

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 checked="" type="checkbox"/> Owner Name, Firm and Address: Encore Development Inc. Jim Pentz P. O. Box 6299 Bend, Oregon 97708	Business phone # 503-7800210 Mobile phone # (optional) E-mail: jim@jptz.com
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<input type="checkbox"/> Authorized Legal Agent, Name and Address: Same as above	Business phone # Mobile phone # E-mail:
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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: Jim Pentz Signature: [Signature]
 Date: 4.12.17 Special instructions regarding site access:

Project and Site Information (using decimal degree format for lat/long, enter centroid of site or start & end points of linear project)			
Project Name: Encore Wetland Determination	Latitude: 45.71652	Longitude: 123.92684	
Proposed Use: 300 unit housing development	Tax Map # 03N10W28 and 03N10W29D		
Project Street Address (or other descriptive location): East of Manzanita. Classic Street borders the study area to the west and Necarney City Road to the south.	Township 03N	Range 10W	Section QQ 28/29D
City: Manzanita County: Tillamook	Tax Lot(s) 1401, 100 and 2100		
	Waterway: n/a	River Mile: n/a	
	NWI Quad(s): Nehalem, Oregon		

Wetland Delineation Information

Wetland Consultant Name, Firm and Address: Christine McDonald 6530 Weber Road Tillamook, OR 97141	Phone # 503-801-2243 Mobile phone # same E-mail: contactchris100@gmail.com
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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: Christine McDonald Date: 4.12.17

Primary Contact for report review and site access is <input checked="" type="checkbox"/> Consultant <input type="checkbox"/> Applicant/Owner <input type="checkbox"/> Authorized Agent
Wetland/Waters Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Study Area size: 71.60 Total Wetland Acreage: none

Check Box Below if Applicable:	Fees:
<input type="checkbox"/> R-F permit application submitted	<input checked="" type="checkbox"/> Fee payment submitted \$ 419
<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:	Y	N
Has previous delineation/application been made on parcel?	<input type="checkbox"/>	<input checked="" type="checkbox"/> If known, previous DSL # _____
Does LWI, if any, show wetland or waters on parcel?	<input type="checkbox"/>	<input checked="" type="checkbox"/>

For Office Use Only

DSL Reviewer: _____	Fee Paid Date: ____ / ____ / ____	DSL WD # _____
Date Delineation Received: ____ / ____ / ____	DSL Project # _____	DSL Site # _____

1.0 Landscape Setting and Land Use (previous and current) OAR141-090-0035 (7) (a)

The 71.60-acre study area is located in Manzanita, Tillamook County, Oregon and consists of tax lot 100 T3NR10W section 29D, and all of tax lot 1401 and the southern third of tax lot 2100 in T3NR10W section 28 (see Figures 2A and 2B). The land is owned by Pine Grove Properties. All tax lots are accessible from Necarney City County Road to the south and/or Classic Street to the west.

The study area is located on gently to moderately sloping to rolling, stabilized coastal dunes. Slopes range from 0-40%. No water features are present. The land surface ranges in elevation from 50 to 160 feet (NAD 88).

Within the study area boundary, the Natural Resources Conservation Service (NRCS) has mapped the Netarts fine sandy loam, 5 to 30% slopes (11D), the Waldport fine sand, 3 to 15 percent slopes (9C) and the Haceta fine sand, 0-3% slopes (14A). The Netarts fine sandy loam comprises over 80% of the study area and is found on deep, well-drained soils that formed in eolian sand on marine terraces. The Waldport (9C) is found on recently stabilized dunes. Soils are deep, excessively drained and formed in sandy eolian material. The Heceta (14A) is mapped by the NRCS on the fringe of tax lot 2100. The Haceta is hydric soil and documented by NRCS as an inclusion within the Waldport (9C) soil mapping unit. According the NRCS, the Haceta soil develops on inter-dunal depressions and swales with poor soil drainage.

Vegetation within the study area is composed of forest and dune land plant communities, shrubs and pasture grasses. Vascular plant species found within the study area are included in Table 1.

Table 1. List of vascular plants observed within the study area, 2016.

Scientific Name	Common Name	Indicator Status	Native, Non-native, or Invasive
<i>Agrostis exarata</i>	Spiked Bentgrass	FACW	N
<i>Agrostis capillaris</i>	Colonial Bentgrass	FAC	NN
<i>Alnus rubra</i>	Red Alder	FAC	N
<i>Ammophila arenaria</i>	European Beachgrass	FACU	NN
<i>Anthoxanthum odoratum</i>	Sweet Vernal Grass	FAC	NN
<i>Arcyostaphylos columbiana</i>	Bristly Manzanita	N/L	N
<i>Carex obnupta</i>	Slough Sedge	OBL	N
<i>Carex bolanderi</i>	Bolander's Sedge		N
<i>Cardionema ramosissimum</i>	Sand Mat	N/L	NN
<i>Cytisus scoparius</i>	Scotch Broom	UPL/NL	I
<i>Dryopteris expansa</i>	Spreading Wood Fern	facw	N
<i>Frangula purshiana</i>	Cascara	FAC	N
<i>Gaultheria shallon</i>	Salal	FACU	N
<i>Holcus lanatus</i>	Common Velvetgrass	FAC	NN
<i>Hypochaeris radicata</i>	Hairy Cat's Ears	FACU	NN
<i>Juncus effuses</i>	Soft Rush	FACW	N
<i>Leucanthemum vulgare</i>	Ox-eye Daisy	FACU	NN/I
<i>Picea sitchensis</i>	Sitka Spruce	FAC	N
<i>Myrica californica</i>	California Wax Myrtyl	N/L	N

Scientific Name	Common Name	Indicator Status	Native, Non-native, or Invasive
<i>Pinus contorta</i>	Shore Pine	FAC	N
<i>Poa annua</i>	Annual Bluegrass	FAC	NN
<i>Polystichum munitum</i>	Sword Fern	FACU	N
<i>Pseudotsuga menziesii</i>	Douglas-fir	FACU	N
<i>Pteridium aquilinum</i>	Bracken Fern	FACU	N
<i>Rubus armeniacus</i>	Himalayan Blackberry	FAC	I
<i>Rubus ursinus</i>	California Dewberry	FACU	N
<i>Rumex acetosella</i>	Common Sheep Sorrel	FACU	NN
<i>Sambucus racemosa</i>	Red Elderberry	FACU	N
<i>Spiraea douglasii</i>	Hardhack	FACW	N
<i>Thuja plicata</i>	Western Red Cedar	FAC	N
<i>Tsuga heterophylla</i>	Western Hemlock	FACU	N
<i>Vaccinium ovatum</i>	Evergreen Huckleberry	FACU	N

Previous and current land uses

The lots are currently being used as forest and wildlife habitat, and for recreation.

Tax lot 100 and 2100 are within the Manzanita City urban growth boundary and zoned SRR. Lot 1401 is zoned R-2. Development plans are currently underway with roads, green space and a 300-unit housing development.

2.0 Site Alterations OAR141-090-0035 (7) (c)

In 1990, the Manzanita Golf Club developed plans to expand the golf course to the east. The expansion included all of the lots within the study area boundary. Potential green areas were cleared of vegetation to construct a driving range and 9-hole golf course; however the golf course was never constructed.

A driving range for the Manzanita Golf Club was constructed in the southwest corner of the study area. Paved access and parking to the driving range are from Necarney City Road. The driving range is mowed and maintained by the Manzanita Golf Club. A small wooden rental shack was constructed near the parking area. No other building structures are present. A sewer pump station and wet well, power vaults and fiber optic vault can be found in the south west corner of the study area near Necarney City Road (See Figure 5). Construction of Necarney City Road may have altered wetlands to the south during construction. Classic Street was constructed in the mid 1990's.

Currently native and non-native vegetation commonly found on coastal sand dunes has re-established where the golf course was cleared for expansion. On steeper slopes we found forestland with an overstory of 20-30 year old Sitka Spruce, Western Red Cedar and Shore Pine. In non-forested areas open, native shrubs and patches of 30 to 35 year old scotch broom was observed with a herbaceous ground cover.

3.0. Precipitation Data and Analysis OAR141-090-0035 (7)(i)

Climate data from the Western Regional Climate Center RAW (RAW) data for the station in Tillamook were used for this study. No precipitation was recorded on the day of the site visit on February 25, 2017. Two weeks prior to the site visit in February 5.86 inches of precipitation was recorded at the RAW Station in Tillamook. Two weeks prior to the March 6, 2017 the RAW station recorded 5.28 inches of precipitation and .45 inches of precipitation on the day of the site visit. There was 3.46 inches of precipitation recorded two weeks prior to the April 11, 2017 site and .36 inches of precipitation recorded on the day of the site visit.

NRCS Wetland Climate Evaluation Database (WETS) for Tillamook Oregon was used to obtain the normal precipitation data. Table 2 compares the RAW data with the WETS data (1971-2000). The summary shows December 2016 to be within normal levels. January precipitation was below average, but within a 30% range of the average. February and March precipitation were above normal and higher than the 30% range of average precipitation. Climatic conditions were considered typical for this time of year for the data collected in February and March even though some variation in precipitation was noted. Because March precipitation was 60% higher than the average for this time of year, climatic conditions were considered atypical for the data collected in April.

