# Exhibit D

# Wetland Delineation for a Proposed Development Site North of SE Kellogg Creek Drive in Milwaukie, Clackamas County, Oregon

(Township 2 South, Range 2 East, Section 6AD, TL 600 and Portions of 700, 900 and 901)

#### Prepared for

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PHS Project Number: 5975

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#### I. INTRODUCTION

Pacific Habitat Services, Inc. (PHS) conducted a wetland delineation on a proposed development site located north of SE Kellogg Creek Drive in Milwaukie, Clackamas County, Oregon (Township 2 South, Range 2 East, Section 6AD, Tax Lot 600 and portions of Tax Lots 700, 900, 901). The study area consists of approximately 15.58 acres.

This report presents the results of PHS's field work. 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 photos of the study area are in Appendix C. Historic aerial photographs are in Appendix D. The geotechnical evaluation report for the site is included in Appendix E. A discussion of the methodology is provided in Appendix F for the client.

#### II. RESULTS AND DISCUSSION

#### A. Landscape Setting and Land Use

The site is located southwest of Highway 224 (Pacific Highway); north of SE Kellogg Creek Drive, and north and west of SE Rusk Road. Mt. Scott Creek flows to the west along the northern edge of the study area, and the North Clackamas Park Milwaukie Center borders the western edge. The site is located within a residential area; undeveloped woodland is located immediately to the north and northwest of the study area, and the Turning Point Church is located in the southeast corner of the site at 13333 SE Rusk Road. The eastern half of the property, near the church, is relatively level; however, the western half descends abruptly to a lower woodland area. Site elevations range from approximately 80 feet National Geodetic Vertical Datum (NGVD) in the eastern half of the site, to approximately 66 feet NGVD in the lower reaches of the western half of the site.

#### **B.** Site Alterations

The site has not been subject to recent construction activities; however, it appears that the substrate throughout much of the central and eastern half of the site consists of fill material, likely associated with the construction of the church, over two decades ago.

# C. Precipitation Data and Analysis

Table 1 compares the average monthly precipitation to the observed monthly precipitation at the Portland International Airport National Weather Service Station in the three months prior to PHS's wetland delineation field work. Table 1 also compares the observed precipitation to be within the normal precipitation range, as identified in the NRCS WETS table for the Oregon City station.

As shown in Table 1, observed precipitation was below normal and normal range in August. Observed precipitation was above normal but within normal range in September; however, in October observed precipitation was considerably above normal and normal range. It should be noted that the observed precipitation total for November in Table 1 is the amount of precipitation recorded in the first 20 days of the month, prior to the day of PHS's wetland delineation field work.

Table 1. Comparison of Average and Observed Precipitation for the Three Months Prior to the Wetland Delineation Field Work

	Average	30% Chanc	e Will Have	Observed	Daysand of	
Month	Precipitation <sup>a</sup> Less Than More Than (in.) Average <sup>a</sup> Average		Precipitation <sup>b</sup> (in.)	Percent of Normal		
August	1.00	0.21	1.16	0.09	13	
September	1.93	0.86	2.41	1.69	115	
October	3.48	1.85	4.25	8.31	277	
November	6.79	4.43	8.16	2.79°	50 <sup>d</sup>	

Notes:

- a. Source: NRCS WETS Table for Oregon City WETS station
- b. Observed precipitation is the precipitation recorded at the Portland International Airport weather station. Source: National Weather Service.
- c. Observed precipitation is for the period November 1-20, 2016, prior to PHS's November 21, 2016 field work.
- d. The percent of normal precipitation is for the first twenty days in November prior to PHS's November 21, 2016 field work. This estimate assumes that precipitation is spread evenly across the month and that the average precipitation in the first twenty days of November is 2.79 inches.

Precipitation in the months preceding PHS's wetland delineation field work fluctuated widely. However, based on this and other observations of hydrologic conditions during the site visit, it is PHS's opinion that the drier than normal conditions in August and the wetter than normal conditions in September and October did not affect the hydrological indicators observed at the time of PHS's wetland delineation field work.

#### D. Methods

PHS conducted the wetland investigation and data collection on November 21, 2016. PHS identified jurisdictional wetlands in the study area 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.* 

PHS delineated the limits of ordinary high water (OHW) along the south bank of Mt. Scott Creek based on an evaluation of observed physical characteristics, as described in the U.S. Army Corps of Engineers' Regulatory Guidance Letter No. 05-05 (December 7, 2005). PHS flagged the limits of OHW with blue flags placed at the limits of the OHW, as indicated by the point below which woody vegetation is absent and at the break in the slope angle of the bank.

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

PHS identified and delineated one potential wetland area (Wetland A) and Mt. Scott Creek (south bank only), as well as six potentially, artificially created wetland areas (Wetlands B through G). Brief descriptions of the on-site wetlands and non-wetland waters are provided below.

#### Mt. Scott Creek

Mt. Scott Creek, a tributary to Kellogg Creek and the Willamette River, is a perennial stream that generally flows to the west along the northern boundary of the study area. The stream banks are relatively well defined and near vertical at the location of the OHW line. The plant community of the riparian area along the creek includes a deciduous overstory of big-leaf maple (*Acer macrophyllum*, FACU), Oregon white oak (*Quercus garryana*, FACU), Oregon ash (*Fraxinus latifolia*, FACW), and red alder (*Alnus rubra*, FAC); and a shrub and herbaceous understory composed of species such as snowberry (*Symphoricarpos albus*, FACU), Pacific ninebark (*Physocarpus capitatus*, FACW), Scouler's willow (*Salix scouleriana*, FAC), English hawthorn (*Crataegus monogyna*, FAC), Fuller's teasel (*Dipsacus fullonum*, FAC), and spreading bentgrass (*Agrostis stolonifera*, FAC). The Cowardin Classification for Mt. Scott Creek is Riverine Upper Perennial Unconsolidated Bottom Permanently Flooded (R3UBH) and Riverine Unknown Perennial Unconsolidated Bottom Permanently Flooded (R5UBH). The Hydrogeomorphic (HGM) Classification is Riverine Flow-Through. Mt. Scott Creek continues outside the study area to the north, west and east.

#### Wetland A

Wetland A consists of approximately 30,386 square feet (0.70 acre) located in the western half of the site, south of Mt. Scott Creek. The plant community within Wetland A (characterized by Sample Points 3, 5, 7) is a combination of deciduous woodland bordered by open fields. Dominant species within the woodland include an overstory of Oregon ash and black cottonwood (*Populus balsamifera*, FAC), with a woody understory of Oregon ash, black cottonwood, red-osier dogwood (*Cornus alba*, FACW), snowberry, and Himalayan blackberry (*Rubus armeniacus*, FAC). The open fields include reed canarygrass (*Phalaris arundinacea*, FACW), creeping buttercup (*Ranunculus repens*, FAC), big leaf avens (*Geum macrophyllum*, FAC), slender rush (*Juncus tenuis*, FAC), rough bluegrass (*Poa trivialis*, FAC), bitter dock (*Rumex obtusifolius*, FAC), and common dandelion (*Taraxacum officinale*, FACU).

The adjacent upland areas (characterized by Sample Points 2, 6, 8) include Oregon ash, Himalayan blackberry, snowberry, English hawthorn, reed canarygrass, Fuller's teasel, large leaf avens, bull thistle (*Cirsium vulgare*, FACU), fringed willowherb (*Epilobium ciliatum*, FACW), Dewey sedge (*Carex deweyana*, FAC), common selfheal (*Prunella vulgaris*, FACU), Western swordfern (*Polystichum munitum*, FACU), lentil vetch (*Vicia tetrasperma*, NOL), creeping buttercup, spreading bentgrass, field horsetail (*Equisetum arvense*, FAC), narrow-leaf goosefoot (*Chenopodium leptophyllum*, FACU), spotted cat's ear (*Hypochaeris radicata*, FACU), European centaury (*Centaurium erythraea*, FAC), wild carrot (*Daucus carota*, FACU), tansy ragwort (*Senecio jacobaea*, FACU), and colonial bentgrass (*Agrostis capillaris*, FAC).

Hydrology within Wetland A is likely supported by a seasonally high groundwater table, surface runoff and precipitation. At the time of PHS's wetland delineation field work, the soils in Wetland A were typically saturated to the surface or within twelve inches of the surface, with free water observed at four inches below the soil surface or at the surface; inundation was also commonly present within Wetland A. The low-chroma matrix of the soil with contrasting redox concentrations meets the redox dark surface indicator for hydric soils. The Cowardin Classification for Wetland A is Palustrine Emergent, Persistent, Seasonally Flooded/Saturated (PEM1E). The HGM Classification is Slope. Wetland A continues outside the study area to the west.

#### Wetlands B - G (Artificially Created Wetlands)

Wetlands B through G generally consist of small, shallow, isolated depressions. Table 2 lists the area of each wetland.

Wetland	Area (square feet / acres)
В	905 / 0.02
С	176 / 0.004
D	172 / 0.004
Е	998 / 0.02
F	301 / 0.007
G	666 / 0.02
Total	3,218 / 0.07

All six of these wetlands are similar in character, and therefore, a representative pair of wetland/upland sample points (9 and 10, respectively) were taken at Wetland E. These wetlands are located in the central portion of the site, west of the church and several feet above the lower woodland area further to the west. The plant communities in both the wetland and upland areas are primarily composed of weedy grasses and herbs; the wetland areas include reed canarygrass, spreading bentgrass, soft rush (*Juncus effusus*, FACW), spotted cat's ear, and oxeye daisy (*Chrysanthemum vulgare*, FACU), and the adjacent upland areas include wild carrot, curly dock (*Rumex crispus*, FAC), colonial bentgrass, bluegrass (*Poa sp.*, FAC), common velvet grass (*Holcus lanatus*, FAC), tall fescue (*Schedonorus arundinaceus*, FAC), yellow glandweed (*Parentucellia viscosa*, FAC), and English plantain (*Plantago lanceolata*, FACU).

Hydrology within Wetlands B through G primarily consists of surface runoff and precipitation. As discussed in the *Subsurface Conditions* section of the geotechnical evaluation report (Appendix E), fill material on the site ranges in thickness up to more than 12 feet, with approximately 10 feet in the central portion of the site, and groundwater was not encountered in the test pits in the vicinity of these wetlands. Therefore, it is reasonable to assume that these artificially created wetlands are not hydrologically connected to the water table. At the time of PHS's wetland delineation field work, the soils within these wetlands were typically saturated to the surface, with free water observed at or near the surface, and included some areas of inundation, which likely was perched on compacted substrate resulting in diminished permeability. The redox dark surface indicator for hydric soils was met with low-chroma matrix soils with contrasting redox concentrations. The Cowardin Classification for Wetlands B through G is Palustrine Emergent, Nonpersistent, Seasonally Flooded/Saturated (PEM2E). The HGM Classification is Slope.

As mentioned previously in Section B, *Site Alterations*, it appears that the substrate throughout much of the central and eastern half of the site consists of fill material, likely associated with the construction of the church. In addition, based on a review of historic aerial photographs (Appendix D), it appears that Wetlands B through G have been artificially created on compacted fill material resulting from activities associated with construction of the church and on-going activities associated with the church property over the years.

#### F. Deviation from LWI or NWI

Wetlands Inventory (NWI) maps as Riverine Upper Perennial Unconsolidated Bottom Permanently Flooded (R3UBH) and Riverine Unknown Perennial Unconsolidated Bottom Permanently Flooded (R5UBH) wetland, it does not indicate the presence of any wetlands on the site. NWI maps are generated primarily through the interpretation of color infrared aerial photographs (scale of 1:58,000), with limited "ground truthing" to confirm the interpretations. The canopy cover over much of Wetland A, the small size of Wetlands B through G, and the scale of the aerial photographs used to prepare the NWI maps are likely reasons for the discrepancy between the wetlands mapping and the existing on-site conditions. In addition, as Wetlands B though G appear to be artificially created, their presence and absence over the years are likely to have been dependent upon the construction and various activities on the church property, which have varied over the period of time in which the aerial photographs were taken.

### G. Mapping Method

PHS flagged the wetland boundaries and limits of OHW with blue flagging. Sample points were flagged with lime green surveyor's tape. The wetland boundary and OHW flagging were survey-located by TerraCalc Land Surveying, Inc. Sample points were GPS-located by PHS, which subsequently transferred this information onto a base map provided by TerraCalc Land Surveying. The estimated survey accuracy is sub-centimeter and the sample point accuracy is approximately +/- 3 feet.

#### H. Additional Information

None

#### I. Results and Conclusions

Within the study area, PHS identified and delineated a total of approximately 0.70 acres of potentially jurisdictional wetland, approximately 0.07 acres of potentially artificially created wetland, and the OHW line along the south bank of Mt. Scott Creek, as detailed in Table 3.

Table 3: Summary of Potentially Jurisdictional and Artificially Created Wetland, and Other Waters within the Study Area

Resource	Area (square feet/acreage)	Cowardin Class	HGM Class
Wetland A	30,386 / 0.70	PEM1E	Slope
Wetland B (Artificially Created)	905 / 0.02	PEM2E	Slope
Wetland C (Artificially Created)	176 / 0.004	PEM2E	Slope
Wetland D (Artificially Created)	172 / 0.004	PEM2E	Slope

Resource	Area (square feet/acreage)	Cowardin Class	HGM Class
Wetland E (Artificially Created)	998 / 0.02	PEM2E	Slope
Wetland F (Artificially Created)	301 / 0.007	PEM2E	Slope
Wetland G (Artificially Created)	666 / 0.02	PEM2E	Slope
Mt. Scott Creek (OHW line south bank only)	-	R3UBH R5UBH	Riverine Flow-Through
Total (Potentially Jurisdictional Wetland)	30,386 (0.70 acres)		
Total (Potentially Artificially Created Wetland)	3,218 (0.07 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.

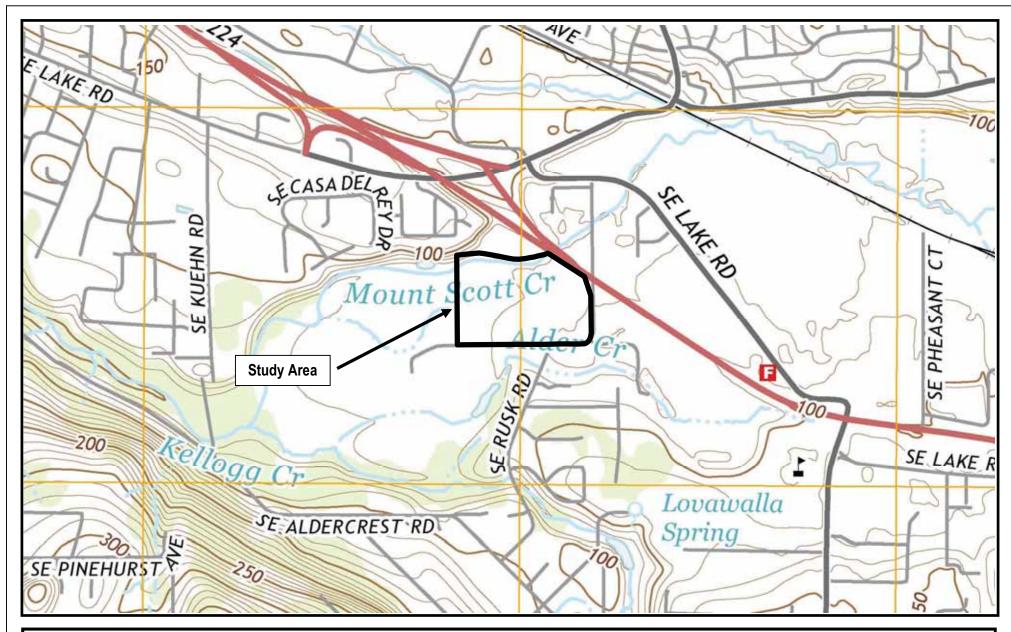
#### III. REFERENCES

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# Appendix A

**Figures** 

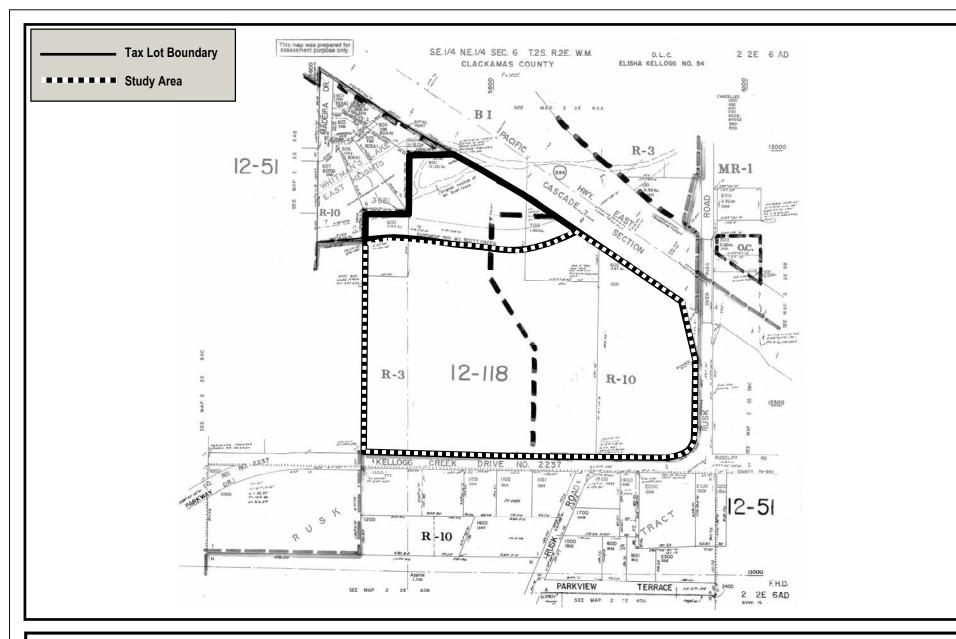






General Location and Topography SE Kellogg Creek Drive - Milwaukie, Oregon United States Geological Survey (USGS), Gladstone, Oregon, 7.5 Quadrangle, 2014 (viewer/nationalmap.gov/basic)

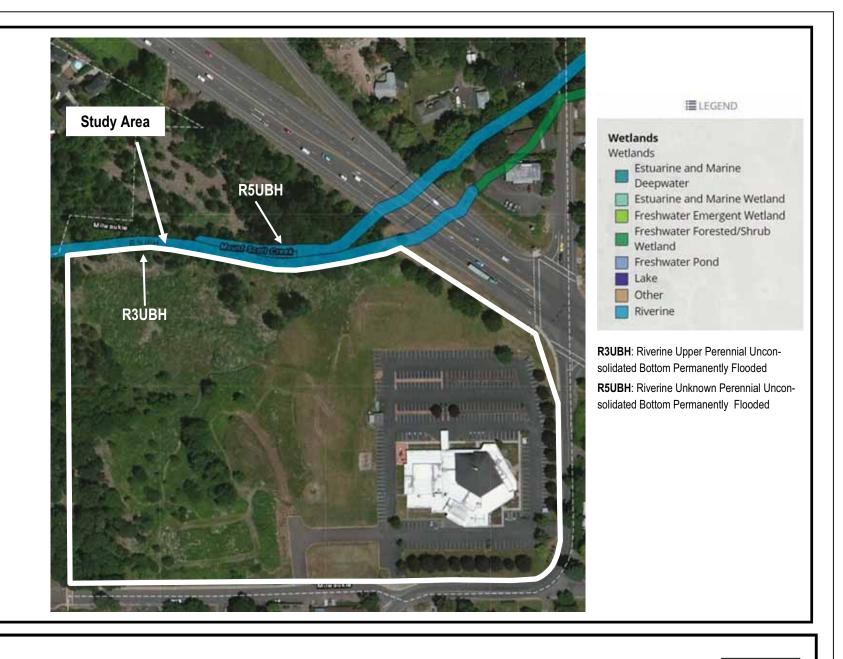
FIGURE





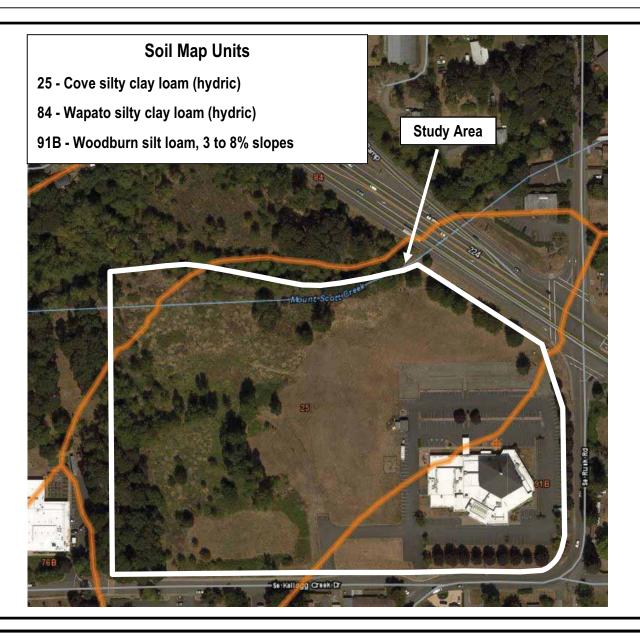
Wilsonville, OR 97070

Tax Lot Map SE Kellogg Creek Drive - Milwaukie, Oregon The Oregon Map (ormap.net) FIGURE





National Wetlands Inventory Map SE Kellogg Creek Drive - Milwaukie, Oregon U.S. Fish and Wildlife Service, Online Wetland Mapper V2, 2016 **FIGURE** 

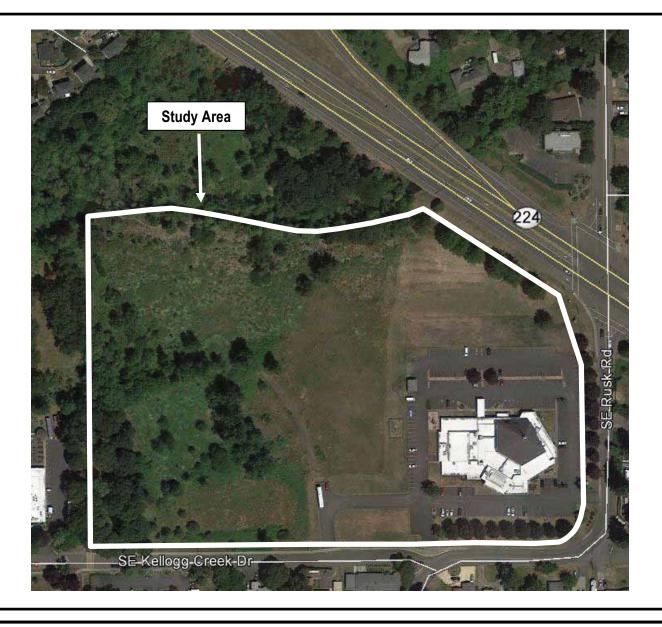




Soils Map SE Kellogg Creek Drive - Milwaukie, Oregon Natural Resources Conservation Services, Web Soil Survey, 2016

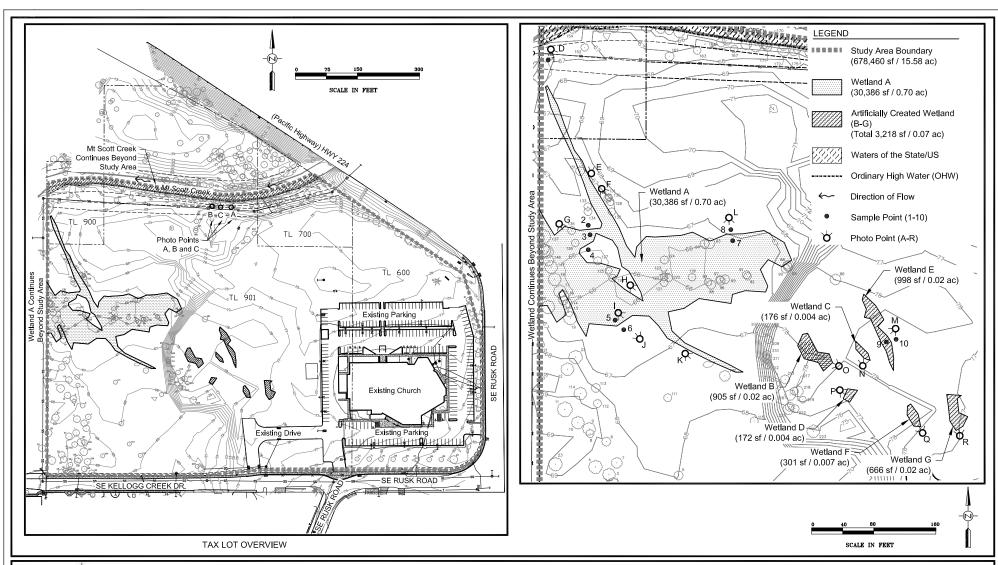
FIGURE

(websoilsurvey.sc.egov.usda.gov)





Aerial Photo SE Kellogg Creek Drive - Milwaukie, Oregon Google Earth, 2016 **FIGURE** 





Survey provided by TerraCalc Land Surveying, Inc., 2016 Survey accuracy is sub-centimeter and Sample Point accuracy is ± 3 feet.

