7)			and hydrology must be present, ss disturbed or problematic.
Sandy Gleyed M estrictive Layer (if			_ Redux Depress	SIUIIS (FO)			unie:	ss disturbed of problematic.
Type: gravel	presenty.							
Depth (inches): 10	6						Hydric Soi	I Present? Yes No ✓
							1	
YDROLOGY	Indicators:							
YDROLOGY Wetland Hydrology		ne required; c	heck all that appl	ly)			Seco	ndary Indicators (2 or more required)
YDROLOGY Vetland Hydrology	ninimum of or	ne required; c	• • • • • • • • • • • • • • • • • • • •	ly) iined Leave	es (B9) (e	xcept MLI		ndary Indicators (2 or more required) Vater-Stained Leaves (B9) (MLRA 1 ,
YDROLOGY Vetland Hydrology Primary Indicators (m	ninimum of or N1)	ne required; c	Water-Sta			xcept MLI	RA \	Vater-Stained Leaves (B9) (MLRA 1, 4A, and 4B)
YDROLOGY Vetland Hydrology Verimary Indicators (M Surface Water (A High Water Table Saturation (A3)	ninimum of or A1) e (A2)	ne required; c	Water-Sta 1, 2, 4/ Salt Crust	ined Leave A, and 4B)		xcept MLI	RA \	Vater-Stained Leaves (B9) (MLRA 1, 4A, and 4B) Orainage Patterns (B10)
YDROLOGY Vetland Hydrology Vrimary Indicators (m Surface Water (A High Water Table Saturation (A3) Water Marks (B1	ninimum of or A1) e (A2)	ne required; c	Water-Sta 1, 2, 4/ Salt Crust Aquatic In	ined Leave A, and 4B) (B11) vertebrates	s (B13)	xcept MLI	A / A / A / A / A / A / A / A / A / A /	Vater-Stained Leaves (B9) (MLRA 1, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2)
YDROLOGY Vetland Hydrology Primary Indicators (m Surface Water (A High Water Table Saturation (A3) Water Marks (B1 Sediment Depos	ninimum of or A1) e (A2)) its (B2)	ne required; c	Water-Sta 1, 2, 4/ Salt Crust Aquatic In Hydrogen	ined Leave A, and 4B) (B11) vertebrates Sulfide Od	s (B13) lor (C1)		RA \	Vater-Stained Leaves (B9) (MLRA 1, 4A, and 4B) Orainage Patterns (B10) Ory-Season Water Table (C2) Saturation Visible on Aerial Imagery (
YDROLOGY Vetland Hydrology Primary Indicators (m Surface Water (A High Water Table Saturation (A3) Water Marks (B1 Sediment Depos Drift Deposits (B:	ninimum of or A1) e (A2)) its (B2) 3)	ne required; c	Water-Sta 1, 2, 4,4 Salt Crust Aquatic In Hydrogen Oxidized F	A, and 4B) (B11) vertebrates Sulfide Od	s (B13) lor (C1) res along	Living Roc	RA [Water-Stained Leaves (B9) (MLRA 1, 4A, and 4B) Orainage Patterns (B10) Ory-Season Water Table (C2) Saturation Visible on Aerial Imagery (Geomorphic Position (D2)
YDROLOGY Vetland Hydrology Yrimary Indicators (m Surface Water (A High Water Table Saturation (A3) Water Marks (B1 Sediment Depos Drift Deposits (B: Algal Mat or Crus	ninimum of or A1) e (A2)) its (B2) 3) st (B4)	ne required; c	Water-Sta 1, 2, 4, Salt Crust Aquatic In Hydrogen Oxidized F Presence	ined Leave A, and 4B) (B11) vertebrates Sulfide Od Rhizospher of Reduce	s (B13) lor (C1) res along d Iron (C4	Living Roc	RA \	Water-Stained Leaves (B9) (MLRA 1, 4A, and 4B) Orainage Patterns (B10) Ory-Season Water Table (C2) Saturation Visible on Aerial Imagery (Geomorphic Position (D2) Shallow Aquitard (D3)
YDROLOGY Vetland Hydrology Primary Indicators (m Surface Water (A High Water Table Saturation (A3) Water Marks (B1 Sediment Depos Drift Deposits (B3 Algal Mat or Crus Iron Deposits (B8	(A1) (A2) (A2) (A3) (B2) (B3) (B4) (B4)	ne required; c	Water-Sta 1, 2, 4,4 Salt Crust Aquatic In Hydrogen Oxidized F Presence Recent Iro	inined Leave A, and 4B) (B11) vertebrates Sulfide Od Rhizospher of Reduced on Reduction	s (B13) lor (C1) res along d Iron (C4 on in Tille	Living Roc I) d Soils (C6	RA [Water-Stained Leaves (B9) (MLRA 1, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5)
YDROLOGY Vetland Hydrology Verimary Indicators (m Surface Water (A High Water Table Saturation (A3) Water Marks (B1 Sediment Depos Drift Deposits (B: Algal Mat or Crus Iron Deposits (B: Surface Soil Crae	inimum of or (A1) (a) (A2) (b) (B2) (b) (B4) (c) (B6)		Water-Sta 1, 2, 4/ Salt Crust Aquatic In Hydrogen Oxidized F Presence Recent Iro Stunted o	ined Leave A, and 4B) (B11) vertebrates Sulfide Od Rhizospher of Reduce on Reduction	s (B13) lor (C1) res along d Iron (C ² on in Tilled Plants (D	Living Roc I) d Soils (C6	RA [Vater-Stained Leaves (B9) (MLRA 1, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
YDROLOGY Vetland Hydrology Verimary Indicators (m Surface Water (A High Water Table Saturation (A3) Water Marks (B1 Sediment Depos Drift Deposits (B3 Algal Mat or Crus Iron Deposits (B5 Surface Soil Crac Inundation Visible	ninimum of or (A1) e (A2)) its (B2) (B4) (b) cks (B6) e on Aerial Ir	nagery (B7)	Water-Sta 1, 2, 4/ Salt Crust Aquatic In Hydrogen Oxidized F Presence Recent Iro Stunted or Other (Exp	ined Leave A, and 4B) (B11) vertebrates Sulfide Od Rhizospher of Reduce on Reduction	s (B13) lor (C1) res along d Iron (C ² on in Tilled Plants (D	Living Roc I) d Soils (C6	RA [Water-Stained Leaves (B9) (MLRA 1, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5)
YDROLOGY Vetland Hydrology Primary Indicators (m Surface Water (A High Water Table Saturation (A3) Water Marks (B1 Sediment Depos Drift Deposits (B: Algal Mat or Crus Iron Deposits (B: Surface Soil Crac Inundation Visible Sparsely Vegeta	inimum of or A1) e (A2)) its (B2) 3) st (B4) 5) cks (B6) e on Aerial Ir ted Concave	nagery (B7)	Water-Sta 1, 2, 4/ Salt Crust Aquatic In Hydrogen Oxidized F Presence Recent Iro Stunted or Other (Exp	ined Leave A, and 4B) (B11) vertebrates Sulfide Od Rhizospher of Reduce on Reduction	s (B13) lor (C1) res along d Iron (C ² on in Tilled Plants (D	Living Roc I) d Soils (C6	RA [Vater-Stained Leaves (B9) (MLRA 1, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
YDROLOGY Vetland Hydrology Primary Indicators (m Surface Water (A High Water Table Saturation (A3) Water Marks (B1 Sediment Depos Drift Deposits (B: Algal Mat or Crus Iron Deposits (B: Surface Soil Crac Inundation Visible Sparsely Vegeta: Field Observations:	inimum of or A1) e (A2)) its (B2) 3) st (B4) 5) cks (B6) e on Aerial Ir ted Concave	nagery (B7) Surface (B8)	Water-Sta 1, 2, 4,4 Salt Crust Aquatic In Hydrogen Oxidized F Presence Recent Iro Stunted or Other (Exp	inined Leave A, and 4B) (B11) vertebrates Sulfide Od Rhizospher of Reduces on Reduction r Stressed plain in Rei	s (B13) lor (C1) res along d Iron (C ² on in Tilled Plants (D marks)	Living Roo l) d Soils (C6 1) (LRR A	RA [Vater-Stained Leaves (B9) (MLRA 1, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
YDROLOGY Wetland Hydrology Primary Indicators (m Surface Water (A High Water Table Saturation (A3) Water Marks (B1 Sediment Depos Drift Deposits (B3 Algal Mat or Crus Iron Deposits (B3 Surface Soil Crac Inundation Visible Sparsely Vegetar Field Observations: Surface Water Preser	ninimum of or A1) e (A2)) its (B2) 3) st (B4) 5) cks (B6) e on Aerial Ir ted Concave	nagery (B7) Surface (B8) es No	Water-Sta 1, 2, 4,4 Salt Crust Aquatic In Hydrogen Oxidized F Presence Recent Irc Stunted or Other (Exp	inined Leave A, and 4B) (B11) vertebrates Sulfide Od Rhizospher of Reduces on Reduction r Stressed plain in Res	s (B13) lor (C1) res along d Iron (C ² on in Tiller Plants (D marks)	Living Roo I) d Soils (C6 1) (LRR A	RA [Vater-Stained Leaves (B9) (MLRA 1, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
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WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Willamette Water Supply Project- PLW 2.0	Sampling Date: June 23,	2016				
Applicant/Owner: Tualatin Valley Water District and City of	f Hillsboro			Sampling Point: Plot W2-	.6	
Investigator(s): Rickus, Rosenthal		Section, T	ownship, Ra			
					Slope (%): _	0
Subregion (LRR): A	Lat: see	spreadshe	eet	Long: see spreadsheet	Datum: see sp	readshee
Soil Map Unit Name: see spreadsheet				NWI classific		
Are climatic / hydrologic conditions on the site typical for t	his time of ve					
Are Vegetation, Soil, or Hydrology					present? Yes X No	
Are Vegetation, Soil, or Hydrology				eeded, explain any answe		
SUMMARY OF FINDINGS – Attach site ma						s, etc.
Hydrophytic Vegetation Present? Yes✓	No					
Hydric Soil Present? Yes ✓			he Sampled		, No	
Wetland Hydrology Present? Yes ✓		Wit	hin a Wetlar	id? Yes	No	
Remarks:						
Plot lies in a low area within a shallow swale wetla	nd in a large	open, w	eedy area s	south of Hwy 26.		
VEGETATION – Use scientific names of pla	ants.					
To Otto Control (District 30 feet	Absolute		nt Indicator	Dominance Test work	sheet:	
Tree Stratum (Plot size: 30 feet 1.			Status	Number of Dominant Sp That Are OBL, FACW, of		(A)
2				Total Number of Domin	ant	
3		-		Species Across All Stra	ta: <u>5</u>	(B)
4				Percent of Dominant Sp		
Sapling/Shrub Stratum (Plot size: 30 feet)		_ = Total C	over	That Are OBL, FACW, of	or FAC: 100	(A/B)
1. Crataegus douglasii	10	У	FAC	Prevalence Index wor	ksheet:	
2. Rubus armeniacus		У		Total % Cover of:	Multiply by:	_
3		-		OBL species	x 1 =	_
4				FACW species	x 2 =	_
5				•	x 3 =	
Heat Oracion (Discosion 5 feet	20	= Total C	over		x 4 =	
Herb Stratum (Plot size: ^{5 feet} Agrostis gigantea	30	у	FAC		x 5 =	
2. Holcus lanatus	30	V	FAC	Column Totals:	(A)	_ (B)
3. Alopecurus pratensis	30	У	FACW	Prevalence Index	= B/A =	
4. Parentucellia viscosa	15	n	FAC	Hydrophytic Vegetation		
5. Centaurium tenuiflorum	5	n	FACW	Dominance Test is		
6.				Prevalence Index is	s ≤3.0 ¹	
7.				Morphological Ada	ptations ¹ (Provide supporti	ing
8					s or on a separate sheet)	
9				Wetland Non-Vasc		- \
10				' '	ohytic Vegetation ¹ (Explain I and wetland hydrology m	,
11				be present, unless distu		usi
West Visa Otation (Blatis 30 feet	110	= Total Co	over		-	
Woody Vine Stratum (Plot size: 30 feet)				Hydrophytic		
1		-		Vegetation	/	
2		= Total Co	over	Present? Yes	s No	
% Bare Ground in Herb Stratum 5		1016100				
Remarks:				•		

