

September 21, 2021

**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

**State Land Board** 

NEXT Renewable Fuels Oregon, LLC Attn: Chris Efird 11767 Katy Freeway, Suite 705 Houston, TX 77079

Kate Brown Governor

Shemia Fagan Secretary of State

Re: WD # 2020-0663 Approved

Wetland Delineation Report for NEXT Renewable Fuels Oregon Columbia County; T8N R4W S15, S16, S21, S22, and S23; Multiple Tax Maps and Tax Lots, See Attached Table A-1; APP # 63077

Tobias Read State Treasurer

#### Dear Chris Efird:

The Department of State Lands has reviewed the wetland delineation report prepared by Anderson Perry & Associates, Inc. for the site referenced above. Please note that the 2 study areas include only a portion of the tax lots described above (see the attached table and maps). Based upon the information presented in the report, and additional information submitted upon request, we concur with the wetland and waterway boundaries as mapped in Figure 6, 6A through 6W of the report. Please replace all copies of the preliminary wetland maps with these final Department-approved maps.

Within the 2 study areas, 6 wetlands (Wetland 1 through 6, totaling approximately 141.04 acres) and 2 waterways (McLean Slough and Ditch 1 Network) were identified. They are subject to the permit requirements of the state Removal-Fill Law. Under current regulations, a state permit is required for cumulative fill or annual excavation of 50 cubic yards or more in wetlands or below the ordinary high-water line (OHWL) of the waterway (or the 2-year recurrence interval flood elevation if OHWL cannot be determined).

This concurrence is for purposes of the state Removal-Fill Law only. Federal or local permit requirements may apply as well. The U.S. Army Corps of Engineers will determine jurisdiction under the Clean Water Act, which may require submittal of a complete Wetland Delineation Report.

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

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

Thank you for having the site evaluated. If you have any questions, please contact the Jurisdiction Coordinator for Columbia County, Daniel Evans, PWS, at (503) 986-5271.

Sincerely,

Peter Ryan, SPWS

Et Ryan

Aquatic Resource Specialist

**Enclosures** 

ec: Sue Brady, Anderson Perry & Associates

Columbia County Planning Department

Caila Heintz, Corps of Engineers

Dan Cary, SPWS, DSL

Melanie Olson, Business Oregon

#### WETLAND DELINEATION / DETERMINATION REPORT COVER FORM

Fully completed and signed report cover forms and applicable fees are required before report review timelines are initiated by the Department of State Lands. Make checks payable to the Oregon Department of State Lands. To pay fees by credit card, go online at: https://apps.oregon.gov/DSL/EPS/program?key=4.

Attach this completed and signed form to the front of an unbound report or include a hard copy with a digital version (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 of the completed cover from and report may be e-mailed to: Wetland\_Delineation@dsl.state.or.us. For submittal of PDF files larger than 10 MB, e-mail DSL instructions on how to access the file from your ftp or other file sharing website.

Contact and Authorization Information					
	Business phone # (503) 867-8100				
NEXT Renewable Fuels Oregon, LLC	Mobile phone # (optional) (281) 541-7311				
11767 Katy Freeway, Suite 705 Houston, TX 77079	E-mail: chris@nextrenewables.com				
Authorized Legal Agent, Name and Address (if different	Business phone #  Mobile phone # (optional)  E-mail:  RECEIVED \$  DEPARTMENT OF STATE LANDS				
I either own the property described below or I have legal authorit property for the purpose of confirming the information in the report Typed/Printed Name: Christopher Efird	y to allow access to the property. I authorize the Department to access the ort, after prior notification, to the primary contact.  Signature:				
Date: 11/16/2020 Special instructions regarding					
Project and Site Information					
Project Name: NEXT Renewable Fuels Oregon	Latitude: 46.165670 Longitude: -123.161744 decimal degree - centroid of site or start & end points of linear project				
Proposed Use:	Tax Map #				
Construct a renewable diesel facility at Port Westward	Tax Lot(s) See attached.				
	Tax Map#				
Project Street Address (or other descriptive location):	Tax Lot(s)				
English and the Control of the Contr	Township Range Section QQ				
	Use separate sheet for additional tax and location information				
City: Clatskanie County: Columbia	Waterway: Unnamed ditches River Mile: N/A				
Wetland Delineation Information					
Wetland Consultant Name, Firm and Address:	Phone # (541) 963-8309				
Sue Brady, Biologist Anderson Perry & Associates, Inc. 1901 N. Fir Street La Grande, Oregon 97850	Mobile phone # (if applicable) E-mail: sbrady@andersonperry.com				
The information and conclusions on this form and in the attached Consultant Signature:	d report are true and correct to the best of my knowledge.    Date: 1//16/20				
Primary Contact for report review and site access is	Consultant				
Wetland/Waters Present? ☐ Yes ☐ No Study A	rea size: 186.54 Total Wetland Acreage 141.04				
Check Applicable Boxes Below					
R-F permit application submitted					
☐ Mitigation bank site	Resubmittal of rejected report (\$100)				
☐ EFSC/ODOE Proj. Mgr:	Request for Reissuance. See eligibility criteria. (no fee)				
Wetland restoration/enhancement project (not mitigation)	DSL# Expiration date				
Previous delineation/application on parcel If known, previous DSL #	∠ LWI shows wetlands or waters on parcel     Wetland ID code PEM, PSS, PFO				
For C	Office Use Only				
DSL Reviewer: _DE Fee Paid Date: _					
Date Delineation Received: 11/30/20 Scann	ned: □ Electronic: □ DSL App.#				



Wetland Delineation Report

## NEXT Renewable Fuels Oregon, LLC

# NEXT RENEWABLE FUELS OREGON

2020 Revised July 2021



LA GRANDE, OR. WALLA WALLA, WA. REDMOND, OR. HERMISTON, OR.

1901 N. Fir Street (P.O. Box 1107) · La Grande, Oregon 97850 (541) 963-8309 www.andersonperry.com

# WETLAND DELINEATION REPORT FOR

**NEXT RENEWABLE FUELS OREGON** 

**NEXT RENEWABLE FUELS OREGON, LLC** 

NOVEMBER 2020 REVISED JULY 2021

By Sue Brady, Biologist

ANDERSON PERRY & ASSOCIATES, INC.

La Grande, Redmond, and Hermiston, Oregon Walla Walla, Washington

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#### A. Site Description, Landscape Setting

NEXT Renewable Fuels Oregon, LLC, proposes to construct a renewable diesel facility at Port Westward, near Clatskanie, Columbia County, Oregon. This facility will produce diesel fuel by recycling various cooking oils and greases and other animal and vegetable fats. The facility will include storage facilities for the raw oil feedstocks and renewable diesel fuel, processing facilities, waste handling facilities, administrative buildings, and other structures required for facility operation. In addition, an access road will be constructed to the west to connect with Hermo Road, the existing gravel access road to the north will be improved, an electrical connection will be constructed to tie into the existing power lines to the north, a pipeline will be constructed to transport raw materials and renewable diesel to and from the existing terminalling provider, and a rail connector will be constructed to the east to tie into the existing rail line near Kallunki Road. Improvements to Kallunki Road will also be required to allow transport of equipment and materials from the small barge docks on the Columbia River to the facility site.

This Wetland Delineation Report was prepared to aid in the design process of the new renewable diesel facility, associated fuel pipelines, electrical transmission lines, rail line, and access roads. Two study areas are included in this study. Study Area A (163.01 acres) covers the proposed facility site and associated supporting infrastructure, while Study Area B (23.53 acres) consists of the proposed Kallunki Road improvements and large laydown areas.

The study areas are located in the Lower Beaver Creek-Frontal Columbia River subwatershed (HUC-170800030207) in the Coastal Ranges ecoregion. This region is characterized by a modified marine climate with cool, rainy winters and mild summers. The topography in the study area is flat floodplain with an elevation of approximately 3 to 15 feet above sea level.

The legal description is Township 8 North, Range 4 West, Sections 16, 21, 22, and 23, Willamette Meridian. The study areas include portions of the tax lots identified on Table A-1.

TABLE A-1
TAX LOTS WITHIN THE STUDY AREAS

Township	Range	Section	Tax Map	Tax Lot
		15	08041500	100*, 300*, 400*
		16	08041600	200*, 300*
8 North 4 \	4 West	21	08042100	600*, 700*, ROAD (Hermo Road)*
8 INOI LII	4 West	22	08042200	100*, 200, 300, 400*, 500*, 600*, 1100*
		23	080423BO	700*, 800*, RAILROAD*
		23	08042300	800*

<sup>\*</sup>Indicates the study areas only includes a portion of the tax lot.

Appendix A contains Figures 1 through 6W that provide the Location and Vicinity Maps, a Tax Lot Map, a National Wetlands Inventory (NWI) Map, a Soils Map, an Aerial Photograph, and Wetland Delineation Maps to aid in review of the proposed project.

The features discussed in this Report consist of 141.04 acres of wetlands and numerous ditches within the two study areas. This investigation was conducted by Sue Brady, Anderson Perry & Associates, Inc. (AP) biologist, on October 22 and 23, 2018; November 27, 28, and 29, 2018; April 12, 2019;

November 14, 2019; September 30, 2020; April 8, 2021; May 11, 2021; and July 7, 2021. Wetland determination data forms from the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0)* (U.S. Army Corps of Engineers [USACE], 2010) were used to record information gathered from the sample plots and are included in Appendix B. Site photographs are included in Appendix C. Precipitation data and historic aerial photographs are included in Appendix D.

#### B. Site Alterations, Current and Past Land Use

The land within and adjoining Study Area A is agricultural land, predominantly pasture, mint fields, and hybrid poplar plantations. Portland General Electric's (PGE) Beaver Power Plant and Global Partners' storage and export facility are located north of Study Area A. Kallunki Road and a rail line are located to the east, Hermo Road is located to the west, and the Columbia River/Bradbury Slough is located to the north. The City of Clatskanie is approximately 4.5 miles southwest.

Study Area B is north of Study Area A, and consists of Kallunki Road, access roads, rail lines, and open vegetated/unvegetated areas in the Port Westward industrial area.

#### **B.1 Soils**

Soils within and adjacent to the study areas have been historically influenced by the Columbia River, although the dikes that have been constructed in the area have cut off these areas from direct river impact. The study areas have been impacted by agriculture/grazing, construction and maintenance of roads, the railroad, and the construction and maintenance of the energy infrastructure at Port Westward.

#### **B.2 Hydrology**

The land in the study areas is flat and in the Columbia River floodplain, although dikes have been constructed that currently prevent the river from directly influencing surface hydrology in the study areas. The study areas receive water from precipitation and groundwater. Surface and subsurface hydrology in the study areas have been altered by agricultural practices, including ditching, as well as the construction of roads, railroads, and industrial facilities.

#### **B.3 Vegetation**

Most of Study Area A is covered by herbaceous vegetation, including mint fields and grasses/sedges associated with agricultural pastureland. There are some extensive areas of Himalayan blackberry thickets, as well as patches of hybrid poplar. A small area of riparian forest is located adjacent to the Columbia River. Disturbance within Study Area A is a result of past and current agricultural use on the property and construction and maintenance of roads.

The portions of Study Area B that are not road, railroad, or open parking areas are mainly vegetated with weedy herbaceous vegetation, with a few scattered trees and shrubs. Disturbance in Study Area B is a result of past and current industrial use of the property and construction and maintenance of the roads and railroad.

Lands outside the study areas have been altered by past and current activities associated with agriculture, industrial development, and the construction and maintenance of roads and the railroad.

#### C. Precipitation Data and Analysis

#### **C.1 Climate and Growing Season**

The following information for the climate in the study areas is summarized from the Soil Survey of Columbia County Area, Oregon (Natural Resources Conservation Service [NRCS], 1986) and available climate data. The NRCS National Water and Climate Center WETS table for the Clatskanie weather station, approximately 4.5 miles southwest of the study area, was used (NRCS, 2021a).

The climate in the region is moderate, with mild summers and cool, rainy winters. Temperatures and precipitation are dependent on elevation. The average daily high temperature ranges from approximately 72° Fahrenheit (F) in the summer to approximately 48°F in the winter, with an average annual precipitation of 55.62 inches.

The growing season (28°F day, 70 percent interval) for this area is February 20 through November 30. Of the total annual precipitation, 12.63 inches or approximately 23 percent, usually falls from April through September, which includes the growing season for most crops.

#### C.2 Precipitation and Natural Resources Conservation Service WETS Table Summary

Monthly precipitation data for the Clatskanie weather station during the three months preceding each field investigation are presented on Tables C-1A through C-1H (NRCS, 2021a). Precipitation data for July 2021 were not available. Refer to Appendix D for current and historic precipitation data.

TABLE C-1A
SUMMARY OF MONTHLY NORMAL AND RECORDED PRECIPITATION
BETWEEN JULY 1, 2018, AND OCTOBER 23, 2018

					Total Water
	July	August	September	October	Year*
Recorded Precipitation (inches)	0.01	0.45	2.52	0.88 (to date)	55.13 (to date)
Precipitation Average (inches)	0.84	0.96	2.22	4.08 (month)	59.70
Percent of Average	1	47	114	22	92
Monthly Normal (inches)					
30 Percent Chance Less Than	0.40	0.40	0.72	2.17	38.13
30 Percent Chance More Than	1.01	1.17	2.65	4.98	71.49

<sup>\*</sup>Includes water year October 2017 through September 2018 plus October 2018.

TABLE C-1B
SUMMARY OF MONTHLY NORMAL AND RECORDED PRECIPITATION
BETWEEN AUGUST 1, 2018, AND NOVEMBER 29, 2018

	August	September	October	November	Total Water Year*
Recorded Precipitation (inches)	0.45	2.52	4.41	5.03 (to date)	63.69 (to date)
Precipitation Average (inches)	0.96	2.22	4.08	8.84 (month)	68.54
Percent of Average	47	114	108	57	93
Monthly Normal (inches)					
30 Percent Chance Less Than	0.40	0.72	2.17	5.92	44.05
30 Percent Chance More Than	1.17	2.65	4.98	10.59	82.08

<sup>\*</sup>Includes water year October 2017 through September 2018 plus October 2018 through November 2018.

TABLE C-1C SUMMARY OF MONTHLY NORMAL AND RECORDED PRECIPITATION BETWEEN JANUARY 1, 2019, AND APRIL 12, 2019

	January	February	March	April	Total Water Year*
Recorded Precipitation (inches)	4.70	5.62	1.40	3.57 (to date)	33.30 (to date)
Precipitation Average (inches)	8.82	6.74	5.94	4.08 (month)	47.08
Percent of Average	53	83	23	87	71
Monthly Normal (inches)					
30 Percent Chance Less Than	5.13	4.56	4.36	2.85	31.34
30 Percent Chance More Than	10.00	8.06	6.98	4.85	56.29

<sup>\*</sup>Includes water year October 2018 through April 2019.

TABLE C-1D SUMMARY OF MONTHLY NORMAL AND RECORDED PRECIPITATION BETWEEN AUGUST 1, 2019, AND NOVEMBER 14, 2019

	August	September	October	November	Total Water Year*
Recorded Precipitation (inches)	0.40	3.22	3.57	0.32 (to date)	45.71 (to date)
Precipitation Average (inches)	0.96	2.22	4.08	8.84 (month)	68.54
Percent of Average	42	145	87	4	67
Monthly Normal (inches)					
30 Percent Chance Less Than	0.40	0.72	2.17	5.92	44.05
30 Percent Chance More Than	1.17	2.65	4.98	10.59	82.08

<sup>\*</sup>Includes water year October 2018 through September 2019 plus October 2019 through November 2019.

TABLE C-1E
SUMMARY OF MONTHLY NORMAL AND RECORDED PRECIPITATION
BETWEEN JULY 1, 2020, AND SEPTEMBER 30, 2020

	July	August	September	Total Water Year*
Recorded Precipitation (inches)	0.58	0.29	4.75	55.81
Precipitation Average (inches)	0.84	0.96	2.22	55.62
Percent of Average	68	30	214	100
Monthly Normal (inches)				
30 Percent Chance Less Than	0.40	0.40	0.72	35.96
30 Percent Chance More Than	1.01	1.17	2.65	66.51

<sup>\*</sup>Includes water year October 2019 through September 2020.

TABLE C-1F SUMMARY OF MONTHLY NORMAL AND RECORDED PRECIPITATION BETWEEN JANUARY 1, 2021, AND APRIL 8, 2021

	January	February	March	April	Total Water Year*
Recorded Precipitation (inches)	10.60	Missing	3.22	0.18 (to date)	36.03 (to date)
Precipitation Average (inches)	8.28	6.74	5.94	4.08 (month)	47.08
Percent of Average	128	N/A	54	5	77
Monthly Normal (inches)					
30 Percent Chance Less Than	5.13	4.56	4.36	2.85	31.34
30 Percent Chance More Than	10.00	8.06	6.98	4.85	56.29

<sup>\*</sup>Includes water year October 2020 through April 2021.

TABLE C-1G SUMMARY OF MONTHLY NORMAL AND RECORDED PRECIPITATION BETWEEN FEBRUARY 1, 2021, AND MAY 11, 2021

	February	March	April	May	Total Water Year*
Recorded Precipitation (inches)	Missing	3.22	1.72	0.66 (to date)	36.69 (to date)
Precipitation Average (inches)	6.74	5.94	4.08	2.70 (month)	49.78
Percent of Average	N/A	54	5	24	74
Monthly Normal (inches)					
30 Percent Chance Less Than	4.56	4.36	2.85	1.82	33.16
30 Percent Chance More Than	8.06	6.98	4.85	3.22	59.51

<sup>\*</sup>Includes water year October 2020 through May 2021.

TABLE C-1H
SUMMARY OF MONTHLY NORMAL AND RECORDED PRECIPITATION
BETWEEN APRIL 1, 2021, AND JUNE 30, 2021

	April	May	June	Total Water Year*
Recorded Precipitation (inches)	1.18	1.72	2.78	41.53
Precipitation Average (inches)	4.08	2.70	1.83	46.24
Percent of Average	29	80	139	90
Monthly Normal (inches)				
30 Percent Chance Less Than	2.85	1.82	1.28	34.44
30 Percent Chance More Than	4.85	3.22	2.17	61.68

<sup>\*</sup>Includes water year October 2020 through June 2021; precipitation data for July 2021 not available.

The water year is defined as October 1 through September 30 of the following year; however, when the field investigations occurred in October or November, the data from the previous water year plus the beginning of the current water year were used to provide a meaningful assessment of precipitation conditions. At the time of each field investigation except the one conducted in September 2020, this station reported precipitation for the water year to date below the average amount but within the normal range. In September 2020, the precipitation was slightly above the average for the water year to date, but within the normal range.

Daily precipitation data for the Clatskanie weather station for the two weeks immediately preceding each field investigation are presented on Tables C-2A through C-2H (NRCS, 2021a). Precipitation data for July 2021 were not available. Refer to Appendix D for daily precipitation data. The shaded dates represent the days the field investigations were performed.

TABLE C-2A
SUMMARY OF DAILY NORMAL AND RECORDED PRECIPITATION BETWEEN
OCTOBER 10, 2018, AND OCTOBER 23, 2018

							Octobe	r 2018							
Date	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Total
Actual Precipitation (inches)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Precipitation (inches)	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	1.82
Daily Normal (in	ches)														
30 Percent Chance Less Than	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.98
30 Percent Chance More Than	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	2.24

Summary: The total precipitation during this period was below both the average and normal amounts.

TABLE C-2B
SUMMARY OF DAILY NORMAL AND RECORDED PRECIPITATION BETWEEN
NOVEMBER 16, 2018, AND NOVEMBER 29, 2018

							Novemb	er 2018							
Date	16	17	18	19	20	21	22	23	24	25	26	27	28	29	Total
Actual Precipitation (inches)	0.02	0.02	0.01	0.00	0.00	0.02	0.29	0.93	0.29	0.02	0.08	1.05	0.55	0.05	3.33
Average Precipitation (inches)	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	4.06
Daily Normal (in	ches)														
30 Percent Chance Less Than	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	2.80
30 Percent Chance More Than	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35	4.90

Summary: The total precipitation during this period was below the average amount but within the normal range.

TABLE C-2C SUMMARY OF DAILY NORMAL AND RECORDED PRECIPITATION BETWEEN MARCH 30, 2019, AND APRIL 12, 2019

	March	2019						April	2019						Total
Date	30	31	1	2	3	4	5	6	7	8	9	10	11	12	
Actual Precipitation (inches)	0.00	0.00	0.00	0.05	0.51	0.03	0.19	0.42	0.70	0.02	0.43	0.08	0.79	0.35	3.57
Average Precipitation (inches)	0.19	0.19	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	2.06
Daily Normal (in	ches)														
30 Percent Chance Less Than	0.14	0.14	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	1.36
30 Percent Chance More Than	0.23	0.23	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	2.38

Summary: The total precipitation during this period was above both the average and normal amounts.

TABLE C-2D
SUMMARY OF DAILY NORMAL AND RECORDED PRECIPITATION BETWEEN
NOVEMBER 1, 2019, AND NOVEMBER 14, 2019

							Novemb	er 2019							
Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	Total
Actual Precipitation (inches)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.09	0.00	0.10	0.07	0.00	0.32
Average Precipitation (inches)	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	4.06
Daily Normal (in	ches)														
30 Percent Chance Less Than	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	2.80
30 Percent Chance More Than	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35	4.90

Summary: The total precipitation during this period was below both the average and normal amounts.

TABLE C-2E
SUMMARY OF DAILY NORMAL AND RECORDED PRECIPITATION BETWEEN
SEPTEMBER 17, 2020, AND SEPTEMBER 30, 2020

							Septemb	er 2020							
Date	17	18	19	20	21	22	23	24	25	26	27	28	29	30	Total
Actual Precipitation (inches)	0.00	0.55	1.30	0.22	0.00	0.00	0.16	1.60	0.32	0.09	0.19	0.11	0.04	0.06	4.64
Average Precipitation (inches)	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.98
Daily Normal (in	ches)														
30 Percent Chance Less Than	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.28
30 Percent Chance More Than	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	1.26

Summary: The total precipitation during this period was above both the average and normal amounts.

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TABLE C-2F SUMMARY OF DAILY NORMAL AND RECORDED PRECIPITATION BETWEEN MARCH 26, 2021, AND APRIL 8, 2021

			March	2021						April 2	2021				
Date	26	27	28	29	30	31	1	2	3	4	5	6	7	8	Total
Actual Precipitation (inches)	0.00	0.00	0.00	0.56	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.18	0.76
Average Precipitation (inches)	0.19	0.19	0.19	0.19	0.19	0.19	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	2.26
Daily Normal (in	ches)														
30 Percent Chance Less Than	0.14	0.14	0.14	0.14	0.14	0.14	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	1.56
30 Percent Chance More Than	0.23	0.23	0.23	0.23	0.23	0.23	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	2.66

Summary: The total precipitation during this period was below the average amount but within the normal range.

TABLE C-2G SUMMARY OF DAILY NORMAL AND RECORDED PRECIPITATION BETWEEN APRIL 28, 2021, AND MAY 11, 2021

	A	April 2021	L					ı	May 2021						
Date	28	29	30	1	2	3	4	5	6	7	8	9	10	11	Total
Actual Precipitation (inches)	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.37	0.23	0.06	0.00	0.00	0.67
Average Precipitation (inches)	0.14	0.14	0.14	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	1.41
Daily Normal (in	ches)														
30 Percent Chance Less Than	0.09	0.09	0.09	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.93
30 Percent Chance More Than	0.16	0.16	0.16	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	1.58

Summary: The total precipitation during this period was below both the average and normal amounts.

## TABLE C-2H SUMMARY OF DAILY NORMAL AND RECORDED PRECIPITATION BETWEEN JUNE 17, 2021, AND JUNE 30, 2021\*

							June 2	2021							
Date	17	18	19	20	21	22	23	24	25	26	27	28	29	30	Total
Actual Precipitation (inches)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Precipitation (inches)	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.84
Daily Normal (in	ches)														
30 Percent Chance Less Than	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.56
30 Percent Chance More Than	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.98

Summary: The total precipitation during this period was below both the average and normal amounts.

#### D. Investigation Methods

Two methods of investigation were used to analyze the wetlands within the study areas: a pre-field review of existing information and an on-site wetland investigation.

#### **D.1** Pre-Field Review

A review of existing literature, maps, and other materials was conducted to identify wetlands or site characteristics indicative of wetlands within the study areas. Known wetland and waterway locations were identified from the U.S. Fish and Wildlife Service (USFWS) NWI Map (USFWS, 2021) (see Figure 3 in Appendix A). These sources can only indicate the likelihood of the presence of wetlands. Actual wetland determinations must be based on data obtained from the field investigation. Soil descriptions were taken from the NRCS website (NRCS, 2021b).

#### D.1.1 Soils

Six soils are mapped within the study areas, as described on Table D-1 and as shown on Figure 4 in Appendix A.

<sup>\*</sup>Precipitation data not available for July 2021.

TABLE D-1
SOILS FOUND WITHIN THE STUDY AREAS

Мар		Hydric	Drainage		
Unit	Soil Name	Rating	Class	Parent Material	Location
15	Crims silt loam, protected	99	Very poorly drained	Partially decomposed herbaceous plant material over silty alluvium	Floodplains
29	Locoda silt loam, protected	97	Very poorly drained	Silty alluvium derived from mixed sources	Floodplains
60	Udipsamments, nearly level	100	Well drained	Sandy dredge spoils	Floodplains
61	Udipsamments, nearly level, protected	97	Well drained	Sandy dredge spoils	Floodplains
66	Wauna silt loam, protected	98	poorly drained	Silty alluvium derived from mixed sources	Floodplains
68	Wauna-Locoda silt loams, protected	94	Poorly drained	Silty alluvium derived from mixed sources	Floodplains

#### D.1.2 Hydrology

The NWI Map identifies extensive wetlands within Study Area A; smaller palustrine emergent (PEM) wetlands in the main part and eastern end, a large PEM wetland covering the majority of the western access road and pipeline routes, and a patch of PEM/Palustrine Forested (PFO) wetland adjacent to the Columbia River. One PEM wetland is identified in Study Area B (see Figure 3 in Appendix A).

#### **D.1.3 Vegetation**

The study areas are within the Coastal Ranges ecoregion, specifically the regional vegetation zone of western hemlock forest (*Tsuga heterophylla*). Native vegetation of this zone typically consists of conifers (*Pseudotsuga menziesii, Tsuga heterophylla, Thuja plicata*) with an understory of various shrubs and forbs. Hardwood species are less common, but riparian sites are more likely to support stands of hardwoods (e.g., *Acer macrophyllum, Populus trichocarpa, Fraxinus latifolia, Alnus rubra*) (Franklin and Dyrness, 1988).

#### D.2 On-Site Wetland Investigation

On-site wetland investigations were conducted by Sue Brady, AP biologist on October 22 and 23, 2018; November 27, 28, and 29, 2018; April 12, 2019; November 14, 2019; September 30, 2020; April 8, 2021; May 11, 2021; and July 7, 2021. Procedures outlined in the USACE Wetlands Delineation Manual (Environmental Laboratory, 1987) and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0) (USACE, 2010) were used to determine the presence and extent of wetlands within the study area. The methodology outlined in the manuals is based on three essential characteristics of wetlands: (1) hydrophytic vegetation, (2) hydric soils, and (3) wetland hydrology. Generally, field indicators of all three characteristics must be present to make a positive wetland determination, except in specific situations as outlined in Chapter 5: Difficult Situations in the Regional Supplement.

A total of 83 paired (upland/wetland) and unpaired sample plots were established to determine plant species composition, analyze soil pits, and evaluate hydrology in areas that appeared to be wetlands or were shown as wetlands on the NWI Map. Sample plot locations were chosen based on NWI mapping, aerial photography, a visual survey of the study area, and local variations in topography and vegetation along the apparent wetland boundaries.

Wetland determination data forms from the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0)* were used to record information gathered from the sample plots and are included in Appendix B. Site photographs are included in Appendix C.

#### D.2.1 Soils

To determine the presence or absence of hydric soils, soil samples were collected at each representative sample plot. Soils were inspected to a minimum depth of 24 inches, or the depth needed to confirm the presence of hydric soil and hydrology indicators. Soils were analyzed for soil matrix color, soil texture, redoximorphic features, and the presence of mottles or gleying. Soil hue value and chroma were determined using the Munsell Soil Color Charts (Munsell Color, 2009). Observations about hydric soil indicators from the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0) were noted for each sample plot. The indicators found at the sample plots were Depleted Matrix and Redox Dark Surface. No problematic soils were encountered at the sample plots.

#### D.2.2 Hydrology

Observations of wetland hydrology indicators from the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0)* were noted for each sample plot. The primary indicators found at the sample plots were Surface Water, High Water Table, Saturation, Hydrogen Sulfide Odor, and Oxidized Rhizospheres along Living Roots. No secondary indicators were necessary for any of the sample plots, and no difficult hydrologic situations were encountered.

#### D.2.3 Vegetation

Dominant plant species at each sample plot were identified, when possible, and percent cover was visually estimated. Sample plots had an approximately 4-square meter area for the herb and vine strata and an approximately 25-square meter area for the sapling/shrub and tree strata. If a plant was not immediately identifiable in the field, a representative sample was collected and identified in the lab using a dissecting microscope, when necessary. Plants were keyed to species using Hitchcock and Cronquist (1973), Barkworth et al. (2007), and Wilson et al. (2014). Scientific and common names used in this Report are from the U.S. Department of Agriculture (USDA) The PLANTS Database (USDA, 2021). Wetland plant indicator status was taken from the USACE National Wetland Plant List, (USACE, 2018). The hydrophytic vegetation indicator used at the sample plots was the Dominance Test. No problematic situations that precluded evaluating the area were encountered regarding hydrophytic vegetation.

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

Six wetland areas, totaling approximately 141.04 acres within the study areas, McLean Slough, totaling 760 feet within Study Area A, and numerous interconnected ditches totaling 9,335 linear feet within Study Area A, were identified based on field observations (see Figures 6A through 6W in Appendix A).

#### E.1 Wetlands

The identified wetland areas appear to have formed naturally and are supported by precipitation, surface runoff, and groundwater. The wetlands have been modified by human activities since they occur in areas that have been subjected to disturbance from agricultural activities (including ditching), livestock grazing, and industrial development.

The delineated wetlands are summarized on Table E-1, including the Hydrogeomorphic (HGM) and Cowardin classifications, the USACE jurisdictional category, sample plots associated with each wetland, and acreage within the study areas. Descriptions of the vegetation, soils, and hydrology for each wetland are presented below. The wetlands documented by this Report are graphically depicted on the wetland delineation maps, as shown on Figures 6A through 6W in Appendix A. Wetland determination data forms documenting the delineation are included in Appendix B, while representative photographs documenting site conditions at the time of the investigation are presented in Appendix C.

TABLE E-1
WETLANDS DELINEATED WITHIN THE STUDY AREAS

Study Area	Wetland	HGM Class <sup>1</sup>	Cowardin Class <sup>2</sup>	USACE Category and Basis	Sample Plot No.	Acres in Study Area
А	1	Flats	PEM/PSS	Cat. 7 - Adjacent to Columbia River	1 through 22 <sup>3</sup> , 24, 28 through 39, 43, 44, 48 through 54	136.78
	2	Flats	PEM	Cat. 7 - Adjacent to Columbia River	40, 45	1.02
	3	Flats	PEM	Cat. 7 - Adjacent to Columbia River	25, 26, 41, 42	1.98
	4	Flats	PEM/PFO	Cat. 7 - Adjacent to Columbia River	27	0.31
В	5	Flats	PEM	Cat. 7 - Adjacent to Columbia River	46	0.07
В	6	Flats	PEM	Cat. 7 - Adjacent to Columbia River	47	0.88
		•			Total	141.04

<sup>&</sup>lt;sup>1</sup>Adamus, 2001

#### E.1.1 Wetland 1

Wetland 1 is the most extensive wetland in Study Area A, covering the eastern and southern parts of the study area. It primarily consists of pasture and mint fields, with two areas of hybrid poplar plantation along the southern edge. Three areas of upland are present within the pasture that forms the main part of the study area and Wetland 1, which appear to be fill material. These areas are slightly raised above the elevation of the surrounding wetland, with flat surfaces, and may possibly

<sup>&</sup>lt;sup>2</sup>Cowardin et al., 1979: PSS = Palustrine scrub-shrub

<sup>&</sup>lt;sup>3</sup>Sample Plot 23 was removed from Study Area A

have been used as storage platforms for hay or other materials. This wetland appears to be supported by precipitation, irrigation water, surface runoff, and groundwater. The wetland delineated in the field is more extensive than shown on the NWI map. Based on site observations, this wetland is classified as PEM and PSS. The wetland is not entirely contained within the study area, as it extends out of the study area to the north, south, east, and west.

#### **Hydric Soil**

The hydric soil indicators recorded across most of Wetland 1 were Depleted Matrix (F3) and Redox Dark Surface (F6). Two sample plots (Plots 21 and 29) did not fully meet hydric soil indicators. Following the guidelines set forth in Chapter 5 of the Arid West Regional Supplement, the following steps were used to classify the soil at these locations as hydric:

- 1. Verify that at least one or more indicators of hydrophytic vegetation are present. Hydrophytic vegetation, classified as such using the Dominance Test, was observed at Plots 21 and 29.
- 2. Verify that at least one primary or two secondary indicators of wetland hydrology are present. Primary indicator C3 (Oxidized Rhizospheres along Living Roots) was present at Plot 21 and A3 (Saturation) was present at Plot 29.
- 3. Verify that the area is in a landscape setting that is likely to collect or concentrate water. The sample plots were located at the toe of the fill slope of an access road (Plot 21) and in a level field (Plot 29).
- 4.b. Determine whether a problematic soil situation is present. If present, consider the soil to be hydric. Option 6: Seasonally Ponded Soil. Based on observations of the topography, soil characteristics, and vegetation of the areas around the test plots, as well as observations of the study area over several years, it seems likely that the soils are ponded and/or saturated to near the surface during the wet season and early part of the growing season. Therefore, in the presence of hydrophytic vegetation and wetland hydrology indicators, the soils at Plots 21 and 29 were considered to be hydric.

#### Hydrology

The primary hydrology indicators recorded in this wetland were Surface Water (A1), High Water Table (A2), Saturation (A3), and Oxidized Rhizospheres along Living Roots (C3). No problematic hydrologic situations were encountered, and no secondary hydrology indicators were required.

#### Hydrophytic Vegetation

Vegetation observed in this wetland included sedges, rushes, various native and introduced grasses, and smaller amounts of forbs. There are extensive Himalayan blackberry thickets in some areas, and a stand of poplar saplings in the northwest corner of the main part of the study area. Most of the southern edge of the wetland consists of hybrid poplar plantations. The hydrophytic vegetation indicator used was the Dominance Test. No problematic hydrophytic vegetation situations were encountered.

The wetland boundary was determined using local topographical features and vegetation patterns, coupled with observations of hydric soils and hydrology from the sample soil pits.

#### E.1.2 Wetland 2

Wetland 2 is located in Study Area A, in the central portion of the new pipeline corridor, north of Hermo Road. It appears to be supported by precipitation, irrigation water, surface runoff, and groundwater. This area is depicted as wetland on the NWI map. Based on site observations, this wetland is classified as PEM. The wetland is not entirely contained within the study area, as it extends to the west.

#### **Hydric Soil**

The hydric soil indicators recorded were Hydrogen Sulfide (A4) and Redox Dark Surface (F6). No problematic soils were observed.

#### Hydrology

The primary hydrology indicators recorded in this wetland were High-Water Table (A2), Saturation (A3), and Hydrogen Sulfide Odor (C1). No problematic hydrologic situations were encountered, and no secondary hydrology indicators were required.

#### **Hydrophytic Vegetation**

Vegetation observed in this wetland included reed canarygrass, Himalayan blackberry, and smaller amounts of grasses and forbs. The hydrophytic vegetation indicator used was the Dominance Test. No problematic hydrophytic vegetation situations were encountered.

The wetland boundary was determined using local topographical features and vegetation patterns, coupled with observations of hydric soils and hydrology from the sample soil pits.

#### E.1.3 Wetland 3

Wetland 3 is also located along the pipeline corridor in Study Area A, in a depression between the access road and the PGE facility. The wetland appears to be supported by precipitation, irrigation water, surface runoff, and groundwater. This area is not depicted as wetlands on the NWI Map. Based on site observations, this wetland is classified as PEM. The wetland is not entirely contained within the study area, as it extends to the east.

#### Hydric Soil

The hydric soil indicators recorded were Depleted Matrix (F3) and Redox Dark Surface (F6). No problematic soils were observed.

#### Hydrology

The primary hydrology indicators recorded in this wetland were High Water Table (A2) and Saturation (A3). Surface water was also observed in the wetland, although not at any of the sample

plots. One sample plot (Plot 42) did not fully meet hydric soil indicators. Following the guidelines set forth in Chapter 5 of the Arid West Regional Supplement, the following steps were used to classify the soil at this location as hydric:

- 1. Verify that at least one or more indicators of hydrophytic vegetation are present. Hydrophytic vegetation, classified as such using the Dominance Test, was observed at Plot 42.
- 2. Verify that at least one primary or two secondary indicators of wetland hydrology are present. Primary indicator A3 (Saturation) was present at Plot 42.
- 3. Verify that the area is in a landscape setting that is likely to collect or concentrate water. Plot 42 was located at the toe of a fill slope, in a swale between that fill slope and an access road.
- 4.b. Determine whether a problematic soil situation is present. If present, consider the soil to be hydric. Option 6: Seasonally Ponded Soil. Based on observations of the topography, soil characteristics, and vegetation of the areas around the test plot, as well as observations of the study area over several years, it seems likely that the soils are ponded and/or saturated to near the surface during the wet season and early part of the growing season. Therefore, in the presence of hydrophytic vegetation and wetland hydrology indicators, the soil at Plot 42 was considered to be hydric.

#### **Hydrophytic Vegetation**

Vegetation observed in this wetland included reed canarygrass, Himalayan blackberry, sedges, rushes, various native and introduced grasses, and smaller amounts of forbs. The hydrophytic vegetation indicator used was the Dominance Test. No problematic hydrophytic vegetation situations were encountered.

The wetland boundary was determined using local topographical features and vegetation patterns, coupled with observations of hydric soils and hydrology from the sample soil pits.

#### E.1.4 Wetland 4

Wetland 4 is located in Study Area A, along the pipeline corridor adjacent to the Columbia River. The wetland appears to be supported by precipitation, surface runoff, and groundwater. This area is depicted as wetlands on the NWI Map. Based on site observations, this wetland is classified as PEM/PFO. The wetland is not entirely contained within the study area, as it extends to the north.

#### Hydric Soil

The hydric soil indicator recorded was Redox Dark Surface (F6). No problematic soils were observed.

#### Hydrology

The primary hydrology indicator recorded in this wetland was Oxidized Rhizospheres along Living Roots (C3). Surface water and saturation were also observed in the wetland, although not at the

sample plots. No problematic hydrologic situations were encountered, and no secondary hydrology indicators were required.

#### **Hydrophytic Vegetation**

Vegetation observed in this wetland included alder, cottonwood, willow, reed canarygrass, Himalayan blackberry, sedges, rushes, various native and introduced grasses, and smaller amounts of forbs. The hydrophytic vegetation indicator used was the Dominance Test. No problematic hydrophytic vegetation situations were encountered.

The wetland boundary was determined using local topographical features and vegetation patterns, coupled with observations of hydric soils and hydrology from the sample soil pits.

#### E.1.5 Wetland 5

Wetland 5 is located in Study Area B, bordered by the fill slopes of the small barge dock and Kallunki Road. The wetland appears to be supported by precipitation and surface runoff. This area is not depicted as wetlands on the NWI Map. Based on site observations, this wetland is classified as PEM. The wetland is entirely contained within the study area.

#### **Hydric Soil**

The hydric soil indicator recorded was Redox Dark Surface (F6). No problematic soils were observed.

#### Hydrology

The primary hydrology indicator recorded in this wetland was Oxidized Rhizospheres along Living Roots (C3). No problematic hydrologic situations were encountered, and no secondary hydrology indicators were required.

#### **Hydrophytic Vegetation**

Vegetation observed in this wetland included reed canarygrass, Himalayan blackberry, sedges, rushes, various native and introduced grasses, and smaller amounts of forbs. The hydrophytic vegetation indicator used was the Dominance Test. No problematic hydrophytic vegetation situations were encountered.

The wetland boundary was determined using local topographical features and vegetation patterns, coupled with observations of hydric soils and hydrology from the sample soil pits.

#### E.1.6 Wetland 6

Wetland 6 is located in Study Area B, bordered by the fill slopes of Kallunki Road, an electrical substation, and access roads. The wetland appears to be supported by precipitation and surface runoff. This area is depicted as wetland on the NWI Map. Based on site observations, this wetland is classified as PEM. The wetland is entirely contained within the study area.

#### **Hydric Soil**

The hydric soil indicator recorded was Redox Dark Surface (F6). No problematic soils were observed.

#### Hydrology

The primary hydrology indicator recorded in this wetland was Oxidized Rhizospheres along Living Roots (C3). Surface water and saturation were also observed in the wetland, although not at the sample plots. No problematic hydrologic situations were encountered, and no secondary hydrology indicators were required.

#### **Hydrophytic Vegetation**

Vegetation observed in this wetland included reed canarygrass, Himalayan blackberry, sedges, rushes, various native and introduced grasses, and smaller amounts of forbs. The hydrophytic vegetation indicator used was the Dominance Test. No problematic hydrophytic vegetation situations were encountered.

The wetland boundary was determined using local topographical features and vegetation patterns, coupled with observations of hydric soils and hydrology from the sample soil pits.

#### **E.2** Other Waters of the State/U.S.

Numerous non-wetland waters were observed in Study Area A, including McLean Slough and a network of ditches (Ditch 1) that drain the agricultural fields in the area, as described on Table E-2. As these ditches are all part of the same interconnected drainage network, the segments were not individually named; however, the location of each is shown on Figures 6A through 6W in Appendix A. These ditches all drain south to the Columbia River via McLean Slough, Beaver Slough, and the Clatskanie River. A total of approximately 760 linear feet of McLean Slough and 9,335 linear feet (1.61 miles) of ditches is contained within Study Area A. Study Area B did not contain any non-wetland waters. No part of the Columbia River/Bradbury Slough is included in either study area.

TABLE E-2
WATERWAYS DELINEATED WITHIN THE STUDY AREAS

Study Area	Waterway	HGM Class <sup>1</sup>	Cowardin Class <sup>2</sup>	USACE Category and Basis	Linear feet in Study Areas
^	McLean Slough	Riverine	RUB	Cat. 5 - Tributary to Columbia River	760
A	Ditch 1 network	Riverine	RUB	Cat. 5 - Tributary to Columbia River	9,335
В	None				
		•		Total	10,095

<sup>&</sup>lt;sup>1</sup>Adamus, 2001

RUB = Riverine unconsolidated bottom

<sup>&</sup>lt;sup>2</sup>Cowardin et al., 1979

## F. Deviation from Local Wetland Inventory or National Wetlands Inventory

A local wetlands inventory has not been prepared for the Port Westward area. The NWI Map identifies extensive wetlands within Study Area A; smaller PEM wetlands in the main part of the study area and eastern end, a large PEM wetland covering the majority of the western access road and pipeline routes, and a patch of PEM/PFO wetland adjacent to the Columbia River. The NWI map identifies one wetland within Study Area B, a small PEM wetland at the eastern end of the study area (see Figure 3 in Appendix A).

Six wetlands were found during the field investigation. Four of these, Wetlands 1, 2, 4, and 6, were found in areas shown as wetlands on the NWI Map, although the site visit determined that Wetland 1 is much larger than shown on the published mapping. Wetlands 3 and 5 were found in areas not shown as wetland on the NWI map. Wetland determination data forms are provided in Appendix B.

#### G. Mapping Method

The best professional judgment of the investigator was used to determine the wetland boundaries based on vegetation, soil, and hydrologic and topographic indicators observed in the field. Pin flags were used to mark the wetland boundaries, sample plot locations, and OHWE (where accessible), which were surveyed at the time of the site visit using a Trimble GeoXT 6000 handheld global positioning system unit. This survey was accurate to submeter standards. Where the OHWE was not accessible due to impenetrable blackberry thickets, this boundary was digitized from aerial imagery. The study area boundaries were created using ArcGIS and field-verified using GPS during the site visits.

#### H. Additional Information

Protected species lists were obtained from the USFWS and National Marine Fisheries Service. According to these lists, Endangered Species Act-listed species that may occur in or near the study areas include those listed in Table H-1 below.

TABLE H-1
ENDANGERED SPECIES ACT-LISTED SPECIES POTENTIALLY PRESENT IN OR NEAR THE STUDY AREAS

Species	ESU/DPS	Federal Status <sup>1</sup>	Habitat within Study Area
	Upper Columbia River DPS	T	-
6. 11 1	Middle Columbia River DPS	Т	
Steelhead	Lower Columbia River DPS	Т	No
(Oncorhynchus mykiss)	Upper Willamette River DPS	Т	
	Snake River Basin DPS	Т	
	Upper Columbia River spring-run ESU	E	
	Lower Columbia River ESU	Т	
Chinook salmon	Snake River fall-run ESU	Т	No
(Oncorhynchus tshawytscha)	Snake River spring/summer-run ESU	Т	
	Upper Willamette River ESU	Т	
Chum salmon (Oncorhynchus keta)	Columbia River ESU	Т	No
Coho salmon (Oncorhynchus kisutch)	Lower Columbia River ESU	Т	No
Sockeye salmon (Oncorhynchus nerka)	Snake River ESU	E	No
Bull trout (Salvelinus confluentus)	Columbia River DPS	Т	No
Green sturgeon (Acipenser medirostris)	Southern DPS	Т	No
Eulachon (Thaleichthys pacificus)	Southern DPS	Т	No
Columbian white-tailed deer (Odocoileus leucurus)	N/A	Т	Yes
Marbled murrelet (Brachyramphus marmoratus)	N/A	Т	No
Northern spotted owl (Strix occidentalis caurina)	N/A	Т	No
Streaked horned lark (Eremophila alpestris strigata)	N/A	Т	Possibly
Yellow-billed cuckoo (Coccyzus americanus)	N/A	Т	No
Bradshaw's desert-parsley (Lomatium bradshawii)	N/A	E (Proposed for delisting)	Possibly
Kincaid's lupine (Lupinus sulphureus ssp. kincaidii)	N/A	Т	No
Nelson's checker-mallow (Sidalcea nelsoniana)	N/A	Т	Possibly
Willamette daisy (Erigeron decumbens)	N/A	E	Possibly

<sup>&</sup>lt;sup>1</sup> T = Threatened, E = Endangered

DPS = distinct population segment

ESU = evolutionarily significant unit

N/A = Not Applicable

Of these species, the majority are unlikely to be present in the study areas. Numerous listed fish species and designated critical habitat are present in the adjacent Columbia River and tributaries, which are also listed as Essential Fish Habitat and Essential Salmonid Habitat; however, these waterways are outside the study areas. The wetlands within the study areas are not likely to be accessible to food or game fish species during normal water flows but may be accessible during periods of flooding when the rivers and drainage ditches overtop their banks and extend onto the floodplain.

Columbian white-tailed deer are present at Port Westward and have been observed within both study areas. The remaining bird and plant species on Table H-1 have not been observed in the study areas, but habitat may exist for streaked horned lark, Bradshaw's desert-parsley, Nelson's checker-mallow, and Willamette daisy.

#### I. Results and Conclusions

Site investigations were conducted on October 22 and 23, 2018; November 27, 28, and 29, 2018; April 12, 2019; November 14, 2019; September 30, 2020; April 8, 2021; May 11, 2021; and July 7, 2021. Based on these investigations, the presence of six wetland areas totaling approximately 141.04 acres within the two study areas was confirmed. These results are based on the presence of the three required indicators for wetlands as described in the 1987 USACE Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0). Waterways in Study Area A include McLean Slough (approximately 760 linear feet within study Area A) and numerous ditches (totaling approximately 9,335 linear feet) in Study Area A, all part of an interconnected drainage network that serves the agricultural fields in the area. No waterways are present in Study Area B.

The wetlands and waterways may be considered Waters of the State/U.S., and any fill or removal activities could require permits from the USACE and/or the Oregon Department of State Lands (DSL).

#### J. Disclaimer Statement

The wetland delineation was conducted in accordance with the routine methodology provided in the 1987 USACE Wetlands Delineation Manual and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0).

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 DSL in accordance with Oregon Administrative Rules 141-090-0005 through 141-090-0055.

## **Appendices Table of Contents**

Appendix A Figures

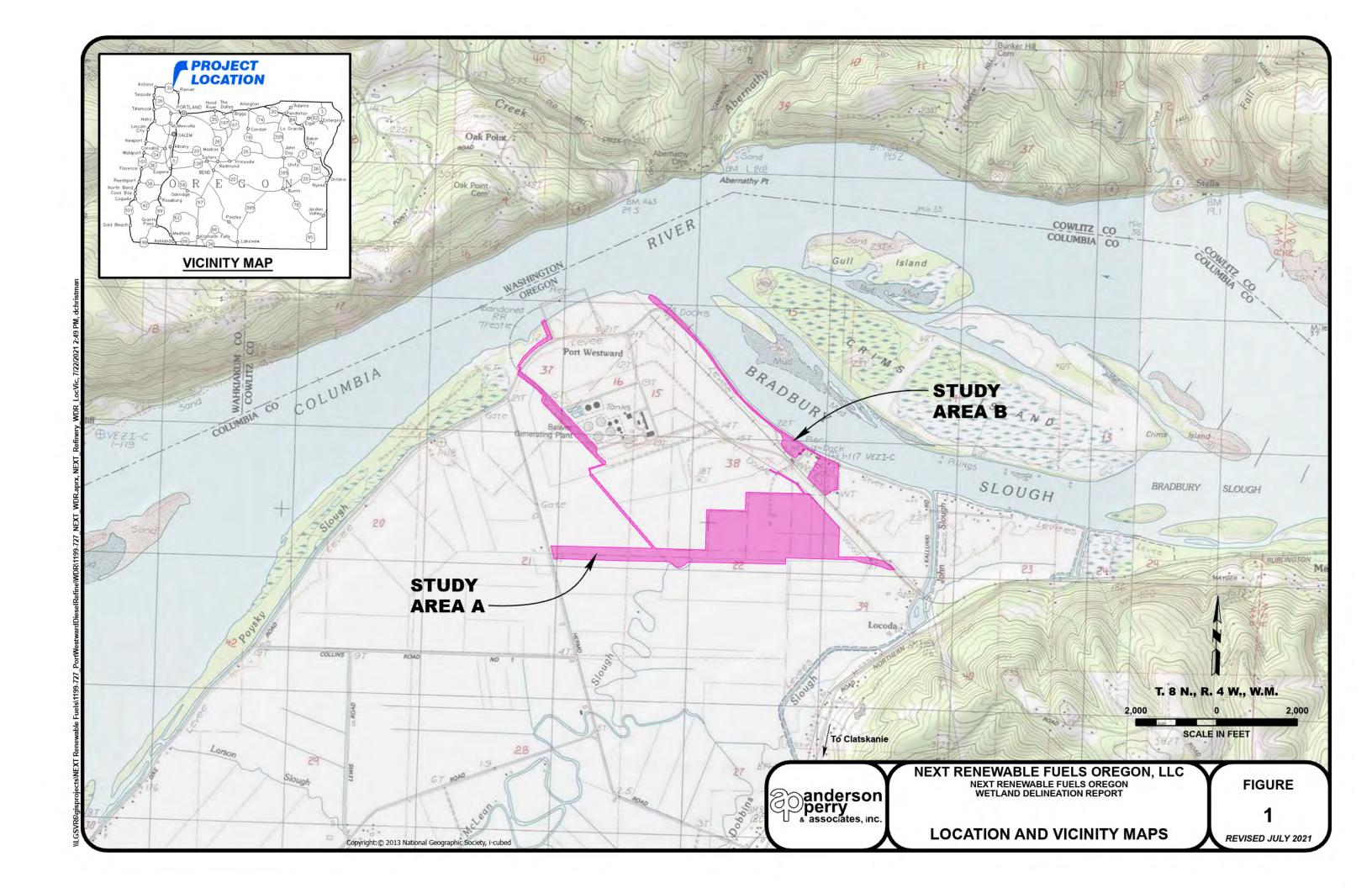
Appendix B Wetland Determination Data Forms

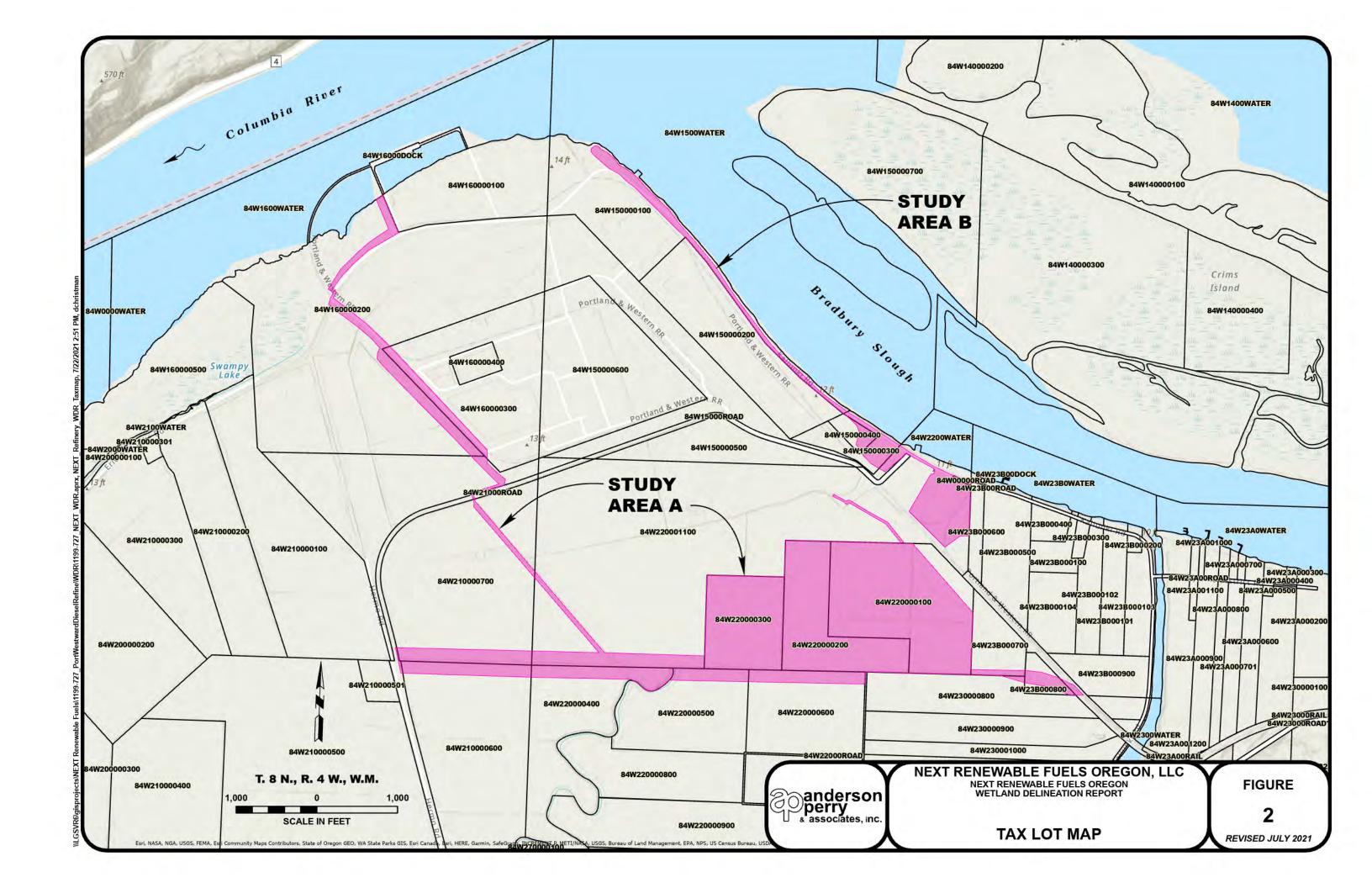
Appendix C Site Photographs

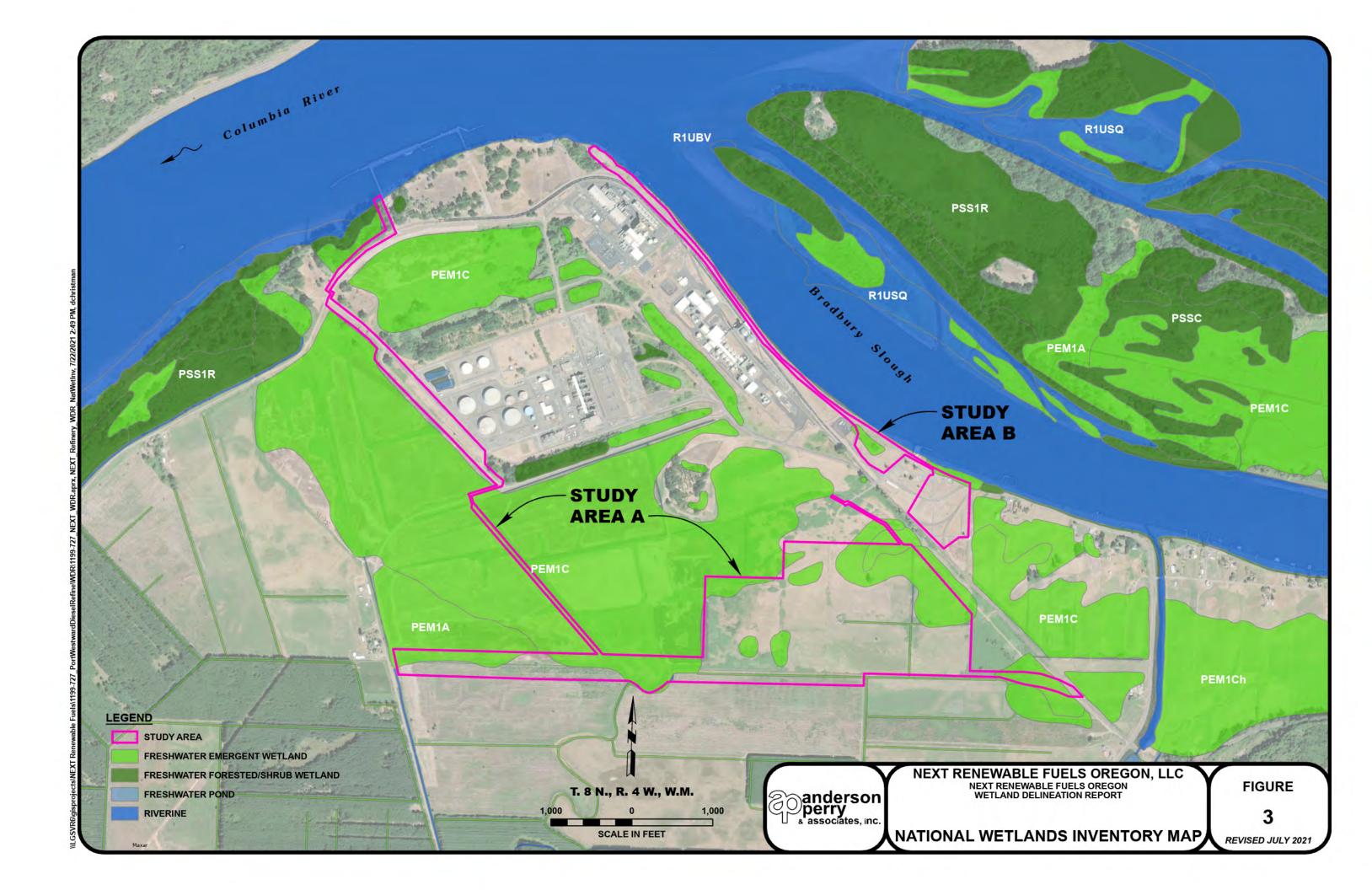
Appendix D Additional Information

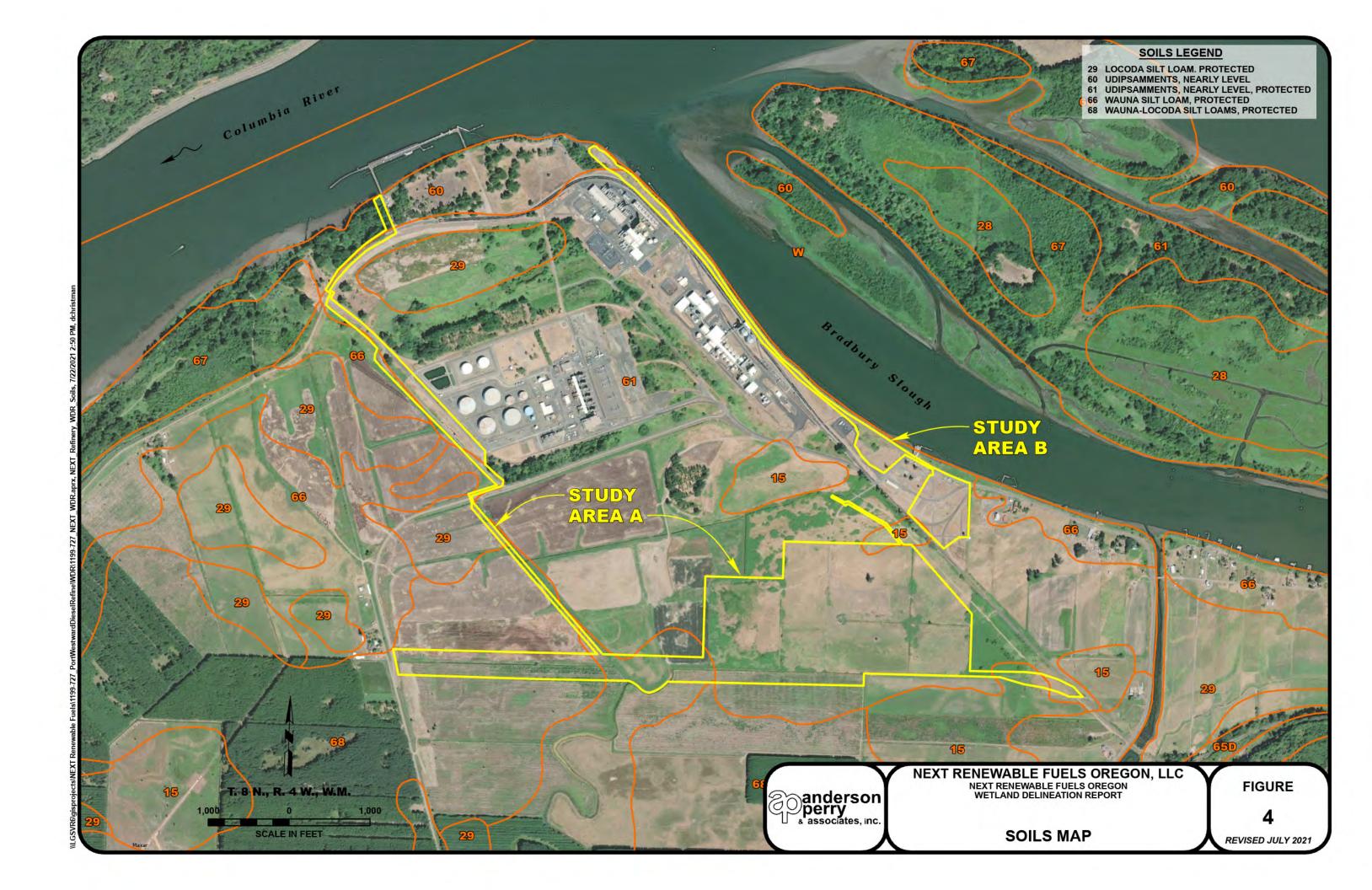
Appendix E Literature Citations and References

