### OREGON CITY SCHOOL DISTRICT

### SITE PLAN AND DESIGN REVIEW

### PROPOSED TRANSPORTATION MAINTENANCE FACILITY

Exhibit G - Wetlands Delineation Report

Refer to attached Wetlands Delineation Report prepared by Pacific Habitat.

# Wetland Delineation for the Oregon City High School Property in Oregon City, Oregon

(Township 3 South, Range 2 East, Section 9D, tax lot 1400)

### Prepared for

### **BBL** Architects

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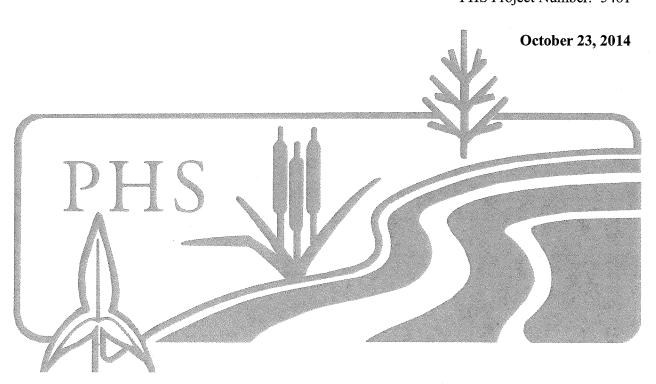
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PHS Project Number: 5481



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### I. INTRODUCTION

Pacific Habitat Services, Inc. (PHS) conducted a wetland delineation for the portion of an Oregon City School District property that will be used for a new transportation/maintenance facility. The study area is located in Oregon City, OR (Township 3 South, Range 2 East, Section 9D, tax lot 1400).

This report presents the results of PHS's wetland delineation within the study area. Figures, including a map depicting the location of wetlands within the study area, are located in Appendix A. Data sheets documenting on-site conditions are provided in Appendix B. Ground-level photographs documenting site conditions are provided in Appendix C. A discussion of the wetland delineation methodology is provided for the client in Appendix D.

### II. RESULTS AND DISCUSSION

### A. Landscape Setting and Land Use

The study area is located approximately one-quarter mile northeast of the intersection of Oregon Highway 213 and Glen Oak Road in Oregon City. The study area consists of one tax lot (1400) as shown in the attached figures (Appendix A). The parcel is zoned as "Industrial Campus" (ORWAP Reporter). Surrounding parcels are zoned as residential, industrial, commercial, and public and semi-public.

Site topography slopes down to the northwest. The study area is within the Beaver Creek watershed (HUC 170900070403); Caufield Creek flows west approximately 600 feet south of the study area.

Dominant vegetation in the southern portion of the study area includes primarily weedy forbs and pasture grasses. The northern portion of the study area is forested, with upland Douglas-fir/oak woodland transitioning to an Oregon ash forest in the north. Vegetation observed within the study area includes the species listed in Table 1 below.

Table 1. Vegetation within the Study Area.

Common Name	Latin Name	Wetland Indicator Status
Colonial bentgrass	Agrostis capillaris	FAC
Spreading bentgrass	Agrostis stolonifera	FAC
Service-berry	Amelanchier alnifolia	FACU
Sweet vernalgrass	Anthoxanthum odoratum	FACU
Taper-fruit short-scale sedge	Carex leptopoda	FAC
Slough sedge	Carex obnupta	OBL
Chicory	Cichorium intybus	FACU
Hazelnut	Corylus cornuta	FACU
English hawthorn	Crataegus monogyna	FAC
Scotch broom	Cytisus scoparius	UPL
Orchard grass	Dactylus glomerata	FACU

Common Name	Latin Name	Wetland Indicator Status
Queen Anne's lace	Daucus carota	FACU
Tall fescue	Festuca arundinacea	FAC
Cascara	Frangula purshiana	FAC
Oregon ash	Fraxinus latifolia	FACW
Salal	Gaultheria shallon	FACU
Velvetgrass	Holcus lanatus	FAC
St. Johnswort	Hypericum perforatum	FACU
Hairy cat's-ear	Hypochaeris radicata	FACU
English Holly	Ilex aquifolium	FACU
Ox-eye daisy	Leucanthemum vulgare	FACU
English plantain	Plantago lanceolata	FACU
Bluegrass	Poa species	FAC
Sword fern	Polystichum munitum	FACU
Sweet cherry	Prunus avium	FACU
Douglas-fir	Pseudotsuga menziesii	FACU
Bracken fern	Pteridium aquilinum	FACU
Oregon white oak	Quercus garryana	FACU
Oak	Quercus species	FACU or UPL
Clustered rose	Rosa pisocarpa	FAC
Rose	Rosa species	assumed FAC
Himalayan blackberry	Rubus armeniacus	FACU
Trailing blackberry	Rubus ursinus	FACU
Scouler's willow	Salix scouleriana	FAC
Snowberry	Symphoricarpos albus	FACU
Western red cedar	Thuja plicata	FAC
Pacific poison-oak	Toxicodendron diversilobum	FAC
Clover	Trifolium species	FAC or FACU

### **B.** Site Alterations

The study area itself has been relatively undisturbed since before July of 2000, the earliest year aerial imagery is available through Google Earth. Several features surrounding the site, which may have affected site drainage, have been developed since 2000. To the east, a tree farm was cleared between 2000 and 2001, making way for the construction of High School Road and a stormwater catch basin northeast of the tax lot. These features were constructed by May 2002. In this time period, an unpaved path paralleling the northern boundary of the parcel was graveled.

There is no evidence of recent fill or site alterations beyond those described above.

### C. Precipitation Data and Analysis

The wetland delineation was conducted on September 10, 2014. No rain fell during the field investigation; 1.08 inches was recorded during the two previous weeks (National Weather Service).

Precipitation for the water year (October 1, 2013 through August 31, 2014) was 33.01 inches, which is 75 percent of normal. Most of the fall and winter months of the 2013/14 water year were well below the normal range. However, March 2014 was exceptionally wet, bringing the precipitation for the water year into the normal range, though still below the average.

Table 1 shows the average monthly precipitation in Oregon City for the three months prior to the site visit, as well as the upper and lower values considered within normal ranges for the period of record (NRCS WETS table for Oregon City, 2002).

Table 2. Average Monthly Precipitation (NRCS WETS Table for Oregon City) and Observed Monthly Precipitation for the 2013/2014 water year.

D.41		2 Years in 1	0 Will Have	Observed Precipitation**	
Month	Average*	Less than	More than		
October 2013	3.48	1.85	4.25	1.05	
November 2013	6.79	4.43	8.16	3.94	
December 2013	7.23	4.85	8.65	2.08	
January 2014	6.59	4.23	7.94	3.21	
February 2014	5.51	3.83	6.56	3.83	
March 2014	4.70	3.54	5.49	9.02	
April 2014	3.46	2.44	4.10	3.93	
May 2014	2.70	1.72	3.26	2.59	
June 2014	1.83	1.11	2.22	1.33	
July 2014	0.83	0.29	1.00	0.91	
August 2014	1.00	0.21	1.16	1.12	
TOTALS	44.12	28.5	52.79	33.01	

<sup>\*</sup>Average Monthly Rainfall (NRCS WETS Table for Oregon City, Oregon)

The precipitation fluctuations are not expected to have affected the 2014 wetland delineation, as the wetlands were clearly defined by topography, hydrophytic vegetation, and indicators of wetland hydrology. Although upland areas occasionally satisfied the hydric soils criteria, they lacked hydrophytic vegetation and indicators of wetland hydrology, and were topographically higher than the wetland area.

<sup>\*\*</sup>Recorded monthly rainfall for Oregon City, Oregon (National Weather Service)

#### D. Methods

PHS delineated the limits of the wetlands on the site based on the presence of wetland hydrology, hydric soils, and hydrophytic vegetation, in accordance with the Routine On-site Determination, as described in the *Corps of Engineers Wetland Delineation Manual, Wetlands Research Program Technical Report Y-87-1* ("The 1987 Manual") and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region.* The delineation was conducted on September 10, 2014.

The study area was investigated for the presence of wetlands or other waters. The wetland boundary for Wetland A was determined based upon a shift in vegetation from a predominance of FAC or wetter species in the wetland to a predominance of FAC or drier species in the upland, the presence/absence of sediment deposits, and the presence/absence of hydric soils. Vegetation in some portions of the wetland passed the FAC-neutral test, whereas vegetation in upland areas never passed the FAC-neutral test.

In addition to the six paired sample points collected to document wetland boundaries, numerous pits were excavated across the site to determine if soils were hydric. This included areas near wetland boundaries and areas where more than 50 percent of the dominant vegetation was FAC or wetter. Two upland sample points were taken to document non-wetland areas within the study area (sample points 7 and 8).

### E. Description of all Wetlands and Other Non-Wetland Waters

PHS identified one wetland within the study area. It was determined that other than the wetland area described below, the site does not contain hydrophytic vegetation or wetland hydrology. Some upland areas near the wetland boundary satisfied the hydric soil criterion. However, this may be due to historic conditions and not reflective of the current hydrological regime.

### Wetland A

Wetland A is approximately 44,906 square feet (1.03 acre) within the study area. The Cowardin class is palustrine forested, seasonally flooded (PFOC), the Hydrogeomorphic (HGM) class is Slope. Wetland A continues offsite to the north and west.

Vegetation within Wetland A (Sample Points 1, 3, and 5) is dominated by Oregon ash, English hawthorn, rose, and slough sedge. Oregon white oak, Himalayan blackberry, snowberry, and taper-fruit short-scale sedge were also dominant in some areas very near the wetland boundary. Soils within the wetland met the definition for redox dark surface (F6) and are considered hydric. The wetland area had sediment deposits (a primary indicator of wetland hydrology) and often had vegetation that passed the FAC-neutral test (a secondary indicator of wetland hydrology).

Vegetation in the upland adjacent to Wetland A (Sample Points 2, 4, and 6) is dominated by Douglas-fir, Oregon white oak, Oregon ash, Western red cedar, Scouler's willow, service-berry, English holly, English hawthorn, hazelnut, cascara, salal, Himalayan blackberry, snowberry,

rose, trailing blackberry, sword fern, and taper-fruit short-scale sedge. Vegetation in the open area in the southern portion of the study area is dominated by mixed pasture grasses and forbs, including orchard grass, sweet vernal grass, and tall fescue. Scattered English hawthorn and small bracken fern stands are also present in this portion of the study area. Soils in some upland locations near the wetland boundary met the definition for redox dark surface (F6). There were no indicators of wetland hydrology.

As stated above, Wetland A continues to the north and west outside the study area. It appears that the wetland ultimately drains to Caufield Creek, southwest of the study area.

### F. Deviation from LWI or NWI

The City of Oregon City Local Wetland Inventory (LWI) maps a swale-wetland complex that passes through the northern portion of the study area. Wetland A, as delineation by PHS, is consistent with the LWI map.

### G. Mapping Method

PHS flagged the boundary of Wetland A with blue flagging tape and sample points with lime-green flagging tape. Westlake Consultants, Inc. then performed a professional land survey of the delineated boundaries and six of the eight sample points. The accuracy of the boundary survey and sample points is sub-centimeter. Two of the sample point flags were not surveyed due to missing flags. These sample points (Sample Points 3 and 7) were hand drawn in CAD based on field notes and measured distances from known points. The estimated accuracy of these sample points is +/- three feet.

### H. Additional Information

Caufield Creek drains to Beaver Creek, a tributary to the Willamette River. StreamNet does not map ESA-listed fish in Caufield Creek. Listed salmonids are present downstream at the confluence of Beaver Creek and the Willamette River, approximately 4.5 miles southwest of the study area.

### I. Results and Conclusions

PHS delineated Wetland A within the study area. The total area of wetlands within the study area boundary is 44,906 square feet (1.03 acres).

### J. Required Disclaimer

This report documents the investigation, best professional judgment and conclusions of the investigators. It is correct and complete to the best of our knowledge. It should be considered a Preliminary Jurisdictional Determination of wetlands and other waters and used at your own risk unless it has been reviewed and approved in writing by the Oregon Department of State Lands in accordance with OAR 141-090-0005 through 141-090-0055.

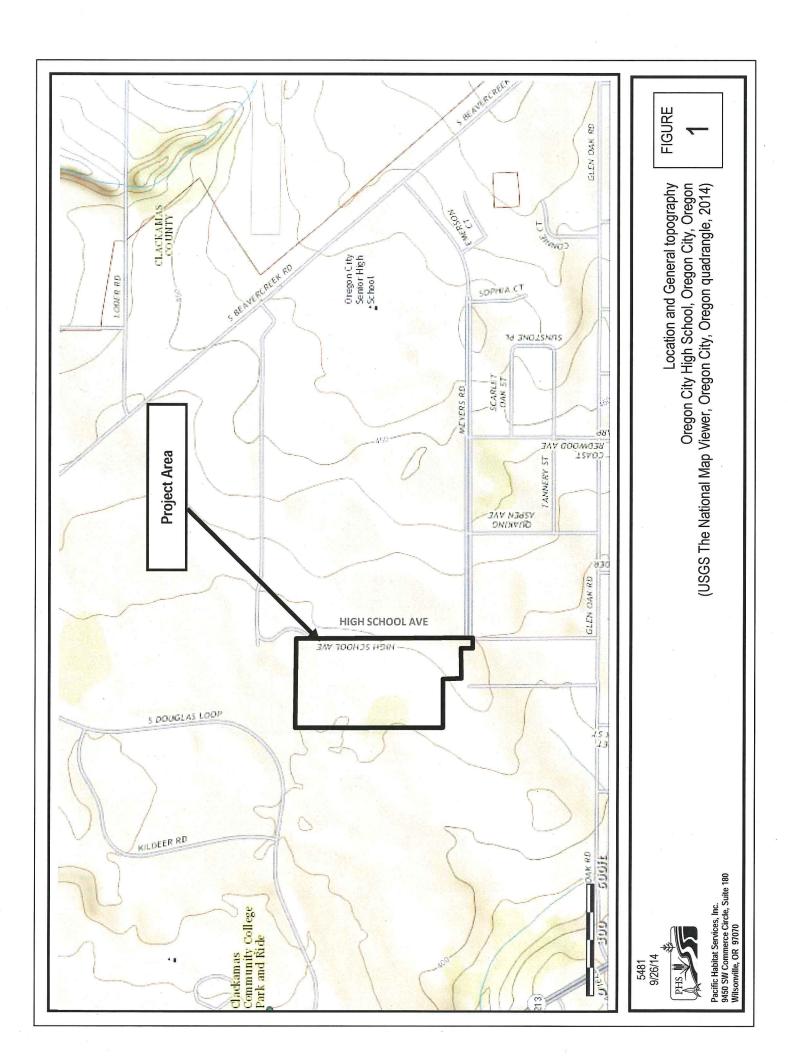
### III. REFERENCES

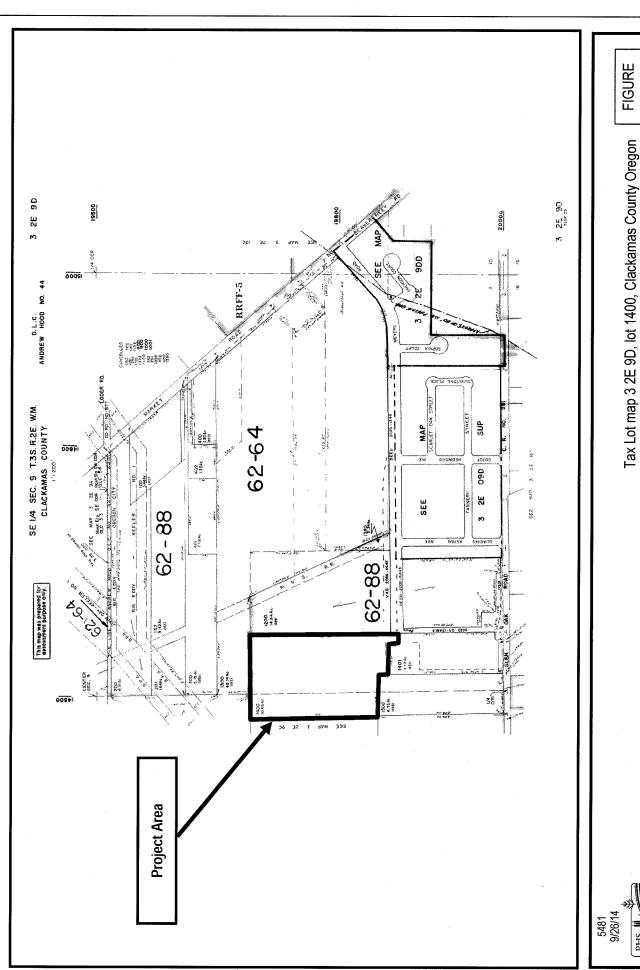
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- Shapiro and Associates, 1999, City of Oregon City Local Wetlands Inventory
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### **Appendix A**

**Figures** 





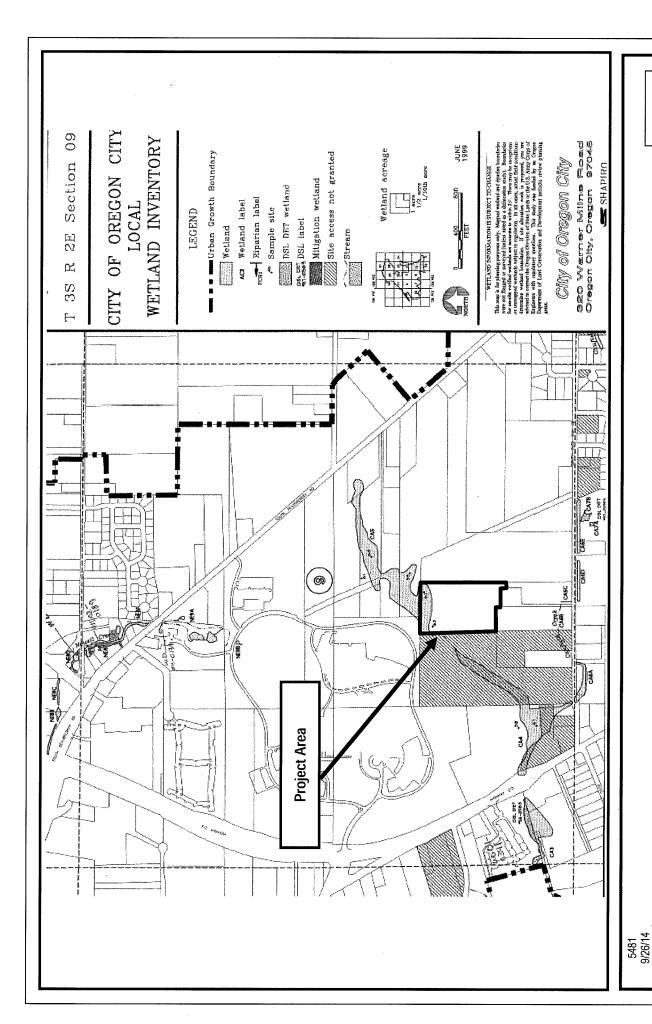


Tax Lot map 3 2E 9D, lot 1400, Clackamas County Oregon Oregon City High School, Oregon City, Oregon (ormap.net, 2014)

**√** 

PHS PHS

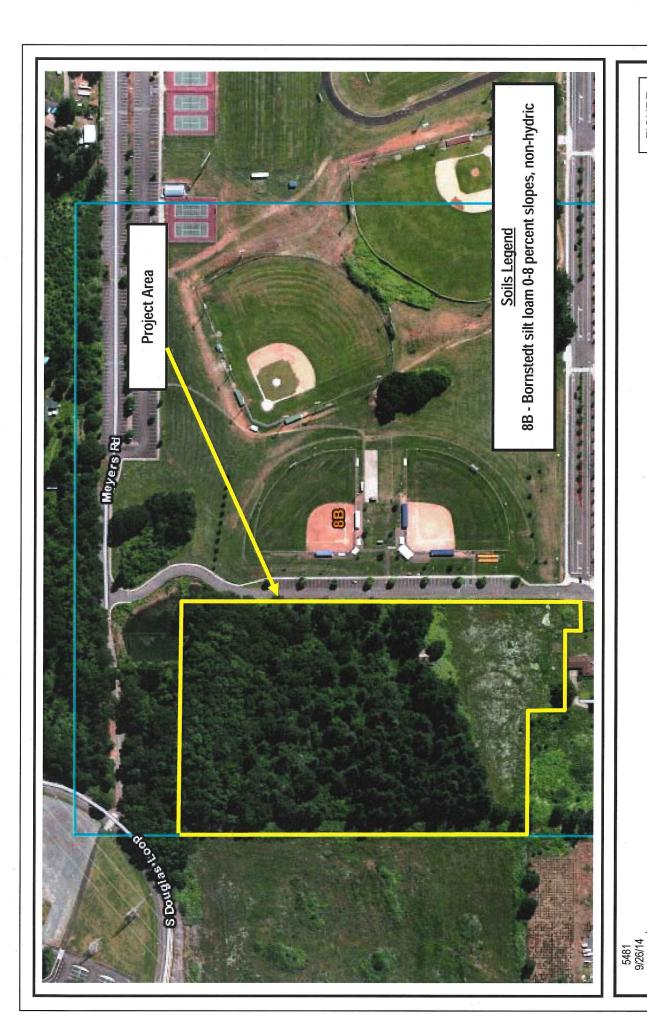
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Local Wetlands Inventory map Oregon City High School, Oregon City, Oregon (Shapiro and Associates, Inc., 9/1/1999)

FIGURE

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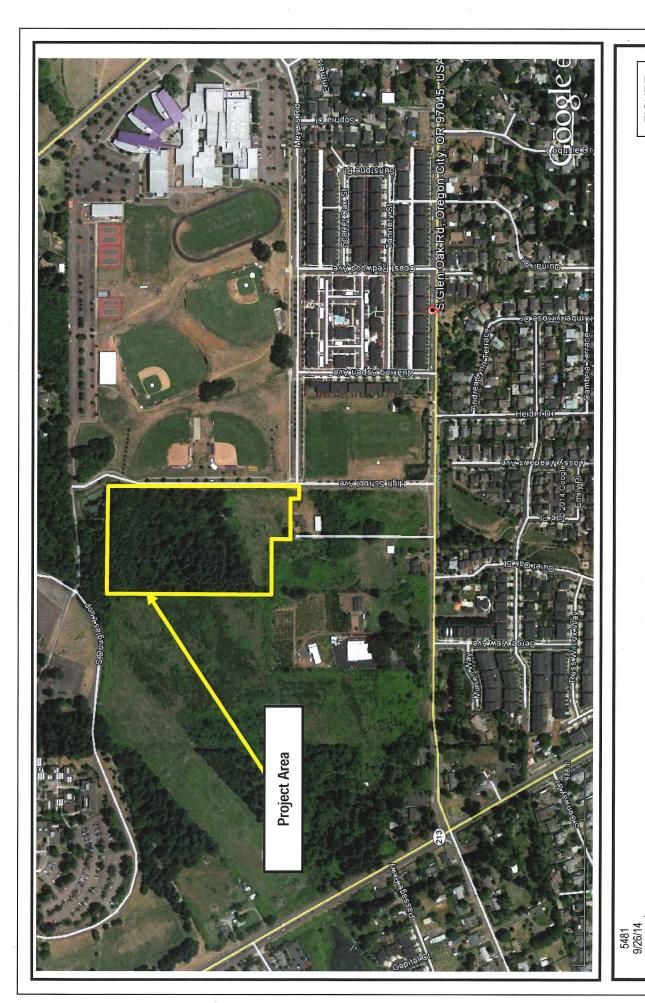


