

**WETLAND DELINEATION / DETERMINATION REPORT COVER FORM**

This form must be included with any wetland delineation report submitted to the Department of State Lands for review and approval. A wetland delineation report submittal is not "complete" unless the fully completed and signed report cover form and the required fee are submitted. Attach this form to the front of an unbound report or include a hard copy of the completed form with a CD/DVD that includes a single PDF file of the report cover form and report (minimum 300 dpi resolution) and submit to: **Oregon Department of State Lands, 775 Summer Street NE, Suite 100, Salem, OR 97301-1279**. A single PDF attachment of the completed cover form and report may be e-mailed to **Wetland\_Delineation@dsl.state.or.us**. For submittal of PDF files larger than 10 MB, e-mail instructions on how to access the file from your ftp or other file sharing website. Fees can be paid by check or credit card. Make the check payable to the Oregon Department of State Lands. To pay the fee by credit card, call 503-986-5200.

<input checked="" type="checkbox"/> Applicant <input type="checkbox"/> Owner Name, Firm and Address: <b>Great American Development, Joe Spaziani</b> <b>16287 S. Forsythe Road</b> <b>Oregon City, Oregon, 97045</b>	Business phone # <b>503-860-2501</b> Mobile phone # _____ E-mail: <b>joandpenny@hotmail.com</b>
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<input checked="" type="checkbox"/> Authorized Legal Agent, Name and Address: <b>Environmental Technology Consultants</b> <b>375 Portland Ave, Gladstone, OR 97027</b>	Business phone # 360-696-4403 Mobile phone # <b>503-580-2465</b> E-mail: <b>JohnM@etcEnvironmental.net</b>
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I either own the property described below or I have legal authority to allow access to the property. I authorize the Department to access the property for the purpose of confirming the information in the report, after prior notification to the primary contact.  
 Typed/Printed Name: Joe Spaziani Signature: \_\_\_\_\_  
 Date: **April 20, 2017** Special instructions regarding site access: **Contact owner or consultant.**

**Project and Site Information** (using decimal degree format for lat/long of site or start & end points of linear project)

Project Name: <b>37090 SE Kelso Road</b>	Latitude: <b>N 45.245314</b>	Longitude: <b>W -122.165512</b>
Proposed Use: <b>New Subdivision (Sandy Woods)</b>	Tax Map # 032S4E11	
Project Street Address (or other descriptive location): <b>37090 SE Kelso Road</b>	Township <b>T2S</b> Range <b>R4E</b> Section <b>2</b> QQ <b>AC</b> Tax Lot(s) <b>24E1102200, 24E11AC00828 &amp; 24E11AC00832</b>	
City: <b>Boring, OR</b> County: <b>Clackamas</b>	Waterway: <b>No name</b> River Mile: _____ NWI Quad(s): <b>Sandy, Oregon</b>	

**Wetland Delineation Information**

Wetland Consultant Name, Firm and Address: <b>John McConnaughey, PWS &amp; Annakate Martin NRS</b> Environmental Technology Consultants 375 Portland Ave, Gladstone, OR 97027	Phone # <b>360-696-4403</b> Mobile phone # <b>503-580-2465</b> E-mail: <b>JohnM@etcEnvironmental.net</b>
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The information and conclusions on this form and in the attached report are true and correct to the best of my knowledge.  
 Consultant Signature: \_\_\_\_\_ Date: **May, 2017 updated October 2018**

**Primary Contact** for report review and site access is  Consultant  Applicant/Owner  Authorized Agent  
 Wetland/Waters Present?  Yes  No Study Area size: **21.08 acres** Total Wetland Acreage: **1.078 AC**

Check Box Below if Applicable: Fees: \$437 (2018)

<input checked="" type="checkbox"/> R-F permit application submitted NWP2018-473 <input type="checkbox"/> Mitigation bank site <input type="checkbox"/> Wetland restoration/enhancement project (not mitigation) <input type="checkbox"/> Industrial Land Certification Program Site <input type="checkbox"/> Reissuance of a recently expired delineation Previous DSL # _____ Expiration date _____	<input checked="" type="checkbox"/> Fee payment submitted <b>\$437</b> <input type="checkbox"/> Fee (\$100) for resubmittal of rejected report <input type="checkbox"/> No fee for request for reissuance of an expired report
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**Other Information:**

Has previous delineation/application been made on parcel?	Y	N	
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	If known, previous DSL # <b>WD2017-0410 &amp; WD2000-0612</b>
Does LWI, if any, show wetland or waters on parcel?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

**For Office Use Only**

DSL Reviewer: _____	Fee Paid Date: ____ / ____ / ____	DSL WD # _____
Date Delineation Received: ____ / ____ / ____	DSL Project # _____	DSL Site # _____
Scanned: <input type="checkbox"/> Final Scan: <input type="checkbox"/>	DSL WN # _____	DSL App. # _____

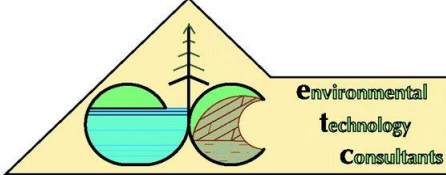
DELINEATION REPORT WD2018-0656  
FOR PERMITS NWP2018-473 AND 61489-RF  
37090 SE Kelso Road  
Boring, OR



Evaluated by:  
Annakate Martin, NRS  
John McConnaughey PWS# 2009  
May, 2017



Prepared for: Joe Spaziani  
Great American Development  
37090 SE Kelso Road  
Boring, OR 97009



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"Creating Tomorrow's Environment - Today"

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## Table of Contents

Cover Photo.....	3
INTRODUCTION.....	4
QUALIFICATIONS OF JOHN MCCONNAUGHEY, PWS .....	4
QUALIFICATIONS OF ANNAKATE MARTIN .....	5
A) Landscape Setting and Land Use: .....	5
B) Site Alterations: .....	5
C) Precipitation Data and Analysis: .....	5
D) Methods: (site-specific methods for field investigation) .....	7
<b>E) Description of All Wetlands and Other Non-Wetland Waters:</b> .....	8
F) Deviation from LWI or NWI:.....	10
G) Mapping Method: .....	11
H) Additional Information: (i.e., if needed to establish state jurisdiction) .....	11
I) Results and Conclusions: .....	11
Disclaimer: OAR141-090-0035(12)(j) : .....	11
APPENDIX A - Maps:.....	12
APPENDIX B - Data Forms.....	13
APPENDIX C - Ground Level Color Photographs: .....	14
APPENDIX D - Sensitive Area Certification:.....	17
APPENDIX E - WD2000-0612 .....	19
APPENDIX F - WD2017-0410 .....	20

## Cover Photo.

Photo of stream on property shortly after blackberries were mowed. ETC Photo 3/13/2017

## INTRODUCTION

This report is to be attached to remove/fill permits NWP2018-473 and 61489-RF.

This report is in response to the Corps request for a resubmittal to WD2017-0410 which only included the south end of 37090 SE Kelso Road. However, in that request they also requested the study area boundary be increased to include a small previously delineated offsite wetland who's delineation had expired. And they also requested the North end of the lot be included in the study area as the applicant had used the north part of the lot as an access road that crossed an NWI mapped stream.

ETC prepared such a report which became numbered WD2018-0656. Reviewers requested that we remove areas described by WD2017-0410, which we have done in this resubmittal. Reviewers also found fault with data points that defined Wetland "A" in the NW corner of lot 2200. Because no impacts or activities are being considered in that area at the present time, we removed the NW corner of the lot from the study in order to obtain concurrence with the rest of the report.

Originally ETC prepared a delineation report covering the entire lot 2200 (37090 SE Kelso Road). The applicant then decided only to develop the South end of the lot, and requested that ETC remove the northern portion of the lot from the study area. We did that, and submitted a report for the South end only which was accepted and numbered WD2017-0410.

However, then the City of Sandy required that Olson Road be widened, and that widening caused impacts to both onsite and offsite wetlands. The applicant also used an old road for access, and that road entered the North end of the lot from Kelso Road. DSL then requested a delineation for the North portion of lot due to the road access, and also required updated delineations for the offsite wetlands, as the existing delineations had expired for those areas.

**Study Area:** This report includes the northern portions of lot 2200, except for the NW corner of the lot containing a sloped wetland area we are calling Wetland "A". The southern study boundary of this report is the northern study boundary of WD2017-0410.

Also included in this report are areas that will be impacted the widening of Olson Road, except for those areas described in WD2017-0410. That includes two wetland tracks known as Track "A", and Track "E". Track "A" is a wetland preservation track created when the original lot was partitioned for a subdivision. Track "E" is an adjoining track used for a wetland mitigation project required by the remove/fill permit 26209-FP.

There are no Tracks "B", "C", or "D" as far as we know.

The relevant previously submitted delineations and reports for the study area of this report are:

- WD2017-0414 - The south portions of lot 2200 (37090 SE Kelso Road).
- WD2000-0612 - A delineation done for a subdivision known as Sandy Bluff 3, and this delineation determined a wetland area now known as "Track A" that is East of the SE corner of lot 2200.
- Mitigation 26209-FP - A mitigation project required by Sandy Bluff 3 that created

All the field work on lot 2200 was done in March-May of 2017. Some additional field work was done in October of 2018 in Tracks "A" and "E" for the Olson Road Widening portion of the project.

This report is intended to assist the permittee, the City of Sandy, and the State of Oregon to evaluate the application and determine what environmental conditions or mitigations may be required to move this project forward.

## QUALIFICATIONS OF JOHN MCCONNAUGHEY, PWS

I earned a Bachelor of Science degree from the University of Oregon in 1978 and in 1984 I earned a Masters of Fisheries Science degree from the University of Alaska at Juneau, (since renamed as the University of Alaska, Southeast). The Juneau curriculum specializes in the study of Pacific salmon. I held positions with agencies tasked with salmon research and management beginning with summer jobs in 1979 in Rogue River, the Oregon Dept of Fish and Wildlife, and then with the Alaska Department of Fish and Game in Ketchikan Alaska, in 1980. I worked on salmon projects with ADF&G in Anchorage and Juneau for 5 years before moving to American Samoa to serve as a fisheries projects leader for the Department of Marine and Wildlife Resources. Upon returning stateside, I worked for the Yakama/Klickitat Fisheries Project out of Yakima Washington for 5 years leading four research projects studying aspects of salmon supplementation projects in the Yakima River.

I have been employed with Environmental Technology Consultants since 2006. In 2010 I earned certification as a Professional Wetland Scientists, (PWS) from the Society of Wetlands Scientists, (SWS).

No part of my compensation is dependent on the outcome of my investigations or conclusions I may draw from the observed data.

## **QUALIFICATIONS OF ANNAKATE MARTIN**

I earned a Bachelor of Science degree in Natural Resources from Washington State University in 2002. In 2002 I worked for the University of Idaho on MAP tracking steelhead and salmon on the Snake River out of Clarkston, Washington. 2002-2003 I worked for Idaho Fish and Game as a field technician for identifying fish in remote streams in Idaho. In 2004 I worked for Environmental Technology Consultants conducting wetland delineations and Phase I ESA reports. From 2007-2014 I worked for 3 Kings Environmental conducting Phase I ESA reports, asbestos and lead surveys. In 2011 I started my own company primarily providing erosion control services (CESCL Certified) and Phase I ESA reports.

I have been re-employed with Environmental Technology Consultants in 2015 for wetland delineation consulting.

### **A) Landscape Setting and Land Use:**

The subject property is a 38.95 Acre parcel in a rural residential area that is on a valley floor at approximately 787' in elevation. It is in the Sandy River watershed. The terrain is gently rolling in the general north to south direction on the majority of the property. The property is surrounded primarily by agricultural land, and partially by roads, rural single-family residences, and single-family residences in subdivisions. The property was a mixture of mature forests, grassy fields, and had a stream cutting through it. There is an easement with powerlines running through the middle of the property running northeast and southwest, and the powerline easement is also the high point of the property.

The area is zoned EFU Exclusive Farm Use district.

### **B) Site Alterations:**

The subject site had a single-family residence, that has been demolished, and according to the Assessors information was built in 1915. Northern portions of the property have been used for agriculture uses such as a plant nursery, and possibly a raspberry farm. The center portion of the lot is used for a BPA powerline, and vegetation has been periodically mowed to prevent interference with the power lines. The south portion of the lot was forested with large 2<sup>nd</sup> growth coniferous trees when we first observed it. In 2017 the applicant used a brush hog to mow the blackberries on most of the site in order that surveyors could gain access. Much of the property that was historically farmed now has a dense cover of blackberries.

### **C) Precipitation Data and Analysis:**

This wet season through March has been above average which makes using hydrology somewhat helpful, except it can make wetland areas appear larger than they are. The overall rainfall was above average for the area for the wet season.

Table 1. Recent observed precipitation data compared to the Wetland Evaluation Technique (WETS) tables.

MONTH	NOAA observed monthly precipitation at PDX	WETS Precipitation averages for PDX Airport			Compared to WETS avg
		Avg (inches)	30% chance will have		
			Less than	More Than	
March 2016	4.73	3.71	2.85	4.31	Above
April 2016	1.96	2.64	1.93	3.1	Below
May 2016	1.72	2.38	1.44	2.88	Average
June 2016	1.42	1.59	0.94	1.93	Average
July 2016	0.66	0.72	0.31	0.89	Below
August 2016	0.09	0.93	0.33	1.13	Below
September 2016	1.69	1.65	0.65	2.06	Above
October 2016	8.31	2.88	1.57	3.52	Above
November 2016	6.83	5.61	3.72	6.73	Above
December 2016	4.61	5.71	3.89	6.82	Average
January 2017	4.13	5.07	2.98	6.16	Average
February 2017	10.26	3.56	0.72	10.03	Above
March 2017	7.26	3.68	1.10	7.89	Above
Past 12 Months	65	44.31	25.27	62.43	Above
Water year thru March 2017	43.09	41.01	25.86	58.35	Above
March 2017	7.26	3.68	1.10	7.89	Above

Shading represents the 2016 water year beginning October 1, 2016.

Approximately 6.99" of rain fell at the site in the 14 days prior to our first field visit, there was 5.34" of rain fall at the site 14 days prior to the second site visit.

The table below shows the recent precipitation data using Farmlogs.com:

Table 2. Precipitation data at the site as estimated by Farmlogs.com using Doppler radar. Dates 14 days prior to the field visits are shown.

DATE	RAINFALL	YEAR-TO-DATE	Field Activities
15-Mar-17	1.03"	24.33"	
16-Mar-17	0.58"	24.91"	
17-Mar-17	0.04"	24.95"	
18-Mar-17	0.38"	25.33"	
19-Mar-17	0.80"	26.34"	
20-Mar-17	0	31.71"	
21-Mar-17	0.20"	26.34"	
22-Mar-17	0.41"	26.74"	
23-Mar-17	0.17"	26.92"	
24-Mar-17	0.88"	27.80"	

25-Mar-17	0.74"	28.55"	
26-Mar-17	0.11"	28.66"	
27-Mar-17	0.69"	29.34"	
28-Mar-17	0.23"	29.58"	
29-Mar-17	0.35"	29.93"	
30-Mar-17	0.38"	30.30"	First field day-started delineation studies, hydrology observed
31-Mar-17	0.23	30.53"	
01-Apr-17	0	30.53"	
02-Apr-17	0.09"	30.63"	
03-Apr-17	0	30.63	
04-Apr-17	0	30.63	
05-Apr-17	0.03"	30.66	
06-Apr-17	0.16"	30.82"	
07-Apr-17	0.23"	31.05"	
08-Apr-17	0.13"	31.17"	
09-Apr-17	0.20"	31.38"	
10-Apr-17	0.11"	31.49"	
11-Apr-17	0.04"	31.52"	
12-Apr-17	0.36"	31.88"	
13-Apr-17	0.32"	32.20"	
14-Apr-17	0.19"	32.39"	
15-Apr-17	0.18"	32.57"	
16-Apr-17	0	32.57"	
17-Apr-17	0.11"	32.68"	
18-Apr-17	0.60"	33.27"	
19-Apr-17	0.03"	33.30"	
20-Apr-17	0.41"	33.72"	
21-Apr-17	0.13"	33.85"	
22-Apr-17	0	33.85"	
23-Apr-17	0.13"	33.98"	
24-Apr-17	0.70"	34.68"	
25-Apr-17	0.88"	35.56"	
26-Apr-17	0.69"	36.24"	
27-Apr-17	0.94"	37.18"	
28-Apr-17	0.35"	37.54"	Second field day-continued delineation studies, hydrology was observed, wetlands and stream were flagged, site was GPSed

**Deductions of Recent Weather Data:** The precipitation in 2017 was above average for the site when the delineation was conducted, there were saturated soils and shallow water tables at or above levels where hydric soils were observed.

The additional field work done for the Olson Road Widening was done in October 2018 following a long dry period. The area was dry at this time. This field work used plants, soils, and topography to make inferences about wetland hydrology for Track A and for the mitigation area for 26209-FP.

#### **D) Methods: (site-specific methods for field investigation)**

Wetland determinations and delineations discussed in this report were conducted in accordance with the 1987 U.S. Army Corps of Engineers Wetlands Delineation Manual ("the manual"), including regional supplements and applicable guidance, and supporting technical or guidance documents issued by the Department of State Lands.

We traversed the site to determine upland areas and wetland areas. We determined there were four wetland areas, two streams and a road side ditch. We named the wetlands Wetland "A", Wetland "B", Wetland "C", and Wetland "D" to be able to differentiate between the four.

The subject site was a mixture of abandoned agricultural areas, wetland areas, mature forested areas, and a mowed BPA right of way. There were areas that were over run by Himalayan blackberries especially in Wetland "A" and Wetland "B" which was at approximately 90%.

We dug soil test pits to a general depth of 18" bgs. The soils on this site was primarily a red parent color, about 7.5YR 3/2. We relied on hydric soils, hydrology and vegetation to make our wetland determinations.

We set wetland flags around the wetlands, Streams 1 and 2, and the drainage ditch.

## **E) Description of All Wetlands and Other Non-Wetland Waters:**

NOTE: Descriptions for wetlands "A" and "D" and stream #1 are removed from this report as they were removed from the study areas as described above.

Offsite water comes onto this property from at least five locations, and is responsible for most of the wetland hydrology seen on the property:

1. Two culverts convey water from the North side of Kelso road to a ditch along the North end of the subject property. These are old concrete culverts.
2. Stream 2 enters the property on east side between Kelso Road and the BPA powerline easement. It appears that Stream 2 is a natural drainage way that has been substantially ditched and re-routed from its original course. It flows west and south across the property and leaves the property near the middle of the west property line.
3. Water flows through a culvert under SE Jewelberry Road and enters the study area at the East end of Track "A". That water flows East to West across Track "A" which is contiguous with small wetland area known as "Wetland D" in WD2017-0410.
4. Stormwater from SE Jewelberry Road is piped into a reverse French drain on the East side of the mitigation area for 26209-FP, and some of the hydrology for 26209-FP is supplied by that French drain, and some of it comes from Track "A".
5. Roofs on houses on the North side of Track "A" have been piped and discharge into Track "A". This was done as part of a wetland enhancement project to increase the hydrology of Track "A".

A storm drain under Olson Road drains Track "A", Wetland "D", and 26209-FP, and the elevation of the inlet for that drain determines the amount of ponding in the depressional wetland areas behind it.

**Kelso Road Ditch, 2,439 SQFT, 0.056 Acres, 252 Feet long.** Two culverts convey water under Kelso Road from the North side and bring the great majority of water that feeds this ditch. It is believed to be temporarily flooded during wet weather and for relatively short periods of time afterwards. There is little vegetation, other than blackberries, and water quality appears to be quite low. The Cowardin classification is Riverine, Intermittent, Unconsolidated Bottom, Mud, Temporarily Flooded, R4UBA.



**Stream #2, 3,560 SQFT, 0.082 Acres, 1,017 Feet Long.** Stream #2 is a natural drainage that has been ditched and straightened. It enters the property on the eastern boundary and flows across in a South-West direction, leaving the property on the west side. Its average width is about 3', though the upper area broadens out a bit into an area we called Wetland "B", and the lower end also broadens out into an area we called Wetland "C". The bottom is mud and debris, and a lot of blackberry mulch when we saw it. Considering its position high in the drainage, small size and low flow when we saw it during some pretty wet weather, we suspect it has only seasonal flows and dries up in the summer. The Cowardin classification is Riverine, Intermittent, Unconsolidated Bottom, Mud, Seasonally Flooded, Partly Drained/Ditched, or R4UB3Cd.

**Wetland "B", 2,225 SQFT, 0.051 Acres.** Wetland "B" is a small depressional wetland next to Stream #1. Some water enters from the property to the East as part of the same basin that Stream #2 runs through. Most of the wetland appear to be caused by high groundwater tables. Although the lower end connects to Stream #1, water exchange is mostly subsurface, and from the wetland to the stream. Areas of the wetland that are inundated or saturated to the surface have little vegetation. The area is densely shaded by trees rooted both in and outside of the wetland area. The Cowardin classification is Palustrine, Unconsolidated Bottom, Mud, Seasonally flooded/saturated. HGM classification is depressional wetland.

**Wetland "C", 5,669 SQFT, 0.191 Acres.** Wetland "C" spans Stream #2 on both sides, it is generally sloped throughout. There are some small puddled areas on the North side that are probably old tire ruts, and holes created by trees toppling over, and some very shallow inundated areas on the South side, perhaps up to 1/2 inch deep. The hydrology appears to be supported by high ground water tables, and poor drainage.

The Cowardin classification is Palustrine, Scrub Shrub, Broad-Leaved Deciduous, Saturated, or PSS1B. The HGM classification is sloped wetland.