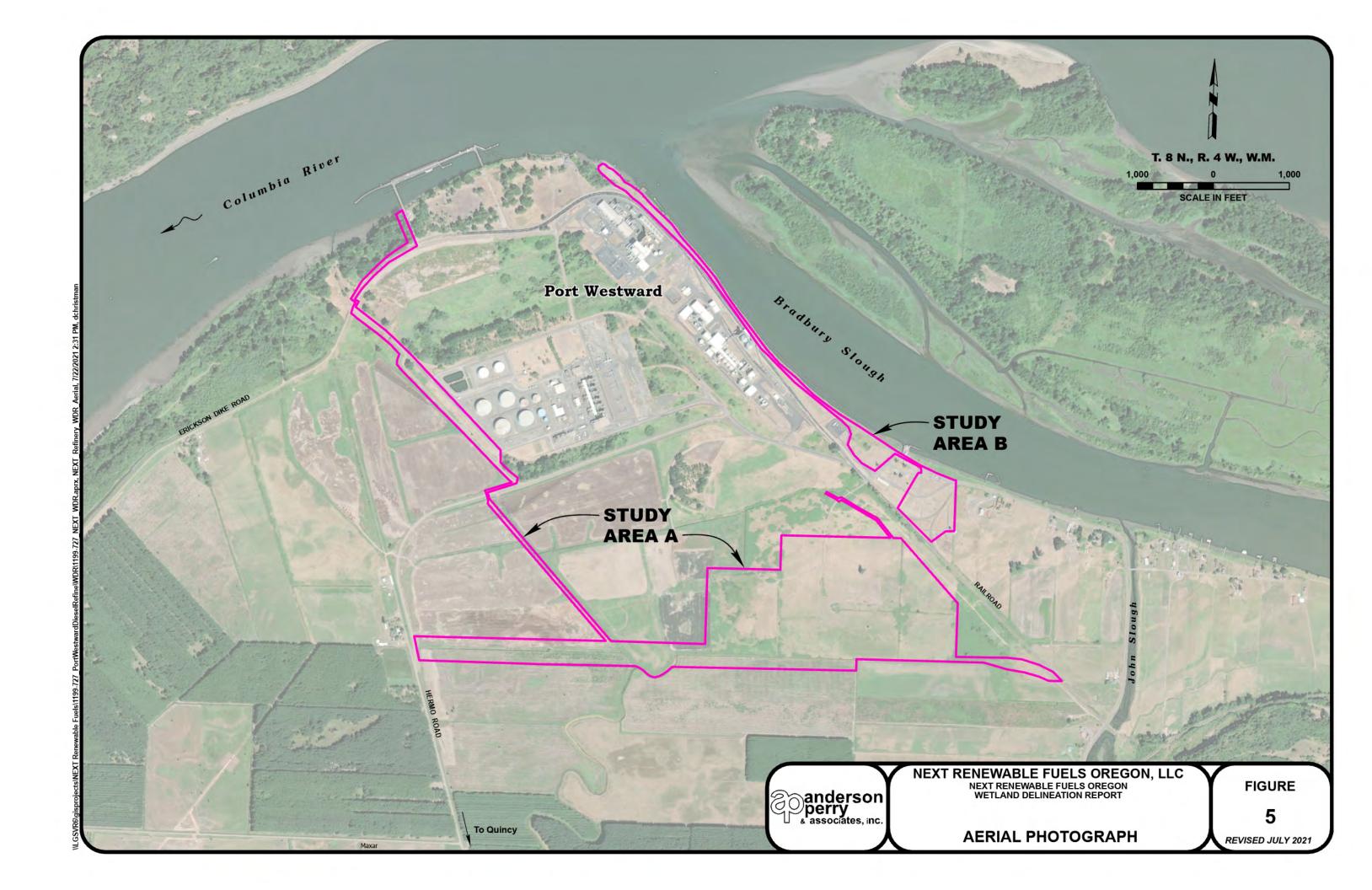
## APPENDIX A Figures

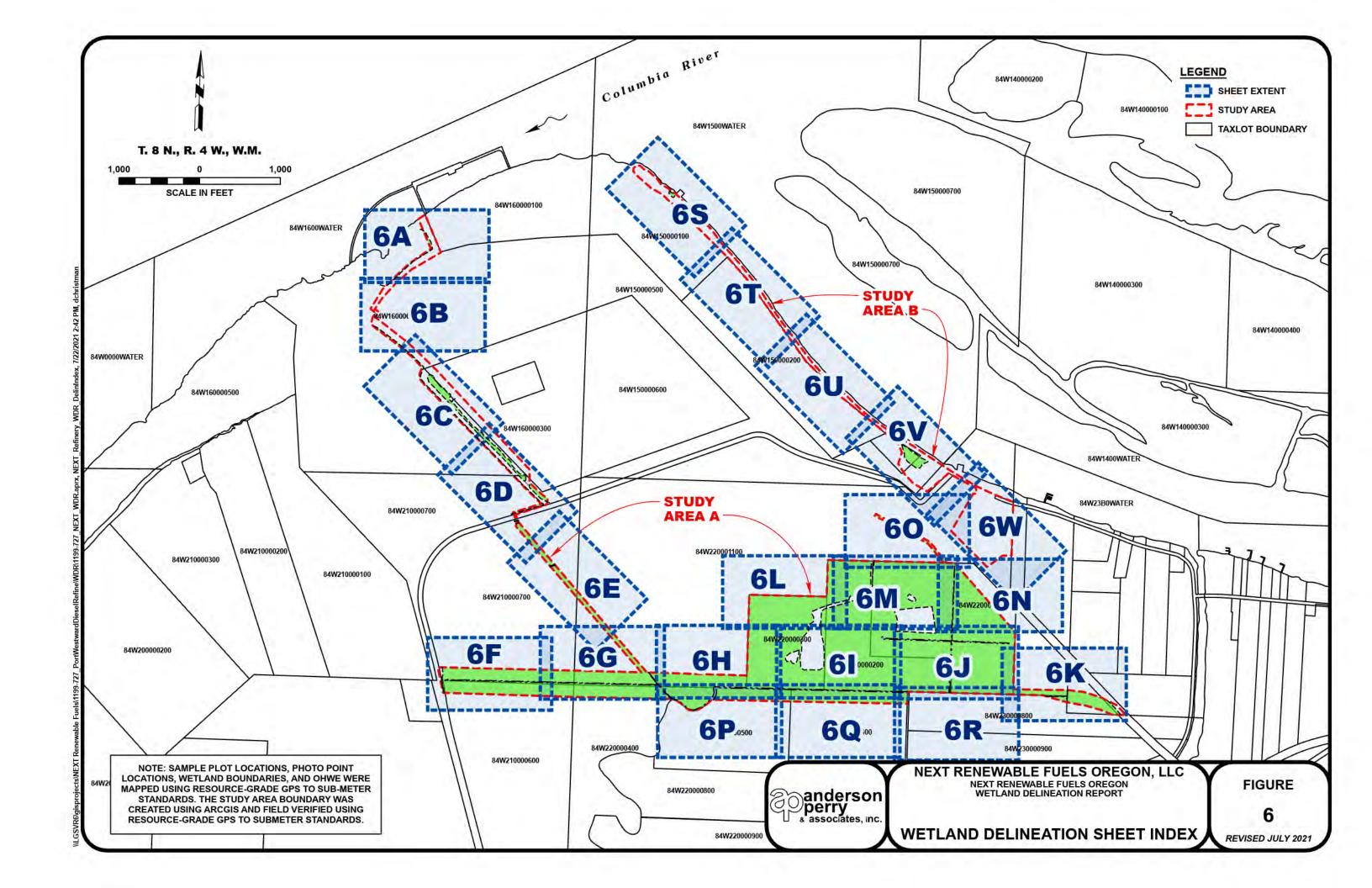


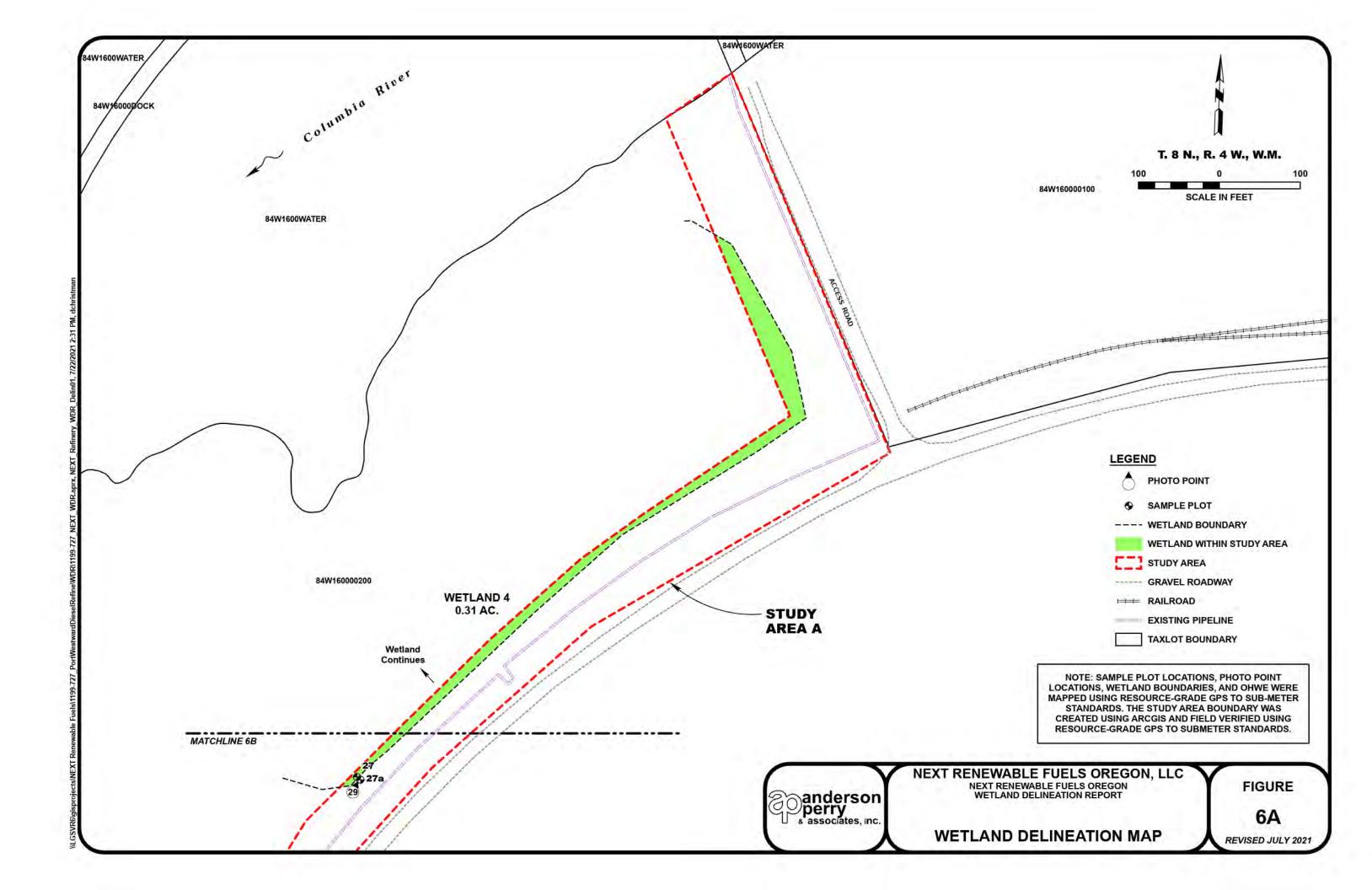


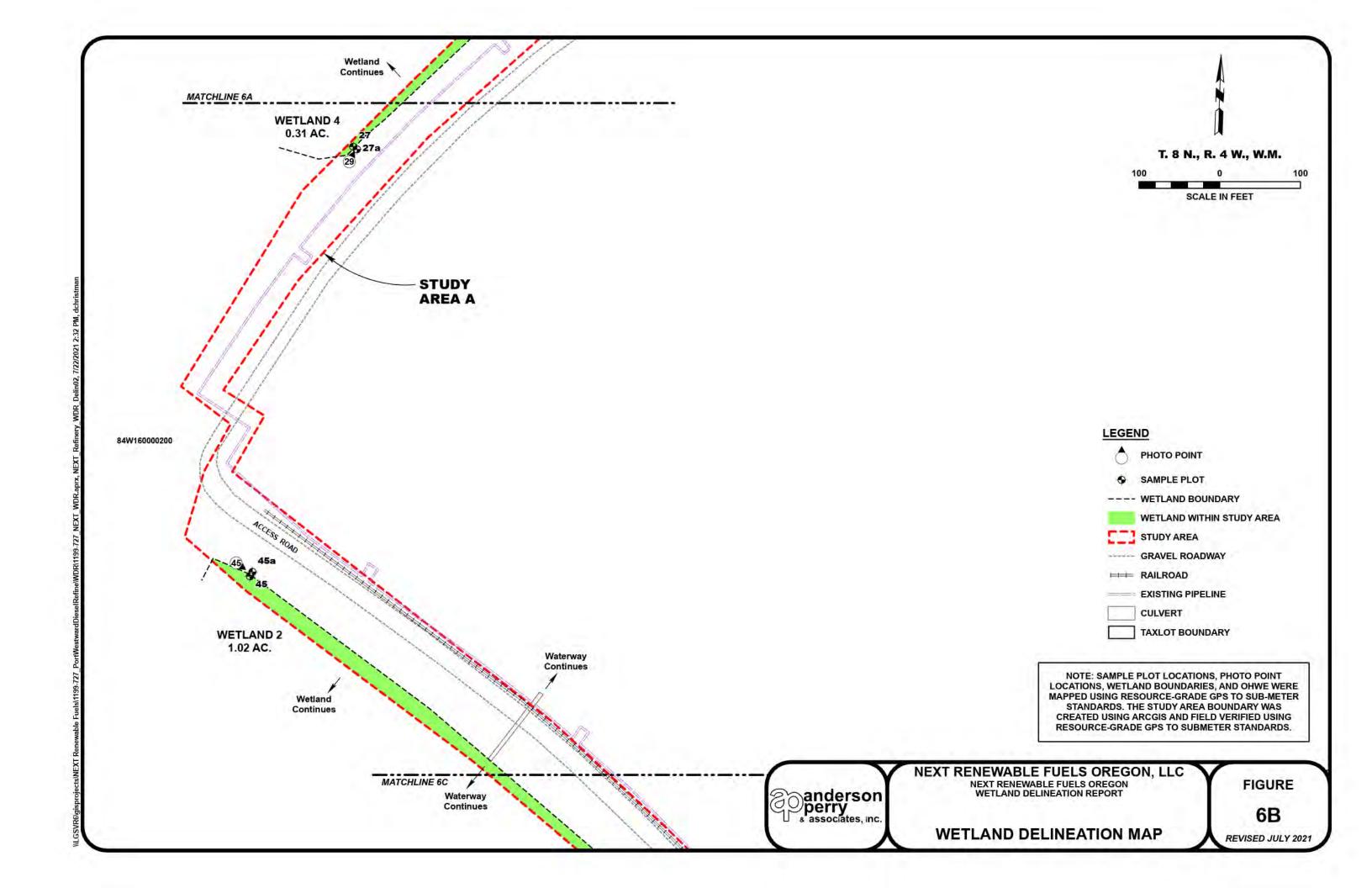


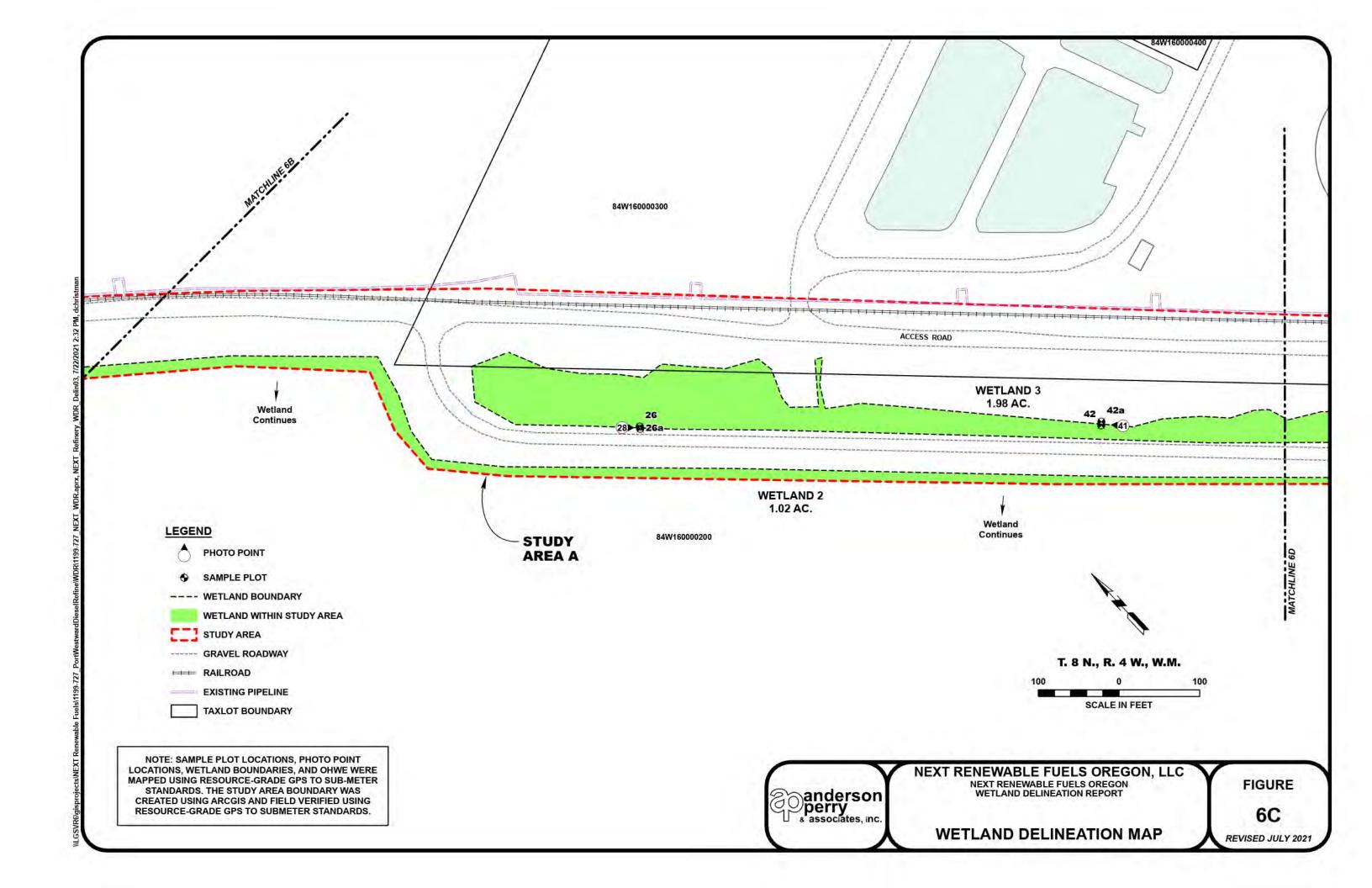


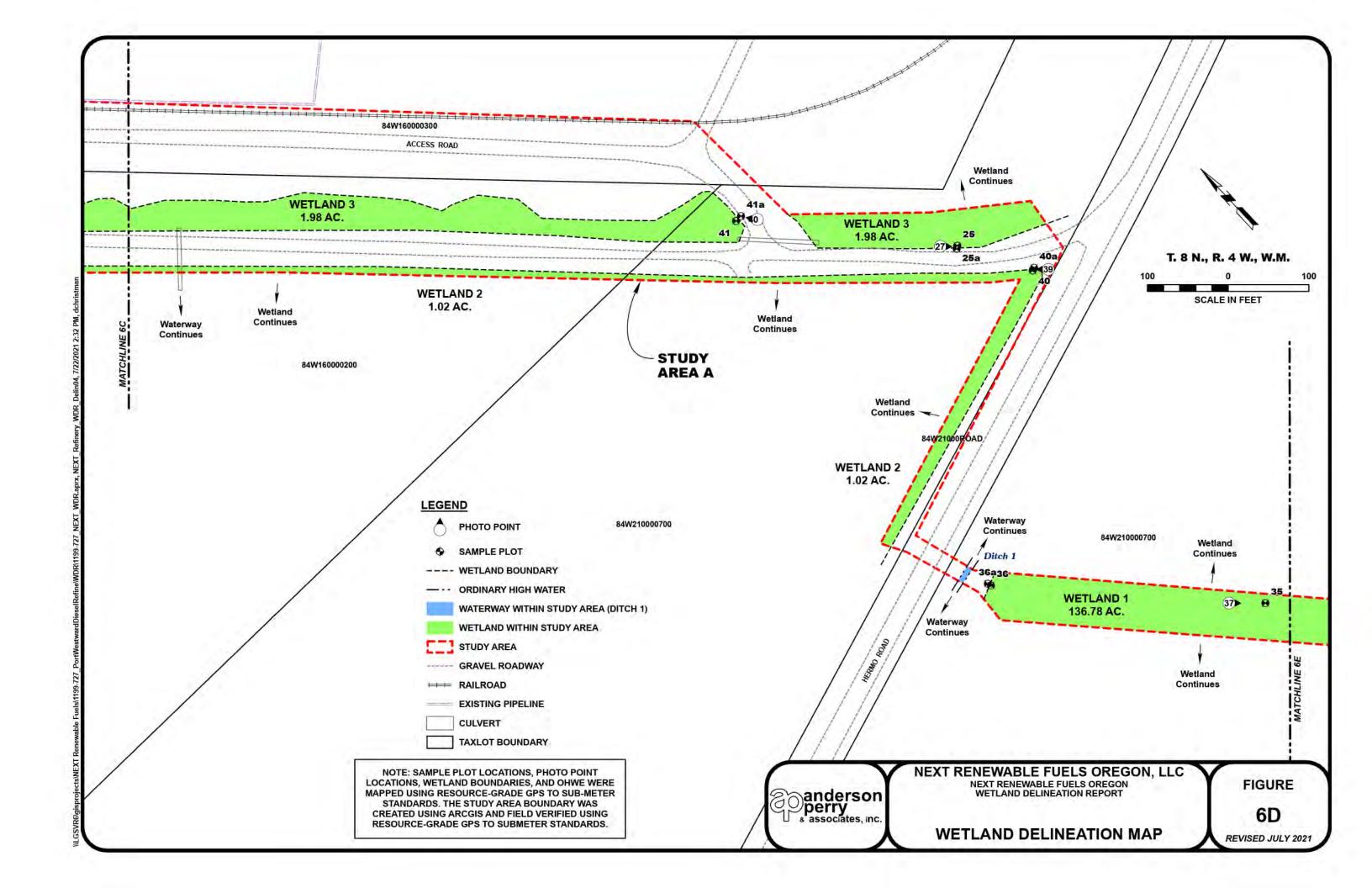


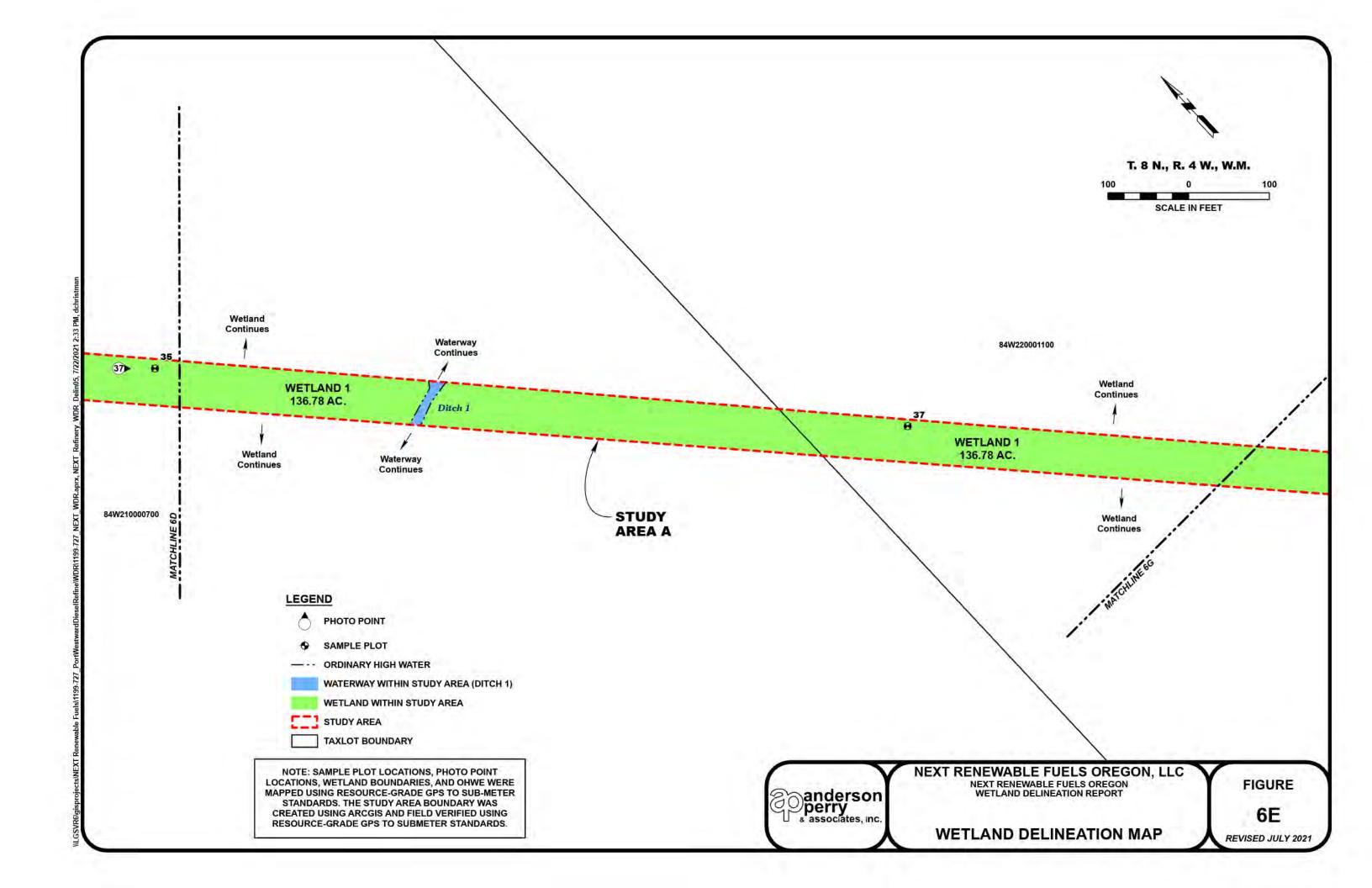


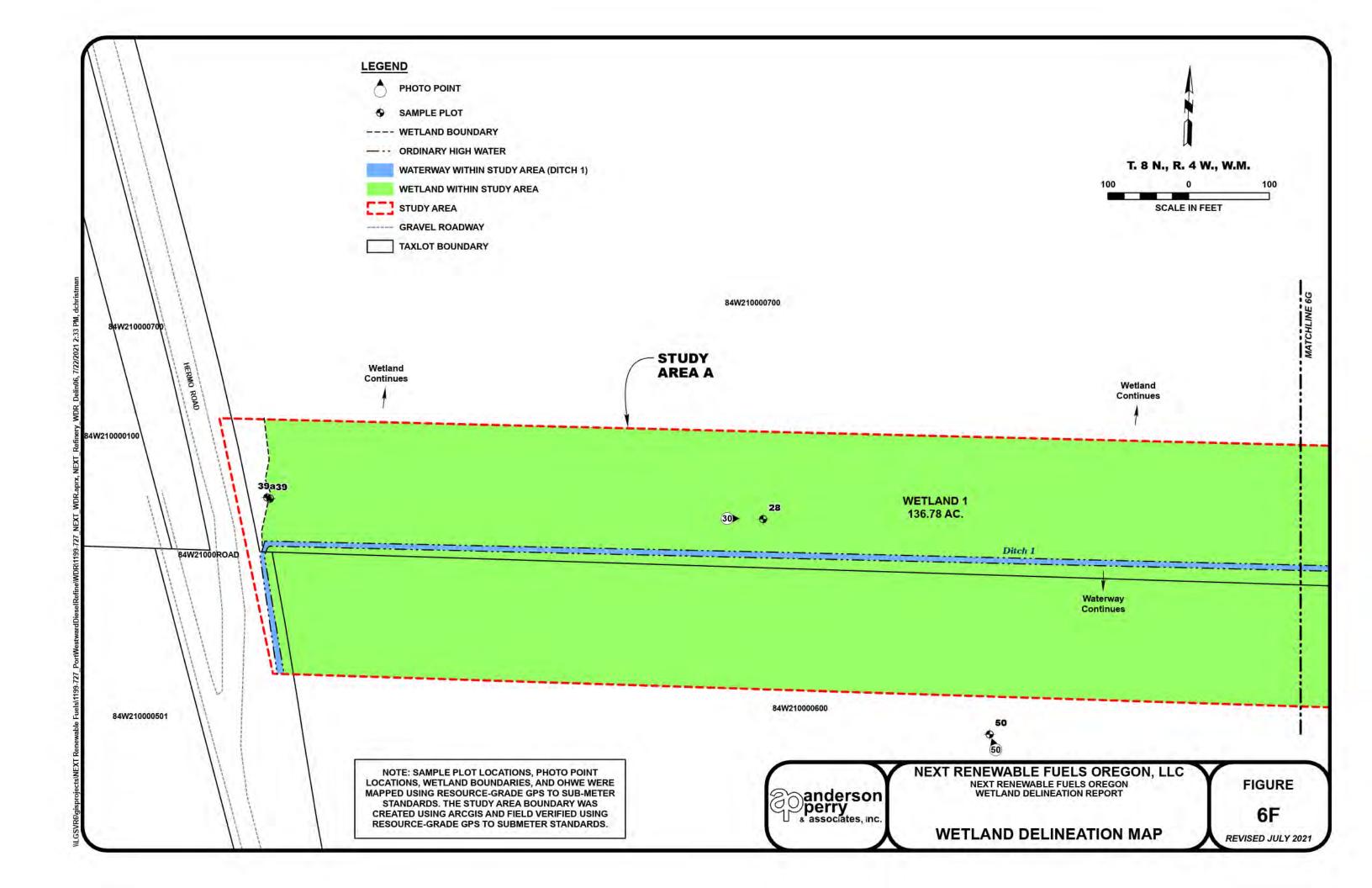


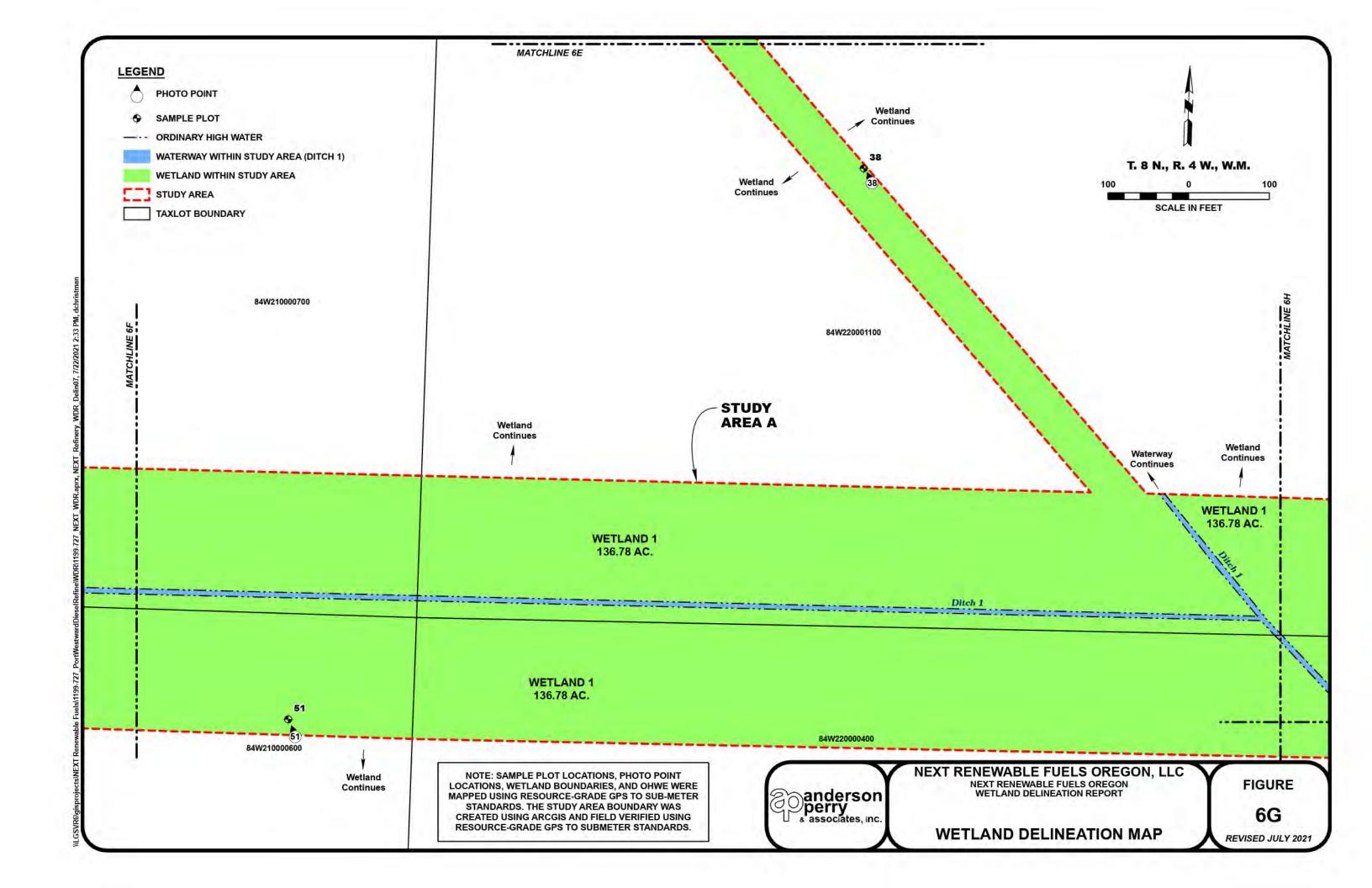


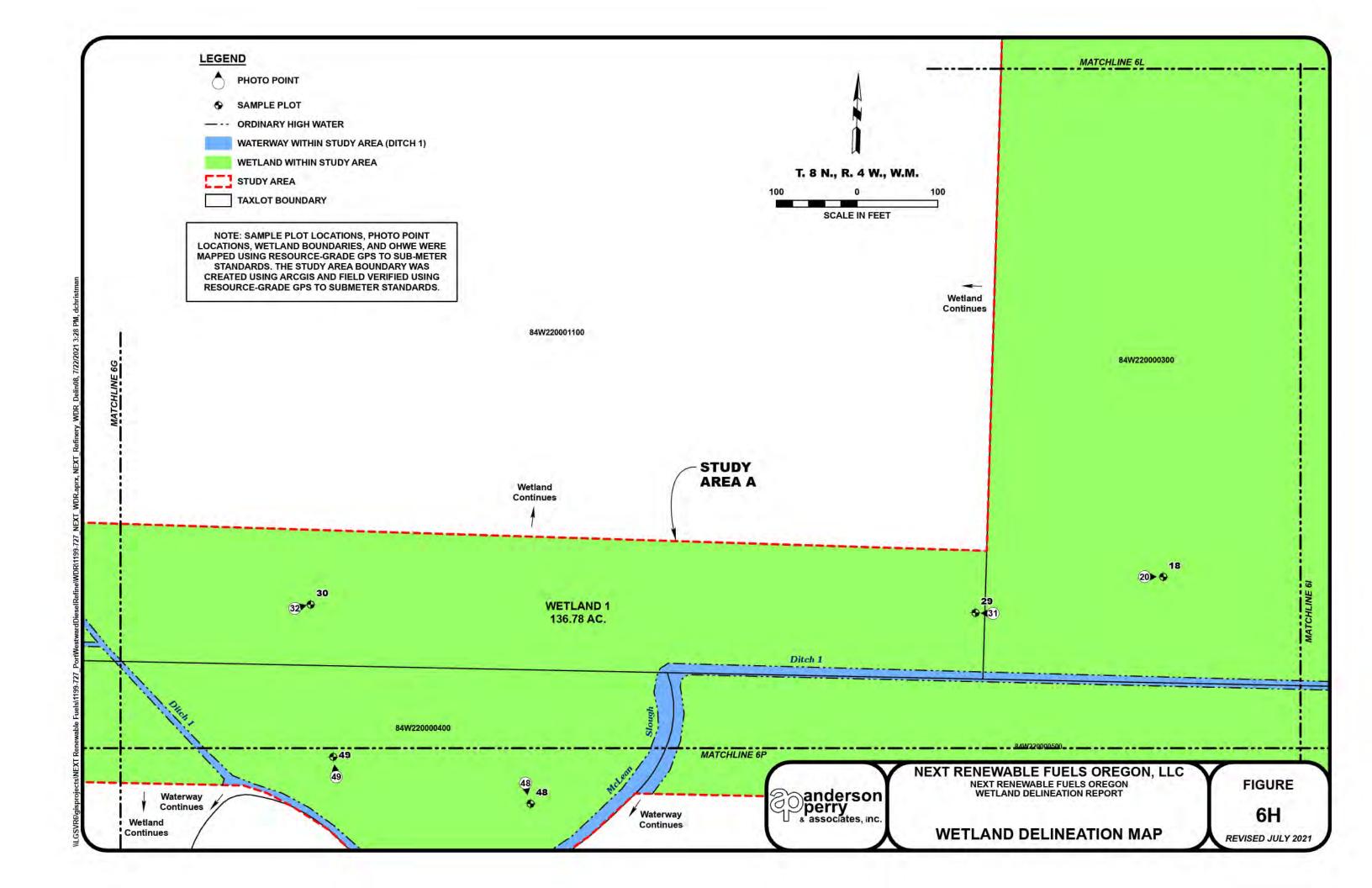


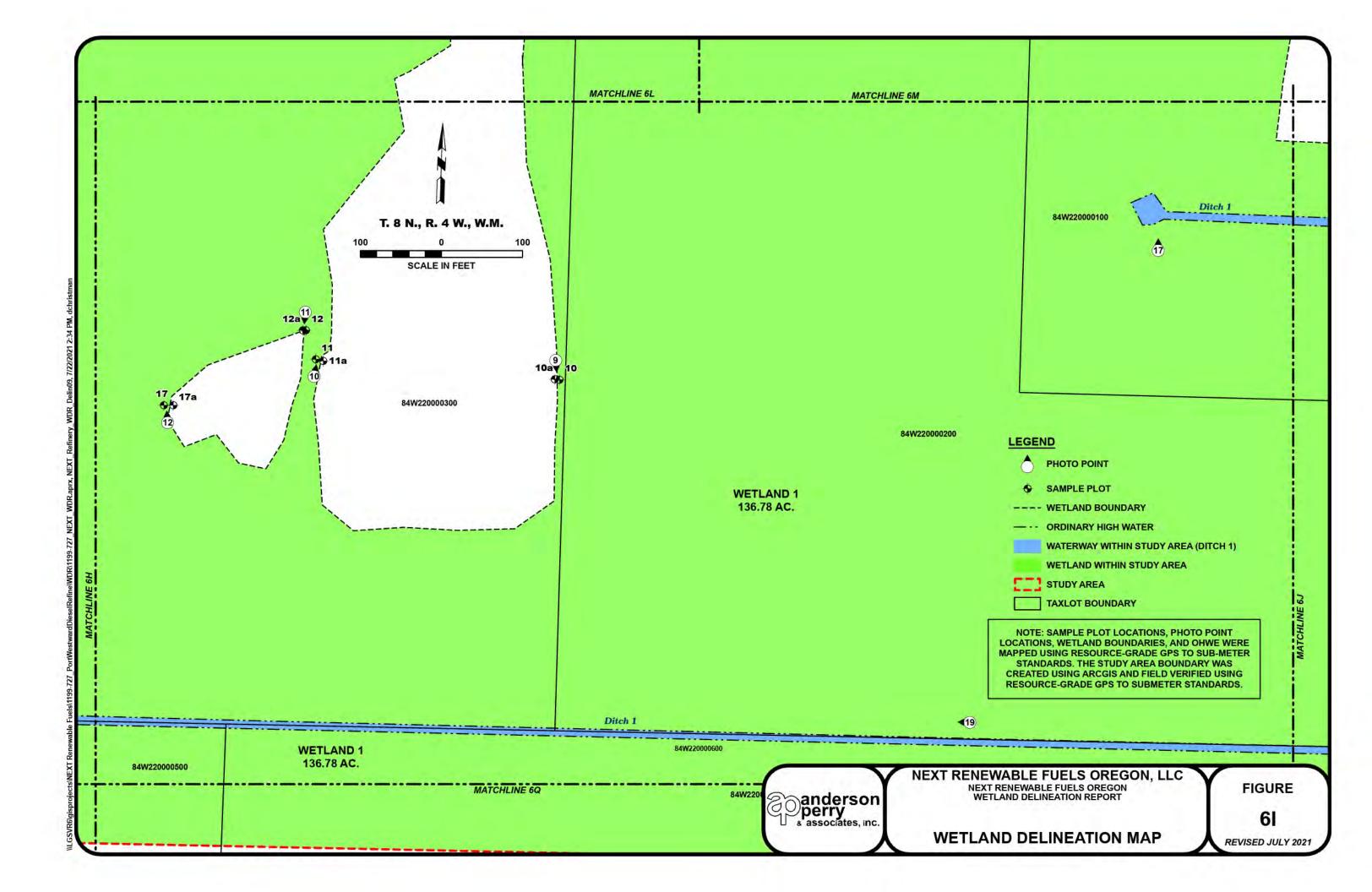


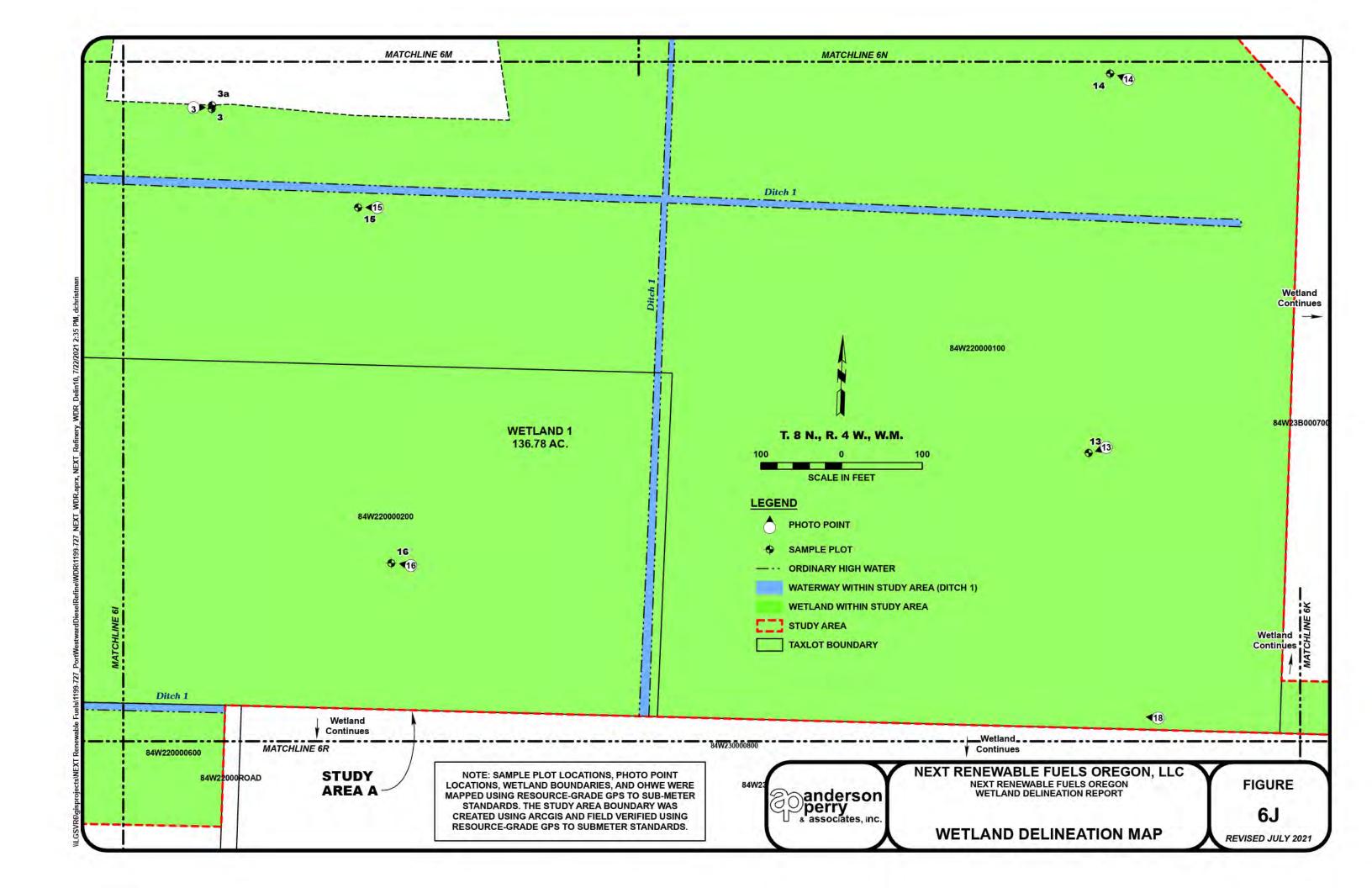


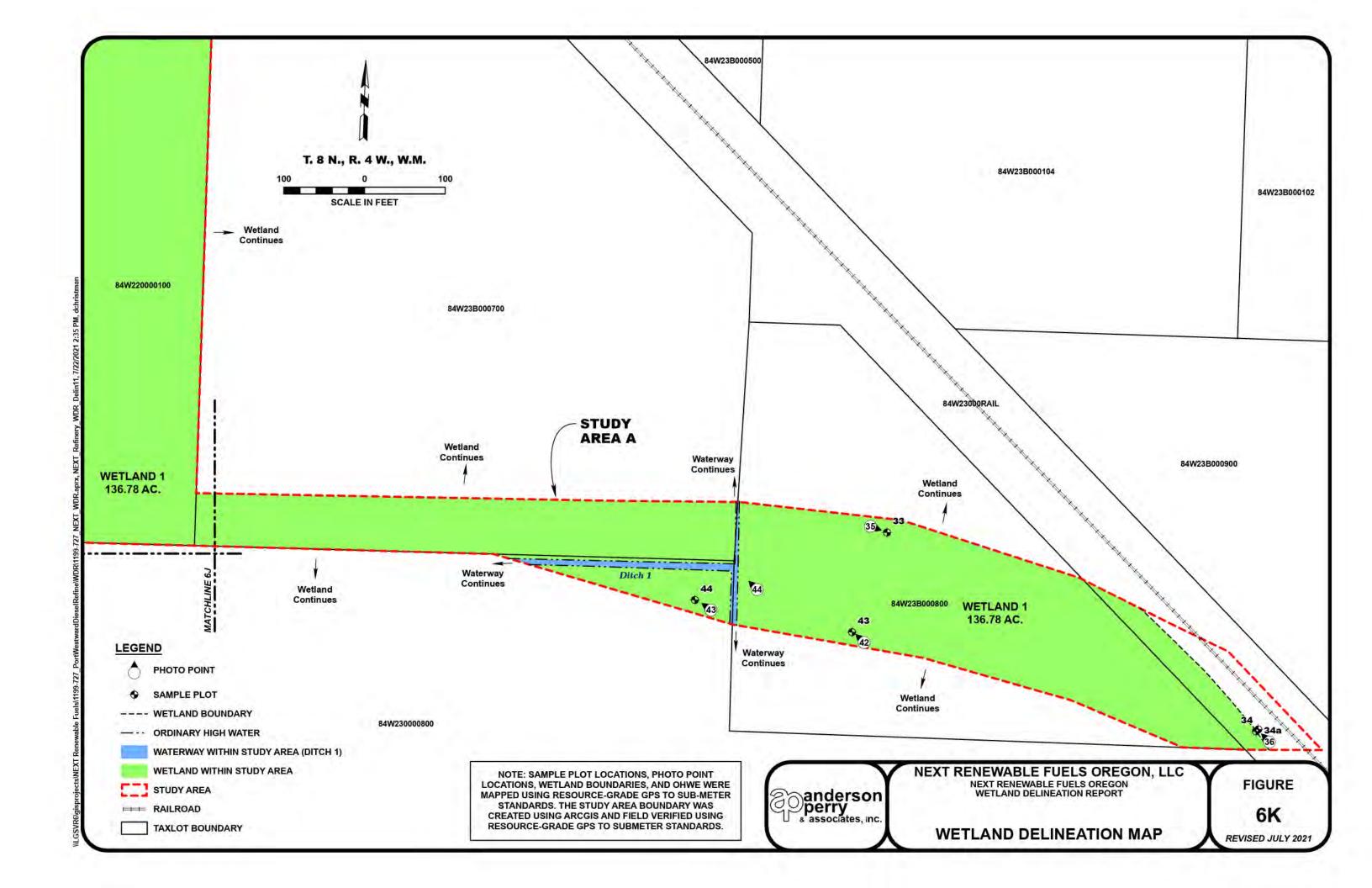


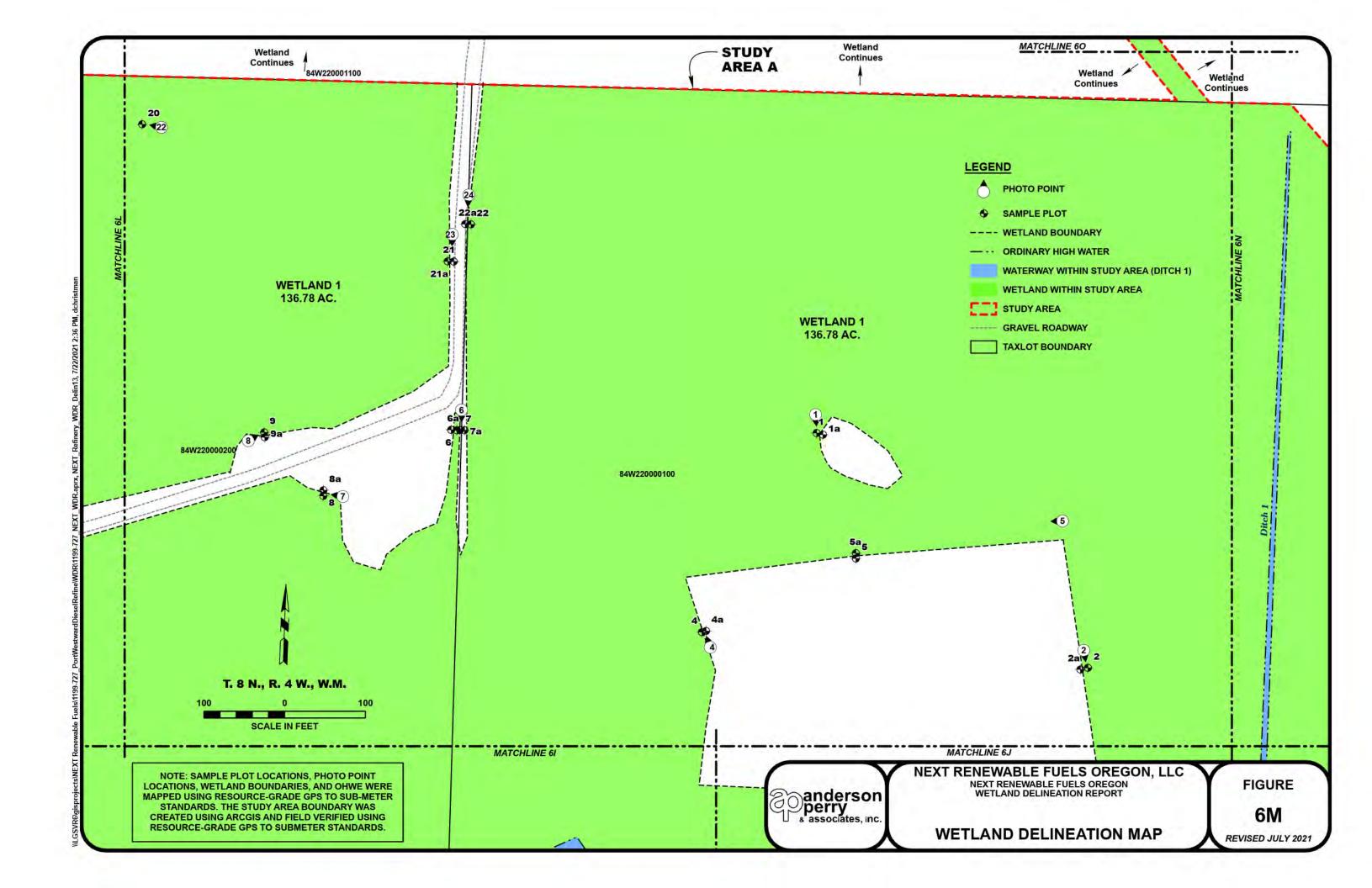


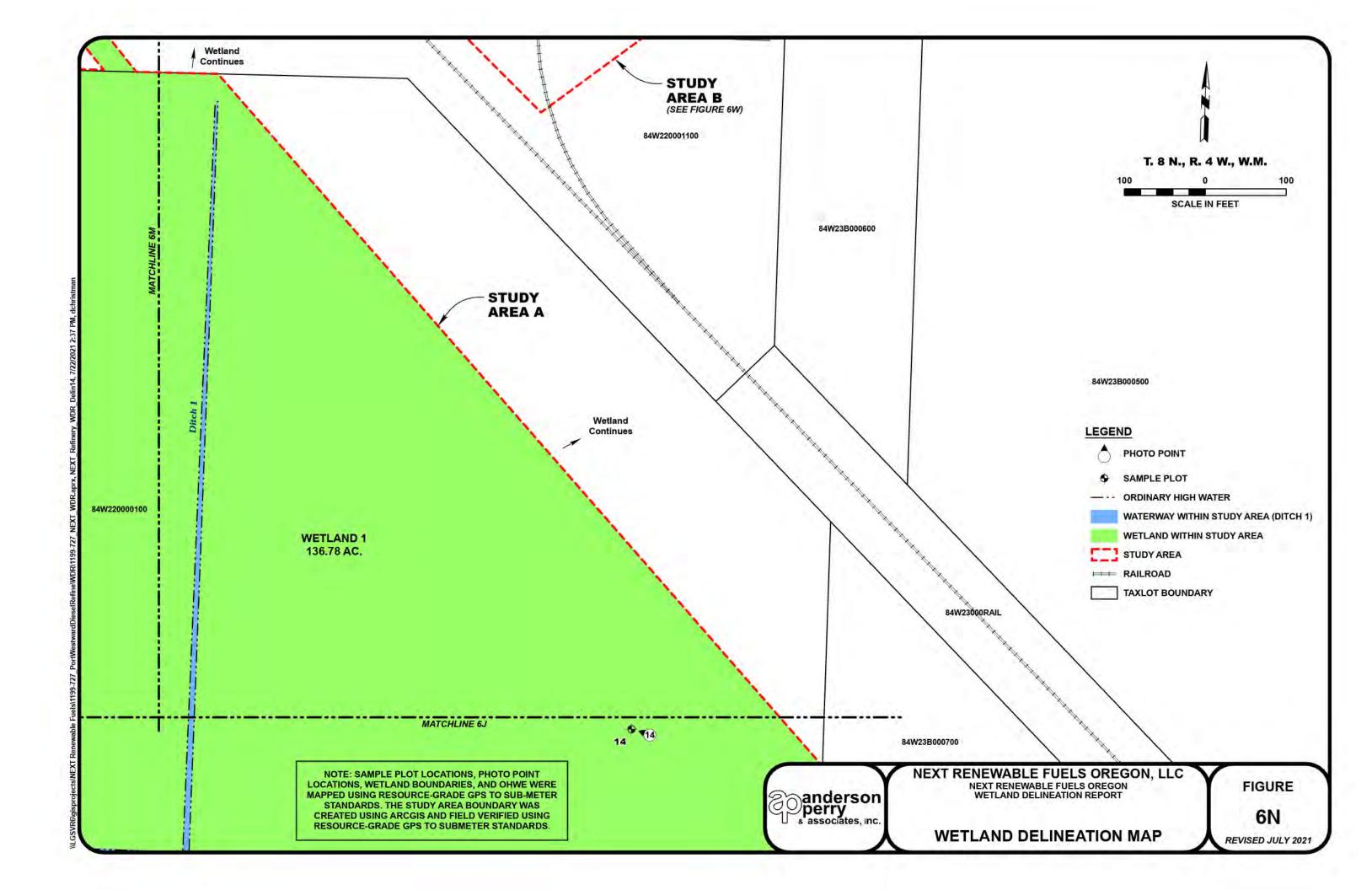


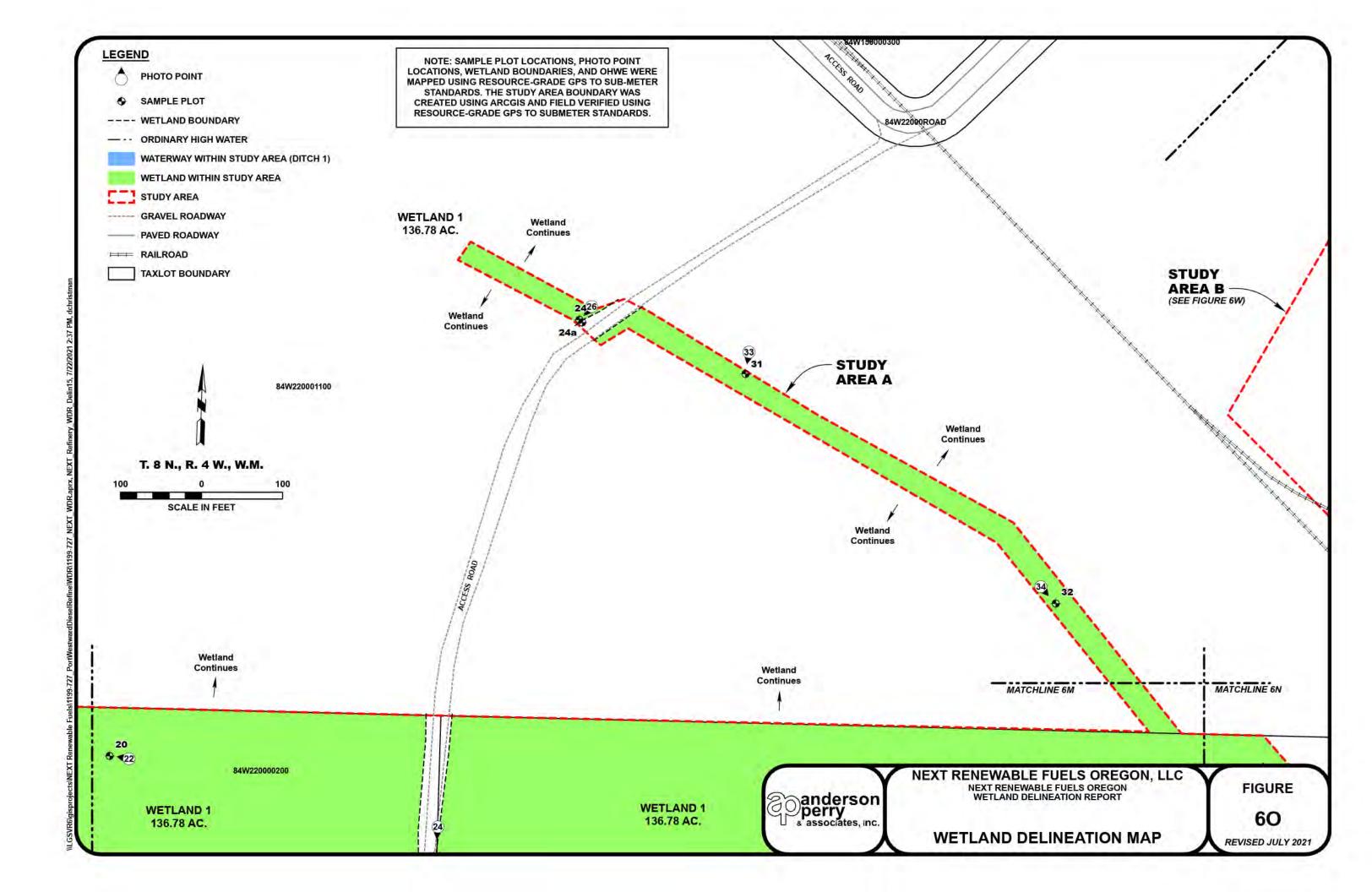


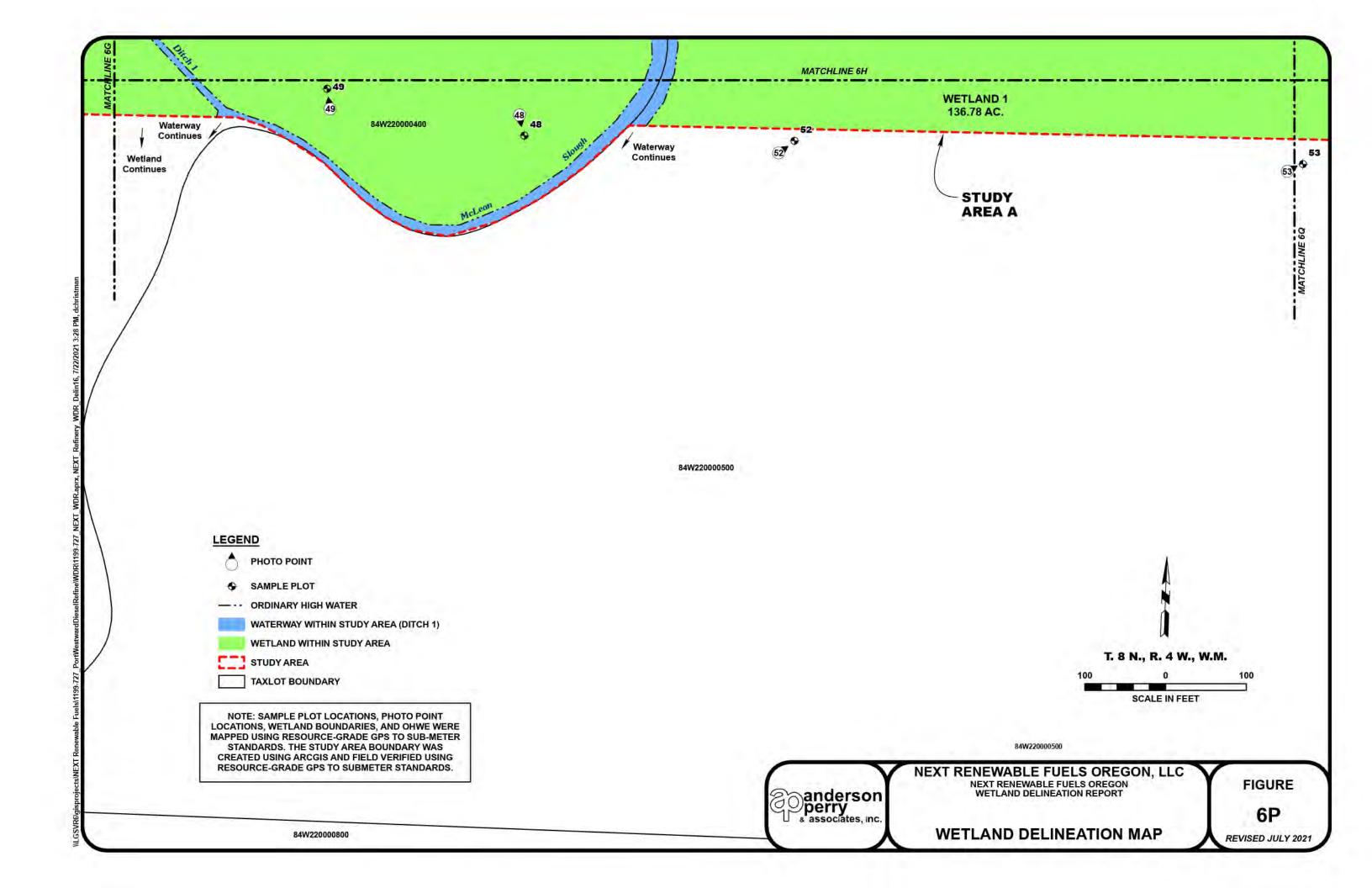


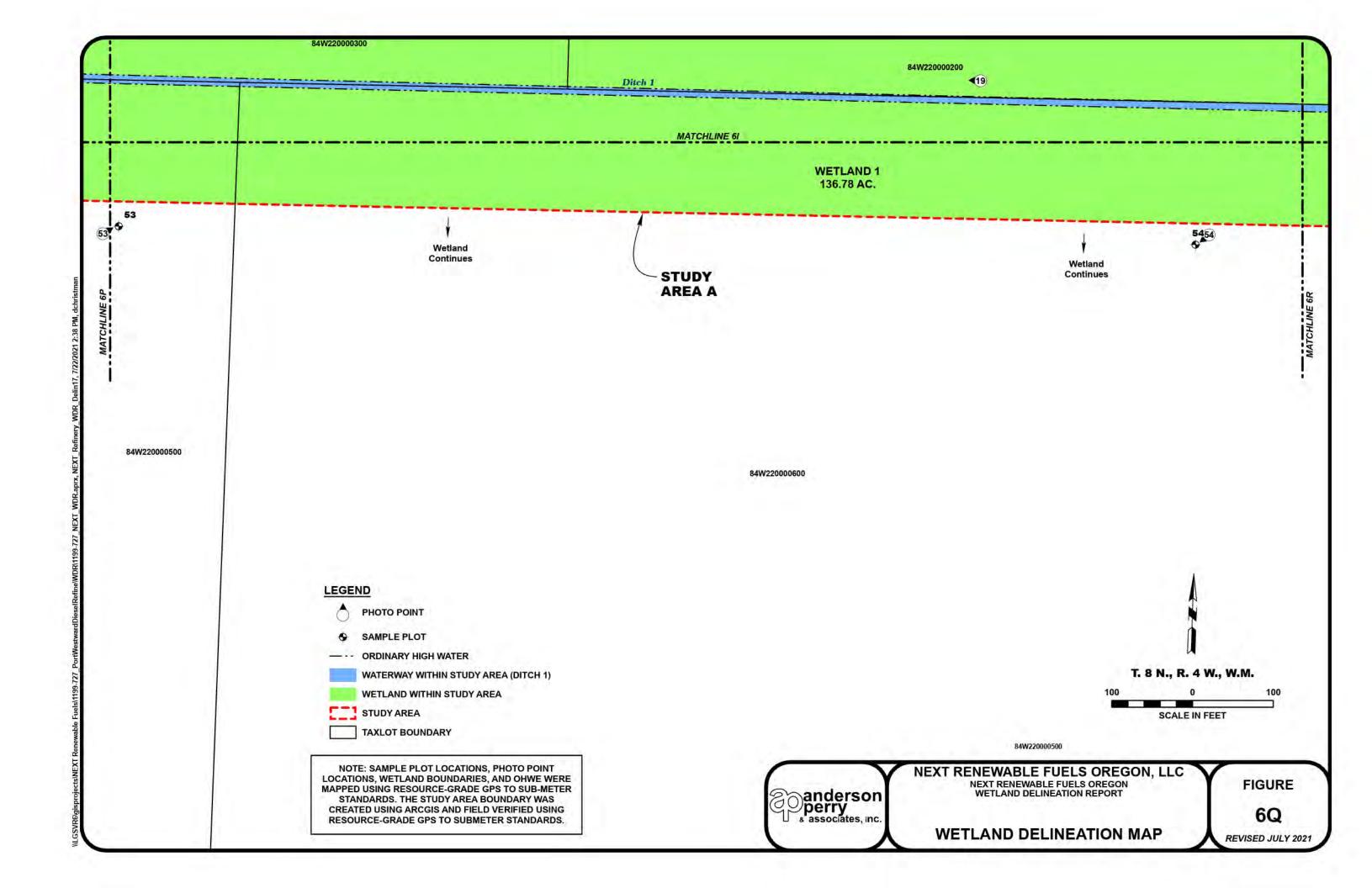


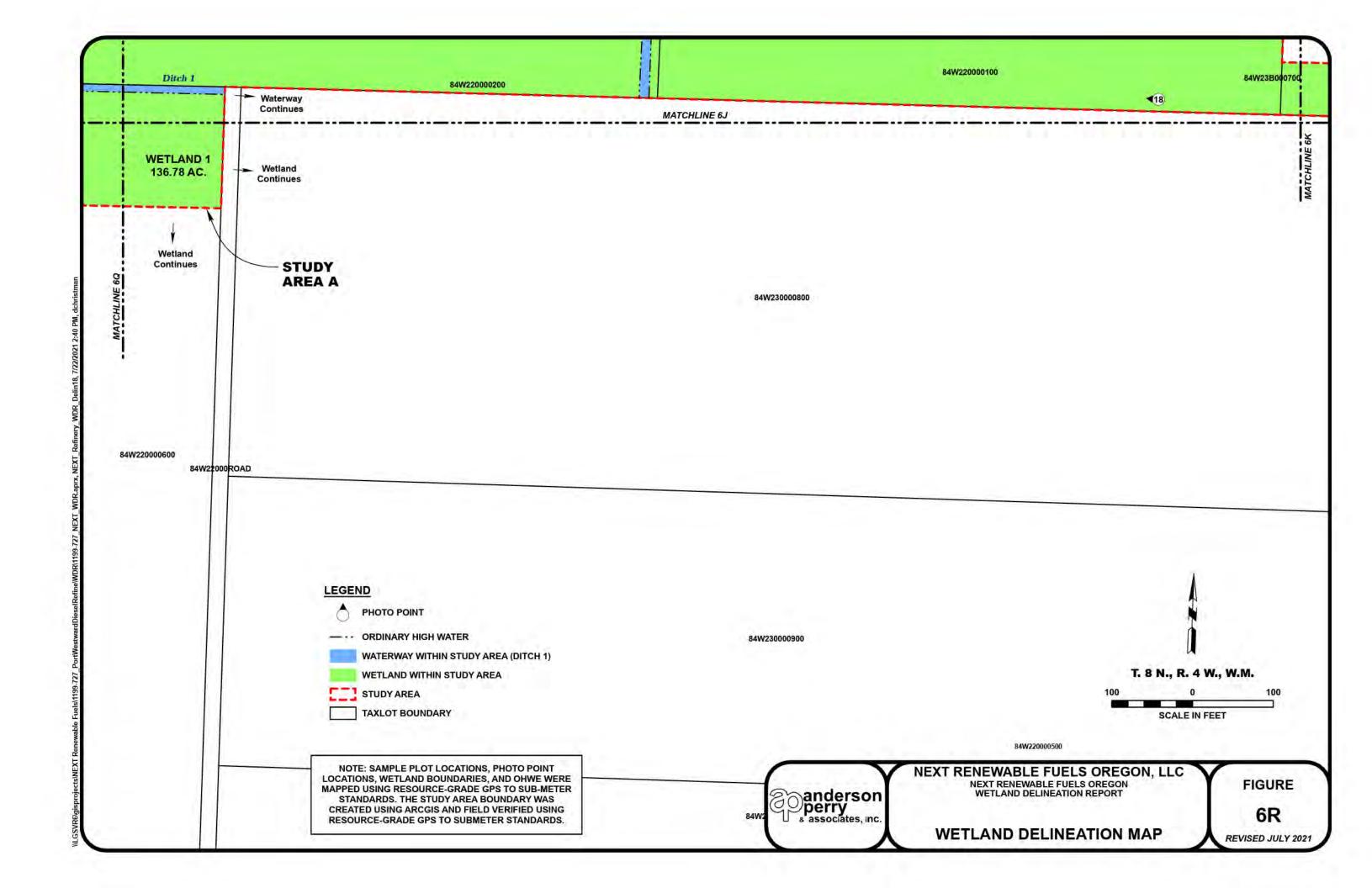


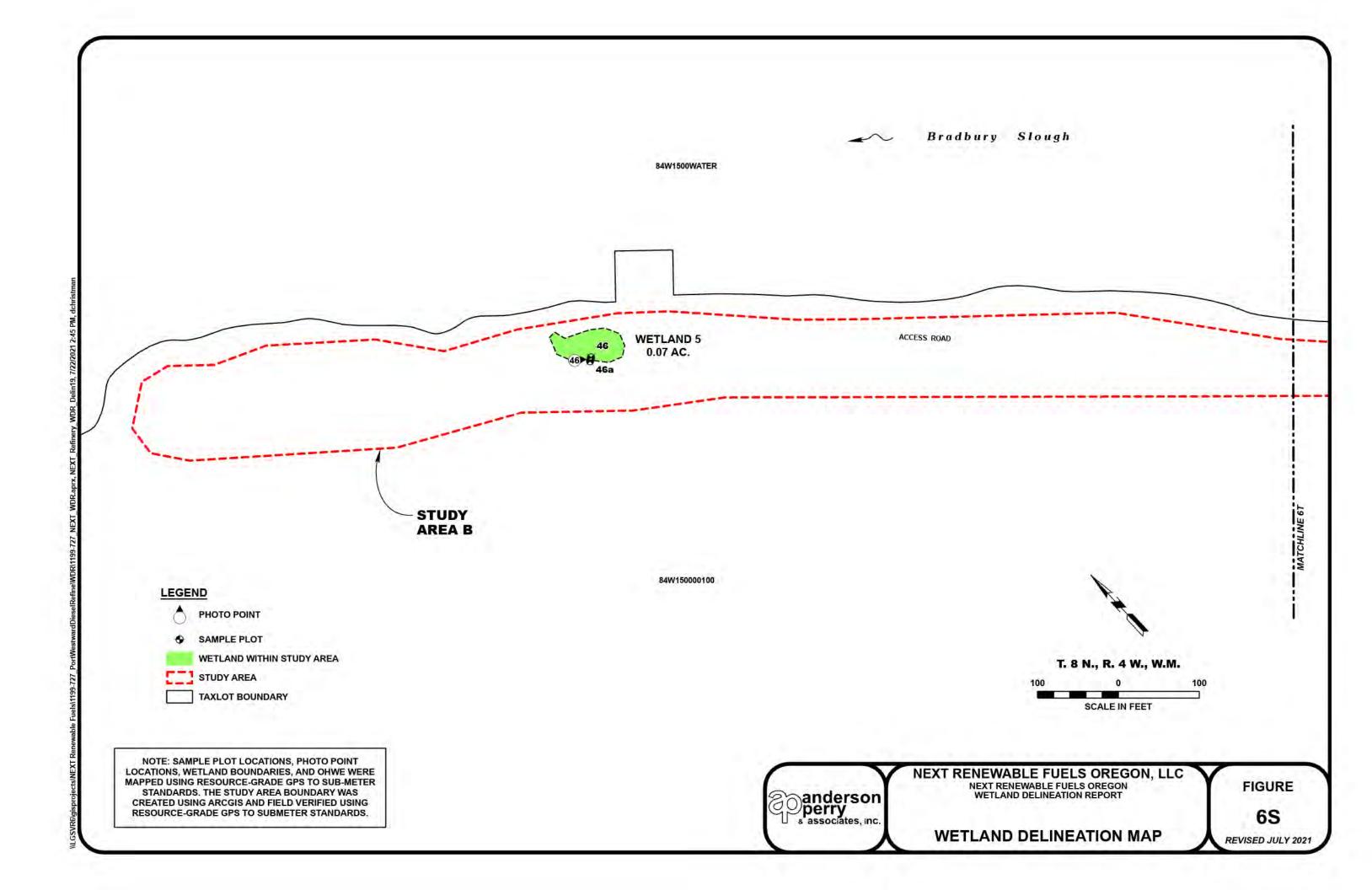


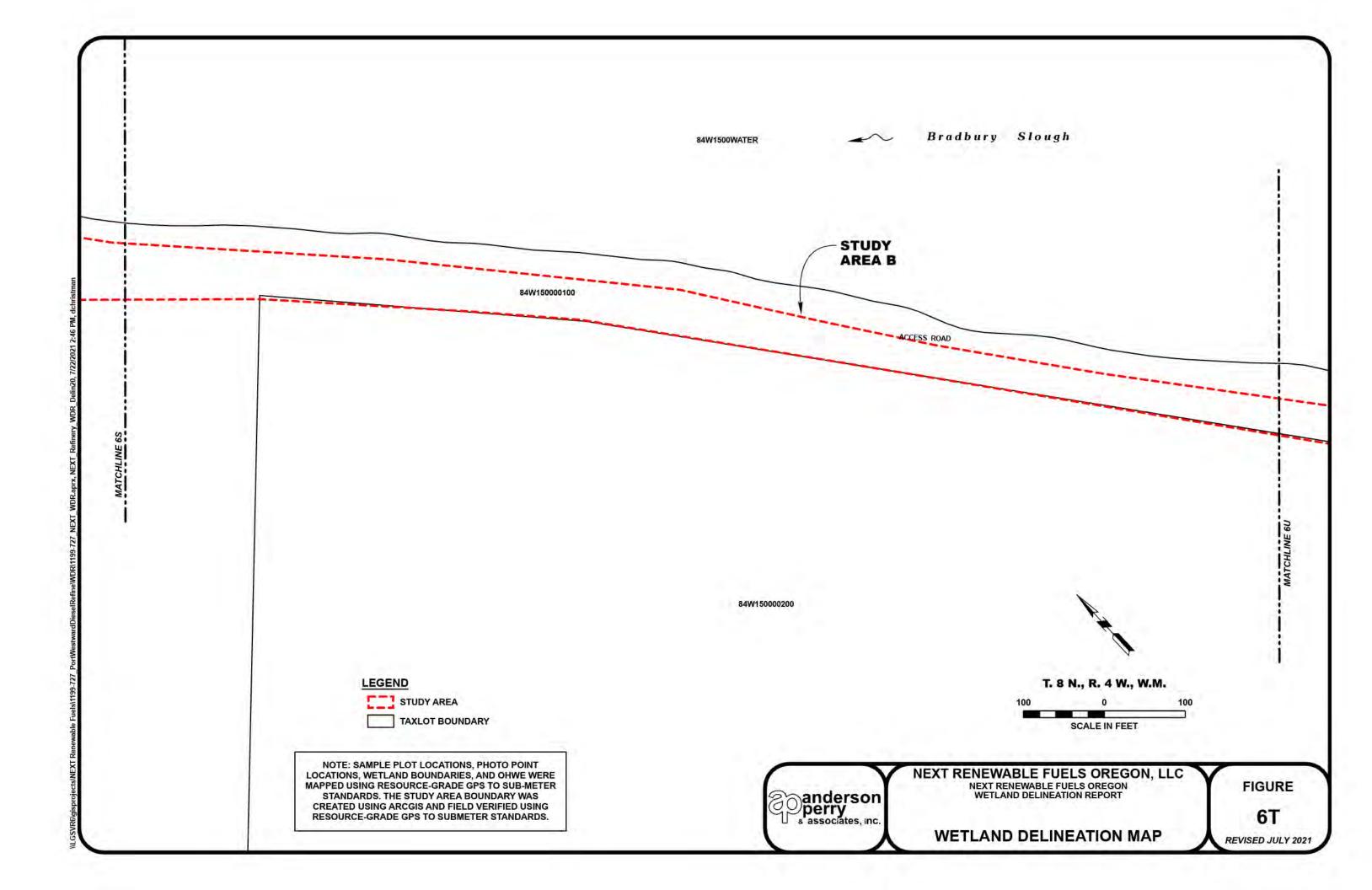


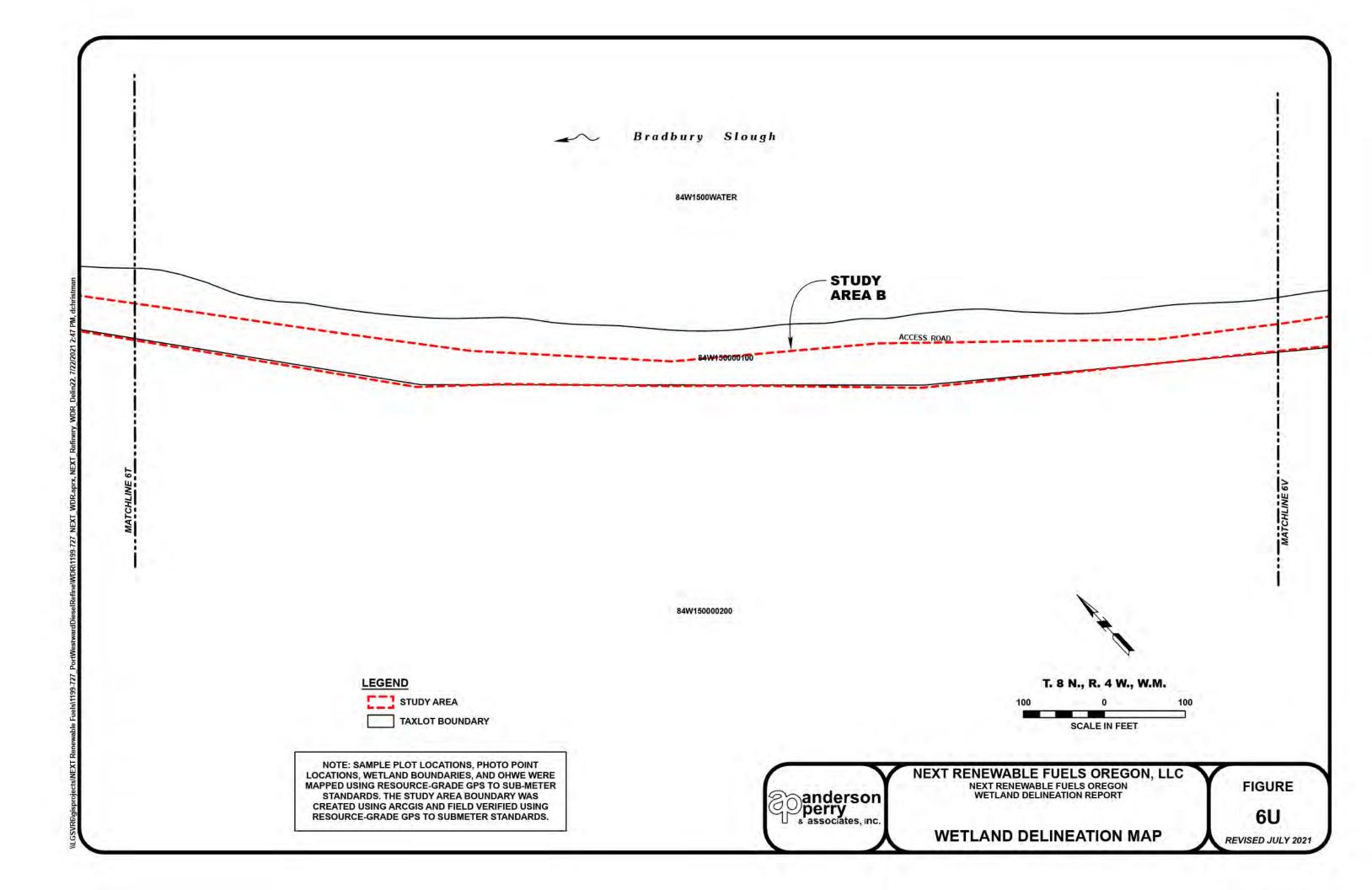


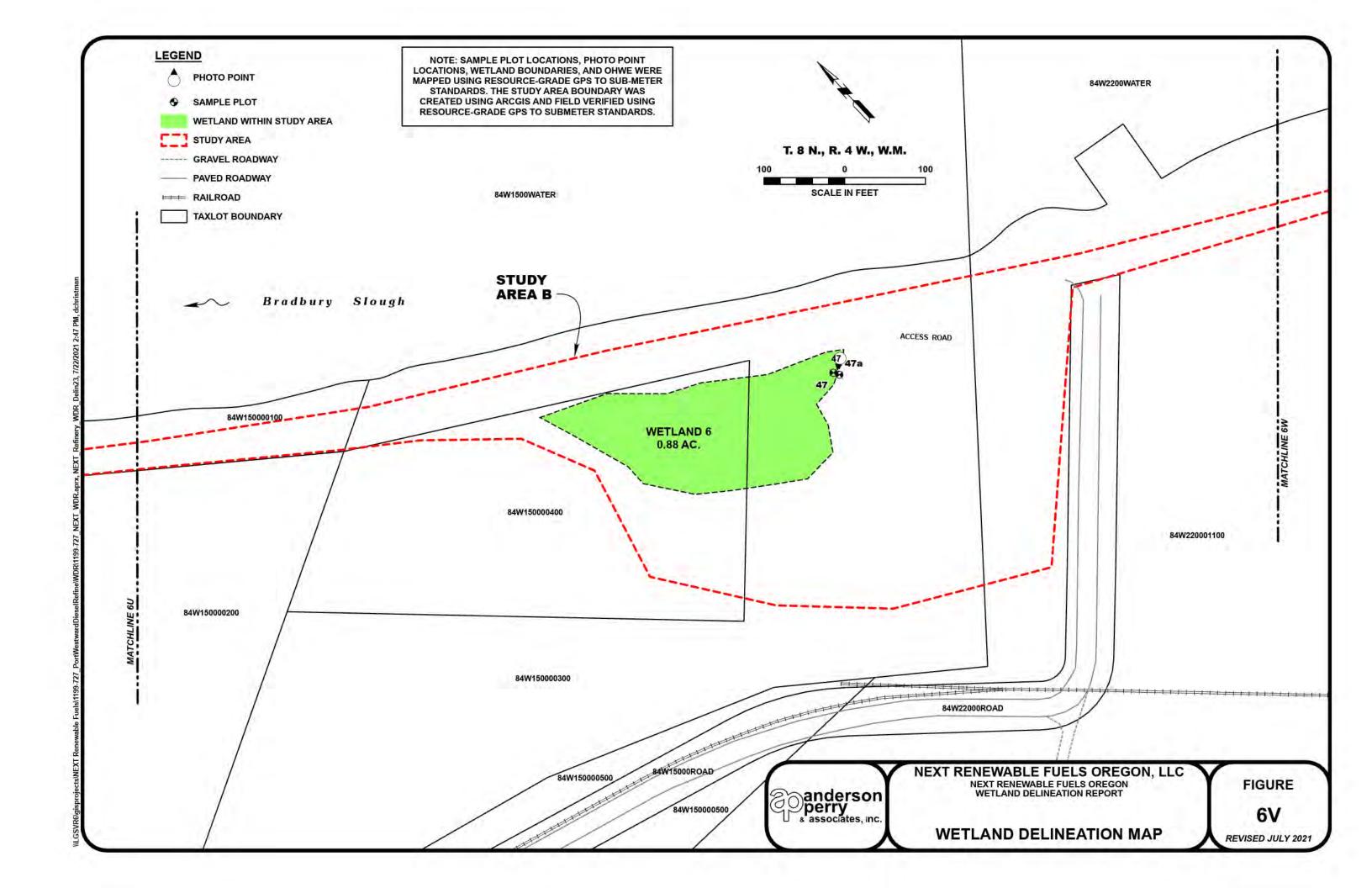


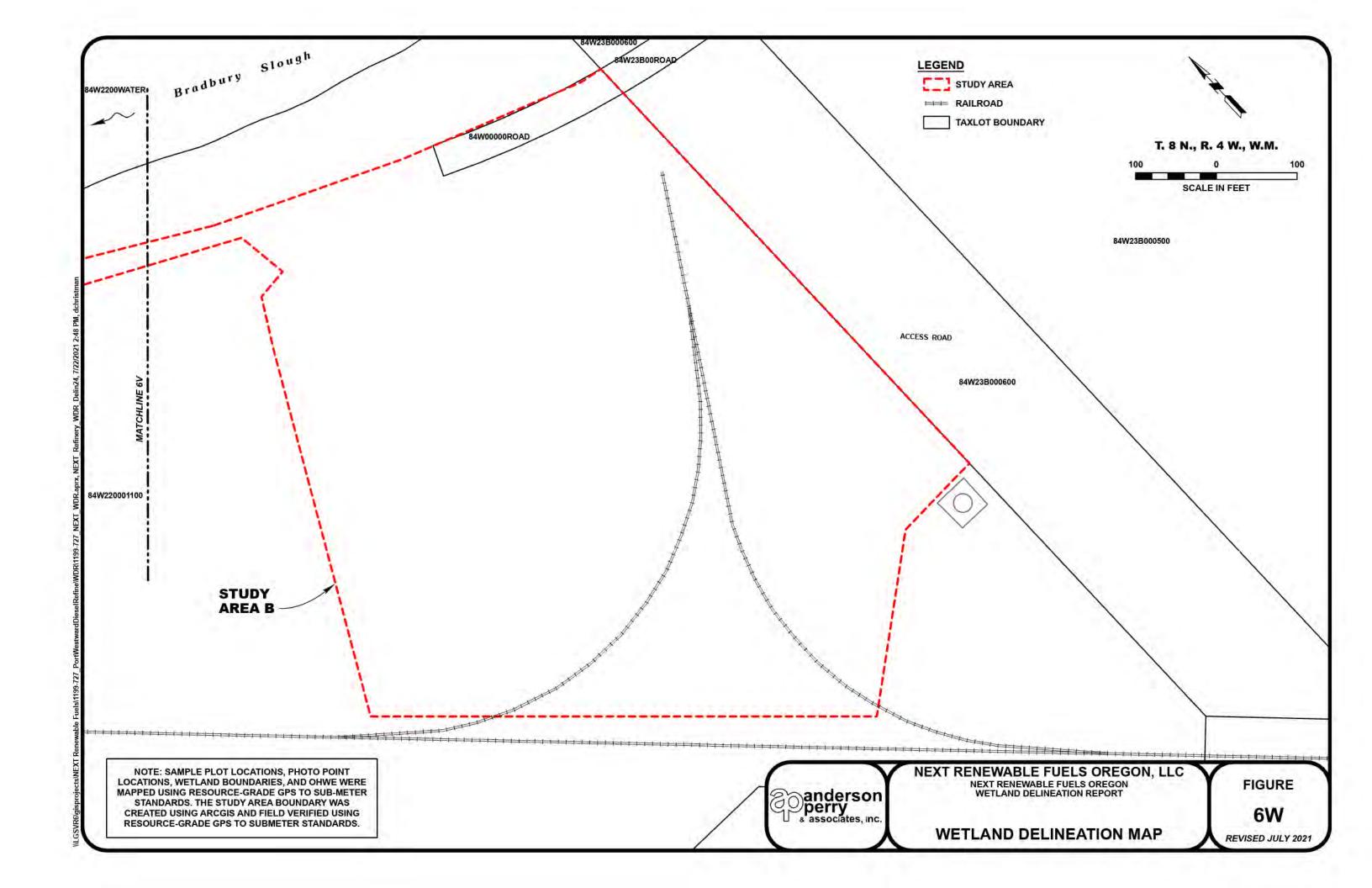












# **APPENDIX B Wetland Determination Data Forms**

Project/Site: Port Westward Renewable Diesel Refinery Applicant/Owner: Next Energy Group, Inc. State: OR Investigator(s): Sue Brady Section, Townshi		nty: <u>Columbia</u>		Sampling Date: <u>11/27/2018</u> Sampling Point: <u>1</u>							
Landform (hillslope, terrace, etc.): Flats Local relief (conce			Slope (%): 0								
· · · · · · · · · · · · · · · · · · ·			–	6026620 Datum: W6594							
Subregion (LRR): Northwest Forests & Coast (LRR A)		46.16743570		.6026630 Datum: <u>WGS84</u>							
Soil Map Unit Name: <u>Udipsamments, nearly level, protect</u>		classification:	·	when \							
Are climatic/hydrologic conditions on the site typical for		r <u>res</u> (ii no, ex									
Are Vegetation X, Soil, or Hydrology significantly				Circumstances" present? Yes							
Are Vegetation, Soil, or Hydrology naturally pro	obiematic?		(ir needed, e	xplain any answers in Remarks.)							
SUMMARY OF FINDINGS – Attach site map showing	ng sampling poi	nt locations,	transects, ir	nportant features, etc.							
Hydrophytic Vegetation Present? Yes											
Hydric Soil Present? Yes  Wetland Hydrology Present? Yes  Is the Sampled Area within a Wetland? Yes											
Wetland Hydrology Present? Yes		10 1110	oumpieu / ii eo								
Remarks:											
VEGETATION – Use scientific names of plants.	Absolute 0/	Dominant	Indicator	Dominance Test worksheet:							
<u>Tree Stratum</u> (Plot size: <u>0</u> )	Absolute % Cover	Dominant Species?	Status	Number of Dominant Species							
1.	Cover	Species:	Status	That Are OBL, FACW, or FAC: $\underline{3}$ (A)							
2.				<u>= (,,</u>							
3.				Total Number of Dominant							
4.				Species Across All Strata: <u>3</u> (B)							
Total Cover = <u>0</u>											
Sapling/Shrub Stratum (Plot size: 0 )				Percent of Dominant Species							
1.				That Are OBL, FACW, or FAC: 100 (A/B)							
2.				Prevalence Index worksheet:							
3.				Total % Cover of: Multiply by:							
4.				OBL species $\underline{0}$ x 1 = $\underline{0}$ FACW species 0 x 2 = 0							
5.				FACW species $\underline{0}$ x 2 = $\underline{0}$ FAC species $\underline{100}$ x 3 = $\underline{300}$							
Total Cover = <u>0</u>			-	FACU species $\underline{0}$ $\times$ 4 = $\underline{0}$							
Herb Stratum (Plot size: 4 m <sup>2</sup> )	00	V	FAC	UPL species $\underline{0}$ $\times$ 5 = $\underline{0}$							
1. Poa pratensis	<u>80</u>	<u>Yes</u>	FAC	Column Totals: <u>100</u> (A) <u>300</u> (B)							
Lolium perenne     Trifolium repens	<u>10</u> 10	<u>Yes</u> Yes	FAC FAC								
4.	10	163	IAC	Prevalence Index = $B/A = 3.00$							
5.											
6.				Hydrophytic Vegetation Indicators:							
7.				1 –Rapid Test for Hydrophytic Vegetation							
8.				$\frac{X}{2}$ 2 – Dominance Test >50% X 3 - Prevalence Index is ≤ 3.0¹							
9.				4 - Morphological Adaptions <sup>1</sup> (Provide supporting							
10.				data in Remarks or on a separate sheet)							
11.				5 – Wetland Non-Vascular Plants <sup>1</sup>							
Total Cover = <u>100</u>				Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)							
Woody Vine Stratum (Plot size: 0 )				<sup>1</sup> Indicators of hydric soil and wetland hydrology							
1.				must be present, unless disturbed or problematic.							
2.											
Total Cover = <u>0</u>											
% Bare Ground in Herb Stratum: <u>0</u>				Hydrophytic Vegetation Present? Yes							
Remarks: grazed pasture											

SOIL Sampling Point: 1

	Mat	<u>rix</u>		Redox F	<u>eatures</u>				
Depth	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture		Remarks
(inches)									
0-6	10YR 3/2	<u>95</u>	10YR 4/6	<u>5</u>	<u>C</u>	<u>RC</u>	Sandy Clay Loam		
6-16	10YR 3/2	<u>95</u>	10YR 4/6	<u>5</u>	<u>C</u>	M	Silty Clay Loam		
				_	_				
1	<u> </u>								
¹Type: C=	-Concentration, D	=Depletior	, RM=Reduced Ma	atrix, CS=0	Covered or	r Coated S	and Grains. <sup>2</sup> Lo	cation: Pl	L=Pore Lining, M=Matrix
Hydric So	il Indicators: (Ap	plicable to	all LRRs, unless ot	herwise r	noted.)			Indicato	rs for Problematic Hydric Soils <sup>3</sup> :
Histos	sol (A1)		Sa	ndy Redo	x (S5)			2 cı	n Muck (A10)
Histic	Epipedon (A2)			ripped Ma					Parent Material (TF2)
	Histic (A3)			• •		l (F1) ( <b>exc</b>	ept MLRA 1)		ry Shallow Dark Surface (TF12)
	ogen Sulfide (A4)		· · · · · · · · · · · · · · · · · · ·	-	ed Matrix		,		ner (Explain in Remarks)
	eted Below Dark S	urface (Δ1	·	pleted M		(-)			(Express to the second
	Dark Surface (A1:	-	·	•	Surface (F	6)		3Indicat	ors of hydrophytic vegetation and
	/ Mucky Mineral (	•			ark Surface	-			d hydrology must be present, unless
			·	•					ed or problematic.
•	Gleyed Matrix (S		ĸe	аох Берг	essions (F8	5)			
	e Layer (if preser	nt):							
Type:								l	
Depth (in	ches): <u>0</u>							Hyaric	Soil Present? Yes
Remarks:									
HYDROLO									
	Hydrology Indicat			بامرمره خمطة	.\				. In diantana (t
Primary ir	ndicators (minimu	ım ot one r	equired; check all	tnat appiy	/)		S	econdary	Indicators (two or more required)
Surfac	ce Water (A1)		Wa	ter-Staine	ed Leaves	(B9)	_	Water	-Stained Leaves (B9)( <b>MLRA 1,2,4A,4B</b> )
High \	Water Table (A2)		(е	xcept ML	RA 1,2,4A,	, and 4B)	_	Draina	ge Patterns (B10)
Satura	ation (A3)		Sal	t Crust (B:	L1)		_	Dry-Se	eason Water Table (C2)
Water	Marks (B1)		Aqı	uatic Inve	rtebrates (	(B13)	_	Satura	tion Visible on Aerial Imagery (C9)
Sedim	ent Deposits (B2)		Hyd	drogen Su	lfide Odor	(C1)	_	Geom	orphic Position (D2)
	Deposits (B3)		· · · · · · · · · · · · · · · · · · ·	_			ng Roots (C3)	 Shallo	w Aquitard (D3)
	Mat or Crust (B4)				Reduced Ir	_			eutral Test (D5)
	eposits (B5)		<del></del>		Reduction		oils (C6)		Ant Mounds (D6)(LRR A)
	ce Soil Cracks (B6)				tressed Pla				Heave Hummocks (D7)
	ation Visible on A				in in Rema			1103t-	neave Hummocks (D7)
		_	- · · · · · · · · · · · · · · · · · · ·	iei (Expia	III III NEIIIa	ii KS)			
	ely Vegetated Cor	icave Surra	ce (B8)						
	ervations:	_	Double (in	- I \					
	/ater Present? No		Depth (ind Depth (ind	•					
	ole Present? <u>No</u> n Present?          Ye			nches): 15	=				
	apillary fringe)	<u>.3</u>	Deptii (ii	iciies). <u>1.</u>	<u>2</u>		Wetland Hydro	logy Pres	ent? Yes
		ream gaug	e, monitoring well	, aerial ph	otos, prev	ious inspe	ections), if available		
	•		•	•		·			
Remarks:									

Project/Site: Port Westward Renewable Diesel Refinery Applicant/Owner: Next Energy Group, Inc. State: OR Investigator(s): Sue Brady Section, Townshi Landform (hillslope, terrace, etc.): Flats Local relief (conc Subregion (LRR): Northwest Forests & Coast (LRR A) Soil Map Unit Name: Udipsamments, nearly level, protect Are climatic/hydrologic conditions on the site typical for Are Vegetation X, Soil, or Hydrology significantly Are Vegetation, Soil, or Hydrology naturally pro	p, Range: T8N R4 ave, convex, none Lat: ted NWI this time of year? disturbed? oblematic?	e): <u>none</u> 46.16742900 classification: Yes (if no, ex	PEM1A plain in Reman Are "Normal (if needed, ex	cks.) Circumstances" present? <u>Yes</u> xplain any answers in Remarks.)
Hydrophytic Vegetation Present? Yes	is sampling por	in locations,	transcets, n	inportant reatures, etc.
Hydric Soil Present? No				
Wetland Hydrology Present? <u>No</u>		Is the	Sampled Area	within a Wetland? <u>No</u>
Remarks:  VEGETATION – Use scientific names of plants.				
VEGETATION — ose scientific frames of plants.	Absolute %	Dominant	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: 0 ) 1. 2. 3.	Cover	Species?	Status	Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A) Total Number of Dominant
4.				Species Across All Strata: <u>3</u> (B)
Total Cover = <u>0</u>				
Sapling/Shrub Stratum (Plot size: 0 )				Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)
1. 2. 3. 4. 5.  Total Cover = 0  Herb Stratum (Plot size: 4 m²)  1. Lolium perenne 2. Poa palustris 3. Trifolium repens 4.	40 40 20	Yes Yes Yes	FAC FAC FAC	Prevalence Index worksheet:
5. 6. 7. 8. 9. 10. 11. Total Cover = 100  Woody Vine Stratum (Plot size: _0_) 1.				Hydrophytic Vegetation Indicators: 1 — Rapid Test for Hydrophytic Vegetation  X
2. Total Cover = <u>0</u>				
% Bare Ground in Herb Stratum: <u>0</u>				Hydrophytic Vegetation Present? Yes
Remarks: grazed pasture				

SOIL Sampling Point: <u>1a</u>

	Mat	<u>rix</u>		Redox F	<u>eatures</u>				
Depth	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture		Remarks
(inches)									
0-9	10YR 4/3	<u>100</u>		<u>0</u>			Sandy Clay Loam		
9-17	10YR 3/3	<u>100</u>		<u>0</u>			Silty Clay Loam		
<u>17-27</u>	10YR 4/3	<u>95</u>	10YR 4/4	<u>5</u>	<u>C</u>	М	Silty Clay Loam		
				_	_	_			
¹Type: C=	Concentration, D	=Depletior	, RM=Reduced Ma	atrix, CS=0	Covered or	r Coated S	and Grains. <sup>2</sup> Lo	cation: Pl	L=Pore Lining, M=Matrix
Hydric So	il Indicators: (Ap	plicable to	all LRRs, unless ot	herwise r	noted.)			Indicato	rs for Problematic Hydric Soils <sup>3</sup> :
Histos	sol (A1)		Sa	ndy Redo	x (S5)			2 cı	n Muck (A10)
	Epipedon (A2)			ripped Ma					Parent Material (TF2)
	Histic (A3)			• •		l (F1) (exce	ept MLRA 1)		ry Shallow Dark Surface (TF12)
	ogen Sulfide (A4)		· · · · · · · · · · · · · · · · · · ·	-	ed Matrix		<b>-p-</b>		ner (Explain in Remarks)
	ted Below Dark S	urfaco (A1:	· · · · · · · · · · · · · · · · · · ·	pleted M		(12)		o	ici (Explain in Kemarks)
		•	· —	•		<b>C</b> )		31mdiani	tors of hydrophytic vogotation and
	Dark Surface (A1	-	· · · · · · · · · · · · · · · · · · ·		Surface (F	-			tors of hydrophytic vegetation and dhydrology must be present, unless
	Mucky Mineral (				ark Surface				ed or problematic.
	Gleyed Matrix (S		Ke	dox Depr	essions (F8	3)		uistai s	ed of problematic.
	e Layer (if preser	nt):							
Type:									0.110
Depth (in	ches): <u>0</u>							Hyaric	Soil Present? No
Remarks:									
HYDROLO									
	Hydrology Indicat								
Primary Ir	idicators (minimu	ım of one r	equired; check all	that apply	/)		S	econdary	Indicators (two or more required)
Surfac	e Water (A1)		Wa	ter-Staine	ed Leaves	(B9)		Water	-Stained Leaves (B9)(MLRA 1,2,4A,4B)
High \	Water Table (A2)		(e	xcept ML	RA 1,2,4A,	and 4B)	_	Draina	age Patterns (B10)
Satura	ation (A3)		Sal	t Crust (B:	11)			Dry-Se	eason Water Table (C2)
Water	Marks (B1)		· · · · · · · · · · · · · · · · · · ·		rtebrates (	B13)	-		ition Visible on Aerial Imagery (C9)
	ent Deposits (B2)				lfide Odor	•	-		orphic Position (D2)
	Deposits (B3)		· · · · · · · · · · · · · · · · · · ·	_			ng Roots (C3)		w Aquitard (D3)
	Mat or Crust (B4)				Reduced Ir	_	116 110013 (63)		eutral Test (D5)
			· · · · · · · · · · · · · · · · · · ·						
	eposits (B5)				Reduction				Ant Mounds (D6)(LRR A)
	ce Soil Cracks (B6)		· · · · · · · · · · · · · · · · · · ·		tressed Pla		LRR A)	Frost-	Heave Hummocks (D7)
	ation Visible on A	_		ner (Explai	in in Rema	rks)			
Sparse	ely Vegetated Cor	ncave Surfa	ce (B8)						
Field Obse									
	ater Present? No	<u>)</u>	Depth (inc	-					
	ole Present? No		Depth (in	•	_				
	n Present? <u>Ye</u>	<u>!S</u>	Depth (ir	nches): <u>16</u>	2		Wetland Hydrol	ngy Pres	ent? No
	apillary fringe) Recorded Data (st	ream galig	e monitoring well	aerial nh	intos nrev	inus insne	ections), if available		<u></u>
יייייייייייייייייייייייייייייייייייייי	recorded Data (St	. cum gaug	c, monitoring well	, acriai pi	iotos, piel	nous mispe		•	
Remarks:									
Remarks:									
Remarks:									

Project/Site: Port Westward Renewable Diesel Refinery Applicant/Owner: Next Energy Group, Inc. State: OR Investigator(s): Sue Brady Section, Townshi Landform (hillslope, terrace, etc.): Flats Local relief (cond Subregion (LRR): Northwest Forests & Coast (LRR A) Soil Map Unit Name: Udipsamments, nearly level, protect Are climatic/hydrologic conditions on the site typical for Are Vegetation X, Soil , or Hydrology significantly Are Vegetation , Soil , or Hydrology naturally pr	ip, Range: T8N R4 lave, convex, none Lat: cted NWI this time of year? disturbed? oblematic?	e): <u>concave</u> <u>46.16663920</u> classification: ? <u>Yes</u> (if no, exp	none plain in Reman Are "Normal (if needed, e	rks.) Circumstances" present? <u>Yes</u> xplain any answers in Remarks.)
Hydrophytic Vegetation Present? Yes				
Hydric Soil Present? <u>Yes</u>				
Wetland Hydrology Present? Yes		Is the S	Sampled Area	within a Wetland? <u>Yes</u>
Remarks:  VEGETATION – Use scientific names of plants.				
vederation – ose scientific fiames of plants.	Absolute %	Dominant	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: 0 ) 1. 2. 3.	Cover	Species?	Status	Number of Dominant Species That Are OBL, FACW, or FAC: $\underline{4}$ (A) Total Number of Dominant
4.				Species Across All Strata: <u>4</u> (B)
Total Cover = <u>0</u>				
Sapling/Shrub Stratum (Plot size: 0 )				Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)
1. 2. 3. 4. 5.  Total Cover = 0  Herb Stratum (Plot size: 4 m²)  1. Lolium perenne 2. Juncus balticus 3. Rumex crispus 4. Poa palustris 5. Phalaris arundinacea 6. 7. 8. 9. 10. 11.  Total Cover = 105  Woody Vine Stratum (Plot size: 0) 1. 2.  Total Cover = 0	30 20 20 30 5	Yes Yes Yes Yes No	FAC FACW FAC FACW	Prevalence Index worksheet:  Total % Cover of: Multiply by:  OBL species 0 x 1 = 0  FACW species 25 x 2 = 50  FAC species 80 x 3 = 240  FACU species 0 x 4 = 0  UPL species 0 x 5 = 0  Column Totals: 105 (A) 290 (B)  Prevalence Index = B/A = 2.76  Hydrophytic Vegetation Indicators:  1 -Rapid Test for Hydrophytic Vegetation  X 2 - Dominance Test >50%  X 3 - Prevalence Index is ≤ 3.0¹  4 - Morphological Adaptions¹ (Provide supporting data in Remarks or on a separate sheet)  5 - Wetland Non-Vascular Plants¹  Problematic Hydrophytic Vegetation¹ (Explain)  ¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
% Bare Ground in Herb Stratum: <u>0</u>				Hydrophytic Vegetation Present? Yes
Remarks: grazed pasture				

SOIL Sampling Point: 2

	Mat	<u>rix</u>		Redox F	<u>eatures</u>				
Depth	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture		Remarks
(inches)									
0-8	10YR 3/2	<u>95</u>	10YR 4/6	<u>5</u>	<u>C</u>	<u>M</u>	Silty Clay Loam		
8-17	10YR 3/2	<u>97</u>	10YR 4/6	3	<u>C</u>	M	Silty Clay Loam		
	· · · · · · · · · · · · · · · · · · ·			_	_				
1									
¹Type: C=	Concentration, D	=Depletior	, RM=Reduced Ma	atrix, CS=0	Covered or	r Coated S	and Grains. <sup>2</sup> Lo	cation: Pl	=Pore Lining, M=Matrix
Hydric So	il Indicators: (Ap	olicable to	all LRRs, unless ot	herwise r	noted.)			Indicato	rs for Problematic Hydric Soils <sup>3</sup> :
Histos	sol (A1)		Sa	ndy Redo	x (S5)			2 cr	n Muck (A10)
Histic	Epipedon (A2)			ripped Ma					Parent Material (TF2)
	Histic (A3)			• •		l (F1) ( <b>exc</b>	ept MLRA 1)	II	ry Shallow Dark Surface (TF12)
	ogen Sulfide (A4)		·	-	ed Matrix		,		er (Explain in Remarks)
	ted Below Dark S	urface (Δ1°		pleted M		(-)			(Exprair in Terrairie)
	Dark Surface (A12	-		•	Surface (F	6)		3Indicat	ors of hydrophytic vegetation and
	Mucky Mineral (	•			ark Surface				d hydrology must be present, unless
	Gleyed Matrix (S			•	essions (F				ed or problematic.
•				иох рерг	essions (F	) 			•
	e Layer (if preser	it):							
Type:								I le caluda d	Cail Busseut 2 Vas
Depth (in	cnes): <u>U</u>							Hydric .	Soil Present? Yes
Remarks:									
	·CV								
HYDROLO									
	Hydrology Indicat		equired; check all	that annly	٨		c	Cocondon	Indicators (two or more required)
•		ili di dile i	· · · · · · · · · · · · · · · · · · ·		-	(DO)			
	te Water (A1)				ed Leaves (		-		-Stained Leaves (B9)( <b>MLRA 1,2,4A,4B</b> )
High \	Vater Table (A2)		•	•	RA 1,2,4A,	, and 4B)	-	Draina	ge Patterns (B10)
<u>X</u> Satura	tion (A3)		Salt	t Crust (Bí	l1)		-		ason Water Table (C2)
Water	Marks (B1)				rtebrates (	•	-	Satura	tion Visible on Aerial Imagery (C9)
Sedim	ent Deposits (B2)		Нус	drogen Su	lfide Odor	(C1)	-	Geom	orphic Position (D2)
Drift [	Deposits (B3)		Oxi	dized Rhi	zospheres	along Livi	ng Roots (C3)	Shallo	w Aquitard (D3)
Algal I	Mat or Crust (B4)		Pre	sence of I	Reduced Ir	on (C4)	-	FAC-N	eutral Test (D5)
Iron D	eposits (B5)		Rec	ent Iron F	Reduction	in Tilled S	oils (C6)	Raised	Ant Mounds (D6)(LRR A)
Surfac	e Soil Cracks (B6)		Stu	nted or St	ressed Pla	ants (D1)(I	LRR A)	Frost-l	Heave Hummocks (D7)
	ation Visible on A				in in Rema				
	ely Vegetated Cor	_				•			
Field Obse			()						
	ater Present? No	)	Depth (inc	ches):					
	ole Present? Ye			iches): <u>15</u>					
Saturation	n Present? Ye			nches): 10					
(includes ca	apillary fringe)						Wetland Hydro	logy Pres	ent? <u>Yes</u>
Describe F	Recorded Data (st	ream gaug	e, monitoring well	, aerial ph	otos, prev	ious inspe	ections), if available	::	
Remarks:									

Project/Site: Port Westward Renewable Diesel Refinery Applicant/Owner: Next Energy Group, Inc. State: OR Investigator(s): Sue Brady Section, Townshi Landform (hillslope, terrace, etc.): Flats Local relief (cond Subregion (LRR): Northwest Forests & Coast (LRR A) Soil Map Unit Name: Udipsamments, nearly level, protect Are climatic/hydrologic conditions on the site typical for Are Vegetation X, Soil , or Hydrology significantly Are Vegetation , Soil , or Hydrology naturally pr	ip, Range: T8N R4 lave, convex, none Lat: cted NWI this time of year? disturbed? oblematic?	e): <u>concave</u> <u>46.16663530</u> classification: P <u>Yes</u> (if no, exp	none plain in Reman Are "Normal (if needed, e	rks.) Circumstances" present? <u>Yes</u> xplain any answers in Remarks.)
Hydrophytic Vegetation Present? Yes				
Hydric Soil Present? <u>No</u>				
Wetland Hydrology Present? <u>No</u>		Is the S	Sampled Area	within a Wetland? <u>No</u>
Remarks:  VEGETATION – Use scientific names of plants.				
VEGETATION — ose scientific fiames of plants.	Absolute %	Dominant	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: 0 ) 1. 2. 3.	Cover	Species?	Status	Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)  Total Number of Dominant
4.				Species Across All Strata: <u>2</u> (B)
Total Cover = <u>0</u>				Percent of Dominant Species
Sapling/Shrub Stratum (Plot size: 0 )				That Are OBL, FACW, or FAC: 100 (A/B)
1. 2. 3. 4. 5.  Total Cover = 0  Herb Stratum (Plot size: 4 m²)  1. Lolium perenne 2. Poa palustris 3. Rumex crispus 4. Juncus balticus 5. Cirsium arvense 6. 7. 8. 9. 10. 11.  Total Cover = 100  Woody Vine Stratum (Plot size: 0) 1.	40 40 5 10 5	Yes Yes No No No	FAC FAC FACW FACU	Prevalence Index worksheet:
2. Total Cover = 0  % Bare Ground in Herb Stratum: 0				
Remarks: grazed pasture		l	ı	Hydrophytic Vegetation Present? Yes

SOIL Sampling Point: <u>2a</u>

	Mat	<u>rix</u>		Redox I	<u>eatures</u>				
Depth	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture		Remarks
(inches)									
0-11	10YR 3/3	<u>100</u>		<u>0</u>			Sandy Clay Loam		
11-18	10YR 3/2	<u>100</u>		<u>0</u>			Silty Clay Loam		
<u>18-26</u>	10YR 3/2	<u>97</u>	10YR 4/4	<u>3</u>	<u>C</u>	М	Silty Clay Loam		
				_	_				
¹Type: C=	Concentration, D	=Depletior	, RM=Reduced Ma	atrix, CS=0	Covered or	r Coated S	and Grains. <sup>2</sup> Lo	cation: Pl	L=Pore Lining, M=Matrix
Hydric So	il Indicators: (Ap	plicable to	all LRRs, unless ot	therwise i	noted.)			Indicato	rs for Problematic Hydric Soils <sup>3</sup> :
Histos	sol (A1)		Sa	ndy Redo	x (S5)			2 cı	n Muck (A10)
	Epipedon (A2)			ripped Ma					Parent Material (TF2)
	Histic (A3)			• •		l (F1) (exce	ept MLRA 1)		ry Shallow Dark Surface (TF12)
	ogen Sulfide (A4)		·	-	ed Matrix		<b>-p-</b>		ner (Explain in Remarks)
	ted Below Dark S	urfaco (A1:		epleted M		(1 2)		o	ici (Explain in Kemarks)
		•		•		<b>C</b> )		31mdiani	tors of hydrophytic vogotation and
	Dark Surface (A1	-	· · · · · · · · · · · · · · · · · · ·		Surface (F	-			tors of hydrophytic vegetation and dhydrology must be present, unless
	Mucky Mineral (				ark Surface				ed or problematic.
	Gleyed Matrix (S		Re	edox Depr	essions (F8	3)		uistai s	ed of problematic.
	e Layer (if preser	nt):							
Type:									0.110
Depth (in	ches): <u>0</u>							Hyaric	Soil Present? No
Remarks:									
HYDROLO									
	Hydrology Indicat								
Primary Ir	idicators (minimu	ım of one r	equired; check all	that apply	/)		S	econdary	Indicators (two or more required)
Surfac	e Water (A1)		Wa	iter-Staine	ed Leaves	(B9)	_	Water	-Stained Leaves (B9)(MLRA 1,2,4A,4B)
High \	Water Table (A2)		(e	xcept ML	RA 1,2,4A,	and 4B)	_	Draina	age Patterns (B10)
Satura	ation (A3)		Salt	t Crust (B:	11)			Dry-Se	eason Water Table (C2)
Water	Marks (B1)			-	rtebrates (	B13)			ition Visible on Aerial Imagery (C9)
	ent Deposits (B2)				lfide Odor		_		orphic Position (D2)
	Deposits (B3)		-	_			ng Roots (C3)		w Aquitard (D3)
	Mat or Crust (B4)				Reduced Ir	_	116 110013 (63)		eutral Test (D5)
	eposits (B5)				Reduction				Ant Mounds (D6)(LRR A)
	ce Soil Cracks (B6)				tressed Pla		LRR A)	Frost-	Heave Hummocks (D7)
	ation Visible on A	_		ner (Expla	in in Rema	rks)			
Sparse	ely Vegetated Cor	ncave Surfa	ce (B8)						
Field Obse									
	ater Present? No	<u>)</u>	Depth (inc	-					
	ole Present? No		Depth (in	•					
	n Present? <u>Ye</u>	<u>!S</u>	Depth (ir	nches): <u>20</u>	<u>)</u>		Wetland Hydrol	ngy Pres	ent? No
	apillary fringe) Recorded Data (st	ream galig	e monitoring well	aerial nh	notos nrev	inus insne	ections), if available		<u></u>
יייייייייייייייייייייייייייייייייייייי	iccorded Data (St	. cum gaug	c, monitoring well	, acriai pi	iotos, piel	ious irispt	, ii avaliable	•	
Remarks:									
Remarks:									
Remarks:									

Project/Site: Port Westward Renewable Diesel Refinery Applicant/Owner: Next Energy Group, Inc. State: OR Investigator(s): Sue Brady Section, Townsh Landform (hillslope, terrace, etc.): Flats Local relief (cond Subregion (LRR): Northwest Forests & Coast (LRR A) Soil Map Unit Name: Udipsamments, nearly level, prote Are climatic/hydrologic conditions on the site typical for Are VegetationX, Soil, or Hydrology significantly Are Vegetation, Soil, or Hydrology naturally pr	ip, Range: T8N R4 cave, convex, none Lat: cted NWI this time of year? disturbed?	e): <u>concave</u> <u>46.16620540</u> classification: ? <u>Yes</u> (if no, exp	none blain in Remai Are "Normal (if needed, e	rks.) Circumstances" present? <u>Yes</u> xplain any answers in Remarks.)
Hydrophytic Vegetation Present? Yes	8 голи			
Hydric Soil Present? <u>Yes</u>				
Wetland Hydrology Present? Yes		Is the S	Sampled Area	within a Wetland? <u>Yes</u>
Remarks:  VEGETATION – Use scientific names of plants.				
vegetation – ose scientific names of plants.	Absolute %	Dominant	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: 0 ) 1. 2. 3.	Cover	Species?	Status	Number of Dominant Species That Are OBL, FACW, or FAC: $\underline{4}$ (A)  Total Number of Dominant
4.				Species Across All Strata: $\underline{4}$ (B)
Total Cover = <u>0</u>				Description of Description of Control
Sapling/Shrub Stratum (Plot size: 0 )				Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)
1. 2. 3. 4. 5.  Total Cover = 0  Herb Stratum (Plot size: _4 m² )  1. Lolium perenne 2. Poa palustris 3. Mentha x piperita 4. Carex nebrascensis 5. Juncus balticus 6. 7. 8. 9. 10. 11.  Total Cover = 100  Woody Vine Stratum (Plot size: _0 ) 1. 2.	20 30 10 20 20	Yes Yes No Yes Yes	FAC FAC FACW OBL FACW	Prevalence Index worksheet:
Total Cover = <u>0</u> % Bare Ground in Herb Stratum: <u>0</u>				Hydrophytic Vegetation Present? Yes
Remarks: grazed pasture				

SOIL Sampling Point: 3

	Mat	<u>rix</u>		Redox F	eatures				
Depth	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture		Remarks
(inches)									
<u>0-7</u>	10YR 3/2	<u>100</u>		<u>0</u>			Silty Clay Loam		
7-16	10YR 3/2	<u>95</u>	10YR 4/6	<u>5</u>	<u>C</u>	M	Silty Clay Loam		
	·			_	_				
1									
¹Type: C=	Concentration, D	=Depletior	, RM=Reduced Ma	atrix, CS=0	Lovered or	r Coated S	and Grains. <sup>2</sup> Lo	cation: P	L=Pore Lining, M=Matrix
Hydric So	il Indicators: (Ap	olicable to	all LRRs, unless ot	herwise r	noted.)			Indicato	rs for Problematic Hydric Soils <sup>3</sup> :
Histos	sol (A1)		Sa	ndy Redo	x (S5)			2 cı	n Muck (A10)
Histic	Epipedon (A2)			ripped Ma					Parent Material (TF2)
	Histic (A3)			• •	. ,	l (F1) ( <b>exc</b>	ept MLRA 1)	,	ry Shallow Dark Surface (TF12)
	gen Sulfide (A4)		·	-	ed Matrix		,		ner (Explain in Remarks)
	ted Below Dark S	urface (Δ1°		pleted M		(. –)			(Express to the second
	Dark Surface (A12	-		•	Surface (F	5)		3Indicat	ors of hydrophytic vegetation and
	Mucky Mineral (	•			ark Surface	-			d hydrology must be present, unless
	· · · · · · · · · · · · · · · · · · ·			•					ed or problematic.
•	Gleyed Matrix (S		Re	аох Берг	essions (F8	>)			
	e Layer (if preser	ıt):							
Type:								Unadata	Cail Bussesst 2 Vos
Depth (in	ches): <u>0</u>							nyaric	Soil Present? Yes
Remarks:									
HYDROLO									
	Hydrology Indicat				.\			` l	. In diantana (t
		m or one r	equired; check all			(5.0)			Indicators (two or more required)
	e Water (A1)				ed Leaves		-		-Stained Leaves (B9)( <b>MLRA 1,2,4A,4B</b> )
High \	Vater Table (A2)		(e	xcept ML	RA 1,2,4A,	and 4B)	-	Draina	ge Patterns (B10)
<u>X</u> Satura	tion (A3)		Salt	t Crust (B1	L1)		_	Dry-Se	eason Water Table (C2)
Water	Marks (B1)		Aqı	uatic Inve	rtebrates (	B13)	-	Satura	tion Visible on Aerial Imagery (C9)
Sedim	ent Deposits (B2)		Нус	drogen Su	lfide Odor	(C1)	_	Geom	orphic Position (D2)
Drift [	eposits (B3)		Oxi	dized Rhiz	ospheres	along Livi	ng Roots (C3)	Shallo	w Aquitard (D3)
Algal I	Mat or Crust (B4)		Pre	sence of I	Reduced Ir	on (C4)	_	FAC-N	eutral Test (D5)
Iron D	eposits (B5)		Rec	ent Iron F	Reduction	in Tilled S	oils (C6)	Raisec	Ant Mounds (D6)(LRR A)
	e Soil Cracks (B6)				ressed Pla		· · ·		Heave Hummocks (D7)
	ation Visible on A				in in Rema		,		,
	ely Vegetated Cor	_		.c. (=np.a.		,			
Field Obse		icave Jarra	cc (B0)				1		
	ater Present? No	,	Depth (inc	chacl.					
	ole Present? Ye			ches): <u>14</u>					
	Present? Ye			nches): 9	•				
	apillary fringe)	_	-1 (	, _			Wetland Hydro	logy Pres	ent? Yes
Describe F	Recorded Data (st	ream gaug	e, monitoring well	, aerial ph	otos, prev	ious inspe	ections), if available	2:	
Remarks:									