Soils map Oregon City High School, Oregon City, Oregon (NRCS Web Soil Survey, 2014)

FIGURE



Pacific Habitat Services, Inc. 9450 SW Commerce Circle, Suite 180 Wilsonville, OR 97070



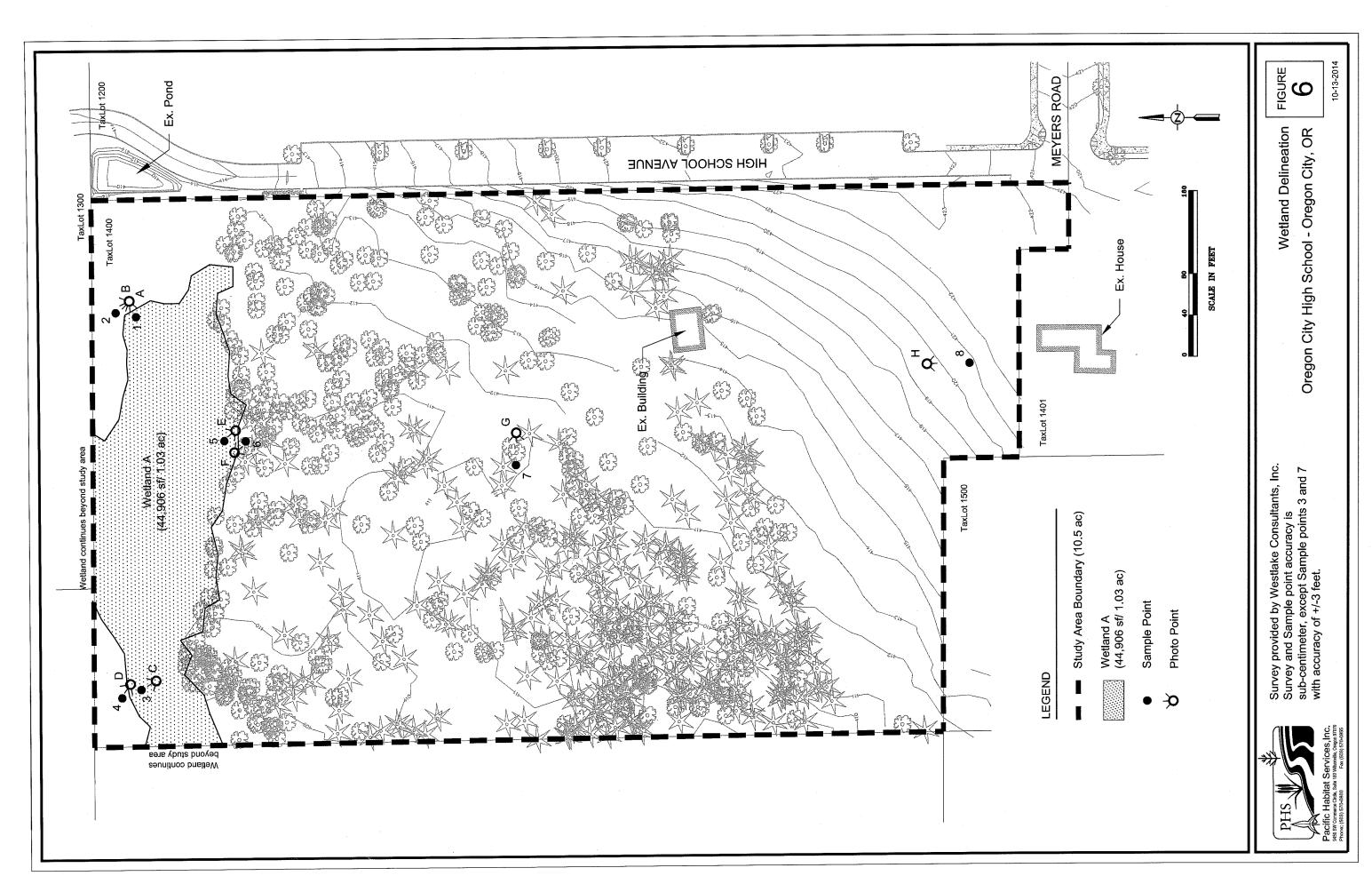
FIGURE

5

Aerial photo Oregon City, Oregon (Google Earth, 2014)

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### Appendix B

**Wetland Determination Data Sheets** 



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

Project/Site: Oregon City High Sc	hool	City/County:	Oregon	City/Clackamas	Sampling Date:	9/10/	2014
Applicant/Owner: Oregon City Schoo	District			State:	OR	Sampling Point:	1
Investigator(s): TF/CET		Section, To	wnship, Range:		S9D T3S R2	E	
Landform (hillslope, terrace, etc.:)	slope	•	Local relief (cor	ncave, convex, none):	none	Slope (%):	<1
Subregion (LRR): LRR A		Lat:	45.3213	304 Long:	-122.568066	 Datum:	
Soil Map Unit Name: Bornst	edt silt loam,	0 to 8 percen	t slopes	NWI Clas	sification:	PFO	
Are climatic/hydrologic conditions on the site ty	pical for this tim	e of year?	Yes	X No	(if no, exp	olain in Remarks)	
	•	significantly dist	urbed?	Are "Normal Circumstance	· · ·	Υ	
	drology	•		, explain any answers in Rer	, , ,		
		, , , , , , , , , , , , , , , , , , , ,		,,,	,		
SUMMARY OF FINDINGS - Attac	h site map s	howing sam	pling point	locations, transects,	important feat	ures, etc.	
Hydrophytic Vegetation Present? Yes	X No		Is Sampled Ar	ithiu			
Hydric Soil Present? Yes	X No		a Wetlar		<u> </u>	No	
Wetland Hydrology Present? Yes	X No						
Remarks:							
VEGETATION - Use scientific nan	es of plants	S.		-			
	absolute	Dominant	Indicator	Dominance Test work	sheet:		
Tree Stratum (plot size: 30 )	% cover	Species?	Status	Number of Business (O	,		
1 Fraxinus latifolia	70	х	FACW	Number of Dominant Spec			۸۱
2 Quercus sp.	20		(FACU)	That are OBL, FACW, or F.	AC:	(	A)
3			(1 400)	Total Number of Dominant			
4			·	Species Across All Strata:		6 (	В)
	90	= Total Cover					-,
Sapling/Shrub Stratum (plot size: 5				Persont of Deminent Speci			
Sapling/Shrub Stratum (plot size: 5  1 Crataegus monogyna	.) 30	x	FAC	Percent of Dominant Speci That are OBL, FACW, or F		67% (	A/B)
2 Rubus armeniacus	20	<u> </u>	FACU	That are OBE, 1 AOVV, OIT		07 78	~1 <i>0)</i>
3 Rosa sp.	20	X	(FAC)	Prevalence Index Wor	rksheet:		
4 Symphoricarpos albus	5		FACU	Total % Cover of	Multiply by	<b>y</b> :	
5				OBL Species	x 1 =	o	
	75	= Total Cover		FACW species	x 2 =	0	
				FAC Species	x 3 =	0	
Herb Stratum (plot size: 5 )		.,		FACU Species	x 4 =		
1 Carex obnupta 2 Rubus ursinus	<u>80</u> 15	<u> </u>	FACU	UPL Species	x5=		<b>-</b> >
3 Polystichum munitum	5		FACU	Column Totals	<b>0</b> (A)	(	3)
4			- TACO	Prevalence Index =B/	/A = #	#DIV/0!	
5				, totalolio illask s		2.170.	
6				Hydrophytic Vegetation	on Indicators:		
7				1-	- Rapid Test for Hydi	rophytic Vegetation	
8				X 2-	- Dominance Test is	>50%	
	100	= Total Cover		<u> </u>	-Prevalence Index is		
NA LANGE OF CONTRACTOR	`				-Morphological Adap	"	pporting
Woody Vine Stratum (plot size:				<u> </u>	ata in Remarks or on		
2					- Wetland Non-Vasci roblematic Hydrophy		oloin)
	0	= Total Cover		Indicators of hydric soil and			ŕ
		- Total Cover		disturbed or problematic.	a wellana nyarology	must be present, u	illess
				Hydrophytic			
% Bare Ground in Herb Stratum	)			Vegetation	YesX_	No_	
Remarks:				Present?			

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Sampling Point:

1

1 Type: C=Concentrati Hydric Soil Indica Histoso Histic E Black H Hydrog Deplete Thick D Sandy I	on, D=Depletion, F tors: (Applicab (A1) pipedon (A2) istic (A3) en Sulfide (A4) d Below Dark Sun ark Surface (A12) Mucky Mineral (S1	9 10YI 10YI 10YI 10YI		ss otherwise Sa			Texture Silt Loam Silt Loam	Remarks  Fine  Coarse  Medium   Location: PL=Pore Lining, M=Matrix.		
Type: C=Concentration  Hydric Soil Indicator  Histoso  Histic E  Black H  Hydrog  Deplete  Thick D  Sandy I  Sandy I  Restrictive Layer	on, D=Depletion, F tors: (Applicable (A1) pipedon (A2) istic (A3) en Sulfide (A4) d Below Dark Sunark Surface (A12) Mucky Mineral (S1	M=Reduced M	R 4/6 R 3/6 R 3/6	15 4 1 =Covered or Coss otherwise	C C C C Coated San	M PL d Grains.	Silt Loam	Coarse  Medium   Location: PL=Pore Lining, M=Matrix.		
Fype: C=Concentration  Indicate History  History  Black H  Hydrog  Deplete  Thick D  Sandy G  Sandy G  Sestrictive Layer	on, D=Depletion, F tors: (Applicab (A1) pipedon (A2) istic (A3) en Sulfide (A4) d Below Dark Surf ark Surface (A12) Jucky Mineral (S1	10YI	<b>R 3/6 R 3/6</b> atrix, CS=	4 1 Covered or Cos otherwise Second	C C Coated San	M PL d Grains.		Medium  2Location: PL=Pore Lining, M=Matrix.		
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Black H Hydrog Deplete Thick D Sandy I Sandy (	istic (A3) en Sulfide (A4) d Below Dark Surl ark Surface (A12) Mucky Mineral (S1	ace (A11)			ripped Mat			2 cm Muck (A10)		
Hydrog Deplete Thick D Sandy I Sandy (	en Sulfide (A4) d Below Dark Sur ark Surface (A12) Mucky Mineral (S1	ace (A11)		Lo		rix (S6)		Red Parent Material (TF2)		
Hydrog Deplete Thick D Sandy I Sandy (	en Sulfide (A4) d Below Dark Sur ark Surface (A12) Mucky Mineral (S1	ace (A11)			amy Muck	y Mineral (F1)(	except MLRA 1)	Very Shallow Dark Surface (TF12)		
Deplete Thick D Sandy ( Sandy ( estrictive Layer	d Below Dark Sur ark Surface (A12) Mucky Mineral (S1	ace (A11)		1.0		d Matrix (F2)		Other (explain in Remarks)		
Thick D Sandy I Sandy I estrictive Layer	ark Surface (A12) Mucky Mineral (S1	450 (/1/ I)		***************************************	epleted Ma			- Carol (explain in Nemarka)		
Sandy (	Jucky Mineral (S1				-					
Sandy (	-					Surface (F6)		<sup>3</sup> Indicators of hydrophytic vegetation and wetland		
estrictive Layer					•	k Surface (F7)		hydrology must be present, unless disturbed or problematic.		
•	Gleyed Matrix (S4)			Re	edox Depre	ssions (F8)				
	(ii present):						-			
IYDROLOGY										
etland Hydrolog	y Indicators:									
rimary Indicators	minimum of one	e required: ch	eck all t	hat apply)				Secondary Indicators (2 or more required)		
	Water (A1)	7,04404, 0	0011 011 1		ater staine	d Leaves (B9)	Except MLRA	Water stained Leaves (B9)		
	ater Table (A2)				2, 4A, and		(	(MLRA1, 2, 4A, and 4B)		
Saturati				96	alt Crust (B	11)		Drainage Patterns (B10)		
					,	tebrates (B13)		Dry-Season Water Table (C2)		
	farks (B1)				•	, ,				
	nt Deposits (B2)					lfide Odor (C1)		Saturation Visible on Aerial Imagery		
	posits (B3)					•	ng Living Roots (C3)			
	at or Crust (B4)					Reduced Iron (	•	Shallow Aquitard (D3)		
	posits (B5)						owed Soils (C6)	Fac-Neutral Test (D5)		
	Soil Cracks (B6)					ressed Plants	(D1) <b>(LRR A)</b>	Raised Ant Mounds (D6) (LRR A)		
	on Visible on Aeri			Ot	her (Explai	n in Remarks)		Frost-Heave Hummocks (D7)		
Sparsel	y Vegetated Conc	ave Surface (B8	3)							
ield Observation	s:									
urface Water Presen	t? Yes	No	Х	Depth (in	ches):			,		
/ater Table Present?	Yes	No	X	Depth (in	_	>16	Wetland Hvo	drology Present?		
aturation Present?	Yes	No	<u>x</u>	Depth (in	_	>16		Yes X No		
ncludes capillary fringe)		``-		Deput (III		- 10		169 V NO		
escribe Recorded Da	ita (stream gauge	monitoring wel	l. aerial n	hotos previou	is inspectio	ns) if available	<u> </u>			
LIGHT TOOURGE DE	(o.: oain gauge	oormig wei	., aonai p	, previot	apacill	, ii avallasit	<b></b>			

							PHS#	5481
	ID DETERMINATION City High School	ON DATA FO		ern Mount n City/Clack	-	s, and Coast Sampling Date:	_	)/2014
	City School District	o.i.y. oouiliy.		· Oity/Oidon				
			17. 5		State	***************************************	Sampling Point:	2
Investigator(s):	TF/CET		ownship, Range:	<b>1</b>	-	S9D T3S R2E		
Landform (hillslope, terrace, etc.	·		Local relief (co			none	Slope (%):	
Subregion (LRR):	LRR A	Lat:	45.321	304	-	-122.568066	Datum:	
Soil Map Unit Name:	Bornstedt silt loa	ım, 0 to 8 percer	nt slopes		NWI Classific	ation:	upland	
Are climatic/hydrologic condition	s on the site typical for this	time of year?	Yes	<u> </u>	No	(if no, expla	in in Remarks)	
Are vegetation Soil	or Hydrology	significantly dis	turbed?	Are "Norma	al Circumstances" p	present? (Y/N)	<u>Y</u>	
Are vegetation Soil	or Hydrology	naturally proble	matic? If needed	d, explain any	answers in Remark	(s.)		
SUMMARY OF FINDING	S – Attach site ma	p showing san	nplina point	locations.	transects. im	portant featu	res. etc.	
Hydrophytic Vegetation Present		No X				<u> </u>	,	
Hydric Soil Present?	Yes X		Is Sampled A		Yes	N	o <b>X</b>	
Wetland Hydrology Present?		No X	a TTGLIA					
Remarks:								
VEGETATION - Use sci	entific names of pla	nts.						
	absolute	Dominant	Indicator	Dominan	ce Test worksh	et:		
	% cover	Species?	Status					
Tree Stratum (plot size:	30 )			Number of [	Dominant Species			
1 Pseudotsuga menziesi	<u> </u>	_	FACU	That are OB	BL, FACW, or FAC:		3	(A)
2 Fraxinus latifolia	35	x	FACW					
3 Quercus garryana	35	X	FACU	Total Numb	er of Dominant			
4	<u> </u>			Species Acr	ross All Strata:		7	(B)
	75	= Total Cover						
Sapling/Shrub Stratum (plot s	ize:)			Percent of D	Dominant Species			
1 Ilex aquifolium	20	X	FACU	That are OE	BL, FACW, or FAC	4	13%	(A/B)
2 Crataegus monogyna	40	X	<u>FAC</u>		· · · · · · · · · · · · · · · · · · ·			
3 Thuja plicata	5		FAC		e Index Worksl			
4 Symphoricarpos albus			FACU	Total % Cov	ver of	Multiply by:	_	
5 Rosa pisocarpa			<u>FAC</u>		Species	x1=		
	90	= Total Cover			species	x2=	0	
Herb Stratum (plot size:	5 )			1	Species Species	x3 = x4 =		
1 Polystichum munitum	5	X	FACU	1	Species		0	
2 Carex leptopoda	5	<u> </u>	FAC	1		(A)		(B)
3						· ′		. ,
4				Preval	lence Index =B/A =	#D	IV/0!	
5								
6				Hydrophy	tic Vegetation I	ndicators:		
7				_	1- Ra	pid Test for Hydro	ohytic Vegetation	n
8		-		_	2- Do	minance Test is >5	50%	
	10	= Total Cover				valence Index is ≤		
Mondy Vino Status (nlot -:	·			-		phological Adapta		
Woody Vine Stratum (plot size	<del></del> -	v	FACU			n Remarks or on a	•	)
1 Rubus ursinus	40	X	FACU	-		tland Non-Vascula		mlain)
2	40	= Total Cover	<del></del>	1Indicators o	Proble of hydric soil and we	ematic Hydrophytic etland hydrology m	-	
		•		disturbed or	problematic.	,0,	,	
% Bare Ground in Herb Stratum	50			Hydrophy Vegetation		Yes		X
							No	

Also in Sapling/Shrub Stratum - Frangula purshiana (5%) - Total Shrub Stratum = 90%