**Track "A", 22,601 SQFT, 0.520 Acres.** Track "A" is the remainder of the wetland delineated by WD2000-0612. The name is taken from the plat map of the Sandy Bluff Anex. Portions of this wetland were covered when Jewelberry Road was extended around 2001, and it's size reduced from 30,299 to it's current 22,601 SQFT. The area (22,601 SQFT) is recorded as a deed in Book 124 page 020 in Clackamas County.

A portion of Track "A" was enhanced as part of a mitigation required by permit 26209-FP, (about 5,278 SQFT). No impacts in this enhanced area are required by the Olson Road Widening project.

ETC conducted hydrology and plant monitoring studies in 2005, 2006 and 2007, and concluded that the wetland footprint was at least as large as when we delineated the area in 2000. Permit 26209-FP also provides that roof drains from the new housing development be directed to the wetland to provide additional hydrology.

Track "A" wetland is sloped in the upper northeastern part, but then becomes more of a depressional wetland its lower southwestern part due primarily to some impounding caused by the height of the outlet under Olson Road. The impound is caused by the outlet that drains under Olson Road.

The Cowardin Classification is Palustrine Forested Broadleaf Deciduous Seasonally Flooded, or PFO1C. The HGM classification ranges from sloped to depressional.

**Track "E" Mitigation area for 26209-FP, 10,236 SQFT, 0.235 Acres.** Track "E" is 13,882 SQFT in area, and permit 26209-FP required that 10,236 SQFT be converted to a wetland area. The name "Track "E"", is also taken from the plat map for the Sandy Bluff Anex.

A hydrology monitoring study conducted by ETC in the Spring of 2007 confirmed that at least 10,236 SQFT met the hydrology standard for being considered a wetland. We have used the 10,236 SQFT figure as the area of wetland as it is both close to reality, and because that particular figure is relevant to the remove/fill permits NWP2018-473 and 61489-FP.

Stormwater from Jewelberry Road is piped into a reverse French drain that was constructed on the east side of Track "E". The purpose of this was to deliver additional water to the mitigation area.

A small shallow horse shoe shaped pond about 4,267 SQFT in area was excavated in about the middle of Track "E", and the hydrology monitoring study conducted in 2007 found it to be flooded to a depth of about 6".

We observed this area from the roads in 2017 when performing the delineation on lot 2200, and most of the areas that were not ponded were covered by a very robust growth of blackberries. At that time we did not know we needed to survey the area for the Olson Road Widening project, and so we did not attempt to penetrate the blackberries for a closer look. The horse shoe pond was still ponded, and it was fringed with Carex and Juncus, at least from what we could tell peering through the blackberries from the road.

In October 2018 when we were told to include Track "E" in our delineation report, the blackberries and any other vegetation mixed in with them had been mowed down in preparation for the road work. The mowing was roughly a 40' strip along Olson Road that would become the new roadway, plus some additional blackberries up into Track "A". Unfortunately this mowing and that our observations were in October following a dryer than normal summer, made it difficult to delineate the exact boundaries of the wetland based on Corps criteria. In our opinion there is no reason to believe that the boundaries were any different than determined in the 2007 hydrology monitoring study. We are therefore reporting the same wetland areas as were reported then, which are also the same as those in the permit documents.

The Cowardin classification is Palustrine, Scrub Shrub, Broad-Leaved Evergreen, Saturated, (PSS3B), and Palustrine, Emergent, Persistent, Seasonally Flooded, (PEM1C). The HGM classification is depressional.

**SUMMARY:** The table below summarizes the wetlands within the study area boundary of this report:

<b>Table 3. Summary of wetland areas included in this study, WD2018-0656.</b>				
<b>Wetland or Waterway</b>	<b>Cowardin</b>	<b>Length</b>	<b>Area SQFT</b>	<b>Area Acres</b>
Stream #2	R4UB3	1,017	3,560	0.082
Wetland "B"	PUB3E		2,225	0.051
Wetland "C"	PSS1B		8,336	0.191
Track "A" wetland	PFO1C		22,601	0.519
Track "E" wetland	PFO1C		10,236	0.235
TOTAL		1,017	46,958	1.078

## **F) Deviation from LWI or NWI:**

The NWI map only shows Stream 2 on the map. The other streams and wetlands discussed in Section E are not shown on the NWI. We did not find a LWI for this area.

Stream 2 may have been re-routed from it's original course. We think the stream may have been moved North about 200 feet, and that it probably used to enter the east boundary of Lot 2200 about 200' South of it's current location. NWI maps also show the stream about 200' south of where it is. We have not surveyed the lot to the east, this is conjecture based on topo maps and what can be seen from the fence line. Stream 2 exits the property on the West property line probably where it always did, the exit is controlled by topography, it would have required some considerable reshaping of the terrain to change the drainage on the west side.

## **G) Mapping Method:**

A property boundary survey and topographic survey was conducted by Tony Bolden, PLS 60377LS of Centerline Concepts. Centerline Concepts also located many of our wetland data plots and wetland boundary flags.

We used the TopCon GRS-1 GPS with a Topcon BR-1 beacon receiver for DGPS corrections for mapping some flags and plots either missed by the surveyors or added after their survey. These and other information shown in the figures were mapped as described in Section G.

## **H) Additional Information: (i.e., if needed to establish state jurisdiction)**

None. All wetlands and waters described in this report are presumed to be jurisdictional.

## **I) Results and Conclusions:**

**Hydrology.** The Hydrology on this site has been altered substantially from the historical conditions a long history of land use on this and neighboring properties, and by changes caused by road ways and their associated ditches and culverts. Stream 1 and Wetland "A" are thought to be created, or at least greatly enlarged by stormwater from higher in the drainage collected and concentrated into roadside ditches that discharge onto the Northern end of the property.

Wetland "D", and Track "A" have been altered extensively due to impounding created by Olson Road, and due to the intentional diversion of roof and road runoff to the area in order to increase the hydrology in Track "E". This has increased the wetland footprint, especially in the Wetland "D" area.

The wetlands in Track "E" are manmade, as discussed in the mitigation proposal in 26209-FP.

**Plants.** With exception of the forested areas, the plants in or near the wetlands were Blackberries with some herbaceous plants, mostly grasses, in the wettest areas. P13 represented a small willow recently created by machinery which had water in it when we saw it. This was the only non-wetland plot determined not to be wetland based on vegetation only.

**Soils.** Soils in the many areas are red in color, about 5YR3/3, which tended to mask hydric soil features in the margin of the wetland. There was a presence of what appeared to be manganese. Distinct differences were apparent between the soils south of the stream which tended to be 10YR 3/2 a darker less red soil and in the disturbed pasture grasses area.

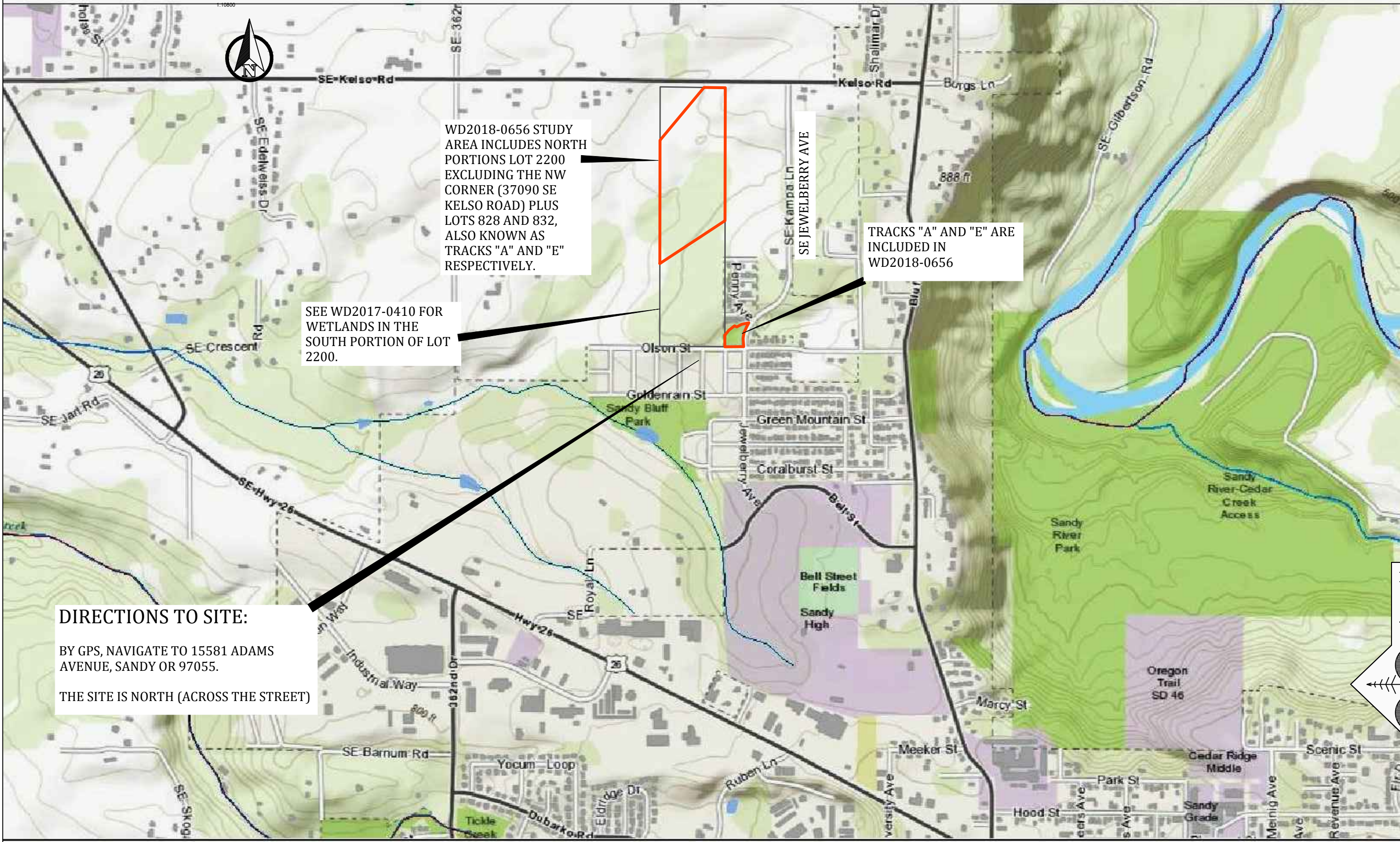
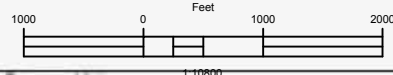
### **Disclaimer: OAR141-090-0035(12)(j) :**

*"This report documents the investigation, best professional judgment and conclusions of the investigator. It is correct and complete to the best of my 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."*

## APPENDIX A - Maps:

- Figure 1: Location Map (Streamnet)
- Figure 2: Tax Map
- Figure 3: NWI Map
- Figure 4: Soil Map
- Figure 5: Aerial Photo (Google Earth 2017)
- Figure 6A: Wetlands (Entire Study Area)
- Figure 6B: Wetlands (Detail of Olson Road Area)

# StreamNet



WD2018-0656 STUDY AREA INCLUDES NORTH PORTIONS LOT 2200 EXCLUDING THE NW CORNER (37090 SE KELSO ROAD) PLUS LOTS 828 AND 832, ALSO KNOWN AS TRACKS "A" AND "E" RESPECTIVELY.

TRACKS "A" AND "E" ARE INCLUDED IN WD2018-0656

SEE WD2017-0410 FOR WETLANDS IN THE SOUTH PORTION OF LOT 2200.

**DIRECTIONS TO SITE:**  
 BY GPS, NAVIGATE TO 15581 ADAMS AVENUE, SANDY OR 97055.  
 THE SITE IS NORTH (ACROSS THE STREET)

REVISIONS	

**37090 SE KELSO RD**  
 GREAT AMERICAN DEVELOPMENT  
 16287 S FORSYTHE ROAD  
 OREGON CITY, OR 97045

**LOCATION MAP**  
 STREAMNET TOPO MAP USED FOR  
 BACKGROUND

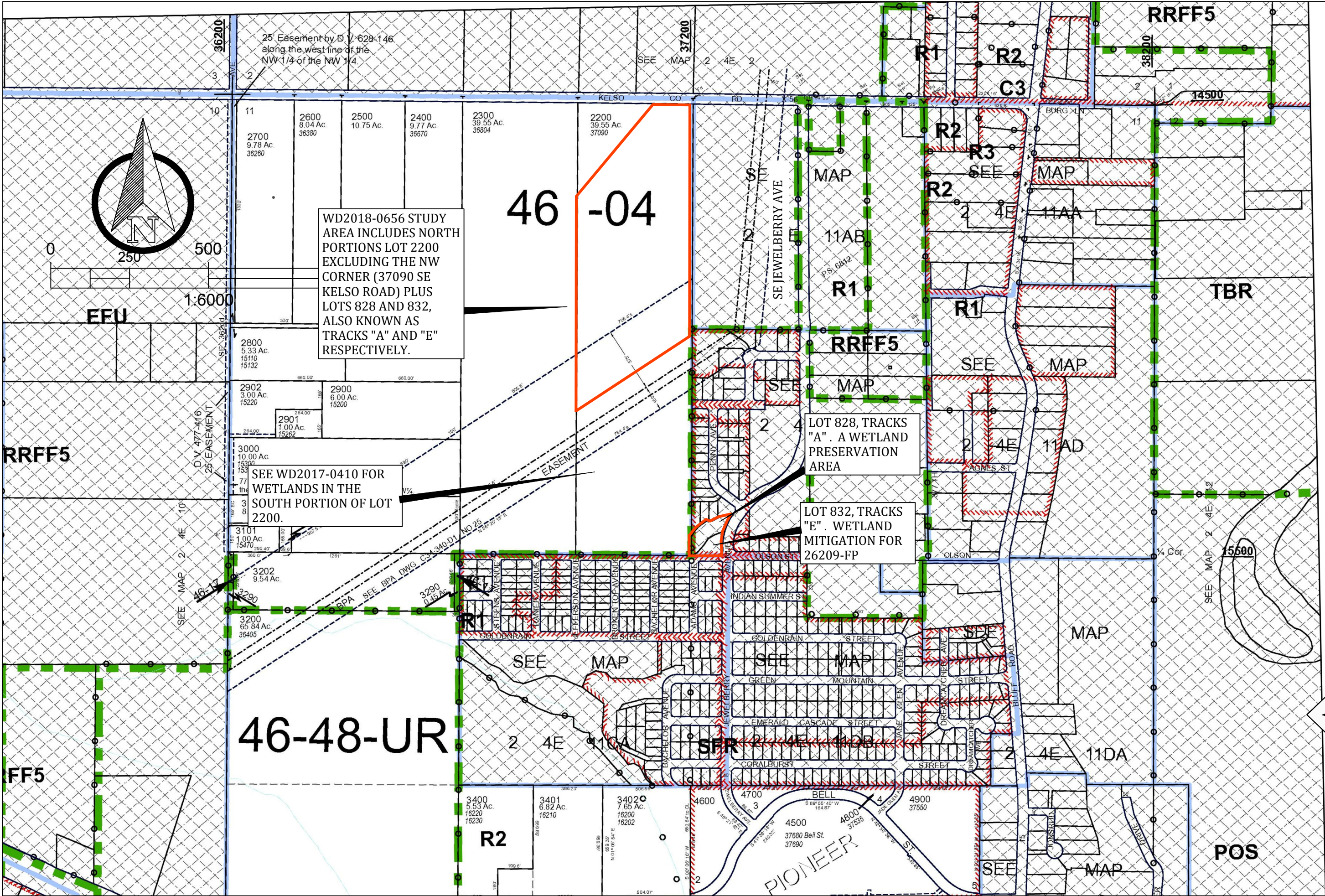
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 Vancouver, WA 98682  
 360-696-4403

DATE	Jan 15, 2019
SCALE	NOTED
DRAWN	AM
JOB	EVA17010

FIGURE  
**1**

1:18,056



25' Easement by D.V. 628-146 along the west line of the NW 1/4 of the NW 1/4.

WD2018-0656 STUDY AREA INCLUDES NORTH PORTIONS LOT 2200 EXCLUDING THE NW CORNER (37090 SE KELSO ROAD) PLUS LOTS 828 AND 832, ALSO KNOWN AS TRACKS "A" AND "E" RESPECTIVELY.

SEE WD2017-0410 FOR WETLANDS IN THE SOUTH PORTION OF LOT 2200.

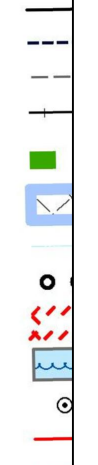
LOT 828, TRACKS "A". A WETLAND PRESERVATION AREA

LOT 832, TRACKS "E". WETLAND MITIGATION FOR 26209-FP

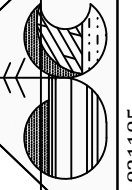
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TAX MAP  
LOT 2200 IN SECTION 11 T2s R4E  
CLACKAMAS COUNTY

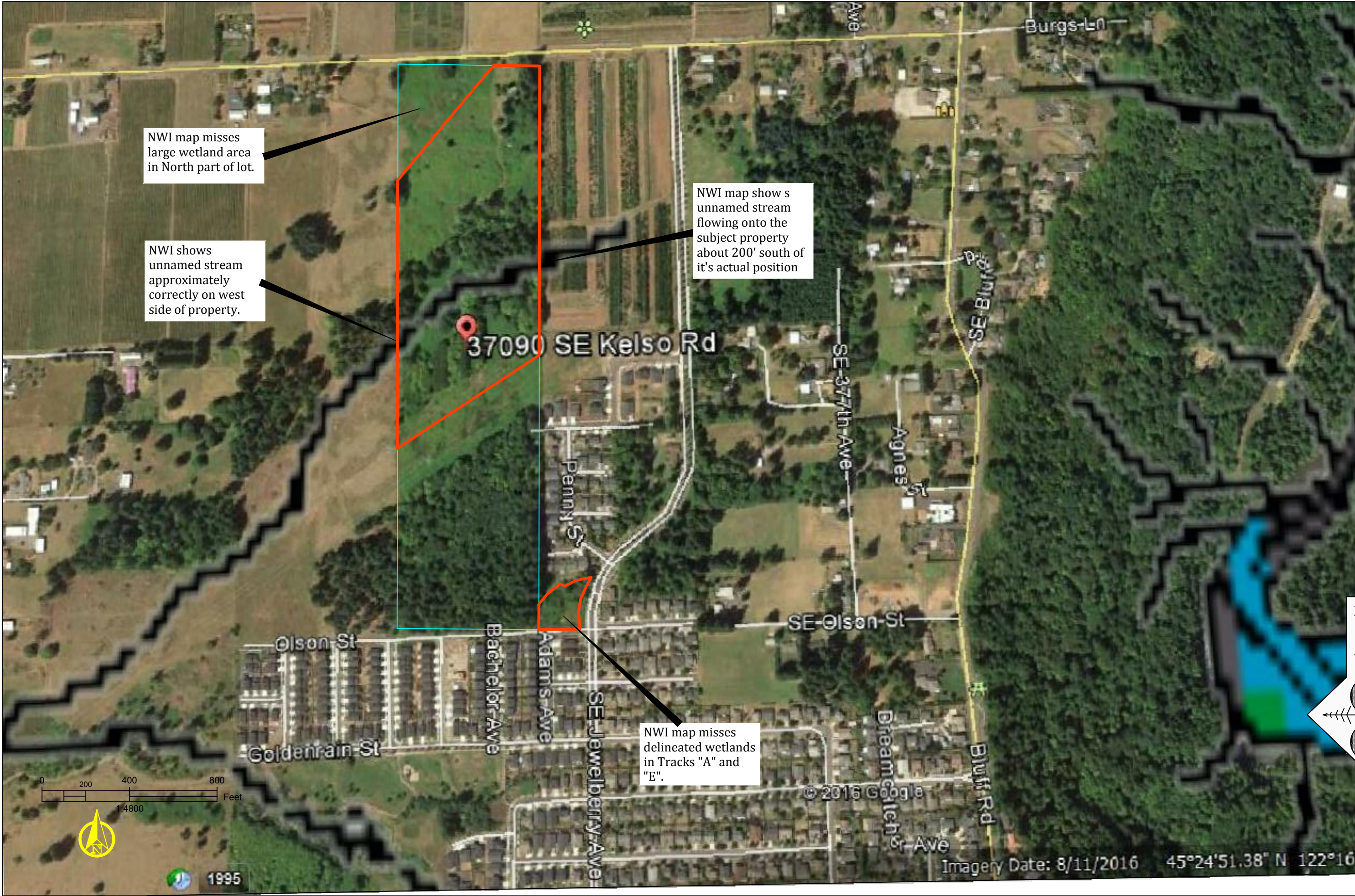


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FIGURE	2



NWI map misses large wetland area in North part of lot.

NWI shows unnamed stream approximately correctly on west side of property.

NWI map shows unnamed stream flowing onto the subject property about 200' south of its actual position


NWI map misses delineated wetlands in Tracks "A" and "E".