Project/Site: <u>Port Westward Renewa</u> Applicant/Owner: <u>Next Energy Group</u> Investigator(s): <u>Sue Brady</u>			nty: <u>Columbia</u> W Section 16	1	Sampling Date: <u>11/27/2018</u> Sampling Point: <u>3a</u>
Landform (hillslope, terrace, etc.): Fla Subregion (LRR): Northwest Forests &	ats Local relief (concav	ve, convex, none	e): <u>concave</u>	Slope (%): <u>0</u> Long: <u>-123.1</u>	<u>6026510</u> Datum: <u>WGS84</u>
Soil Map Unit Name: <u>Udipsamments</u> ,	nearly level, protecte	<u>ed</u> NWI	classification	: <u>none</u>	
Are climatic/hydrologic conditions on	the site typical for th	nis time of year?	Yes (if no, ex	cplain in Rema	rks.)
Are Vegetation X, Soil, or Hydrold	ogy significantly di	isturbed?		Are "Normal	Circumstances" present? Yes
Are Vegetation, Soil, or Hydrol	ogy naturally prob	olematic?		(if needed, e	xplain any answers in Remarks.)
SUMMARY OF FINDINGS – Attack	h site map showing	g sampling poi	nt locations	. transects. ir	mportant features, etc.
Hydrophytic Vegetation Present? Ye		,		,	
	<u></u>				
· ·	lo		Is the	Sampled Area	within a Wetland? <u>No</u>
Remarks:					
VEGETATION – Use scientific nam	nes of plants.				
VEGETATION OSE SCIENCINE HAIT	les or plants.	Absolute %	Dominant	Indicator	Dominance Test worksheet:
<u>Tree Stratum</u> (Plot size: <u>0</u> )		Cover	Species?	Status	Number of Dominant Species
1.					That Are OBL, FACW, or FAC: $\underline{2}$ (A)
2.		ļ			
3.		ļ			Total Number of Dominant
4.	Cover =0				Species Across All Strata: <u>2</u> (B)
	_				Percent of Dominant Species
Sapling/Shrub Stratum (Plot size:	<u>U</u> )				That Are OBL, FACW, or FAC: 100 (A/B)
2.		ļ			Prevalence Index worksheet:
3.		ļ			Total % Cover of: Multiply by:
4.		ļ			OBL species $\underline{0}$ x 1 = $\underline{0}$
5.		ļ			FACW species $\underline{0}$ x 2 = $\underline{0}$
	Cover = <u>0</u>				FAC species $90 \times 3 = 270$
<u>Herb Stratum</u> (Plot size: <u>4 m²</u> )		ļ			FACU species $\underline{10}$ x 4 = $\underline{40}$ UPL species $\underline{0}$ x 5 = $\underline{0}$
1. Lolium perenne		<u>30</u>	<u>Yes</u>	<u>FAC</u>	Column Totals: $100$ (A) $310$ (B)
Poa palustris     Matricaria discoidea		<u>60</u>	Yes No	FAC	(,
3. Matricaria discoidea 4.		<u>10</u>	<u>No</u>	<u>FACU</u>	Prevalence Index = B/A = 3.10
5.					
6.					Hydrophytic Vegetation Indicators:
7.					1 –Rapid Test for Hydrophytic Vegetation
8.					X 2 – Dominance Test >50%
9.					3 - Prevalence Index is ≤ 3.0¹ 4 - Morphological Adaptions¹ (Provide supporting
10.		ļ			data in Remarks or on a separate sheet)
11.		ļ			5 – Wetland Non-Vascular Plants <sup>1</sup>
l otal (	Cover = <u>100</u>				Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
Woody Vine Stratum (Plot size: 0	)				<sup>1</sup> Indicators of hydric soil and wetland hydrology
1.	- '	ļ			must be present, unless disturbed or problematic.
2.		ļ			
Total C	Cover = <u>0</u>				
% Bare Ground in Herb Stratum: <u>0</u>					Hydrophytic Vegetation Present? Yes
Remarks: grazed pasture					<del></del>

SOIL Sampling Point: <u>3a</u>

	Mat	<u>rix</u>		Redox I	-eatures				
Depth	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture		Remarks
(inches)									
<u>0-12</u>	10YR 3/2	<u>100</u>		<u>0</u>			Sandy Clay Loam		some gravel
12-18	10YR 3/2	<u>99</u>	10YR 4/4	<u>1</u>	<u>C</u>	<u>M</u>	Silty Clay Loam		
<u>18-25</u>	10YR 3/2	<u>95</u>	10YR 4/6	<u>5</u>	<u>C</u>	M	Silty Clay Loam		
			'	_	_	_			
1									
¹Type: C=	-Concentration, D	=Depletior	, RM=Reduced Ma	atrix, CS=0	Covered or	r Coated S	and Grains. <sup>2</sup> Lo	cation: P	L=Pore Lining, M=Matrix
Hydric So	il Indicators: (Ap	plicable to	all LRRs, unless ot	herwise i	noted.)			Indicato	rs for Problematic Hydric Soils <sup>3</sup> :
Histos	sol (A1)		Sa	ndy Redo	x (S5)			2 cı	m Muck (A10)
	Epipedon (A2)			ripped Ma					Parent Material (TF2)
	Histic (A3)			• •		l (F1) (exc	ept MLRA 1)		ry Shallow Dark Surface (TF12)
	ogen Sulfide (A4)		· · · · · · · · · · · · · · · · · · ·	-	ed Matrix		cpt william 1)		ner (Explain in Remarks)
		faca / 11:				(Г2)		0	iei (Expiaiii iii Keiliaiks)
	ted Below Dark S	•	-	pleted M		·C)		31	to a of harder the discount of a cond
	Dark Surface (A1:	-	· · · · · · · · · · · · · · · · · · ·		Surface (F	-			tors of hydrophytic vegetation and d hydrology must be present, unless
	Mucky Mineral (				ark Surface				ed or problematic.
Sandy	Gleyed Matrix (S	54)	Re	dox Depr	essions (F8	3)		uistuib	ed of problematic.
Restrictiv	e Layer (if preser	nt):							
Type:									
Depth (in	ches): <u>0</u>							Hydric	Soil Present? No
Remarks:									
HYDROLO	GY								
Wetland I	Hydrology Indicat	tors:							
Primary In	idicators (minimu	m of one r	equired; check all	that apply	/)		S	econdary	/ Indicators (two or more required)
Surfac	e Water (A1)		Wa	ter-Staine	ed Leaves	(B9)		Water	-Stained Leaves (B9)( <b>MLRA 1,2,4A,4B</b> )
	Vater Table (A2)		· · · · · · · · · · · · · · · · · · ·		RA 1,2,4A,				age Patterns (B10)
	ation (A3)		•	t Crust (B:		, a.i.a i.b.,	_		eason Water Table (C2)
	Marks (B1)		' <del></del>	•	•	'D12\	_		ition Visible on Aerial Imagery (C9)
	` '				rtebrates (		-		
	ent Deposits (B2)	1	-	-	lfide Odor		- ()		orphic Position (D2)
	Deposits (B3)					_	ng Roots (C3)		w Aquitard (D3)
	Mat or Crust (B4)		· · · · · · · · · · · · · · · · · · ·		Reduced Ir		-		eutral Test (D5)
Iron D	eposits (B5)		Rec	ent Iron I	Reduction	in Tilled S	oils (C6)	Raised	Ant Mounds (D6)(LRR A)
Surfac	e Soil Cracks (B6)		Stu	nted or S	tressed Pla	ants (D1)( <b>I</b>	_RR A)	Frost-	Heave Hummocks (D7)
Inunda	ation Visible on A	erial Image	ry (B7)Oth	ner (Expla	in in Rema	ırks)			
Sparse	ely Vegetated Cor	ncave Surfa	ce (B8)						
Field Obse	ervations:								
Surface W	ater Present? No	<u>)</u>	Depth (inc	ches):					
Water Tak	ole Present? Ye	<u>es</u>	Depth (in	ches): <u>22</u>	<u>,                                     </u>				
Saturation	n Present? Ye	<u>!S</u>	Depth (ir	nches): <u>19</u>	<u> </u>				
	apillary fringe)						Wetland Hydro		ent? <u>No</u>
Describe F	Recorded Data (st	ream gaug	e, monitoring well	, aerial ph	notos, prev	ious inspe	ections), if available	:	
Remarks:									

Project/Site: Port Westward Renewable Diesel Refinery Applicant/Owner: Next Energy Group, Inc. State: OR Investigator(s): Sue Brady Section, Townshi Landform (hillslope, terrace, etc.): Flats Local relief (conc. Subregion (LRR): Northwest Forests & Coast (LRR A) Soil Map Unit Name: Udipsamments, nearly level, protect Are climatic/hydrologic conditions on the site typical for Are Vegetation, Soil, or Hydrology significantly Are Vegetation, Soil, or Hydrology naturally pro	p, Range: T8N R4 ave, convex, none Lat: ted NWI this time of year? disturbed?	e): <u>none</u> <u>46.16674800</u> classification: O <u>Yes</u> (if no, ex	none plain in Rema Are "Normal (if needed, e	rks.) Circumstances" present? <u>Yes</u> xplain any answers in Remarks.)
Hydrophytic Vegetation Present? Yes			<u> </u>	
Hydric Soil Present? <u>Yes</u>				
Wetland Hydrology Present? <u>Yes</u>		Is the	Sampled Area	within a Wetland? Yes
VEGETATION – Use scientific names of plants.				
	Absolute %	Dominant	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: _0_) 1. 2. 3.	Cover	Species?	Status	Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)  Total Number of Dominant
4.				Species Across All Strata: <u>3</u> (B)
Total Cover = <u>0</u>				
Sapling/Shrub Stratum (Plot size: 0 )				Percent of Dominant Species That Are OBL, FACW, or FAC: <u>66</u> (A/B)
1. 2. 3. 4. 5.  Total Cover = 0  Herb Stratum (Plot size: 4 m²)  1. Poa palustris 2. Trifolium repens 3. Juncus balticus 4. 5. 6. 7.	40 20 20	Yes Yes Yes	FAC FACU FACW	Prevalence Index worksheet:           Total % Cover of:         Multiply by:           OBL species         0         x 1 = 0           FACW species         20         x 2 = 40           FAC species         40         x 3 = 120           FACU species         20         x 4 = 80           UPL species         0         x 5 = 0           Column Totals:         80         (A)         240         (B)           Prevalence Index = B/A = 3.00           Hydrophytic Vegetation Indicators:           1 -Rapid Test for Hydrophytic Vegetation
8. 9. 10. 11. Total Cover = 80  Woody Vine Stratum (Plot size: _0_)				X 2 - Dominance Test >50% X 3 - Prevalence Index is ≤ 3.0¹ 4 - Morphological Adaptions¹ (Provide supporting data in Remarks or on a separate sheet) 5 - Wetland Non-Vascular Plants¹ Problematic Hydrophytic Vegetation¹ (Explain) ¹Indicators of hydric soil and wetland hydrology
1. 2. Total Cover = <u>0</u>				must be present, unless disturbed or problematic.
% Bare Ground in Herb Stratum: <u>20</u>				Hydrophytic Vegetation Present? Yes
Remarks: grazed pasture			•	<u> </u>

	Mat	<u>rix</u>		Redox F	<u>eatures</u>				
Depth	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture		Remarks
(inches)									
<u>0-6</u>	10YR 3/2	100		<u>0</u>			Silty Clay Loam		
6-17	10YR 3/2	<u>95</u>	10YR 4/6	<u>5</u>	<u>C</u>	RC	Silty Clay Loam		
				_	_				
1									
¹Type: C=	Concentration, D	=Depletion	, RM=Reduced Ma	atrix, CS=0	Covered or	Coated S	and Grains. <sup>2</sup> Lo	ocation: Pl	L=Pore Lining, M=Matrix
Hydric So	il Indicators: (App	olicable to	all LRRs, unless ot	herwise r	noted.)			Indicato	rs for Problematic Hydric Soils <sup>3</sup> :
	sol (A1)			ndy Redo				2 cr	m Muck (A10)
	Epipedon (A2)			ripped Ma					Parent Material (TF2)
	Histic (A3)		· · · · · · · · · · · · · · · · · · ·	• •		(E1) (ove	ept MLRA 1)	II	ry Shallow Dark Surface (TF12)
	• •			•	•		ept witka 1)	ı —	•
	ogen Sulfide (A4)	C /A4			ed Matrix	(FZ)		Oth	er (Explain in Remarks)
	ted Below Dark S			pleted M		_,		2	
	Dark Surface (A12	-	· · · · · · · · · · · · · · · · · · ·		Surface (F	-			ors of hydrophytic vegetation and
-	Mucky Mineral (				ark Surface				d hydrology must be present, unless
Sandy	Gleyed Matrix (S	4)	Re	dox Depr	essions (F8	3)		disturb	ed or problematic.
Restrictiv	e Layer (if presen	ıt):							
Type:									
Depth (in	ches): <u>0</u>							Hydric	Soil Present? Yes
Remarks:								-	
HYDROLO	GY								
	Hydrology Indicat								
Primary In	ndicators (minimu	m of one re	equired; check all	that apply	<i>(</i> )		9	Secondary	Indicators (two or more required)
Surfac	e Water (A1)		Wa	ter-Staine	ed Leaves (	(B9)		Water	-Stained Leaves (B9)(MLRA 1,2,4A,4B)
High V	Vater Table (A2)		(e	xcept ML	RA 1,2,4A,	and 4B)		Draina	ige Patterns (B10)
	ation (A3)		Salt	t Crust (Bí	 L1)	,	-		eason Water Table (C2)
	· Marks (B1)				, rtebrates (	B13)	-		tion Visible on Aerial Imagery (C9)
· · ·	ent Deposits (B2)				lfide Odor	•	-		orphic Position (D2)
	Deposits (B3)		•	-			ng Roots (C3)		w Aquitard (D3)
	Mat or Crust (B4)				Reduced Ir	_	ig 10003 (C3)		eutral Test (D5)
			· <u></u>				oile (CC)		
	eposits (B5)				Reduction				Ant Mounds (D6)(LRR A)
	e Soil Cracks (B6)				tressed Pla		RR A)	Frost-l	Heave Hummocks (D7)
	ation Visible on A	Ū	· · · · —	ier (Explai	in in Rema	rks)			
Sparse	ely Vegetated Cor	icave Surfa	ce (B8)						
	ervations:								
	ater Present? No	_	Depth (inc						
	ole Present? <u>No</u>	_	Depth (in						
	n Present? <u>Ye</u>	<u>S</u>	Depth (ir	nches): <u>1</u> 4	<u>+</u>		Wetland Hydro	logy Pres	ent? Yes
	apillary fringe) Recorded Data (st	ream galle	e. monitoring well	, aerial nh	notos nrev	ious insna	ections), if available		
20001001	(31	. carri gaag	c,om.ormg wen	, acriai pi	.5105, prev	.545 1150	, ii avaliabit		
Remarks:									

Project/Site: Port Westward Renewable Diesel Refinery Applicant/Owner: Next Energy Group, Inc. State: OR Investigator(s): Sue Brady Section, Township Landform (hillslope, terrace, etc.): Flats Local relief (conca Subregion (LRR): Northwest Forests & Coast (LRR A) Soil Map Unit Name: Udipsamments, nearly level, protec Are climatic/hydrologic conditions on the site typical for Are Vegetation X, Soil , or Hydrology significantly of Are Vegetation Soil or Hydrology naturally pro	p, Range: T8N R4N ave, convex, none Lat: ted NWI this time of year? disturbed? oblematic?	e): <u>none</u> <u>46.16675300</u> classification: ? <u>Yes</u> (if no, exp	none plain in Reman Are "Normal (if needed, e	rks.) Circumstances" present? <u>Yes</u> xplain any answers in Remarks.)
Hydrophytic Vegetation Present? No	B camping poin		transcetto, n	mportant reatares, etc.
Hydric Soil Present? No				
Wetland Hydrology Present? <u>No</u>		Is the S	Sampled Area	within a Wetland? <u>No</u>
Remarks:  VEGETATION – Use scientific names of plants.				
VEGETATION OSC SCIENCING HUMES OF Plants.	Absolute %	Dominant	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: 0 ) 1. 2. 3.	Cover	Species?	Status	Number of Dominant Species That Are OBL, FACW, or FAC: $\underline{1}$ (A) Total Number of Dominant
4.				Species Across All Strata: <u>2</u> (B)
Total Cover = <u>0</u>				Percent of Dominant Species
Sapling/Shrub Stratum (Plot size: 0)				That Are OBL, FACW, or FAC: 50 (A/B)
1. 2. 3. 4. 5.  Total Cover = 0				Prevalence Index worksheet:
Herb Stratum (Plot size: 4 m²)  1. Poa palustris 2. Juncus balticus 3. Trifolium repens 4.	<u>50</u> <u>10</u> <u>40</u>	<u>Yes</u> <u>No</u> <u>Yes</u>	FAC FACW FACU	UPL species $0 \times 5 = 0$ Column Totals: $100 \times 5 = 0$ Prevalence Index = B/A = $3.30$
5. 6. 7. 8. 9. 10. 11.  Total Cover = 100				Hydrophytic Vegetation Indicators: 1 — Rapid Test for Hydrophytic Vegetation2 — Dominance Test > 50%3 - Prevalence Index is ≤ 3.0¹4 - Morphological Adaptions¹ (Provide supporting data in Remarks or on a separate sheet)5 — Wetland Non-Vascular Plants¹ Problematic Hydrophytic Vegetation¹ (Explain)  ¹Indicators of hydric soil and wetland hydrology
1. 2. Total Cover = 0				must be present, unless disturbed or problematic.
% Bare Ground in Herb Stratum: <u>0</u>				Hydrophytic Vegetation Present? No
Remarks: grazed pasture	_	<u>l</u>		injuroprijate regetation i resenti ino

	Mat	<u>rix</u>		Redox F	<u>eatures</u>				
Depth	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture		Remarks
(inches)									
<u>0-7</u>	10YR 3/3	<u>100</u>					Sandy Clay Loam		
7-19	10YR 3/2	<u>100</u>					Silty Clay Loam		
<u> 19-26</u>	10YR 3/2	<u>95</u>	10YR 4/4	<u>5</u>	<u>C</u>	М	Silty Clay Loam		
	<u> </u>			_	_		·		
¹Type: C=	Concentration, D	=Depletior	, RM=Reduced Ma	atrix, CS=0	Covered or	r Coated S	and Grains. <sup>2</sup> Lo	cation: P	L=Pore Lining, M=Matrix
Hydric So	il Indicators: (Ap	plicable to	all LRRs, unless ot	herwise r	noted.)			Indicato	rs for Problematic Hydric Soils <sup>3</sup> :
Histos	sol (A1)		Sa	ndy Redo	x (S5)			2 cı	m Muck (A10)
	Epipedon (A2)			ripped Ma					Parent Material (TF2)
	Histic (A3)			• •		l (F1) (exc	ept MLRA 1)		ry Shallow Dark Surface (TF12)
	ogen Sulfide (A4)		· · · · · · · · · · · · · · · · · · ·	-	ed Matrix		cpt ivition 1)		ner (Explain in Remarks)
	ted Below Dark S	faca (A1:		epleted M		(12)		0	iei (Explain in Nemarks)
		•		•		<b>C</b> \		31.5.41.5.5	hava af havdua ahadi ay ay d
	Dark Surface (A12	-	· · · · · · · · · · · · · · · · · · ·		Surface (F	-			tors of hydrophytic vegetation and dhydrology must be present, unless
	Mucky Mineral (				ark Surface				ed or problematic.
Sandy	Gleyed Matrix (S	54)	Re	dox Depr	essions (F8	3)		uistuib	ed of problematic.
Restrictiv	e Layer (if preser	ıt):							
Type:									
Depth (in	ches): <u>0</u>							Hydric	Soil Present? No
Remarks:								l	
HYDROLO	GY								
	Hydrology Indicat								
Primary In	ndicators (minimu	m of one r	equired; check all	that apply	/)		S	econdary	/ Indicators (two or more required)
Surfac	e Water (A1)		Wa	ter-Staine	ed Leaves	(B9)		Water	Stained Leaves (B9)( <b>MLRA 1,2,4A,4B</b> )
	Water Table (A2)		(e	xcept ML	RA 1,2,4A,	and 4B)		 Draina	age Patterns (B10)
	ation (A3)		•	t Crust (B		,,	-		eason Water Table (C2)
	Marks (B1)		· <del></del>	•	rtebrates (	B13)	-		ation Visible on Aerial Imagery (C9)
	ent Deposits (B2)				lfide Odor		=		orphic Position (D2)
			-	_			- Doots (C3)		· · ·
	Deposits (B3)					_	ng Roots (C3)		w Aquitard (D3)
	Mat or Crust (B4)				Reduced Ir		_		eutral Test (D5)
	eposits (B5)				Reduction				d Ant Mounds (D6)( <b>LRR A</b> )
Surfac	e Soil Cracks (B6)		Stu	nted or St	ressed Pla	nts (D1)( <b>L</b>	.RR A)	Frost-	Heave Hummocks (D7)
Inunda	ation Visible on A	erial Image	ery (B7)Oth	ner (Explai	in in Rema	rks)			
Sparse	ely Vegetated Cor	ncave Surfa	ce (B8)						
Field Obse	ervations:								
Surface W	ater Present? No	<u>)</u>	Depth (inc						
Water Tak	ole Present? <u>No</u>	<u>)</u>	Depth (in	ches): <u>0</u>					
	n Present? <u>Ye</u>	<u>S</u>	Depth (ir	nches): <u>18</u>	3		Marala a di Danda a	l B	
	apillary fringe)						Wetland Hydrol		ent? <u>NO</u>
Describe F	kecorded Data (st	ream gaug	e, monitoring well	, aeriai ph	iotos, prev	vious inspe	ections), if available	:	
Domarko									
Remarks:									

Project/Site: Port Westward Renewable Diesel Refinery Applicant/Owner: Next Energy Group, Inc. State: OR Investigator(s): Sue Brady Section, Township Landform (hillslope, terrace, etc.): Flats Local relief (conca Subregion (LRR): Northwest Forests & Coast (LRR A) Soil Map Unit Name: Udipsamments, nearly level, protect Are climatic/hydrologic conditions on the site typical for the Vegetation X, Soil , or Hydrology in aturally pro Are Vegetation , Soil , or Hydrology in naturally pro SUMMARY OF FINDINGS – Attach site map showing	o, Range: T8N R4 eve, convex, none Lat: ted NWI this time of year? disturbed?	e): <u>concave</u> 46.16701940 classification: O <u>Yes</u> (if no, exp	none plain in Rema Are "Normal (if needed, e	rks.) Circumstances" present? <u>Yes</u> xplain any answers in Remarks.)
Hydrophytic Vegetation Present? Yes				
Hydric Soil Present? <u>Yes</u>		la tha (	Computed Avec	within a Matland? Voc
Wetland Hydrology Present? <u>Yes</u>		is the s	Sampled Area	within a Wetland? Yes
VEGETATION – Use scientific names of plants.				
	Absolute %	Dominant	Indicator	Dominance Test worksheet:
<u>Tree Stratum</u> (Plot size: <u>0</u> )	Cover	Species?	Status	Number of Dominant Species
1. 2.				That Are OBL, FACW, or FAC: $\underline{4}$ (A)
3.				Total Number of Dominant
4.				Species Across All Strata: <u>4</u> (B)
Total Cover = <u>0</u>				
Sapling/Shrub Stratum (Plot size: _0_)				Percent of Dominant Species
1.				That Are OBL, FACW, or FAC: 100 (A/B)
2.				Prevalence Index worksheet:
3.				
4.				FACW species $\frac{0}{20}$ $\times 1 = \frac{0}{20}$
5. Total Cover =0				FAC species $80 \times 3 = 240$
Herb Stratum (Plot size: 4 m <sup>2</sup> )				FACU species $\underline{0}$ x 4 = $\underline{0}$
1. Lolium perenne	<u>30</u>	<u>Yes</u>	FAC	UPL species $\underline{0}$ x 5 = $\underline{0}$
2. Rumex crispus	<u>20</u>	<u>Yes</u>	FAC	Column Totals: <u>100</u> (A) <u>280</u> (B)
3. <u>Poa palustris</u>	<u>30</u>	<u>Yes</u>	<u>FAC</u>	Prevalence Index = B/A = 2.80
4. <u>Juncus balticus</u>	<u>20</u>	<u>Yes</u>	<u>FACW</u>	1 Tevalence macx = <i>B/A</i> = <u>2.00</u>
5. 6. 7. 8. 9. 10. 11. Total Cover = 100				Hydrophytic Vegetation Indicators: 1 — Rapid Test for Hydrophytic Vegetation  X2 — Dominance Test > 50%  X3 - Prevalence Index is ≤ 3.0¹ 4 - Morphological Adaptions¹ (Provide supporting data in Remarks or on a separate sheet) 5 — Wetland Non-Vascular Plants¹  Problematic Hydrophytic Vegetation¹ (Explain)
Woody Vine Stratum (Plot size: 0 )				¹Indicators of hydric soil and wetland hydrology
1.				must be present, unless disturbed or problematic.
2. Total Cover = <u>0</u>				
% Bare Ground in Herb Stratum: <u>0</u>				Hydrophytic Vegetation Present? Yes
Remarks: grazed pasture				

	Mat	<u>rix</u>		Redox F	<u>eatures</u>				
Depth	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture		Remarks
(inches)									
<u>0-5</u>	10YR 3/2	<u>100</u>					Silty Clay Loam		
5-17	10YR 3/2	<u>95</u>	10YR 4/6	<u>5</u>	<u>C</u>	RC	Silty Clay Loam		
					_				
1									
¹Type: C=	Concentration, D	=Depletior	, RM=Reduced Ma	atrix, CS=0	Covered or	r Coated S	and Grains. <sup>2</sup> Lo	cation: Pl	L=Pore Lining, M=Matrix
Hydric So	il Indicators: (App	plicable to	all LRRs, unless ot	herwise r	noted.)			Indicato	rs for Problematic Hydric Soils <sup>3</sup> :
Histos	sol (A1)		Sa	ndy Redo	x (S5)			2 cr	n Muck (A10)
Histic	Epipedon (A2)			ripped Ma					l Parent Material (TF2)
	Histic (A3)			• •		l (F1) ( <b>exc</b>	ept MLRA 1)		ry Shallow Dark Surface (TF12)
	ogen Sulfide (A4)		·	-	ed Matrix		,		ner (Explain in Remarks)
	ted Below Dark S	urface (Δ1°		pleted M		(. –)			(Englandination
	Dark Surface (A12	•		•	Surface (F	5)		3Indicat	tors of hydrophytic vegetation and
	Mucky Mineral (	-	· · · · · · · · · · · · · · · · · · ·		ark Surface	-			d hydrology must be present, unless
									ed or problematic.
•	Gleyed Matrix (S		Re	иох Берг	essions (F8	>)			
	e Layer (if presen	ıt):							
Type:								I landain i	Sail Dunnant? Voc
Depth (in	cnes): <u>U</u>							пуштіс	Soil Present? Yes
Remarks:									
	·CV								
HYDROLO									
	Hydrology Indicat		equired; check all	that annly	٨		c	ocondan	Indicators (two or more required)
		iii oi one i	-			(DO)			
	te Water (A1)				ed Leaves (		-		r-Stained Leaves (B9)( <b>MLRA 1,2,4A,4B</b> )
	Water Table (A2)		•	•	RA 1,2,4A,	and 4B)	-		age Patterns (B10)
<u>X</u> Satura			· <del></del>	t Crust (B2	•		-		eason Water Table (C2)
	Marks (B1)				rtebrates (		-		ition Visible on Aerial Imagery (C9)
Sedim	ent Deposits (B2)		Нус	drogen Su	lfide Odor	(C1)	-	Geom	orphic Position (D2)
Drift [	Deposits (B3)		<u>X</u> Oxid	dized Rhiz	ospheres	along Livir	ng Roots (C3)	Shallo	w Aquitard (D3)
Algal I	Mat or Crust (B4)		Pre	sence of I	Reduced Ir	on (C4)	-	FAC-N	eutral Test (D5)
Iron D	eposits (B5)		Rec	ent Iron F	Reduction	in Tilled S	oils (C6)	Raised	Ant Mounds (D6)(LRR A)
Surfac	e Soil Cracks (B6)		Stu	nted or St	ressed Pla	nts (D1)(I	.RR A)	Frost-l	Heave Hummocks (D7)
Inund	ation Visible on A	erial Image	ery (B7)Oth	ner (Explai	in in Rema	rks)			
Sparse	ely Vegetated Cor	ncave Surfa	ce (B8)						
Field Obse									
	ater Present? No	)	Depth (inc	ches):					
Water Tak	ole Present? Ye	<u>-</u> <u>!S</u>	Depth (in	ches): <u>15</u>					
Saturation	n Present? <u>Ye</u>	<u>s</u>	Depth (ir	nches): <u>10</u>	<u>)</u>				
	apillary fringe)						Wetland Hydro		ent? Yes
Describe F	Recorded Data (st	ream gaug	e, monitoring well	, aerial ph	iotos, prev	vious inspe	ections), if available	::	
Davis !									
Remarks:									

Project/Site: Port Westward Renewable Diesel Refinery Applicant/Owner: Next Energy Group, Inc. State: OR Investigator(s): Sue Brady Section, Townshi Landform (hillslope, terrace, etc.): Flats Local relief (conc Subregion (LRR): Northwest Forests & Coast (LRR A) Soil Map Unit Name: Udipsamments, nearly level, protec Are climatic/hydrologic conditions on the site typical for Are Vegetation X, Soil , or Hydrology significantly Are Vegetation , Soil , or Hydrology naturally pro	p, Range: T8N R4 ave, convex, none Lat: ted NWI this time of year? disturbed?	e): <u>concave</u> 46.16700440 classification: Yes(if no, exp	none blain in Rema Are "Normal (if needed, e	rks.) Circumstances" present? <u>Yes</u> xplain any answers in Remarks.)
Hydrophytic Vegetation Present? Yes				
Hydric Soil Present? No  Wetland Hydrology Present? No		Is the S	Sampled Area	within a Wetland? No
Wetland Hydrology Present? <u>No</u> Remarks:				
VEGETATION – Use scientific names of plants.	T at 1 . 0/			Ta
<u>Tree Stratum</u> (Plot size: <u>0</u> ) 1. 2. 3. 4.	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:  Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)  Total Number of Dominant Species Across All Strata: 2 (B)
Total Cover = <u>0</u>				Species Across All Strata. <u>2</u> (b)
Sapling/Shrub Stratum (Plot size: _0_) 1.				Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)
2. 3. 4. 5.  Total Cover = 0  Herb Stratum (Plot size: _4 m² )  1. Lolium perenne 2. Poa palustris 3. Rumex crispus 4. Juncus balticus 5. 6. 7. 8. 9. 10. 11.  Total Cover = 100  Woody Vine Stratum (Plot size: _0 ) 1. 2.	40 50 5 5 5	Yes Yes No No	FAC FAC FACW	Prevalence Index worksheet:  Total % Cover of:  DBL species $0$ FACW species $5$ $0$ FACW species $0$ FAC species $0$ FAC species $0$ FACU species $0$ UPL species $0$ Column Totals: $0$ Total % Cover of:  Multiply by: $0$ FACW species $0$ $0$ $0$ $0$ $0$ $0$ $0$ The species $0$ $0$ $0$ $0$ The species $0$ $0$ The species $0$ The sp
Total Cover = $\underline{0}$ % Bare Ground in Herb Stratum: $\underline{0}$				Hydrophytic Vegetation Present? Yes
Remarks: grazed pasture				nyanopnyan vegetation riesent: 165

SOIL Sampling Point: <u>5a</u>

	Mat	<u>rix</u>		Redox F	-eatures				
Depth	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture		Remarks
(inches)									
0-10	10YR 3/3	<u>100</u>		<u>0</u>			Sandy Clay Loam		
10-18	10YR 3/2	<u>100</u>		<u>0</u>			Silty Clay Loam		
<u>18-25</u>	10YR 3/2	<u>97</u>	10YR 4/4	<u>3</u>	<u>C</u>	М	Silty Clay Loam		
			·		_	_			
4									
¹Type: C=	Concentration, D	=Depletior	, RM=Reduced Ma	atrix, CS=0	Covered or	Coated S	and Grains. <sup>2</sup> Lo	cation: P	L=Pore Lining, M=Matrix
Hydric So	il Indicators: (Ap	plicable to	all LRRs, unless ot	herwise r	noted.)			Indicato	rs for Problematic Hydric Soils <sup>3</sup> :
Histos	sol (A1)		Sa	ndy Redo	x (S5)			2 cı	m Muck (A10)
Histic	Epipedon (A2)		Sti	ripped Ma	atrix (S6)			Rec	d Parent Material (TF2)
	Histic (A3)		 Lo	amy Muc	ky Mineral	(F1) (exc	ept MLRA 1)	Ve	ry Shallow Dark Surface (TF12)
	ogen Sulfide (A4)			-	, ed Matrix		•		ner (Explain in Remarks)
	ted Below Dark S	urface (A1		pleted M		(- –)			(=-p,
	Dark Surface (A1:	•	-	•	Surface (F	6)		3Indicat	tors of hydrophytic vegetation and
	Mucky Mineral (	-	· · · · · · · · · · · · · · · · · · ·		ark Surface	-			d hydrology must be present, unless
	Gleyed Matrix (S				essions (F8				ed or problematic.
				иох рерг	essions (F	>)			
	e Layer (if preser	it):							
Type:	-l\ . O							Hydric	Soil Present? No
Depth (in	cnes): <u>u</u>							пуштс	3011 Fresent: NO
Remarks:									
	CV								
HYDROLO	Hydrology Indicat								
			equired; check all	that annly	<i>(</i> )		5	econdary	/ Indicators (two or more required)
			·			'DO\			, , ,
	e Water (A1)		· · · · · · · · · · · · · · · · · · ·		ed Leaves (		-		r-Stained Leaves (B9)(MLRA 1,2,4A,4B)
	Water Table (A2)		•	•	RA 1,2,4A,	and 4B)	-		age Patterns (B10)
	ation (A3)		· · · · · · · · · · · · · · · · · · ·	t Crust (B2	•		-		eason Water Table (C2)
	Marks (B1)				rtebrates (	-	-		ation Visible on Aerial Imagery (C9)
Sedim	ent Deposits (B2)		Нус	drogen Su	lfide Odor	(C1)	-	Geom	orphic Position (D2)
Drift D	Deposits (B3)		Oxi	dized Rhi:	zospheres	along Livi	ng Roots (C3)	Shallo	w Aquitard (D3)
Algal I	Mat or Crust (B4)		Pre	sence of I	Reduced Ir	on (C4)	_	FAC-N	eutral Test (D5)
Iron D	eposits (B5)		Rec	ent Iron F	Reduction	in Tilled S	oils (C6)	Raised	d Ant Mounds (D6)( <b>LRR A</b> )
Surfac	e Soil Cracks (B6)		Stu	nted or St	ressed Pla	nts (D1)( <b>L</b>	.RR A)	Frost-	Heave Hummocks (D7)
Inund	ation Visible on A	erial Image	ry (B7) Oth	ner (Explai	in in Rema	rks)			
	ely Vegetated Cor	_	- · · · ·						
Field Obse			,						
	ater Present? No	)	Depth (inc	ches):					
	ole Present? No		Depth (in	-					
Saturation	n Present? Ye			rches): 18	3				
(includes ca	apillary fringe)						Wetland Hydro	logy Pres	ent? <u>No</u>
Describe F	Recorded Data (st	ream gaug	e, monitoring well	, aerial ph	otos, prev	ious inspe	ections), if available	:	
Remarks:									

Project/Site:Port Westward Renewable Diesel RefineryCity/County: ColumbiaSampling Date: 11/28/Applicant/Owner:Next Energy Group, Inc.State: ORSampling Potential State: ORInvestigator(s):Sue BradySection, Township, Range: T8N R4W Section 16											
Landform (hillslope, terrace, etc.): Flats Local relief (conca			Slope (%): <u>0</u>								
Subregion (LRR): Northwest Forests & Coast (LRR A)		46.16738840		L6203620 Datum: <u>WGS84</u>							
Soil Map Unit Name: <u>Udipsamments, nearly level, protect</u>		classification:									
Are climatic/hydrologic conditions on the site typical for		? Yes (if no, ex									
Are Vegetation X, Soil, or Hydrology significantly of				Circumstances" present? Yes							
Are Vegetation, Soil, or Hydrology naturally pro	blematic?		(if needed, e	xplain any answers in Remarks.)							
SUMMARY OF FINDINGS – Attach site map showin	g sampling poi	int locations,	transects, ir	mportant features, etc.							
Hydrophytic Vegetation Present? Yes Hydric Soil Present? Yes											
		Is the	Sampled Area	a within a Wetland? Yes							
Wetland Hydrology Present? Yes		is the		- Within a Wetland. <u>163</u>							
Remarks:											
VEGETATION – Use scientific names of plants.	AlI-+- 0/	D	La di a da a	T Described and Test considerate							
Troo Stratum (Plot size: 0.)	Absolute % Cover	Dominant Species?	Indicator	Dominance Test worksheet:							
Tree Stratum (Plot size: <u>0</u> ) 1.	Cover	Species	Status	Number of Dominant Species That Are OBL, FACW, or FAC: $\underline{3}$ (A)							
2.				mat Ale OBL, FACW, OI FAC. <u>5</u> (A)							
3.				Total Number of Dominant							
4.				Species Across All Strata: <u>3</u> (B)							
Total Cover =0				<u>⊆</u> (5)							
				Percent of Dominant Species							
Sapling/Shrub Stratum (Plot size: 0 )				That Are OBL, FACW, or FAC: 100 (A/B)							
1. 2.				Prevalence Index worksheet:							
3.				Total % Cover of: Multiply by:							
3. 4.				OBL species $\underline{0}$ $\times$ 1 = $\underline{0}$							
5.				FACW species $\frac{20}{20}$ x 2 = $\frac{40}{40}$							
Total Cover =0				FAC species $80 \times 3 = 240$							
Herb Stratum (Plot size: 4 m <sup>2</sup> )				FACU species $\underline{0}$ x 4 = $\underline{0}$							
1. Juncus balticus	<u>20</u>	Yes	FACW	UPL species $\underline{0}$ x 5 = $\underline{0}$							
2. Poa palustris	<u>50</u>	Yes	FAC	Column Totals: <u>100</u> (A) <u>280</u> (B)							
3. Agrostis capillaris	30	Yes	FAC								
4.				Prevalence Index = $B/A = 2.80$							
5.				Hudrophytic Verstation Indicators							
6.				Hydrophytic Vegetation Indicators: 1 -Rapid Test for Hydrophytic Vegetation							
7.				$\frac{X}{2}$ 2 – Dominance Test >50%							
8.				X 3 - Prevalence Index is $\leq 3.0^{\circ}$							
9.				4 - Morphological Adaptions¹ (Provide supporting							
10.				data in Remarks or on a separate sheet)							
11.				5 – Wetland Non-Vascular Plants <sup>1</sup>							
Total Cover = 100				Problematic Hydrophytic Vegetation¹ (Explain)							
Woody Vine Stratum (Plot size: 0 )				<sup>1</sup> Indicators of hydric soil and wetland hydrology							
1.				must be present, unless disturbed or problematic.							
2.											
Total Cover = <u>0</u>											
% Bare Ground in Herb Stratum: <u>0</u>				Hydrophytic Vegetation Present? Yes							
Remarks: grazed pasture											

	Mat	<u>rix</u>		Redox F	-eatures				
Depth	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture		Remarks
(inches)									
0-8	10YR 3/2	<u>0</u>		<u>0</u>			Silty Clay Loam		
8-17	10YR 4/2	<u>95</u>	10YR 5/6	<u>5</u>	<u>C</u>	RC	Silty Clay Loam		
	· · · · · · · · · · · · · · · · · · ·				_				
1									
¹Type: C=	Concentration, D	=Depletior	, RM=Reduced Ma	atrix, CS=0	Covered or	Coated S	and Grains. <sup>2</sup> Lo	cation: Pl	L=Pore Lining, M=Matrix
Hydric So	il Indicators: (Ap	plicable to	all LRRs, unless ot	herwise r	noted.)			Indicato	rs for Problematic Hydric Soils <sup>3</sup> :
Histos	sol (A1)		Sa	ndy Redo	x (S5)			2 cr	n Muck (A10)
Histic	Epipedon (A2)			ripped Ma					l Parent Material (TF2)
	Histic (A3)			• •		(F1) (exc	ept MLRA 1)		ry Shallow Dark Surface (TF12)
	ogen Sulfide (A4)			-	ed Matrix		,		ner (Explain in Remarks)
	ted Below Dark S	urface (Δ1°	· · · · · · · · · · · · · · · · · · ·	pleted M		(. –)			(Englandination
	Dark Surface (A12	•	-		Surface (F	6)		3Indicat	tors of hydrophytic vegetation and
	Mucky Mineral (	•	· · · · · · · · · · · · · · · · · · ·		rk Surface	-			d hydrology must be present, unless
	· · · · · · · · · · · · · · · · · · ·								ed or problematic.
	Gleyed Matrix (S		Re	иох Берг	essions (F8	>)			
	e Layer (if preser	ıt):							
Type:								l	0 H D 12 V
Depth (in	ches): <u>0</u>							Hyaric	Soil Present? Yes
Remarks:									
HYDROLO									
	Hydrology Indicat				,		_		
Primary In	idicators (minimu	m of one r	equired; check all	that apply	/)		5	econdary	Indicators (two or more required)
Surfac	e Water (A1)		Wa	ter-Staine	ed Leaves	(B9)	-	Water	-Stained Leaves (B9)( <b>MLRA 1,2,4A,4B</b> )
High \	Vater Table (A2)		(e	xcept ML	RA 1,2,4A,	and 4B)	_	Draina	age Patterns (B10)
Satura	ation (A3)		Salt	t Crust (B	l1)		_	Dry-Se	eason Water Table (C2)
Water	Marks (B1)		Aqı	uatic Inve	rtebrates (	B13)		Satura	ition Visible on Aerial Imagery (C9)
Sedim	ent Deposits (B2)		Hyd	drogen Su	lfide Odor	(C1)		Geom	orphic Position (D2)
	Deposits (B3)		-	-			ng Roots (C3)		w Aquitard (D3)
	Mat or Crust (B4)				Reduced Ir	_			eutral Test (D5)
	eposits (B5)		· <del></del>		Reduction		oils (C6)		I Ant Mounds (D6)(LRR A)
	e Soil Cracks (B6)				tressed Pla				Heave Hummocks (D7)
			· · · · · · · · · · · · · · · · · · ·				-NN A)		neave numinocks (D7)
	ation Visible on A	_	- · · · · · · · · · · · · · · · · · · ·	iei (Expia	in in Rema	iks)			
	ely Vegetated Cor	icave Surra	ce (B8)						
Field Obse			Double //or	-l\.					
	ater Present? No		Depth (ind Depth (ind	•					
	ole Present? <u>No</u> n Present?          Ye			nches): 15	=				
	apillary fringe)	<u>3</u>	Deptii (ii	iciies). <u>1.</u>	<u>2</u>		Wetland Hydro	logy Pres	ent? Yes
		ream gaug	e, monitoring well	, aerial ph	otos, prev	ious inspe	ections), if available		
	,	5 0	J	•		•			
Remarks:				<del></del>		<del></del>			

Project/Site: Port Westward Renewable Diesel Refinery Applicant/Owner: Next Energy Group, Inc. State: OR Investigator(s): Sue Brady Section, Townshi Landform (hillslope, terrace, etc.): Flats Local relief (cond Subregion (LRR): Northwest Forests & Coast (LRR A) Soil Map Unit Name: Udipsamments, nearly level, protect Are climatic/hydrologic conditions on the site typical for		rks.)								
Are Vegetation $\underline{X}$ , Soil $\underline{\hspace{1cm}}$ , or Hydrology $\underline{\hspace{1cm}}$ significantly	disturbed?		Are "Normal	Circumstances" present? Yes						
Are Vegetation, Soil, or Hydrology naturally pr	oblematic?		(if needed, e	xplain any answers in Remarks.)						
SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.										
Hydrophytic Vegetation Present? Yes										
Hydric Soil Present? <u>No</u>										
Wetland Hydrology Present? <u>No</u>		Is the	Sampled Area	within a Wetland? <u>No</u>						
Remarks:										
<b>VEGETATION</b> – Use scientific names of plants.										
Tree Stratum (Plot size: 0 ) 1. 2. 3.	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:  Number of Dominant Species  That Are OBL, FACW, or FAC: 2 (A)  Total Number of Dominant						
4.				Species Across All Strata: <u>2</u> (B)						
Total Cover = <u>0</u>				_(,						
Sapling/Shrub Stratum (Plot size: 0 ) 1.				Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)						
2. 3. 4. 5. Total Cover = 0				Prevalence Index worksheet:						
Herb Stratum (Plot size: _4 m² )  1. Agrostis capillaris  2. Poa palustris  3. Juncus balticus  4.	40 40 10	<u>Yes</u> <u>Yes</u> <u>No</u>	FAC FAC FACW	UPL species $0 \times 5 = 0$ Column Totals: $90 \times 5 = 0$ Prevalence Index = B/A = $2.89$						
5. 6. 7. 8. 9. 10. 11.  Total Cover = 90				Hydrophytic Vegetation Indicators:  1 —Rapid Test for Hydrophytic Vegetation  X 2 — Dominance Test >50%  X 3 - Prevalence Index is ≤ 3.0¹  4 - Morphological Adaptions¹ (Provide supporting data in Remarks or on a separate sheet)  5 — Wetland Non-Vascular Plants¹  Problematic Hydrophytic Vegetation¹ (Explain)						
Woody Vine Stratum (Plot size: _0 )  1. 2. Total Cover =0				<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.						
% Bare Ground in Herb Stratum: 0				Hadanihatia Vandati an Burana 2 V						
Remarks: grazed pasture				Hydrophytic Vegetation Present? Yes						
nemarks. Brazea pasture										

SOIL Sampling Point: <u>6a</u>

	Mat	<u>rix</u>		Redox F	<u>eatures</u>				
Depth (in the c)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture		Remarks
(inches)	10VD 2/2	100		0			Ciltur Clavel agen		
<u>0-9</u> 9-15	<u>10YR 3/2</u> 10YR 4/2	100 100		<u>0</u>			Silty Clay Loam Silty Clay Loam		
15-25	101R 4/2 10YR 4/2	95	10YR 4/4	<u>0</u> <u>5</u>	C	<u>M</u>	Silty Clay Loam		
13-23	<u>101K 4/2</u>	<u>33</u>	<u> 101K 4/4</u>	<u> </u>	<u>C</u>	<u>IVI</u>	Silty Clay Loain		
¹Type: C=	Concentration, D	=Depletior	, RM=Reduced Ma	atrix, CS=0	Covered o	Coated S	and Grains. <sup>2</sup> Lo	cation: P	L=Pore Lining, M=Matrix
Hydric So	il Indicators: (Ap <sub> </sub>	plicable to	all LRRs, unless ot	herwise r	noted.)			Indicato	rs for Problematic Hydric Soils <sup>3</sup> :
Histos	sol (A1)		Sa	ndy Redo	x (S5)			2 cı	m Muck (A10)
	Epipedon (A2)			ripped Ma					Parent Material (TF2)
	Histic (A3)		·			(F1) (exc	ept MLRA 1)	II	ry Shallow Dark Surface (TF12)
Hydro	gen Sulfide (A4)		Lo	amy Gley	ed Matrix	(F2)		Oth	ner (Explain in Remarks)
Deple	ted Below Dark S	urface (A1:	1)De	pleted M	atrix (F3)				
Thick	Dark Surface (A12	2)	Re	dox Dark	Surface (F	6)		3Indica	tors of hydrophytic vegetation and
Sandy	Mucky Mineral (	S1)	De	pleted Da	ark Surface	e (F7)			d hydrology must be present, unless
Sandy	Gleyed Matrix (S	54)	Re	dox Depr	essions (F8	3)		disturb	ed or problematic.
Restrictiv	e Layer (if preser	nt):							
Type:									
Depth (in	ches): <u>0</u>							Hydric	Soil Present? No
Remarks:									
HYDROLO	GY								
	Hydrology Indicat		and all also all all				,	·	to disabase (to construe)
		m of one r	equired; check all			(D.O.)	<u> </u>		/ Indicators (two or more required)
	te Water (A1)		· · · · · · · · · · · · · · · · · · ·		ed Leaves (		-		-Stained Leaves (B9)(MLRA 1,2,4A,4B)
	Water Table (A2)		•	•	RA 1,2,4A,	and 4B)	-		age Patterns (B10)
	ation (A3)			t Crust (Bí		D4 2\	-		eason Water Table (C2)
	Marks (B1)				rtebrates (		-		ition Visible on Aerial Imagery (C9)
	ent Deposits (B2)		· · · · · · · · · · · · · · · · · · ·	_	lfide Odor		- (62)		orphic Position (D2)
	Deposits (B3)					_	ng Roots (C3)		w Aquitard (DS)
	Mat or Crust (B4)		· · · · · · · · · · · · · · · · · · ·		Reduced Ir		-:1- (66)		eutral Test (D5)
	eposits (B5)				Reduction				Ant Mounds (D6)(LRR A)
· <del></del>	e Soil Cracks (B6)				tressed Pla		-KK A)	Frost-	Heave Hummocks (D7)
	ation Visible on A	_	· · · · —	ier (Expia	in in Rema	rks)			
	ely Vegetated Cor ervations:	icave Suria	се (ва)						
	ater Present? No	<b>)</b>	Depth (inc	rhes).					
	ole Present? <u>No</u>		Depth (in	•					
Saturation	·		•	nches): <u>19</u>	<u>9</u>				
	apillary fringe)						Wetland Hydro		ent? <u>No</u>
Describe F	Recorded Data (st	ream gaug	e, monitoring well	, aerial ph	iotos, prev	vious inspe	ections), if available	::	
Remarks:									

Project/Site: Port Westward Renewable Diesel Refinery Applicant/Owner: Next Energy Group, Inc. State: OR Investigator(s): Sue Brady Section, Townshi Landform (hillslope, terrace, etc.): Flats Local relief (cond Subregion (LRR): Northwest Forests & Coast (LRR A) Soil Map Unit Name: Udipsamments, nearly level, protect Are climatic/hydrologic conditions on the site typical for Are Vegetation, Soil, or Hydrology significantly Are Vegetation, Soil, or Hydrology naturally pr	p, Range: T8N R4 ave, convex, none Lat: cted NWI this time of year? disturbed? oblematic?	e): <u>concave</u> 46.16739210 classification: ? <u>Yes</u> (if no, exp	none plain in Reman Are "Normal (if needed, e	rks.) Circumstances" present? <u>Yes</u> xplain any answers in Remarks.)
Hydrophytic Vegetation Present? Yes				
Hydric Soil Present? <u>Yes</u>		la tha f	Compled Avec	within a Watland? Voc
Wetland Hydrology Present? <u>Yes</u>		is the s	Sampled Area	within a Wetland? Yes
VEGETATION – Use scientific names of plants.				
	Absolute %	Dominant	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: 0 ) 1. 2. 3.	Cover	Species?	Status	Number of Dominant Species That Are OBL, FACW, or FAC: $\underline{3}$ (A) Total Number of Dominant
4.				Species Across All Strata: <u>3</u> (B)
Total Cover = <u>0</u>				
Sapling/Shrub Stratum (Plot size: 0 )				Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)
1. 2. 3. 4. 5.  Total Cover = 0  Herb Stratum (Plot size: 4 m <sup>2</sup> )				Prevalence Index worksheet:
<ol> <li>Juncus balticus</li> <li>Poa palustris</li> <li>Agrostis capillaris</li> <li>—</li> </ol>	30 50 20	Yes Yes Yes	FACW FAC FAC	UPL species $0 \times 5 = 0$ Column Totals: $100 \times 5 = 0$ Prevalence Index = B/A = $2.70$
5. 6. 7. 8. 9. 10. 11. Total Cover = 100				Hydrophytic Vegetation Indicators: 1 — Rapid Test for Hydrophytic Vegetation  X
Woody Vine Stratum (Plot size: _0_)  1. 2. Total Cover =0				Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
% Bare Ground in Herb Stratum: <u>0</u>				Hydrophytic Vegetation Present? Yes
Remarks:		•	1	, ,

	<u>Mat</u>	TIX		Redox F	00.00				
Depth	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture		Remarks
(inches)									
<u>0-9</u>	<u>10YR 3/2</u>	<u>100</u>		<u>0</u>			Silty Clay Loam		
9-19	<u>10YR 4/2</u>	<u>95</u>	<u>10YR 4/6</u>	<u>5</u>	<u>C</u>	<u>RC</u>	Silty Clay Loam		
¹Tvpe: C=	Concentration, D	=Depletion	, RM=Reduced Ma	atrix, CS=0	Covered o	r Coated Sa	and Grains. <sup>2</sup> Lo	cation: Pl	_=Pore Lining, M=Matrix
			all LRRs, unless ot						rs for Problematic Hydric Soils <sup>3</sup> :
	sol (A1)			ndy Redo				1	n Muck (A10)
· · · · · · · · · · · · · · · · · · ·	Epipedon (A2)			ripped Ma					Parent Material (TF2)
	Histic (A3)					l (F1) (exce	ept MLRA 1)		ry Shallow Dark Surface (TF12)
	ogen Sulfide (A4)			•	ed Matrix		pervicion 1)		er (Explain in Remarks)
	eted Below Dark S	urface (Δ11	· · · · · · · · · · · · · · · · · · ·	pleted Ma		(1 2)			er (Explain in Nemarks)
	Dark Surface (A12	•	· —		Surface (F	6)		3Indicat	ors of hydrophytic vegetation and
	/ Mucky Mineral (				ark Surface	•			d hydrology must be present, unless
	, Wideky Willerdi ( , Gleyed Matrix (S				essions (F				ed or problematic.
	e Layer (if preser			- dox bepi		-1			
Type:	e Layer (II preser	ıtj.							
Depth (in	ches): 0							Hydric	Soil Present? Yes
Remarks:									
iterriarks.									
HYDROLO									
	Hydrology Indicat ndicators (minimu		equired; check all	that apply	<b>(</b> )				Indicators (two or more required)
	ce Water (A1)		•				9	Secondary	malcators (two or more required)
· ·	Water Table (A2)		Wa	ter-Staine		(R9)	9		
_	ation (A3)				ed Leaves		-	Water	-Stained Leaves (B9)(MLRA 1,2,4A,4B)
			(e	xcept ML	ed Leaves		-	Water Draina	-Stained Leaves (B9)(MLRA 1,2,4A,4B) ge Patterns (B10)
	r Marks (R1)		( <b>e</b> Sal	xcept MLI t Crust (B1	ed Leaves RA 1,2,4A,	and 4B)	- - -	Water Draina Dry-Se	-Stained Leaves (B9)(MLRA 1,2,4A,4B) ge Patterns (B10) eason Water Table (C2)
	r Marks (B1) Jent Denosits (B2)		( <b>e</b> Sal <sup>.</sup> Aqı	xcept ML t Crust (B1 uatic Inve	ed Leaves RA 1,2,4A, L1) rtebrates (	and 4B)	- - - -	Water Draina Dry-Se Satura	-Stained Leaves (B9)(MLRA 1,2,4A,4B)  Ige Patterns (B10)  Igeson Water Table (C2)  Ition Visible on Aerial Imagery (C9)
Sedim	ent Deposits (B2)	)	( <b>e</b> Sal <sup>,</sup> Aqı Hyo	xcept MLI t Crust (B1 uatic Inver drogen Su	ed Leaves RA 1,2,4A, L1) rtebrates ( Ifide Odor	B13) (C1)	- - - -	WaterDrainaDry-SeSaturaGeome	-Stained Leaves (B9)(MLRA 1,2,4A,4B)  Ige Patterns (B10)  Isason Water Table (C2)  Ition Visible on Aerial Imagery (C9)  Orphic Position (D2)
Sedim Drift [	nent Deposits (B2) Deposits (B3)	)	( <b>e</b> Sal: Aqu Hyo _X_Oxi:	xcept MLI t Crust (B1 uatic Inver drogen Su dized Rhiz	ed Leaves RA 1,2,4A, L1) rtebrates ( Ifide Odor	and 4B) (B13) (C1) along Livin	eg Roots (C3)	Water Draina Dry-Se Satura Geome	-Stained Leaves (B9)(MLRA 1,2,4A,4B)  Ige Patterns (B10)  Isason Water Table (C2)  Ition Visible on Aerial Imagery (C9)  Orphic Position (D2)  w Aquitard (D3)
Sedim Drift [ Algal I	nent Deposits (B2) Deposits (B3) Mat or Crust (B4)	)	( <b>e</b> Sal: Aqı Hyo Pre	xcept MLI t Crust (B1 uatic Inver drogen Su dized Rhiz esence of I	ed Leaves RA 1,2,4A, L1) rtebrates ( Ifide Odor cospheres Reduced I	and 4B) (B13) (C1) along Livin	- - - - - - - - - - - -	Water Draina Dry-Se Satura Geom Shallor FAC-N	-Stained Leaves (B9)(MLRA 1,2,4A,4B)  age Patterns (B10)  ason Water Table (C2)  tion Visible on Aerial Imagery (C9)  orphic Position (D2)  w Aquitard (D3)  eutral Test (D5)
Sedim Drift [ Algal I Iron D	nent Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5)		(e Sal Aqı Hyo _X_Oxi Pre Rec	xcept MLI t Crust (B1 uatic Invertigen Sudiced Rhiz esence of Formal Iron Formal cent Iron F	ed Leaves ( RA 1,2,4A) (11) rtebrates ( Ifide Odor cospheres Reduced II	B13) (C1) along Livin on (C4) in Tilled So		Water Draina Dry-Se Satura Geom Shallor FAC-N Raised	r-Stained Leaves (B9)(MLRA 1,2,4A,4B) rege Patterns (B10) reason Water Table (C2) tion Visible on Aerial Imagery (C9) orphic Position (D2) w Aquitard (D3) eutral Test (D5) I Ant Mounds (D6)(LRR A)
SedimDrift [Algal IIron DSurfac	nent Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) Ce Soil Cracks (B6)		(e Sal Aqı Hyo _X_Oxi Pre Rec Stu	xcept MLI t Crust (B1 uatic Inver drogen Su dized Rhiz esence of I cent Iron F	ed Leaves RA 1,2,4A, L1) rtebrates ( Ifide Odor cospheres Reduced In Reduction cressed Pla	B13) (C1) along Livin on (C4) in Tilled So		Water Draina Dry-Se Satura Geom Shallor FAC-N Raised	-Stained Leaves (B9)(MLRA 1,2,4A,4B)  age Patterns (B10)  ason Water Table (C2)  tion Visible on Aerial Imagery (C9)  orphic Position (D2)  w Aquitard (D3)  eutral Test (D5)
SedimDrift EAlgal IIron DSurfac	nent Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) De Soil Cracks (B6) ation Visible on A	erial Image	(e Sal: Aqu Hyo _X_Oxi: Pre Rec Stu ry (B7)Oth	xcept MLI t Crust (B1 uatic Inver drogen Su dized Rhiz esence of I cent Iron F	ed Leaves ( RA 1,2,4A) (11) rtebrates ( Ifide Odor cospheres Reduced II	B13) (C1) along Livin on (C4) in Tilled So		Water Draina Dry-Se Satura Geom Shallor FAC-N Raised	r-Stained Leaves (B9)(MLRA 1,2,4A,4B) rege Patterns (B10) reason Water Table (C2) tion Visible on Aerial Imagery (C9) orphic Position (D2) w Aquitard (D3) eutral Test (D5) I Ant Mounds (D6)(LRR A)
SedimDrift [Algal IIron DSurfacInundSparse	pent Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) Dee Soil Cracks (B6) ation Visible on A Dely Vegetated Cor	erial Image	(e Sal: Aqu Hyo _X_Oxi: Pre Rec Stu ry (B7)Oth	xcept MLI t Crust (B1 uatic Inver drogen Su dized Rhiz esence of I cent Iron F	ed Leaves RA 1,2,4A, L1) rtebrates ( Ifide Odor cospheres Reduced In Reduction cressed Pla	B13) (C1) along Livin on (C4) in Tilled So		Water Draina Dry-Se Satura Geom Shallor FAC-N Raised	r-Stained Leaves (B9)(MLRA 1,2,4A,4B) rege Patterns (B10) reason Water Table (C2) tion Visible on Aerial Imagery (C9) orphic Position (D2) w Aquitard (D3) eutral Test (D5) I Ant Mounds (D6)(LRR A)
SedimDrift [Algal IIron DSurfacInundSparse Field Obse	pent Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) Dee Soil Cracks (B6) ation Visible on A Dely Vegetated Core	erial Image ncave Surfac	(eSalrAquHyoX_OxiPreReoStury (B7)Oth	xcept MLI t Crust (B1 uatic Invertigen Sudized Rhizesence of I cent Iron Finted or St ner (Explain	ed Leaves RA 1,2,4A, L1) rtebrates ( Ifide Odor cospheres Reduced In Reduction cressed Pla	B13) (C1) along Livin on (C4) in Tilled So		Water Draina Dry-Se Satura Geom Shallor FAC-N Raised	r-Stained Leaves (B9)(MLRA 1,2,4A,4B) rege Patterns (B10) reason Water Table (C2) tion Visible on Aerial Imagery (C9) orphic Position (D2) w Aquitard (D3) eutral Test (D5) I Ant Mounds (D6)(LRR A)
SedimDrift [Algal IIron DSurfacInundSparse Field Obse Surface W	Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) De Soil Cracks (B6) ation Visible on A Dely Vegetated Corervations: Vater Present? No	erial Image ncave Surfac	(eSal:AqiHyoX_OxiPreRecStuOthCe (B8)Depth (inc	xcept MLI t Crust (B1 uatic Invertigen Su dized Rhiz esence of I cent Iron I ented or St ner (Explain	ed Leaves RA 1,2,4A, L1) rtebrates ( Ifide Odor cospheres Reduced In Reduction cressed Pla	B13) (C1) along Livin on (C4) in Tilled So		Water Draina Dry-Se Satura Geom Shallor FAC-N Raised	r-Stained Leaves (B9)(MLRA 1,2,4A,4B) rege Patterns (B10) reason Water Table (C2) tion Visible on Aerial Imagery (C9) orphic Position (D2) w Aquitard (D3) eutral Test (D5) I Ant Mounds (D6)(LRR A)
SedimDrift IAlgal IIron DSurfacInundSparse Field Obse Surface W Water Tal	pent Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) Dee Soil Cracks (B6) ation Visible on A Dely Vegetated Core	erial Image ncave Surfac 2 0	(e    Salr    Aqu    Hyo    X_Oxio    Pre    Stu    Oth    Oth    Oth    Depth (incomplete (incomplete))	xcept MLI t Crust (B1 uatic Invertigen Su dized Rhiz esence of I cent Iron I ented or St ner (Explain	ed Leaves RA 1,2,4A, 11) rtebrates ( lfide Odor cospheres Reduced In Reduction cressed Pla in in Rema	B13) (C1) along Livin on (C4) in Tilled So		Water Draina Dry-Se Satura Geom Shallor FAC-N Raised	r-Stained Leaves (B9)(MLRA 1,2,4A,4B) rege Patterns (B10) reason Water Table (C2) tion Visible on Aerial Imagery (C9) orphic Position (D2) w Aquitard (D3) eutral Test (D5) I Ant Mounds (D6)(LRR A)
SedimDrift IAlgal IIron DSurfacInundSparse Field Obse Surface W Water Tab Saturation (includes ca	Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) De Soil Cracks (B6) Detaition Visible on A Dely Vegetated Core Dervations: Vater Present? Note Deposits (B2) Deposits (B3) Deposits (B4) D	erial Image ncave Surfac 2 2	(e    Sal-    Aqu    Hyo    Pre    Stu    Oth    Oth    Depth (incomplete (incomplete))	xcept MLI t Crust (B1 uatic Invertigen Sudized Rhizesence of Formation Fronted or State (Explainment (Explainment): ches): ches): ches): 16	ed Leaves RA 1,2,4A, L1) rtebrates ( Ifide Odor cospheres Reduced In Reduction cressed Pla in in Rema	and 4B) (C1) along Livin ron (C4) in Tilled So ants (D1)(L		Water Draina Dry-Se Satura Geom Shallo FAC-N Raised Frost-I	-Stained Leaves (B9)(MLRA 1,2,4A,4B)  Ige Patterns (B10)  Isason Water Table (C2)  Ition Visible on Aerial Imagery (C9)  Iorphic Position (D2)  W Aquitard (D3)  Eutral Test (D5)  I Ant Mounds (D6)(LRR A)  Heave Hummocks (D7)
SedimDrift IAlgal IIron DSurfacInundSparse Field Obse Surface W Water Tab Saturation (includes ca	Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) De Soil Cracks (B6) Detaition Visible on A Dely Vegetated Core Dervations: Vater Present? Note Deposits (B2) Deposits (B3) Deposits (B4) D	erial Image ncave Surfac 2 2	(e    Sal-    Aqu    Hyo    Pre    Stu    Oth    Oth    Depth (incomplete (incomplete))	xcept MLI t Crust (B1 uatic Invertigen Sudized Rhizesence of Formation Fronted or State (Explainment (Explainment): ches): ches): ches): 16	ed Leaves RA 1,2,4A, L1) rtebrates ( Ifide Odor cospheres Reduced In Reduction cressed Pla in in Rema	and 4B) (C1) along Livin ron (C4) in Tilled So ants (D1)(L	eg Roots (C3)	Water Draina Dry-Se Satura Geom Shallo FAC-N Raised Frost-I	-Stained Leaves (B9)(MLRA 1,2,4A,4B)  Ige Patterns (B10)  Isason Water Table (C2)  Ition Visible on Aerial Imagery (C9)  Iorphic Position (D2)  W Aquitard (D3)  Eutral Test (D5)  I Ant Mounds (D6)(LRR A)  Heave Hummocks (D7)
SedimDrift IAlgal IIron DSurfacInundSparse Field Obse Surface W Water Tab Saturation (includes ca	Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) De Soil Cracks (B6) Detaition Visible on A Dely Vegetated Core Dervations: Vater Present? Note Deposits (B2) Deposits (B3) Deposits (B4) D	erial Image ncave Surfac 2 2	(e    Sal-    Aqu    Hyo    Pre    Stu    Oth    Oth    Depth (incomplete (incomplete))	xcept MLI t Crust (B1 uatic Invertigen Sudized Rhizesence of Formation Fronted or State (Explainment (Explainment): ches): ches): ches): 16	ed Leaves RA 1,2,4A, L1) rtebrates ( Ifide Odor cospheres Reduced In Reduction cressed Pla in in Rema	and 4B) (C1) along Livin ron (C4) in Tilled So ants (D1)(L		Water Draina Dry-Se Satura Geom Shallo FAC-N Raised Frost-I	-Stained Leaves (B9)(MLRA 1,2,4A,4B)  Ige Patterns (B10)  Isason Water Table (C2)  Ition Visible on Aerial Imagery (C9)  Iorphic Position (D2)  W Aquitard (D3)  Eutral Test (D5)  I Ant Mounds (D6)(LRR A)  Heave Hummocks (D7)
SedimDrift IAlgal IIron DSurfacInundSparse Field Obse Surface W Water Tal Saturation (includes ca Describe F	Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) De Soil Cracks (B6) Detaition Visible on A Dely Vegetated Core Dervations: Vater Present? Note Deposits (B2) Deposits (B3) Deposits (B4) D	erial Image ncave Surfac 2 2	(e    Sal-    Aqu    Hyo    Pre    Stu    Oth    Oth    Depth (incomplete (incomplete))	xcept MLI t Crust (B1 uatic Invertigen Sudized Rhizesence of Formation Fronted or State (Explainment (Explainment): ches): ches): ches): 16	ed Leaves RA 1,2,4A, L1) rtebrates ( Ifide Odor cospheres Reduced In Reduction cressed Pla in in Rema	and 4B) (C1) along Livin ron (C4) in Tilled So ants (D1)(L		Water Draina Dry-Se Satura Geom Shallo FAC-N Raised Frost-I	-Stained Leaves (B9)(MLRA 1,2,4A,4B)  Ige Patterns (B10)  Isason Water Table (C2)  Ition Visible on Aerial Imagery (C9)  Iorphic Position (D2)  W Aquitard (D3)  Eutral Test (D5)  I Ant Mounds (D6)(LRR A)  Heave Hummocks (D7)
SedimDrift IAlgal IIron DSurfacInundSparse Field Obse Surface W Water Tab Saturation (includes ca	Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) De Soil Cracks (B6) Detaition Visible on A Dely Vegetated Core Dervations: Vater Present? Note Deposits (B2) Deposits (B3) Deposits (B4) D	erial Image ncave Surfac 2 2	(e    Sal-    Aqu    Hyo    Pre    Stu    Oth    Oth    Depth (incomplete (incomplete))	xcept MLI t Crust (B1 uatic Invertigen Sudized Rhizesence of Formation Fronted or State (Explainment (Explainment): ches): ches): ches): 16	ed Leaves RA 1,2,4A, L1) rtebrates ( Ifide Odor cospheres Reduced In Reduction cressed Pla in in Rema	and 4B) (C1) along Livin ron (C4) in Tilled So ants (D1)(L		Water Draina Dry-Se Satura Geom Shallo FAC-N Raised Frost-I	-Stained Leaves (B9)(MLRA 1,2,4A,4B)  Ige Patterns (B10)  Isason Water Table (C2)  Ition Visible on Aerial Imagery (C9)  Iorphic Position (D2)  W Aquitard (D3)  Eutral Test (D5)  I Ant Mounds (D6)(LRR A)  Heave Hummocks (D7)
SedimDrift IAlgal IIron DSurfacInundSparse Field Obse Surface W Water Tal Saturation (includes ca Describe F	Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) De Soil Cracks (B6) Detaition Visible on A Dely Vegetated Core Dervations: Vater Present? Note Deposits (B2) Deposits (B3) Deposits (B4) D	erial Image ncave Surfac 2 2	(e    Sal-    Aqu    Hyo    Pre    Stu    Oth    Oth    Depth (incomplete (incomplete))	xcept MLI t Crust (B1 uatic Invertigen Sudized Rhizesence of Formation Fronted or State (Explainment (Explainment): ches): ches): ches): 16	ed Leaves RA 1,2,4A, L1) rtebrates ( Ifide Odor cospheres Reduced In Reduction cressed Pla in in Rema	and 4B) (C1) along Livin ron (C4) in Tilled So ants (D1)(L		Water Draina Dry-Se Satura Geom Shallo FAC-N Raised Frost-I	-Stained Leaves (B9)(MLRA 1,2,4A,4B)  Ige Patterns (B10)  Isason Water Table (C2)  Ition Visible on Aerial Imagery (C9)  Iorphic Position (D2)  W Aquitard (D3)  Eutral Test (D5)  I Ant Mounds (D6)(LRR A)  Heave Hummocks (D7)

Project/Site: Port Westward Renewable Diesel Refiner Applicant/Owner: Next Energy Group, Inc. State: OR Investigator(s): Sue Brady Section, Towns		nty: <u>Columbia</u> W Section 16		Sampling Date: <u>11/28/2018</u> Sampling Point: <u>7a</u>
Landform (hillslope, terrace, etc.): Flats Local relief (cor			Slope (%): <u>0</u>	
Subregion (LRR): Northwest Forests & Coast (LRR A)	Lat:	46.16739230	Long: -123.1	.6199890 Datum: <u>WGS84</u>
Soil Map Unit Name: <u>Udipsamments</u> , nearly level, prote	ected NWI	classification:	none	
Are climatic/hydrologic conditions on the site typical fo	or this time of year?	Yes (if no, exp	olain in Rema	rks.)
Are Vegetation X, Soil, or Hydrology significantl				Circumstances" present? Yes
Are Vegetation, Soil, or Hydrology naturally p				xplain any answers in Remarks.)
· – – , · · · · · · · · · · · · · · · ·			,	,
SUMMARY OF FINDINGS – Attach site map show	ing sampling poi	nt locations.	transects. ii	nportant features. etc.
Hydrophytic Vegetation Present? Yes	0 1 01			
Hydric Soil Present? No				
Wetland Hydrology Present? No		Is the S	Sampled Area	within a Wetland? <u>No</u>
Remarks:				
VEGETATION – Use scientific names of plants.				
	Absolute %	Dominant	Indicator	Dominance Test worksheet:
<u>Tree Stratum</u> (Plot size: <u>0</u> )	Cover	Species?	Status	Number of Dominant Species
1. 2.				That Are OBL, FACW, or FAC: $\underline{2}$ (A)
3.				Total Number of Dominant
4.				Species Across All Strata: <u>2</u> (B)
Total Cover = <u>0</u>				_ ( )
Sapling/Shrub Stratum (Plot size: 0 )				Percent of Dominant Species
1.				That Are OBL, FACW, or FAC: 100 (A/B)
2.				Prevalence Index worksheet:
3.				Total % Cover of: Multiply by:
4.				OBL species $\underline{0}$ x 1 = $\underline{0}$
5.				FACW species $\underline{10}$ x 2 = $\underline{20}$ FAC species $\underline{90}$ x 3 = $\underline{270}$
Total Cover = $\underline{0}$				FACU species $\underline{0}$ $\times$ $4 = \underline{0}$
Herb Stratum (Plot size: 4 m <sup>2</sup> )  1. Agrostis capillaris	40	Vos	EAC	UPL species $\underline{0}$ $\times$ 5 = $\underline{0}$
Poa palustris	<u>40</u> <u>50</u>	<u>Yes</u> <u>Yes</u>	<u>FAC</u> <u>FAC</u>	Column Totals: 100 (A) 290 (B)
3. Juncus balticus	10	No	FACW	
4.	_			Prevalence Index = $B/A = 2.90$
5.				II. due uh die Verstetien Indicateur.
6.				Hydrophytic Vegetation Indicators: 1 -Rapid Test for Hydrophytic Vegetation
7.				$\frac{X}{X}$ 2 – Dominance Test >50%
8. 9.				$\overline{X}$ 3 - Prevalence Index is $\leq 3.0^{1}$
10.				4 - Morphological Adaptions <sup>1</sup> (Provide supporting
11.				data in Remarks or on a separate sheet)
Total Cover = <u>100</u>				5 – Wetland Non-Vascular Plants <sup>1</sup>
				Problematic Hydrophytic Vegetation¹ (Explain)
Woody Vine Stratum (Plot size: _0_)				<sup>1</sup> Indicators of hydric soil and wetland hydrology
1.				must be present, unless disturbed or problematic.
2.				must be present, unless distances or presentation
Total Cover = <u>0</u>				
% Bare Ground in Herb Stratum: <u>0</u>				Hydrophytic Vegetation Present? Yes
Remarks: grazed pasture				

	Mat	<u>rix</u>		Redox F	eatures				
Depth	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture		Remarks
(inches)									
0-8	10YR 3/2	<u>100</u>		<u>0</u>			Silty Clay Loam		
8-15	10YR 4/2	<u>100</u>		<u>0</u>			Silty Clay Loam		
<u>15-26</u>	10YR 4/3	<u>97</u>	10YR 4/4	<u>3</u>	<u>C</u>	М	Silty Clay Loam		
				_	_	_			
1- 0						0	10 1 2		
¹Type: C=	Concentration, D	=Depletior	, RM=Reduced Ma	atrix, CS=0	Covered or	r Coated S	and Grains. <sup>2</sup> Lo	cation: P	L=Pore Lining, M=Matrix
Hydric So	il Indicators: (Ap	plicable to	all LRRs, unless ot	herwise r	noted.)			Indicato	rs for Problematic Hydric Soils <sup>3</sup> :
Histos	sol (A1)		Sa	ndy Redo	x (S5)			2 cı	m Muck (A10)
Histic	Epipedon (A2)		Sti	ripped Ma	atrix (S6)			Rec	d Parent Material (TF2)
	Histic (A3)		 Lo	amy Muc	ky Mineral	l (F1) (exc	ept MLRA 1)	Ve	ry Shallow Dark Surface (TF12)
Hvdro	gen Sulfide (A4)		· · · · · · · · · · · · · · · · · · ·	-	ed Matrix		•		ner (Explain in Remarks)
	ted Below Dark S	urface (A1		pleted M		(/			(=-p,
	Dark Surface (A1:	•		•	Surface (F	6)		3Indicat	tors of hydrophytic vegetation and
	Mucky Mineral (	-	· · · · · · · · · · · · · · · · · · ·		ark Surface	-			d hydrology must be present, unless
	Gleyed Matrix (S				essions (F				ed or problematic.
				иох Бері	E3310113 (F6	) 			
	e Layer (if preser	it):							
Type:	-l\ . O							Hydric	Soil Present? No
Depth (in	cnes): <u>u</u>							пуштс	3011 Fresent: NO
Remarks:									
UVDDOLO	CV								
HYDROLO									
	Hydrology Indicat		equired; check all	that annly	<b>/</b> )			Secondary	/ Indicators (two or more required)
					ed Leaves (	(BO)			, , ,
	e Water (A1)		· <del></del>			. ,	-		r-Stained Leaves (B9)(MLRA 1,2,4A,4B)
	Water Table (A2)		•	•	RA 1,2,4A,	and 4B)	-		age Patterns (B10)
	ation (A3)			t Crust (B1	-		-		eason Water Table (C2)
	Marks (B1)				rtebrates (		-		ation Visible on Aerial Imagery (C9)
Sedim	ent Deposits (B2)		Нус	drogen Su	lfide Odor	(C1)	-	Geom	orphic Position (D2)
Drift D	Deposits (B3)		Oxi	dized Rhi	zospheres	along Livi	ng Roots (C3)	Shallo	w Aquitard (D3)
Algal I	Mat or Crust (B4)		Pre	sence of I	Reduced Ir	on (C4)	-	FAC-N	eutral Test (D5)
Iron D	eposits (B5)		Rec	ent Iron F	Reduction	in Tilled S	oils (C6)	Raised	Ant Mounds (D6)(LRR A)
Surfac	e Soil Cracks (B6)		Stu	nted or St	ressed Pla	nts (D1)( <b>L</b>	.RR A)	Frost-	Heave Hummocks (D7)
Inunda	ation Visible on A	erial Image	ery (B7)Oth	ner (Explai	in in Rema	rks)			
Sparse	ely Vegetated Cor	ncave Surfa	ce (B8)						
Field Obse									
	ater Present? No	)	Depth (inc	ches):					
Water Tak	ole Present? No	<u> </u>	Depth (in	ches):					
Saturation	n Present? <u>No</u>	<u>)</u>	Depth (in	ches):					
	apillary fringe)						Wetland Hydro		ent? <u>No</u>
Describe F	Recorded Data (st	ream gaug	e, monitoring well	, aerial ph	iotos, prev	vious inspe	ections), if available	2:	
Domestic									
Remarks:									

Project/Site: Port Westward Renewable Diesel Refinery Applicant/Owner: Next Energy Group, Inc. State: OR Investigator(s): Sue Brady Section, Townshi Landform (hillslope, terrace, etc.): FlatsLocal relief (conc	p, Range: <u>T8N R4</u>		Slone (%): 0	Sampling Date: <u>11/28/2018</u> Sampling Point: <u>8</u>
· · · · · · · · · · · · · · · · · · ·		· ·	Slope (%): <u>0</u>	.6266800 Datum: WGS84
Subregion (LRR): Northwest Forests & Coast (LRR A)		classification:	Long: <u>-123.1</u>	0200800 Datum. <u>WG384</u>
Soil Map Unit Name: <u>Udipsamments, nearly level, protect</u>			· · · · · · · · · · · · · · · · · · ·	when \
Are climatic/hydrologic conditions on the site typical for		Yes (IT no, ex		
Are Vegetation X, Soil, or Hydrology significantly				Circumstances" present? <u>Yes</u>
Are Vegetation, Soil, or Hydrology naturally pr	oblematic?		(if needed, e	xplain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map showin	ng sampling poi	nt locations,	transects, ir	nportant features, etc.
Hydrophytic Vegetation Present? Yes				
Hydric Soil Present? Yes		Is the	Sampled Area	a within a Wetland? Yes
Wetland Hydrology Present? Yes  Remarks:				
VEGETATION – Use scientific names of plants.				
Para Para Para Para Para Para Para Para	Absolute %	Dominant	Indicator	Dominance Test worksheet:
<u>Tree Stratum</u> (Plot size: <u>0</u> )	Cover	Species?	Status	Number of Dominant Species
1.				That Are OBL, FACW, or FAC: <u>2</u> (A)
2.				
3.				Total Number of Dominant
4.				Species Across All Strata: <u>2</u> (B)
Total Cover = <u>0</u>				
Sapling/Shrub Stratum (Plot size: 0 )				Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)
1.				Prevalence Index worksheet:
2.				Total % Cover of: Multiply by:
3.				OBL species $20 \times 1 = 20$
4.				FACW species $\frac{20}{10}$ x 2 = $\frac{20}{20}$
5. Total Cover =0				FAC species $\frac{20}{70}$ x 3 = $\frac{210}{210}$
Herb Stratum (Plot size: 4 m <sup>2</sup> )				FACU species $\underline{0}$ x 4 = $\underline{0}$
1. Lolium perenne	<u>30</u>	<u>Yes</u>	FAC	UPL species $\underline{0}$ x 5 = $\underline{0}$
2. Poa palustris	<u>40</u>	<u>Yes</u>	FAC	Column Totals: <u>100</u> (A) <u>250</u> (B)
3. Carex nebrascensis	20	No	OBL	
4. Juncus balticus	<u>10</u>	<u>No</u>	<u>FACW</u>	Prevalence Index = $B/A = 2.50$
5.				Hydrophytic Vegetation Indicators:
6.				1 –Rapid Test for Hydrophytic Vegetation
7.				$\frac{X}{X}$ 2 – Dominance Test >50%
8.				X 3 - Prevalence Index is $\leq 3.0^{1}$
9. 10.				4 - Morphological Adaptions <sup>1</sup> (Provide supporting
11.				data in Remarks or on a separate sheet)
Total Cover =100				5 – Wetland Non-Vascular Plants <sup>1</sup>
10tul 60vel - <u>100</u>				Problematic Hydrophytic Vegetation¹ (Explain)
				4
Woody Vine Stratum (Plot size: 0 )				¹Indicators of hydric soil and wetland hydrology
1.				must be present, unless disturbed or problematic.
2. Total Cover = <u>0</u>				
Total cover - <u>o</u>				
% Bare Ground in Herb Stratum: <u>0</u>				Hydrophytic Vegetation Present? Yes
Remarks:				

	Mat	<u>rix</u>		Redox F	<u>eatures</u>				
Depth	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture		Remarks
(inches)									
0-9	10YR 4/2	<u>100</u>		<u>0</u>			Silty Clay Loam		
9-18	10YR 4/2	<u>95</u>	10YR 4/6	<u>5</u>	<u>C</u>	RC	Silty Clay Loam		
1					_				
1	<u> </u>								
¹Type: C=	-Concentration, D	=Depletior	, RM=Reduced Ma	atrix, CS=0	Covered or	Coated S	and Grains. <sup>2</sup> Lo	cation: Pl	L=Pore Lining, M=Matrix
Hydric So	il Indicators: (Ap	plicable to	all LRRs, unless ot	herwise r	noted.)			Indicato	rs for Problematic Hydric Soils <sup>3</sup> :
Histos	sol (A1)		Sa	ndy Redo	x (S5)			2 cr	n Muck (A10)
Histic	Epipedon (A2)			ripped Ma					l Parent Material (TF2)
	Histic (A3)			• •		(F1) (exc	ept MLRA 1)		ry Shallow Dark Surface (TF12)
	ogen Sulfide (A4)		· · · · · · · · · · · · · · · · · · ·	-	ed Matrix		,		ner (Explain in Remarks)
	eted Below Dark S	urface (Δ1		pleted Ma		(. –)			(Englandination
	Dark Surface (A12	•	·		Surface (F	6)		3Indicat	tors of hydrophytic vegetation and
	/ Mucky Mineral (	-			ark Surface	,		1	d hydrology must be present, unless
									ed or problematic.
•	/ Gleyed Matrix (S		KE	dox Depr	essions (F8	3)			
	e Layer (if preser	ıt):							
Type:									0.110
Depth (in	ches): <u>0</u>							Hyaric	Soil Present? Yes
Remarks:									
HYDROLO									
	Hydrology Indicat						_		
Primary Ir	idicators (minimu	m of one r	equired; check all	that apply	/)		S	secondary	Indicators (two or more required)
Surfac	ce Water (A1)		Wa	ter-Staine	ed Leaves	(B9)	_	Water	-Stained Leaves (B9)( <b>MLRA 1,2,4A,4B</b> )
High \	Water Table (A2)		(e	xcept ML	RA 1,2,4A,	and 4B)	_	Draina	age Patterns (B10)
Satura	ation (A3)		Sal	t Crust (B:	L1)		_	Dry-Se	eason Water Table (C2)
Water	Marks (B1)		Aqı	uatic Inve	rtebrates (	B13)		Satura	ition Visible on Aerial Imagery (C9)
Sedim	ent Deposits (B2)		 Hvo	drogen Su	lfide Odor	(C1)	_		orphic Position (D2)
	Deposits (B3)		· · · · · · · · · · · · · · · · · · ·	-			ng Roots (C3)		w Aquitard (D3)
	Mat or Crust (B4)				Reduced Ir	_			eutral Test (D5)
	eposits (B5)		<del></del>		Reduction		oils (C6)		I Ant Mounds (D6)(LRR A)
	ce Soil Cracks (B6)				tressed Pla		-KK A)	Frost-I	Heave Hummocks (D7)
	ation Visible on A	_	- · · · · · · · · · · · · · · · · · · ·	ier (Expla	in in Rema	rks)			
	ely Vegetated Cor	icave Surta	ce (B8)						
	ervations:								
	/ater Present? No		Depth (inc	. –					
	ole Present? <u>No</u>		Depth (in						
	n Present? <u>No</u> apillary fringe)	<u>)</u>	Depth (in	cnes): <u>u</u>			Wetland Hydro	logy Pres	ent? Yes
		ream gaug	e. monitoring well	. aerial nh	otos, nrev	ious insne	ections), if available		<del>_</del>
		0~~6	,	, рі	, p		,,		
Remarks:									

Project/Site: Port Westward Renewable Diesel Refinery Applicant/Owner: Next Energy Group, Inc. State: OR Investigator(s): Sue Brady Section, Township	o, Range: <u>T8N R4</u>			Sampling Date: <u>11/28/2018</u> Sampling Point: <u>8a</u>
Landform (hillslope, terrace, etc.): Flats Local relief (conca			Slope (%): <u>0</u>	6366700 Datum, MCS94
Subregion (LRR): Northwest Forests & Coast (LRR A)			Long: <u>-123.1</u>	.6266700 Datum: <u>WGS84</u>
Soil Map Unit Name: <u>Udipsamments, nearly level, protect</u>		classification:		ata X
Are climatic/hydrologic conditions on the site typical for t		Yes (If no, ex		
Are Vegetation X, Soil, or Hydrology significantly of				Circumstances" present? <u>Yes</u>
Are Vegetation, Soil, or Hydrology naturally pro	blematic?		(if needed, e	xplain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map showin	g sampling poi	nt locations,	transects, ir	nportant features, etc.
Hydrophytic Vegetation Present? Yes				
Hydric Soil Present? No		Is the	Sampled Area	a within a Wetland? No
Wetland Hydrology Present? <u>No</u>		15 1.110		
Remarks:				
VEGETATION – Use scientific names of plants.	T	1	T	T= . =
Trace Christians (Blat sizes, O.)	Absolute %	Dominant	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: 0 ) 1.	Cover	Species?	Status	Number of Dominant Species That Are ORL FACW, or FAC:
2.				That Are OBL, FACW, or FAC: $\underline{2}$ (A)
3.				Total Number of Dominant
4.				Species Across All Strata: <u>2</u> (B)
Total Cover = <u>0</u>				<u>z</u> (b)
				Percent of Dominant Species
Sapling/Shrub Stratum (Plot size: 0 )				That Are OBL, FACW, or FAC: 100 (A/B)
1. 2.				Prevalence Index worksheet:
3.				Total % Cover of: Multiply by:
4.				OBL species $\underline{0}$ x 1 = $\underline{0}$
5.				FACW species $\underline{10}$ x 2 = $\underline{20}$
Total Cover =0				FAC species $\underline{90}$ x 3 = $\underline{270}$
Herb Stratum (Plot size: 4 m <sup>2</sup> )				FACU species $\underline{0}$ x 4 = $\underline{0}$
1. Poa palustris	<u>50</u>	<u>Yes</u>	FAC	UPL species $\underline{0}$ $\times$ 5 = $\underline{0}$
2. Lolium perenne	40	Yes	FAC	Column Totals: <u>100</u> (A) <u>290</u> (B)
3. <u>Juncus balticus</u>	<u>10</u>	<u>No</u>	<u>FACW</u>	Decorded as Index D/A 200
4.				Prevalence Index = $B/A = 2.90$
5.				Hydrophytic Vegetation Indicators:
6.				1 –Rapid Test for Hydrophytic Vegetation
7.				X 2 – Dominance Test >50%
8.				X 3 - Prevalence Index is $\leq 3.0^{\circ}$
9.				4 - Morphological Adaptions¹ (Provide supporting
10.				data in Remarks or on a separate sheet)
11. Total Cover =100				5 – Wetland Non-Vascular Plants <sup>1</sup>
10tal covel – <u>100</u>				Problematic Hydrophytic Vegetation¹ (Explain)
				_
Woody Vine Stratum (Plot size: 0 )				<sup>1</sup> Indicators of hydric soil and wetland hydrology
1.				must be present, unless disturbed or problematic.
2.				
Total Cover = <u>0</u>				
% Bare Ground in Herb Stratum: <u>0</u>				Hydrophytic Vegetation Present? Yes
Remarks: grazed pasture				

SOIL Sampling Point: <u>8a</u>

	<u>Mat</u>	<u>rix</u>		Redox I	<u>Features</u>				
Depth	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture		Remarks
(inches)									
<u>0-12</u>	10YR 3/2	<u>100</u>		<u>0</u>					
12-16	<u>10YR 4/3</u>	<u>99</u>	<u>10YR 4/4</u>	<u>1</u>	<u>C</u>	<u>M</u>	Silty Clay Loam		
<u>16-26</u>	<u>10YR 4/2</u>	<u>95</u>	<u>10YR 4/4</u>	<u>5</u>	<u>C</u>	<u>M</u>	Silty Clay Loam		
¹Type: C=	Concentration, D	=Depletior	, RM=Reduced Ma	atrix, CS=0	Covered o	r Coated S	and Grains. <sup>2</sup> Lo	ocation: Pl	L=Pore Lining, M=Matrix
Hydric So	il Indicators: (Ap	olicable to	all LRRs, unless ot	herwise ı	noted.)			Indicato	rs for Problematic Hydric Soils <sup>3</sup> :
Histos	sol (A1)		Sa	ndy Redo	x (S5)			2 cı	m Muck (A10)
Histic	Epipedon (A2)		St	ripped Ma	atrix (S6)			Rec	d Parent Material (TF2)
Black	Histic (A3)		Lo	amy Muc	ky Minera	l (F1) (exc	ept MLRA 1)	Ve	ry Shallow Dark Surface (TF12)
Hydro	gen Sulfide (A4)		Lo	amy Gley	ed Matrix	(F2)		Oth	ner (Explain in Remarks)
Deple	ted Below Dark S	urface (A1	l)De	pleted M	atrix (F3)				
Thick	Dark Surface (A12	2)	Re	dox Dark	Surface (F	6)			tors of hydrophytic vegetation and
Sandy	Mucky Mineral (	S1)	De	pleted Da	ark Surface	e (F7)			d hydrology must be present, unless
Sandy	Gleyed Matrix (S	4)	Re	dox Depr	essions (F	3)		disturb	ed or problematic.
Restrictiv	e Layer (if preser	it):							
Type:									
Depth (in	ches): <u>0</u>							Hydric	Soil Present? No
Remarks:									
HYDROLO	GY								
	Hydrology Indicat	ors:							
Primary In	idicators (minimu	m of one r	equired; check all	that apply	y)		9	Secondary	/ Indicators (two or more required)
Surfac	e Water (A1)		Wa	ter-Staine	ed Leaves	(B9)		Water	Stained Leaves (B9)( <b>MLRA 1,2,4A,4B</b> )
High V	Vater Table (A2)				RA 1,2,4A,				age Patterns (B10)
	ition (A3)			t Crust (B:		•	-		eason Water Table (C2)
	Marks (B1)		<u></u>	•	rtebrates (	(B13)	-		ation Visible on Aerial Imagery (C9)
Sedim	ent Deposits (B2)		Hyd	drogen Su	lfide Odor	(C1)	-	Geom	orphic Position (D2)
	Deposits (B3)		· · · · · · · · · · · · · · · · · · ·				ng Roots (C3)		w Aquitard (D3)
Algal I	Mat or Crust (B4)		Pre	sence of	Reduced Ir	on (C4)			eutral Test (D5)
	eposits (B5)		· · · · · · · · · · · · · · · · · · ·		Reduction		oils (C6)		Ant Mounds (D6)(LRR A)
	e Soil Cracks (B6)				tressed Pla				Heave Hummocks (D7)
	ation Visible on A				in in Rema		,	<u></u>	, ,
	ely Vegetated Cor	_		• •		•			
Field Obse									
Surface W	ater Present? No	<u>)</u>	Depth (inc	ches): <u>0</u>					
Water Tak	ole Present? <u>No</u>	<u>)</u>	Depth (in	ches): <u>0</u>					
Saturation		<u>)</u>	Depth (in	ches): <u>0</u>			Markley of the due	la au Dua a	out2 No
	apillary fringe)	****************	o monitoring well	aarial ah	atas pro	ilaus insn	Wetland Hydro		ent? <u>NO</u>
Describe i	Recorded Data (St	ream gaug	e, monitoring weii	, aeriai pr	iotos, prev	rious irispi	ections), if available	<b>:</b> .	
Remarks:									