			PHS#	5481	_		Sampling Point: 2		
Profile Descr	ription: (Describe to	the depth	needed to docum	ent the indicator o	confirm the abs	ence of indicators.)			
Depth	Matrix			Redox Feature	,				
(Inches)	Color (moist)	<u>%</u>	Color (moist)	% Туре	Loc <sup>2</sup>	Texture	Remarks		
0-8	10YR 2/2	100				Silt Loam			
8-18	10YR 3/2	90	7.5YR 4/6		M	Silt Loam	Medium		
	· ·				<del> </del>				
	·								
	·								
<sup>1</sup> Type: C=Cor	ncentration, D=Depleti	ion, RM=Re	educed Matrix, CS=	Covered or Coated	Sand Grains.		<sup>2</sup> Location: PL=Pore Lining, M=Matrix.		
Hydric Soil	Indicators: (Appl	icable to	all LRRs, unles	s otherwise not	ed.)	Indica	ators for Problematic Hydric Soils <sup>3</sup> :		
	Histosol (A1)			Sandy R	edox (S5)		2 cm Muck (A10)		
	Histic Epipedon (A2)			Stripped	Matrix (S6)		Red Parent Material (TF2)		
	Black Histic (A3)			Loamy N	lucky Mineral (F1)	(except MLRA 1)	Very Shallow Dark Surface (TF12)		
	Hydrogen Sulfide (A4	4)		Loamy (	leyed Matrix (F2)		Other (explain in Remarks)		
	Depleted Below Dark	Surface (A	<b>N11)</b>	Depleted	Matrix (F3)				
	Thick Dark Surface (	A12)		X Redox D	ark Surface (F6)				
	Sandy Mucky Minera	il (S1)		Depleted	Dark Surface (F7	)	<sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or		
	Sandy Gleyed Matrix	(S4)		Redox D	epressions (F8)		problematic.		
Гуре: Depth (inche	Layer (if present)	:				Hydric Soil Pres	sent? Yes X No		
Type: Depth (inche		:				Hydric Soil Pres	sent? Yes <u>X</u> No		
Restrictive Type: Depth (inche Remarks:	s):	:				Hydric Soil Pres	sent? Yes <u>X</u> No		
Type: Depth (inche Remarks:	s):					Hydric Soil Pres	sent? Yes <u>X</u> No		
Type: Depth (inche Remarks:  HYDROLC Wetland Hy	OGY rdrology Indicator	s:	uired; check all tl			Hydric Soil Pres			
Type: Depth (inche Remarks:  HYDROLC Wetland Hy	s):	s:	uired; check all th	nat apply)	ained Leaves (B9)		Secondary Indicators (2 or more required)  Water stained Leaves (B9)		
Type: Depth (inche Remarks:  HYDROLC Wetland Hy	OGY vdrology Indicator icators (minimum o	s: f one requ	uired; check all th	nat apply)			Secondary Indicators (2 or more required)		
Type: Depth (inche Remarks:  HYDROLC Wetland Hy	OGY rdrology Indicator cators (minimum o Surface Water (A1)	s: f one requ	uired; check all th	nat apply)	and 4B)		Secondary Indicators (2 or more required)  Water stained Leaves (B9)		
Type: Depth (inche Remarks:  HYDROLC Wetland Hy Primary Indi	OGY rdrology Indicator cators (minimum o Surface Water (A1) High Water Table (A2	s: f one requ	uired; check all th	nat apply)  Water st 1, 2, 4A,	and 4B)	(Except MLRA	Secondary Indicators (2 or more required)  Water stained Leaves (B9) (MLRA1, 2, 4A, and 4B)		
Type: Depth (inche Remarks:  HYDROLC Wetland Hy Primary Indi	OGY  /drology Indicator icators (minimum o Surface Water (A1) High Water Table (A2 Saturation (A3)	r <b>s:</b> f one requ	uired; check all th	nat apply) Water st 1, 2, 4A, Salt Crue	and 4B)	(Except MLRA	Secondary Indicators (2 or more required)  Water stained Leaves (B9)  (MLRA1, 2, 4A, and 4B)  Drainage Patterns (B10)  Dry-Season Water Table (C2)		
Type: Depth (inche Remarks:  HYDROLC Wetland Hy Primary Indi	oGY rdrology Indicator icators (minimum o Surface Water (A1) High Water Table (A2 Saturation (A3) Water Marks (B1)	r <b>s:</b> f one requ	uired; check all th	nat apply)  Water st 1, 2, 4A, Salt Cru: Aquatic	and 4B) et (B11) nvertebrates (B13 n Sulfide Odor (C1	(Except MLRA	Secondary Indicators (2 or more required)  Water stained Leaves (B9)  (MLRA1, 2, 4A, and 4B)  Drainage Patterns (B10)  Dry-Season Water Table (C2)		
Type: Depth (inche Remarks:  HYDROLC Wetland Hy Primary Indi	OGY rdrology Indicator cators (minimum o Surface Water (A1) High Water Table (A2 Saturation (A3) Water Marks (B1) Sediment Deposits (B	f one requ	uired; check all th	nat apply)  Water st 1, 2, 4A, Salt Crue Aquatic I Hydroge Oxidized	and 4B) et (B11) nvertebrates (B13 n Sulfide Odor (C1	(Except MLRA ) ) ) ng Living Roots (C3)	Secondary Indicators (2 or more required)  Water stained Leaves (B9) (MLRA1, 2, 4A, and 4B)  Drainage Patterns (B10)  Dry-Season Water Table (C2)  Saturation Visible on Aerial Imagery (C		
Type: Depth (inche Remarks:  HYDROLC Wetland Hy Primary Indi	oGY vdrology Indicator icators (minimum of Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B3) Algal Mat or Crust (B1) Iron Deposits (B5)	rs: f one requ 2) 32)	uired; check all th	nat apply)  Water st 1, 2, 4A, Salt Crue Aquatic Hydroge Oxidized Presence Recent I	and 4B) at (B11) nvertebrates (B13 n Sulfide Odor (C1 Rhizospheres alo e of Reduced Iron on Reduction in P	(Except MLRA ) ) ) ng Living Roots (C3) (C4) lowed Soils (C6)	Secondary Indicators (2 or more required)  Water stained Leaves (B9)  (MLRA1, 2, 4A, and 4B)  Drainage Patterns (B10)  Dry-Season Water Table (C2)  Saturation Visible on Aerial Imagery (Canada Control of Canada C		
Type: Depth (inche Remarks:  HYDROLC Wetland Hy Primary Indi	pogy rdrology Indicator rdrology Indicator rdrology Indicator rdrology Indicator cators (minimum o Surface Water (A1) High Water Table (A2 Saturation (A3) Water Marks (B1) Sediment Deposits (B3) Algal Mat or Crust (B Iron Deposits (B5) Surface Soil Cracks (	*s: f one requ 2) 32) 4)		nat apply)  Water st 1, 2, 4A, Salt Crue Aquatic   Hydroge Oxidized Presence Recent I	and 4B)  it (B11)  nvertebrates (B13)  n Sulfide Odor (C1  Rhizospheres alo  e of Reduced Iron  on Reduction in Por Stressed Plants	(Except MLRA  ) ) ng Living Roots (C3) (C4) lowed Soils (C6) (D1) (LRR A)	Secondary Indicators (2 or more required)  Water stained Leaves (B9)  (MLRA1, 2, 4A, and 4B)  Drainage Patterns (B10)  Dry-Season Water Table (C2)  Saturation Visible on Aerial Imagery (Company)  Geomorphic Position (D2)  Shallow Aquitard (D3)  Fac-Neutral Test (D5)  Raised Ant Mounds (D6) (LRR A)		
Type: Depth (inche Remarks:  HYDROLC Wetland Hy Primary Indi	OGY  Idrology Indicator Idrology	f one requests  f one requests	gery (B7)	nat apply)  Water st 1, 2, 4A, Salt Crue Aquatic   Hydroge Oxidized Presence Recent I	and 4B) at (B11) nvertebrates (B13) n Sulfide Odor (C1 Rhizospheres alo e of Reduced Iron on Reduction in P	(Except MLRA  ) ) ng Living Roots (C3) (C4) lowed Soils (C6) (D1) (LRR A)	Secondary Indicators (2 or more required)  Water stained Leaves (B9) (MLRA1, 2, 4A, and 4B)  Drainage Patterns (B10)  Dry-Season Water Table (C2)  Saturation Visible on Aerial Imagery (C)  Geomorphic Position (D2)  Shallow Aquitard (D3)  Fac-Neutral Test (D5)		
Type: Depth (inche Remarks:  HYDROLC Wetland Hy Primary Indi	pogy rdrology Indicator cators (minimum of Surface Water (A1)) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B3) Algal Mat or Crust (B3) Iron Deposits (B5) Surface Soil Cracks (Inundation Visible on Sparsely Vegetated (C3)	f one requests  f one requests	gery (B7)	nat apply)  Water st 1, 2, 4A, Salt Crue Aquatic   Hydroge Oxidized Presence Recent I	and 4B)  it (B11)  nvertebrates (B13)  n Sulfide Odor (C1  Rhizospheres alo  e of Reduced Iron  on Reduction in Por Stressed Plants	(Except MLRA  ) ) ng Living Roots (C3) (C4) lowed Soils (C6) (D1) (LRR A)	Secondary Indicators (2 or more required)  Water stained Leaves (B9) (MLRA1, 2, 4A, and 4B)  Drainage Patterns (B10)  Dry-Season Water Table (C2)  Saturation Visible on Aerial Imagery (C)  Geomorphic Position (D2)  Shallow Aquitard (D3)  Fac-Neutral Test (D5)  Raised Ant Mounds (D6) (LRR A)		
Type: Depth (inche Remarks:  HYDROLC Wetland Hy Primary Indi	DGY rdrology Indicator cators (minimum o Surface Water (A1) High Water Table (A2 Saturation (A3) Water Marks (B1) Sediment Deposits (B Drift Deposits (B3) Algal Mat or Crust (B Iron Deposits (B5) Surface Soil Cracks ( Inundation Visible on Sparsely Vegetated ( rvations:	f one requests  f one requests	gery (B7) urface (B8)	Mater st 1, 2, 4A, Salt Cru: Aquatic   Hydroge Oxidized Presenct   Stunted Other (E	and 4B)  it (B11)  nvertebrates (B13)  n Sulfide Odor (C1  Rhizospheres alo  e of Reduced Iron  on Reduction in Por Stressed Plants	(Except MLRA  ) ) ng Living Roots (C3) (C4) lowed Soils (C6) (D1) (LRR A)	Secondary Indicators (2 or more required)  Water stained Leaves (B9) (MLRA1, 2, 4A, and 4B)  Drainage Patterns (B10)  Dry-Season Water Table (C2)  Saturation Visible on Aerial Imagery (Companies)  Geomorphic Position (D2)  Shallow Aquitard (D3)  Fac-Neutral Test (D5)  Raised Ant Mounds (D6) (LRR A)		
Type: Depth (inche Remarks:  HYDROLC Wetland Hy Primary Indi  Field Obser Surface Water	DGY  Idrology Indicator Idrology	f one requests  f one requests	gery (B7) uface (B8)	nat apply)  Water st 1, 2, 4A, Salt Crue Aquatic I Hydroge Oxidized Presence Recent I Stunted Other (E	and 4B) at (B11) Invertebrates (B13) In Sulfide Odor (C1 Rhizospheres alo a of Reduced Iron on Reduction in P or Stressed Plants xplain in Remarks)	(Except MLRA ) ) ) ng Living Roots (C3) (C4) lowed Soils (C6) (D1) (LRR A)	Secondary Indicators (2 or more required)  Water stained Leaves (B9) (MLRA1, 2, 4A, and 4B)  Drainage Patterns (B10)  Dry-Season Water Table (C2)  Saturation Visible on Aerial Imagery (C Geomorphic Position (D2)  Shallow Aquitard (D3)  Fac-Neutral Test (D5)  Raised Ant Mounds (D6) (LRR A)  Frost-Heave Hummocks (D7)		
Type: Depth (inche Remarks:  HYDROLC Wetland Hy Primary Indi	pogy rdrology Indicator cators (minimum of Surface Water (A1)) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B3) Algal Mat or Crust (B3) Algal Mat or Crust (B3) Iron Deposits (B5) Surface Soil Cracks (Inundation Visible on Sparsely Vegetated (Crvations: Teresent? Yes	f one requests  f one requests	gery (B7) urface (B8)	Mater st 1, 2, 4A, Salt Cru: Aquatic   Hydroge Oxidized Presenct   Stunted Other (E	and 4B)  it (B11)  nvertebrates (B13)  n Sulfide Odor (C1  Rhizospheres alo  e of Reduced Iron  on Reduction in Por Stressed Plants	(Except MLRA ) ) ) ng Living Roots (C3) (C4) lowed Soils (C6) (D1) (LRR A)	Secondary Indicators (2 or more required)  Water stained Leaves (B9) (MLRA1, 2, 4A, and 4B)  Drainage Patterns (B10)  Dry-Season Water Table (C2)  Saturation Visible on Aerial Imagery (Companies)  Geomorphic Position (D2)  Shallow Aquitard (D3)  Fac-Neutral Test (D5)  Raised Ant Mounds (D6) (LRR A)		

No hydrology indicators observed

PHS#

5481

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

Project/Site: Oregon City High S	School	City/County:	Oregon	City/Clackamas	Sampling Date:	9/10/2014
Applicant/Owner: Oregon City Scho	ool District			State:	OR	Sampling Point: 3
Investigator(s): TF/CET	ſ	Section, To	ownship, Range:		S9D T3S R2E	
Landform (hillslope, terrace, etc.:)	slope		Local relief (cor	ncave, convex, none):	none	Slope (%): <1
Subregion (LRR): LRR	A	Lat:	45.321	33 Long:	-122.569295	Datum:
Soil Map Unit Name: Born	nstedt silt loam,	, 0 to 8 percer	ıt slopes	NWI Class	sification:	PFO
Are climatic/hydrologic conditions on the site	e typical for this tim	ne of year?	Yes	X No	(if no, expl	lain in Remarks)
Are vegetation Soil or h	Hydrology	_significantly dist	turbed?	Are:"Normal Circumstance	es" present? (Y/N)	Υ
Are vegetation Soil or F	Hydrology	_naturally proble	matic? If needed	l, explain any answers in Ren	narks.)	
COMMANY OF FINISHOO ALL.	1 14:		**			
SUMMARY OF FINDINGS - Atta		***************************************	npling point	locations, transects,	important featu	ıres, etc.
Hydrophytic Vegetation Present? Yes	X No	With the terms of	Is Sampled Ar			
Hydric Soil Present? Yes	X No	***************************************	a Wetlan		<u> </u>	No
Wetland Hydrology Present? Yes	X No					
Remarks:						
VEGETATION - Use scientific na	ames of plant	<u> </u>				
VEGETATION COSCIONATION	absolute	Dominant	Indicator	Dominance Test works	sheet:	
	% cover	Species?	Status		<b></b>	
<u>Tree Stratum</u> (plot size: 30	) .			Number of Dominant Specie	es	
1 Fraxinus latifolia	60	X	FACW	That are OBL, FACW, or FA	AC:	<b>4</b> (A)
2 Quercus garryana	10		FACU			
3				Total Number of Dominant		- <b>/D</b> \
4	70.	T-t-! Cover		Species Across All Strata:		<b>5</b> (B)
<u> </u>	70	= Total Cover				
Sapling/Shrub Stratum (plot size: 5	<b>—</b> ′	••		Percent of Dominant Specie		/ * /PM\
1 Rosa sp.	10	X	(FAC)	That are OBL, FACW, or F.	AC:	<b>80%</b> (A/B)
2	-			Prevalence Index Wor	reheat:	
4				Total % Cover of	KSneet: Multiply by	r
5				OBL Species	x 1 =	<u>.                                    </u>
	10	= Total Cover		FACW species	x 2 =	0
				FAC Species	x 3 =	0
Herb Stratum (plot size: 5	_)	••	-	FACU Species	× 4 =	
1 Carex obnupta	<u>40</u> 10	<u> </u>	OBL FAC	UPL Species	x 5 =	
2 Carex leptopoda 3		X	FAC	Column Totals	<b>0</b> (A)	<b>0</b> (B)
4				Prevalence Index =B/A	/ <b>∆</b> = #	DIV/0!
5	•					<u> </u>
6		<u> </u>		Hydrophytic Vegetatio	on Indicators:	
7				1-	Rapid Test for Hydro	ophytic Vegetation
8				X 2-	Dominance Test is >	>50%
	50	= Total Cover		·	Prevalence Index is	
Woody Vine Stratum (plot size: 5	١					tations <sup>1</sup> (provide supporting
1 Rubus ursinus	—′ <sub>60</sub>	x	FACU		ata in Remarks or on · Wetland Non-Vascu	
2			1700			tic Vegetation <sup>1</sup> (Explain)
	60	= Total Cover		<sup>1</sup> Indicators of hydric soil and		
1				disturbed or problematic.	-	•
% Bare Ground in Herb Stratum	0			Hydrophytic Vegetation	Yes X	No
70 Date Ground in Field Gramm				Present?	Yes X	No
Remarks:				J		

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PHS#

5481

Sampling Point:

3

104	Remarks
4-16 10YR 3/2 80 10YR 4/6 20 C M Silty Clay Loam Medium  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.  Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.  Thick Cark Surface (A12) Sandy Redox (S5) Redox (S	
Type: C=Concentration, D=Depleton, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.  PLocation: PL=Pore LI tydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)  Histosci (A1)  Sandy Redox (S5)  2 cm M. Histosci (A2)  Shipped Matrix (S6)  Red Par Black Histosci (A2)  Loamy Mucky Mineral (F1) (except MLRA 1)  Very Sh Hydrogen Sulfide (A4)  Depleted Below Dark Surface (A12)  Thick Dark Surface (A12)  X Redox Dark Surface (F6)  Sandy Mucky Mineral (S1)  Sandy Mucky Mineral (S1)  Pepteted Dark Surface (F6)  Sandy Mucky Mineral (S1)  Sandy Mucky Mineral (S1)  Sandy Gleyed Matrix (S4)  Redox Depressions (F8)  Protection (F6)	
ydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)  Histosol (A1) Sandy Redox (S5) 2 cm Mu.  Histosol (A1) Sandy Redox (S5) 2 cm Mu.  Histosol (A2) Stripped Matrix (S6) Red Par.  Black Histo (A3) Loamy Mucky Mineral (F1) (except MLRA 1) Very Sh.  Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Other (e.  Depleted Below Dark Surface (A12) X Redox Dark Surface (F6)  Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) Phydrology must be protected by Sandy Mucky Mineral (S1) Persent (F8) Protected Dark Surface (F7) Protected Dark Surface (F7) Protected Dark Surface (F8) Protected Dark Surface (	
Microsoft   Indicators: (Applicable to all LRRs, unless otherwise noted.)   Indicators for Problemat   Histosoft (A1)   Sandy Redox (S5)   2 cm Mu.   Histosoft (A1)   Sandy Redox (S5)   2 cm Mu.   Histosoft (A1)   Very Sh   Red Part   Histosoft (A2)   Loarny Mucky Mineral (F1) (except MLRA 1)   Very Sh   Hydrogen Sulfide (A4)   Loarny Mucky Mineral (F1) (except MLRA 1)   Very Sh   Hydrogen Sulfide (A4)   Loarny Mucky Mineral (F1) (except MLRA 1)   Very Sh   Depleted Below Dark Surface (A12)   X Redox Dark Surface (F6)   And Surface (F6)   And Surface (F7)   And Surface (F8)   And Surface (F7)   And Surface (F8)   And Surface (F7)   And Surface (F8)   And Surface (F8)   And Surface (F7)   And Surface (F8)	
Misticators: (Applicable to all LRRs, unless otherwise noted.)   Indicators for Problemat	
Microsoft   Indicators: (Applicable to all LRRs, unless otherwise noted.)   Indicators for Problemat   Histosoft (A1)   Sandy Redox (S5)   2 cm Mu.   Histosoft (A1)   Sandy Redox (S5)   2 cm Mu.   Histosoft (A1)   Very Sh   Red Part   Histosoft (A2)   Loarny Mucky Mineral (F1) (except MLRA 1)   Very Sh   Hydrogen Sulfide (A4)   Loarny Mucky Mineral (F1) (except MLRA 1)   Very Sh   Hydrogen Sulfide (A4)   Loarny Mucky Mineral (F1) (except MLRA 1)   Very Sh   Depleted Below Dark Surface (A12)   X Redox Dark Surface (F6)   And Surface (F6)   And Surface (F7)   And Surface (F8)   And Surface (F7)   And Surface (F8)   And Surface (F7)   And Surface (F8)   And Surface (F8)   And Surface (F7)   And Surface (F8)	
Indicators (Applicable to all LRRs, unless otherwise noted.)   Indicators for Problemat   Histosol (A1)   Sandy Redox (S5)   2 cm Mu.	
Indicators: (Applicable to all LRRs, unless otherwise noted.)   Indicators for Problemat	
ydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)  Histoson (A1)  Histoson (A2)  Histoson (A2)  Black Histor (A3)  Loamy Mucky Mineral (F1) (except MLRA 1)  Depleted Below Dark Surface (A11)  Depleted Below Dark Surface (A12)  Thick Dark Surface (A12)  Sandy Mucky Mineral (F1) (except MLRA 1)  Depleted Matrix (F3)  Thick Dark Surface (A12)  Sandy Mucky Mineral (S1)  Sandy Mucky Mineral (S1)  Sandy Mucky Mineral (S1)  Sandy Mucky Mineral (S1)  Sandy Gleyed Matrix (S4)  Pepleted Dark Surface (F6)  Sandy Gleyed Matrix (S4)  Pepleted Dark Surface (F7)  Hydric Soil Present? Yes  Water stained Leaves (B9) (Except MLRA  Wa	
Misticators: (Applicable to all LRRs, unless otherwise noted.)   Indicators for Problemat	
Histosol (A1) Sandy Redox (S5) 2 cm Mu Histo Epipedon (A2) Stripped Matrix (S6) Red Par Black Histo (A3) Learny Mucky Mineral (F1) (except MLRA 1) Very Shn Hydrogen Sulfide (A4) Learny Mucky Mineral (F1) (except MLRA 1) Very Shn Depleted Below Dark Surface (A11) Depleted Matrix (F2) Thick Dark Surface (A12) X Redox Dark Surface (F6) Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) Sandy Gleyed Matrix (S4) Redox Depressions (F8) Protective Layer (if present):  //Ppe: aphth (inches):  /**Protection of the Common o	
Histic Epipedon (A2)  Black Histic (A3)  Loamy Mucky Mineral (F1) (except MLRA 1)  Loamy Gleyed Matrix (F2)  Depleted Bellow Dark Surface (A11)  Depleted Bellow Dark Surface (A11)  Thick Dark Surface (A12)  Sandy Mucky Mineral (S1)  Sandy Mucky Mineral (S1)  Sandy Mucky Mineral (S1)  Sandy Gleyed Matrix (F3)  Depleted Dark Surface (F7)  Sandy Mucky Mineral (S1)  Sandy Gleyed Matrix (S4)  Redox Depressions (F8)  Protection of Hydroph Protection (F7)  Protection of Hydroph Protection (F8)  Setrictive Layer (if present):  """""""""""""""""""""""""""""""""""	-
Black Histic (A3)  Hydrogen Sulfide (A4)  Depleted Below Dark Surface (A11)  Depleted Matrix (F2)  Thick Dark Surface (A12)  Sandy Mucky Mineral (S1)  Sandy Mucky Mineral (S1)  Sandy Mucky Mineral (S1)  Sandy Gleyed Matrix (S4)  Redox Dark Surface (F7)  Sandy Gleyed Matrix (S4)  Redox Depressions (F8)  Prescriptive Layer (if present):  Image: Surface (A12)  Surface Water (A1)  Hydric Soil Present? Yes X  Water stained Leaves (B9) (Except MLRA (MLRA)  Multiplicators (minimum of one required; check all that apply)  Secondary Indicators (MLRA)  Saturation (A3)  Salt Crust (B11)  Dry-Seat  X Sediment Deposits (B2)  Hydrogen Sulfide Odor (C1)  Saturation (A3)  Sulface Water Marks (B1)  Aquatic Invertebrates (B13)  Dry-Seat  X Sediment Deposits (B3)  Oxidized Rhizospheres along Living Roots (C3)  Geomorp Algal Mat or Crust (B4)  Iron Deposits (B5)  Recent Iron Reduction in Plowed Soils (C6)  Surface Soil Cracks (B6)  Surface Soil Cracks (B6)  Surface Soil Cracks (B6)  Surface Soil Cracks (B6)  Surface Soil Cracks (B8)  Surface Water Present? Yes No X Depth (inches):  Loamy Gleyed Matrix (F2)  Cherr (Explain in Remarks)  Presented Wetland Hydrology Present?  Presurt able Present? Yes No X Depth (inches):  Loamy Gleyed Matrix (F2)  Cherr (Explain in Remarks)  Presented Wetland Hydrology Present?  Presurtation Present? Yes No X Depth (inches):  Loamy Gleyed Matrix (F2)  Cherr (Explain in Remarks)  Presented Wetland Hydrology Present?  Presure of Reduction in Plowed Soils (Page Name Present?  Presented Present? Yes No X Depth (inches):  Prescriptive Matrica (Page Name Present?  Presented Present? Yes No X Depth (inches):  Presented Matrica (Page Matrica (Page Name Present?  Presented Present?  Prese	uck (A10)
Hydrogen Sulfide (A4)  Depleted Below Dark Surface (A11)  Depleted Matrix (F2)  Thick Dark Surface (A12)  Sandy Mucky Mineral (S1)  Sandy Gleyed Matrix (S4)  Pepleted Dark Surface (F6)  Sandy Gleyed Matrix (S4)  Redox Dark Surface (F7)  Pepleted Dark Surface (F7)  Pepleted Dark Surface (F7)  Peresents  Proceed Matrix (S4)  Proceed Dark Surface (F7)  Redox Depressions (F8)  Proceed Dark Surface (F7)  Proceed Dark Surface (F8)  Proceed Dark Surface (F8)  Proceed Dark Surface (F7)  Proceed Dark Surface (F8)  Proceed Dark Surface (F8)  Proceed Dark Surface (F8)  Proceed Dark Surface (F7)  Proceed Dark Surface (F8)  Proceed Dark Surface (F	rent Material (TF2)
Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Depleted Dark Surface (F6) Pesertictive Layer (if present):  ### Properties	allow Dark Surface (TF12)
Thick Dark Surface (A12) X Redox Dark Surface (F6) Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) hydrology must be protected Dark Surface (F7) hydrology must be protected Dark Surface (F7) hydrology must be protected Dark Surface (F8) Protective Layer (if present):  //PPE:	explain in Remarks)
Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Servictive Layer (if present):  //PPE: apth (inches):  //PPE: apth (inches): apth (inc	
Sandy Gleyed Matrix (S4) Redox Depressions (F8) protestrictive Layer (if present):  //PDROLOGY  Tetland Hydrology Indicators:  rimary Indicators (minimum of one required; check all that apply)  Surface Water (A1) Water stained Leaves (B9) (Except MLRA (MLRA*)  High Water Table (A2) 1,2,4A, and 4B) (MLRA*)  Vater stained Leaves (B9) (Except MLRA (MLRA*)  Saturation (A3) Salt Crust (B1) Drainage  Water Marks (B1) Aquatic Invertebrates (B13) Drainage  Water Marks (B1) Aquatic Invertebrates (B13) Drift Deposits (B2) Hydrogen Sulfide Odor (C1) Saturation  Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Shallow.  Iron Deposits (B5) Recent Iron Reduction in Plowed Soils (C6) X Fac-Neu  Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Reised A  Sparsely Vegetated Concave Surface (B8)  eld Observations:  Irface Water Present? Yes No X Depth (inches): >16 Wetland Hydrology Present? turation Present? Yes No X Depth (inches): >16  Ves X	
Sandy Gleyed Matrix (S4) Redox Depressions (F8) protestrictive Layer (if present):  ype: epth (inches): Hydric Soil Present? Yes X emarks:    Page	ytic vegetation and wetland
PAPERION (Inches):    Payor   Present?   Pre	blematic.
PDROLOGY  Tetland Hydrology Indicators:  Imary Indicators (minimum of one required; check all that apply)  Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Satt Crust (B1)  Aquatic Invertebrates (B13)  Drift Deposits (B3)  Oxidized Rhizospheres along Living Roots (C3)  Algal Mat or Crust (B4)  Iron Deposits (B5)  Surface Soil Cracks (B6)  Surface Soil Cracks (B6)  Surface Soil Cracks (B6)  Inundation Visible on Aerial Imagery (B7)  Sparsely Vegetated Concave Surface (B8)  Eld Observations:  Irace Water Present? Yes  No X  Depth (inches):  Yes  X X  A Water stained Leaves (B9) (Except MLRA  Water Marks (B1)  Aquatic Invertebrates (B13)  Drift Deposits (B3)  Oxidized Rhizospheres along Living Roots (C3)  Geomory  Presence of Reduced Iron (C4)  Surface Soil Cracks (B6)  Stunted or Stressed Plants (D1) (LRR A)  Raised A  Inundation Visible on Aerial Imagery (B7)  Other (Explain in Remarks)  Frost-He  Sparsely Vegetated Concave Surface (B8)  Eld Observations:  Irace Water Present? Yes  No X  Depth (inches):  Living Roots (C3)  Depth (inches):  Vegetated Hydrology Present?  Ves  Vegetated Table Present? Yes  No X  Depth (inches):  Soil Cracks (Wetland Hydrology Present?  Ves  Vegetater Table Present? Yes  No X  Depth (inches):  Soil Cracks (Wetland Hydrology Present?  Ves  Vegetater Table Present?  Ves  No X  Depth (inches):  Soil Cracks  Soil Cracks  Wetland Hydrology Present?  Ves  Vegetater Table Present?  Ves  No X  Depth (inches):  Soil Cracks  Soil Cracks  Ves  Ves  Ves  Ves  Ves  Ves  Ves  V	
Pyth (inches):    Hydric Soil Present? Yes X   Xemarks	
Pyprology    Secondary Indicators:   Secondary Indicators:   Secondary Indicators (minimum of one required; check all that apply)   Secondary Indicators (minimum of one required; check all that apply)   Secondary Indicators (minimum of one required; check all that apply)   Secondary Indicators (minimum of one required; check all that apply)   Secondary Indicators (minimum of one required; check all that apply)   Secondary Indicators (minimum of one required; check all that apply)   Secondary Indicators (minimum of one required; check all that apply)   Secondary Indicators (minimum of one required; check all that apply)   Secondary Indicators (minimum of one required; check all that apply)   Secondary Indicators (MIRA   High Water Table (A2)	
YDROLOGY    Setland Hydrology Indicators:	No
Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Salt Crust (B11)  Aquatic Invertebrates (B13)  Dry-Seat  X Sediment Deposits (B2)  Drift Deposits (B3)  Algal Mat or Crust (B4)  Iron Deposits (B5)  Surface Soil Cracks (B6)  Inundation Visible on Aerial Imagery (B7)  Sparsely Vegetated Concave Surface (B8)  Eld Observations:  Irface Water Present? Yes  No  X Depth (inches):  Inturation Present? Yes  I	
Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Salt Crust (B11)  Aquatic Invertebrates (B13)  Dry-Seat  X Sediment Deposits (B2)  Drift Deposits (B3)  Algal Mat or Crust (B4)  Iron Deposits (B5)  Surface Soil Cracks (B6)  Inundation Visible on Aerial Imagery (B7)  Sparsely Vegetated Concave Surface (B8)  Eld Observations:  Irface Water Present? Yes  No  X Depth (inches):  Alter stained Leaves (B9) (Except MLRA  Water Stained Leaves (B9) (Except MLRA  (MLRA1  A, and 4B)  (MLRA1  Aquatic Invertebrates (B13)  Aquatic Invertebrates (B13)	ors (2 or more required)
High Water Table (A2)  Saturation (A3)  Salt Crust (B11)  Drainage Water Marks (B1)  Aquatic Invertebrates (B13)  Dry-Sea:  X Sediment Deposits (B2)  Hydrogen Sulfide Odor (C1)  Drift Deposits (B3)  Algal Mat or Crust (B4)  Iron Deposits (B5)  Recent Iron Reduction in Plowed Soils (C6)  Surface Soil Cracks (B6)  Inundation Visible on Aerial Imagery (B7)  Sparsely Vegetated Concave Surface (B8)  Petalogous Surface Water Present? Yes  No  X Depth (inches):  atter Table Present? Yes  No  X Depth (inches):  Salt Crust (B11)  Aquatic Invertebrates (B13)  Pry-Sea:  Aquatic Invertebrates (B13)  Aquatic Invertebrates (B13)  Aquatic Invertebrates (B13)  Pry-Sea:  Aquatic Invertebrates (B13)  Aquatic I	tained Leaves (B9)
Saturation (A3)  Water Marks (B1)  Aquatic Invertebrates (B13)  Dry-Sea:  X Sediment Deposits (B2)  Drift Deposits (B3)  Algal Mat or Crust (B4)  Iron Deposits (B5)  Surface Soil Cracks (B6)  Inundation Visible on Aerial Imagery (B7)  Sparsely Vegetated Concave Surface (B8)  eld Observations:  Irrace Water Present? Yes  No X  Depth (inches):  Aquatic Invertebrates (B13)  Aquatic Invertebrates (B13)  Aquatic Invertebrates (B13)  Dry-Sea:  Aquatic Invertebrates (B13)  Aquatic Invertebrates (B13)  Dry-Sea:  Aquatic Invertebrates (B13)  Aquatic Invertebrates (B13)  Dry-Sea:  Aquatic Invertebrates (B13)  Presence of Reduced Iron (C4)  Shallow (C4)  Shallow (C5)  X Fac-Neu  Stunted or Stressed Plants (D1) (LRR A)  Raised A  Other (Explain in Remarks)  Frost-He  Sparsely Vegetated Concave Surface (B8)  eld Observations:  Irrace Water Present? Yes  No X  Depth (inches):  Attention Present? Yes  No X  Depth (inches):  D	1, 2, 4A, and 4B)
Water Marks (B1)  X Sediment Deposits (B2)  Drift Deposits (B3)  Algal Mat or Crust (B4)  Iron Deposits (B5)  Surface Soil Cracks (B6)  Inundation Visible on Aerial Imagery (B7)  Sparsely Vegetated Concave Surface (B8)  Peld Observations:  Irface Water Present? Yes  No X  Depth (inches):  Aquatic Invertebrates (B13)  Aquatic Invertebrates (B13)  Aquatic Invertebrates (B13)  Dry-Seat  Hydrogen Sulfide Odor (C1)  Saturatio  Secundary Reots (C3)  Geomory  Fresence of Reduced Iron (C4)  Shallow  Recent Iron Reduction in Plowed Soils (C6)  X Fac-Neu  Stunted or Stressed Plants (D1) (LRR A)  Raised A  Other (Explain in Remarks)  Frost-He  Sparsely Vegetated Concave Surface (B8)  Peld Observations:  Inface Water Present? Yes  No X  Depth (inches):  State Table Present? Yes  No X  Depth (inches):  Dept	e Patterns (B10)
Hydrogen Sulfide Odor (C1)   Saturation	son Water Table (C2)
Drift Deposits (B3) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Shallow. Iron Deposits (B5) Recent Iron Reduction in Plowed Soils (C6) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8)  Prost-He Sparsely Vegetated Concave Surface (B8)  Prost-He Index Present? Yes No X Depth (inches): Inter Table Present? Yes No X Depth (inches):	on Visible on Aerial Imagery
Algal Mat or Crust (B4)  Iron Deposits (B5)  Recent Iron Reduction in Plowed Soils (C6)  Surface Soil Cracks (B6)  Inundation Visible on Aerial Imagery (B7)  Sparsely Vegetated Concave Surface (B8)  Presence of Reduced Iron (C4)  Recent Iron Reduction in Plowed Soils (C6)  Stunted or Stressed Plants (D1) (LRR A)  Raised A  Other (Explain in Remarks)  Frost-He  Sparsely Vegetated Concave Surface (B8)  Presence of Reduced Iron (C4)  X Fac-Neu  Raised A  Other (Explain in Remarks)  Frost-He  Sparsely Vegetated Concave Surface (B8)  Presence of Reduced Iron (C4)  X Fac-Neu  Raised A  Depth (inches):  Frost-He  Sparsely Vegetated Concave Surface (B8)  Presence of Reduced Iron (C4)  X Fac-Neu  Raised A  Frost-He  Sparsely Vegetated Concave Surface (B8)  Presence of Reduced Iron (C4)  X Fac-Neu  Studen A  Presence of Reduced Iron (C4)  X Fac-Neu  Raised A  Frost-He  Sparsely Vegetated Concave Surface (B8)  Presence of Reduced Iron (C4)  X Fac-Neu  Studen A  Fac-Neu  Sparsely Vegetated Concave Surface (B8)	phic Position (D2)
Iron Deposits (B5)  Surface Soil Cracks (B6)  Inundation Visible on Aerial Imagery (B7)  Sparsely Vegetated Concave Surface (B8)  Peld Observations:  Inface Water Present? Yes No X Depth (inches):  Stater Table Present? Yes No X Depth (inches):  Surface Water Present? Yes No X Depth (inches): >16 Wetland Hydrology Present?  Surface Water Present? Yes No X Depth (inches): >16 Yes X	Aguitard (D3)
Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8)  Beld Observations:  rface Water Present? Yes No X Depth (inches):  ater Table Present? Yes No X Depth (inches): >16 Wetland Hydrology Present?  turation Present? Yes No X Depth (inches): >16 Yes X	itral Test (D5)
Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8)  eld Observations:  urface Water Present? Yes	Ant Mounds (D6) (LRR A)
Sparsely Vegetated Concave Surface (B8)	eave Hummocks (D7)
eld Observations:  Inface Water Present? Yes	(21)
rface Water Present? Yes No X Depth (inches):  ater Table Present? Yes No X Depth (inches): >16 Wetland Hydrology Present?  turation Present? Yes Depth (inches): >16 Yes X	
ater Table Present? Yes No X Depth (inches): >16 Wetland Hydrology Present?  turation Present? Yes Depth (inches): >16 Yes X	
turation Present? Yes No X Depth (inches): >16 Yes X	
	No
escribe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
narks:	