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**NWI MAP**  
 USFWS NWI MAP LAYERS  
 IN GOOGLE EARTH

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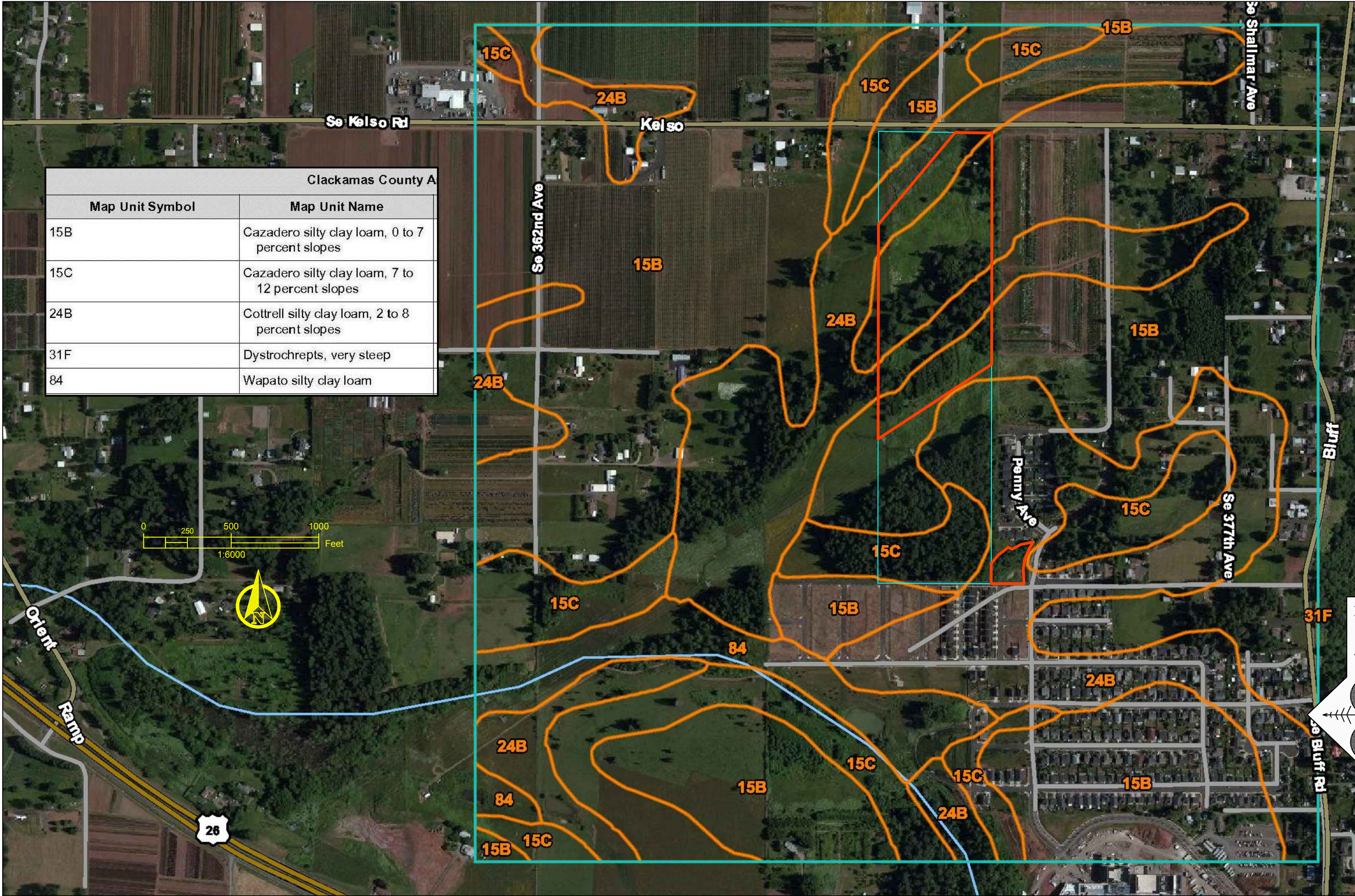
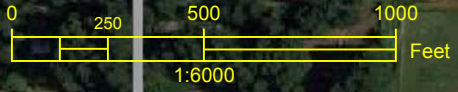


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FIGURE  
**3**

Clackamas County A	
Map Unit Symbol	Map Unit Name
15B	Cazadero silty clay loam, 0 to 7 percent slopes
15C	Cazadero silty clay loam, 7 to 12 percent slopes
24B	Cottrell silty clay loam, 2 to 8 percent slopes
31F	Dystrochrepts, very steep
84	Wapato silty clay loam



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**SOIL MAP**  
 NRCS NWI MAP LAYERS IN GOOGLE  
 EARTH

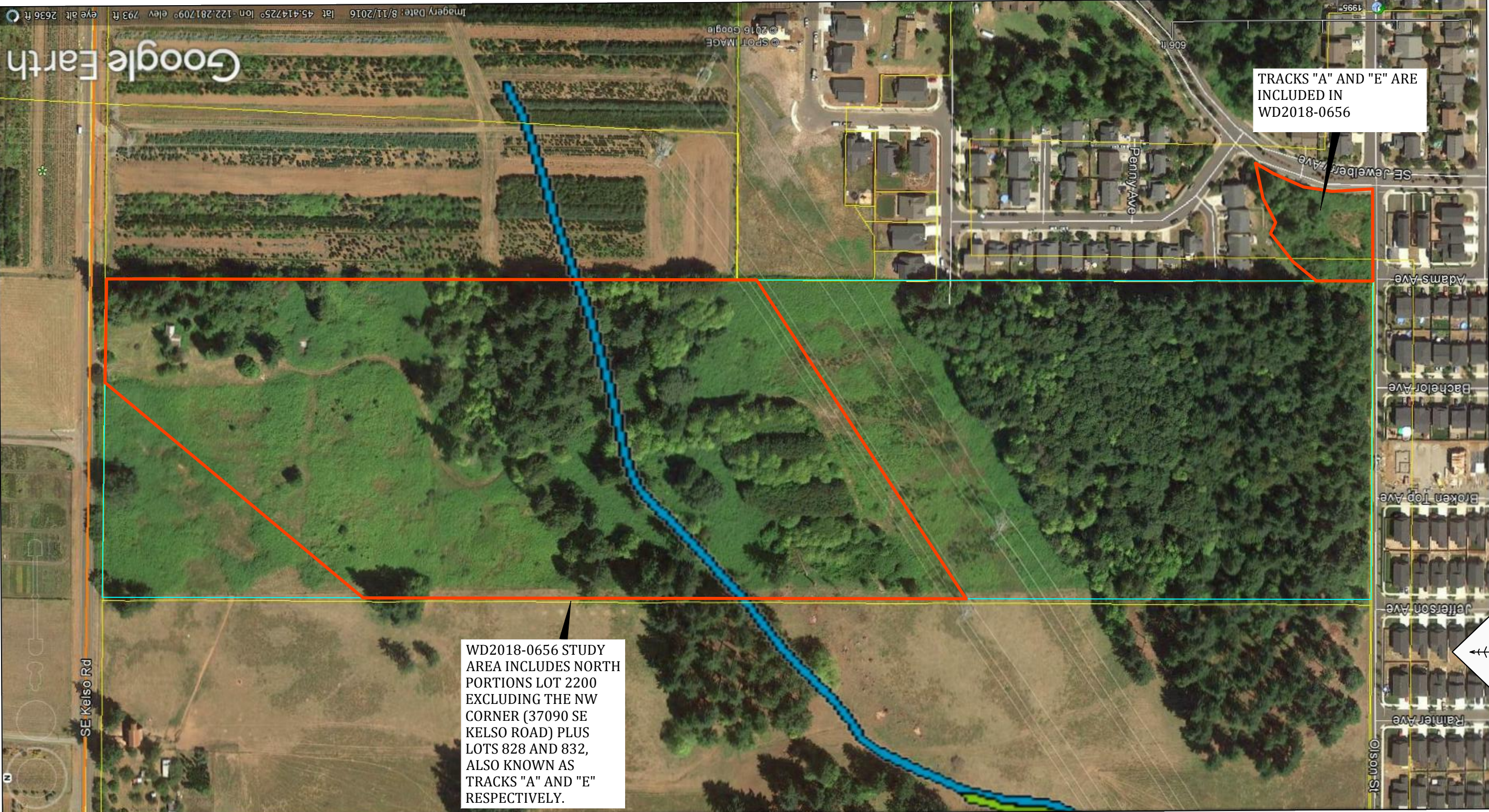
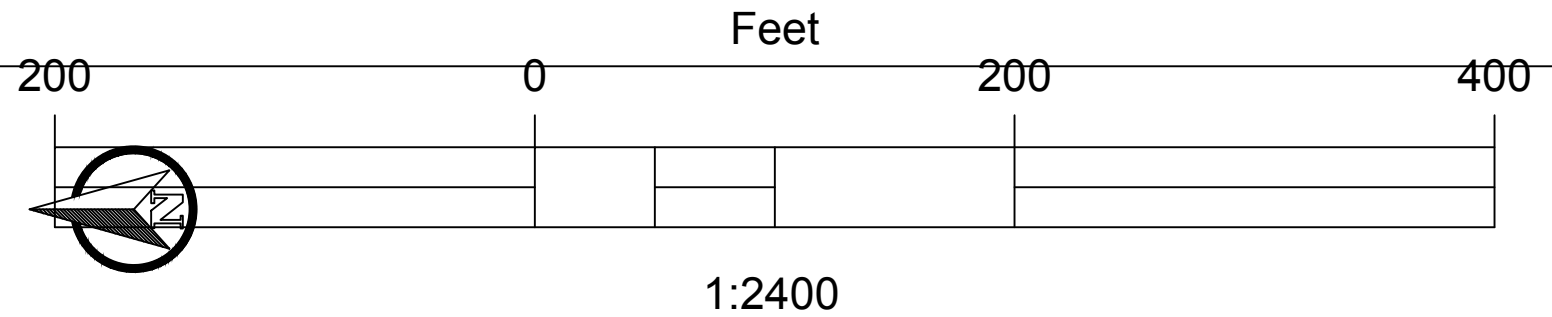
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FIGURE  
**4**





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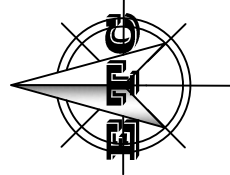
**37090 SE KELSO RD**  
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**AERIAL PHOTO**  
 GOOGLE EARTH 8/11/2017  
 USFWS NWI WETLAND LAYERS  
 DISPLAYED.

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**STUDY AREA:**

REVISED STUDY BOUNDARY EXCLUDES NW CORNER OF TAX LOT 2200. INCLUDES REMAINDER OF TAX LOT 2200, MAP 2S, 4E, SECTION 11 LOCATED IN THE N.W. ¼ SECTION 11, T2S, R4E., WM., CITY OF SANDY, CLACKAMAS COUNTY.

**STUDY AREA ALSO INCLUDES:**

TAXLOTS TRACK "A", TAXLOT 24E11AC00828, APPROXIMATELY 0.52 ACRES

TRACK "E", TAXLOT 24E11AC00832, APPROXIMATELY 0.32 ACRES

PLEASE SEE FIGURE 6B FOR DETAIL OF TRACKS "A" AND "E"

**Disclaimer per OAR 141-090-0035 (7)(k)**

This report documents the investigation, best professional judgment and conclusions of the investigator. It is correct and complete to the best of my 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.

SURVEY BY TOBY G. BOLDEN, PLS# 60377LS  
CENTERLINE CONCEPTS  
19376 MOLALLA AVE., SUITE 120  
OREGON CITY, OREGON 97045

WETLAND BOUNDARIES AND OTHER FEATURES ARE MAPPED WITH AN ACCURACY OF 0.01 FEET VERTICAL AND HORIZONTAL.

WD2017-0410  
DELINEATED WETLAND BOUNDARIES ON TAX LOT 2200 SOUTH OF THIS LINE. THESE AREAS ARE NOT COVERED BY THIS REPORT.

PLEASE SEE FIGURE 6B FOR THE OLSON ROAD WIDENING AREA.

**LEDGEND**

-  P11D DATA PLOT
-  PHOTO STATION
-  2007 HYDROLOGY MONITORING PLOT

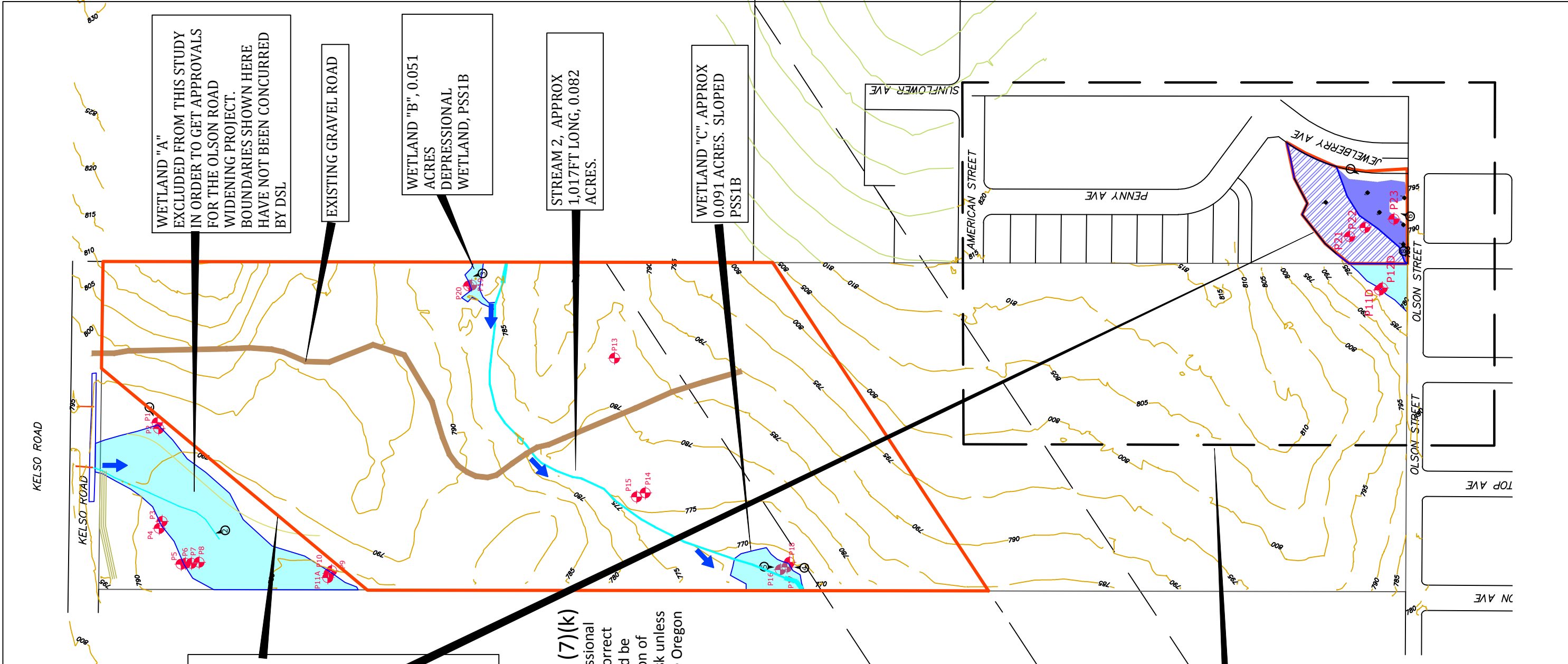
WETLAND "A" EXCLUDED FROM THIS STUDY IN ORDER TO GET APPROVALS FOR THE OLSON ROAD WIDENING PROJECT. BOUNDARIES SHOWN HERE HAVE NOT BEEN CONCURRED BY DSL

EXISTING GRAVEL ROAD

WETLAND "B", 0.051 ACRES  
DEPRESSIONAL WETLAND, PSS1B

STREAM 2, APPROX 1,017FT LONG, 0.082 ACRES.

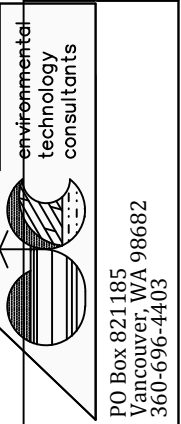
WETLAND "C", APPROX 0.091 ACRES. SLOPED PSS1B



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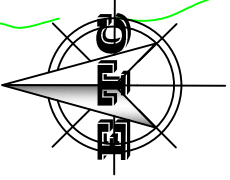
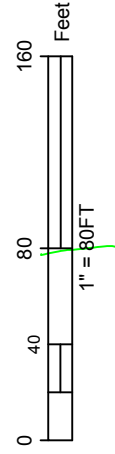
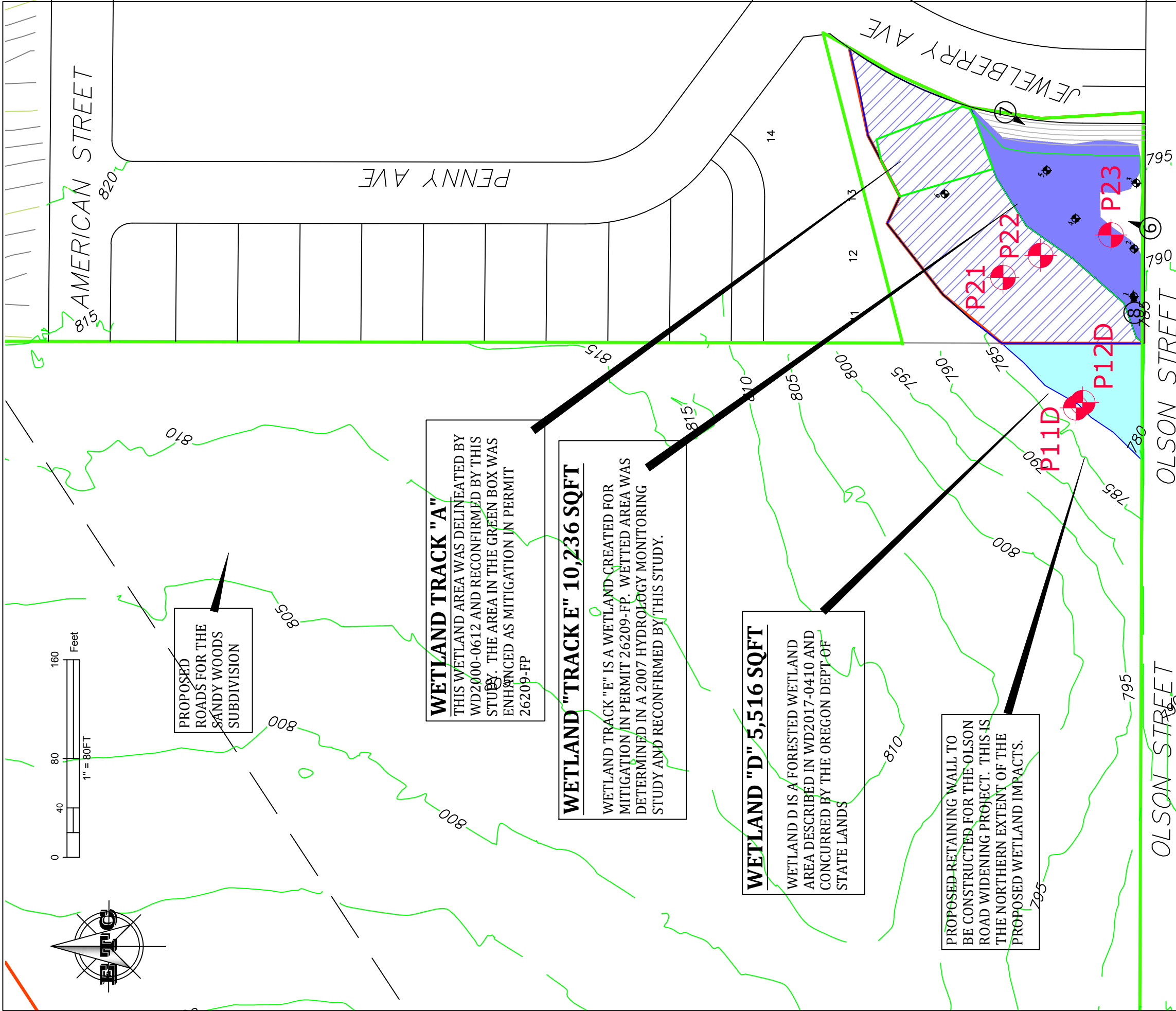
WETLAND AREAS OF 37090 SE  
KELSO ROAD AND THE OLSON  
ROAD WIDENING PROJECT



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FIGURE  
**6Av2**



PROPOSED  
ROADS FOR THE  
SANDY WOODS  
SUBDIVISION

**WETLAND TRACK "A"**  
THIS WETLAND AREA WAS DELINEATED BY WD2000-0612 AND RECONFIRMED BY THIS STUDY. THE AREA IN THE GREEN BOX WAS ENHANCED AS MITIGATION IN PERMIT 26209-FP

**WETLAND "TRACK E" 10,236 SQFT**  
WETLAND TRACK "E" IS A WETLAND CREATED FOR MITIGATION IN PERMIT 26209-FP. WETTED AREA WAS DETERMINED IN A 2007 HYDROLOGY MONITORING STUDY AND RECONFIRMED BY THIS STUDY.

**WETLAND "D" 5,516 SQFT**  
WETLAND D IS A FORESTED WETLAND AREA DESCRIBED IN WD2017-0410 AND CONCURRED BY THE OREGON DEPT-OF STATE LANDS

PROPOSED RETAINING WALL TO BE CONSTRUCTED FOR THE OLSON ROAD WIDENING PROJECT. THIS IS THE NORTHERN EXTENT OF THE PROPOSED WETLAND IMPACTS.

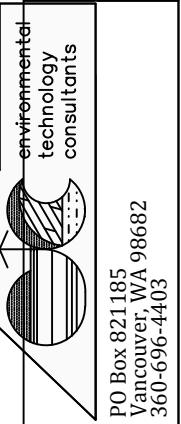
**LEDGEND**

- P11D DATA PLOT
- PHOTO STATION
- 2007 HYDROLOGY MONITORING PLOT

SURVEY BY TOBY G. GOLDEN, PLS# 60377LS  
CENTERLINE CONCEPTS  
19376 MOLALLA AVE., SUITE 120  
OREGON CITY, OREGON 97045

WETLAND BOUNDARIES AND OTHER FEATURES ARE MAPPED WITH AN ACCURACY OF 0.01 FEET VERTICAL AND HORIZONTAL.

**Disclaimer per OAR 141-090-0035 (7)(k)**  
This report documents the investigation, best professional judgment and conclusions of the investigator. It is correct and complete to the best of my 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.