Wetland Delineation
SE Kellogg Creek Drive - Milwaukie, Oregon

FIGURE 6

1-18-2017

# Appendix B

# **Wetland Delineation Data Sheets**



5975

roject/Site:	SE Kellogg	Creek Γ	Orive	C	City/County:	Milwa	ukie/Clackamas	Sampl	ing Date:	11/2	21/2016
pplicant/Owner:	Brownstone Development, Inc.			Inc.			State:	OR	OR S		: 1
vestigator(s):	Caroli	ne R./Cra	aig T.		Section, To	wnship, Range:		Section 6	AD, T 2S	, R 2E	
andform (hillslope, terr	race, etc.:)					Local relief (co	ncave, convex, none):			Slope (%)	:
ubregion (LRR):	,	LRRA	<del></del>		Lat:	45.427	•	-122.0	603487	Datum	
oil Map Unit Name:			Wan	ato silty	clay loam			ssification:		— None	
re climatic/hydrologic						Yes		•		ain in Remarks)	
re vegetation			•		gnificantly dist		Are "Normal Circumstan			<b>Y</b>	
	-							-	it: (1/1 <b>1)</b>		_
e vegetation	5011	_ or Hy	ydrology	na	turally problei	matic? if needed	l, explain any answers in Re	emarks.)			
UMMARY OF FI	NDINGS	– Attac	h site n	nap sho	wing san	npling point	locations, transects	s, import	ant feat	ures, etc.	
drophytic Vegetation	Present?	Yes	Х	No							
dric Soil Present?		Yes		No	Х	Is Sampled Ar				No X	
, etland Hydrology Pres	sent?	Yes	x	No		a Wellan				-	_
emarks:											
marks. oodplain adjacen	ıt to Mt. Sc	cott Cree	ek.								
EGETATION - U	lea ecian	tific nar	mes of r	lante							
EGETATION - U	se scient	unc nai	absolu		Dominant	Indicator	Dominance Test wo	rkehoot:			
			% cov		Species?	Status	Dominance rest wor	iksileet.			
ee Stratum (plot si	ze:	30 )	)				Number of Dominant Spe	ecies			
Quercus garrya	ına		30		X	FACU	That are OBL, FACW, or	FAC:		4	(A)
								•			=
							Total Number of Domina	nt			
							Species Across All Strata	n:		6	(B)
			30	= 1	Total Cover			•			=
pling/Shrub Stratum	(plot size	e: <b>5</b>	)				Percent of Dominant Spe	cies			
Salix sitchensis		·- <u> </u>	/ 		X	FACW	That are OBL, FACW, or			67%	(A/B)
Fraxinus latifoli			5		X	FACW	That are OBE, I NOVV, O	1710.		01 70	_(/ (/ D)
Rubus armenia			5		X	FAC	Prevalence Index W	orksheet:			
							Total % Cover of		Multiply by	:	
			-				OBL Species	-	x 1 =		
			25	= 7	Total Cover		FACW species		x 2 =	0	_
							FAC Species		x 3 =	0	<b>-</b> -
rb Stratum (plot si	ze:	5 )	)				FACU Species		x 4 =	0	_
Rumex crispus			5			FAC	UPL Species		x 5 =	0	_
Carex deweyan	а		5			FAC	Column Totals	0	(A)	0	_(B)
Taraxacum offic	cinale		2			FACU					
Dipsacus fullon	ium		6			FAC	Prevalence Index =	B/A =	#	DIV/0!	_
Geum macroph	yllum		3			FAC					
Agrostis stolon	ifera		15		X	FAC	Hydrophytic Vegetat	ion Indica	ators:		
Lapsana comm	unis		10		X	FACU		1- Rapid Te	st for Hydr	ophytic Vegetati	on
Leucanthemum	vulgare		2			FACU	X	2- Dominan	ce Test is	>50%	
			48	= 7	Total Cover			3-Prevalenc			
	/plot oi=o		`							ations <sup>1</sup> (provide	
oody Vine Stratum	(plot size:		<b>-</b> '							a separate shee	et)
				— –				5- Wetland			
				— —			<u> </u>			tic Vegetation <sup>1</sup> (	. ,
			0	= 1	Total Cover		<sup>1</sup> Indicators of hydric soil a disturbed or problematic.	and wetland	hydrology	must be present	, unless
							Hydrophytic				
								Yes	Х	No	
Bare Ground in Herb	Stratum		40				Vegetation	162	^	110	,

SOIL			PHS#		5975			S	ampling Point:	1
rofile Descri	iption: (Describe to t	he depth	needed to doc	ument the	indicator or con	nfirm the absen	ce of indicators.)			
Depth	Matrix				edox Features					
(Inches)	Color (moist)	%	Color (mois	t) %	Type <sup>1</sup>	Loc <sup>2</sup>	Texture		Remarks	
0-12	10YR 3/2	100					Sandy Loam			
								-		
Type: C=Cond	centration, D=Depletion	on. RM=Re	educed Matrix.	CS=Covere	ed or Coated San	d Grains.		<sup>2</sup> Location: F	PL=Pore Lining, M=N	Matrix.
	Indicators: (Appli						Indic		roblematic Hydri	
-	Histosol (A1)		,		Sandy Redo				2 cm Muck (A10)	
	Histic Epipedon (A2)				Stripped Mat				Red Parent Mater	ial (TF2)
	Black Histic (A3)					xy Mineral (F1) (e	except MLRA 1)		── Very Shallow Dark	
	Hydrogen Sulfide (A4)	)			Loamy Gleye	ed Matrix (F2)			Other (explain in F	
	Depleted Below Dark	Surface (A	A11)		Depleted Ma	atrix (F3)				
	Thick Dark Surface (A	A12)			Redox Dark	Surface (F6)				
	Sandy Mucky Mineral	(S1)			Depleted Da	rk Surface (F7)			of hydrophytic vegeta must be present, unl	
	Sandy Gleyed Matrix	(S4)			Redox Depre	essions (F8)		riyarology	problematic.	ess disturbed of
Restrictive	Layer (if present):									
ype:	Comp	acted ro	ck/gravel/co	bble						
Depth (inches	s):		2"				Hydric Soil Pres	sent? Yes		No <u>X</u>
Depth (inches							Hydric Soil Pres	sent? Yes		No X
Depth (inches	o <b>G</b> Y	1					Hydric Soil Pres	sent? Yes		No X
Pepth (inches Remarks: HYDROLO Vetland Hy	OGY drology Indicators	1 s:	2"	all that an			Hydric Soil Pres			
Pepth (inches Remarks:  HYDROLO Vetland Hy	OGY drology Indicators cators (minimum o	1 s:	2"	all that ap	,	od Leaves (R9) (		Seconda	ry Indicators (2 or	more required)
Pepth (inches Remarks: HYDROLO Vetland Hy Primary India	drology Indicators cators (minimum of Surface Water (A1)	s: f one req	2"	all that ap	,	ed Leaves (B9) (l				more required)
Pepth (inches Remarks: HYDROLO Vetland Hy Primary India	OGY drology Indicators cators (minimum o Surface Water (A1) High Water Table (A2	s: f one req	2"	all that ap	Water staine	d 4B)		Seconda X	ry Indicators (2 or Water stained Lea (MLRA1, 2, 4A, a	more required) aves (B9) and 4B)
Pepth (inches Remarks: HYDROLO Vetland Hy	drology Indicators cators (minimum of Surface Water (A1) High Water Table (A2) Saturation (A3)	s: f one req	2"	all that ap	Water staine 1, 2, 4A, and Salt Crust (B	d <b>4B)</b> 311)		Seconda	ry Indicators (2 or Water stained Lea (MLRA1, 2, 4A, a Drainage Patterns	more required) aves (B9) and 4B) s (B10)
Pepth (inches Remarks: HYDROLO Vetland Hydrimary India	OGY drology Indicators cators (minimum o Surface Water (A1) High Water Table (A2	s: f one req	2"	all that ap	Water staine 1, 2, 4A, and Salt Crust (B Aquatic Inve	d 4B)		Seconda X	ry Indicators (2 or Water stained Lea (MLRA1, 2, 4A, a Drainage Patterns Dry-Season Wate	more required) aves (B9) and 4B) s (B10) r Table (C2)
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)	s: f one req	2"	all that ap	Water staine 1, 2, 4A, and Salt Crust (B Aquatic Inve	d 4B) B11) rtebrates (B13) ulfide Odor (C1)		Seconda X	ry Indicators (2 or Water stained Lea (MLRA1, 2, 4A, a Drainage Patterns Dry-Season Wate	more required) aves (B9) and 4B) s (B10) r Table (C2) on Aerial Imagery
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	s: f one req	2"	all that ap	Water staine  1, 2, 4A, anc  Salt Crust (B  Aquatic Inve  Hydrogen Su  Oxidized Rhi	d 4B) B11) rtebrates (B13) ulfide Odor (C1)	Except MLRA g Living Roots (C3)	Seconda X	ry Indicators (2 or Water stained Lea (MLRA1, 2, 4A, a Drainage Patterns Dry-Season Wate Saturation Visible	more required) aves (B9) and 4B) s (B10) r Table (C2) on Aerial Imagery ion (D2)
Pepth (inches Remarks: HYDROLO Vetland Hy	drology Indicators cators (minimum or Surface Water (A1) High Water Table (A2 Saturation (A3) Water Marks (B1) Sediment Deposits (B Drift Deposits (B3)	s: f one req	2"	all that ap	Water staine 1, 2, 4A, and Salt Crust (B Aquatic Invertigation Hydrogen St Oxidized Rhi Presence of	d 4B) 311) rtebrates (B13) ulfide Odor (C1) izospheres along	Except MLRA g Living Roots (C3) C4)	Seconda X	ry Indicators (2 or Water stained Lea (MLRA1, 2, 4A, a Drainage Patterns Dry-Season Wate Saturation Visible Geomorphic Posit	more required) aves (B9) and 4B) s (B10) r Table (C2) on Aerial Imagery ion (D2) (D3)
Pepth (inches Remarks: HYDROLO Vetland Hyr Primary India	or o	s: f one req	2"	all that ap	Water staine  1, 2, 4A, and Salt Crust (B Aquatic Inve Hydrogen St Oxidized Rhi Presence of Recent Iron I Stunted or S	d 4B) state (B13) ulfide Odor (C1) izospheres along Reduced Iron (C Reduction in Plo	Except MLRA  g Living Roots (C3) (24) wed Soils (C6)	Seconda X	ry Indicators (2 or Water stained Lea (MLRA1, 2, 4A, a Drainage Patterns Dry-Season Wate Saturation Visible Geomorphic Posit Shallow Aquitard ( Fac-Neutral Test ( Raised Ant Mounc	more required) aves (B9) and 4B) s (B10) r Table (C2) on Aerial Imagery tion (D2) (D3) (D5) ds (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 (I Inundation Visible on	s: f one req 2) 4) B6) Aerial Ima	uired; check	all that ap	Water staine  1, 2, 4A, and Salt Crust (B Aquatic Inve Hydrogen St Oxidized Rhi Presence of Recent Iron I Stunted or S	d 4B) 311) rtebrates (B13) ulfide Odor (C1) izospheres along Reduced Iron (C	Except MLRA  g Living Roots (C3) (24) wed Soils (C6)	Seconda X	ry Indicators (2 or Water stained Lea (MLRA1, 2, 4A, a Drainage Patterns Dry-Season Wate Saturation Visible Geomorphic Posit Shallow Aquitard (	more required) aves (B9) and 4B) s (B10) r Table (C2) on Aerial Imagery tion (D2) (D3) (D5) ds (D6) (LRR A)
Pepth (inches Remarks:  HYDROLO Vetland Hy Primary India	drology Indicators cators (minimum or 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	s: f one req 2) 4) B6) Aerial Ima	uired; check	all that ap	Water staine  1, 2, 4A, and Salt Crust (B Aquatic Inve Hydrogen St Oxidized Rhi Presence of Recent Iron I Stunted or S	d 4B) state (B13) ulfide Odor (C1) izospheres along Reduced Iron (C Reduction in Plo	Except MLRA  g Living Roots (C3) (24) wed Soils (C6)	Seconda X	ry Indicators (2 or Water stained Lea (MLRA1, 2, 4A, a Drainage Patterns Dry-Season Wate Saturation Visible Geomorphic Posit Shallow Aquitard ( Fac-Neutral Test ( Raised Ant Mounc	more required) aves (B9) and 4B) s (B10) r Table (C2) on Aerial Imagery tion (D2) (D3) (D5) ds (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 (I Inundation Visible on Sparsely Vegetated Covations:	s: f one req 2) 4) B6) Aerial Ima	uired; check gery (B7) urface (B8)		Water staine  1, 2, 4A, anc  Salt Crust (B  Aquatic Inve  Hydrogen St  Oxidized Rhi  Presence of  Recent Iron    Stunted or S  Other (Expla	d 4B) state (B13) ulfide Odor (C1) izospheres along Reduced Iron (C Reduction in Plo	Except MLRA  g Living Roots (C3) (24) wed Soils (C6)	Seconda X	ry Indicators (2 or Water stained Lea (MLRA1, 2, 4A, a Drainage Patterns Dry-Season Wate Saturation Visible Geomorphic Posit Shallow Aquitard ( Fac-Neutral Test ( Raised Ant Mounc	more required) aves (B9) and 4B) s (B10) r Table (C2) on Aerial Imagery tion (D2) (D3) (D5) ds (D6) (LRR A)
Pepth (inches Remarks:  HYDROLO Vetland Hy Primary India	drology Indicators cators (minimum or 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 Covations: Present? Yes	s: f one req 2) 4) B6) Aerial Ima	uired; check  gery (B7) urface (B8)  No X	De	Water staine  1, 2, 4A, and Salt Crust (B Aquatic Inve Hydrogen St Oxidized Rhi Presence of Recent Iron Stunted or S Other (Expla	d 4B) state (B13) ulfide Odor (C1) izospheres along Reduced Iron (C Reduction in Plottressed Plants (in the Remarks)	Except MLRA  g Living Roots (C3) (24) wed Soils (C6) D1) (LRR A)	Seconda X X	ry Indicators (2 or Water stained Lea (MLRA1, 2, 4A, a Drainage Patterns Dry-Season Wate Saturation Visible Geomorphic Posit Shallow Aquitard ( Fac-Neutral Test ( Raised Ant Mound	more required) aves (B9) and 4B) s (B10) r Table (C2) on Aerial Imagery cion (D2) (D3) (D5) ds (D6) (LRR A)
Pepth (inches Remarks:  HYDROLO Vetland Hy Primary India  Field Obser  Fourface Water Vater Table P	drology Indicators cators (minimum or 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 Covations: Present? Yes Present? Yes	s: f one req 2) 4) Aerial Ima	gery (B7) urface (B8)  No X No X	De	Water staine  1, 2, 4A, and Salt Crust (B Aquatic Inveited Hydrogen Su Oxidized Rhi Presence of Recent Iron I Stunted or S Other (Explained) Stunted or S Other (Explained)	at 4B) states (B13) ulfide Odor (C1) izospheres along Reduced Iron (C Reduction in Plot stressed Plants (in in Remarks)	Except MLRA  g Living Roots (C3) (24) wed Soils (C6)	Seconda X X	ry Indicators (2 or Water stained Lea (MLRA1, 2, 4A, a Drainage Patterns Dry-Season Wate Saturation Visible Geomorphic Posit Shallow Aquitard ( Fac-Neutral Test ( Raised Ant Mound Frost-Heave Hum	more required) aves (B9) and 4B) s (B10) r Table (C2) on Aerial Imagery cion (D2) (D3) (D5) ds (D6) (LRR A) mocks (D7)
Pepth (inches Remarks:  HYDROLO Vetland Hy Primary India	drology Indicators cators (minimum or 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: Present? Yes Iresent? Yes Issent? Yes	s: f one req 2) 4) Aerial Ima	uired; check  gery (B7) urface (B8)  No X	De	Water staine  1, 2, 4A, and Salt Crust (B Aquatic Inve Hydrogen St Oxidized Rhi Presence of Recent Iron Stunted or S Other (Expla	d 4B) state (B13) ulfide Odor (C1) izospheres along Reduced Iron (C Reduction in Plottressed Plants (in the Remarks)	Except MLRA  g Living Roots (C3) (24) wed Soils (C6) D1) (LRR A)	Seconda X X	ry Indicators (2 or Water stained Lea (MLRA1, 2, 4A, a Drainage Patterns Dry-Season Wate Saturation Visible Geomorphic Posit Shallow Aquitard ( Fac-Neutral Test ( Raised Ant Mound Frost-Heave Hum	more required) aves (B9) and 4B) s (B10) r Table (C2) on Aerial Imagery tion (D2) (D3) (D5) ds (D6) (LRR A)
AYDROLO Vetland Hy Primary India Field Obser Surface Water Vater Table P Saturation Pre Includes capillar	drology Indicators cators (minimum or 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: Present? Yes Iresent? Yes Issent? Yes	s: f one req 2) 4) B6) Aerial Ima	gery (B7) urface (B8)  No X No X No X	De	Water staine  1, 2, 4A, and Salt Crust (B Aquatic Inve Hydrogen Su Oxidized Rhi Presence of Recent Iron I Stunted or S Other (Expla	at 4B)  Interprete (B13)  Inte	Except MLRA  g Living Roots (C3) C4) wed Soils (C6) D1) (LRR A)  Wetland Hyd	Seconda X X	ry Indicators (2 or Water stained Lea (MLRA1, 2, 4A, a Drainage Patterns Dry-Season Wate Saturation Visible Geomorphic Posit Shallow Aquitard ( Fac-Neutral Test ( Raised Ant Mound Frost-Heave Hum	more required) aves (B9) and 4B) s (B10) r Table (C2) on Aerial Imagery cion (D2) (D3) (D5) ds (D6) (LRR A) mocks (D7)
AYDROLO Vetland Hy Primary India Field Obser Surface Water Vater 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 (I Inundation Visible on Sparsely Vegetated Covations: Present? Yes	s: f one req 2) 4) B6) Aerial Ima	gery (B7) urface (B8)  No X No X No X	De	Water staine  1, 2, 4A, and Salt Crust (B Aquatic Inve Hydrogen Su Oxidized Rhi Presence of Recent Iron I Stunted or S Other (Expla	at 4B)  Interprete (B13)  Inte	Except MLRA  g Living Roots (C3) C4) wed Soils (C6) D1) (LRR A)  Wetland Hyd	Seconda X X	ry Indicators (2 or Water stained Lea (MLRA1, 2, 4A, a Drainage Patterns Dry-Season Wate Saturation Visible Geomorphic Posit Shallow Aquitard ( Fac-Neutral Test ( Raised Ant Mound Frost-Heave Hum	more required) aves (B9) and 4B) s (B10) r Table (C2) on Aerial Imagery cion (D2) (D3) (D5) ds (D6) (LRR A) mocks (D7)
AYDROLO Vetland Hy Primary India Field Obser Surface Water Vater 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 (I Inundation Visible on Sparsely Vegetated Covations: Present? Yes	s: f one req 2) 4) B6) Aerial Ima	gery (B7) urface (B8)  No X No X No X	De	Water staine  1, 2, 4A, and Salt Crust (B Aquatic Inve Hydrogen Su Oxidized Rhi Presence of Recent Iron I Stunted or S Other (Expla	at 4B)  Interprete (B13)  Inte	Except MLRA  g Living Roots (C3) C4) wed Soils (C6) D1) (LRR A)  Wetland Hyd	Seconda X X	ry Indicators (2 or Water stained Lea (MLRA1, 2, 4A, a Drainage Patterns Dry-Season Wate Saturation Visible Geomorphic Posit Shallow Aquitard ( Fac-Neutral Test ( Raised Ant Mound Frost-Heave Hum	more required) aves (B9) and 4B) s (B10) r Table (C2) on Aerial Imagery cion (D2) (D3) (D5) ds (D6) (LRR A) mocks (D7)
AYDROLO Vetland Hy Primary India Field Obser Surface Water Vater 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 (I Inundation Visible on Sparsely Vegetated Covations: Present? Yes	s: f one req 2) 4) B6) Aerial Ima	gery (B7) urface (B8)  No X No X No X	De	Water staine  1, 2, 4A, and Salt Crust (B Aquatic Inve Hydrogen Su Oxidized Rhi Presence of Recent Iron I Stunted or S Other (Expla	at 4B)  at 11)  retebrates (B13)  ulfide Odor (C1)  izospheres along  Reduced Iron (C  Reduction in Plot  stressed Plants (I  ain in Remarks)  > 12  > 12	Except MLRA  g Living Roots (C3) C4) wed Soils (C6) D1) (LRR A)  Wetland Hyd	Seconda X X	ry Indicators (2 or Water stained Lea (MLRA1, 2, 4A, a Drainage Patterns Dry-Season Wate Saturation Visible Geomorphic Posit Shallow Aquitard ( Fac-Neutral Test ( Raised Ant Mound Frost-Heave Hum	more required) aves (B9) and 4B) s (B10) r Table (C2) on Aerial Imagery cion (D2) (D3) (D5) ds (D6) (LRR A) mocks (D7)

5975

Project/Site:	SE Kellog	Creek D	)rive	City/County:	Milwa	ukie/Clackamas	Sampling Date:	11/21/2016	
Applicant/Owner:	Brownstone Development, Inc.				State:	OR	Sampling Point:	2	
nvestigator(s):	Caroli	ne R./Cra	aig T.	Section, To	wnship, Range:	<u> </u>	Section 6AD, T 29	S, R 2E	
andform (hillslope, t	terrace, etc.:)			_	Local relief (co	ncave, convex, none):			
Subregion (LRR):	, ,	LRRA	·	Lat:	45.427	379 Long:	-122.603487		WGS 84
Soil Map Unit Name:			Cove s	— ilty clay loam			ssification:		
re climatic/hydrolog					Yes			lain in Remarks)	
re vegetation		•	•	significantly dist					
		_					, , ,		
re vegetation	Soil	or Hy	arology	naturally problei	matic? If needed	d, explain any answers in Re	emarks.)		
UMMARY OF	<b>FINDINGS</b>	- Attac	h site map	showing san	npling point	locations, transects	s, important feat	tures, etc.	
drophytic Vegetation	on Present?	Yes	X N	0					
/dric Soil Present?		Yes	N	o X	Is Sampled A			No X	
etland Hydrology P		Yes		o <b>X</b>	a wella				
emarks:	Tooont.			<u> </u>					
EGETATION -	· Use scien	tific nan	nes of plan	its.					
			absolute	Dominant	Indicator	Dominance Test wo	rksheet:		
		,	% cover	Species?	Status				
	t size:	)	40		E 4 014/	Number of Dominant Spe			(4)
Fraxinus latif	olia		10	<u> </u>	FACW	That are OBL, FACW, or	FAC:	4	(A)
						Total Namels on of Donaines	-4		
<u></u>						Total Number of Domina		4	(D)
·			10	= Total Cover		Species Across All Strata	i. 	4	(B)
				= Total Cover					
pling/Shrub Stratu		ə:				Percent of Dominant Spe			(4.45)
Fraxinus latif	olia		5	<u> </u>	FACW	That are OBL, FACW, o	r FAC:	100%	(A/B)
Prunus sp.	·laava				(FAC)	Dravelance Index W	- wl. o.b. o.a.t.		
Rubus armen	iiacus			<u> </u>	FAC	Prevalence Index W			
·						Total % Cover of OBL Species	Multiply by x 1 =		
·			11	= Total Cover		FACW species	x 2 =		
				- Total Gover		FAC Species	x 3 =	0	
erb Stratum (plot	t size:	)				FACU Species	x 4 =	0	
Phalaris arun	dinacea		70	X	FACW	UPL Species	x 5 =	0	
Dipsacus fulle	onum		15		FAC	Column Totals	<b>0</b> (A)	0	(B)
Geum macro	phyllum		2		FAC				
Cirsium vulga	are		1		FACU	Prevalence Index =	B/A = #	#DIV/0!	
Epilobium cil	liatum		1		FACW				
·						Hydrophytic Vegetat			
						·	1- Rapid Test for Hyd		n
						·	2- Dominance Test is		
			89	= Total Cover			<ul><li>3-Prevalence Index is</li><li>4-Morphological Adap</li></ul>		supporting
			)				data in Remarks or or	· ·	
	(plot size:		,				5- Wetland Non-Vasc		.,
oody Vine Stratum	(plot size:								
oody Vine Stratum	[ (plot size:						Problematic Hydrophy	tic Vegetation <sup>1</sup> (E	xplain)
oody Vine Stratum	plot size:			= Total Cover		<sup>1</sup> Indicators of hydric soil a	Problematic Hydrophy and wetland hydrology		
3 //oody Vine Stratum	(plot size:	<u>—</u>	0	= Total Cover		<sup>1</sup> Indicators of hydric soil a disturbed or problematic.	and wetland hydrology		
oody Vine Stratum	. "		0	= Total Cover		<sup>1</sup> Indicators of hydric soil a	and wetland hydrology		