Project/Site: Port Westward Renewable Diesel Refinery Applicant/Owner: Next Energy Group, Inc. State: OR Investigator(s): Sue Brady Section, Townsh Landform (hillslope, terrace, etc.): Flats Local relief (cond Subregion (LRR): Northwest Forests & Coast (LRR A)	ip, Range: <u>T8N R4</u> cave, convex, none	e): <u>concave</u>	Slope (%): <u>0</u> Long: <u>-123.1</u>	Sampling Date: <u>11/28/2018</u> Sampling Point: <u>9</u> <u>6296360</u> Datum: <u>WGS84</u>
Soil Map Unit Name: Udipsamments, nearly level, prote	<u>cted</u> NWI	classification:	PEM1A	
Are climatic/hydrologic conditions on the site typical for	this time of year?	Yes(if no, ex	plain in Rema	rks.)
Are Vegetation X, Soil, or Hydrology significantly				Circumstances" present? Yes
Are Vegetation, Soil, or Hydrology naturally pr				xplain any answers in Remarks.)
The vegetation, son, or my arology naturally pr	obicinatio.		(ii iiccaca, c	Apidin dily dilawera in recinario.
SUMMARY OF FINDINGS – Attach site map showi	na complina poi	nt locations	transacts in	mnortant factures, etc
	ing samping poi	iit iocations,	transects, ii	inportant leatures, etc.
Hydrophytic Vegetation Present? Yes				
Hydric Soil Present? <u>Yes</u>		Is the	Sampled Area	within a Wetland? Yes
Wetland Hydrology Present? <u>Yes</u>		is tile	Sampleu Area	i within a wetiand: <u>res</u>
Remarks:				
VEGETATION – Use scientific names of plants.				
<u>Tree Stratum</u> (Plot size: <u>0</u> ) 1.	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:         Number of Dominant Species         That Are OBL, FACW, or FAC:       3 (A)
2. 3.				Total Number of Dominant
3. 4.				
Total Cover =0				Species Across All Strata: <u>3</u> (B)
				Percent of Dominant Species
Sapling/Shrub Stratum (Plot size: 0)				That Are OBL, FACW, or FAC: 100 (A/B)
1.				Prevalence Index worksheet:
2.				Total % Cover of: Multiply by:
3.				OBL species $\underline{10}$ $\times$ $1 = \underline{10}$
4.				FACW species $\frac{10}{20}$ $\times$ $\frac{1}{20}$ $\times$ $\frac{1}{20}$
5.				FAC species $\frac{20}{70}$ x 3 = $\frac{210}{10}$
Total Cover = 0				FACU species $\underline{0}$ x 4 = $\underline{0}$
Herb Stratum (Plot size: 4 m <sup>2</sup> )	40	Voc	FAC	UPL species $\underline{0}$ x 5 = $\underline{0}$
Poa palustris     Lolium perenne	<u>40</u> <u>30</u>	<u>Yes</u> <u>Yes</u>	<u>FAC</u> <u>FAC</u>	Column Totals: 100 (A) 260 (B)
3. Juncus balticus	<u>30</u> 20	<u>Yes</u>	FACW	
Carex nebrascensis	10	No	OBL	Prevalence Index = $B/A = 2.60$
5.	10	140	<u> </u>	· · · · · · · · · · · · · · · · · · ·
6.				Hydrophytic Vegetation Indicators:
7.				1 –Rapid Test for Hydrophytic Vegetation
8.				X 2 – Dominance Test >50%
9.				$\frac{X}{X}$ 3 - Prevalence Index is ≤ 3.0 <sup>1</sup>
10.				4 - Morphological Adaptions <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
11.				5 – Wetland Non-Vascular Plants <sup>1</sup>
Total Cover = <u>100</u>				Problematic Hydrophytic Vegetation¹ (Explain)
				Troblematic Hydrophytic vegetation (Explain)
Woody Vine Stratum (Plot size: _0_)				<sup>1</sup> Indicators of hydric soil and wetland hydrology
1.				must be present, unless disturbed or problematic.
2.				mast se present, amess distance or president
Total Cover = <u>0</u>				
_				
% Bare Ground in Herb Stratum: <u>0</u>				Hydrophytic Vegetation Present? Yes
Remarks: grazed pasture				

	Mat	rix		Redox F	eatures				
Depth	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture		Remarks
(inches)	, ,				,,				
<u>0-7</u>	10YR 3/2	100		<u>0</u>			Silty Clay Loam		
<del>3 /</del> 7-18	10YR 3/2	<u>95</u>	10YR 4/6	<u>5</u>	<u>C</u>	<u>RC</u>	Silty Clay Loam		
7-10	101K 3/2	<u>33</u>	<u>1011(4/0</u>	<u> </u>	<u>c</u>	<u>itC</u>	Sitty Clay Loain		
1Tupo: C-	-Concontration D	-Doplotion	, RM=Reduced M	atriv CS-C	Covered or	Coated S	and Crains 21 o	cation: D	-Doro Lining M-Matrix
Type. C-	-Concentration, D	-Depletioi	, KIVI–Reduced IVI	atrix, CS-C	Lovereu oi	Coateu 3	and GranisLo	Cation. Pi	L=Pore Lining, M=Matrix
Hydric So	il Indicators: (Ap	plicable to	all LRRs, unless of	herwise r	noted.)			Indicato	rs for Problematic Hydric Soils <sup>3</sup> :
Histos	sol (A1)		Sa	ndy Redo	x (S5)			2 cı	n Muck (A10)
Histic	Epipedon (A2)			ripped Ma					Parent Material (TF2)
	Histic (A3)		<del></del>	• •	. ,	l (F1) (exce	ept MLRA 1)		ry Shallow Dark Surface (TF12)
	` '		· · · · · · · · · · · · · · · · · · ·	-	ed Matrix		pe willia 1)		er (Explain in Remarks)
	ogen Sulfide (A4)		· · · · · · · · · · · · · · · · · · ·			(FZ)		Otr	ier (Explain in Remarks)
	ted Below Dark S	-	· —	pleted M	` '				
Thick	Dark Surface (A1:	2)	<u>X</u> Re	dox Dark :	Surface (F	6)			ors of hydrophytic vegetation and
Sandy	/ Mucky Mineral (	(S1)	De	epleted Da	irk Surface	e (F7)			d hydrology must be present, unless
Sandy	Gleyed Matrix (S	54)	Re	dox Depr	essions (F8	3)		disturb	ed or problematic.
	e Layer (if preser			•					
Type:	e Layer (II preser	itj.							
	ah a a\. O							Hydric	Soil Present? Yes
Depth (in	cnes): <u>u</u>							Tiyunc .	Son Fresent: 1es
Remarks:									
HYDROLO	GY								
	Hydrology Indicat	tors:							
			equired; check all	that apply	<b>(</b> )		S	Secondary	Indicators (two or more required)
			·			(= a)			
Surfac	ce Water (A1)		Wa	ter-Staine	ed Leaves	(B9)	-		-Stained Leaves (B9)( <b>MLRA 1,2,4A,4B</b> )
High \	Water Table (A2)		(e	xcept ML	RA 1,2,4A,	and 4B)	_	Draina	ge Patterns (B10)
Satura	ation (A3)		Sal	t Crust (B1	L1)		_	Dry-Se	eason Water Table (C2)
Water	Marks (B1)		Aqı	uatic Inve	rtebrates (	B13)		Satura	tion Visible on Aerial Imagery (C9)
	ent Deposits (B2)	١			lfide Odor	•	_		orphic Position (D2)
·		1		_			- Poets (C2)		
	Deposits (B3)					_	ng Roots (C3)		w Aquitard (D3)
	Mat or Crust (B4)		· · · · · · · · · · · · · · · · · · ·		Reduced Ir		=		eutral Test (D5)
Iron D	eposits (B5)		Red	cent Iron F	Reduction	in Tilled So	oils (C6)	Raisec	Ant Mounds (D6)(LRR A)
Surfac									
	ce Soil Cracks (B6)					nts (D1)( <b>L</b>			Heave Hummocks (D7)
Inund	ce Soil Cracks (B6)		Stu	nted or St	ressed Pla				Heave Hummocks (D7)
	ce Soil Cracks (B6) ation Visible on A	erial Image	Stu ry (B7)Oth	nted or St					Heave Hummocks (D7)
Sparse	ce Soil Cracks (B6) ation Visible on A ely Vegetated Cor	erial Image	Stu ry (B7)Oth	nted or St	ressed Pla				Heave Hummocks (D7)
Sparse Field Obse	ce Soil Cracks (B6) ation Visible on A ely Vegetated Cor ervations:	erial Image ncave Surfa	Stu ry (B7)Oth ce (B8)	nted or St ner (Explai	ressed Pla				Heave Hummocks (D7)
Sparse Field Obse Surface W	ce Soil Cracks (B6) ation Visible on A ely Vegetated Cor ervations: Vater Present? <u>No</u>	erial Image ncave Surfa	Stu ry (B7)Oth ce (B8) Depth (inc	nted or St ner (Explai	ressed Pla				Heave Hummocks (D7)
Sparse Field Obse Surface W Water Tab	ce Soil Cracks (B6) ation Visible on A lely Vegetated Corervations: Vater Present? Note the Present? Note Present?	erial Image ncave Surfa <u>0</u>	Stu ry (B7)Oth ce (B8) Depth (ind Depth (ind	nted or St ner (Explai ches): ches):	ressed Pla				Heave Hummocks (D7)
Sparse Field Obse Surface W Water Tab Saturation	ce Soil Cracks (B6) ation Visible on A lely Vegetated Corervations:  Vater Present? Note Present? Note Present? Years Present?	erial Image ncave Surfa <u>0</u>	Stu ry (B7)Oth ce (B8) Depth (ind Depth (ind	nted or St ner (Explai	ressed Pla		RR A) _	Frost-	
Sparse Field Obse Surface W Water Tak Saturation (includes ca	ce Soil Cracks (B6) ation Visible on A lely Vegetated Corervations: Vater Present? Note Present? Note Present? Yeapillary fringe)	erial Image ncave Surfa <u>0</u> 0ss	ry (B7)Stu ce (B8) Depth (ind Depth (ind Depth (ind	nted or St ner (Explai ches): ches): nches): 15	ressed Pla in in Rema	rks)	RR A)	Frost-	
Sparse Field Obse Surface W Water Tak Saturation (includes ca	ce Soil Cracks (B6) ation Visible on A lely Vegetated Corervations: Vater Present? Note Present? Note Present? Yeapillary fringe)	erial Image ncave Surfa <u>0</u> 0ss	ry (B7)Stu ce (B8) Depth (ind Depth (ind Depth (ind	nted or St ner (Explai ches): ches): nches): 15	ressed Pla in in Rema	rks)	RR A) _	Frost-	
Sparse Field Obse Surface W Water Tak Saturation (includes ca	ce Soil Cracks (B6) ation Visible on A lely Vegetated Corervations: Vater Present? Note Present? Note Present? Yeapillary fringe)	erial Image ncave Surfa <u>0</u> 0ss	ry (B7)Stu ce (B8) Depth (ind Depth (ind Depth (ind	nted or St ner (Explai ches): ches): nches): 15	ressed Pla in in Rema	rks)	RR A)	Frost-	
Sparse Field Obse Surface W Water Tal Saturation (includes ca	ce Soil Cracks (B6) ation Visible on A lely Vegetated Corervations: Vater Present? Note Present? Note Present? Yeapillary fringe)	erial Image ncave Surfa <u>0</u> 0ss	ry (B7)Stu ce (B8) Depth (ind Depth (ind Depth (ind	nted or St ner (Explai ches): ches): nches): 15	ressed Pla in in Rema	rks)	RR A)	Frost-	
Sparse Field Obse Surface W Water Tak Saturation (includes ca	ce Soil Cracks (B6) ation Visible on A lely Vegetated Corervations: Vater Present? Note Present? Note Present? Yeapillary fringe)	erial Image ncave Surfa <u>0</u> 0ss	ry (B7)Stu ce (B8) Depth (ind Depth (ind Depth (ind	nted or St ner (Explai ches): ches): nches): 15	ressed Pla in in Rema	rks)	RR A)	Frost-	
Sparse Field Obse Surface W Water Tal Saturation (includes ca	ce Soil Cracks (B6) ation Visible on A lely Vegetated Corervations: Vater Present? Note Present? Note Present? Yeapillary fringe)	erial Image ncave Surfa <u>0</u> 0ss	ry (B7)Stu ce (B8) Depth (ind Depth (ind Depth (ind	nted or St ner (Explai ches): ches): nches): 15	ressed Pla in in Rema	rks)	RR A)	Frost-	
Sparse Field Obse Surface W Water Tal Saturation (includes ca	ce Soil Cracks (B6) ation Visible on A lely Vegetated Corervations: Vater Present? Note Present? Note Present? Yeapillary fringe)	erial Image ncave Surfa <u>0</u> 0ss	ry (B7)Stu ce (B8) Depth (ind Depth (ind Depth (ind	nted or St ner (Explai ches): ches): nches): 15	ressed Pla in in Rema	rks)	RR A)	Frost-	

Project/Site: Port Westward Renewable D Applicant/Owner: Next Energy Group, Inc. Investigator(s): Sue Brady See Landform (hillslope, terrace, etc.): Flats Loc Subregion (LRR): Northwest Forests & Coa Soil Map Unit Name: Udipsamments, near Are climatic/hydrologic conditions on the sare Vegetation X, Soil , or Hydrology Are Vegetation , Soil , or Hydrology SUMMARY OF FINDINGS – Attach site	State: <u>OR</u> ction, Township, Ra cal relief (concave, st (LRR A) ly level, protected site typical for this _ significantly distu _ naturally proble	ange: T8N R4W convex, none): Lat: 40 NWI cl time of year? Yurbed? matic?	concave 5.16734410 assification: Yes(if no, ex	plain in Remar Are "Normal ( (if needed, ex	5296710 Datum: WGS84 ks.) Circumstances" present? Yes plain any answers in Remarks.)	g Date: <u>11/28/2018</u> Sampling Point: <u>9a</u>
Hydrophytic Vegetation Present? Yes						
Hydric Soil Present? No			Is the	Samnlad Area	within a Wetland? No	
Wetland Hydrology Present? No  Remarks:			is the	Sampleu Area	within a wetland: NO	
VEGETATION – Use scientific names of	of plants.					
	_	Absolute %	Dominant	Indicator	Dominance Test worksheet:	
<u>Tree Stratum</u> (Plot size: <u>0</u> )		Cover	Species?	Status	Number of Dominant Species	2 (4)
1. 2.					That Are OBL, FACW, or FAC:	<u>3</u> (A)
3.					Total Number of Dominant	
4.					Species Across All Strata:	<u>3</u> (B)
Total Cover	= <u>0</u>					
Sapling/Shrub Stratum (Plot size: 0 )					Percent of Dominant Species	100 (A/D)
1.					That Are OBL, FACW, or FAC:	<u>100</u> (A/B)
2.					Prevalence Index worksheet:	tiply by:
3.					· · · · · · · · · · · · · · · · · · ·	1 = <u>0</u>
4. 5.						2 = <u>20</u>
Total Cover	· =0					3 = 270
Herb Stratum (Plot size: 4 m <sup>2</sup> )					· —	4 = <u>0</u>
1. Poa palustris		<u>50</u>	<u>Yes</u>	<u>FAC</u>		5 = 0
2. <u>Lolium perenne</u>		<u>40</u>	<u>Yes</u>	<u>FAC</u>	Column Totals: <u>100</u> (A)	<u>290</u> (B)
3. <u>Juncus balticus</u>		<u>10</u>	<u>Yes</u>	<u>FACW</u>	Prevalence Index = B/A = 2.90	
4. 5.						
6.					Hydrophytic Vegetation Indica	
7.					1 –Rapid Test for Hydrophy	ytic Vegetation
8.					X 2 – Dominance Test >50% X 3 - Prevalence Index is ≤ 3.0	<b>1</b> 1
9.					4 - Morphological Adaption	
10.					data in Remarks or on a separate sl	
11. Total Cover	-100				5 – Wetland Non-Vascular	
Total cover	- <u>100</u>				Problematic Hydrophytic V	′egetation¹ (Explain)
N/a a di Nina Chiattina (Diataina O					11.04:0040.00	atland budgalası.
Woody Vine Stratum (Plot size: 0 ) 1.					<sup>1</sup> Indicators of hydric soil and we must be present, unless disturb	
2.					must be present, unless distart	rea or problematic.
Total Cover	· = <u>0</u>					
% Bare Ground in Herb Stratum: <u>0</u>					Hydrophytic Vegetation Preser	nt? <u>Yes</u>
Remarks: grazed pasture						

SOIL Sampling Point: <u>9a</u>

	Mat	<u>rix</u>		Redox I	eatures				
Depth	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture		Remarks
(inches)									
<u>18-27</u>	10YR 3/2	<u>95</u>	10YR 4/4	<u>5</u>	<u>C</u>	<u>RC</u>	Silty Clay Loam		
0-11	10YR 3/2	<u>100</u>		<u>0</u>			Silty Clay Loam		
<u>11-18</u>	10YR 3/2	99	10YR 4/4	<u>1</u>	<u>C</u>	<u>M</u>	Silty Clay Loam		
			· <u></u>	_	_				
4	<u> </u>								
¹Type: C=	-Concentration, D	=Depletior	, RM=Reduced Ma	atrix, CS=0	Covered o	r Coated S	and Grains. <sup>2</sup> Lo	cation: P	L=Pore Lining, M=Matrix
Hydric So	il Indicators: (Ap	plicable to	all LRRs, unless ot	herwise ı	noted.)			Indicato	rs for Problematic Hydric Soils <sup>3</sup> :
Histos	sol (A1)		Sa	ndy Redo	x (S5)			2 cı	n Muck (A10)
Histic	Epipedon (A2)		Sti	ripped Ma	trix (S6)			Rec	l Parent Material (TF2)
	Histic (A3)			• •	• •	l (F1) (exc	ept MLRA 1)		ry Shallow Dark Surface (TF12)
	ogen Sulfide (A4)		· · · · · · · · · · · · · · · · · · ·	-	ed Matrix		,		ner (Explain in Remarks)
	eted Below Dark S	urface (Δ1°		pleted M		(-)			(Englandination
	Dark Surface (A1:	•	·	•	Surface (F	6)		3Indicat	tors of hydrophytic vegetation and
	/ Mucky Mineral (	-	· · · · · · · · · · · · · · · · · · ·		ark Surface	-			d hydrology must be present, unless
									ed or problematic.
	Gleyed Matrix (S		K6	aox Depr	essions (F	3)		4.000.0	
	e Layer (if preser	ıt):							
Type:								1 to a decide	Call Bus and 2 No
Depth (in	ches): <u>0</u>							Hydric	Soil Present? No
Remarks:									
HYDROLO									
	Hydrology Indicat		anuiradi abaak all	that annly	٨			`aaandan	Indicators (two or more required)
•	•	m or one r	equired; check all						/ Indicators (two or more required)
	ce Water (A1)		·		ed Leaves		-		-Stained Leaves (B9)( <b>MLRA 1,2,4A,4B</b> )
High V	Water Table (A2)		(е	xcept ML	RA 1,2,4A	, and 4B)	-	Draina	age Patterns (B10)
Satura	ation (A3)		Sal	t Crust (B:	L1)		-	Dry-Se	eason Water Table (C2)
Water	Marks (B1)		Aqı	uatic Inve	rtebrates (	(B13)	-	Satura	ition Visible on Aerial Imagery (C9)
Sedim	ent Deposits (B2)		Нус	drogen Su	lfide Odor	(C1)	_	Geom	orphic Position (D2)
Drift D	Deposits (B3)		Oxi	dized Rhi	zospheres	along Livi	ng Roots (C3)	Shallo	w Aquitard (D3)
Algal I	Mat or Crust (B4)		Pre	sence of	Reduced Ir	on (C4)	_	FAC-N	eutral Test (D5)
Iron D	eposits (B5)		Red	ent Iron I	Reduction	in Tilled S	oils (C6)	Raised	Ant Mounds (D6)(LRR A)
	ce Soil Cracks (B6)		·		ressed Pla		· · ·   -		Heave Hummocks (D7)
	ation Visible on A				in in Rema		′   -		,
	ely Vegetated Cor	_	- · · · · · · · · · · · · · · · · · · ·	.c. (2xp.a					
Field Obse		icave Jarra	CC (BO)						
	/ater Present? No	,	Depth (inc	-hacl:					
	ole Present? No		Depth (in	-					
	n Present? Ye			nches): 19	)				
	apillary fringe)	_	-1 (		_		Wetland Hydro	logy Pres	ent? <u>No</u>
		ream gaug	e, monitoring well	, aerial ph	otos, prev	ious inspe	ections), if available	2:	
Remarks:									

Project/Site: Port Westward Renewable Diesel Refinery Applicant/Owner: Next Energy Group, Inc. State: OR Investigator(s): Sue Brady Section, Township Landform (hillslope, terrace, etc.): Flats Local relief (conce Subregion (LRR): Northwest Forests & Coast (LRR A) Soil Map Unit Name: Udipsamments, nearly level, protect Are climatic/hydrologic conditions on the site typical for Are Vegetation X, Soil , or Hydrology significantly Are Vegetation , Soil , or Hydrology naturally pro	p, Range: T8N R4 ave, convex, none Lat: ted NWI this time of year? disturbed?	e): <u>concave</u> 46.16533480 classification: 2 <u>Yes</u> (if no, ex	PEM1A plain in Reman Are "Normal (if needed, e	cks.) Circumstances" present? <u>Yes</u> xplain any answers in Remarks.)
Hydrophytic Vegetation Present? Yes	ig sampling por	in locations,	transcets, n	inportant reatures, etc.
Hydric Soil Present? Yes				
Wetland Hydrology Present? Yes		Is the	Sampled Area	within a Wetland? Yes
Remarks:				
VEGETATION – Use scientific names of plants.	Absolute 0/	Dominant	Indicator	Dominouse Test weatherest.
Tree Stratum (Plot size: _0 ) 1. 2. 3.	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:  Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)  Total Number of Dominant
4.				Species Across All Strata: <u>3</u> (B)
Total Cover = <u>0</u>				Barrant of Barriagut Consiss
Sapling/Shrub Stratum (Plot size: 0 )				Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)
1. 2. 3. 4. 5.  Total Cover = 0  Herb Stratum (Plot size: 4 m²)  1. Juncus balticus  2. Carex nebrascensis 3. Phalaris arundinacea 4. Poa palustris 5. 6. 7. 8. 9. 10. 11.  Total Cover = 100  Woody Vine Stratum (Plot size: 0) 1.	30 30 30 10	Yes Yes Yes No	FACW OBL FACW FAC	Prevalence Index worksheet:
2. Total Cover = <u>0</u> % Bare Ground in Herb Stratum: <u>0</u>				Hydrophytic Vegetation Present? Yes
Remarks: grazed pasture				

SOIL Sampling Point: <u>10</u>

	Mat	<u>rix</u>		Redox F	-eatures				
Depth	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture		Remarks
(inches)									
<u>0-3</u>	10YR 3/2	<u>100</u>		<u>0</u>			Silty Clay Loam		
3-8	10YR 3/2	<u>90</u>	10YR 4/6	<u>10</u>	<u>c</u>	<u>M</u>	Silty Clay Loam		
	· · · · · · · · · · · · · · · · · · ·					_			
1									
¹Type: C=	Concentration, D	=Depletior	, RM=Reduced Ma	atrix, CS=0	Covered or	r Coated S	and Grains. <sup>2</sup> Lo	cation: Pl	L=Pore Lining, M=Matrix
Hydric So	il Indicators: (Ap	olicable to	all LRRs, unless ot	herwise r	noted.)			Indicato	rs for Problematic Hydric Soils <sup>3</sup> :
Histos	sol (A1)		Sa	ndy Redo	x (S5)			2 cr	n Muck (A10)
Histic	Epipedon (A2)			ripped Ma					Parent Material (TF2)
	Histic (A3)			• •		(F1) ( <b>exc</b> e	ept MLRA 1)		ry Shallow Dark Surface (TF12)
	ogen Sulfide (A4)		· · · · · · · · · · · · · · · · · · ·	-	ed Matrix		,		ner (Explain in Remarks)
	ted Below Dark S	urface (Δ1°		pleted M		(. –)			(Express to the second
	Dark Surface (A12	-	-	•	Surface (F	5)		3Indicat	ors of hydrophytic vegetation and
	Mucky Mineral (	•			ark Surface	-		1	d hydrology must be present, unless
	· · · · · · · · · · · · · · · · · · ·			•					ed or problematic.
	Gleyed Matrix (S		Re	иох Берг	essions (F8	>)			
	e Layer (if preser	ıt):							
Type:								l	
Depth (in	ches): <u>0</u>							Hyaric	Soil Present? Yes
Remarks:									
HYDROLO									
	Hydrology Indicat			بامرمره عمطه	.\				. In diantana (t
		m of one r	equired; check all				S		Indicators (two or more required)
Surfac	e Water (A1)		Wa	ter-Staine	ed Leaves	(B9)	_	Water	-Stained Leaves (B9)( <b>MLRA 1,2,4A,4B</b> )
X High V	Vater Table (A2)		(e	xcept ML	RA 1,2,4A,	and 4B)	_	Draina	ge Patterns (B10)
X_Satura	tion (A3)		Salt	t Crust (B	11)		_	Dry-Se	eason Water Table (C2)
Water	Marks (B1)		Aqı	uatic Inve	rtebrates (	B13)	_	Satura	tion Visible on Aerial Imagery (C9)
Sedim	ent Deposits (B2)		Hyd	drogen Su	lfide Odor	(C1)	_	Geom	orphic Position (D2)
	Deposits (B3)		-	-			ng Roots (C3)	Shallo	w Aquitard (D3)
	Mat or Crust (B4)				Reduced Ir	_	• • •		eutral Test (D5)
	eposits (B5)		· · · · · · · · · · · · · · · · · · ·		Reduction		oils (C6)		Ant Mounds (D6)(LRR A)
	e Soil Cracks (B6)		· · · · · · · · · · · · · · · · · · ·		tressed Pla		· · ·		Heave Hummocks (D7)
	ation Visible on A				in in Rema			11031-1	neave Hummocks (D7)
		_	- · · · · · · · · · · · · · · · · · · ·	iei (Expia	III III NEIIIa	i K5)			
	ely Vegetated Cor	icave Surra	ce (B8)						
Field Obse			Double //or	-l\.					
	/ater Present? <u>No</u> ble Present?      Ye		Depth (in	,					
	ole Present? <u>Ye</u> n Present?         Ye		Depth (in	nches): 0					
	apillary fringe)	<u>3</u>	Deptii (ii	iciies). <u>o</u>			Wetland Hydro	logy Pres	ent? Yes
		ream gaug	e, monitoring well	, aerial ph	notos, prev	ious inspe	ections), if available		
	,	5 0	J	•	•	•			
Remarks:		-							

Project/Site: Port Westward Renewable Diesel Refinery Applicant/Owner: Next Energy Group, Inc. State: OR Investigator(s): Sue Brady Section, Townshi Landform (hillslope, terrace, etc.): Flats Local relief (cond Subregion (LRR): Northwest Forests & Coast (LRR A) Soil Map Unit Name: Udipsamments, nearly level, protect Are climatic/hydrologic conditions on the site typical for Are Vegetation X, Soil , or Hydrology significantly Are Vegetation , Soil , or Hydrology naturally pr	p, Range: T8N R4 ave, convex, none Lat: ted NWI this time of year? disturbed? oblematic?	e): <u>concave</u> <u>46.16533460</u> classification: ? <u>Yes</u> (if no, exp	PEM1A plain in Reman Are "Normal (if needed, e	rks.) Circumstances" present? <u>Yes</u> xplain any answers in Remarks.)
Hydrophytic Vegetation Present? Yes			· ·	
Hydric Soil Present? <u>No</u>				
Wetland Hydrology Present? <u>No</u>		Is the S	Sampled Area	within a Wetland? <u>No</u>
Remarks:  VEGETATION – Use scientific names of plants.				
- Company of the control of the cont	Absolute %	Dominant	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: 0 ) 1. 2. 3.	Cover	Species?	Status	Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A)  Total Number of Dominant
4.				Species Across All Strata: <u>3</u> (B)
Total Cover = <u>0</u>				
Sapling/Shrub Stratum (Plot size: 0 )				Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)
1. 2. 3. 4. 5.  Total Cover = 0  Herb Stratum (Plot size: 4 m²)  1. Juncus balticus 2. Poa palustris 3. Phalaris arundinacea 4. 5. 6. 7.	20 50 30	Yes Yes Yes	FACW FAC FACW	Prevalence Index worksheet:
8. 9. 10. 11. Total Cover = 100  Woody Vine Stratum (Plot size: _0_)				<ul> <li>X 2 - Dominance Test &gt;50%</li> <li>X 3 - Prevalence Index is ≤ 3.0¹</li> <li>4 - Morphological Adaptions¹ (Provide supporting data in Remarks or on a separate sheet)</li> <li>5 - Wetland Non-Vascular Plants¹</li> <li>Problematic Hydrophytic Vegetation¹ (Explain)</li> <li>¹Indicators of hydric soil and wetland hydrology</li> </ul>
1. 2. Total Cover = <u>0</u>				must be present, unless disturbed or problematic.
% Bare Ground in Herb Stratum: <u>0</u>				Hydrophytic Vegetation Present? Yes
Remarks: grazed pasture	1			

	<u>Mat</u> i				-eatures				
Depth	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture		Remarks
(inches)		100							
<u>0-9</u>	10YR 3/3	<u>100</u>		<u>0</u>			Silty Clay Loam		some gravel
9-17	10YR 3/2	<u>100</u>	101/5 1/6	<u>0</u>			Silty Clay Loam		some gravel
<u>17-26</u>	<u>10YR 3/2</u>	<u>95</u>	<u>10YR 4/6</u>	<u>5</u>	<u>C</u>	<u>M</u>	Silty Clay Loam		
¹Type: C=	Concentration, D	=Depletion	, RM=Reduced Ma	atrix, CS=0	Covered o	r Coated S	and Grains. <sup>2</sup> Lc	cation: Pl	_=Pore Lining, M=Matrix
Hydric So	il Indicators: (App	olicable to	all LRRs, unless ot	herwise r	noted.)			Indicato	rs for Problematic Hydric Soils <sup>3</sup> :
Histos	sol (A1)		Sa	ndy Redo	x (S5)			2 cr	m Muck (A10)
Histic	Epipedon (A2)		Str	ripped Ma	itrix (S6)			Rec	Parent Material (TF2)
	Histic (A3)		Lo	amy Muc	ky Minera	l (F1) (exc	ept MLRA 1)	Ve	ry Shallow Dark Surface (TF12)
Hydro	gen Sulfide (A4)		Lo	amy Gley	ed Matrix	(F2)		Oth	er (Explain in Remarks)
Deple	ted Below Dark S	urface (A11	L)De	pleted M	atrix (F3)				
Thick	Dark Surface (A12	2)	Re	dox Dark	Surface (F	6)			ors of hydrophytic vegetation and
Sandy	Mucky Mineral (	S1)	De	pleted Da	irk Surface	e (F7)			hydrology must be present, unless
Sandy	Gleyed Matrix (S	4)	Re	dox Depr	essions (F8	3)		disturb	ed or problematic.
Restrictiv	e Layer (if presen	t):							
Type:									
Depth (in	ches): <u>0</u>							Hydric	Soil Present? <u>No</u>
Remarks:									
HYDROLO	GY								
	GY Hydrology Indicat	ors:							
	Hydrology Indicat		equired; check all	that apply	·)			Secondary	Indicators (two or more required)
<b>Wetland I</b> Primary In	Hydrology Indicat				v) ed Leaves (	(B9)			
Wetland H Primary InSurfac	Hydrology Indicat Indicators (minimu		Wa	ter-Staine	ed Leaves		-	Water	Indicators (two or more required) -Stained Leaves (B9)(MLRA 1,2,4A,4B)
Wetland H Primary InSurfacHigh V	Hydrology Indicat ndicators (minimu se Water (A1) Vater Table (A2)		Wa	ter-Staine	ed Leaves (		- -	Water Draina	-Stained Leaves (B9)(MLRA 1,2,4A,4B) ge Patterns (B10)
Wetland H Primary InSurfacHigh VSatura	Hydrology Indicat adicators (minimu se Water (A1)		Wa Salt	ter-Staine xcept ML t Crust (B1	ed Leaves (	and 4B)	- - -	Water Draina Dry-Se	-Stained Leaves (B9)(MLRA 1,2,4A,4B) ge Patterns (B10) eason Water Table (C2)
Wetland F Primary InSurfacHigh VSaturaWater	Hydrology Indicated indicators (minimuse Water (A1) Vater Table (A2) Action (A3) Marks (B1)		Wa (e: Salt Aqu	ter-Staine xcept ML t Crust (B1 uatic Inve	ed Leaves ( RA 1,2,4A, L1) rtebrates (	and 4B)	- - - -	WaterDrainaDry-Se	-Stained Leaves (B9)(MLRA 1,2,4A,4B) ge Patterns (B10)
Wetland F Primary InSurfacHigh VSaturaWaterSedim	Hydrology Indicated indicators (minimuse Water (A1) Water Table (A2) ation (A3) Marks (B1) ent Deposits (B2)		Wa (e: Salt Aqu Hyd	ter-Staine xcept ML t Crust (B1 uatic Invel drogen Su	ed Leaves ( RA 1,2,4A, L1) rtebrates ( Ifide Odor	B13) (C1)	- - - -	WaterDrainaDry-SeSaturaGeom	-Stained Leaves (B9)(MLRA 1,2,4A,4B)  Ige Patterns (B10)  Isason Water Table (C2)  Ition Visible on Aerial Imagery (C9)  Imporphic Position (D2)
Wetland F Primary In  Surfac  High V  Satura  Water  Sedim  Drift D	Hydrology Indicated indicators (minimulate Water (A1) Water Table (A2) Aution (A3) Marks (B1) Marks (B2) Marks (B3)		Wa (e: Salt Aqu Hyo Oxi	ter-Staine xcept MLI t Crust (B1 uatic Inver drogen Su dized Rhiz	ed Leaves ( RA 1,2,4A, 11) rtebrates ( Ifide Odor zospheres	and 4B) (B13) (C1) along Livi	- - - - - - - - - - -	Water Draina Dry-Se Satura Geom Shallo	-Stained Leaves (B9)(MLRA 1,2,4A,4B)  Ige Patterns (B10)  Isason Water Table (C2)  Ition Visible on Aerial Imagery (C9)  Orphic Position (D2)  w Aquitard (D3)
Wetland F Primary In  Surfac  High V  Satura  Water  Sedim  Drift D  Algal N	Hydrology Indicated indicators (minimulate Water (A1) Water Table (A2) Action (A3) Marks (B1) Ment Deposits (B2) Deposits (B3) Wat or Crust (B4)		Wa (e: Salt Aqu Hyo Oxi Pre	ter-Staine xcept MLI t Crust (B1 uatic Inver drogen Su dized Rhia sence of I	ed Leaves ( RA 1,2,4A, L1) rtebrates ( Ifide Odor cospheres Reduced Ir	and 4B) (B13) (C1) along Livinon (C4)	- - - - ng Roots (C3)	Water Draina Dry-Se Satura Geom Shallo	-Stained Leaves (B9)(MLRA 1,2,4A,4B)  age Patterns (B10)  ason Water Table (C2)  tion Visible on Aerial Imagery (C9)  orphic Position (D2)  w Aquitard (D3)  eutral Test (D5)
Wetland F Primary In  Surfac  High V  Satura  Water  Sedim  Drift D  Algal N	Hydrology Indicated adicators (minimuse Water (A1) Water Table (A2) Action (A3) Marks (B1) Ment Deposits (B2) Deposits (B3) Mat or Crust (B4) Meposits (B5)		Wa (e: Salt Aqu Hyo Oxi Pre Rec	ter-Staine xcept MLI t Crust (B1 uatic Invention Sundiced Rhiz sence of Frent Iron Frentine	ed Leaves ( RA 1,2,4A, L1) rtebrates ( Ifide Odor zospheres Reduced Ir	and 4B) (B13) (C1) along Livingon (C4) in Tilled So		Water Draina Dry-Se Satura Geom Shallo FAC-N Raised	r-Stained Leaves (B9)(MLRA 1,2,4A,4B) rege Patterns (B10) reason Water Table (C2) tion Visible on Aerial Imagery (C9) orphic Position (D2) w Aquitard (D3) eutral Test (D5) I Ant Mounds (D6)(LRR A)
Wetland F Primary InSurfacHigh VSaturaWaterSedimDrift DIron DSurfac	Hydrology Indicated indicators (minimuse Water (A1) Vater Table (A2) Action (A3) Marks (B1) Ment Deposits (B2) Deposits (B3) Mat or Crust (B4) Meposits (B5) Mes Soil Cracks (B6)	m of one re	Wa (e: Salt Aqu Oxi Pre Rec Stu	ter-Staine xcept MLI t Crust (B1 uatic Invertingen Su dized Rhiz sence of I cent Iron I nted or St	ed Leaves ( RA 1,2,4A, 11) rtebrates ( Ifide Odor cospheres Reduced Ir Reduction cressed Pla	B13) (C1) along Livington (C4) in Tilled Sents (D1)(L		Water Draina Dry-Se Satura Geom Shallo FAC-N Raised	-Stained Leaves (B9)(MLRA 1,2,4A,4B)  age Patterns (B10)  ason Water Table (C2)  tion Visible on Aerial Imagery (C9)  orphic Position (D2)  w Aquitard (D3)  eutral Test (D5)
Wetland F Primary In  Surfac  High V  Satura  Water  Sedim  Drift D  Algal F  Iron D  Surfac  Inunda	Hydrology Indicated indicators (minimulated Water (A1)) Water Table (A2) Aution (A3) Marks (B1) Ment Deposits (B2) Deposits (B3) Mat or Crust (B4) Meposits (B5) Mes Soil Cracks (B6) Aution Visible on A	m of one re	Wa	ter-Staine xcept MLI t Crust (B1 uatic Invertingen Su dized Rhiz sence of I cent Iron I nted or St	ed Leaves ( RA 1,2,4A, L1) rtebrates ( Ifide Odor zospheres Reduced Ir	B13) (C1) along Livington (C4) in Tilled Sents (D1)(L		Water Draina Dry-Se Satura Geom Shallo FAC-N Raised	r-Stained Leaves (B9)(MLRA 1,2,4A,4B) rege Patterns (B10) reason Water Table (C2) tion Visible on Aerial Imagery (C9) orphic Position (D2) w Aquitard (D3) eutral Test (D5) I Ant Mounds (D6)(LRR A)
Wetland F Primary In  Surfac  High V  Satura  Water  Sedim  Drift D  Algal N  Iron D  Surfac  Inunda  Sparse	Hydrology Indicated indicators (minimulate Water (A1) Water Table (A2) Action (A3) Marks (B1) Ment Deposits (B2) Deposits (B3) Wat or Crust (B4) Mat or Crust (B4) Mat or Crust (B6)	m of one re	Wa	ter-Staine xcept MLI t Crust (B1 uatic Invertingen Su dized Rhiz sence of I cent Iron I nted or St	ed Leaves ( RA 1,2,4A, 11) rtebrates ( Ifide Odor cospheres Reduced Ir Reduction cressed Pla	B13) (C1) along Livington (C4) in Tilled Sents (D1)(L		Water Draina Dry-Se Satura Geom Shallo FAC-N Raised	r-Stained Leaves (B9)(MLRA 1,2,4A,4B) rege Patterns (B10) reason Water Table (C2) tion Visible on Aerial Imagery (C9) orphic Position (D2) w Aquitard (D3) eutral Test (D5) I Ant Mounds (D6)(LRR A)
Wetland F Primary In  Surfac  High V  Satura  Water  Sedim  Drift D  Algal N  Iron D  Surfac  Inunda  Sparse  Field Obse	Hydrology Indicated adicators (minimulate Water (A1) Water Table (A2) Action (A3) Marks (B1) Ment Deposits (B2) Deposits (B3) Mat or Crust (B4) Meposits (B5) Meter Soil Cracks (B6) Mation Visible on Action Visible Octoor Visi	m of one re erial Image scave Surfac	Wa	ter-Staine xcept MLI t Crust (B1 uatic Inver- drogen Su dized Rhiz sence of I cent Iron I nted or Stainer (Explain	ed Leaves ( RA 1,2,4A, 11) rtebrates ( Ifide Odor cospheres Reduced Ir Reduction cressed Pla	B13) (C1) along Livington (C4) in Tilled Sents (D1)(L		Water Draina Dry-Se Satura Geom Shallo FAC-N Raised	r-Stained Leaves (B9)(MLRA 1,2,4A,4B) rege Patterns (B10) reason Water Table (C2) tion Visible on Aerial Imagery (C9) orphic Position (D2) w Aquitard (D3) eutral Test (D5) I Ant Mounds (D6)(LRR A)
Wetland F Primary In  Surfac  High V  Satura  Water  Sedim  Drift D  Algal N  Iron D  Surfac  Inunda  Sparse  Field Obse  Surface W	Hydrology Indicated indicators (minimulate Water (A1) Water Table (A2) Action (A3) Marks (B1) Ment Deposits (B2) Deposits (B3) Wat or Crust (B4) Mat or Crust (B4) Mat or Crust (B6)	m of one re erial Image icave Surfac	Wa	ter-Staine xcept MLI t Crust (B1 uatic Invertigen Su dized Rhiz sence of I tent Iron I nted or St ner (Explain	ed Leaves ( RA 1,2,4A, 11) rtebrates ( Ifide Odor cospheres Reduced Ir Reduction cressed Pla in in Rema	B13) (C1) along Livington (C4) in Tilled Sents (D1)(L		Water Draina Dry-Se Satura Geom Shallo FAC-N Raised	r-Stained Leaves (B9)(MLRA 1,2,4A,4B) rege Patterns (B10) reason Water Table (C2) tion Visible on Aerial Imagery (C9) orphic Position (D2) w Aquitard (D3) eutral Test (D5) I Ant Mounds (D6)(LRR A)
Wetland F Primary In  Surfac  High V  Satura  Water  Sedim  Drift D  Algal N  Iron D  Surfac  Inunda  Sparse  Field Obse  Surface W	Hydrology Indicated adicators (minimulated Water (A1)) Water Table (A2) Action (A3) Marks (B1) Ment Deposits (B2) Deposits (B3) Mat or Crust (B4) Meposits (B5) Meter Soil Cracks (B6) Meter Soil Cracks (B6) Meter Visible on Action Visible on Actio	m of one re erial Image icave Surface s	Wa	ter-Staine xcept MLI t Crust (B1 uatic Invertigen Su dized Rhiz sence of I tent Iron I nted or St ner (Explain	ed Leaves ( RA 1,2,4A, 11) rtebrates ( Ifide Odor cospheres Reduced Ir Reduction cressed Pla in in Rema	B13) (C1) along Livington (C4) in Tilled Sents (D1)(L		Water Draina Dry-Se Satura Geom Shallo FAC-N Raised Frost-l	-Stained Leaves (B9)(MLRA 1,2,4A,4B)  Ige Patterns (B10)  Isason Water Table (C2)  Ition Visible on Aerial Imagery (C9)  Iorphic Position (D2)  W Aquitard (D3)  Eutral Test (D5)  I Ant Mounds (D6)(LRR A)  Heave Hummocks (D7)
Wetland F Primary In  Surface High V Satura Water Sedim Drift D Algal N Iron D Surface Inunda Sparse Field Obse Surface W Water Tab Saturation (includes ca	Hydrology Indicated adicators (minimuse Water (A1)  Water Table (A2)  Ation (A3)  Marks (B1)  Ation Deposits (B2)  Deposits (B3)  Mat or Crust (B4)  Ation Visible on Ation Visi	m of one re erial Image cave Surface <u>s</u> <u>s</u>	Wa	ter-Staine xcept MLI t Crust (B1 uatic Invertigen Su dized Rhiz sence of I cent Iron I nted or St her (Explain ches): thes): 15	ed Leaves ( RA 1,2,4A, 11)  rtebrates ( Iffide Odor cospheres Reduced Ir Reduction cressed Pla in in Rema	and 4B) (C1) along Living fron (C4) in Tilled Sonts (D1)(Lirks)	ng Roots (C3) - pils (C6) RR A) - Wetland Hydro	Water Draina Dry-Se Satura Geom Shallo FAC-N Raised Frost-l	-Stained Leaves (B9)(MLRA 1,2,4A,4B)  Ige Patterns (B10)  Isason Water Table (C2)  Ition Visible on Aerial Imagery (C9)  Iorphic Position (D2)  W Aquitard (D3)  Eutral Test (D5)  I Ant Mounds (D6)(LRR A)  Heave Hummocks (D7)
Wetland F Primary In  Surface High V Satura Water Sedim Drift D Algal N Iron D Surface Inunda Sparse Field Obse Surface W Water Tab Saturation (includes ca	Hydrology Indicated adicators (minimuse Water (A1)  Water Table (A2)  Ation (A3)  Marks (B1)  Ation Deposits (B2)  Deposits (B3)  Mat or Crust (B4)  Ation Visible on Ation Visi	m of one re erial Image cave Surface <u>s</u> <u>s</u>	Wa	ter-Staine xcept MLI t Crust (B1 uatic Invertigen Su dized Rhiz sence of I cent Iron I nted or St her (Explain ches): thes): 15	ed Leaves ( RA 1,2,4A, 11)  rtebrates ( Iffide Odor cospheres Reduced Ir Reduction cressed Pla in in Rema	and 4B) (C1) along Living fron (C4) in Tilled Sonts (D1)(Lirks)		Water Draina Dry-Se Satura Geom Shallo FAC-N Raised Frost-l	-Stained Leaves (B9)(MLRA 1,2,4A,4B)  Ige Patterns (B10)  Isason Water Table (C2)  Ition Visible on Aerial Imagery (C9)  Iorphic Position (D2)  W Aquitard (D3)  Eutral Test (D5)  I Ant Mounds (D6)(LRR A)  Heave Hummocks (D7)
Wetland F Primary In  Surface High V Satura Water Sedim Drift D Algal N Iron D Surface Inunda Sparse Field Obse Surface W Water Tab Saturation (includes ca	Hydrology Indicated adicators (minimuse Water (A1)  Water Table (A2)  Ation (A3)  Marks (B1)  Ation Deposits (B2)  Deposits (B3)  Mat or Crust (B4)  Ation Visible on Ation Visi	m of one re erial Image cave Surface <u>s</u> <u>s</u>	Wa	ter-Staine xcept MLI t Crust (B1 uatic Invertigen Su dized Rhiz sence of I cent Iron I nted or St her (Explain ches): thes): 15	ed Leaves ( RA 1,2,4A, 11)  rtebrates ( Iffide Odor cospheres Reduced Ir Reduction cressed Pla in in Rema	and 4B) (C1) along Living fron (C4) in Tilled Sonts (D1)(Lirks)	ng Roots (C3) - pils (C6) RR A) - Wetland Hydro	Water Draina Dry-Se Satura Geom Shallo FAC-N Raised Frost-l	-Stained Leaves (B9)(MLRA 1,2,4A,4B)  Ige Patterns (B10)  Isason Water Table (C2)  Ition Visible on Aerial Imagery (C9)  Iorphic Position (D2)  W Aquitard (D3)  Eutral Test (D5)  I Ant Mounds (D6)(LRR A)  Heave Hummocks (D7)
Wetland F Primary In  Surface High V Satura Water Sedim Drift D Algal N Iron D Surface Inunda Sparse Field Obse Surface W Water Tab Saturation (includes ca	Hydrology Indicated adicators (minimuse Water (A1)  Water Table (A2)  Ation (A3)  Marks (B1)  Ation Deposits (B2)  Deposits (B3)  Mat or Crust (B4)  Ation Visible on Ation Visi	m of one re erial Image cave Surface <u>s</u> <u>s</u>	Wa	ter-Staine xcept MLI t Crust (B1 uatic Invertigen Su dized Rhiz sence of I cent Iron I nted or St her (Explain ches): thes): 15	ed Leaves ( RA 1,2,4A, 11)  rtebrates ( Iffide Odor cospheres Reduced Ir Reduction cressed Pla in in Rema	and 4B) (C1) along Living fron (C4) in Tilled Sonts (D1)(Lirks)	ng Roots (C3) - pils (C6) RR A) - Wetland Hydro	Water Draina Dry-Se Satura Geom Shallo FAC-N Raised Frost-l	-Stained Leaves (B9)(MLRA 1,2,4A,4B)  Ige Patterns (B10)  Isason Water Table (C2)  Ition Visible on Aerial Imagery (C9)  Iorphic Position (D2)  W Aquitard (D3)  Eutral Test (D5)  I Ant Mounds (D6)(LRR A)  Heave Hummocks (D7)
Wetland F Primary In Surfac High VSatura WaterSedimDrift DAlgal NIron DSurfacInundaSparse Field Obse Surface W Water Tab Saturation (includes ca Describe F	Hydrology Indicated adicators (minimuse Water (A1)  Water Table (A2)  Ation (A3)  Marks (B1)  Ation Deposits (B2)  Deposits (B3)  Mat or Crust (B4)  Ation Visible on Ation Visi	m of one re erial Image cave Surface <u>s</u> <u>s</u>	Wa	ter-Staine xcept MLI t Crust (B1 uatic Invertigen Su dized Rhiz sence of I cent Iron I nted or St her (Explain ches): thes): 15	ed Leaves ( RA 1,2,4A, 11)  rtebrates ( Iffide Odor cospheres Reduced Ir Reduction cressed Pla in in Rema	and 4B) (C1) along Living fron (C4) in Tilled Sonts (D1)(Lirks)	ng Roots (C3) - pils (C6) RR A) - Wetland Hydro	Water Draina Dry-Se Satura Geom Shallo FAC-N Raised Frost-l	-Stained Leaves (B9)(MLRA 1,2,4A,4B)  Ige Patterns (B10)  Isason Water Table (C2)  Ition Visible on Aerial Imagery (C9)  Iorphic Position (D2)  W Aquitard (D3)  Eutral Test (D5)  I Ant Mounds (D6)(LRR A)  Heave Hummocks (D7)
Wetland F Primary In Surfac High VSatura WaterSedimDrift DAlgal NIron DSurfacInundaSparse Field Obse Surface W Water Tab Saturation (includes ca Describe F	Hydrology Indicated adicators (minimuse Water (A1)  Water Table (A2)  Ation (A3)  Marks (B1)  Ation Deposits (B2)  Deposits (B3)  Mat or Crust (B4)  Ation Visible on Ation Visi	m of one re erial Image cave Surface <u>s</u> <u>s</u>	Wa	ter-Staine xcept MLI t Crust (B1 uatic Invertigen Su dized Rhiz sence of I cent Iron I nted or St her (Explain ches): thes): 15	ed Leaves ( RA 1,2,4A, 11)  rtebrates ( Iffide Odor cospheres Reduced Ir Reduction cressed Pla in in Rema	and 4B) (C1) along Living fron (C4) in Tilled Sonts (D1)(Lirks)	ng Roots (C3) - pils (C6) RR A) - Wetland Hydro	Water Draina Dry-Se Satura Geom Shallo FAC-N Raised Frost-l	-Stained Leaves (B9)(MLRA 1,2,4A,4B)  Ige Patterns (B10)  Isason Water Table (C2)  Ition Visible on Aerial Imagery (C9)  Iorphic Position (D2)  W Aquitard (D3)  Eutral Test (D5)  I Ant Mounds (D6)(LRR A)  Heave Hummocks (D7)

Project/Site: Port Westward Renewable Diesel Refinery Applicant/Owner: Next Energy Group, Inc. State: OR Investigator(s): Sue Brady Section, Townshi Landform (hillslope, terrace, etc.): Flats Local relief (cond Subregion (LRR): Northwest Forests & Coast (LRR A) Soil Map Unit Name: Udipsamments, nearly level, protect Are climatic/hydrologic conditions on the site typical for Are Vegetation X, Soil , or Hydrology significantly Are Vegetation , Soil , or Hydrology naturally pro	p, Range: <u>T8N R4'</u> ave, convex, none Lat: <u>tted</u> NWI this time of year? disturbed?	e): <u>concave</u> 46.16537380 classification: Yes(if no, exp	none blain in Rema Are "Normal	<del></del>
SUMMARY OF FINDINGS – Attach site map showing	ng sampling poi	nt locations,	transects, ir	nportant features, etc.
Hydrophytic Vegetation Present? Yes				
Hydric Soil Present? <u>Yes</u> Wetland Hydrology Present? <u>Yes</u>		Is the S	Sampled Area	within a Wetland? Yes
Remarks:				
VEGETATION – Use scientific names of plants.	<u>,                                      </u>	T	1	
Tree Stratum (Plot size: _0 ) 1. 2. 3.	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:  Number of Dominant Species  That Are OBL, FACW, or FAC: 3 (A)  Total Number of Dominant  Consider Agrees All Constants  2 (B)
4. Total Cover = <u>0</u>				Species Across All Strata: <u>3</u> (B)
Sapling/Shrub Stratum (Plot size: 0 ) 1. 2. 3. 4. 5.  Total Cover =0				Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)  Prevalence Index worksheet:  Total % Cover of: Multiply by: OBL species 0 x 1 = 0 FACW species 30 x 2 = 60 FAC species 70 x 3 = 210
Herb Stratum (Plot size: 4 m²)  1. Juncus balticus  2. Agrostis capillaris  3. Rumex crispus  4. Phalaris arundinacea	20 20 10 10	Yes Yes No No	FACW FAC FAC FACW	FACU species $0$ $x 4 = 0$ UPL species $0$ $x 5 = 0$ Column Totals: $100$ (A) $270$ (B)  Prevalence Index = B/A = $2.70$
<ul> <li>5. <u>Poa palustris</u></li> <li>6.</li> <li>7.</li> <li>8.</li> <li>9.</li> <li>10.</li> <li>11.</li> <li>Total Cover = 100</li> </ul>	<u>40</u>	<u>Yes</u>	FAC	Hydrophytic Vegetation Indicators: 1 — Rapid Test for Hydrophytic Vegetation  X2 — Dominance Test >50%  X3 - Prevalence Index is ≤ 3.0¹ 4 - Morphological Adaptions¹ (Provide supporting data in Remarks or on a separate sheet) 5 — Wetland Non-Vascular Plants¹  Problematic Hydrophytic Vegetation¹ (Explain)
Woody Vine Stratum (Plot size: _0 ) 1. 2. Total Cover =0				¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
<del>-</del>				
% Bare Ground in Herb Stratum: <u>0</u>				Hydrophytic Vegetation Present? Yes
Remarks: grazed pasture				

	Mat	<u>rix</u>		Redox F	eatures				
Depth	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture		Remarks
(inches)									
0-4	10YR 3/2	<u>100</u>		<u>0</u>			Silty Clay Loam		
4-13	10YR 3/2	<u>95</u>	10YR 4/6	<u>5</u>	<u>C</u>	M	Silty Clay Loam		
	·			_	_				
1									
¹Type: C=	Concentration, D	=Depletior	, RM=Reduced Ma	atrix, CS=0	Lovered or	r Coated S	and Grains. <sup>2</sup> Lo	cation: Pl	L=Pore Lining, M=Matrix
Hydric So	il Indicators: (Ap	olicable to	all LRRs, unless ot	herwise r	noted.)			Indicato	rs for Problematic Hydric Soils <sup>3</sup> :
Histos	sol (A1)		Sa	ndy Redo	x (S5)			2 cr	n Muck (A10)
Histic	Epipedon (A2)			ripped Ma					l Parent Material (TF2)
	Histic (A3)			• •	. ,	l (F1) ( <b>exc</b>	ept MLRA 1)		ry Shallow Dark Surface (TF12)
	gen Sulfide (A4)		·	-	ed Matrix		,	I	ner (Explain in Remarks)
	ted Below Dark S	urface (Δ1°		pleted M		(. –)			(Englandination
	Dark Surface (A12	-		•	Surface (F	5)		3Indicat	tors of hydrophytic vegetation and
	Mucky Mineral (	•			ark Surface			1	d hydrology must be present, unless
	· · · · · · · · · · · · · · · · · · ·								ed or problematic.
-	Gleyed Matrix (S		Re	аох Берг	essions (F8	>)			
	e Layer (if preser	ıt):							
Type:								و ما الما الما	Cail Bussesst 2 Vos
Depth (in	cnes): <u>U</u>							пуштіс	Soil Present? Yes
Remarks:									
	CV.								
HYDROLO									
	Hydrology Indicat		equired; check all	that annly	٨		c	`ocondan	Indicators (two or more required)
		ili oi one i	-			(DO)			/ Indicators (two or more required)
	e Water (A1)				ed Leaves (		-		r-Stained Leaves (B9)( <b>MLRA 1,2,4A,4B</b> )
High V	Vater Table (A2)		•	•	RA 1,2,4A,	and 4B)	-	Draina	age Patterns (B10)
<u>X</u> Satura	tion (A3)		Salt	t Crust (B1	L1)		-	Dry-Se	eason Water Table (C2)
Water	Marks (B1)		Aqı	uatic Inve	rtebrates (	B13)	_	Satura	ition Visible on Aerial Imagery (C9)
Sedim	ent Deposits (B2)		Нус	drogen Su	lfide Odor	(C1)	_	Geom	orphic Position (D2)
Drift D	eposits (B3)		Oxi	dized Rhiz	zospheres	along Livi	ng Roots (C3)	Shallo	w Aquitard (D3)
Algal I	Mat or Crust (B4)		Pre	sence of I	Reduced Ir	on (C4)	_	FAC-N	eutral Test (D5)
Iron D	eposits (B5)		Rec	ent Iron F	Reduction	in Tilled S	oils (C6)	Raised	Ant Mounds (D6)(LRR A)
Surfac	e Soil Cracks (B6)		Stu	nted or St	ressed Pla	nts (D1)(I	.RR A)	Frost-l	Heave Hummocks (D7)
	ation Visible on A				in in Rema		,		` ,
	ely Vegetated Cor	_		` '		,			
Field Obse			()				1		
	ater Present? No	)	Depth (inc	hes).					
	ole Present? Ye			ches): <u>13</u>					
	Present? Ye			nches): 9	•				
(includes ca	apillary fringe)	_					Wetland Hydro	logy Pres	ent? Yes
Describe F	Recorded Data (st	ream gaug	e, monitoring well	, aerial ph	otos, prev	ious inspe	ections), if available	::	
Remarks:									

Project/Site: Port Westward Renewable Diesel Refinery Applicant/Owner: Next Energy Group, Inc. State: OR Investigator(s): Sue Brady Section, Township		nty: <u>Columbia</u> W Section 16		Sampling Date: <u>11/28/2018</u> Sampling Point: <u>11a</u>
Landform (hillslope, terrace, etc.): Flats Local relief (conca			Slope (%): 2	
Subregion (LRR): Northwest Forests & Coast (LRR A)		46.16537130	–	.6540220 Datum: WGS84
Soil Map Unit Name: <u>Udipsamments</u> , nearly level, protect		classification:		<u> </u>
Are climatic/hydrologic conditions on the site typical for the site typi			nlain in Rema	rks )
Are Vegetation X, Soil, or Hydrology significantly of		<u>103</u> (11110, 02		Circumstances" present? <u>Yes</u>
Are Vegetation, Soil, or Hydrology naturally pro				xplain any answers in Remarks.)
Are vegetation, soil, or rivurology naturally pre	bicinatic:		(II riccucu, c	Apidin driy driswers in Kemarks.
SUMMARY OF FINDINGS – Attach site map showin	g sampling poi	nt locations,	transects, in	nportant features, etc.
Hydrophytic Vegetation Present? Yes				
Hydric Soil Present? No		Is the	Sampled Area	a within a Wetland? No
Wetland Hydrology Present? <u>No</u>		15 tile	oumpieu / ii ee	
Remarks:				
VEGETATION – Use scientific names of plants.				
	Absolute %	Dominant	Indicator	Dominance Test worksheet:
<u>Tree Stratum</u> (Plot size: <u>0</u> )	Cover	Species?	Status	Number of Dominant Species
1. 2.				That Are OBL, FACW, or FAC: $\underline{2}$ (A)
3.				Total Number of Dominant
4.				Species Across All Strata: <u>2</u> (B)
Total Cover =0				<u>z</u> (b)
				Percent of Dominant Species
Sapling/Shrub Stratum (Plot size: 0 ) 1.				That Are OBL, FACW, or FAC: 100 (A/B)
2.				Prevalence Index worksheet:
3.				Total % Cover of: Multiply by:
4.				OBL species $\underline{0}$ x 1 = $\underline{0}$
5.				FACW species $\underline{10}$ x 2 = $\underline{20}$
Total Cover = <u>0</u>				FAC species $90 \times 3 = 270$
Herb Stratum (Plot size: 4 m <sup>2</sup> )				FACU species $\underline{0}$ x 4 = $\underline{0}$
1. Poa palustris	<u>50</u>	<u>Yes</u>	<u>FAC</u>	UPL species $\underline{0}$ x 5 = $\underline{0}$
2. Agrostis capillaris	<u>40</u>	<u>Yes</u>	<u>FAC</u>	Column Totals: <u>100</u> (A) <u>290</u> (B)
3. <u>Juncus balticus</u>	<u>10</u>	<u>No</u>	<u>FACW</u>	Prevalence Index = B/A = 2.90
4.				Trevalence mack by the <u>Fist</u>
5. 6.				Hydrophytic Vegetation Indicators:
6. 7.				1 –Rapid Test for Hydrophytic Vegetation
8.				X 2 – Dominance Test >50%
9.				$\underline{X}$ 3 - Prevalence Index is $\leq 3.0^1$
10.				4 - Morphological Adaptions <sup>1</sup> (Provide supporting
11.				data in Remarks or on a separate sheet)
Total Cover = <u>100</u>				<ul> <li>5 – Wetland Non-Vascular Plants<sup>1</sup></li> <li>Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)</li> </ul>
Woody Vine Stratum (Plot size: 0 )				Indicators of hydric soil and wetland hydrology
1.				must be present, unless disturbed or problematic.
2.				
Total Cover = <u>0</u>				
% Bare Ground in Herb Stratum: <u>0</u>				Hydrophytic Vegetation Present? Yes
Remarks: grazed pasture	•	•	•	

	<u>Mat</u>	<u>rix</u>		Redox I	-eatures				
Depth	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture		Remarks
(inches)									
<u>0-9</u>	<u>10YR 3/3</u>	<u>100</u>		<u>0</u>			Silty Clay Loam		
9-16	10YR 3/2	<u>100</u>		<u>0</u>	_		Silty Clay Loam		
<u>16-27</u>	<u>10YR 3/2</u>	<u>97</u>	<u>10YR 4/4</u>	<u>3</u>	<u>C</u>	<u>M</u>	Silty Clay Loam		
1Typo: C-	-Concontration D	-Donlotion	ı, RM=Reduced Ma	atriv CS-0	Covered or	· Coatod S	and Grains 21 o	estion: DI	L=Pore Lining, M=Matrix
	·		•			Coaleu 3	and Grains.		
		olicable to	all LRRs, unless ot					1	rs for Problematic Hydric Soils <sup>3</sup> :
	sol (A1)			ndy Redo					m Muck (A10)
	Epipedon (A2)			ipped Ma		(= 4) <i>(</i>			Parent Material (TF2)
	Histic (A3)		· · · · · · · · · · · · · · · · · · ·	-			ept MLRA 1)		ry Shallow Dark Surface (TF12)
	ogen Sulfide (A4)				ed Matrix	(F2)		Oth	ner (Explain in Remarks)
	ted Below Dark S	-		pleted M		<b>6</b> )		2, 1, ,	
	Dark Surface (A12		· · · · · · · · · · · · · · · · · · ·		Surface (F	-			tors of hydrophytic vegetation and dhydrology must be present, unless
	Mucky Mineral (				ark Surface				ed or problematic.
	Gleyed Matrix (S		ке	dox Depr	essions (F8	3)		4.000.0	
	e Layer (if preser	it):							
Type: Depth (in	ches): 0							Hydric	Soil Present? No
Remarks:									
HYDROLO									
	Hydrology Indicat Indicators (minimu		equired; check all	that apply	<b>/</b> )		g	Secondary	/ Indicators (two or more required)
	e Water (A1)		-		ed Leaves (	R9)			-Stained Leaves (B9)(MLRA 1,2,4A,4B)
	Water Table (A2)				RA 1,2,4A,		-		age Patterns (B10)
	ation (A3)			: Crust (B:		u.i.u .b,	-		eason Water Table (C2)
·	Marks (B1)				rtebrates (	B13)	-		ation Visible on Aerial Imagery (C9)
	ent Deposits (B2)				lfide Odor		<del>-</del>		orphic Position (D2)
	Deposits (B3)		-	_			ng Roots (C3)		w Aquitard (D3)
	Mat or Crust (B4)				Reduced Ir	_	-		eutral Test (D5)
	eposits (B5)				Reduction		nils (C6)		I Ant Mounds (D6)(LRR A)
	ce Soil Cracks (B6)				tressed Pla				Heave Hummocks (D7)
	ation Visible on A				in in Rema		-		ricave Hammocks (B7)
	ely Vegetated Cor	Ū	, , , <u>—</u>	ici (Expia	rema	11.0)			
Field Obse			CC (20)						
	ater Present? No	)	Depth (inc	ches):					
	ole Present? Ye	_	Depth (in	,	<u> </u>				
Saturation	n Present? <u>Ye</u>	<u>s</u>	Depth (ir	nches): <u>15</u>	<u>5</u>			_	
	apillary fringe)						Wetland Hydro		ent? <u>No</u>
Describe F	Recorded Data (st	ream gaug	e, monitoring well	, aerial ph	notos, prev	rious inspe	ections), if available	e:	
Remarks:									

Project/Site: Port Westward Renewable Diesel Refinery Applicant/Owner: Next Energy Group, Inc. State: OR Investigator(s): Sue Brady Section, Township Landform (hillslope, terrace, etc.): Flats Local relief (conce Subregion (LRR): Northwest Forests & Coast (LRR A) Soil Map Unit Name: Udipsamments, nearly level, protect Are climatic/hydrologic conditions on the site typical for the Are Vegetation X, Soil, or Hydrology significantly of Are Vegetation, Soil, or Hydrology naturally pro-	o, Range: <u>T8N R4N</u> ave, convex, none Lat: ted NWI this time of year? disturbed?	e): <u>concave</u> 46.16546030 classification:	none plain in Rema Are "Normal	<del></del>
SUMMARY OF FINDINGS – Attach site map showin	g sampling poi	nt locations,	transects, ir	nportant features, etc.
Hydrophytic Vegetation Present? Yes				
Hydric Soil Present? Yes		Is the	Sampled Area	within a Wetland? Yes
Wetland Hydrology Present? <u>Yes</u> Remarks:		15 tile 1		<u>165</u>
VEGETATION – Use scientific names of plants.	<del></del>		T	1
Tree Stratum (Plot size: _0_) 1. 2.	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:         Number of Dominant Species         That Are OBL, FACW, or FAC:       4 (A)
3. 4.	ļ			Total Number of Dominant Species Across All Strata: 4 (B)
Total Cover = <u>0</u>				Species Across All Strata. 4 (b)
Sapling/Shrub Stratum (Plot size: 0 )	-			Percent of Dominant Species
1.	ļ			That Are OBL, FACW, or FAC: 100 (A/B)
2. 3. 4. 5. Total Cover = 0				Prevalence Index worksheet:           Total % Cover of:         Multiply by:           OBL species         20         x 1 = 20           FACW species         50         x 2 = 100           FAC species         30         x 3 = 90           FACU species         0         x 4 = 0
Herb Stratum (Plot size: 4 m <sup>2</sup> )	20	Voc	EAC\A/	FACU species $\underline{0}$ x 4 = $\underline{0}$ UPL species $\underline{0}$ x 5 = $\underline{0}$
Juncus balticus     Poa palustris	<u>30</u> <u>30</u>	<u>Yes</u> <u>Yes</u>	FACW FAC	Column Totals: <u>100</u> (A) <u>210</u> (B)
3. Phalaris arundinacea	<u>20</u>	<u>Yes</u>	FACW	Prevalence Index = $B/A = 2.10$
4. <u>Carex nebrascensis</u> 5.	<u>20</u>	<u>Yes</u>	<u>OBL</u>	
6. 7. 8. 9. 10. 11. Total Cover = 100				Hydrophytic Vegetation Indicators:
Woody Vine Stratum (Plot size: 0 )				¹Indicators of hydric soil and wetland hydrology
1. 2.	ļ			must be present, unless disturbed or problematic.
Total Cover = <u>0</u>	ļ			
% Bare Ground in Herb Stratum: <u>0</u>				Hydrophytic Vegetation Present? Yes
Remarks: grazed pasture			•	<del></del>

	Mat	<u>rix</u>	•	Redox F	<u>eatures</u>				
Depth	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture		Remarks
(inches)									
<u>0-9</u>	10YR 2/2	<u>100</u>		<u>0</u>			Silty Clay Loam		
¹Type: C=	Concentration, D	=Depletior	, RM=Reduced Ma	atrix, CS=0	Covered or	Coated S	and Grains. <sup>2</sup> Lo	ocation: P	L=Pore Lining, M=Matrix
Hvdric So	il Indicators: (Ap	plicable to	all LRRs, unless ot	herwise r	noted.)			Indicato	rs for Problematic Hydric Soils <sup>3</sup> :
	sol (A1)			ndy Redo					m Muck (A10)
	Epipedon (A2)			ripped Ma					Parent Material (TF2)
	Histic (A3)		·			(E1) (ove	ont MIDA 1)		ry Shallow Dark Surface (TF12)
			·				ept MLRA 1)		
	gen Sulfide (A4)	f / ^ 1:			ed Matrix	(۲2)		011	ner (Explain in Remarks)
	ted Below Dark S			epleted M		<b>C</b> \		31	to up of headers he disconnected in a good
	Dark Surface (A1		· · · · · · · · · · · · · · · · · · ·		Surface (F	-			tors of hydrophytic vegetation and d hydrology must be present, unless
	/ Mucky Mineral (		·	•	ark Surface				ed or problematic.
	Gleyed Matrix (S		KE	aox Depr	essions (F8	5)			
	e Layer (if preser	nt):							
Type:								Undric	Sail Bracant2 Vac
Depth (in	cnes): <u>U</u>							Hyuric	Soil Present? Yes
Remarks:									
HYDROLO	icv								
	Hydrology Indicat	ors:							
			equired; check all	that apply	<b>/</b> )		9	Secondary	/ Indicators (two or more required)
						'DO\			
	e Water (A1)		· <del></del>		ed Leaves (	•	-		r-Stained Leaves (B9)(MLRA 1,2,4A,4B)
_	Vater Table (A2)		•	•	RA 1,2,4A,	and 4B)	-		age Patterns (B10)
X Satura				t Crust (Bí		D4 2)	-		eason Water Table (C2)
	r Marks (B1)				rtebrates (		-		ation Visible on Aerial Imagery (C9)
	ent Deposits (B2)			_	fide Odor		- (63)		orphic Position (D2)
	Deposits (B3)					-	ng Roots (C3)		w Aquitard (D3)
	Mat or Crust (B4)				Reduced Ir		- (00)		eutral Test (D5)
	eposits (B5)				Reduction				d Ant Mounds (D6)(LRR A)
	ce Soil Cracks (B6)				tressed Pla		-RR A)	Frost-	Heave Hummocks (D7)
·	ation Visible on A	_		ner (Expla	in in Rema	rks)			
	ely Vegetated Cor	ncave Surfa	ce (B8)				To the state of th		
	ervations:	_	Danth /:n	ala a a \ . 1					
	/ater Present? <u>Ye</u> ole Present? <u>Ye</u>		Depth (in Depth (in						
	n Present? Ye	_		nches): 0					
	apillary fringe)	<u>-</u>	- <b> </b>				Wetland Hydro	logy Pres	ent? <u>Yes</u>
Describe I	Recorded Data (st	ream gaug	e, monitoring well	, aerial ph	otos, prev	ious inspe	ections), if available	e:	
Remarks:									
Remarks:									

Project/Site: Port Westward Renewable Diesel Refinery Applicant/Owner: Next Energy Group, Inc. State: OR Investigator(s): Sue Brady Section, Township		nty: <u>Columbia</u> W Section 16		Sampling Date: <u>11/28/2018</u> Sampling Point: <u>12a</u>
Landform (hillslope, terrace, etc.): Flats Local relief (conce			Slope (%): <u>0</u>	
Subregion (LRR): Northwest Forests & Coast (LRR A)	Lat:	46.16546570	Long: -123.1	.6548620 Datum: WGS84
Soil Map Unit Name: <u>Udipsamments</u> , nearly level, protect	ted NWI	classification:	none	<del></del>
Are climatic/hydrologic conditions on the site typical for	this time of year?	Yes(if no, ex	plain in Rema	rks.)
Are Vegetation X, Soil, or Hydrology significantly				Circumstances" present? Yes
Are Vegetation, Soil, or Hydrology naturally pro			(if needed, e	xplain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map showing	ıg sampling poi	nt locations,	transects, ir	nportant features, etc.
Hydrophytic Vegetation Present? Yes				
Hydric Soil Present? <u>No</u>				
Wetland Hydrology Present? <u>No</u>		Is the	Sampled Area	a within a Wetland? <u>No</u>
Remarks:				
VEGETATION – Use scientific names of plants.	A la a a la sta a 07	D	Localita and a second	Description Technical Description
Troo Stratum (Plot size: 0.)	Absolute % Cover	Dominant Species?	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: <u>0</u> ) 1.	Cover	Species	Status	Number of Dominant Species That Are OBL, FACW, or FAC: $\underline{3}$ (A)
2.				<u>J</u> (7)
3.				Total Number of Dominant
4.				Species Across All Strata: <u>3</u> (B)
Total Cover = <u>0</u>				
Sapling/Shrub Stratum (Plot size: 0 )				Percent of Dominant Species
1.				That Are OBL, FACW, or FAC: 100 (A/B)
2.				Prevalence Index worksheet:
3.				
4.				OBL species $\underline{0}$ $\times$ $1 = \underline{0}$ FACW species $\underline{20}$ $\times$ $2 = \underline{40}$
5.				FAC species $\frac{20}{80}$ x 3 = $\frac{240}{10}$
Total Cover = <u>0</u> Herb Stratum (Plot size: _4 m <sup>2</sup> )	-			FACU species $\underline{0}$ x 4 = $\underline{0}$
1. Poa palustris	<u>40</u>	<u>Yes</u>	FAC	UPL species $\underline{0}$ x 5 = $\underline{0}$
2. Juncus balticus	<u>20</u>	Yes	FACW	Column Totals: <u>100</u> (A) <u>280</u> (B)
3. Lolium perenne	40	Yes	FAC	
4.				Prevalence Index = $B/A = 2.80$
5.				Hydrophytic Vegetation Indicators:
6.				1 –Rapid Test for Hydrophytic Vegetation
7. 8.				X 2 – Dominance Test >50%
9.				$\overline{X}$ 3 - Prevalence Index is $\leq 3.0^1$
10.				4 - Morphological Adaptions <sup>1</sup> (Provide supporting
11.				data in Remarks or on a separate sheet)
Total Cover = 100				5 – Wetland Non-Vascular Plants <sup>1</sup>
				Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
Woody Vine Stratum (Plot size: 0 )				Indicators of hydric soil and wetland hydrology
1.				must be present, unless disturbed or problematic.
2.				, ,
Total Cover = <u>0</u>				
% Bare Ground in Herb Stratum: <u>0</u>				Hydrophytic Vegetation Present? Yes
Remarks: grazed pasture				

	<u>Mat</u>	<u>rix</u>		Redox F	Catares				
Depth	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture		Remarks
(inches)						ĺ			
<u>0-7</u>	10YR 3/3	<u>100</u>		<u>0</u>			Silty Clay Loam		
7-15	10YR 3/2	<u>100</u>		<u>0</u>		ĺ	Silty Clay Loam		
<u>15-25</u>	10YR 3/2	<u>97</u>	10YR 4/4	<u>3</u>	<u>C</u>	<u>M</u>	Silty Clay Loam		
						ĺ			
¹Type: C=	Concentration, D	=Depletion	, RM=Reduced Ma	atrix, CS=0	Covered or	r Coated S	and Grains. <sup>2</sup> Lo	ocation: Pl	=Pore Lining, M=Matrix
Hydric So	il Indicators: (App	plicable to a	all LRRs, unless ot	herwise r	noted.)			Indicato	rs for Problematic Hydric Soils <sup>3</sup> :
Histos	sol (A1)		Sa	ndy Redo	x (S5)			2 cr	m Muck (A10)
Histic	Epipedon (A2)		St	ripped Ma	atrix (S6)			Red	Parent Material (TF2)
	Histic (A3)					l (F1) (exce	ept MLRA 1)	Vei	ry Shallow Dark Surface (TF12)
· · · · · · · · · · · · · · · · · · ·	gen Sulfide (A4)		·		ed Matrix				er (Explain in Remarks)
Deple	ted Below Dark S	urface (A11		epleted M					
Thick	Dark Surface (A12	2)	. <u></u> Rε	dox Dark	Surface (F	6)		3Indicat	ors of hydrophytic vegetation and
	Mucky Mineral (		· · · · · · · · · · · · · · · · · · ·		ark Surface	-			hydrology must be present, unless
	Gleyed Matrix (S				essions (F8			disturb	ed or problematic.
	e Layer (if presen			<u>.</u>		<u></u>			
Type:	e zayer (ii presen	,.							
Depth (in	ches): <u>0</u>							Hydric :	Soil Present? <u>No</u>
Remarks:									
Merria no.									
	-04								
HYDROLO	GY Hydrology Indicat								
			equired; check all	that apply	v)		,	^	Indicators (two or more required)
	e Water (A1)	-	•					secondary	
	Vater Table (A2)			TOr-Staine	ad Leaves I	(RQ)	:		-Ctained Leaves (RQ)(MIRA 1 2 44 4R)
	ation (A3)				ed Leaves (		-	Water	-Stained Leaves (B9)(MLRA 1,2,4A,4B)
	· Marks (B1)		(e	xcept ML	RA 1,2,4A,		-	Water Draina	ge Patterns (B10)
	MIGINATION		( <b>e</b> Sal	xcept MLI t Crust (B1	<b>RA 1,2,4A,</b> 11)	, and 4B)	- \ \ - \ \ - \ \ -	Water Draina Dry-Se	ge Patterns (B10) ason Water Table (C2)
			( <b>e</b> Sal <sup>.</sup> Aqı	xcept ML t Crust (B1 uatic Inve	<b>RA 1,2,4A,</b> 11) rtebrates (	, and 4B) (B13)	- - - -	WaterDrainaDry-Se	ge Patterns (B10) asson Water Table (C2) tion Visible on Aerial Imagery (C9)
	ent Deposits (B2)		( <b>e</b> Sal <sup>,</sup> Aqı Hyo	xcept ML t Crust (B1 uatic Inver drogen Su	<b>RA 1,2,4A,</b> 11) rtebrates ( Ilfide Odor	(B13) (C1)	- - - -	WaterDrainaDry-SeSaturaGeome	ge Patterns (B10) cason Water Table (C2) tion Visible on Aerial Imagery (C9) orphic Position (D2)
Drift D	ent Deposits (B2) Deposits (B3)		( <b>e</b> Sal: Hyo Oxi	except MLI t Crust (B1 uatic Inver drogen Su idized Rhiz	RA 1,2,4A, 11) rtebrates ( Ilfide Odor zospheres	, and 4B) (B13) (C1) along Livin		Water Draina Dry-Se Satura Geome	ge Patterns (B10) cason Water Table (C2) tion Visible on Aerial Imagery (C9) orphic Position (D2) w Aquitard (D3)
Drift [	ent Deposits (B2) Deposits (B3) Wat or Crust (B4)		( <b>e</b> Sal: Aqı Hyo Oxi Pre	except MLI t Crust (B1 uatic Inver drogen Su idized Rhiz esence of I	RA 1,2,4A, 11) rtebrates ( Ilfide Odor zospheres Reduced Ir	, and 4B) (B13) (C1) along Livin	ng Roots (C3)	Water Draina Dry-Se Satura Geome Shallor	ge Patterns (B10) cason Water Table (C2) tion Visible on Aerial Imagery (C9) orphic Position (D2) w Aquitard (D3) eutral Test (D5)
Drift D Algal I Iron D	ent Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5)		(e Sal Aqı Oxi Pre Rec	xcept MLI t Crust (B1 uatic Inver drogen Su idized Rhiz esence of I cent Iron I	RA 1,2,4A, 11) rtebrates ( Ilfide Odor zospheres Reduced Ir Reduction	, and 4B)  (B13)  (C1)  along Living ron (C4)  in Tilled So	ng Roots (C3)	Water Draina Dry-Se Satura Geom Shallor FAC-N Raised	ge Patterns (B10) cason Water Table (C2) tion Visible on Aerial Imagery (C9) orphic Position (D2) w Aquitard (D3) eutral Test (D5) I Ant Mounds (D6)(LRR A)
Drift DAlgal IIron DSurfac	ent Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) De Soil Cracks (B6)		(e Sal Aqı Oxi Pre Rec Stu	xcept MLI t Crust (B1 uatic Invertigen Su idized Rhia esence of I cent Iron F inted or St	RA 1,2,4A, 11) rtebrates ( ilfide Odor zospheres Reduced Ir Reduction tressed Pla	, and 4B)  (B13)  (C1)  along Living (C4)  in Tilled Scants (D1)(L	ng Roots (C3)	Water Draina Dry-Se Satura Geom Shallor FAC-N Raised	ge Patterns (B10) cason Water Table (C2) tion Visible on Aerial Imagery (C9) orphic Position (D2) w Aquitard (D3) eutral Test (D5)
Drift D Algal I Iron D Surfac Inunda	ent Deposits (B2) Deposits (B3) Wat or Crust (B4) Deposits (B5) Dee Soil Cracks (B6) Dation Visible on A	erial Imagel	(e Sal: Aqu Hyo Oxi Pre Rec Stu ry (B7)Oth	xcept MLI t Crust (B1 uatic Invertigen Su idized Rhia esence of I cent Iron F inted or St	RA 1,2,4A, 11) rtebrates ( Ilfide Odor zospheres Reduced Ir Reduction	, and 4B)  (B13)  (C1)  along Living (C4)  in Tilled Scants (D1)(L	ng Roots (C3)	Water Draina Dry-Se Satura Geom Shallor FAC-N Raised	ge Patterns (B10) cason Water Table (C2) tion Visible on Aerial Imagery (C9) orphic Position (D2) w Aquitard (D3) eutral Test (D5) I Ant Mounds (D6)(LRR A)
Drift D Algal I Iron D Surfac Inunda Sparse	ent Deposits (B2) Deposits (B3) Wat or Crust (B4) Deposits (B5) De Soil Cracks (B6) Dation Visible on A Dely Vegetated Cor	erial Imagel	(e Sal: Aqu Hyo Oxi Pre Rec Stu ry (B7)Oth	xcept MLI t Crust (B1 uatic Invertigen Su idized Rhia esence of I cent Iron F inted or St	RA 1,2,4A, 11) rtebrates ( ilfide Odor zospheres Reduced Ir Reduction tressed Pla	, and 4B)  (B13)  (C1)  along Living (C4)  in Tilled Scants (D1)(L	ng Roots (C3)	Water Draina Dry-Se Satura Geom Shallor FAC-N Raised	ge Patterns (B10) cason Water Table (C2) tion Visible on Aerial Imagery (C9) orphic Position (D2) w Aquitard (D3) eutral Test (D5) I Ant Mounds (D6)(LRR A)
Drift DAlgal IIIron DSurfacInundaSparse	ent Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) De Soil Cracks (B6) Detion Visible on A Dely Vegetated Corervations:	erial Imagei ncave Surfac	(eSal:AqiOxiPreStuOther (B7)Other (B8)	xcept MLI t Crust (B1 uatic Invertigen Su idized Rhiz esence of I cent Iron F unted or St ner (Explain	RA 1,2,4A, 11) rtebrates ( ilfide Odor zospheres Reduced Ir Reduction tressed Pla	, and 4B)  (B13)  (C1)  along Living (C4)  in Tilled Scants (D1)(L	ng Roots (C3)	Water Draina Dry-Se Satura Geom Shallor FAC-N Raised	ge Patterns (B10) cason Water Table (C2) tion Visible on Aerial Imagery (C9) orphic Position (D2) w Aquitard (D3) eutral Test (D5) I Ant Mounds (D6)(LRR A)
Drift EAlgal IIron DSurfaceInund:Sparse Field Obse Surface W	ent Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) De Soil Cracks (B6) Detaition Visible on A Dely Vegetated Core Dervations: Mater Present? No	erial Imagei ncave Surfac	(eSalrAquOxiPreRecStuOthOthCe (B8)Depth (inc	t Crust (B1) uatic Inversion Suidized Rhizesence of Formula or Standard (Explainment):	RA 1,2,4A, 11) rtebrates ( Ilfide Odor zospheres Reduced Ir Reduction tressed Pla in in Rema	, and 4B)  (B13)  (C1)  along Living (C4)  in Tilled Scants (D1)(L	ng Roots (C3)	Water Draina Dry-Se Satura Geom Shallor FAC-N Raised	ge Patterns (B10) cason Water Table (C2) tion Visible on Aerial Imagery (C9) orphic Position (D2) w Aquitard (D3) eutral Test (D5) I Ant Mounds (D6)(LRR A)
Drift EAlgal IIron DSurfaceInund:Sparse Field Obse Surface W Water Tak	ent Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) De Soil Cracks (B6) Deation Visible on A Dely Vegetated Corervations: Vater Present? National Present? Vegetated Present. Vegetated Present	erial Image ncave Surfac <u>0</u>	(e    Sal-    Aqu    Oxi    Pre    Stu    Oth    Oth    Oth    Oth    Oth    Depth (incomplete (incomplete))	t Crust (B1 uatic Invertiged Rhizesence of I cent Iron Franted or St ner (Explain	RA 1,2,4A, 11) rtebrates ( Ilfide Odor zospheres Reduced Ir Reduction tressed Pla in in Rema	, and 4B)  (B13)  (C1)  along Living (C4)  in Tilled Scants (D1)(L	ng Roots (C3)	Water Draina Dry-Se Satura Geom Shallor FAC-N Raised	ge Patterns (B10) cason Water Table (C2) tion Visible on Aerial Imagery (C9) orphic Position (D2) w Aquitard (D3) eutral Test (D5) I Ant Mounds (D6)(LRR A)
Drift EAlgal IIron DSurfaceInund:SparseSurface W Water Tak Saturation	ent Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) De Soil Cracks (B6) Detaition Visible on A Dely Vegetated Corrections: Vater Present? National Present? Year Present?	erial Image ncave Surfac <u>0</u>	(e    Sal-    Aqu    Oxi    Pre    Stu    Oth    Oth    Oth    Oth    Oth    Depth (incomplete (incomplete))	t Crust (B1) uatic Inversion Suidized Rhizesence of Formula or Standard (Explainment):	RA 1,2,4A, 11) rtebrates ( Ilfide Odor zospheres Reduced Ir Reduction tressed Pla in in Rema	, and 4B)  (B13)  (C1)  along Living (C4)  in Tilled Scants (D1)(L	ng Roots (C3)	Water Draina Dry-Se Satura Geom Shallor FAC-N Raised Frost-I	age Patterns (B10) cason Water Table (C2) tion Visible on Aerial Imagery (C9) corphic Position (D2) w Aquitard (D3) eutral Test (D5) I Ant Mounds (D6)(LRR A) Heave Hummocks (D7)
Drift EAlgal IIron DSurfaceInund:Sparse Surface W Water Tak Saturation (includes ca	ent Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) De Soil Cracks (B6) Dation Visible on A Dely Vegetated Corervations: Vater Present? Nation Present? Year Present?	erial Imagei ncave Surfac <u>0</u> 25 25	(e    Sal-    Aqu    Oxi    Pre    Stu    Oth    Oth    Oth    Depth (ind    Depth (ind    Depth (ind	t Crust (B1 uatic Invertiged Rhizesence of Formula or Standard Communitation of Standard Communi	RA 1,2,4A, 11) rtebrates ( Ilfide Odor zospheres Reduced Ir Reduction tressed Pla in in Rema	, and 4B) (B13) (C1) along Livin ron (C4) in Tilled So ants (D1)(L	ng Roots (C3) oils (C6) .RR A)	Water Draina Dry-Se Satura Geom Shallor FAC-N Raised Frost-I	age Patterns (B10) cason Water Table (C2) tion Visible on Aerial Imagery (C9) corphic Position (D2) w Aquitard (D3) eutral Test (D5) I Ant Mounds (D6)(LRR A) Heave Hummocks (D7)
Drift EAlgal IIron DSurfaceInund:Sparse Surface W Water Tak Saturation (includes ca	ent Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) De Soil Cracks (B6) Dation Visible on A Dely Vegetated Corervations: Vater Present? Nation Present? Year Present?	erial Imagei ncave Surfac <u>0</u> 25 25	(e    Sal-    Aqu    Oxi    Pre    Stu    Oth    Oth    Oth    Depth (ind    Depth (ind    Depth (ind	t Crust (B1 uatic Invertiged Rhizesence of Formula or Standard Communitation of Standard Communi	RA 1,2,4A, 11) rtebrates ( Ilfide Odor zospheres Reduced Ir Reduction tressed Pla in in Rema	, and 4B) (B13) (C1) along Livin ron (C4) in Tilled So ants (D1)(L	ng Roots (C3) oils (C6) RR A)	Water Draina Dry-Se Satura Geom Shallor FAC-N Raised Frost-I	age Patterns (B10) cason Water Table (C2) tion Visible on Aerial Imagery (C9) corphic Position (D2) w Aquitard (D3) eutral Test (D5) I Ant Mounds (D6)(LRR A) Heave Hummocks (D7)
Drift EAlgal IIron DSurfaceInund:Sparse Surface W Water Tak Saturation (includes ca	ent Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) De Soil Cracks (B6) Dation Visible on A Dely Vegetated Corervations: Vater Present? Nation Present? Year Present?	erial Imagei ncave Surfac <u>0</u> 25 25	(e    Sal-    Aqu    Oxi    Pre    Stu    Oth    Oth    Oth    Depth (ind    Depth (ind    Depth (ind	t Crust (B1 uatic Invertiged Rhizesence of Formula or Standard Rhizesence of Formula or Standard Rhizesence (Explainted Standard Rhizesence):  18 18 18 18 18 18 18 18 18 18 18 18 18	RA 1,2,4A, 11) rtebrates ( Ilfide Odor zospheres Reduced Ir Reduction tressed Pla in in Rema	, and 4B) (B13) (C1) along Livin ron (C4) in Tilled So ants (D1)(L	ng Roots (C3) oils (C6) RR A)	Water Draina Dry-Se Satura Geom Shallor FAC-N Raised Frost-I	age Patterns (B10) cason Water Table (C2) tion Visible on Aerial Imagery (C9) corphic Position (D2) w Aquitard (D3) eutral Test (D5) I Ant Mounds (D6)(LRR A) Heave Hummocks (D7)
Drift EAlgal IIron DSurfaceInund:Sparse Surface W Water Tak Saturation (includes ca	ent Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) De Soil Cracks (B6) Dation Visible on A Dely Vegetated Corervations: Vater Present? Nation Present? Year Present?	erial Imagei ncave Surfac <u>0</u> 25 25	(e    Sal-    Aqu    Oxi    Pre    Stu    Oth    Oth    Oth    Depth (ind    Depth (ind    Depth (ind	t Crust (B1 uatic Invertiged Rhizesence of Formula or Standard Rhizesence of Formula or Standard Rhizesence (Explainted Standard Rhizesence):  18 18 18 18 18 18 18 18 18 18 18 18 18	RA 1,2,4A, 11) rtebrates ( Ilfide Odor zospheres Reduced Ir Reduction tressed Pla in in Rema	, and 4B) (B13) (C1) along Livin ron (C4) in Tilled So ants (D1)(L	ng Roots (C3) oils (C6) RR A)	Water Draina Dry-Se Satura Geom Shallor FAC-N Raised Frost-I	age Patterns (B10) cason Water Table (C2) tion Visible on Aerial Imagery (C9) corphic Position (D2) w Aquitard (D3) eutral Test (D5) I Ant Mounds (D6)(LRR A) Heave Hummocks (D7)
Drift EAlgal IIron DSurfaceInund:Sparse Field Obse Surface W Water Tab Saturation (includes ca Describe F	ent Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) De Soil Cracks (B6) Dation Visible on A Dely Vegetated Corervations: Vater Present? Nation Present? Year Present?	erial Imagei ncave Surfac <u>0</u> 25 25	(e    Sal-    Aqu    Oxi    Pre    Stu    Oth    Oth    Oth    Depth (ind    Depth (ind    Depth (ind	t Crust (B1 uatic Invertiged Rhizesence of Formula or Standard Rhizesence of Formula or Standard Rhizesence (Explainted Standard Rhizesence):  18 18 18 18 18 18 18 18 18 18 18 18 18	RA 1,2,4A, 11) rtebrates ( Ilfide Odor zospheres Reduced Ir Reduction tressed Pla in in Rema	, and 4B) (B13) (C1) along Livin ron (C4) in Tilled So ants (D1)(L	ng Roots (C3) oils (C6) RR A)	Water Draina Dry-Se Satura Geom Shallor FAC-N Raised Frost-I	age Patterns (B10) cason Water Table (C2) tion Visible on Aerial Imagery (C9) corphic Position (D2) w Aquitard (D3) eutral Test (D5) I Ant Mounds (D6)(LRR A) Heave Hummocks (D7)
Drift EAlgal IIron DSurfaceInund:Sparse Field Obse Surface W Water Tab Saturation (includes ca Describe F	ent Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) De Soil Cracks (B6) Dation Visible on A Dely Vegetated Corervations: Vater Present? Nation Present? Year Present?	erial Imagei ncave Surfac <u>0</u> 25 25	(e    Sal-    Aqu    Oxi    Pre    Stu    Oth    Oth    Oth    Depth (ind    Depth (ind    Depth (ind	t Crust (B1 uatic Invertiged Rhizesence of Formula or Standard Rhizesence of Formula or Standard Rhizesence (Explainted Standard Rhizesence):  18 18 18 18 18 18 18 18 18 18 18 18 18	RA 1,2,4A, 11) rtebrates ( Ilfide Odor zospheres Reduced Ir Reduction tressed Pla in in Rema	, and 4B) (B13) (C1) along Livin ron (C4) in Tilled So ants (D1)(L	ng Roots (C3) oils (C6) RR A)	Water Draina Dry-Se Satura Geom Shallor FAC-N Raised Frost-I	age Patterns (B10) cason Water Table (C2) tion Visible on Aerial Imagery (C9) corphic Position (D2) w Aquitard (D3) eutral Test (D5) I Ant Mounds (D6)(LRR A) Heave Hummocks (D7)

Project/Site: Port Westward Renewable Diesel Refinery Applicant/Owner: Next Energy Group, Inc. State: OR Investigator(s): Sue Brady Section, Township Landform (hillslope, terrace, etc.): Flats Local relief (conce Subregion (LRR): Northwest Forests & Coast (LRR A) Soil Map Unit Name: Udipsamments, nearly level, protect Are climatic/hydrologic conditions on the site typical for the Are Vegetation X, Soil, or Hydrology significantly of the Are Vegetation, Soil, or Hydrology naturally pro-	o, Range: <u>T8N R4N</u> ave, convex, none Lat: <u>ted</u> NWI this time of year? disturbed?	e): <u>concave</u> <u>46.16513670</u> classification: <sup>o</sup> <u>Yes</u> (if no, exp	none blain in Rema Are "Normal	
SUMMARY OF FINDINGS – Attach site map showin	ig sampling poi	nt locations,	transects, ir	mportant features, etc.
Hydrophytic Vegetation Present? Yes				
Hydric Soil Present? Yes		Is the S	Sampled Area	within a Wetland? Yes
Wetland Hydrology Present? <u>Yes</u> Remarks:				
VEGETATION – Use scientific names of plants.	T			T
Tree Stratum (Plot size: _0_) 1. 2.	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:         Number of Dominant Species         That Are OBL, FACW, or FAC:       3 (A)
3.				Total Number of Dominant
4. Total Cover = <u>0</u>				Species Across All Strata: <u>3</u> (B)
Sapling/Shrub Stratum (Plot size: 0 )	_			Percent of Dominant Species
1.				That Are OBL, FACW, or FAC: 100 (A/B)
2. 3. 4. 5. Total Cover = 0				Prevalence Index worksheet:           Total % Cover of:         Multiply by:           OBL species         20         x 1 = 20           FACW species         20         x 2 = 40           FAC species         50         x 3 = 150           FACU species         10         x 4 = 40
Herb Stratum (Plot size: 4 m²)  1. Poa palustris	50	Vac	FAC	UPL species $\underline{0}$ $\times$ 5 = $\underline{0}$
2. Juncus balticus	<u>50</u> <u>20</u>	<u>Yes</u> <u>Yes</u>	FACW	Column Totals: <u>100</u> (A) <u>250</u> (B)
3. <u>Carex nebrascensis</u>	<u>20</u>	<u>Yes</u>	<u>OBL</u>	Prevalence Index = $B/A = 2.50$
4. <u>Cirsium arvense</u> 5.	<u>10</u>	<u>No</u>	<u>FACU</u>	11cvalence mack - 5/11 - <u>2.30</u>
6. 7. 8. 9. 10. 11. Total Cover = 100				Hydrophytic Vegetation Indicators:  1 —Rapid Test for Hydrophytic Vegetation  X 2 — Dominance Test >50%  X 3 - Prevalence Index is ≤ 3.0¹  4 - Morphological Adaptions¹ (Provide supporting data in Remarks or on a separate sheet)  5 — Wetland Non-Vascular Plants¹  Problematic Hydrophytic Vegetation¹ (Explain)
Woody Vine Stratum (Plot size: 0 )				¹Indicators of hydric soil and wetland hydrology
1. 2.				must be present, unless disturbed or problematic.
Total Cover = <u>0</u>				
% Bare Ground in Herb Stratum: <u>0</u>				Hydrophytic Vegetation Present? Yes
Remarks: grazed pasture				