#### PHS# 5481 WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, and Coast Region

Project/Site: Oregon City High So	hool	City/County:	Oregon	City/Clackamas	Sampling Date:	9/10/2014
Applicant/Owner: Oregon City School	I District			State:	OR	Sampling Point: 4
Investigator(s): TF/CET		Section, To	wnship, Range:		S9D T3S R2E	
Landform (hillslope, terrace, etc.:)	slope	•		ncave, convex, none):	none	Slope (%): <1
Subregion (LRR): LRR A	•	Lat:	45.321		-122.569295	Datum:
		- , 0 to 8 percen				
		•			sification:	upland
Are climatic/hydrologic conditions on the site to		-	Yes	XNo		ain in Remarks)
	drology	significantly dist		Are "Normal Circumstance	. , ,	<u> </u>
Are vegetation Soil or Hy	drology	naturally probler	matic? If needed	, explain any answers in Ren	narks.)	
SUMMARY OF FINDINGS - Attac	h site map s	showing sam	npling point I	ocations, transects,	important featu	res, etc.
Hydrophytic Vegetation Present? Yes	No	χ .				· ·
Hydric Soil Present? Yes	No	x	Is Sampled Are a Wetlan	¥	N	No X
Wetland Hydrology Present? Yes	No	x	a vvetian	<u> </u>		
Remarks:						
ineliains.						
VEGETATION - Use scientific nan	nes of plants	s.				Ministration 2.
	absolute	Dominant	Indicator	Dominance Test work	sheet:	
	% cover	Species?	Status			
Tree Stratum (plot size: 30 )				Number of Dominant Speci	es	
1 Quercus sp.	30	X	(FACU)	That are OBL, FACW, or FA	AC:	<b>3</b> (A)
2 Fraxinus latifolia	15	Χ .	FACW			
3 Pseudotsuga menziesii	15	X	FACU	Total Number of Dominant		
4 Crataegus monogyna	15	X	FAC	Species Across All Strata:	<u> </u>	<b>11</b> (B)
	90	= Total Cover				
Sapling/Shrub Stratum (plot size: 5	_)			Percent of Dominant Specie	es	
1 Corylus cornuta	15	X	FACU	That are OBL, FACW, or F	AC:	<b>27%</b> (A/B)
2 Frangula purshiana	15	X	FAC			
3 Gaultheria shallon	10	X	FACU	Prevalence Index Wor	ksheet:	
4 Symphoricarpos albus	10	<u> </u>	FACU	Total % Cover of	Multiply by:	<u> </u>
5 Rubus armeniacus	10	X	FACU	OBL Species	x 1 =	0
	60	= Total Cover		FACW species	x 2 =	0
Herb Stratum (plot size: 5 )				FAC Species	x3=	0
Herb Stratum (plot size: 5 )  1 Polystichum munitum	20	v	EACH	FACU Species	x 4 =	
2 Carex leptopoda	<u>30</u> 5	X	FACU FAC	UPL Species  Column Totals	<b>0</b> (A)	(B)
3 Rubus ursinus	20	x	FACU	Column rotals	<b>0</b> (A)	<b>0</b> (B)
4			1,700	Prevalence Index =B/	Δ = #Γ	DIV/0!
5				Trovaloneo inaesc Es	, , <u>, , , , , , , , , , , , , , , , , </u>	71770.
6			·	Hydrophytic Vegetatio	on Indicators:	
7		<del></del>			Rapid Test for Hydro	phytic Vegetation
8					Dominance Test is >	
	55	= Total Cover			Prevalence Index is ≤	
				4-	Morphological Adapta	tions <sup>1</sup> (provide supporting
Woody Vine Stratum (plot size:	_)				ita in Remarks or on a	
1					Wetland Non-Vascula	
2						c Vegetation <sup>1</sup> (Explain)
	0	= Total Cover		<sup>1</sup> Indicators of hydric soil and	d wetland hydrology m	iust be present, unless
				disturbed or problematic.  Hydrophytic		
% Bare Ground in Herb Stratum 4	5			Vegetation	Yes	No X
				Present?		
Remarks: Also in Tree Stratum - Amelanchier al	nifolia 5%, Pr	unus avium 10	0%; Total Tree	Stratum = 90%		

SOIL	
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PHS # 5481

Sampling Point:

4

	Matrix			Redox F	eatures			
(Inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0-4	10YR 3/2	98	10YR 3/3	2	<u> </u>	M	Silt Loam	Fine
4-9	10YR 3/2	95	10YR 3/3		С	M	Silt Loam	Fine
			7.5YR 2.5/3		C	M	Silt Loam	Medium
9-16	10YR 3/2	88	10YR 3/6	10	С	M	Silt Loam	Coarse
			10YR 3/3	2				Fine
<sup>1</sup> Type: C=Concentr	ation, D=Depletio	n, RM=Re	duced Matrix, CS	=Covered or C	coated San	d Grains.		<sup>2</sup> Location: PL=Pore Lining, M=Matrix.
Hydric Soil Indi	cators: (Appli	cable to	all LRRs, unles	s otherwise	e noted.)		India	cators for Problematic Hydric Soils <sup>3</sup> :
Histo	osol (A1)			Sa	andy Redox	(S5)		2 cm Muck (A10)
Histic	c Epipedon (A2)			St	ripped Matr	rix (S6)		Red Parent Material (TF2)
Black	k Histic (A3)			Lo	amy Mucky	y Mineral (F1) (	except MLRA 1)	Very Shallow Dark Surface (TF12)
Hydr	ogen Sulfide (A4)	)		Lo	amy Gleye	d Matrix (F2)		Other (explain in Remarks)
Depl	eted Below Dark	Surface (A	(11)	De	epleted Mat	trix (F3)		
Thick	c Dark Surface (A	.12)		Re	edox Dark S	Surface (F6)		
Sanc	Sandy Mucky Mineral (S1)				epleted Dar	k Surface (F7)		<sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or
Sand	ly Gleyed Matrix (	(S4)		Re	edox Depre	ssions (F8)		problematic.
Restrictive Laye	er (if present):						T	
Type:	` . ,							
							ļ	
Remarks: Mottles are fain		9 inches	s, so soils do n	ot meet defi	inition fo	r Redox Dar	Hydric Soil Pre	sent? Yes No X
Remarks: Mottles are fain			, so soils do n	ot meet defi	inition fo	r Redox Dar	1	sent? Yes No X
Remarks: Mottles are fain HYDROLOGY Wetland Hydrol	ogy Indicators				inition for	r Redox Dar	1	Secondary Indicators (2 or more required)
Remarks: Mottles are fain HYDROLOGY Wetland Hydrol	ogy Indicators			hat apply)			1	
Remarks:  Mottles are fain  HYDROLOGY  Wetland Hydrol  Primary Indicator  Surfa	ogy Indicators	s: one requ		hat apply) Wa		d Leaves (B9) (	k Surface	Secondary Indicators (2 or more required)
Remarks:  Mottles are fain  HYDROLOGY  Wetland Hydrol  Primary Indicator  Surfa	ogy Indicators rs (minimum of	s: one requ		hat apply) Wa 1,	ater stained	d Leaves (B9) <b>(</b> <b>4B)</b>	k Surface	Secondary Indicators (2 or more required)  Water stained Leaves (B9)
Remarks:  Mottles are fain  HYDROLOGY  Wetland Hydrol  Primary Indicator  Surfa  High  Satur	ogy Indicators rs (minimum of ace Water (A1) Water Table (A2)	s: one requ		hat apply)  Water in the state of the state	ater stainec <b>2, 4A, and</b> alt Crust (B1	d Leaves (B9) <b>(</b> <b>4B)</b>	k Surface	Secondary Indicators (2 or more required)  Water stained Leaves (B9)  (MLRA1, 2, 4A, and 4B)
Remarks:  Mottles are fain  HYDROLOGY  Wetland Hydrol  Primary Indicator  Surfa  High  Satur  Wate	ogy Indicators rs (minimum of ace Water (A1) Water Table (A2) ration (A3)	s: one requ		hat apply)  Wata	ater stained <b>2, 4A, and</b> alt Crust (B1 quatic Invert	d Leaves (B9) <b>(</b> <b>4B)</b> 11)	k Surface	Secondary Indicators (2 or more required)  Water stained Leaves (B9) (MLRA1, 2, 4A, and 4B)  Drainage Patterns (B10)  Dry-Season Water Table (C2)
Remarks:  Mottles are fain  HYDROLOGY  Wetland Hydrol  Primary Indicator  Surfa  High  Satur  Wate	ogy Indicators rs (minimum of ace Water (A1) Water Table (A2) ration (A3) er Marks (B1)	s: one requ		hat apply)  Wata in the second	ater stained <b>2, 4A, and</b> alt Crust (B1 quatic Invert	d Leaves (B9) ( 4B)  11)  tebrates (B13)  Iffide Odor (C1)	k Surface	Secondary Indicators (2 or more required)  Water stained Leaves (B9) (MLRA1, 2, 4A, and 4B)  Drainage Patterns (B10)  Dry-Season Water Table (C2)
Remarks:  Mottles are fain  HYDROLOGY  Wetland Hydrol  Primary Indicator  Surfa  High  Satur  Wate  Sedir  Drift	ogy Indicators rs (minimum of ace Water (A1) Water Table (A2) ration (A3) er Marks (B1) ment Deposits (B3	s: one requ		hat apply)  V/2  1,  Sa  Aq  Hy	ater stained 2, 4A, and alt Crust (B1 quatic Invert rdrogen Sul kidized Rhiz	d Leaves (B9) ( 4B)  11)  tebrates (B13)  Iffide Odor (C1)	k Surface  Except MLRA	Secondary Indicators (2 or more required)  Water stained Leaves (B9) (MLRA1, 2, 4A, and 4B)  Drainage Patterns (B10)  Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (
Remarks:  Mottles are fain  HYDROLOGY  Wetland Hydrol  Primary Indicator  Surfa  High  Satur  Wate  Sedir  Drift I  Algal	ogy Indicators rs (minimum of ace Water (A1) Water Table (A2) ration (A3) er Marks (B1) ment Deposits (B3) Mat or Crust (B4) Deposits (B5)	s:  one requ  2)		hat apply)	ater stained 2, 4A, and alt Crust (B1 juatic Invert drogen Sul kidized Rhiz esence of F	d Leaves (B9) ( 4B) 11) tebrates (B13) Ifide Odor (C1) cospheres alon Reduced Iron (Geduction in Plo	k Surface  Except MLRA  g Living Roots (C3) C4)  owed Soils (C6)	Secondary Indicators (2 or more required)  Water stained Leaves (B9) (MLRA1, 2, 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)
Remarks:  Mottles are fain  HYDROLOGY  Wetland Hydrol  Primary Indicator  Surfa  High  Satur  Wate  Sedir  Algal  Iron [	ogy Indicators rs (minimum of ace Water (A1) Water Table (A2) ration (A3) ar Marks (B1) ment Deposits (B3) Mat or Crust (B4) Deposits (B5) ace Soil Cracks (B	s:  f one requ  2)  2)	iired; check all t	hat apply)  Wall 1, Sa Aq Hy Ox Pre Re	ater stained <b>2, 4A, and</b> alt Crust (B1 puatic Inverting rdrogen Sul kidized Rhiz esence of Fecent Iron Runted or Str	d Leaves (B9) ( 4B)  11)  tebrates (B13)  iffide Odor (C1) cospheres alon Reduced Iron (in Reduced Plants (	k Surface  Except MLRA  g Living Roots (C3) C4)  owed Soils (C6)	Secondary Indicators (2 or more required)  Water stained Leaves (B9) (MLRA1, 2, 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)
Remarks:  Mottles are fain  HYDROLOGY  Wetland Hydrol  Primary Indicator  Surfa  High  Satur  Vate  Sedir  Drift I  Algal  Iron I  Surfa	ogy Indicators rs (minimum of ace Water (A1) Water Table (A2) ration (A3) er Marks (B1) ment Deposits (B3) Mat or Crust (B4) Deposits (B5)	one required to the second of	uired; check all t	hat apply)  Wall 1, Sa Aq Hy Ox Pre Re	ater stained <b>2, 4A, and</b> alt Crust (B1 puatic Inverting rdrogen Sul kidized Rhiz esence of Fecent Iron Runted or Str	d Leaves (B9) ( 4B) 11) tebrates (B13) Ifide Odor (C1) cospheres alon Reduced Iron (Geduction in Plo	k Surface  Except MLRA  g Living Roots (C3) C4)  owed Soils (C6)	Secondary Indicators (2 or more required)  Water stained Leaves (B9) (MLRA1, 2, 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)
Remarks:  Mottles are fain  HYDROLOGY  Wetland Hydrol  Primary Indicator  Surfa  High  Satur  Wate  Sedir  Drift I  Algal  Iron [  Surfa  Inunc  Spars	ogy Indicators rs (minimum of ace Water (A1) Water Table (A2) ration (A3) er Marks (B1) ment Deposits (B3) Mat or Crust (B4 Deposits (B5) ace Soil Cracks (B dation Visible on A sely Vegetated Ca	one required to the second of	uired; check all t	hat apply)  Wall 1, Sa Aq Hy Ox Pre Re	ater stained <b>2, 4A, and</b> alt Crust (B1 puatic Inverting rdrogen Sul kidized Rhiz esence of Fecent Iron Runted or Str	d Leaves (B9) ( 4B)  11)  tebrates (B13)  iffide Odor (C1) cospheres alon Reduced Iron (in Reduced Plants (	k Surface  Except MLRA  g Living Roots (C3) C4)  owed Soils (C6)	Secondary Indicators (2 or more required)  Water stained Leaves (B9) (MLRA1, 2, 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)
High Satur Wate Sedir Drift I Algal Iron I Surfa	ogy Indicators rs (minimum of ace Water (A1) Water Table (A2) ration (A3) or Marks (B1) ment Deposits (B3) Mat or Crust (B4 Deposits (B5) ace Soil Cracks (E dation Visible on A sely Vegetated Co	one required to the second of	uired; check all t	hat apply)  Wa 1, Sa Aq Hy Ox Pre Re Stu	ater stained 2, 4A, and alt Crust (B1 quatic Inverted rdrogen Sul sidized Rhiz esence of Fecent Iron Re cunted or State her (Explain	d Leaves (B9) ( 4B)  11)  tebrates (B13)  iffide Odor (C1) cospheres alon Reduced Iron (in Reduced Plants (	k Surface  Except MLRA  g Living Roots (C3) C4)  owed Soils (C6)	Secondary Indicators (2 or more required)  Water stained Leaves (B9) (MLRA1, 2, 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)
Remarks:  Mottles are fain  HYDROLOGY  Wetland Hydrol  Primary Indicator  Surfa  High  Satur  Vate  Sedir  Drift I  Algal  Iron I  Surfa  Inunc  Spars  Field Observation  Surface Water Pres	ogy Indicators rs (minimum of ace Water (A1) Water Table (A2) ration (A3) er Marks (B1) ment Deposits (B3) Mat or Crust (B4 Deposits (B5) ace Soil Cracks (B dation Visible on A sely Vegetated Co	one required to the second of	uired; check all t gery (B7) urface (B8)	hat apply)  Wall 1, Sa Aq Hy Ox Pre Re Sti	ater stained 2, 4A, and alt Crust (B1 puatic Inverted redrogen Sul didized Rhiz esence of Fecent Iron R unted or Str her (Explain	d Leaves (B9) ( 4B)  11)  tebrates (B13)  ifide Odor (C1) cospheres alon Reduced Iron (i Reduction in Plates (B13)  ressed Plants (in in Remarks)	k Surface  Except MLRA  g Living Roots (C3) C4) owed Soils (C6) D1) (LRR A)	Secondary Indicators (2 or more required)  Water stained Leaves (B9) (MLRA1, 2, 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) Frost-Heave Hummocks (D7)
Remarks:  Mottles are fain  HYDROLOGY  Wetland Hydrol  Primary Indicator  Surfa  High  Satur  Vate  Sedir  Algal  Iron I  Surfa  Inunc  Spars  Field Observatio  Surface Water Presert  Saturation Present?	ogy Indicators rs (minimum of ace Water (A1) Water Table (A2) ration (A3) er Marks (B1) ment Deposits (B3) Mat or Crust (B4 Deposits (B5) ace Soil Cracks (B dation Visible on A sely Vegetated Co ons: ent? Yes Yes Yes	one required to the second of	uired; check all t gery (B7) urface (B8)	hat apply)  Wa 1, Sa Aq Hy Ox Pre Re Stu	ater stained 2, 4A, and alt Crust (B1 quatic Invert drogen Sul kidized Rhiz esence of F ecent Iron R unted or Str her (Explain	d Leaves (B9) ( 4B)  11)  tebrates (B13)  iffide Odor (C1) cospheres alon Reduced Iron (in Reduced Plants (	k Surface  Except MLRA  g Living Roots (C3) C4) owed Soils (C6) D1) (LRR A)	Secondary Indicators (2 or more required)  Water stained Leaves (B9) (MLRA1, 2, 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)
Remarks:  Mottles are fain  HYDROLOGY  Wetland Hydrol  Primary Indicator  Surfa  High  Satur  Wate  Sedir  Drift I  Algal  Iron I  Surfa  Inunc  Spars  Field Observation  Surface Water Presert  Vater Table Present?  Includes capillary fring	ogy Indicators rs (minimum of ace Water (A1) Water Table (A2) ration (A3) ar Marks (B1) ment Deposits (B3) Mat or Crust (B4 Deposits (B5) ace Soil Cracks (B dation Visible on A sely Vegetated Co ons: ent? Yes at Yes	s:  fone requ  2)  2)  Aerial Imagoncave Su	gery (B7) urface (B8)  No X  No X  No X	hat apply)  Wa 1, Sa Aq Hy Ox Pre Re Stt Ott  Depth (inc	ater stained 2, 4A, and alt Crust (B1 quatic Invert rdrogen Sul kidized Rhiz esence of F ecent Iron R unted or Str her (Explain ches): ches):	d Leaves (B9) ( 4B)  11)  tebrates (B13)  Iffide Odor (C1)  cospheres alon Reduced Iron (ceduction in Place ressed Plants (in in Remarks)  >16  >16  >16	k Surface  Except MLRA  g Living Roots (C3) C4) owed Soils (C6) D1) (LRR A)  Wetland Hyd	Secondary Indicators (2 or more required)  Water stained Leaves (B9) (MLRA1, 2, 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) Frost-Heave Hummocks (D7)
Remarks:  Mottles are fain  HYDROLOGY  Wetland Hydrol  Primary Indicator  Surfa  High  Satur  Vate  Sedir  Algal  Iron I  Surfa  Inunc  Spars  Field Observatio  Surface Water Presert  Saturation Present?	ogy Indicators rs (minimum of ace Water (A1) Water Table (A2) ration (A3) ar Marks (B1) ment Deposits (B3) Mat or Crust (B4 Deposits (B5) ace Soil Cracks (B dation Visible on A sely Vegetated Co ons: ent? Yes at Yes	s:  fone requ  2)  2)  Aerial Imagoncave Su	gery (B7) urface (B8)  No X  No X  No X	hat apply)  Wa 1, Sa Aq Hy Ox Pre Re Stt Ott  Depth (inc	ater stained 2, 4A, and alt Crust (B1 quatic Invert rdrogen Sul kidized Rhiz esence of F ecent Iron R unted or Str her (Explain ches): ches):	d Leaves (B9) ( 4B)  11)  tebrates (B13)  Iffide Odor (C1)  cospheres alon Reduced Iron (ceduction in Plotessed Plants (in in Remarks)  >16  >16  >16	k Surface  Except MLRA  g Living Roots (C3) C4) owed Soils (C6) D1) (LRR A)  Wetland Hyd	Secondary Indicators (2 or more required)  Water stained Leaves (B9) (MLRA1, 2, 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) Frost-Heave Hummocks (D7)