			PHS#	5975			Sampling Point:	2
Profile Descript	ion: (Describe to th	he depth i	needed to docume	nt the indicator or con	firm the absence of indic	ators.)		
Depth	Matrix			Redox Features				
(Inches)	Color (moist)	%	Color (moist)	% Type <sup>1</sup>	Loc <sup>2</sup> Text		Remarks	
0-18	10YR 3/2	100			Silty Cla	y Loam		
<del></del> -	·							
Type: C=Concer	ntration, D=Depletio	on, RM=Re	educed Matrix, CS=	Covered or Coated Sand	d Grains.		tion: PL=Pore Lining, M=Ma	
lydric Soil In	dicators: (Appli	cable to	all LRRs, unless	s otherwise noted.)		Indicators	for Problematic Hydric	Soils <sup>3</sup> :
	stosol (A1)			Sandy Redox			2 cm Muck (A10)	
	stic Epipedon (A2)			Stripped Mat			Red Parent Materia	
_	ack Histic (A3)				y Mineral (F1) (except MLR	A 1)	Very Shallow Dark	
	drogen Sulfide (A4)		\11\		d Matrix (F2)		Other (explain in Re	emarks)
	epleted Below Dark nick Dark Surface (A	•	(11)	Depleted Ma  Redox Dark				
	andy Mucky Mineral	-			rk Surface (F7)		ators of hydrophytic vegetati	
	andy Mucky Milleral andy Gleyed Matrix (			Redox Depre		hydr	ology must be present, unles problematic.	ss disturbed or
	yer (if present):						F	
Туре:	iyer (ii present).							
Depth (inches):					Hydric	Soil Present?	Voc N	lo X
Remarks:					niyano (	John Frederic.		
Wetland Hydr	ology Indicators		uired: check all th	nat anniv)		Sec	ondary Indicators (2 or r	more required)
<b>Netland Hydr</b> Primary Indica			uired; check all th		d Leaves (B9) <b>(Except ML</b>		condary Indicators (2 or r Water stained Leav	
<b>Vetland Hydr</b> Primary Indica Su	rology Indicators tors (minimum of	f one req	uired; check all th				condary Indicators (2 or r Water stained Leav (MLRA1, 2, 4A, an	es (B9)
Vetland Hydr Primary Indica Su Hiç	tors (minimum of urface Water (A1)	f one req	uired; check all th	Water staine	4B)		Water stained Leav	es (B9) d 4B)
<b>Vetland Hydr</b> Primary Indica  Su  Hig	tors (minimum of urface Water (A1) gh Water Table (A2)	f one req	uired; check all th	Water staine 1, 2, 4A, and Salt Crust (B	4B)		Water stained Leav (MLRA1, 2, 4A, an	es (B9) d <b>4B)</b> B10)
Vetland Hydr Primary Indica Su Hig Sa	tors (minimum of urface Water (A1) gh Water Table (A2) uturation (A3)	f one req	uired; check all th	Water staine 1, 2, 4A, and Salt Crust (B Aquatic Inver	<b>4B)</b> 11)		Water stained Leav (MLRA1, 2, 4A, an  Drainage Patterns (	res (B9) d <b>4B)</b> B10) Table (C2)
Vetland Hydr Primary Indica Su Hig Sa Wa Se	tors (minimum of urface Water (A1) gh Water Table (A2) aturation (A3) ater Marks (B1) ediment Deposits (B3)	f one req	uired; check all th	Water staine 1, 2, 4A, and Salt Crust (B Aquatic Inver Hydrogen Su Oxidized Rhi	4B)  11)  tebrates (B13)  Ifide Odor (C1)  zospheres along Living Ro	.RA	Water stained Leav (MLRA1, 2, 4A, an Drainage Patterns ( Dry-Season Water Saturation Visible o Geomorphic Positio	es (B9) d 4B) B10) Table (C2) n Aerial Imagery on (D2)
Wetland Hydr Primary Indica Su Hig Sa Wa Se Dri	tors (minimum of urface Water (A1) gh Water Table (A2 aturation (A3) ater Marks (B1) ediment Deposits (B ift Deposits (B3) gal Mat or Crust (B4	f one req	uired; check all th	Water staine 1, 2, 4A, and Salt Crust (B Aquatic Inver Hydrogen Su Oxidized Rhi Presence of	4B) 11) tebrates (B13) Ifide Odor (C1) zospheres along Living Ro Reduced Iron (C4)	RA	Water stained Leav (MLRA1, 2, 4A, an Drainage Patterns ( Dry-Season Water Saturation Visible o Geomorphic Positio Shallow Aquitard (D	es (B9) d 4B) B10) Table (C2) n Aerial Imagery on (D2)
Wetland Hydr Primary Indica Su Hig Sa Wa Se Dri Alg	tors (minimum of urface Water (A1) gh Water Table (A2) aturation (A3) ater Marks (B1) adiment Deposits (B3) gal Mat or Crust (B4) on Deposits (B5)	f one req	uired; check all th	Water staine 1, 2, 4A, and Salt Crust (B Aquatic Invertigation Hydrogen Su Oxidized Rhi Presence of Recent Iron F	4B)  11)  tebrates (B13)  Ifide Odor (C1)  zospheres along Living Ro  Reduced Iron (C4)  Reduction in Plowed Soils	oots (C3)	Water stained Leav (MLRA1, 2, 4A, an Drainage Patterns ( Dry-Season Water Saturation Visible o Geomorphic Positio Shallow Aquitard (D Fac-Neutral Test (D	es (B9) dd 4B) B10) Table (C2) n Aerial Imagery on (D2) 03)
Wetland Hydr Primary Indica Su Hiç Sa Wa Se Dri Alç Iro	tors (minimum of urface Water (A1) gh Water Table (A2) aturation (A3) ater Marks (B1) ediment Deposits (B3) gal Mat or Crust (B4 on Deposits (B5) urface Soil Cracks (E	f one req		Water staine  1, 2, 4A, and  Salt Crust (B  Aquatic Inver  Hydrogen Su  Oxidized Rhi  Presence of  Recent Iron B  Stunted or Si	11) tebrates (B13) lfide Odor (C1) zospheres along Living Ro Reduced Iron (C4) Reduction in Plowed Soils tressed Plants (D1) (LRR A	oots (C3)	Water stained Leav (MLRA1, 2, 4A, an Drainage Patterns ( Dry-Season Water Saturation Visible o Geomorphic Positio Shallow Aquitard (D Fac-Neutral Test (D Raised Ant Mounds	es (B9) d 4B) B10) Table (C2) n Aerial Imagery on (D2) D3) 55)
Vetland Hydr Primary Indica Su Hiç Sa Wi Se Dri Alç Iro Su	tors (minimum of urface Water (A1) gh Water Table (A2) aturation (A3) ater Marks (B1) adiment Deposits (B3) gal Mat or Crust (B4) on Deposits (B5)	f one req	gery (B7)	Water staine  1, 2, 4A, and  Salt Crust (B  Aquatic Inver  Hydrogen Su  Oxidized Rhi  Presence of  Recent Iron B  Stunted or Si	4B)  11)  tebrates (B13)  Ifide Odor (C1)  zospheres along Living Ro  Reduced Iron (C4)  Reduction in Plowed Soils	oots (C3)	Water stained Leav (MLRA1, 2, 4A, an Drainage Patterns ( Dry-Season Water Saturation Visible o Geomorphic Positio Shallow Aquitard (D Fac-Neutral Test (D	es (B9) dd 4B) B10) Table (C2) n Aerial Imagery on (D2) D3) E (D6) (LRR A)
Wetland Hydr Primary Indica Su Hig Sa Wa Se Dri Alg Iro Su	tors (minimum of urface Water (A1) gh Water Table (A2) aturation (A3) ater Marks (B1) adiment Deposits (B3) gal Mat or Crust (B4) on Deposits (B5) urface Soil Cracks (E undation Visible on A parsely Vegetated Co	f one req	gery (B7)	Water staine  1, 2, 4A, and  Salt Crust (B  Aquatic Inver  Hydrogen Su  Oxidized Rhi  Presence of  Recent Iron B  Stunted or Si	11) tebrates (B13) lfide Odor (C1) zospheres along Living Ro Reduced Iron (C4) Reduction in Plowed Soils tressed Plants (D1) (LRR A	oots (C3)	Water stained Leav (MLRA1, 2, 4A, an Drainage Patterns ( Dry-Season Water Saturation Visible o Geomorphic Positio Shallow Aquitard (D Fac-Neutral Test (D Raised Ant Mounds	es (B9) d 4B) B10) Table (C2) n Aerial Imagery on (D2) D3) 55)
Primary Indica Su Hiç Sa W: Se Dri Alç Iro Su Int. Sp	tors (minimum of urface Water (A1) gh Water Table (A2) aturation (A3) ater Marks (B1) addiment Deposits (B3) gal Mat or Crust (B4 on Deposits (B5) urface Soil Cracks (Eundation Visible on Marsely Vegetated Cations:	f one req	gery (B7)	Water staine  1, 2, 4A, and  Salt Crust (B  Aquatic Inver  Hydrogen Su  Oxidized Rhi  Presence of  Recent Iron B  Stunted or Si	11) tebrates (B13) lfide Odor (C1) zospheres along Living Ro Reduced Iron (C4) Reduction in Plowed Soils tressed Plants (D1) (LRR A	oots (C3)	Water stained Leav (MLRA1, 2, 4A, an Drainage Patterns ( Dry-Season Water Saturation Visible o Geomorphic Positio Shallow Aquitard (D Fac-Neutral Test (D Raised Ant Mounds	es (B9) d 4B) B10) Table (C2) n Aerial Imagery on (D2) D3) 55)
Wetland Hydr Primary Indica Su Hig Sa Wa Se Dri Alg Iro Su Inu Sp Field Observa	tors (minimum of urface Water (A1) gh Water Table (A2) aturation (A3) ater Marks (B1) adiment Deposits (B3) gal Mat or Crust (B4) on Deposits (B5) urface Soil Cracks (E undation Visible on A parsely Vegetated Coations: resent? Yes	f one req	gery (B7) urface (B8)	Water staine  1, 2, 4A, and  Salt Crust (B  Aquatic Inver  Hydrogen Su  Oxidized Rhi  Presence of  Recent Iron F  Stunted or Si  Other (Expla	tebrates (B13)  Ifide Odor (C1)  zospheres along Living Ro  Reduced Iron (C4)  Reduction in Plowed Soils  tressed Plants (D1) (LRR A  in in Remarks)	oots (C3)	Water stained Leav (MLRA1, 2, 4A, an Drainage Patterns ( Dry-Season Water Saturation Visible o Geomorphic Positio Shallow Aquitard (D Fac-Neutral Test (D Raised Ant Mounds Frost-Heave Humm	es (B9) d 4B) B10) Table (C2) n Aerial Imagery on (D2) D3) 55)
Primary Indicat Su Hig Sa Wa Se Dri Alg Iro Su Int Sp Field Observa Surface Water Prese Water Table Prese Saturation Prese	tors (minimum of urface Water (A1) gh Water Table (A2) aturation (A3) ater Marks (B1) adiment Deposits (B3) gal Mat or Crust (B4) on Deposits (B5) urface Soil Cracks (E undation Visible on A barsely Vegetated Co ations: resent? Yes sent? Yes nt? Yes	f one req	gery (B7) urface (B8) No <u>X</u>	Water staine  1, 2, 4A, and Salt Crust (B Aquatic Inver Hydrogen Su Oxidized Rhi Presence of Recent Iron I Stunted or S' Other (Expla	tebrates (B13)  Ifide Odor (C1)  zospheres along Living Ro  Reduced Iron (C4)  Reduction in Plowed Soils  tressed Plants (D1) (LRR A  in in Remarks)	(C6)	Water stained Leav (MLRA1, 2, 4A, an Drainage Patterns ( Dry-Season Water Saturation Visible o Geomorphic Positio Shallow Aquitard (D Fac-Neutral Test (D Raised Ant Mounds Frost-Heave Humm	es (B9) d 4B) B10) Table (C2) n Aerial Imagery on (D2) D3) 55)
Wetland Hydr Primary Indica Su Hiç Sa Wi Se Dri Alç Iro Su Inu Sp Field Observa Surface Water Pi Water Table Prese Saturation Prese (includes capillary fi	tors (minimum of urface Water (A1) gh Water Table (A2) attraction (A3) ater Marks (B1) addiment Deposits (B3) gal Mat or Crust (B4 on Deposits (B5) urface Soil Cracks (Eundation Visible on warsely Vegetated Coations:  resent? Yes sent? Yes int? Yes fringe)	f one req	gery (B7) urface (B8)  No	Water staine  1, 2, 4A, and Salt Crust (B Aquatic Inver Hydrogen Su Oxidized Rhi Presence of Recent Iron I Stunted or Si Other (Expla	tebrates (B13)  Ifide Odor (C1)  zospheres along Living Ro  Reduced Iron (C4)  Reduction in Plowed Soils  tressed Plants (D1) (LRR A  in in Remarks)  > 18  > 18	(C6)	Water stained Leav (MLRA1, 2, 4A, an Drainage Patterns ( Dry-Season Water Saturation Visible o Geomorphic Positio Shallow Aquitard (D Fac-Neutral Test (D Raised Ant Mounds Frost-Heave Humm	es (B9) dd 4B) B10) Table (C2) In Aerial Imagery In (D2) In Aerial Imagery In (D2) In (D3) In (D3) In (D4) In
Wetland Hydr Primary Indica Su Hiç Sa Wi Se Dri Alç Iro Su Inu Sp Field Observa Surface Water Pi Water Table Prese Saturation Presee (includes capillary fi	tors (minimum of urface Water (A1) gh Water Table (A2) attraction (A3) ater Marks (B1) addiment Deposits (B3) gal Mat or Crust (B4 on Deposits (B5) urface Soil Cracks (Eundation Visible on warsely Vegetated Coations:  resent? Yes sent? Yes int? Yes fringe)	f one req	gery (B7) urface (B8)  No	Water staine  1, 2, 4A, and Salt Crust (B Aquatic Inver Hydrogen Su Oxidized Rhi Presence of Recent Iron f Stunted or Si Other (Expla	tebrates (B13)  Ifide Odor (C1)  zospheres along Living Ro  Reduced Iron (C4)  Reduction in Plowed Soils  tressed Plants (D1) (LRR A  in in Remarks)  > 18  > 18	(C6)	Water stained Leav (MLRA1, 2, 4A, an Drainage Patterns ( Dry-Season Water Saturation Visible o Geomorphic Positio Shallow Aquitard (D Fac-Neutral Test (D Raised Ant Mounds Frost-Heave Humm	es (B9) d 4B) B10) Table (C2) In Aerial Imagery In (D2) In Aerial Imagery In (D2) In Aerial Imagery In (D2) In (D2) In (D2) In (D2) In (D2) In (D2) In (D3) In (D4) In
Wetland Hydr Primary Indica Su Hiç Sa Wi Se Dri Alç Iro Su Inu Sp Field Observa Surface Water Pi Water Table Prese Saturation Presee includes capillary fi	tors (minimum of urface Water (A1) gh Water Table (A2) attraction (A3) ater Marks (B1) addiment Deposits (B3) gal Mat or Crust (B4 on Deposits (B5) urface Soil Cracks (Eundation Visible on warsely Vegetated Coations:  resent? Yes sent? Yes int? Yes fringe)	f one req	gery (B7) urface (B8)  No	Water staine  1, 2, 4A, and Salt Crust (B Aquatic Inver Hydrogen Su Oxidized Rhi Presence of Recent Iron f Stunted or Si Other (Expla	tebrates (B13)  Ifide Odor (C1)  zospheres along Living Ro  Reduced Iron (C4)  Reduction in Plowed Soils  tressed Plants (D1) (LRR A  in in Remarks)  > 18  > 18	(C6)	Water stained Leav (MLRA1, 2, 4A, an Drainage Patterns ( Dry-Season Water Saturation Visible o Geomorphic Positio Shallow Aquitard (D Fac-Neutral Test (D Raised Ant Mounds Frost-Heave Humm	es (B9) d 4B) B10) Table (C2) In Aerial Imagery In (D2) In Aerial Imagery In (D2) In Aerial Imagery In (D2) In (D2) In (D2) In (D2) In (D2) In (D2) In (D3) In (D4) In
Wetland Hydr Primary Indica Su Hiç Sa Wi Se Dri Alç Iro Su Inu Sp Field Observa Surface Water Pi Water Table Prese Saturation Presee	tors (minimum of urface Water (A1) gh Water Table (A2) attraction (A3) ater Marks (B1) addiment Deposits (B3) gal Mat or Crust (B4 on Deposits (B5) urface Soil Cracks (Eundation Visible on warsely Vegetated Coations:  resent? Yes sent? Yes int? Yes fringe)	f one req	gery (B7) urface (B8)  No	Water staine  1, 2, 4A, and Salt Crust (B Aquatic Inver Hydrogen Su Oxidized Rhi Presence of Recent Iron f Stunted or Si Other (Expla	tebrates (B13)  Ifide Odor (C1)  zospheres along Living Ro  Reduced Iron (C4)  Reduction in Plowed Soils  tressed Plants (D1) (LRR A  in in Remarks)  > 18  > 18	(C6)	Water stained Leav (MLRA1, 2, 4A, an Drainage Patterns ( Dry-Season Water Saturation Visible o Geomorphic Positio Shallow Aquitard (D Fac-Neutral Test (D Raised Ant Mounds Frost-Heave Humm	es (B9) d 4B) B10) Table (C2) In Aerial Imagery In (D2) In Aerial Imagery In (D2) In Aerial Imagery In (D2) In (D2) In (D2) In (D2) In (D2) In (D2) In (D3) In (D4) In

5975

Project/Site: SE Kello	gg Creek	Drive	City/County:	Milwa	ukie/Clackamas	Sampling Date:	11/2	1/2016	
	Brownstone Development, Inc.				State:	OR	Sampling Point:	3	
Investigator(s): Card	stigator(s): Caroline R./Craig T.			wnship, Range:		Section 6AD, T 2	S, R 2E		
Landform (hillslope, terrace, etc.:)					ncave, convex, none):	•			
Subregion (LRR):	LRR		Lat:	45.427		-122.603487		WGS 84	
Soil Map Unit Name:		Cove	—— silty clay loam		NWI Cla	assification:	None		
Are climatic/hydrologic conditions	on the site			Yes		(if no, ex	plain in Remarks)		
Are vegetation Soil		• •	•	urbed?		, ,			
Are vegetation Soil									
SUMMARY OF FINDING	S – Atta	ch site ma	p showing san	pling point	locations, transects	s, important fea	tures, etc.		
Hydrophytic Vegetation Present?	Yes	X	No	Is Sampled A	rea within				
Hydric Soil Present?	Yes	X	No	a Wetla		<u> </u>	No		
Wetland Hydrology Present?	Yes	X	No						
Remarks:									
VEGETATION - Use scie	ntific na	•			T				
		absolute % cover		Indicator Status	Dominance Test wo	rksheet:			
Tree Stratum (plot size:		)			Number of Dominant Spe	ecies			
1 Fraxinus latifolia		5	x	FACW	That are OBL, FACW, or	FAC:	5	(A)	
2								•	
3					Total Number of Domina	nt			
4					Species Across All Strata	a:	5	(B)	
		5	= Total Cover						
Sapling/Shrub Stratum (plot s	ize:	)			Percent of Dominant Spe	ecies			
1 Fraxinus latifolia		15	X	FACW	That are OBL, FACW, o	r FAC:	100%	(A/B)	
2 Rubus armeniacus		5	X	FAC					
3					Prevalence Index W	orksheet:			
4					Total % Cover of	Multiply b			
5					OBL Species	x 1 =			
		20	= Total Cover		FACW species FAC Species	x 2 = x 3 =			
Herb Stratum (plot size:		)			FACU Species	x 4 =			
1 Phalaris arundinacea		50	x	FACW	UPL Species	x	. 0		
2 Ranunculus repens		30	Х	FAC	Column Totals	<b>0</b> (A)	0	(B)	
3 Geum macrophyllum		1		FAC					
4					Prevalence Index =	B/A =	#DIV/0!		
5									
6					Hydrophytic Vegeta				
/			_		•	1- Rapid Test for Hyd		1	
8		81	- Total Cavar		•	<ul><li>2- Dominance Test is</li><li>3-Prevalence Index i</li></ul>			
		01	= Total Cover			4-Morphological Ada		upporting	
Noody Vine Stratum (plot size:	: <u></u>	)			-	data in Remarks or o	-		
1		<del>.</del>				5- Wetland Non-Vas	cular Plants <sup>1</sup>		
						Problematic Hydroph	ytic Vegetation <sup>1</sup> (E	xplain)	
2		0	= Total Cover		<sup>1</sup> Indicators of hydric soil a		y must be present,	unless	
2									
2					disturbed or problematic. <b>Hvdrophytic</b>				
2					disturbed or problematic.  Hydrophytic  Vegetation	Yes X	No		