SOIL Sampling Point: 13

	Mat	rix		Redox F	eatures				
Depth	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture		Remarks
(inches) <u>0-13</u>	10YR 4/2	<u>93</u>	10YR 4/6	<u>7</u>	<u>C</u>	<u>M</u>	Silty Clay Loam		
			<u>======</u>	_	_		<del>,,</del>		
¹Type: C=	Concentration, D	=Depletior	, RM=Reduced Ma	atrix, CS=0	Covered or	Coated S	and Grains. <sup>2</sup> Lo	ocation: Pl	L=Pore Lining, M=Matrix
Hydric So	il Indicators: (Ap	plicable to	all LRRs, unless ot	herwise r	noted.)			Indicato	rs for Problematic Hydric Soils <sup>3</sup> :
Histos	sol (A1)		Sa	ndy Redo	x (S5)			2 cr	m Muck (A10)
Histic	Epipedon (A2)		St	ripped Ma	itrix (S6)			Rec	Parent Material (TF2)
Black	Histic (A3)		Lo	amy Muc	ky Mineral	(F1) (exc	ept MLRA 1)	Ve	ry Shallow Dark Surface (TF12)
Hydro	ogen Sulfide (A4)		Lo	amy Gley	ed Matrix	(F2)		Oth	er (Explain in Remarks)
Deple	ted Below Dark S	urface (A1:	L) <u>X</u> De	pleted Ma	atrix (F3)				
	Dark Surface (A1				Surface (F				ors of hydrophytic vegetation and
	/ Mucky Mineral (		De	pleted Da	ark Surface	e (F7)			d hydrology must be present, unless
Sandy	/ Gleyed Matrix (S	54)	Re	dox Depr	essions (F8	3)		disturb	ed or problematic.
Restrictiv	e Layer (if preser	nt):							
Type:									
Depth (in	ches): <u>0</u>							Hydric	Soil Present? Yes
Remarks:									
HYDROLO	GY								
	Hydrology Indicat	tors:							
Primary In	ndicators (minimu	m of one r	equired; check all	that apply	<i>(</i> )		9	Secondary	Indicators (two or more required)
Surfac	ce Water (A1)		Wa	ter-Staine	ed Leaves (	(B9)		Water	-Stained Leaves (B9)( <b>MLRA 1,2,4A,4B</b> )
	Water Table (A2)		(e	xcept ML	RA 1,2,4A,	and 4B)			ige Patterns (B10)
Satura	ation (A3)		Sal	t Crust (B:	L1)			Dry-Se	eason Water Table (C2)
Water	Marks (B1)				rtebrates (	B13)		Satura	tion Visible on Aerial Imagery (C9)
Sedim	ent Deposits (B2)		Hyd	drogen Su	lfide Odor	(C1)		Geom	orphic Position (D2)
Drift [	Deposits (B3)		X_Oxi	dized Rhiz	ospheres	along Livir	ng Roots (C3)	Shallo	w Aquitard (D3)
Algal I	Mat or Crust (B4)		Pre	sence of I	Reduced Ir	on (C4)	  -	FAC-N	eutral Test (D5)
Iron D	eposits (B5)		Rec	ent Iron F	Reduction	in Tilled S	oils (C6)	Raised	Ant Mounds (D6)(LRR A)
Surfac	ce Soil Cracks (B6)		Stu	nted or St	ressed Pla	nts (D1)(I	.RR A)	Frost-l	Heave Hummocks (D7)
Inund	ation Visible on A	erial Image	ry (B7)Oth	ner (Explai	in in Rema	rks)			
Sparse	ely Vegetated Cor	ncave Surfa	ce (B8)						
Field Obse	ervations:								
	/ater Present? No	<u>)</u>	Depth (inc	•					
	ole Present? Ye	_		iches): <u>13</u>	_				
	n Present? Ye apillary fringe)	<u>:S</u>	Depth (ir	nches): <u>9</u>			Wetland Hydro	logy Pres	ent? Yes
		ream gaug	e, monitoring well	, aerial ph	otos, prev	ious inspe	ections), if available		<u> </u>
	•	5 0	<u> </u>	•	• •	•			
Remarks:									

Project/Site: Port Westward Renewable Diesel Refinery Applicant/Owner: Next Energy Group, Inc. State: OR Investigator(s): Sue Brady Section, Townshi Landform (hillslope, terrace, etc.): Flats Local relief (conc. Subregion (LRR): Northwest Forests & Coast (LRR A) Soil Map Unit Name: Udipsamments, nearly level, protect Are climatic/hydrologic conditions on the site typical for Are Vegetation X, Soil, or Hydrology significantly Are Vegetation, Soil, or Hydrology naturally pro	p, Range: T8N R4 ave, convex, none Lat: ted NWI this time of year? disturbed? oblematic?	e): <u>concave</u> 46.16642180 classification: Yes(if no, exp	<u>PEM1A</u> plain in Remai Are "Normal (if needed, e	rks.) Circumstances" present? <u>Yes</u> xplain any answers in Remarks.)
Hydrophytic Vegetation Present? Yes	ig sampling por	in locations,	transects, n	inportant reatures, etc.
Hydric Soil Present? Yes				
Wetland Hydrology Present? Yes		Is the S	Sampled Area	within a Wetland? <u>Yes</u>
Remarks:				
VEGETATION – Use scientific names of plants.		T	T .	1
Tree Stratum (Plot size: 0 ) 1. 2. 3.	Absolute % Cover	Dominant Species?	Indicator Status	Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)  Total Number of Dominant
4.				Species Across All Strata: <u>3</u> (B)
Total Cover = <u>0</u>				
Sapling/Shrub Stratum (Plot size: 0 )				Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)
1. 2. 3. 4. 5.  Total Cover = 0  Herb Stratum (Plot size: 4 m²)  1. Lolium perenne 2. Poa palustris 3. Alopecurus pratensis 4. Trifolium repens 5. 6. 7. 8. 9.	30 30 30 10	Yes Yes Yes No	FAC FAC FAC FACU	Prevalence Index worksheet:  Total % Cover of:  Multiply by:  OBL species $0$ $0$ $0$ $0$ $0$ $0$ $0$ $0$
10. 11. Total Cover = 100  Woody Vine Stratum (Plot size: _0_)				data in Remarks or on a separate sheet) 5 — Wetland Non-Vascular Plants¹ Problematic Hydrophytic Vegetation¹ (Explain)  ¹Indicators of hydric soil and wetland hydrology
1. 2. Total Cover = <u>0</u>				must be present, unless disturbed or problematic.
% Bare Ground in Herb Stratum: <u>0</u>				Hydrophytic Vegetation Present? Yes
Remarks: grazed pasture				

SOIL Sampling Point: <u>14</u>

	Mat	<u>rix</u>		Redox F	eatures				
Depth	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture		Remarks
(inches)									
0-3	10YR 4/2	<u>100</u>		<u>0</u>			Silty Clay Loam		
3-15	10YR 4/2	<u>95</u>	10YR 4/6	<u>5</u>	<u>C</u>	<u>M</u>	Silty Clay Loam		
	·			_	_	_			
1									
¹Type: C=	Concentration, D	=Depletior	, RM=Reduced Ma	atrix, CS=0	Lovered or	Coated S	and Grains. <sup>2</sup> Lo	cation: Pl	L=Pore Lining, M=Matrix
Hydric So	il Indicators: (Ap	plicable to	all LRRs, unless ot	herwise r	oted.)			Indicato	rs for Problematic Hydric Soils <sup>3</sup> :
Histos	sol (A1)		Sa	ndy Redo	x (S5)			2 cr	n Muck (A10)
Histic	Epipedon (A2)			ipped Ma					l Parent Material (TF2)
	Histic (A3)			• •	` '	(F1) (exce	ept MLRA 1)		ry Shallow Dark Surface (TF12)
	gen Sulfide (A4)		· · · · · · · · · · · · · · · · · · ·	-	ed Matrix		,		ner (Explain in Remarks)
	ted Below Dark S	urface (Δ1		pleted Ma		(. –)			(Englandination
	Dark Surface (A12	-			Surface (F	6)		3Indicat	tors of hydrophytic vegetation and
	Mucky Mineral (	•			irk Surface	•			d hydrology must be present, unless
	•	-							ed or problematic.
•	Gleyed Matrix (S		Re	аох Берг	essions (F8	>)			
	e Layer (if preser	ıt):							
Type:								و ما الما الما	Cail Bussesst 2 Vos
Depth (in	ches): <u>0</u>							пуатіс	Soil Present? Yes
Remarks:									
HYDROLO									
	Hydrology Indicat			با مرمد ما ما ما	.\				. In diantana (t
•		m or one r	equired; check all						/ Indicators (two or more required)
	e Water (A1)				ed Leaves (		-		-Stained Leaves (B9)( <b>MLRA 1,2,4A,4B</b> )
High \	Vater Table (A2)		(e	cept ML	RA 1,2,4A,	and 4B)	_	Draina	age Patterns (B10)
<u>X</u> Satura	tion (A3)		Salt	Crust (B1	L <b>1</b> )		_	Dry-Se	eason Water Table (C2)
Water	Marks (B1)		Aqı	ıatic Invei	tebrates (	B13)	_	Satura	ition Visible on Aerial Imagery (C9)
Sedim	ent Deposits (B2)		Нус	drogen Su	lfide Odor	(C1)	_	Geom	orphic Position (D2)
Drift [	eposits (B3)		Oxi	dized Rhiz	ospheres	along Livi	ng Roots (C3)	Shallo	w Aquitard (D3)
Algal I	Mat or Crust (B4)		Pre	sence of I	Reduced Ir	on (C4)	_	FAC-N	eutral Test (D5)
Iron D	eposits (B5)		Rec	ent Iron F	Reduction	in Tilled S	oils (C6)	Raised	Ant Mounds (D6)(LRR A)
	e Soil Cracks (B6)				ressed Pla				Heave Hummocks (D7)
	ation Visible on A				n in Rema		, _		,
	ely Vegetated Cor	_		.c. (_np.a.		,			
Field Obse		icave Sarra	cc (B0)						
	ater Present? No	,	Depth (inc	hac).					
	ole Present? Ye		Depth (in	•					
	Present? Ye			iches): <u>10</u>					
	apillary fringe)	_	-1 (		-		Wetland Hydro	logy Pres	ent? Yes
Describe F	Recorded Data (st	ream gaug	e, monitoring well	, aerial ph	otos, prev	ious inspe	ections), if available	:: <u> </u>	
Remarks:									

Project/Site: Port Westward Renewable Diesel Refinery Applicant/Owner: Next Energy Group, Inc. State: OR Investigator(s): Sue Brady Section, Township Landform (hillslope, terrace, etc.): Flats Local relief (conce Subregion (LRR): Northwest Forests & Coast (LRR A) Soil Map Unit Name: Udipsamments, nearly level, protect Are climatic/hydrologic conditions on the site typical for Are Vegetation X, Soil , or Hydrology significantly Are Vegetation , Soil , or Hydrology naturally pro	p, Range: T8N R4 ave, convex, none Lat: ted NWI this time of year? disturbed?	e): <u>concave</u> 46.16587950 classification: 2 <u>Yes</u> (if no, ex	none plain in Reman Are "Normal (if needed, e	rks.) Circumstances" present? <u>Yes</u> xplain any answers in Remarks.)
Hydrophytic Vegetation Present? Yes	ig sampinig por	in locations,	transects, n	inportant reatures, etc.
Hydric Soil Present? Yes				
Wetland Hydrology Present? Yes		Is the	Sampled Area	within a Wetland? Yes
Remarks:				
VEGETATION – Use scientific names of plants.	Absolute %	Dominant	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: _0 ) 1. 2. 3.	Cover	Species?	Status	Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)  Total Number of Dominant
4.				Species Across All Strata: <u>4</u> (B)
Total Cover = <u>0</u>				
Sapling/Shrub Stratum (Plot size: 0 )				Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)
1. 2. 3. 4. 5.  Total Cover = 0  Herb Stratum (Plot size: 4 m²)  1. Lolium perenne 2. Poa palustris 3. Juncus balticus	30 30 20	Yes Yes Yes	FAC FAC FACW	Prevalence Index worksheet:
4. Rumex crispus 5.	<u>20</u>	<u>Yes</u>	<u>FAC</u>	11evalence mack = <i>BfN</i> = <u>2:00</u>
6. 7. 8. 9. 10. 11.  Total Cover = 100				Hydrophytic Vegetation Indicators: 1—Rapid Test for Hydrophytic Vegetation
Woody Vine Stratum (Plot size: 0 )  1. 2. Total Cover = 0				<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
% Bare Ground in Herb Stratum: <u>0</u>				
Remarks: grazed pasture	1			Hydrophytic Vegetation Present? Yes
nemarks. grazeu pasture				

SOIL Sampling Point: <u>15</u>

	Mat	<u>rix</u>		Redox I	-eatures				
Depth	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture		Remarks
(inches)									
<u>0-4</u>	10YR 4/3	<u>100</u>		<u>0</u>			Silty Clay Loam		
4-15	10YR 4/2	<u>93</u>	10YR 4/6	<u>7</u>	<u>C</u>	<u>RC</u>	Silty Clay Loam		
<u>15-25</u>	10YR 4/2	<u>98</u>	10YR 4/6	2	<u>C</u>	M	Silty Clay Loam		
			'	_	_	_			
1	<u> </u>								
¹Type: C=	-Concentration, D	=Depletior	, RM=Reduced Ma	atrix, CS=0	Covered o	r Coated S	and Grains. <sup>2</sup> Lo	cation: Pl	L=Pore Lining, M=Matrix
Hydric So	il Indicators: (Ap	plicable to	all LRRs, unless ot	herwise ı	noted.)			Indicato	rs for Problematic Hydric Soils <sup>3</sup> :
Histos	sol (A1)		Sa	ndy Redo	x (S5)			2 cı	m Muck (A10)
Histic	Epipedon (A2)			ripped Ma					d Parent Material (TF2)
	Histic (A3)			• •		l (F1) ( <b>exc</b>	ept MLRA 1)		ry Shallow Dark Surface (TF12)
	ogen Sulfide (A4)			•	ed Matrix		,		ner (Explain in Remarks)
	eted Below Dark S	urface (A1		pleted Ma		()			iei (Explain in Nemario)
	Dark Surface (A1:	•	· —		Surface (F	6)		3Indicat	tors of hydrophytic vegetation and
	•	-			•	•			d hydrology must be present, unless
	/ Mucky Mineral (				ark Surface				ed or problematic.
	/ Gleyed Matrix (S		ке	aox Depr	essions (F8	3)		0.000.0	
	e Layer (if preser	nt):							
Type:								Unadata	Cail Duagant 2 Vac
Depth (in	ches): <u>0</u>							Hydric	Soil Present? Yes
Remarks:									
HYDROLO									
	Hydrology Indicat				.\				. In diaghaus (house as means no moined)
•	•	im or one r	equired; check all						/ Indicators (two or more required)
	ce Water (A1)		' <del></del>		ed Leaves		-		-Stained Leaves (B9)(MLRA 1,2,4A,4B)
High V	Water Table (A2)		(e.	xcept ML	RA 1,2,4A,	, and 4B)	-	Draina	age Patterns (B10)
Satura	ation (A3)		Salt	t Crust (B:	11)		-	Dry-Se	eason Water Table (C2)
Water	r Marks (B1)		Aqı	uatic Inve	rtebrates (	(B13)	-	Satura	ation Visible on Aerial Imagery (C9)
Sedim	ent Deposits (B2)		Нус	drogen Su	lfide Odor	(C1)	_	Geom	orphic Position (D2)
Drift D	Deposits (B3)		X_Oxio	dized Rhiz	ospheres	along Livir	ng Roots (C3)	Shallo	w Aquitard (D3)
Algal I	Mat or Crust (B4)		Pre	sence of	Reduced Ir	on (C4)	_	FAC-N	eutral Test (D5)
	eposits (B5)		· · · · · · · · · · · · · · · · · · ·		Reduction		oils (C6)		Ant Mounds (D6)(LRR A)
	ce Soil Cracks (B6)				tressed Pla				Heave Hummocks (D7)
	ation Visible on A				in in Rema				
	ely Vegetated Cor	_	- · · · · · · · · · · · · · · · · · · ·	ici (Expia	III III IXCIIId	11137			
		icave Surra	CE (B0)						
Field Obse			Donth (in	shoc):					
	/ater Present? <u>No</u> ole Present?       No		Depth (ind Depth (ind	-					
	n Present? Ye			nches): 19	9				
	apillary fringe)	<u></u>	Deptii (ii	101103). <u>11</u>	<u> </u>		Wetland Hydro	logy Pres	ent? Yes
		ream gaug	e, monitoring well	, aerial ph	notos, prev	ious inspe	ections), if available	2:	
	•	, J	-	•					
Remarks:									

Project/Site: Port Westward Renewable Diesel Refinery Applicant/Owner: Next Energy Group, Inc. State: OR Investigator(s): Sue Brady Section, Townsh	<u>/</u> City/Cou nip, Range: <u>T8N R4</u>	nty: <u>Columbia</u> W Section 16		Sampling Date: <u>11/29/2018</u> Sampling Point: <u>16</u>
Landform (hillslope, terrace, etc.): Flats Local relief (con-			Slope (%): <u>0</u>	
Subregion (LRR): Northwest Forests & Coast (LRR A)		46.16468080		L5931710 Datum: WGS84
Soil Map Unit Name: <u>Udipsamments</u> , nearly level, prote		classification:		<u></u>
Are climatic/hydrologic conditions on the site typical for				rks )
Are Vegetation $\underline{X}$ , Soil, or Hydrology significantly		. <u>103</u> (11110, 0x		Circumstances" present? <u>Yes</u>
Are Vegetation, Soil, or Hydrology naturally pr				explain any answers in Remarks.)
Are vegetation, son, or rivatiology naturally p	iobicinatic:		(ii iiccaca, c	Apidin driy driswers in Kemarks.
SUMMARY OF FINDINGS – Attach site map show	ing sampling poi	int locations,	transects, i	mportant features, etc.
Hydrophytic Vegetation Present? Yes				
Hydric Soil Present? Yes		Is the	Sampled Area	a within a Wetland? <u>Yes</u>
Wetland Hydrology Present? <u>Yes</u>		is the	Janipica Arce	Within a Wetland: 163
NEGETATION . Use scientific names of plants				
VEGETATION – Use scientific names of plants.	Absolute %	Dominant	Indicator	Dominance Test worksheet:
<u>Tree Stratum</u> (Plot size: <u>0</u> )	Cover	Dominant Species?	Status	Number of Dominant Species
1.	Cover	Species:	Status	That Are OBL, FACW, or FAC: $\underline{1}$ (A)
2.				<u>= (, )</u>
3.				Total Number of Dominant
4.				Species Across All Strata: <u>1</u> (B)
Total Cover = <u>0</u>				
Sapling/Shrub Stratum (Plot size: 0 )				Percent of Dominant Species
1.				That Are OBL, FACW, or FAC: 100 (A/B)
2.				Prevalence Index worksheet:
3.				Total % Cover of: Multiply by:
4.				OBL species $\underline{0}$ x 1 = $\underline{0}$ FACW species 100 x 2 = 200
5.				FACW species $\underline{100}$ x 2 = $\underline{200}$ FAC species $\underline{0}$ x 3 = $\underline{0}$
Total Cover = 0				FACU species $\underline{0}$ $\times$ 4 = $\underline{0}$
Herb Stratum (Plot size: 4 m <sup>2</sup> )	100	Voc	FAC)A/	UPL species $\underline{0}$ $\times$ 5 = $\underline{0}$
Phalaris arundinacea     2.	<u>100</u>	<u>Yes</u>	<u>FACW</u>	Column Totals: <u>100</u> (A) <u>200</u> (B)
3.				
4.				Prevalence Index = $B/A = 2.00$
5.				
6.				Hydrophytic Vegetation Indicators:
7.				1 –Rapid Test for Hydrophytic Vegetation X 2 – Dominance Test >50%
8.				X 3 - Prevalence Index is $\leq 3.0^{\circ}$
9.				4 - Morphological Adaptions <sup>1</sup> (Provide supporting
10.				data in Remarks or on a separate sheet)
11. Total Cover =100				5 – Wetland Non-Vascular Plants <sup>1</sup>
10tal Covel – <u>100</u>				Problematic Hydrophytic Vegetation¹ (Explain)
Woody Vine Stratum (Plot size: 0 )				<sup>1</sup> Indicators of hydric soil and wetland hydrology
1.				must be present, unless disturbed or problematic.
2. Total Cover =0				
Total Cover = <u>0</u>				
% Bare Ground in Herb Stratum: <u>0</u>				Hydrophytic Vegetation Present? Yes
Remarks: grazed pasture				

SOIL Sampling Point: <u>16</u>

	Mat	<u>rix</u>		Redox I	-eatures				
Depth	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture		Remarks
(inches)	40)/5 4/0	0-		_					
<u>0-13</u>	10YR 4/2	<u>95</u>	10YR 4/6	<u>5</u>	<u>C</u>	RC NA	Silty Clay Loam		FOV of and as in most all and all
13-18	<u>10YR 4/2</u>	<u>90</u>	<u>10YR 4/6</u>	<u>10</u>	<u>C</u>	<u>M</u>	Silty Clay Loam		5% of redox in root channels
¹Type: C=	Concentration, D	=Depletior	l n, RM=Reduced Ma	atrix, CS=0	L Covered o	r Coated S	and Grains. <sup>2</sup> Lo	cation: P	L=Pore Lining, M=Matrix
Hydric So	il Indicators: (An	olicable to	all LRRs, unless ot	herwise ı	noted.)			Indicato	rs for Problematic Hydric Soils <sup>3</sup> :
	sol (A1)			ndy Redo					m Muck (A10)
· · · · · · · · · · · · · · · · · · ·	Epipedon (A2)			ripped Ma					d Parent Material (TF2)
	Histic (A3)		· <del></del>	• •		l (F1) (exc	ept MLRA 1)	II	ry Shallow Dark Surface (TF12)
	ogen Sulfide (A4)				ed Matrix		-,		ner (Explain in Remarks)
	ted Below Dark S	urface (A1:		pleted Ma		(- –)			(=
	Dark Surface (A12	•	· —		Surface (F	6)		3Indicat	tors of hydrophytic vegetation and
	Mucky Mineral (		· · · · · · · · · · · · · · · · · · ·		ark Surface	-			d hydrology must be present, unless
	Gleyed Matrix (S				essions (F			disturb	ed or problematic.
Restrictiv	e Layer (if preser	nt):		<u> </u>		·			
Type:	,	•							
Depth (in	ches): <u>0</u>							Hydric	Soil Present? Yes
Remarks:								1	
HYDROLO	GY.								
	Hydrology Indicat	ors:							
Primary In	ndicators (minimu	m of one r	equired; check all	that apply	/)		S	Secondary	/ Indicators (two or more required)
Surfac	e Water (A1)		Wa	ter-Staine	ed Leaves	(B9)		Water	r-Stained Leaves (B9)( <b>MLRA 1,2,4A,4B</b> )
High V	Water Table (A2)		(е	xcept ML	RA 1,2,4A	, and 4B)	_	Draina	age Patterns (B10)
Satura	ation (A3)		Sal	t Crust (B:	11)		_	Dry-Se	eason Water Table (C2)
Water	Marks (B1)		Aqı	uatic Inve	rtebrates (	(B13)	_	Satura	ation Visible on Aerial Imagery (C9)
Sedim	ent Deposits (B2)		Нус	drogen Su	lfide Odor	(C1)	_	Geom	orphic Position (D2)
Drift D	Deposits (B3)		X_Oxi	dized Rhiz	ospheres	along Livir	ng Roots (C3)	Shallo	w Aquitard (D3)
Algal I	Mat or Crust (B4)		Pre	sence of	Reduced Ir	on (C4)	_	FAC-N	leutral Test (D5)
Iron D	eposits (B5)		Rec	ent Iron I	Reduction	in Tilled S	oils (C6)	Raisec	d Ant Mounds (D6)( <b>LRR A</b> )
Surfac	e Soil Cracks (B6)		Stu	nted or St	tressed Pla	ants (D1)(I	.RR A)	Frost-	Heave Hummocks (D7)
Inund	ation Visible on A	erial Image	ery (B7)Oth	ner (Expla	in in Rema	ırks)			
Sparse	ely Vegetated Cor	ncave Surfa	ce (B8)						
Field Obse	ervations:								
Surface W	ater Present? No	<u>)</u>	Depth (inc	•					
	ole Present? No		Depth (in		_				
Saturation		<u>S</u>	Depth (ir	nches): <u>17</u>	<u>7</u>		Wetland Hydro	logy Pres	ent? Yes
	apillary fringe) Recorded Data (st	ream gaug	e, monitoring well	, aerial nh	notos, prev	ious insne	ections), if available		- ··· <u>·····</u>
		0-36	, : :::::::::::::::::::::::::::::::::::	,	, μ. σ.		,,		
Remarks:									

Project/Site: Port Westward Renewable Diesel Refinery Applicant/Owner: Next Energy Group, Inc. State: OR Investigator(s): Sue Brady Section, Township Landform (hillslope, terrace, etc.): Flats Local relief (conce Subregion (LRR): Northwest Forests & Coast (LRR A) Soil Map Unit Name: Udipsamments, nearly level, protect Are climatic/hydrologic conditions on the site typical for Are Vegetation X, Soil , or Hydrology significantly Are Vegetation , Soil , or Hydrology naturally pro	p, Range: <u>T8N R4V</u> ave, convex, none Lat: <u>ted</u> NWI this time of year? disturbed?	e): <u>concave</u> 46.16520210 classification: P <u>Yes</u> (if no, exp	none plain in Rema Are "Normal	
SUMMARY OF FINDINGS – Attach site map showing	ng sampling poi	nt locations,	transects, ir	mportant features, etc.
Hydrophytic Vegetation Present? Yes				
Hydric Soil Present? Yes		Is the S	Sampled Area	within a Wetland? <u>Yes</u>
Wetland Hydrology Present? <u>Yes</u> Remarks:				
VEGETATION – Use scientific names of plants.	T		T	1
Tree Stratum (Plot size: _0_) 1. 2.	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:         Number of Dominant Species         That Are OBL, FACW, or FAC:       3 (A)
3.				Total Number of Dominant
4. Total Cover = <u>0</u>				Species Across All Strata: $\underline{4}$ (B)
Sapling/Shrub Stratum (Plot size: 0 )	_			Percent of Dominant Species
1.				That Are OBL, FACW, or FAC: 75 (A/B)
2. 3. 4. 5. Total Cover = <u>0</u>				Prevalence Index worksheet:           Total % Cover of:         Multiply by:           OBL species         0         x 1 = 0           FACW species         40         x 2 = 80           FAC species         40         x 3 = 120           FACU species         20         x 4 = 80
Herb Stratum (Plot size: 4 m²)  1. Poa palustris	40	Vac	FAC	UPL species $\underline{0}$ $\times$ 5 = $\underline{0}$
2. Juncus balticus	<u>40</u> <u>20</u>	<u>Yes</u> <u>Yes</u>	FACW	Column Totals: <u>100</u> (A) <u>280</u> (B)
3. Phalaris arundinacea	<u>20</u>	<u>Yes</u>	FACW	Prevalence Index = B/A = <u>2.80</u>
4. <u>Trifolium repens</u> 5.	<u>20</u>	<u>Yes</u>	<u>FACU</u>	
6. 7. 8. 9. 10. 11. Total Cover = 100				Hydrophytic Vegetation Indicators: 1 — Rapid Test for Hydrophytic Vegetation  X2 — Dominance Test > 50%  X3 - Prevalence Index is ≤ 3.0¹ 4 - Morphological Adaptions¹ (Provide supporting data in Remarks or on a separate sheet) 5 — Wetland Non-Vascular Plants¹  Problematic Hydrophytic Vegetation¹ (Explain)
Woody Vine Stratum (Plot size: 0)				¹Indicators of hydric soil and wetland hydrology
1. 2.				must be present, unless disturbed or problematic.
Total Cover = 0				
% Bare Ground in Herb Stratum: <u>0</u>				Hydrophytic Vegetation Present? Yes
Remarks: grazed pasture				

SOIL Sampling Point: <u>17</u>

	Mat	<u>rix</u>		Redox F	<u>eatures</u>				
Depth	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture		Remarks
(inches)									
0-4	10YR 3/2	<u>100</u>		<u>0</u>			Silty Clay Loam		
4-16	10YR 3/2	<u>95</u>	10YR 4/6	<u>5</u>	<u>C</u>	<u>M</u>	Silty Clay Loam		
	· · · · · · · · · · · · · · · · · · ·	0		0	_				
		_		_					
1									
¹Type: C=	Concentration, D	=Depletior	, RM=Reduced Ma	atrix, CS=0	Covered or	r Coated S	and Grains. <sup>2</sup> Lo	cation: P	L=Pore Lining, M=Matrix
Hydric So	il Indicators: (Ap	plicable to	all LRRs, unless ot	herwise r	noted.)			Indicato	rs for Problematic Hydric Soils <sup>3</sup> :
Histos	sol (A1)		Sa	ndy Redo	x (S5)			2 cı	m Muck (A10)
Histic	Epipedon (A2)			ripped Ma					l Parent Material (TF2)
	Histic (A3)			• •		l (F1) ( <b>exc</b> e	ept MLRA 1)		ry Shallow Dark Surface (TF12)
	ogen Sulfide (A4)		· · · · · · · · · · · · · · · · · · ·	-	ed Matrix		,		ner (Explain in Remarks)
	ted Below Dark S	urface (Δ1°		pleted M		(-)			(Englandination
	Dark Surface (A12	•	·	•	Surface (F	6)		3Indicat	tors of hydrophytic vegetation and
	Mucky Mineral (	•			ark Surface			1	d hydrology must be present, unless
	•	-	·	•					ed or problematic.
	Gleyed Matrix (S		Re	иох Берг	essions (F8	) 			
	e Layer (if preser	ıt):							
Type:								Uvdric	Sail Dracont 2 Voc
Depth (in	cnes): <u>U</u>							пуштс	Soil Present? Yes
Remarks:									
	·CV								
HYDROLO									
	Hydrology Indicat		equired; check all	that annly	<b>(</b> )		c	Secondari	/ Indicators (two or more required)
		in or one r	·			(DO)			
	te Water (A1)		·		ed Leaves (		=		-Stained Leaves (B9)(MLRA 1,2,4A,4B)
	Water Table (A2)		•	•	RA 1,2,4A,	, and 4B)	-		age Patterns (B10)
<u>X</u> Satura			<del></del>	t Crust (B2	•		-		eason Water Table (C2)
	Marks (B1)				rtebrates (	•	-		ition Visible on Aerial Imagery (C9)
Sedim	ent Deposits (B2)		Нус	drogen Su	lfide Odor	(C1)	-	Geom	orphic Position (D2)
Drift [	Deposits (B3)		Oxi	dized Rhi	zospheres	along Livi	ng Roots (C3)	Shallo	w Aquitard (D3)
Algal I	Mat or Crust (B4)		Pre	sence of I	Reduced Ir	on (C4)	-	FAC-N	eutral Test (D5)
Iron D	eposits (B5)		Rec	ent Iron F	Reduction	in Tilled S	oils (C6)	Raisec	Ant Mounds (D6)(LRR A)
Surfac	e Soil Cracks (B6)		Stu	nted or St	ressed Pla	ants (D1)( <b>L</b>	.RR A)	Frost-	Heave Hummocks (D7)
Inund	ation Visible on A	erial Image	ry (B7)Oth	ner (Explai	in in Rema	ırks)			
Sparse	ely Vegetated Cor	ncave Surfa	ce (B8)						
Field Obse									
	ater Present? No	)	Depth (inc	ches):					
Water Tak	ole Present? Ye	<u>-</u> <u>!S</u>	Depth (in	ches): <u>15</u>					
Saturation	n Present? <u>Ye</u>	<u>s</u>	Depth (ir	nches): <u>10</u>	<u>)</u>				
	apillary fringe)						Wetland Hydro		ent? Yes
Describe F	Recorded Data (st	ream gaug	e, monitoring well	, aerial ph	iotos, prev	ious inspe	ections), if available	::	
Domestile									
Remarks:									

Landform (hillslope, terrace, etc.): Flats Local relief (conc Subregion (LRR): Northwest Forests & Coast (LRR A)  Soil Map Unit Name: Udipsamments, nearly level, protect Are climatic/hydrologic conditions on the site typical for Are Vegetation X, Soil, or Hydrology significantly Are Vegetation, Soil, or Hydrology naturally prosupply the substitution of the site of the site of the substitution of the site of the substitution of	p, Range: T8N R4 ave, convex, none Lat: cted NWI this time of year? disturbed? oblematic?	e): <u>concave</u> 46.16520500 classification: 2 <u>Yes</u> (if no, exp	none plain in Reman Are "Normal (if needed, e	rks.) Circumstances" present? <u>Yes</u> xplain any answers in Remarks.)
Hydrophytic Vegetation Present? Yes				
Hydric Soil Present? No Wetland Hydrology Present? No		Is the S	Sampled Area	within a Wetland? No
Wetland Hydrology Present? <u>No</u> Remarks:				
VEGETATION – Use scientific names of plants.				
VEGETATION OSC SCIENCING NAMES OF PLANES.	Absolute %	Dominant	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: 0 ) 1. 2. 3.	Cover	Species?	Status	Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A)  Total Number of Dominant
4.				Species Across All Strata: <u>3</u> (B)
Total Cover = <u>0</u>				
Sapling/Shrub Stratum (Plot size: 0 )				Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)
1. 2. 3. 4. 5.  Total Cover = 0  Herb Stratum (Plot size: 4 m <sup>2</sup> )  1. Poa palustris	60	<u>Yes</u>	FAC	Prevalence Index worksheet:           Total % Cover of:         Multiply by:           OBL species         0         x 1 = 0           FACW species         30         x 2 = 60           FAC species         60         x 3 = 180           FACU species         10         x 4 = 40           UPL species         0         x 5 = 0
Juncus balticus     Phalaris arundinacea     Trifolium repens	10 20 10	Yes Yes No	FACW FACW FACU	Column Totals: $\underline{100}$ (A) $\underline{280}$ (B)  Prevalence Index = B/A = $\underline{2.80}$
5. 6. 7. 8. 9. 10. 11. Total Cover = 100				Hydrophytic Vegetation Indicators: 1 — Rapid Test for Hydrophytic Vegetation  X2 — Dominance Test > 50%  X3 - Prevalence Index is ≤ 3.0¹ 4 - Morphological Adaptions¹ (Provide supporting data in Remarks or on a separate sheet)
Woody Vine Stratum (Plot size: _0_) 1. 2. Total Cover =0				Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
% Bare Ground in Herb Stratum: <u>0</u>				Hydrophytic Vegetation Present? Yes
Remarks: grazed pasture				ya.opnysic regetation i resent: 165

SOIL Sampling Point: <u>17a</u>

	<u>Mat</u>	<u>rix</u>		Redox I	<u>Features</u>				
Depth	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture		Remarks
(inches)									
<u>0-7</u>	10YR 3/3	<u>100</u>		<u>0</u>			Silty Clay Loam		
7-15	10YR 3/2	<u>100</u>	4000 4/6	<u>0</u>			Silty Clay Loam		
<u>15-25</u>	10YR 3/2	<u>95</u>	<u>10YR 4/6</u>	<u>5</u>	<u>C</u>	<u>M</u>	Silty Clay Loam		
¹Type: C=	Concentration, D	=Depletior	, RM=Reduced Ma	atrix, CS=0	L Covered o	r Coated S	and Grains. <sup>2</sup> Lo	cation: PI	L=Pore Lining, M=Matrix
Hydric So	il Indicators: (Ap <sub>l</sub>	plicable to	all LRRs, unless ot	herwise ı	noted.)			Indicato	rs for Problematic Hydric Soils <sup>3</sup> :
Histos	sol (A1)		Sa	ndy Redo	x (S5)			2 cr	m Muck (A10)
·	Epipedon (A2)			ripped Ma					Parent Material (TF2)
	Histic (A3)					l (F1) (exc	ept MLRA 1)	II	ry Shallow Dark Surface (TF12)
Hydro	gen Sulfide (A4)		Lo	amy Gley	ed Matrix	(F2)		Oth	ner (Explain in Remarks)
Deple	ted Below Dark S	urface (A1	1)De	pleted M	atrix (F3)				
Thick	Dark Surface (A12	2)	Re	dox Dark	Surface (F	6)		3Indicat	tors of hydrophytic vegetation and
Sandy	Mucky Mineral (	S1)	De	pleted Da	ark Surface	e (F7)			d hydrology must be present, unless
Sandy	Gleyed Matrix (S	54)	Re	dox Depr	essions (F	3)		disturb	ed or problematic.
Restrictiv	e Layer (if preser	nt):							
Type:									
Depth (in	ches): <u>0</u>							Hydric	Soil Present? No
Remarks:								1	
HYDROLO	GY								
	Hydrology Indicat	ors:							
Primary In	idicators (minimu	m of one r	equired; check all	that apply	y)		9	Secondary	Indicators (two or more required)
Surfac	e Water (A1)		Wa	ter-Staine	ed Leaves (	(B9)		Water	-Stained Leaves (B9)(MLRA 1,2,4A,4B)
High V	Vater Table (A2)				RA 1,2,4A,				age Patterns (B10)
_	ition (A3)			t Crust (B:					eason Water Table (C2)
	Marks (B1)		Aqı	uatic Inve	rtebrates (	B13)			ition Visible on Aerial Imagery (C9)
Sedim	ent Deposits (B2)		Нус	drogen Su	lfide Odor	(C1)	_	Geom	orphic Position (D2)
Drift D	eposits (B3)		Oxi	dized Rhi	zospheres	along Livi	ng Roots (C3)	Shallo	w Aquitard (D3)
Algal N	Mat or Crust (B4)		Pre	sence of	Reduced Ir	on (C4)	<u>-</u>	FAC-N	eutral Test (D5)
Iron D	eposits (B5)		Rec	ent Iron I	Reduction	in Tilled S	oils (C6)	Raised	Ant Mounds (D6)(LRR A)
Surfac	e Soil Cracks (B6)		Stu	nted or St	tressed Pla	nts (D1)(I	.RR A)	Frost-l	Heave Hummocks (D7)
Inunda	ation Visible on A	erial Image	ery (B7)Oth	ner (Expla	in in Rema	rks)			
Sparse	ely Vegetated Cor	ncave Surfa	ce (B8)						
Field Obse	ervations:								
Surface W	ater Present? No	<u>)</u>	Depth (inc	,					
	ole Present? No		Depth (in		_				
Saturation	n Present? Ye apillary fringe)	<u>S</u>	Depth (ir	nches): <u>17</u>	<u>7</u>		Wetland Hydro	logy Pres	ent? No
		ream gaug	e. monitoring well	. aerial pł	notos, prev	ious inspe	ections), if available		<u></u>
	(00	0-36	,	,	, μ. σ.		,,		
Remarks:				_					

Project/Site: Port Westward Renewable Diesel Re Applicant/Owner: Next Energy Group, Inc. States Investigator(s): Sue Brady Section, To		nty: <u>Columbia</u> W Section 16		Sampling Date: <u>11/29/2018</u> Sampling Point: <u>18</u>
Landform (hillslope, terrace, etc.): Flats Local relie			Slope (%): 0	
Subregion (LRR): Northwest Forests & Coast (LRR		46.16448470		6712220 Datum: WGS84
Soil Map Unit Name: <u>Udipsamments</u> , nearly level,		classification:		
Are climatic/hydrologic conditions on the site typi				rks.)
Are Vegetation, Soil, or Hydrology signif				Circumstances" present? Yes
Are Vegetation, Soil, or Hydrology natur				xplain any answers in Remarks.)
e . egetation <u> </u>	any problemation		(	inplantation, and the control in the
SUMMARY OF FINDINGS – Attach site map s	showing sampling poi	nt locations.	transects. ir	nportant features, etc.
Hydrophytic Vegetation Present? Yes				
Hydric Soil Present? Yes				
Wetland Hydrology Present? Yes		Is the S	Sampled Area	within a Wetland? Yes
Remarks:				
VEGETATION – Use scientific names of plant			1	
	Absolute %	Dominant	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: 0 )	Cover	Species?	Status	Number of Dominant Species
1. 2.				That Are OBL, FACW, or FAC: $\underline{1}$ (A)
3.				Total Number of Dominant
4.				Species Across All Strata: <u>1</u> (B)
Total Cover =0				
Sapling/Shrub Stratum (Plot size: 0 )				Percent of Dominant Species
1.				That Are OBL, FACW, or FAC: 100 (A/B)
2.				Prevalence Index worksheet:
3.				Total % Cover of: Multiply by:
4.				OBL species $\underline{0}$ x 1 = $\underline{0}$
5.				FACW species $\frac{100}{0}$ x 2 = $\frac{200}{0}$ FAC species 0 x 3 = 0
Total Cover = 0				FAC species $\underline{0}$ x 3 = $\underline{0}$ FACU species $\underline{0}$ x 4 = $\underline{0}$
Herb Stratum (Plot size: 4 m <sup>2</sup> )	100	.,	546144	$\begin{array}{cccccccccccccccccccccccccccccccccccc$
1. Phalaris arundinacea	<u>100</u>	<u>Yes</u>	FACW	Column Totals: 100 (A) 200 (B)
2. 3.				_
4.				Prevalence Index = $B/A = 2.00$
5.				
6.				Hydrophytic Vegetation Indicators:
7.				1 –Rapid Test for Hydrophytic Vegetation
8.				X 2 – Dominance Test >50%
9.				$\frac{X}{A}$ 3 - Prevalence Index is ≤ 3.01
10.				4 - Morphological Adaptions <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
11.				5 – Wetland Non-Vascular Plants <sup>1</sup>
Total Cover = <u>100</u>				Problematic Hydrophytic Vegetation¹ (Explain)
Woody Vine Stratum (Plot size: 0 )				<sup>1</sup> Indicators of hydric soil and wetland hydrology
1.				must be present, unless disturbed or problematic.
2.				
Total Cover = <u>0</u>				
% Bare Ground in Herb Stratum: <u>0</u>				Hydrophytic Vegetation Present? Yes
Remarks:				

SOIL Sampling Point: <u>18</u>

	Mat	rix		Redox F	<u>eatures</u>				
Depth	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture		Remarks
(inches) <u>0-15</u>	10YR 3/2	<u>95</u>	10YR 4/6	<u>5</u>	<u>C</u>	<u>M</u>	Silty Clay Loam		
<u>0 13</u>	<u> </u>	33	<u> 1011( 1/ 0</u>	<u> </u>	<u> </u>	<u></u>	Sitty Clay Loans		
¹Type: C=	Concentration, D	=Depletior	, RM=Reduced Ma	atrix, CS=0	Covered o	r Coated S	and Grains. <sup>2</sup> Lo	cation: P	L=Pore Lining, M=Matrix
Hydric So	il Indicators: (Ap	plicable to	all LRRs, unless ot	herwise r	noted.)			Indicato	rs for Problematic Hydric Soils <sup>3</sup> :
Histos	sol (A1)		Sa	ndy Redo	x (S5)			2 cı	m Muck (A10)
Histic	Epipedon (A2)		Sti	ripped Ma	itrix (S6)			Rec	d Parent Material (TF2)
Black	Histic (A3)		·	-			ept MLRA 1)	Ve	ry Shallow Dark Surface (TF12)
-	ogen Sulfide (A4)				ed Matrix	(F2)		Oth	ner (Explain in Remarks)
	ted Below Dark S	•		pleted M					
	Dark Surface (A12	-			Surface (F				tors of hydrophytic vegetation and d hydrology must be present, unless
	/ Mucky Mineral (			•	ark Surface				ed or problematic.
	Gleyed Matrix (S		ĸe	dox Depr	essions (F	3)			
Restrictiv Type:	e Layer (if preser	it):							
Depth (in	ches): <u>0</u>							Hydric	Soil Present? <u>Yes</u>
Remarks:								1	
HYDROLO	GY								
	Hydrology Indicat Indicators (minimu		equired; check all	that apply	<b>(</b> )		9	Secondary	/ Indicators (two or more required)
	ce Water (A1)				ed Leaves (	(RQ)			Stained Leaves (B9)( <b>MLRA 1,2,4A,4B</b> )
	Water Table (A2)		<del></del>		RA 1,2,4A,		-		age Patterns (B10)
X Satura			•	t Crust (B		, a.i.a i.b.,	-		eason Water Table (C2)
·	r Marks (B1)		<del></del>	•	, rtebrates (	(B13)	<del>-</del>		ation Visible on Aerial Imagery (C9)
	ent Deposits (B2)		Hyd	drogen Su	lfide Odor	(C1)			orphic Position (D2)
Drift [	Deposits (B3)		Oxi	dized Rhi	zospheres	along Livi	ng Roots (C3)	Shallo	w Aquitard (D3)
Algal I	Mat or Crust (B4)		Pre	sence of I	Reduced Ir	on (C4)	_	FAC-N	eutral Test (D5)
Iron D	eposits (B5)		Rec	ent Iron F	Reduction	in Tilled S	oils (C6)	Raised	Ant Mounds (D6)(LRR A)
Surfac	ce Soil Cracks (B6)		Stu	nted or St	tressed Pla	ants (D1)( <b>I</b>	LRR A)	Frost-	Heave Hummocks (D7)
	ation Visible on A	_		ner (Explai	in in Rema	ırks)			
	ely Vegetated Cor	ncave Surfa	ce (B8)						
Field Obse			Donath (in	-l\·					
	/ater Present? <u>No</u> ple Present? <u>Ye</u>		Depth (ind Depth (in	ches): <u>15</u>					
	n Present? Ye			nches): <u>10</u>					
	apillary fringe)						Wetland Hydro		ent? Yes
Describe F	Recorded Data (st	ream gaug	e, monitoring well	, aerial ph	iotos, prev	/ious inspe	ections), if available	2:	
Remarks:									

Project/Site: Port Westward Renewable Diesel Refinery Applicant/Owner: Next Energy Group, Inc. State: OR Investigator(s): Sue Brady Section, Townshi Landform (hillslope, terrace, etc.): Flats Local relief (cond Subregion (LRR): Northwest Forests & Coast (LRR A) Soil Map Unit Name: Udipsamments, nearly level, protect Are climatic/hydrologic conditions on the site typical for Are Vegetation, Soil, or Hydrology significantly Are Vegetation, Soil, or Hydrology naturally pr	p, Range: T8N R4 ave, convex, none Lat: cted NWI this time of year? disturbed? oblematic?	e): <u>none</u> 46.16679000 classification: Yes (if no, exp	PEM1C plain in Rema Are "Normal (if needed, e	rks.) Circumstances" present? <u>Yes</u> xplain any answers in Remarks.)
Hydrophytic Vegetation Present? Yes	<u> </u>		· ·	
Hydric Soil Present? <u>Yes</u>		la dia d		
Wetland Hydrology Present? <u>Yes</u>		is the s	sampled Area	within a Wetland? Yes
VEGETATION – Use scientific names of plants.				
	Absolute %	Dominant	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: 0 ) 1.	Cover	Species?	Status	Number of Dominant Species That Are OBL, FACW, or FAC: $\underline{2}$ (A)
2.				111at Are Obl., 1 Acw, 01 1 Ac. 2 (A)
3.				Total Number of Dominant
4.				Species Across All Strata: <u>2</u> (B)
Total Cover = <u>0</u>				Percent of Dominant Species
Sapling/Shrub Stratum (Plot size: 25 m <sup>2</sup> )	100	Voc	EAC	That Are OBL, FACW, or FAC: 100 (A/B)
Populus balsamifera     2.	<u>100</u>	<u>Yes</u>	<u>FAC</u>	Prevalence Index worksheet:
3.				Total % Cover of: Multiply by:
4.				OBL species $\underline{0}$ x 1 = $\underline{0}$ FACW species 0 x 2 = 0
5.				FACW species $\underline{0}$ x 2 = $\underline{0}$ FAC species $\underline{105}$ x 3 = $\underline{315}$
Total Cover = 100  Herb Stratum (Plot size: 4 m <sup>2</sup> )				FACU species $\underline{0}$ x 4 = $\underline{0}$
1. Poa palustris	<u>5</u>	<u>Yes</u>	FAC	UPL species $\underline{0}$ x 5 = $\underline{0}$
2.	_			Column Totals: <u>105</u> (A) <u>315</u> (B)
3.				Prevalence Index = B/A = 3.00
				Trevalence mack by the side
6.				Hydrophytic Vegetation Indicators:
7.				1 –Rapid Test for Hydrophytic Vegetation
8.				$\frac{X}{X}$ 2 – Dominance Test >50% X 3 - Prevalence Index is ≤ 3.0¹
9.				4 - Morphological Adaptions <sup>1</sup> (Provide supporting
10. 11.				data in Remarks or on a separate sheet)
Total Cover = 5				5 – Wetland Non-Vascular Plants <sup>1</sup>
7				Problematic Hydrophytic Vegetation¹ (Explain)
Woody Vine Stratum (Plot size: _0 )				Indicators of hydric soil and wetland hydrology
1.				must be present, unless disturbed or problematic.
2.				
Total Cover = <u>0</u>				
% Bare Ground in Herb Stratum: <u>95</u>				Hydrophytic Vegetation Present? Yes
Remarks:				

SOIL Sampling Point: 19

	Mat	<u>rix</u>		Redox F	<u>eatures</u>				
Depth	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture		Remarks
(inches)									
0-3	10YR 2/2	<u>100</u>		<u>0</u>			Silty Clay Loam		
3-18	10YR 2/1	<u>95</u>	10YR 4/6	<u>5</u>	<u>C</u>	<u>M</u>	Silty Clay Loam		
				_	_	_			
1-						0 1 10	10 : 2	5	
-Type: C=	Concentration, D	=Depletior	, RM=Reduced Ma	atrix, CS=0	Loverea oi	Coated S	and Grains. Lo	cation: Pi	L=Pore Lining, M=Matrix
Hydric So	il Indicators: (Ap	plicable to	all LRRs, unless ot	herwise r	noted.)			Indicato	rs for Problematic Hydric Soils <sup>3</sup> :
Histo:	sol (A1)		Sa	ndy Redo	x (S5)			2 cr	n Muck (A10)
Histic	Epipedon (A2)		Sti	ripped Ma	itrix (S6)			Rec	l Parent Material (TF2)
Black	Histic (A3)		Lo	amy Muc	ky Mineral	(F1) (exc	ept MLRA 1)	Ve	ry Shallow Dark Surface (TF12)
Hydro	ogen Sulfide (A4)		 Lo	amy Gley	ed Matrix	(F2)		Oth	er (Explain in Remarks)
	ted Below Dark S	urface (A1:		pleted M		. ,			, ,
	Dark Surface (A1:	-		•	Surface (F	5)		3Indicat	ors of hydrophytic vegetation and
	/ Mucky Mineral (	•			ark Surface			1	d hydrology must be present, unless
	Gleyed Matrix (S			•	essions (F8				ed or problematic.
				. иох Берг	C3310113 (1 C	· /			·
	e Layer (if preser	it):							
Type: Depth (in	chos): 0							Hydric	Soil Present? Yes
								,	
Remarks:									
HYDROLO	iGV								
	Hydrology Indicat	ors:							
			equired; check all	that apply	<b>/</b> )		S	Secondary	Indicators (two or more required)
	ce Water (A1)		-		ed Leaves (	'RQ\			-Stained Leaves (B9)(MLRA 1,2,4A,4B)
	Vater Table (A2)				RA 1,2,4A,		-		age Patterns (B10)
	• •		•	•		allu 4b)	-		
X Satura	• •		<del></del>	t Crust (Bí	•	D4.2\	-		eason Water Table (C2)
	r Marks (B1)				rtebrates (	•	-		ition Visible on Aerial Imagery (C9)
	ent Deposits (B2)		-	_	lfide Odor		- ()		orphic Position (D2)
	Deposits (B3)					_	ng Roots (C3)		w Aquitard (D3)
	Mat or Crust (B4)		·		Reduced Ir		-		eutral Test (D5)
	eposits (B5)		Rec	ent Iron F	Reduction	in Tilled S	oils (C6)	Raised	Ant Mounds (D6)( <b>LRR A</b> )
Surfac	ce Soil Cracks (B6)		Stu	nted or St	tressed Pla	ınts (D1)( <b>I</b>	.RR A)	Frost-l	Heave Hummocks (D7)
Inund	ation Visible on A	erial Image	ery (B7)Oth	ner (Explai	in in Rema	rks)			
Sparse	ely Vegetated Cor	ncave Surfa	ce (B8)						
Field Obs	ervations:								
Surface W	/ater Present? <u>No</u>	<u>)</u>	Depth (inc	ches): <u>0</u>					
	ole Present? Ye	<u>es</u>	Depth (in						
	n Present? <u>Ye</u>	<u>!S</u>	Depth (ir	nches): <u>4</u>			Wetland Hydro	logy Droc	ant? Voc
	apillary fringe)	**********************		a a rial nh	otos pro	ious inch			ent: 1es
הפאנווטפ ו	necorued Data (St	ream gaug	e, monitoring well	, aeriai pr	iotos, prev	nous mspe	ections), if available	:.	
Remarks:									

Project/Site: Port Westward Renewable Diesel Refinery Applicant/Owner: Next Energy Group, Inc. State: OR Investigator(s): Sue Brady Section, Townshi		nty: <u>Columbia</u>		Sampling Date: <u>11/29/2018</u> Sampling Point: <u>20</u>
Landform (hillslope, terrace, etc.): Flats Local relief (conc			Slope (%): 0	
Subregion (LRR): Northwest Forests & Coast (LRR A)		46.16840620	–	.6359980 Datum: WGS84
Soil Map Unit Name: <u>Udipsamments, nearly level, protect</u>		classification:		<u>0333300</u> Butum. <u>W0304</u>
Are climatic/hydrologic conditions on the site typical for				rks \
Are Vegetation X, Soil, or Hydrology significantly		<u>163</u> (11110, 6x		Circumstances" present? <u>Yes</u>
Are Vegetation, Soil, or Hydrology naturally pro				xplain any answers in Remarks.)
Are vegetation, 3011, or rivurology naturally pro	blematic:		(ii fieeded, e	Apiani any answers in Kemarks.
SUMMARY OF FINDINGS – Attach site map showing	ng sampling poi	nt locations,	transects, in	nportant features, etc.
Hydrophytic Vegetation Present? Yes				
Hydric Soil Present? Yes		Is the	Sampled Area	a within a Wetland? Yes
Wetland Hydrology Present? <u>Yes</u>		10 1110	oumpieu / ii ee	
Remarks:				
VEGETATION – Use scientific names of plants.	Absolute 0/	Dominant	Indicator	Dominance Test worksheet:
<u>Tree Stratum</u> (Plot size: <u>0</u> )	Absolute % Cover	Dominant Species?	Status	Number of Dominant Species
1.	Cover	Species:	Status	That Are OBL, FACW, or FAC: 2 (A)
2.				<u>= ('', ''</u>
3.				Total Number of Dominant
4.				Species Across All Strata: <u>2</u> (B)
Total Cover = <u>0</u>				
Sapling/Shrub Stratum (Plot size: 0 )				Percent of Dominant Species
1.				That Are OBL, FACW, or FAC: 100 (A/B)
2.				Prevalence Index worksheet:
3.				Total % Cover of: Multiply by:
4.				OBL species $\underline{0}$ x 1 = $\underline{0}$ FACW species 0 x 2 = 0
5.				FACW species $\underline{0}$ x 2 = $\underline{0}$ FAC species $\underline{100}$ x 3 = $\underline{300}$
Total Cover = <u>0</u>				FACU species $\underline{0}$ $\times$ 4 = $\underline{0}$
Herb Stratum (Plot size: 4 m <sup>2</sup> )	50	V	FAC	UPL species $\underline{0}$ $\times$ 5 = $\underline{0}$
<ol> <li>Poa palustris</li> <li>Alopecurus pratensis</li> </ol>	<u>50</u>	<u>Yes</u>	FAC	Column Totals: <u>100</u> (A) <u>300</u> (B)
3.	<u>50</u>	<u>Yes</u>	FAC	
4.				Prevalence Index = $B/A = 3.00$
5.				
6.				Hydrophytic Vegetation Indicators:
7.				1 –Rapid Test for Hydrophytic Vegetation
8.				$\frac{X}{2}$ 2 – Dominance Test >50% X 3 - Prevalence Index is ≤ 3.0¹
9.				4 - Morphological Adaptions <sup>1</sup> (Provide supporting
10.				data in Remarks or on a separate sheet)
11.				5 – Wetland Non-Vascular Plants <sup>1</sup>
Total Cover = 100				Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
Woody Vine Stratum (Plot size: 0 )				<sup>1</sup> Indicators of hydric soil and wetland hydrology
1.				must be present, unless disturbed or problematic.
2.				
Total Cover = <u>0</u>				
% Bare Ground in Herb Stratum: <u>0</u>				Hydrophytic Vegetation Present? Yes
Remarks: grazed pasture				

SOIL Sampling Point: <u>20</u>

	Mat	<u>rix</u>		Redox F	eatures				
Depth (inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture		Remarks
0-6	10YR 4/2	100		<u>0</u>			Silty Clay Loam		
6-17	10YR 4/2	95	10YR 4/6	<u>5</u>	<u>C</u>	<u>RC</u>	Silty Clay Loam		
0 17	10111 1/2	<u> </u>	<u> 10111 1/ 0</u>	<u> </u>		110	Sitty City Louin		
¹Type: C=	Concentration, D	  =Depletion	n, RM=Reduced Ma	L atrix, CS=0	L Covered o	r Coated S	and Grains. <sup>2</sup> Lo	cation: P	L=Pore Lining, M=Matrix
Hydric So	il Indicators: (Ap	plicable to	all LRRs, unless ot	herwise r	noted.)			Indicato	rs for Problematic Hydric Soils <sup>3</sup> :
Histos	sol (A1)		Sa	ndy Redo	x (S5)			2 cı	m Muck (A10)
Histic	Epipedon (A2)		St	ripped Ma	itrix (S6)			Rec	l Parent Material (TF2)
Black	Histic (A3)		Lo	amy Muc	ky Minera	l (F1) (exc	ept MLRA 1)	Ve	ry Shallow Dark Surface (TF12)
Hydro	ogen Sulfide (A4)		Lo	amy Gley	ed Matrix	(F2)		Oth	ner (Explain in Remarks)
Deple	ted Below Dark S	urface (A1:	1) <u>X</u> De	pleted Ma	atrix (F3)				
Thick	Dark Surface (A12	2)	Re	dox Dark	Surface (F	6)		3Indica	tors of hydrophytic vegetation and
Sandy	/ Mucky Mineral (	S1)	De	pleted Da	ark Surface	e (F7)			d hydrology must be present, unless
Sandy	Gleyed Matrix (S	54)	Re	dox Depr	essions (F8	3)		disturb	ed or problematic.
Restrictiv	e Layer (if preser	nt):							
Type:									
Depth (in	ches): <u>0</u>							Hydric	Soil Present? Yes
Remarks:									
HYDROLO	)GY								
	Hydrology Indicat	tors:							
Primary Ir	ndicators (minimu	ım of one r	equired; check all	that apply	<b>/</b> )		S	Secondary	Indicators (two or more required)
Surfac	ce Water (A1)		Wa	ter-Staine	ed Leaves	(B9)		Water	-Stained Leaves (B9)( <b>MLRA 1,2,4A,4B</b> )
	Water Table (A2)		(e	xcept ML	RA 1,2,4A,	and 4B)		Draina	age Patterns (B10)
Satura	ation (A3)		Sal	t Crust (B:	l1)			Dry-Se	eason Water Table (C2)
	Marks (B1)				rtebrates (	(B13)			ition Visible on Aerial Imagery (C9)
Sedim	ent Deposits (B2)		Hyd	drogen Su	lfide Odor	(C1)			orphic Position (D2)
Drift [	Deposits (B3)		· · · · · · · · · · · · · · · · · · ·	_			ng Roots (C3)		w Aquitard (D3)
Algal I	Mat or Crust (B4)		Pre	sence of I	Reduced Ir	on (C4)		FAC-N	eutral Test (D5)
	eposits (B5)		· · · · · · · · · · · · · · · · · · ·		Reduction		oils (C6)		Ant Mounds (D6)(LRR A)
	ce Soil Cracks (B6)		Stu	nted or St	ressed Pla	ants (D1)(I	RR A)		Heave Hummocks (D7)
Inund	ation Visible on A	erial Image			in in Rema			<u>.</u>	·
Sparse	ely Vegetated Cor	ncave Surfa	ce (B8)						
Field Obse	ervations:						T		
Surface W	ater Present? No	<u>)</u>	Depth (inc	ches):					
Water Tak	ole Present? <u>No</u>	<u>0</u>	Depth (in	ches):					
	Present? <u>No</u>	<u> </u>	Depth (in	ches):			Wetlend Under	laau Duas	ent? Vos
	apillary fringe)	*******************	o monitoring wall	aarial nh	atas pro	daus insn	Wetland Hydro		entr res
Describe i	recoruea Data (st	ream gaug	e, monitoring well	, aeriai pr	iotos, prev	rious inspe	ections), if available	:.	
Remarks:									

Project/Site: Port Westward Renewable Diesel Refinery Applicant/Owner: Next Energy Group, Inc. State: OR Investigator(s): Sue Brady Section, Townsh	City/Cou ip, Range: <u>T8N R4</u>	nty: <u>Columbia</u> W Section 16		Sampling Date: <u>11/29/2018</u> Sampling Point: <u>21</u>
Landform (hillslope, terrace, etc.): Flats Local relief (cond	cave, convex, none	e): <u>concave</u>	Slope (%): <u>0</u>	
Subregion (LRR): Northwest Forests & Coast (LRR A)	Lat:	46.16798160	Long: <u>-123.1</u>	.6200180 Datum: WGS84
Soil Map Unit Name: <u>Udipsamments, nearly level, prote</u>	cted NWI	classification:	<u>none</u>	
Are climatic/hydrologic conditions on the site typical for	this time of year?	? <u>Yes</u> (if no, ex	plain in Rema	rks.)
Are Vegetation X, Soil, or Hydrology significantly	disturbed?		Are "Normal	Circumstances" present? Yes
Are Vegetation, Soil, or Hydrology naturally pr	oblematic?		(if needed, e	xplain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map showi	ng sampling poi	nt locations,	transects, i	mportant features, etc.
Hydrophytic Vegetation Present? Yes				
Hydric Soil Present? <u>Yes</u>				
Wetland Hydrology Present? <u>Yes</u>		Is the	Sampled Area	a within a Wetland? <u>Yes</u>
Remarks:				
VEGETATION – Use scientific names of plants.	AlI-+- 0/	D	Localita and a second	Description - Technological
<u>Tree Stratum</u> (Plot size: <u>0</u> )	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species
1.	Cover	Species:	Status	That Are OBL, FACW, or FAC: $\underline{2}$ (A)
2.				That Are obe, the w, of the $\frac{2}{2}$ (A)
3.				Total Number of Dominant
4.				Species Across All Strata: <u>2</u> (B)
Total Cover = <u>0</u>				_ ` ,
Sapling/Shrub Stratum (Plot size: _0_)				Percent of Dominant Species
1.				That Are OBL, FACW, or FAC: <u>100</u> (A/B)
2.				Prevalence Index worksheet:
3.				Total % Cover of: Multiply by:
4.				OBL species $\underline{0}$ x 1 = $\underline{0}$
5.				FACW species $\underline{100}$ x 2 = $\underline{200}$
Total Cover = <u>0</u>				FAC species $\underline{0}$ x 3 = $\underline{0}$
Herb Stratum (Plot size: 4 m <sup>2</sup> )				FACU species $\underline{0}$ x 4 = $\underline{0}$
1. Phalaris arundinacea	<u>80</u>	<u>Yes</u>	<u>FACW</u>	UPL species $\underline{0}$ x 5 = $\underline{0}$
2. <u>Juncus balticus</u>	<u>20</u>	<u>Yes</u>	<u>FACW</u>	Column Totals: <u>100</u> (A) <u>200</u> (B)
3.				Prevalence Index = B/A = 2.00
4.				Frevalence index – B/A – <u>2.00</u>
5.				Hydrophytic Vegetation Indicators:
6.				1 –Rapid Test for Hydrophytic Vegetation
7. 8.				X 2 – Dominance Test >50%
8. 9.				$\overline{X}$ 3 - Prevalence Index is $\leq 3.0^1$
10.				4 - Morphological Adaptions <sup>1</sup> (Provide supporting
11.				data in Remarks or on a separate sheet)
Total Cover =100				5 – Wetland Non-Vascular Plants <sup>1</sup>
				Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
W 1 % 6 + (D) + (D)				
Woody Vine Stratum (Plot size: 0 )				¹Indicators of hydric soil and wetland hydrology
1. 2.				must be present, unless disturbed or problematic.
Z. Total Cover = 0				
_				
% Bare Ground in Herb Stratum: <u>0</u> Remarks: grazed pasture				Hydrophytic Vegetation Present? Yes
nemans. grazeu pasture				

SOIL Sampling Point: <u>21</u>

	Mat	<u>rix</u>		Redox F	eatures				
Depth	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture		Remarks
(inches)									
0-6	10YR 4/3	<u>100</u>		<u>0</u>			Silty Clay Loam		
6-18	10YR 4/2	<u>95</u>	10YR 4/6	<u>5</u>	<u>C</u>	RC	Silty Clay Loam		
	· · · · · · · · · · · · · · · · · · ·				_				
4-									
¹Type: C=	Concentration, D	=Depletior	, RM=Reduced Ma	atrix, CS=0	Lovered or	r Coated S	and Grains. <sup>2</sup> Lo	cation: Pl	L=Pore Lining, M=Matrix
Hydric So	il Indicators: (Ap	plicable to	all LRRs, unless ot	herwise r	noted.)			Indicato	rs for Problematic Hydric Soils <sup>3</sup> :
Histos	sol (A1)		Sa	ndy Redo	x (S5)			2 cr	n Muck (A10)
Histic	Epipedon (A2)			ripped Ma					Parent Material (TF2)
	Histic (A3)			• •	. ,	l (F1) ( <b>exc</b>	ept MLRA 1)		ry Shallow Dark Surface (TF12)
	ogen Sulfide (A4)		· · · · · · · · · · · · · · · · · · ·	-	ed Matrix		,		ner (Explain in Remarks)
	ted Below Dark S	urface (Δ1		pleted Ma		(. –)			(Express to the second
	Dark Surface (A12	•			Surface (F	6)		3Indicat	ors of hydrophytic vegetation and
	Mucky Mineral (	-			ark Surface	•			d hydrology must be present, unless
	· · · · · · · · · · · · · · · · · · ·								ed or problematic.
•	Gleyed Matrix (S		ĸe	иох Берг	essions (F8	>)			
	e Layer (if preser	ıt):							
Type:								و ما الما الما	Cail Bussesst 2 Vos
Depth (in	ches): <u>0</u>							пуатіс	Soil Present? Yes
Remarks:									
HYDROLO									
	Hydrology Indicat			بامرمره عمطه	.\				. In diantana (t
Primary ir	idicators (minimu	m of one r	equired; check all	tnat appiy	<u>()</u>		S	econdary	Indicators (two or more required)
Surfac	e Water (A1)		Wa	ter-Staine	ed Leaves	(B9)	_	Water	-Stained Leaves (B9)( <b>MLRA 1,2,4A,4B</b> )
High \	Vater Table (A2)		(е	xcept ML	RA 1,2,4A,	and 4B)	_	Draina	ge Patterns (B10)
Satura	ation (A3)		Sal	t Crust (B	L1)		_	Dry-Se	eason Water Table (C2)
Water	Marks (B1)		Aqı	uatic Inve	rtebrates (	B13)	_	Satura	tion Visible on Aerial Imagery (C9)
Sedim	ent Deposits (B2)		Hyd	drogen Su	lfide Odor	(C1)	_	Geom	orphic Position (D2)
	Deposits (B3)		· · · · · · · · · · · · · · · · · · ·	_			ng Roots (C3)		w Aquitard (D3)
	Mat or Crust (B4)				Reduced Ir	_	` '		eutral Test (D5)
	eposits (B5)				Reduction		oils (C6)		Ant Mounds (D6)(LRR A)
	e Soil Cracks (B6)				ressed Pla				Heave Hummocks (D7)
	ation Visible on A		· · · · · · · · · · · · · · · · · · ·		in in Rema			11031-1	neave Hummocks (D7)
		_		iei (Expia	iii iii Neiiia	i K5)			
	ely Vegetated Cor	icave Surra	ce (B8)						
Field Obse			Daniel Ca	-l\.					
	ater Present? No		Depth (ind Depth (ind	•					
	ole Present? <u>No</u> n Present?          Ye			nches): 15					
	apillary fringe)	<u>3</u>	Deptii (ii	iciies). <u>1.</u>	<u>2</u>		Wetland Hydro	logy Pres	ent? Yes
		ream gaug	e, monitoring well	, aerial ph	otos, prev	ious inspe	ections), if available		
	,		•	•	•	·			
Remarks:				<del></del>		<del></del>			

Project/Site: Port Westward Renewable Diesel Refiner Applicant/Owner: Next Energy Group, Inc. State: OR Investigator(s): Sue Brady Section, Towns		nty: <u>Columbia</u> W Section 16		Sampling Date: <u>11/29/2018</u> Sampling Point: <u>21a</u>
Landform (hillslope, terrace, etc.): Flats Local relief (cor			Slope (%): 0	
Subregion (LRR): Northwest Forests & Coast (LRR A)		46.16797530	–	.6198790 Datum: WGS84
Soil Map Unit Name: <u>Udipsamments</u> , nearly level, prote		classification:		<u>0130730</u> Buttum. <u>W0304</u>
Are climatic/hydrologic conditions on the site typical fo			·	rks )
Are Vegetation X, Soil, or Hydrology significantl		: <u>103</u> (11110, 0x)		Circumstances" present? <u>Yes</u>
Are Vegetation, Soil, or Hydrology naturally p				xplain any answers in Remarks.)
Are vegetation, soil, or rivurology naturally p	noblematic:		(II fieeded, e	Apidin dily dilawera in Kemarka.
SUMMARY OF FINDINGS – Attach site map show	ing sampling poi	nt locations.	transects. ii	nportant features, etc.
Hydrophytic Vegetation Present? Yes			<u> </u>	,
Hydric Soil Present? <u>No</u>				
Wetland Hydrology Present? <u>No</u>		Is the S	Sampled Area	within a Wetland? <u>No</u>
Remarks:				
VEGETATION – Use scientific names of plants.				
Trac Chrotism (Plat size, O.)	Absolute %	Dominant	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: 0 ) 1.	Cover	Species?	Status	Number of Dominant Species That Are OBL, FACW, or FAC: $\underline{1}$ (A)
2.				That Are Obl., FACW, OF FAC.
3.				Total Number of Dominant
4.				Species Across All Strata: <u>1</u> (B)
Total Cover = <u>0</u>				
Sapling/Shrub Stratum (Plot size: _0_)				Percent of Dominant Species
1.				That Are OBL, FACW, or FAC: 100 (A/B)
2.				Prevalence Index worksheet:
3.				
4.				OBL species $\underline{0}$ x 1 = $\underline{0}$ FACW species $\underline{20}$ x 2 = $\underline{40}$
5. Total Cover =0				FAC species $80 \times 3 = 240$
Herb Stratum (Plot size: _4 m² )	_			FACU species $\underline{0}$ x 4 = $\underline{0}$
1. Poa palustris	<u>80</u>	Yes	FAC	UPL species $\underline{0}$ x 5 = $\underline{0}$
2. Juncus balticus	<u>10</u>	No	FACW	Column Totals: <u>100</u> (A) <u>280</u> (B)
3. Phalaris arundinacea	<u>10</u>	No	FACW	Brooklands Index B/A 200
4.				Prevalence Index = B/A = 2.80
5.				Hydrophytic Vegetation Indicators:
6. 7.				1 –Rapid Test for Hydrophytic Vegetation
8.				X 2 – Dominance Test >50%
9.				$\underline{X}$ 3 - Prevalence Index is $\leq 3.0^1$
10.				4 - Morphological Adaptions <sup>1</sup> (Provide supporting
11.				data in Remarks or on a separate sheet) 5 – Wetland Non-Vascular Plants <sup>1</sup>
Total Cover = 100				5 - Wetland Non-Vascular Plants- Problematic Hydrophytic Vegetation¹ (Explain)
Woody Vine Stratum (Plot size: 0 )				<sup>1</sup> Indicators of hydric soil and wetland hydrology
1.				must be present, unless disturbed or problematic.
2.				
Total Cover = <u>0</u>				
% Bare Ground in Herb Stratum: <u>0</u>				Hydrophytic Vegetation Present? Yes
Remarks: grazed pasture				

SOIL Sampling Point: 21a

	<u>Mat</u>	<u>trix</u>		Redox I	-eatures				
Depth	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture		Remarks
(inches)									
<u>0-11</u>	10YR 4/3	<u>100</u>		<u>0</u>					
19-26	<u>10YR 4/2</u>	<u>95</u>	<u>10YR 4/6</u>	<u>5</u>	<u>C</u>	<u>M</u>	Silty Clay Loam		
<u>11-19</u>	<u>10YR 4/2</u>	<u>100</u>		<u>0</u>					
¹Type: C=	Concentration, E	D=Depletior	n, RM=Reduced Ma	atrix, CS=0	Covered o	r Coated S	and Grains. <sup>2</sup> Lo	ocation: P	L=Pore Lining, M=Matrix
Hydric So	il Indicators: (Ap	plicable to	all LRRs, unless ot	herwise ı	noted.)			Indicato	rs for Problematic Hydric Soils <sup>3</sup> :
Histos	sol (A1)		Sa	ndy Redo	x (S5)			2 c	m Muck (A10)
Histic	Epipedon (A2)		Sti	ripped Ma	atrix (S6)			Rec	d Parent Material (TF2)
Black	Histic (A3)		Lo	amy Muc	ky Minera	l (F1) (exc	ept MLRA 1)	Ve	ry Shallow Dark Surface (TF12)
Hydro	gen Sulfide (A4)		Lo	amy Gley	ed Matrix	(F2)		Oth	ner (Explain in Remarks)
Deple	ted Below Dark S	Surface (A1:	1)De	pleted M	atrix (F3)				
Thick	Dark Surface (A1	2)	Re	dox Dark	Surface (F	6)		3Indica	tors of hydrophytic vegetation and
Sandy	Mucky Mineral	(S1)	De	pleted Da	ark Surface	e (F7)			d hydrology must be present, unless
Sandy	Gleyed Matrix (	S4)	Re	dox Depr	essions (F8	3)		disturb	ed or problematic.
Restrictiv	e Layer (if prese	nt):							
Type:									
Depth (in	ches): <u>0</u>							Hydric	Soil Present? No
Remarks:									
HYDROLO	GY								
Wetland I	Hydrology Indica	tors:							
Primary In	ndicators (minimu	ım of one r	equired; check all	that apply	/)		:	Secondary	/ Indicators (two or more required)
Surfac	e Water (A1)		Wa	ter-Staine	ed Leaves	(B9)		Water	r-Stained Leaves (B9)(MLRA 1,2,4A,4B)
High V	Water Table (A2)		(e.	xcept ML	RA 1,2,4A,	and 4B)		Draina	age Patterns (B10)
Satura	ation (A3)		Salt	t Crust (B:	11)			Dry-Se	eason Water Table (C2)
Water	Marks (B1)		Aqı	uatic Inve	rtebrates (	B13)		Satura	ation Visible on Aerial Imagery (C9)
Sedim	ent Deposits (B2	)	Нус	drogen Su	lfide Odor	(C1)		Geom	orphic Position (D2)
Drift D	Deposits (B3)		Oxi	dized Rhi	zospheres	along Livi	ng Roots (C3)	Shallo	w Aquitard (D3)
Algal I	Mat or Crust (B4)		Pre	sence of	Reduced Ir	on (C4)		FAC-N	leutral Test (D5)
Iron D	eposits (B5)		Rec	ent Iron I	Reduction	in Tilled S	oils (C6)	Raised	d Ant Mounds (D6)( <b>LRR A</b> )
Surfac	ce Soil Cracks (B6)	)	Stu	nted or St	tressed Pla	nts (D1)(I	LRR A)	Frost-	Heave Hummocks (D7)
Inunda	ation Visible on A	erial Image	ery (B7)Oth	ner (Expla	in in Rema	rks)			
Sparse	ely Vegetated Co	ncave Surfa	ce (B8)						
Field Obse	ervations:								
Surface W	ater Present? <u>N</u>	<u>o</u>	Depth (inc	ches):					
	ole Present? <u>N</u>	<u>o</u>	Depth (in	ches):					
Saturation	_	<u>o</u>	Depth (in	ches):			Wetland Hydro	logy Proc	ent? No
	apillary fringe) Recorded Data (st	tream gallg	e monitoring well	aerial nh	notos nrev	inus insn	ections), if available		ent: <u>140</u>
Describer	recorded Data (3)	ircairi gaug	c, momornig wen	, acriai pi	iotos, prev	rious irispi	ccions, ii avanabii		
Remarks:									

Project/Site: Port Westward Renewable Diesel Refinery Applicant/Owner: Next Energy Group, Inc. State: OR Investigator(s): Sue Brady Section, Townsh	<u>/</u> City/Cou nip, Range: <u>T8N R4</u>	nty: <u>Columbia</u> W Section 38		Sampling Date: <u>11/29/2018</u> Sampling Point: <u>22</u>
$Land form \ (hillslope, terrace, etc.); \ \underline{Flats} Local \ relief \ (confidence)$	cave, convex, none	e): <u>none</u>	Slope (%): <u>0</u>	
Subregion (LRR): Northwest Forests & Coast (LRR A)	Lat:	46.16810600	Long: <u>-123.1</u>	L6187800 Datum: WGS84
Soil Map Unit Name: Udipsamments, nearly level, prote	ected NWI	classification:	<u>none</u>	
Are climatic/hydrologic conditions on the site typical for	r this time of year?	? Yes(if no, ex	plain in Rema	rks.)
Are Vegetation X, Soil, or Hydrology significantly	/ disturbed?		Are "Normal	Circumstances" present? Yes
Are Vegetation, Soil, or Hydrology naturally p	roblematic?		(if needed, e	xplain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map showi	ing sampling poi	nt locations,	transects, in	mportant features, etc.
Hydrophytic Vegetation Present? Yes				
Hydric Soil Present? <u>Yes</u>				
Wetland Hydrology Present? <u>Yes</u>		Is the	Sampled Area	a within a Wetland? <u>Yes</u>
Remarks:				
VEGETATION – Use scientific names of plants.	Absolute 0/	Dominant	Indicator	Dominance Test worksheet:
<u>Tree Stratum</u> (Plot size: <u>0</u> )	Absolute % Cover	Dominant Species?	Status	Number of Dominant Species
1.	Cover	Species:	Status	That Are OBL, FACW, or FAC: $\underline{1}$ (A)
2.				<u> </u>
3.				Total Number of Dominant
4.				Species Across All Strata: <u>1</u> (B)
Total Cover = <u>0</u>				
Sapling/Shrub Stratum (Plot size: 0 )				Percent of Dominant Species
1.				That Are OBL, FACW, or FAC: 100 (A/B)
2.				Prevalence Index worksheet:
3.				Total % Cover of: Multiply by:
4.				OBL species $\underline{0}$ x 1 = $\underline{0}$
5.				FACW species $\underline{90}$ x 2 = $\underline{180}$
Total Cover = <u>0</u>				FAC species $\underline{10}$ x 3 = $\underline{30}$
Herb Stratum (Plot size: 4 m <sup>2</sup> )				FACU species $\underline{0}$ x 4 = $\underline{0}$
1. Phalaris arundinacea	<u>90</u>	<u>Yes</u>	<u>FACW</u>	UPL species $\underline{0}$ x 5 = $\underline{0}$ Column Totals: 100 (A) 210 (B)
2. <u>Poa palustris</u>	<u>5</u>	<u>No</u>	<u>FAC</u>	Column Totals: <u>100</u> (A) <u>210</u> (B)
3. Rumex crispus	<u>5</u>	<u>No</u>	<u>FAC</u>	Prevalence Index = B/A = 2.10
4.				
5. 6.				Hydrophytic Vegetation Indicators:
6. 7.				1 –Rapid Test for Hydrophytic Vegetation
8.				X 2 – Dominance Test >50%
9.				X 3 - Prevalence Index is ≤ 3.0 <sup>1</sup>
10.				4 - Morphological Adaptions <sup>1</sup> (Provide supporting
11.				data in Remarks or on a separate sheet)
Total Cover = <u>100</u>				5 – Wetland Non-Vascular Plants <sup>1</sup> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
				Problematic Hydrophytic vegetation (Explain)
Woody Vine Stratum (Plot size: _0 )				Indicators of hydric soil and wetland hydrology
1.				must be present, unless disturbed or problematic.
2.				must be present, unless disturbed of problematic.
Total Cover =0				
% Bare Ground in Herb Stratum: <u>0</u>				Hydrophytic Vegetation Present? Yes
Remarks: grazed pasture	1	1	_1	

SOIL Sampling Point: <u>22</u>

	Mat	<u>rix</u>		Redox F	-eatures				
Depth	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture		Remarks
(inches)									
0-8	10YR 4/3	100		<u>0</u>					
8-18	10YR 4/2	<u>95</u>	10YR 4/6	<u>5</u>	<u>C</u>	RC	Silty Clay Loam		
					_				
1	<u> </u>								
¹Type: C=	-Concentration, D	=Depletior	, RM=Reduced Ma	atrix, CS=0	Covered or	r Coated S	and Grains. <sup>2</sup> Li	ocation: P	L=Pore Lining, M=Matrix
Hydric So	il Indicators: (Ap	plicable to	all LRRs, unless ot	herwise r	noted.)			Indicato	rs for Problematic Hydric Soils <sup>3</sup> :
Histos	sol (A1)		Sa	ndy Redo	x (S5)			2 cı	m Muck (A10)
Histic	Epipedon (A2)			ripped Ma					d Parent Material (TF2)
	Histic (A3)			• •		l (F1) ( <b>exc</b>	ept MLRA 1)		ry Shallow Dark Surface (TF12)
	ogen Sulfide (A4)		· · · · · · · · · · · · · · · · · · ·	-	ed Matrix		,		ner (Explain in Remarks)
	eted Below Dark S	urface (Δ1		pleted Ma		(-)			(Englandinatio)
	Dark Surface (A1:	•	·		Surface (F	6)		3Indica	tors of hydrophytic vegetation and
	/ Mucky Mineral (	-			ark Surface				d hydrology must be present, unless
									ed or problematic.
	/ Gleyed Matrix (S		KE	dox Depr	essions (F8	3)			
	e Layer (if preser	nt):							
Type:									Call Decay 42 Van
Depth (in	ches): <u>0</u>							Hydric	Soil Present? Yes
Remarks:									
HYDROLO									
	Hydrology Indicat			بامرمره عمطه	.\			C	. In diantana (tura an manua na mainad)
		ım ot one r	equired; check all						/ Indicators (two or more required)
Surfac	ce Water (A1)		Wa	ter-Staine	ed Leaves	(B9)		Water	Stained Leaves (B9)( <b>MLRA 1,2,4A,4B</b> )
High \	Water Table (A2)		(е	xcept ML	RA 1,2,4A,	, and 4B)		Draina	age Patterns (B10)
Satura	ation (A3)		Sal	t Crust (B	L1)			Dry-Se	eason Water Table (C2)
Water	Marks (B1)		Aqı	uatic Inve	rtebrates (	(B13)		Satura	ation Visible on Aerial Imagery (C9)
Sedim	ent Deposits (B2)		Hyd	drogen Su	lfide Odor	(C1)		Geom	orphic Position (D2)
Drift D	Deposits (B3)		· · · · · · · · · · · · · · · · · · ·	_			ng Roots (C3)		w Aquitard (D3)
	Mat or Crust (B4)				Reduced Ir	_	, ,		eutral Test (D5)
	eposits (B5)		<del></del>		Reduction		nils (C6)		Ant Mounds (D6)(LRR A)
	ce Soil Cracks (B6)				tressed Pla				Heave Hummocks (D7)
	ation Visible on A				in in Rema		ANN A)	1103t-	neave numinocks (D7)
		_	- · · · · · · · · · · · · · · · · · · ·	iei (Expia	III III NEIIIa	ii KS)			
	ely Vegetated Cor	icave Surra	ce (B8)						
Field Obse		_	Double (in	-11 - 0					
	/ater Present? No		Depth (ind Depth (ind						
	ole Present? <u>No</u> n Present?          Ye			nches): <u>0</u>	Ω				
	apillary fringe)	<u>.3</u>	Deptii (ii	iciies). <u>1.</u>	<u>2</u>		Wetland Hydro	ology Pres	ent? Yes
		ream gaug	e, monitoring well	, aerial ph	otos, prev	ious inspe	ections), if availabl		
	•		•	•		·	••		
Remarks:									

Project/Site: Port Westward Renewable Diesel Refinery Applicant/Owner: Next Energy Group, Inc. State: OR Investigator(s): Sue Brady Section, Townshi	Sampling Date: <u>11/29/2018</u> Sampling Point: <u>22a</u>									
Landform (hillslope, terrace, etc.): Flats Local relief (conc			Slope (%): <u>0</u>							
Subregion (LRR): Northwest Forests & Coast (LRR A)			Long: <u>-123.1</u>	<u>6189600</u> Datum: <u>WGS84</u>						
Soil Map Unit Name: <u>Udipsamments, nearly level, protect</u>										
Are climatic/hydrologic conditions on the site typical for this time of year? Yes(if no, explain in Remarks.)										
	Are Vegetation X, Soil, or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes									
Are Vegetation, Soil, or Hydrology naturally pro	oblematic?		(if needed, e	xplain any answers in Remarks.)						
SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.  Hydrophytic Vegetation Present? Ves										
Hydrophytic Vegetation Present? Yes										
Hydric Soil Present? No		Is the	Sampled Area	within a Wetland? No						
Wetland Hydrology Present? <u>No</u>		15 tile	Samplea Area	Within a Wettana. 110						
Remarks:  VEGETATION – Use scientific names of plants.										
Coc scientific flames of plants.	Absolute %	Dominant	Indicator	Dominance Test worksheet:						
<u>Tree Stratum</u> (Plot size: <u>0</u> )	Cover	Species?	Status	Number of Dominant Species						
1.		'		That Are OBL, FACW, or FAC: <u>2</u> (A)						
2.										
3.				Total Number of Dominant						
4.				Species Across All Strata: <u>2</u> (B)						
Total Cover = <u>0</u>										
Sapling/Shrub Stratum (Plot size: 0 )				Percent of Dominant Species						
1.				That Are OBL, FACW, or FAC: <u>100</u> (A/B)						
2.				Prevalence Index worksheet:						
3.				Total % Cover of: Multiply by:						
4.				OBL species $\underline{0}$ x 1 = $\underline{0}$						
5.				FACW species $\underline{20}$ x 2 = $\underline{40}$						
Total Cover = 0				FAC species $\frac{70}{10}$ x 3 = $\frac{210}{40}$ FACU species $\frac{10}{10}$ x 4 = $\frac{40}{10}$						
Herb Stratum (Plot size: 4 m <sup>2</sup> )				$\begin{array}{cccccccccccccccccccccccccccccccccccc$						
Phalaris arundinacea	<u>20</u>	<u>Yes</u>	FACW	Column Totals: $100$ (A) $290$ (B)						
2. Poa palustris	<u>60</u>	<u>Yes</u>	FAC	200 (1) <u>250</u> (2)						
3. Rumex crispus	10 10	No No	FAC	Prevalence Index = B/A = 2.90						
4. <u>Matricaria discoidea</u> 5.	<u>10</u>	<u>No</u>	<u>FACU</u>	,						
6.				Hydrophytic Vegetation Indicators:						
7.				1 –Rapid Test for Hydrophytic Vegetation						
8.				X 2 – Dominance Test >50%						
9.				$\underline{X}$ 3 - Prevalence Index is $\leq 3.0^1$						
10.				4 - Morphological Adaptions <sup>1</sup> (Provide supporting						
11.				data in Remarks or on a separate sheet)						
Total Cover = 100				5 – Wetland Non-Vascular Plants <sup>1</sup>						
				Problematic Hydrophytic Vegetation¹ (Explain)						
Woody Vine Stratum (Plot size: 0 )				<sup>1</sup> Indicators of hydric soil and wetland hydrology						
1.				must be present, unless disturbed or problematic.						
2.				must be present, unless disturbed of problematic.						
Total Cover = <u>0</u>										
% Bare Ground in Herb Stratum: <u>0</u>				Hydrophytic Vegetation Present? Yes						
Remarks: grazed pasture	1	<u>I</u>	1							

SOIL Sampling Point: 22a

	<u>Mat</u>	<u>rix</u>		Redox I	<u>Features</u>				
Depth	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture		Remarks
(inches)	_								
<u>0-11</u>	10YR 3/2	<u>100</u>		<u>0</u>			Sandy Clay Loam		
11-19	10YR 4/2	<u>100</u>		<u>0</u>	_		Silty Clay Loam		
<u>19-24</u>	<u>10YR 4/2</u>	<u>98</u>	<u>10YR 4/4</u>	<u>2</u>	<u>C</u>	<u>M</u>	Silty Clay Loam		
¹Type: C=	Concentration, D	=Depletior	ı, RM=Reduced Ma	ntrix, CS=0	Covered o	r Coated S	and Grains. <sup>2</sup> Lo	cation: P	L=Pore Lining, M=Matrix
Hydric So	il Indicators: (Ap	olicable to	all LRRs, unless ot	herwise ı	noted.)			Indicato	rs for Problematic Hydric Soils <sup>3</sup> :
Histos	sol (A1)		Sa	ndy Redo	x (S5)			2 cı	m Muck (A10)
· · · · · · · · · · · · · · · · · · ·	Epipedon (A2)			ipped Ma					d Parent Material (TF2)
	Histic (A3)					l (F1) ( <b>exc</b>	ept MLRA 1)		ry Shallow Dark Surface (TF12)
	gen Sulfide (A4)				ed Matrix		,		ner (Explain in Remarks)
	ted Below Dark S	urface (A1:			atrix (F3)	` '			- · · · · · · · · · · · · · · · · · · ·
	Dark Surface (A12	•	· —	•	Surface (F	6)		3Indica	tors of hydrophytic vegetation and
	Mucky Mineral (		· · · · · · · · · · · · · · · · · · ·		ark Surface	•			d hydrology must be present, unless
	Gleyed Matrix (S				essions (F8			disturb	ed or problematic.
	e Layer (if preser			·	· · · · ·	<u> </u>			
Type:		,.							
Depth (in	ches): <u>0</u>							Hydric	Soil Present? <u>No</u>
Remarks:								I	
HYDROLO	GV								
	Hydrology Indicat	ors:							
			equired; check all	hat apply	y)		S	Secondary	y Indicators (two or more required)
Surfac	e Water (A1)		Wa	ter-Staine	ed Leaves	(B9)		Water	r-Stained Leaves (B9)( <b>MLRA 1,2,4A,4B</b> )
	Vater Table (A2)				RA 1,2,4A,				age Patterns (B10)
	ation (A3)			Crust (B:		,	<del>-</del>		eason Water Table (C2)
	Marks (B1)			-	, rtebrates (	B13)	_		ation Visible on Aerial Imagery (C9)
	ent Deposits (B2)		<del></del> ·		lfide Odor		_		orphic Position (D2)
	Deposits (B3)		•	_			ng Roots (C3)		w Aquitard (D3)
	Mat or Crust (B4)				Reduced Ir	-			leutral Test (D5)
	eposits (B5)				Reduction		oils (C6)		d Ant Mounds (D6)(LRR A)
	e Soil Cracks (B6)				tressed Pla				Heave Hummocks (D7)
	ation Visible on A				in in Rema				(= , ,
	ely Vegetated Cor	_		- (		-,			
Field Obse									
	ater Present? No	<u>)</u>	Depth (inc	hes): <u>0</u>					
	ole Present? No	<del>-</del> '	Depth (in	hes): <u>0</u>					
Saturation	Present? Ye	<u>s</u>	Depth (ir	ches): <u>20</u>	<u>0</u>				.2.1
	apillary fringe)						Wetland Hydro		ent? NO
Describe F	kecoraea Data (st	ream gaug	e, monitoring well	aeriai pr	iotos, prev	rious inspe	ections), if available	::	
Remarks:									