SOIL Sampling Point: Plot W2-6

Depth (inches)	Matrix Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
0-12	10YR 3/2	95	10YR 3/4	5	C		silty clay loam	romano
12-20	10YR 3/2	90	10YR 4/4		- C		silty clay loam	
2-20	1011 3/2		1011 4/4			_ <u>IVI</u>	Silty Clay Ioani	
	-				_	_	·	
								
			<u> </u>					
ype: C=C	oncentration, D=D	epletion, RN	M=Reduced Matrix,	CS=Covere	ed or Coat	ed Sand G	rains. ² Loc	ation: PL=Pore Lining, M=Matrix.
ydric Soil	Indicators: (App	icable to a	II LRRs, unless oth	nerwise no	ted.)		Indicato	rs for Problematic Hydric Soils ³ :
_ Histosol	(A1)		Sandy Redox	(S5)			2 cm	Muck (A10)
_ Histic Ep	pipedon (A2)		Stripped Mat					Parent Material (TF2)
	istic (A3)		Loamy Muck			ot MLRA 1)	Othe	er (Explain in Remarks)
	en Sulfide (A4)		Loamy Gleye		2)			
	d Below Dark Surf	ace (A11)	Depleted Ma		.,		3, ,,	
	ark Surface (A12)		Redox Dark S	,	,			rs of hydrophytic vegetation and
_	Mucky Mineral (S1) Gleyed Matrix (S4)		Depleted Dar Redox Depre					nd hydrology must be present, s disturbed or problematic.
	Layer (if present)		Nedox Depre	3310113 (1 0)		unies.	s disturbed of problematic.
Type:								
Depth (in	ab a a \.						Usalvia Cail	Present? Yes √ No
							Hydric Soil	Present? Yes No
emarks:								
emarks: /DROLO /etland Hy	GY drology Indicator		ad: chack all that ar	only)			Secon	dary Indicators (2 or more required)
PROLO Petland Hyrimary India	GY drology Indicator cators (minimum o		ed; check all that ap	• • • • • • • • • • • • • • • • • • • •	was (BQ) (evcent MI		dary Indicators (2 or more required)
PROLO /PROLO /etland Hyrimary India _ Surface	GY drology Indicator cators (minimum o Water (A1)		Water-S	Stained Lea		except ML		ater-Stained Leaves (B9) (MLRA 1, 2
POROLO OPENION OF THE PROPERTY OF THE PROPERT	GY drology Indicator cators (minimum o Water (A1) ater Table (A2)		Water-S	Stained Lea		except ML	RA W	ater-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B)
PROLO Petland Hyrimary India Surface High Wa Saturatia	GY drology Indicator cators (minimum o Water (A1) ater Table (A2) on (A3)		Water-S	Stained Lea 4A, and 4I st (B11)	3)	except ML	RA W	ater-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) rainage Patterns (B10)
PROLO Petland Hy rimary India Surface High Wa Saturatia Water M	GY drology Indicator cators (minimum o Water (A1) ater Table (A2) on (A3) larks (B1)		Water-S 1, 2, Salt Cru Aquatic	Stained Lea 4A, and 4E st (B11) Invertebrat	es (B13)	except ML	RA W Di	dater-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) rainage Patterns (B10) ry-Season Water Table (C2)
PROLO Petland Hyrrimary India Surface High Wa Saturatia Water M Sedimer	GY drology Indicator cators (minimum o Water (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2)		Water-S 1, 2, Salt Cru Aquatic Hydroge	Stained Lea 4A, and 4I st (B11) Invertebraten Sulfide C	es (B13) Odor (C1)		DI Sa	rater-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) rainage Patterns (B10) ry-Season Water Table (C2) aturation Visible on Aerial Imagery (C
/DROLO /etland Hydrimary India _ Surface _ High Wa _ Saturatia _ Water M _ Sedimen _ Drift Dep	drology Indicator cators (minimum of Water (A1) ater Table (A2) on (A3) darks (B1) at Deposits (B2) posits (B3)		Water-S 1, 2, Salt Cru Aquatic Hydroge Oxidized	Stained Lea 4A, and 4B 1st (B11) Invertebrate an Sulfide C d Rhizosph	es (B13) Odor (C1) eres along	g Living Roo	RA	rater-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) rainage Patterns (B10) ry-Season Water Table (C2) aturation Visible on Aerial Imagery (C eomorphic Position (D2)
/DROLO //etland Hy rimary India Surface High Wa Saturatia Water M Sedimel Drift Dep /_ Algal Ma	drology Indicator cators (minimum of Water (A1) ater Table (A2) on (A3) darks (B1) ant Deposits (B2) posits (B3) at or Crust (B4)		Water-S 1, 2, Salt Cru Aquatic Hydroge Oxidizee	Stained Lea 4A, and 4B ast (B11) Invertebrate an Sulfide C d Rhizosph are of Reduc	es (B13) Odor (C1) eres along ced Iron (C	g Living Roo (24)	RA	rater-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) rainage Patterns (B10) ry-Season Water Table (C2) raturation Visible on Aerial Imagery (Caeomorphic Position (D2) nallow Aquitard (D3)
/DROLO /etland Hy rimary India _ Surface _ High Wa _ Saturatia _ Water M _ Sedimer _ Drift Dep / Algal Ma _ Iron Dep	drology Indicator cators (minimum of Water (A1) ater Table (A2) on (A3) darks (B1) and Deposits (B2) posits (B3) at or Crust (B4) posits (B5)		Water-S 1, 2, Salt Cru Aquatic Hydroge Oxidized Presenc Recent	Stained Lea 4A, and 4I st (B11) Invertebrate En Sulfide C d Rhizosph Ee of Reduct Iron Reduct	es (B13) Odor (C1) eres along ced Iron (C	g Living Roo C4) ed Soils (C6	RA	rater-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) rainage Patterns (B10) ry-Season Water Table (C2) raturation Visible on Aerial Imagery (Caeomorphic Position (D2) rallow Aquitard (D3) AC-Neutral Test (D5)
PROLO Petland Hy rimary India Surface High Wa Saturatia Water M Sedimer Drift Der ✓ Algal Ma Iron Der Surface	GY drology Indicator cators (minimum of Water (A1) ater Table (A2) on (A3) darks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6)	f one requir	Water-S 1, 2, Salt Cru Aquatic Hydroge Oxidized Presenc Recent Stunted	Stained Lea 4A, and 4I ast (B11) Invertebrate on Sulfide Cod d Rhizosphote of Reductor Iron Reductor Stresse	es (B13) Odor (C1) eres along ed Iron (C tion in Tille d Plants (I	g Living Roo (24)	RA	rater-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) rainage Patterns (B10) ry-Season Water Table (C2) raturation Visible on Aerial Imagery (C ecomorphic Position (D2) rallow Aquitard (D3) AC-Neutral Test (D5) raised Ant Mounds (D6) (LRR A)
/DROLO /etland Hy rimary India _ Surface _ High Wa _ Saturatia _ Water M _ Sedimel _ Drift Dep / Algal Ma _ Iron Dep _ Surface _ Inundati	drology Indicator cators (minimum o Water (A1) ater Table (A2) on (A3) darks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) on Visible on Aeria	f one requir	Water-S 1, 2, Salt Cru Aquatic Hydroge Oxidized Presenc Recent Stunted B7) Water-S	Stained Lea 4A, and 4I ast (B11) Invertebrate on Sulfide Cod d Rhizosphote of Reductor Iron Reductor Stresse	es (B13) Odor (C1) eres along ed Iron (C tion in Tille d Plants (I	g Living Roo C4) ed Soils (C6	RA	rater-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) rainage Patterns (B10) ry-Season Water Table (C2) raturation Visible on Aerial Imagery (Caeomorphic Position (D2) rallow Aquitard (D3) AC-Neutral Test (D5)