PHS#

5481

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

Project/Site: Oregon City H	ligh School	City/County:	Oregon	n City/Clackamas	Sampling Date:	9/10/20	)14
Applicant/Owner: Oregon City	School District			State:	OR	Sampling Point:	5
Investigator(s):	F/CET	Section, To	ownship, Range:		S9D T3S R2E	£	
Landform (hillslope, terrace, etc.:)	slope		Local relief (cor	ncave, convex, none):	none	Slope (%):	<1
Subregion (LRR):	LRR A	Lat:	45.3211		-122.568728	Datum:	
Soil Map Unit Name:	Bornstedt silt loam	, 0 to 8 percer	nt slopes	NWI Cla	ssification:	PFO	
Are climatic/hydrologic conditions on the			Yes	X No	(if no, expl	ain in Remarks)	
Are vegetation Soil	or Hydrology	significantly dist	turbed?	Are "Normal Circumstance		Y	
Are vegetation Soil	or Hydrology	-		l, explain any answers in Re			
		•			-		
SUMMARY OF FINDINGS -	Attach site map	showing sam	npling point	locations, transects	, important featu	ıres, etc.	
Hydrophytic Vegetation Present? Y	Yes X No		Is Sampled Are	roo within			
Hydric Soil Present? Y	Yes X No		a Wetlan		X	No	
Wetland Hydrology Present? Y	Yes X No						
Remarks:							
			——————————————————————————————————————				
VEGETATION - Use scientifi			1 11-54-4	1			
	absolute % cover	Dominant Species?	Indicator	Dominance Test work	ksheet:		
Tree Stratum (plot size: 30		Species?	Status	Number of Dominant Spec	rias		
1 Fraxinus latifolia	′ 	X	FACW	That are OBL, FACW, or F		<b>5</b> (A)	i
2 Quer sp.	10		(FACU)	17,000 222, 7.1.2.1,			
3				Total Number of Dominan	ıt		
4				Species Across All Strata:		<b>6</b> (B)	1
	85	= Total Cover					
Sapling/Shrub Stratum (plot size:	5 )			Percent of Dominant Spec	ripe		
1 Frangula purshiana	5		FAC	That are OBL, FACW, or		<b>83%</b> (A/	R)
2 Fraxinus latifolia	15	x	FACW	, , , , , , , , , , , , , , , , , , , ,		<del></del> , , ,	_,
3 Symphoricarpos albus	30	X	FACU	Prevalence Index Wo	rksheet:		
4 Crataegus monogyna	15	Х	FAC	Total % Cover of	Multiply by	:	
5 Rosa sp.	15	X	(FAC)	OBL Species	x 1 =		
<del>-</del>	80	= Total Cover		FACW species	x 2 =	0	
	`			FAC Species	x 3 =	0	
Herb Stratum (plot size: 5	<del></del> ′		FACU	FACU Species	x 4 =		
1 Rubus ursinus 2 Carex obnupta	<u>10</u>	x	OBL	UPL Species  Column Totals	<b>0</b> (A)	(B)	
3			OBL	Column rotals	<b>0</b> (A)	<b>0</b> (B)	
4			• · · · · · · · · · · · · · · · · · · ·	Prevalence Index =B	3/A = #	DIV/0!	
5							
6				Hydrophytic Vegetati	on Indicators:		
7				1	1- Rapid Test for Hydro	ophytic Vegetation	
8				X _ 2	2- Dominance Test is >	>50%	
	90	= Total Cover			3-Prevalence Index is		
land a contract of the contrac	,			· —	4-Morphological Adapt		orting
Woody Vine Stratum (plot size:	)				data in Remarks or on		
1					5- Wetland Non-Vascu		
2		- Tetal Cover		Indicators of hydric soil ar	Problematic Hydrophyt		
	U	= Total Cover		disturbed or problematic.	id Wetiand Hydrology i	must be present, unit	ess.
				Hydrophytic			
% Bare Ground in Herb Stratum	10			Vegetation	Yes X	No	
Remarks:				Present?			

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Sampling Point:

5

	Matrix			Redox	Features			
(Inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0-4	10YR 3/2	99	10YR 3/4	1	С	М	Silt Loam	Fine
4-6	10YR 3/2	96	10YR 3/4	4	<u> </u>	M	Silt Loam	Fine
6-12	10YR 3/2	90	10YR 3/6	5	c	M	Silt Loam	Fine
			10YR 3/4	3		M		Fine
			7.5YR 2.5/3	2	<u> </u>	M		Medium
12-16	10YR 3/2	85	10YR 3/6	10	<u> </u>	<u> </u>	Silt Loam	Medium
	Manuschick Company		7.5YR 2.5/3	5	<u> </u>	M		Medium
Hydric Soil	centration, D=Depletic Indicators: (Appli Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4 Depleted Below Dark Thick Dark Surface (A Sandy Mucky Mineral Sandy Gleyed Matrix	) Surface (A12) (S1)	all LRRs, unles	s otherwi	se noted.) Sandy Redox Stripped Matr Loamy Mucky Loamy Gleyer Depleted Matr Redox Dark S	(S5) ix (S6) ix Mineral (F1)(a d Matrix (F2) rix (F3) Surface (F6) k Surface (F7)		<sup>2</sup> Location: PL=Pore Lining, M=Matrix.  cators for Problematic Hydric Soils <sup>3</sup> :  2 cm Muck (A10)  Red Parent Material (TF2)  Very Shallow Dark Surface (TF12)  Other (explain in Remarks) <sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
	s):				-		Hydric Soil Pre	sent? Yes X No
Pepth (inchesternance) Pemarks:  HYDROLO Vetland Hy		s:					Hydric Soil Pre	sent? Yes X No
Remarks:  HYDROLO  Vetland Hy	GY drology Indicator		uired; check all th	nat apply)	-		Hydric Soil Pre	
emarks:  HYDROLO  Vetland Hy  rimary India	GY		uired; check all th			Leaves (B9) (		Secondary Indicators (2 or more required)  Water stained Leaves (B9)
emarks:  IYDROLO  Vetland Hy  rimary India	GY drology Indicators cators (minimum of	fone req	uired; check all th	\	Nater stained			Secondary Indicators (2 or more required)
YDROLO /etland Hy	<b>GY</b> drology Indicators cators (minimum of Surface Water (A1)	fone req	uired; check all th	\		4B)		Secondary Indicators (2 or more required)  Water stained Leaves (B9)
YDROLO (etland Hy rimary India	<b>GY</b> drology Indicators cators (minimum of Surface Water (A1) High Water Table (A2	fone req	uired; check all th	1	I <b>, 2, 4A, and</b> Salt Crust (B1	4B)		Secondary Indicators (2 or more required)  Water stained Leaves (B9) (MLRA1, 2, 4A, and 4B)
YDROLO etland Hy	GY drology Indicators cators (minimum of Surface Water (A1) High Water Table (A2 Saturation (A3)	f one req	uired; check all th		I <b>, 2, 4A, and</b> Salt Crust (B1 Aquatic Invert	<b>4B)</b> 1)		Secondary Indicators (2 or more required)  Water stained Leaves (B9) (MLRA1, 2, 4A, and 4B)  Drainage Patterns (B10)  Dry-Season Water Table (C2)
YDROLO etland Hy imary India	GY drology Indicators cators (minimum of Surface Water (A1) High Water Table (A2 Saturation (A3) Water Marks (B1)	f one req	uired; check all th		I, <b>2, 4A, and</b> Salt Crust (B1 Aquatic Invert	4B)  1) ebrates (B13) fide Odor (C1)		Secondary Indicators (2 or more required)  Water stained Leaves (B9) (MLRA1, 2, 4A, and 4B)  Drainage Patterns (B10)  Dry-Season Water Table (C2)
YDROLO fetland Hy rimary India	GY drology Indicators cators (minimum of Surface Water (A1) High Water Table (A2 Saturation (A3) Water Marks (B1) Sediment Deposits (B	f one req )	uired; check all th	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	I, <b>2, 4A, and</b> Salt Crust (B1 Aquatic Invert Hydrogen Sul <sup>o</sup> Dxidized Rhiz	4B)  1) ebrates (B13) fide Odor (C1)	Except MLRA	Secondary Indicators (2 or more required)  Water stained Leaves (B9) (MLRA1, 2, 4A, and 4B)  Drainage Patterns (B10)  Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery
YDROLO /etland Hy rimary India	GY drology Indicators cators (minimum of Surface Water (A1) High Water Table (A2 Saturation (A3) Water Marks (B1) Sediment Deposits (B3) Algal Mat or Crust (B4 ron Deposits (B5)	f one req ) 2)	uired; check all th	1 S	I, 2, 4A, and Salt Crust (B1 Aquatic Invert Hydrogen Suli Dxidized Rhiz Presence of R Recent Iron R	4B)  1) ebrates (B13) fide Odor (C1) ospheres along Reduced Iron (C	Except MLRA g Living Roots (C3) c4) wed Soils (C6)	Secondary Indicators (2 or more required)  Water stained Leaves (B9) (MLRA1, 2, 4A, and 4B)  Drainage Patterns (B10)  Dry-Season Water Table (C2)  Saturation Visible on Aerial Imagery  Geomorphic Position (D2)  Shallow Aquitard (D3)  X Fac-Neutral Test (D5)
YDROLO /etland Hy rimary India	GY  drology Indicators cators (minimum of Surface Water (A1) High Water Table (A2 Saturation (A3)  Water Marks (B1) Sediment Deposits (B3) Algal Mat or Crust (B4 ron Deposits (B5) Surface Soil Cracks (6)	f one req ) 2) 1)			I, 2, 4A, and Salt Crust (B1 Aquatic Invert Hydrogen Sul Dxidized Rhiz Presence of R Recent Iron R Stunted or Str	4B)  1) ebrates (B13) fide Odor (C1) ospheres along Reduced Iron (C) eduction in Plo	Except MLRA g Living Roots (C3) c4) wed Soils (C6)	Secondary Indicators (2 or more required)  Water stained Leaves (B9) (MLRA1, 2, 4A, and 4B)  Drainage Patterns (B10)  Dry-Season Water Table (C2)  Saturation Visible on Aerial Imagery  Geomorphic Position (D2)  Shallow Aquitard (D3)  X Fac-Neutral Test (D5)  Raised Ant Mounds (D6) (LRR A)
YDROLO /etland Hy rimary India	GY drology Indicators cators (minimum of Surface Water (A1) High Water Table (A2 Saturation (A3) Water Marks (B1) Sediment Deposits (B Drift Deposits (B3) Algal Mat or Crust (B4 iron Deposits (B5) Surface Soil Cracks (I	f one req ) 2) 4) Aerial Ima	igery (B7)		I, 2, 4A, and Salt Crust (B1 Aquatic Invert Hydrogen Sul Dxidized Rhiz Presence of R Recent Iron R Stunted or Str	4B)  1) ebrates (B13) fide Odor (C1) ospheres along Reduced Iron (C	Except MLRA g Living Roots (C3) c4) wed Soils (C6)	Secondary Indicators (2 or more required)  Water stained Leaves (B9) (MLRA1, 2, 4A, and 4B)  Drainage Patterns (B10)  Dry-Season Water Table (C2)  Saturation Visible on Aerial Imagery  Geomorphic Position (D2)  Shallow Aquitard (D3)  X Fac-Neutral Test (D5)
IYDROLO /etland Hy rimary India	GY drology Indicators cators (minimum of Surface Water (A1) High Water Table (A2 Saturation (A3) Water Marks (B1) Sediment Deposits (B3) Algal Mat or Crust (B4 iron Deposits (B5) Surface Soil Cracks (I inundation Visible on Sparsely Vegetated C	f one req ) 2) 4) Aerial Ima	igery (B7)		I, 2, 4A, and Salt Crust (B1 Aquatic Invert Hydrogen Sul Dxidized Rhiz Presence of R Recent Iron R Stunted or Str	4B)  1) ebrates (B13) fide Odor (C1) ospheres along Reduced Iron (C) eduction in Plo	Except MLRA g Living Roots (C3) c4) wed Soils (C6)	Secondary Indicators (2 or more required)  Water stained Leaves (B9) (MLRA1, 2, 4A, and 4B)  Drainage Patterns (B10)  Dry-Season Water Table (C2)  Saturation Visible on Aerial Imagery Geomorphic Position (D2)  Shallow Aquitard (D3)  X Fac-Neutral Test (D5)  Raised Ant Mounds (D6) (LRR A)
IYDROLO Vetland Hy rimary India	GY drology Indicators cators (minimum of Surface Water (A1) High Water Table (A2 Saturation (A3) Water Marks (B1) Sediment Deposits (B3) Algal Mat or Crust (B4 iron Deposits (B5) Surface Soil Cracks (I inundation Visible on Sparsely Vegetated C vations:	f one req ) 2) 4) Aerial Ima	igery (B7) urface (B8)	1 1 S S S S S S S S S S S S S S S S S S	I, 2, 4A, and Salt Crust (B1 Aquatic Invert Hydrogen Suli Dixidized Rhiz Presence of R Recent Iron R Stunted or Str Other (Explain	4B)  1) ebrates (B13) fide Odor (C1) ospheres along Reduced Iron (C eduction in Plo	Except MLRA g Living Roots (C3) c4) wed Soils (C6)	Secondary Indicators (2 or more required)  Water stained Leaves (B9) (MLRA1, 2, 4A, and 4B)  Drainage Patterns (B10)  Dry-Season Water Table (C2)  Saturation Visible on Aerial Imagery Geomorphic Position (D2)  Shallow Aquitard (D3)  X Fac-Neutral Test (D5)  Raised Ant Mounds (D6) (LRR A)
HYDROLO Vetland Hy Trimary India X  ield Obser	GY drology Indicators cators (minimum of Surface Water (A1) High Water Table (A2 Saturation (A3) Water Marks (B1) Sediment Deposits (B3) Algal Mat or Crust (B4 ron Deposits (B5) Surface Soil Cracks (I nundation Visible on Sparsely Vegetated C vations: Present? Yes	f one req ) 2) 4) Aerial Ima	igery (B7) urface (B8) No <u>X</u>	In the second of	I, 2, 4A, and Salt Crust (B1 Aquatic Invert Hydrogen Suli Dixidized Rhiz Presence of R Recent Iron R Stunted or Str Other (Explair	4B)  1) ebrates (B13) fide Odor (C1) ospheres along deduced Iron (Ceduction in Plotessed Plants (in In Remarks)	g Living Roots (C3) C4) wed Soils (C6) D1) (LRR A)	Secondary Indicators (2 or more required)  Water stained Leaves (B9) (MLRA1, 2, 4A, and 4B)  Drainage Patterns (B10)  Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery Geomorphic Position (D2) Shallow Aquitard (D3)  X Fac-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
HYDROLO Vetland Hy Primary India  X  Vield Obser urface Water Vater Table P aturation Pre	GY drology Indicators cators (minimum of Surface Water (A1) High Water Table (A2 Saturation (A3) Water Marks (B1) Sediment Deposits (B3) Algal Mat or Crust (B4 ron Deposits (B5) Surface Soil Cracks (I nundation Visible on Sparsely Vegetated C vations: Present? Yes sent? Yes	f one req ) 2) 4) Aerial Ima	igery (B7) urface (B8)	Depth (	I, 2, 4A, and Salt Crust (B1 Aquatic Invert Hydrogen Suli Dixidized Rhiz Presence of R Recent Iron R Stunted or Str Other (Explain	4B)  1) ebrates (B13) fide Odor (C1) ospheres along Reduced Iron (C eduction in Plo	g Living Roots (C3) C4) wed Soils (C6) D1) (LRR A)	Secondary Indicators (2 or more required)  Water stained Leaves (B9) (MLRA1, 2, 4A, and 4B)  Drainage Patterns (B10)  Dry-Season Water Table (C2)  Saturation Visible on Aerial Imagery Geomorphic Position (D2)  Shallow Aquitard (D3)  X Fac-Neutral Test (D5)  Raised Ant Mounds (D6) (LRR A)
AYDROLO Vetland Hy Primary India X  Sield Obser urface Water Vater Table P aturation Pre- includes capillar	GY drology Indicators cators (minimum of Surface Water (A1) High Water Table (A2 Saturation (A3) Water Marks (B1) Sediment Deposits (B3) Algal Mat or Crust (B4 ron Deposits (B5) Surface Soil Cracks (I nundation Visible on Sparsely Vegetated C vations: Present? Yes sent? Yes	f one req	ngery (B7) urface (B8)  No	Depth (Depth (Depth (	I, 2, 4A, and Salt Crust (B1 Aquatic Invert Hydrogen Sul Dixidized Rhiz Presence of Recent Iron R Stunted or Str Other (Explain inches):	4B)  1) ebrates (B13) fide Odor (C1) ospheres along Reduced Iron (C eduction in Plot essed Plants (in in Remarks)  >16 >16 >16	Except MLRA  g Living Roots (C3) (24) wed Soils (C6) D1) (LRR A)  Wetland Hyd	Secondary Indicators (2 or more required)  Water stained Leaves (B9)  (MLRA1, 2, 4A, and 4B)  Drainage Patterns (B10)  Dry-Season Water Table (C2)  Saturation Visible on Aerial Imagery  Geomorphic Position (D2)  Shallow Aquitard (D3)  X Fac-Neutral Test (D5)  Raised Ant Mounds (D6) (LRR A)  Frost-Heave Hummocks (D7)