Project/Site: Port Westward Renewable Diese Applicant/Owner: Next Energy Group, Inc. St. Investigator(s): Sue Brady Section	<del></del>	nty: <u>Columbia</u> W Section 38		Sampling Date: <u>11/29/2018</u> Sampling Point: <u>24</u>
Landform (hillslope, terrace, etc.): <u>Flats</u> Local re Subregion (LRR): <u>Northwest Forests &amp; Coast (L</u>	elief (concave, convex, none RR A) Lat: 4		_	6139800 Datum: <u>WGS84</u>
Soil Map Unit Name: <u>Udipsamments</u> , nearly legar Are climatic/hydrologic conditions on the site of				rks )
Are Vegetation, Soil, or Hydrology sig		<u>100</u> (11 110) CX		Circumstances" present? <u>Yes</u>
Are Vegetation, Soil, or Hydrology na				xplain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site ma	ap showing sampling poin	nt locations,	transects, ir	nportant features, etc.
Hydrophytic Vegetation Present? Yes				
Hydric Soil Present? <u>Yes</u>		ls the	Sampled Area	within a Watland? Voc
Wetland Hydrology Present? <u>Yes</u>		is the	Sampled Area	within a Wetland? Yes
Remarks:				
VEGETATION – Use scientific names of pl				T
Tree Stratum (Plot size: 0 ) 1. 2.	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:         Number of Dominant Species         That Are OBL, FACW, or FAC:       4 (A)
3.				Total Number of Dominant
4.				Species Across All Strata: <u>4</u> (B)
Total Cover = <u>0</u>				
Sapling/Shrub Stratum (Plot size: 25 m <sup>2</sup> )			1	Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)
1. Rubus armeniacus	<u>60</u>	<u>Yes</u>	<u>FAC</u>	That Are OBL, FACW, or FAC: 100 (A/B)  Prevalence Index worksheet:
2.				Total % Cover of: Multiply by:
3. 4.				OBL species $\underline{0}$ $\times 1 = \underline{0}$
5.				FACW species $\frac{30}{30}$ x 2 = $\frac{60}{30}$
Total Cover = <u>60</u>	)			FAC species $\underline{120}$ x 3 = $\underline{360}$
Herb Stratum (Plot size: 4 m <sup>2</sup> )				FACU species $\underline{0}$ x 4 = $\underline{0}$
1. Phalaris arundinacea	<u>30</u>	<u>Yes</u>	<u>FACW</u>	UPL species $\underline{0}$ x 5 = $\underline{0}$ Column Totals: $\underline{150}$ (A) $\underline{420}$ (B)
2. Poa palustris	<u>30</u>	<u>Yes</u>	FAC	(b)
3. Ranunculus repens 4.	<u>30</u>	<u>Yes</u>	FAC	Prevalence Index = B/A = 2.80
5.				
6.				Hydrophytic Vegetation Indicators:
7.				1 –Rapid Test for Hydrophytic Vegetation X 2 – Dominance Test >50%
8.				$\frac{X}{X}$ 3 - Prevalence Index is $\leq 3.0^{\circ}$
9. 10.				4 - Morphological Adaptions <sup>1</sup> (Provide supporting
10.				data in Remarks or on a separate sheet)
Total Cover = <u>90</u>	1			5 – Wetland Non-Vascular Plants¹ Problematic Hydrophytic Vegetation¹ (Explain)
Woody Vine Stratum (Plot size: 0 )				<sup>1</sup> Indicators of hydric soil and wetland hydrology
1.				must be present, unless disturbed or problematic.
2.				
Total Cover = <u>0</u>				
% Bare Ground in Herb Stratum: 10				Hydrophytic Vegetation Present? Yes
Remarks:				

SOIL Sampling Point: <u>24</u>

	Mat	<u>rix</u>		Redox F	eatures						
Depth	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture		Remarks		
(inches)											
<u>0-7</u>	10YR 3/2	<u>0</u>		<u>0</u>			Silty Clay Loam				
7-18	10YR 3/2	<u>95</u>	10YR 4/4	<u>5</u>	<u>C</u>	RC	Silty Clay Loam				
	·				_						
1											
¹Type: C=	<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 So	il Indicators: (Ap	plicable to	all LRRs, unless ot	herwise r	noted.)			Indicato	rs for Problematic Hydric Soils <sup>3</sup> :		
Histos	sol (A1)		Sa	ndy Redo	x (S5)			2 cr	n Muck (A10)		
	Epipedon (A2)			ripped Ma					Parent Material (TF2)		
	Histic (A3)			• •	. ,	l (F1) (exc	ept MLRA 1)		ry Shallow Dark Surface (TF12)		
	gen Sulfide (A4)		·	-	ed Matrix		<b></b>		ner (Explain in Remarks)		
	ted Below Dark S	urface (A1		pleted M		(12)			er (Explair III Nemarks)		
	Dark Surface (A12	•		•	Surface (F	s)		3Indicat	ors of hydrophytic vegetation and		
	•	•	· · · · · · · · · · · · · · · · · · ·		-	-			d hydrology must be present, unless		
	Mucky Mineral (				ark Surface				ed or problematic.		
	Gleyed Matrix (S		ке	aox Depr	essions (F8	3)		0.500.5			
	e Layer (if preser	ıt):									
Type:											
Depth (in	ches): <u>0</u>							Hyaric	Soil Present? Yes		
Remarks:											
HYDROLO											
	Hydrology Indicat				,		_				
Primary In	idicators (minimu	m of one r	equired; check all	that apply	<b>(</b> )		5	econdary	Indicators (two or more required)		
Surfac	e Water (A1)		Wa	ter-Staine	ed Leaves	(B9)	_	Water	-Stained Leaves (B9)( <b>MLRA 1,2,4A,4B</b> )		
High \	Vater Table (A2)		(e	xcept ML	RA 1,2,4A,	and 4B)	_	Draina	ge Patterns (B10)		
Satura	ition (A3)		Salt	t Crust (B	L1)		_	Dry-Se	eason Water Table (C2)		
Water	Marks (B1)		Aqı	uatic Inve	rtebrates (	B13)		Satura	tion Visible on Aerial Imagery (C9)		
Sedim	ent Deposits (B2)		Hyd	drogen Su	lfide Odor	(C1)		Geom	orphic Position (D2)		
	Deposits (B3)		-	_			ng Roots (C3)		w Aquitard (D3)		
	Mat or Crust (B4)				Reduced Ir	_			eutral Test (D5)		
	eposits (B5)		<del></del>		Reduction		oils (C6)		Ant Mounds (D6)(LRR A)		
	e Soil Cracks (B6)				ressed Pla						
							-NN A)	FIOSt-I	Heave Hummocks (D7)		
	ation Visible on A	_		іег (Ехріа	in in Rema	rks)					
	ely Vegetated Cor	icave Surta	ce (B8)								
Field Obse			5 /:								
	ater Present? No		Depth (inc	. –							
	ole Present? <u>No</u> n Present?           No		Depth (in Depth (in								
	n Present? <u>No</u> apillary fringe)	<u>,                                    </u>	Deptii (iii	ciies). <u>u</u>			Wetland Hydro	logy Pres	ent? Yes		
		ream gaug	e, monitoring well	, aerial ph	otos, prev	ious inspe	ections), if available		<del></del>		
	(	56	. 5	. 12.	, , ,	- 1-	.,				
Remarks:											

Landform (hillslope, terrace, etc.): Flats Local relief (cond Subregion (LRR): Northwest Forests & Coast (LRR A)  Soil Map Unit Name: Udipsamments, nearly level, prote Are climatic/hydrologic conditions on the site typical for Are Vegetation, Soil, or Hydrology significantly Are Vegetation, Soil, or Hydrology naturally proceed that the statement of the site of the	ip, Range: <u>T8N R4N</u> cave, convex, none Lat: cted NWI this time of year? y disturbed? roblematic?	e): <u>concave</u> <u>46.16992700</u> classification: ? <u>Yes</u> (if no, exp	none plain in Rema Are "Normal (if needed, e	rks.) Circumstances" present? <u>Yes</u> xplain any answers in Remarks.)
Hydrophytic Vegetation Present? <u>Yes</u> Hydric Soil Present? <u>No</u>				
Wetland Hydrology Present? No		Is the S	Sampled Area	within a Wetland? <u>No</u>
Remarks:  VEGETATION – Use scientific names of plants.				
	Absolute %	Dominant	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: 0 )  1. 2. 3. 4.	Cover	Species?	Status	Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)  Total Number of Dominant Species Across All Strata: 3 (B)
Total Cover = <u>0</u>				Downsort of Downinger Consider
Sapling/Shrub Stratum (Plot size: 25 m²)  1. Rubus armeniacus  2.  3.  4.  5.  Total Cover = 50  Herb Stratum (Plot size: 4 m²)	<u>50</u>	<u>Yes</u>	FAC	Percent of Dominant Species           That Are OBL, FACW, or FAC:         100 (A/B)           Prevalence Index worksheet:
<ol> <li>Phalaris arundinacea</li> <li>Poa palustris</li> <li>4.</li> <li>5.</li> </ol>	<u>50</u> <u>50</u>	Yes Yes	FACW FAC	UPL species $0 \times 5 = 0$ Column Totals: $150 \times 6 = 0$ Prevalence Index = B/A = $2.67$
6. 7. 8. 9. 10. 11. Total Cover = 100				Hydrophytic Vegetation Indicators:
Woody Vine Stratum (Plot size: 0 )  1. 2. Total Cover = 0				Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
% Bare Ground in Herb Stratum: <u>0</u>				Hydrophytic Vegetation Present? Yes
Remarks:		1	I	Trydrophytic vegetation riesent: Tes

SOIL Sampling Point: <u>24a</u>

	<u>Mat</u>	<u>rix</u>		Redox I	-eatures				
Depth	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture		Remarks
(inches)									
<u>0-10</u>	10YR 3/3	<u>100</u>		<u>0</u>			Sandy Clay Loam		
10-16	10YR 3/3	<u>97</u>	10YR 4/4	<u>3</u>	<u>C</u>	<u>M</u>	Silty Clay Loam		
<u>16-25</u>	<u>10YR 3/2</u>	<u>95</u>	<u>10YR 4/4</u>	<u>5</u>	<u>C</u>	<u>M</u>	Silty Clay Loam		
1-		5 1	D14 D 1 114			0 1 10	10 : 31	5	
Type: C=	Concentration, D	=Depletior	, RM=Reduced Ma	atrix, CS=	Loverea o	r Coated S	and Grains. <sup>2</sup> Lo	cation: Pi	L=Pore Lining, M=Matrix
Hydric So	il Indicators: (Ap	olicable to	all LRRs, unless ot	herwise i	noted.)			Indicato	rs for Problematic Hydric Soils <sup>3</sup> :
Histos	sol (A1)		Sa	ndy Redo	x (S5)			2 cı	m Muck (A10)
	Epipedon (A2)		St	ripped Ma	atrix (S6)			II	d Parent Material (TF2)
Black	Histic (A3)		Lo	amy Muc	ky Minera	l (F1) (exc	ept MLRA 1)		ry Shallow Dark Surface (TF12)
Hydro	ogen Sulfide (A4)		Lo	amy Gley	ed Matrix	(F2)		Oth	ner (Explain in Remarks)
Deple	ted Below Dark S	urface (A1	1)De	pleted M	atrix (F3)				
Thick	Dark Surface (A12	2)	Re	dox Dark	Surface (F	6)			tors of hydrophytic vegetation and
Sandy	Mucky Mineral (	S1)	De	pleted Da	ark Surface	e (F7)			d hydrology must be present, unless
Sandy	Gleyed Matrix (S	4)	Re	dox Depr	essions (F	3)		disturb	ed or problematic.
Restrictiv	e Layer (if preser	it):							
Type:									
Depth (in	ches): <u>0</u>							Hydric	Soil Present? <u>No</u>
Remarks:									
HYDROLO	GY								
	Hydrology Indicat								
Primary In	ndicators (minimu	m of one r	equired; check all	that apply	/)		S	Secondary	/ Indicators (two or more required)
Surfac	e Water (A1)		Wa	ter-Staine	ed Leaves	(B9)	_	Water	r-Stained Leaves (B9)(MLRA 1,2,4A,4B)
High V	Vater Table (A2)		(е	xcept ML	RA 1,2,4A	and 4B)	<u>-</u>	Draina	age Patterns (B10)
Satura	ation (A3)		Sal	t Crust (B	11)		<u>-</u>	Dry-Se	eason Water Table (C2)
Water	Marks (B1)		Aqı	uatic Inve	rtebrates (	B13)	<u>-</u>	Satura	ation Visible on Aerial Imagery (C9)
Sedim	ent Deposits (B2)		Нус	drogen Su	lfide Odor	(C1)	<u>-</u>	Geom	orphic Position (D2)
Drift D	Deposits (B3)		Oxi	dized Rhi	zospheres	along Livi	ng Roots (C3)	Shallo	w Aquitard (D3)
Algal I	Mat or Crust (B4)		Pre	sence of	Reduced Ir	on (C4)	<u>-</u>	FAC-N	leutral Test (D5)
Iron D	eposits (B5)		Rec	ent Iron I	Reduction	in Tilled S	oils (C6)	Raised	d Ant Mounds (D6)( <b>LRR A</b> )
Surfac	e Soil Cracks (B6)		Stu	nted or S	tressed Pla	nts (D1)(I	RR A)	Frost-	Heave Hummocks (D7)
Inund	ation Visible on A	erial Image	ery (B7)Oth	ner (Expla	in in Rema	rks)			
Sparse	ely Vegetated Cor	icave Surfa	ce (B8)						
Field Obse	ervations:						•		
Surface W	ater Present? No	<u>)</u>	Depth (inc	ches): <u>0</u>					
	ole Present? <u>No</u>	<u>)</u>	Depth (in						
Saturation		<u>)</u>	Depth (in	ches): <u>0</u>			Wetland Hydro	logy Pres	ent? No
	apillary fringe) Recorded Data (st	ream gallg	e monitoring well	aerial ni	notos nrev	inus insne	ections), if available		<u> </u>
Sesember	(31	. cam gaug	e, monitoring well	, acriai pi	.5.55, pre		, ii avallable		
Remarks:									

Project/Site: Port Westward Renewable Diesel Refinery Applicant/Owner: Next Energy Group, Inc. State: OR Investigator(s): Sue Brady Section, Townshi Landform (hillslope, terrace, etc.): Flats Local relief (conc Subregion (LRR): Northwest Forests & Coast (LRR A) Soil Map Unit Name: Udipsamments, nearly level, protect Are climatic/hydrologic conditions on the site typical for Are Vegetation, Soil, or Hydrology significantly Are Vegetation, Soil, or Hydrology naturally pro	p, Range: T8N R4 ave, convex, none Lat: ted NWI this time of year? disturbed? oblematic?	e): <u>concave</u> <u>46.17037930</u> classification: P <u>Yes</u> (if no, exp	olain in Rema Are "Normal (if needed, e	rks.) Circumstances" present? <u>Yes</u> xplain any answers in Remarks.)
Hydrophytic Vegetation Present? Yes	.8 sab8 be.		transcetto, n	nportant routeres, etc.
Hydric Soil Present? <u>Yes</u>				
Wetland Hydrology Present? <u>Yes</u>		Is the S	Sampled Area	within a Wetland? <u>Yes</u>
Remarks:  VEGETATION – Use scientific names of plants.				
VEGETATION — Ose scientific frames of plants.	Absolute %	Dominant	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: 0 ) 1. 2. 3.	Cover	Species?	Status	Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)  Total Number of Dominant
4.				Species Across All Strata: <u>1</u> (B)
Total Cover = <u>0</u>				
Sapling/Shrub Stratum (Plot size: 0 )				Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)
1. 2. 3. 4. 5.  Total Cover = 0				Prevalence Index worksheet:           Total % Cover of:         Multiply by:           OBL species         0         x 1 = 0           FACW species         100         x 2 = 200           FAC species         0         x 3 = 0           FACU species         0         x 4 = 0
Herb Stratum (Plot size: 4 m²)  1. Phalaris arundinacea  2.  3.  4.	100	<u>Yes</u>	<u>FACW</u>	UPL species $0 \times 5 = 0$ Column Totals: $100 \times 5 = 0$ Prevalence Index = B/A = $2.00$
5. 6. 7. 8. 9. 10. 11.  Total Cover = 100				Hydrophytic Vegetation Indicators: 1 — Rapid Test for Hydrophytic Vegetation  X
Woody Vine Stratum (Plot size: _0_)  1. 2. Total Cover =0				Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
% Bare Ground in Herb Stratum: <u>0</u>				Hydrophytic Vegetation Present? Ves
Remarks:		l		Hydrophytic Vegetation Present? Yes

SOIL Sampling Point: <u>25</u>

	Mat	rix		Redox F	-eatures				
Depth (inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture		Remarks
(inches) <u>0-9</u>	10YR 2/2	<u>95</u>	10YR 4/6	<u>5</u>	<u>C</u>	<u>M</u>	Silty Clay Loam		
¹Type: C=	Concentration, D	=Depletior	, RM=Reduced Ma	atrix, CS=0	Covered o	r Coated S	and Grains. <sup>2</sup> Lo	ocation: Pl	L=Pore Lining, M=Matrix
Hydric So	il Indicators: (Ap <sub>l</sub>	plicable to	all LRRs, unless ot	herwise r	noted.)			Indicato	rs for Problematic Hydric Soils <sup>3</sup> :
Histos	sol (A1)		Sa	ndy Redo	x (S5)			2 cr	m Muck (A10)
Histic	Epipedon (A2)		St	ripped Ma	atrix (S6)			Rec	l Parent Material (TF2)
Black	Histic (A3)		Lo	amy Muc	ky Minera	l (F1) (exc	ept MLRA 1)	Ve	ry Shallow Dark Surface (TF12)
Hydro	gen Sulfide (A4)		Lo	amy Gley	ed Matrix	(F2)		Oth	ner (Explain in Remarks)
Deple	ted Below Dark S	urface (A1	1)De	pleted M	atrix (F3)				
Thick	Dark Surface (A12	2)			Surface (F				tors of hydrophytic vegetation and
Sandy	Mucky Mineral (	S1)	De	pleted Da	ark Surface	e (F7)			d hydrology must be present, unless
Sandy	Gleyed Matrix (S	54)	Re	dox Depr	essions (F	3)		disturb	ed or problematic.
Restrictiv	e Layer (if preser	ıt):							
Type:									
Depth (in	ches): <u>0</u>							Hydric	Soil Present? Yes
Remarks:									
HYDROLO	GY								
	Hydrology Indicat	ors:							
Primary In	dicators (minimu	m of one r	equired; check all	that apply	/)		:	Secondary	Indicators (two or more required)
Surfac	e Water (A1)		Wa	ter-Staine	ed Leaves	(B9)		Water	-Stained Leaves (B9)( <b>MLRA 1,2,4A,4B</b> )
	Vater Table (A2)		(e	xcept ML	RA 1,2,4A,	and 4B)			age Patterns (B10)
X Satura			•	t Crust (Bí		,	-	 Dry-Se	eason Water Table (C2)
	Marks (B1)				rtebrates (	(B13)	-		ition Visible on Aerial Imagery (C9)
	ent Deposits (B2)				lfide Odor		-		orphic Position (D2)
	Deposits (B3)		· · · · · · · · · · · · · · · · · · ·	_			ng Roots (C3)		w Aquitard (D3)
	Mat or Crust (B4)				Reduced Ir				eutral Test (D5)
Iron D	eposits (B5)		Rec	ent Iron F	Reduction	in Tilled S	oils (C6)	Raised	Ant Mounds (D6)(LRR A)
	e Soil Cracks (B6)				tressed Pla				Heave Hummocks (D7)
Inund	ation Visible on A	erial Image			in in Rema				
Sparse	ely Vegetated Cor	ncave Surfa	ce (B8)						
Field Obse	ervations:								
Surface W	ater Present? No	<u>)</u>	Depth (inc	ches):					
	ole Present? Ye	<u>es</u>	Depth (in						
Saturation		<u>S</u>	Depth (ir	nches): <u>3</u>			Wetland Hydro	logy Pres	ent? Ves
	apillary fringe) Recorded Data (st	ream gallo	e. monitoring well	. aerial nh	notos, nrev	/ious insn	ections), if available		
Describer	(31	. cam baug	e, monitoring well	, acriai pi	.5.55, prev		, ii avallable		
Remarks:									

Project/Site: <u>Port Westward Renews</u> Applicant/Owner: <u>Next Energy Group</u> Investigator(s): <u>Sue Brady</u>	<u>.</u>		nty: <u>Columbi</u> W Section 37		Sampling Date: <u>11/29/2018</u> Sampling Point: <u>25a</u>
Landform (hillslope, terrace, etc.): Fli Subregion (LRR): Northwest Forests & Soil Map Unit Name: Udipsamments	<u>ats</u> Local relief (concav <u>&amp; Coast (LRR A)</u>	/e, convex, none Lat: <u>'</u>	e): <u>concave</u>	Slope (%): <u>0</u> <u>0</u> Long: <u>-123.1</u>	7841930 Datum: <u>WGS84</u>
Are climatic/hydrologic conditions or				· · · · · · · · · · · · · · · · · · ·	·ks.)
Are Vegetation, Soil, or Hydro					Circumstances" present? Yes
Are Vegetation, Soil, or Hydro	logy naturally prob	olematic?		(if needed, ex	xplain any answers in Remarks.)
SUMMARY OF FINDINGS – Attac	sh sita man shawing	r compling poi	nt location	s transacts in	nnortant factures, etc
Hydrophytic Vegetation Present?		, sampling pon	it location	s, transects, in	inportant reatures, etc.
	<u></u> <u>No</u>				
· ·	<u>No</u>		Is th	e Sampled Area	within a Wetland? No
Remarks:					
VEGETATION – Use scientific nar	nes of plants.		,		,
Tree Stratum (Plot size: _0_) 1. 2.		Absolute % Cover	Dominant Species?		Dominance Test worksheet:         Number of Dominant Species         That Are OBL, FACW, or FAC:       4 (A)
3.					Total Number of Dominant Species Across All Strata: 4 (B)
	Cover =0				Species Across All Strata. 4 (b)
Sapling/Shrub Stratum (Plot size: 1.	0)				Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
2. 3. 4. 5.	Cover = <u>0</u>				Prevalence Index worksheet:Total % Cover of:Multiply by:OBL species0x 1 = 0FACW species20x 2 = 40FAC species80x 3 = 240
Herb Stratum (Plot size: 4 m <sup>2</sup> )					FACU species $\underline{0}$ x 4 = $\underline{0}$ UPL species $\underline{0}$ x 5 = $\underline{0}$
1. Phalaris arundinacea		<u>20</u>	<u>Yes</u>	FACW	Column Totals: $100$ (A) $280$ (B)
Lolium perenne     Dipsacus fullonum     Poa palustris		30 20 30	<u>Yes</u> <u>Yes</u> Yes	FAC FAC FAC	Prevalence Index = B/A = 2.80
	Cover = <u>100</u>				Hydrophytic Vegetation Indicators:  1 - Rapid Test for Hydrophytic Vegetation  X
Woody Vine Stratum (Plot size: _0 1. 2.					<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Total	Cover = <u>0</u>				
% Bare Ground in Herb Stratum: <u>0</u>					Hydrophytic Vegetation Present? Yes
Remarks:					

SOIL Sampling Point: <u>25a</u>

	Mat	<u>rix</u>		Redox F	eatures				
Depth	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture		Remarks
(inches)									
<u>0-11</u>	10YR 3/2	<u>100</u>		<u>0</u>			Sandy Clay Loam		some gravel
11-15	10YR 2/2	<u>100</u>		<u>0</u>			Silty Clay Loam		
<u>15-26</u>	10YR 2/2	<u>97</u>	10YR 4/4	<u>3</u>	<u>C</u>	М	Silty Clay Loam		
		_	<u></u>	_	_	_			
¹Type: C=	Concentration, D	=Depletior	, RM=Reduced Ma	atrix, CS=0	Covered or	r Coated S	and Grains. <sup>2</sup> Lo	cation: P	L=Pore Lining, M=Matrix
Hydric So	il Indicators: (App	olicable to	all LRRs, unless ot	herwise r	noted.)			Indicato	rs for Problematic Hydric Soils <sup>3</sup> :
Histos	sol (A1)		Sa	ndy Redo:	x (S5)			2 cı	m Muck (A10)
	Epipedon (A2)			ipped Ma					Parent Material (TF2)
	Histic (A3)			• •		(E1) (evc	ept MLRA 1)		ry Shallow Dark Surface (TF12)
	` ,		· · · · · · · · · · · · · · · · · · ·	-			ept WILKA 1)		, , ,
	gen Sulfide (A4)				ed Matrix	(FZ)		Otr	ner (Explain in Remarks)
	ted Below Dark S	-	-	pleted M					
	Dark Surface (A12		· · · · · · · · · · · · · · · · · · ·		Surface (F	-			tors of hydrophytic vegetation and
	Mucky Mineral (	-			irk Surface				d hydrology must be present, unless
Sandy	Gleyed Matrix (S	4)	Re	dox Depr	essions (F8	3)		ed or problematic.	
Restrictiv	e Layer (if presen	ıt):							
Type:									
Depth (in	ches): <u>0</u>							Hydric	Soil Present? <u>No</u>
Remarks:								1	
HYDROLO	GY								
Wetland H	Hydrology Indicat	ors:							
Primary In	idicators (minimu	m of one r	equired; check all	that apply	<b>(</b> )		S	econdary	Indicators (two or more required)
Surfac	e Water (A1)		Wa	ter-Staine	ed Leaves (	(B9)		Water	-Stained Leaves (B9)(MLRA 1,2,4A,4B)
	Vater Table (A2)				RA 1,2,4A,	. ,	-		age Patterns (B10)
	· · ·		•	•		allu 4D)	_		, ,
	ation (A3)		· · · · · · · · · · · · · · · · · · ·	Crust (B1	•	'D42\	-		eason Water Table (C2)
	Marks (B1)				rtebrates (		-		ition Visible on Aerial Imagery (C9)
	ent Deposits (B2)		-	_	lfide Odor				orphic Position (D2)
	Deposits (B3)					_	ng Roots (C3)		w Aquitard (D3)
Algal N	Mat or Crust (B4)		Pre	sence of I	Reduced Ir	on (C4)	_	FAC-N	eutral Test (D5)
Iron D	eposits (B5)		Rec	ent Iron F	Reduction	in Tilled S	oils (C6)	Raised	Ant Mounds (D6)(LRR A)
Surfac	e Soil Cracks (B6)		Stu	nted or St	ressed Pla	nts (D1)( <b>l</b>	.RR A)	Frost-	Heave Hummocks (D7)
Inunda	ation Visible on A	erial Image	ry (B7)Oth	er (Explai	in in Rema	rks)			
Sparse	ely Vegetated Cor	cave Surfa	ce (B8)						
Field Obse	ervations:								
Surface W	ater Present? No	<u>)</u>	Depth (inc	ches):					
	ole Present? No		Depth (in	ches):					
Saturation	Present? <u>Ye</u>	<u>s</u>	Depth (ir	nches): <u>20</u>	<u>)</u>				
	apillary fringe)						Wetland Hydro		ent? <u>No</u>
Describe F	Recorded Data (st	ream gaug	e, monitoring well	, aerial ph	iotos, prev	ious inspe	ections), if available	:	
Remarks:									

Project/Site: Port Westward Renewable Diesel Refinery Applicant/Owner: Next Energy Group, Inc. State: OR Investigator(s): Sue Brady Section, Townshi Landform (hillslope, terrace, etc.): Flats Local relief (conc Subregion (LRR): Northwest Forests & Coast (LRR A) Soil Map Unit Name: lacoda silt loam, protected NWI cla Are climatic/hydrologic conditions on the site typical for Are Vegetation, Soil, or Hydrology significantly Are Vegetation, Soil, or Hydrology naturally pro	p, Range: T8N R4 ave, convex, none Lat: assification: none this time of year? disturbed? oblematic?	e): <u>concave</u> 46.17386760 Y <u>Yes</u> (if no, exp	olain in Rema Are "Normal (if needed, e	rks.) Circumstances" present? <u>Yes</u> xplain any answers in Remarks.)
Hydrophytic Vegetation Present? Yes	. <u>8 sab8 bc.</u>		transcetto, n	inportant routeres, etc.
Hydric Soil Present? <u>Yes</u>				
Wetland Hydrology Present? <u>Yes</u>		Is the S	Sampled Area	within a Wetland? <u>Yes</u>
Remarks:  VEGETATION – Use scientific names of plants.				
VEGETATION OSE SCIENCINE NAMES OF PIGNES.	Absolute %	Dominant	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: 0 ) 1. 2. 3.	Cover	Species?	Status	Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)  Total Number of Dominant
4.				Species Across All Strata: <u>2</u> (B)
Total Cover = <u>0</u>				
Sapling/Shrub Stratum (Plot size: 0 )				Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)
1. 2. 3. 4. 5.  Total Cover = 0  Herb Stratum (Plot size: 4 m²)  1. Phalaris arundinacea  2. Lolium perenne  3.	7 <u>0</u> 3 <u>0</u>	Yes Yes	FACW FAC	Prevalence Index worksheet:           Total % Cover of:         Multiply by:           OBL species         0         x 1 = 0           FACW species         70         x 2 = 140           FAC species         30         x 3 = 90           FACU species         0         x 4 = 0           UPL species         0         x 5 = 0           Column Totals:         100         (A)         230         (B)
3. 4.				Prevalence Index = $B/A = 2.30$
5. 6. 7. 8. 9. 10. 11. Total Cover = 100				Hydrophytic Vegetation Indicators:  1 - Rapid Test for Hydrophytic Vegetation  X 2 - Dominance Test >50%  X 3 - Prevalence Index is ≤ 3.0¹  4 - Morphological Adaptions¹ (Provide supporting data in Remarks or on a separate sheet)  5 - Wetland Non-Vascular Plants¹  Problematic Hydrophytic Vegetation¹ (Explain)  ¹Indicators of hydric soil and wetland hydrology
1. 2. Total Cover = <u>0</u>				must be present, unless disturbed or problematic.
% Bare Ground in Herb Stratum: 0				Hudrophytic Vocatation Proceed? Voc
Remarks:				Hydrophytic Vegetation Present? Yes

SOIL Sampling Point: <u>26</u>

	Mati	<u>rix</u>		Redox F	<u>Features</u>				
Depth	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture		Remarks
(inches) <u>0-15</u>	10YR 3/1	<u>95</u>	10YR 4/6	5	<u>C</u>	<u>M</u>	Silty Clay Loam		
<u>0-13</u>	101K 3/1	<u>33</u>	<u>101K 4/0</u>	<u>5</u>	<u> </u>	101	Sifty Clay Loain		
	ļ								
	ļ								
	ļ				ļ				
	ļ								
¹Type: C=	Concentration, D	=Depletion	n, RM=Reduced Ma	atrix, CS=0	Covered or	r Coated S	Sand Grains. <sup>2</sup> Lo	cation: P	L=Pore Lining, M=Matrix
Hydric So	il Indicators: (App	plicable to	all LRRs, unless ot	herwise r	noted.)			Indicato	rs for Problematic Hydric Soils <sup>3</sup> :
·	sol (A1)			ndy Redo					m Muck (A10)
	Epipedon (A2)			ripped Ma					d Parent Material (TF2)
	Histic (A3)		· · · · · · · · · · · · · · · · · · ·	-			ept MLRA 1)		ry Shallow Dark Surface (TF12)
	ogen Sulfide (A4)				ed Matrix	(F2)		Oth	ner (Explain in Remarks)
	ted Below Dark S	-		epleted M		_,		2	
	Dark Surface (A12				Surface (F6				tors of hydrophytic vegetation and dhydrology must be present, unless
	Mucky Mineral (				ark Surface			1	ed or problematic.
	Gleyed Matrix (S		Re	dox Depre	essions (F8	3)		distars	ed of problematic.
Restrictiv Type:	e Layer (if presen	it):							
Depth (in	ches): 0							Hydric	Soil Present? Yes
Remarks:									<del></del>
iterriarks.									
HYDROLO	GY								
Wetland I	Hydrology Indicat								
Primary In	dicators (minimu	m of one re	equired; check all	that apply	/)		S	Secondary	/ Indicators (two or more required)
Surfac	e Water (A1)		Wa	ter-Staine	ed Leaves (	(B9)	-	Water	-Stained Leaves (B9)(MLRA 1,2,4A,4B)
X_High W	Vater Table (A2)		(e	xcept ML	RA 1,2,4A,	, and 4B)	-	Draina	age Patterns (B10)
X_Satura	tion (A3)		Salt	t Crust (B1	11)		-		eason Water Table (C2)
	Marks (B1)				rtebrates (		_		ation Visible on Aerial Imagery (C9)
	ent Deposits (B2)			_	lfide Odor		-		orphic Position (D2)
	Deposits (B3)					_	ng Roots (C3)		w Aquitard (D3)
	Mat or Crust (B4)		·		Reduced Ir		-		eutral Test (D5)
	eposits (B5)				Reduction				d Ant Mounds (D6)( <b>LRR A</b> )
	ce Soil Cracks (B6)		·		tressed Pla		LRR A)	Frost-	Heave Hummocks (D7)
· <del></del>	ation Visible on A	_		าer (Explai	in in Rema	rks)			
	ely Vegetated Con	icave Surfa	ce (B8)						
Field Obse	ervations: 'ater Present? No	_	Donth (in	\.					
	ole Present? <u>No</u>	_	Depth (ind Depth (in	•					
Saturation	_	<del></del> '		nches): 0					
(includes ca	apillary fringe)						Wetland Hydro	logy Pres	ent? Yes
Describe F	Recorded Data (st	ream gaug	e, monitoring well	, aerial ph	iotos, prev	ious inspe	ections), if available	<b>:</b> :	
Remarks:									

Landform (hillslope, terrace, etc.): Flats Local relief (conc Subregion (LRR): Northwest Forests & Coast (LRR A)  Soil Map Unit Name: Lacoda silt loam, protected NWI cla Are climatic/hydrologic conditions on the site typical for Are Vegetation, Soil, or Hydrology significantly Are Vegetation, Soil, or Hydrology naturally prospectively a substitute of the side of t	p, Range: T8N R4N ave, convex, none Lat: assification: none this time of year? disturbed? oblematic?	e): <u>concave</u> <u>46.17386130</u> <u>e</u> ? <u>Yes</u> (if no, exp	olain in Rema Are "Normal (if needed, e	rks.) Circumstances" present? <u>Yes</u> xplain any answers in Remarks.)
Hydrophytic Vegetation Present? <u>Yes</u> Hydric Soil Present? <u>No</u>				
Wetland Hydrology Present? No		Is the S	Sampled Area	within a Wetland? <u>No</u>
Remarks:  VEGETATION – Use scientific names of plants.				
	Absolute %	Dominant	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: _0_) 1. 2. 3.	Cover	Species?	Status	Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)  Total Number of Dominant
4. Total Cover =0	ļ			Species Across All Strata: <u>2</u> (B)
Sapling/Shrub Stratum (Plot size: 0 ) 1.				Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)
2. 3. 4. 5.  Total Cover = 0  Herb Stratum (Plot size: 4 m²) 1. Phalaris arundinacea	10	<u>No</u>	FACW	Prevalence Index worksheet:Total % Cover of:Multiply by:OBL species0x 1 = 0FACW species10x 2 = 20FAC species90x 3 = 270FACU species0x 4 = 0UPL species0x 5 = 0
<ol> <li>Lolium perenne</li> <li>Poa pratensis</li> <li>Dipsacus fullonum</li> </ol>	50 30 10	Yes Yes No	FAC FAC FAC	Column Totals: $\underline{100}$ (A) $\underline{290}$ (B)  Prevalence Index = B/A = $\underline{2.90}$
5. 6. 7. 8. 9. 10. 11. Total Cover = 100				Hydrophytic Vegetation Indicators: 1 — Rapid Test for Hydrophytic Vegetation  X2 — Dominance Test > 50%  X
1. 2. Total Cover = 0				Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
% Bare Ground in Herb Stratum: <u>0</u>				Hydrophytic Vegetation Present? Yes
Remarks:				

SOIL Sampling Point: <u>26a</u>

	<u>Mat</u>	<u>rix</u>		Redox F	-eatures				
Depth	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture		Remarks
(inches)	40)/5 0/0	100							
<u>0-15</u>	10YR 3/2	<u>100</u>	4000 4/6	<u>0</u>			Sandy Clay Loam		some gravel
15-26	<u>10YR 3/2</u>	<u>97</u>	<u>10YR 4/6</u>	<u>3</u>	<u>C</u>	<u>M</u>	Silty Clay Loam		
¹Type: C=	Concentration, D	=Depletior	, RM=Reduced Ma	atrix, CS=0	L Covered o	r Coated S	and Grains. <sup>2</sup> Lo	cation: P	L=Pore Lining, M=Matrix
			all LRRs, unless ot					Indicato	rs for Problematic Hydric Soils <sup>3</sup> :
	sol (A1)		-	ndy Redo				1	m Muck (A10)
· · · · · · · · · · · · · · · · · · ·	Epipedon (A2)			ripped Ma					d Parent Material (TF2)
	Histic (A3)					l (F1) (exc	ept MLRA 1)		ry Shallow Dark Surface (TF12)
	gen Sulfide (A4)		·	-	ed Matrix		<b>5Pt</b> 101 <b>2</b> 10 t 2)		ner (Explain in Remarks)
	ted Below Dark S	urface (A1		pleted M		(/			iei (Explain in Nemarko)
	Dark Surface (A12	•	· —	•	Surface (F	6)		3Indicat	tors of hydrophytic vegetation and
	Mucky Mineral (		· · · · · · · · · · · · · · · · · · ·		ark Surface	-		l l	d hydrology must be present, unless
	Gleyed Matrix (S				essions (F			disturb	ed or problematic.
Restrictiv	e Layer (if preser	nt):	·			•			
Type:	,	•							
Depth (in	ches): <u>0</u>							Hydric	Soil Present? <u>No</u>
Remarks:									
HYDROLO	GY								
	Hydrology Indicat	ors:							
Primary In	dicators (minimu	m of one r	equired; check all	that apply	/)		S	Secondary	Indicators (two or more required)
Surfac	e Water (A1)		Wa	ter-Staine	ed Leaves	(B9)	_	Water	r-Stained Leaves (B9)(MLRA 1,2,4A,4B)
High V	Vater Table (A2)		(е	xcept ML	RA 1,2,4A	, and 4B)	_	Draina	age Patterns (B10)
Satura	ition (A3)		Sal	t Crust (B:	11)		_	Dry-Se	eason Water Table (C2)
Water	Marks (B1)		Aqı	uatic Inve	rtebrates (	(B13)	_	Satura	ation Visible on Aerial Imagery (C9)
Sedim	ent Deposits (B2)		Нус	drogen Su	lfide Odor	(C1)	_	Geom	orphic Position (D2)
Drift D	eposits (B3)		Oxi	dized Rhi	zospheres	along Livi	ng Roots (C3)	Shallo	w Aquitard (D3)
Algal I	Mat or Crust (B4)		Pre	sence of I	Reduced Ir	on (C4)	_	FAC-N	leutral Test (D5)
Iron D	eposits (B5)		Rec	ent Iron F	Reduction	in Tilled S	oils (C6)	Raised	d Ant Mounds (D6)( <b>LRR A</b> )
Surfac	e Soil Cracks (B6)		Stu	nted or St	tressed Pla	ants (D1)( <b>I</b>	.RR A)	Frost-	Heave Hummocks (D7)
Inund	ation Visible on A	erial Image	ery (B7)Oth	ner (Explai	in in Rema	ırks)			
Sparse	ely Vegetated Cor	ncave Surfa	ce (B8)						
Field Obse	ervations:								
Surface W	ater Present? No	<u>)</u>	Depth (in	•					
	ole Present? <u>No</u>		Depth (in		_				
Saturation		<u>S</u>	Depth (ir	nches): <u>20</u>	<u>)</u>		Wetland Hydro	logy Pres	ent? No
	apillary fringe) Recorded Data (st	ream gaug	e, monitoring well	, aerial ph	notos, prev	ious insne	ections), if available		- ··· <u>····</u>
	11 121 2 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	·- 0~~b	, : :::::::::::::::::::::::::::::::::::	, <b>P</b> i	, p		,,		
Remarks:	<u>-</u>								

Project/Site: Port Westward Renewable Diesel Refinery Applicant/Owner: Next Energy Group, Inc. State: OR Investigator(s): Sue Brady Section, Townsh Landform (hillslope, terrace, etc.): Flats Local relief (cond Subregion (LRR): Northwest Forests & Coast (LRR A) Soil Map Unit Name: Udipsamments, nearly level, prote Are climatic/hydrologic conditions on the site typical for Are Vegetation, Soil, or Hydrology significantly Are Vegetation, Soil, or Hydrology naturally pr	ip, Range: T8N R4 cave, convex, none Lat: cted NWI this time of year? disturbed? oblematic?	e): <u>none</u> <u>46.17741500</u> classification: ? <u>Yes</u> (if no, exp	PEM1/SSC plain in Remai Are "Normal (if needed, e	rks.) Circumstances" present? <u>Yes</u> xplain any answers in Remarks.)
Hydrophytic Vegetation Present? Yes				
Hydric Soil Present? <u>Yes</u>		Is the	Sampled Area	within a Wetland? Yes
Wetland Hydrology Present? <u>Yes</u> Remarks:		is the s	Sampleu Area	within a wettand: <u>res</u>
VEGETATION – Use scientific names of plants.				
VEGETATION OSC SCIENTING HAInes of plants.	Absolute %	Dominant	Indicator	Dominance Test worksheet:
<u>Tree Stratum</u> (Plot size: <u>25 m²</u> )	Cover	Species?	Status	Number of Dominant Species
1. Alnus rubra	<u>40</u>	<u>Yes</u>	<u>FAC</u>	That Are OBL, FACW, or FAC: <u>5</u> (A)
2.				Total Number of Deminent
3. 4.				Total Number of Dominant Species Across All Strata: <u>5</u> (B)
Total Cover =40				<u>species / (cross / (iii strata.</u>
Sapling/Shrub Stratum (Plot size: 0 )				Percent of Dominant Species
1.				That Are OBL, FACW, or FAC: <u>100</u> (A/B)
2.				Prevalence Index worksheet:
3.				
4.   5.				FACW species $0 \times 2 = 0$
Total Cover =0				FAC species $\frac{160}{160}$ x 3 = $\frac{480}{160}$
Herb Stratum (Plot size: 4 m <sup>2</sup> )				FACU species $\underline{0}$ x 4 = $\underline{0}$
1. Lolium perenne	<u>40</u>	<u>Yes</u>	<u>FAC</u>	UPL species $\underline{0}$ x 5 = $\underline{0}$ Column Totals: $\underline{160}$ (A) $\underline{480}$ (B)
2. Poa palustris	<u>40</u>	<u>Yes</u>	FAC	Column Totals. <u>160</u> (A) <u>460</u> (B)
3. Ranunculus repens 4.	<u>20</u>	<u>Yes</u>	FAC	Prevalence Index = B/A = 3.00
5.				
6.				Hydrophytic Vegetation Indicators:
7.				1 –Rapid Test for Hydrophytic Vegetation X 2 – Dominance Test >50%
8. 9.				$\frac{X}{X}$ 3 - Prevalence Index is $\leq 3.0^{1}$
10.				4 - Morphological Adaptions <sup>1</sup> (Provide supporting
11.				data in Remarks or on a separate sheet)
Total Cover = <u>100</u>				5 – Wetland Non-Vascular Plants¹ Problematic Hydrophytic Vegetation¹ (Explain)
Woody Vine Stratum (Plot size: _4 m²_)				<sup>1</sup> Indicators of hydric soil and wetland hydrology
1. <u>Rubus armeniacus</u>	<u>20</u>	<u>Yes</u>	<u>FAC</u>	must be present, unless disturbed or problematic.
2. Total Cover = <u>20</u>				
% Bare Ground in Herb Stratum: <u>0</u>				Hydrophytic Vegetation Present? Yes
Remarks:	1	1	I	

SOIL Sampling Point: <u>27</u>

	Mat	<u>rix</u>		Redox F	eatures				
Depth	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture		Remarks
(inches)									
<u>0-4</u>	10YR 3/3	100		<u>0</u>			Sandy Clay Loam		
4-17	10YR 3/2	<u>95</u>	10YR 4/6	<u>5</u>	<u>C</u>	RC	Silty Clay Loam		
				_	_	_	-		
1									
¹Type: C=	Concentration, D	=Depletion	, RM=Reduced Ma	atrix, CS=0	Covered or	Coated S	and Grains. <sup>2</sup> Lo	cation: Pl	L=Pore Lining, M=Matrix
Hydric So	il Indicators: (App	olicable to	all LRRs, unless ot	herwise r	noted.)			Indicato	rs for Problematic Hydric Soils <sup>3</sup> :
	sol (A1)			ndy Redo				2 (1	n Muck (A10)
	Epipedon (A2)			ripped Ma					Parent Material (TF2)
	Histic (A3)		· · · · · · · · · · · · · · · · · · ·	• •		(E1) (ove	ept MLRA 1)	I	ry Shallow Dark Surface (TF12)
				•	•		ept with 1)		• • • • • • • • • • • • • • • • • • • •
	ogen Sulfide (A4)	C /A4			ed Matrix	(FZ)		Otr	ner (Explain in Remarks)
	ted Below Dark S			pleted M		_,		2	
	Dark Surface (A12	-			Surface (F6				tors of hydrophytic vegetation and
-	Mucky Mineral (				rk Surface				d hydrology must be present, unless ed or problematic.
Sandy	Gleyed Matrix (S	54)	Re	dox Depr	essions (F8	3)		uistuib	ed of problematic.
Restrictiv	e Layer (if presen	ıt):							
Type:									
Depth (in	ches): <u>0</u>							Hydric	Soil Present? Yes
Remarks:								1	
HYDROLO	GY								
	Hydrology Indicat								
Primary In	idicators (minimu	m of one r	equired; check all	that apply	<b>(</b> )		S	econdary	Indicators (two or more required)
Surfac	e Water (A1)		Wa	ter-Staine	d Leaves (	(B9)	_	Water	-Stained Leaves (B9)(MLRA 1,2,4A,4B)
High V	Vater Table (A2)		(e	xcept ML	RA 1,2,4A,	and 4B)	_	Draina	age Patterns (B10)
Satura	ition (A3)		Salt	t Crust (B	L1)		_	Dry-Se	eason Water Table (C2)
	Marks (B1)				rtebrates (	B13)			ition Visible on Aerial Imagery (C9)
	ent Deposits (B2)				Ifide Odor	•	_		orphic Position (D2)
	Deposits (B3)		•	-			ng Roots (C3)		w Aquitard (D3)
	Mat or Crust (B4)				Reduced Ir				eutral Test (D5)
	eposits (B5)		· <u></u>		Reduction		oils (C6)		I Ant Mounds (D6)(LRR A)
	e Soil Cracks (B6)				ressed Pla				Heave Hummocks (D7)
							-NN A)	FTOSE	neave numinocks (D7)
	ation Visible on A	·		іег (Ехріа	in in Rema	rks)			
	ely Vegetated Cor	icave Surra	ce (B8)						
	ervations:		Donath /in-	-h\· 0					
	ater Present? <u>No</u> ble Present? No	_	Depth (ind Depth (ind						
Saturation		<del></del> '	Depth (in						
	apillary fringe)	<u>2</u>	Deptii (iii	ciics). <u>o</u>			Wetland Hydro	logy Pres	ent? Yes
		ream gaug	e, monitoring well	, aerial ph	otos, prev	ious inspe	ections), if available	:	
			-	-	-	,			
Remarks:									

Project/Site: Port Westward Renewable Diesel Refinery Applicant/Owner: Next Energy Group, Inc. State: OR Investigator(s): Sue Brady Section, Townsh Landform (hillslope, terrace, etc.): Flats Local relief (cond Subregion (LRR): Northwest Forests & Coast (LRR A) Soil Map Unit Name: Udipsamments, nearly level, prote Are climatic/hydrologic conditions on the site typical for Are Vegetation, Soil, or Hydrology significantly Are Vegetation, Soil, or Hydrology naturally pr  SUMMARY OF FINDINGS — Attach site map showi Hydrophytic Vegetation Present? Yes	ip, Range: T8N R4 cave, convex, none Lat: cted NWI this time of year? y disturbed?	e): <u>none</u> <u>46.17740700</u> classification: ? <u>Yes</u> (if no, exp	PEM1/SSC plain in Remai Are "Normal (if needed, e	rks.) Circumstances" present? <u>Yes</u> xplain any answers in Remarks.)
Hydric Soil Present? No				
Wetland Hydrology Present? <u>No</u>		Is the S	Sampled Area	within a Wetland? <u>No</u>
Remarks:  VEGETATION – Use scientific names of plants.				
·	Absolute %	Dominant	Indicator	Dominance Test worksheet:
<u>Tree Stratum</u> (Plot size: <u>25 m²</u> )	Cover	Species?	Status	Number of Dominant Species
1. <u>Alnus rubra</u> 2.	<u>10</u>	<u>Yes</u>	<u>FAC</u>	That Are OBL, FACW, or FAC: 4 (A)
3.				Total Number of Dominant
4.				Species Across All Strata: <u>4</u> (B)
Total Cover = <u>10</u>				Percent of Dominant Species
Sapling/Shrub Stratum (Plot size: 0 )				That Are OBL, FACW, or FAC: 100 (A/B)
1. 2. 3. 4. 5. Total Cover =0				Prevalence Index worksheet:          Total % Cover of:        Multiply by:           OBL species         0         x 1 = 0           FACW species         0         x 2 = 0           FAC species         115         x 3 = 345
Herb Stratum (Plot size: _4 m²_)	-			FACU species $\underline{0}$ x 4 = $\underline{0}$
1. Lolium perenne 2. Poa palustris 3. 4.	<u>50</u> <u>50</u>	<u>Yes</u> <u>Yes</u>	FAC FAC	UPL species $\underline{0}$ x 5 = $\underline{0}$ Column Totals: $\underline{115}$ (A) $\underline{345}$ (B) Prevalence Index = B/A = $\underline{3.00}$
5. 6. 7. 8. 9. 10. 11. Total Cover = 100				Hydrophytic Vegetation Indicators: 1 — Rapid Test for Hydrophytic Vegetation  X2 — Dominance Test > 50%  X3 - Prevalence Index is ≤ 3.0¹ 4 - Morphological Adaptions¹ (Provide supporting data in Remarks or on a separate sheet) 5 — Wetland Non-Vascular Plants¹  Problematic Hydrophytic Vegetation¹ (Explain)
Woody Vine Stratum (Plot size: 4 )  1. Rubus armeniacus  2. Total Cover = 5	<u>5</u>	<u>Yes</u>	<u>FAC</u>	Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
% Bare Ground in Herb Stratum: <u>0</u>				Hydrophytic Vegetation Present? Yes
Remarks:		1	1	ingrophytic regetation i lesent: 163

SOIL Sampling Point: <u>27a</u>

Donth	IVIGE	<u>rix</u>		Redox F	-eatures				
Depth	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture		Remarks
(inches)									
<u>0-7</u>	10YR 3/3	<u>100</u>		<u>0</u>			Silty Clay Loam		
7-17	10YR 3/2	<u>100</u>		<u>0</u>			Silty Clay Loam		
<u>17-26</u>	10YR 3/2	<u>95</u>	<u>10YR 4/4</u>	<u>5</u>	<u>C</u>	<u>M</u>	Silty Clay Loam		
¹Type: C=	Concentration, D	=Depletior	n, RM=Reduced Ma	atrix, CS=0	Covered or	r Coated S	and Grains. <sup>2</sup> Lo	cation: P	L=Pore Lining, M=Matrix
Hydric So	il Indicators: (Ap	plicable to	all LRRs, unless ot	herwise r	noted.)			Indicato	rs for Problematic Hydric Soils <sup>3</sup> :
Histos	sol (A1)		Sa	ndy Redo	x (S5)			2 cı	m Muck (A10)
Histic	Epipedon (A2)		Str	ripped Ma	ıtrix (S6)			Rec	l Parent Material (TF2)
Black	Histic (A3)		Lo:	amy Muc	ky Mineral	l (F1) (exc	ept MLRA 1)	Ve	ry Shallow Dark Surface (TF12)
Hydro	gen Sulfide (A4)		Lo:	amy Gley	ed Matrix	(F2)		Oth	ner (Explain in Remarks)
Deple	ted Below Dark S	urface (A1	1)De	epleted Ma	atrix (F3)				
Thick	Dark Surface (A1	2)	Re	dox Dark	Surface (F	6)		3Indicat	tors of hydrophytic vegetation and
Sandy	Mucky Mineral (	(S1)	De	pleted Da	ark Surface	e (F7)			d hydrology must be present, unless
	Gleyed Matrix (S				essions (F8			disturb	ed or problematic.
Restrictiv	e Layer (if preser	nt):							
Type:	,	•							
Depth (in	ches): <u>0</u>							Hydric	Soil Present? <u>No</u>
Remarks:								1	
-IYDROLO	nGY								
HYDROLO Wetland I	GY Hydrology Indicat	tors:							
Wetland I	Hydrology Indicat		equired; check all t	that apply	·)			Secondary	y Indicators (two or more required)
<b>Wetland I</b> Primary In	Hydrology Indicat				/) ed Leaves (	(B9)	:		v Indicators (two or more required) -Stained Leaves (B9)(MLRA 1,2,4A,4B)
Wetland In Primary In Surface	Hydrology Indicat ndicators (minimu		Wa	iter-Staine				Water	<u> </u>
Wetland In Primary InSurfacHigh V	Hydrology Indicatorication indicators (minimuse Water (A1) Water Table (A2)		Wa	iter-Staine	ed Leaves (		-	Water Draina	-Stained Leaves (B9)(MLRA 1,2,4A,4B) age Patterns (B10)
Wetland H Primary InSurfacHigh VSatura	Hydrology Indicated indicators (minimulated Water (A1)		Wa Salt	iter-Staine xcept MLI t Crust (B1	ed Leaves (	and 4B)	-	Water Draina Dry-Se	r-Stained Leaves (B9)(MLRA 1,2,4A,4B) age Patterns (B10) eason Water Table (C2)
Wetland F Primary InSurfacHigh VSaturaWater	Hydrology Indicated indicators (minimuse Water (A1) Vater Table (A2) Ation (A3) Marks (B1)	ım of one r	Wa Salt Aqu	ter-Staine xcept MLI t Crust (B1 uatic Inver	ed Leaves ( RA 1,2,4A, 11) rtebrates (	and 4B)	-	Water Draina Dry-Se	r-Stained Leaves (B9)(MLRA 1,2,4A,4B) age Patterns (B10) eason Water Table (C2) ation Visible on Aerial Imagery (C9)
Wetland I Primary In Surfac High V Satura Water Sedim	Hydrology Indicated indicators (minimuse Water (A1) Water Table (A2) action (A3) Marks (B1) ent Deposits (B2)	ım of one r	Wa Salt Aqu Hyd	nter-Staine xcept MLI t Crust (B1 uatic Inver drogen Su	ed Leaves ( RA 1,2,4A, L1) rtebrates ( Ifide Odor	(C1)	- - - -	WaterDrainaDry-SeSaturaGeom	r-Stained Leaves (B9)(MLRA 1,2,4A,4B) age Patterns (B10) asson Water Table (C2) ation Visible on Aerial Imagery (C9) orphic Position (D2)
Wetland I Primary In Surfac High V Satura Water Sedim Drift C	Hydrology Indicated indicators (minimuste Water (A1) Water Table (A2) Aution (A3) Marks (B1) Hent Deposits (B2) Deposits (B3)	ım of one r	Wa Salt Aqu Hyo Oxio	xcept MLI t Crust (B1 uatic Inver drogen Su	ed Leaves ( RA 1,2,4A, L1) rtebrates ( Ifide Odor zospheres	and 4B) (B13) (C1) along Livi	ng Roots (C3)	Water Draina Dry-Se Satura Geom Shallo	r-Stained Leaves (B9)(MLRA 1,2,4A,4B) age Patterns (B10) asson Water Table (C2) ation Visible on Aerial Imagery (C9) orphic Position (D2) w Aquitard (D3)
Wetland I Primary In Surfac High V Satura Water Sedim Drift C Algal I	Hydrology Indicated indicators (minimuse Water (A1)  Nater Table (A2) Action (A3)  Marks (B1) Action Deposits (B2)  Deposits (B3)  Mat or Crust (B4)	ım of one r	Wa (ex Salt Aqu Hyo Oxid	xcept MLI t Crust (B1 uatic Inver drogen Su idized Rhiz	ed Leaves ( RA 1,2,4A, L1) rtebrates ( Ifide Odor zospheres Reduced Ir	B13) (C1) along Livi	ng Roots (C3)	Water Draina Dry-Se Satura Geom Shallo FAC-N	r-Stained Leaves (B9)(MLRA 1,2,4A,4B) age Patterns (B10) eason Water Table (C2) ation Visible on Aerial Imagery (C9) orphic Position (D2) w Aquitard (D3) eutral Test (D5)
Wetland I Primary In Surfac High V Satura Water Sedim Drift C Algal I	Hydrology Indicated indicators (minimuse Water (A1) Vater Table (A2) ation (A3) Marks (B1) Ment Deposits (B2) Deposits (B3) Mat or Crust (B4) Meposits (B5)	ım of one r	WaSaltAquHycOxiPre	xcept MLI t Crust (B1 uatic Inver drogen Su idized Rhiz esence of F	ed Leaves ( RA 1,2,4A, L1) rtebrates ( Ifide Odor zospheres Reduced Ir	B13) (C1) along Livi on (C4) in Tilled S	ng Roots (C3)	Water Draina Dry-Se Satura Geom Shallo FAC-N Raisec	r-Stained Leaves (B9)(MLRA 1,2,4A,4B) age Patterns (B10) eason Water Table (C2) ation Visible on Aerial Imagery (C9) orphic Position (D2) w Aquitard (D3) eutral Test (D5) If Ant Mounds (D6)(LRR A)
Wetland I Primary In Surfac High V Satura Water Sedim Drift E Algal I Iron D Surfac	Hydrology Indicated adicators (minimuse Water (A1)) Vater Table (A2) ation (A3) Marks (B1) Lent Deposits (B2) Deposits (B3) Mat or Crust (B4) Leposits (B5) Les Soil Cracks (B6)	im of one r	WaSaltAquHyoOxiPreRec	xcept MLI t Crust (B1 uatic Inver drogen Su idized Rhiz esence of F	ed Leaves ( RA 1,2,4A, L1)  rtebrates ( Ifide Odor zospheres Reduced Ir Reduction tressed Pla	B13) (C1) along Livi ron (C4) in Tilled S ants (D1)(I	ng Roots (C3)	Water Draina Dry-Se Satura Geom Shallo FAC-N Raisec	r-Stained Leaves (B9)(MLRA 1,2,4A,4B) age Patterns (B10) eason Water Table (C2) ation Visible on Aerial Imagery (C9) orphic Position (D2) w Aquitard (D3) eutral Test (D5)
Wetland I Primary In Surfac High V Satura Water Sedim Drift D Algal I Iron D Surfac	Hydrology Indicated indicators (minimulate Water (A1) Water Table (A2) Action (A3) Marks (B1) Hent Deposits (B2) Deposits (B3) Wat or Crust (B4) Heposits (B5) He Soil Cracks (B6) Action Visible on A	im of one r	Wa	xcept MLI t Crust (B1 uatic Inver drogen Su idized Rhiz esence of F	ed Leaves ( RA 1,2,4A, L1) rtebrates ( Ifide Odor zospheres Reduced Ir	B13) (C1) along Livi ron (C4) in Tilled S ants (D1)(I	ng Roots (C3)	Water Draina Dry-Se Satura Geom Shallo FAC-N Raisec	r-Stained Leaves (B9)(MLRA 1,2,4A,4B) age Patterns (B10) eason Water Table (C2) ation Visible on Aerial Imagery (C9) orphic Position (D2) w Aquitard (D3) eutral Test (D5) If Ant Mounds (D6)(LRR A)
Wetland I Primary In Surfac High V Satura Water Sedim Drift E Algal I Iron D Surfac Inunda	Hydrology Indicated indicators (minimuste Water (A1)  Vater Table (A2)  Ation (A3)  Marks (B1)  Ment Deposits (B2)  Mat or Crust (B4)  Meposits (B5)  Mese Soil Cracks (B6)  Ation Visible on Action Sely Vegetated Core	im of one r	Wa	xcept MLI t Crust (B1 uatic Inver drogen Su idized Rhiz esence of F	ed Leaves ( RA 1,2,4A, L1)  rtebrates ( Ifide Odor zospheres Reduced Ir Reduction tressed Pla	B13) (C1) along Livi ron (C4) in Tilled S ants (D1)(I	ng Roots (C3)	Water Draina Dry-Se Satura Geom Shallo FAC-N Raisec	r-Stained Leaves (B9)(MLRA 1,2,4A,4B) age Patterns (B10) eason Water Table (C2) ation Visible on Aerial Imagery (C9) orphic Position (D2) w Aquitard (D3) eutral Test (D5) If Ant Mounds (D6)(LRR A)
Wetland I Primary In Surfac High V Satura Water Sedim Drift E Algal I Iron D Surfac Inund: Sparse Field Obse	Hydrology Indicated indicators (minimuse Water (A1)  Vater Table (A2)  Ation (A3)  Marks (B1)  Ment Deposits (B2)  Mat or Crust (B4)  Meposits (B5)  Mese Soil Cracks (B6)  Ation Visible on Acely Vegetated Core	erial Image	Wa	xcept MLI t Crust (B1 uatic Inver drogen Su idized Rhiz esence of F cent Iron F inted or St her (Explai	ed Leaves ( RA 1,2,4A, L1)  rtebrates ( Ifide Odor zospheres Reduced Ir Reduction tressed Pla	B13) (C1) along Livi ron (C4) in Tilled S ants (D1)(I	ng Roots (C3)	Water Draina Dry-Se Satura Geom Shallo FAC-N Raisec	r-Stained Leaves (B9)(MLRA 1,2,4A,4B) age Patterns (B10) eason Water Table (C2) ation Visible on Aerial Imagery (C9) orphic Position (D2) w Aquitard (D3) eutral Test (D5) If Ant Mounds (D6)(LRR A)
Wetland I Primary In Surfac High V Satura Water Sedim Drift E Algal I Iron D Surfac Inunda Sparse Surface W	Hydrology Indicated dicators (minimuse Water (A1) Vater Table (A2) Ation (A3) Marks (B1) Ment Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) Mese Soil Cracks (B6) Ation Visible on Acely Vegetated Corectations: Mater Present? Na	erial Image ncave Surfa	Wa	iter-Staine xcept MLI t Crust (B1 uatic Inver drogen Su idized Rhiz esence of F cent Iron F inted or St ner (Explai	ed Leaves ( RA 1,2,4A, L1)  rtebrates ( Ifide Odor zospheres Reduced Ir Reduction tressed Pla	B13) (C1) along Livi ron (C4) in Tilled S ants (D1)(I	ng Roots (C3)	Water Draina Dry-Se Satura Geom Shallo FAC-N Raisec	r-Stained Leaves (B9)(MLRA 1,2,4A,4B) age Patterns (B10) eason Water Table (C2) ation Visible on Aerial Imagery (C9) orphic Position (D2) w Aquitard (D3) eutral Test (D5) If Ant Mounds (D6)(LRR A)
Wetland I Primary In Surfac High V Satura Water Sedim Drift E Algal I Iron D Surfac Inunda Sparse Surface W	Hydrology Indicated indicators (minimulate Water (A1)) Vater Table (A2) Aution (A3) Marks (B1) Ment Deposits (B2) Deposits (B3) Mat or Crust (B4) Meposits (B5) Mese Soil Cracks (B6) Metion Visible on A Mely Vegetated Corections: Mater Present? National Control of Medical Medica	erial Image ncave Surfa	Wa	iter-Staine xcept MLI t Crust (B1 uatic Inver drogen Su idized Rhiz esence of F cent Iron F inted or St ner (Explai	ed Leaves ( RA 1,2,4A, L1)  rtebrates ( Ifide Odor zospheres Reduced Ir Reduction tressed Pla	B13) (C1) along Livi ron (C4) in Tilled S ants (D1)(I	ng Roots (C3)	Water Draina Dry-Se Satura Geom Shallo FAC-N Raisec	r-Stained Leaves (B9)(MLRA 1,2,4A,4B) age Patterns (B10) eason Water Table (C2) ation Visible on Aerial Imagery (C9) orphic Position (D2) w Aquitard (D3) eutral Test (D5) If Ant Mounds (D6)(LRR A)
Wetland I Primary In Surface High V Satura Water Sedim Drift E Algal I Iron D Surface Inunda Sparse Surface W Water Tak Saturation	Hydrology Indicated indicators (minimulated Water (A1))  Vater Table (A2)  Ation (A3)  Marks (B1)  Jent Deposits (B2)  Deposits (B3)  Mat or Crust (B4)  Deposits (B5)  Jene Soil Cracks (B6)  Ation Visible on A  Dely Vegetated Corervations:  Atter Present?  Model Present?  Minimulation Minimulation  Minimulation Minimulation  Minimulatio	erial Image ncave Surfa	Wa	iter-Staine xcept MLI t Crust (B1 uatic Inver drogen Su idized Rhiz esence of F cent Iron F inted or St ner (Explai	ed Leaves ( RA 1,2,4A, L1)  rtebrates ( Ifide Odor zospheres Reduced Ir Reduction tressed Pla	B13) (C1) along Livi ron (C4) in Tilled S ants (D1)(I	ng Roots (C3)	Water Draina Dry-Se Satura Geom Shallo FAC-N Raisec Frost-	r-Stained Leaves (B9)(MLRA 1,2,4A,4B) age Patterns (B10) asson Water Table (C2) ation Visible on Aerial Imagery (C9) orphic Position (D2) w Aquitard (D3) eutral Test (D5) d Ant Mounds (D6)(LRR A) Heave Hummocks (D7)
Wetland I Primary In Surface High V Satura Water Sedim Drift E Algal I Iron D Surface Inunda Sparse Surface W Water Tak Saturation (includes ca	Hydrology Indicated indicators (minimulated Water (A1)  Vater Table (A2)  Ation (A3)  Marks (B1)  Hent Deposits (B2)  Deposits (B3)  Mat or Crust (B4)  Deposits (B5)  De Soil Cracks (B6)  Ation Visible on A cely Vegetated Corectations:  Mater Present?  Deposits (B5)	erial Image ncave Surfa	Wa	iter-Staine xcept MLI t Crust (B1 uatic Inver drogen Su idized Rhiz esence of F cent Iron F inted or St ner (Explai	ed Leaves ( RA 1,2,4A, L1)  rtebrates ( Ifide Odor zospheres Reduced Ir Reduction tressed Pla in in Rema	B13) (C1) along Livi ron (C4) in Tilled S ants (D1)(I	ng Roots (C3) oils (C6) .RR A)	Water Draina Dry-Se Satura Geom Shallo FAC-N Raisec Frost-	r-Stained Leaves (B9)(MLRA 1,2,4A,4B) age Patterns (B10) asson Water Table (C2) ation Visible on Aerial Imagery (C9) orphic Position (D2) w Aquitard (D3) eutral Test (D5) d Ant Mounds (D6)(LRR A) Heave Hummocks (D7)
Wetland I Primary In Surface High V Satura Water Sedim Drift E Algal I Iron D Surface Inunda Sparse Surface W Water Tak Saturation (includes ca	Hydrology Indicated indicators (minimulated Water (A1)  Vater Table (A2)  Ation (A3)  Marks (B1)  Hent Deposits (B2)  Deposits (B3)  Mat or Crust (B4)  Deposits (B5)  De Soil Cracks (B6)  Ation Visible on A cely Vegetated Corectations:  Mater Present?  Deposits (B5)	erial Image ncave Surfa	Wa	iter-Staine xcept MLI t Crust (B1 uatic Inver drogen Su idized Rhiz esence of F cent Iron F inted or St ner (Explai	ed Leaves ( RA 1,2,4A, L1)  rtebrates ( Ifide Odor zospheres Reduced Ir Reduction tressed Pla in in Rema	B13) (C1) along Livi ron (C4) in Tilled S ants (D1)(I	ng Roots (C3) oils (C6) RR A)	Water Draina Dry-Se Satura Geom Shallo FAC-N Raisec Frost-	r-Stained Leaves (B9)(MLRA 1,2,4A,4B) age Patterns (B10) asson Water Table (C2) ation Visible on Aerial Imagery (C9) orphic Position (D2) w Aquitard (D3) eutral Test (D5) d Ant Mounds (D6)(LRR A) Heave Hummocks (D7)
Wetland I Primary In Surfac High V Satura Water Sedim Drift D Algal I Iron D Surfac Inunda Sparse Field Obse Surface W Water Tak Saturation (includes ca	Hydrology Indicated indicators (minimulated Water (A1)  Vater Table (A2)  Ation (A3)  Marks (B1)  Hent Deposits (B2)  Deposits (B3)  Mat or Crust (B4)  Deposits (B5)  De Soil Cracks (B6)  Ation Visible on A cely Vegetated Corectations:  Mater Present?  Deposits (B5)	erial Image ncave Surfa	Wa	iter-Staine xcept MLI t Crust (B1 uatic Inver drogen Su idized Rhiz esence of F cent Iron F inted or St ner (Explai	ed Leaves ( RA 1,2,4A, L1)  rtebrates ( Ifide Odor zospheres Reduced Ir Reduction tressed Pla in in Rema	B13) (C1) along Livi ron (C4) in Tilled S ants (D1)(I	ng Roots (C3) oils (C6) RR A)	Water Draina Dry-Se Satura Geom Shallo FAC-N Raisec Frost-	r-Stained Leaves (B9)(MLRA 1,2,4A,4B) age Patterns (B10) asson Water Table (C2) ation Visible on Aerial Imagery (C9) orphic Position (D2) w Aquitard (D3) eutral Test (D5) d Ant Mounds (D6)(LRR A) Heave Hummocks (D7)
Wetland I Primary In Surface High V Satura Water Sedim Drift E Algal I Iron D Surface Inunda Sparse Surface W Water Tak Saturation (includes ca	Hydrology Indicated indicators (minimulated Water (A1)  Vater Table (A2)  Ation (A3)  Marks (B1)  Hent Deposits (B2)  Deposits (B3)  Mat or Crust (B4)  Deposits (B5)  De Soil Cracks (B6)  Ation Visible on A cely Vegetated Corectations:  Mater Present?  Deposits (B5)	erial Image ncave Surfa	Wa	iter-Staine xcept MLI t Crust (B1 uatic Inver drogen Su idized Rhiz esence of F cent Iron F inted or St ner (Explai	ed Leaves ( RA 1,2,4A, L1)  rtebrates ( Ifide Odor zospheres Reduced Ir Reduction tressed Pla in in Rema	B13) (C1) along Livi ron (C4) in Tilled S ants (D1)(I	ng Roots (C3) oils (C6) RR A)	Water Draina Dry-Se Satura Geom Shallo FAC-N Raisec Frost-	r-Stained Leaves (B9)(MLRA 1,2,4A,4B) age Patterns (B10) asson Water Table (C2) ation Visible on Aerial Imagery (C9) orphic Position (D2) w Aquitard (D3) eutral Test (D5) d Ant Mounds (D6)(LRR A) Heave Hummocks (D7)
Wetland I Primary In Surfac High V Satura Water Sedim Drift D Algal I Iron D Surfac Inunda Sparse Field Obse Surface W Water Tak Saturation (includes ca	Hydrology Indicated indicators (minimulated Water (A1)  Vater Table (A2)  Ation (A3)  Marks (B1)  Hent Deposits (B2)  Deposits (B3)  Mat or Crust (B4)  Deposits (B5)  De Soil Cracks (B6)  Ation Visible on A cely Vegetated Corectations:  Mater Present?  Deposits (B5)	erial Image ncave Surfa	Wa	iter-Staine xcept MLI t Crust (B1 uatic Inver drogen Su idized Rhiz esence of F cent Iron F inted or St ner (Explai	ed Leaves ( RA 1,2,4A, L1)  rtebrates ( Ifide Odor zospheres Reduced Ir Reduction tressed Pla in in Rema	B13) (C1) along Livi ron (C4) in Tilled S ants (D1)(I	ng Roots (C3) oils (C6) RR A)	Water Draina Dry-Se Satura Geom Shallo FAC-N Raisec Frost-	r-Stained Leaves (B9)(MLRA 1,2,4A,4B) age Patterns (B10) asson Water Table (C2) ation Visible on Aerial Imagery (C9) orphic Position (D2) w Aquitard (D3) eutral Test (D5) d Ant Mounds (D6)(LRR A) Heave Hummocks (D7)

Project/Site: Port Westward Renewable Diesel Refinery Applicant/Owner: Next Energy Group, Inc. State: OR Investigator(s): Sue Brady Section, Townshi Landform (hillslope, terrace, etc.): Flats Local relief (conc Subregion (LRR): Northwest Forests & Coast (LRR A) Soil Map Unit Name: Udipsamments, nearly level, protec Are climatic/hydrologic conditions on the site typical for Are Vegetation X, Soil X, or Hydrology X significantly of Are Vegetation Soil Thydrology naturally pro	p, Range: T8N R4N ave, convex, none Lat: ted NWI this time of year? disturbed? oblematic?	e): <u>concave</u> 46.16419740 classification: • <u>Yes</u> (if no, exp	<u>PEM1A</u> Ilain in Remal Are "Normal (if needed, e	rks.) Circumstances" present? <u>Yes</u> xplain any answers in Remarks.)
Hydrophytic Vegetation Present? Yes				
Hydric Soil Present? Yes		Is the S	ampled Area	within a Wetland? Yes
Wetland Hydrology Present? <u>Yes</u> Remarks: irrigated mint field		10 1110 0		<u></u>
VEGETATION – Use scientific names of plants.				
	Absolute %	Dominant	Indicator	Dominance Test worksheet:
<u>Tree Stratum</u> (Plot size: <u>0</u> )	Cover	Species?	Status	Number of Dominant Species
1. 2.				That Are OBL, FACW, or FAC: $\underline{1}$ (A)
3.				Total Number of Dominant
4.				Species Across All Strata: <u>1</u> (B)
Total Cover = <u>0</u>				_ ' ,
Sapling/Shrub Stratum (Plot size: 0 )				Percent of Dominant Species
1.				That Are OBL, FACW, or FAC: <u>100</u> (A/B)
2.				Prevalence Index worksheet:
3.				Total % Cover of: Multiply by:
4.				OBL species $\underline{0}$ x 1 = $\underline{0}$ FACW species $\underline{20}$ x 2 = $\underline{40}$
5.				FAC species $\frac{20}{60}$ x 3 = $\frac{180}{180}$
Total Cover = 0  Herb Stratum (Plot size: 4 m²)				FACU species $\underline{0}$ x 4 = $\underline{0}$
1. Phalaris arundinacea	<u>10</u>	<u>No</u>	FACW	UPL species $\underline{0}$ x 5 = $\underline{0}$
2. Mentha x piperita	<u>10</u>	No	FACW	Column Totals: <u>80</u> (A) <u>220</u> (B)
3. Ranunculus repens	<u>10</u>	<u>No</u>	<u>FAC</u>	Provolence Index = P/A = 2.75
4. <u>Schedonorus arundinacea</u>	<u>50</u>	<u>Yes</u>	<u>FAC</u>	Prevalence Index = $B/A = 2.75$
5.				Hydrophytic Vegetation Indicators:
6. 7.				1 –Rapid Test for Hydrophytic Vegetation
8.				X 2 – Dominance Test >50%
9.				$\frac{X}{2}$ 3 - Prevalence Index is ≤ 3.01
10.				4 - Morphological Adaptions <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
11.				5 – Wetland Non-Vascular Plants <sup>1</sup>
Total Cover = <u>80</u>				Problematic Hydrophytic Vegetation¹ (Explain)
Woody Vine Stratum (Plot size: 0 )				<sup>1</sup> Indicators of hydric soil and wetland hydrology
1.				must be present, unless disturbed or problematic.
2.				,
Total Cover = <u>0</u>				
% Bare Ground in Herb Stratum: <u>0</u>				Hydrophytic Vegetation Present? Yes
Remarks:				

SOIL Sampling Point: <u>28</u>

	Mat	<u>rix</u>		Redox F	eatures				
Depth	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture		Remarks
(inches)									
<u>0-4</u>	10YR 3/3	<u>98</u>	10YR 4/4	<u>2</u>	<u>C</u>	<u>RC</u>	Silty Clay Loam		
4-15	10YR 3/2	<u>95</u>	10YR 4/6	<u>5</u>	<u>C</u>	<u>RC</u>	Silty Clay Loam		
<u>15-25</u>	10YR 4/2	<u>95</u>	10YR 4/4	<u>5</u>	<u>C</u>	<u>M</u>	Silty Clay Loam		
				_	_				
1	<u> </u>								
¹Type: C=	-Concentration, D	=Depletior	, RM=Reduced Ma	atrix, CS=0	Covered o	r Coated S	and Grains. <sup>2</sup> Lo	cation: Pl	L=Pore Lining, M=Matrix
Hydric So	il Indicators: (Ap	plicable to	all LRRs, unless ot	herwise r	noted.)			Indicato	rs for Problematic Hydric Soils <sup>3</sup> :
Histos	sol (A1)		Sa	ndy Redo	x (S5)			2 cı	n Muck (A10)
	Epipedon (A2)			ipped Ma					Parent Material (TF2)
	Histic (A3)			• •	. ,	l (F1) (exc	ept MLRA 1)		ry Shallow Dark Surface (TF12)
	ogen Sulfide (A4)		· · · · · · · · · · · · · · · · · · ·	-	ed Matrix		<b></b>		ner (Explain in Remarks)
	eted Below Dark S	urfaco (A1	·	pleted M		(12)			ici (Explain in Kemarks)
	Dark Surface (A1	-	·	•	` '	c)		31 m di cod	ears of hydronhytic vogotation and
	•	•			Surface (F				ors of hydrophytic vegetation and dhydrology must be present, unless
	/ Mucky Mineral (		·	•	ark Surface				ed or problematic.
Sandy	/ Gleyed Matrix (S	o4)	Ke	dox Depr	essions (F8	3)		aistai b	ed of problematic.
	e Layer (if preser	nt):							
Type:									Call Bussess 2 Van
Depth (in	ches): <u>0</u>							Hyaric	Soil Present? Yes
Remarks:									
HYDROLO									
	Hydrology Indicat				,				
Primary In	ndicators (minimu	im of one r	equired; check all	that apply	<b>(</b> )			secondary	Indicators (two or more required)
Surfac	ce Water (A1)		Wa	ter-Staine	ed Leaves	(B9)	-	Water	-Stained Leaves (B9)( <b>MLRA 1,2,4A,4B</b> )
High V	Nater Table (A2)		(е	xcept ML	RA 1,2,4A,	and 4B)	_	Draina	ge Patterns (B10)
Satura	ation (A3)		Sal	Crust (B	L1)		_	Dry-Se	eason Water Table (C2)
Water	r Marks (B1)		Aqı	uatic Inve	rtebrates (	B13)		Satura	tion Visible on Aerial Imagery (C9)
Sedim	ent Deposits (B2)	)	Hyd	drogen Su	lfide Odor	(C1)		Geom	orphic Position (D2)
	Deposits (B3)		· · · · · · · · · · · · · · · · · · ·	_			ng Roots (C3)		w Aquitard (D3)
	Mat or Crust (B4)				Reduced Ir	-	-		eutral Test (D5)
			Pre		.caacca	011 (01)		- Α( -N	
11 011 0					Reduction		oils (C6)		
	eposits (B5)		Rec	ent Iron F	Reduction	in Tilled S		Raised	Ant Mounds (D6)(LRR A)
Surfac	eposits (B5) ce Soil Cracks (B6)		Rec Stu	ent Iron F nted or St	ressed Pla	in Tilled S ants (D1)( <b>I</b>		Raised	
Surfac	Deposits (B5) ce Soil Cracks (B6) ation Visible on A	erial Image	Rec Stu ry (B7)Oth	ent Iron F nted or St		in Tilled S ants (D1)( <b>I</b>		Raised	Ant Mounds (D6)(LRR A)
Surfac Inunda Sparse	Peposits (B5) ce Soil Cracks (B6) ation Visible on A ely Vegetated Cor	erial Image	Rec Stu ry (B7)Oth	ent Iron F nted or St	ressed Pla	in Tilled S ants (D1)( <b>I</b>		Raised	Ant Mounds (D6)(LRR A)
Surfac	peposits (B5) ce Soil Cracks (B6) ation Visible on A ely Vegetated Cor ervations:	erial Image ncave Surfa	Rec Stu ery (B7)Oth ce (B8)	ent Iron I nted or Si ner (Expla	ressed Pla	in Tilled S ants (D1)( <b>I</b>		Raised	Ant Mounds (D6)(LRR A)
Surfac Inunda Sparse Field Obse Surface W	Deposits (B5) Ce Soil Cracks (B6) ation Visible on A ely Vegetated Cor ervations: Vater Present? No	erial Image ncave Surfa <u>o</u>	Rec Stu ery (B7)Oth ce (B8) Depth (inc	ent Iron F nted or St ner (Expla ches):	ressed Pla	in Tilled S ants (D1)( <b>I</b>		Raised	Ant Mounds (D6)(LRR A)
Surfac Inunda Sparse Field Obse Surface W Water Tab	Deposits (B5) The Soil Cracks (B6) The Soil Cracks (B6) The Soil Cracks (B6) The Soil Cracks (B6) The Soil Cracks (B5) The Soil Cracks (B6) The Soil Cracks	erial Image ncave Surfa <u>0</u>	Rec Stu Oth ce (B8) Depth (inc Depth (inc	ent Iron F nted or St ner (Explain thes): ches):	ressed Pla	in Tilled S ants (D1)( <b>I</b>		Raised	Ant Mounds (D6)(LRR A)
SurfaceInunda Sparse Field Obse Surface W Water Tab Saturation	peposits (B5) ce Soil Cracks (B6) ation Visible on A ely Vegetated Cor ervations: /ater Present? No ole Present? No on Present? No	erial Image ncave Surfa <u>0</u>	Rec Stu ery (B7)Oth ce (B8) Depth (inc	ent Iron F nted or St ner (Explain thes): ches):	ressed Pla	in Tilled S ants (D1)( <b>I</b>		Raisec	l Ant Mounds (D6)( <b>LRR A</b> ) Heave Hummocks (D7)
Surfac Inund: Sparse Field Obse Surface W Water Tak Saturation (includes ca	peposits (B5) ce Soil Cracks (B6) ation Visible on A ely Vegetated Cor ervations: /ater Present? No ple Present? No present? No apillary fringe)	erial Image ncave Surfa 2 2 2	Reconstruction — Reconstruction — Students — Other Control  — Students — Students — Other Control  — Students — Students — Other Control  — Students — Stu	ent Iron I nted or Si er (Explai ches): ches): ches):	ressed Pla	in Tilled S ants (D1)( <b>I</b> rks)	RR A) _	Raised Frost-	l Ant Mounds (D6)( <b>LRR A</b> ) Heave Hummocks (D7)
Surfac Inund: Sparse Field Obse Surface W Water Tak Saturation (includes ca	peposits (B5) ce Soil Cracks (B6) ation Visible on A ely Vegetated Cor ervations: /ater Present? No ple Present? No present? No apillary fringe)	erial Image ncave Surfa 2 2 2	Reconstruction — Reconstruction — Students — Other Control  — Students — Students — Other Control  — Students — Students — Other Control  — Students — Stu	ent Iron I nted or Si er (Explai ches): ches): ches):	ressed Pla	in Tilled S ants (D1)( <b>I</b> rks)		Raised Frost-	l Ant Mounds (D6)( <b>LRR A</b> ) Heave Hummocks (D7)
Surfac Inund: Sparse Field Obse Surface W Water Tak Saturation (includes ca	peposits (B5) ce Soil Cracks (B6) ation Visible on A ely Vegetated Cor ervations: /ater Present? No ple Present? No present? No apillary fringe)	erial Image ncave Surfa 2 2 2	Reconstruction — Reconstruction — Students — Other Control  — Students — Students — Other Control  — Students — Students — Other Control  — Students — Stu	ent Iron I nted or Si er (Explai ches): ches): ches):	ressed Pla	in Tilled S ants (D1)( <b>I</b> rks)	RR A) _	Raised Frost-	l Ant Mounds (D6)( <b>LRR A</b> ) Heave Hummocks (D7)
Surfac Inund: Sparse Field Obse Surface W Water Tak Saturation (includes ca	peposits (B5) ce Soil Cracks (B6) ation Visible on A ely Vegetated Cor ervations: /ater Present? No ple Present? No present? No apillary fringe)	erial Image ncave Surfa 2 2 2	Reconstruction — Reconstruction — Students — Other Control  — Students — Students — Other Control  — Students — Students — Other Control  — Students — Stu	ent Iron I nted or Si er (Explai ches): ches): ches):	ressed Pla	in Tilled S ants (D1)( <b>I</b> rks)	RR A) _	Raised Frost-	l Ant Mounds (D6)( <b>LRR A</b> ) Heave Hummocks (D7)
Surfac Inunda Sparse Field Obse Surface W Water Tab Saturation (includes ca Describe F	peposits (B5) ce Soil Cracks (B6) ation Visible on A ely Vegetated Cor ervations: /ater Present? No ple Present? No present? No apillary fringe)	erial Image ncave Surfa 2 2 2	Reconstruction — Reconstruction — Students — Other Control  — Students — Students — Other Control  — Students — Students — Other Control  — Students — Stu	ent Iron I nted or Si er (Explai ches): ches): ches):	ressed Pla	in Tilled S ants (D1)( <b>I</b> rks)	RR A) _	Raised Frost-	l Ant Mounds (D6)( <b>LRR A</b> ) Heave Hummocks (D7)
Surfac Inunda Sparse Field Obse Surface W Water Tab Saturation (includes ca Describe F	peposits (B5) ce Soil Cracks (B6) ation Visible on A ely Vegetated Cor ervations: /ater Present? No ple Present? No present? No apillary fringe)	erial Image ncave Surfa 2 2 2	Reconstruction — Reconstruction — Students — Other Control  — Students — Students — Other Control  — Students — Students — Other Control  — Students — Stu	ent Iron I nted or Si er (Explai ches): ches): ches):	ressed Pla	in Tilled S ants (D1)( <b>I</b> rks)	RR A) _	Raised Frost-	l Ant Mounds (D6)( <b>LRR A</b> ) Heave Hummocks (D7)

Project/Site: Port Westward Renewable Diesel Refinery Applicant/Owner: Next Energy Group, Inc. State: OR Investigator(s): Sue Brady Section, Townshi Landform (hillslope, terrace, etc.): Flats Local relief (conc Subregion (LRR): Northwest Forests & Coast (LRR A) Soil Map Unit Name: Wauna silt loam, protected NWI cla Are climatic/hydrologic conditions on the site typical for Are Vegetation X, Soil , or Hydrology significantly Are Vegetation , Soil , or Hydrology naturally pro	p, Range: T8N R4 ave, convex, none Lat: assification: PEM: this time of year? disturbed? oblematic?	e): <u>concave</u> 46.16430860 1 <u>C</u> 2 <u>Yes</u> (if no, exp	Are "Normal (if needed, e	rks.) Circumstances" present? <u>Yes</u> xplain any answers in Remarks.)
Hydrophytic Vegetation Present? Yes	18 30111PIII18 POI	int locations,	transcets, n	inportant reatures, etc.
Hydric Soil Present? Yes				
Wetland Hydrology Present? Yes		Is the S	Sampled Area	within a Wetland? <u>Yes</u>
Remarks: mint field				
VEGETATION – Use scientific names of plants.				
<u>Tree Stratum</u> (Plot size: <u>0</u> ) 1. 2. 3.	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:  Number of Dominant Species  That Are OBL, FACW, or FAC: 4 (A)  Total Number of Dominant
4.				Species Across All Strata: 4 (B)
Total Cover = <u>0</u>				
Sapling/Shrub Stratum (Plot size: 0 )				Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)
1. 2. 3. 4. 5.  Total Cover = 0				Prevalence Index worksheet:
Herb Stratum (Plot size: _4 m² )  1. Cirsium arvense 2. Phalaris arundinacea 3. Cardamine occidentalis 4.	50 40 10	Yes Yes Yes	FAC FACW FACW	UPL species $0 \times 5 = 0$ Column Totals: $120 \times 5 = 0$ Prevalence Index = B/A = $2.58$
5. 6. 7. 8. 9. 10. 11. Total Cover = 100				Hydrophytic Vegetation Indicators: 1 — Rapid Test for Hydrophytic Vegetation  X
Woody Vine Stratum (Plot size: _4_)  1. Rubus armeniacus  2. Total Cover = 20	20	<u>Yes</u>	<u>FAC</u>	<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
% Bare Ground in Herb Stratum: <u>0</u>				Hydrophytic Vegetation Present? Yes
Remarks:		l	ı	Trywrophlytic vegetation Fleschit? Tes