YDROLO Vetland Hy Surface High Wa Saturatio Water M Sedimer Drift Dep Algal Ma Iron Dep Surface Inundati Sparsely	drology Indicator cators (minimum of Water (A1) ater Table (A2) on (A3) darks (B1) at Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) on Visible on Aeria y Vegetated Conca	f one requir	Water-S 1, 2, Salt Cru Aquatic Hydroge Oxidized Presenc Recent Stunted B7) Water-S	Stained Lea 4A, and 4I ast (B11) Invertebrate on Sulfide Cod d Rhizosphote of Reductor Iron Reductor Stresse	es (B13) Odor (C1) eres along ed Iron (C tion in Tille d Plants (I	g Living Roo C4) ed Soils (C6	RA	rater-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) rainage Patterns (B10) ry-Season Water Table (C2) raturation Visible on Aerial Imagery (C ecomorphic Position (D2) rallow Aquitard (D3) AC-Neutral Test (D5) raised Ant Mounds (D6) (LRR A)
YDROLO Vetland Hy rimary India Surface High Wa Saturatia Water M Sedimer Drift Dep ✓ Algal Ma Iron Dep Surface Inundati Sparsely	drology Indicator cators (minimum of Water (A1) ater Table (A2) on (A3) darks (B1) at Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) on Visible on Aeria y Vegetated Conca	f one requir al Imagery (l ave Surface	Water-S 1, 2, Salt Cru Aquatic Hydroge Oxidizee Presenc Recent Stunted B7) Other (E	Stained Lea 4A, and 4I st (B11) Invertebrate en Sulfide C d Rhizosph te of Reduct Iron Reduct or Stresse Explain in R	es (B13) Odor (C1) eres alonç ced Iron (C tion in Tilli d Plants (I Lemarks)	g Living Roo (24) ed Soils (C6 (21) (LRR A	RA	rater-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) rainage Patterns (B10) ry-Season Water Table (C2) raturation Visible on Aerial Imagery (C ecomorphic Position (D2) rallow Aquitard (D3) AC-Neutral Test (D5) raised Ant Mounds (D6) (LRR A)
YDROLO Vetland Hy rimary India Surface High Wa Saturatia Water M Sedimer Drift Dep Algal Ma Iron Dep Surface Inundati Sparsely Field Obser	GY drology Indicator cators (minimum of water (A1) ater Table (A2) on (A3) darks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) on Visible on Aeria of Vegetated Concavations: er Present?	al Imagery (inve Surface	Water-S 1, 2, Salt Cru Aquatic Hydroge Oxidizer Presenc Recent Stunted B7) Other (E	Stained Lea 4A, and 4I ast (B11) Invertebrate en Sulfide C d Rhizosph te of Reduct Iron Reduct or Stresse Explain in R	es (B13) Odor (C1) eres along ced Iron (C tion in Tilli d Plants (I	g Living Roo (4) ed Soils (C6 D1) (LRR A	RA	rater-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) rainage Patterns (B10) ry-Season Water Table (C2) raturation Visible on Aerial Imagery (C ecomorphic Position (D2) rallow Aquitard (D3) AC-Neutral Test (D5) raised Ant Mounds (D6) (LRR A)
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YDROLO Vetland Hy Primary India Surface High Wa Saturatia Water M Sedimer Jrift Der Algal Ma Iron Der Surface Inundati Sparsely Field Obser Surface Water Table Saturation Periocludes car	GY drology Indicator cators (minimum of water (A1) ater Table (A2) on (A3) darks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) on Visible on Aeria y Vegetated Concavations: er Present? Present? resent?	al Imagery (lave Surface Yes Yes Yes	— Water-S 1, 2, — Salt Cru — Aquatic — Hydroge — Oxidized — Presenc — Recent — Stunted B7) — Other (E (B8) No ✓ Depth (No ✓ Depth (Stained Lea 4A, and 4I ast (B11) Invertebrate an Sulfide C d Rhizosph are of Reduct Iron Reduct or Stresse Explain in R (inches): (inches): (inches): (inches): (inches): (inches):	es (B13) Ddor (C1) eres along ed Iron (C tion in Tille d Plants (I emarks)	g Living Roo (24) ed Soils (C6 (D1) (LRR A	RA	rater-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) rainage Patterns (B10) ry-Season Water Table (C2) raturation Visible on Aerial Imagery (Ceeomorphic Position (D2) rallow Aquitard (D3) AC-Neutral Test (D5) raised Ant Mounds (D6) (LRR A) rost-Heave Hummocks (D7)
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WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Willamette Water Supply Project- PLW 2.0	Sampling Date: June 23	3, 2016				
Applicant/Owner: Tualatin Valley Water District and City of						
Investigator(s): Rickus, Rosenthal		Section,	Γownship, Ra	nge: see spreadsheet		
					Slope (%):	: 2
Subregion (LRR): A	Lat: see	spreadsh	eet	Long: see spreadshee	t Datum: see	spreadshe
Soil Map Unit Name: see spreadsheet				-	cation: see spreadsheet	
Are climatic / hydrologic conditions on the site typical for t	his time of ve					
Are Vegetation, Soil, or Hydrology					present? Yes X N	lo
Are Vegetation, Soil, or Hydrology				eded, explain any answe		
SUMMARY OF FINDINGS – Attach site map					•	es, etc.
Hydrophytic Vegetation Present? Yes✓				<u> </u>		
Hydric Soil Present? Yes			the Sampled		No <u></u> ✓	
Wetland Hydrology Present? Yes	No <u> </u>	W	thin a Wetlar	id? Yes	NO	
Remarks:		'				
Plot lies approximately 1 foot higher than a swale	wetland in a	large op	en, weedy a	rea south of Hwy 26.		
VEGETATION – Use scientific names of pla	ınts.					
- 20 (D) (D) (D) (D)	Absolute		nt Indicator	Dominance Test wor	ksheet:	
Tree Stratum (Plot size: 30 feet) 1.			Status	Number of Dominant S That Are OBL, FACW,		(A)
2				Total Number of Domi	nant	
3		-		Species Across All Str		(B)
4				Percent of Dominant S	species	
Sapling/Shrub Stratum (Plot size: 30 feet)		= Total C	Cover	That Are OBL, FACW,		(A/B)
1. Crataegus douglasii	10	У	FAC	Prevalence Index wo	rksheet:	
2. Rubus armeniacus		у			Multiply by:	
3.					x 1 =	
4.					x 2 =	
5.				· ·	x 3 =	
	100	= Total 0	Cover	FACU species	x 4 =	
Herb Stratum (Plot size: 5 feet)					x 5 =	
1. Agrostis gigantea		У		Column Totals:	(A)	(B)
2. Holcus lanatus		У	FAC	Dravalance Index	. D/A	
Alopecurus pratensis Parentucellia viscosa	<u>5</u>	n	FAC FAC		x = B/A =	
Fare induces in a viscosa Centaurium tenuiflorum	<u>5</u>	n n	FACW	Hydrophytic Vegetati Dominance Test is		
6. Hypericum perforatum	3	<u>y</u>	FACU	Prevalence Index		
		-			aptations ¹ (Provide suppor	rtina
7				data in Remark	s or on a separate sheet))
8				Wetland Non-Vase	cular Plants ¹	
9				Problematic Hydro	ophytic Vegetation ¹ (Expla	ain)
11.					il and wetland hydrology i	must
···	400	= Total C	over	be present, unless dist	urbed or problematic.	
Woody Vine Stratum (Plot size: 30 feet)	-					
1				Hydrophytic		
2				Vegetation Present? Yes	es No	
0 Page 0 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2		= Total C	over			
% Bare Ground in Herb Stratum 10						
Remarks:						