Table 2. Monthly precipitation recorded by the Oregon Climate Data for Tillamook, Oregon compared with WETS data for Tillamook 1 W, Oregon (358494).

Month	RAWS Tillamook Precipitation (inches)	WETS average precipitation (inches)	Departure from normal (inches) and (%)
December, 2016	13.94	13.70	-.24(-2%)
January, 2017	8.34	13.08	-4.74(-36%)
February, 2017	14.94	10.79	+4.15(+38%)
March, 2017	15.84	9.90	+5.94(+60%)

4.0. Methods (site-specific methods for field investigation, determining wetland boundaries and geographic extent of other waters) OAR141-090-0030, OAR141-090-0035 (7)(d-e), (g-h), (16)(a-b), (f), (d) or (g), (17), & (19-20)

Field investigation was conducted on February 25, March 6, 2017 and April 11, 2017. Christine McDonald and Kurt Heckerth evaluated the site using the Corps of Engineers *Wetland Delineation Manual: Western Mountains, Valleys and Coast Region* (May, 2010) supplement. The study area was walked extensively to locate areas mapped as wetland by the National Wetlands Inventory (NWI), and to locate inter-dunal swales and depressions in low-lying areas where wetlands are most likely to be present.

The Corps of Engineers 2010 manual provides technical criteria, field indicators, and recommended procedures to be used in determining whether an area is a jurisdictional wetland. For wetlands to exist, there must be a prevalence of hydrophytic vegetation, hydric soils, and wetland hydrology. Under normal circumstances, all three parameters must be present to satisfy the criteria for jurisdictional wetlands.

Seven sample plots document non-wetlands within the study area. The sample sites were chosen based on mapped NWI wetlands (Figure 4), presence of hydric soils mapped by the NRCS (Figure 3), low-lying areas in the dune land, and sites representative of non-wetlands.

Hydric Soils

A hydric soil is a soil that remains wet long enough during the growing season to alter physical (redoximorphic) features of the soil. Due to saturation, flooding, or ponding, soils develop anaerobic conditions. This oxygen-deficient environment favors the growth and regeneration of hydrophytic vegetation. Soil color becomes altered as iron is reduced to a mobile form. Soils become oxidized and accumulate iron, or become reduced as a result of iron depletion. Wetland conditions also slow down the decomposition of organic material, thereby causing soil color to be very dark with a low soil chroma and high organic carbon content.

The wetland scientists analyzed soils collected from more than 30 soil pits by examining texture, moisture content, color, redoximorphic features, and structure. Sandy soils typical of the Haceta may have high organic carbon content, low values and hues, and/or redoximorphic features within 6-12 inches of the surface. Soils that met the hydric soil criteria were not found within the study area.

Hydrophytic Vegetation

Hydrophytic vegetation occurs in soils that are saturated for extended periods during the growing season and have adapted to wet soil conditions. More than 50% of the species must have a wetland indicator status of obligate wetland (OBL), facultative wetland (FACW), or facultative (FAC). Wetland scientists estimated vegetation cover visually at each sample point, identified all vascular plant species, and recorded the indicator status for each plant species from national wetland indicator lists. The 50/20 rule was used to determine dominance. The 2016 U.S. Army Corps of Engineers Plant List for the State of Oregon was used for this study.

Wetland Hydrology

Indications of wetland hydrology may include drainage patterns, sediment deposits, hydrogen sulfide odor, watermarks, oxidized root zones, saturation, high water table, or inundation. Wetland hydrology affects soil and vegetation by inundating soils or saturating soils to the surface for a significant length of time (5-12.5%) during the growing season.

Wetland scientist looked for the presence of oxidized root zones, presence of surface water, and the height of surface water, the water table, and saturation and/or moisture levels in the soil pits. Field personnel were able to observe surface water and water table levels following periods of precipitation. The higher than average precipitation in February and March, 2017 was taken into consideration when evaluating wetland hydrology indicators.

5.0. Description of All Wetlands and Other Non-Wetland Waters (their characteristics and boundaries, e.g. whether they extend offsite) OAR141-090-0035 (2), (7)(b), & (17)

No jurisdictional wetlands were observed within the study area boundary.

Non-wetlands are extensive on the level to hilly and undulating dunes and elevated terraces within the study area. Common shrubs and trees observed are Sitka Spruce, Western Hemlock, Douglas

fir, Shore Pine, Western Red Cedar, Salal, Bristly Manzanita, Himalayan Blackberry, California Dewberry, and Evergreen Huckleberry. Herbaceous species commonly found are Colonial and Spiked Bentgrass, Annual Bluegrass, Common Sheep Sorrel, Hairy Cat's Ears, Velvetgrass, and Sand Mat. Other hydrophytic vegetation such as Slough Sedge or Hardhack was observed in small isolated clumps in low-lying areas.

Soils typically are deep, well-drained sands or loamy sands with brown to very dark brown surfaces, and light brown, brown or yellowish brown sandy subsurface horizons. Redoximorphic features were not found with a soil layer starting within 6 inches of the soil surface. Soil moisture levels were observed following periods of heavy precipitation. None of the soil pits observed had surface water, elevated ground water or saturation within 20 inches of the soil surface.

6.0 Deviation from LWI or NWI (if any, wetland determination data or explanation required.)
OAR141-090-0035 (16)(e)

A Local Wetland Inventory (LWI) does not exist for the City of Manzanita. The National Wetlands Inventory (NWI) mapped Palustrine Forested Seasonally Flooded Coniferous (PFOC) along the southern fringe of the study area, and Palustrine Emergent and Scrub Shrub Seasonally Flooded (PEM/SSC) wetlands in lot 100 west of Classic Street (Figure 4). The NWI maps are generated primarily on the basis of interpretation of color infrared photography (scale of 1:58,000) with limited ground-trothing or site-specific data.

This study found that the NWI overestimated forest, scrub-shrub and emergent wetlands within the study area boundary. The study area was walked extensively and soil pits dug to examine soils and hydrology. No jurisdictional wetlands or waterways were documented within the study area. Sample data points SP-1 and SP-6 document non-wetland areas mapped as wetland by the NWI.

7.0 Mapping Method (including mapping precision estimate) *OAR141-090-0035 (7)(f), (11), (12), (13), (18), & (22)*

Christine McDonald and Kurt Heckerth flagged sample points representing non-wetlands with blue pin flags and blue flagging. The study area boundary and non-wetland sample points were then professionally land surveyed by Onion Peak Design. The estimated accuracy is +/- 0.05 feet. A Topcon HIPER SR GPS RECEIVER WITH TOPCON TESLA DATA COLLECTOR was used for the survey.

8.0 Additional Information (i.e., if needed to establish state jurisdiction) *OAR141-085-0015 (1-7), OAR141-090-0030 (2), OAR141-090-0035 (6)(c), (16)(c), & (21)*

None

9.0 Results and Conclusions of the Investigation *OAR141-090-0035 (7)(j)*

Jurisdictional wetlands within the 71.60-acre study area (Figure 5) were not documented or found by Christine McDonald and Kurt Heckerth. Within the study area boundary, areas identified as non-wetlands have well to excessively-drained soils typical of the Waldport or Netarts soils. No evidence of hydric soils was found starting within 6 inches of the soil surface at the lowest elevation within the study area or within the Haceta map unit. The site was observed during the

growing season after prolonged periods of higher than average precipitation; however there was no evidence of an elevated water table or saturation starting within 12 inches of the soil surface.

Dominant species observed include Sitka Spruce, Western Hemlock, Douglas-fir, Shore Pine, Western Red Cedar, Salal, Bristly Manzanita, Himalayan Blackberry, California Wax Myrtle, Evergreen Huckleberry, Colonial Bentgrass, Annual Bluegrass, Common Sheep Sorrel, Velvet grass, and Hairy Cat's Ears.