SOIL			PHS#	5975			Sampling Point:	3
Profile Descri	ption: (Describe to t	the depth	needed to docume	ent the indicator	or confirm the abse	nce of indicators.)		
Depth	Matrix		<u> </u>	Redox Feat	4 6	_		
(Inches)	Color (moist)	%	Color (moist)	%Ty	rpe <sup>1</sup> Loc <sup>2</sup>	Texture	Remarks	
0-8	10YR 3/1	100				Silty Clay Loam		
8-18	10YR 2/1	98	10YR 4/4	2	С М	Clay		
<sup>1</sup> Type: C=Cond	centration, D=Depletion	on, RM=R	educed Matrix, CS=	Covered or Coate	ed Sand Grains.		<sup>2</sup> Location: PL=Pore Lining, M=Matrix	κ.
Hydric Soil	Indicators: (Appli	icable to	all LRRs, unles	s otherwise no	oted.)	Indica	ators for Problematic Hydric So	oils³:
-	Histosol (A1)				/ Redox (S5)		2 cm Muck (A10)	
	Histic Epipedon (A2)				ed Matrix (S6)		Red Parent Material (T	F2)
	Black Histic (A3)				y Mucky Mineral (F1)	(except MLRA 1)	Very Shallow Dark Sur	•
	Hydrogen Sulfide (A4	.)			y Gleyed Matrix (F2)	,,	Other (explain in Rema	
	Depleted Below Dark	-	A11)		ted Matrix (F3)			
	Thick Dark Surface (A	•	-,		Dark Surface (F6)			
	Sandy Mucky Mineral	•			ted Dark Surface (F7		<sup>3</sup> Indicators of hydrophytic vegetation	
	-				Depressions (F8)	,	hydrology must be present, unless of	disturbed or
	Sandy Gleyed Matrix  Layer (if present):			Redox	C Depressions (Fo)		problematic.	
Туре:								
Depth (inches	s):					Hydric Soil Pres	sent? Yes X No	
Remarks:	<u> </u>			-				
HYDROLO	GY drology Indicator	e.						
_	cators (minimum o		uired: check all t	hat annly)			Secondary Indicators (2 or mo	re required)
	Surface Water (A1)	i one req	julieu, check all t		stained Leaves (B9)	(Except MI RA	Water stained Leaves	
	` ,	2)			A, and 4B)	(Except MEICA	(MLRA1, 2, 4A, and 4	
	High Water Table (A2	2)			rust (B11)		Drainage Patterns (B1)	
	Saturation (A3) Water Marks (B1)				ic Invertebrates (B13	١	Drainage Fatterns (B II	
	Sediment Deposits (E	32)			gen Sulfide Odor (C1		Saturation Visible on A	` '
	Drift Deposits (B3)	32)			-	ng Living Roots (C3)	Geomorphic Position (	
	Algal Mat or Crust (B	4)			nce of Reduced Iron		Shallow Aquitard (D3)	J2)
	Iron Deposits (B5)	τ)			nt Iron Reduction in F		Fac-Neutral Test (D5)	
	Surface Soil Cracks (	B6)			ed or Stressed Plants		Raised Ant Mounds (D	6) (LRR A)
	Inundation Visible on		agery (B7)		(Explain in Remarks	. , .	Frost-Heave Hummocl	
	Sparsely Vegetated C				(	,		( )
Field Obser	vations:					T		
Surface Water			No X	Depth (inche	es):			
Water Table P		x	No			Wetland Hvd	rology Present?	
Saturation Pre		x	No	Depth (inche	· —	-	Yes X No	
(includes capillar						-		
Describe Reco	orded Data (stream ga	auge, mon	itoring well, aerial pl	hotos, previous in	spections), if availab	le:		
lemarks:								

5975

roject/Site:	SE Kellog	g Creek D	rive	City/County:	Milwa	ukie/Clackamas	Sampling Date:	11/2	1/2016
pplicant/Owner:	Brownsto	ne Develo	pment, Inc.			State:	OR	Sampling Point:	4
vestigator(s):	Carol	ine R./Cra	ig T.	Section, To	wnship, Range:	<del></del>	Section 6AD, T 2S	, R 2E	
andform (hillslope,					Local relief (cor	ncave, convex, none):			
ubregion (LRR):	,	LRRA		Lat:	45.4273	379 Long:	-122.603487		WGS 84
oil Map Unit Name	j.		Cove sil	- ty clay loam			sification:	 None	
e climatic/hydrolog					Yes			ain in Remarks)	
e vegetation	•		•	•	turbed?				
e vegetation		_		_		I, explain any answers in Rer	. , ,		
vegetation	3011			_naturally proble	maile: il fieeded	i, explain any answers in Nei	ilaiks.)		
JMMARY OF	FINDINGS	- Attacl	h site map ទ	showing san	npling point	locations, transects,	important feat	ures, etc.	
drophytic Vegetat	tion Present?	Yes	No.	X					
dric Soil Present?	?	Yes	No	Х	Is Sampled Ar a Wetlar			No X	
tland Hydrology l	Present?	Yes	No	x		_			
marks:					1				
naiks.									
GETATION	- Use scier	ntific nam	nes of plant	S.					
			absolute	Dominant	Indicator	Dominance Test worl	ksheet:		
			% cover	Species?	Status				
	ot size:	30 )				Number of Dominant Spec	cies		
Fraxinus lati	ifolia		3		FACW	That are OBL, FACW, or F	AC:	3	(A)
						Total Number of Dominant		_	<b>(D)</b>
						Species Across All Strata:		7	(B)
			3	= Total Cover					
oling/Shrub Strate	<u>um</u> (plot siz	e: <u>5</u>	_)			Percent of Dominant Spec	ies		
Fraxinus lati	ifolia		3		FACW	That are OBL, FACW, or	FAC:	43%	(A/B)
Rubus armei				X	FAC				
Crataegus m			10	<u>X</u>	FAC	Prevalence Index Wo			
Rubus lacini	iatus		15	X	FACU	Total % Cover of	Multiply by		
			40	- T-t-l O		OBL Species	x 1 =	0	
			48	= Total Cover		FACW species FAC Species	x 2 = x 3 =	0	
rb Stratum (plo	ot size:	5 )				FACU Species	x 4 =	0	
Geum macro	·		5	X	FAC	UPL Species	x 5 =	0	
Lapsana con	nmunis		10	x	FACU	Column Totals	<b>0</b> (A)	0	(B)
Polystichum	munitum		5	Х	FACU				
						Prevalence Index =B	/A = #	DIV/0!	
						Hydrophytic Vegetati	on Indicators:		
						1	- Rapid Test for Hydr	ophytic Vegetatio	n
							- Dominance Test is		
			20	= Total Cover			-Prevalence Index is -Morphological Adapt		unnorting
ody Vine Stratun	n (plot size:		)				ata in Remarks or on		
Rubus ursin	- "		_′ 60	X	FACU		- Wetland Non-Vascı		.)
Solanum dul			5		FAC		roblematic Hydrophy		xnlain)
Oolanam aar	icamara		65	= Total Cover	170	<sup>1</sup> Indicators of hydric soil ar			
				- Total Cover		disturbed or problematic.	id welland hydrology	must be present,	uness
						Hydrophytic			
						Vegetation	Yes	No	X
Bare Ground in H	Herb Stratum					Present?	-		

SOIL			PHS#	5975			Sampling Poin	ıt:	4
Profile Descri	otion: (Describe to t	he depth ı	needed to docume	nt the indicator or con	nfirm the absence	e of indicators.)			
Depth	Matrix			Redox Features	2				
(Inches)	Color (moist)	%	Color (moist)	% Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Rem	arks	
0-16	10YR 3/2	100				Sandy Loam			
							_		
					<u> </u>				
Type: C=Cond	entration, D=Depletion	on, RM=Re	duced Matrix, CS=0	Covered or Coated San	d Grains.		<sup>2</sup> Location: PL=Pore Lining,	, M=Matrix.	
				otherwise noted.)		Indica	ators for Problematic H		
	Histosol (A1)			Sandy Redo	x (S5)		2 cm Muck (	A10)	
	Histic Epipedon (A2)			Stripped Mat	trix (S6)		Red Parent I	Material (TF2)	
	Black Histic (A3)			Loamy Muck	xy Mineral (F1) (ex	ccept MLRA 1)	Very Shallow	v Dark Surface (T	ſF12)
	Hydrogen Sulfide (A4)	)		Loamy Gleye	ed Matrix (F2)		Other (explain	in in Remarks)	
ı	Depleted Below Dark	Surface (A	.11)	Depleted Ma	atrix (F3)				
	Thick Dark Surface (A	(12)		Redox Dark	Surface (F6)				
	Sandy Mucky Mineral	•			rk Surface (F7)		<sup>3</sup> Indicators of hydrophytic v		
	Sandy Gleyed Matrix			Redox Depre			hydrology must be preser problem		ed or
Restrictive I	_ayer (if present):								
ype:									
Depth (inches	).					Hydric Soil Pres	sent? Yes	No )	X
Remarks:	,								
HYDROLO	GY drology Indicators	••							
•	ators (minimum o		uired: check all th	at apply)			Secondary Indicators	(2 or more requ	uired)
•	Surface Water (A1)	i one req	dired, crieck all ti	,	ed Leaves (B9) <b>(E</b>	xcept MLRA		ed Leaves (B9)	uireu)
	High Water Table (A2	<u>'</u> )		1, 2, 4A, and		.xoopt mero t		4A, and 4B)	
	Saturation (A3)			Salt Crust (B	311)		Drainage Pa	tterns (B10)	
	Water Marks (B1)			Aquatic Inve	rtebrates (B13)		Dry-Season	Water Table (C2)	.)
:	Sediment Deposits (B	2)		Hydrogen St	ulfide Odor (C1)		Saturation V	isible on Aerial In	nagery
ļ	Orift Deposits (B3)			Oxidized Rhi	izospheres along	Living Roots (C3)	Geomorphic	Position (D2)	
	Algal Mat or Crust (B	1)		Presence of	Reduced Iron (C	4)	Shallow Aqu	itard (D3)	
	ron Deposits (B5)			Recent Iron	Reduction in Plov	wed Soils (C6)	Fac-Neutral	Test (D5)	
	Surface Soil Cracks (l	B6)		Stunted or S	tressed Plants (D	01) <b>(LRR A)</b>	Raised Ant N	Mounds (D6) (LRI	R A)
	nundation Visible on	Aerial Ima	gery (B7)	Other (Expla	in in Remarks)		Frost-Heave	Hummocks (D7)	)
;	Sparsely Vegetated C	oncave Su	ırface (B8)						
ield Obser	vations:								
Surface Water	Present? Yes		No <u>X</u>	Depth (inches):					
Water Table P	resent? Yes		No <u>X</u>	Depth (inches):	> 16	Wetland Hyd	rology Present?		
Saturation Presincludes capillar			No <u>X</u>	Depth (inches):	> 16		Yes	No	X
		uge, monit	oring well, aerial ph	otos, previous inspection	ons), if available:				
emarks:									
omaino.									

5975

Project/Site:	SE Kellogo	Creek D	rive	City/County:	Milwa	ukie/Clackamas	Sampling Date:	11/2	1/2016
Applicant/Owner:	Brownstor	ne Develo	pment, lı	nc.		State:	OR	Sampling Point:	5
nvestigator(s):	Caroli	ne R./Cra	ig T.	Section, To	wnship, Range:		Section 6AD, T 29	S, R 2E	
andform (hillslope, t				ssion	Local relief (co	oncave, convex, none):		Slope (%):	
Subregion (LRR):	,	LRRA	•	Lat:	45.427	_	-122.603487		WGS 84
Soil Map Unit Name:				e silty clay loam			sification:	None	
are climatic/hydrolog					Yes			lain in Remarks)	
are vegetation		-	•	significantly dist		Are "Normal Circumstanc		•	
			-			d, explain any answers in Rer			
re vegetation	3011	_ 01 1190	urology	naturally problet	nauc? ii needed	u, explain any answers in Rei	narks.)		
SUMMARY OF	FINDINGS	<ul><li>Attacl</li></ul>	h site ma	ap showing sam	pling point	locations, transects,	important feat	tures, etc.	
lydrophytic Vegetation	on Present?	Yes	X	No					
ydric Soil Present?		Yes	X	No	Is Sampled A		X	No	
vetland Hydrology P	Present?	Yes	Х	No					
emarks:									
marko.									
FOFTATION	11	4!£!		4-					
EGETATION -	Use scien	tific nam				<u> </u>			
			absolut % cove		Indicator Status	Dominance Test worl	ksheet:		
ree Stratum (plot	t size:	)				Number of Dominant Spec	cies		
Fraxinus latifo	olia ——		60	x	FACW	That are OBL, FACW, or F		3	(A)
2	<u> </u>					111101000000000000000000000000000000000			(* ')
						Total Number of Dominant	•		
<u> </u>						Species Across All Strata:	•	3	(B)
' <del></del>			60	= Total Cover		Species Across Air Strata.			(D)
				Total Cover					
apling/Shrub Stratu	- "	»:	_)			Percent of Dominant Spec			
Fraxinus latifo	olia		5	X	FACW	That are OBL, FACW, or	FAC:	100%	(A/B)
Cornus alba			1		FACW				
Symphoricar	pos albus		1		FACU	Prevalence Index Wo	rksheet:		
·						Total % Cover of	Multiply by	<u>/:</u>	
·						OBL Species	x 1 =	0	
			7	= Total Cover		FACW species	x 2 =	0	
, or , (plot	t oizo:	,				FAC Species	x 3 =	0	
erb Stratum (plot	t SIZE.		20	V	F40	FACU Species	x 4 =	0	
Poa trivialis			30	X	FAC	UPL Species	x 5 =	0	(5)
Juncus tenuis			2		FAC	. Column Totals	<b>0</b> (A)	0	(B)
Rumex obtus			1		FAC			"D" ('0'	
Geum macrop			1		FAC	Prevalence Index =B	/A = #	#DIV/0!	
Taraxacum of	fficinale		1		FACU				
						Hydrophytic Vegetati			
·						·	- Rapid Test for Hydr		n
						•	- Dominance Test is		
			35	= Total Cover			<ul> <li>Prevalence Index is</li> <li>Morphological Adap</li> </ul>		unnorting
and Wine Stratum	(plot size:		)						•
oody Vine Stratum	(рюс 3126.		-'				ata in Remarks or on - Wetland Non-Vasc		)
						· I, ———	roblematic Hydrophy	-	
			0	= Total Cover		<sup>1</sup> Indicators of hydric soil ar disturbed or problematic.	nd wetland hydrology	must be present,	unless
						disturbed of problematic.			
1						Hydrophytic			
	erb Stratum					Hydrophytic Vegetation	Yes X	No	

SOIL			PHS#	5975			Sampling Point: 5
Profile Descri	iption: (Describe to t	he depth	needed to docume	ent the indicator	or confirm the abse	nce of indicators.)	
Depth	Matrix		<del> </del>	Redox Featu	4 6		
(Inches)	Color (moist)	<u>%</u>	Color (moist)	<u>%</u> Ty	/pe <sup>1</sup> Loc <sup>2</sup>	Texture	Remarks
1-6	10YR 3/1	100				Silty Clay Loam	
6-8	10YR 2/1	95	10YR 4/4	5	С М	Clay	
8-18	10YR 2/1	100				Clay	
<sup>1</sup> Type: C=Cond	centration, D=Depletion	on, RM=Re	educed Matrix, CS=	Covered or Coate	ed Sand Grains.		<sup>2</sup> Location: PL=Pore Lining, M=Matrix.
Hydric Soil	Indicators: (Appli	cable to	all LRRs, unles	s otherwise no	oted.)	Indica	ators for Problematic Hydric Soils <sup>3</sup> :
	Histosol (A1)			Sandy	Redox (S5)		2 cm Muck (A10)
	Histic Epipedon (A2)			Strippe	ed Matrix (S6)		Red Parent Material (TF2)
	Black Histic (A3)			Loamy	y Mucky Mineral (F1)	(except MLRA 1)	Very Shallow Dark Surface (TF12)
	Hydrogen Sulfide (A4	)		Loamy	y Gleyed Matrix (F2)		Other (explain in Remarks)
	Depleted Below Dark		A11)		ted Matrix (F3)		· ·
	Thick Dark Surface (A	· ·			k Dark Surface (F6)		
	Sandy Mucky Mineral	•			ted Dark Surface (F7)	)	<sup>3</sup> Indicators of hydrophytic vegetation and wetland
	Sandy Gleyed Matrix				Depressions (F8)		hydrology must be present, unless disturbed or problematic.
	Layer (if present):				. ,		·
ivesu icuve	Layer (ii present).						
_							
Туре:	-						
Type: Depth (inches Remarks:	s):					Hydric Soil Pres	sent? Yes X No
Depth (inches						Hydric Soil Pres	sent? Yes X No
Depth (inches Remarks:  HYDROLO Wetland Hy	OGY drology Indicator					Hydric Soil Pres	
Depth (inches Remarks:  HYDROLO Wetland Hy Primary India	OGY drology Indicator cators (minimum o		uired; check all t				Secondary Indicators (2 or more required)
Depth (inches Remarks:  HYDROLO Wetland Hy Primary India	OGY drology Indicator		uired; check all t	Water	stained Leaves (B9)		Secondary Indicators (2 or more required)  Water stained Leaves (B9)
Depth (inches Remarks:  HYDROLO Wetland Hy Primary India	OGY drology Indicator cators (minimum o	f one req	uired; check all t	Water	stained Leaves (B9)		Secondary Indicators (2 or more required)
Depth (inches Remarks:  HYDROLO Wetland Hy Primary India X X	drology Indicators cators (minimum o Surface Water (A1) High Water Table (A2 Saturation (A3)	f one req	uired; check all t	Water 1, 2, 4 Salt C	rust (B11)	(Except MLRA	Secondary Indicators (2 or more required)  Water stained Leaves (B9) (MLRA1, 2, 4A, and 4B)  Drainage Patterns (B10)
Depth (inches Remarks:  HYDROLO Wetland Hy Primary India X X	ody drology Indicator cators (minimum o Surface Water (A1) High Water Table (A2 Saturation (A3) Water Marks (B1)	f one req	uired; check all t	Water 1, 2, 4 Salt C Aquati	AA, and 4B) Frust (B11) ic Invertebrates (B13)	(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 Wetland Hy Primary India X X	ody drology Indicator cators (minimum o Surface Water (A1) High Water Table (A2 Saturation (A3) Water Marks (B1) Sediment Deposits (E	f one req	uired; check all t	Water 1, 2, 4 Salt C Aquati	IA, and 4B)  irust (B11)  ic Invertebrates (B13)  gen 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 (
Depth (inches Remarks:  HYDROLO Wetland Hy Primary India X X	cators (minimum o Surface Water (A1) High Water Table (A2 Saturation (A3) Water Marks (B1) Sediment Deposits (B Drift Deposits (B3)	f one req	uired; check all t	Water 1, 2, 4 Salt C Aquati Hydrog	rust (B11) ic Invertebrates (B13) gen Sulfide Odor (C1 ted Rhizospheres alor	(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 ( Geomorphic Position (D2)
Depth (inches Remarks:  HYDROLO Wetland Hy Primary India X X	cators (minimum o Surface Water (A1) High Water Table (A2 Saturation (A3) Water Marks (B1) Sediment Deposits (B3) Algal Mat or Crust (B4	f one req	uired; check all t	Water 1, 2, 4 Salt C Aquati Hydro Oxidiz Preset	irust (B11) ic Invertebrates (B13) gen Sulfide Odor (C1 red Rhizospheres alor nce of Reduced Iron (	(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)  Shallow Aquitard (D3)
Depth (inches Remarks:  HYDROLO Wetland Hy Primary India X X	cators (minimum o Surface Water (A1) High Water Table (A2 Saturation (A3) Water Marks (B1) Sediment Deposits (B3) Algal Mat or Crust (B4 Iron Deposits (B5)	f one req 2) 32)	uired; check all t	Water 1, 2, 4 Salt C Aquati Hydro Oxidiz Presei Recen	AA, and 4B)  irust (B11)  ic Invertebrates (B13)  gen Sulfide Odor (C1  red Rhizospheres alor  nce of Reduced Iron (  nt Iron Reduction in Pl	(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 ( Geomorphic Position (D2) Shallow Aquitard (D3) Fac-Neutral Test (D5)
Depth (inches Remarks:  HYDROLO Wetland Hy Primary India X X	cators (minimum o 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 (	f one req 2) 32) 4) B6)		Water 1, 2, 4 Salt C Aquati Hydrog Oxidiz Preseg Recen	AA, and 4B)  crust (B11)  ic Invertebrates (B13)  gen Sulfide Odor (C1  ted Rhizospheres alor  nce of Reduced Iron (  at Iron Reduction in Pl  ed or 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 ( Geomorphic Position (D2)  Shallow Aquitard (D3)  Fac-Neutral Test (D5)  Raised Ant Mounds (D6) (LRR A)
Depth (inches Remarks:  HYDROLO Wetland Hy Primary India X X	cators (minimum o 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 (Inundation Visible on	f one req 2) 32) 4) B6) Aerial Ima	gery (B7)	Water 1, 2, 4 Salt C Aquati Hydrog Oxidiz Preseg Recen	AA, and 4B)  irust (B11)  ic Invertebrates (B13)  gen Sulfide Odor (C1  red Rhizospheres alor  nce of Reduced Iron (  nt Iron Reduction in Pl	(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 ( Geomorphic Position (D2) Shallow Aquitard (D3) Fac-Neutral Test (D5)
Depth (inches Remarks:  HYDROLO Wetland Hy Primary India X X	cators (minimum o 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 (Inundation Visible on Sparsely Vegetated C	f one req 2) 32) 4) B6) Aerial Ima	gery (B7)	Water 1, 2, 4 Salt C Aquati Hydrog Oxidiz Preseg Recen	AA, and 4B)  crust (B11)  ic Invertebrates (B13)  gen Sulfide Odor (C1  ted Rhizospheres alor  nce of Reduced Iron (  at Iron Reduction in Pl  ed or 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 ( Geomorphic Position (D2)  Shallow Aquitard (D3)  Fac-Neutral Test (D5)  Raised Ant Mounds (D6) (LRR A)
Depth (inches Remarks:  HYDROLO Wetland Hy Primary India X X	cators (minimum o 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 (Inundation Visible on Sparsely Vegetated C	f one req 2) 32) 4) B6) Aerial Ima	gery (B7) urface (B8)	Water 1, 2, 4 Salt C Aquati Hydrog Oxidiz Preseg Recen Stunte Other	irust (B11) ic Invertebrates (B13) gen Sulfide Odor (C1) ted Rhizospheres alor nce of Reduced Iron ( nt Iron Reduction in Pl ed or Stressed Plants (Explain 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 ( Geomorphic Position (D2)  Shallow Aquitard (D3)  Fac-Neutral Test (D5)  Raised Ant Mounds (D6) (LRR A)
Depth (inches Remarks:  HYDROLO Wetland Hy Primary India X X X  Field Obser Surface Water	Cators (minimum on 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 (Inundation Visible on Sparsely Vegetated Covations: The Present? Yes	f one req 2) 32) 4) B6) Aerial Ima	gery (B7) urface (B8) No <u>X</u>	Water 1, 2, 4 Salt C Aquati Hydrog Oxidiz Presel Recen Stunte Other	irust (B11) ic Invertebrates (B13) gen Sulfide Odor (C1 red Rhizospheres alor nce of Reduced Iron ( nt Iron Reduction in Pl ed or Stressed Plants (Explain 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 ( Geomorphic Position (D2)  Shallow Aquitard (D3)  Fac-Neutral Test (D5)  Raised Ant Mounds (D6) (LRR A)  Frost-Heave Hummocks (D7)
Depth (inches Remarks:  HYDROLO Wetland Hy Primary India X X  X  Field Obser Surface Water Water Table P	cators (minimum o 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 (Inundation Visible on Sparsely Vegetated Covations:	f one req 2) 32) 4) B6) Aerial Ima Concave Su	gery (B7) urface (B8) No X	Water 1, 2, 4 Salt C Aquati Hydro Oxidiz Preset Recen Stunte Other  Depth (inche	irust (B11) ic Invertebrates (B13) gen Sulfide Odor (C1 red Rhizospheres alor nce of Reduced Iron ( nt Iron Reduction in Pl ed or Stressed Plants (Explain 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 ( Geomorphic Position (D2)  Shallow Aquitard (D3)  Fac-Neutral Test (D5)  Raised Ant Mounds (D6) (LRR A)  Frost-Heave Hummocks (D7)
Depth (inches Remarks:  HYDROLO Wetland Hy Primary India X X X  Field Obser Surface Water	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 (Inundation Visible on Sparsely Vegetated Covations:  The Present? Yes	f one req 2) 32) 4) B6) Aerial Ima	gery (B7) urface (B8) No <u>X</u>	Water 1, 2, 4 Salt C Aquati Hydrog Oxidiz Presel Recen Stunte Other	irust (B11) ic Invertebrates (B13) gen Sulfide Odor (C1 red Rhizospheres alor nce of Reduced Iron ( nt Iron Reduction in Pl ed or Stressed Plants (Explain 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 ( Geomorphic Position (D2)  Shallow Aquitard (D3)  Fac-Neutral Test (D5)  Raised Ant Mounds (D6) (LRR A)  Frost-Heave Hummocks (D7)
Primary India  X X  Field Obser Surface Water Table P Saturation Pre (includes capillar	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 (Inundation Visible on Sparsely Vegetated Covations:  The Present? Yes	f one req 2) 32) 4) B6) Aerial Ima Concave Su X	gery (B7) urface (B8) No No No	Water 1, 2, 4 Salt C Aquati Hydrog Oxidiz Preseg Recen Stunte Other  Depth (inche Depth (inche	irust (B11) ic Invertebrates (B13) gen Sulfide Odor (C1) gen Sulfide Odor (C1) gen Reduced Iron (interpretation in Plant Iron Reduction in Plant Iron Remarks) ges): ges): ges): ges	(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)
Primary India  X X  Field Obser Surface Water Table P Saturation Pre (includes capillar	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 (Inundation Visible on Sparsely Vegetated Covations: The Present? Yes	f one req 2) 32) 4) B6) Aerial Ima Concave Su X	gery (B7) urface (B8) No No No	Water 1, 2, 4 Salt C Aquati Hydrog Oxidiz Preseg Recen Stunte Other  Depth (inche Depth (inche	irust (B11) ic Invertebrates (B13) gen Sulfide Odor (C1) gen Sulfide Odor (C1) gen Reduced Iron (interpretation in Plant Iron Reduction in Plant Iron Remarks) ges): ges): ges): ges	(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)
Primary India  X X  Field Obser Surface Water Table P Saturation Pre (includes capillar	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 (Inundation Visible on Sparsely Vegetated Covations: The Present? Yes	f one req 2) 32) 4) B6) Aerial Ima Concave Su X	gery (B7) urface (B8) No No No	Water 1, 2, 4 Salt C Aquati Hydrog Oxidiz Preseg Recen Stunte Other  Depth (inche Depth (inche	irust (B11) ic Invertebrates (B13) gen Sulfide Odor (C1) gen Sulfide Odor (C1) gen Reduced Iron (interpretation in Plant Iron Reduction in Plant Iron Remarks) ges): ges): ges): ges	(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)