SOIL Sampling Point: Plot W2-7

0-14	10	
Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. Thick Capital Coated Sand Sand Sand Sand Sand Sand Sand San	Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ^2Location: PL=Pore Lining, Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soil Indicators (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soil Indicators (Applicable to Stripped Matrix (S6) Red Parent Material (TF2) Risk Histic (A3) Loamy Mucky Mineral (F1) (except MLRA 1) Other (Explain in Remarks) Hydrogen Sulfide (A4) Loamy Mucky Mineral (F2) Depleted Below Dark Surface (A11) Depleted Matrix (F3) Redox Dark Surface (F6) Wetand hydrology must be punless disturbed or problema (F7) Sandy Gleyed Matrix (S4) Redox Depressions (F8) Wetand hydrology must be punless disturbed or problema (F7) Restrictive Layer (if present): Type: Depth (inches): Hydric Soil Present? Yes Present (F7) Pre	
Type: C-Concentration, D-Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. *Location: PL=Pore Lining, M=Matrix, Vydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Histoscipication: (A) Sandy Redox (S5)	Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. Coation: PL=Pore Lining,	
ydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Histosoi (A1)	ydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Histosol (A1) Histic Epipedon (A2) Sandy Redox (S5) Black Histic (A3) Hydrogen Sulfide (A4) Loamy Mucky Mineral (F1) (except MLRA 1) Depleted Below Dark Surface (A11) Depleted Below Dark Surface (A11) Depleted Below Dark Surface (A12) Redox Dark Surface (F6) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (F3) Fink Dark Surface (A12) Redox Dark Surface (F6) Sandy Gleyed Matrix (S4) Redox Depressions (F8) Bepleted Below Dark Surface (F7) Sandy Gleyed Matrix (S4) Redox Depressions (F8) Bepletic Unless disturbed or problema estrictive Layer (if present): Type: Depth (inches): Finanzy Indicators (minimum of one required; check all that apply) Surface Water (A1) High Water Table (A2) Saturation (A3) Satl Crust (B11) Water Marks (B1) Sediment Deposits (B2) Hydrogen Sulfice Odor (C1) Surface Surface (B6) Red Parent Material (F7) Presence of Reduced Iron (C4) Red Parent Material (F72) Presence of Reduced Iron (C4) Red Parent Material (F72) Problematic Mucky Mineral (F1) Control (Fexplain in Remarks) Hydrogen Sulfice (F6) Sarface Water (A1) Presence (F7) Wetland Hydrology Indicators (2 or mineral financial	
Histosof (A1)	ydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Histosol (A1) Sandy Redox (S5) 2 cm Muck (A10) Histic Epipedon (A2) Stripped Matrix (S6) Red Parent Material (TF2) Black Histic (A3) Loamy Mucky Mineral (F1) (except MLRA 1) Other (Explain in Remarks) Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Depleted Below Dark Surface (A11) Depleted Matrix (F3) Thick Dark Surface (A12) Redox Dark Surface (F6) Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) welland hydrology must be pi unless disturbed or problema estrictive Layer (if present): Type:	
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Willamette	Water	Supply	Program-	PLM	4.0
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APPENDIX D: PHOTOGRAPHS



Photo 1: Looking northwest at wetland in floodplain above the OHWM of the incised Beaverton Creek. The OHWM lies at the top of bank where the surveyor is standing in the center of the photo (June 23, 2016).



Photo 2: Looking north at Rock Creek from south bank (June 23, 2016). Scattered wetland vegetation is rooted below OHWM of creek with relatively steep sides. Delineated by PHS in 2015.



Photo 3: Looking east at level field north of Rock Creek and light rail tracks. June 23, 2016. As shown in Figure 6, potential wetlands mapped on the LWI lie east of the field at the base of the forested slope, and not within the study area.



Photo 4: Looking southeast from the southern edge of the large, ruderal City of Hillsboro parcel. June 23, 2016.



Photo 5: Looking north from the southern edge of the large, ruderal City of Hillsboro parcel. June 23, 2016.



Photo 6: Looking north at wetland swale W2-3, with shallow slopes to either side. June 23, 2016.



Photo 7: Looking south toward Fred Meyer Parking lot from upland area east of wetland. June 23, 2016. Note St. John's wort and meadow sidalcea mixed with other facultative grasses and blackberry.

APPENDIX E: WETS TABLE

Creation Date: 04/06/2015

	Temperature (Degrees F.)			Precipitation (Inches)					
	 				30% ch will		avg # of days	avg total	
Month	avg daily max	avg daily min	avg	avg	less than	more than	w/.1 or more	snow fall	
January February March April May June July August September October November December	46.1 50.7 56.1 61.1 67.2 72.7 79.2 79.9 74.8 63.8 52.0 46.0	33.8 35.3 37.3 40.2 45.4 50.5 54.3 54.3 50.3 43.4 38.5 34.5	40.0 43.0 46.7 50.7 56.3 61.6 66.8 67.1 62.6 53.6 45.3 40.3	5.83 4.84 4.06 2.79 2.25 1.62 0.68 0.84 1.64 2.92 6.07 6.41	3.53 3.06 3.03 1.90 1.40 1.02 0.27 0.22 0.70 1.52 4.08 4.42	7.07 5.84 4.74 3.32 2.72 1.95 0.84 0.98 2.03 3.57 7.25 7.64	12 12 11 9 7 5 2 2 5 8 13 12	0.6 0.7 0.1 0.0 0.0 0.0 0.0 0.0 0.0 0.0	
Annual	 	 			34.88	44.05	 		
Average	62.5	43.2	52.8		 				
Average	 			39.95			92	2.2	

GROWING SEASON DATES

	Temperature		
Probability	24 F or higher	28 F or higher	32 F or higher
	Beginning and Ending Dates Growing Season Length		
50 percent *	1/29 to 12/21 326 days	3/ 3 to 11/24 265 days	4/12 to 11/ 4 206 days
70 percent *	1/20 to 12/30 343 days	2/20 to 12/ 5 287 days	4/ 4 to 11/12 222 days

^{*} Percent chance of the growing season occurring between the Beginning and Ending dates.

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APPENDIX F: WETLAND DELINE	ATIONS (BY OTHERS)
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DEPARTMENT OF

WETLAND DELINEATION / DETERMINATION REPORT COVER FORM

This form must be included with any wetland delineation report submitted to the Department of State Lands for review and LANDS approval. A wetland delineation report submittal is not "complete" unless the fully completed and signed report cover form and the required fee are submitted. Attach the form to the front of an unbound report and submit to: Oregon Department of

State Lands, 775 Summer Street NE, Suite 100, Salem, OR 97301-1279 Mail a copy of the completed form with payment of the required report review fee to: Oregon Department of State Lands, P.O. Box 4395, Unit 18, Portland, OR 97208-4395. For new credit card payment option, see DSL web site. Business phone # 503 846-7859 Applicant Owner Name, Firm and Address: WA County Land Use&Transportation, Abraham Turki Mobile phone # (optional) FAX # 503 846-7810 1400 SW Walnut Street, MS 18 E-mail: Abraham_turki@co.washington.or.us Hillsboro, Oregon 97123-5625 Authorized Legal Agent, Name and Address: Business phone # FAX# Mobile phone # E-mail: I either own the property described below or I have legal authority to allow access to the property. I authorize the Department to access the property for the purpose of confirming the information in the report, after prior notification to the primary contact. Signature: Typed/Printed Name: Abraham Turki Date: 10/6/09 Special instructions regarding site access: Project and Site Information (for latitude & longitude, use centroid of site or start & end points of linear project) Longitude: Project Name: Project Begins 122.90013 -Cornelius Pass Road Widening, From NW Quatama Project Begins 45.52069 -Project Ends 122.90014 Road to Baseline Road Project Ends 45.30281 Tax Map # T1N, R2W, S35CD, 500, 1000, 13600 Proposed Use: Public Roadway T1S, R2W, S02BA Section 35 QQ Township T1N Range 2W Project Street Address (or other descriptive location): R2W 02 T1S Cornelius Pass Road between NW Quatama Road and Tax Lot (s) Road Right of Way Baseline Road Waterway: Beaverton Creek River Mile: County: Washington NWI Quad(s): Hillsboro City: Hillsboro Wetland Delineation Information Phone # 503-570-0800 Wetland Consultant Name, Firm and Address: Pacific Habitat Services Attn: Michele Eccleston Mobile phone # 9450 SW Commerce Circle, Suite 180 FAX # 503-570-0855 Wilsonville, OR 97070 E-mail: The information and conclusions on this form and in the attached report are true and correct to the best of my knowledge, Consultant Signature Date: 10/12/09 Primary Contact for report review and site access is Consultant Applicant/Owner Authorized Agent Total Wetland Acreage: Waters 0.42/Wetlands 0.50 Study Area size: Wetland/Waters Present? ☑ Yes □ No Check Box Below if Applicable: Fee payment submitted \$ 364.00 □ R-F permit application submitted ☐ Fee (\$100) for resubmittal of rejected report ☐ Mitigation bank site Name of Payor: Pacific Habitat-Services ☐ Wetland restoration/enhancement project (not mitigation) ☐ Industrial Land Certification Program Site N Other Information: \boxtimes If known, previous DSL# Has previous delineation/application been made on parcel? \boxtimes The LWI only maps the west portion of Beaverton Does LWI, if any, show wetland or waters on parcel? Creek. For Office Use Only