10.0 Required Disclaimer OAR141-090-0035 (7)(k)

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

References

- Cowardin, L. M., V. Carter, P. C. Golet, and E. T. LaRoe, 1979. Classification of Wetlands and Deepwater Habitats of the United States. U.S. Department of the Interior, Fish and Wildlife Service, Washington, D.C. 147 p., plates.
- Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys and Coast Region (May 2010), U. S. Army Corps of Engineer Waterways Experiment Station, Vicksburg, MS.
- NRCS National Water and Climate Center WETS data available online at <http://www.wcc.nrcs.usda.gov/climate/wetlands.htm>
- Oregon Climate Data for the Tillamook Station available online at www.ocs.edu/oregon-climate-dataRAWS
- Natural Resource Conservation Service, National Cooperative Soil Survey, Web Soil Survey 1.1, available online at <http://websoilsurvey.nrcs.usda.gov>
- USDA, Natural Resources Conservation Service, Hydric Soil List available online at http://www.or.nrcs.gov/pnw_soil/ordata.html
- Munsell Color, 1990. Munsell Color Charts. Macbeth Division of Kollmorgen Corporation. Baltimore, MD
- Lichvar, R.W., D.L. Banks, W.N. Kirchner, and N.C. Melvin. 2016. *The National Wetland Plant List: 2016 wetland ratings*. Phytoneuron 2016-30: 1-17. Published 28 April 2016. ISSN 2153 733X

Figure 1. Encore Wetland Determination

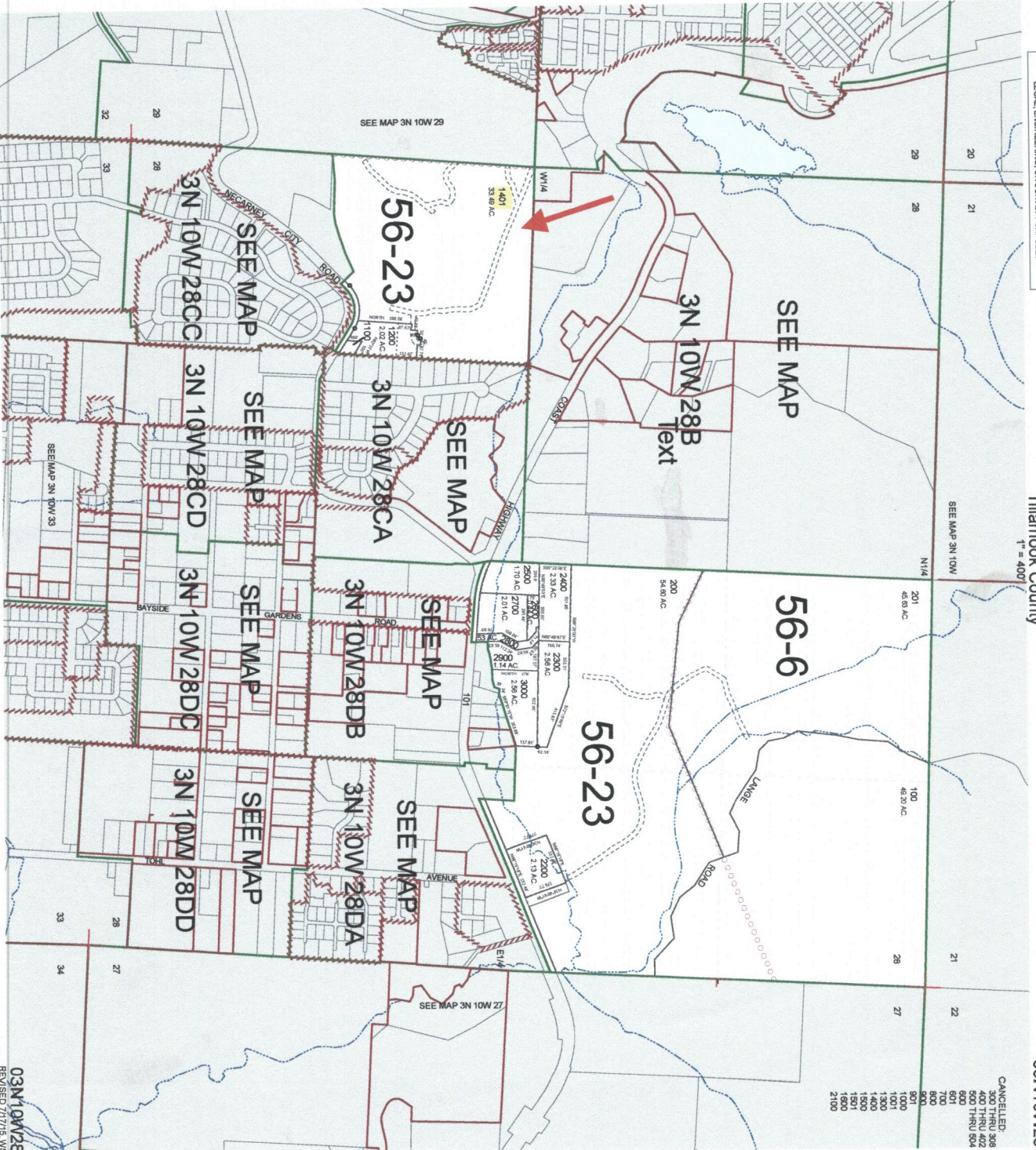


Figure 2a: Tax
Lot Map

FOR ASSESSMENT AND TAXATION ONLY, NOT SUITABLE FOR
LEGAL, ENGINEERING, OR SURVEY PURPOSES

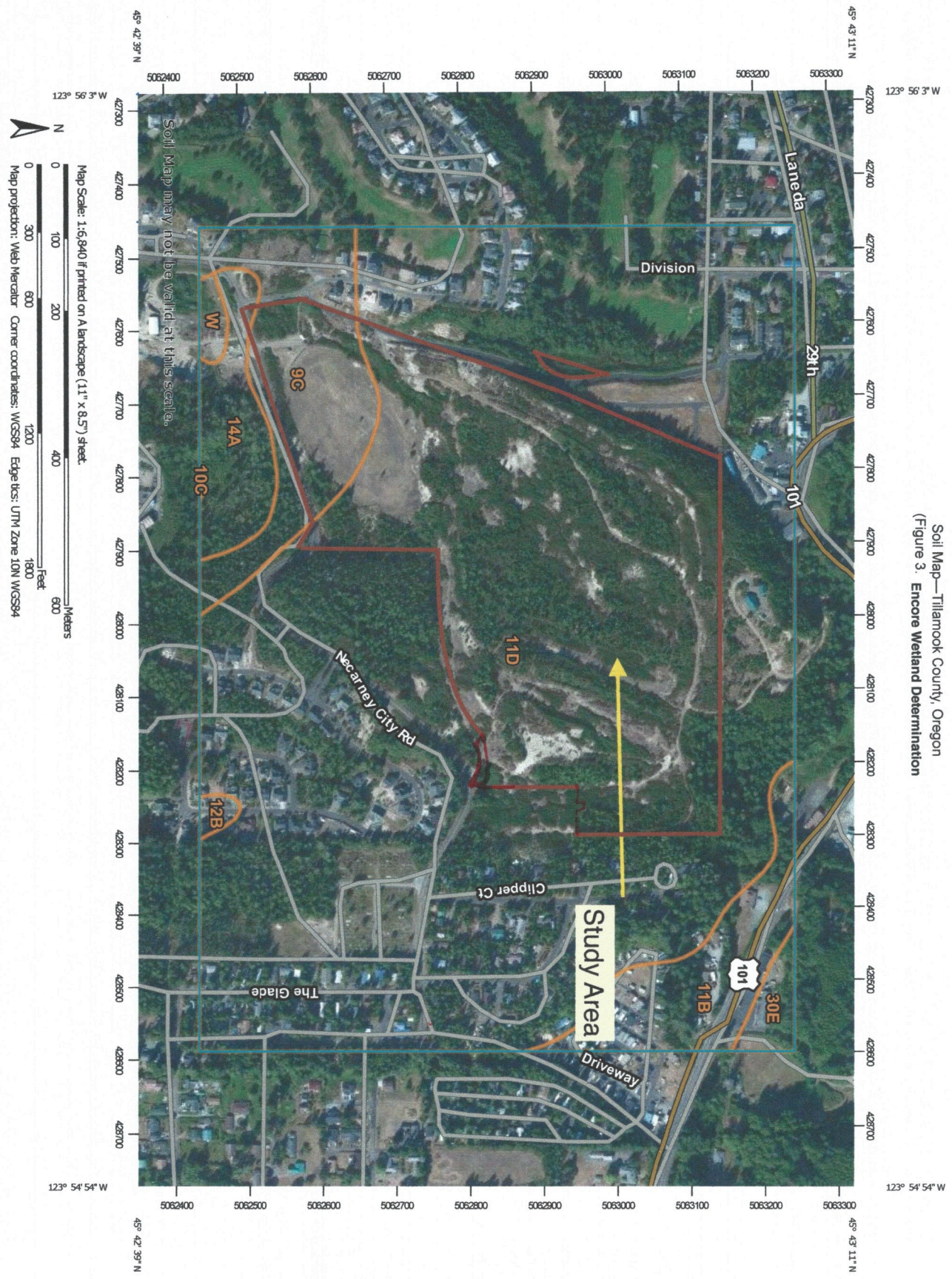
SECTION 28 T.3N. R.10W. W.M.
Tillamook County
1" = 400'

03N10W28



03N10W28
REVISED 7/17/15, WS

Soil Map—Tillamook County, Oregon
 (Figure 3. Encore Wetland Determination)



MAP LEGEND

	Area of Interest (AOI)		Spoil Area
	Area of Interest (AOI)		Stony Spot
	Soils		Very Stony Spot
	Soil Map Unit Polygons		Wet Spot
	Soil Map Unit Lines		Other
	Soil Map Unit Points		Special Line Features
	Special Point Features		Water Features
	Blowout		Streams and Canals
	Borrow Pit		Transportation
	Clay Spot		Rails
	Closed Depression		Interstate Highways
	Gravel Pit		US Routes
	Gravelly Spot		Major Roads
	Landfill		Local Roads
	Lava Flow		Background
	Marsh or swamp		Aerial Photography
	Mine or Quarry		
	Miscellaneous Water		
	Perennial Water		
	Rock Outcrop		
	Saline Spot		
	Sandy Spot		
	Severely Eroded Spot		
	Sinkhole		
	Slide or Slip		
	Sodic Spot		