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Project/Site: SE I	Kellogg Creek	Drive	City/County:	Milwa	ukie/Clackamas	Sampling Date:	11/2	1/2016
	wnstone Devel				State:		Sampling Point:	6
·· —	Caroline R./Cr		Section To	wnship, Range:		Section 6AD, T 2S,		
Landform (hillslope, terrace.		<u>9 · ·</u>			ncave, convex, none):	,,,,,,,	Slope (%):	
•	LRR	^	Lat:	45.427		-122.603487	Slope ( 76) Datum:	WGS 84
Subregion (LRR):			_	45.421				WG3 04
			ty clay loam			ssification:		
Are climatic/hydrologic cond		•	•	Yes			in in Remarks)	
Are vegetation So	il or H	lydrology	significantly dist	turbed?	Are "Normal Circumstance	es" present? (Y/N)	Y	
Are vegetation So	il or H	lydrology	_naturally proble	matic? If needed	d, explain any answers in Re	marks.)		
SUMMARY OF FIND	INGS - Atta	ch site man :	showing san	nolina point	locations, transects	important featu	ires, etc.	
				ipinig ponit	Todations, transcots	, important route	1100, 010.	
Hydrophytic Vegetation Pres	-			Is Sampled A				
Hydric Soil Present?	Yes	<u></u>	<u>X</u>	a Wetla	nd? Yes_		No X	
Wetland Hydrology Present	? Yes	No	X					
Remarks:								
VEGETATION - Use	scientific na	mes of plant	s.					
		absolute	Dominant	Indicator	Dominance Test wor	ksheet:		
		% cover	Species?	Status				
Tree Stratum (plot size:	30	)			Number of Dominant Spec			
1 Fraxinus latifolia		50	X	FACW	That are OBL, FACW, or I	=AC:	4	(A)
2								
3					Total Number of Dominan	t		
4					Species Across All Strata:		4	(B)
		50	= Total Cover					
Sapling/Shrub Stratum (	plot size: 5	)			Percent of Dominant Spec	cies		
1 Fraxinus latifolia	<u> </u>	20	X	FACW	That are OBL, FACW, or	FAC: 1	00%	(A/B)
2 Symphoricarpos al	bus	5		FACU				. ,
3 Crataegus monogy	na	15	X	FAC	Prevalence Index Wo	rksheet:		
4 Rubus armeniacus		2		FAC	Total % Cover of	Multiply by:		
5					OBL Species	x 1 =	o	
		42	= Total Cover		FACW species	x 2 =	0	
					FAC Species	x 3 =	0	
Herb Stratum (plot size:	5	)			FACU Species	x 4 =	0	
1 Carex deweyana		70	X	FAC	UPL Species	x 5 =	0	
2 Prunella vulgaris		3		FACU	Column Totals	<b>0</b> (A)	0	(B)
3 Polystichum munit	um	3		FACU				
4 Vicia tetrasperma		5		(NOL)	Prevalence Index =E	3/A = #1	DIV/0!	
5 Ranunculus repens	5	10		FAC				
6 Dipsacus fullonum		3		FAC	Hydrophytic Vegetati	on Indicators:		
7 Agrostis stolonifer	a	10		FAC	1	- Rapid Test for Hydro	phytic Vegetation	า
8 Equisetum arvense	,	1		FAC	X2	- Dominance Test is >	50%	
		105	= Total Cover			-Prevalence Index is ≤		
						-Morphological Adapta		
	t size:	_)				lata in Remarks or on		)
1					•	- Wetland Non-Vascu		
2					.  f	Problematic Hydrophyti	c Vegetation <sup>1</sup> (Ex	kplain)
		0	= Total Cover		<sup>1</sup> Indicators of hydric soil a	nd wetland hydrology r	nust be present,	unless
					disturbed or problematic. <b>Hydrophytic</b>			
% Bare Ground in Herb Stra	atum				Vegetation	Yes X	No	
	AMITI				Present?		'''.	

SOIL			PHS#		975			Sampling Poir	п.	
rofile Descri	ption: (Describe to tl	he depth i	needed to docur	nent the ind	icator or con	firm the absen	ce of indicators.)			
Depth	Matrix				x Features					
(Inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Rem	narks	
0-10	10YR 3/2	100					Sandy Loam			
6-16	10YR 3/2	60		_			Sandy Clay Loam			
	10YR 3/1	20		_			Sandy Clay Loam			
	10YR 4/3	20					Sandy Clay Loam			
								2 5. 5		
	centration, D=Depletio							<sup>2</sup> Location: PL=Pore Lining tors for Problematic I		3.
_	Indicators: (Appli	cable to	ali LKKS, uille	ess official	-		iliuica		-	٠.
	Histosol (A1)				Sandy Redox			2 cm Muck (		
	Histic Epipedon (A2)				Stripped Mat			Red Parent	Material (TF2)	)
F	Black Histic (A3)				Loamy Muck	y Mineral (F1) (e	except MLRA 1)	Very Shallov	w Dark Surfac	e (TF12)
H	Hydrogen Sulfide (A4)	)			Loamy Gleye	ed Matrix (F2)		Other (expla	ain in Remarks	s)
	Depleted Below Dark	Surface (A	<b>A11</b> )		Depleted Ma	trix (F3)				
	Thick Dark Surface (A	12)			Redox Dark	Surface (F6)		2		
	Sandy Mucky Mineral	(S1)			Depleted Dar	rk Surface (F7)		Indicators of hydrophytic hydrology must be present	-	
	Sandy Gleyed Matrix (	(S4)		·	Redox Depre	essions (F8)		problem		urbea or
epth (inches	):				<del>-</del>		Hydric Soil Prese	ent? Yes	No	X
Type: Depth (inches Remarks:  HYDROLO Wetland Hy	GY	s:			_		Hydric Soil Prese	ent? Yes	No	X
Depth (inches Remarks:  HYDROLO  Wetland Hyd	GY drology Indicators		uired: check al	I that anniv	<u> </u>		Hydric Soil Prese			
Depth (inches Remarks:  HYDROLO Wetland Hyd Primary Indic	GY drology Indicators ators (minimum of		uired; check al	I that apply	<i>'</i>	d Leaves (B9) (I		Secondary Indicators	(2 or more r	required)
Primary Indic	GY drology Indicators cators (minimum of Surface Water (A1)	f one req	uired; check al	I that apply	Water staine	d Leaves (B9) <b>(</b> I		Secondary Indicators Water staine	(2 or more red Leaves (B9	required)
IYDROLO Vetland Hydrimary Indic	GY drology Indicators cators (minimum of Surface Water (A1) High Water Table (A2	f one req	uired; check al	I that apply	Water staine 1, 2, 4A, and	14B)		Secondary Indicators  Water staine (MLRA1, 2,	(2 or more red Leaves (B9	required)
IYDROLO Vetland Hyd	GY  drology Indicators cators (minimum of Surface Water (A1) High Water Table (A2 Saturation (A3)	f one req	uired; check al	I that apply	Water staine 1, 2, 4A, and Salt Crust (B	1 <b>4B)</b>		Secondary Indicators  Water staine (MLRA1, 2,	(2 or more red Leaves (B9, 4A, and 4B)	required)
HYDROLO Vetland Hyd Primary Indic	GY drology Indicators cators (minimum of Surface Water (A1) High Water Table (A2 Saturation (A3) Water Marks (B1)	f one req	uired; check al	I that apply	Water staine 1, 2, 4A, and Salt Crust (B Aquatic Inver	14B) 11) tebrates (B13)		Secondary Indicators Water staine (MLRA1, 2, Drainage Pa	(2 or more red Leaves (B9, 4A, and 4B) atterns (B10)	required)
HYDROLO Vetland Hyd Verimary Indic	GY cators (minimum of Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B	f one req	uired; check al	that apply	Water staine 1, 2, 4A, and Salt Crust (B Aquatic Inver	14B) 11) tebrates (B13) llfide Odor (C1)	Except MLRA	Secondary Indicators  Water staine (MLRA1, 2,  Drainage Pa  Dry-Season  Saturation V	(2 or more in the ded Leaves (B9 , 4A, and 4B) atterns (B10) Water Table (Visible on Aeria	required) )) (C2) al Imagery
HYDROLO Vetland Hyd Virimary Indic	GY drology Indicators cators (minimum of Surface Water (A1) High Water Table (A2 Saturation (A3) Water Marks (B1) Sediment Deposits (B Drift Deposits (B3)	f one req	uired; check al	I that apply	Water staine 1, 2, 4A, and Salt Crust (B Aquatic Inver Hydrogen Su Oxidized Rhi	14B) 11) tebrates (B13) lifide Odor (C1) zospheres along	Except MLRA g Living Roots (C3)	Secondary Indicators Water staine (MLRA1, 2, Drainage Pa Dry-Season Saturation V Geomorphic	(2 or more red Leaves (B9, 4A, and 4B) atterns (B10) Water Table (Visible on Aeria C Position (D2)	required) )) (C2) al Imagery
Pepth (inches  Permarks:  Primary Indicases  Primar	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	f one req	uired; check al	I that apply	Water stained 1, 2, 4A, and Salt Crust (B) Aquatic Invertight Hydrogen Su Oxidized Rhit Presence of	11) tebrates (B13) lifide Odor (C1) zospheres along Reduced Iron (C	Except MLRA g Living Roots (C3) (C4)	Secondary Indicators  Water stains (MLRA1, 2,  Drainage Pa  Dry-Season  Saturation V  Geomorphic  Shallow Aqu	(2 or more red Leaves (B9, 4A, and 4B) atterns (B10) Water Table of Visible on Aeria con Position (D2) uitard (D3)	required) )) (C2) al Imagery
Primary Indic	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 ron Deposits (B5)	f one req	uired; check al	I that apply	Water staine  1, 2, 4A, and  Salt Crust (B  Aquatic Inver  Hydrogen Su  Oxidized Rhi:  Presence of I  Recent Iron F	14B) 11) tebrates (B13) lifide Odor (C1) zospheres along Reduced Iron (C	Except MLRA  g Living Roots (C3) (C4) wed Soils (C6)	Secondary Indicators  Water staine (MLRA1, 2,  Drainage Pa  Dry-Season  Saturation V  Geomorphic  Shallow Aqu  Fac-Neutral	(2 or more red Leaves (B9, 4A, and 4B) atterns (B10) Water Table of Visible on Aeria (CP) Little (D3) Test (D5)	required) )) (C2) al Imagery
Primary Indic	GY  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 (B5)	f one req	,	I that apply	Water stained 1, 2, 4A, and Salt Crust (B) Aquatic Invertigation Hydrogen Su Oxidized Rhin Presence of I Recent Iron F Stunted or St	14B) 11) tebrates (B13) lifide Odor (C1) zospheres along Reduced Iron (C Reduction in Plo tressed Plants (I	Except MLRA  g Living Roots (C3) (C4) wed Soils (C6)	Secondary Indicators  Water staine (MLRA1, 2,  Drainage Pa  Dry-Season  Saturation V  Geomorphic  Shallow Aqu  Fac-Neutral  Raised Ant I	(2 or more in the control of the con	required) )) (C2) al Imagery
Primary Indic	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 ron Deposits (B5) Surface Soil Cracks (B nundation Visible on A	f one req	gery (B7)	I that apply	Water stained 1, 2, 4A, and Salt Crust (B) Aquatic Invertigation Hydrogen Su Oxidized Rhin Presence of I Recent Iron F Stunted or St	14B) 11) tebrates (B13) lifide Odor (C1) zospheres along Reduced Iron (C	Except MLRA  g Living Roots (C3) (C4) wed Soils (C6)	Secondary Indicators  Water staine (MLRA1, 2,  Drainage Pa  Dry-Season  Saturation V  Geomorphic  Shallow Aqu  Fac-Neutral  Raised Ant I	(2 or more red Leaves (B9, 4A, and 4B) atterns (B10) Water Table of Visible on Aeria (CP) Little (D3) Test (D5)	required) )) (C2) al Imagery
Pepth (inches Remarks:  HYDROLO  Vetland Hyd  Primary Indic  S  I	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 (E nundation Visible on A Sparsely Vegetated C	f one req	gery (B7)	I that apply	Water stained 1, 2, 4A, and Salt Crust (B) Aquatic Invertigation Hydrogen Su Oxidized Rhin Presence of I Recent Iron F Stunted or St	14B) 11) tebrates (B13) lifide Odor (C1) zospheres along Reduced Iron (C Reduction in Plo tressed Plants (I	Except MLRA  g Living Roots (C3) (C4) wed Soils (C6)	Secondary Indicators  Water staine (MLRA1, 2,  Drainage Pa  Dry-Season  Saturation V  Geomorphic  Shallow Aqu  Fac-Neutral  Raised Ant I	(2 or more in the control of the con	required) )) (C2) al Imagery
Primary Indic	GY  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 (B1)  Surface Soil Cracks (B1)  Surface Soil Cracks (B1)  Surface Soil Cracks (B1)	f one req	gery (B7) urface (B8)		Water staine  1, 2, 4A, and Salt Crust (B Aquatic Inver Hydrogen Su Oxidized Rhi: Presence of I Recent Iron F Stunted or Si Other (Explain	14B) 11) tebrates (B13) lifide Odor (C1) zospheres along Reduced Iron (C Reduction in Plo tressed Plants (I	Except MLRA  g Living Roots (C3) (C4) wed Soils (C6)	Secondary Indicators  Water staine (MLRA1, 2,  Drainage Pa  Dry-Season  Saturation V  Geomorphic  Shallow Aqu  Fac-Neutral  Raised Ant I	(2 or more in the control of the con	required) )) (C2) al Imagery
HYDROLO Wetland Hyd Primary 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 ron Deposits (B5) Surface Soil Cracks (B nundation Visible on A Sparsely Vegetated C vations: Present? Yes	f one req	gery (B7) urface (B8)	Depth	Water staine 1, 2, 4A, and Salt Crust (B Aquatic Inver Hydrogen Su Oxidized Rhi: Presence of I Recent Iron F Stunted or St Other (Explain	11) tebrates (B13) lifide Odor (C1) zospheres along Reduced Iron (C Reduction in Plo tressed Plants (I in in Remarks)	Except MLRA  g Living Roots (C3) (C4) (C4) (C5) (C6) (C7) (C7) (C7) (C7) (C7) (C7) (C7) (C7	Secondary Indicators  Water staine (MLRA1, 2,  Drainage Pa  Dry-Season  Saturation V  Geomorphic  Shallow Aqu  Fac-Neutral  Raised Ant I  Frost-Heave	(2 or more in the control of the con	required) )) (C2) al Imagery
Primary Indic	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 (B1 nundation Visible on M Sparsely Vegetated C vations: Present? Yes resent? Yes	f one req	gery (B7) urface (B8) No X	Depth	Water staine 1, 2, 4A, and Salt Crust (B Aquatic Inver Hydrogen Su Oxidized Rhi: Presence of I Recent Iron F Stunted or SI Other (Explain	14B) 11) tebrates (B13) ilfide Odor (C1) zospheres along Reduced Iron (C Reduction in Plot tressed Plants (I in in Remarks)	Except MLRA  g Living Roots (C3) (C4) (C4) (C6) (C7) (C7) (C7) (C8) (C9) (C9) (C9) (C9) (C9) (C9) (C9) (C9	Secondary Indicators  Water staine (MLRA1, 2, Drainage Pa Dry-Season Saturation V Geomorphic Shallow Aqu Fac-Neutral Raised Ant I Frost-Heave	(2 or more red Leaves (B9, 4A, and 4B) atterns (B10) Water Table of Visible on Aeria con Position (D2) cuitard (D3) Test (D5) Mounds (D6) (Be Hummocks (D6)	required) (C2) al Imagery (LRR A) D7)
Primary Indicates Surface Water Table Presentation Presen	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 (E nundation Visible on A Sparsely Vegetated C vations: Present? Yes resent? Yes sent? Yes	f one req	gery (B7) urface (B8)	Depth	Water staine 1, 2, 4A, and Salt Crust (B Aquatic Inver Hydrogen Su Oxidized Rhi: Presence of I Recent Iron F Stunted or St Other (Explain	11) tebrates (B13) lifide Odor (C1) zospheres along Reduced Iron (C Reduction in Plo tressed Plants (I in in Remarks)	Except MLRA  g Living Roots (C3) (C4) (C4) (C6) (C7) (C7) (C7) (C8) (C9) (C9) (C9) (C9) (C9) (C9) (C9) (C9	Secondary Indicators  Water staine (MLRA1, 2,  Drainage Pa  Dry-Season  Saturation V  Geomorphic  Shallow Aqu  Fac-Neutral  Raised Ant I  Frost-Heave	(2 or more in the control of the con	required) )) (C2) al Imagery
Primary Indicases  Primary Indicases  Primary Indicases  Field Observation President Table Presentation President Saturation President	GY  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 (B1)  Surface Soil Cracks (B1)  Surface Soil Cracks (B2)  Formulation Visible on (A2)  Sparsely Vegetated Cavations:  Present? Yes  resent? Yes  resent? Yes  resent? Yes	f one req	gery (B7)  urface (B8)  No	Depth Depth_	Water staine  1, 2, 4A, and Salt Crust (B Aquatic Inver Hydrogen Su Oxidized Rhi: Presence of I Recent Iron F Stunted or Si Other (Explain  (inches): (inches):	14B) 11) tebrates (B13) lifide Odor (C1) zospheres along Reduced Iron (C Reduction in Plo tressed Plants (I in in Remarks)  > 16 > 16	Except MLRA  g Living Roots (C3) C4) wed Soils (C6) D1) (LRR A)  Wetland Hydr	Secondary Indicators  Water staine (MLRA1, 2, Drainage Pa Dry-Season Saturation V Geomorphic Shallow Aqu Fac-Neutral Raised Ant I Frost-Heave	(2 or more red Leaves (B9, 4A, and 4B) atterns (B10) Water Table of Visible on Aeria con Position (D2) cuitard (D3) Test (D5) Mounds (D6) (Be Hummocks (D6)	required) (C2) al Imagery (LRR A) D7)
Primary Indicases  Primary Indicases  Primary Indicases  Field Observation President Table Presentation President Saturation President	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 (E nundation Visible on A Sparsely Vegetated C vations: Present? Yes resent? Yes sent? Yes	f one req	gery (B7)  urface (B8)  No	Depth Depth_	Water staine  1, 2, 4A, and Salt Crust (B Aquatic Inver Hydrogen Su Oxidized Rhi: Presence of I Recent Iron F Stunted or Si Other (Explain  (inches): (inches):	14B) 11) tebrates (B13) lifide Odor (C1) zospheres along Reduced Iron (C Reduction in Plo tressed Plants (I in in Remarks)  > 16 > 16	Except MLRA  g Living Roots (C3) C4) wed Soils (C6) D1) (LRR A)  Wetland Hydr	Secondary Indicators  Water staine (MLRA1, 2, Drainage Pa Dry-Season Saturation V Geomorphic Shallow Aqu Fac-Neutral Raised Ant I Frost-Heave	(2 or more red Leaves (B9, 4A, and 4B) atterns (B10) Water Table of Visible on Aeria con Position (D2) cuitard (D3) Test (D5) Mounds (D6) (Be Hummocks (D6)	required) (C2) al Imagery (LRR A) D7)
Primary Indicases  Primary Indicases  Primary Indicases  Field Observation President Table Presentation President Saturation President	GY  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 (B1)  Surface Soil Cracks (B1)  Surface Soil Cracks (B2)  Formulation Visible on (A2)  Sparsely Vegetated Cavations:  Present? Yes  resent? Yes  resent? Yes  resent? Yes	f one req	gery (B7)  urface (B8)  No	Depth Depth_	Water staine  1, 2, 4A, and Salt Crust (B Aquatic Inver Hydrogen Su Oxidized Rhi: Presence of I Recent Iron F Stunted or Si Other (Explain  (inches): (inches):	14B) 11) tebrates (B13) lifide Odor (C1) zospheres along Reduced Iron (C Reduction in Plo tressed Plants (I in in Remarks)  > 16 > 16	Except MLRA  g Living Roots (C3) C4) wed Soils (C6) D1) (LRR A)  Wetland Hydr	Secondary Indicators  Water staine (MLRA1, 2, Drainage Pa Dry-Season Saturation V Geomorphic Shallow Aqu Fac-Neutral Raised Ant I Frost-Heave	(2 or more red Leaves (B9, 4A, and 4B) atterns (B10) Water Table of Visible on Aeria con Position (D2) cuitard (D3) Test (D5) Mounds (D6) (D6) de Hummocks (D6)	required) (C2) al Imagery (LRR A) D7)
Primary Indicases  Primary Indicases  Primary Indicases  Field Observation President Table Presentation President Saturation President	GY  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 (B1)  Surface Soil Cracks (B1)  Surface Soil Cracks (B2)  Formulation Visible on (A2)  Sparsely Vegetated Cavations:  Present? Yes  resent? Yes  resent? Yes  resent? Yes	f one req	gery (B7)  urface (B8)  No	Depth Depth_	Water staine  1, 2, 4A, and Salt Crust (B Aquatic Inver Hydrogen Su Oxidized Rhi: Presence of I Recent Iron F Stunted or Si Other (Explain  (inches): (inches):	14B) 11) tebrates (B13) lifide Odor (C1) zospheres along Reduced Iron (C Reduction in Plo tressed Plants (I in in Remarks)  > 16 > 16	Except MLRA  g Living Roots (C3) C4) wed Soils (C6) D1) (LRR A)  Wetland Hydr	Secondary Indicators  Water staine (MLRA1, 2, Drainage Pa Dry-Season Saturation V Geomorphic Shallow Aqu Fac-Neutral Raised Ant I Frost-Heave	(2 or more red Leaves (B9, 4A, and 4B) atterns (B10) Water Table of Visible on Aeria con Position (D2) cuitard (D3) Test (D5) Mounds (D6) (D6) de Hummocks (D6)	required) (C2) al Imagery (LRR A) D7)