DSL Reviewer	: AB Fee Paid Da	ate://	DSL WD# 2009-0435	e.
Date Delineation	on Received: 10114109	DSL Project#	DSL Site #	
Scanned: □	Final Scan: □	DSL WN#	DSL App. #	_



Department of State Lands

775 Summer Street NE, Suite 100 Salem, OR 97301-1279 (503) 986-5200 FAX (503) 378-4844 www.oregonstatelands.us.

February 1, 2010

State Land Board

Abraham Turki Washington County Land Use & Transportation 1400 SW Walnut Street, MS 18 Hillsboro, OR 97123-5625

Theodore R. Kulongoski Governor

> Kate Brown Secretary of State

Re:

Wetland Delineation Report for Cornelius Pass widening from NW Quatama Road to Baseline Road, Hillsboro, Washington County; T 1N R 2W S 35CD Portions of Tax Lots 900, 1000 & 13600; T 1S R 2W

Ben Westlund State Treasurer

S 2BA ROW; WD #09-0435

Dear Mr. Turki:

The Department of State Lands has reviewed the wetland delineation report prepared by Pacific Habitat Services for the site referenced above. [Please note that the study area includes only a portion of the tax lots described above (please see the attached map)]. Based upon the information presented in the report, a site visit on 12/19/09 and additional information submitted upon request, we concur with the wetland and waterway boundaries as mapped in revised Figure 6 of the report. Please replace all copies of the preliminary wetland map with this final Department-approved map. Within the study area, four wetlands associated with Beaverton Creek (A-D) and Beaverton Creek were identified. The wetlands and waterway are subject to the permit requirements of the state Removal-Fill Law. A state permit is required for cumulative fill or annual excavation of 50 cubic yards or more in the wetlands or below the ordinary high water line (OHWL) of a waterway (or the 2 year recurrence interval flood elevation if OHWL cannot be determined).

This concurrence is for purposes of the state Removal-Fill Law only. Federal or local permit requirements may apply as well. The Army Corps of Engineers will review the report and make a determination of jurisdiction for purposes of the Clean Water Act at the time that a permit application is submitted. We recommend that you attach a copy of this concurrence letter to both copies of any subsequent joint permit application to speed application review.

Please be advised that state law establishes a preference for avoidance of wetland impacts. Because measures to avoid and minimize wetland impacts may include reconfiguring parcel layout and size or development design, we recommend that you work with Department staff on appropriate site design before completing the city or county land use approval process.

This concurrence is based on information provided to the agency. The jurisdictional determination is valid for five years from the date of this letter, unless new information

necessitates a revision. Circumstances under which the Department may change a determination and procedures for renewal of an expired determination are found in OAR 141-090-0045 (available on our web site or upon request). The applicant, landowner, or agent may submit a request for reconsideration of this determination in writing within 60 calendar days of the date of this letter.

Thank you for having the site evaluated. Please phone me at 503-986-5321 if you have any questions.

Sincerely,

Anna Buckley Wetland Specialist Approved by Janet C. Movlan

Wetlands Program Manager

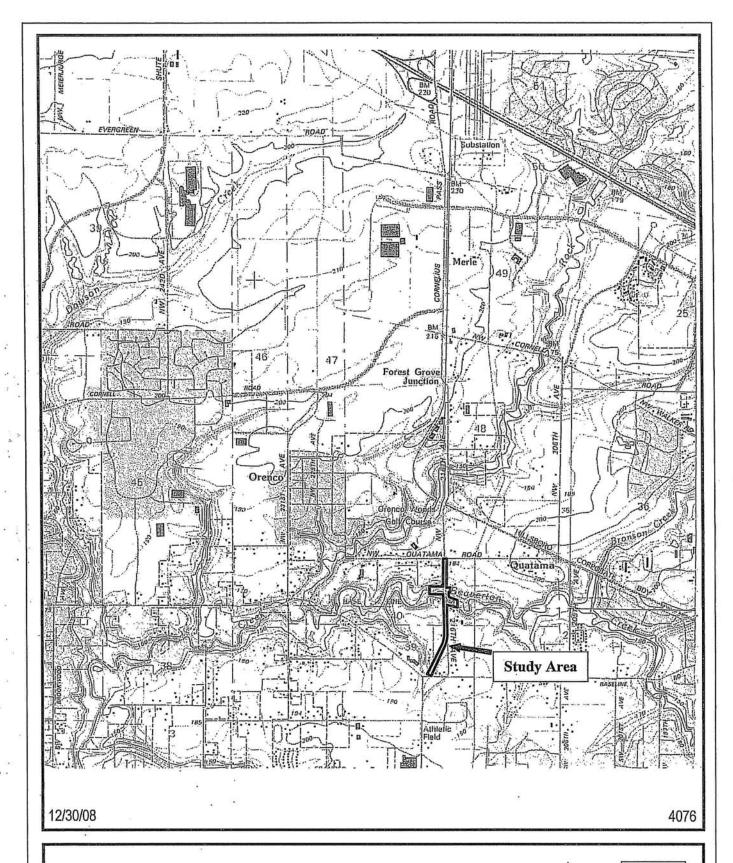
Enclosures

ec: Michelle Eccleston, Pacific Habitat Services

City of Hillsboro Planning Department Brian Villalon, Corps of Engineers

Carrie Landrum, DSL

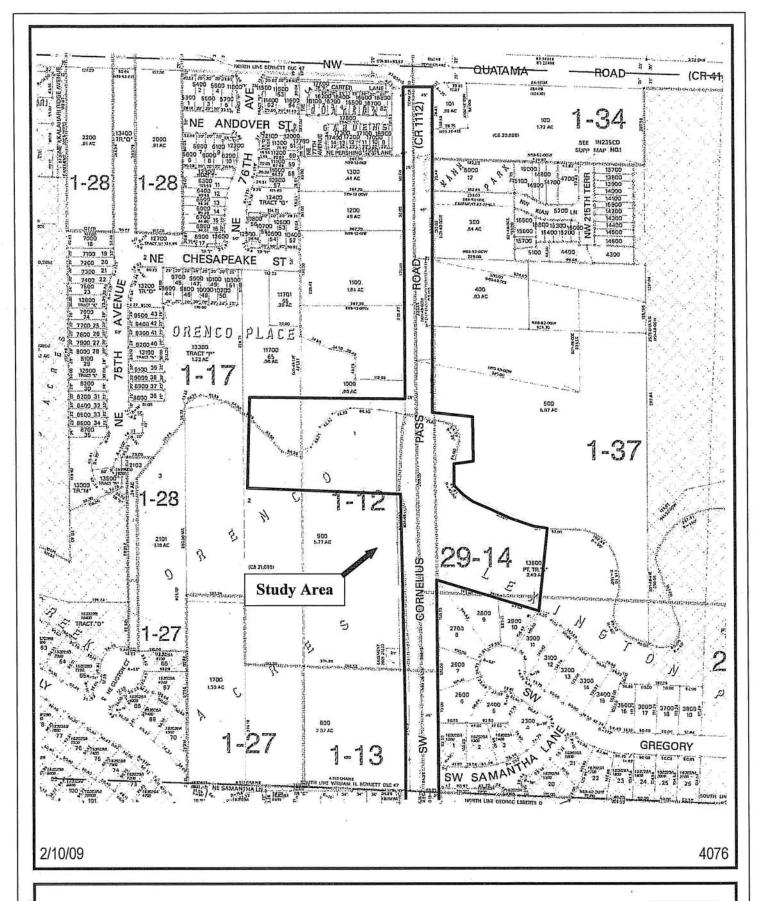
Damon Reische, Clean Water Services



Location and general topography for the Cornelius Pass Road Widening project in Washington County, Oregon (Source: USGS Hillsboro, OR quadrangle, 1990).

FIGURE 1

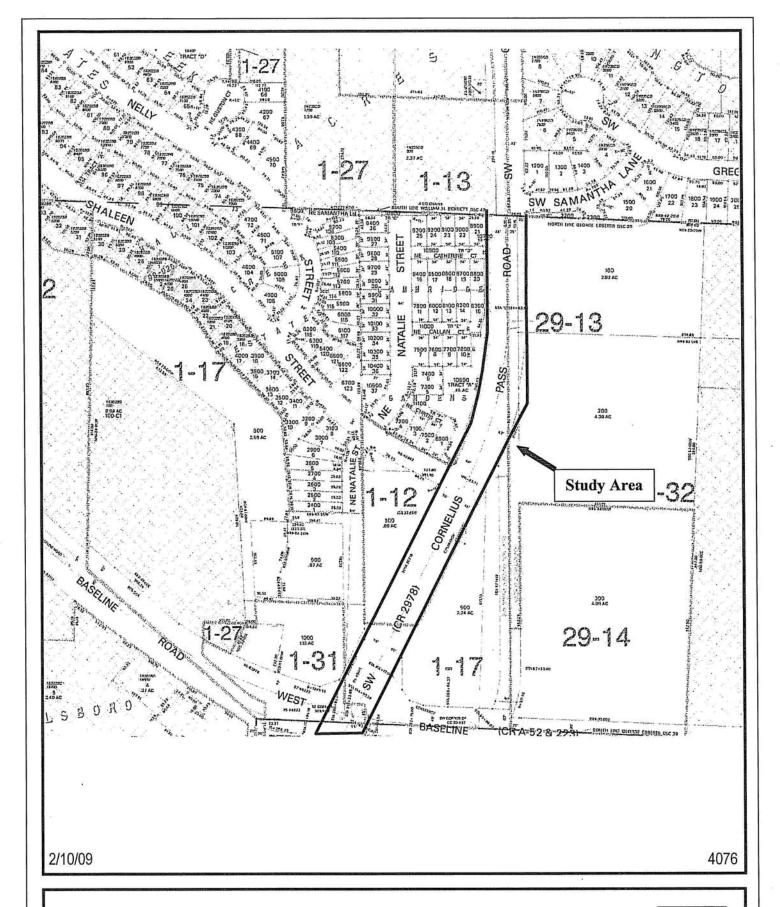




Tax Lot Map for the Cornelius Pass Road Widening project in Washington County, Oregon (Source: ORMAP, Tax Map T1N R2W S35CD).