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Tillamook County, Oregon
Survey Area Data: Version 8, Sep 16, 2016

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jul 9, 2011—Sep 4, 2011

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Tillamook County, Oregon (OR057)			
Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
9C	Waldport fine sand, 3 to 15 percent slopes	16.3	7.2%
10C	Waldport fine sand, thin surface, 3 to 12 percent slopes	0.0	0.0%
11B	Netarts fine sandy loam, 0 to 5 percent slopes	10.7	4.7%
11D	Netarts fine sandy loam, 5 to 30 percent slopes	189.1	83.5%
12B	Yaquina loamy fine sand, 0 to 5 percent slopes	0.6	0.3%
14A	Heceta fine sand, 0 to 3 percent slopes	7.0	3.1%
30E	Templeton-Ecola medial silt loams, 30 to 60 percent slopes	2.0	0.9%
W	Water	1.0	0.4%
Totals for Area of Interest		226.5	100.0%

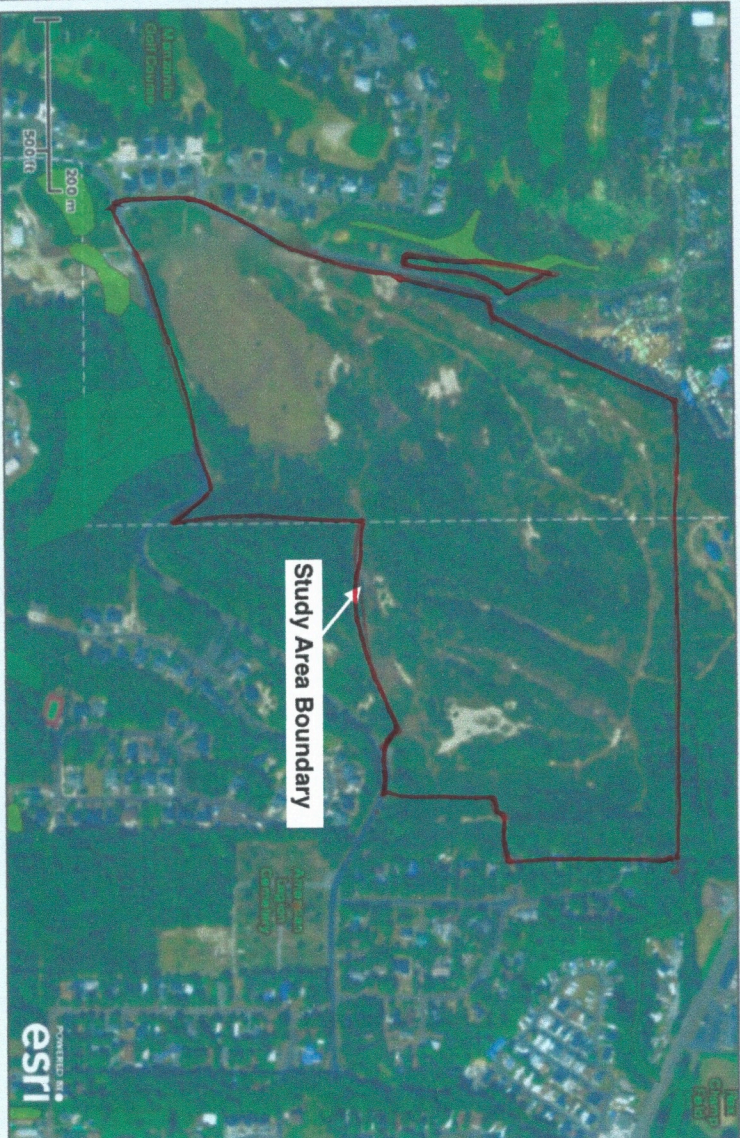


U.S. Fish and Wildlife Service

National Wetlands Inventory

Figure 4. NWI Map

Feb 24, 2017



Wetlands

- Freshwater Emergent
- Freshwater Forested/Shrub
- Estuarine and Marine Deepwater
- Estuarine and Marine
- Freshwater Pond
- Lake
- Riverine
- Other

Riparian

- Herbaceous
- Forested/Shrub

Riparian Status

- Digital Data

User Remarks:

Encore Investment LLC

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or completeness of the base data shown on this map. All wetlands-related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

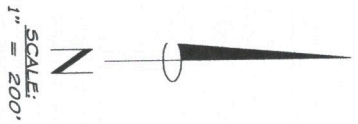
NOTES

THIS MAP DOES NOT CONSTITUTE A BOUNDARY SURVEY OF THE SUBJECT PROPERTIES. THE PURPOSE OF THIS MAP IS TO SHOW THE LOCATION OF THE SAMPLE POINTS AS PLACED ON THE PROPERTY. THE LOCATION OF THE SAMPLE POINTS IS BASED ON THE INFORMATION PROVIDED BY THE CLIENT. THE EXISTING BOUNDARIES SHOWN HEREON WERE Laid OUT AT RECORD VALUES FROM RECORDS HAD AND LOCAL OBSERVATIONS AND SHOULD NOT BE USED TO BE PERFORMED TO DETERMINE THE EXISTING BOUNDARIES. FIELD WORK WAS COMPLETED ON APRIL 11, 2017.

DATA WAS ACQUIRED USING A TOPCON HPP2 56 GPS RECEIVER WITH TOPCON TALKY DATA COLLECTOR WHILE CONNECTED TO THE OREGON DEPARTMENT OF TRANSPORTATION OREGON NETWORK. HORIZONTAL TOLERANCES WERE SET AT 0.05".

LEGEND

- SP# SAMPLE POINT
- STUDY AREA BOUNDARY (SAB)



REGISTERED PROFESSIONAL LAND SURVEYOR
Eric M. White
 OREGON
 APRIL 28, 2014
 ERICK M. WHITE
 789772
 BEGINNING 8/30/2018

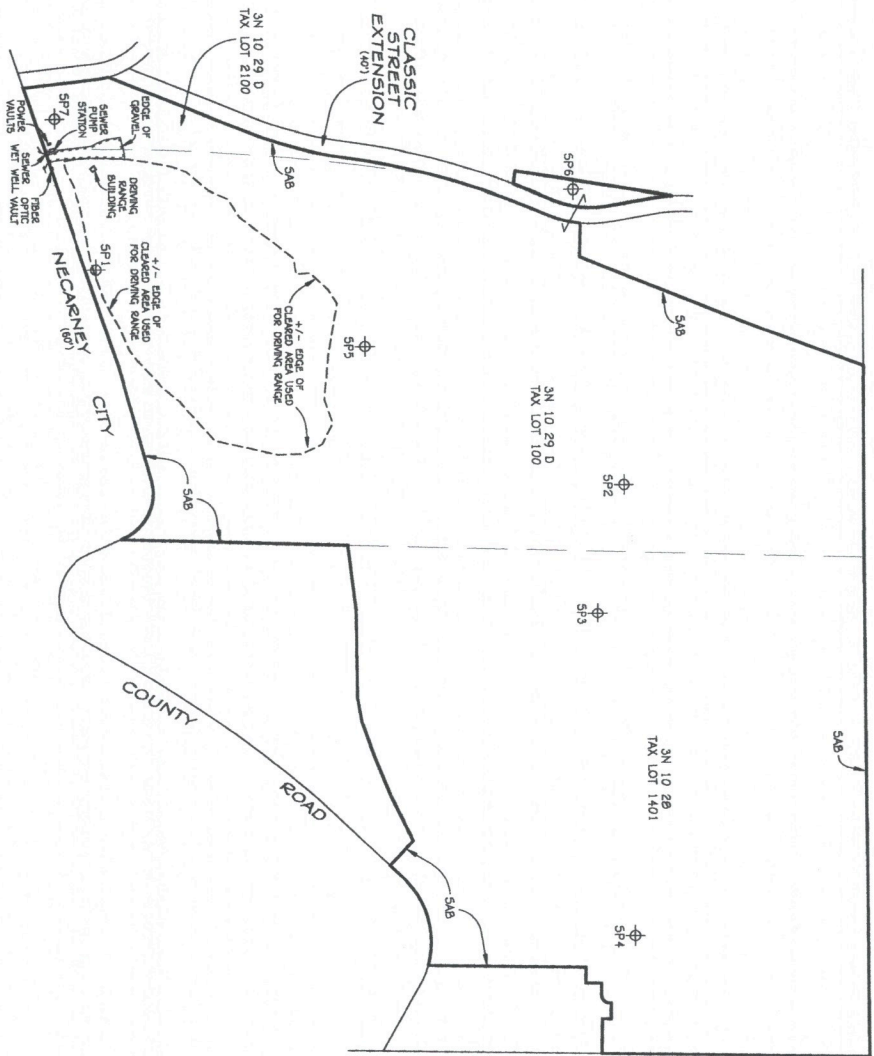


FIGURE 5 PROJECT MAP:

ENCORE INVESTMENTS, LLC

ONION PEAK DESIGN
 PO BOX 326
 NEHAULT, OR 97131
 (503) 366-5152
 FAX (503) 366-5152

DESIGNED BY
 ENCOURT-CLARK

SW 1/4 SECTION 28 & SE 1/4 SECTION 29, T3N, R10W, W1M.
 TILLAMOOK COUNTY
 APRIL 11, 2017

Appendix A

Wetland Determination Data Forms

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

Project/Site: Encore Wetland Determination City/County: Manzanita/Tillamook Sampling Date: February 25, 2017
 Applicant/Owner: Jim Pentz State: OR Sampling Point: SP-1
 Investigator(s): C. McDonald, K. Heckeroth Section, Township, Range: Section 32, T3N R10W 29D Lot 100
 Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): linear Slope (%): 2
 Subregion (LRR): A Lat: 45.71288 Long: 123.92903 Datum: NAD 83
 Soil Map Unit Name: 9C- Waldport fine sand, 3-15% slopes NWI classification: N/A
 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"/>	Is the Sampled Area within a Wetland?	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"/>			

Remarks: Sample plot is in lowest point of lot 100 nearest Necarney Boulevard. Sample point is on the south edge of the driving range. NFW mapped PFOC wetlands mostly n the south side of Necarney Rd. with a very small portion north of Necarney. We dug several soil pits in this area and did not find wetlands. Precipitation is near normal levels for this time of year, 5.38 inches of precipitation in the previous two weeks.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. <u><i>Pinus contorta</i></u>	10	D	FAC	Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u> (A) Total Number of Dominant Species Across All Strata: <u>5</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>80</u> (A/B)
2. _____				
3. _____				
4. _____				
<u>10</u> = Total Cover				Prevalence Index worksheet: Total % Cover of: Multiply by: OBL species x 1 = _____ FACW species x 2 = _____ FAC species x 3 = _____ FACU species x 4 = _____ UPL species x 5 = _____ Column Totals: (A) _____ Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: <u>20'</u>)				
1. <u><i>Cystis scoparius</i></u>	20	D	N/L	
2. <u><i>Rubus aremeniacus</i></u>	5	D	FAC	
3. _____				
4. _____				
5. _____				
<u>25</u> = Total Cover				
Herb Stratum (Plot size: <u>10'</u>)				
1. <u><i>Poa annua</i></u>	30	D	FAC	Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> 5 - Wetland Non-Vascular Plants ¹ <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. <u><i>Carex bolanderi</i></u>	1		FACU	
3. <u><i>Hypochaeris radicata</i></u>	T		FACU	
4. <u><i>Rumex acetosella</i></u>	10		FACU	
5. <u><i>Agrostis exarata</i></u>	15	D	FAC	
6. <u><i>Holcus lanatus</i></u>	2		FAC	
7. <u><i>Erigeron glaucus</i></u>	<1		FACU	
8. <u><i>Pteridium aquilinum</i></u>	T		FACU	
9. <u><i>Cardionema ramosissima</i></u>	1		N/L	
10. _____				
11. _____				
<u>58</u> = Total Cover				
Woody Vine Stratum (Plot size: <u>20'</u>)				
1. _____				
2. _____				
_____ = Total Cover				
% Bare Ground in Herb Stratum <u>10</u>				
Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>				

Remarks: *Carex obnupta* outside of plot near the road. Plot is on the driving range and mowed regularly.

**
50/20 rule used to determine dominance.

SOIL

Sampling Point: SP-1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-4	7.5YR 4/3	100					Loamy sand	
4-20+	10YR 5/3	100					sand	

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)	

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

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

Remarks: Soil is moist from recent rainfall. Good drainage typical of the Waldport.

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (2 or more required)
Primary Indicators (minimum of one required; check all that apply)		
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)	<input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)	<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Frost-Heave Hummocks (D7)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		

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

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

Remarks: Over 5 inches of rain in the last 2 weeks. Soil is well-drained and no sign of saturation or water table.

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

Project/Site: Encore Wetland Determination City/County: Manzanita/Tillamook Sampling Date: February 25, 2017
 Applicant/Owner: Jim Pentz State: OR Sampling Point: SP-2
 Investigator(s): C. McDonald, K. Heckeroth Section, Township, Range: Section 32, T3N R10W 29D Lot 100
 Landform (hillslope, terrace, etc.): Dune terrace Local relief (concave, convex, none): Linear/concave Slope (%): 3
 Subregion (LRR): A Lat: 45.71652 Long: 123.92684 Datum: NAD 83
 Soil Map Unit Name: 11D- Netarts fine sandy loam 5-30% slopes NWI classification: N/A
 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"/>	Is the Sampled Area within a Wetland?	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"/>			

Remarks: Sample plot is behind the gate east of Classic Street and about 60 feet south of a the dirt trail. Sunny to overcast today. Precipitation is near normal levels for this time of year, 5.86 inches of precipitation in the previous two weeks. Blue flagging and pin flag mark location.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u><i>Pinus contorta</i></u>	30	D	FAC	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u> (A) Total Number of Dominant Species Across All Strata: <u>5</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>80</u> (A/B)
2. _____				
3. _____				
4. _____				
10 = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: <u>20'</u>)				
1. <u><i>Cytisus scoparius</i></u>	20	D	UPL/NL	
2. <u><i>Rubus armeniacus</i></u>	1		FAC	
3. <u><i>Vaccinium ovatum</i></u>	15	D	FACU	
4. _____				
5. _____				
36 = Total Cover				
Herb Stratum (Plot size: <u>10'</u>)				
1. <u><i>Rumex acetosella</i></u>	25	D	FACU	Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> 5 - Wetland Non-Vascular Plants ¹ <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. <u><i>Holcus lanatus</i></u>	<1		FAC	
3. <u><i>Hypochaeris radicata</i></u>	40	D	FACU	
4. <u><i>Agrostis capillaris</i></u>	10		FAC	
5. <u><i>Leucanthemum vulgare</i></u>	1		FACU	
6. _____				
7. _____				
8. _____				
10. _____				
11. _____				
76 = Total Cover				
Woody Vine Stratum (Plot size: <u>20'</u>)				
1. _____				
2. _____				
= Total Cover				
% Bare Ground in Herb Stratum <u>10</u>				
= Total Cover				

Remarks: Photos north and south. More scotch broom to the south.

50/20 rule used to determine dominance.

SOIL

Sampling Point: SP-2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-4	7.5YR 2.5/2	100					Loamy sand	
4-20+	10YR 5/4	100					sand	

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)			Indicators for Problematic Hydric Soils³:		
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10)			
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)			
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)			
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Other (Explain in Remarks)			
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)				
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)				
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)				
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)				

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

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

Remarks: Soil is moist from recent rainfall. Good drainage typical of the Netarts.

HYDROLOGY

Wetland Hydrology Indicators:			Secondary Indicators (2 or more required)		
Primary Indicators (minimum of one required; check all that apply)					
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)	<input type="checkbox"/> Drainage Patterns (B10)			
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Dry-Season Water Table (C2)			
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)			
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Geomorphic Position (D2)			
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Shallow Aquitard (D3)			
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> FAC-Neutral Test (D5)			
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)			
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)	<input type="checkbox"/> Frost-Heave Hummocks (D7)			
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Other (Explain in Remarks)				
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)					
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)					

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

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

Remarks: Over 5 inches of rain in the last 2 weeks. Soil is well-drained and no sign of saturation or water table.

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

Project/Site: Encore Wetland Determination City/County: Manzanita/Tillamook Sampling Date: February 25, 2017
 Applicant/Owner: Jim Pentz State: OR Sampling Point: SP-3
 Investigator(s): C. McDonald, K. Heckeroth Section, Township, Range: Section 28, T3N R10W Lot 1401
 Landform (hillslope, terrace, etc.): Dune terrace slope Local relief (concave, convex, none): concave Slope (%): 7
 Subregion (LRR): A Lat: 45.71645 Long: 123.92551 Datum: NAD 83
 Soil Map Unit Name: 11D- Netarts fine sandy loam 5-30% slopes NWI classification: N/A
 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"/>	Is the Sampled Area within a Wetland? 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"/>	

Remarks: Sample plot is in the forest in a dune swale. Precipitation is near normal levels for this time of year, 5.86 inches of precipitation in the previous two weeks. Blue flagging and pin flag mark location.

VEGETATION – Use scientific names of plants.