5975

Project/Site:	SE Kellog	Creek	Drive	City/County:	Milwa	ukie/Clackamas	Sampling Date	: 11/2	1/2016
Applicant/Owner:	Brownsto	ne Deve	lopment,	Inc.		State:	OR	Sampling Point:	7
nvestigator(s):	Caroli	ne R./Cr	raig T.	Section, T	ownship, Range:		Section 6AD, T 2	2S, R 2E	
andform (hillslope, ter	rrace, etc.:)				Local relief (co	oncave, convex, none):		Slope (%):	
Subregion (LRR):	•	LRR	A	Lat:	45.427		-122.603487		
Soil Map Unit Name:			Cov	e silty clay loam		NWI Clas	sification:	None	
re climatic/hydrologic					Yes			plain in Remarks)	
re vegetation			•	significantly dis		Are "Normal Circumstance		•	
are vegetation						d, explain any answers in Rei			-
	3011	_	yurology	naturally proble	siliado: il ficedeo	a, explain any answers in rec	narks.)		
SUMMARY OF F	INDINGS	- Attac	ch site m	ıap showing sar	mpling point	locations, transects	, important fea	atures, etc.	
lydrophytic Vegetation	n Present?	Yes	X	No	Is Sampled A	uaa within			
lydric Soil Present?		Yes	Χ	No	a Wetla		X	No	_
Vetland Hydrology Pre	esent?	Yes	Х						
emarks:									
EGETATION - U	Use scien	tific na	mes of p	lants.					
			absolu		Indicator	Dominance Test wor	ksheet:		
			% cov	er Species?	Status				
ree Stratum (plot s			)			Number of Dominant Spec			
1 Populus balsai	mifera		10	X	FAC	That are OBL, FACW, or F	AC:	3	(A)
					-				
						Total Number of Dominan		•	(D)
+						Species Across All Strata:		3	(B)
			10	= Total Cover					
apling/Shrub Stratum	- "	»:	<del>_</del> )			Percent of Dominant Spec			(4.45)
1 Populus balsai			15	X	FAC	That are OBL, FACW, or	FAC:	100%	(A/B)
						Prevalence Index Wo	rkahaati		
3 4						Total % Cover of	Multiply	bv.	
<u> </u>			-		(	OBL Species	x 1		
			15	= Total Cover		FACW species	x 2		-
				_		FAC Species	x 3		-
erb Stratum (plot s	size:		)			FACU Species	x 4 =	= 0	-
Phalaris arund	linacea		100	X	FACW	UPL Species	x 5	= 0	-
2						Column Totals	<b>0</b> (A)	0	(B)
					-			"DD" (101	
<u> </u>						Prevalence Index =B		#DIV/0!	-
5 						Hydrophytic Vegetati	on Indicators:		
7							- Rapid Test for Hy	drophytic Vegetatic	nn.
<u> </u>						·	- Dominance Test i		,,,,
			100	= Total Cover		·	-Prevalence Index		
							-Morphological Ada		supporting
oody Vine Stratum	(plot size:		)				ata in Remarks or		t)
1						·	- Wetland Non-Vas		
					-	·	roblematic Hydrop		
2			0	= Total Cover		<sup>1</sup> Indicators of hydric soil ar disturbed or problematic.	nd wetland hydrolog	gy must be present	unless
						disturbed of problematic.			
2						Hydrophytic			
2	b Stratum					Hydrophytic Vegetation	Yes X	No	

Profile Descripti Depth (Inches) 0-4 4-7 7-18	Matrix Color (moist) 10YR 3/2 10YR 3/2	the depth					Sampling Point: 7
(Inches) 0-4 4-7	Color (moist) 10YR 3/2 10YR 3/2	0/2	needed to docume	nt the indicator or	confirm the absen	ce of indicators.)	
0-4 4-7	10YR 3/2 10YR 3/2	0/2		Redox Feature	1 2		
4-7	10YR 3/2		Color (moist)	% Type	Loc <sup>2</sup>	Texture	Remarks
		100				Silty Clay Loam	
7-18		95	7.5YR 4/6		M	Silty Clay Loam	
·	10YR 2/2	98	10YR 3/4		M	Clay	
·							
			educed Matrix, CS=0				<sup>2</sup> Location: PL=Pore Lining, M=Matrix.
-		icable to	all LRRs, unless		•	Indica	ators for Problematic Hydric Soils <sup>3</sup> :
	stosol (A1)				edox (S5)		2 cm Muck (A10)
	stic Epipedon (A2)				Matrix (S6)		Red Parent Material (TF2)
Bla	ack Histic (A3)			Loamy M	lucky Mineral (F1) (	except MLRA 1)	Very Shallow Dark Surface (TF12)
Hy	ydrogen Sulfide (A4	·)		Loamy G	Bleyed Matrix (F2)		Other (explain in Remarks)
De	epleted Below Dark	Surface (A	411)	Depleted	Matrix (F3)		
Th	nick Dark Surface (	A12)		X Redox Da	ark Surface (F6)		31
Sa	andy Mucky Minera	I (S1)		Depleted	Dark Surface (F7)		<sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or
Sa	andy Gleyed Matrix	(S4)		Redox De	epressions (F8)		problematic.
YDROLOG		6.					
_	rology Indicator						
	ators (minimum o	it one req					
<b>v</b>			uirea, check all ti	11 37	sined Legues (PO) (	Everyt MI DA	Secondary Indicators (2 or more required)
	urface Water (A1)	2)	uirea, check all ti	Water sta	ained Leaves (B9) (	Except MLRA	Water stained Leaves (B9)
X Hig	gh Water Table (A	2)	ulled, check all ti	Water sta	and 4B)	Except MLRA	Water stained Leaves (B9) (MLRA1, 2, 4A, and 4B)
X Hiç X Sa	igh Water Table (A2 aturation (A3)	2)	штес, спеск ан п	Water sta 1, 2, 4A, Salt Crus	and 4B) st (B11)	Except MLRA	Water stained Leaves (B9) (MLRA1, 2, 4A, and 4B)  Drainage Patterns (B10)
X Hiç X Sa Wa	igh Water Table (A: aturation (A3) ater Marks (B1)		uired, check all ti	Water sta 1, 2, 4A, Salt Crus Aquatic II	and 4B) st (B11) nvertebrates (B13)		Water stained Leaves (B9) (MLRA1, 2, 4A, and 4B)  Drainage Patterns (B10)  Dry-Season Water Table (C2)
X Hiç X Sa Wa	igh Water Table (A aturation (A3) ater Marks (B1) ediment Deposits (B		uired, check all ti	Water sta 1, 2, 4A, Salt Crus Aquatic Ii Hydroger	and 4B) st (B11) nvertebrates (B13) n Sulfide Odor (C1)	·	Water stained Leaves (B9) (MLRA1, 2, 4A, and 4B)  Drainage Patterns (B10)  Dry-Season Water Table (C2)  Saturation Visible on Aerial Imagery
X Hiç X Sa Wa Se	igh Water Table (A aturation (A3) ater Marks (B1) ediment Deposits (B rift Deposits (B3)	32)	uired, check all ti	Water sta 1, 2, 4A, Salt Crus Aquatic II Hydroger Oxidized	and 4B) st (B11) nvertebrates (B13) n Sulfide Odor (C1) Rhizospheres along	g Living Roots (C3)	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)
X Hiç X Sa Wi Se Dri	igh Water Table (Azaturation (A3) later Marks (B1) lediment Deposits (B3) ligal Mat or Crust (B	32)	uireu, check all i	Water sta 1, 2, 4A, Salt Crus Aquatic II Hydroger Oxidized Presence	and 4B) st (B11) nvertebrates (B13) n Sulfide Odor (C1) Rhizospheres along e of Reduced Iron (C	g Living Roots (C3) C4)	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 Hiệ X Sa Wi Se Dri Alệ	igh Water Table (Azaturation (A3) later Marks (B1) lediment Deposits (Bird Deposits (B3) lediment Deposits (B3) lediment Deposits (B5) lediment Deposits (B5)	32) 4)	uired, check all ti	Water sta 1, 2, 4A, Salt Crus Aquatic II Hydroger Oxidized Presence Recent Ir	and 4B) st (B11) nvertebrates (B13) n Sulfide Odor (C1) Rhizospheres along e of Reduced Iron (Con Reduction in Plo	g Living Roots (C3) C4) owed Soils (C6)	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)
X Hig X Sa Wa Se Dri Alg Iro	igh Water Table (Azaturation (A3) later Marks (B1) lediment Deposits (B3) ligal Mat or Crust (B	32) 4) B6)		Water sta 1, 2, 4A, Salt Crus Aquatic II Hydroger Oxidized Presence Recent Ir Stunted of	and 4B) st (B11) nvertebrates (B13) n Sulfide Odor (C1) Rhizospheres along e of Reduced Iron (C ron Reduction in Plc or Stressed Plants (	g Living Roots (C3) C4) owed Soils (C6)	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 Hiş X Sa Wa Se Dri Alş Iro Su	igh Water Table (Azaturation (A3) Vater Marks (B1) Vater Marks (B1) Vater Marks (B3) Vater Deposits (B3) Vater Deposits (B3) Vater Deposits (B5) Variance Soil Cracks (A2)	32) 4) B6) Aerial Ima	ngery (B7)	Water sta 1, 2, 4A, Salt Crus Aquatic II Hydroger Oxidized Presence Recent Ir Stunted of	and 4B) st (B11) nvertebrates (B13) n Sulfide Odor (C1) Rhizospheres along e of Reduced Iron (Con Reduction in Plo	g Living Roots (C3) C4) owed Soils (C6)	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)
X Hig X Sa Wa Se Dri Alg Iro Su Int Sp	igh Water Table (Azaturation (A3) l'ater Marks (B1) ediment Deposits (B rift Deposits (B3) gal Mat or Crust (B on Deposits (B5) urface Soil Cracks ( undation Visible on parsely Vegetated (	32) 4) B6) Aerial Ima	ngery (B7)	Water sta 1, 2, 4A, Salt Crus Aquatic II Hydroger Oxidized Presence Recent Ir Stunted of	and 4B) st (B11) nvertebrates (B13) n Sulfide Odor (C1) Rhizospheres along e of Reduced Iron (C ron Reduction in Plc or Stressed Plants (	g Living Roots (C3) C4) owed Soils (C6)	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)
X Hig X Sa Wa Se Dri Alg Iro Su Int Sp	igh Water Table (Azaturation (A3) later Marks (B1) ediment Deposits (B3) gal Mat or Crust (B3) on Deposits (B5) urface Soil Cracks ( undation Visible on parsely Vegetated ( ations:	32) 4) B6) Aerial Ima	igery (B7) urface (B8)	Water sta 1, 2, 4A, Salt Crus Aquatic II Hydroger Oxidized Presence Recent Ir Stunted of	and 4B) st (B11) nvertebrates (B13) n Sulfide Odor (C1) Rhizospheres along e of Reduced Iron (Cron Reduction in Plotor Stressed Plants ( explain in Remarks)	g Living Roots (C3) C4) owed Soils (C6)	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)
X Hig X Sa Wi Se Dri Alg Iro Su Inu Sp	aturation (A3) Pater Marks (B1) Pater Marks (B1) Pater Marks (B3) Pater Marks (B4) Pater Marks (B5) Pater Marks (B1) Pater Ma	32) 4) B6) Aerial Ima Concave Si	ngery (B7)	Water sta  1, 2, 4A,  Salt Crus  Aquatic II  Hydroger  Oxidized  Presence  Recent Ir  Stunted c  Other (Ex	and 4B) st (B11) nvertebrates (B13) n Sulfide Odor (C1) Rhizospheres along e of Reduced Iron (Cron Reduction in Plot or Stressed Plants (explain in Remarks)	g Living Roots (C3) C4) owed Soils (C6) D1) (LRR A)	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)
X Hig X Sa Wi Se Dri Alg Iro Su Inu Sp Field Observa Surface Water Pr Water Table Prese Saturation Prese	igh Water Table (Azaturation (A3) later Marks (B1) ediment Deposits (B3) gal Mat or Crust (B3) on Deposits (B5) urface Soil Cracks ( undation Visible on parsely Vegetated Cations: later Marks (B5) later Marks (B1) later Marks (	32) 4) B6) Aerial Ima Concave Si	igery (B7) urface (B8)	Water sta  1, 2, 4A, Salt Crus Aquatic II Hydroger Oxidized Presence Recent Ir Stunted of Other (Ex	and 4B) st (B11) nvertebrates (B13) n Sulfide Odor (C1) Rhizospheres along e of Reduced Iron (Cron Reduction in Plo or Stressed Plants ( explain in Remarks)	g Living Roots (C3) C4) owed Soils (C6) D1) (LRR A)	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)
X Hig X Sa Wi Se Dri Alg Iro Su Int Sp Field Observa Surface Water Presentation Pre	igh Water Table (Azaturation (A3) later Marks (B1) ediment Deposits (B3) gal Mat or Crust (B3) gal Mat or Crust (B5) urface Soil Cracks ( undation Visible on parsely Vegetated (Cations: Present? Yes esent? Yes fringe)	32) 4) B6) Aerial Ima Concave Si  X X	ngery (B7) urface (B8) No No	Water sta  1, 2, 4A,  Salt Crus  Aquatic In  Hydroger  Oxidized  Presence  Recent Ir  Stunted of  Other (Ex)  Depth (inches):  Depth (inches):	and 4B) st (B11) nvertebrates (B13) n Sulfide Odor (C1) Rhizospheres along e of Reduced Iron (C ron Reduction in Plo or Stressed Plants ( xxplain in Remarks)  2 0 0	g Living Roots (C3) C4) owed Soils (C6) D1) (LRR A) Wetland Hydi	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)
X Hig X Sa Wi Se Dri Alg Iro Su Int Sp Field Observa Surface Water Presentation Pre	igh Water Table (Azaturation (A3) later Marks (B1) ediment Deposits (B3) gal Mat or Crust (B3) gal Mat or Crust (B5) urface Soil Cracks ( undation Visible on parsely Vegetated (Cations: Present? Yes esent? Yes fringe)	32) 4) B6) Aerial Ima Concave Si  X X	igery (B7) urface (B8) No	Water sta  1, 2, 4A,  Salt Crus  Aquatic In  Hydroger  Oxidized  Presence  Recent Ir  Stunted of  Other (Ex)  Depth (inches):  Depth (inches):	and 4B) st (B11) nvertebrates (B13) n Sulfide Odor (C1) Rhizospheres along e of Reduced Iron (C ron Reduction in Plo or Stressed Plants ( xxplain in Remarks)  2 0 0	g Living Roots (C3) C4) owed Soils (C6) D1) (LRR A) Wetland Hydi	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)
X Hig X Sa Wi Se Dri Alg Iro Su Inu Sp Field Observa Surface Water Presentation Pre	igh Water Table (Azaturation (A3) later Marks (B1) ediment Deposits (B3) gal Mat or Crust (B3) gal Mat or Crust (B5) urface Soil Cracks ( undation Visible on parsely Vegetated (Cations: Present? Yes esent? Yes fringe)	32) 4) B6) Aerial Ima Concave Si  X X	ngery (B7) urface (B8) No No	Water sta  1, 2, 4A,  Salt Crus  Aquatic In  Hydroger  Oxidized  Presence  Recent Ir  Stunted of  Other (Ex)  Depth (inches):  Depth (inches):	and 4B) st (B11) nvertebrates (B13) n Sulfide Odor (C1) Rhizospheres along e of Reduced Iron (C ron Reduction in Plo or Stressed Plants ( xxplain in Remarks)  2 0 0	g Living Roots (C3) C4) owed Soils (C6) D1) (LRR A) Wetland Hydi	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)

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roject/Site:	SE Kellogg	Creek Γ	Drive	City/County:	Milwau	ıkie/Clackamas	Sampling Date:	11/21	/2016
pplicant/Owner:	Brownsto	ne Devel	opment, Inc.			State:	OR S	Sampling Point:	8
vestigator(s):	Caroli	ne R./Cra	aig T.	Section, To	wnship, Range:		Section 6AD, T 2S,	R 2E	
andform (hillslope, tei			Fill	1	Local relief (cor	ncave, convex, none):		Slope (%):	
ubregion (LRR):	,	LRR/	4	Lat:	45.4273	379 Long:	-122.603487	_	WGS 84
oil Map Unit Name:			Cove silt	v clav loam			sification:	– None	
e climatic/hydrologic					Yes		•	n in Remarks)	
e vegetation			ydrology	•		Are "Normal Circumstance	<del></del> , · · ·	Y	
						, explain any answers in Rer		<del></del>	
e vegetation	3011	_ 01 113	/drology	naturally proble	malic? ii needed	, explain any answers in Rei	narks.)		
UMMARY OF F	INDINGS	<ul><li>Attac</li></ul>	:h site map s	howing san	pling point	locations, transects,	important featu	res, etc.	
drophytic Vegetation	n Present?	Yes	No.	X					
dric Soil Present?		Yes	No	X	Is Sampled Are a Wetlan		N	o <b>X</b>	
etland Hydrology Pre	esent?	Yes	No	X					
marks:									
GETATION - U	Jse scien	tific nar	mes of plants	S.		1			
			absolute % cover	Dominant Species?	Indicator Status	Dominance Test work	sheet:		
ee Stratum (plot s	size.	,	// COVE	Species:	Status	Number of Dominant Spec	ies		
(plot c	<i>,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,</i>		,			That are OBL, FACW, or F		1	(A)
						That are OBE, 1710VV, or 1	7.0.	<u> </u>	(7 1)
						Total Number of Dominant	:		
						Species Across All Strata:		3	(B)
			0	= Total Cover					· /
pling/Shrub Stratum	<u>n</u> (plot size	·	`			Percent of Dominant Spec	ios		
piirig/Srirub Stratum	i (piot size	·	<b>-</b> '			That are OBL, FACW, or	_	3%	(A/B)
						That are OBE, 1710VV, Or	- NO	070	(700)
						Prevalence Index Wo	rksheet:		
						Total % Cover of	Multiply by:		
						OBL Species	x 1 =	0	
			0	= Total Cover		FACW species	x 2 =	0	
						FAC Species	x 3 =	0	
rb Stratum (plot s		)	,			FACU Species	x 4 =	0	
Phalaris arund			20	<u> </u>	FACW	UPL Species	x 5 =		
Chenopodium		<u>ım</u>	<u>25</u> 10	X	FACU	Column Totals	<b>0</b> (A)		(B)
Lotus cornicular Ranunculus re			5		FAC	Prevalence Index =B	/A - #D	IV/0!	
Hypochaeris ra	-		10		FACU	Frevalence index -b	/A - #D	10/0:	
Centaurium er			5		FAC	Hydrophytic Vegetation	on Indicators:		
Daucus carota			15	X	FACU		- Rapid Test for Hydrog	hytic Vegetation	1
Senecio jacoba			10		FACU		- Dominance Test is >5		
			105	= Total Cover			-Prevalence Index is ≤		
						4	-Morphological Adapta	tions <sup>1</sup> (provide s	upporting
oody Vine Stratum	(plot size:		_)				ata in Remarks or on a		)
							- Wetland Non-Vascula		
							roblematic Hydrophytic	•	. ,
			0	= Total Cover		<sup>1</sup> Indicators of hydric soil ar disturbed or problematic.	nd wetland hydrology m	ust be present, ı	unless
						Hydrophytic			
Bare Ground in Herl	b Stratum					Vegetation Present?	Yes	No	X