FIGURE 2A





Tax Lot Map for the Cornelius Pass Road Widening project in Washington County, Oregon (Source: ORMAP, Tax Map T1S R2W S02BA).

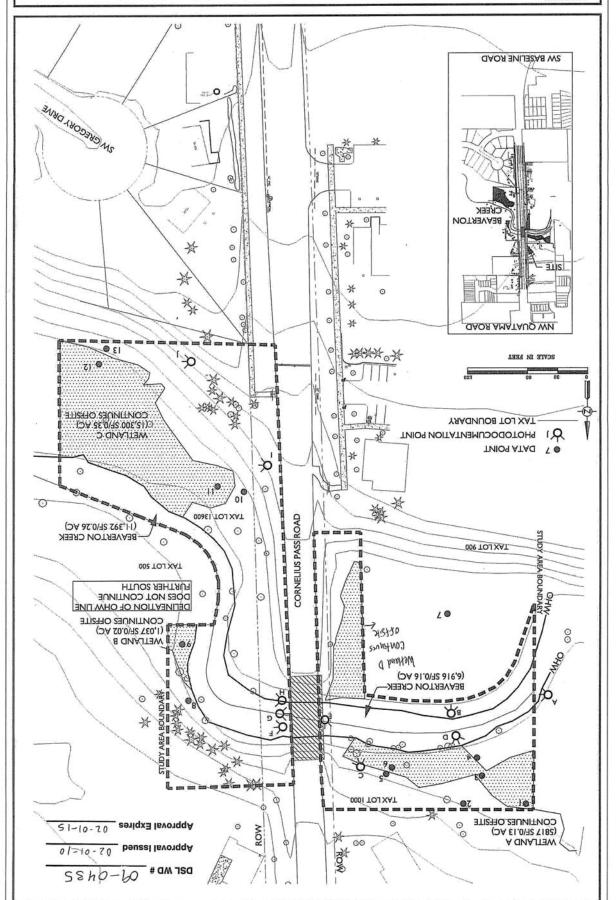
FIGURE 2B



Pacific Habitat Services, Inc. -

1/52/10 9201

Existing conditions and location of data points and photodocumentation points for the proposed Cornelius Pass Road widening from NW Quatama Road to West Baseline Road in Hillsboro, Washington County, Oregon. Survey provided by WRG Design, Inc., 2008. Survey accuracy is sub-centimeter.





Department of State Lands

775 Summer Street NE, Suite 100 Salem, OR 97301-1279 (503) 986-5200 FAX (503) 378-4844 www.oregonstatelands.us

John A. Kitzhaber, MD Governor

> Kate Brown Secretary of State

State Land Board

Ted Wheeler State Treasurer

October 24, 2013

Dan Grimberg West Hills Development 735 SW 158th Avenue Beaverton, OR 97006

Re:

Wetland Delineation Report for the Proposed Amberglen Residential Development, Washington County; T1N R2W Sec. 36BC, Tax Lots 700, 800, and Portion of 900; WD #13-0191; App. #54536

Dear Mr. Grimberg:

The Department of State Lands has reviewed the wetland delineation report prepared by Anchor QEA for the site referenced above. Based upon the information presented in the report, a site visit on September 24, 2013, and additional information submitted upon request, we concur with the wetland boundaries as mapped in revised Figure A-20 of the report. Please replace all copies of the preliminary wetland map with this final Department-approved map. Within the study area, 18 wetlands were identified, totaling approximately 0.74 acres. These wetlands are subject to the permit requirements of the state Removal-Fill Law. Under current regulations, a state permit is required for cumulative fill or annual excavation of 50 cubic yards or more in wetlands.

This concurrence is for purposes of the state Removal-Fill Law only. Federal or local permit requirements may apply as well. This concurrence is based on information provided to the agency. The jurisdictional determination is valid for five years from the date of this letter, unless new information necessitates a revision. Circumstances under which the Department may change a determination are found in OAR 141-090-0045 (available on our web site or upon request). In addition, laws enacted by the legislature and/or rules adopted by the Department may result in a change in jurisdiction; individuals and applicants are subject to the regulations that are in effect at the time of the removal-fill activity, or complete permit application. The applicant, landowner, or agent may submit a request for reconsideration of this determination in writing within six months of the date of this letter.

Thank you for having the site evaluated. Please phone me at 503-986-5232 if you have any questions.

Sincerely,

Peter Ryan, PWS Wetland Specialist Approved by

Kathy Verble, CPSS

Acting Wetlands Program Manager

Enclosures

ec: Greg Summers, Anchor QEA

City of Hillsboro Planning Department (Map enclosed for updating LWI)

Karla Ellis, Corps of Engineers

Amber Wierck, Clean Water Services

Charles Redon, DSL

WETLAND DELINEATION / DETERMINATION REPORT COVER FORM This form must be included with any wetland delineation report submitted to the Department of State Lands for review and approval. A wetland delineation report submittal is not "complete" unless the fully completed and signed report cover form and the required fee are submitted. Attach this form to the front of an unbound report or include a hard copy of the completed form with a CD/DVD that includes a single PDF file of the report cover form and report (minimum 300 dpi resolution) and submit to: Oregon Department of State Lands, 775 Summer Street NE, Suite 100, Salem, OR 97301-1279. A single PDF attachment of the completed cover from and report may be e-mailed to Wetland_Delineation@dsl.state.or.us. For submittal of PDF files larger than 10 MB, e-mail instructions on how to access the file from your ftp or other file sharing website. Fees can be paid by check or credit card. Make the check payable to the Oregon Department of State Lands. To pay the fee by credit card, call 503-986-5200. Applicant Owner Name, Firm and Address: Dan Grimberg Business phone # (503) 726-7030 West Hills Development Mobile phone # (optional) 735 SW 158th Avenue E-mail: dgrimberg@arborhomes.com Beaverton, OR 97006 Authorized Legal Agent, Name and Address: Dan Grimberg Business phone # (503) 726-7030 West Hills Development Mobile phone # (503) 789-0358 735 SW 158th Avenue E-mail: dgrimberg@arborhomes.com Beaverton, OR 97006 I either own the property described below or I have legal authority to allow access to the Department to access the property for the purpose of confirming the information in the report, after prior notification Typed/Printed Name: Dan Grimberg Signature: Date: Special instructions regarding site access: Project and Site Information (using decimal degree format for lat/long.,enter centroid of site or start & end points of linear project) Project Name: Amberglen Property Latitude: 45.314069° N Longitude: -122.531195° W wence Proposed Use: 311-unit residential development Tax Map # 1N236BC project. - 122,887933 46.528176 Project Street Address (or other descriptive location): Township 1N Range 2W Section 36 QQ SWNW 1000 NW 206th Avenue Tax Lot(s) 700, 800, and 900 (Pertian Waterway: N/A River Mile: N/A City: Hillsboro County: Washington NWI Quad(s): N/A Wetland Delineation Information Wetland Consultant Name, Firm and Address: Phone # (503) 670-1108 **Greg Summers** Mobile phone # (503) 381-1866 Anchor QEA E-mail: gsummers@anchorgea.com 6650 SW Redwood Lane, STE 333 Portland, Oregon 97224 and in the attached report are true and correct to the best of my knowledge. The information and con Consultant Signatur Date: 4/16/2013 Primary Contact for report review and site access is Consultant Applicant/Owner Authorized Agent Wetland/Waters Present? 10.8 ac Total Wetland Acreage: 0.74 ac Check Box Below if Applicable: Fees: Fee payment submitted \$398 R-F permit application submitted ☐ Mitigation bank site Fee (\$100) for resubmittal of rejected report Wetland restoration/enhancement project (not mitigation) No fee for request for reissuance of an expired report ☐ Industrial Land Certification Program Site Reissuance of a recently expired delineation Expiration date Previous DSL# Other Information: Ν Has previous delineation/application been made on parcel? \boxtimes If known, previous DSL# Does LWI, if any, show wetland or waters on parcel? For Office Use Only DSL Reviewer: PR Fee Paid Date: DSL WD#

DSL Project #

DSL WN#

DSL Site # DSL App. #

Scanned: 2

Date Delineation Received: 6 1 19 1 13

Final Scan:

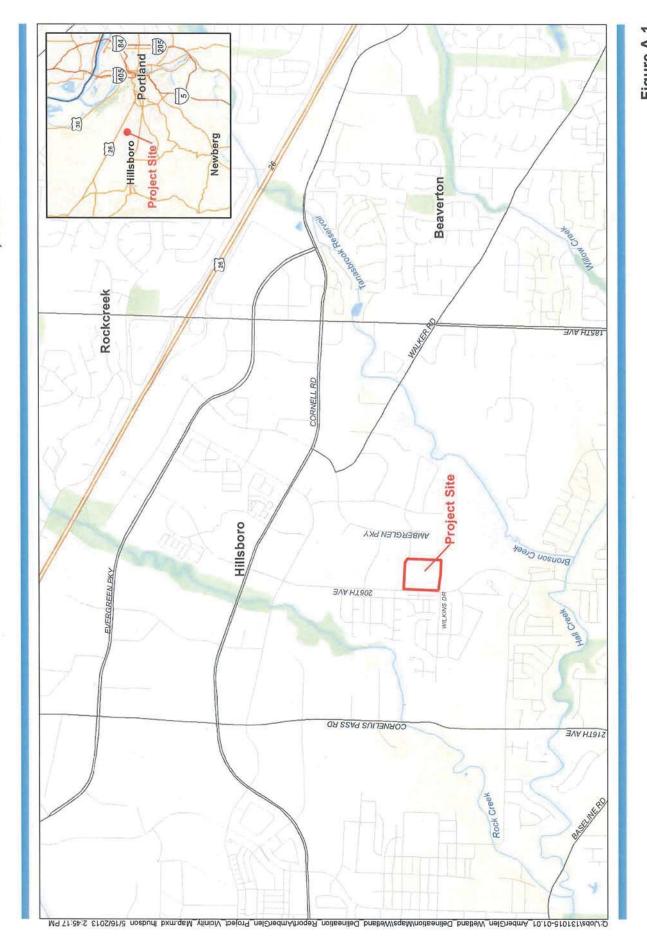


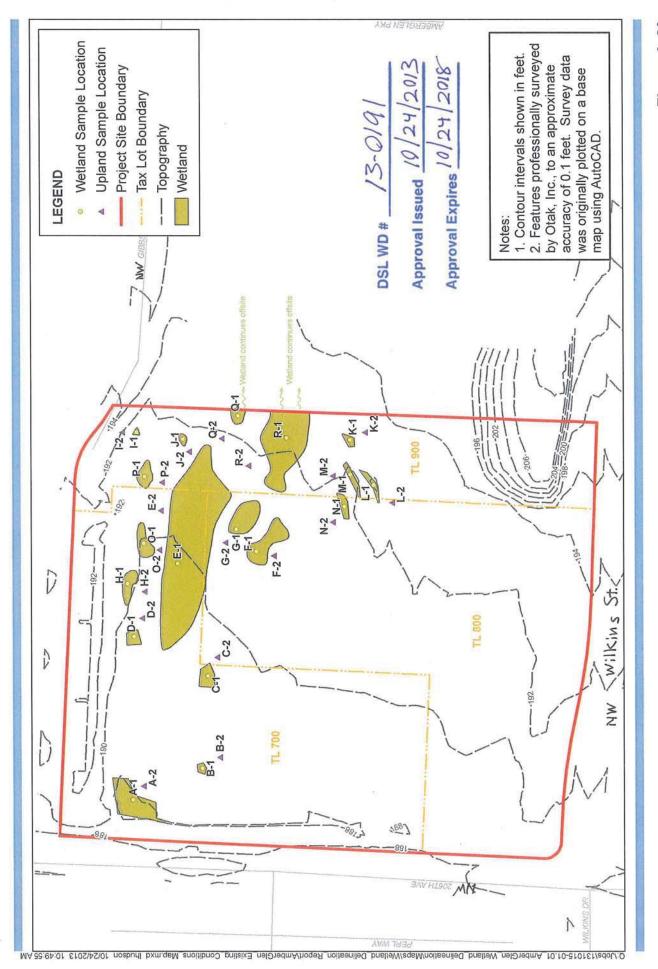
Figure A-1
Project Vicinity Map
Amberglen Wetland Delineation
Washington County, OR



4,000

Feet 2,000





Existing Conditions Amberglen Wetland Delineation Washington County, OR Figure A-20





200

Feet 100



A ANCHOR



October 2, 2014

Re:

Washington County DLUT Attn: Gary Stockhoff 1400 SW Walnut Street, MS 18 Hillsboro, OR 97123-5625 Department of State Lands

775 Summer Street NE, Suite 100 Salem, OR 97301-1279 (503) 986-5200 FAX (503) 378-4844 www.oregonstatelands.us

State Land Board

John A. Kitzhaber, MD Governor

Wetland Delineation Report for NW Cornelius Pass Road Improvement Project, Washington County; T 1N R 2W S 23

TL 911 and 1000; S 23CD TL 1100; S 02 TL 2700; S 26AB TL 300, 400, 500; S 26AC TL 600; S 26D TL 200; S 26DB TL 700 and portions of US Highway 26, NW Cornelius Pass

Road, NW Evergreen Parkway and NW Cornell Road Rights-of-

Way; WD #2014-0226

Kate Brown Secretary of State

> Ted Wheeler State Treasurer

Dear Mr. Stockhoff:

The Department of State Lands has reviewed the wetland delineation report prepared by David Evans and Associates, Inc. for the site referenced above. Please note that the study area includes only a portion of the tax lots described above (please see the attached map). Based upon the information presented in the report and additional information submitted upon request, we concur with the wetland and waterway boundaries as mapped in revised Figure 5, Sheets 1 through 6 of the report. Please replace all copies of the preliminary wetland map with this final Department-approved map.

Within the study area, four wetlands (Wetlands A, B, C and D), one water (Water E), and one ditch (Toe-of-Slope Ditch) were identified. The four wetlands (approximately 0.47 acres) and Water E (0.03 acres) are subject to the permit requirements of the state removal-fill law. The roadside ditch (Toe-of-Slope Ditch) is not state jurisdictional (OAR 141-085-515(10)). The wetlands are subject to the permit requirements of the state Removal-Fill Law. Under current regulations, a state permit is required for cumulative fill or annual excavation of 50 cubic yards or more in the wetlands or below the ordinary high water line (OHWL) of a waterway (or the 2 year recurrence interval flood elevation if OHWL cannot be determined). This concurrence is for purposes of the state Removal-Fill Law only. Federal or local permit requirements may apply as well. The Army Corps of Engineers will review the report and make a determination of jurisdiction for purposes of the Clean Water Act.

Please be advised that state law establishes a preference for avoidance of wetland impacts. Because measures to avoid and minimize wetland impacts may include reconfiguring parcel layout and size or development design, we recommend that you work with Department staff on appropriate site design before completing the city or county land use approval process.

This concurrence is based on information provided to the agency. The jurisdictional determination is valid for five years from the date of this letter unless new information necessitates a revision. Circumstances under which the Department may change a determination are found in OAR 141-090-0045 (available on our web site or upon request). In addition, laws enacted by the legislature and/or rules adopted by the Department may result in a change in jurisdiction; individuals and applicants are subject to the regulations that are in effect at the time of the removal-fill activity or complete permit application. The applicant, landowner, or agent may submit a request for reconsideration of this determination in writing within six months of the date of this letter.

Thank you for having the site evaluated. Please phone me at 503-986-5202 if you have any questions.

Sincerely,

Melinda Butterfield, PWS Wetland Specialist

Milda Butter.

Approved by Kathy Verble, CPSS

Acting Wetlands Program Manager

Enclosures

ec:

John Macklin, David Evans and Associates, Inc.

Michael Ladouceur, Corps of Engineers

WETLAND DELINEATION / DETERMINATION REPORT COVER FORM

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check payable to the Oregon Department of State Lands. To pay				
Applicant Owner Name, Firm and Address:	Business phone # 503 846-7820			
Gary Stockhoff	Mobile phone # (optional)			
Washington County DLUT	E-mail: gary_stockhoff@co.washington.or.us			
1400 SW Walnut Street, MS 18	3			
Hillsboro, OR 97123-5625				
Authorized Legal Agent, Name and Address:	Business phone #			
	Mobile phone #			
Leither own the property described below or I have legal authority to	E-mail: to allow access to the property. I authorize the Department to access the			
property for the purpose of confirming the information in the report,	after prior notification to the primary contact.			
Typed/Printed Name: JACH A STUCKHOTT	_ Signature:			
Date: 5/14/14 Special instructions regarding site according				
	for lat/long.,enter centroid of site or start & end points of linear project)			
Project Name: NW Cornelius Pass Road Improvement Project	Latitude: 45 33" 16.04 N Longitude: 122 53" 58.32" W			
Proposed Use: Road improvements including turn	Tax Map # 1N223			
lanes, sidewalks, curbs, bike lanes, and US 26 on-ramp				
Project Street Address (or other descriptive location):	Township 1N Range 2W Section 23 QQ SW			
Cornelius Pass Road between US 26 and NW	Tax Lot(s) 1000,0911, 1400- See below			
Amberwood Drive	Waterway: NA River Mile:			
City: Hillsboro County: Washington	NWI Quad(s): Hillsboro			
	eation Information			
Wetland Consultant Name, Firm and Address: Phone # 503.499.0348				
David Evans and Associates, Inc. Mobile phone # 503 425-9946				
Attn: John Macklin	E-mail: jdm@deainc.com			
2100 SW River Parkway Portland Oregon 97123				
The information and conclusions on this form and in the attached re	eport are true and correct to the best of my knowledge			
Consultant Signature: \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\	Date: February 6, 2014			
John Mainn				
	onsultant Applicant/Owner Authorized Agent			
Wetland/Waters Present?				
Check Box Below if Applicable:	Fees:			
R-F permit application submitted	Fee payment submitted \$ 396.00			
☐ Mitigation bank site ☐ Fee (\$100) for resubmittal of rejected report				
Wetland restoration/enhancement project (not mitigation) No fee for request for reissuance of an expired				
☐ Industrial Land Certification Program Site report				
Reissuance of a recently expired delineation				
Previous DSL # Expiration date				
Other Information: Y N				
Has previous delineation/application been made on parcel? ☐ If known, previous DSL #				
Does LWI, if any, show wetland or waters on parcel?				
For Office Use Only				
DSL Reviewer: Fee Paid Date:	11 DSLWD# 2014-0226			
Date Delineation Received: 5 / 21 / 14 DSL Proj	ect # DSL Site #			
Scanned Final Scan: D DSL WN # DSL App. #				
* Submitted	Electronically			
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IN 2W 23 TL 911, 1000 IN 2W 26 PC 1 L 200				