Stratum	Absolute % Cover	Dominant Species?	Indicator Status	Worksheet
Tree Stratum (Plot size: <u>30'</u>)				Dominance Test worksheet: 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)
1. <u><i>Pinus contorta</i></u>	20	D	FAC	
2. <u><i>Pseudotsuga menziesii</i></u>	1		FACU	
3. <u><i>Tsuga heterophylla</i></u>	20	D	FACU	
4. _____				
<u>41</u> = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: <u>20'</u>)				
1. <u><i>Myrica californica</i></u>	1		UPL/NL	
2. <u><i>Vaccinium ovatum</i></u>	50	D	FACU	
3. <u><i>Gaultheria shallon</i></u>	20	D	FACU	
4. <u><i>Arctostaphylos columbiana</i></u>	2		UPL/NL	
5. _____				
<u>73</u> = Total Cover				
Herb Stratum (Plot size: <u>10'</u>)				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> 5 - Wetland Non-Vascular Plants ¹ <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. _____				
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
10. _____				
11. _____				
<u>0</u> = Total Cover				
Woody Vine Stratum (Plot size: <u>20'</u>)				
1. _____				
2. _____				
<u>0</u> = Total Cover				
% Bare Ground in Herb Stratum <u>30%litter</u>				
Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>				

Remarks: Photos north and south. A few snags in the plot.

50/20 rule used to determine dominance.

SOIL

Sampling Point: SP-3

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
5-0	Litter/organic							7.5YR 2.5/2
0-3	7.5YR 2.5/2	100					Loamy sand	
4-20+	7.5YR 5/3	10					sand	Weak albic
	7.5YR 6/4	90						

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

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

Indicators for Problematic Hydric Soils³:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Loamy Mucky Mineral (F1) (except MLRA 1)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

- 2 cm Muck (A10)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if present):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes No

Remarks: Soil is moist from recent rainfall. Good drainage typical of the Netarts.. Lots of roots.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Surface Soil Cracks (B6)
- Inundation Visible on Aerial Imagery (B7)
- Sparsely Vegetated Concave Surface (B8)
- Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)
- Salt Crust (B11)
- Aquatic Invertebrates (B13)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres along Living Roots (C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Tilled Soils (C6)
- Stunted or Stressed Plants (D1) (LRR A)
- Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Saturation Visible on Aerial Imagery (C9)
- Geomorphic Position (D2)
- Shallow Aquitard (D3)
- FAC-Neutral Test (D5)
- Raised Ant Mounds (D6) (LRR A)
- Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes No Depth (inches): _____
 Water Table Present? Yes No Depth (inches): _____
 Saturation Present? (includes capillary fringe) Yes No Depth (inches): _____

Wetland Hydrology Present? Yes No

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

Remarks: Over 5 inches of rain in the last 2 weeks. Soil is well-drained and no sign of saturation or water table.

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

Project/Site: Encore Wetland Determination City/County: Manzanita/Tillamook Sampling Date: February 25, 2017
 Applicant/Owner: Jim Pentz State: OR Sampling Point: SP-4
 Investigator(s): C. McDonald, K. Heckerorth Section, Township, Range: Section 32, T3N R10W 29D Lot 1401
 Landform (hillslope, terrace, etc.): Dune terrace Local relief (concave, convex, none): concave Slope (%): 3
 Subregion (LRR): A Lat: 45.71656 Long: 123.92226 Datum: NAD 83
 Soil Map Unit Name: 11D- Netarts fine sandy loam 5-30% slopes NWI classification: N/A
 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"/>	Is the Sampled Area within a Wetland?	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"/>			

Remarks: Sample plot is in the dune swale closest to the east lot line. Flatter area has been logged and Scotch broom has reestablished. Sloping due has native forest vegetation. Sunny to overcast today. Precipitation is near normal levels for this time of year, 5.86 inches of precipitation in the previous two weeks. Blue flagging and pin flag mark location.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. <u><i>Pinus contorta</i></u>	10	D	FAC	Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>7</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>43</u> (A/B)
2. <u><i>Pseudotsuga menziesii</i></u>	10	D	FACU	
3. <u><i>Thuja plicata</i></u>	10	D	FAC	
4. _____				
<u>30</u> = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: <u>20'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u><i>Arctostaphylos columbiana</i></u>	3		UPL/NL	
2. <u><i>Cytisus scoparius</i></u>	50	D	UPL/NL	
3. <u><i>Vaccinium ovatum</i></u>	5		FACU	
4. <u><i>Gaultheria shallon</i></u>	25	D	FACU	
5. _____				
<u>83</u> = Total Cover				
Herb Stratum (Plot size: <u>10'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u><i>Hypochaeris radicata</i></u>	1	D	FACU	
2. <u><i>Agrostis capillaris</i></u>	70		FaC	
3. <u><i>Pteridium aquilinum</i></u>	40	D	FACU	
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
11. _____				
<u>121</u> = Total Cover				
Woody Vine Stratum (Plot size: <u>20'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____				
2. _____				
_____ = Total Cover				
% Bare Ground in Herb Stratum <u>40% litter</u>				
Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> 5 - Wetland Non-Vascular Plants ¹ <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.				
Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>				

Remarks: Photos east and west. The PTAQ and Agrostis is mostly litter from last year.

50/20 rule used to determine dominance.

SOIL

Sampling Point: SP-4

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
1.5-0	Litter/organic							mosses
0-5	10YR 4/3	100					sand	Wavy boundary
5-21+	7.5YR 5/4	10					sand	

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)			Indicators for Problematic Hydric Soils ³ :		
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10)			
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)			
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)			
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Other (Explain in Remarks)			
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)				
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)				
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)				
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)				

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

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

Remarks: Soil is moist from recent rainfall. Soils indicate disturbance from previous land clearing. Good soil drainage typical of the Netarts.

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (2 or more required)	
Primary Indicators (minimum of one required; check all that apply)			
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)	<input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)	
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Drainage Patterns (B10)	
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Dry-Season Water Table (C2)	
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Geomorphic Position (D2)	
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Shallow Aquitard (D3)	
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> FAC-Neutral Test (D5)	
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)	
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> (LRR A)	<input type="checkbox"/> Frost-Heave Hummocks (D7)	
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)		
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)			

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

Remarks: Over 5 inches of rain in the last 2 weeks. Soil is well-drained and no indication of saturation or water table in soil profile

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

Project/Site: Encore Wetland Determination City/County: Manzanita/Tillamook Sampling Date: February 25, 2017
 Applicant/Owner: Jim Pentz State: OR Sampling Point: SP-5
 Investigator(s): C. McDonald, K. Heckeroth Section, Township, Range: Section 32, T3N R10W 29D Lot 1401
 Landform (hillslope, terrace, etc.): Dune terrace Local relief (concave, convex, none): concave Slope (%): 2
 Subregion (LRR): A Lat: 45.71481 Long: 123.92810 Datum: NAD 83
 Soil Map Unit Name: 11D- Netarts fine sandy loam 5-30% slopes NWI classification: N/A
 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"/>	Is the Sampled Area within a Wetland? 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"/>	

Remarks: Sample plot is in closed depression above the driving range. Looks like an excavated area to create a berm for driving range. Scotch broom has reestablished as dominate species in disturbed areas. Site disturbance is older than 5 years and normal circumstances are present. Sunny to overcast today. Precipitation is near normal levels for this time of year, 5.86 inches of precipitation in the previous two weeks. Blue flagging

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. <u>Pinus contorta</u>	5	D	FAC	Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>5</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>40</u> (A/B)
2. _____				
3. _____				
4. _____				
<u>5</u> = Total Cover				Prevalence Index worksheet: Total % Cover of: Multiply by: OBL species x 1 = _____ FACW species x 2 = _____ FAC species x 3 = _____ FACU species x 4 = _____ UPL species x 5 = _____ Column Totals: (A) _____ Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: <u>20'</u>)				
1. <u>Arctostaphylos columbiana</u>	15	D	UPL/NL	
2. <u>Cytisus scoparius</u>	45	D	UPL/NL	
3. _____				
4. _____				
5. _____				
<u>60</u> = Total Cover				
Herb Stratum (Plot size: <u>10'</u>)				
1. <u>Agrostis capillaris</u>	50	D	FAC	
2. <u>Holcus lanatus</u>	5		FAC	
3. <u>Dryopteris espansa.</u>	1		FACW	
4. <u>Hypochaeris radicata</u>	1		FACU	
5. <u>Moneywort spp.</u>	2		N/L	
6. <u>Rumex acetosella</u>	1		FACU	
7. _____				
8. _____				
10. _____				
11. _____				
<u>60</u> = Total Cover				
Woody Vine Stratum (Plot size: <u>20'</u>)				
1. <u>Rubus ursinus</u>	20	D	FACU	
2. _____				
<u>20</u> = Total Cover				
% Bare Ground in Herb Stratum <u>40% litter</u>				
Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> 5 - Wetland Non-Vascular Plants ¹ <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)				
¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.				
Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>				

Remarks: Photos east and west.

50/20 rule used to determine dominance.