SOIL Sampling Point: <u>29</u>

	Mat	<u>rix</u>		Redox F	-eatures				
Depth	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture		Remarks
(inches)			, ,		,,				
0-8	10YR 3/3	100		<u>0</u>					
8-18	10YR 3/1	<u>90</u>	10YR 4/6	10					
0-10	<u>101K 3/ 1</u>	<u>30</u>	<u>1011( 4/0</u>	10					
¹Type: C-	-Concentration D	)-Denletion	, RM=Reduced M	atriv (S-(	Covered o	Coated S	and Grains	<sup>2</sup> l ocation: Pl	=Pore Lining, M=Matrix
турс. С-	-concentration, b	-Depiction	i, itivi–iteaacea ivi	JUIN, C5-C	LOVET CU OI	Coated 3	ana Grains.	Location. 11	- Ore Liming, Wi-Wattix
Hydric So	il Indicators: (Ap	plicable to	all LRRs, unless of	herwise r	noted.)			Indicato	rs for Problematic Hydric Soils <sup>3</sup> :
Histo	sol (A1)		Sa	ndy Redo	x (S5)			2 cr	n Muck (A10)
· ·	Epipedon (A2)			ripped Ma					Parent Material (TF2)
	Histic (A3)					(F1) (evc	ept MLRA 1)		ry Shallow Dark Surface (TF12)
	` ,			amy Gleye	•		opt with 1)		
	ogen Sulfide (A4)					(FZ)			er (Explain in Remarks)
	eted Below Dark S	•	·	epleted M	` '				
	Dark Surface (A1	•	<u>X</u> Re	dox Dark S	Surface (F	5)			ors of hydrophytic vegetation and
Sandy	y Mucky Mineral (	(S1)	De	epleted Da	irk Surface	e (F7)			hydrology must be present, unless
Sandy	y Gleyed Matrix (S	54)	Re	dox Depre	essions (F8	3)		disturb	ed or problematic.
Restrictiv	ve Layer (if preser	nt)·							
Type:	e Layer (ii preser	,.							
Depth (in	chas): 0							Hydric	Soil Present? Yes
Deptii (iii	crics). <u>o</u>							, , , ,	
Remarks:									
HYDROLO	GY								
Wetland I	Hydrology Indicat	tors:							
Primary Ir	ndicators (minimu	ım of one r	equired; check all	that apply	<b>(</b> )			Cocondan	Indicators (two or more required)
Curfac	ce Water (A1)		\\/-	iter-Staine	d Loavos	(5.0)		Secondary	
				ici-Stairie		Rai			-Stained Leaves (RO)(MIRA 1 2 1A 1R)
	Water Table (A2)		(e			,		Water	-Stained Leaves (B9)(MLRA 1,2,4A,4B)
X_Satura				xcept MLI	RA 1,2,4A,	,		Water	ge Patterns (B10)
Wate	r Marks (B1)			t Crust (B1	<b>RA 1,2,4A</b> , l1)	and 4B)		Water	ge Patterns (B10) ason Water Table (C2)
Sedim				•	<b>RA 1,2,4A</b> , l1)	and 4B)		Water	ge Patterns (B10)
	ent Deposits (B2)	)	Aq	t Crust (B1	<b>RA 1,2,4A</b> , l1) rtebrates (	and 4B)		WaterDrainaDry-Se	ge Patterns (B10) ason Water Table (C2)
Drift [	nent Deposits (B2) Deposits (B3)	)	Aq Hy	t Crust (B1 uatic Invei drogen Su	RA 1,2,4A, 11) rtebrates ( Ifide Odor	(C1)	ng Roots (C3)	Water Draina Dry-Se Satura Geom	ge Patterns (B10) ason Water Table (C2) tion Visible on Aerial Imagery (C9) orphic Position (D2)
·	Deposits (B3)		Aq Hy Ox	t Crust (B1 uatic Inver drogen Su idized Rhiz	RA 1,2,4A, 11) rtebrates ( Ifide Odor zospheres	(C1) along Livi	ng Roots (C3)	WaterDrainaDry-SeSaturaGeomShallo	ge Patterns (B10) ason Water Table (C2) tion Visible on Aerial Imagery (C9) orphic Position (D2) w Aquitard (D3)
Algal I	Deposits (B3) Mat or Crust (B4)		Aq Hy Ox Pre	t Crust (B1 uatic Inver drogen Su idized Rhiz esence of F	RA 1,2,4A, 11) rtebrates ( Ifide Odor zospheres Reduced Ir	B13) (C1) along Livi		WaterDrainaDry-SeSaturaGeomShallo	ge Patterns (B10) ason Water Table (C2) tion Visible on Aerial Imagery (C9) orphic Position (D2) w Aquitard (D3) eutral Test (D5)
Algal I	Deposits (B3) Mat or Crust (B4) Deposits (B5)		Aq Hy Ox Pre Re	t Crust (B1 uatic Inver drogen Su idized Rhiz esence of F cent Iron F	RA 1,2,4A, 11) rtebrates ( Ifide Odor zospheres Reduced Ir Reduction	B13) (C1) along Livi on (C4) in Tilled S	oils (C6)	WaterDrainaDry-SeSaturaGeomShalloFAC-NRaised	ge Patterns (B10) ason Water Table (C2) tion Visible on Aerial Imagery (C9) orphic Position (D2) w Aquitard (D3) eutral Test (D5) Ant Mounds (D6)(LRR A)
Algal I Iron D Surfac	Deposits (B3) Mat or Crust (B4) Deposits (B5) ce Soil Cracks (B6)		Aq Hy Ox Pre Red Stu	t Crust (B1 uatic Inver drogen Su idized Rhiz esence of F cent Iron F inted or St	RA 1,2,4A, 11) rtebrates ( Ifide Odor zospheres Reduced Ir Reduction cressed Pla	B13) (C1) along Livi con (C4) in Tilled S ants (D1)(I	oils (C6)	WaterDrainaDry-SeSaturaGeomShalloFAC-NRaised	ge Patterns (B10) ason Water Table (C2) tion Visible on Aerial Imagery (C9) orphic Position (D2) w Aquitard (D3) eutral Test (D5)
Algal I Iron D Surfac Inund	Deposits (B3) Mat or Crust (B4) Deposits (B5) Ce Soil Cracks (B6) ation Visible on A	) serial Image	Aq Hy Ox Pre Stu Stu ery (B7)Otl	t Crust (B1 uatic Inver drogen Su idized Rhiz esence of F cent Iron F	RA 1,2,4A, 11) rtebrates ( Ifide Odor zospheres Reduced Ir Reduction cressed Pla	B13) (C1) along Livi con (C4) in Tilled S ants (D1)(I	oils (C6)	WaterDrainaDry-SeSaturaGeomShalloFAC-NRaised	ge Patterns (B10) ason Water Table (C2) tion Visible on Aerial Imagery (C9) orphic Position (D2) w Aquitard (D3) eutral Test (D5) Ant Mounds (D6)(LRR A)
Algal I Iron D Surfac Inund	Deposits (B3) Mat or Crust (B4) Deposits (B5) ce Soil Cracks (B6)	) serial Image	Aq Hy Ox Pre Stu Stu ery (B7)Otl	t Crust (B1 uatic Inver drogen Su idized Rhiz esence of F cent Iron F inted or St	RA 1,2,4A, 11) rtebrates ( Ifide Odor zospheres Reduced Ir Reduction cressed Pla	B13) (C1) along Livi con (C4) in Tilled S ants (D1)(I	oils (C6)	WaterDrainaDry-SeSaturaGeomShalloFAC-NRaised	ge Patterns (B10) ason Water Table (C2) tion Visible on Aerial Imagery (C9) orphic Position (D2) w Aquitard (D3) eutral Test (D5) Ant Mounds (D6)(LRR A)
Algal IIron DSurfacInundSparse	Deposits (B3) Mat or Crust (B4) Deposits (B5) Ce Soil Cracks (B6) ation Visible on A	) serial Image	Aq Hy Ox Pre Stu Stu ery (B7)Otl	t Crust (B1 uatic Inver drogen Su idized Rhiz esence of F cent Iron F inted or St	RA 1,2,4A, 11) rtebrates ( Ifide Odor zospheres Reduced Ir Reduction cressed Pla	B13) (C1) along Livi con (C4) in Tilled S ants (D1)(I	oils (C6)	WaterDrainaDry-SeSaturaGeomShalloFAC-NRaised	ge Patterns (B10) ason Water Table (C2) tion Visible on Aerial Imagery (C9) orphic Position (D2) w Aquitard (D3) eutral Test (D5) Ant Mounds (D6)(LRR A)
Algal IIron DSurfacInundSparse Field Obse	Deposits (B3) Mat or Crust (B4) Deposits (B5) Dee Soil Cracks (B6) Ation Visible on A Dely Vegetated Cor	l Lerial Image Incave Surfa	Aq Hy Ox Pre Stu Stu ery (B7)Otl	t Crust (B1 uatic Inver drogen Su idized Rhiz esence of F cent Iron F unted or St ner (Explai	RA 1,2,4A, 11) rtebrates ( Ifide Odor zospheres Reduced Ir Reduction cressed Pla	B13) (C1) along Livi con (C4) in Tilled S ants (D1)(I	oils (C6)	WaterDrainaDry-SeSaturaGeomShalloFAC-NRaised	ge Patterns (B10) ason Water Table (C2) tion Visible on Aerial Imagery (C9) orphic Position (D2) w Aquitard (D3) eutral Test (D5) Ant Mounds (D6)(LRR A)
Algal IIron DSurfacInundSparse Field Obse Surface W	Deposits (B3) Mat or Crust (B4) Deposits (B5) Dee Soil Cracks (B6) Detation Visible on A Dely Vegetated Corervations:	l erial Image ncave Surfa <u>o</u>	Aq Hy Ox Rei Stu ery (B7)Oth ce (B8)	t Crust (B1 uatic Inver drogen Su idized Rhiz esence of F cent Iron F unted or St ner (Explai	RA 1,2,4A, 11) rtebrates ( Ifide Odor zospheres Reduced Ir Reduction cressed Pla in in Rema	B13) (C1) along Livi con (C4) in Tilled S ants (D1)(I	oils (C6)	WaterDrainaDry-SeSaturaGeomShalloFAC-NRaised	ge Patterns (B10) ason Water Table (C2) tion Visible on Aerial Imagery (C9) orphic Position (D2) w Aquitard (D3) eutral Test (D5) Ant Mounds (D6)(LRR A)
Algal IIIron DSurfaceInundSparse Field Obse Surface W Water Tal	Deposits (B3) Mat or Crust (B4) Deposits (B5) Dee Soil Cracks (B6) ation Visible on A Dely Vegetated Corervations: Vater Present? No	erial Image ncave Surfa <u>0</u> 2s	Aq Hy Ox Rec Stu ery (B7)Oth ce (B8) Depth (in Depth (in	t Crust (B1 uatic Inver drogen Su idized Rhiz esence of F cent Iron F unted or St ner (Explai	RA 1,2,4A, 11) rtebrates ( Ifide Odor zospheres Reduced Ir Reduction cressed Pla in in Rema	B13) (C1) along Livi con (C4) in Tilled S ants (D1)(I	oils (C6) RR A)	WaterDrainaDry-SeSaturaGeomShalloFAC-NRaisedFrost-l	ge Patterns (B10) lason Water Table (C2) tion Visible on Aerial Imagery (C9) orphic Position (D2) w Aquitard (D3) eutral Test (D5) Ant Mounds (D6)(LRR A) Heave Hummocks (D7)
Algal IIIron DSurface U Surface W Water Tal Saturation (includes co.	Deposits (B3) Mat or Crust (B4) Deposits (B5) De Soil Cracks (B6) Dation Visible on A Dely Vegetated Corervations: Vater Present? Nation Present? Yeapillary fringe)	erial Image ncave Surfa <u>0</u> 28 28	Aq Hy Ox Red Stu ery (B7)Otl ce (B8) Depth (in Depth (in	t Crust (B1 uatic Inver drogen Su idized Rhiz esence of F cent Iron F inted or St ner (Explai	RA 1,2,4A, 11) rtebrates ( Ifide Odor cospheres Reduced Ir Reduction cressed Pla in in Rema	and 4B) (C1) along Livi ron (C4) in Tilled S ants (D1)(I	oils (C6) .RR A) Wetland Hyd	WaterDrainaDry-SeSaturaGeomShalloFAC-NRaisedFrost-l	ge Patterns (B10) lason Water Table (C2) tion Visible on Aerial Imagery (C9) orphic Position (D2) w Aquitard (D3) eutral Test (D5) Ant Mounds (D6)(LRR A) Heave Hummocks (D7)
Algal IIIron DSurface U Surface W Water Tal Saturation (includes co.	Deposits (B3) Mat or Crust (B4) Deposits (B5) De Soil Cracks (B6) Dation Visible on A Dely Vegetated Corervations: Vater Present? Nation Present? Yeapillary fringe)	erial Image ncave Surfa <u>0</u> 28 28	Aq Hy Ox Rec Stu ery (B7)Oth ce (B8) Depth (in Depth (in	t Crust (B1 uatic Inver drogen Su idized Rhiz esence of F cent Iron F inted or St ner (Explai	RA 1,2,4A, 11) rtebrates ( Ifide Odor cospheres Reduced Ir Reduction cressed Pla in in Rema	and 4B) (C1) along Livi ron (C4) in Tilled S ants (D1)(I	oils (C6) .RR A) Wetland Hyd	WaterDrainaDry-SeSaturaGeomShalloFAC-NRaisedFrost-l	ge Patterns (B10) lason Water Table (C2) tion Visible on Aerial Imagery (C9) orphic Position (D2) w Aquitard (D3) eutral Test (D5) Ant Mounds (D6)(LRR A) Heave Hummocks (D7)
Algal IIIron DSurface  InundSparse   Field Obset   Surface W Water Tal   Saturation   (includes continued)	Deposits (B3) Mat or Crust (B4) Deposits (B5) De Soil Cracks (B6) Dation Visible on A Dely Vegetated Corervations: Vater Present? Nation Present? Yeapillary fringe)	erial Image ncave Surfa <u>0</u> 28 28	Aq Hy Ox Red Stu ery (B7)Otl ce (B8) Depth (in Depth (in	t Crust (B1 uatic Inver drogen Su idized Rhiz esence of F cent Iron F inted or St ner (Explai	RA 1,2,4A, 11) rtebrates ( Ifide Odor cospheres Reduced Ir Reduction cressed Pla in in Rema	and 4B) (C1) along Livi ron (C4) in Tilled S ants (D1)(I	oils (C6) .RR A) Wetland Hyd	WaterDrainaDry-SeSaturaGeomShalloFAC-NRaisedFrost-l	ge Patterns (B10) lason Water Table (C2) tion Visible on Aerial Imagery (C9) orphic Position (D2) w Aquitard (D3) eutral Test (D5) Ant Mounds (D6)(LRR A) Heave Hummocks (D7)
Algal IIIron DSurface  InundSparse   Field Obset   Surface W Water Tal   Saturation   (includes continued)	Deposits (B3) Mat or Crust (B4) Deposits (B5) De Soil Cracks (B6) Dation Visible on A Dely Vegetated Corervations: Vater Present? Nation Present? Yeapillary fringe)	erial Image ncave Surfa <u>0</u> 28 28	Aq Hy Ox Red Stu ery (B7)Otl ce (B8) Depth (in Depth (in	t Crust (B1 uatic Inver drogen Su idized Rhiz esence of F cent Iron F inted or St ner (Explai	RA 1,2,4A, 11) rtebrates ( Ifide Odor cospheres Reduced Ir Reduction cressed Pla in in Rema	and 4B) (C1) along Livi ron (C4) in Tilled S ants (D1)(I	oils (C6) .RR A) Wetland Hyd	WaterDrainaDry-SeSaturaGeomShalloFAC-NRaisedFrost-l	ge Patterns (B10) lason Water Table (C2) tion Visible on Aerial Imagery (C9) orphic Position (D2) w Aquitard (D3) eutral Test (D5) Ant Mounds (D6)(LRR A) Heave Hummocks (D7)
Algal IIIron DSurface  InundSparse   Field Obset   Surface W Water Tal   Saturation   (includes continued)	Deposits (B3) Mat or Crust (B4) Deposits (B5) De Soil Cracks (B6) Dation Visible on A Dely Vegetated Corervations: Vater Present? Nation Present? Yeapillary fringe)	erial Image ncave Surfa <u>0</u> 28 28	Aq Hy Ox Red Stu ery (B7)Otl ce (B8) Depth (in Depth (in	t Crust (B1 uatic Inver drogen Su idized Rhiz esence of F cent Iron F inted or St ner (Explai	RA 1,2,4A, 11) rtebrates ( Ifide Odor cospheres Reduced Ir Reduction cressed Pla in in Rema	and 4B) (C1) along Livi ron (C4) in Tilled S ants (D1)(I	oils (C6) .RR A) Wetland Hyd	WaterDrainaDry-SeSaturaGeomShalloFAC-NRaisedFrost-l	ge Patterns (B10) lason Water Table (C2) tion Visible on Aerial Imagery (C9) orphic Position (D2) w Aquitard (D3) eutral Test (D5) Ant Mounds (D6)(LRR A) Heave Hummocks (D7)
Algal IIron DSurfacInundSparse Field Obse Surface W Water Tal Saturation (includes co	Deposits (B3) Mat or Crust (B4) Deposits (B5) De Soil Cracks (B6) Dation Visible on A Dely Vegetated Corervations: Vater Present? Nation Present? Yeapillary fringe)	erial Image ncave Surfa <u>0</u> 28 28	Aq Hy Ox Red Stu ery (B7)Otl ce (B8) Depth (in Depth (in	t Crust (B1 uatic Inver drogen Su idized Rhiz esence of F cent Iron F inted or St ner (Explai	RA 1,2,4A, 11) rtebrates ( Ifide Odor cospheres Reduced Ir Reduction cressed Pla in in Rema	and 4B) (C1) along Livi ron (C4) in Tilled S ants (D1)(I	oils (C6) .RR A) Wetland Hyd	WaterDrainaDry-SeSaturaGeomShalloFAC-NRaisedFrost-l	ge Patterns (B10) lason Water Table (C2) tion Visible on Aerial Imagery (C9) orphic Position (D2) w Aquitard (D3) eutral Test (D5) Ant Mounds (D6)(LRR A) Heave Hummocks (D7)
Algal IIron DSurfacInundSparso Field Obso Surface W Water Tal Saturation (includes co	Deposits (B3) Mat or Crust (B4) Deposits (B5) De Soil Cracks (B6) Dation Visible on A Dely Vegetated Corervations: Vater Present? Nation Present? Yeapillary fringe)	erial Image ncave Surfa <u>0</u> 28 28	Aq Hy Ox Red Stu ery (B7)Otl ce (B8) Depth (in Depth (in	t Crust (B1 uatic Inver drogen Su idized Rhiz esence of F cent Iron F inted or St ner (Explai	RA 1,2,4A, 11) rtebrates ( Ifide Odor cospheres Reduced Ir Reduction cressed Pla in in Rema	and 4B) (C1) along Livi ron (C4) in Tilled S ants (D1)(I	oils (C6) .RR A) Wetland Hyd	WaterDrainaDry-SeSaturaGeomShalloFAC-NRaisedFrost-l	ge Patterns (B10) lason Water Table (C2) tion Visible on Aerial Imagery (C9) orphic Position (D2) w Aquitard (D3) eutral Test (D5) Ant Mounds (D6)(LRR A) Heave Hummocks (D7)

Project/Site: Port Westward Renewable Diesel Refinery Applicant/Owner: Next Energy Group, Inc. State: OR Investigator(s): Sue Brady Section, Townshi Landform (hillslope, terrace, etc.): Flats Local relief (conc Subregion (LRR): Northwest Forests & Coast (LRR A) Soil Map Unit Name: Wauna silt loam, protected NWI cla Are climatic/hydrologic conditions on the site typical for Are Vegetation, Soil, or Hydrology significantly Are Vegetation, Soil, or Hydrology naturally pro	p, Range: <u>T8N R4'</u> ave, convex, none Lat: assification: <u>PEM</u> : this time of year? disturbed? oblematic?	e): <u>concave</u> <u>46.16427940</u> <u>1C</u> • <u>Yes</u> (if no, exp	olain in Remai Are "Normal (if needed, e	cks.) Circumstances" present? <u>Yes</u> xplain any answers in Remarks.)
Hydrophytic Vegetation Present? Yes	ig sampling por	in locations,	transects, n	inportant reatures, etc.
Hydric Soil Present? Yes				
Wetland Hydrology Present? <u>Yes</u>		Is the S	Sampled Area	within a Wetland? Yes
Remarks: hay field/pasture				
VEGETATION – Use scientific names of plants.				
Tree Stratum (Plot size: 0 ) 1. 2. 3.	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:  Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)  Total Number of Dominant
4.				Species Across All Strata: <u>1</u> (B)
Total Cover = <u>0</u>				Parcent of Deminant Species
Sapling/Shrub Stratum (Plot size: 0 )				Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)
1. 2. 3. 4. 5.  Total Cover = 0  Herb Stratum (Plot size: 4 m²)  1. Schedonorus arundinacea  2. Ranunculus repens  3.	90 10	Yes No	FAC FAC	Prevalence Index worksheet:
4.				11evalence mack = <i>B/T</i> ( = <u>3:00</u>
5. 6. 7. 8. 9. 10. 11. Total Cover = 100				Hydrophytic Vegetation Indicators: 1 —Rapid Test for Hydrophytic Vegetation  X2 — Dominance Test >50%  X3 - Prevalence Index is ≤ 3.0¹ 4 - Morphological Adaptions¹ (Provide supporting data in Remarks or on a separate sheet) 5 — Wetland Non-Vascular Plants¹  Problematic Hydrophytic Vegetation¹ (Explain)
Woody Vine Stratum (Plot size: 0 )  1.  2.  Total Cover =0				<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
_				
% Bare Ground in Herb Stratum: <u>0</u>				Hydrophytic Vegetation Present? Yes
Remarks:				

SOIL Sampling Point: <u>30</u>

	iviati	rix		Redox F	eatures				
Depth	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture		Remarks
(inches)									
<u>0-16</u>	10YR 3/2	<u>90</u>	<u>10YR 4/6</u>	<u>10</u>	<u>C</u>	<u>RC</u>	Silty Clay Loam		
¹Type: C=	Concentration, D	=Depletion	, RM=Reduced M	atrix, CS=0	Covered o	r Coated S	and Grains. <sup>2</sup> Lo	cation: Pl	.=Pore Lining, M=Matrix
Hydric So	il Indicators: (App	olicable to	all LRRs, unless ot	herwise r	noted.)			Indicato	rs for Problematic Hydric Soils <sup>3</sup> :
Histos	sol (A1)		Sa	ndy Redo	x (S5)			2 cr	n Muck (A10)
Histic	Epipedon (A2)		St	ripped Ma	itrix (S6)			Red	Parent Material (TF2)
Black	Histic (A3)		Lo	amy Muc	ky Minera	l (F1) (exc	ept MLRA 1)	Vei	ry Shallow Dark Surface (TF12)
Hydro	ogen Sulfide (A4)		Lo	amy Gley	ed Matrix	(F2)		Oth	er (Explain in Remarks)
Deple	eted Below Dark S	urface (A11	L)De	epleted M	atrix (F3)				
Thick	Dark Surface (A12	2)	<u>X</u> Re	dox Dark	Surface (F	6)			ors of hydrophytic vegetation and
Sandy	/ Mucky Mineral (	S1)	De	epleted Da	ark Surface	e (F7)			hydrology must be present, unless
Sandy	, Gleyed Matrix (S	4)	Re	dox Depr	essions (F8	3)		disturb	ed or problematic.
Restrictiv	e Layer (if presen	ıt):							
Type:									
Depth (in	ches): <u>0</u>							Hydric	Soil Present? Yes
Remarks:									
HYDROLO	NCV								
	ז טי Hydrology Indicat								
		ors.							
			equired; check all	that apply	<i>(</i> )		9	Secondary	Indicators (two or more required)
	ndicators (minimu		<u> </u>			(B9)	5		Indicators (two or more required)  Stained Leaves (R9)(MIRA 1.2.44 4B)
Surfac	ndicators (minimu ce Water (A1)		Wa	iter-Staine	ed Leaves		S -	Water	-Stained Leaves (B9)(MLRA 1,2,4A,4B)
Surfac	ndicators (minimu ce Water (A1) Water Table (A2)		Wa	ter-Staine	ed Leaves (		- -	Water Draina	-Stained Leaves (B9)(MLRA 1,2,4A,4B) ge Patterns (B10)
Surfac High V Satura	ndicators (minimu ce Water (A1) Water Table (A2) ation (A3)		Wa ( <b>e</b> Sal	iter-Staine xcept ML t Crust (B2	ed Leaves ( <b>RA 1,2,4A</b> , l1)	, and 4B)	- - -	Water Draina Dry-Se	-Stained Leaves (B9)(MLRA 1,2,4A,4B) ge Patterns (B10) ason Water Table (C2)
Surfac High \ Satura Water	ndicators (minimu ce Water (A1) Water Table (A2) ation (A3) r Marks (B1)	m of one re	Wa ( <b>e</b> Sal Aqı	xcept ML t Crust (B2 uatic Inve	ed Leaves ( RA 1,2,4A, l1) rtebrates (	(B13)	- - - -	Water Draina Dry-Se Satura	-Stained Leaves (B9)(MLRA 1,2,4A,4B) ge Patterns (B10) ason Water Table (C2) tion Visible on Aerial Imagery (C9)
Surfac High V Satura Water Sedim	ndicators (minimu ce Water (A1) Water Table (A2) ation (A3) r Marks (B1) nent Deposits (B2)	m of one re	Wa ( <b>e</b> Sal: Aqı Hyo	ter-Staine xcept ML t Crust (B2 uatic Inve drogen Su	ed Leaves ( RA 1,2,4A, L1) rtebrates ( Ifide Odor	(B13) (C1)	- - - -	WaterDrainaDry-SeSaturaGeome	restained Leaves (B9)(MLRA 1,2,4A,4B) ge Patterns (B10) ason Water Table (C2) tion Visible on Aerial Imagery (C9) preprice Position (D2)
Surfac High V Satura Water Sedim Drift E	ndicators (minimu ce Water (A1) Water Table (A2) ation (A3) r Marks (B1) nent Deposits (B2) Deposits (B3)	m of one re	Wa (e Sal Aqı Hyo X_Oxi	xcept ML t Crust (B2 uatic Inver drogen Su dized Rhiz	ed Leaves ( RA 1,2,4A, L1) rtebrates ( Ifide Odor	(B13) (C1) along Livir	- - - - - - - - - - - -	Water Draina Dry-Se Satura Geome	restained Leaves (B9)(MLRA 1,2,4A,4B) ge Patterns (B10) eason Water Table (C2) tion Visible on Aerial Imagery (C9) preprice Position (D2) w Aquitard (D3)
Surface High V Satura Water Sedim Drift E	ndicators (minimu ce Water (A1) Water Table (A2) ation (A3) r Marks (B1) nent Deposits (B2) Deposits (B3) Mat or Crust (B4)	m of one re	Wa Sal Aqı Hyu Y. Pre	xcept ML t Crust (B2 uatic Invedrogen Sudized Rhiz esence of I	ed Leaves ( RA 1,2,4A, L1) rtebrates ( Ifide Odor cospheres Reduced Ir	(B13) (C1) along Livin	- - - - ng Roots (C3)	Water Draina Dry-Se Satura Geome Shalloe	restained Leaves (B9)(MLRA 1,2,4A,4B) ge Patterns (B10) ason Water Table (C2) tion Visible on Aerial Imagery (C9) preprice Position (D2) w Aquitard (D3) eutral Test (D5)
Surface High V Satura Water Sedim Drift E Algal I	ndicators (minimu ce Water (A1) Water Table (A2) ation (A3) r Marks (B1) nent Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5)	m of one re	Wa (e Sal Aqı Hyo Pre Rec	xcept ML t Crust (B2 uatic Inver drogen Su dized Rhiz esence of I	ed Leaves ( RA 1,2,4A, L1) rtebrates ( Ifide Odor cospheres Reduced Ir	(B13) (C1) along Livin on (C4) in Tilled S	- - - - ng Roots (C3) - 	Water Draina Dry-Se Satura Geom Shallor FAC-N Raised	restained Leaves (B9)(MLRA 1,2,4A,4B) ge Patterns (B10) ason Water Table (C2) tion Visible on Aerial Imagery (C9) preprice Position (D2) w Aquitard (D3) eutral Test (D5) Ant Mounds (D6)(LRR A)
Surface High N Satura Water Sedim Drift C Algal I Iron D	ndicators (minimu ce Water (A1) Water Table (A2) ation (A3) r Marks (B1) nent Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) ce Soil Cracks (B6)	m of one re	Wa (e Sal: Aqi Hyi Pre Rec Stu	xcept ML t Crust (B: uatic Inverdrogen Su dized Rhiz esence of I	ed Leaves ( RA 1,2,4A, L1) rtebrates ( Ifide Odor cospheres Reduced Ir Reduction tressed Pla	(B13) (C1) along Livin ron (C4) in Tilled S ants (D1)(I	- - - - ng Roots (C3) - 	Water Draina Dry-Se Satura Geom Shallor FAC-N Raised	restained Leaves (B9)(MLRA 1,2,4A,4B) ge Patterns (B10) ason Water Table (C2) tion Visible on Aerial Imagery (C9) preprice Position (D2) w Aquitard (D3) eutral Test (D5)
Surface High N Satura Water Sedim Drift C Algal I Iron D Surface	ndicators (minimu ce Water (A1) Water Table (A2) ation (A3) r Marks (B1) nent Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) ce Soil Cracks (B6) ation Visible on A	m of one re	Wa (e Sal: Aqi Hyi X_Oxi Pre Stu ry (B7)Oth	xcept ML t Crust (B: uatic Inverdrogen Su dized Rhiz esence of I	ed Leaves ( RA 1,2,4A, L1) rtebrates ( Ifide Odor cospheres Reduced Ir	(B13) (C1) along Livin ron (C4) in Tilled S ants (D1)(I	- - - - ng Roots (C3) - 	Water Draina Dry-Se Satura Geom Shallor FAC-N Raised	restained Leaves (B9)(MLRA 1,2,4A,4B) ge Patterns (B10) ason Water Table (C2) tion Visible on Aerial Imagery (C9) preprice Position (D2) w Aquitard (D3) eutral Test (D5) Ant Mounds (D6)(LRR A)
Surface High V Satura Water Sedim Drift E Algal I Iron D Surface Inund Sparse	ndicators (minimu ce Water (A1) Water Table (A2) ation (A3) r Marks (B1) nent Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) ce Soil Cracks (B6) ation Visible on A	m of one re	Wa (e Sal: Aqi Hyi X_Oxi Pre Stu ry (B7)Oth	xcept ML t Crust (B: uatic Inverdrogen Su dized Rhiz esence of I	ed Leaves ( RA 1,2,4A, L1) rtebrates ( Ifide Odor cospheres Reduced Ir Reduction tressed Pla	(B13) (C1) along Livin ron (C4) in Tilled S ants (D1)(I	- - - - ng Roots (C3) - 	Water Draina Dry-Se Satura Geom Shallor FAC-N Raised	restained Leaves (B9)(MLRA 1,2,4A,4B) ge Patterns (B10) ason Water Table (C2) tion Visible on Aerial Imagery (C9) preprice Position (D2) w Aquitard (D3) eutral Test (D5) Ant Mounds (D6)(LRR A)
Surface High V Satura Water Sedim Drift E Algal I Iron D Surface Inund Sparse	ndicators (minimu ce Water (A1) Water Table (A2) ation (A3) r Marks (B1) nent Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) ce Soil Cracks (B6) ation Visible on A ely Vegetated Con ervations:	m of one re erial Image acave Surfa	Wa	iter-Staine xcept ML t Crust (B2 uatic Inver- drogen Su dized Rhizes esence of I cent Iron I inted or Staner (Explain	ed Leaves ( RA 1,2,4A, L1) rtebrates ( Ifide Odor cospheres Reduced Ir Reduction tressed Pla	(B13) (C1) along Livin ron (C4) in Tilled S ants (D1)(I	- - - - ng Roots (C3) - 	Water Draina Dry-Se Satura Geom Shallor FAC-N Raised	restained Leaves (B9)(MLRA 1,2,4A,4B) ge Patterns (B10) ason Water Table (C2) tion Visible on Aerial Imagery (C9) preprice Position (D2) w Aquitard (D3) eutral Test (D5) Ant Mounds (D6)(LRR A)
SurfaceHigh NSaturaWaterSedimDrift IAlgal IIron DSurfaceInundSparseSurface W	ndicators (minimu ce Water (A1) Water Table (A2) ation (A3) r Marks (B1) nent Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) ce Soil Cracks (B6) ation Visible on A	m of one re erial Image ncave Surfa	Wa (e Sal: Aqi Hyi X_Oxi Pre Stu ry (B7)Oth	iter-Staine xcept ML t Crust (B3 uatic Inveited Rhized Rhizes esence of I cent Iron I inted or Stainer (Explain	ed Leaves ( RA 1,2,4A, L1) rtebrates ( Ifide Odor cospheres Reduced Ir Reduction tressed Pla	(B13) (C1) along Livin ron (C4) in Tilled S ants (D1)(I	- - - - ng Roots (C3) - 	Water Draina Dry-Se Satura Geom Shallor FAC-N Raised	restained Leaves (B9)(MLRA 1,2,4A,4B) ge Patterns (B10) ason Water Table (C2) tion Visible on Aerial Imagery (C9) preprice Position (D2) w Aquitard (D3) eutral Test (D5) Ant Mounds (D6)(LRR A)
Surface High V Satura Water Sedim Drift E Algal I Iron D Surface Inund Sparse Surface W Water Tal	ndicators (minimu De Water (A1) Water Table (A2) Pation (A3) In Marks (B1) Pent Deposits (B2) Deposits (B3) Mat or Crust (B4) Peposits (B5) De Soil Cracks (B6) Pation Visible on Allely Vegetated Concervations: Vater Present? No	m of one re erial Image acave Surfa	Wa	iter-Staine xcept ML t Crust (B3 uatic Inveited Rhized Rhizes esence of I cent Iron I inted or Stainer (Explain	ed Leaves ( RA 1,2,4A, 11)  rtebrates ( Ifide Odor cospheres Reduced Ir Reduction cressed Platin in Rema	(B13) (C1) along Livin ron (C4) in Tilled S ants (D1)(I		Water Draina Dry-Se Satura Geom Shallor FAC-N Raised Frost-I	restained Leaves (B9)(MLRA 1,2,4A,4B) ge Patterns (B10) ason Water Table (C2) tion Visible on Aerial Imagery (C9) orphic Position (D2) w Aquitard (D3) eutral Test (D5) Ant Mounds (D6)(LRR A) Heave Hummocks (D7)
SurfaceHigh NSaturateSedimDrift EAlgal IIron DSurfaceInundSparse Surface W Water Talk Saturation (includes care	ndicators (minimu De Water (A1) Water Table (A2) Detion (A3) In Marks (B1) Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) De Soil Cracks (B6) Detion Visible on Action Visible on A	m of one re erial Image ncave Surfa 2 2 5	Wa	iter-Staine xcept ML t Crust (B: uatic Invertigen Su dized Rhiz esence of I cent Iron I inted or St iner (Explain ches): ches):	ed Leaves ( RA 1,2,4A, L1)  rtebrates ( Ifide Odor cospheres Reduced Ir Reduction cressed Platin in Rema	(B13) (C1) along Livir ron (C4) in Tilled S ants (D1)(I		Water Draina Dry-Se Satura Geom Shallo FAC-N Raised Frost-I	restained Leaves (B9)(MLRA 1,2,4A,4B) ge Patterns (B10) ason Water Table (C2) tion Visible on Aerial Imagery (C9) orphic Position (D2) w Aquitard (D3) eutral Test (D5) Ant Mounds (D6)(LRR A) Heave Hummocks (D7)
SurfaceHigh NSaturateSedimDrift EAlgal IIron DSurfaceInundSparse Surface W Water Talk Saturation (includes ca	ndicators (minimu De Water (A1) Water Table (A2) Detion (A3) In Marks (B1) Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) De Soil Cracks (B6) Detion Visible on Action Visible on A	m of one re erial Image ncave Surfa 2 2 5	Wa	iter-Staine xcept ML t Crust (B: uatic Invertigen Su dized Rhiz esence of I cent Iron I inted or St iner (Explain ches): ches):	ed Leaves ( RA 1,2,4A, L1)  rtebrates ( Ifide Odor cospheres Reduced Ir Reduction cressed Platin in Rema	(B13) (C1) along Livir ron (C4) in Tilled S ants (D1)(I		Water Draina Dry-Se Satura Geom Shallo FAC-N Raised Frost-I	restained Leaves (B9)(MLRA 1,2,4A,4B) ge Patterns (B10) ason Water Table (C2) tion Visible on Aerial Imagery (C9) orphic Position (D2) w Aquitard (D3) eutral Test (D5) Ant Mounds (D6)(LRR A) Heave Hummocks (D7)
SurfaceHigh NSaturateSedimDrift EAlgal IIron DSurfaceInundSparse Surface W Water Talk Saturation (includes ca	ndicators (minimu De Water (A1) Water Table (A2) Detion (A3) In Marks (B1) Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) De Soil Cracks (B6) Detion Visible on Action Visible on A	m of one re erial Image ncave Surfa 2 2 5	Wa	iter-Staine xcept ML t Crust (B: uatic Invertigen Su dized Rhiz esence of I cent Iron I inted or St iner (Explain ches): ches):	ed Leaves ( RA 1,2,4A, L1)  rtebrates ( Ifide Odor cospheres Reduced Ir Reduction cressed Platin in Rema	(B13) (C1) along Livir ron (C4) in Tilled S ants (D1)(I		Water Draina Dry-Se Satura Geom Shallo FAC-N Raised Frost-I	restained Leaves (B9)(MLRA 1,2,4A,4B) ge Patterns (B10) ason Water Table (C2) tion Visible on Aerial Imagery (C9) orphic Position (D2) w Aquitard (D3) eutral Test (D5) Ant Mounds (D6)(LRR A) Heave Hummocks (D7)
SurfaceHigh NSaturateSedimDrift EAlgal IIron DSurfaceInundSparse Surface W Water Talk Saturation (includes ca	ndicators (minimu De Water (A1) Water Table (A2) Detion (A3) In Marks (B1) Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) De Soil Cracks (B6) Detion Visible on Action Visible on A	m of one re erial Image ncave Surfa 2 2 5	Wa	iter-Staine xcept ML t Crust (B: uatic Invertigen Su dized Rhiz esence of I cent Iron I inted or St iner (Explain ches): ches):	ed Leaves ( RA 1,2,4A, L1)  rtebrates ( Ifide Odor cospheres Reduced Ir Reduction cressed Platin in Rema	(B13) (C1) along Livir ron (C4) in Tilled S ants (D1)(I		Water Draina Dry-Se Satura Geom Shallo FAC-N Raised Frost-I	restained Leaves (B9)(MLRA 1,2,4A,4B) ge Patterns (B10) ason Water Table (C2) tion Visible on Aerial Imagery (C9) orphic Position (D2) w Aquitard (D3) eutral Test (D5) Ant Mounds (D6)(LRR A) Heave Hummocks (D7)
SurfaceHigh NSaturaWaterSedimDrift [Algal IIron DSurfaceInundSparse Field Obse Surface W Water Take Saturation (includes ca	ndicators (minimu De Water (A1) Water Table (A2) Detion (A3) In Marks (B1) Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) De Soil Cracks (B6) Detion Visible on Action Visible on A	m of one re erial Image ncave Surfa 2 2 5	Wa	iter-Staine xcept ML t Crust (B: uatic Invertigen Su dized Rhiz esence of I cent Iron I inted or St iner (Explain ches): ches):	ed Leaves ( RA 1,2,4A, L1)  rtebrates ( Ifide Odor cospheres Reduced Ir Reduction cressed Platin in Rema	(B13) (C1) along Livir ron (C4) in Tilled S ants (D1)(I		Water Draina Dry-Se Satura Geom Shallo FAC-N Raised Frost-I	restained Leaves (B9)(MLRA 1,2,4A,4B) ge Patterns (B10) ason Water Table (C2) tion Visible on Aerial Imagery (C9) orphic Position (D2) w Aquitard (D3) eutral Test (D5) Ant Mounds (D6)(LRR A) Heave Hummocks (D7)
SurfaceHigh NSaturaWaterSedimDrift [Algal IIron DSurfaceInundSparse Field Obse Surface W Water Take Saturation (includes ca	ndicators (minimu De Water (A1) Water Table (A2) Detion (A3) In Marks (B1) Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) De Soil Cracks (B6) Detion Visible on Action Visible on A	m of one re erial Image ncave Surfa 2 2 5	Wa	iter-Staine xcept ML t Crust (B: uatic Invertigen Su dized Rhiz esence of I cent Iron I inted or St iner (Explain ches): ches):	ed Leaves ( RA 1,2,4A, L1)  rtebrates ( Ifide Odor cospheres Reduced Ir Reduction cressed Platin in Rema	(B13) (C1) along Livir ron (C4) in Tilled S ants (D1)(I		Water Draina Dry-Se Satura Geom Shallo FAC-N Raised Frost-I	restained Leaves (B9)(MLRA 1,2,4A,4B) ge Patterns (B10) ason Water Table (C2) tion Visible on Aerial Imagery (C9) orphic Position (D2) w Aquitard (D3) eutral Test (D5) Ant Mounds (D6)(LRR A) Heave Hummocks (D7)

Project/Site: Port Westward Renewable Diesel Refinery Applicant/Owner: Next Energy Group, Inc. State: OR Investigator(s): Sue Brady Section, Townshi Landform (hillslope, terrace, etc.): Flats Local relief (cond Subregion (LRR): Northwest Forests & Coast (LRR A) Soil Map Unit Name: Udipsamments, nearly level, protect Are climatic/hydrologic conditions on the site typical for Are Vegetation, Soil, or Hydrology significantly Are Vegetation, Soil, or Hydrology naturally pr	p, Range: T8N R4 ave, convex, none Lat: cted NWI this time of year? disturbed? oblematic?	e): <u>none</u> <u>46.16975770</u> classification: ? <u>Yes</u> (if no, ex	none plain in Rema Are "Normal (if needed, e	rks.) Circumstances" present? <u>Yes</u> xplain any answers in Remarks.)
Hydrophytic Vegetation Present? Yes				
Hydric Soil Present? <u>Yes</u>	within a Watland? Voc			
Wetland Hydrology Present? <u>Yes</u>	within a Wetland? <u>Yes</u>			
VEGETATION – Use scientific names of plants.				
	Absolute %	Dominant	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: 0 ) 1. 2. 3.	Cover	Species?	Status	Number of Dominant Species That Are OBL, FACW, or FAC: $\underline{3}$ (A) Total Number of Dominant
4.				Species Across All Strata: $\underline{4}$ (B)
Total Cover = <u>0</u>				Percent of Dominant Species
Sapling/Shrub Stratum (Plot size: _25 m² )  1. Rubus armeniacus  2.  3.  4.  5.  Total Cover =20	<u>20</u>	<u>Yes</u>	<u>FAC</u>	That Are OBL, FACW, or FAC:         75 (A/B)           Prevalence Index worksheet:
Herb Stratum (Plot size: 4 m <sup>2</sup> )				FACU species $\underline{0}$ x 4 = $\underline{0}$
<ol> <li>Phalaris arundinacea</li> <li>Cirsium arvense</li> <li>4.</li> </ol>	80 20	<u>Yes</u> <u>Yes</u>	FACW FAC	UPL species $\underline{0}$ x 5 = $\underline{0}$ Column Totals: $\underline{120}$ (A) $\underline{280}$ (B) Prevalence Index = B/A = $\underline{2.33}$
5. 6. 7. 8. 9. 10. 11. Total Cover = 100				Hydrophytic Vegetation Indicators: 1 — Rapid Test for Hydrophytic Vegetation  X2 — Dominance Test >50%  X3 - Prevalence Index is ≤ 3.0¹ 4 - Morphological Adaptions¹ (Provide supporting data in Remarks or on a separate sheet) 5 — Wetland Non-Vascular Plants¹  Problematic Hydrophytic Vegetation¹ (Explain)
Woody Vine Stratum (Plot size: _4_)  1. Rubus armeniacus  2. Total Cover = 10	<u>10</u>	<u>Yes</u>	<u>Fac</u>	<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
% Bare Ground in Herb Stratum: 0				Hudanahatia Vanatatian Busanta Van
Remarks:	l	l .	I	Hydrophytic Vegetation Present? Yes

SOIL Sampling Point: <u>31</u>

Depth (inches) 0-14  10YR 3/2  95  10YR 4/6  5  C  RC  Silty Clay Loam  1Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.  1Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.  1Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.  1Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.  1Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.  1 Indicators for Problematic Hydric Soils <sup>3</sup> :  1 Indicators for Problematic Hydric Soils <sup>3</sup> :  1 Indicators for Problematic Hydric Soils <sup>3</sup> :  2 cm Muck (A10)  Red Parent Material (TF2)  Red Parent Material (TF2)  Red Parent Material (TF2)  Red Parent Material (TF2)  Pepleted Below Dark Surface (A11)  Depleted Matrix (F2)  Other (Explain in Remarks)
1 Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.  1 Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.  1 Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.  1 Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.  1 Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.  2 Location: PL=Pore Lining, M=Matrix  1 Indicators for Problematic Hydric Soils <sup>3</sup> :  2 cm Muck (A10)  2 cm Muck (A10)  3 Red Parent Material (TF2)  4 Loamy Mucky Mineral (F1) (except MLRA 1)  4 Loamy Gleyed Matrix (F2)  4 Depleted Below Dark Surface (A11)  5 Depleted Matrix (F3)  4 Coation: PL=Pore Lining, M=Matrix  4 Location: PL=Pore Lining, M=Matrix  5 Location: PL=Pore Lining, M=Matrix  6 Location: PL=Pore Lining, M=Matrix  7 Location: PL=Pore Lining, M=Matrix  9 Location: PL=Pore Lining, M=Matrix  9 Location: PL=Pore Lining, M=Matrix  1 Location: PL=Pore Lining, M=Matrix  2 Location: PL=Pore Lining, M=Matrix  3 Location: PL=Pore Lining, M=Matrix  4 Location: PL=Pore Lining, M=Matrix  5 Location: PL=Pore Lining, M=Matrix  6 Location: PL=Pore Lining, M=Matrix  6 Location: PL=Pore Lining, M=Matrix  6 Location: PL
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)  —Histosol (A1) —Sandy Redox (S5) —Histic Epipedon (A2) —Stripped Matrix (S6) —Black Histic (A3) —Loamy Mucky Mineral (F1) (except MLRA 1) —Hydrogen Sulfide (A4) —Loamy Gleyed Matrix (F2) —Depleted Below Dark Surface (A11) —Depleted Matrix (F3)  Indicators for Problematic Hydric Soils³: —2 cm Muck (A10) —Red Parent Material (TF2) —Very Shallow Dark Surface (TF12) —Other (Explain in Remarks)
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)  —Histosol (A1) —Sandy Redox (S5) —Histic Epipedon (A2) —Stripped Matrix (S6) —Black Histic (A3) —Loamy Mucky Mineral (F1) (except MLRA 1) —Hydrogen Sulfide (A4) —Loamy Gleyed Matrix (F2) —Depleted Below Dark Surface (A11) —Depleted Matrix (F3)  Indicators for Problematic Hydric Soils³: —2 cm Muck (A10) —Red Parent Material (TF2) —Very Shallow Dark Surface (TF12) —Other (Explain in Remarks)
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)  —Histosol (A1) —Sandy Redox (S5) —Histic Epipedon (A2) —Stripped Matrix (S6) —Black Histic (A3) —Loamy Mucky Mineral (F1) (except MLRA 1) —Hydrogen Sulfide (A4) —Loamy Gleyed Matrix (F2) —Depleted Below Dark Surface (A11) —Depleted Matrix (F3)  Indicators for Problematic Hydric Soils³: —2 cm Muck (A10) —Red Parent Material (TF2) —Very Shallow Dark Surface (TF12) —Other (Explain in Remarks)
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)  —Histosol (A1) —Sandy Redox (S5) —Histic Epipedon (A2) —Stripped Matrix (S6) —Black Histic (A3) —Loamy Mucky Mineral (F1) (except MLRA 1) —Hydrogen Sulfide (A4) —Loamy Gleyed Matrix (F2) —Depleted Below Dark Surface (A11) —Depleted Matrix (F3)  Indicators for Problematic Hydric Soils³: —2 cm Muck (A10) —Red Parent Material (TF2) —Very Shallow Dark Surface (TF12) —Other (Explain in Remarks)
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)  —Histosol (A1) —Sandy Redox (S5) —Histic Epipedon (A2) —Stripped Matrix (S6) —Black Histic (A3) —Loamy Mucky Mineral (F1) (except MLRA 1) —Hydrogen Sulfide (A4) —Loamy Gleyed Matrix (F2) —Depleted Below Dark Surface (A11) —Depleted Matrix (F3)  Indicators for Problematic Hydric Soils³: —2 cm Muck (A10) —Red Parent Material (TF2) —Very Shallow Dark Surface (TF12) —Other (Explain in Remarks)
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)  —Histosol (A1) —Sandy Redox (S5) —Histic Epipedon (A2) —Stripped Matrix (S6) —Black Histic (A3) —Loamy Mucky Mineral (F1) (except MLRA 1) —Hydrogen Sulfide (A4) —Loamy Gleyed Matrix (F2) —Depleted Below Dark Surface (A11) —Depleted Matrix (F3)  Indicators for Problematic Hydric Soils³: —2 cm Muck (A10) —Red Parent Material (TF2) —Very Shallow Dark Surface (TF12) —Other (Explain in Remarks)
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)  —Histosol (A1) —Sandy Redox (S5) —Histic Epipedon (A2) —Stripped Matrix (S6) —Black Histic (A3) —Loamy Mucky Mineral (F1) (except MLRA 1) —Hydrogen Sulfide (A4) —Loamy Gleyed Matrix (F2) —Depleted Below Dark Surface (A11) —Depleted Matrix (F3)  Indicators for Problematic Hydric Soils³: —2 cm Muck (A10) —Red Parent Material (TF2) —Very Shallow Dark Surface (TF12) —Other (Explain in Remarks)
Histosol (A1)Sandy Redox (S5)2 cm Muck (A10)Stripped Matrix (S6)Red Parent Material (TF2)Selected Matrix (A2)Loamy Mucky Mineral (F1) (except MLRA 1)Very Shallow Dark Surface (TF12)Other (Explain in Remarks)Other (Explain in Remarks)Other (Explain in Remarks)
Histic Epipedon (A2)Stripped Matrix (S6)Red Parent Material (TF2)Black Histic (A3)Loamy Mucky Mineral (F1) (except MLRA 1)Very Shallow Dark Surface (TF12)Hydrogen Sulfide (A4)Loamy Gleyed Matrix (F2)Other (Explain in Remarks)Depleted Below Dark Surface (A11)Depleted Matrix (F3)
Black Histic (A3)Loamy Mucky Mineral (F1) (except MLRA 1)Very Shallow Dark Surface (TF12)Hydrogen Sulfide (A4)Loamy Gleyed Matrix (F2)Other (Explain in Remarks)Depleted Below Dark Surface (A11)Depleted Matrix (F3)
Hydrogen Sulfide (A4)Loamy Gleyed Matrix (F2)Other (Explain in Remarks)Depleted Below Dark Surface (A11)Depleted Matrix (F3)
Depleted Below Dark Surface (A11)Depleted Matrix (F3)
Thick Dark Surface (A12) X_Redox Dark Surface (F6) 3Indicators of hydrophytic vegetation and
Sandy Mucky Mineral (S1)Depleted Dark Surface (F7) wetland hydrology must be present, unless
Sandy Gleyed Matrix (S4)Redox Depressions (F8) disturbed or problematic.
Restrictive Layer (if present):
Type:
Depth (inches): <u>0</u> <b>Hydric Soil Present?</b> <u>Yes</u>
Remarks:
HYDROLOGY
Wetland Hydrology Indicators:  Primary Indicators (minimum of one required; check all that apply)  Secondary Indicators (two or more required)
Surface Water (A1) Water-Stained Leaves (B9) Water-Stained Leaves (B9)(MLRA 1,2,4A,4B)
<u> </u>
High Water Table (A2) (except MLRA 1,2,4A, and 4B)Drainage Patterns (B10)
High Water Table (A2) (except MLRA 1,2,4A, and 4B)Drainage Patterns (B10)Saturation (A3)Salt Crust (B11)Dry-Season Water Table (C2)
High Water Table (A2) (except MLRA 1,2,4A, and 4B)Drainage Patterns (B10)Saturation (A3)Salt Crust (B11)Dry-Season Water Table (C2)Water Marks (B1)Aquatic Invertebrates (B13)Saturation Visible on Aerial Imagery (C9)
High Water Table (A2)
High Water Table (A2)(except MLRA 1,2,4A, and 4B)Drainage Patterns (B10)Saturation (A3)Salt Crust (B11)Dry-Season Water Table (C2)Water Marks (B1)Aquatic Invertebrates (B13)Saturation Visible on Aerial Imagery (C9)Sediment Deposits (B2)Hydrogen Sulfide Odor (C1)Geomorphic Position (D2)Drift Deposits (B3)X_Oxidized Rhizospheres along Living Roots (C3)Shallow Aquitard (D3)
High Water Table (A2)
High Water Table (A2)  Saturation (A3)  Water Marks (B1)  Sediment Deposits (B2)  Drift Deposits (B3)  Algal Mat or Crust (B4)  Iron Deposits (B5)  (except MLRA 1,2,4A, and 4B)  Saturation (A1)  Aquatic Invertebrates (B13)  Aquatic Invertebrates (B13)  Aquatic Invertebrates (B13)  Aquatic Invertebrates (B13)  Saturation Visible on Aerial Imagery (C9)  Geomorphic Position (D2)  Shallow Aquitard (D3)  FAC-Neutral Test (D5)  Recent Iron Reduction in Tilled Soils (C6)  Raised Ant Mounds (D6)(LRR A)
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)  (except MLRA 1,2,4A, and 4B)  Saturation (A3)  Dry-Season Water Table (C2)  Saturation Visible on Aerial Imagery (C9)  Geomorphic Position (D2)  Shallow Aquitard (D3)  FAC-Neutral Test (D5)  Recent Iron Reduction in Tilled Soils (C6)  Stunted or Stressed Plants (D1)(LRR A)  Frost-Heave Hummocks (D7)
High Water Table (A2)
High Water Table (A2)
High Water Table (A2)       (except MLRA 1,2,4A, and 4B)      Drainage Patterns (B10)        Saturation (A3)      Salt Crust (B11)      Dry-Season Water Table (C2)        Water Marks (B1)      Aquatic Invertebrates (B13)      Saturation Visible on Aerial Imagery (C9)        Sediment Deposits (B2)      Hydrogen Sulfide Odor (C1)      Geomorphic Position (D2)        Drift Deposits (B3)      X Oxidized Rhizospheres along Living Roots (C3)      Shallow Aquitard (D3)        Algal Mat or Crust (B4)      Presence of Reduced Iron (C4)      FAC-Neutral Test (D5)        Iron Deposits (B5)      Recent Iron Reduction in Tilled Soils (C6)      Raised Ant Mounds (D6)(LRR A)        Inundation Visible on Aerial Imagery (B7)      Other (Explain in Remarks)      Frost-Heave Hummocks (D7)        Sparsely Vegetated Concave Surface (B8)      Other (Explain in Remarks)      Frost-Heave Hummocks (D7)         Field Observations:         Surface Water Present? No      Depth (inches):
High Water Table (A2)

Project/Site: Port Westward Renewable Diesel Refinery Applicant/Owner: Next Energy Group, Inc. State: OR Investigator(s): Sue Brady Section, Townsh Landform (hillslope, terrace, etc.): Flats Local relief (cond Subregion (LRR): Northwest Forests & Coast (LRR A) Soil Map Unit Name: Crims silt loam, protected NWI cl Are climatic/hydrologic conditions on the site typical for Are Vegetation, Soil, or Hydrology significantly Are Vegetation, Soil, or Hydrology naturally pr	ip, Range: <u>T8N R4</u> cave, convex, none Lat: assification: <u>PEM</u> this time of year? disturbed?	e): <u>none</u> <u>46.16901250</u> <u>1C</u> ? <u>Yes</u> (if no, ex	olain in Rema Are "Normal (if needed, e	rks.) Circumstances" present? <u>Yes</u> xplain any answers in Remarks.)				
Hydrophytic Vegetation Present? Yes			· ·					
Hydric Soil Present? Yes								
Wetland Hydrology Present? Yes Is the Sampled Area within a Wetland? Yes								
VEGETATION – Use scientific names of plants.								
	Absolute %	Dominant	Indicator	Dominance Test worksheet:				
<u>Tree Stratum</u> (Plot size: <u>0</u> )	Cover	Species?	Status	Number of Dominant Species				
1. 2.				That Are OBL, FACW, or FAC: $\underline{1}$ (A)				
3.				Total Number of Dominant				
4.				Species Across All Strata: <u>1</u> (B)				
Total Cover = <u>0</u>				Bossest of Demissest Consise				
Sapling/Shrub Stratum (Plot size: 0 )				Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)				
1. 2.				Prevalence Index worksheet:				
3.				Total % Cover of: Multiply by:				
4.				OBL species $\underline{0}$ x 1 = $\underline{0}$				
5.				FACW species 100 x 2 = 200 FAC species 0 x 3 = 0				
Total Cover = 0				FAC species $\underline{0}$ x 3 = $\underline{0}$ FACU species $\underline{0}$ x 4 = $\underline{0}$				
Herb Stratum (Plot size: _4 m²_)  1. Phalaris arundinacea	100	<u>Yes</u>	FACW	UPL species $\underline{0}$ x 5 = $\underline{0}$				
2.	200	100	171011	Column Totals: <u>100</u> (A) <u>200</u> (B)				
3.				Prevalence Index = B/A = 2.00				
4.				Frevalence index – B/A – <u>2.00</u>				
5. 6.				Hydrophytic Vegetation Indicators:				
7.				1 –Rapid Test for Hydrophytic Vegetation				
8.				$\frac{X}{X}$ 2 – Dominance Test >50% X 3 - Prevalence Index is ≤ 3.0¹				
9. 10.				4 - Morphological Adaptions <sup>1</sup> (Provide supporting				
11.				data in Remarks or on a separate sheet)				
Total Cover = <u>100</u>				5 – Wetland Non-Vascular Plants <sup>1</sup> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)				
				Problematic Hydrophytic Vegetation (Explain)				
Woody Vine Stratum (Plot size: 0 )				<sup>1</sup> Indicators of hydric soil and wetland hydrology				
1.				must be present, unless disturbed or problematic.				
2. Total Cover = <u>0</u>								
Total Covel – <u>o</u>								
% Bare Ground in Herb Stratum: <u>0</u>				Hydrophytic Vegetation Present? Yes				
Remarks:								

SOIL Sampling Point: <u>32</u>

	Mat	<u>rix</u>		Redox F	eatures				
Depth	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture		Remarks
(inches) <u>0-16</u>	10YR 4/2	<u>90</u>	10YR 4/6	10	<u>C</u>	<u>M</u>	Silty Clay Loam		
0 10	<u>1011( 4/ 2</u>	<u>50</u>	<u> 1011( 4/ 0</u>	10	<u> </u>	101	Sitty Clay Loam		
1Tupo: C-	·Concontration D	-Danlation	ı, RM=Reduced Ma	atriv CC-0	Covered or	· Coatod S	and Grains 21 o	cation: D	-Doro Lining M-Matrix
						Coateu 3	and GrainsLo		L=Pore Lining, M=Matrix
		olicable to	all LRRs, unless ot						rs for Problematic Hydric Soils <sup>3</sup> :
·	sol (A1)			ndy Redo					m Muck (A10)
	Epipedon (A2)			ripped Ma		/E1\ /		II	Parent Material (TF2)
	Histic (A3)		· · · · · · · · · · · · · · · · · · ·	-			ept MLRA 1)		ry Shallow Dark Surface (TF12)
	gen Sulfide (A4) ted Below Dark S	urfaco (A1		epleted M	ed Matrix	(FZ)		011	ner (Explain in Remarks)
	Dark Surface (A12	-		•	Surface (F	6)		3Indicat	tors of hydrophytic vegetation and
	Mucky Mineral (				ark Surface	•			d hydrology must be present, unless
	Gleyed Matrix (S			•	essions (F8				ed or problematic.
	e Layer (if presen	-				-,			
Type:	e Layer (ii presen								
Depth (in	ches): <u>0</u>							Hydric	Soil Present? Yes
Remarks:								II.	
HYDROLO	GY								
	Hydrology Indicat				_				
Primary In	dicators (minimu	m of one r	equired; check all	that apply	<b>'</b> )		S	Secondary	Indicators (two or more required)
	e Water (A1)				ed Leaves (		-		-Stained Leaves (B9)(MLRA 1,2,4A,4B)
High V	Vater Table (A2)		(e	xcept ML	RA 1,2,4A,	and 4B)	-		age Patterns (B10)
X_Satura				t Crust (B:	•		-		eason Water Table (C2)
	Marks (B1)				rtebrates (	-	-		ition Visible on Aerial Imagery (C9)
	ent Deposits (B2)			_	lfide Odor		_  -		orphic Position (D2)
	eposits (B3)					_	ng Roots (C3)		w Aquitard (D3)
	Mat or Crust (B4)				Reduced Ir		-		eutral Test (D5)
	eposits (B5)				Reduction				Ant Mounds (D6)(LRR A)
	e Soil Cracks (B6)				ressed Pla		.RR A)	Frost-	Heave Hummocks (D7)
	ation Visible on A	_		ner (Explai	in in Rema	rks)			
	ely Vegetated Cor	icave Surfa	ce (B8)						
Field Obse	ervations: ater Present? No		Depth (inc	shoc):					
	ole Present? Ye	_	Depth (in	,					
Saturation		<del></del>		nches): 10					
(includes ca	pillary fringe)	_			=		Wetland Hydro	logy Pres	ent? <u>Yes</u>
Describe F	Recorded Data (st	ream gaug	e, monitoring well	, aerial ph	otos, prev	ious inspe	ections), if available	2:	
Remarks:									

Project/Site: Port Westward Renewable Diesel Refinery Applicant/Owner: Next Energy Group, Inc. State: OR Investigator(s): Sue Brady Section, Townshi Landform (hillslope, terrace, etc.): Flats Local relief (conc Subregion (LRR): Northwest Forests & Coast (LRR A) Soil Map Unit Name: Crims silt loam, protected NWI cla Are climatic/hydrologic conditions on the site typical for Are Vegetation X, Soil , or Hydrology significantly Are Vegetation , Soil , or Hydrology naturally pro	p, Range: <u>T8N R4'</u> ave, convex, none Lat: assification: <u>PEM</u> : this time of year? disturbed? oblematic?	e): <u>none</u> <u>46.16431830</u> <u>1A</u> • <u>Yes</u> (if no, exp	olain in Rema Are "Normal (if needed, e	rks.) Circumstances" present? <u>Yes</u> xplain any answers in Remarks.)					
Hydrophytic Vegetation Present? Yes	ig sampling por	in locations,	transects, n	inportant reatures, etc.					
Hydric Soil Present? Yes									
Wetland Hydrology Present? Yes Is the Sampled Area within a Wetland? Yes									
Remarks:  VEGETATION – Use scientific names of plants.									
vederation – ose scientific fiames of plants.	Absolute %	Dominant	Indicator	Dominance Test worksheet:					
Tree Stratum (Plot size: 0 ) 1. 2. 3.	Cover	Species?	Status	Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A)  Total Number of Dominant					
4.				Species Across All Strata: <u>3</u> (B)					
Total Cover = <u>0</u>									
Sapling/Shrub Stratum (Plot size: 0 )				Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)					
1. 2. 3. 4. 5.  Total Cover = 0  Herb Stratum (Plot size: 4 m²)  1. Juncus balticus 2. Phalaris arundinacea 3. Schedonorus arundinacea 4. Daucas carota 5. Cirsium arvense 6. 7. 8. 9. 10. 11.	20 20 50 5 5	Yes Yes Yes No No	FACW FACW FAC FACU FAC	Prevalence Index worksheet:  Total % Cover of:  Multiply by:  OBL species $0$ $1$ $1$ $1$ $1$ $1$ $1$ $1$					
Total Cover = 100  Woody Vine Stratum (Plot size: 0 )  1. 2.				Problematic Hydrophytic Vegetation¹ (Explain)  ¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.					
Total Cover = <u>0</u>									
% Bare Ground in Herb Stratum: <u>0</u>				Hydrophytic Vegetation Present? Yes					
Remarks: grazed pasture									

SOIL Sampling Point: <u>33</u>

	Mat	<u>rix</u>		Redox F	eatures				
Depth	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture		Remarks
(inches)									
0-3	10YR 4/3	<u>100</u>		<u>0</u>			Silty Clay Loam		
3-17	10YR 4/2	<u>95</u>	10YR 4/6	<u>5</u>	<u>C</u>	M	Silty Clay Loam		
				_	_				
1									
¹Type: C=	Concentration, D	=Depletior	, RM=Reduced Ma	atrix, CS=0	Lovered or	r Coated S	and Grains. <sup>2</sup> Lo	cation: P	L=Pore Lining, M=Matrix
Hydric So	il Indicators: (App	olicable to	all LRRs, unless ot	herwise r	noted.)			Indicato	rs for Problematic Hydric Soils <sup>3</sup> :
Histos	sol (A1)		Sa	ndy Redo	x (S5)			2 cı	n Muck (A10)
Histic	Epipedon (A2)			ripped Ma					Parent Material (TF2)
	Histic (A3)			• •	. ,	l (F1) ( <b>exc</b>	ept MLRA 1)		ry Shallow Dark Surface (TF12)
	ogen Sulfide (A4)		· · · · · · · · · · · · · · · · · · ·	-	ed Matrix		,		ner (Explain in Remarks)
	ted Below Dark S	urface (Δ1°		pleted Ma		(. –)			(Express to the second
	Dark Surface (A12	-			Surface (F	6)		3Indicat	ors of hydrophytic vegetation and
	Mucky Mineral (	•			ark Surface	•			d hydrology must be present, unless
		-							ed or problematic.
-	Gleyed Matrix (S		Re	аох Берг	essions (F8	>)			
	e Layer (if presen	ıt):							
Type:								م المامان م	Cail Bussesst 2 Vos
Depth (in	cnes): <u>U</u>							пуштіс	Soil Present? Yes
Remarks:									
	·CV								
HYDROLO									
	Hydrology Indicat		equired; check all	that annly	٨		c	`ocondan	Indicators (two or more required)
•		iii oi one i				(DO)			Indicators (two or more required)
	te Water (A1)				ed Leaves (		-		-Stained Leaves (B9)(MLRA 1,2,4A,4B)
High V	Vater Table (A2)		•	•	RA 1,2,4A,	and 4B)	-	Draina	ge Patterns (B10)
<u>X</u> Satura	tion (A3)		Salt	t Crust (B1	L1)		-		eason Water Table (C2)
Water	Marks (B1)		Aqı	uatic Inve	rtebrates (	B13)	_	Satura	tion Visible on Aerial Imagery (C9)
Sedim	ent Deposits (B2)		Нус	drogen Su	lfide Odor	(C1)	_	Geom	orphic Position (D2)
Drift D	Deposits (B3)		Oxi	dized Rhiz	zospheres	along Livi	ng Roots (C3)	Shallo	w Aquitard (D3)
Algal I	Mat or Crust (B4)		Pre	sence of I	Reduced Ir	on (C4)	_	FAC-N	eutral Test (D5)
Iron D	eposits (B5)		Rec	ent Iron F	Reduction	in Tilled S	oils (C6)	Raisec	Ant Mounds (D6)(LRR A)
Surfac	e Soil Cracks (B6)		Stu	nted or St	ressed Pla	nts (D1)(I	.RR A)	Frost-	Heave Hummocks (D7)
	ation Visible on A				in in Rema		,		` ,
	ely Vegetated Cor	_		` '		,			
Field Obse			()				1		
	ater Present? No	)	Depth (inc	hes).					
	ole Present? Ye			ches): <u>16</u>					
	Present? Ye			nches): 11					
(includes ca	apillary fringe)	_			_		Wetland Hydro	logy Pres	ent? Yes
Describe F	Recorded Data (st	ream gaug	e, monitoring well	, aerial ph	otos, prev	ious inspe	ections), if available	::	
Remarks:									

Project/Site: Port Westward Renewable Diesel Refiner Applicant/Owner: Next Energy Group, Inc. State: OR Investigator(s): Sue Brady Section, Towns	<del></del>	nty: <u>Columbia</u> W Section 38		Sampling Date: <u>11/14/2019</u> Sampling Point: <u>34</u>					
Landform (hillslope, terrace, etc.): Flats Local relief (cor			Slope (%): 0						
Subregion (LRR): Northwest Forests & Coast (LRR A)		46.16368120	–	.4971620 Datum: WGS84					
Soil Map Unit Name: <u>Udipsamments, nearly level, prot</u>		classification:		<u>+371020</u> Datum. <u>WG364</u>					
Are climatic/hydrologic conditions on the site typical for				rkc \					
-		r <u>res</u> (ii no, exp		Circumstances" present? <u>Yes</u>					
Are Vegetation, Soil, or Hydrology significant				xplain any answers in Remarks.)					
Are Vegetation, Soil, or Hydrology naturally p	robiematics		(ii needed, e	xplain any answers in Remarks.)					
SUMMARY OF FINDINGS – Attach site map show	ing sampling poi	int locations,	transects, ii	mportant features, etc.					
Hydrophytic Vegetation Present? Yes									
Hydric Soil Present? Yes									
Wetland Hydrology Present? Yes Is the Sampled Area within a Wetland? Yes									
Remarks:									
VEGETATION – Use scientific names of plants.		T	T .	<u> </u>					
	Absolute %	Dominant	Indicator	Dominance Test worksheet:					
Tree Stratum (Plot size: 0 ) 1.	Cover	Species?	Status	Number of Dominant Species That Are ORL FACIAL or FACIAL 1 (A)					
2.				That Are OBL, FACW, or FAC: $\underline{1}$ (A)					
3.				Total Number of Dominant					
4.				Species Across All Strata: $\underline{1}$ (B)					
Total Cover = <u>0</u>				_ , _ , ,					
Sapling/Shrub Stratum (Plot size: 0 )				Percent of Dominant Species					
1.				That Are OBL, FACW, or FAC: 100 (A/B)					
2.				Prevalence Index worksheet:					
3.				Total % Cover of: Multiply by:					
4.				OBL species $\underline{0}$ $\times 1 = \underline{0}$					
5.				FACW species $\underline{100}$ x 2 = $\underline{200}$ FAC species $\underline{0}$ x 3 = $\underline{0}$					
Total Cover = 0				FACU species $0 \times 4 = 0$					
Herb Stratum (Plot size: 4 m <sup>2</sup> )  1. Phalaris arundinacea	100	Vos	FACW	UPL species $\underline{0}$ x 5 = $\underline{0}$					
2.	<u>100</u>	<u>Yes</u>	FACVV	Column Totals: <u>100</u> (A) <u>200</u> (B)					
3.									
4.				Prevalence Index = $B/A = \underline{2.00}$					
5.				It does but a Vandation to the town					
6.				Hydrophytic Vegetation Indicators: 1 -Rapid Test for Hydrophytic Vegetation					
7.				$\underline{X}$ 2 – Dominance Test >50%					
8.				$\frac{X}{X}$ 3 - Prevalence Index is $\leq 3.0^{\circ}$					
9. 10.				4 - Morphological Adaptions <sup>1</sup> (Provide supporting					
10.				data in Remarks or on a separate sheet)					
Total Cover = <u>100</u>				5 – Wetland Non-Vascular Plants <sup>1</sup>					
10tal 60 tel <u>100</u>				Problematic Hydrophytic Vegetation¹ (Explain)					
Was de Vina Christian (Distains, O.)									
Woody Vine Stratum (Plot size: 0 ) 1.				<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.					
2.				must be present, unless disturbed of problematic.					
Total Cover = 0									
% Bare Ground in Herb Stratum: <u>0</u>				Hydrophytic Vegetation Present? Yes					
Remarks:	L	1	1	1 /					

SOIL Sampling Point: <u>34</u>

	Mat	<u>rix</u>		Redox F	<u>eatures</u>						
Depth	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture		Remarks		
(inches)											
<u>0-5</u>	10YR 3/3	<u>100</u>		<u>0</u>			Silty Clay Loam				
5-15	10YR 3/2	<u>95</u>	10YR 4/6	<u>5</u>	<u>C</u>	<u>M</u>	Silty Clay Loam				
¹Type: C=	Concentration, D	=Depletion	, RM=Reduced Ma	atrix, CS=0	Covered or	Coated S	and Grains. <sup>2</sup> Lo	ocation: P	L=Pore Lining, M=Matrix		
			all LRRs, unless ot						rs for Problematic Hydric Soils <sup>3</sup> :		
		piicable to							•		
	sol (A1)			ndy Redo					m Muck (A10)		
	Epipedon (A2)		· · · · · · · · · · · · · · · · · · ·	ripped Ma		(=4) (			Parent Material (TF2)		
	Histic (A3)			•	•		ept MLRA 1)		ry Shallow Dark Surface (TF12)		
	ogen Sulfide (A4)				ed Matrix	(F2)		Oth	ner (Explain in Remarks)		
	ted Below Dark S			pleted M							
	Dark Surface (A12	-	· · · · · · · · · · · · · · · · · · ·		Surface (F	-			tors of hydrophytic vegetation and		
	Mucky Mineral (				ark Surface				d hydrology must be present, unless		
Sandy	Gleyed Matrix (S	54)	Re	dox Depr	essions (F8	3)		disturbed or problematic.			
Restrictiv	e Layer (if presen	nt):									
Type:											
Depth (in	ches): <u>0</u>							Hydric	Soil Present? Yes		
Remarks:											
HYDROLO											
	Hydrology Indicat										
Primary In	idicators (minimu	m of one re	equired; check all	that apply	/)			Secondary	Indicators (two or more required)		
Surfac	e Water (A1)		Wa	ter-Staine	ed Leaves (	(B9)	-	Water	-Stained Leaves (B9)(MLRA 1,2,4A,4B)		
High V	Vater Table (A2)		(e	xcept ML	RA 1,2,4A,	and 4B)	-	Draina	age Patterns (B10)		
X_Satura	tion (A3)		Salt	t Crust (B	L1)		-	Dry-Se	eason Water Table (C2)		
Water	Marks (B1)		Aqı	uatic Inve	rtebrates (	B13)	-	Satura	ition Visible on Aerial Imagery (C9)		
Sedim	ent Deposits (B2)		Нус	drogen Su	lfide Odor	(C1)	<u>-</u>	Geom	orphic Position (D2)		
Drift D	Deposits (B3)		Oxi	dized Rhi	zospheres	along Livi	ng Roots (C3)	Shallo	w Aquitard (D3)		
Algal I	Mat or Crust (B4)		Pre	sence of I	Reduced Ir	on (C4)	<u>-</u>	FAC-N	eutral Test (D5)		
Iron D	eposits (B5)		Rec	ent Iron F	Reduction	in Tilled S	oils (C6)	Raised	Ant Mounds (D6)(LRR A)		
Surfac	ce Soil Cracks (B6)		Stu	nted or St	ressed Pla	nts (D1)(I	.RR A)	Frost-	Heave Hummocks (D7)		
Inund	ation Visible on A	erial Image			in in Rema						
Sparse	ely Vegetated Cor	ncave Surfa									
Field Obse	ervations:										
Surface W	ater Present? No	<u>)</u>	Depth (inc	ches):							
Water Tak	ole Present? Ye	<u>es</u>	Depth (in	ches): <u>15</u>	_						
Saturation		<u>S</u>	Depth (ir	nches): <u>10</u>	<u>)</u>		Medical	I B			
	apillary fringe)						Wetland Hydro		ent? <u>Yes</u>		
Describe F	kecoraea Data (st	ream gaug	e, monitoring well	, aeriai pr	iotos, prev	rious inspe	ections), if available	<b>≓</b> .			
Remarks:											

Project/Site: Port Westward Renewable Diesel Refinery Applicant/Owner: Next Energy Group, Inc. State: OR Investigator(s): Sue Brady Section, Townsh Landform (hillslope, terrace, etc.): Flats Local relief (cond Subregion (LRR): Northwest Forests & Coast (LRR A) Soil Map Unit Name: Udipsamments, nearly level, protection are climatic/hydrologic conditions on the site typical for Are Vegetation, Soil, or Hydrology significantly Are Vegetation, Soil, or Hydrology naturally processed in the site of	ip, Range: <u>T8N R4N</u> cave, convex, none Lat: cted NWI this time of year? disturbed?	e): <u>none</u> 46.16369360 classification: Yes(if no, exp	none plain in Remai Are "Normal (if needed, e	rks.) Circumstances" present? <u>Yes</u> xplain any answers in Remarks.)				
Hydric Soil Present? No								
Wetland Hydrology Present? No Is the Sampled Area within a Wetland? No								
Remarks:  VEGETATION – Use scientific names of plants.								
·	Absolute %	Dominant	Indicator	Dominance Test worksheet:				
Tree Stratum (Plot size: 0 ) 1. 2.	Cover	Species?	Status	Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)				
3.				Total Number of Dominant				
4. Total Cover =0				Species Across All Strata: <u>3</u> (B)				
Sapling/Shrub Stratum (Plot size: 0 )				Percent of Dominant Species				
1.				That Are OBL, FACW, or FAC: <u>66</u> (A/B)				
2. 3. 4. 5.  Total Cover = 0				Prevalence Index worksheet:				
Herb Stratum (Plot size: 4 m <sup>2</sup> )				FACU species $\underline{20}$ x 4 = $\underline{80}$ UPL species $\underline{0}$ x 5 = $\underline{0}$				
<ol> <li>Phalaris arundinacea</li> <li>Daucus carota</li> </ol>	<u>70</u> <u>20</u>	<u>Yes</u> <u>Yes</u>	<u>FACW</u> <u>FACU</u>	Column Totals: <u>120</u> (A) <u>310</u> (B)				
Lolium perenne 4	<u>10</u>	<u>No</u>	<u>FAC</u>	Prevalence Index = B/A = 2.58				
5. 6. 7. 8. 9. 10. 11. Total Cover = 100				Hydrophytic Vegetation Indicators: 1 — Rapid Test for Hydrophytic Vegetation  X2 — Dominance Test > 50%  X3 - Prevalence Index is ≤ 3.0¹ 4 - Morphological Adaptions¹ (Provide supporting data in Remarks or on a separate sheet) 5 — Wetland Non-Vascular Plants¹  Problematic Hydrophytic Vegetation¹ (Explain)				
Woody Vine Stratum (Plot size: _4_)  1. Rubus armeniacus  2. Total Cover = 20	<u>20</u>	<u>Yes</u>	FAC	Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.				
% Bare Ground in Herb Stratum: <u>0</u>				Hydrophytic Vegetation Present? Yes				
Remarks:								

SOIL Sampling Point: <u>34a</u>

Depth		<u>ix</u>		INCUOX I	-eatures					
	Color (moist)	% Co	olor (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture		Remarks	
(inches)										
<u>0-11</u>	10YR 3/3	<u>100</u>		<u>0</u>			Sandy Clay Loam			
11-19	10YR 3/2	<u>100</u>		<u>0</u>	_		Silty Clay Loam			
<u>19-26</u>	<u>10YR 3/2</u>	<u>95</u>	10YR 4/4	<u>5</u>	<u>C</u>	<u>M</u>	Silty Clay Loam			
i										
1Tuno: C-	-Concentration, D	-Donlotion PA	1-Poducod Mi	atrix CS=0	Covered o	Coated S	and Grains 21 o	cation: DI	=Pore Lining, M=Matrix	
						Coated 5	and GranisLO			
	il Indicators: (App	licable to all L						1	rs for Problematic Hydric Soils <sup>3</sup> :	
	sol (A1)			ndy Redo					n Muck (A10)	
	Epipedon (A2)			ripped Ma					Parent Material (TF2)	
	Histic (A3)		·	-			very Shallow Dark Surface (TF12)			
	ogen Sulfide (A4)				ed Matrix	(F2)	Other (Explain in Remarks)			
	ted Below Dark Su			epleted M		_,		2		
	Dark Surface (A12		·		Surface (F	-			ors of hydrophytic vegetation and I hydrology must be present, unless	
	/ Mucky Mineral (S				ark Surface				ed or problematic.	
_	/ Gleyed Matrix (S		Re	dox Depr	essions (F8	3)		uistai bi	ed of problematic.	
	e Layer (if present	t):								
Type: Depth (in	ches): 0							Hydric S	Soil Present? No	
								,		
Remarks:										
	HYDROLOGY									
Wetland I										
Primary In	Hydrology Indicate		red: check all	that apply	<i>(</i> )			Secondary	Indicators (two or more required)	
	Hydrology Indicaton Indicators (minimur					DO)	S		Indicators (two or more required)	
Surfac	Hydrology Indicato ndicators (minimur ce Water (A1)		Wa	iter-Staine	ed Leaves	•	S -	Water	-Stained Leaves (B9)(MLRA 1,2,4A,4B)	
Surfac	Hydrology Indicator ndicators (minimur se Water (A1) Water Table (A2)		Wa (e	iter-Staine	ed Leaves (	•	s  -  -	Water Draina	-Stained Leaves (B9)(MLRA 1,2,4A,4B) ge Patterns (B10)	
Surfac High V Satura	Hydrology Indicate ndicators (minimur te Water (A1) Water Table (A2) ation (A3)		Wa ( <b>e</b> Salt	iter-Staine xcept MLI t Crust (B1	ed Leaves ( <b>RA 1,2,4A</b> , l1)	and 4B)	S	Water Draina Dry-Se	-Stained Leaves (B9)(MLRA 1,2,4A,4B) ge Patterns (B10) ason Water Table (C2)	
Surfac High V Satura Water	Hydrology Indicate adicators (minimur be Water (A1) Water Table (A2) ation (A3) r Marks (B1)		Wa (e Sali Aqu	ter-Staine xcept ML t Crust (B1 uatic Inve	ed Leaves ( RA 1,2,4A, 11) rtebrates (	and 4B)	S	WaterDrainaDry-SeSatura	-Stained Leaves (B9)(MLRA 1,2,4A,4B) ge Patterns (B10) ason Water Table (C2) tion Visible on Aerial Imagery (C9)	
Surfac High V Satura Water Sedim	Hydrology Indicators (minimum de Water (A1) Water Table (A2) ation (A3) Marks (B1) Ment Deposits (B2)		Wa (e Sali Aqu Hyd	nter-Staine xcept ML t Crust (B1 uatic Invel drogen Su	ed Leaves ( RA 1,2,4A, L1) rtebrates ( Ifide Odor	and 4B) B13) (C1)	  -  -  -	WaterDrainaDry-SeSaturaGeome	restained Leaves (B9)(MLRA 1,2,4A,4B) ge Patterns (B10) ason Water Table (C2) tion Visible on Aerial Imagery (C9) orphic Position (D2)	
Surfac High V Satura Water Sedim Drift D	Hydrology Indicate adicators (minimur te Water (A1) Water Table (A2) ation (A3) r Marks (B1) tent Deposits (B2) Deposits (B3)		Wa ( <b>e</b> Salt Aqu Hyo Oxi	xcept MLI t Crust (B1 uatic Inver	ed Leaves ( RA 1,2,4A, L1) rtebrates ( Ifide Odor zospheres	and 4B) B13) (C1) along Livin	S	Water Draina Dry-Se Satura Geome	restained Leaves (B9)(MLRA 1,2,4A,4B) ge Patterns (B10) eason Water Table (C2) tion Visible on Aerial Imagery (C9) preprice Position (D2) w Aquitard (D3)	
Surface High V Satura Water Sedim Drift C	Hydrology Indicate adicators (minimur te Water (A1) Water Table (A2) ation (A3) r Marks (B1) tent Deposits (B2) Deposits (B3) Mat or Crust (B4)		Wa ( <b>e</b> Sali Aqu Hyo Oxi Pre	xcept MLI t Crust (B1 uatic Inver drogen Su idized Rhiz	ed Leaves ( RA 1,2,4A, L1) rtebrates ( Ifide Odor zospheres Reduced Ir	and 4B) B13) (C1) along Livii on (C4)	- - - - ng Roots (C3)	Water Draina Dry-Se Satura Geome Shallov	restained Leaves (B9)(MLRA 1,2,4A,4B) ge Patterns (B10) ason Water Table (C2) tion Visible on Aerial Imagery (C9) preprice Position (D2) w Aquitard (D3) eutral Test (D5)	
Surface High V Satura Water Sedim Drift C Algal I	Hydrology Indicate adicators (minimur te Water (A1) Water Table (A2) ation (A3) r Marks (B1) tent Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5)		Wa (e Salt Aqu Oxi Pre Rec	xcept MLI t Crust (B1 uatic Inversional drogen Su idized Rhizesence of F	ed Leaves ( RA 1,2,4A, L1) rtebrates ( Ifide Odor zospheres Reduced Ir	and 4B)  B13) (C1) along Livin on (C4) in Tilled So		Water Draina Dry-Se Satura Geome Shallov FAC-Ne	restained Leaves (B9)(MLRA 1,2,4A,4B) ge Patterns (B10) ason Water Table (C2) tion Visible on Aerial Imagery (C9) preprice Position (D2) w Aquitard (D3) eutral Test (D5) Ant Mounds (D6)(LRR A)	
Surface High V Satura Water Sedim Drift C Algal I Iron D	Hydrology Indicate Indicators (minimur Ice Water (A1) Water Table (A2) Ice (A3) Ice	m of one requi	Wa (e Salt Aqu Oxi Pre Rec Stu	iter-Staine xcept MLI t Crust (B1 uatic Invertigen Su idized Rhiz esence of I cent Iron I	ed Leaves ( RA 1,2,4A, L1) rtebrates ( Ifide Odor zospheres Reduced Ir Reduction tressed Pla	and 4B) B13) (C1) along Livin on (C4) in Tilled So		Water Draina Dry-Se Satura Geome Shallov FAC-Ne	restained Leaves (B9)(MLRA 1,2,4A,4B) ge Patterns (B10) ason Water Table (C2) tion Visible on Aerial Imagery (C9) preprice Position (D2) w Aquitard (D3) eutral Test (D5)	
Surface High V Satura Water Sedim Drift C Algal I Iron D Surface	Hydrology Indicate adicators (minimur te Water (A1) Water Table (A2) ation (A3) r Marks (B1) tent Deposits (B2) Deposits (B3) Mat or Crust (B4) teposits (B5) te Soil Cracks (B6) ation Visible on Ae	m of one requi	Wa	iter-Staine xcept MLI t Crust (B1 uatic Invertigen Su idized Rhiz esence of I cent Iron I	ed Leaves ( RA 1,2,4A, L1) rtebrates ( Ifide Odor zospheres Reduced Ir	and 4B) B13) (C1) along Livin on (C4) in Tilled So		Water Draina Dry-Se Satura Geome Shallov FAC-Ne	restained Leaves (B9)(MLRA 1,2,4A,4B) ge Patterns (B10) ason Water Table (C2) tion Visible on Aerial Imagery (C9) preprice Position (D2) w Aquitard (D3) eutral Test (D5) Ant Mounds (D6)(LRR A)	
Surface High V Satura Water Sedim Drift E Algal I Iron D Surface Inunda	Hydrology Indicate adicators (minimur te Water (A1) Water Table (A2) ation (A3) r Marks (B1) tent Deposits (B2) Deposits (B3) Mat or Crust (B4) teposits (B5) te Soil Cracks (B6) ation Visible on Ae	m of one requi	Wa	iter-Staine xcept MLI t Crust (B1 uatic Invertigen Su idized Rhiz esence of I cent Iron I	ed Leaves ( RA 1,2,4A, L1) rtebrates ( Ifide Odor zospheres Reduced Ir Reduction tressed Pla	and 4B) B13) (C1) along Livin on (C4) in Tilled So		Water Draina Dry-Se Satura Geome Shallov FAC-Ne	restained Leaves (B9)(MLRA 1,2,4A,4B) ge Patterns (B10) ason Water Table (C2) tion Visible on Aerial Imagery (C9) preprice Position (D2) w Aquitard (D3) eutral Test (D5) Ant Mounds (D6)(LRR A)	
Surface High V Satura Water Sedim Drift D Algal I Iron D Surface Inunda Sparse	Hydrology Indicate Indicators (minimur Ice Water (A1) Water Table (A2) Indicators (B1) Indicators (B1) Indicators (B2) Indicators (B3) Indicators (B3) Indicators (B3) Indicators (B4) Indicators (B4) Indicators (B5) Indicators (B6) Indicators (B1) Indicators (B2) Indicat	m of one requi erial Imagery (E cave Surface (E	Wa	xcept MLI t Crust (B1 uatic Inveited Rhiz drogen Su idized Rhiz esence of I cent Iron I inted or St ner (Explai	ed Leaves ( RA 1,2,4A, L1) rtebrates ( Ifide Odor zospheres Reduced Ir Reduction tressed Pla	and 4B) B13) (C1) along Livin on (C4) in Tilled So		Water Draina Dry-Se Satura Geome Shallov FAC-Ne	restained Leaves (B9)(MLRA 1,2,4A,4B) ge Patterns (B10) ason Water Table (C2) tion Visible on Aerial Imagery (C9) preprice Position (D2) w Aquitard (D3) eutral Test (D5) Ant Mounds (D6)(LRR A)	
SurfaceHigh VSaturaWaterSedimDrift DAlgal IIron DSurfaceInundaSparse Surface W	Hydrology Indicate andicators (minimum re Water (A1) Water Table (A2) Action (A3) Marks (B1) Ment Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) Des Soil Cracks (B6) Action Visible on Action Visibl	m of one requi erial Imagery (E cave Surface (E	Wa	iter-Staine xcept MLI t Crust (B1 uatic Inveit drogen Su idized Rhiz esence of I cent Iron I inted or St ner (Explai	ed Leaves ( RA 1,2,4A, L1) rtebrates ( Ifide Odor zospheres Reduced Ir Reduction tressed Pla	and 4B) B13) (C1) along Livin on (C4) in Tilled So		Water Draina Dry-Se Satura Geome Shallov FAC-Ne	restained Leaves (B9)(MLRA 1,2,4A,4B) ge Patterns (B10) ason Water Table (C2) tion Visible on Aerial Imagery (C9) preprice Position (D2) w Aquitard (D3) eutral Test (D5) Ant Mounds (D6)(LRR A)	
SurfaceHigh VSaturaWaterSedimDrift DAlgal IIron DSurfaceInundaSparse Surface W Water Tab	Hydrology Indicated andicators (minimum rewater (A1)) Water Table (A2) Action (A3) Marks (B1) Ment Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) De Soil Cracks (B6) Action Visible on Action Visibl	m of one requi erial Imagery (E cave Surface (E	Wa	iter-Staine xcept MLI t Crust (B1 uatic Invertigen Su idized Rhiz esence of I cent Iron F inted or St her (Explain ches):	ed Leaves ( RA 1,2,4A, 11)  rtebrates ( Ifide Odor zospheres Reduced Ir Reduction tressed Platin in Rema	and 4B) B13) (C1) along Livin on (C4) in Tilled So		Water Draina Dry-Se Satura Geome Shallov FAC-Ne	restained Leaves (B9)(MLRA 1,2,4A,4B) ge Patterns (B10) ason Water Table (C2) tion Visible on Aerial Imagery (C9) preprice Position (D2) w Aquitard (D3) eutral Test (D5) Ant Mounds (D6)(LRR A)	
SurfaceHigh VSaturateSedimDrift DAlgal IIron DSurfaceInundateSparse Surface W Water Talk Saturation (includes ca	Hydrology Indicate andicators (minimum rewater (A1) Water Table (A2) Action (A3) Marks (B1) Ment Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) De Soil Cracks (B6) Action Visible on Action Visible	erial Imagery (Ecave Surface (E	Wa	iter-Staine xcept MLI t Crust (B1 uatic Invertigen Su idized Rhiz esence of I cent Iron F inted or St her (Explain ches): ches):	ed Leaves ( RA 1,2,4A, L1)  rtebrates ( Ifide Odor zospheres Reduced Ir Reduction tressed Platin in Rema	and 4B) B13) (C1) along Livii on (C4) in Tilled So ints (D1)(L	ng Roots (C3)	Water Draina Dry-Se Satura Geome Shallov FAC-N Raised Frost-H	restained Leaves (B9)(MLRA 1,2,4A,4B) ge Patterns (B10) ason Water Table (C2) tion Visible on Aerial Imagery (C9) preprice Position (D2) w Aquitard (D3) eutral Test (D5) Ant Mounds (D6)(LRR A) Heave Hummocks (D7)	
SurfaceHigh VSaturaWaterSedimDrift DAlgal IIron DSurfaceInundaSparse Surface W Water Tak Saturation (includes ca	Hydrology Indicate andicators (minimum rewater (A1) Water Table (A2) Action (A3) Marks (B1) Ment Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) De Soil Cracks (B6) Action Visible on Action Visible	erial Imagery (Ecave Surface (E	Wa	iter-Staine xcept MLI t Crust (B1 uatic Invertigen Su idized Rhiz esence of I cent Iron F inted or St her (Explain ches): ches):	ed Leaves ( RA 1,2,4A, L1)  rtebrates ( Ifide Odor zospheres Reduced Ir Reduction tressed Platin in Rema	and 4B) B13) (C1) along Livii on (C4) in Tilled So ints (D1)(L		Water Draina Dry-Se Satura Geome Shallov FAC-N Raised Frost-H	restained Leaves (B9)(MLRA 1,2,4A,4B) ge Patterns (B10) ason Water Table (C2) tion Visible on Aerial Imagery (C9) preprice Position (D2) w Aquitard (D3) eutral Test (D5) Ant Mounds (D6)(LRR A) Heave Hummocks (D7)	
SurfaceHigh VSaturaWaterSedimDrift DAlgal IIron DSurfaceInundaSparse Surface W Water Tak Saturation (includes ca	Hydrology Indicate andicators (minimum rewater (A1) Water Table (A2) Action (A3) Marks (B1) Ment Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) De Soil Cracks (B6) Action Visible on Action Visible	erial Imagery (Ecave Surface (E	Wa	iter-Staine xcept MLI t Crust (B1 uatic Invertigen Su idized Rhiz esence of I cent Iron F inted or St her (Explain ches): ches):	ed Leaves ( RA 1,2,4A, L1)  rtebrates ( Ifide Odor zospheres Reduced Ir Reduction tressed Platin in Rema	and 4B) B13) (C1) along Livii on (C4) in Tilled So ints (D1)(L	ng Roots (C3)	Water Draina Dry-Se Satura Geome Shallov FAC-N Raised Frost-H	restained Leaves (B9)(MLRA 1,2,4A,4B) ge Patterns (B10) ason Water Table (C2) tion Visible on Aerial Imagery (C9) preprice Position (D2) w Aquitard (D3) eutral Test (D5) Ant Mounds (D6)(LRR A) Heave Hummocks (D7)	
Surface W Water Tak Saturation (includes care)	Hydrology Indicate andicators (minimum rewater (A1) Water Table (A2) Action (A3) Marks (B1) Ment Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) De Soil Cracks (B6) Action Visible on Action Visible	erial Imagery (Ecave Surface (E	Wa	iter-Staine xcept MLI t Crust (B1 uatic Invertigen Su idized Rhiz esence of I cent Iron F inted or St her (Explain ches): ches):	ed Leaves ( RA 1,2,4A, L1)  rtebrates ( Ifide Odor zospheres Reduced Ir Reduction tressed Platin in Rema	and 4B) B13) (C1) along Livii on (C4) in Tilled So ints (D1)(L	ng Roots (C3)	Water Draina Dry-Se Satura Geome Shallov FAC-N Raised Frost-H	restained Leaves (B9)(MLRA 1,2,4A,4B) ge Patterns (B10) ason Water Table (C2) tion Visible on Aerial Imagery (C9) preprice Position (D2) w Aquitard (D3) eutral Test (D5) Ant Mounds (D6)(LRR A) Heave Hummocks (D7)	
SurfaceHigh VSaturateSedimDrift DAlgal IIron DSurfaceInundateSparse Surface W Water Talk Saturation (includes ca	Hydrology Indicate andicators (minimum rewater (A1) Water Table (A2) Action (A3) Marks (B1) Ment Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) De Soil Cracks (B6) Action Visible on Action Visible	erial Imagery (Ecave Surface (E	Wa	iter-Staine xcept MLI t Crust (B1 uatic Invertigen Su idized Rhiz esence of I cent Iron F inted or St her (Explain ches): ches):	ed Leaves ( RA 1,2,4A, L1)  rtebrates ( Ifide Odor zospheres Reduced Ir Reduction tressed Platin in Rema	and 4B) B13) (C1) along Livii on (C4) in Tilled So ints (D1)(L	ng Roots (C3)	Water Draina Dry-Se Satura Geome Shallov FAC-N Raised Frost-H	restained Leaves (B9)(MLRA 1,2,4A,4B) ge Patterns (B10) ason Water Table (C2) tion Visible on Aerial Imagery (C9) preprice Position (D2) w Aquitard (D3) eutral Test (D5) Ant Mounds (D6)(LRR A) Heave Hummocks (D7)	
Surface W Water Tak Saturation (includes care)	Hydrology Indicate andicators (minimum rewater (A1) Water Table (A2) Action (A3) Marks (B1) Ment Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) De Soil Cracks (B6) Action Visible on Action Visible	erial Imagery (Ecave Surface (E	Wa	iter-Staine xcept MLI t Crust (B1 uatic Invertigen Su idized Rhiz esence of I cent Iron F inted or St her (Explain ches): ches):	ed Leaves ( RA 1,2,4A, L1)  rtebrates ( Ifide Odor zospheres Reduced Ir Reduction tressed Platin in Rema	and 4B) B13) (C1) along Livii on (C4) in Tilled So ints (D1)(L	ng Roots (C3)	Water Draina Dry-Se Satura Geome Shallov FAC-N Raised Frost-H	restained Leaves (B9)(MLRA 1,2,4A,4B) ge Patterns (B10) ason Water Table (C2) tion Visible on Aerial Imagery (C9) preprice Position (D2) w Aquitard (D3) eutral Test (D5) Ant Mounds (D6)(LRR A) Heave Hummocks (D7)	

Landform (hillslope, terrace, etc.): Flats Local relief (cond Subregion (LRR): Northwest Forests & Coast (LRR A)  Soil Map Unit Name: lacoda silt loam, protected NWI of Are climatic/hydrologic conditions on the site typical for Are Vegetation, Soil, or Hydrology significantly Are Vegetation, Soil, or Hydrology naturally provided the state of t	ip, Range: T8N R4 cave, convex, none Lat: assification: PEM: this time of year? disturbed? coblematic?	e): <u>none</u> 46.16876990 1 <u>C</u> Y <u>Yes</u> (if no, exp	olain in Rema Are "Normal (if needed, e	rks.) Circumstances" present? <u>Yes</u> xplain any answers in Remarks.)				
SUMMARY OF FINDINGS – Attach site map showi	ng sampling pol	nt locations,	transects, ir	nportant reatures, etc.				
Hydrophytic Vegetation Present? <u>Yes</u> Hydric Soil Present? <u>Yes</u>								
Is the Sampled Area within a Wetland? Ves								
Wetland Hydrology Present? Yes Is the sampled Area within a Wetland: 1ES  Remarks:								
VEGETATION – Use scientific names of plants.								
Tree Stratum (Plot size: 0 ) 1. 2. 3.	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:  Number of Dominant Species  That Are OBL, FACW, or FAC: 3 (A)  Total Number of Dominant				
4.				Species Across All Strata: <u>3</u> (B)				
Total Cover =0				<u>5</u> (5)				
Sapling/Shrub Stratum (Plot size: 0 )				Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)				
1. 2. 3. 4. 5.  Total Cover = 0  Herb Stratum (Plot size: 4 m²)  1. Mentha x piperita 2. Phalaris arundinacea 3. Juncus balticus 4. 5. 6. 7. 8. 9. 10. 11.  Total Cover = 100  Woody Vine Stratum (Plot size: 4) 1. Rubus armeniacus 2.  Total Cover = 30	30 60 10	Yes Yes No	FACW FACW FACW	Prevalence Index worksheet:  Total % Cover of: Multiply by:  OBL species 0 x 1 = 0  FACW species 100 x 2 = 200  FAC species 30 x 3 = 90  FAC species 0 x 4 = 0  UPL species 0 x 5 = 0  Column Totals: 130 (A) 290 (B)  Prevalence Index = B/A = 2.23  Hydrophytic Vegetation Indicators:  1 -Rapid Test for Hydrophytic Vegetation  X 2 - Dominance Test >50%  X 3 - Prevalence Index is ≤ 3.0¹  4 - Morphological Adaptions¹ (Provide supporting data in Remarks or on a separate sheet)  5 - Wetland Non-Vascular Plants¹  Problematic Hydrophytic Vegetation¹ (Explain)  ¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.				
% Bare Ground in Herb Stratum: <u>0</u>				Hydrophytic Vegetation Present? Yes				
Remarks: irrigated mint field								