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**DETAIL OF AREA IMPACTED BY  
THE OLSON ROAD WIDENING  
PROJECT IN SE CORNER**

DATE Jan 15, 2019  
SCALE NOTED  
DRAWN JHM  
JOB EVA17010  
FIGURE **6B**

## APPENDIX B - Data Forms

### Plots:

P13-Upland  
P14-Upland  
P15-Upland  
P16-Wetland  
P17-Wetland  
P18-Upland  
P19-Wetland  
P20-Upland  
P21-Wetland by Best Professional Judgement (BPJ)  
P22-Wetland  
P23-Wetland

**NOTE:** Plots 1 through 12 describe the boundaries of wetlands "A" and "D", which have been removed from this study.

## WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: 37090 Kelso RD City/County: Sandy/Clackamas Sampling Date: 4/28/2017  
 Applicant/Owner: Joe Spaziani State: OR Sampling Point: P13  
 Investigator(s): John McConnaughey, PWS# 2009 Section, Township, Range: T2S R4E S11  
 Landform (hillslope, terrace, etc.): Broad swale Local relief (concave, convex, none): Concave Slope (%): 9%  
 Subregion (LRR): LRR-A Lat: 45.24934 Long: -122.16889 Datum: \_\_\_\_\_  
 Soil Map Unit Name: Cazado silt loam, Cottrell silty clay loam NWI classification: Not mapped

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation \_\_\_\_\_, Soil YES, or Hydrology YES significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	<b>Is the Sampled Area within a Wetland?</b> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: A small depression in a forested areas where large machinery has basically created a wallow that now exhibits wetland hydrology and soils. In our opinion this was not a wetland until the machinery removed some of the topsoil exposing the hydric soils and a rather large tire rut that filled with water.	

### VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status	
<b>Tree Stratum</b> (Plot size: <u>30' cir</u> )				
1. <u>Acer macrophyllum</u>	<u>25</u>	<u>Y</u>	<u>FACU</u>	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A)  Total Number of Dominant Species Across All Strata: <u>9</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>33%</u> (A/B)
2. <u>Thuja plicata</u>	<u>20</u>	<u>Y</u>	<u>FAC</u>	
3. _____				
4. _____				
	<u>45</u>	= Total Cover		
<b>Sapling/Shrub Stratum</b> (Plot size: <u>30' cir</u> )				
1. <u>Sambucus racemosa</u>	<u>30</u>	<u>Y</u>	<u>FACU</u>	<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column Totals: <u>0</u> (A) <u>0</u> (B)  Prevalence Index = B/A = <u>0</u>
2. <u>Corylus cornuta</u>	<u>15</u>	<u>Y</u>	<u>FACU</u>	
3. <u>Rubus idaeus</u>	<u>2</u>	<u>N</u>	<u>FACU</u>	
4. _____				
5. _____				
	<u>47</u>	= Total Cover		
<b>Herb Stratum</b> (Plot size: <u>30' cir</u> )				
1. <u>Streptopus amplexifolius</u>	<u>20</u>	<u>Y</u>	<u>FACU</u>	<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. <u>Symphoricarpos albus</u>	<u>30</u>	<u>Y</u>	<u>FACU</u>	
3. <u>Rubus armeniacus</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>	
4. <u>Rubus spectabilis</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>	
5. <u>Polystichum munitum</u>	<u>10</u>	<u>Y</u>	<u>FACU</u>	
6. <u>Adiantum aleuticum</u>	<u>5</u>	<u>N</u>	<u>FAC</u>	
7. <u>Juncus sp</u>	<u>3</u>	<u>N</u>	<u>FAC</u>	
8. _____				
	<u>88</u>	= Total Cover		
<b>Woody Vine Stratum</b> (Plot size: _____)				
1. _____				<b>Hydrophytic Vegetation Present?</b> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
2. _____				
	<u>180</u>	= Total Cover		
% Bare Ground in Herb Stratum <u>0</u>		% Cover of Biotic Crust <u>0%</u>		
Remarks:				

**SOIL**

Sampling Point: P13

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-6	7.5YR3/3	100					Silt loam	
6-10	7.5YR2.5/2	100					silty clay loam	
10-18	7.5YR4/4	80	7.5YR2.5/2	20	C	M	Silty clay loam	

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

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

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b>
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	
<input type="checkbox"/> Stratified Layers (A5) (LRR C)	<input type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR D)	<input type="checkbox"/> Redox Dark Surface (F6)	
<input checked="" type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)		

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if present):**

Type: \_\_\_\_\_

Depth (inches): \_\_\_\_\_

**Hydric Soil Present? Yes  No**

Remarks: Sampled in standing water making it hard to read colors

**HYDROLOGY**

**Wetland Hydrology Indicators:**

<b>Primary Indicators (minimum of one required; check all that apply)</b>	<b>Secondary Indicators (2 or more required)</b>
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)
<input checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Biotic Crust (B12)
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)
<input type="checkbox"/> Water Marks (B1) (Non riverine)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)
<input type="checkbox"/> Sediment Deposits (B2) (Non riverine)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)
<input type="checkbox"/> Drift Deposits (B3) (Non riverine)	<input type="checkbox"/> Presence of Reduced Iron (C4)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Thin Muck Surface (C7)
<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Other (Explain in Remarks)
	<input type="checkbox"/> Water Marks (B1) (Riverine)
	<input type="checkbox"/> Sediment Deposits (B2) (Riverine)
	<input type="checkbox"/> Drift Deposits (B3) (Riverine)
	<input type="checkbox"/> Drainage Patterns (B10)
	<input type="checkbox"/> Dry-Season Water Table (C2)
	<input type="checkbox"/> Crayfish Burrows (C8)
	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
	<input type="checkbox"/> Shallow Aquitard (D3)
	<input type="checkbox"/> FAC-Neutral Test (D5)

**Field Observations:**

Surface Water Present? Yes  No  Depth (inches): 0

Water Table Present? Yes  No  Depth (inches): \_\_\_\_\_

Saturation Present? Yes  No  Depth (inches): \_\_\_\_\_  
(includes capillary fringe)

**Wetland Hydrology Present? Yes  No**

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

Remarks:

**WETLAND DETERMINATION DATA FORM – Arid West Region**

Project/Site: 37090 Kelso RD City/County: Sandy/Clackamas Sampling Date: 4/28/2017  
 Applicant/Owner: Joe Spaziani State: OR Sampling Point: P14  
 Investigator(s): John McConnaughey, PWS# 2009 Section, Township, Range: T2S R4E S11  
 Landform (hillslope, terrace, etc.): Broad swale Local relief (concave, convex, none): Concave Slope (%): 9%  
 Subregion (LRR): LRR-A Lat: 45.24927 Long: -122.16948 Datum: \_\_\_\_\_  
 Soil Map Unit Name: Cazado silt loam, Cottrell silty clay loam NWI classification: \_\_\_\_\_

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation Y, Soil Y, or Hydrology Y significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	<b>Is the Sampled Area within a Wetland?</b> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: Above average rainfall in March and April. Area is gently sloped toward Stream "B". When we observed it, it had recently been brushed with a hydro-ax to clear the blackberries for surveyors. The machinery left many tire ruts now filled with water in this wet weather.	

**VEGETATION – Use scientific names of plants.**

	Absolute % Cover	Dominant Species?	Indicator Status	
<b>Tree Stratum</b> (Plot size: <u>30' S semi-cir</u> )				
1. <u>Acer macrophyllum</u>	<u>15</u>	<u>Y</u>	<u>FACU</u>	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)  Total Number of Dominant Species Across All Strata: <u>3</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>66%</u> (A/B)
2. <u>Thuja plicata</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>	
3. _____				
4. _____				
	<u>25</u>	= Total Cover		
<b>Sapling/Shrub Stratum</b> (Plot size: <u>30' S semi-cir</u> )				
1. _____				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column Totals: <u>0</u> (A) <u>0</u> (B)  Prevalence Index = B/A = <u>0</u>
2. _____				
3. _____				
4. _____				
5. _____				
	<u>0</u>	= Total Cover		
<b>Herb Stratum</b> (Plot size: <u>30' S semi-cir</u> )				
1. <u>Rubus armeniacus</u>	<u>80</u>	<u>Y</u>	<u>FAC</u>	<b>Hydrophytic Vegetation Indicators:</b> <input checked="" type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
	<u>80</u>	= Total Cover		
<b>Woody Vine Stratum</b> (Plot size: _____)				
1. _____				<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
2. _____				
	<u>105</u>	= Total Cover		
% Bare Ground in Herb Stratum <u>0</u> % Cover of Biotic Crust <u>0%</u>				
Remarks: Blackberries recently mowed, originally they were at least 80% cover.				

**SOIL**

Sampling Point: P14

<b>Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)</b>								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-7	7.5YR3/2	100					Silt loam	Lot's of roots
7-12	7.5YR3/3	100					Silty loam	
12-18	7.5YR3/3	95	5YR4/4	5	C	M	Silt loam	

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

<b>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</b>			<b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b>
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 1 cm Muck (A9) (LRR D)	<sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> 2 cm Muck (A10) (LRR B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1)	<input type="checkbox"/> Reduced Vertic (F18)	
<input type="checkbox"/> Stratified Layers (A5) (LRR C)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR D)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Redox Dark Surface (F6)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Dark Surface (F7)		
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Redox Depressions (F8)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)			
<input type="checkbox"/> Histic Solonchalep (A1)			

<b>Restrictive Layer (if present):</b> Type: _____ Depth (inches): _____	<b>Hydric Soil Present?</b> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
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Remarks: In area not as disturbed by machinery. Lot's of tree roots.

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b>		
<u>Primary Indicators (minimum of one required; check all that apply)</u>		<u>Secondary Indicators (2 or more required)</u>
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Water Marks (B1) (Riverine)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Biotic Crust (B12)	<input type="checkbox"/> Sediment Deposits (B2) (Riverine)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Drift Deposits (B3) (Riverine)
<input type="checkbox"/> Water Marks (B1) (Non riverine)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Sediment Deposits (B2) (Non riverine)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3) (Non riverine)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> FAC-Neutral Test (D5)

<b>Field Observations:</b>			<b>Wetland Hydrology Present?</b> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Surface Water Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): _____	
Water Table Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Depth (inches): 12"	
Saturation Present? (includes capillary fringe)	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Depth (inches): 12"	

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

Remarks: In our opinion this area does not normally have a water table within 12" of the surface.



## WETLAND DETERMINATION DATA FORM

Project/Site: 37090 Kelso RD City/County: Sandy/Clackamas Sampling Date: 4/28/2017  
 Applicant/Owner: Joe Spaziani State: OR Sampling Point: P15  
 Investigator(s): John McConnaughey, PWS# 2009 Section, Township, Range: T2S R4E S11  
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): concave Slope (%): 1%  
 Subregion (LRR): LRR-A Lat: 45.24927 Long: -122.16948 Datum: \_\_\_\_\_  
 Soil Map Unit Name: Cazado silt loam, Cottrell silty clay loam NWI classification: \_\_\_\_\_

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation Y, Soil Y, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	<b>Is the Sampled Area within a Wetland?</b> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: Above average rainfall in March and April. Wallow made by brush hog working in wet weather when he should have been waiting for dryer weather.	

### VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status		
<b>Tree Stratum</b> (Plot size: <u>30' cir</u> )					
1. _____	_____	_____	_____	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)	
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
_____ = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column Totals: <u>0</u> (A) <u>0</u> (B)  Prevalence Index = B/A = <u>0</u>	
<b>Sapling/Shrub Stratum</b> (Plot size: <u>30' cir</u> )					
1. <u>Rubus armeniacus</u>	<u>100</u>	<u>Y</u>	<u>FAC</u>		
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
_____ = Total Cover				<b>Hydrophytic Vegetation Indicators:</b> <input checked="" type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
<b>Herb Stratum</b> (Plot size: <u>30' S semi-cir</u> )					
1. _____	_____	_____	_____		
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
6. _____	_____	_____	_____		
7. _____	_____	_____	_____		
8. _____	_____	_____	_____		
_____ = Total Cover					
<b>Woody Vine Stratum</b> (Plot size: _____)					
1. _____	_____	_____	_____		
2. _____	_____	_____	_____		
_____ = Total Cover					
% Bare Ground in Herb Stratum <u>0</u>		% Cover of Biotic Crust <u>0%</u>			
% Bare Ground in Woody Vine Stratum _____ % Cover of Biotic Crust _____					
Remarks: Data plots 14 & 15 are located where we could find relatively undisturbed soils, that's why they aer so far apart					

**SOIL**

Sampling Point: P15

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-8	7.5YR2.5/3	100					Silt loam	Lot's of roots
8-13	7.5YR2.5/3	100					Silt loam	
13-18	7.5YR3/4	99	2.5N	1	C	M	Silt loam	

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

<b>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</b> <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) (LRR C) <input type="checkbox"/> 1 cm Muck (A9) (LRR D) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> Sandy Gleyed Matrix (S4)	<b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b> <input type="checkbox"/> 1 cm Muck (A9) (LRR C) <input type="checkbox"/> 2 cm Muck (A10) (LRR B) <input type="checkbox"/> Reduced Vertic (F18) <input type="checkbox"/> Red Parent Material (TF2) <input type="checkbox"/> Other (Explain in Remarks)
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<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

<b>Restrictive Layer (if present):</b> Type: _____ Depth (inches): _____	<b>Hydric Soil Present?</b> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
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Remarks: Mowing of blackberries has disturbed this area leaving it more or less denuded with lots of tire ruts.

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b>	
<u>Primary Indicators (minimum of one required; check all that apply)</u> <input checked="" type="checkbox"/> Surface Water (A1) <input checked="" type="checkbox"/> High Water Table (A2) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) (Non riverine) <input type="checkbox"/> Sediment Deposits (B2) (Non riverine) <input type="checkbox"/> Drift Deposits (B3) (Non riverine) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<u>Secondary Indicators (2 or more required)</u> <input type="checkbox"/> Salt Crust (B11) <input type="checkbox"/> Biotic Crust (B12) <input type="checkbox"/> Aquatic Invertebrates (B13) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks)
<b>Field Observations:</b> Surface Water Present?    Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): 0 Water Table Present?    Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): _____ Saturation Present?    Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	<b>Wetland Hydrology Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Wallow created by brush hog, no algal mat (B4, no B9, No B5)	
Remarks:	

**WETLAND DETERMINATION DATA FORM**

Project/Site: 37090 Kelso RD City/County: Sandy/Clackamas Sampling Date: 4/28/2017  
 Applicant/Owner: Joe Spaziani State: OR Sampling Point: P16  
 Investigator(s): John McConnaughey, PWS# 2009 Section, Township, Range: T2S R4E S11  
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): Toe slope Slope (%): 3%  
 Subregion (LRR): LRR-A Lat: 45.24877 Long: -122.16980 Datum: \_\_\_\_\_  
 Soil Map Unit Name: Cazado silt loam, Cottrell silty clay loam NWI classification: \_\_\_\_\_

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation Y, Soil Y, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	<b>Is the Sampled Area within a Wetland?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks: Above average rainfall in March and April. Brush hog went through and chopped down veg. south of stream	

**VEGETATION – Use scientific names of plants.**

	Absolute % Cover	Dominant Species?	Indicator Status	
<b>Tree Stratum</b> (Plot size: <u>10' NW</u> )				
1. <u>Alnus rubra</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)  Total Number of Dominant Species Across All Strata: <u>2</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
	<u>10</u>	= Total Cover		
<b>Sapling/Shrub Stratum</b> (Plot size: <u>10' NW</u> )				
1. _____	_____	_____	_____	<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column Totals: <u>0</u> (A) <u>0</u> (B)  Prevalence Index = B/A = <u>0</u>
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
	<u>0</u>	= Total Cover		
<b>Herb Stratum</b> (Plot size: <u>30' S semi-cir</u> )				
1. <u>Rubus armeniacus</u>	<u>60</u>	<u>Y</u>	<u>FAC</u>	<b>Hydrophytic Vegetation Indicators:</b> <input checked="" type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
2. <u>Polystichum munitum</u>	<u>5</u>	<u>N</u>	<u>FACU</u>	
3. <u>Adiantum aleuticum</u>	<u>5</u>	<u>N</u>	<u>FAC</u>	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
	<u>70</u>	= Total Cover		
<b>Woody Vine Stratum</b> (Plot size: _____)				
1. _____	_____	_____	_____	<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
2. _____	_____	_____	_____	
	<u>80</u>	= Total Cover		
% Bare Ground in Herb Stratum <u>0</u> % Cover of Biotic Crust <u>0%</u>				
Remarks: Brush hog mowed down vegetation				

**SOIL**

Sampling Point: P16

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-5	7.5YR2.5/3	100					Silt loam	Lot's of roots
5-11	7.5YR2.5/1	97	7.5YR4/10	3	C	M	Clay	Restrictive layer
11-18	7.5YR2.5/2	90	5YR3/4	10	C	M	Clay	

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

<b>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</b> <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) (LRR C) <input type="checkbox"/> 1 cm Muck (A9) (LRR D) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> Sandy Gleyed Matrix (S4)	<b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b> <input type="checkbox"/> 1 cm Muck (A9) (LRR C) <input type="checkbox"/> 2 cm Muck (A10) (LRR B) <input type="checkbox"/> Reduced Vertic (F18) <input type="checkbox"/> Red Parent Material (TF2) <input type="checkbox"/> Other (Explain in Remarks)
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<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

<b>Restrictive Layer (if present):</b> Type: <u>Clay</u> Depth (inches): <u>5</u>	<b>Hydric Soil Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Remarks: Wet soil

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b>	
Primary Indicators (minimum of one required; check all that apply)	Secondary Indicators (2 or more required)
<input type="checkbox"/> Surface Water (A1) <input checked="" type="checkbox"/> High Water Table (A2) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) (Non riverine) <input type="checkbox"/> Sediment Deposits (B2) (Non riverine) <input type="checkbox"/> Drift Deposits (B3) (Non riverine) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Salt Crust (B11) <input type="checkbox"/> Biotic Crust (B12) <input type="checkbox"/> Aquatic Invertebrates (B13) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Water Marks (B1) (Riverine) <input type="checkbox"/> Sediment Deposits (B2) (Riverine) <input type="checkbox"/> Drift Deposits (B3) (Riverine) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5)	
<b>Field Observations:</b> Surface Water Present?    Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <u>0</u> Water Table Present?    Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0.5"</u> Saturation Present?    Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0.5"</u> (includes capillary fringe)	
<b>Wetland Hydrology Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Wallow created by brush hog, no algal mat (B4, no B9, No B5)	
Remarks:	

## WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: 37090 Kelso RD City/County: Sandy/Clackamas Sampling Date: 4/28/2017  
 Applicant/Owner: Joe Spaziani State: OR Sampling Point: P17  
 Investigator(s): John McConnaughey, PWS# 2009 Section, Township, Range: T2S R4E S11  
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): concave Slope (%): 7%  
 Subregion (LRR): LRR-A Lat: 45.24878 Long: -122.16978 Datum: \_\_\_\_\_  
 Soil Map Unit Name: Cazado silt loam, Cottrell silty clay loam NWI classification: \_\_\_\_\_

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation Y, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	<b>Is the Sampled Area within a Wetland?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks: Above average rainfall in March and April. small wetland next to stream	

### VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status	
<b>Tree Stratum</b> (Plot size: <u>10' NW</u> )				
1. <u>Alnus rubra</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)  Total Number of Dominant Species Across All Strata: <u>2</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
	<u>10</u>	= Total Cover		
<b>Sapling/Shrub Stratum</b> (Plot size: <u>10' NW</u> )				
1. <u>Rubus armeniacus</u>	<u>100</u>	<u>Y</u>	<u>FAC</u>	<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column Totals: <u>0</u> (A) <u>0</u> (B)  Prevalence Index = B/A = <u>0</u>
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
	<u>100</u>	= Total Cover		
<b>Herb Stratum</b> (Plot size: <u>30' S semi-cir</u> )				
1. <u>herb</u>	<u>3</u>	<u>N</u>	<u>NOL</u>	<b>Hydrophytic Vegetation Indicators:</b> <input checked="" type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. <u>Carex dewyana</u>	<u>1</u>	<u>N</u>	<u>FAC</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
	<u>4</u>	= Total Cover		
<b>Woody Vine Stratum</b> (Plot size: _____)				
1. _____	_____	_____	_____	<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
2. _____	_____	_____	_____	
	<u>114</u>	= Total Cover		
% Bare Ground in Herb Stratum <u>0</u>		% Cover of Biotic Crust <u>0%</u>		
Remarks: Brush hog mowed down vegetation				

**SOIL**

Sampling Point: P17 \_\_\_\_\_

<b>Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)</b>								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-6	7.5YR2.5/2	100					Silt loam	Lot's of roots
6-9	5YR3/3	100					Clay	odd mix of dark and red colors
9-18	5YR3/4	90	5YR2.5/2	10			Clay	depleted along root channels
<sup>1</sup> Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. <sup>2</sup> Location: PL=Pore Lining, M=Matrix.								
<b>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</b>						<b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b>		
<input type="checkbox"/> Histosol (A1)			<input type="checkbox"/> Sandy Redox (S5)			<input type="checkbox"/> 1 cm Muck (A9) (LRR C)		
<input type="checkbox"/> Histic Epipedon (A2)			<input type="checkbox"/> Stripped Matrix (S6)			<input type="checkbox"/> 2 cm Muck (A10) (LRR B)		
<input type="checkbox"/> Black Histic (A3)			<input type="checkbox"/> Loamy Mucky Mineral (F1)			<input type="checkbox"/> Reduced Vertic (F18)		
<input type="checkbox"/> Hydrogen Sulfide (A4)			<input type="checkbox"/> Loamy Gleyed Matrix (F2)			<input type="checkbox"/> Red Parent Material (TF2)		
<input type="checkbox"/> Stratified Layers (A5) (LRR C)			<input type="checkbox"/> Depleted Matrix (F3)			<input type="checkbox"/> Other (Explain in Remarks)		
<input type="checkbox"/> 1 cm Muck (A9) (LRR D)			<input type="checkbox"/> Redox Dark Surface (F6)			<sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.		
<input checked="" type="checkbox"/> Depleted Below Dark Surface (A11)			<input type="checkbox"/> Depleted Dark Surface (F7)					
<input type="checkbox"/> Thick Dark Surface (A12)			<input type="checkbox"/> Redox Depressions (F8)					
<input type="checkbox"/> Sandy Mucky Mineral (S1)								
<input type="checkbox"/> Sandy Gleyed Matrix (S4)								
<b>Restrictive Layer (if present):</b>						<b>Hydric Soil Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		
Type: <u>Clay</u> Depth (inches): <u>5</u>								
Remarks: Wet soil								