SOIL

Sampling Point: SP-5

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-2	7.5YR 5/2	100					sand	Some organics 10%
2-21+	7.5YR 5/4	100					sand	

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

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

Indicators for Problematic Hydric Soils³:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Loamy Mucky Mineral (F1) (except MLRA 1)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

- 2 cm Muck (A10)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if present):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes No

Remarks: Soil is moist from recent rainfall. Soils indicate disturbance from recreation development.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Surface Soil Cracks (B6)
- Inundation Visible on Aerial Imagery (B7)
- Sparsely Vegetated Concave Surface (B8)

- Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)
- Salt Crust (B11)
- Aquatic Invertebrates (B13)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres along Living Roots (C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Tilled Soils (C6)
- Stunted or Stressed Plants (D1)
- (LRR A)
- Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Saturation Visible on Aerial Imagery (C9)
- Geomorphic Position (D2)
- Shallow Aquitard (D3)
- FAC-Neutral Test (D5)
- Raised Ant Mounds (D6) (LRR A)
- Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes No Depth (inches): _____
 Water Table Present? Yes No Depth (inches): _____
 Saturation Present? (includes capillary fringe) Yes No Depth (inches): _____

Wetland Hydrology Present? Yes No

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

Remarks: Over 5 inches of rain in the last 2 weeks. Soil is well-drained and no sign of saturation or water table.

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

Project/Site: Encore Wetland Determination City/County: Manzanita/Tillamook Sampling Date: March 6, 2017
 Applicant/Owner: Jim Pentz State: OR Sampling Point: SP-6
 Investigator(s): C. McDonald, K. Heckerth Section, Township, Range: Section 32, T3N R10W 29D Lot 100
 Landform (hillslope, terrace, etc.): Base of dune slope Local relief (concave, convex, none): linear Slope (%): 3
 Subregion (LRR): A Lat: 45.71618 Long: 123.92970 Datum: NAD 83
 Soil Map Unit Name: 11D- Netarts fine sandy loam 5-30% slopes NWI classification: N/A
 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"/>	Is the Sampled Area within a Wetland?	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"/>			

Remarks: Sample plot is located west of Classic Street. NWI mapped PEM wetlands in this area. We did not document wetlands within the study area boundary. Erick White marked the southwest corner and where the lot line intersects Classic Street to the north. A long steep dune slope east of Classic Street has some erosion at the base of the slope. Historic vegetation has been cleared and reestablished as a mix of native and non-native shrubs and herbs. Site disturbance is older than 5 years and normal circumstances are present. Overcast with light covering of snow/hail on the ground. Precipitation is near normal levels for this time of year, 5.28 inches of precipitation in the previous two weeks. Blue flagging.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. _____				Number of Dominant Species That Are OBL, FACW, or FAC:	<u>2</u> (A)
2. _____				Total Number of Dominant Species Across All Strata:	<u>4</u> (B)
3. _____				Percent of Dominant Species That Are OBL, FACW, or FAC:	<u>50</u> (A/B)
4. _____					
	<u>0</u>	= Total Cover			
Sapling/Shrub Stratum (Plot size: <u>20'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Prevalence Index worksheet:	
1. <u>Sambucus racemosa</u>	<u>5</u>		UPL	Total % Cover of:	Multiply by:
2. <u>Cytisus scoparius</u>	<u>30</u>	D	UPL/NL	OBL species <u>0</u> x 1 = <u>0</u>	
3. <u>Gaultheria shallon</u>	<u>1</u>		FACU	FACW species <u>2</u> x 2 = <u>4</u>	
4. <u>Rubus armenicus</u>	<u>30</u>	D	FAC	FAC species <u>70</u> x 3 = <u>210</u>	
5. <u>Rhamnus pershiana</u>	<u>5</u>		FACU	FACU species <u>52</u> x 4 = <u>228</u>	
	<u>71</u>	= Total Cover		UPL species <u>35</u> x 5 = <u>175</u>	
				Column Totals: <u>164</u> (A)	<u>617</u>
				Prevalence Index = B/A =	<u>3.76</u>
Herb Stratum (Plot size: <u>10'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Indicators:	
1. <u>Agrostis capillaris</u>	<u>40</u>	D	FAC	<input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation	
2. <u>Juncus effusus</u>	<u>1</u>		FACW	<input type="checkbox"/> 2 - Dominance Test is >50%	
3. <u>Polystichum munitum</u>	<u>1</u>		FACU	<input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹	
4. <u>Epilobium angustifolium</u>	<u>1</u>		FACW	<input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)	
5. _____				<input type="checkbox"/> 5 - Wetland Non-Vascular Plants ¹	
6. _____				<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)	
7. _____					
8. _____					
9. _____					
10. _____					
11. _____					
	<u>53</u>	= Total Cover		¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
Woody Vine Stratum (Plot size: <u>20'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Present?	
1. <u>Rubus ursinus</u>	<u>50</u>	D	FACU	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
2. _____					
	<u>50</u>	= Total Cover			
% Bare Ground in Herb Stratum <u>20% litter</u>					

Remarks: Photos north to Classic Street and south to lot corner with pink flagging.

50/20 rule used to determine dominance.

SOIL

Sampling Point: SP-6

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-5	7.5YR 2.5/1	100					LS	
5-9	7.5YR 4/3	70					sand	
	7.5YE 3/2	30						
9-20	7.5YR 4/4	100					sand	

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

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

Indicators for Problematic Hydric Soils³:

- | | | |
|--|---|---|
| <input type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Sandy Redox (S5) | <input type="checkbox"/> 2 cm Muck (A10) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Stripped Matrix (S6) | <input type="checkbox"/> Red Parent Material (TF2) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1) | <input type="checkbox"/> Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) | <input type="checkbox"/> Other (Explain in Remarks) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Depleted Matrix (F3) | |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Redox Dark Surface (F6) | |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input type="checkbox"/> Depleted Dark Surface (F7) | |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4) | <input type="checkbox"/> Redox Depressions (F8) | |

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if present):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes No

Remarks: Soil is moist from recent rainfall. Soil has been disturbed. Found charcoal from historic clearing and burning. I looked for splotching in the second horizon but did not find them. Water table is well below 6-12" even during high precipitation periods.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- | | |
|--|---|
| <input type="checkbox"/> Surface Water (A1) | <input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) |
| <input type="checkbox"/> High Water Table (A2) | <input type="checkbox"/> Salt Crust (B11) |
| <input type="checkbox"/> Saturation (A3) | <input type="checkbox"/> Aquatic Invertebrates (B13) |
| <input type="checkbox"/> Water Marks (B1) | <input type="checkbox"/> Hydrogen Sulfide Odor (C1) |
| <input type="checkbox"/> Sediment Deposits (B2) | <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) |
| <input type="checkbox"/> Drift Deposits (B3) | <input type="checkbox"/> Presence of Reduced Iron (C4) |
| <input type="checkbox"/> Algal Mat or Crust (B4) | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) |
| <input type="checkbox"/> Iron Deposits (B5) | <input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A) |
| <input type="checkbox"/> Surface Soil Cracks (B6) | <input type="checkbox"/> Other (Explain in Remarks) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) | |

Secondary Indicators (2 or more required)

- | |
|--|
| <input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) |
| <input type="checkbox"/> Drainage Patterns (B10) |
| <input type="checkbox"/> Dry-Season Water Table (C2) |
| <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Geomorphic Position (D2) |
| <input type="checkbox"/> Shallow Aquitard (D3) |
| <input type="checkbox"/> FAC-Neutral Test (D5) |
| <input type="checkbox"/> Raised Ant Mounds (D6) (LRR A) |
| <input type="checkbox"/> Frost-Heave Hummocks (D7) |

Field Observations:

Surface Water Present? Yes No Depth (inches): _____
 Water Table Present? Yes No Depth (inches): _____
 Saturation Present? (includes capillary fringe) Yes No Depth (inches): _____

Wetland Hydrology Present? Yes No

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

Remarks: Over 5 inches of rain in the last 2 weeks. Soil is well-drained and no sign of saturation or water table with 24 inches of surface.

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

Project/Site: Encore Wetland Determination City/County: Manzanita/Tillamook Sampling Date: April 11, 2017
 Applicant/Owner: Jim Pentz State: OR Sampling Point: SP-7
 Investigator(s): C. McDonald Section, Township, Range: Section 32, T3N R10W 29D Lot 2100
 Landform (hillslope, terrace, etc.): Sloping dunes Local relief (concave, convex, none): linear Slope (%): 3-5
 Subregion (LRR): A Lat: 45.71264 Long: 123.93040 Datum: NAD 83
 Soil Map Unit Name: 14A- Haceta fine sand 0-5% slopes NWI classification: N/A
 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"/>	Is the Sampled Area within a Wetland?	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"/>				