PHS#

5481

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

Project/Site:	Oregon City High S	cnool	City/County:	Oregon	City/Clackamas	Sampling Date:	9/10/	2014
Applicant/Owner:	Oregon City Scho	ol District			State:	OR	Sampling Point:	6
Investigator(s):	TF/CET		Section, To	ownship, Range:		S9D T3S R2E	<b>:</b>	
Landform (hillslope,	terrace, etc.:)	slope		Local relief (cor	ncave, convex, none):	none	Slope (%):	<1
Subregion (LRR):	LRR	Α	_ Lat:	45.3211	112 Long:	-122.568728	Datum:	
Soil Map Unit Name	:Borns	stedt silt loam,	, 0 to 8 percer	nt slopes	NWI Clas	ssification:	upland	
Are climatic/hydrolog	gic conditions on the site	typical for this tim	ie of year?	Yes	X No	(if no, expl	ain in Remarks)	
Are vegetation	Soil or H	lydrology	significantly dist	turbed?	Are "Normal Circumstance	es" present? (Y/N)	Y	
Are vegetation	Soil or H	lydrology	_naturally proble	matic? If needed	, explain any answers in Rer	marks.)		
CHIMMARY OF	EINDINGS Atta	ch cita man (	-howing ear	lina noint	locations, transects,	:	: oto	
Hydrophytic Vegetat		No			Ocalions, transcots,	Important react	ires, etc.	
Hydric Soil Present?	-	X No		Is Sampled Are			No. Y	
Wetland Hydrology F	•	No	x	a Wetlan	id? 155_		No <u>X</u>	
	resent					· · · · · · · · · · · · · · · · · · ·		
Remarks:								
VEGETATION -	- Use scientific na	mes of plant	s.					
		absolute	Dominant	Indicator	Dominance Test work	sheet:		
		% cover	Species?	Status				
Tree Stratum (plo					Number of Dominant Spec			
1 Quercus garr		25	X	FACU	That are OBL, FACW, or F	AC:	(	A)
2 Thuja plicata		25	<u> x</u>	FACIL	Tatal Number of Dominant			
3 Pseudotsuga 4 Salix scouler		<u>25</u> 5		FACU	Total Number of Dominant Species Across All Strata:		6 (	В)
Gaily Socialis	lalla	80	= Total Cover	170	Species Acioss All Oliane.			D)
Cooling/Chruh Stratu	· / E		- 10m. 01.		[			
Sapling/Shrub Stratu  1 Gaultheria sh		) 50	x	FACU	Percent of Dominant Speci That are OBL, FACW, or F		<b>17%</b> (/	A/B)
2 Corylus corn		20	<u>x</u>	FACU	Inacate Obc, FACTV, or a	-AC	1170	-VD)
3 Symphoricar		5		FACU	Prevalence Index Wor	 rksheet:		
4					Total % Cover of	Multiply by	".	
5					OBL Species	x 1 =		
		75	= Total Cover		FACW species	x 2 =	0	
(nlo	<b>5</b>				FAC Species	x 3 =		
Herb Stratum (plot 1 <b>Polystichum</b> :		) <b>20</b>	v	FACU	FACU Species	×4=	0	
2	<u>munituiii</u>		<u> </u>	PACC	UPL Species Column Totals	<b>0</b> (A)		В)
3								<b>3)</b>
4					Prevalence Index =B.	/A = #	:DIV/0!	
5								
6					Hydrophytic Vegetation	on Indicators:		
7					1.	- Rapid Test for Hydr	ophytic Vegetation	
8						- Dominance Test is		
		20	= Total Cover			-Prevalence Index is: -Morphological Adapt		nnortina
Woody Vine Stratum	(plot size:	)				ata in Remarks or on		pporting
1		<b>–</b> ′				- Wetland Non-Vascu		
2					P	roblematic Hydrophyt	tic Vegetation¹ (Ex	plain)
		0	= Total Cover		<sup>1</sup> Indicators of hydric soil an			
					disturbed or problematic.			
% Bare Ground in He	erh Stratum	80			Hydrophytic Vegetation	Yes	No	x
/0 Daile Oreana					Present?			
·								

Profile Descri Depth	iption: (Describe to to Matrix	he depth	needed to docur	nent the indicator or co Redox Features	onfirm the abse	nce of indicators.)	
(Inches)	Color (moist)	%	Color (moist)	% Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0-4	10YR 2/2	100	Color (moles)			Silt Loam	Tomano
4-16	10YR 3/2	85	10YR 3/4	15 C		Silt Loam	
4-10	101K 3/2	- 65	1011 3/4			Sit Loam	
		· · · · · · · · · · · · · · · · · · ·					
Type: C=Con	centration, D=Depletion	on, RM=Re	educed Matrix, CS	=Covered or Coated Sa	and Grains.		<sup>2</sup> Location: PL=Pore Lining, M=Matrix.
Hydric Soil	Indicators: (Appli	cable to	all LRRs, unle	ss otherwise noted	.)	Indic	ators for Problematic Hydric Soils <sup>3</sup> :
	Histosol (A1)			Sandy Red	ox (S5)		2 cm Muck (A10)
	Histic Epipedon (A2)			Stripped Ma	atrix (S6)		Red Parent Material (TF2)
	Black Histic (A3)			Loamy Muc	ky Mineral (F1)	(except MLRA 1)	Very Shallow Dark Surface (TF12)
	Hydrogen Sulfide (A4)	)		***************************************	yed Matrix (F2)		Other (explain in Remarks)
	Depleted Below Dark		A11)	Depleted M	, ,		
***************************************	Thick Dark Surface (A	•	,		( Surface (F6)		
	Sandy Mucky Mineral	•			ark Surface (F7)		<sup>3</sup> Indicators of hydrophytic vegetation and wetland
	Sandy Gleyed Matrix				ressions (F8)		hydrology must be present, unless disturbed or problematic.
	Layer (if present):					<del></del>	
Depth (inches	s):				·*···	Hydric Soil Pres	sent? Yes X No
Depth (inches						Hydric Soil Pres	sent? Yes <u>X</u> No
Depth (inches Remarks:		s:				Hydric Soil Pres	sent? Yes X No
Depth (inches Remarks: HYDROLO Wetland Hy	ogy		uired; check all	that apply)		Hydric Soil Pres	Secondary Indicators (2 or more required)
Depth (inches Remarks: HYDROLO Wetland Hy Primary India	IGY drology Indicators		uired; check all		ed Leaves (B9)		
Depth (inches Remarks: HYDROLO Wetland Hy Primary India	OGY drology Indicators cators (minimum of	one requ	uired; check all		ed Leaves (B9) (		Secondary Indicators (2 or more required)
Pepth (inches Remarks: HYDROLO Vetland Hy Primary India	OGY drology Indicators cators (minimum of Surface Water (A1)	one requ	uired; check all	Water stain	id 4B)		Secondary Indicators (2 or more required)  Water stained Leaves (B9)
Pepth (inches Remarks: HYDROLO Vetland Hy Primary India	drology Indicators cators (minimum of Surface Water (A1) High Water Table (A2)	one requ	uired; check all	Water stain 1, 2, 4A, an Salt Crust (	id 4B)	(Except MLRA	Secondary Indicators (2 or more required)  Water stained Leaves (B9) (MLRA1, 2, 4A, and 4B)
Pepth (inches Remarks: HYDROLO Vetland Hy Primary India	drology Indicators cators (minimum of Surface Water (A1) High Water Table (A2) Saturation (A3)	one requ	uired; check all	Water stain 1, 2, 4A, an Salt Crust ( Aquatic Inve	<b>nd 4B)</b> B11)	(Except MLRA	Secondary Indicators (2 or more required)  Water stained Leaves (B9)  (MLRA1, 2, 4A, and 4B)  Drainage Patterns (B10)  Dry-Season Water Table (C2)
Depth (inches Remarks: HYDROLO Vetland Hy Primary India	drology Indicators cators (minimum of Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1)	one requ	uired; check all	Water stain 1, 2, 4A, an Salt Crust ( Aquatic Invo	ad 4B) B11) ertebrates (B13) Sulfide Odor (C1)	(Except MLRA	Secondary Indicators (2 or more required)  Water stained Leaves (B9)  (MLRA1, 2, 4A, and 4B)  Drainage Patterns (B10)  Dry-Season Water Table (C2)
Pepth (inches	drology Indicators cators (minimum of Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B	one requ	uired; check all	Water stain 1, 2, 4A, an Salt Crust ( Aquatic Invu Hydrogen S Oxidized Ri	ad 4B) B11) ertebrates (B13) Sulfide Odor (C1)	(Except MLRA	Secondary Indicators (2 or more required)  Water stained Leaves (B9)  (MLRA1, 2, 4A, and 4B)  Drainage Patterns (B10)  Dry-Season Water Table (C2)  Saturation Visible on Aerial Imagery (6
Pepth (inches Remarks: HYDROLO Vetland Hy Primary India	drology Indicators cators (minimum of Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B.) Drift Deposits (B3)	one requ	uired; check all	Water stain 1, 2, 4A, an Salt Crust ( Aquatic Invi Hydrogen S Oxidized Ri Presence o	ad 4B) B11) ertebrates (B13) Sulfide Odor (C1) hizospheres alor	(Except MLRA ) ng Living Roots (C3) C4)	Secondary Indicators (2 or more required)  Water stained Leaves (B9) (MLRA1, 2, 4A, and 4B)  Drainage Patterns (B10)  Dry-Season Water Table (C2)  Saturation Visible on Aerial Imagery (Geomorphic Position (D2)
Depth (inches Remarks: HYDROLO Wetland Hy	drology Indicators cators (minimum of Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B Drift Deposits (B3) Algal Mat or Crust (B4	one required	uired; check all	Water stain 1, 2, 4A, an Salt Crust ( Aquatic Inve Hydrogen S Oxidized Ri Presence o Recent Iron	nd 4B) B11) ertebrates (B13) Sulfide Odor (C1) hizospheres alor f Reduced Iron (	(Except MLRA ) ng Living Roots (C3) C4) owed Soils (C6)	Secondary Indicators (2 or more required)  Water stained Leaves (B9) (MLRA1, 2, 4A, and 4B)  Drainage Patterns (B10)  Dry-Season Water Table (C2)  Saturation Visible on Aerial Imagery (Carry Company)  Geomorphic Position (D2)  Shallow Aquitard (D3)
Depth (inches Remarks: HYDROLO Wetland Hy Primary India	drology Indicators cators (minimum of Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5)	one required:  )  2)		Water stain 1, 2, 4A, an Salt Crust ( Aquatic Inv Hydrogen S Oxidized Ri Presence o Recent Iron Stunted or S	ad 4B) B11) ertebrates (B13) Sulfide Odor (C1) hizospheres alor f Reduced Iron ( a Reduction in Pl	(Except MLRA ) ng Living Roots (C3) C4) owed Soils (C6)	Secondary Indicators (2 or more required)  Water stained Leaves (B9) (MLRA1, 2, 4A, and 4B)  Drainage Patterns (B10)  Dry-Season Water Table (C2)  Saturation Visible on Aerial Imagery (Carron Company)  Geomorphic Position (D2)  Shallow Aquitard (D3)  Fac-Neutral Test (D5)
Pepth (inches	drology Indicators cators (minimum of Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B	one required ()  2)  36)  Aerial Image	gery (B7)	Water stain 1, 2, 4A, an Salt Crust ( Aquatic Inv Hydrogen S Oxidized Ri Presence o Recent Iron Stunted or S	ad 4B) B11) ertebrates (B13) Sulfide Odor (C1) hizospheres alor f Reduced Iron ( Reduction in Pl Stressed Plants	(Except MLRA ) ng Living Roots (C3) C4) owed Soils (C6)	Secondary Indicators (2 or more required)  Water stained Leaves (B9) (MLRA1, 2, 4A, and 4B)  Drainage Patterns (B10)  Dry-Season Water Table (C2)  Saturation Visible on Aerial Imagery (Ca) Geomorphic Position (D2)  Shallow Aquitard (D3)  Fac-Neutral Test (D5)  Raised Ant Mounds (D6) (LRR A)
Depth (inches Remarks: HYDROLO Wetland Hy Primary India	drology Indicators cators (minimum of Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B1) Inundation Visible on A	one required ()  2)  36)  Aerial Image	gery (B7)	Water stain 1, 2, 4A, an Salt Crust ( Aquatic Inv Hydrogen S Oxidized Ri Presence o Recent Iron Stunted or S	ad 4B) B11) ertebrates (B13) Sulfide Odor (C1) hizospheres alor f Reduced Iron ( Reduction in Pl Stressed Plants	(Except MLRA ) ng Living Roots (C3) C4) owed Soils (C6)	Secondary Indicators (2 or more required)  Water stained Leaves (B9) (MLRA1, 2, 4A, and 4B)  Drainage Patterns (B10)  Dry-Season Water Table (C2)  Saturation Visible on Aerial Imagery (Ca) Geomorphic Position (D2)  Shallow Aquitard (D3)  Fac-Neutral Test (D5)  Raised Ant Mounds (D6) (LRR A)
Pepth (inches Remarks:  HYDROLO Vetland Hy Primary India	drology Indicators cators (minimum of Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (E1) Inundation Visible on A Sparsely Vegetated C vations:	one required ()  2)  36)  Aerial Image	gery (B7) urface (B8)	Water stain 1, 2, 4A, an Salt Crust ( Aquatic Inv Hydrogen S Oxidized Ri Presence o Recent Iron Stunted or S Other (Expl	ad 4B) B11) ertebrates (B13) Sulfide Odor (C1) hizospheres alor f Reduced Iron ( Reduction in Pl Stressed Plants	(Except MLRA ) ng Living Roots (C3) C4) owed Soils (C6)	Secondary Indicators (2 or more required)  Water stained Leaves (B9) (MLRA1, 2, 4A, and 4B)  Drainage Patterns (B10)  Dry-Season Water Table (C2)  Saturation Visible on Aerial Imagery (Ca) Geomorphic Position (D2)  Shallow Aquitard (D3)  Fac-Neutral Test (D5)  Raised Ant Mounds (D6) (LRR A)
Primary India	drology Indicators cators (minimum of Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B1) Inundation Visible on A Sparsely Vegetated C vations:	one required ()  2)  36)  Aerial Image	gery (B7) urface (B8) No <u>X</u>	Water stain 1, 2, 4A, an Salt Crust ( Aquatic Inve Hydrogen S Oxidized Ri Presence o Recent Iron Stunted or S Other (Expl	ad 4B) B11) ertebrates (B13) Sulfide Odor (C1) hizospheres alor f Reduced Iron ( a Reduction in Pl Stressed Plants ain in Remarks)	(Except MLRA ) ng Living Roots (C3) C4) owed Soils (C6) (D1) (LRR A)	Secondary Indicators (2 or more required)  Water stained Leaves (B9) (MLRA1, 2, 4A, and 4B)  Drainage Patterns (B10)  Dry-Season Water Table (C2)  Saturation Visible on Aerial Imagery (Cartille Cartille Cartill
Depth (inches Remarks:  HYDROLO Wetland Hy Primary India  Field Obser Surface Water Water Table P Saturation Pre	drology Indicators cators (minimum of Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (E Inundation Visible on A Sparsely Vegetated C vations: Present? Yes resent? Yes sent? Yes	one required ()  2)  36)  Aerial Image	gery (B7) urface (B8)	Water stain 1, 2, 4A, an Salt Crust ( Aquatic Inv Hydrogen S Oxidized Ri Presence o Recent Iron Stunted or S Other (Expl	ad 4B) B11) ertebrates (B13) Sulfide Odor (C1) hizospheres alor f Reduced Iron ( Reduction in Pl Stressed Plants	(Except MLRA ) ng Living Roots (C3) C4) owed Soils (C6) (D1) (LRR A)	Secondary Indicators (2 or more required)  Water stained Leaves (B9) (MLRA1, 2, 4A, and 4B)  Drainage Patterns (B10)  Dry-Season Water Table (C2)  Saturation Visible on Aerial Imagery (Canonic Company of Canonic Company of
Primary India  Field Obser Surface Water Water Table P Saturation Pre Includes capillar	drology Indicators cators (minimum of Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B1) Inundation Visible on A Sparsely Vegetated C vations: Present? Yes resent? Yes sent? Yes y fringe)	cone required ()	gery (B7) urface (B8)  No X  No X  No X	Water stain 1, 2, 4A, an Salt Crust ( Aquatic Inv Hydrogen S Oxidized Ri Presence o Recent Iron Stunted or S Other (Expl  Depth (inches): Depth (inches):	ad 4B) B11) ertebrates (B13) Sulfide Odor (C1) hizospheres alor f Reduced Iron ( n Reduction in Pl Stressed Plants ain in Remarks)  >16  >16	(Except MLRA ) ng Living Roots (C3) C4) owed Soils (C6) (D1) (LRR A)  Wetland Hyd	Secondary Indicators (2 or more required)  Water stained Leaves (B9) (MLRA1, 2, 4A, and 4B)  Drainage Patterns (B10)  Dry-Season Water Table (C2)  Saturation Visible on Aerial Imagery (Carrent Company Compa
Field Obser Surface Water Water Table P Saturation Pre Includes capillar	drology Indicators cators (minimum of Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B1) Inundation Visible on A Sparsely Vegetated C vations: Present? Yes resent? Yes sent? Yes y fringe)	cone required ()	gery (B7) urface (B8)  No X  No X  No X	Water stain 1, 2, 4A, an Salt Crust ( Aquatic Inve Hydrogen S Oxidized Ri Presence o Recent Iron Stunted or S Other (Expl	ad 4B) B11) ertebrates (B13) Sulfide Odor (C1) hizospheres alor f Reduced Iron ( n Reduction in Pl Stressed Plants ain in Remarks)  >16  >16	(Except MLRA ) ng Living Roots (C3) C4) owed Soils (C6) (D1) (LRR A)  Wetland Hyd	Secondary Indicators (2 or more required)  Water stained Leaves (B9) (MLRA1, 2, 4A, and 4B)  Drainage Patterns (B10)  Dry-Season Water Table (C2)  Saturation Visible on Aerial Imagery (Carteria)  Geomorphic Position (D2)  Shallow Aquitard (D3)  Fac-Neutral Test (D5)  Raised Ant Mounds (D6) (LRR A)  Frost-Heave Hummocks (D7)
Primary India  Field Obser Surface Water Water Table P Saturation Pre Includes capillar	drology Indicators cators (minimum of Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B1) Inundation Visible on A Sparsely Vegetated C vations: Present? Yes resent? Yes sent? Yes y fringe)	cone required ()	gery (B7) urface (B8)  No X  No X  No X	Water stain 1, 2, 4A, an Salt Crust ( Aquatic Inv Hydrogen S Oxidized Ri Presence o Recent Iron Stunted or S Other (Expl  Depth (inches): Depth (inches):	ad 4B) B11) ertebrates (B13) Sulfide Odor (C1) hizospheres alor f Reduced Iron ( n Reduction in Pl Stressed Plants ain in Remarks)  >16  >16	(Except MLRA ) ng Living Roots (C3) C4) owed Soils (C6) (D1) (LRR A)  Wetland Hyd	Secondary Indicators (2 or more required)  Water stained Leaves (B9) (MLRA1, 2, 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)  Frost-Heave Hummocks (D7)

st Region	
st Kegion	5481
9/10	0/2014
Sampling Point:	7
<u> </u>	
Slope (%):	1
Datum:	
upland lain in Remarks)	
<u> </u>	•
ures, etc.	
No X	
NO	-
2	(A)
7	(B)
•	.(5)
29%	(A/B)
-	-
<u>/:</u> O	
0	-
0	•
0	•
0	
0	(B)
#DIV/0!	
	•
ophytic Vegetatio	on

Project/Site:	Oregon City	High Scl	hool	City/County:	Oregor	n City/Clackamas	Sampling Date:	9/10	/2014
Applicant/Owner:	Oregon City	y School	District			State:	- : <u>OR</u>	Sampling Point:	7
Investigator(s):	т	F/CET		Section, To	ownship, Range:		S9D T3S R2E	<b>=</b>	
Landform (hillslope, t	terrace, etc.:)	slope			Local relief (co	ncave, convex, none):	none	Slope (%):	1
Subregion (LRR):	•	LRR A		Lat:	45.320	)12 Long:	-122.568792	Datum:	
Soil Map Unit Name:	ı;	Bornsto	edt silt loam,	- , 0 to 8 percer	nt slopes	NWI CI	lassification:	upland	
Are climatic/hydrolog					Yes			lain in Remarks)	
Are vegetation	-		•	significantly dist	turbed?	Are "Normal Circumstar		Y	
Are vegetation		•		•		d, explain any answers in R		<u>.</u>	
				•		locations, transect	,	ures, etc.	
-lydrophytic Vegetati		Yes	No	X					
Hydric Soil Present?	<b>?</b>	Yes	No	<u>x</u>	Is Sampled Ai	V	i .	No X	
Wetland Hydrology F		Yes	No		4	nu:		·i	
Remarks:									
VEGETATION -	- I lee scient	ific nam	ees of plants	<u> </u>		_			
TOLITA IOLI	. 030 30101.1.	no nan.	absolute	Dominant	Indicator	Dominance Test wo	 orksheet:		
			% cover	Species?	Status		The state of the s		
Tree Stratum (plot	ot size:3	30 )		,		Number of Dominant Sp	ecies		
1 Pseudotsuga	menziesii		50	X	FACU	That are OBL, FACW, or	r FAC:	2	(A)
2 Salix scouleri	iana		20	X	FAC	•	_		
3						Total Number of Domina	int		
4						Species Across All Strate	a:	7	(B)
		•	70	= Total Cover					
Sapling/Shrub Stratu	um (plot size:	5	)			Percent of Dominant Spe	ecies		
1 Amelanchier	alnifolia		30	X	FACU	That are OBL, FACW, o	or FAC:	29%	(A/B)
2 Corylus corn	uta		30	X	FACU				
3 Gaultheria sh	nallon		20	X .	FACU	Prevalence Index W	orksheet:		
4 Rosa sp.			2		(FAC)	Total % Cover of	Multiply by	<u>r:</u>	
5 Symphoricar	pos albus		5		FACU	OBL Species	x 1 =	0	
		,	87	= Total Cover		FACW species	x 2 =	0	
, , , , , , , , , , , , , , , , , , ,	* ·!== ·	- \				FAC Species	x 3 =	0	
Herb Stratum (plot		5 )	-	v	<b>540</b>	FACU Species	x 4 =	0	
1 Carex leptopo	oda	<u> </u>		<u> </u>	FAC	UPL Species	x 5 =		(5)
3						Column Totals	(A)	0	(B)
4			<u> </u>		<del></del>	Prevalence Index =	-D/A - #	*DIV/0!	
5		<del></del> -	·			Plevalence index -	=B/A = #	DIV/U:	
6			·			Hydrophytic Vegeta	tion Indicators:		
7		<del></del> -	<del></del> .			nyuropriyac vegeta	1- Rapid Test for Hydr	onhytic Vegetatio	<b>n</b>
8							2- Dominance Test is:		3
		<del></del> -	·	= Total Cover			3-Prevalence Index is:		
		-		- 10101 00101			4-Morphological Adapt		upporting
Noody Vine Stratum	ը (plot size:	5	)				data in Remarks or on		
1 Rubus ursinu	.s		15	X	FACU		5- Wetland Non-Vascu	ılar Plants <sup>1</sup>	
2							Problematic Hydrophy	tic Vegetation¹ (Ex	kplain)
·			15	= Total Cover		<sup>1</sup> Indicators of hydric soil	and wetland hydrology	must be present,	unless
		-				disturbed or problematic.			
						Hydrophytic			
% Bare Ground in He		0				Vegetation	Yes	No	Х