			PHS			5			Sampling Poir		
rofile Descri	otion: (Describe to t	he depth	needed to do	ocument 1	he indicat	tor or conf	irm the absen	ce of indicators.)			
Depth	Matrix				Redox F	- 1					
(Inches)	Color (moist)	%	Color (mo	oist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Ren	narks	
0-4	10YR 3/3	100						Sandy Loam			
4-8	10YR 4/4	60						Sandy Loam			
	10YR 3/2	40						Sandy Loam			
8-16	10YR 3/1	100						Sandy Loam	'		
									2 5. 5		
	entration, D=Depletion						Grains.	India	<sup>2</sup> Location: PL=Pore Lining ators for Problematic		3.
-		cable to	ali LNNS, i	uilless o		-	(0.5)	muic		-	э.
	Histosol (A1)			_		ndy Redox			2 cm Muck		
	Histic Epipedon (A2)			_		ripped Matr				Material (TF2)	•
E	Black Histic (A3)			_	Lo	amy Mucky	Mineral (F1) (e	except MLRA 1)	Very Shallo	w Dark Surfac	e (TF12)
H	Hydrogen Sulfide (A4	)		_	Lo	amy Gleye	d Matrix (F2)		Other (expla	ain in Remarks	s)
	Depleted Below Dark	Surface (A	A11)	_	De	pleted Mat	rix (F3)				
	Γhick Dark Surface (Α	A12)		_	Re	dox Dark S	Surface (F6)		3		
	Sandy Mucky Mineral	(S1)			De	pleted Darl	k Surface (F7)		<sup>3</sup> Indicators of hydrophytic hydrology must be prese		
	Sandy Gleyed Matrix	(S4)			Re	dox Depre	ssions (F8)		problen		ar Dour Or
emarks:	): nble of mixed dis	turbed fi	II, rocks ar	nd grave	l through	hout		Hydric Soil Pres	sent? Yes	No	X
Depth (inches) Remarks: 0-16" - a jum	nble of mixed dis		II, rocks ar	nd grave	l throug	hout		Hydric Soil Pres	sent? Yes	No	X
Pepth (inches) Remarks: 1-16" - a jum HYDROLOG Vetland Hyc	nble of mixed dis	s:				hout		Hydric Soil Pres			
Depth (inches) Remarks: 0-16" - a jum HYDROLOG Wetland Hyc	GY drology Indicator	s:			apply)		N Leaves (RQ) (I		Secondary Indicators	: (2 or more i	required)
Pepth (inches)  Improvements: -16" - a jum  IYDROLOG  Vetland Hyd  Primary Indices	GY drology Indicator cators (minimum o	<b>s</b> : f one req			apply) Wa	ater stainec	d Leaves (B9) <b>(I</b>		Secondary Indicators Water stain	: (2 or more i	required)
emarks: -16" - a jum  IYDROLOG Vetland Hyd rimary Indic	GY drology Indicator eators (minimum o Surface Water (A1) High Water Table (A2)	<b>s</b> : f one req			apply)  Wa 1, 2	ater stained 2, 4A, and	4B)		Secondary Indicators Water stain (MLRA1, 2	ed Leaves (BS	required)
emarks: -16" - a jum  IYDROLO  Vetland Hyc  rimary Indic	GY drology Indicators eators (minimum of Surface Water (A1) High Water Table (A2) Saturation (A3)	<b>s</b> : f one req			apply)  Wa 1, 3	ater stained <b>2, 4A, and</b> llt Crust (B1	<b>4B)</b>		Secondary Indicators  Water stain (MLRA1, 2	ed Leaves (B9 4, <b>4A</b> , and <b>4B</b> ) atterns (B10)	required)
emarks: -16" - a jum  IYDROLO Vetland Hyc rimary Indic	anble of mixed disconnected with the control of the	s: f one req			apply)  Wa  1, 3	ater stained <b>2, 4A, and</b> Ilt Crust (B1 uatic Invert	<b>4B)</b> 11) tebrates (B13)		Secondary Indicators  Water stain (MLRA1, 2  Drainage Pa	ed Leaves (B9, 4A, and 4B) atterns (B10)	required)
emarks: -16" - a jum  IYDROLOG Vetland Hyd rimary Indic	drology Indicator: cators (minimum o Surface Water (A1) High Water Table (A2 Saturation (A3) Water Marks (B1) Sediment Deposits (E	s: f one req			apply)  Wa 1, 3	ater stained <b>2, 4A, and</b> It Crust (B1 uatic Invert drogen Sul	4B)  11) tebrates (B13) fide Odor (C1)	Except MLRA	Secondary Indicators  Water stain (MLRA1, 2  Drainage Pa  Dry-Season Saturation \	ed Leaves (B9 ed Leaves (B9 , <b>4A, and 4B)</b> atterns (B10) n Water Table Visible on Aeria	required) )) (C2) al Imagery
emarks: -16" - a jum  IYDROLOG Vetland Hyd rimary Indic	drology Indicator eators (minimum of Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B3)	s: f one req 2)			apply)  Wa 1, 3  Sa  Aq  Hy  Ox	ater stained <b>2, 4A, and</b> It Crust (B1 uatic Invert drogen Sul idized Rhiz	4B)  11) tebrates (B13) fide Odor (C1) cospheres along	Except MLRA g Living Roots (C3)	Secondary Indicators Water stain (MLRA1, 2 Drainage Pa Dry-Season Saturation V	ed Leaves (B9 4, <b>4A</b> , <b>and 4B</b> ) atterns (B10) a Water Table Visible on Aeria c Position (D2)	required)  ))  (C2) al Imagery
Pepth (inches) Pemarks: -16" - a jum  HYDROLOG  Vetland Hyc  Primary Indic  S  V  S  L  A	cators (minimum o Surface Water (A1) High Water Table (A2 Saturation (A3) Water Marks (B1) Sediment Deposits (B Drift Deposits (B3)	s: f one req 2)			apply)  Wa 1, 2  Sa  Aq  Hy  Ox	ater stained 2, 4A, and Ilt Crust (B1 uatic Invert drogen Sul dridized Rhiz esence of F	4B) I11) tebrates (B13) fide Odor (C1) tospheres along Reduced Iron (C	Except MLRA g Living Roots (C3) C4)	Secondary Indicators Water stain (MLRA1, 2 Drainage Pa Dry-Season Saturation V Geomorphic	ed Leaves (B9, 4A, and 4B) atterns (B10) in Water Table visible on Aeric C Position (D2) uitard (D3)	required)  ))  (C2) al Imagery
Pepth (inches) Pepth (inches) Pemarks: -16" - a jum  Primary Indicates  From Section 1.5  Primary Indicates  From Section 1.5  Primary Indicates  From Section 1.5  From Secti	arble of mixed disconnected with the control of the	s: f one req 2) 32)			apply)  Wa 1, 2  Sa  Aq  Hy  Ox  Pre	ater stained <b>2, 4A, and</b> Ilt Crust (B1 uatic Invertidrogen Sul didized Rhiz esence of Facent Iron R	4B)  I1)  tebrates (B13)  fide Odor (C1)  cospheres along  Reduced Iron (C)  deduction in Plo	Except MLRA  g Living Roots (C3) (C4) wed Soils (C6)	Secondary Indicators  Water stain (MLRA1, 2  Drainage Pa  Dry-Season Saturation V  Geomorphic Shallow Aqu  Fac-Neutral	ed Leaves (B9, 4A, and 4B) atterns (B10) a Water Table of Visible on Aeria c Position (D2) uitard (D3)	required) (C2) (C2) al Imagery
Primary Indic	drology Indicator: 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 (	s: f one req 2) 32) 4) B6)	uired; chec		apply)  Wa 1, 3  Sa  Aq  Hy  Ox  Pre  Re	ater stained 2, 4A, and alt Crust (B1 uatic Invert drogen Sul dridized Rhiz esence of F ecent Iron R unted or Sta	4B)  I1)  tebrates (B13)  fide Odor (C1)  cospheres along Reduced Iron (C)  teduction in Plo ressed Plants (I	Except MLRA  g Living Roots (C3) (C4) wed Soils (C6)	Secondary Indicators  Water stain (MLRA1, 2  Drainage Pa  Dry-Season Saturation \ Geomorphic Shallow Aqı Fac-Neutral Raised Ant	ed Leaves (B9, 4A, and 4B) atterns (B10) in Water Table or Aeric c Position (D2) uitard (D3) in Test (D5)	required) (C2) al Imagery (LRR A)
Pepth (inches)  Remarks:  -16" - a jum  HYDROLOG  Vetland Hyc  Primary Indic  S  L  L  L  L  L  L  L  L  L  L  L  L	drology Indicators actors (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 (nundation Visible on	s: f one req 2) 32) 4) B6) Aerial Ima	uired; chec		apply)  Wa 1, 3  Sa  Aq  Hy  Ox  Pre  Re	ater stained 2, 4A, and alt Crust (B1 uatic Invert drogen Sul dridized Rhiz esence of F ecent Iron R unted or Sta	4B)  I1)  tebrates (B13)  fide Odor (C1)  cospheres along  Reduced Iron (C)  deduction in Plo	Except MLRA  g Living Roots (C3) (C4) wed Soils (C6)	Secondary Indicators  Water stain (MLRA1, 2  Drainage Pa  Dry-Season Saturation \ Geomorphic Shallow Aqı Fac-Neutral Raised Ant	ed Leaves (B9, 4A, and 4B) atterns (B10) a Water Table of Visible on Aeria c Position (D2) uitard (D3)	required) (C2) al Imagery
Pepth (inches) Pemarks: 1-16" - a jum Petrand Hyd Primary Indic	GY  drology Indicator 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 (nundation Visible on Sparsely Vegetated C	s: f one req 2) 32) 4) B6) Aerial Ima	uired; chec		apply)  Wa 1, 3  Sa  Aq  Hy  Ox  Pre  Re	ater stained 2, 4A, and alt Crust (B1 uatic Invert drogen Sul dridized Rhiz esence of F ecent Iron R unted or Sta	4B)  I1)  tebrates (B13)  fide Odor (C1)  cospheres along Reduced Iron (C)  teduction in Plo ressed Plants (I	Except MLRA  g Living Roots (C3) (C4) wed Soils (C6)	Secondary Indicators  Water stain (MLRA1, 2  Drainage Pa  Dry-Season Saturation \ Geomorphic Shallow Aqı Fac-Neutral Raised Ant	ed Leaves (B9, 4A, and 4B) atterns (B10) in Water Table or Aeric c Position (D2) uitard (D3) in Test (D5)	required) (C2) al Imagery (LRR A)
Pepth (inches) Remarks: 1-16" - a jum  HYDROLOG Vetland Hyd Primary Indic	arble of mixed discontinuation (A2) Cators (minimum of Surface Water (A1) High Water Table (A2) Caturation (A3) Water Marks (B1) Sediment Deposits (B3) Algal Mat or Crust (B4) For Deposits (B5) Surface Soil Cracks (Inundation Visible on Caparsely Vegetated Capartinus:	s: f one req 2) 32) 4) B6) Aerial Ima	uired; chec gery (B7) urface (B8)	ck all that	apply)  Wa 1,: Sa Aq Hy Ox Pre Re Stu	ater stained 2, 4A, and alt Crust (B1 uatic Inverted drogen Sul dridized Rhiz esence of Ferenter Iron Rounted or Sta her (Explain	4B)  I1)  tebrates (B13)  fide Odor (C1)  cospheres along Reduced Iron (C)  teduction in Plo ressed Plants (I	Except MLRA  g Living Roots (C3) C4) wed Soils (C6)	Secondary Indicators  Water stain (MLRA1, 2  Drainage Pa  Dry-Season Saturation \ Geomorphic Shallow Aqı Fac-Neutral Raised Ant	ed Leaves (B9, 4A, and 4B) atterns (B10) in Water Table or Aeric c Position (D2) uitard (D3) in Test (D5)	required)  (C2)  al Imagery  (LRR A)
HYDROLOG  Wetland Hyd  Primary Indic  S  H  S  II  S  Field Observ  Gurface Water	anble of mixed disconnections of the control of the	s: f one req 2) 32) 4) B6) Aerial Ima	gery (B7) urface (B8)	ck all that	apply)  Wa 1, 2  Sa  Aq  Hy  Ox  Pre  Stu  Otti	ater stained 2, 4A, and alt Crust (B1 uatic Inverted drogen Sul didized Rhiz esence of Fecent Iron Re unted or Str her (Explain	4B)  Ith tebrates (B13)  Ifide Odor (C1)  cospheres along Reduced Iron (C) Reduction in Plotessed Plants (In in Remarks)	g Living Roots (C3) (C4) (Wed Soils (C6) (D1) (LRR A)	Secondary Indicators Water stain (MLRA1, 2 Drainage Pa Dry-Season Saturation N Geomorphic Shallow Aqu Fac-Neutral Raised Ant Frost-Heave	ed Leaves (B9, 4A, and 4B) atterns (B10) in Water Table or Aeric c Position (D2) uitard (D3) in Test (D5)	required)  (C2)  al Imagery  (LRR A)
Primary Indices  Primary Indices  Section 1.5  Primary Indices  Primary In	anble of mixed disconnections of the control of the	s: f one req 2) 32) 4) B6) Aerial Ima	gery (B7) urface (B8)	ck all that	apply)  Wa 1,: Sa Aq Hy Ox Pre Re Stu	ater stained 2, 4A, and alt Crust (B1 uatic Inverted drogen Sul didized Rhiz esence of Fecent Iron Re unted or Str her (Explain	4B)  Ith)  Itebrates (B13)  Ifide Odor (C1)  Iteospheres along Reduced Iron (Citeduction in Plotessed Plants (In In In Remarks)	g Living Roots (C3) (C4) (Wed Soils (C6) (D1) (LRR A)	Secondary Indicators Water stain (MLRA1, 2 Drainage Pa Dry-Season Saturation \ Geomorphic Shallow Aqu Fac-Neutral Raised Ant Frost-Heave	ed Leaves (B9, 4A, and 4B) atterns (B10) in Water Table or Aeric c Position (D2) uitard (D3) in Test (D5)	required) (C2) al Imagery ) (LRR A) (D7)
Primary Indicate State of the S	drology Indicators ators (minimum of Burface Water (A1)) High Water Table (A2) Baturation (A3) Water Marks (B1) Bediment Deposits (B3) Algal Mat or Crust (B4) For Deposits (B5) Burface Soil Cracks (Indicated Soil Cracks (Indicate	s: f one req 2) 32) 4) B6) Aerial Ima	gery (B7) urface (B8)  No	ck all that	apply)  Wa 1, 2  Sa  Aq  Hy  Ox  Pre  Stu  Otti	ater stained 2, 4A, and alt Crust (B1 uatic Invert drogen Sul didized Rhiz esence of F ecent Iron R unted or Sta her (Explain ches):	4B)  Ith tebrates (B13)  Ifide Odor (C1)  cospheres along Reduced Iron (C) Reduction in Plotessed Plants (In in Remarks)	g Living Roots (C3) (C4) (Wed Soils (C6) (D1) (LRR A)	Secondary Indicators Water stain (MLRA1, 2 Drainage Pa Dry-Season Saturation N Geomorphic Shallow Aqu Fac-Neutral Raised Ant Frost-Heave	ed Leaves (B9, 4A, and 4B) atterns (B10) in Water Table or Aeric c Position (D2) uitard (D3) in Test (D5)	required)  (C2)  al Imagery  (LRR A)
Primary Indices  Primar	cators (minimum of Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B3) Algal Mat or Crust (B4) For Deposits (B5) Surface Soil Cracks (Inundation Visible on Sparsely Vegetated Covations:  Present? Yes Fresent? Yes	s: f one req 2) 32) 4) B6) Aerial Ima	gery (B7) urface (B8)  No	x x x	apply)  Wa 1, 3  Sa  Aq  Hy  Ox  Pre  Stu  Ott  Depth (inc	ater stained 2, 4A, and atter Crust (B1 uatic Invert drogen Sul didized Rhiz esence of F ecent Iron R unted or Str her (Explain ches): ches):	4B)  I1)  tebrates (B13)  fide Odor (C1)  cospheres along Reduced Iron (C  teduction in Plo ressed Plants (I in in Remarks)  > 16  > 16	Except MLRA  g Living Roots (C3) (24) wed Soils (C6) D1) (LRR A)  Wetland Hyd	Secondary Indicators Water stain (MLRA1, 2 Drainage Pa Dry-Season Saturation \ Geomorphic Shallow Aqu Fac-Neutral Raised Ant Frost-Heave	ed Leaves (B9 s, <b>4A</b> , and <b>4B</b> ) atterns (B10) a Water Table of Visible on Aeria of Position (D2) uitard (D3) I Test (D5) Mounds (D6) (e Hummocks (	required) (C2) al Imagery (LRR A) (D7)
Primary Indices  Primar	drology Indicators ators (minimum of Burface Water (A1)) High Water Table (A2) Baturation (A3) Water Marks (B1) Bediment Deposits (B3) Algal Mat or Crust (B4) For Deposits (B5) Burface Soil Cracks (Indicated Soil Cracks (Indicate	s: f one req 2) 32) 4) B6) Aerial Ima	gery (B7) urface (B8)  No	x x x	apply)  Wa 1, 3  Sa  Aq  Hy  Ox  Pre  Stu  Ott  Depth (inc	ater stained 2, 4A, and atter Crust (B1 uatic Invert drogen Sul didized Rhiz esence of F ecent Iron R unted or Str her (Explain ches):	4B)  I1)  tebrates (B13)  fide Odor (C1)  cospheres along Reduced Iron (C  teduction in Plo ressed Plants (I in in Remarks)  > 16  > 16	Except MLRA  g Living Roots (C3) (24) wed Soils (C6) D1) (LRR A)  Wetland Hyd	Secondary Indicators Water stain (MLRA1, 2 Drainage Pa Dry-Season Saturation \ Geomorphic Shallow Aqu Fac-Neutral Raised Ant Frost-Heave	ed Leaves (B9 s, <b>4A</b> , and <b>4B</b> ) atterns (B10) a Water Table of Visible on Aeria of Position (D2) uitard (D3) I Test (D5) Mounds (D6) (e Hummocks (	required) (C2) al Imagery ) (LRR A) (D7)
Primary Indices  Primar	cators (minimum of Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B3) Algal Mat or Crust (B4) For Deposits (B5) Surface Soil Cracks (Inundation Visible on Sparsely Vegetated Covations:  Present? Yes Fresent? Yes	s: f one req 2) 32) 4) B6) Aerial Ima	gery (B7) urface (B8)  No	x x x	apply)  Wa 1, 3  Sa  Aq  Hy  Ox  Pre  Stu  Ott  Depth (inc	ater stained 2, 4A, and atter Crust (B1 uatic Invert drogen Sul didized Rhiz esence of F ecent Iron R unted or Str her (Explain ches):	4B)  I1)  tebrates (B13)  fide Odor (C1)  cospheres along Reduced Iron (C  teduction in Plo ressed Plants (I in in Remarks)  > 16  > 16	Except MLRA  g Living Roots (C3) (24) wed Soils (C6) D1) (LRR A)  Wetland Hyd	Secondary Indicators Water stain (MLRA1, 2 Drainage Pa Dry-Season Saturation \ Geomorphic Shallow Aqu Fac-Neutral Raised Ant Frost-Heave	ed Leaves (B9 s, <b>4A</b> , and <b>4B</b> ) atterns (B10) a Water Table of Visible on Aeria of Position (D2) uitard (D3) I Test (D5) Mounds (D6) (e Hummocks (	required) (C2) al Imagery ) (LRR A) (D7)
Primary Indices  Primar	cators (minimum of Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B3) Algal Mat or Crust (B4) For Deposits (B5) Surface Soil Cracks (Inundation Visible on Sparsely Vegetated Covations:  Present? Yes Fresent? Yes	s: f one req 2) 32) 4) B6) Aerial Ima	gery (B7) urface (B8)  No	x x x	apply)  Wa 1, 3  Sa  Aq  Hy  Ox  Pre  Stu  Ott  Depth (inc	ater stained 2, 4A, and atter Crust (B1 uatic Invert drogen Sul didized Rhiz esence of F ecent Iron R unted or Str her (Explain ches):	4B)  I1)  tebrates (B13)  fide Odor (C1)  cospheres along Reduced Iron (C  teduction in Plo ressed Plants (I in in Remarks)  > 16  > 16	Except MLRA  g Living Roots (C3) (24) wed Soils (C6) D1) (LRR A)  Wetland Hyd	Secondary Indicators Water stain (MLRA1, 2 Drainage Pa Dry-Season Saturation \ Geomorphic Shallow Aqu Fac-Neutral Raised Ant Frost-Heave	ed Leaves (B9 s, <b>4A</b> , and <b>4B</b> ) atterns (B10) a Water Table of Visible on Aeria of Position (D2) uitard (D3) I Test (D5) Mounds (D6) (e Hummocks (	required) (C2) al Imagery (LRR A) (D7)

5975

roject/Site:	SE Kellogg	Creek	Drive	_ (	City/County:	Milwau	ıkie/Clackamas	Samp	ling Date:	11/2	21/2016
pplicant/Owner:	Brownstor	ne Deve	lopment,	Inc.			State:	OR	_	Sampling Point:	9
nvestigator(s):	Caroli	ne R./Cr	raig T.		Section, To	wnship, Range:		Section (	6AD, T 2S	, R 2E	
andform (hillslope, to	errace, etc.:)		depre	ession		Local relief (cor	ncave, convex, none):			Slope (%):	
Subregion (LRR):		LRR	Α		Lat:	45.4273	379 Long:	-122	.603487	Datum:	WGS 84
oil Map Unit Name:			Cov	ve silty	clay loam		NWI Cla	ssification:		 None	
· ·e climatic/hydrologi						Yes				ain in Remarks)	
e vegetation			• •		ignificantly dist	urbed?	Are "Normal Circumstance		• ` .	,	
e vegetation							, explain any answers in Re		, ,		=
		_			, ,			,			
UMMARY OF	FINDINGS	- Atta	ch site m	nap sh	owing sam	pling point	locations, transects	, impor	tant feat	ures, etc.	
drophytic Vegetatio	on Present?	Yes	X	No _		Is Sampled Ar	oo within				
dric Soil Present?		Yes	Х	No _		a Wetlan		X		No	_
etland Hydrology P	resent?	Yes	X								
marks:						1					
GETATION -	Use scien	tific na	mes of p	lants.							
			absolu		Dominant	Indicator	Dominance Test wor	ksheet:			
			% cov		Species?	Status					
ee Stratum (plot	size:		)				Number of Dominant Spe	ecies			
							That are OBL, FACW, or	FAC:		2	(A)
-							Total Number of Dominar	nt			
				— –			Species Across All Strata	:		2	_(B)
			0	=	Total Cover						
pling/Shrub Stratur	m (plot size	»:	)				Percent of Dominant Spe	cies			
							That are OBL, FACW, or	FAC:		100%	_(A/B)
-											
				— –			Prevalence Index Wo	orksheet	:		
			. ——	— –			Total % Cover of		Multiply by:	_	
					T-4-1 O		OBL Species		x 1 =	0	-
					Total Cover		FACW species FAC Species		x 2 = x 3 =	0	-
erb Stratum (plot	size:		)				FACU Species		x 4 =	0	-
Phalaris arun	dinacea		25		Х	FACW	UPL Species		x 5 =	0	<u>-</u>
Agrostis stole	onifera		40		Χ	FAC	Column Totals	0	(A)	0	(B)
Juncus effusi	us		10			FACW					
Hypochaeris i	radicata		10			FACU	Prevalence Index =	B/A =	#	DIV/0!	=
Leucanthemu	ım vulgare		5			FACU					
				— –			Hydrophytic Vegetat				
-				— –				-	=	ophytic Vegetatio	on
-				— –	<del></del>				nce Test is >		
			90	<b>—</b>	Total Cover				ce Index is : ogical Adapt	s 3.0 ations <sup>1</sup> (provide	supporting
oody Vine Stratum	(plot size:		)							a separate shee	
_			_					5- Wetland	Non-Vascu	lar Plants <sup>1</sup>	•
							-	Problemati	c Hydrophyt	ic Vegetation1 (E	Explain)
			0	=	Total Cover		<sup>1</sup> Indicators of hydric soil a	nd wetland	l hydrology i	nust be present	, unless
							disturbed or problematic.				
2							I la columna de codi n				
	arh Stratum						Hydrophytic Vegetation	Yes	х	No	