Remarks: Sample plot is located west of Classic Street in tax lot 2100. NRCS mapped the Haceta in this area, which is a hydric soil. Soils are well-drained and no evidence of ponding, saturation or high water table was observed even though precipitation was above average for this time of year. Site disturbance from land clearing and road construction is older than 5 years and normal circumstances are present. Precipitation above average levels for February and March. 3.46 inches of precipitation in the previous two weeks. Hydrologic conditions are considered non-typical. Blue flagging.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. <u><i>Thuja plicata</i></u>	<u>5</u>	<u>D</u>	<u>FAC</u>	Number of Dominant Species That Are OBL, FACW, or FAC:	<u>4</u> (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata:	<u>6</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC:	<u>67</u> (A/B)
4. _____	_____	_____	_____		
<u>5</u> = Total Cover					
Sapling/Shrub Stratum (Plot size: <u>20'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Prevalence Index worksheet:	
1. <u><i>Vaccinium ovatum</i></u>	<u>5</u>	_____	<u>FACU</u>	Total % Cover of:	Multiply by:
2. <u><i>Cytisus scoparius</i></u>	<u>7</u>	<u>D</u>	<u>UPL/NL</u>	OBL species _____	x 1 = _____
3. <u><i>Gaultheria shallon</i></u>	<u>5</u>	_____	<u>FACU</u>	FACW species _____	x 2 = _____
4. <u><i>Rubus armenicus</i></u>	<u>10</u>	<u>D</u>	<u>FAC</u>	FAC species _____	x 3 = _____
5. _____	_____	_____	_____	FACU species _____	x 4 = _____
<u>27</u> = Total Cover				UPL species _____	x 5 = _____
Herb Stratum (Plot size: <u>10'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Column Totals: _____	(A)
1. <u><i>Agrostis capillaris</i></u>	<u>25</u>	<u>D</u>	<u>FAC</u>	Prevalence Index = B/A = _____	
2. <u><i>Carex obnupta</i></u>	<u>15</u>	_____	<u>OBL</u>		
3. <u><i>Hypochaeris radicata</i></u>	<u>10</u>	_____	<u>FACU</u>		
4. <u><i>Anthoxanthum odoratum</i></u>	<u>25</u>	<u>D</u>	<u>FAC</u>		
5. <u><i>Holcus lanatus</i></u>	<u>8</u>	_____	<u>FAC</u>		
6. _____	_____	_____	_____		
7. _____	_____	_____	_____		
8. _____	_____	_____	_____		
10. _____	_____	_____	_____		
11. _____	_____	_____	_____		
<u>83</u> = Total Cover					
Woody Vine Stratum (Plot size: <u>20'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> 5 - Wetland Non-Vascular Plants ¹ <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
1. <u><i>Rubus ursinus</i></u>	<u>10</u>	<u>D</u>	<u>FACU</u>		
2. _____	_____	_____	_____		
<u>10</u> = Total Cover					
% Bare Ground in Herb Stratum <u>10</u>				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	

Remarks: Photos south to Necarney City Road and north towards Classic Street
 Changes in vegetation from sloping dune to interdune. Sample plot location chosen because of the soils mapped in the area and the dominance of hydrophytic vegetation. 10% litter.

SOIL

Sampling Point: SP-7

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-3	7.5YR 3/2	100					LS	
3-11	7.5YR 5/4	100					sand	
11-17	7.5YR 4/4	100					sand	

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)		
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)		

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

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

Remarks: Soil is moist from recent rainfall and well drained.

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (2 or more required)
Primary Indicators (minimum of one required; check all that apply)		
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)	<input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)	<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Frost-Heave Hummocks (D7)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		

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

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

Remarks: 2.81 inches of rain in the last 2 weeks. Soil is well-drained and no sign of saturation or water table with 18 inches of surface.

Appendix B. Encore Wetland Determination Photographs



B

Figure 1. Landscape view of the northeast from SP-1 at the driving range in lot 100 (P-1)



Figure 2. SP-2 looking northwest from edge of plot (P-2).

Appendix B. Encore Wetland Determination Photographs



Figure 3. View of forest north from SP-3. (P-3).



Figure 4. SP-5 looking west to the berm behind the driving range (P-4).

Appendix B. Encore Wetland Determination Photographs



Figure 5. Landscape view from lot 1401 ridge looking north (P-5)



Figure 6. Lot 100 west of Classic Street. At SP-6 looking south (P-6).

Appendix B. Encore Wetland Determination Photographs



Figure 7. View of tax lot 2100 from edge of Necarney City Road looking north with SP-7 flag in the mid ground (P-7).

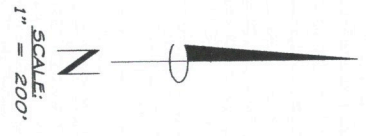
NOTES

THIS SURVEY DOES NOT CONSTITUTE A BOUNDARY SURVEY OF THE SUBJECT PROPERTY. PHOTO POINTS ARE PLACED AT THE CORNERS OF THE SUBJECT PROPERTY AND AT OTHER POINTS AS PLACED CHAINING WOULD AS WELL AS THE EXISTING IMPROVEMENTS ON THE SUBJECT PROPERTY. THESE PHOTO POINTS ARE PLACED AT THE CORNERS OF THE SUBJECT PROPERTY AND AT OTHER POINTS AS PLACED CHAINING WOULD AS WELL AS THE EXISTING IMPROVEMENTS ON THE SUBJECT PROPERTY. THESE PHOTO POINTS ARE PLACED AT THE CORNERS OF THE SUBJECT PROPERTY AND AT OTHER POINTS AS PLACED CHAINING WOULD AS WELL AS THE EXISTING IMPROVEMENTS ON THE SUBJECT PROPERTY. THESE PHOTO POINTS ARE PLACED AT THE CORNERS OF THE SUBJECT PROPERTY AND AT OTHER POINTS AS PLACED CHAINING WOULD AS WELL AS THE EXISTING IMPROVEMENTS ON THE SUBJECT PROPERTY.

LEGEND

SP# SAMPLE POINT

SAB STUDY AREA BOUNDARY (SAB)



REGISTERED PROFESSIONAL LAND SURVEYOR

Eric M. White

OREGON APRIL 28, 2014 ERICK M. WHITE 789772

RENEWALS 8/30/2018

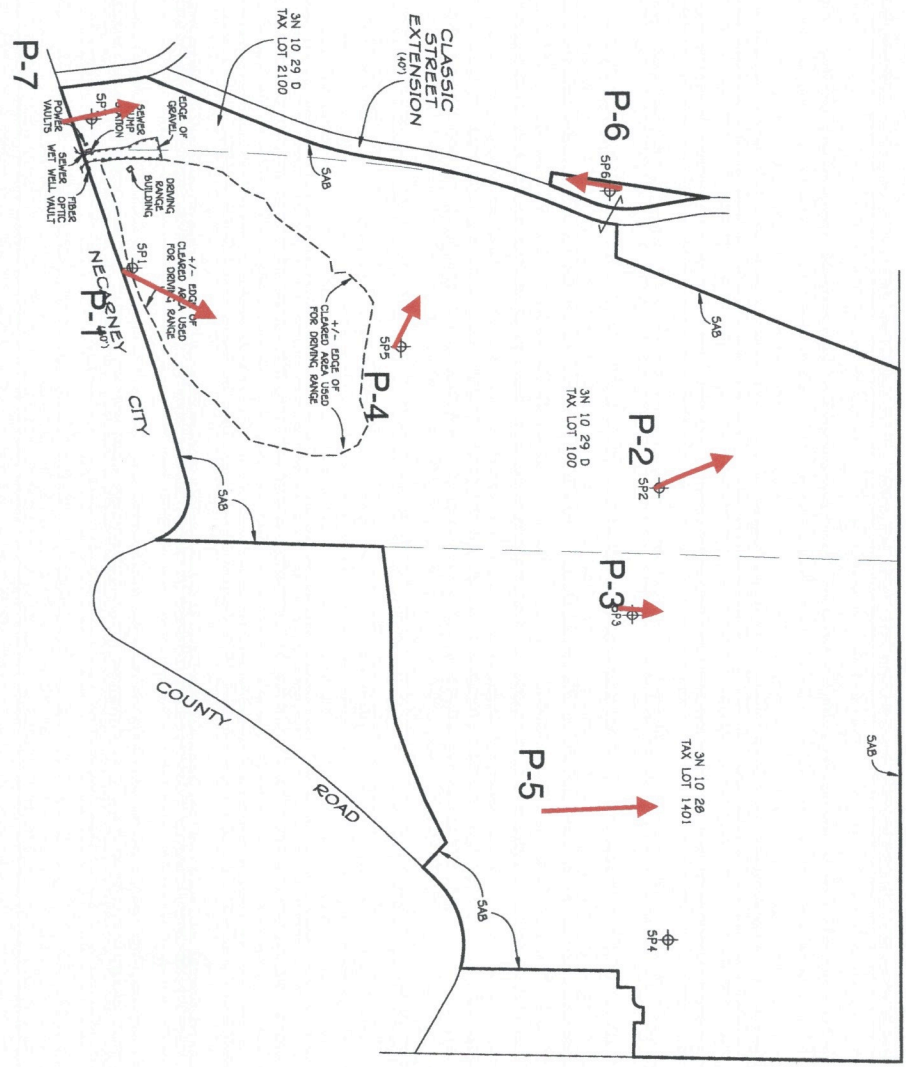


Figure 6. Photo Point Location & Direction

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ORANGE #42017
ENCORE1704-S.DWG

3N 10 29D TAX LOT 100,
3N 10 28 TAX LOT 1401 &
SW 1/4 SECTION 20 & SE 1/4 SECTION 29, T3N, R10W, W1M,
TILLAMOOK COUNTY
APRIL 11, 2017