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b>			
<u>Primary Indicators (minimum of one required; check all that apply)</u>		<u>Secondary Indicators (2 or more required)</u>	
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Water Marks (B1) ( <b>Riverine</b> )	
<input checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Biotic Crust (B12)	<input type="checkbox"/> Sediment Deposits (B2) ( <b>Riverine</b> )	
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Drift Deposits (B3) ( <b>Riverine</b> )	
<input type="checkbox"/> Water Marks (B1) ( <b>Non riverine</b> )	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Drainage Patterns (B10)	
<input type="checkbox"/> Sediment Deposits (B2) ( <b>Non riverine</b> )	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Dry-Season Water Table (C2)	
<input type="checkbox"/> Drift Deposits (B3) ( <b>Non riverine</b> )	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Crayfish Burrows (C8)	
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Shallow Aquitard (D3)	
<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> FAC-Neutral Test (D5)	
<b>Field Observations:</b>		<b>Wetland Hydrology Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Surface Water Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches):	<u>0</u>
Water Table Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Depth (inches):	_____
Saturation Present? (includes capillary fringe)	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Depth (inches):	" <u>    </u>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:			
Remarks:			

**WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys & Coast**

Project/Site: 37090 Kelso RD City/County: Sandy/Clackamas Sampling Date: 4/28/2017  
 Applicant/Owner: Joe Spaziani State: OR Sampling Point: P18  
 Investigator(s): John McConnaughey, PWS# 2009 Section, Township, Range: T2S R4E S11  
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): concave Slope (%): 9%  
 Subregion (LRR): LRR-A Lat: 45.24871 Long: -122.16977 Datum: \_\_\_\_\_  
 Soil Map Unit Name: Cazado silt loam, Cottrell silty clay loam NWI classification: \_\_\_\_\_

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation Y, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	<b>Is the Sampled Area within a Wetland?</b> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: Above average rainfall in March and April. Upland to Plot 17	

**VEGETATION – Use scientific names of plants.**

	Absolute % Cover	Dominant Species?	Indicator Status		
<b>Tree Stratum</b> (Plot size: <u>30' S semi-cir</u> )					
1. <u>Pseudotsuga menziesii</u>	<u>30</u>	<u>Y</u>	<u>FACU</u>	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)  Total Number of Dominant Species Across All Strata: <u>4</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>25%</u> (A/B)	
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
	<u>30</u>	= Total Cover			
<b>Sapling/Shrub Stratum</b> (Plot size: <u>30' S semi-cir</u> )					
1. <u>Prunus laurocerasus</u>	<u>30</u>	<u>Y</u>	<u>NOL</u>	<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column Totals: <u>0</u> (A) <u>0</u> (B)  Prevalence Index = B/A = <u>0</u>	
2. <u>Rubus armeniacus</u>	<u>30</u>	<u>Y</u>	<u>FAC</u>		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
	<u>60</u>	= Total Cover			
<b>Herb Stratum</b> (Plot size: <u>30' S semi-cir</u> )					
1. _____	_____	_____	_____		
2. <u>Polystichum munitum</u>	<u>20</u>	<u>Y</u>	<u>FACU</u>		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
6. _____	_____	_____	_____		
7. _____	_____	_____	_____		
8. _____	_____	_____	_____		
	<u>50</u>	= Total Cover			
<b>Woody Vine Stratum</b> (Plot size: _____)					
1. _____	_____	_____	_____		
2. _____	_____	_____	_____		
	<u>140</u>	= Total Cover			
% Bare Ground in Herb Stratum <u>0</u> % Cover of Biotic Crust <u>0%</u>					
Remarks: Laurel on edge of plot, thick hedge to the south					
<b>Hydrophytic Vegetation Present?</b> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>					

**SOIL**

Sampling Point: P18

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-7	7.5YR3/2	100					Silt loam	
7-12	7.5YR3/3	100					Clay	
12-18	5YR4/4	95	5YR4/6	5	C	M	Clay	Restrictive layer

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)			Indicators for Problematic Hydric Soils <sup>3</sup> :		
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 1 cm Muck (A9) (LRR C)			
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> 2 cm Muck (A10) (LRR B)			
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1)	<input type="checkbox"/> Reduced Vertic (F18)			
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Red Parent Material (TF2)			
<input type="checkbox"/> Stratified Layers (A5) (LRR C)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Other (Explain in Remarks)			
<input type="checkbox"/> 1 cm Muck (A9) (LRR D)	<input type="checkbox"/> Redox Dark Surface (F6)				
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)				
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)				
<input type="checkbox"/> Sandy Mucky Mineral (S1)					
<input type="checkbox"/> Sandy Gleyed Matrix (S4)					

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

<b>Restrictive Layer (if present):</b> Type: <u>Clay</u> Depth (inches): <u>12</u>	<b>Hydric Soil Present?</b> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
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Remarks:

**HYDROLOGY**

Wetland Hydrology Indicators:		
Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (2 or more required)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Water Marks (B1) ( <b>Riverine</b> )
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Biotic Crust (B12)	<input type="checkbox"/> Sediment Deposits (B2) ( <b>Riverine</b> )
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Drift Deposits (B3) ( <b>Riverine</b> )
<input type="checkbox"/> Water Marks (B1) ( <b>Non riverine</b> )	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Sediment Deposits (B2) ( <b>Non riverine</b> )	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3) ( <b>Non riverine</b> )	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> FAC-Neutral Test (D5)

<b>Field Observations:</b> Surface Water Present?    Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <u>0</u> Water Table Present?    Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>13"</u> Saturation Present? (includes capillary fringe)    Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>13"</u>	<b>Wetland Hydrology Present?</b> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: No indicators

Remarks:



**WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys & Coast**

Project/Site: 37090 Kelso RD City/County: Sandy/Clackamas Sampling Date: 4/28/2017  
 Applicant/Owner: Joe Spaziani State: OR Sampling Point: P19  
 Investigator(s): John McConnaughey, PWS# 2009 Section, Township, Range: T2S R4E S11  
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): concave Slope (%): 2%  
 Subregion (LRR): LRR-A Lat: 45.24980 Long: -122.16851 Datum: \_\_\_\_\_  
 Soil Map Unit Name: Cazado silt loam, Cottrell silty clay loam NWI classification: PUB3E

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	<b>Is the Sampled Area within a Wetland?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks: Wetland "B". A small depressional wetland next to Stream #2. Above average rainfall in March and April. Bare spot in vegetation, off stream to north in a depression. This is clearly a small depressional wetland, although the soils do not fit nicely into one of the accepted hydric soil categories.	

**VEGETATION – Use scientific names of plants.**

	Absolute % Cover	Dominant Species?	Indicator Status	
<b>Tree Stratum</b> (Plot size: <u>15' cir</u> )				
1. <u>Alnus rubra</u>	<u>20</u>	<u>Y</u>	<u>FAC</u>	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A)  Total Number of Dominant Species Across All Strata: <u>3</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
	<u>20</u>	= Total Cover		
<b>Sapling/Shrub Stratum</b> (Plot size: <u>15' cir</u> )				
1. <u>Rubus spectabilis**</u>	<u>30</u>	<u>Y</u>	<u>FAC</u>	<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column Totals: <u>0</u> (A) <u>0</u> (B)  Prevalence Index = B/A = <u>0</u>
2. <u>Rosa nutkana</u>	<u>15</u>	<u>Y</u>	<u>FAC</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
	<u>45</u>	= Total Cover		
<b>Herb Stratum</b> (Plot size: <u>15' cir</u> )				
1. _____	_____	_____	_____	<b>Hydrophytic Vegetation Indicators:</b> <input checked="" type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
	_____	= Total Cover		
<b>Woody Vine Stratum</b> (Plot size: _____)				
1. _____	_____	_____	_____	<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
2. _____	_____	_____	_____	
	_____	= Total Cover		
% Bare Ground in Herb Stratum <u>35</u>		% Cover of Biotic Crust <u>0%</u>		
Remarks: ** Much of the Salmonberry in the lowest parts of the wetland are dead, probably died last year (?).				

**SOIL**

Sampling Point: P19

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-6	7.5YR2.5/1	100					Silt loam	
6-12	7.5YR4/6	100					Clay	
12-18	2.5YR4/6	90	2.5YR4/1	10	C	M	Clay	

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

<b>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</b> <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) (LRR C) <input type="checkbox"/> 1 cm Muck (A9) (LRR D) <input checked="" type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> Sandy Gleyed Matrix (S4)	<b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b> <input type="checkbox"/> 1 cm Muck (A9) (LRR C) <input type="checkbox"/> 2 cm Muck (A10) (LRR B) <input type="checkbox"/> Reduced Vertic (F18) <input type="checkbox"/> Red Parent Material (TF2) <input type="checkbox"/> Other (Explain in Remarks)
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<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

<b>Restrictive Layer (if present):</b> Type: clay Depth (inches): 12	<b>Hydric Soil Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Remarks: Hard to get a good observation because the soil was so saturated

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> Primary Indicators (minimum of one required; check all that apply)			Secondary Indicators (2 or more required)		
<input checked="" type="checkbox"/> Surface Water (A1) <input checked="" type="checkbox"/> High Water Table (A2) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) (Non riverine) <input type="checkbox"/> Sediment Deposits (B2) (Non riverine) <input type="checkbox"/> Drift Deposits (B3) (Non riverine) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Salt Crust (B11) <input type="checkbox"/> Biotic Crust (B12) <input type="checkbox"/> Aquatic Invertebrates (B13) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Water Marks (B1) (Riverine) <input type="checkbox"/> Sediment Deposits (B2) (Riverine) <input type="checkbox"/> Drift Deposits (B3) (Riverine) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5)			
<b>Field Observations:</b> Surface Water Present?    Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): 0 Water Table Present?    Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): Saturation Present?    Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): (includes capillary fringe)			<b>Wetland Hydrology Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Algal mat (B4), Sparsely veg concave surface (B8), Water-stained leaves (B9), Stunted/stressed plants (D1)					
Remarks:					

**WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys & Coast**

Project/Site: 37090 Kelso RD City/County: Sandy/Clackamas Sampling Date: 4/28/2017  
 Applicant/Owner: Joe Spaziani State: OR Sampling Point: P20  
 Investigator(s): John McConnaughey, PWS# 2009 Section, Township, Range: T2S R4E S11  
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): concave Slope (%): 12%  
 Subregion (LRR): LRR-A Lat: 45.24978 Long: -122.16853 Datum: \_\_\_\_\_  
 Soil Map Unit Name: Cazado silt loam, Cottrell silty clay loam NWI classification: \_\_\_\_\_

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	<b>Is the Sampled Area within a Wetland?</b> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: Above average rainfall in March and April. upland plot to P19. Shovel refusal 12" due to big roots.	

**VEGETATION – Use scientific names of plants.**

	Absolute % Cover	Dominant Species?	Indicator Status	
<b>Tree Stratum</b> (Plot size: <u>30' N</u> )				
1. <u>Alnus rubra</u>	<u>15</u>	<u>Y</u>	<u>FAC</u>	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)  Total Number of Dominant Species Across All Strata: <u>4</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50%</u> (A/B)
2. <u>Acer macrophyllum</u>	<u>30</u>	<u>Y</u>	<u>FACU</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
	<u>45</u>	= Total Cover		
<b>Sapling/Shrub Stratum</b> (Plot size: <u>30' N</u> )				
1. _____	_____	_____	_____	<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column Totals: <u>0</u> (A) <u>0</u> (B)  Prevalence Index = B/A = <u>0</u>
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
	<u>0</u>	= Total Cover		
<b>Herb Stratum</b> (Plot size: <u>30' N</u> )				
1. <u>Rubus spectabilis</u>	<u>90</u>	<u>Y</u>	<u>FAC</u>	<b>Hydrophytic Vegetation Indicators:</b> <input checked="" type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. <u>Polystichum munitum</u>	<u>20</u>	<u>Y</u>	<u>FACU</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
	<u>110</u>	= Total Cover		
<b>Woody Vine Stratum</b> (Plot size: _____)				
1. _____	_____	_____	_____	<b>Hydrophytic Vegetation Present?</b> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
2. _____	_____	_____	_____	
	<u>155</u>	= Total Cover		
% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust <u>0%</u>				
Remarks:				

**SOIL**

Sampling Point: P20

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-12	7.5YR2.5/3	100					Silt loam	

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

<b>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</b> <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <b>(LRR C)</b> <input type="checkbox"/> 1 cm Muck (A9) <b>(LRR D)</b> <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> Sandy Gleyed Matrix (S4)	<b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b> <input type="checkbox"/> 1 cm Muck (A9) <b>(LRR C)</b> <input type="checkbox"/> 2 cm Muck (A10) <b>(LRR B)</b> <input type="checkbox"/> Reduced Vertic (F18) <input type="checkbox"/> Red Parent Material (TF2) <input type="checkbox"/> Other (Explain in Remarks)
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<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

<b>Restrictive Layer (if present):</b> Type: <u>Roots</u> Depth (inches): <u>12"</u>	<b>Hydric Soil Present?</b> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
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Remarks: Shovel refusal at 12" due to large tree roots.

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one required; check all that apply)</u>		<u>Secondary Indicators (2 or more required)</u>
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <b>(Non riverine)</b> <input type="checkbox"/> Sediment Deposits (B2) <b>(Non riverine)</b> <input type="checkbox"/> Drift Deposits (B3) <b>(Non riverine)</b> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Salt Crust (B11) <input type="checkbox"/> Biotic Crust (B12) <input type="checkbox"/> Aquatic Invertebrates (B13) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Water Marks (B1) <b>(Riverine)</b> <input type="checkbox"/> Sediment Deposits (B2) <b>(Riverine)</b> <input type="checkbox"/> Drift Deposits (B3) <b>(Riverine)</b> <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5)

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

Remarks:

**WETLAND DETERMINATION DATA FORM – WESTERN MOUNTAINS VALLEYS & COAST**

Project/Site: 37090 Kelso RD City/County: Sandy/Clackamas Sampling Date: 10/10/2018  
 Applicant/Owner: Joe Spaziani State: OR Sampling Point: P14/P21  
 Investigator(s): John McConnaughey, PWS# 2009 Section, Township, Range: T2S R4E S11  
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): concave Slope (%): 1%  
 Subregion (LRR): LRR-A Lat: 45.411500 Long: -122.280760 Datum: \_\_\_\_\_  
 Soil Map Unit Name: Cazado silt loam, Cottrell silty clay loam NWI classification: \_\_\_\_\_

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	<b>Is the Sampled Area within a Wetland?</b> Yes <input checked="" type="checkbox"/> BY BPJ
Remarks: In Track "A" on fringe of graded area. In the field put as P14 but realized that we had already used that number so changed it to P21. This area was determined to be a wetland in WD2000-0612. P21 is outside of the disturbed area for the Olson Road Widening project. Although the absence of hydrology and soil indicators, and the presence of Beaked Hazelnut which is usually associated with upland conditions, we decided to map it as wetland as the surrounding area and previous studies support this conclusion.	

**VEGETATION – Use scientific names of plants.**

	Absolute % Cover	Dominant Species?	Indicator Status	
<b>Tree Stratum</b> (Plot size: <u>4/30' N</u> )				
1. <u>Corylus cornuta</u>	<u>10</u>	<u>Y</u>	<u>FACU</u>	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)  Total Number of Dominant Species Across All Strata: <u>3</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>66%</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
	<u>10</u>	= Total Cover		
<b>Sapling/Shrub Stratum</b> (Plot size: <u>30' N</u> )				
1. _____	_____	_____	_____	<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column Totals: <u>0</u> (A) <u>0</u> (B)  Prevalence Index = B/A = <u>0</u>
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
	<u>0</u>	= Total Cover		
<b>Herb Stratum</b> (Plot size: <u>10' N</u> )				
1. <u>Rubus armeniacus</u>	<u>30</u>	<u>Y</u>	<u>FAC</u>	<b>Hydrophytic Vegetation Indicators:</b> <input checked="" type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
2. <u>Rosa gymnocarpa</u>	<u>15</u>	<u>Y</u>	<u>FAC</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
	<u>45</u>	= Total Cover		
<b>Woody Vine Stratum</b> (Plot size: _____)				
1. _____	_____	_____	_____	<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
2. _____	_____	_____	_____	
	_____	= Total Cover		
% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust <u>0%</u>				
Remarks: vegetation has been cut down.				

**SOIL**

Sampling Point: P21 \_\_\_\_\_

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)							
Depth (inches)	Matrix		Redox Features			Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>		
0-4	7.5YR3/3	100					Silt loam
4-12	7.5YR3/3	95	5YR4/6	5	C	M	
12-16	7.5YR3/2	90	5YR4/6	10	C	M	Silt clay loam

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

<p><b>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</b></p> <p><input type="checkbox"/> Histosol (A1)</p> <p><input type="checkbox"/> Histic Epipedon (A2)</p> <p><input type="checkbox"/> Black Histic (A3)</p> <p><input type="checkbox"/> Hydrogen Sulfide (A4)</p> <p><input type="checkbox"/> Stratified Layers (A5) (LRR C)</p> <p><input type="checkbox"/> 1 cm Muck (A9) (LRR D)</p> <p><input type="checkbox"/> Depleted Below Dark Surface (A11)</p> <p><input type="checkbox"/> Thick Dark Surface (A12)</p> <p><input type="checkbox"/> Sandy Mucky Mineral (S1)</p> <p><input type="checkbox"/> Sandy Gleyed Matrix (S4)</p>	<p><b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b></p> <p><input type="checkbox"/> 1 cm Muck (A9) (LRR C)</p> <p><input type="checkbox"/> 2 cm Muck (A10) (LRR B)</p> <p><input type="checkbox"/> Reduced Vertic (F18)</p> <p><input type="checkbox"/> Red Parent Material (TF2)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p> <p><sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.</p>
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<p><b>Restrictive Layer (if present):</b></p> <p>Type: _____</p> <p>Depth (inches): _____</p>	<p><b>Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></b></p>
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Remarks: The 4-12 inch layer had redox concentrations, however the matrix was not a chroma 2 or lower, and so does not meet the standard for a depleted matrix.

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b>	
<p><u>Primary Indicators (minimum of one required; check all that apply)</u></p> <p><input type="checkbox"/> Surface Water (A1)</p> <p><input type="checkbox"/> High Water Table (A2)</p> <p><input type="checkbox"/> Saturation (A3)</p> <p><input type="checkbox"/> Water Marks (B1) (Non riverine)</p> <p><input type="checkbox"/> Sediment Deposits (B2) (Non riverine)</p> <p><input type="checkbox"/> Drift Deposits (B3) (Non riverine)</p> <p><input type="checkbox"/> Surface Soil Cracks (B6)</p> <p><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</p> <p><input type="checkbox"/> Water-Stained Leaves (B9)</p>	<p><u>Secondary Indicators (2 or more required)</u></p> <p><input type="checkbox"/> Salt Crust (B11)</p> <p><input type="checkbox"/> Biotic Crust (B12)</p> <p><input type="checkbox"/> Aquatic Invertebrates (B13)</p> <p><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</p> <p><input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)</p> <p><input type="checkbox"/> Presence of Reduced Iron (C4)</p> <p><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</p> <p><input type="checkbox"/> Thin Muck Surface (C7)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>

<p><b>Field Observations:</b></p> <p>Surface Water Present?      Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>      Depth (inches): _____</p> <p>Water Table Present?      Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>      Depth (inches): _____</p> <p>Saturation Present?      Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>      Depth (inches): _____ (includes capillary fringe)</p>	<p><b>Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></b></p>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: no primary or secondary indicators

Remarks:

## WETLAND DETERMINATION DATA FORM – WESTERN MOUNTAINS, VALLEYS & COAST

Project/Site: 37090 Kelso RD City/County: Sandy/Clackamas Sampling Date: 10/10/2018  
 Applicant/Owner: Joe Spaziani State: OR Sampling Point: P22 (was P15)  
 Investigator(s): John McConnaughey, PWS# 2009 Section, Township, Range: T2S R4E S11  
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): concave Slope (%): 2%  
 Subregion (LRR): LRR-A Lat: 45.4115490 Long: -122.280750 Datum: \_\_\_\_\_  
 Soil Map Unit Name: Cazado silt loam, Cottrell silty clay loam NWI classification: \_\_\_\_\_

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)

Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes  No

Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	<b>Is the Sampled Area within a Wetland?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Determined wetland by BPJ in spite of weak vegetation and hydrology indicators.
Remarks: In the wetland mitigation area. Lath was labeled "P15", but we renumbered the plot as P22 when we realized P15 was already used. Appears as P22 on the maps. Vegetation was disturbed by brush hog when we observed it, and at the end of the dry season. This delineation is problematic, but we are calling it a wetland.	

### VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status	
<b>Tree Stratum</b> (Plot size: <u>30' N</u> )				<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>66%</u> (A/B)
1. <u>Alnus rubra</u>	<u>15</u>	<u>Y</u>	<u>FAC</u>	
2. <u>Acer macrophyllum</u>	<u>15</u>	<u>Y</u>	<u>FACU</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
<u>30</u> = Total Cover				
<b>Sapling/Shrub Stratum</b> (Plot size: <u>30' N</u> )				
1. <u>Rubus americanus</u>	<u>80</u>	<u>Y</u>	<u>FAC</u>	
2. <u>Rosa gymnocarpa</u>	<u>15</u>	<u>N</u>	<u>FACU</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>0</u> = Total Cover				
<b>Herb Stratum</b> (Plot size: <u>10' N</u> )				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
<u>95</u> = Total Cover				
<b>Woody Vine Stratum</b> (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
<u>125</u> = Total Cover				
% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust <u>0%</u>				
Remarks: vegetation has been cut in some areas.				

<b>Prevalence Index worksheet:</b>	
Total % Cover of:	Multiply by:
OBL species <u>0</u>	x 1 = <u>0</u>
FACW species <u>0</u>	x 2 = <u>0</u>
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species <u>0</u>	x 5 = <u>0</u>
Column Totals: _____ (A)	_____ (B)
Prevalence Index = B/A = <u>0</u>	

**Hydrophytic Vegetation Indicators:**

Dominance Test is >50%

Prevalence Index is ≤3.0<sup>1</sup>

Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

<sup>1</sup>Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Hydrophytic Vegetation Present?** Yes  No

**SOIL**

Sampling Point: P22

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-6	10YR2/2	100					Silt loam	
6-10	7.5YR3/2	95	5YR4/6	5	C	M		
10-16	7.5YR4/4	60						
	7.5YR3/2	40					Silty clay loam	

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

<p><b>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</b></p> <p><input type="checkbox"/> Histosol (A1)</p> <p><input type="checkbox"/> Histic Epipedon (A2)</p> <p><input type="checkbox"/> Black Histic (A3)</p> <p><input type="checkbox"/> Hydrogen Sulfide (A4)</p> <p><input type="checkbox"/> Stratified Layers (A5) (LRR C)</p> <p><input type="checkbox"/> 1 cm Muck (A9) (LRR D)</p> <p><input type="checkbox"/> Depleted Below Dark Surface (A11)</p> <p><input type="checkbox"/> Thick Dark Surface (A12)</p> <p><input type="checkbox"/> Sandy Mucky Mineral (S1)</p> <p><input type="checkbox"/> Sandy Gleyed Matrix (S4)</p> <p><input type="checkbox"/> Sandy Redox (S5)</p> <p><input type="checkbox"/> Stripped Matrix (S6)</p> <p><input type="checkbox"/> Loamy Mucky Mineral (F1)</p> <p><input type="checkbox"/> Loamy Gleyed Matrix (F2)</p> <p><input type="checkbox"/> Depleted Matrix (F3)</p> <p><input checked="" type="checkbox"/> Redox Dark Surface (F6)</p> <p><input type="checkbox"/> Depleted Dark Surface (F7)</p> <p><input type="checkbox"/> Redox Depressions (F8)</p>	<p><b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b></p> <p><input type="checkbox"/> 1 cm Muck (A9) (LRR C)</p> <p><input type="checkbox"/> 2 cm Muck (A10) (LRR B)</p> <p><input type="checkbox"/> Reduced Vertic (F18)</p> <p><input type="checkbox"/> Red Parent Material (TF2)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p> <p><sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.</p>
---	---

<p><b>Restrictive Layer (if present):</b></p> <p>Type: _____</p> <p>Depth (inches): _____</p>	<p><b>Hydric Soil Present?</b>    Yes <input checked="" type="checkbox"/>    No <input type="checkbox"/></p>
---	--

Remarks: Mixed matrix below 10", redox 6-10

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b>	
<p><u>Primary Indicators (minimum of one required; check all that apply)</u></p> <p><input type="checkbox"/> Surface Water (A1)</p> <p><input type="checkbox"/> High Water Table (A2)</p> <p><input type="checkbox"/> Saturation (A3)</p> <p><input type="checkbox"/> Water Marks (B1) (<b>Non riverine</b>)</p> <p><input type="checkbox"/> Sediment Deposits (B2) (<b>Non riverine</b>)</p> <p><input type="checkbox"/> Drift Deposits (B3) (<b>Non riverine</b>)</p> <p><input type="checkbox"/> Surface Soil Cracks (B6)</p> <p><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</p> <p><input type="checkbox"/> Water-Stained Leaves (B9)</p>	<p><u>Secondary Indicators (2 or more required)</u></p> <p><input type="checkbox"/> Salt Crust (B11)</p> <p><input type="checkbox"/> Biotic Crust (B12)</p> <p><input type="checkbox"/> Aquatic Invertebrates (B13)</p> <p><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</p> <p><input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)</p> <p><input type="checkbox"/> Presence of Reduced Iron (C4)</p> <p><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</p> <p><input type="checkbox"/> Thin Muck Surface (C7)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p> <p><input type="checkbox"/> Water Marks (B1) (<b>Riverine</b>)</p> <p><input type="checkbox"/> Sediment Deposits (B2) (<b>Riverine</b>)</p> <p><input type="checkbox"/> Drift Deposits (B3) (<b>Riverine</b>)</p> <p><input type="checkbox"/> Drainage Patterns (B10)</p> <p><input type="checkbox"/> Dry-Season Water Table (C2)</p> <p><input type="checkbox"/> Crayfish Burrows (C8)</p> <p><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</p> <p><input type="checkbox"/> Shallow Aquitard (D3)</p> <p><input type="checkbox"/> FAC-Neutral Test (D5)</p>
<p><b>Field Observations:</b></p> <p>Surface Water Present?    Yes <input type="checkbox"/>    No <input checked="" type="checkbox"/>    Depth (inches): _____</p> <p>Water Table Present?    Yes <input type="checkbox"/>    No <input checked="" type="checkbox"/>    Depth (inches): _____</p> <p>Saturation Present?    Yes <input type="checkbox"/>    No <input checked="" type="checkbox"/>    Depth (inches): _____          (includes capillary fringe)</p>	
<p><b>Wetland Hydrology Present?</b>    Yes <input type="checkbox"/>    No <input checked="" type="checkbox"/></p>	
<p>Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:</p>	
<p>Remarks: Observation was at the end of the dry season.</p>	



**WETLAND DETERMINATION DATA FORM – WESTERN MOUNTAINS, VALLEYS & COAST**

Project/Site: 37090 Kelso RD City/County: Sandy/Clackamas Sampling Date: 10/10/2018  
 Applicant/Owner: Joe Spaziani State: OR Sampling Point: P23  
 Investigator(s): John McConnaughey, PWS# 2009 Section, Township, Range: T2S R4E S11  
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): concave Slope (%): 4%  
 Subregion (LRR): LRR-A Lat: 45.24978 Long: -122.16853 Datum: \_\_\_\_\_  
 Soil Map Unit Name: Cazado silt loam, Cottrell silty clay loam NWI classification: \_\_\_\_\_

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	<b>Is the Sampled Area within a Wetland?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks: A constructed shallow pond area for a wetland mitigation project.	

**VEGETATION – Use scientific names of plants.**

	Absolute % Cover	Dominant Species?	Indicator Status		
<b>Tree Stratum</b> (Plot size: <u>30' N</u> )					
1. <u>Alnus rubra</u>	<u>15</u>	<u>Y</u>	<u>FAC</u>	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)  Total Number of Dominant Species Across All Strata: <u>2</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)	
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
_____	_____	_____	_____		
<u>15</u> = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column Totals: <u>0</u> (A) <u>0</u> (B)  Prevalence Index = B/A = <u>0</u>	
<b>Sapling/Shrub Stratum</b> (Plot size: <u>30' N</u> )					
1. _____	_____	_____	_____		
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
<u>0</u> = Total Cover				<b>Hydrophytic Vegetation Indicators:</b> <input checked="" type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
<b>Herb Stratum</b> (Plot size: <u>30' N</u> )					
1. _____	_____	_____	_____		
2. <u>Juncus effusus</u>	<u>50</u>	<u>Y</u>	<u>FAC</u>		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
6. _____	_____	_____	_____		
7. _____	_____	_____	_____		
8. _____	_____	_____	_____		
<u>65%</u> = Total Cover				<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
<b>Woody Vine Stratum</b> (Plot size: _____)					
1. _____	_____	_____	_____		
2. _____	_____	_____	_____		
<u>50</u> = Total Cover				<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
% Bare Ground in Herb Stratum <u>50%</u> % Cover of Biotic Crust <u>0%</u>					

Remarks: Alnus rubra on the fringe of ponded wetland.



## APPENDIX C - Ground Level Color Photographs:

Photos of Wetland "A" and areas covered by WD2017-0410 are removed from this revision.




Photo 1. REMOVED Wetland "A" data plots P1 Upland (left), and P2 Wetland (right). The blackberries had been recently mowed to give surveyors access. The wetland determination was based on soils and hydrology. ETC Photo 4/28/2017.




Photo 2. REMOVED Lower portion of Wetland "A" showing excessive algal growth due to fertilizers washed down from farms and nurseries upslope. ETC Photo 4/28/2017



Photo 3. Wetland "B", a small depressional wetland in a forested area adjacent to Stream 2 in a forested area near where Stream 2 enters the subject property on the East border. ETC Photo 4/28/2017



Photo 4, (left) and 5 (right). Wetland "C". Photo 4 looks down toward the stream, and 5 looks up from the stream. P18 had dry non-hydric soils, and saturated hydric soils were found at P17 which is slightly lower and closer to the stream.



Photo 6. The wetland creation area in Track "E", as seen from Olson Road. ETC Photo 3/30/2017.



Photo 7 Track "E" mitigation area in April 2007. Olson Road had not been constructed, it would be later be built along the far side of the pond. ETC Photo 4/4/2007.



Photo 8 Track "E" after Blackberry clearing along Olson Road in preparation for the road widening. Photo looks East toward Jewelberry Road. ETC Photo 10/30/2018.



Photo 9 - Access road decommissioned January 2018, and erosion control measures complete.

## **APPENDIX D - Sensitive Area Certification:**

### **Fish Presence:**

No fish are thought to be present on the subject property, nor would they be expected.

### **Endangered Species:**

No endangered species of plants or animals were observed or reported.

### **Critical Habitat Features:**

The property was surveyed for the following critical habitat features. Not all of these features are considered rare or critical by the City of Sandy:

Talus slopes – none

Caves, cliffs, crevasses, rock outcrops – none

Large oak trees, or oak groves or oak savanna – none

Snags – Several in the South forested area.

Large woody debris – Several large downed trees and logs, particularly in the forested area near Stream 2. The forested area in the South part of the lot had a few fallen trees and logs, but consistent with 2<sup>nd</sup> growth timber areas there were far fewer downed trees than older stands of trees.

Springs, seeps - None.

Deep water habitat – None

Vernal pool wetlands – None

Old growth forest – None.

Wetlands – Described above.

Fish spawning or rearing habitat – none. It is believed that there is no fish access to this property.

## APPENDIX E - WD2000-0612

8 PAGES FOLLOW THIS PAGE





# Oregon

John A. Kitzhaber, M.D., Governor

August 14, 2001

Joe Spaziano  
Great American Development  
16500 SE Forsythe Road  
Oregon City, OR 97045

Re: Wetland Delineation Report for Sandy Bluff 3 Subdivision, Sandy  
Clackamas County; T2S R4E Sec.11 Tax Lot 800; Det. #00-0612

Dear Mr. Spaziano:

I have reviewed the wetland delineation report prepared by David Waterman of ETC consultants for the project referenced above. Based on the information presented in the report, I concur with the wetland and waterway boundaries as mapped in Figure 1 of the report. These wetlands and waterways are subject to the permit requirements of the state Removal-Fill Law. A state permit is required for fill or excavation of 50 cubic yards or more in a wetland area or below the top of bank of a waterway.

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

In evaluating a permit application, our agency will first consider whether there is an analysis of alternatives that avoid or minimize wetland or waterway impacts. State law establishes a preference for avoidance of wetland impacts. Because measures to avoid and minimize wetland impacts may include reconfiguring parcel layout and size or development design, we recommend that you work with Division staff on appropriate site design before completing the city or county land use approval process.

This concurrence is based on information provided to the agency. Should additional information be brought to our attention or should site conditions change, we would consider the new information and re-evaluate the site and our jurisdictional determination as needed. Thank you for your report. I apologize for the delay in reviewing it.

**Division of State Lands**  
775 Summer Street NE, Suite 100  
Salem, OR 97301-1279  
(503) 378-3805  
FAX (503) 378-4844  
<http://statelands.dsl.state.or.us>

**State Land Board**

John A. Kitzhaber  
Governor

Bill Bradbury  
Secretary of State

Randall Edwards  
State Treasurer

## APPENDIX E

Site TCD on the City of Sandy Local Wetland Inventory should now be revised or annotated to show these more accurate wetland boundaries.

Sincerely,



**Dana Field**  
Wetlands Planner

Approved by \_\_\_\_\_



John E. Lilly  
Assistant Director

cc: David Waterman, E.T.C.  
City of Sandy Planning Department  
Jim Goudzwaard, Corps of Engineers  
Steve Moser, DSL

**WETLAND DELINEATION APPLICATION REPORT COVER FORM**  
 (This form must be attached to reports submitted to the Division for review and approval)

**Oregon Division of State Lands  
 Attn.: Wetlands Program Leader  
 775 Summer Street NE, Suite 100  
 Salem, Oregon 97301-1279  
 (503) 378 - 3805**

DIVISION OF STATE LANDS  
 RECEIVED  
 DEC 20 P 1:53

<input checked="" type="checkbox"/> Applicant	<input type="checkbox"/> Owner Name, Firm and Address:	Business phone # (503) 655-6494
Great American Development 16500 SE Forsythe Road Oregon City, OR 97045		Home phone # (optional) FAX #

<input type="checkbox"/> Authorized Agent:	Business Phone #
Name and Address:	Home Phone #
<i>Joe Spaziano</i>	FAX #

The information contained in the attached report is true and accurate to the best of my knowledge. My signature below authorizes the Division to conduct a site visit to confirm the information provided in the report.

Landowner: *[Signature]* or Authorized Agent: \_\_\_\_\_  
 Date: 12-13-00 Date: \_\_\_\_\_

Project Location				
Project Name: Sandy Bluff 3	Latitude: 45° 24' 41"	Longitude: 122° 16' 47"		
Proposed Use: ~32 lot single family residential subdivision	Tax Map #	Tax Lot # 800		
Project Street Address (or other descriptive location): ~1/4 mile west of Bluff Road at Olson Street	Township	Range	Section	QQ
	2S	4E	11	AC
City: <del>near</del> Sandy	County: Clackamas	Waterway: None	River Mile: N/A	

Wetland Delineation Information	
Wetland Consultant Name, Firm, and Address:	Phone # (360) 696 - 4403
Richard S. Bublitz, Environmental Technology Consultants 2400 Broadway Vancouver, WA 98663-3229	FAX # (360) 696 - 4089 E-mail address: etc@teleport.com

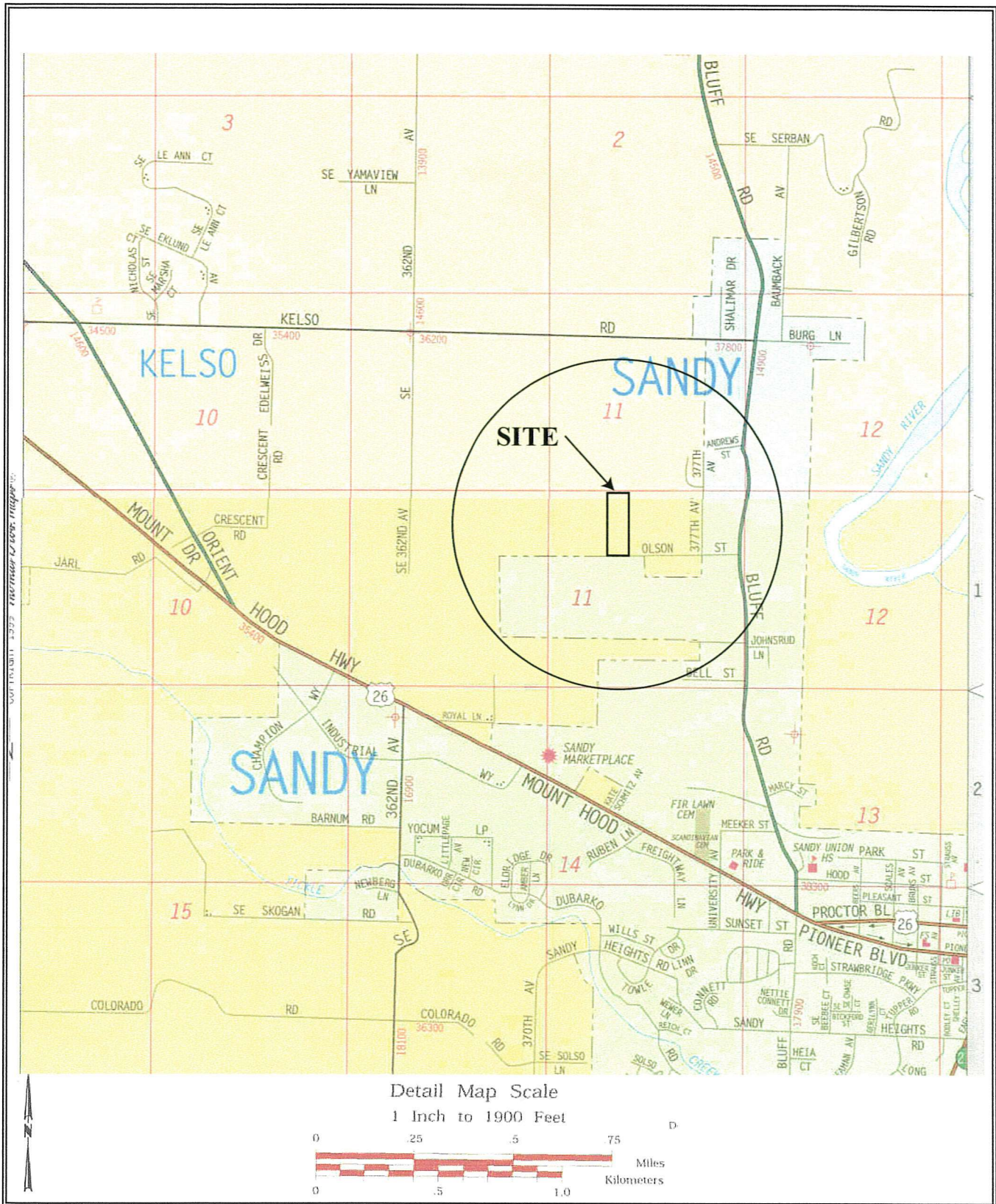
Primary Contact for report review is  Consultant  Applicant/Owner  Authorized Agent

Date of Delineation Report: 11/20/00	Wetland/Waters Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Total Site Acreage: 6.67 ac.	Total Wetland Acreage: 0.70 ac.
---	--	---------------------------------	------------------------------------

Other Information			
	Yes	No	Unknown
Is any of the property crop land?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
If yes, is applicant /Owner a USDA Program Participant?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
If yes, has a NRCS Form 026 been completed for the site?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Is the site zoned Exclusive Farm Use?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Does site show as wetland on Local Wetlands Inventory?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Has a previous Delineation/Application been made for property?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
If yes, Division of State Lands # _____			
NWI Quad Name(s): <u>Sandy</u>			
Site Zoning: <u>Residential, 10,000 sq ft</u>			

For Office Use Only			
Corps Project Mgr.: _____	DSL Wetland Mgr.: <i>ER DF</i>	DSL WD # <i>2000-0612</i>	
Date Delineation Received: ___/___/___	DSL Project # _____	Corps # _____	
Date Review Completed: ___/___/___	Related Case Number(s): _____		

# APPENDIX E



environmental technology consultants

SITE VICINITY MAP  
Source: Thomas Brothers, 1999

**Subject Property:**  
**Proposed Sandy Bluff 3**  
**Sandy, Oregon**

APPENDIX E

5H

This map was prepared for assessment purpose only.