2 TL 2700

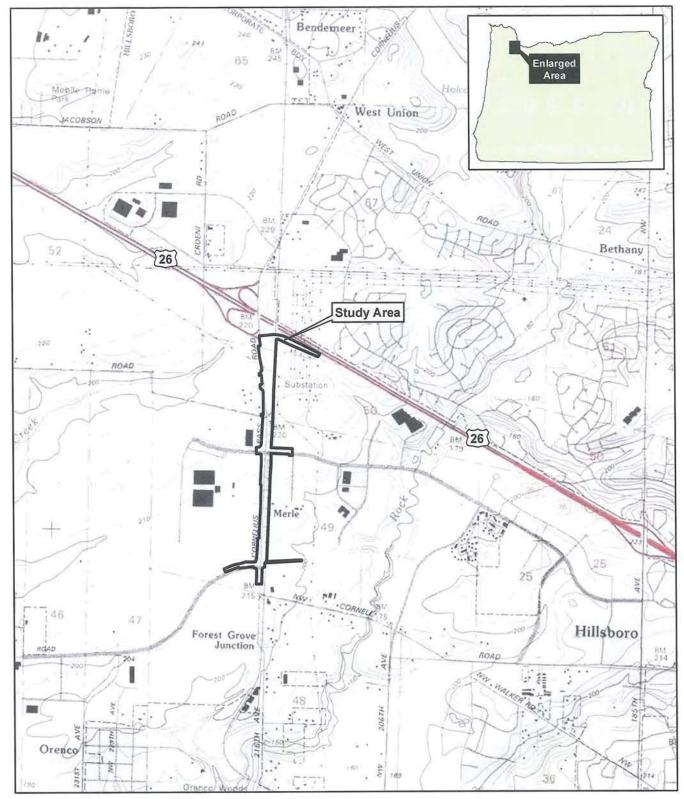
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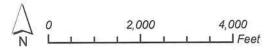
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ZEAB TL 300, 400, 500



Service Layer Credits: Copyright:© 2013 National Geographic Society, i-cubed

Figure 1
Vicinity





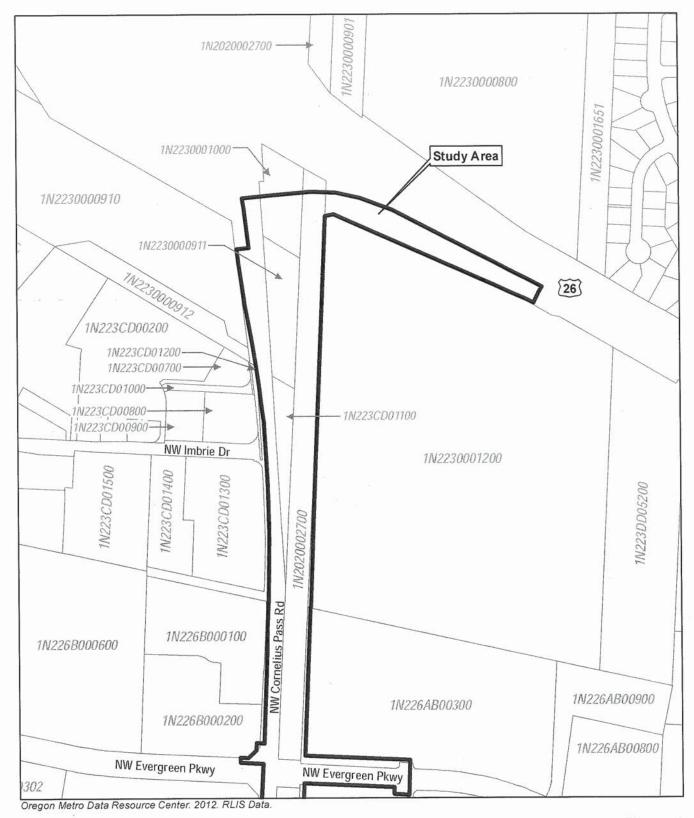
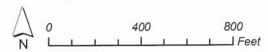


Figure 4
Tax Lots





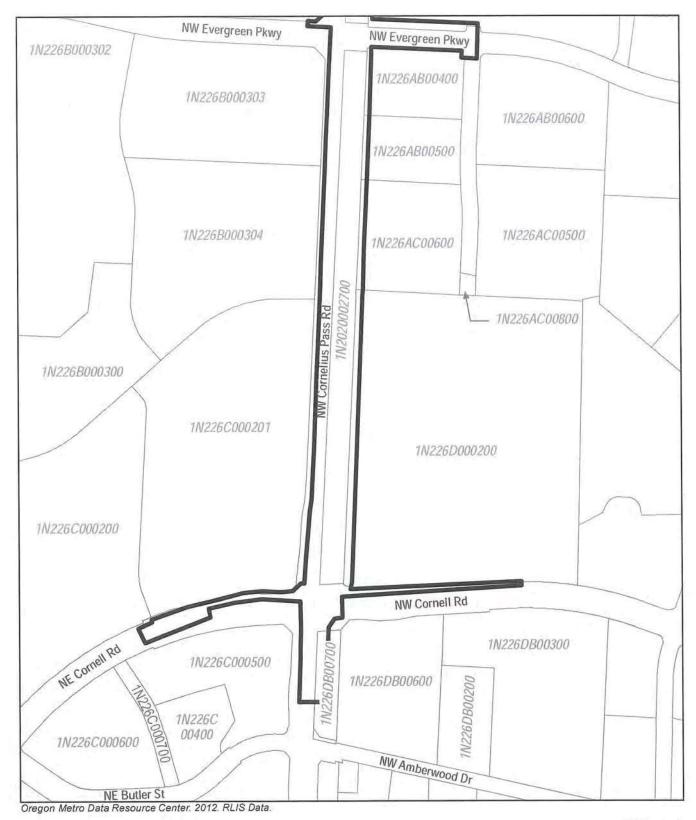
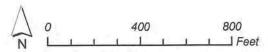


Figure 4
Tax Lots





0220-1102 # MD # SOL

Approval Issued 10 -2-14

2

Approval Expires 10 - 2 - 19



Approval Issued 10-2-14

200 Cornelius Pass Rd Northbound Cornelius Pass to E US 26 Abandoned Relinged Grads Mapped by Professional Surveyors or GPS with an accuracy of +/- 3 feet. Figure 5, Sheet 2 Wetland Delineation - 1 2003 Wetland Boundaries Study Area Water NW Imbrie D Approval Expires 10-2 NW Comelius Pass Rd DE-OF-SOR

K chosal to prot 6

Approval Issued 10 - 2 - 14

⊕ Photopoint (Directional) Cornelius Pass Rd Northbound Cornelius Pass to E US 26 Culvert Data Plot Mapped by Professional Surveyors or GPS with an accuracy of +/- 3 feet. Figure 5, Sheet 3 Wetland Delineation __ 2003 Wetland Boundaries Study Area Wetland ■ Water NM Evergreen Pkwy NM Evergreen Pkwy 10-2 NW Comelius Pass Rd न क्रिdoned Railroad Grade

Approval Issued 10-2-14

⊕ Photopoint (Directional) Cornelius Pass Rd Northbound Cornelius Pass to E US 26 Culvert
 Data Plot Mapped by Professional Surveyors or GPS with an accuracy of +/- 3 feet. Figure 5, Sheet 4 Wetland Delineation _ 1 2003 Wetland Boundaries Study Area Wetland Water 1 2-01 NW Cornelius Pass Rd Approval Issued 16-2-14

O+ Photopoint (Directional) Cornelius Pass Rd Northbound Cornelius Pass to E US 26 Culvert
 Data Plot Mapped by Professional Surveyors or GPS with an accuracy of +/- 3 feet. Figure 5, Sheet 5 Wetland Delineation Z003 Wetland Boundaries Study Area Wetland Water NW Cornell Rd Abandoned Railroad Grade 61-2-01 NW Cornelius Pass Rd Approval Expires Plot 16 Plot 15 Culvert (approx. location) Water E 1N2020002700 Feb 27.

Approval Issued

Approval Expires



Feb 27,