SOIL			PHS#	597	่อ			Sampling Point: 9
rofile Descri	ption: (Describe to	the depth	needed to docume	ent the indic	ator or con	firm the absence	ce of indicators.)	
Depth	Matrix				Features			
(Inches)	Color (moist)	%	Color (moist)	<u>%</u>	Type'	Loc <sup>2</sup>	Texture	Remarks
0-6	2.5YR 3/2	90	7.5YR 4/6	10	С	<u> </u>	Silt Loam	
6-14	2.5YR 5/2	80	7.5YR 4/6		С	M	Clay	
					_			
								-
								-
Type: C=Cond	centration, D=Depleti	on, RM=Rε	educed Matrix, CS=	Covered or C	Coated Sand	d Grains.		<sup>2</sup> Location: PL=Pore Lining, M=Matrix.
ydric Soil	Indicators: (Appl	icable to	all LRRs, unles	s otherwis	se noted.)		Indic	ators for Problematic Hydric Soils <sup>3</sup> :
	Histosol (A1)			S	andy Redox	(S5)		2 cm Muck (A10)
	Histic Epipedon (A2)			S	Stripped Mati	rix (S6)		Red Parent Material (TF2)
!	Black Histic (A3)			L	oamy Muck	y Mineral (F1) (e	xcept MLRA 1)	Very Shallow Dark Surface (TF12)
	Hydrogen Sulfide (A4	1)		L	oamy Gleye	d Matrix (F2)		Other (explain in Remarks)
	Depleted Below Dark	Surface (#	411)	D	epleted Mat	trix (F3)		
	Thick Dark Surface (A	A12)		<b>X</b> R	Redox Dark S	Surface (F6)		
;	Sandy Mucky Minera	I (S1)		D	epleted Dar	k Surface (F7)		<sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or
;	Sandy Gleyed Matrix	(S4)		Redox Depressions (F8)				problematic.
ype: epth (inches	s):						Hydric Soil Pres	sent? Yes X No
ype: epth (inches emarks:							Hydric Soil Pres	sent? Yes <u>X</u> No
Type: Depth (inchestemarks:		s:					Hydric Soil Pres	sent? Yes <u>X</u> No
Type: Depth (inchestemarks:  HYDROLO Vetland Hyd	GY		uired; check all tl	hat apply)			Hydric Soil Pres	
ype: epth (inchesemarks:  YDROLO /etland Hydrimary India	GY drology Indicator		uired; check all tl	v		d Leaves (B9) <b>(E</b>		Secondary Indicators (2 or more required) Water stained Leaves (B9)
ype: epth (inchesemarks:  YDROLO retland Hydrimary Indic	GY drology Indicator cators (minimum c	of one req	uired; check all tl	v	Vater stained	d Leaves (B9) <b>(E</b>		Secondary Indicators (2 or more required)
ype: epth (inchesemarks:  YDROLO /etland Hydrimary Indicate X	GY drology Indicator cators (minimum c Surface Water (A1)	of one req	uired; check all ti			d Leaves (B9) <b>(E</b> <b>4B)</b>		Secondary Indicators (2 or more required) Water stained Leaves (B9)
ype: epth (inchesemarks:  YDROLO Yetland Hydrimary Indic X X X	drology Indicator cators (minimum c Surface Water (A1) High Water Table (A2	of one req	uired; check all tl	V 1 S	, <b>2, 4A, and</b> Salt Crust (B	d Leaves (B9) <b>(E</b> <b>4B)</b>		Secondary Indicators (2 or more required)  Water stained Leaves (B9)  (MLRA1, 2, 4A, and 4B)
ype: epth (inchesemarks:  YDROLO fetland Hydrimary Indic X X X	drology Indicator cators (minimum of Surface Water (A1) High Water Table (A2) Saturation (A3)	of one requ	uired; check all tl	W 1 S	, <b>2, 4A, and</b> Salt Crust (B Aquatic Inver	d Leaves (B9) <b>(E</b> <b>4B)</b> 11)		Secondary Indicators (2 or more required  Water stained Leaves (B9)  (MLRA1, 2, 4A, and 4B)  Drainage Patterns (B10)  Dry-Season Water Table (C2)
ype: epth (inchesemarks:  YDROLO Yetland Hydrimary Indice X X X	drology Indicator cators (minimum of Surface Water (A1) High Water Table (A3) Saturation (A3)	of one requ	uired; check all ti	W 1 1 S A H	, <b>2</b> , <b>4A</b> , and Salt Crust (B Aquatic Inver Hydrogen Su	d Leaves (B9) (E 4B) 11) tebrates (B13) Ifide 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)
ype: epth (inches emarks:  YDROLO /etland Hyd rimary Indic X X	drology Indicator cators (minimum of Surface Water (A1) High Water Table (A: Saturation (A3) Water Marks (B1) Sediment Deposits (B3) Algal Mat or Crust (B	of one request.	uired; check all ti	W 1 1 S A	, <b>2</b> , <b>4A</b> , and salt Crust (B equatic Inver- dydrogen Su existing the sale of I	d Leaves (B9) (E 4B) 11) tebrates (B13) lifide Odor (C1) zospheres along Reduced Iron (C	Except MLRA  g Living Roots (C3) (44)	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 Imager  Geomorphic Position (D2)  Shallow Aquitard (D3)
ype: epth (inchesemarks:  IYDROLO Vetland Hyverimary Indicate X X X	drology Indicator cators (minimum of Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B3) Algal Mat or Crust (B Iron Deposits (B5)	of one requipment of one required one	uired; check all t	W 1 1 S S S S S S S S S S S S S S S S S	, 2, 4A, and salt Crust (B equatic Inver dydrogen Su exidized Rhiz Presence of I Recent Iron F	d Leaves (B9) (E 4B) 11) tebrates (B13) Ifide Odor (C1) zospheres along Reduced Iron (C	Except MLRA  g Living Roots (C3) (4) 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)  Fac-Neutral Test (D5)
ype: epth (inchesemarks:  IYDROLO fetland Hydrimary India X X X	drology Indicator cators (minimum of 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 (	of one required (2) (B2) (B6)	,	W 1 1 S A A A A A A A A A A A A A A A A A	a, 2, 4A, and calt Crust (B equatic Inver- dydrogen Su existing the control of the execution of the control of	d Leaves (B9) (E 4B) 11) tebrates (B13) Iffide Odor (C1) zospheres along Reduced Iron (C Reduction in Ploy ressed Plants (E	Except MLRA  g Living Roots (C3) (4) 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)  Fac-Neutral Test (D5)  Raised Ant Mounds (D6) (LRR A)
ype: epth (inchese emarks:  IYDROLO /etland Hydrimary India X X X	drology Indicator cators (minimum of Surface Water (A1) High Water Table (A) Saturation (A3) Water Marks (B1) Sediment Deposits (B3) Algal Mat or Crust (B) Iron Deposits (B5) Surface Soil Cracks (Inundation Visible on	of one required (2) (32) (4) (B6) Aerial Image	gery (B7)	W 1 1 S A A A A A A A A A A A A A A A A A	a, 2, 4A, and calt Crust (B equatic Inver- dydrogen Su existing the control of the execution of the control of	d Leaves (B9) (E 4B) 11) tebrates (B13) Ifide Odor (C1) zospheres along Reduced Iron (C	Except MLRA  g Living Roots (C3) (4) 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)  Fac-Neutral Test (D5)
ype: epth (inches emarks:  IYDROLO /etland Hy rimary India X X	drology Indicator cators (minimum of 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 (Inundation Visible on Sparsely Vegetated (Inundator)	of one required (2) (32) (4) (B6) Aerial Image	gery (B7)	W 1 1 S A A A A A A A A A A A A A A A A A	a, 2, 4A, and calt Crust (B equatic Inver- dydrogen Su existing the control of the execution of the control of	d Leaves (B9) (E 4B) 11) tebrates (B13) Iffide Odor (C1) zospheres along Reduced Iron (C Reduction in Ploy ressed Plants (E	Except MLRA  g Living Roots (C3) (4) 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)  Fac-Neutral Test (D5)  Raised Ant Mounds (D6) (LRR A)
lepth (inchestemarks:  HYDROLO Vetland Hydrox X X X X X  ield Obser	drology Indicator cators (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) Surface Soil Cracks (Inundation Visible on Sparsely Vegetated (Inundations:	of one request.  2)  32)  4)  (B6)  Aerial Image	gery (B7) urface (B8)	W 1 1 S A A A A A A A A A A A A A A A A A	a, 2, 4A, and salt Crust (B equatic Inversely drogen Su existence of I execut Iron Fatunted or St extent (Explain	d Leaves (B9) (E 4B) 11) tebrates (B13) Ifide Odor (C1) zospheres along Reduced Iron (C Reduction in Plov ressed Plants (E n in Remarks)	Except MLRA  g Living Roots (C3) (4) 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)  Fac-Neutral Test (D5)  Raised Ant Mounds (D6) (LRR A)
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Primary India  X  X  X  Sield Obser  Furface Water Table P	drology Indicator cators (minimum of Surface Water (A1) High Water Table (A) Saturation (A3) Water Marks (B1) Sediment Deposits (B3) Algal Mat or Crust (B) Iron Deposits (B5) Surface Soil Cracks (Inundation Visible on Sparsely Vegetated (Inundations: Present? Yes	of one required (2)  B2)  (B6) Aerial Image Concave Su	gery (B7) urface (B8) No No	VY 1 S A H C C P R S C Depth (i	, 2, 4A, and salt Crust (B equatic Inversely drogen Su exidized Rhizersence of I Recent Iron Funted or State (Explainments):	d Leaves (B9) (E 4B) 11) tebrates (B13) Iffide Odor (C1) zospheres along Reduced Iron (C Reduction in Plov ressed Plants (E n in Remarks)	Except MLRA  g Living Roots (C3) (4) 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)  Fac-Neutral Test (D5)  Raised Ant Mounds (D6) (LRR A)  Frost-Heave Hummocks (D7)
Primary India  X  X  X  iield Obser	drology Indicator cators (minimum of Surface Water (A1) High Water Table (A) Saturation (A3) Water Marks (B1) Sediment Deposits (B3) Algal Mat or Crust (B) Iron Deposits (B5) Surface Soil Cracks (Inundation Visible on Sparsely Vegetated (Inundations: Present? Yes resent? Yes sent? Yes	of one required (2) (B2) (B6) Aerial Image Concave Su	gery (B7) urface (B8)	V 1 1 S A A H C C P P R S C C Depth (i	, 2, 4A, and salt Crust (B equatic Inversely drogen Su exidized Rhizersence of I Recent Iron Funted or State (Explainments):	d Leaves (B9) (E 4B)  11)  tebrates (B13)  Ifide Odor (C1) zospheres along Reduced Iron (C Reduction in Plov ressed Plants (E n in Remarks)	Except MLRA  g Living Roots (C3) (4) 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)  Fac-Neutral Test (D5)  Raised Ant Mounds (D6) (LRR A)  Frost-Heave Hummocks (D7)
Primary Indicates and American Section 1982 (1982) A section 1982	drology Indicator cators (minimum of Surface Water (A1) High Water Table (A) Saturation (A3) Water Marks (B1) Sediment Deposits (B3) Algal Mat or Crust (B) Iron Deposits (B5) Surface Soil Cracks (Inundation Visible on Sparsely Vegetated (Inundations: Present? Yes resent? Yes sent? Yes	of one required (2)  B2)  (B6) Aerial Image Concave Su	gery (B7) urface (B8) No No	Pepth (i	a, 2, 4A, and salt Crust (B equatic Inverse of Inverse	d Leaves (B9) (E 4B) 11) tebrates (B13) Iffide Odor (C1) zospheres along Reduced Iron (C Reduction in Plov ressed Plants (E n in Remarks)  2 0 0	Except MLRA  g Living Roots (C3) (4) (4) (4) (4) (5) (5) (1) (1) (1) (1) (1) (1) (1) (2) (1) (2) (3) (4) (4) (5) (6) (7) (6) (7) (7) (8) (8) (8) (8) (8) (8) (8) (8) (8) (8	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)
Primary Indicates and American Section 1982 (1982) A section 1982	drology Indicator cators (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) Surface Soil Cracks (Inundation Visible on Sparsely Vegetated (Covations: Present? Yes Iresent? Yes	of one required (2)  B2)  (B6) Aerial Image Concave Su	gery (B7) urface (B8) No No	Pepth (i	a, 2, 4A, and salt Crust (B equatic Inverse of Inverse	d Leaves (B9) (E 4B) 11) tebrates (B13) Iffide Odor (C1) zospheres along Reduced Iron (C Reduction in Plov ressed Plants (E n in Remarks)  2 0 0	Except MLRA  g Living Roots (C3) (4) (4) (4) (4) (5) (5) (1) (1) (1) (1) (1) (1) (1) (2) (1) (2) (3) (4) (4) (5) (6) (7) (6) (7) (7) (8) (8) (8) (8) (8) (8) (8) (8) (8) (8	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#

5975

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

roject/Site: SE Kellogg Creek Drive			City/County:	Milwa	Sam	pling Date:	11/21	/2016			
pplicant/Owner:	Brownstone Development, Inc.					Sta	te: OR	<u> </u>	Sampling Point:	10	
vestigator(s):	Caroline R./Craig T.			Section, Township, Range:			Section	Section 6AD, T 2S, R 2E			
andform (hillslope,	e, terrace, etc.:)				Local relief (cor	ncave, convex, none):			Slope (%):		
ubregion (LRR):		LRR	A	Lat:	45.4273	<b>379</b> Lor	ng: -122	.603487	Datum:	WGS 84	
oil Map Unit Name	e:		Cove si	_ Ity clay loam		NWI	Classification	:	None		
re climatic/hydrolo				ne of year?	Yes	X	No	(if no, explai	n in Remarks)		
re vegetation	Soil	or H	ydrology	significantly dist	turbed?	Are "Normal Circums		_			
re vegetation	Soil					I, explain any answers ir	Remarks.)				
				_							
UMMARY OF	F FINDINGS	– Attac	ch site map	showing san	pling point	locations, transe	cts, impor	tant featu	res, etc.		
ydrophytic Vegeta	ation Present?	Yes	No.	X	Is Sampled Ar	rea within					
ydric Soil Present	t?	Yes	No.	X	a Wetlar		es	_ N	oX		
etland Hydrology	Present?	Yes	No.	<b>X</b>							
emarks:					1						
EGETATION	l - Use scien	tific na	mes of plan	ts.							
			absolute	Dominant	Indicator	Dominance Test	worksheet:				
0			% cover	Species?	Status						
<u>ree Stratum</u> (pl 1	ioi size:		)			Number of Dominant	•		•	/A)	
						That are OBL, FACW	, or FAC:		2	(A)	
						Total Number of Dam	inant				
						Total Number of Dom			4	(D)	
· <del></del>			0	- Total Cayor		Species Across All St	rata:		4	(B)	
				= Total Cover							
apling/Shrub Strat	<u>ıtum</u> (plot size	e:	_)			Percent of Dominant	-	_		(A (B)	
					-	That are OBL, FACW	, or FAC:		0%	(A/B)	
						Prevalence Index	Workshoot				
<u> </u>						Total % Cover of	WOIKSHEE	Multiply by:			
·						OBL Species	_	x 1 =	_ 0		
			0	= Total Cover		FACW species		x 2 =	0		
						FAC Species		x 3 =	0		
erb Stratum (pl	lot size:	5	)			FACU Species		x 4 =	0		
Daucus card			25	X	FACU	UPL Species		x 5 =	0		
	ım leptophyll	um	20	X	FACU	Column Totals	0	_(A)	0	(B)	
Agrostis cap			20	X	FAC						
Hypochaeris			15		FACU	Prevalence Inde	x =B/A =	#D	IV/0!		
Holcus lana			10		FAC	Hardward Ada Ware	4-41 111-	- 4			
Bromus sp.			20	X	(FAC)	Hydrophytic Vege			hutio \/o=-t-t		
Parentucellis Plantago lan			<u>10</u> 15		FACU			est for Hydrop nce Test is >5	ohytic Vegetation	ı	
r rantago idi	iocoiala		160	= Total Cover	1 700			nce resus >o nce Index is ≤			
				1010100161					tions <sup>1</sup> (provide s	upporting	
oody Vine Stratur	m (plot size:		)				data in Re	marks or on a	separate sheet)	)	
							5- Wetland	d Non-Vascula	ar Plants <sup>1</sup>		
							Problemat	ic Hydrophytic	Vegetation <sup>1</sup> (Ex	oplain)	
2			0	= Total Cover		<sup>1</sup> Indicators of hydric s		d hydrology m	ust be present, i	unless	
2				- Total Gover		dicturbed on a					
2				- Total Gover		disturbed or problema  Hvdrophytic	ITIC.				
2 6 Bare Ground in F	Herb Stratum			- rotal dovel		disturbed or problema Hydrophytic Vegetation	riic. Yes	;	No	х	

SOIL			PHS#	5975	_		Sampling Point:	10
Profile Descr	iption: (Describe to	the depth i	needed to docume	nt the indicator or co	onfirm the absen	ce of indicators.)		
Depth	Matrix			Redox Features				
(Inches)	Color (moist)	%	Color (moist)	% Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks	<b>i</b>
0-3	10YR 3/3	100				Sandy Loam		
3-16	10YR 4/4	60				Sandy Loam		
	10YR 4/2	40				Sandy Loam		
							-	
•		-		Covered or Coated Sa s otherwise noted		India	<sup>2</sup> Location: PL=Pore Lining, M= ators for Problematic Hyd	
iyuric Son		icable to	all LKKS, utiles		-	maic	_	
	Histosol (A1)			Sandy Red	` ,		2 cm Muck (A10	-
	Histic Epipedon (A2)			Stripped M	atrix (S6)		Red Parent Mate	erial (TF2)
	Black Histic (A3)			Loamy Mud	cky Mineral (F1) (e	except MLRA 1)	Very Shallow Da	rk Surface (TF12)
	Hydrogen Sulfide (A4	1)		Loamy Gle	yed Matrix (F2)		Other (explain in	Remarks)
	Depleted Below Dark	Surface (A	A11)	Depleted M	latrix (F3)			
	Thick Dark Surface (	A12)		Redox Dar	k Surface (F6)			
	Sandy Mucky Minera	•			ark Surface (F7)		<sup>3</sup> Indicators of hydrophytic vege	
	Sandy Mucky Millera Sandy Gleyed Matrix				pressions (F8)		hydrology must be present, u problematic	
Restrictive	Layer (if present)	:				1		
Гуре:	<b>,</b> ( <b>,</b> ,							
• •	- \-					Uhadaia Cail Das	10 V	Na V
Depth (inche	s).					Hydric Soil Pres	sent? res	No X
HYDROLO								
	drology Indicator		uirad: abaak all tl	act apply)			Secondary Indicators (2 o	or more required)
- Illilary Illui	cators (minimum c	or one req	ulled, check all ti		ned Leaves (B9) (	Except MI DA		
	Surface Water (A1) High Water Table (A)	2)		1, 2, 4A, ar		Except WLKA	Water stained Le (MLRA1, 2, 4A,	, ,
	Saturation (A3)			Salt Crust (	(B11)		Drainage Pattern	ns (B10)
	Water Marks (B1)			Aquatic Inv	rertebrates (B13)		Dry-Season Wat	er Table (C2)
	Sediment Deposits (F	B2)		Hydrogen S	Sulfide Odor (C1)		Saturation Visibl	e on Aerial Imagery
	Drift Deposits (B3)			Oxidized R	hizospheres along	g Living Roots (C3)	Geomorphic Pos	sition (D2)
	Algal Mat or Crust (B	4)		Presence of	of Reduced Iron (C	24)	Shallow Aquitard	I (D3)
	Iron Deposits (B5)			Recent Iron	Reduction in Pla	wed Soils (C6)	Fac-Neutral Tes	t (D5)
	Surface Soil Cracks	(B6)		Stunted or	Stressed Plants (	D1) (LRR A)	Raised Ant Mou	nds (D6) (LRR A)
	Inundation Visible on	` '	gerv (B7)	Other (Exp	lain in Remarks)	, ,	Frost-Heave Hui	
	Sparsely Vegetated (				,			,
Field Obse	rvations:							
Surface Wate	r Present? Yes		No <u>X</u>	Depth (inches):				
Water Table F	Present? Yes		No X	Depth (inches):	> 16	Wetland Hyd	Irology Present?	
Saturation Pre			No X	Depth (inches):	> 16		Yes	No X
		auga mani	toring well, agrical ph	notos provious inspec	tions) if available	<u> </u>		
Describe Reco	orded Data (stream ga	auge, moni	toring well, aerial pr	notos, previous inspec	tions), if available:	:		
emarks:								
u								

# **Appendix C**

**Site Photos** 





Photo A

Looking east along south bank of Mt. Scott Creek

Photo B

Looking west along south bank of Mt. Scott Creek





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



Photo C Looking north across Mt. Scott Creek

Photo D Looking southeast toward Wetland A





Photodocumentation SE Kellogg Creek Drive, Milwaukie, Oregon Photo C taken on October 18, 2016, Photo D taken on November 21, 2016



Photo E

Looking northwest toward north end of Wetland A

Photo F

Looking southeast toward center of Wetland A





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



Photo G

Looking southeast toward upland island (Sample Point 4) and center of Wetland A

### Photo H

Looking southeast toward southern portion of Wetland A from south end of upland island





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

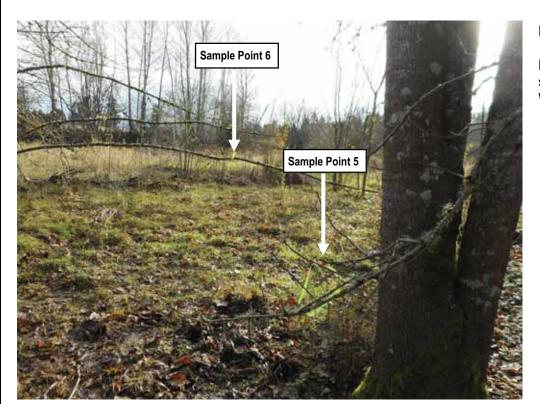
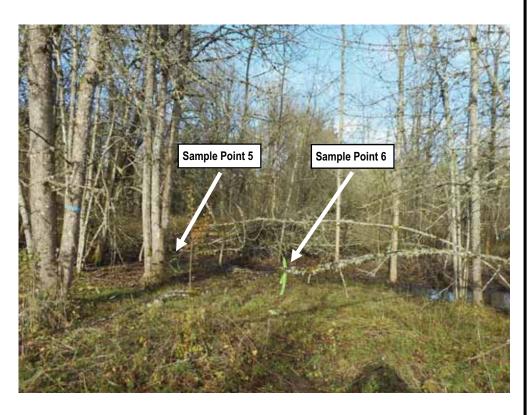


Photo I

Looking southeast toward southern boundary of Wetland A

### Photo J

Looking toward the northwest portion of Wetland A from its southern boundary.





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

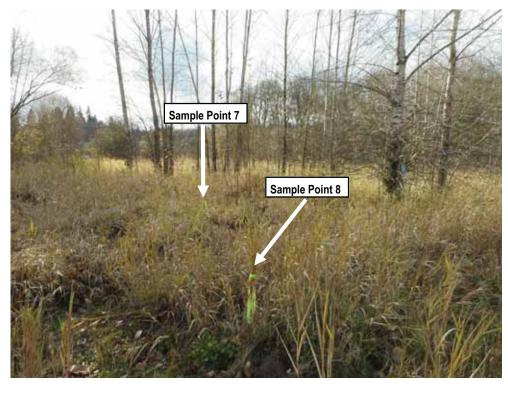


Photo K

Looking southeast at south end of Wetland A

Photo L

Looking south at eastern portion of Wetland A





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

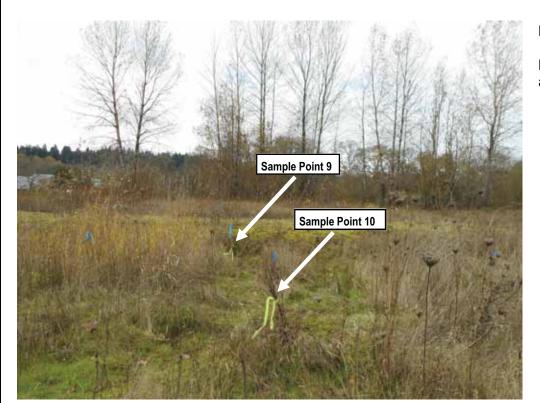


Photo M

Looking southwest across Wetland E

**Photo N**Looking north at Wetland C







Photo O

Looking northwest at Wetland B

**Photo P**Looking southeast at Wetland D







Photo Q

Looking northwest at Wetland F

**Photo R**Looking north at Wetland G





## Appendix D

### **Historic Aerial Photographs**





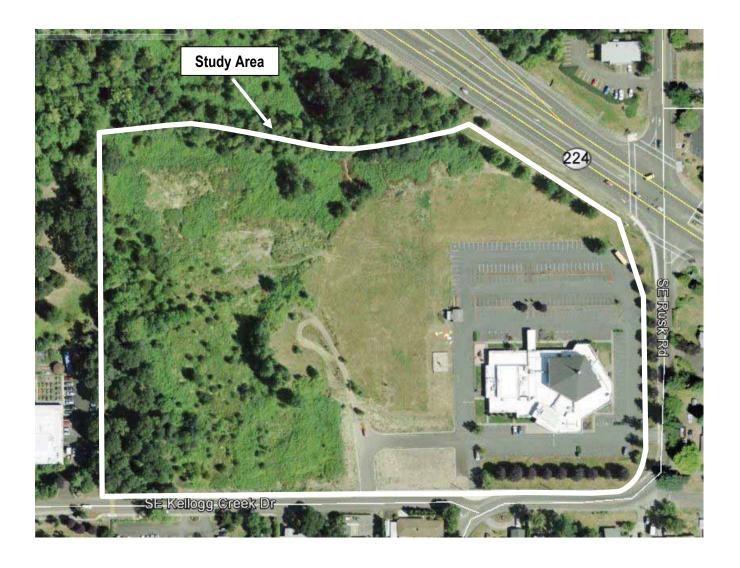


Historic Aerial Photo SE Kellogg Creek Drive, Milwaukie, Oregon Google Earth, August 14, 2002



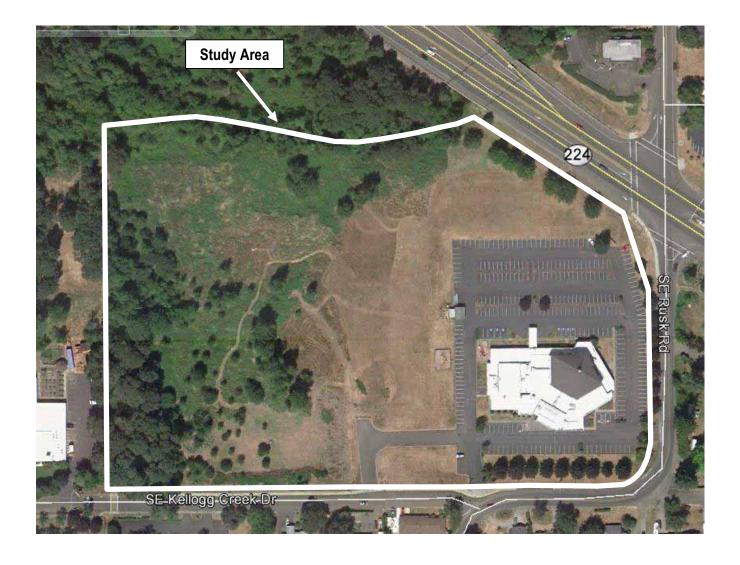


Historic Aerial Photo SE Kellogg Creek Drive, Milwaukie, Oregon Google Earth, July 2003





Historic Aerial Photo SE Kellogg Creek Drive, Milwaukie, Oregon Google Earth, July 2007





Historic Aerial Photo SE Kellogg Creek Drive, Milwaukie, Oregon Google Earth, August 2010

## **Appendix E**

### **Geotechnical Evaluation Report**



## Appendix F

Wetland Definitions, 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 document for wetland delineations within Oregon is the *Corps of Engineers Wetlands Delineation Manual, Technical Report Y-87-1* (Environmental Laboratory 1987) which is recognized by both DSL and COE.

#### Waters of the State and Wetland Definition

Waters of the State are defined as "natural waterways including all tidal and nontidal bays, intermittent streams, constantly flowing streams, lakes, wetlands and other bodies of water in this state, navigable and nonnavigable...". "Natural waterways" is further defined as waterways created naturally by geological and hydrological processes, waterways that would be natural but for human-caused disturbances (e.g. channelized or culverted streams, impounded waters, partially drained wetlands or ponds created in wetlands)..."(DSL, 2001).

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, 2001).

#### 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 19.7 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, drainage pattern, 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.

### 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, sulfidic material or "rotten egg" odor, 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 soils usually have a matrix chroma of 2 or less in mottled soils, or a matrix chroma of 1 or less in unmottled soils.

### 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 for areas that were not currently in agricultural production. One-foot diameter soil pits were excavated to 16 inches and soil profiles were examined for hydric soil and wetland hydrology field indicators. In addition, a visual percent-

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 percent cover for herbaceous, woody vine, and shrub species within a 5 foot radius of the sample point, and basal area cover for tree species within a 30 foot radius of the sample point. Plant species in each vegetative layer, which are estimated at less than 20%, 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.

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.