37200

SW 1/4 NE 1/4 SEC. 11 T2S. R.4E. W.M.  
CLACKAMAS COUNTY

SEE MAP 2 4E 11AB

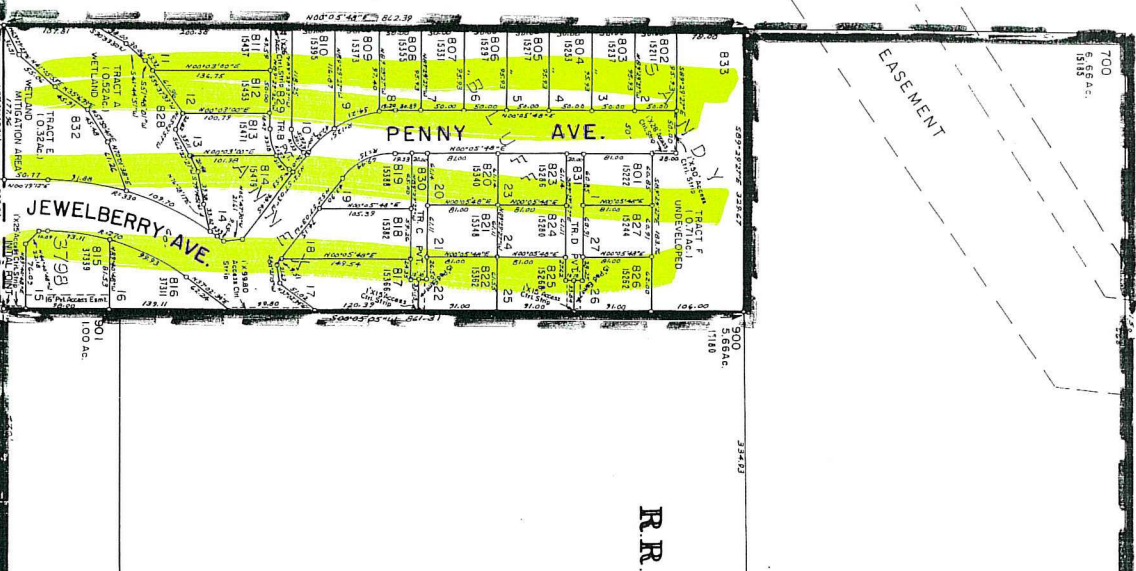
37700

2 4E 11AC

B.P.A. EASEMENT

R.R.F-5

SEE MAP 2 4E 11



46-17

SEE MAP 2 4E 110B

46-04

= 100'

600  
1,000 Ac.  
1533

500  
1,000 Ac.  
1531

400  
1,000 Ac.  
1531

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1517

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1517

CANCELLED T.L.S.  
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SEE MAP 2 4E 11AD

15200

SEE MAP 2 4E 11DA

15600

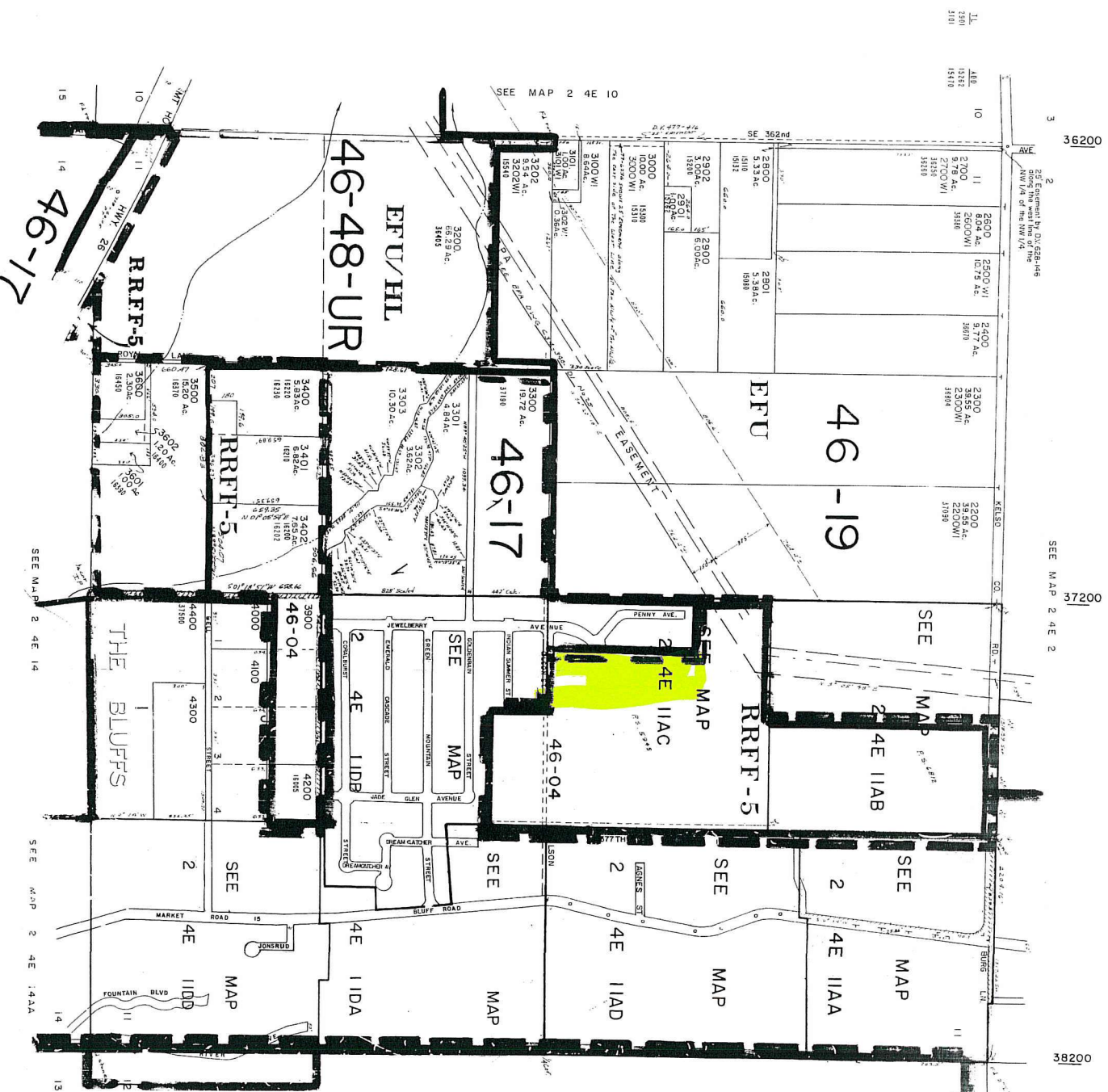
2 4E 11AC  
BOOK 32

# APPENDIX E

Done

This map was prepared for assessment purposes only.

## SECTION 11 T2S R4E W.M. CLACKAMAS COUNTY 1" = 400'



36200

37200

38200

SEE MAP 2 4E 2  
SEE MAP 2 4E 14  
SEE MAP 2 4E 12

15500

CANCELLED NO.

- 601 1432
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46-17

46-48-UR

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46-17

46-04

46-04

4E IIAA

4E IIAA

4E IIAA

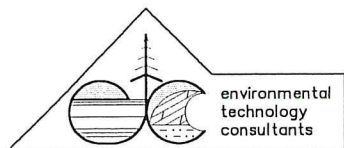
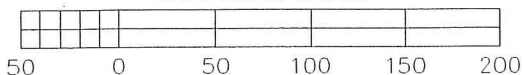
4E IIAA

Handwritten initials in a red circle.

# APPENDIX E

B.P.A. EASEMENT

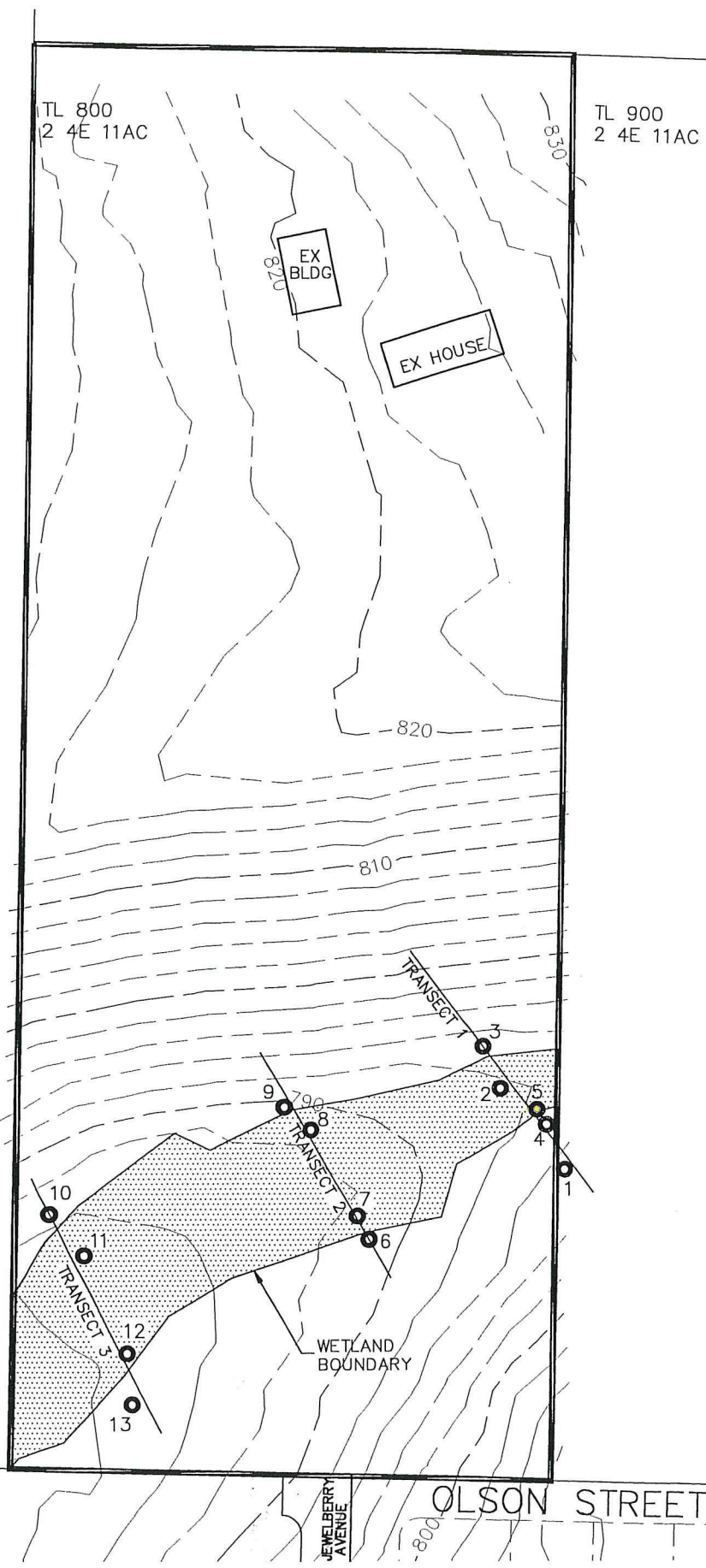
GRAPHICAL SCALE



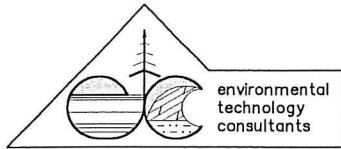
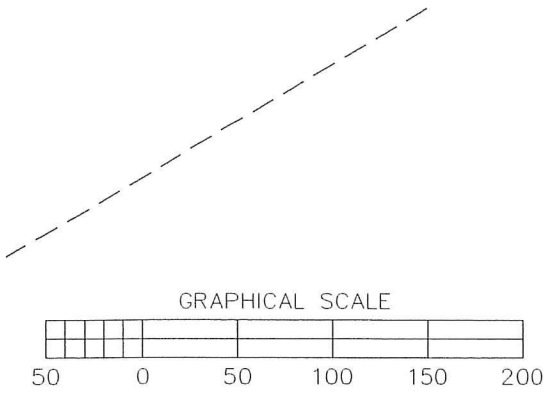
WETLAND BOUNDARY MAP	
SANDY BLUFF 3	
SANDY, OREGON	
OWNER: JOE SPAZIANI	
FIGURE:	1 OF 2
SCALE:	1"=100'
DRAWN BY:	DW
DATE:	11/07/00
JOB #:	EVA-00014

NOTE: WETLAND BOUNDARY WAS LOCATED BY ETC USING GPS TECHNOLOGY WITH DIFFERENTIAL CORRECTION (ACCURACY < 1 METER). TOPOGRAPHIC SURVEY WAS PERFORMED BY ASSOCIATED LAND SURVEYORS.

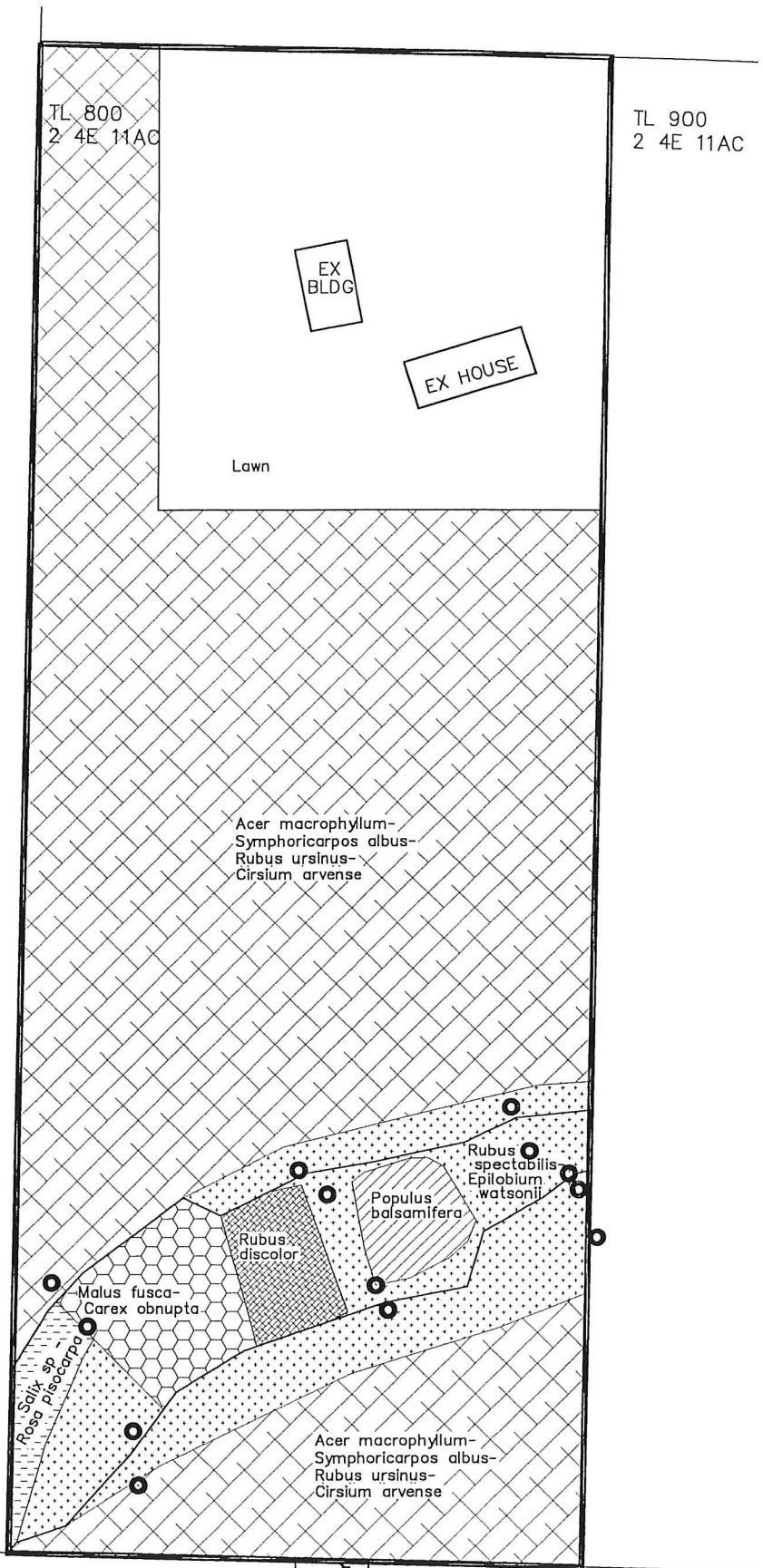
NOTE: WETLAND BOUNDARY FLAGGING PLACED BY ETC WAS FLUORESCENT ORANGE. FLAGGING PLACED DURING PREVIOUS PRELIMINARY INVESTIGATION BY OTHERS WAS PINK.



# APPENDIX E



VEGETATION ASSOCIATION MAP	
SANDY BLUFF 3	
SANDY, OREGON	
OWNER: JOE SPAZIANI	
FIGURE:	2 OF 2
SCALE:	1"=100'
DRAWN BY:	DW
DATE:	11/07/00
JOB #:	EVA-00014





## APPENDIX F - WD2017-0410

7 PAGES FOLLOW THIS PAGE



# Oregon

Kate Brown, Governor

December 4, 2017

Great American Development  
 Attn: Joe Spaziani  
 16287 S. Forsythe Road  
 Oregon City, OR 97045

Re: WD #2017-0410 Wetland Delineation Report for a Proposed  
 Subdivision Development, Clackamas County;  
 T 2S R 4E S 11 Portion of TL 2200;

Dear Mr. Spaziani:

The Department of State Lands has reviewed the wetland delineation report prepared by Environmental Technology Consultants for the site referenced above. Please note that the study area includes only a portion of the tax lot described above (see the attached maps). Based upon the information presented in the report and additional information submitted upon request, we concur with the wetland boundary as mapped in Figures 6A and 6B of the report. Within the study area, one wetland was identified, totaling approximately 0.127 acres. The wetland is subject to the permit requirements of the state Removal-Fill Law. Under current regulations, a state permit is required for cumulative fill or annual excavation of 50 cubic yards or more in wetlands.

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

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

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

## Department of State Lands

775 Summer Street NE, Suite 100

Salem, OR 97301-1279

(503) 986-5200

FAX (503) 378-4844

[www.oregon.gov/dsl](http://www.oregon.gov/dsl)

### State Land Board

Kate Brown

Governor

Dennis Richardson

Secretary of State

Tobias Read

State Treasurer

## APPENDIX F

permit application. The applicant, landowner, or agent may submit a request for reconsideration of this determination in writing within six months of the date of this letter.

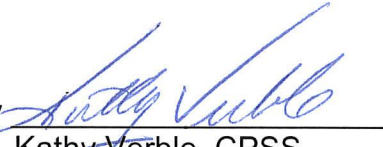
Thank you for having the site evaluated. Please phone me at 503-986-5232 if you have any questions.

Sincerely,



Peter Ryan, PWS  
Jurisdiction Coordinator

Approved by



Kathy Verble, CPSS  
Aquatic Resource Specialist

Enclosures

ec: John McConnaughey, Environmental Technology Consultants  
Clackamas County Planning Department  
Dominic Yballe, Corps of Engineers  
Anita Huffman, DSL

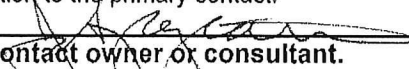
**WETLAND DELINEATION / DETERMINATION REPORT APPENDIX FORM**

This form must be included with any wetland delineation report submitted to the Department of State Lands for review and approval. A wetland delineation report submittal is not "complete" unless the fully completed and signed report cover form and the required fee are submitted. Attach this form to the front of an unbound report or include a hard copy of the completed form with a CD/DVD that includes a single PDF file of the report cover form and report (minimum 300 dpi resolution) and submit to: **Oregon Department of State Lands, 775 Summer Street NE, Suite 100, Salem, OR 97301-1279**. A single PDF attachment of the completed cover form and report may be e-mailed to [Wetland\\_Delineation@dsl.state.or.us](mailto:Wetland_Delineation@dsl.state.or.us). For submittal of PDF files larger than 10 MB, e-mail instructions on how to access the file from your ftp or other file sharing website. Fees can be paid by check or credit card. Make the check payable to the Oregon Department of State Lands. To pay the fee by credit card, call 503-986-5200.

Applicant  Owner Name, Firm and Address: Business phone # **503-860-2501**  
**Great American Development, Joe Spaziani** Mobile phone #  
**16287 S. Forsythe Road** E-mail: [joeandpenny@hotmail.com](mailto:joeandpenny@hotmail.com)  
**Oregon City, Oregon, 97045**

Authorized Legal Agent, Name and Address: Business phone # **360-696-4403**  
**Environmental Technology Consultants** Mobile phone # **503-580-2465**  
**375 Portland Ave, Gladstone, OR 97027** E-mail: [JohnM@etcEnvironmental.net](mailto:JohnM@etcEnvironmental.net)

I either own the property described below or I have legal authority to allow access to the property. I authorize the Department to access the property for the purpose of confirming the information in the report, after prior notification to the primary contact.