SOIL			PHS #	54	181			Sampling F	Point:	7
	ription: (Describe to t Matrix	he depth	needed to docume			nfirm the abse	nce of indicators.)			
Depth (Inches)	Color (moist)	%	Color (moist)	%	x Features Type <sup>1</sup>	Loc <sup>2</sup>	Texture		Remarks	
0-4	7.5YR 3/2	100	Goldi (Moldi)		.,,,-		Silt Loam	***************************************	(Ciliains	
4-18	7.5YR 3/3	100					Silt Loam			
M-10	. 1.01K 0/0	100			***************************************	Y	JIII LUGIII			
			-					<u> </u>	-	***************************************
							·			
1Tuna: C=Cor	. ————————————————————————————————————	DM-R	advand Matrix CS-	Cavered o	- Cooted San	d Grains		<sup>2</sup> Location: PL=Pore Li	-: M-Matriy	
	ncentration, D=Depletion   Indicators: (Appli						Indica	ators for Problemat		
	Histosol (A1)	000.0 10	un =1010, unio		Sandy Redox		maio		ıck (A10)	
	Histic Epipedon (A2)				Stripped Mate				ent Material (TF2)	
	Black Histic (A3)				• • • • • • • • • • • • • • • • • • • •	y Mineral (F1)(	except MLRA 1)		allow Dark Surface (	TF12)
	Hydrogen Sulfide (A4)	١				ed Matrix (F2)	ondept maner 1,		xplain in Remarks)	11 12)
	Depleted Below Dark		A11)		Depleted Mat				,	
	Thick Dark Surface (A	•	,		Redox Dark S	, ,				
	Sandy Mucky Mineral	•				rk Surface (F7)		<sup>3</sup> Indicators of hydroph		
	Sandy Gleyed Matrix				Redox Depre		hydrology must be present, unless disturbed or problematic.			ed or
Restrictive	Layer (if present):				-					
	Layer (ii process,									
Type: Depth (inche	·c)·				-		Hydric Soil Pres		No.	v
							Hydric 30n Fres	Sentries	No	<u>x</u>
Remarks:										
	OGY									
HYDROLO										
	/drology Indicators	s:								
Wetland Hy	drology Indicators		uired: check all th	at apply)				Secondary Indicat	ors (2 or more rea	uired)
Wetland Hy	drology Indicators		uired; check all th			Leaves (B9)	(Except MLRA	Secondary Indicat	•	uired)
Wetland Hy Primary Indi	ydrology Indicators icators (minimum of Surface Water (A1)	one requ	uired; check all th			d Leaves (B9) <b>(</b>	Except MLRA	Water st	ors (2 or more requalment to the contract of t	uired)
Wetland Hy Primary Indi	ydrology Indicators icators (minimum of Surface Water (A1) High Water Table (A2	one requ	uired; check all th		Water stained	14B)	Except MLRA	Water si	ained Leaves (B9) 1, 2, 4A, and 4B)	uired)_
Wetland Hy Primary Indi	ydrology Indicators icators (minimum of Surface Water (A1)	one requ	uired; check all th		Water stained 1, 2, 4A, and Salt Crust (B	14B)	•	Water si (MLRA	tained Leaves (B9)	, <u>, , , , , , , , , , , , , , , , , , </u>
Wetland Hy Primary Indi	ydrology Indicators icators (minimum of Surface Water (A1) High Water Table (A2 Saturation (A3)	one requ	uired; check all th		Water stained  1, 2, 4A, and  Salt Crust (B <sup>2</sup> Aquatic Inver	1 <b>4B)</b> 11)	,	Water st (MLRA  Drainage  Dry-Sea	tained Leaves (B9)  1, 2, 4A, and 4B)  e Patterns (B10)	2)
Wetland Hy Primary Indi	ydrology Indicators icators (minimum of Surface Water (A1) High Water Table (A2 Saturation (A3) Water Marks (B1)	one requ	uired; check all th		Water stained 1, 2, 4A, and Salt Crust (B Aquatic Inver Hydrogen Su	14B) 11) tebrates (B13)	,	Water st (MLRA Drainage Dry-Sea	tained Leaves (B9)  1, 2, 4A, and 4B)  e Patterns (B10)  son Water Table (C2	2)
Wetland Hy Primary Indi	icators (minimum of Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B	one requ	uired; check all th		Water stained <b>1, 2, 4A, and</b> Salt Crust (B Aquatic Inver Hydrogen Su Oxidized Rhiz	14B) 11) tebrates (B13)	ng Living Roots (C3)	Water st (MLRA) Drainage Dry-Sea Saturate Geomor	tained Leaves (B9)  1, 2, 4A, and 4B)  e Patterns (B10)  son Water Table (C2  on Visible on Aerial In	2)
Wetland Hy Primary Indi	/drology Indicators icators (minimum of Surface Water (A1) High Water Table (A2 Saturation (A3) Water Marks (B1) Sediment Deposits (B	one requ	uired; check all th		Water stained  1, 2, 4A, and  Salt Crust (B'  Aquatic Inver  Hydrogen Su  Oxidized Rhiz  Presence of F	14B) 11) tebrates (B13) ilfide Odor (C1) zospheres alon Reduced Iron (0	ng Living Roots (C3)	Water st (MLRA: Drainage Dry-Sea Saturatie Geomor Shallow	lained Leaves (B9)  1, 2, 4A, and 4B)  e Patterns (B10)  son Water Table (C2  on Visible on Aerial In  phic Position (D2)	2)
Wetland Hy Primary Indi	icators (minimum of Surface Water (A1) High Water Table (A2 Saturation (A3) Water Marks (B1) Sediment Deposits (B Drift Deposits (B3) Algal Mat or Crust (B4	one required	uired; check all th		Water stained 1, 2, 4A, and Salt Crust (B' Aquatic Inver Hydrogen Su Oxidized Rhiz Presence of I Recent Iron F	14B) 11) tebrates (B13) ilfide Odor (C1) zospheres alon Reduced Iron (0	ng Living Roots (C3) C4) owed Soils (C6)	Water st (MLRA) Drainage Dry-Sea Saturatie Geomor Shallow Fac-Neu	tained Leaves (B9) 1, 2, 4A, and 4B) e Patterns (B10) son Water Table (C2 on Visible on Aerial In phic Position (D2) Aquitard (D3)	nagery (C9)
Wetland Hy Primary Indi	icators (minimum of Surface Water (A1) High Water Table (A2 Saturation (A3) Water Marks (B1) Sediment Deposits (B Drift Deposits (B3) Algal Mat or Crust (B4	one requiped (2) (2) (3) (3) (3) (3) (3) (3) (4) (4) (4) (4) (4) (4) (4) (4) (4) (4			Water stained 1, 2, 4A, and Salt Crust (B- Aquatic Inver Hydrogen Su Oxidized Rhi; Presence of Recent Iron F Stunted or St	14B) 11) tebrates (B13) lifide Odor (C1) zospheres alon Reduced Iron (G	ng Living Roots (C3) C4) owed Soils (C6)	Water st (MLRA) Drainage Dry-Sea Saturatie Geomor Shallow Fac-Neu Raised	tained Leaves (B9)  1, 2, 4A, and 4B)  e Patterns (B10)  son Water Table (C2)  on Visible on Aerial In phic Position (D2)  Aquitard (D3)  utral Test (D5)	e) magery (C9)

Inundation Visible on Aerial Imagery (B7)			Other (Expla	in in Remarks)	Frost-Heav	Frost-Heave Hummocks (D7)		
Sparsely V	egetated Co	ncave Surface (B	8)					
ield Observations:								
urface Water Present?	Yes _	No_	Х	Depth (inches):				
Vater Table Present?	Yes _	No	Х	Depth (inches):	>18	Wetland Hydrology Present?		
aturation Present? ncludes capillary fringe)	Yes _	No	Х	Depth (inches):	>18	Yes	NoX	
escribe Recorded Data	(stream gau	ge, monitoring we	II, aerial	photos, previous inspection	ons), if availab	le:		
					·			

Remarks:

PHS# st Region	5481
_	0/2014
Sampling Point:	
E	
Slope (%):	1
upland	
olain in Remarks)	
<u> </u>	
tures, etc.	
No X	
1	(A)
4	(B)
	.(5)
25%	(A/B)
	· -/
<u>y:</u>	
0	.
0	
0	•
0	
0	(B)
#DIV/0!	

#### Project/Site: Oregon City High School City/County: Oregon City/Clackamas Sampling Date: Applicant/Owner: **Oregon City School District** State: OR Section, Township, Range: Investigator(s): TF/CET S9D T3S R2 Landform (hillslope, terrace, etc.:) Slope Local relief (concave, convex, none): None LRR A Lat: 45.319085 Long: -122.568236 Subregion (LRR): Soil Map Unit Name: Bornstedt silt loam, 0 to 8 percent slopes NWI Classification: No Are climatic/hydrologic conditions on the site typical for this time of year? Χ (if no, exp significantly disturbed? Are vegetation Soil or Hydrology Are "Normal Circumstances" present? (Y/N) 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 feat Hydrophytic Vegetation Present? No Χ Is Sampled Area within Χ Hydric Soil Present? Yes No a Wetland? Wetland Hydrology Present? No Remarks: VEGETATION - Use scientific names of plants. absolute Indicator Dominant Dominance Test worksheet: Species? Status % cover Tree Stratum (plot size: Number of Dominant Species That are OBL, FACW, or FAC: Total Number of Dominant Species Across All Strata: = Total Cover Sapling/Shrub Stratum (plot size: 5 Percent of Dominant Species 1 Crataegus monogyna FAC That are OBL, FACW, or FAC: Prevalence Index Worksheet: Total % Cover of Multiply b **OBL Species** x 1 = 5 = Total Cover FACW species x 2 = **FAC Species** x 3 = Herb Stratum (plot size: FACU Species x4 =1 Pteridium aquilinum 35 Х **FACU UPL Species** x 5 = 2 Dactylis glomerata **FACU** 20 Column Totals 0 3 Anthoxanthum odoratum 20 Χ **FACU** 4 Hypericum perforatum 5 **FACU** Prevalence Index =B/A = 5 Leucanthemum vulgare 10 **FACU** 6 Festuca arundinacea 10 FAC Hydrophytic Vegetation Indicators: 1- Rapid Test for Hydrophytic Vegetation 2- Dominance Test is >50% 100 3-Prevalence Index is ≤ 3.01 = Total Cover 4-Morphological Adaptations<sup>1</sup> (provide supporting Woody Vine Stratum (plot size: data in Remarks or on a separate sheet) 5- Wetland Non-Vascular Plants1 Problematic Hydrophytic Vegetation<sup>1</sup> (Explain) 0 = Total Cover indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Hydrophytic 0 Vegetation Yes \_\_\_\_ Χ % Bare Ground in Herb Stratum

Present?

Remarks:

WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, and Coa

Profession processor in the depth revealed to document the indicator or confirm the absence of indicators.) Depth Matrix (Inches) Color (molet) % Color (moletators: (Application; (Applic	SOIL			Р	HS#_	548	<u>1</u>			Sampling Point:	8
Color (moist)   Side   Color (moist)   Color (moist)   Side   Color (moist)   Color (moi	Profile Descr	iption: (Desc	ribe to the de	pth needed t	o docume	ent the indic	ator or co	nfirm the abse	ence of indicators.)		
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.  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 Problematic Hydric Soils?  Temperature (A)  Sandy Rodox (A)  Loamy Mucky Mineral (F1)  Loamy Mucky Mineral (F1)  Loamy Mucky Matrix (F2)  Chery Ceptain in Remarks)  Depleted Dark Surface (F7)  Thick Dark Surface (A12)  Sandy Rodox Dark Surface (F7)  Thick Dark Surface (A12)  Sandy Rodox Matrix (S4)  Redox Dark Surface (F7)  Thick Dark Surface (A12)  Sandy Rodox (S5)  Redox Dark Surface (F7)  Thick Dark Surface (A12)  Sandy Rodox Matrix (S4)  Redox Dark Surface (F7)  Type: C=Concentration, D=Depletion Dark Surface (F7)  Type: C=Concentration, D=Depletion, D=Deple	· ·							. 3			
Type: C=Concentration. D=Dupleton, RM=Reduced Matrix. CS=Covered or Coated Sand Grains.  Type: C=Concentration. D=Dupleton, RM=Reduced Matrix. CS=Covered or Coated Sand Grains.  Type: C=Concentration. D=Dupleton, RM=Reduced Matrix. CS=Covered or Coated Sand Grains.  Thick Capitation (A2)  Histo Epipedon (A2)  Stiftpeed Matrix (S8)  Black Hato (A3)  Learny Mucky Mineral (F1)(except MLRA 1)  Lyery Shallow Dark Surface (TF12)  Hydrogen Suifide (A4)  Loarny Mucky Mineral (F1)(except MLRA 1)  Uvery Shallow Dark Surface (TF12)  Thick Dark Surface (A12)  Redox Dark Surface (F8)  Sandy Mucky Mineral (S1)  Depleted Matrix (F2)  Sandy Mucky Mineral (S1)  Depleted Dark Surface (F8)  Sandy Mucky Mineral (S1)  Depleted Dark Surface (F8)  Redox Daynssalons (F8)  *Indicators of hydrophytic vegetation and vertical hydrology must be present, unless disturbed or problematic.  *Retrictive Layer (If present):  **POPEDIOGY**  **Wetland Hydrology Indicators:  **Primary Indicators (minimum of one required; check all that apply)  Secondary Indicators (2 or more required)  **Primary Indicators (minimum of one required; check all that apply)  Surface Water (A12)  Saturation (A3)  Saturation (A4)  Presence of Resuced into (C4)  Saturation (A3)  Saturatio			<u> </u>		(moist)		Type'	Loc²		Remarks	
Hydric Soll Indicators: (Applicable to all LRRs, unless otherwise noted.) Histose (A1) Histose (A2) Histose (A2) Black Histo (A3) Loamy Mucky Mineral (F1) (except MLRA1) Depleted Berow Dark Surface (A11) Depleted Berow Dark Surface (A11) Depleted Berow Dark Surface (A11) Depleted Berow Dark Surface (A12) Against Surface (A12) Sandy Mucky Mineral (F1) (except MLRA1) Depleted Berow Dark Surface (A12) Phydrogen Sulfide (A4) Depleted Dark Surface (A12) Depleted Dark Surface (A12) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Sandy Gleyed Matrix (S6) Sandy Gleyed Ma	0-16	10YR	3/3 10	<u> </u>					Silt Loam		
Histosol (A1) Sandy Redox (S5) Service Problematic Hydric Soils*:  Histosol (A1) Sandy Redox (S5) Service Mission (A2) Sityped Matrix (S8) Red Parent Material (TF2)  Histosol (A1) Loamy Mucky Mineral (F1) (except MLRA 1) Very Shallow Dark Surface (TF12)  Depleted Black Histic (A3) Loamy Gleyed Matrix (F2) Other (explain in Remarks)  Depleted Black Histic (A2) Depleted Matrix (F2) Other (explain in Remarks)  Depleted Black Work Surface (A12) Peeleted Matrix (F3) Annual Matrix (F3) Annual Matrix (F3) Annual Matrix (F3) Annual Matrix (F4) Ann											
Histosol (A1) Sandy Redox (S5) Service Problematic Hydric Soils*:  Histosol (A1) Sandy Redox (S5) Service Mission (A2) Sityped Matrix (S8) Red Parent Material (TF2)  Histosol (A1) Loamy Mucky Mineral (F1) (except MLRA 1) Very Shallow Dark Surface (TF12)  Depleted Black Histic (A3) Loamy Gleyed Matrix (F2) Other (explain in Remarks)  Depleted Black Histic (A2) Depleted Matrix (F2) Other (explain in Remarks)  Depleted Black Work Surface (A12) Peeleted Matrix (F3) Annual Matrix (F3) Annual Matrix (F3) Annual Matrix (F3) Annual Matrix (F4) Ann											
Histosol (A1) Sandy Redox (S5) Service Problematic Hydric Soils*:  Histosol (A1) Sandy Redox (S5) Service Mission (A2) Sityped Matrix (S8) Red Parent Material (TF2)  Histosol (A1) Loamy Mucky Mineral (F1) (except MLRA 1) Very Shallow Dark Surface (TF12)  Depleted Black Histic (A3) Loamy Gleyed Matrix (F2) Other (explain in Remarks)  Depleted Black Histic (A2) Depleted Matrix (F2) Other (explain in Remarks)  Depleted Black Work Surface (A12) Peeleted Matrix (F3) Annual Matrix (F3) Annual Matrix (F3) Annual Matrix (F3) Annual Matrix (F4) Ann					<del></del>						
Histosol (A1)											
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)  Histosol (A1)  Histosol (A2)  Histosol (A2)  Histosol (A2)  Black Histos (A3)  Loamy Mukey Mineral (F1) (except MLRA 1)  Depleted Bear Dark Surface (A11)  Thick Dark Surface (A12)  Sandy Redox (B5)  Depleted Bear Dark Surface (A11)  Depleted Bear Dark Surface (A12)  Sandy Mucky Mineral (F1) (except MLRA 1)  Thick Dark Surface (A12)  Sandy Mucky Mineral (S1)  Sandy Mucky Mineral (S1)  Sandy Gleyed Matrix (F2)  Depleted Dark Surface (A12)  Redox Dark Surface (F7)  Sandy Gleyed Matrix (F3)  Period (F7)  Redox Depressions (F8)  Restrictive Layer (if present):  Type:  Depleted Dark Surface (F8)  Period (R1)  Restrictive Layer (F8)  Period (R1)  Restrictive Layer (F8)  Period (R1)  Restrictive Layer (F8)  Restrictive Layer (F8)  Restrictive Layer (F8)  Restrictive Layer (F9)  Restrictive Layer (F8)  Restrictive La		· <del></del>								-	
Histosol (A1) Histo Epipedon (A2) Histo Epipedon (A2) Stripped Matrix (S6) Red Parent Material (TF2) Hydrogen Sulfide (A4) Loamy Mucky Mineral (F1) (except MLRA 1) Pepteted Below Dark Surface (A11) Depleted Below Dark Surface (A11) Depleted Matrix (F2) Thick Dark Surface (A12) Redox Dark Surface (F6) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (S1) Redox Dark Surface (F6) Redox Dark Surface (F7) Redox Dark Su	<u></u>										•
Histic Epipedon (A2)  Black Histic (A3)  Loamy Mucky Mineral (F1) (except MLRA 1)  Loamy Mucky Mineral (F1) (except MLRA 1)  Depleted Below Dark Surface (A11)  Depleted Below Dark Surface (A12)  Redox Dark Surface (F5)  Sandy Mucky Mineral (S1)  Sandy Gleyed Matrix (F3)  Pepleted Dark Surface (F5)  Redox Dark Surface (F7)  Perlot Dark Surface (A12)  Pepleted Dark Surface (F7)  Redox Depressions (F8)  Phydric Soil Present? Yes No X  Weterarks:  **PTIMARY Indicators (minimum of one required; check all that apply)  Surface Water (A1)  High Water Table (A2)  Saturation (F3)  Satu	lydric Soil			e to all LRR	s, unles		•		Indica	•	
Black Histic (A3)		` '					-				
Hydrogen Sulfide (A4) Depleted Below Dark Surface (A11) Depleted Matrix (F2) Depleted Matrix (F3) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Redox Depressions (F8) Redo		Histic Epiped	on (A2)					, ,			
Depleted Below Dark Surface (A12) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Redox Depressions (F8) Redox Dark Surface (F7) Redox Depressions (F8) Reconstructions (F8) Redox Dark Surface (F7) Redox Depressions (F8) Redox Dark Surface (F7) Redox Dark Surface (F7) Redox Dark Surface (F7) Redox Dark Surface (F8) Redox Dark Surf		Black Histic (	A3)			L	oamy Muck	(y Mineral (F1)	(except MLRA 1)	Very Shallow Dai	rk Surface (TF12)
Thick Dark Surface (A12) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Depleted Dark Surface (F7) Redox Depressions (F8)  Peterticitive Layer (if present):  ype:    Pupth (inches):   Pupth (inches):		Hydrogen Su	lfide (A4)				oamy Gley	ed Matrix (F2)		Other (explain in	Remarks)
Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Sandy Gleyed Matrix (S4) Redox Depressions (F8) Redox Depression		Depleted Bel	ow Dark Surfa	ce (A11)		D	epleted Ma	atrix (F3)			
Sandy Gleyed Matrix (S4) Redox Depressions (F8) pydrology must be present, unless disturbed or problematic.  Redox Depressions (F8) problematic.  Redox Depress		Thick Dark S	urface (A12)			R	ledox Dark	Surface (F6)		3)	
testrictive Layer (if present):    Popth (inches):		Sandy Mucky	Mineral (S1)			D	epleted Da	rk Surface (F7	)		
Pype:   Pepth (inches):		Sandy Gleye	d Matrix (S4)			R	edox Depre	essions (F8)		problematic.	
Vertland Hydrology Indicators:  Varimary Indicators (minimum of one required; check all that apply)  Surface Water (A1)  High Water Table (A2)  Aquatic Invertebrates (B1)  Saturation (A3)  Salt Crust (B11)  Aquatic Invertebrates (B13)  Driy-Season Water Table (C2)  Sediment Deposits (B2)  Presence of Reduced Iron (C4)  Algal Mat or Crust (B4)  Presence of Reduced Iron (C4)  Surface Soil Cracks (B6)  Surface Soil Cracks (B8)  Dry-Season Water Table (C2)  Saturation Visible on Aerial Imagery (B7)  Other (Explain in Remarks)  Frost-Heave Hummocks (D7)  Sparsely Vegetated Concave Surface (B8)  Vertical Observations:  Variation Present?  Ves  No  X  Depth (inches):  Ves  Vertical Have Auditations  Vertical Hydrogoge Present?  Ves  No  X  Depth (inches):  Surface Soil Cracks (Pa)  Ves  No  X  Depth (inches):  Vertical Caves (B9)  Ves  No  X  Depth (inches):  Vertical Caves (B9)  Ves  No  X  Depth (inches):  Vertical Caves (B9)  Ves  No  X  Depth (inches):  Ves  No  X  Depth (inches):  Ves  No  X  Depth (inches):  Vertical Caves (B9)  Ves  No  X  No  X  Depth (inches):  Vertical Caves (B9)  Ves  No  X  No  X  Depth (inches):  Vertical Caves (B9)  Ves  No  X  No  X  Depth (inches):  Vertical Caves (B9)  Ves  No  X  No  X  Depth (inches):  Vertical Caves (B9)  Ves  No  X  No  X  Depth (inches):  Vertical Caves (B9)  Ves  No  X  Depth (inches):  Vertical Caves (B9)  Ves  No  X  No  X  Depth (inches):  Vertical Caves (B9)  Ves  No  X  Ves  No  X  Vertical Caves (B9)  Ves  Vertical Caves (B9)  Vertical Cave		s):							Hydric Soil Pres	sent? Yes	No X
Primary Indicators (minimum of one required; check all that apply)  Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water stained Leaves (B9) (Except MLRA  High Water Table (A2)  Saturation (A3)  Salt Crust (B11)  Water Marks (B1)  Sediment Deposits (B2)  Drift Deposits (B3)  Algal Mat or Crust (B4)  Iron Deposits (B5)  Surface Soil Cracks (B6)  Surface Soil Cracks (B6)  Inundation Visible on Aerial Imagery (B7)  Sparsely Vegetated Concave Surface (B8)  Water Marks (B7)  Surface Water Present?  Yes  No  X  Depth (inches):  Vater Table Present?  Yes  No  X  Depth (inches):  Surface Water MLRA  Water stained Leaves (B9) (Except MLRA  No La Aquation Present MLRA  Water Stained Leaves (B9) (Except MLRA  Water Stained Leaves (B9) (Except MLRA  Water Stained Leaves (B9) (Except MLRA  No La Aquation Present MLRA  Water Stained Leaves (B9) (Except MLRA  Water Stained Le		s):							Hydric Soil Pres	sent? Yes	No X
Surface Water (A1) High Water Table (A2) Saturation (A3) Salt Crust (B11) Drainage Patterns (B10) Water Marks (B1) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Sediment Deposits (B3) Oxidized Rhizospheres along Living Roots (C3) Geomorphic Position (D2) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Surface Soil Cracks (B6) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8) Vater Table Present? Yes No X Depth (inches): Vater Table Present? Yes No X Depth (inches): Surface Water Present? Yes No X Surface Water Present? Yes No X Surfa	Remarks:								Hydric Soil Pres	sent? Yes	No X
High Water Table (A2)  Saturation (A3)  Salt Crust (B11)  Drainage Patterns (B10)  Dry-Season Water Table (C2)  Sediment Deposits (B2)  Drift Deposits (B3)  Aquatic Invertebrates (B13)  Dry-Season Water Table (C2)  Saturation Visible on Aerial Imagery  Drift Deposits (B5)  Algal Mat or Crust (B4)  Presence of Reduced Iron (C4)  Surface Soil Cracks (B6)  Surface Soil Cracks (B6)  Inundation Visible on Aerial Imagery (B7)  Sparsely Vegetated Concave Surface (B8)  Field Observations:  Water Table Present? Yes  No  X  Depth (inches):  Vater Table Present? Yes  No  X  Depth (inches):  Drainage Patterns (B10)  Drainage Patterns (B10)  Dry-Season Water Table (C2)  Saturation Visible on Aerial Imagery  (B1)  Saturation Visible on Aerial Imagery  (B7)  Other (Explain in Remarks)  Prost-Heave Hummocks (D7)  Wetland Hydrology Present?  Yes  No  X  Depth (inches):  Saturation Present? Yes  No  X  Depth (inches):  Saturation Present? Yes  No  X  Depth (inches):  Saturation Present? Yes  No  X  Depth (inches):  Saturation Present? Yes  No  X  Depth (inches):  Saturation Present?  Yes  No  X  N	Remarks:	OGY	dicators:						Hydric Soil Pres	sent? Yes	No X
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 Drift Deposits (B3) Oxidized Rhizospheres along Living Roots (C3) Geomorphic Position (D2) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Shallow Aquitard (D3) Iron Deposits (B5) Recent Iron Reduction in Plowed Soils (C6) Fac-Neutral Test (D5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) Frost-Heave Hummocks (D7)  ield Observations:  urface Water Present? Yes No X Depth (inches): Ater Table Present? Yes No X Depth (inches):  present (Inches): Present (Inches): Present? Yes No X Depth (inches): Present Present? Yes No X D	emarks: IYDROLO Vetland Hy	OGY drology Ind		required; ch	neck all th	nat apply)			Hydric Soil Pres		
Water Marks (B1)  Sediment Deposits (B2)  Drift Deposits (B3)  Aquatic Invertebrates (B13)  Dry-Season Water Table (C2)  Saturation Visible on Aerial Imagery  Drift Deposits (B3)  Oxidized Rhizospheres along Living Roots (C3)  Algal Mat or Crust (B4)  Presence of Reduced Iron (C4)  Shallow Aquitard (D3)  Fac-Neutral Test (D5)  Surface Soil Cracks (B6)  Stunted or Stressed Plants (D1) (LRR A)  Raised Ant Mounds (D6) (LRR A)  Inundation Visible on Aerial Imagery (B7)  Sparsely Vegetated Concave Surface (B8)  ield Observations:  urface Water Present? Yes No X Depth (inches):  Arter Table Present? Yes No X Depth (inches):  aturation Present? Yes No X Depth (inches):  > 16  Wetland Hydrology Present?  Yes No X  Presence of Reduced Iron (C4)  Shallow Aquitard (D3)  Fac-Neutral Test (D5)  Recent Iron Reduction in Plowed Soils (C6)  Fac-Neutral Test (D5)  Fac-Neutral T	emarks: IYDROLO	OGY drology Indicators (mini Surface Water	mum of one er (A1)	required; ch	neck all th					Secondary Indicators (2 o	or more required) naves (B9)
Sediment Deposits (B2)  Drift Deposits (B3)  Algal Mat or Crust (B4)  Presence of Reduced Iron (C4)  Shallow Aquitard (D3)  Recent Iron Reduction in Plowed Soils (C6)  Surface Soil Cracks (B6)  Inundation Visible on Aerial Imagery (B7)  Sparsely Vegetated Concave Surface (B8)  ield Observations:  urface Water Present? Yes  No X  Depth (inches):  Attention Poor (C1)  Saturation Visible on Aerial Imagery (B7)  Depth (inches):  Saturation Present? Yes  No X  Depth (inches):  Saturation Present?  Saturation Present? Yes  No X  Depth (inches):  Saturation Present?  Saturation Present? Yes  No X  Depth (inches):  Saturation Present?  Saturation Present? Yes  No X  Depth (inches):  Saturation Present? Yes  No X	emarks: IYDROLO Vetland Hy	OGY drology Indicators (mini Surface Wate High Water T	mum of one er (A1) able (A2)	required; ch	neck all th	\\\ 1,	, 2, 4A, and	i 4B)		Secondary Indicators (2 o  Water stained Le (MLRA1, 2, 4A,	r more required) aves (B9) and 4B)
Drift Deposits (B3) Oxidized Rhizospheres along Living Roots (C3) Geomorphic Position (D2) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Shallow Aquitard (D3) Iron Deposits (B5) Recent Iron Reduction in Plowed Soils (C6) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8)  ield Observations: urface Water Present? Yes No X Depth (inches): Attention Present? Yes No X Depth (inches): Social Cracks (B3) Presence of Reduced Iron (C4) Shallow Aquitard (D3) Fac-Neutral Test (D5) Fac-Neutra	emarks: IYDROLO Vetland Hy	OGY cators (mini Surface Wate High Water T Saturation (A	mum of one er (A1) able (A2)	required; ch	neck all th		, <b>2, 4A, and</b> alt Crust (B	<b>i 4B)</b> 311)	(Except MLRA	Secondary Indicators (2 o  Water stained Le (MLRA1, 2, 4A, Drainage Pattern	r more required) eaves (B9) and 4B)
Algal Mat or Crust (B4)  Presence of Reduced Iron (C4)  Shallow Aquitard (D3)  Recent Iron Reduction in Plowed Soils (C6)  Surface Soil Cracks (B6)  Inundation Visible on Aerial Imagery (B7)  Sparsely Vegetated Concave Surface (B8)  Ield Observations:  urface Water Present? Yes No X Depth (inches):  Vater Table Present? Yes No X Depth (inches): >16  Wetland Hydrology Present?  Yes No X Depth (inches): >16  Wetland Hydrology Present?  Yes No X Depth (inches): >16  Yes No X  Depth (inches): >16  Yes No X	emarks: HYDROLO Vetland Hy	drology Inc cators (mini Surface Wate High Water T Saturation (A Water Marks	mum of one er (A1) able (A2) 3) (B1)	required; ch	neck all th		, <b>2, 4A, and</b> alt Crust (B quatic Inve	<b>1 4B)</b> 811) rtebrates (B13)	(Except MLRA	Secondary Indicators (2 o Water stained Le (MLRA1, 2, 4A, Drainage Pattern Dry-Season Water	or more required) haves (B9) and 4B) his (B10) her Table (C2)
Iron Deposits (B5)  Surface Soil Cracks (B6)  Inundation Visible on Aerial Imagery (B7)  Sparsely Vegetated Concave Surface (B8)  Ield Observations:  urface Water Present? Yes No X Depth (inches):  Vater Table Present? Yes No X Depth (inches): >16  Wetland Hydrology Present?  Yes No X Depth (inches): >16  Wetland Hydrology Present?  Yes No X Depth (inches): >16  Yes No X  Depth (inches): >16  Yes No X	HYDROLC Vetland Hy	ocators (mini Surface Wate High Water T Saturation (A Water Marks Sediment De	mum of one er (A1) able (A2) 3) (B1) posits (B2)	required; ch	neck all th	W 1, S A	, <b>2, 4A, and</b> alt Crust (B quatic Inve lydrogen St	d <b>4B)</b> 311) rtebrates (B13) ulfide Odor (C1	(Except MLRA	Secondary Indicators (2 o  Water stained Le (MLRA1, 2, 4A, Drainage Pattern Dry-Season Wate	or more required) aves (B9) and 4B) as (B10) er Table (C2) e on Aerial Imagery
Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8)  Stinted or Stressed Plants (D1) (LRR A) Prost-Heave Hummocks (D7)  Sparsely Vegetated Concave Surface (B8)  Frost-Heave Hummocks (D7)  Sparsely Vegetated Concave Surface (B8)  Field Observations:  Furface Water Present? Yes No X Depth (inches):  Vater Table Present? Yes No X Depth (inches): >16  Wetland Hydrology Present?  Yes No X  No X  Depth (inches): >16  Yes No X	HYDROLC Vetland Hy Primary Indi	cators (mini Surface Wate High Water T Saturation (A Water Marks Sediment De Drift Deposits	mum of one er (A1) able (A2) 3) (B1) posits (B2) 4 (B3)	required; ch	neck all th		, <b>2, 4A, and</b> alt Crust (B quatic Inve lydrogen So exidized Rh	i 4B) (11) rtebrates (B13) ulfide Odor (C1 izospheres alo	(Except MLRA ) ng Living Roots (C3)	Secondary Indicators (2 o  Water stained Le (MLRA1, 2, 4A,  Drainage Pattern  Dry-Season Wate Saturation Visible Geomorphic Posi	er more required) eaves (B9) and 4B) as (B10) er Table (C2) e on Aerial Imagery (ition (D2)
Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8)  Frost-Heave Hummocks (D7)  Sparsely Vegetated Concave Surface (B8)  Field Observations:  Furface Water Present? Yes	HYDROLC Vetland Hy Primary Indi	Cators (mini Surface Wate High Water T Saturation (A Water Marks Sediment De Drift Deposits Algal Mat or (	mum of one er (A1) able (A2) 3) (B1) posits (B2) c (B3) Crust (B4)	required, ch	neck all th	M 1, Si Ai	, 2, 4A, and alt Crust (B quatic Inve lydrogen So exidized Rh resence of	i 4B) it 11) rtebrates (B13) ulfide Odor (C1) izospheres alo Reduced Iron	(Except MLRA ) ng Living Roots (C3) (C4)	Secondary Indicators (2 o  Water stained Le  (MLRA1, 2, 4A,  Drainage Pattern  Dry-Season Wate  Saturation Visible  Geomorphic Posi  Shallow Aquitard	or more required) paves (B9) and 4B) as (B10) er Table (C2) e on Aerial Imagery ( ition (D2) (D3)
Sparsely Vegetated Concave Surface (B8)	HYDROLC Vetland Hy	ody drology Inc cators (mini Surface Wate High Water T Saturation (A Water Marks Sediment De Drift Deposits Algal Mat or 0 Iron Deposits	mum of one er (A1) able (A2) 3) (B1) posits (B2) (B3) Crust (B4) (B5)	required; ch	neck all th	W 1, 1, S. A. H. O. P. R. R.	alt Crust (B quatic Inve lydrogen Si exidized Rh resence of	d 4B)  Intebrates (B13)  Intebrates (B13)  Intebrates (B13)  Intebrates (B13)  Interpretation in Page 111	(Except MLRA ) ng Living Roots (C3) (C4) lowed Soils (C6)	Secondary Indicators (2 o  Water stained Le  (MLRA1, 2, 4A,  Drainage Pattern  Dry-Season Wate  Saturation Visible  Geomorphic Posi  Shallow Aquitard  Fac-Neutral Test	or more required) saves (B9) and 4B) sis (B10) er Table (C2) e on Aerial Imagery ( ition (D2) (D3) (D5)
Surface Water Present?         Yes         No         X         Depth (inches):         >16         Wetland Hydrology Present?           Vater Table Present?         Yes         No         X         Depth (inches):         >16         Yes         No         X	HYDROLC Vetland Hy	Cators (mini Surface Water High Water T Saturation (A Water Marks Sediment De Drift Deposits Algal Mat or ( Iron Deposits Surface Soil (	mum of one er (A1) able (A2) 3) (B1) posits (B2) 6 (B3) Crust (B4) (B5) Cracks (B6)				alt Crust (B quatic Inve lydrogen So exidized Rh resence of ecent Iron tunted or S	ti 4B)  itebrates (B13)  ulfide Odor (C1)  izospheres alo  Reduced Iron  Reduction in P  tressed Plants	(Except MLRA ) ng Living Roots (C3) (C4) lowed Soils (C6) (D1) (LRR A)	Secondary Indicators (2 o  Water stained Le (MLRA1, 2, 4A, Drainage Pattern Dry-Season Wate Saturation Visible Geomorphic Posi Shallow Aquitard Fac-Neutral Test Raised Ant Moun	er more required) eaves (B9) and 4B) es (B10) er Table (C2) e on Aerial Imagery ( ition (D2) (D3) (D5) eds (D6) (LRR A)
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Remarks:

### **Appendix C**

**Site Photos** 

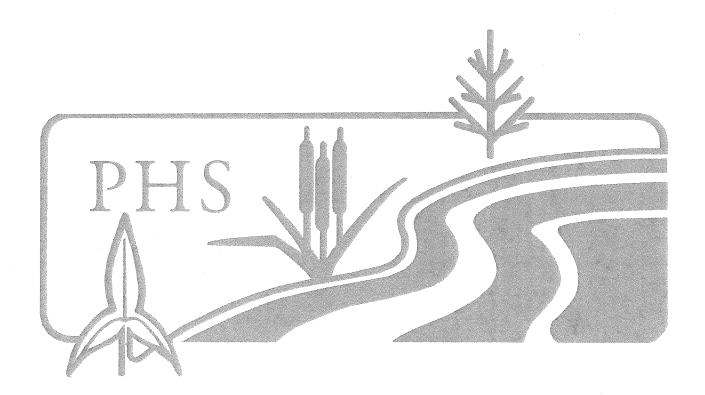




Photo A: Looking southwest at Wetland A and Data Point 1.

Photo B: Looking northwest at Data Point 2.







Photo C:
Looking northwest at the
Wetland A boundary and Data
Point 3.

Photo D: Looking northwest at Data Point 4.



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Photo E: Looking north at Wetland A and Data Point 5.

Photo F:
Looking south at Data Point 6.



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Photo G:
Looking west at Data Point 7.

Photo H: Looking south at Data Point 8.



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### Appendix D

## Wetland Definitions and Methodology and References



### WATERS OF THE STATE AND WETLAND DEFINITION AND CRITERIA

### **Regulatory Jurisdiction**

Wetlands and water resources in Oregon are regulated by the Oregon Department of State Lands (DSL) under the Removal-Fill Law (ORS 196.800-196.990) and by the U.S. Army Corps of Engineers (COE) through Section 404 of the Clean Water Act.

The primary source documents for wetland delineations within Oregon is the Corps of Engineers Wetlands Delineation Manual, Technical Report Y-87-1 (Environmental Laboratory 1987) and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0) (U.S. Army Corps of Engineers, 2010), which are required by both DSL and COE.

### Waters of This State and Wetland Definition

Waters of This State are defined as "all natural waterways, tidal and non-tidal bays, intermittent streams, constantly flowing streams, lakes, wetlands, that portion of the Pacific Ocean that is in the boundaries of this state, all other navigable and nonnavigable bodies of water in this state and those portions of the ocean shore ..." (DSL, 2009).

Wetlands are defined as "those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions" (DSL 2009).

### Wetland Criteria

Based on the above definition, three major factors characterize a wetland: hydrology, substrate, and biota.

### Wetland Hydrology

Wetland hydrology is related to duration of saturation, frequency of saturation, and critical depth of saturation. The 1987 manual defines wetland hydrology as inundation or saturation within a major portion of the root zone (usually above 12 inches), typically for at least 12.5% of the growing season. The wetland hydrology criterion can be met, however, if saturation within the major portion of the root zone is present for only 5% of the growing season, depending on other evidence.

The growing season is defined as the portion of the year when soil temperatures at 12.0 inches below the soil surface are higher than biological zero (41 degrees Fahrenheit, 5 degrees Celsius), but also allows approximation from frost free days, based on air temperature. The growing season for any given site or location is determined from US Natural Resources Conservation Service, (formerly Soil Conservation Service) data and information.

Wetland hydrologic indicators include the following: visual observation of inundation or saturation, watermarks, drift lines, sediment deposits, and/or oxidized rhizospheres with living roots. Oxidized rhizospheres are defined as yellowish-red zones around the roots and rhizomes of some plants that grow in frequently saturated soils. Other indicators of hydrology, including algal mats or crust, iron deposits, surface soil cracks, sparsely vegetated concave surface, salt crust, aquatic invertebrates, hydrogen sulfide odor, reduced iron, iron reduction in tilled soils, and stunted or stressed plants can also be used to determine the presence of wetland hydrology.

### Wetland Substrate (Soils)

Most wetlands are characterized by hydric soils. Hydric soils are those that are ponded, flooded, or saturated for long enough during the growing season to develop anaerobic conditions. Periodic saturation of soils causes alternation of reduced and oxidized conditions, which leads to the formation of redoximorphic features (gleying and mottling). Mineral hydric soils will be either gleyed or will have bright mottles and/or low matrix chroma. The redoximorphic feature known as gley is a result of greatly reduced soil conditions, which result in a characteristic grayish, bluish or greenish soil color. The term mottling is used to describe areas of contrasting color within a soil matrix. The soil matrix is the portion of the soil layer that has the predominant color. Soils that have brightly colored mottles and a low matrix chroma are indicative of a fluctuating water table.

Hydric soil indicators include: organic content of greater than 50% by volume, and/or presence of redoximorphic features and dark soil matrix, as determined by the use of a Munsell Soil Color Chart. This chart establishes the chroma, value and hue of soils based on comparison with color chips. Mineral hydric soil must meet one of the 16 definitions for hydric soil indicators, or be classified as a "problem soil" in the Interim Regional Supplement.

### Wetland Biota (Vegetation)

Wetland biota is defined as hydrophytic vegetation. A hydrophyte is a plant species that is capable of growing in substrates that are periodically deficient in oxygen as a result of saturated soil conditions. The U.S. Fish and Wildlife Service, in the *National List of Plant Species that Occur in Wetlands*, has established five basic groups of vegetation based on their frequency of occurrence in wetlands. These categories, referred to as the "wetland indicator status", are as follows: obligate wetland plants (OBL), facultative wetland (FACW), facultative (FAC), facultative upland (FACU), and obligate upland (UPL). Table 1 gives a definition of the plant indicator codes.

Table 1. Description of Wetland Plant Indicator Status Codes

Indicator Code	Status
OBL	Obligate wetland. Estimated to occur almost exclusively in wetlands (>99%)
<b>FACW</b>	Facultative wetland. Estimated to occur 67-99% of the time in wetlands.
FAC	Facultative. Occur equally in wetlands and non-wetlands (34-66%).
<b>FACU</b>	Facultative upland. Usually occur in non-wetlands (67-99%).
UPL	Obligate upland. Estimated to occur almost exclusively in non-wetlands (>99%). If a species is not assigned to one of the four groups described above it is assumed to be obligate upland.
NI	Has not yet received a wetland indicator status, but is probably not obligate upland.

Observations of hydrology, soils, and vegetation, were made using the "Routine On-site" delineation method as defined in the 1987 manual and the Interim Regional Supplement for areas that were not currently in agricultural production. One-foot diameter soil pits were excavated to 20 inches and soil profiles were examined for hydric soil and wetland hydrology field indicators. In addition, a visual absolute-cover estimate of the dominant species of the plant community was performed using soil pit locations as a center of reference. Dominant plant species are based on estimates of absolute cover for herbaceous, and shrub species within a 5 foot radius of the sample point, and basal area cover for tree and woody vine species within a 30 foot radius of the sample point. Plant species in each vegetative layer, which are estimated at less than 20% of the total cover, are not considered to be dominant. The wetland indicator status is then used to determine if there is an overall dominance (greater than 50%) of wetland or upland plant species. If less than 50% of the dominant species are hydrophytic, then the prevalence index may be used to determine if the subdominant species are hydrophytic. If the prevalence index is less than or equal to 3, hydrophytic vegetation criterion is met.

During data collection, the soil profiles were examined for hydric soil and wetland hydrology field indicators. Plant species and cover were recorded. Data was recorded on standard data sheets which contain the information specified in the 1987 Corps Manual and the Interim Regional Supplement.

### 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.

II DDI Ameleitante	Business phone # 503-635-4425			
BBL Architects Attn: Ronald R. Lee	Mobile phone # (optional) E-mail: ron@bblarchitects.com			
200 North State Street	⊏-IIIaii. Ton@bbiarciiltects.com			
Lake Oswego, OR 97034				
☐ Authorized Legal Agent, Name and Address:	Business phone #			
	Mobile phone #			
	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				
Typed/Printed Name:	Signature: cess:			
	for lat/long.,enter centroid of site or start & end points of linear project)			
Project Name: OCHS Transportation Facility	Latitude: 45.320357 Longitude: -122.568612			
Proposed Use:	Tax Map			
Oregon City High School transportation maintenance	3 South, 2 East, Section 9D, tax lot 1400			
facility.				
Project Street Address (or other descriptive location):	Township 3 S Range 2 E Section 9D QQ			
High School Ave, northwest of intersection with	Tax Lot(s) 1400			
Meyers Road City: Oregon City County: Clackamas	Waterway: N/A River Mile: N/A NWI Quad(s): Oregon City			
	neation Information			
Wetland Consultant Name, Firm and Address:	Phone # 503570-0800			
Pacific Habitat Services	Mobile phone #			
Attn: Tina Farrelly	E-mail: tf@pacifichabitat.com			
9450 SW Commerce Circle, Suite 180 Wilsonville, OR 97070				
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The information and conclusions on this form and in the attached r	· · · · · · · · · · · · · · · · · · ·			
Consultant Signature:	Date:			
-	1			
Primary Contact for report review and site access is	Consultant			
Primary Contact for report review and site access is ⊠ Contact Wetland/Waters Present? ⊠ Yes ☐ No Study Area				
Wetland/Waters Present?   ☐ Yes ☐ No Study Area  Check Box Below if Applicable:	a size: 11 acres Total Wetland Acreage: 1.03 acres Fees:			
Wetland/Waters Present? ☐ Yes ☐ No Study Area	a size: 11 acres Total Wetland Acreage: 1.03 acres			
Wetland/Waters Present?   ☐ Yes ☐ No Study Area  Check Box Below if Applicable:	a size: 11 acres Total Wetland Acreage: 1.03 acres Fees:			
Wetland/Waters Present?   ☐ Yes ☐ No Study Area  Check Box Below if Applicable:  ☐ R-F permit application submitted	Total Wetland Acreage: 1.03 acres  Fees:  Fee payment submitted \$ 396  Fee (\$100) for resubmittal of rejected report			
Wetland/Waters Present?	Total Wetland Acreage: 1.03 acres  Fees:  Fee payment submitted \$ 396  Fee (\$100) for resubmittal of rejected report			
Wetland/Waters Present?	Total Wetland Acreage: 1.03 acres  Fees:  Fee payment submitted \$ 396  Fee (\$100) for resubmittal of rejected report  No fee for request for reissuance of an expired			
Wetland/Waters Present?	Total Wetland Acreage: 1.03 acres  Fees:  Fee payment submitted \$ 396  Fee (\$100) for resubmittal of rejected report  No fee for request for reissuance of an expired			
Wetland/Waters Present?	Total Wetland Acreage: 1.03 acres  Fees:  Fee payment submitted \$ 396  Fee (\$100) for resubmittal of rejected report  No fee for request for reissuance of an expired			
Wetland/Waters Present?	Fees:    Total Wetland Acreage: 1.03 acres			
Wetland/Waters Present?  Yes No Study Area  Check Box Below if Applicable:  R-F permit application submitted  Mitigation bank site  Wetland restoration/enhancement project (not mitigation) Industrial Land Certification Program Site Reissuance of a recently expired delineation Previous DSL # Expiration date  Other Information:	Fees:    Total Wetland Acreage: 1.03 acres			
Wetland/Waters Present?	Fees:    Second			
Wetland/Waters Present?	Fees:    See   Fee   Fees   Fee   Fees   Fee   Fees   Fees   Fee   Fees   Fees			
Wetland/Waters Present?	Fees:    See   Fee   Fees   Fee   Fees   Fee   Fees   Fees   Fee   Fees   Fees			