Typed/Printed Name: Joe Spaziani Signature:   
 Date: **April 20, 2017** Special instructions regarding site access: **Contact owner or consultant.**

**Project and Site Information** (using decimal degree format for lat/long of site or start & end points of linear project)

Project Name: <b>37090 SE Kelso Road</b>	Latitude: <b>N 45.245314</b>	Longitude: <b>W 122.165512</b>
Proposed Use: <b>New Subdivision</b>	Tax Map # <b>24E1102200</b>	
	<b>45.411972</b>	<b>-122.282009</b>
Project Street Address (or other descriptive location): <b>37090 SE Kelso Road</b>	Township <b>T2S</b> Range <b>R4E</b> Section <b>2 11</b> <b>QQ AC</b>	
	Tax Lot(s) <b>00653705 - 2200 portion</b>	
City: <b>Boring, OR</b> County: <b>Clackamas</b>	Waterway: <b>NONE</b> River Mile:	
	NWI Quad(s):	

**Wetland Delineation Information**

Wetland Consultant Name, Firm and Address: Phone # **360-696-4403**  
**John McConnaughey, PWS & Annakate Martin NRS** Mobile phone # **503-580-2465**  
**Environmental Technology Consultants** E-mail: [JohnM@etcEnvironmental.net](mailto:JohnM@etcEnvironmental.net)  
**375 Portland Ave, Gladstone, OR 97027**

The information and conclusions on this form and in the attached report are true and correct to the best of my knowledge.  
 Consultant Signature:  Date: **September, 2017**

Primary Contact for report review and site access is  Consultant  Applicant/Owner  Authorized Agent  
 Wetland/Waters Present?  Yes  No Study Area size: **15.428 acres** Total Wetland Acreage: **0.127 acres**

Check Box Below if Applicable: Fees: **\$419 (2017)**

<input type="checkbox"/> R-F permit application submitted	<input checked="" type="checkbox"/> Fee payment submitted <b>\$419</b>
<input type="checkbox"/> Mitigation bank site	<input type="checkbox"/> Fee (\$100) for resubmittal of rejected report
<input type="checkbox"/> Wetland restoration/enhancement project (not mitigation)	<input type="checkbox"/> No fee for request for reissuance of an expired report
<input type="checkbox"/> Industrial Land Certification Program Site	
<input type="checkbox"/> Reissuance of a recently expired delineation	
Previous DSL # _____ Expiration date _____	

**Other Information:**

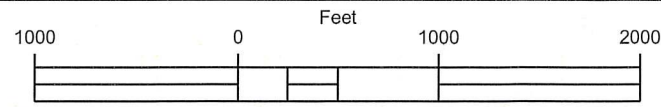
Has previous delineation/application been made on parcel?	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>
Does LWI, if any, show wetland or waters on parcel?	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>

**For Office Use Only**

DSL Reviewer: PR Fee Paid Date: 10 / 3 / 17 DSL WD # **2017-0410**  
 Date Delineation Received: 9 / 27 / 17 DSL Project # \_\_\_\_\_ DSL Site # \_\_\_\_\_  
 "Scanned: PR Final Scan:  DSL WN # \_\_\_\_\_ DSL App. # \_\_\_\_\_

Electronic Submittal

# StreamNet

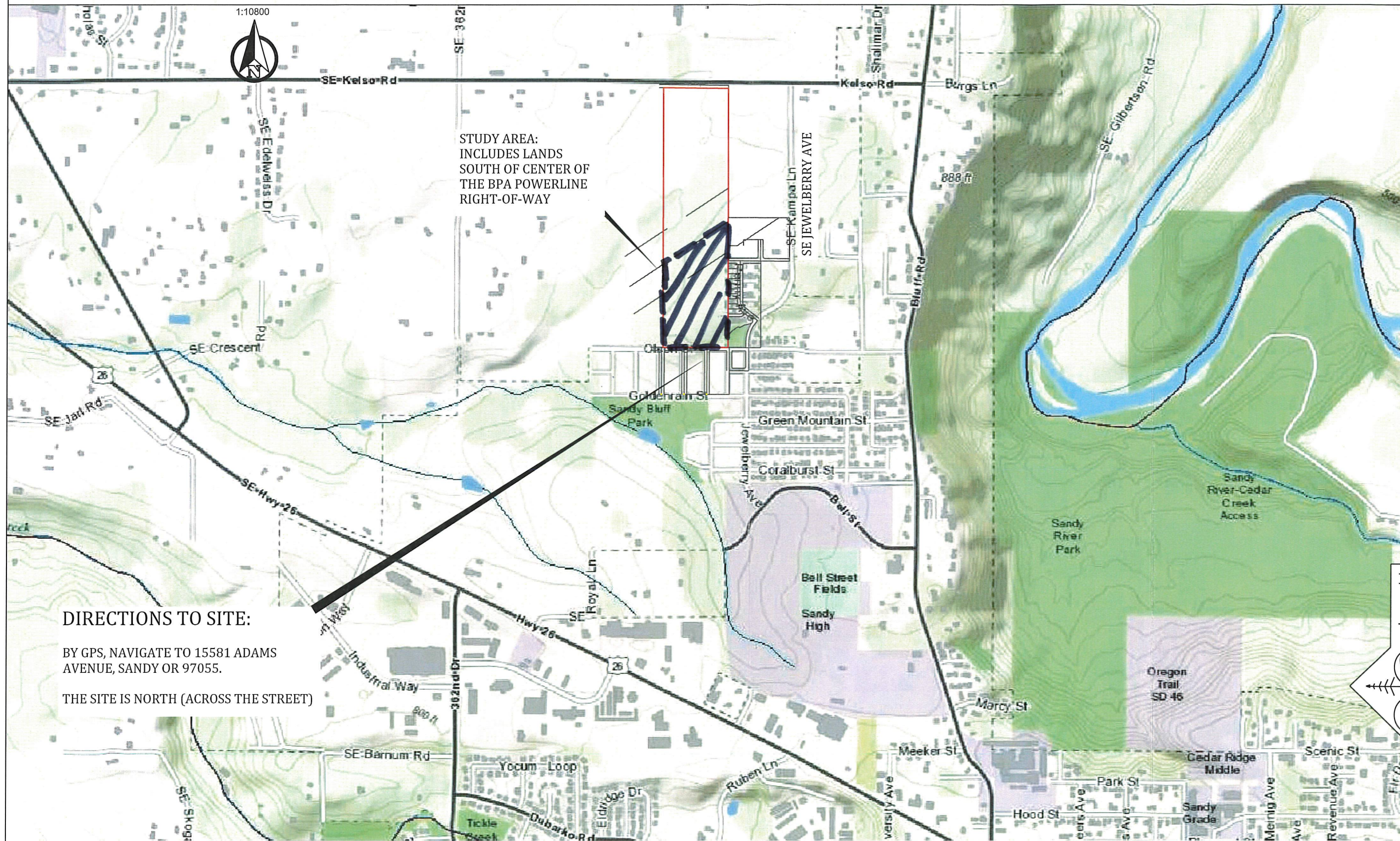


STUDY AREA:  
INCLUDES LANDS  
SOUTH OF CENTER OF  
THE BPA POWERLINE  
RIGHT-OF-WAY

**DIRECTIONS TO SITE:**

BY GPS, NAVIGATE TO 15581 ADAMS AVENUE, SANDY OR 97055.

THE SITE IS NORTH (ACROSS THE STREET)



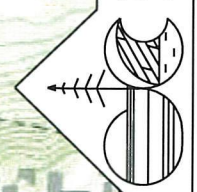
REVISIONS	

37090 SE KELSO RD  
GREAT AMERICAN DEVELOPMENT  
16287 S FORSYTHE ROAD  
OREGON CITY, OR 97045

LOCATION MAP  
STREAMNET TOPO MAP USED FOR  
BACKGROUND

WD2017-0410

environmental  
technology  
consultants

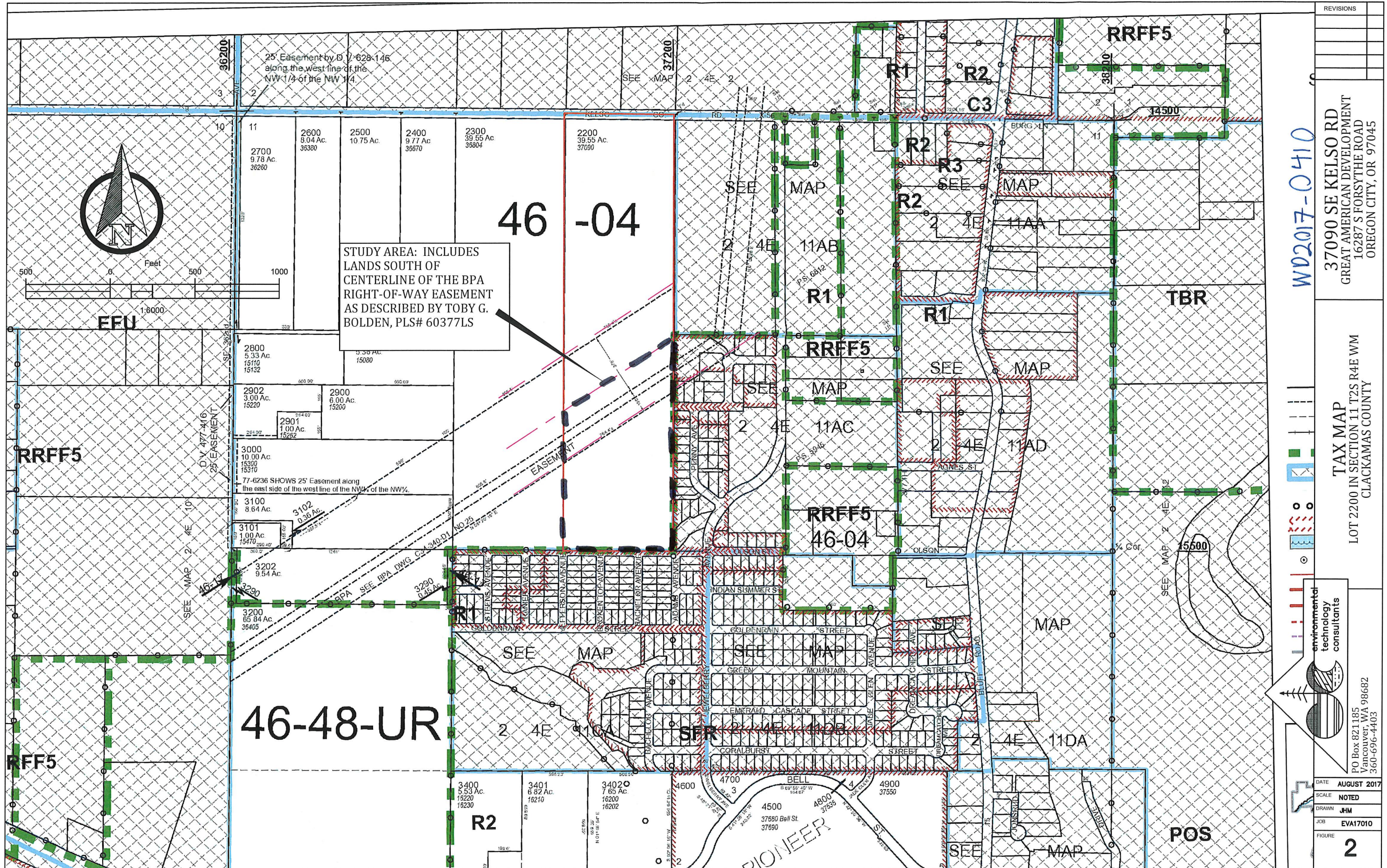


PO Box 821185  
Vancouver, WA 98682  
360-696-4403

DATE	AUGUST 2017
SCALE	NOTED
DRAWN	JHM
JOB	EVA17010
FIGURE	1

1:18,056

APPENDIX F

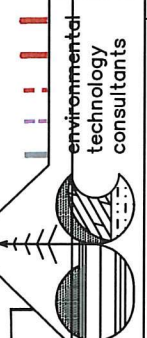


REVISIONS

WD2017-0410

37090 SE KELSO RD  
GREAT AMERICAN DEVELOPMENT  
16287 S FORSYTHE ROAD  
OREGON CITY, OR 97045

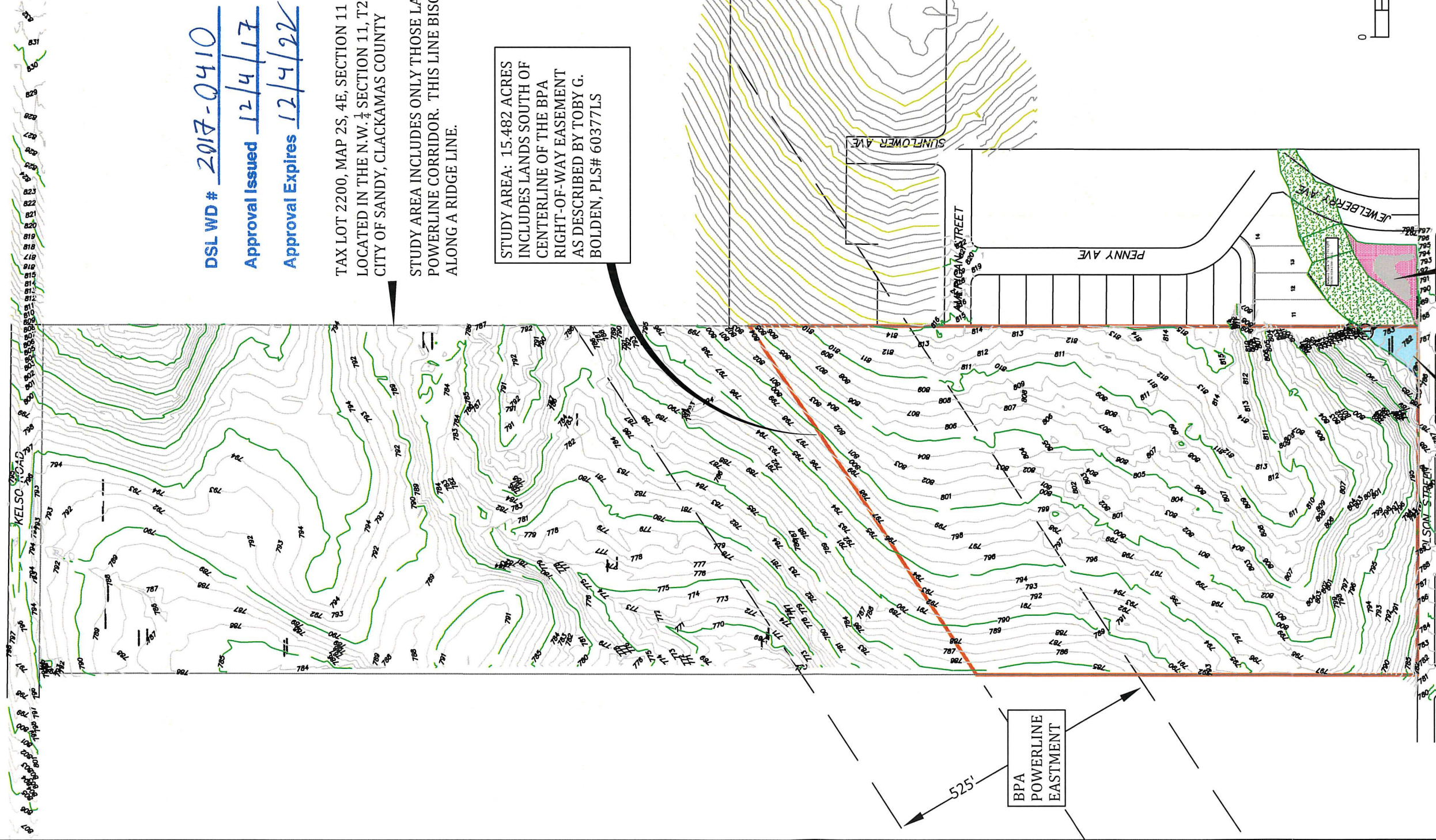
TAX MAP  
LOT 2200 IN SECTION 11 T2S R4E WM  
CLACKAMAS COUNTY



environmental  
technology  
consultants  
PO Box 821185  
Vancouver, WA 98682  
360-696-4403

DATE	AUGUST 2017
SCALE	NOTED
DRAWN	JHM
JOB	EVA17010
FIGURE	2

APPENDIX F



DSL WD # 2017-0410  
 Approval Issued 12/4/17  
 Approval Expires 12/4/22

TAX LOT 2200, MAP 2S, 4E, SECTION 11  
 LOCATED IN THE N.W. ¼ SECTION 11, T2S, R4E., WM.,  
 CITY OF SANDY, CLACKAMAS COUNTY

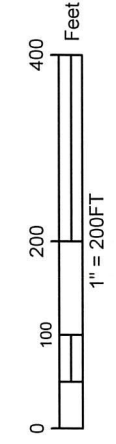
STUDY AREA INCLUDES ONLY THOSE LANDS SOUTH OF SOUTHERN BPA  
 POWERLINE CORRIDOR. THIS LINE BISECTS LOT 2200 AND RUN  
 ALONG A RIDGE LINE.

STUDY AREA: 15,482 ACRES  
 INCLUDES LANDS SOUTH OF  
 CENTERLINE OF THE BPA  
 RIGHT-OF-WAY EASEMENT  
 AS DESCRIBED BY TOBY G.  
 BOLDEN, PLS# 60377LS

WETLAND "D" IS  
 CONTIGUOUS WITH  
 WD2000-0612 AND  
 MITIGATION CREATED  
 BY PERMIT #26209-FP  
 (offsite)

WETLAND "D",  
 (onsite)

525'  
 BPA  
 POWERLINE  
 EASTMENT



DATE	AUGUST 2017
SCALE	NOTED
DRAWN	JHM
JOB	EVA17010
FIGURE	6A

environmental technology consultants	
PO Box 821185 Vancouver, WA 98682 360-696-4403	

INDEX MAP FOR STUDY AREA OF THIS DELINEATION REPORT WD2017-0410.	
37090 SE KELSO RD GREAT AMERICAN DEVELOPMENT 16287 S FORSYTHE ROAD OREGON CITY, OR 97045	

REVISIONS				

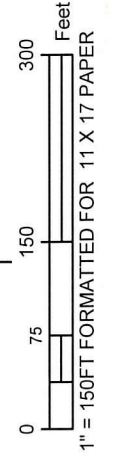
DSL WD # 2017-0410  
 Approval Issued 12/4/17  
 Approval Expires 12/4/22

TAX LOT 2200, MAP 2S, 4E,  
 SECTION 11 LOCATED IN THE N.W.  
 1/4 SECTION 11, T2S, R4E., WM.,  
 CITY OF SANDY, CLACKAMAS  
 COUNTY

BPA  
 POWERLINE  
 EASTMENT

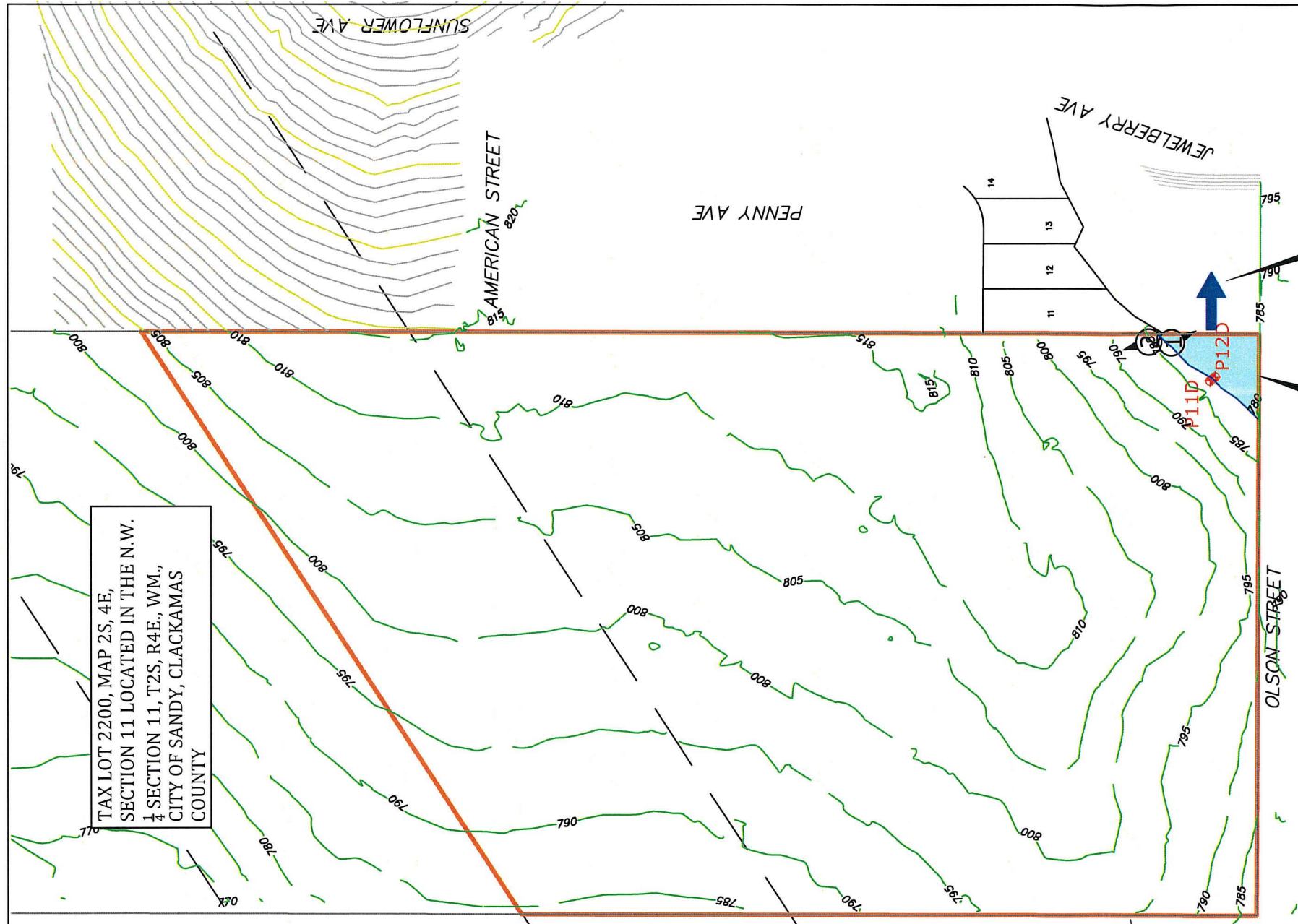
525'

STUDY AREA: 15.482 ACRES  
 INCLUDES LANDS SOUTH OF  
 CENTERLINE OF THE BPA  
 RIGHT-OF-WAY EASEMENT AS  
 DESCRIBED BY TOBY G. BOLDEN,  
 PLS# 60377LS



SURVEY BY TOBY G. BOLDEN, PLS#  
 60377LS  
 CENTERLINE CONCEPTS  
 19376 MOLALLA AVE., SUITE 120  
 OREGON CITY, OREGON 97045

WETLAND BOUNDARIES AND OTHER  
 FEATURES ARE MAPPED WITH AN  
 ACCURACY OF 0.01 FEET VERTICAL  
 AND HORIZONTAL.



**WETLAND "D" 5,516 SQFT**  
 WETLAND D IS A FORESTED WETLAND AREA  
 CONTIGUOUS WITH A WETLAND DESCRIBED  
 BY WD#2000-0612. THE COWARDIN  
 CLASSIFICATION OF THE WETLAND AREA ON  
 THE SUBJECT PROPERTY IS PALUSTRINE,  
 FORESTED, DECIDUOUS, ARTIFICIALLY  
 FLOODED, OR PFO1B TO PFO1F.

WETLAND D IS  
 CONTIGUOUS WITH  
 WETLANDS IN TRACK  
 "A" TO THE EAST OF  
 LOT 2200

**LEDGEND**

**P11D** DATA PLOT

**1** PHOTO STATION

**Disclaimer per OAR 141-090-0035 (7)(k)**  
 This report documents the investigation, best professional  
 judgment and conclusions of the investigator. It is correct  
 and complete to the best of my 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.

environmental  
 technology  
 consultants

PO Box 821185  
 Vancouver, WA 98682  
 360-696-4403

DATE AUGUST 2017  
 SCALE NOTED  
 DRAWN JHM  
 JOB EVA17010  
 FIGURE **6B**

**DELINEATION FOR WETLANDS  
 IN THE SOUTH PORTION OF LOT  
 1200**

**37090 SE KELSO RD**  
 GREAT AMERICAN DEVELOPMENT  
 16287 S FORSYTHE ROAD  
 OREGON CITY, OR 97045

REVISIONS		