SOIL Sampling Point: <u>35</u>

	Mat	<u>rix</u>		Redox F	eatures						
Depth	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture		Remarks		
(inches)											
<u>0-7</u>	10YR 3/2	100		<u>0</u>			Silty Clay Loam				
7-17	10YR 3/2	<u>95</u>	10YR 4/6	<u>5</u>	<u>C</u>	RC	Silty Clay Loam				
				<del>_</del>	_	_					
1											
¹Type: C=	Concentration, D	=Depletion	, RM=Reduced Ma	itrix, CS=0	Covered or	Coated S	and Grains. <sup>2</sup> Lo	ocation: Pl	L=Pore Lining, M=Matrix		
Hydric So	il Indicators: (App	olicable to	all LRRs, unless ot	herwise r	noted.)			Indicato	rs for Problematic Hydric Soils <sup>3</sup> :		
	sol (A1)			ndy Redo				2 cr	m Muck (A10)		
	Epipedon (A2)			ipped Ma					Parent Material (TF2)		
	Histic (A3)		· · · · · · · · · · · · · · · · · · ·			(E1) (ove	ept MLRA 1)	II	ry Shallow Dark Surface (TF12)		
	• •			•	•		ept witka 1)	ı —	•		
	ogen Sulfide (A4)	C /044			ed Matrix	(FZ)		Oth	er (Explain in Remarks)		
	ted Below Dark S			pleted M		_,		2			
	Dark Surface (A12	-			Surface (F6				ors of hydrophytic vegetation and		
-	Mucky Mineral (				irk Surface		wetland hydrology must be present, unless				
Sandy	Gleyed Matrix (S	4)	Re	dox Depr	essions (F8	3)		disturbed or problematic.			
Restrictiv	e Layer (if presen	ıt):									
Type:											
Depth (in	ches): <u>0</u>							Hydric	Soil Present? Yes		
Remarks:											
HYDROLO	GY										
	Hydrology Indicat										
Primary In	ndicators (minimu	m of one re	equired; check all	hat apply	<b>(</b> )		9	Secondary	Indicators (two or more required)		
Surfac	e Water (A1)		Wa	ter-Staine	ed Leaves (	B9)		Water	-Stained Leaves (B9)(MLRA 1,2,4A,4B)		
	Vater Table (A2)		· <u></u>		RA 1,2,4A,		-		ige Patterns (B10)		
	ation (A3)		•	Crust (B1		,	-		eason Water Table (C2)		
	Marks (B1)				rtebrates (	R13)	-		tion Visible on Aerial Imagery (C9)		
	ent Deposits (B2)				lfide Odor	•	-		orphic Position (D2)		
			•	_			ng Roots (C3)		w Aquitard (D3)		
	Deposits (B3)		· <del></del>		•	-	ig Koots (Cs)		· · · · ·		
	Mat or Crust (B4)		· <u></u>		Reduced Ir		-:1- (CC)		eutral Test (D5)		
	eposits (B5)				Reduction				Ant Mounds (D6)(LRR A)		
	e Soil Cracks (B6)				ressed Pla		RR A)	Frost-l	Heave Hummocks (D7)		
	ation Visible on A	Ŭ		er (Explai	in in Rema	rks)					
Sparse	ely Vegetated Cor	icave Surfa	ce (B8)								
	ervations:										
Surface W	ater Present? No	<u>)</u>	Depth (inc	•							
	ole Present? No	_	Depth (in	-	_						
	n Present? <u>Ye</u>	<u>s</u>	Depth (ir	ches): <u>15</u>	<u> </u>		Wetland Hydro	logy Pres	ent? Ves		
	apillary fringe)	ream สอบส	monitoring well	aprial nh	otos prev	ious inspe	ections), if available				
Describe f	.ccoraca Data (St	. cam gaugi	c, monitoring well	, acriai pii	iotos, piev	ious ilispe	, ii avallable				
Remarks:											

Applicant/Owner: Next Energy Group, Inc. State: OR Sampling Point: 36  Novestigator(s): Sue Brady Section, Township, Range: T8N R4W Section 21  Anandform (hillslope, terrace, etc.): Flats Local relief (concave, convex, none): none Slope (%): 0										
Subregion (LRR): Northwest Forests & Coast (LRR A)		46.16946800		.7943300 Datum: WGS84						
Soil Map Unit Name: <u>Lacoda silt loam, protected</u> NWI of			LONG. <u>123.1</u>	7343300 Datum. <u>WG304</u>						
Are climatic/hydrologic conditions on the site typical fo			nlain in Roma	rks \						
Are Vegetation X, Soil, or Hydrology significant	-	<u>163</u> (11110, 6x		Circumstances" present? <u>Yes</u>						
Are Vegetation, Soil, or Hydrology naturally p	problematics		(ii needed, e	xplain any answers in Remarks.)						
SUMMARY OF FINDINGS – Attach site map show	ing sampling poi	nt locations,	transects, i	nportant features, etc.						
Hydrophytic Vegetation Present? Yes										
Hydric Soil Present? <u>Yes</u>			C	and the annual and 2 Mar.						
Wetland Hydrology Present? <u>Yes</u>		is the	Sampled Area	a within a Wetland? <u>Yes</u>						
Remarks:  VEGETATION – Use scientific names of plants.										
OSC SCIENCING HARRES OF PICTUS.	Absolute %	Dominant	Indicator	Dominance Test worksheet:						
<u>Tree Stratum</u> (Plot size: <u>0</u> )	Cover	Species?	Status	Number of Dominant Species						
1.				That Are OBL, FACW, or FAC: <u>2</u> (A)						
2.										
3.				Total Number of Dominant						
4.				Species Across All Strata: <u>2</u> (B)						
Total Cover = <u>0</u>				Demont of Deminent Consider						
Sapling/Shrub Stratum (Plot size: 25 m <sup>2</sup> )				Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)						
1. Rubus armeniacus	<u>50</u>	<u>Yes</u>	<u>FAC</u>	Prevalence Index worksheet:						
2.				_Total % Cover of: Multiply by:						
3.				OBL species $\underline{0}$ $\times$ $1 = \underline{0}$						
4. 5.				FACW species $\frac{100}{2}$ x 2 = $\frac{200}{2}$						
Total Cover =50				FAC species $50 \times 3 = 150$						
Herb Stratum (Plot size: 4 m <sup>2</sup> )				FACU species $\underline{0}$ x 4 = $\underline{0}$						
1. Phalaris arundinacea	100	<u>Yes</u>	FACW	UPL species $\underline{0}$ x 5 = $\underline{0}$						
2.				Column Totals: <u>150</u> (A) <u>350</u> (B)						
3.				D						
4.				Prevalence Index = B/A = 2.33						
5.				Hydrophytic Vegetation Indicators:						
6.				1 –Rapid Test for Hydrophytic Vegetation						
7. 8.				X 2 – Dominance Test >50%						
9.				X 3 - Prevalence Index is ≤ 3.0 <sup>1</sup>						
10.				4 - Morphological Adaptions <sup>1</sup> (Provide supporting						
11.				data in Remarks or on a separate sheet)						
Total Cover = <u>100</u>				5 – Wetland Non-Vascular Plants <sup>1</sup>						
				Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)						
Woody Vine Stratum (Plot size: 0 )				Indicators of hydric soil and wetland hydrology						
1.				must be present, unless disturbed or problematic.						
2.				,						
Total Cover = <u>0</u>										
% Bare Ground in Herb Stratum: <u>0</u>				Hydrophytic Vegetation Present? Yes						
Remarks:	•									

SOIL Sampling Point: <u>36</u>

	Mat	<u>rix</u>		Redox I	-eatures				
Depth	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture		Remarks
(inches)									
<u>0-5</u>	10YR 3/3	<u>100</u>		<u>0</u>			Sandy Clay Loam		
5-13	10YR 3/2	<u>93</u>	10YR 4/6	<u>7</u>	<u>C</u>	<u>RC</u>	Silty Clay Loam		
<u>13-24</u>	10YR 3/2	<u>95</u>	10YR 4/6	<u>5</u>	<u>C</u>	<u>M</u>	Silty Clay Loam		
			'	_	_	_	-		
1- 0						0	10 1 2		
¹Type: C=	Concentration, D	=Depletior	, RM=Reduced Ma	atrix, CS=0	Covered or	r Coated S	and Grains. <sup>2</sup> Lo	cation: Pl	L=Pore Lining, M=Matrix
Hydric So	il Indicators: (Ap	plicable to	all LRRs, unless ot	herwise ı	noted.)			Indicato	rs for Problematic Hydric Soils <sup>3</sup> :
Histos	sol (A1)		Sa	ndy Redo	x (S5)			2 cı	n Muck (A10)
Histic	Epipedon (A2)			ipped Ma					l Parent Material (TF2)
	Histic (A3)			• •		l (F1) ( <b>exc</b> e	ept MLRA 1)		ry Shallow Dark Surface (TF12)
	ogen Sulfide (A4)			-	ed Matrix		,		ner (Explain in Remarks)
	ted Below Dark S	urface (Δ1		pleted M		(. –)			(Englandination
	Dark Surface (A1:	-	· —	•	Surface (F	s)		3Indicat	tors of hydrophytic vegetation and
	Mucky Mineral (	•			ark Surface				d hydrology must be present, unless
			· · · · · · · · · · · · · · · · · · ·	•					ed or problematic.
	Gleyed Matrix (S		ке	dox Depr	essions (F8	3)		u.sea. s	
	e Layer (if preser	nt):							
Type:								Lludric	Sail Bracant? Voc
Depth (in	ches): <u>0</u>							nyaric	Soil Present? Yes
Remarks:									
	CV								
HYDROLO	Tydrology Indicat								
			equired; check all	that annly	<b>/</b> )		ς	econdary	Indicators (two or more required)
•	•		<u> </u>		ed Leaves (	(BO)			
	e Water (A1)		' <del></del>			. ,	-		-Stained Leaves (B9)(MLRA 1,2,4A,4B)
	Water Table (A2)		•	•	RA 1,2,4A,	and 4B)	-		age Patterns (B10)
	ation (A3)		· <del></del>	Crust (B	•		-		eason Water Table (C2)
	Marks (B1)				rtebrates (	•	-		ition Visible on Aerial Imagery (C9)
Sedim	ent Deposits (B2)	)	Нус	drogen Su	lfide Odor	(C1)	-	Geom	orphic Position (D2)
Drift D	Deposits (B3)		_X_Oxi	dized Rhiz	ospheres	along Livir	ng Roots (C3)	Shallo	w Aquitard (D3)
Algal I	Mat or Crust (B4)		Pre	sence of	Reduced Ir	on (C4)	_	FAC-N	eutral Test (D5)
Iron D	eposits (B5)		Rec	ent Iron I	Reduction	in Tilled S	oils (C6)	Raisec	Ant Mounds (D6)(LRR A)
Surfac	e Soil Cracks (B6)		Stu	nted or St	tressed Pla	nts (D1)( <b>L</b>	.RR A)	Frost-	Heave Hummocks (D7)
Inund	ation Visible on A	erial Image	ry (B7) Oth	er (Expla	in in Rema	rks)			
	ely Vegetated Cor	_	- · · · ·						
Field Obse			( - /						
	ater Present? No	)	Depth (inc	ches):					
	ole Present? No		Depth (in	•					
Saturation	n Present? No	_	Depth (in	•					
(includes ca	apillary fringe)						Wetland Hydrol	logy Pres	ent? Yes
Describe F	Recorded Data (st	ream gaug	e, monitoring well	, aerial ph	notos, prev	vious inspe	ections), if available	:	
_									
Remarks:									

Project/Site: Port Westward Renewable Diesel Refiner Applicant/Owner: Next Energy Group, Inc. State: OR Investigator(s): Sue Brady Section, Towns! Landform (hillslope, terrace, etc.): Flats Local relief (con Subregion (LRR): Northwest Forests & Coast (LRR A) Soil Map Unit Name: Udipsamments, nearly level, prote Are climatic/hydrologic conditions on the site typical for Are Vegetation, Soil, or Hydrology significant! Are Vegetation, Soil, or Hydrology naturally p  SUMMARY OF FINDINGS - Attach site map show Hydrophytic Vegetation Present? Yes	nip, Range: T8N R4 cave, convex, none Lat: ected NWI or this time of year? ly disturbed? oroblematic?	e): <u>none</u> <u>46.16947900</u> classification: ? <u>Yes</u> (if no, exp	PEM1C plain in Rema Are "Normal (if needed, e	rks.) Circumstances" present? <u>Yes</u> xplain any answers in Remarks.)
Hydric Soil Present? <u>No</u>		Is the	Sampled Area	within a Watland? No
Wetland Hydrology Present? <u>No</u> Remarks:		is the s	Sampled Area	a within a Wetland? <u>No</u>
VEGETATION – Use scientific names of plants.				
Trace Chartery (Platesian O.)	Absolute %	Dominant	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: 0 ) 1.	Cover	Species?	Status	Number of Dominant Species That Are OBL, FACW, or FAC: $\underline{2}$ (A)
2.				_ ( · ·
3.				Total Number of Dominant
4. Total Cover =0				Species Across All Strata: <u>2</u> (B)
				Percent of Dominant Species
Sapling/Shrub Stratum (Plot size: _25 m² )  1. Rubus armeniacus	<u>50</u>	Yes	FAC	That Are OBL, FACW, or FAC: 100 (A/B)
2.	30	103	1710	Prevalence Index worksheet:
3.				Total % Cover of: Multiply by:
4.				OBL species $\underline{0}$ x 1 = $\underline{0}$ FACW species 100 x 2 = 200
5. Total Cover = <u>50</u>				FAC species $\frac{200}{50}$ x 3 = $\frac{250}{150}$
Herb Stratum (Plot size: 4 m <sup>2</sup> )				FACU species $\underline{0}$ x 4 = $\underline{0}$
1. Phalaris arundinacea	<u>100</u>	<u>Yes</u>	FACW	UPL species $\underline{0}$ x 5 = $\underline{0}$
2.				Column Totals: <u>150</u> (A) <u>350</u> (B)
3.				Prevalence Index = B/A = 2.33
4. 5.				<u> </u>
6.				Hydrophytic Vegetation Indicators:
7.				1 –Rapid Test for Hydrophytic Vegetation X 2 – Dominance Test >50%
8.				X 3 - Prevalence Index is $\leq 3.0^{\circ}$
9. 10.				4 - Morphological Adaptions <sup>1</sup> (Provide supporting
11.				data in Remarks or on a separate sheet)
Total Cover = <u>100</u>				5 – Wetland Non-Vascular Plants¹ Problematic Hydrophytic Vegetation¹ (Explain)
Woody Vine Stratum (Plot size: 0 )				Indicators of hydric soil and wetland hydrology
1.				must be present, unless disturbed or problematic.
2.				
Total Cover = <u>0</u>				
% Bare Ground in Herb Stratum: <u>0</u>				Hydrophytic Vegetation Present? Yes
Remarks:				

SOIL Sampling Point: <u>36a</u>

	<u>Mat</u>	<u>rix</u>		Redox I	<u>Features</u>				
Depth	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture		Remarks
(inches)									
<u>0-9</u>	<u>10YR 3/3</u>	<u>100</u>		<u>0</u>			Sandy Clay Loam		
9-20	10YR 3/2	<u>100</u>		<u>0</u>			Silty Clay Loam		
<u>20-25</u>	<u>10YR 3/2</u>	<u>97</u>	<u>10YR 4/4</u>	<u>3</u>	<u>C</u>	<u>M</u>	Silty Clay Loam		
¹Tyne: C=	Concentration D	=Denletion	n, RM=Reduced Ma	atriv (S=1	Covered o	Chated S	and Grains <sup>2</sup> I o	cation: P	L=Pore Lining, M=Matrix
	·					- Coated 5	and Grains.		
		plicable to	all LRRs, unless ot					1	rs for Problematic Hydric Soils <sup>3</sup> :
·	sol (A1)			ndy Redo					m Muck (A10)
	Epipedon (A2)			ipped Ma					d Parent Material (TF2)
	Histic (A3)		·				ept MLRA 1)		ry Shallow Dark Surface (TF12)
	ogen Sulfide (A4)				ed Matrix	(F2)		Oth	ner (Explain in Remarks)
	ted Below Dark S	•	· —	•	atrix (F3)				
	Dark Surface (A12		· · · · · · · · · · · · · · · · · · ·		Surface (F	•			tors of hydrophytic vegetation and
	Mucky Mineral (				ark Surface				d hydrology must be present, unless ed or problematic.
Sandy	Gleyed Matrix (S	54)	Re	dox Depr	essions (F	3)		uistuib	ed of problematic.
	e Layer (if preser	ıt):							
Type:	-11-0							Hydric	Soil Present? No
Depth (in	cnes): <u>u</u>							Tiyunc	3011 FTESEIIC: 140
Remarks:									
HYDROLO	GY								
	Hydrology Indicat						_		
Primary In	idicators (minimu	m of one r	equired; check all	hat apply	y)		S	Secondary	/ Indicators (two or more required)
·	e Water (A1)		Wa	ter-Staine	ed Leaves	(B9)	-	Water	-Stained Leaves (B9)(MLRA 1,2,4A,4B)
_	Vater Table (A2)			-	RA 1,2,4A,	and 4B)	_	Draina	age Patterns (B10)
Satura	ition (A3)		Salt	Crust (B	11)		_	Dry-Se	eason Water Table (C2)
Water	Marks (B1)		Aqı	iatic Inve	rtebrates (	B13)	_	Satura	ation Visible on Aerial Imagery (C9)
Sedim	ent Deposits (B2)		Нус	Irogen Su	lfide Odor	(C1)	_	Geom	orphic Position (D2)
Drift D	eposits (B3)		Oxi	dized Rhi	zospheres	along Livi	ng Roots (C3)	Shallo	w Aquitard (D3)
Algal N	Mat or Crust (B4)		Pre	sence of	Reduced Ir	on (C4)	_	FAC-N	eutral Test (D5)
Iron D	eposits (B5)		Rec	ent Iron I	Reduction	in Tilled S	oils (C6)	Raised	Ant Mounds (D6)(LRR A)
Surfac	e Soil Cracks (B6)		Stu	nted or S	tressed Pla	nts (D1)( <b>I</b>	RR A)	Frost-	Heave Hummocks (D7)
Inunda	ation Visible on A	erial Image	ery (B7)Oth	er (Expla	in in Rema	rks)			
Sparse	ely Vegetated Cor	ncave Surfa	ce (B8)						
Field Obse	ervations:								
Surface W	ater Present? No	<u>)</u>	Depth (inc	:hes):					
	ole Present? <u>No</u>	<u>)</u>	Depth (in	-					
Saturation		<u>)</u>	Depth (in	ches):			Wetland Hydro	logy Proc	ant? No
	apillary fringe)	ream gallg	e monitoring well	aprial nh	notos prev	ious insne	ections), if available		ent: <u>No</u>
Describe r	iccorded Data (St	rcam gaug	c, monitoring wen	, acriai pi	iotos, piet	nous mape	.c.ioiisj, ii available	•	
Remarks:									

Landform (hillslope, terrace, etc.): Flats Local relief (cond Subregion (LRR): Northwest Forests & Coast (LRR A)  Soil Map Unit Name: Wauna-Lacoda silt loams, protecte Are climatic/hydrologic conditions on the site typical for Are Vegetation X, Soil , or Hydrology significantly Are Vegetation , Soil , or Hydrology naturally pr	ip, Range: T8N R4N cave, convex, none Lat: d NWI classificat this time of year? disturbed? oblematic?	e): <u>none</u> <u>46.16689600</u> ion: <u>PEM1C</u> ? <u>Yes</u> (if no, exp	plain in Remai Are "Normal (if needed, e:	rks.) Circumstances" present? <u>Yes</u> xplain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map showi	ng sampling poi	nt locations,	transects, ir	nportant features, etc.
Hydrophytic Vegetation Present? <u>Yes</u> Hydric Soil Present? <u>Yes</u>				
Wetland Hydrology Present? Yes		Is the S	Sampled Area	a within a Wetland? <u>Yes</u>
Remarks:				
VEGETATION – Use scientific names of plants.				
Tree Stratum (Plot size: 0 ) 1. 2. 3.	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:  Number of Dominant Species  That Are OBL, FACW, or FAC: 3 (A)  Total Number of Dominant
4.				Species Across All Strata: <u>3</u> (B)
Total Cover = <u>0</u>				
Sapling/Shrub Stratum (Plot size: 0 )				Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)
1. 2. 3. 4. 5.  Total Cover = 0				Prevalence Index worksheet:           Total % Cover of:         Multiply by:           OBL species         0         x 1 = 0           FACW species         100         x 2 = 200           FAC species         20         x 3 = 60           FACU species         0         x 4 = 0
Herb Stratum (Plot size: <u>4 m²</u> )  1. Mentha x piperita	20	Yes	FACW	UPL species $\underline{0}$ $\times$ 5 = $\underline{0}$
<ul><li>2. <u>Phalaris arundinacea</u></li><li>3.</li><li>4.</li></ul>	<u>20</u> 80	Yes	FACW	Column Totals: $\underline{120}$ (A) $\underline{260}$ (B)  Prevalence Index = B/A = $\underline{2.17}$
5. 6. 7. 8. 9. 10. 11. Total Cover = 100				Hydrophytic Vegetation Indicators:  1 – Rapid Test for Hydrophytic Vegetation  X
1. Rubus armeniacus 2. Total Cover = 20	<u>20</u>	<u>Yes</u>	<u>FAC</u>	<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
% Bare Ground in Herb Stratum: <u>0</u>				Hydrophytic Vegetation Present? Yes
Remarks: irrigated mint field	<u>. L</u>		<u>.I.</u>	Trydrophytic vegetation resents: 103

SOIL Sampling Point: <u>37</u>

	Mat	<u>rix</u>		Redox F	<u>eatures</u>				
Depth	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture		Remarks
(inches)									
<u>0-5</u>	10YR 3/3	<u>100</u>		<u>0</u>			Silty Clay Loam		
5-18	10YR 3/2	<u>95</u>	10YR 4/6	<u>5</u>	<u>C</u>	<u>M</u>	Silty Clay Loam		
1- 0			204 5 1 104			0 1 10	10 : 21	5	
-Type: C=	Concentration, D	=Depletior	, RM=Reduced Ma	atrix, CS=0	Loverea oi	Coated S	and Grains. <sup>2</sup> LC	ocation: Pi	L=Pore Lining, M=Matrix
Hydric So	il Indicators: (App	plicable to	all LRRs, unless ot	herwise r	noted.)			Indicato	rs for Problematic Hydric Soils <sup>3</sup> :
Histor	sol (A1)		Sa	ndy Redo	x (S5)			2 (1	m Muck (A10)
	Epipedon (A2)			ipped Ma					Parent Material (TF2)
	Histic (A3)		· · · · · · · · · · · · · · · · · · ·			(F1) (evc	ept MLRA 1)		ry Shallow Dark Surface (TF12)
	ogen Sulfide (A4)			•	ed Matrix		cpt with 1		ner (Explain in Remarks)
	. ,	urface (A1)				(Г2)		0	lei (Explain in Kemarks)
	ted Below Dark S			pleted M		-1		31	and of hardenship the compatible and
	Dark Surface (A12	-	· · · · · · · · · · · · · · · · · · ·		Surface (F	-			ors of hydrophytic vegetation and dhydrology must be present, unless
	Mucky Mineral (				ark Surface				ed or problematic.
Sandy	Gleyed Matrix (S	54)	Re	dox Depr	essions (F8	3)		distails	ed of problematic.
Restrictiv	e Layer (if presen	ıt):							
Type:									
Depth (in	ches): <u>0</u>							Hydric	Soil Present? Yes
Remarks:									
HYDROLO									
	Hydrology Indicat				,				
Primary in	idicators (minimu	m of one r	equired; check all	tnat apply	/)			Secondary	Indicators (two or more required)
Surfac	e Water (A1)		Wa	ter-Staine	ed Leaves (	B9)	-	Water	-Stained Leaves (B9)( <b>MLRA 1,2,4A,4B</b> )
High V	Vater Table (A2)		(e	cept ML	RA 1,2,4A,	and 4B)	-	Draina	ge Patterns (B10)
X_Satura	tion (A3)		Salt	Crust (B1	L1)		_	Dry-Se	eason Water Table (C2)
Water	Marks (B1)		Aqı	iatic Invei	rtebrates (	B13)	_	Satura	tion Visible on Aerial Imagery (C9)
Sedim	ent Deposits (B2)		Hyd	drogen Su	lfide Odor	(C1)	_	Geom	orphic Position (D2)
Drift D	Deposits (B3)		Oxi	dized Rhiz	zospheres	along Livi	ng Roots (C3)	Shallo	w Aguitard (D3)
	Mat or Crust (B4)				Reduced Ir	_		FAC-N	eutral Test (D5)
	eposits (B5)				Reduction		oils (C6)		Ant Mounds (D6)(LRR A)
	e Soil Cracks (B6)				ressed Pla				Heave Hummocks (D7)
	ation Visible on A				in in Rema				reave Hammoeks (B7)
	ely Vegetated Cor	_	· · · · —	ici (Expiai	iii iii ixciiia	113)			
		icave Surra	се (во)						
	ervations: 'ater Present? No		Donth /in	has). 0					
	ole Present? <u>NC</u> NC <u>Ye</u>	_	Depth (ind Depth (in		;				
Saturation				iches): <u>10</u>	='				
	apillary fringe)	<u></u>	Deptii (ii	101105). <u>11</u>	=		Wetland Hydro	logy Pres	ent? <u>Yes</u>
		ream gaug	e, monitoring well	, aerial ph	otos, prev	ious inspe	ections), if available	e:	
Remarks:									

Project/Site: Port Westward Renewable Diesel Refinery Applicant/Owner: Next Energy Group, Inc. State: OR Applicant/Owner: Next Energy Group, Inc. State: OR Applicant/Owner: Next Energy Group, Inc. State: OR Application (Filt State State)  Sampling Point: 38  Investigator(s): Sue Brady Section, Township, Range: T8N R4W Section 21  Landform (hillslope, terrace, etc.): Flats Local relief (concave, convex, none): none Slope (%): O Subregion (LRR): Northwest Forests & Coast (LRR A)  Lat: 46.16560930 Long: -123.17429860 Datum: WGS84  Soil Map Unit Name: Wauna-Lacoda silt loams, protected NWI classification: PEMIC  Are climatic/hydrologic conditions on the site typical for this time of year? Yes (if no, explain in Remarks.)  Are Vegetation X, Soil, or Hydrology significantly disturbed?  Are "Normal Circumstances" present? Yes  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  Hydric Soil Present? Yes  Wetland Hydrology Present? Yes  Wetland Hydrology Present? Yes  Is the Sampled Area within a Wetland? Yes  Remarks:											
VEGETATION – Use scientific names of plants.											
Tree Stratum (Plot size: _0_) 1. 2. 3. 4. Total Cover =0	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:  Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)  Total Number of Dominant Species Across All Strata: 2 (B)							
Sapling/Shrub Stratum (Plot size: 0 )				Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)							
1. 2. 3. 4. 5.  Total Cover = 0  Herb Stratum (Plot size: 4 m <sup>2</sup> )				Prevalence Index worksheet:							
<ol> <li>Phalaris arundinacea</li> <li>3.</li> <li>4.</li> </ol>	<u>100</u>	<u>Yes</u>	<u>FACW</u>	Column Totals: $\underline{120}$ (A) $\underline{260}$ (B)  Prevalence Index = B/A = $\underline{2.17}$							
5. 6. 7. 8. 9. 10. 11. Total Cover = <u>100</u>				Hydrophytic Vegetation Indicators: 1 — Rapid Test for Hydrophytic Vegetation  X2 — Dominance Test > 50%  X3 - Prevalence Index is ≤ 3.0¹ 4 - Morphological Adaptions¹ (Provide supporting data in Remarks or on a separate sheet) 5 — Wetland Non-Vascular Plants¹  Problematic Hydrophytic Vegetation¹ (Explain)							
Woody Vine Stratum (Plot size: _4 m² )  1. Rubus armeniacus  2.  Total Cover = 20	<u>20</u>	<u>Yes</u>	FAC	<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.							
% Bare Ground in Herb Stratum: <u>0</u>				Hydrophytic Vogotation Procent? Voc							
Remarks: irrigated mint field		I		Hydrophytic Vegetation Present? Yes							

SOIL Sampling Point: <u>38</u>

	Mat	<u>rix</u>		Redox I	-eatures				
Depth	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture		Remarks
(inches)									
<u>0-7</u>	10YR 3/2	<u>100</u>		<u>0</u>			Silty Clay Loam		
7-14	10YR 3/2	<u>95</u>	10YR 4/6	<u>5</u>	<u>C</u>	<u>RC</u>	Silty Clay Loam		
<u>14-24</u>	10YR 3/2	<u>95</u>	10YR 4/6	<u>5</u>	<u>C</u>	M	Silty Clay Loam		
			'	_	_	_			
¹Type: C=	Concentration, D	=Depletior	, RM=Reduced Ma	atrix, CS=0	Covered o	r Coated S	and Grains. <sup>2</sup> Lo	cation: Pl	L=Pore Lining, M=Matrix
Hydric So	il Indicators: (Ap	plicable to	all LRRs, unless ot	herwise ı	noted.)			Indicato	rs for Problematic Hydric Soils <sup>3</sup> :
Histos	sol (A1)		Sa	ndy Redo	x (S5)			2 cr	m Muck (A10)
	Epipedon (A2)			ripped Ma					Parent Material (TF2)
	Histic (A3)			• •		l (F1) (exc	ept MLRA 1)	II	ry Shallow Dark Surface (TF12)
	ogen Sulfide (A4)			-	ed Matrix		<b>-p-</b>		ner (Explain in Remarks)
	ted Below Dark S	urfaco (A1		pleted M		(12)			ici (Explain in Kemarks)
	Dark Surface (A1	-	· —	•		c)		3Indiant	tors of hydrophytic vogotation and
	•	•			Surface (F				tors of hydrophytic vegetation and dhydrology must be present, unless
-	Mucky Mineral (		· · · · · · · · · · · · · · · · · · ·	•	ark Surface				ed or problematic.
Sandy	Gleyed Matrix (S	o4)	ке	dox Depr	essions (F8	3)		aistais	ed of problematic.
	e Layer (if preser	nt):							
Type:								11	Call Bus and 2 Van
Depth (in	ches): <u>0</u>							Hyaric	Soil Present? Yes
Remarks:									
HYDROLO									
	Hydrology Indicat		anuiradi ahaak alli	that analy	٨		c		Indicators (two or more required)
•	•	im or one r	equired; check all			<b></b> -			/ Indicators (two or more required)
	e Water (A1)		' <del></del>		ed Leaves		-		-Stained Leaves (B9)( <b>MLRA 1,2,4A,4B</b> )
High V	Water Table (A2)		(e	xcept ML	RA 1,2,4A,	, and 4B)	-	Draina	age Patterns (B10)
Satura	ation (A3)		Salt	t Crust (B:	11)		-	Dry-Se	eason Water Table (C2)
Water	Marks (B1)		Aqı	uatic Inve	rtebrates (	(B13)	-	Satura	ition Visible on Aerial Imagery (C9)
Sedim	ent Deposits (B2)		Нус	drogen Su	lfide Odor	(C1)	-	Geom	orphic Position (D2)
Drift D	Deposits (B3)		_X_Oxio	dized Rhiz	ospheres	along Livir	ng Roots (C3)	Shallo	w Aquitard (D3)
Algal I	Mat or Crust (B4)		Pre	sence of	Reduced Ir	on (C4)	<u> </u>	FAC-N	eutral Test (D5)
Iron D	eposits (B5)		Rec	ent Iron I	Reduction	in Tilled S	oils (C6)	Raised	Ant Mounds (D6)(LRR A)
	ce Soil Cracks (B6)				tressed Pla				Heave Hummocks (D7)
	ation Visible on A		· · · · · · · · · · · · · · · · · · ·		in in Rema				(= : /
	ely Vegetated Cor	_	- · · · ·	ici (Expia	rema				
Field Obse		icave Julia	CC (BO)						
	rvations. rater Present? No		Depth (inc	shocl:					
	ole Present? N		Depth (in	•					
	Present? No	_	Depth (in	•					
	apillary fringe)	_	2 <b></b> (				Wetland Hydro	logy Pres	ent? <u>Yes</u>
		ream gaug	e, monitoring well	, aerial ph	notos, prev	ious inspe	ections), if available	<b>:</b> :	
Remarks:		·		_		_			

Project/Site: Port Westward Renewable Diesel Refinery Applicant/Owner: Next Energy Group, Inc. State: OR Investigator(s): Sue Brady Section, Township Landform (hillslope, terrace, etc.): FlatsLocal relief (conce Subregion (LRR): Northwest Forests & Coast (LRR A) Soil Map Unit Name: Wauna-Lacoda silt loams, protected Are climatic/hydrologic conditions on the site typical for the Are Vegetation X, Soil X, or Hydrology significantly of Are Vegetation, Soil, or Hydrology naturally pro SUMMARY OF FINDINGS - Attach site map showing Hydrophytic Vegetation Present? Yes	o, Range: T8N R4 ove, convex, none Lat: NWI classificat this time of year? listurbed? blematic?	e): <u>none</u> <u>46.16422400</u> ion: <u>PEM1A</u> P <u>Yes</u> (if no, exp	Are "Normal (if needed, ex	ks.) Circumstances" present? <u>Yes</u> xplain any answers in Remarks.)					
Hydric Soil Present? Yes									
Wetland Hydrology Present? <u>Yes</u>		is the S	ampled Area	within a Wetland? Yes					
Remarks:  VEGETATION – Use scientific names of plants.									
OSC SCIENCING HARRES OF PICTUS	Absolute %	Dominant	Indicator	Dominance Test worksheet:					
<u>Tree Stratum</u> (Plot size: <u>0</u> )	Cover	Species?	Status	Number of Dominant Species					
1.				That Are OBL, FACW, or FAC: <u>3</u> (A)					
2.									
3.				Total Number of Dominant					
4. Total Cover =0				Species Across All Strata: <u>3</u> (B)					
				Percent of Dominant Species					
Sapling/Shrub Stratum (Plot size: 0 )				That Are OBL, FACW, or FAC: 100 (A/B)					
1.				Prevalence Index worksheet:					
2.				Total % Cover of: Multiply by:					
3.				OBL species $\underline{0}$ $\times 1 = \underline{0}$					
4. 5.				FACW species $60 \times 2 = 120$					
Total Cover =0				FAC species <u>50</u> x 3 = <u>150</u>					
Herb Stratum (Plot size: 4 m <sup>2</sup> )				FACU species $\underline{0}$ x 4 = $\underline{0}$					
1. Mentha x piperita	<u>10</u>	<u>No</u>	FACW	UPL species $\underline{0}$ x 5 = $\underline{0}$					
Phalaris arundinacea	<u>50</u>	Yes	FACW	Column Totals: <u>110</u> (A) <u>270</u> (B)					
3. <u>Cirsium arvense</u>	30	Yes	FAC						
4.				Prevalence Index = $B/A = 2.45$					
5.				Hydrophytic Vegetation Indicators:					
6.				1 —Rapid Test for Hydrophytic Vegetation					
7.				X 2 – Dominance Test >50%					
8. 9.				$\overline{X}$ 3 - Prevalence Index is $\leq 3.0^1$					
10.				4 - Morphological Adaptions <sup>1</sup> (Provide supporting					
11.				data in Remarks or on a separate sheet)					
Total Cover = <u>90</u>				5 – Wetland Non-Vascular Plants <sup>1</sup>					
				Problematic Hydrophytic Vegetation¹ (Explain)					
Woody Vine Stratum (Plot size: _4 m²_)				Indicators of hydric soil and wetland hydrology					
1. Rubus armeniacus	<u>20</u>	Yes	FAC	must be present, unless disturbed or problematic.					
2.				,					
Total Cover = <u>20</u>									
% Bare Ground in Herb Stratum: <u>0</u>				Hydrophytic Vegetation Present? Yes					
Remarks: irrigated mint field	1								

SOIL Sampling Point: <u>39</u>

	Mat	<u>rix</u>		Redox F	<u>eatures</u>				
Depth (inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture		Remarks
0-6	10YR 3/2	100		<u>0</u>			Silty Clay Loam		
6-18	10YR 3/1	95	10YR 4/6	<u>5</u>	<u>C</u>	<u>M</u>	Silty Clay Loam		
0 10	<u>1011(3/1</u>	<u> </u>	<u> 1011( 4) 0</u>	<u> </u>		101	Sifty Clay Loain		
¹Type: C=	Concentration, D	=Depletior	, RM=Reduced Ma	atrix, CS=0	Covered o	r Coated S	and Grains. <sup>2</sup> Lo	cation: P	L=Pore Lining, M=Matrix
Hydric So	il Indicators: (Ap	plicable to	all LRRs, unless ot	herwise r	noted.)			Indicato	rs for Problematic Hydric Soils <sup>3</sup> :
Histos	sol (A1)		Sa	ndy Redo	x (S5)			2 cı	n Muck (A10)
Histic	Epipedon (A2)		St	ripped Ma	atrix (S6)			Rec	l Parent Material (TF2)
Black	Histic (A3)		Lo	amy Muc	ky Minera	l (F1) (exc	ept MLRA 1)	Ve	ry Shallow Dark Surface (TF12)
Hydro	ogen Sulfide (A4)		Lo	amy Gley	ed Matrix	(F2)		Oth	ner (Explain in Remarks)
Deple	ted Below Dark S	urface (A1:		pleted M					
	Dark Surface (A12			dox Dark	Surface (F	5)		3Indicat	tors of hydrophytic vegetation and
Sandy	/ Mucky Mineral (	S1)	De	pleted Da	ark Surface	e (F7)		wetland	d hydrology must be present, unless
	Gleyed Matrix (S				essions (F8			disturb	ed or problematic.
•	e Layer (if preser		·						
Type:		•							
Depth (in	ches): <u>0</u>							Hydric	Soil Present? Yes
Remarks:									
HYDROLO	)GY								
	Hydrology Indicat	tors:							
Primary In	ndicators (minimu	m of one r	equired; check all	that apply	<i>(</i> )		S	Secondary	Indicators (two or more required)
Surfac	ce Water (A1)		Wa	ter-Staine	ed Leaves	(B9)		Water	-Stained Leaves (B9)(MLRA 1,2,4A,4B)
	Water Table (A2)		· · · · · · · · · · · · · · · · · · ·		RA 1,2,4A,				age Patterns (B10)
X Satura			Sal	t Crust (Bí	 L1)	,			eason Water Table (C2)
	r Marks (B1)				rtebrates (	B13)	_		ition Visible on Aerial Imagery (C9)
	ent Deposits (B2)	)			lfide Odor		_		orphic Position (D2)
	Deposits (B3)		· · · · · · · · · · · · · · · · · · ·	_			ng Roots (C3)		w Aquitard (D3)
	Mat or Crust (B4)				Reduced Ir	_	• • • • • • • • • • • • • • • • • • • •		eutral Test (D5)
	eposits (B5)		·		Reduction		oils (C6)		Ant Mounds (D6)(LRR A)
	ce Soil Cracks (B6)		<u></u>		ressed Pla		· · ·		Heave Hummocks (D7)
	ation Visible on A				in in Rema				(= , )
	ely Vegetated Cor	_		- ( )		-,			
	ervations:								
	/ater Present? No	)	Depth (inc	ches): 0					
	ole Present? Ye		•	ches): <u>15</u>	<u>.</u>				
Saturation	n Present? <u>Ye</u>	<u>!S</u>	Depth (ir	nches): <u>10</u>	<u>)</u>			_	
	apillary fringe)						Wetland Hydro		ent? <u>Yes</u>
Describe F	recorded Data (st	ream gaug	e, monitoring well	, aerial ph	iotos, prev	vious inspe	ections), if available	:	
Remarks:									

Project/Site: Port Westward Renewable Diesel Refinery Applicant/Owner: Next Energy Group, Inc. State: OR Investigator(s): Sue Brady Section, Township Landform (hillslope, terrace, etc.): Flats Local relief (conce Subregion (LRR): Northwest Forests & Coast (LRR A) Soil Map Unit Name: Wauna-Lacoda silt loams, protected Are climatic/hydrologic conditions on the site typical for Are Vegetation X, Soil X, or Hydrology significantly of Are Vegetation, Soil, or Hydrology naturally pro  SUMMARY OF FINDINGS - Attach site map showing Hydrophytic Vegetation Present? Yes Hydric Soil Present? No	p, Range: T8N R4V ave, convex, none Lat: 4 NWI classificati this time of year? disturbed? oblematic?	e): <u>none</u> 46.16422700 ion: <u>PEM1A</u> Yes (if no, ex	Slope (%): <u>0</u> Long: <u>-123.1</u> xplain in Remai Are "Normal (if needed, e.	rks.) Circumstances" present? <u>Yes</u> xplain any answers in Remarks.) mportant features, etc.
Wetland Hydrology Present? No  Remarks:  VEGETATION – Use scientific names of plants.		is the	Sampled Area	n within a Wetland? <u>No</u>
<u>Tree Stratum</u> (Plot size: <u>0</u> )  1.  2.  3.  4.	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:  Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)  Total Number of Dominant Species Across All Strata: 4 (B)
Total Cover = 0  Sapling/Shrub Stratum (Plot size: 0 )				Percent of Dominant Species
1. 2. 3. 4. 5.  Total Cover = 0				That Are OBL, FACW, or FAC:         100 (A/B)           Prevalence Index worksheet:           Total % Cover of:         Multiply by:           OBL species         0         x 1 = 0           FACW species         50         x 2 = 100           FAC species         70         x 3 = 210           FACU species         0         x 4 = 0
Herb Stratum (Plot size: 4 m²)  1. Phalaris arundinacea  2. Cirsium arvense  3. Lolium perenne  4.	<u>50</u> <u>20</u> <u>20</u>	<u>Yes</u> <u>Yes</u> <u>Yes</u>	FACW FAC FAC	UPL species $0 \times 5 = 0$ Column Totals: $120 \times 5 = 0$ Prevalence Index = B/A = $2.58$
5. 6. 7. 8. 9. 10. 11. Total Cover = 90				Hydrophytic Vegetation Indicators: 1 — Rapid Test for Hydrophytic Vegetation  X2 — Dominance Test > 50%  X3 - Prevalence Index is ≤ 3.0¹ 4 - Morphological Adaptions¹ (Provide supporting data in Remarks or on a separate sheet) 5 — Wetland Non-Vascular Plants¹  Problematic Hydrophytic Vegetation¹ (Explain)  ¹Indicators of hydric soil and wetland hydrology
1. Rubus armeniacus 2. Total Cover =30	<u>30</u>	<u>Yes</u>	<u>FAC</u>	must be present, unless disturbed or problematic.
% Bare Ground in Herb Stratum: <u>0</u>				Hydrophytic Vegetation Present? Yes
Remarks: irrigated mint field				

SOIL Sampling Point: <u>39a</u>

	<u>Mat</u>	<u>rıx</u>		Redox F	-eatures				
Depth	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture		Remarks
(inches)									
<u>0-10</u>	10YR 3/3	<u>100</u>		<u>0</u>			Sandy Clay Loam		
10-19	10YR 3/2	<u>100</u>		<u>0</u>	_		Silty Clay Loam		
<u>19-25</u>	<u>10YR 3/2</u>	<u>97</u>	<u>10YR 4/6</u>	<u>3</u>	<u>C</u>	<u>M</u>	Silty Clay Loam		
1Tuno: C-	Concontration D	-Doplotion	ı, RM=Reduced Ma	triv CC-C	Covered or	Coated S	and Grains 21 a	cation: D	L=Pore Lining, M=Matrix
						Coated 5	and GranisLO		
		plicable to	all LRRs, unless ot						rs for Problematic Hydric Soils <sup>3</sup> :
	sol (A1)			ndy Redo					m Muck (A10)
	Epipedon (A2)			ipped Ma					d Parent Material (TF2)
	Histic (A3)		·	-			ept MLRA 1)		ry Shallow Dark Surface (TF12)
	gen Sulfide (A4)				ed Matrix	(F2)		Oth	ner (Explain in Remarks)
	ted Below Dark S	•	· —	pleted M		_,		2	
	Dark Surface (A12		·		Surface (F	-			tors of hydrophytic vegetation and
	Mucky Mineral (				ark Surface				d hydrology must be present, unless ed or problematic.
	Gleyed Matrix (S		ке	dox Depr	essions (F8	3)		aistaib	ed of problematic.
	e Layer (if preser	it):							
Type: Depth (inc	rhes): 0							Hydric	Soil Present? No
	5.1.637. <u>5</u>								
Remarks:									
HYDROLO									
	Hydrology Indicat		anuirad, abaak all	hat annl	٨		c	`aaandan	Indicators (ture or more required)
		m of one r	equired; check all				S		y Indicators (two or more required)
	e Water (A1)		· <u></u>		ed Leaves (		_		r-Stained Leaves (B9)(MLRA 1,2,4A,4B)
	Vater Table (A2)			-	RA 1,2,4A,	and 4B)	=		age Patterns (B10)
·	ition (A3)			Crust (B1			_		eason Water Table (C2)
	Marks (B1)				rtebrates (		=		ation Visible on Aerial Imagery (C9)
	ent Deposits (B2)		•	_	lfide Odor				orphic Position (D2)
· ·	eposits (B3)					_	ng Roots (C3)		w Aquitard (D3)
	Mat or Crust (B4)		· <u></u>		Reduced Ir		-		leutral Test (D5)
	eposits (B5)				Reduction				d Ant Mounds (D6)( <b>LRR A</b> )
	e Soil Cracks (B6)				tressed Pla		RR A)	Frost-	Heave Hummocks (D7)
	ation Visible on A	ŭ	, , , <u>—</u>	er (Explai	in in Rema	rks)			
	ely Vegetated Cor	ncave Surfa	ce (B8)						
Field Obse									
	ater Present? No		Depth (inc	. –					
Saturation	ole Present? No	_	Depth (in	:nes): <u>u</u> :ches): 20	1				
	i Present? Ye ipillary fringe)	<u>3</u>	Deptii (ii	iciies). <u>20</u>	<u>2</u>		Wetland Hydro	logy Pres	ent? No
		ream gaug	e, monitoring well	aerial ph	otos, prev	ious inspe	ctions), if available	:	
Damin									
Remarks:									

Project/Site: Port Westward Renewable Diesel Refinery Applicant/Owner: Next Energy Group, Inc. State: OR Investigator(s): Sue Brady Section, Townshi Landform (hillslope, terrace, etc.): Flats Local relief (conc. Subregion (LRR): Northwest Forests & Coast (LRR A) Soil Map Unit Name: Lacoda silt loam, protected NWI cla Are climatic/hydrologic conditions on the site typical for Are Vegetation, Soil, or Hydrology significantly Are Vegetation, Soil, or Hydrology naturally pro	p, Range: T8N R4 ave, convex, none Lat: assification: none this time of year? disturbed? oblematic?	e): <u>concave</u> 46.17015100 2 ? <u>Yes</u> (if no, exp	olain in Rema Are "Normal (if needed, e	rks.) Circumstances" present? <u>Yes</u> xplain any answers in Remarks.)					
Hydrophytic Vegetation Present? Yes									
Hydric Soil Present? <u>Yes</u>		Is the	Sampled Area	within a Watland? Voc					
Wetland Hydrology Present? Yes Is the Sampled Area within a Wetland? Yes  Remarks:									
VEGETATION – Use scientific names of plants.									
	Absolute %	Dominant	Indicator	Dominance Test worksheet:					
Tree Stratum (Plot size: _0_) 1. 2. 3.	Cover	Species?	Status	Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)  Total Number of Dominant					
4.				Species Across All Strata: <u>2</u> (B)					
Total Cover = <u>0</u>									
Sapling/Shrub Stratum (Plot size: 0 )				Percent of Dominant Species					
1. 2. 3. 4. 5.  Total Cover = 0				That Are OBL, FACW, or FAC:         100 (A/B)           Prevalence Index worksheet:           Total % Cover of:         Multiply by:           OBL species         0         x 1 = 0           FACW species         100         x 2 = 200           FAC species         10         x 3 = 30           FACU species         0         x 4 = 0					
Herb Stratum (Plot size: 4 m²)  1. Phalarais arundinacea  2.  3.  4.	<u>100</u>	<u>Yes</u>	<u>FACW</u>	FACU species $0$ x 4 = $0$ UPL species $0$ x 5 = $0$ Column Totals: $110$ (A) $230$ (B) Prevalence Index = B/A = $2.09$					
5. 6. 7. 8. 9. 10. 11. Total Cover = <u>100</u>				Hydrophytic Vegetation Indicators: 1 — Rapid Test for Hydrophytic Vegetation  X2 — Dominance Test >50%  X3 - Prevalence Index is ≤ 3.0¹ 4 - Morphological Adaptions¹ (Provide supporting data in Remarks or on a separate sheet) 5 — Wetland Non-Vascular Plants¹  Problematic Hydrophytic Vegetation¹ (Explain)					
Woody Vine Stratum (Plot size: _4 m² )  1. Rubus armeniacus  2. Total Cover = 10	<u>10</u>	<u>Yes</u>	FAC	Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.					
% Bare Ground in Herb Stratum: <u>0</u>				Hydrophytic Vegetation Present? Yes					
Remarks:	1	1	•	<u> </u>					

SOIL Sampling Point: 40

	Mat	<u>rix</u>		Redox F	<u>eatures</u>				
Depth	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture		Remarks
(inches)									
<u>0-9</u>	10YR 2/2	<u>100</u>		<u>0</u>			Silty Clay Loam		
¹Type: C=	Concentration, D	=Depletion	, RM=Reduced Ma	atrix, CS=0	Covered o	Coated S	and Grains. <sup>2</sup> Lo	cation: P	L=Pore Lining, M=Matrix
Hydric So	il Indicators: (Ap	plicable to	all LRRs, unless ot	herwise r	noted.)			Indicato	rs for Problematic Hydric Soils <sup>3</sup> :
	sol (A1)	•		ndy Redo					n Muck (A10)
	Epipedon (A2)			ripped Ma					Parent Material (TF2)
	Histic (A3)					(F1) (exc	ept MLRA 1)		ry Shallow Dark Surface (TF12)
	gen Sulfide (A4)			•	ed Matrix		cpt william 1)		ner (Explain in Remarks)
	eted Below Dark S	urface (A1		epleted M		(12)		o	ici (Explait iii Nemarks)
	Dark Surface (A12	-	-		Surface (F	6)		3Indicat	tors of hydrophytic vegetation and
	/ Mucky Mineral (	•			ark Surface				d hydrology must be present, unless
	/ Mucky Milleral ( / Gleyed Matrix (S			•	essions (F				ed or problematic.
				dox pepi	E3310113 (F6	>)			<u>'</u>
	e Layer (if preser	nt):							
Type:	chas): 0							Hydric	Soil Present? Yes
Depth (in								Tiyane	5011 1 C3C111. <u>1C3</u>
Remarks:									
HYDROLO	iGY								
	Hydrology Indicat	tors:							
			equired; check all	that apply	<b>/</b> )		S	econdary	/ Indicators (two or more required)
Surfac	ce Water (A1)		Wa	ter-Staine	ed Leaves	'R9)		Water	-Stained Leaves (B9)( <b>MLRA 1,2,4A,4B</b> )
	Vater Table (A2)				RA 1,2,4A,	. ,	_		age Patterns (B10)
X Satura				t Crust (B:		allu 4D)	_		eason Water Table (C2)
· · · · · · · · · · · · · · · · · · ·	r Marks (B1)		<del></del>	•	rtebrates (	D12\	_		ition Visible on Aerial Imagery (C9)
					fide Odor	•	-		÷ , , ,
	ent Deposits (B2)	1					- Da ata (C3)		orphic Position (D2)
·	Deposits (B3)					_	ng Roots (C3)		w Aquitard (D3)
	Mat or Crust (B4)		<del></del>		Reduced Ir		-:l- (CC)		eutral Test (D5)
	eposits (B5)				Reduction				Ant Mounds (D6)(LRR A)
	ce Soil Cracks (B6)				ressed Pla		-RR A)	Frost-	Heave Hummocks (D7)
	ation Visible on A	_		ier (Expia	in in Rema	rks)			
	ely Vegetated Cor	icave Surta	ce (B8)						
Field Obse		_	Donath /ins	-h\.					
	/ater Present? <u>No</u> ple Present?      Ye		Depth (in	-					
	ole Present? <u>Ye</u> n Present?         Ye	_	Depth (in Depth (in	nches): 0					
	apillary fringe)	<u>.5</u>	Deptii (ii	iciics). <u>o</u>			Wetland Hydro	logy Pres	ent? Yes
		ream gaug	e, monitoring well	, aerial ph	otos, prev	ious inspe	ections), if available	:	
Remarks:									

Landform (hillslope, terrace, etc.): Flats Local relief (conc Subregion (LRR): Northwest Forests & Coast (LRR A)  Soil Map Unit Name: Lacoda silt loam, protected NWI cla Are climatic/hydrologic conditions on the site typical for Are Vegetation, Soil, or Hydrology significantly Are Vegetation, Soil, or Hydrology naturally property of the site of the sit	ip, Range: T8N R4N ave, convex, none Lat: assification: none this time of year? disturbed? oblematic?	e): <u>concave</u> <u>46.17015500</u> <u>e</u> ? <u>Yes</u> (if no, exp	olain in Rema Are "Normal (if needed, e	rks.) Circumstances" present? <u>Yes</u> xplain any answers in Remarks.)
Hydrophytic Vegetation Present? Yes Hydric Soil Present? No				
Wetland Hydrology Present? No	within a Wetland? <u>No</u>			
Remarks:  VEGETATION – Use scientific names of plants.				
	Absolute %	Dominant	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: 0 ) 1. 2. 3.	Cover	Species?	Status	Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)  Total Number of Dominant
4. Total Cover =0				Species Across All Strata: <u>2</u> (B)
Sapling/Shrub Stratum (Plot size: 0 ) 1.	-			Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)
2. 3. 4. 5.  Total Cover = 0				Prevalence Index worksheet:           Total % Cover of:         Multiply by:           OBL species         0         x 1 = 0           FACW species         60         x 2 = 120           FAC species         30         x 3 = 90
Herb Stratum (Plot size: _4 m² )  1. Phalaris arundinacea  2. Sisymbrium altissimum  3. Lolium perenne  4.	60 30 10	Yes No No	FACW FACU FAC	FACU species $30$ x 4 = $120$ UPL species $0$ x 5 = $0$ Column Totals: $120$ (A) $330$ (B)  Prevalence Index = B/A = $2.75$
5. 6. 7. 8. 9. 10. 11. Total Cover = 100				Hydrophytic Vegetation Indicators: 1 — Rapid Test for Hydrophytic Vegetation  X
Woody Vine Stratum (Plot size: 4 m²)  1. Rubus armeniacus  2.  Total Cover = 20	<u>20</u>	<u>Yes</u>	<u>FAC</u>	¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
% Bare Ground in Herb Stratum: <u>0</u>				Hydrophytic Vegetation Present? Yes
Remarks:				

SOIL Sampling Point: 40a

	<u>Mat</u>	<u>rix</u>		Redox I	<u>Features</u>					
Depth	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture		Remarks	
(inches)										
<u>0-8</u>	10YR 3/3	<u>100</u>		<u>0</u>			Silty Clay Loam			
8-16	10YR 3/2	<u>100</u>	4000 4/6	<u>0</u>			Silty Clay Loam			
<u>16-25</u>	10YR 3/2	<u>95</u>	<u>10YR 4/6</u>	<u>5</u>	<u>C</u>	<u>M</u>	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 So	il Indicators: (Ap	plicable to	all LRRs, unless ot	herwise ı	noted.)			Indicato	rs for Problematic Hydric Soils <sup>3</sup> :	
Histos	sol (A1)		Sa	ndy Redo	x (S5)			2 cr	m Muck (A10)	
·	Epipedon (A2)			ipped Ma					Parent Material (TF2)	
	Histic (A3)					l (F1) (exc	ept MLRA 1)	II	ry Shallow Dark Surface (TF12)	
Hydro	gen Sulfide (A4)		Lo	amy Gley	ed Matrix	(F2)		Oth	ner (Explain in Remarks)	
Deple	ted Below Dark S	urface (A1	1)De	pleted M	atrix (F3)					
Thick	Dark Surface (A12	2)	Re	dox Dark	Surface (F	6)		3Indicat	tors of hydrophytic vegetation and	
Sandy	Mucky Mineral (	S1)	De	pleted Da	ark Surface	e (F7)			d hydrology must be present, unless	
Sandy	Gleyed Matrix (S	54)	Re	dox Depr	essions (F	3)		disturb	ed or problematic.	
Restrictiv	e Layer (if preser	nt):								
Type:										
Depth (in	ches): <u>0</u>							Hydric	Soil Present? No	
Remarks:								1		
HYDROLO	GY									
	Hydrology Indicat	ors:								
			equired; check all	hat apply	y)		9	Secondary	Indicators (two or more required)	
Surfac	e Water (A1)		Wa	ter-Staine	ed Leaves	(B9)		Water	-Stained Leaves (B9)(MLRA 1,2,4A,4B)	
	Vater Table (A2)				RA 1,2,4A,		<del>-</del>		age Patterns (B10)	
_	ition (A3)			Crust (B:		,	_		eason Water Table (C2)	
	Marks (B1)			-	rtebrates (	B13)	<del>-</del>		ition Visible on Aerial Imagery (C9)	
Sedim	ent Deposits (B2)		Hyd	lrogen Su	lfide Odor	(C1)		Geom	orphic Position (D2)	
	eposits (B3)		-	_			ng Roots (C3)		w Aquitard (D3)	
Algal N	Mat or Crust (B4)		Pre	sence of	Reduced Ir	on (C4)	_	FAC-N	eutral Test (D5)	
Iron D	eposits (B5)		Rec	ent Iron I	Reduction	in Tilled S	oils (C6)	Raised	Ant Mounds (D6)(LRR A)	
	e Soil Cracks (B6)				tressed Pla				Heave Hummocks (D7)	
	ation Visible on A				in in Rema		,	<u></u>	` ,	
	ely Vegetated Cor	_								
Field Obse	ervations:									
Surface W	ater Present? No	<u>)</u>	Depth (inc	:hes):						
	ole Present? Ye	<u>!S</u>	Depth (in							
Saturation	·	<u>S</u>	Depth (ir	ches): <u>15</u>	<u>5</u>		Wetland Hydro	logy Pres	ent? No	
	apillary fringe) Recorded Data (st	ream gallg	e monitoring well	aerial nh	notos nrev	inus insne	ections), if available			
2 0301100 1		. Juni buub	_, well	, serial pi	. 5 100, pict		, ii avaliable			
Remarks:										

Project/Site: NEXT Energy Renewable Biodiesel Applicant/Owner: NEXT Energy State: OR Investigator(s): Sue Brady Section, Townsh Landform (hillslope, terrace, etc.): Drainageway Local n Subregion (LRR): Northwest Forests & Coast (LRR A) Soil Map Unit Name: Udipsamments, nearly level, prote Are climatic/hydrologic conditions on the site typical for Are Vegetation, Soil, or Hydrology significantly Are Vegetation, Soil, or Hydrology naturally process SUMMARY OF FINDINGS — Attach site map showing Hydrophytic Vegetation Present? Yes	Lat: cted NWI r this time of year? y disturbed? roblematic?	W Section 16 nvex, none): cc 46.17096080 classification: Yes(if no, exp	Long: <u>-123.1</u> none blain in Remai Are "Normal (if needed, e	rks.) Circumstances" present? <u>Yes</u> xplain any answers in Remarks.)					
Hydric Soil Present? Yes									
Wetland Hydrology Present? Yes Is the Sampled Area within a Wetland? Yes									
Remarks:  VEGETATION – Use scientific names of plants.									
	Absolute %	Dominant	Indicator	Dominance Test worksheet:					
Tree Stratum (Plot size: 0 ) 1.	Cover	Species?	Status	Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)					
2.				That Are Obl., FACW, OF FAC.					
3.				Total Number of Dominant					
4.				Species Across All Strata: $\underline{4}$ (B)					
Total Cover = <u>0</u>				Percent of Dominant Species					
Sapling/Shrub Stratum (Plot size: 0 ) 1.				That Are OBL, FACW, or FAC: 100 (A/B)					
2.				Prevalence Index worksheet:					
3.				Total % Cover of:Multiply by:					
4.				OBL species $\frac{70}{20}$ x 1 = $\frac{70}{20}$					
5.				FACW species $30$ x 2 = $60$ FAC species $20$ x 3 = $60$					
Total Cover = 0  Herb Stratum (Plot size: _4 m²)				FACU species $\underline{0}$ x 4 = $\underline{0}$					
1. Scirpus microcarpus	<u>70</u>	<u>Yes</u>	<u>OBL</u>	UPL species $\underline{0}$ x 5 = $\underline{0}$					
2. Phalaris arundinacea	<u>20</u>	Yes	FACW	Column Totals: <u>120</u> (A) <u>190</u> (B)					
3. <u>Juncus balticus</u>	<u>10</u>	<u>Yes</u>	<u>FACW</u>	Prevalence Index = B/A = 1.58					
4. 5.									
6. 7. 8. 9. 10. 11. Total Cover = 100				Hydrophytic Vegetation Indicators:					
Woody Vine Stratum (Plot size: 4 m <sup>2</sup> )				<sup>1</sup> Indicators of hydric soil and wetland hydrology					
1. Rubus armeniacus	<u>20</u>	<u>Yes</u>	<u>FAC</u>	must be present, unless disturbed or problematic.					
2. Total Cover = <u>20</u>									
% Bare Ground in Herb Stratum: <u>0</u>				Hydrophytic Vegetation Present? Yes					
Remarks:	L	ı	1	, , , ,					

SOIL Sampling Point: 41

	Mat	<u>rix</u>		Redox	-eatures				
Depth	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture		Remarks
(inches)									
<u>0-9</u>	10YR 4/2	<u>95</u>	10YR 4/4	<u>5</u>	<u>C</u>	<u>M</u>	Silty Clay Loam		
9-12	10YR 4/2	<u>90</u>	10YR 4/6	<u>10</u>	<u>C</u>	<u>M</u>	Silty Clay Loam		
12-18	10YR 2/2	<u>90</u>	10YR 4/6	10	<u>C</u>	M	Silty Clay Loam		
					_				
1									
¹Type: C=	Concentration, D	=Depletior	, RM=Reduced Ma	atrix, CS=	Covered or	r Coated S	and Grains. <sup>2</sup> Lo	ocation: P	L=Pore Lining, M=Matrix
Hydric So	il Indicators: (Ap	plicable to	all LRRs, unless ot	herwise i	noted.)			Indicato	rs for Problematic Hydric Soils <sup>3</sup> :
Histos	sol (A1)		Sa	ndy Redo	x (S5)			2 cı	n Muck (A10)
Histic	Epipedon (A2)		Sti	ripped Ma	atrix (S6)			Rec	l Parent Material (TF2)
	Histic (A3)		 Lo	amy Muc	ky Mineral	l (F1) ( <b>exc</b>	ept MLRA 1)	Ve	ry Shallow Dark Surface (TF12)
	ogen Sulfide (A4)		·	-	ed Matrix		• ,		ner (Explain in Remarks)
	ted Below Dark S	urface (A1		pleted M		(/			(=
	Dark Surface (A1	-			Surface (F	6)		3Indicat	tors of hydrophytic vegetation and
	Mucky Mineral (	•	·		ark Surface	•			d hydrology must be present, unless
	-				essions (F				ed or problematic.
	Gleyed Matrix (S		Re	иох Берг	essions (F	>)			
	e Layer (if preser	nt):							
Type:								Usalaio	Sail Dunnant? Voc
Depth (in	ches): <u>0</u>							nyuric	Soil Present? Yes
Remarks:									
UVDDOLO	CV								
HYDROLO	Hydrology Indicat								
			equired; check all	that apply	<b>/</b> )			Secondary	Indicators (two or more required)
•	e Water (A1)		· · · · · · · · · · · · · · · · · · ·		ed Leaves (	(PO)			-Stained Leaves (B9)( <b>MLRA 1,2,4A,4B</b> )
							-		, ,, , , ,
	Water Table (A2)		•	•	RA 1,2,4A,	and 4B)	-		age Patterns (B10)
X_Satura	` '			t Crust (B	-		-		eason Water Table (C2)
	Marks (B1)				rtebrates (		-		ition Visible on Aerial Imagery (C9)
Sedim	ent Deposits (B2)		Нус	drogen Su	lfide Odor	(C1)	-	Geom	orphic Position (D2)
Drift D	Deposits (B3)		Oxi	dized Rhi	zospheres	along Livi	ng Roots (C3)	Shallo	w Aquitard (D3)
Algal I	Mat or Crust (B4)		Pre	sence of	Reduced Ir	on (C4)	-	FAC-N	eutral Test (D5)
Iron D	eposits (B5)		Rec	ent Iron I	Reduction	in Tilled S	oils (C6)	Raised	Ant Mounds (D6)(LRR A)
Surfac	e Soil Cracks (B6)		Stu	nted or S	tressed Pla	nts (D1)(I	RR A)	Frost-	Heave Hummocks (D7)
Inunda	ation Visible on A	erial Image	ry (B7)Oth	ner (Expla	in in Rema	rks)			
Sparse	ely Vegetated Cor	ncave Surfa	ce (B8)						
Field Obse			. ,						
	ater Present? No	)	Depth (inc	ches):					
	ole Present? Ye	_	Depth (in	•	j				
Saturation	Present? Ye	<u>!S</u>		nches): 10					
(includes ca	apillary fringe)						Wetland Hydro	logy Pres	ent? <u>Yes</u>
Describe F	Recorded Data (st	ream gaug	e, monitoring well	, aerial pł	notos, prev	vious inspe	ections), if available	e:	
Remarks:									

Project/Site: NEXT Energy Renewable Biodiesel Applicant/Owner: NEXT Energy State: OR Investigator(s): Sue Brady Section, Townsh Landform (hillslope, terrace, etc.): Drainageway Local r Subregion (LRR): Northwest Forests & Coast (LRR A) Soil Map Unit Name: Udipsamments, nearly level, prote Are climatic/hydrologic conditions on the site typical for Are Vegetation, Soil, or Hydrology significantly Are Vegetation, Soil, or Hydrology naturally pr	Lat: cted NWI this time of year? disturbed? oblematic?	W Section 16 nvex, none): co 46.17095730 classification: Yes (if no, exp	Long: <u>-123.1</u> none blain in Remai Are "Normal (if needed, e	rks.) Circumstances" present? <u>Yes</u> xplain any answers in Remarks.)					
Hydrophytic Vegetation Present? Yes									
Hydric Soil Present? No		Is the S	Sampled Area	within a Wetland? No					
Wetland Hydrology Present? No Is the Sampled Area within a Wetland? No Remarks:									
VEGETATION – Use scientific names of plants.									
VEGETATION OSE SCIENTIFIC HAITIES OF Plants.	Absolute %	Dominant	Indicator	Dominance Test worksheet:					
<u>Tree Stratum</u> (Plot size: <u>0</u> )	Cover	Species?	Status	Number of Dominant Species					
1.				That Are OBL, FACW, or FAC: $\underline{4}$ (A)					
2. 3.				Total Number of Dominant					
4.				Species Across All Strata: <u>5</u> (B)					
Total Cover = <u>0</u>									
Sapling/Shrub Stratum (Plot size: 0 )				Percent of Dominant Species					
1.				That Are OBL, FACW, or FAC: 80 (A/B)  Prevalence Index worksheet:					
2.				Total % Cover of: Multiply by:					
3. 4.				OBL species $30 \times 1 = 30$					
5.				FACW species $\underline{30}$ x 2 = $\underline{60}$					
Total Cover = <u>0</u>				FAC species $\frac{40}{20}$ x 3 = $\frac{120}{20}$					
Herb Stratum (Plot size: _4 m²_)				FACU species $\underline{20}$ x 4 = $\underline{80}$ UPL species $\underline{0}$ x 5 = $\underline{0}$					
1. Equisetum arvense	<u>20</u>	<u>Yes</u>	<u>FAC</u>	Column Totals: $\frac{120}{2}$ (A) $\frac{290}{2}$ (B)					
Scirpus microcarpus     Phalaris arundinacea	30 30	<u>Yes</u> Yes	OBL FACW	_ ,, _ ,,					
4. Polystichum munitum	<u>20</u>	<u>Yes</u>	FACU	Prevalence Index = $B/A = 2.42$					
5.				Hydrophytic Vegetation Indicators:					
6.				1 –Rapid Test for Hydrophytic Vegetation					
7. 8.				X 2 – Dominance Test >50%					
9.				$\underline{X}$ 3 - Prevalence Index is ≤ 3.0 <sup>1</sup>					
10.				4 - Morphological Adaptions <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)					
11.				5 – Wetland Non-Vascular Plants <sup>1</sup>					
Total Cover = 100				Problematic Hydrophytic Vegetation¹ (Explain)					
Woody Vine Stratum (Plot size: 4 m <sup>2</sup> )	20	.,	540	¹Indicators of hydric soil and wetland hydrology					
1. Rubus armeniacus 2.	<u>20</u>	<u>Yes</u>	<u>FAC</u>	must be present, unless disturbed or problematic.					
Total Cover = <u>20</u>									
_									
% Bare Ground in Herb Stratum: <u>0</u>				Hydrophytic Vegetation Present? Yes					
Remarks:									

SOIL Sampling Point: 41a

	<u>Mat</u>	<u>rix</u>		Redox F	-eatures						
Depth	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture		Remarks		
(inches)	4000 4/0		4000								
<u>0-15</u>	10YR 4/3	<u>98</u>	10YR 4/4	<u>2</u>	<u>C</u>	<u>M</u>	Sandy Clay Loam				
15-24	<u>10YR 4/3</u>	<u>98</u>	<u>10YR 4/4</u>	<u>2</u>	<u>C</u>	<u>M</u>	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											
Hvdric So	Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)  Indicators for Problematic Hydric Soils <sup>3</sup> :										
	sol (A1)			ndy Redo					m Muck (A10)		
	Epipedon (A2)			ripped Ma					Parent Material (TF2)		
	Histic (A3)					l (F1) (exc	ept MLRA 1)	II	ry Shallow Dark Surface (TF12)		
	gen Sulfide (A4)			•	ed Matrix		<b></b>		ner (Explain in Remarks)		
	ted Below Dark S	urface (A1:		pleted M		()			(=		
	Dark Surface (A12	•	· —	•	Surface (F	6)		3Indicat	tors of hydrophytic vegetation and		
	Mucky Mineral (		· · · · · · · · · · · · · · · · · · ·		ark Surface	-			d hydrology must be present, unless		
	Gleyed Matrix (S				essions (F			disturb	ed or problematic.		
Restrictiv	e Layer (if preser	nt):		<u> </u>		<u> </u>					
Type:		,.									
Depth (in	ches): <u>0</u>							Hydric	Soil Present? <u>No</u>		
Remarks:								I			
HYDROLO	GY										
Wetland I	Hydrology Indicat	ors:									
Primary In	idicators (minimu	m of one r	equired; check all	that apply	/)		S	Secondary	Indicators (two or more required)		
Surfac	e Water (A1)		Wa	ter-Staine	ed Leaves	(B9)	_	Water	-Stained Leaves (B9)(MLRA 1,2,4A,4B)		
High V	Vater Table (A2)		(е	xcept ML	RA 1,2,4A	, and 4B)	<u>-</u>	Draina	age Patterns (B10)		
Satura	ition (A3)		Sal	t Crust (B	11)		-	Dry-Se	eason Water Table (C2)		
Water	Marks (B1)		Aqı	uatic Inve	rtebrates (	(B13)	-	Satura	ition Visible on Aerial Imagery (C9)		
Sedim	ent Deposits (B2)		Нус	drogen Su	lfide Odor	(C1)	-	Geom	orphic Position (D2)		
Drift D	eposits (B3)		Oxi	dized Rhi	zospheres	along Livi	ng Roots (C3)	Shallo	w Aquitard (D3)		
Algal I	Mat or Crust (B4)		Pre	sence of I	Reduced Ir	on (C4)	-	FAC-N	eutral Test (D5)		
	eposits (B5)				Reduction				Ant Mounds (D6)( <b>LRR A</b> )		
	e Soil Cracks (B6)				tressed Pla		RR A)	Frost-l	Heave Hummocks (D7)		
	ation Visible on A	_	- · · · · · · · · · · · · · · · · · · ·	ner (Explai	in in Rema	ırks)					
	ely Vegetated Cor	ncave Surfa	ce (B8)								
Field Obse			Donath (in	-l\·							
	ater Present? No ole Present? No	<del>-</del> '	Depth (ind Depth (ind	,							
Saturation		_		nches): 18	3						
(includes ca	apillary fringe)	_		· <u> </u>	=		Wetland Hydro	logy Pres	ent? <u>No</u>		
Describe F	Recorded Data (st	ream gaug	e, monitoring well	, aerial ph	notos, prev	ious inspe	ections), if available	2:			
Remarks:											
Merrial NS.											

Project/Site: NEXT Energy Renewable Biodiesel Applicant/Owner: NEXT Energy State: OR Investigator(s): Sue Brady Section, Townsh Landform (hillslope, terrace, etc.): Drainageway Local of Subregion (LRR): Northwest Forests & Coast (LRR A) Soil Map Unit Name: Udipsamments, nearly level, protect Are climatic/hydrologic conditions on the site typical for Are Vegetation, Soil, or Hydrology significantly Are Vegetation, Soil, or Hydrology naturally p  SUMMARY OF FINDINGS — Attach site map show Hydrophytic Vegetation Present? Yes	Lat: ected NWI or this time of year? ly disturbed? oroblematic?	W Section 16 nvex, none): co 46.17281700 classification: Yes(if no, exp	Long: <u>-123.1</u> none plain in Remai Are "Normal (if needed, e	rks.) Circumstances" present? <u>Yes</u> xplain any answers in Remarks.)					
Hydric Soil Present? Yes									
Wetland Hydrology Present? Yes Is the Sampled Area within a Wetland? Yes									
Remarks:  VEGETATION – Use scientific names of plants.									
Tree Street, we / Diet sine. O	Absolute %	Dominant	Indicator	Dominance Test worksheet:					
Tree Stratum (Plot size: 0 ) 1.	Cover	Species?	Status	Number of Dominant Species That Are OBL, FACW, or FAC: $\underline{2}$ (A)					
2.				_ ( , ,					
3.				Total Number of Dominant					
4. Total Cover =0				Species Across All Strata: <u>2</u> (B)					
Sapling/Shrub Stratum (Plot size: _0_)				Percent of Dominant Species					
1.				That Are OBL, FACW, or FAC: 100 (A/B)					
2. 3. 4. 5. Total Cover = 0				Prevalence Index worksheet:					
Herb Stratum (Plot size: 4 m <sup>2</sup> )				FACU species $\underline{0}$ x 4 = $\underline{0}$ UPL species $\underline{0}$ x 5 = $\underline{0}$					
Phalaris arundinacea     Equisetum arvense	<u>80</u>	<u>Yes</u>	FACW FAC	Column Totals: $\underline{120}$ (A) $\underline{270}$ (B)					
Juncus balticus     4.	10 10	<u>No</u> <u>No</u>	FACW	Prevalence Index = B/A = <u>2.25</u>					
5. 6. 7. 8. 9. 10. 11. Total Cover = <u>100</u>				Hydrophytic Vegetation Indicators: 1—Rapid Test for Hydrophytic Vegetation X2 — Dominance Test >50% X3 - Prevalence Index is ≤ 3.0¹4 - Morphological Adaptions¹ (Provide supporting data in Remarks or on a separate sheet)5 — Wetland Non-Vascular Plants¹ Problematic Hydrophytic Vegetation¹ (Explain)					
Woody Vine Stratum (Plot size: 4 m²)  1. Rubus armeniacus  2.  Total Cover =20	20	<u>Yes</u>	<u>FAC</u>	<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.					
% Bare Ground in Herb Stratum: 0				Hadron hatis Vocabetion Dresset 2 Voc					
Remarks:			1	Hydrophytic Vegetation Present? Yes					

SOIL Sampling Point: <u>42</u>

	Mat	<u>rix</u>		Redox F	<u>eatures</u>						
Depth	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture		Remarks		
(inches)											
<u>0-9</u>	10YR 4/3	<u>95</u>	10YR 4/4	<u>5</u>	<u>C</u>	<u>M</u>	Silty Clay Loam				
9-18	10YR 5/1	90	10YR 4/6	<u>10</u>	<u>C</u>	M	Silty Clay Loam				
					_	_	-				
¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix											
Hydric So	il Indicators: (Ap	plicable to	all LRRs, unless ot	herwise r	noted.)			Indicato	rs for Problematic Hydric Soils <sup>3</sup> :		
Histor	sol (A1)		Sa	ndy Redo	x (S5)			2 cr	m Muck (A10)		
	Epipedon (A2)			ripped Ma					Parent Material (TF2)		
	Histic (A3)		· · · · · · · · · · · · · · · · · · ·			(F1) (evc	ept MLRA 1)		ry Shallow Dark Surface (TF12)		
	ogen Sulfide (A4)		·	-	ed Matrix		SPE WIENA I		er (Explain in Remarks)		
	. ,	urface (A11	· · · · · · · · · · · · · · · · · · ·			(Г2)			er (Explain in Kemarks)		
	eted Below Dark S			pleted Ma		<b>C</b> \		31 41	and of building the start of an and		
	Dark Surface (A12				Surface (F				ors of hydrophytic vegetation and dhydrology must be present, unless		
-	/ Mucky Mineral (				ark Surface				ed or problematic.		
Sandy	/ Gleyed Matrix (S	54)	Re	dox Depr	essions (F8	3)		distarb	ed of problematic.		
Restrictiv	e Layer (if preser	ıt):									
Type:											
Depth (in	ches): <u>0</u>							Hydric Soil Present? Yes			
Remarks:								•			
HYDROLO											
Wetland I	Hydrology Indicat		omirod, shook all	that apply	Α.			Cocondon	Indicators (two or more required)		
Wetland I Primary Ir	Hydrology Indicat ndicators (minimu		equired; check all	that apply	<b>'</b> )			Secondary	Indicators (two or more required)		
Wetland I Primary Ir	Hydrology Indicat				/) ed Leaves (	(B9)	· · · · · · · · · · · · · · · · · · ·		Indicators (two or more required) -Stained Leaves (B9)(MLRA 1,2,4A,4B)		
Wetland I Primary IrSurfac	Hydrology Indicat ndicators (minimu		Wa	iter-Staine				Water			
Wetland I Primary IrSurfac	Hydrology Indicat ndicators (minimu ce Water (A1) Water Table (A2)		Wa	iter-Staine	ed Leaves ( RA 1,2,4A,		-	Water Draina	-Stained Leaves (B9)(MLRA 1,2,4A,4B)		
Wetland I Primary IrSurfacHigh \X Satura	Hydrology Indicat ndicators (minimu ce Water (A1) Water Table (A2)		Wa ( <b>e</b> Sal	iter-Staine xcept ML t Crust (B2	ed Leaves ( RA 1,2,4A,	and 4B)		Water Draina Dry-Se	-Stained Leaves (B9)(MLRA 1,2,4A,4B) ge Patterns (B10)		
Wetland I Primary IrSurfacHigh \ _X_SaturaWater	Hydrology Indicated indicators (minimuse Water (A1) Water Table (A2) Ition (A3)	m of one re	Wa ( <b>e</b> Sal: Aqu	ter-Staine xcept ML t Crust (B2 uatic Inve	ed Leaves ( <b>RA 1,2,4A,</b> l1)	and 4B)	-	WaterDrainaDry-Se	-Stained Leaves (B9)(MLRA 1,2,4A,4B) ge Patterns (B10) eason Water Table (C2)		
Wetland I Primary Ir Surfac High \ _X_Satura Water Sedim	Hydrology Indicated andicators (minimustee Water (A1) Water Table (A2) Ition (A3) Ir Marks (B1)	m of one re	Wa ( <b>e</b> Sal: Aqu Hyd	ter-Staine xcept ML t Crust (B2 uatic Inve drogen Su	ed Leaves ( RA 1,2,4A, L1) rtebrates ( Ifide Odor	B13) (C1)	- - - - - - - -	WaterDrainaDry-SeSaturaGeome	-Stained Leaves (B9)(MLRA 1,2,4A,4B)  Ige Patterns (B10)  Igeson Water Table (C2)  Ition Visible on Aerial Imagery (C9)		
Wetland I Primary Ir Surfac High \ X Satura Water Sedim Drift I	Hydrology Indicated indicators (minimuse Water (A1) Water Table (A2) Intion (A3) In Marks (B1) Intent Deposits (B2)	m of one re	Wa ( <b>e</b> Sal: Aqu Hyo Oxi	xcept ML t Crust (B2 uatic Inversion Su	ed Leaves ( RA 1,2,4A, L1) rtebrates ( Ifide Odor	and 4B) (B13) (C1) along Livi	- - - -	Water Draina Dry-Se Satura Geome	-Stained Leaves (B9)(MLRA 1,2,4A,4B)  Ige Patterns (B10)  Isason Water Table (C2)  Ition Visible on Aerial Imagery (C9)  Orphic Position (D2)		
Wetland I Primary Ir Surfac High V X Satura Water Sedim Drift I	Hydrology Indicated indicators (minimuste Water (A1) Water Table (A2) Ition (A3) It Marks (B1) Itent Deposits (B2) Deposits (B3) Mat or Crust (B4)	m of one re	Wa (e Sal: Aqı Hyo Oxi Pre	xcept ML t Crust (B2 uatic Invederagen Sudized Rhizes esence of I	ed Leaves ( RA 1,2,4A, L1) rtebrates ( Ifide Odor zospheres Reduced Ir	and 4B) (B13) (C1) along Livinon (C4)	ng Roots (C3)	Water Draina Dry-Se Satura Geome Shallo	-Stained Leaves (B9)(MLRA 1,2,4A,4B)  age Patterns (B10)  ason Water Table (C2)  tion Visible on Aerial Imagery (C9)  orphic Position (D2)  w Aquitard (D3)  eutral Test (D5)		
Wetland I Primary Ir Surfac High \ X Satura Water Sedim Drift [ Algal I	Hydrology Indicated andicators (minimulated Water (A1) Water Table (A2) Intion (A3) In Marks (B1) Inent Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5)	m of one re	Wa (e Sal <sup>1</sup> Hyo Oxi Pre Rec	xcept ML t Crust (B2 uatic Inveidrogen Su idized Rhizesence of I	ed Leaves ( RA 1,2,4A, L1) rtebrates ( Ifide Odor zospheres Reduced Ir	B13) (C1) along Liviton (C4) in Tilled So	ng Roots (C3)	Water Draina Dry-Se Satura Geom Shallor FAC-N Raised	r-Stained Leaves (B9)(MLRA 1,2,4A,4B) rege Patterns (B10) reason Water Table (C2) tion Visible on Aerial Imagery (C9) orphic Position (D2) w Aquitard (D3) eutral Test (D5) I Ant Mounds (D6)(LRR A)		
Wetland I Primary Ir SurfacHigh \ X_Satura WatelSedimDrift IAlgal IIron DSurfac	Hydrology Indicated andicators (minimulated Water (A1)) Water Table (A2) Intion (A3) In Marks (B1) Inent Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) Interposits (B6) Interposits (B6) Interposits (B6)	m of one r	Wa	xcept ML t Crust (B: uatic Inverdrogen Suidized Rhizes esence of I	ed Leaves ( RA 1,2,4A, L1)  rtebrates ( Ifide Odor zospheres Reduced Ir Reduction tressed Pla	B13) (C1) along Livington (C4) in Tilled Sents (D1)(L	ng Roots (C3)	Water Draina Dry-Se Satura Geom Shallor FAC-N Raised	-Stained Leaves (B9)(MLRA 1,2,4A,4B)  age Patterns (B10)  ason Water Table (C2)  tion Visible on Aerial Imagery (C9)  orphic Position (D2)  w Aquitard (D3)  eutral Test (D5)		
Wetland I Primary Ir Surfac High V X Satura Water Sedim Drift I Algal I Iron D Surfac	Hydrology Indicated indicators (minimulated Water (A1) Water Table (A2) Intion (A3) In Marks (B1) Interest Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) The Soil Cracks (B6) Aution Visible on A	m of one ro	Wa	xcept ML t Crust (B: uatic Inverdrogen Suidized Rhizes esence of I	ed Leaves ( RA 1,2,4A, L1) rtebrates ( Ifide Odor zospheres Reduced Ir	B13) (C1) along Livington (C4) in Tilled Sents (D1)(L	ng Roots (C3)	Water Draina Dry-Se Satura Geom Shallor FAC-N Raised	r-Stained Leaves (B9)(MLRA 1,2,4A,4B) rege Patterns (B10) reason Water Table (C2) tion Visible on Aerial Imagery (C9) orphic Position (D2) w Aquitard (D3) eutral Test (D5) I Ant Mounds (D6)(LRR A)		
Wetland I Primary Ir  Surfac High N X Satura Water Sedim Drift I Algal I Iron D Surfac Inund Sparse	Hydrology Indicated Indicators (minimulated Water (A1) Water Table (A2) Intion (A3) In Marks (B1) Interest (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) Interest (B5) Interest (B6) Interest (B6	m of one ro	Wa	xcept ML t Crust (B: uatic Inverdrogen Suidized Rhizes esence of I	ed Leaves ( RA 1,2,4A, L1)  rtebrates ( Ifide Odor zospheres Reduced Ir Reduction tressed Pla	B13) (C1) along Livington (C4) in Tilled Sents (D1)(L	ng Roots (C3)	Water Draina Dry-Se Satura Geom Shallor FAC-N Raised	r-Stained Leaves (B9)(MLRA 1,2,4A,4B) rege Patterns (B10) reason Water Table (C2) tion Visible on Aerial Imagery (C9) orphic Position (D2) w Aquitard (D3) eutral Test (D5) I Ant Mounds (D6)(LRR A)		
Wetland I Primary Ir  Surfac High N X Satura Water Sedim Drift I Algal I Iron D Surfac Inund Sparse Field Obse	Hydrology Indicated andicators (minimulated Water (A1)) Water Table (A2) Aution (A3) Fr Marks (B1) Bent Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) De Soil Cracks (B6) Bation Visible on A Bely Vegetated Core	m of one ro erial Image ncave Surfa	Wa	xcept ML t Crust (B2 uatic Invel drogen Su idized Rhiz esence of I cent Iron I inted or Si ner (Expla	ed Leaves ( RA 1,2,4A, L1)  rtebrates ( Ifide Odor zospheres Reduced Ir Reduction tressed Pla	B13) (C1) along Livington (C4) in Tilled Sents (D1)(L	ng Roots (C3)	Water Draina Dry-Se Satura Geom Shallor FAC-N Raised	r-Stained Leaves (B9)(MLRA 1,2,4A,4B) rege Patterns (B10) reason Water Table (C2) tion Visible on Aerial Imagery (C9) orphic Position (D2) w Aquitard (D3) eutral Test (D5) I Ant Mounds (D6)(LRR A)		
Wetland I Primary Ir  Surfac High \ X Satura Water Sedim Drift I Algal I Iron D Surfac Inund Sparse Surface W	Hydrology Indicated andicators (minimulated Water (A1)) Water Table (A2) Water Table (A2) Water Table (B1) Water Deposits (B2) Water Deposits (B3) Water Crust (B4) Weposits (B5) We Soil Cracks (B6) Water Visible on A Wely Vegetated Corervations: Water Present? No	m of one ro erial Image ncave Surfa	Wa	iter-Staine xcept ML t Crust (B3 uatic Inveited Rhizesence of I cent Iron Finted or Stainer (Explainment):	ed Leaves ( RA 1,2,4A, 11)  rtebrates ( Ifide Odor zospheres Reduced Ir Reduction tressed Pla in in Rema	B13) (C1) along Livington (C4) in Tilled Sents (D1)(L	ng Roots (C3)	Water Draina Dry-Se Satura Geom Shallor FAC-N Raised	r-Stained Leaves (B9)(MLRA 1,2,4A,4B) rege Patterns (B10) reason Water Table (C2) tion Visible on Aerial Imagery (C9) orphic Position (D2) w Aquitard (D3) eutral Test (D5) I Ant Mounds (D6)(LRR A)		
Wetland I Primary Ir  Surfac High V X Satura Water Sedim Drift I Algal I Iron D Surfac Inund Sparse Field Obse Surface W Water Tal	Hydrology Indicated andicators (minimulated Water (A1)) Water Table (A2) Water Table (A2) Water Table (B1) Water Table (B2) Water Deposits (B3) Wat or Crust (B4) Weposits (B5) We Soil Cracks (B6) Wation Visible on A cely Vegetated Corervations: Water Present? No	m of one ro erial Image ncave Surfa <u>o</u>	Wa	iter-Staine xcept ML t Crust (B3 uatic Invertigation drogen Su idized Rhiz esence of I cent Iron I inted or St iner (Explain ches):	ed Leaves ( RA 1,2,4A, L1) rtebrates ( Ifide Odor zospheres Reduced Ir Reduction tressed Pla in in Rema	B13) (C1) along Livington (C4) in Tilled Sents (D1)(L	ng Roots (C3)	Water Draina Dry-Se Satura Geom Shallor FAC-N Raised	r-Stained Leaves (B9)(MLRA 1,2,4A,4B) rege Patterns (B10) reason Water Table (C2) tion Visible on Aerial Imagery (C9) orphic Position (D2) w Aquitard (D3) eutral Test (D5) I Ant Mounds (D6)(LRR A)		
Wetland I Primary Ir  Surface High V X Satura Water Sedim Drift I Algal I Iron D Surface Inund Sparse Field Obse Surface W Water Tal Saturation	Hydrology Indicated andicators (minimulated Water (A1) Water Table (A2) Intion (A3) In Marks (B1) In Marks (B3) Mat or Crust (B4) Deposits (B3) Mat or Crust (B4) Deposits (B5) De Soil Cracks (B6) Intion Visible on A Dely Vegetated Corervations: Vater Present? National August (August August Augus	m of one ro erial Image ncave Surfa <u>o</u>	Wa	iter-Staine xcept ML t Crust (B3 uatic Inveited Rhizesence of I cent Iron Finted or Stainer (Explainment):	ed Leaves ( RA 1,2,4A, L1) rtebrates ( Ifide Odor zospheres Reduced Ir Reduction tressed Pla in in Rema	B13) (C1) along Livington (C4) in Tilled Sents (D1)(L	ng Roots (C3)	Water Draina Dry-Se Satura Geom Shallor FAC-N Raised Frost-I	-Stained Leaves (B9)(MLRA 1,2,4A,4B)  Ige Patterns (B10)  Isason Water Table (C2)  Ition Visible on Aerial Imagery (C9)  Iorphic Position (D2)  W Aquitard (D3)  Eutral Test (D5)  I Ant Mounds (D6)(LRR A)  Heave Hummocks (D7)		
Wetland I Primary Ir  Surface High V X Satura Water Sedim Drift I Algal I Iron D Surface Inund Sparse Surface W Water Tal Saturation (includes co	Hydrology Indicated andicators (minimulated Water (A1) Water Table (A2) Water Table (A2) Water Table (B1) Water Table (B3) Water Deposits (B3) Wat or Crust (B4) Weposits (B5) We Soil Cracks (B6) Wation Visible on A cely Vegetated Corervations: Water Present? No cole Present? Ye perpending (Present)	erial Image ncave Surfa 2 2 5	Wa	iter-Staine xcept ML t Crust (B: uatic Invertiged Rhizesence of I cent Iron I inted or St iner (Explainment): ches): ches): 10	ed Leaves ( RA 1,2,4A, L1)  rtebrates ( Ifide Odor zospheres Reduced Ir Reduction tressed Pla in in Rema	and 4B) (C1) along Living (C4) in Tilled Sounts (D1)(Lirks)	ng Roots (C3)  poils (C6)  RR A)	Water Draina Dry-Se Satura Geom Shallor FAC-N Raised Frost-l	-Stained Leaves (B9)(MLRA 1,2,4A,4B)  Ige Patterns (B10)  Isason Water Table (C2)  Ition Visible on Aerial Imagery (C9)  Iorphic Position (D2)  W Aquitard (D3)  Eutral Test (D5)  I Ant Mounds (D6)(LRR A)  Heave Hummocks (D7)		
Wetland I Primary Ir  Surface High V X Satura Water Sedim Drift I Algal I Iron D Surface Inund Sparse Surface W Water Tal Saturation (includes co	Hydrology Indicated andicators (minimulated Water (A1) Water Table (A2) Water Table (A2) Water Table (B1) Water Table (B3) Water Deposits (B3) Wat or Crust (B4) Weposits (B5) We Soil Cracks (B6) Wation Visible on A cely Vegetated Corervations: Water Present? No cole Present? Ye perpending (Present)	erial Image ncave Surfa 2 2 5	Wa	iter-Staine xcept ML t Crust (B: uatic Invertiged Rhizesence of I cent Iron I inted or St iner (Explainment): ches): ches): 10	ed Leaves ( RA 1,2,4A, L1)  rtebrates ( Ifide Odor zospheres Reduced Ir Reduction tressed Pla in in Rema	and 4B) (C1) along Living (C4) in Tilled Sounts (D1)(Lirks)	ng Roots (C3)  poils (C6)  RR A)	Water Draina Dry-Se Satura Geom Shallor FAC-N Raised Frost-l	-Stained Leaves (B9)(MLRA 1,2,4A,4B)  Ige Patterns (B10)  Isason Water Table (C2)  Ition Visible on Aerial Imagery (C9)  Iorphic Position (D2)  W Aquitard (D3)  Eutral Test (D5)  I Ant Mounds (D6)(LRR A)  Heave Hummocks (D7)		
Wetland I Primary Ir SurfacHigh \ X_SaturaWaterSedimDrift IAlgal IIron DSurfacInundSparse Field Obse Surface W Water Tal Saturation (includes ca	Hydrology Indicated andicators (minimulated Water (A1) Water Table (A2) Water Table (A2) Water Table (B1) Water Table (B3) Water Deposits (B3) Wat or Crust (B4) Weposits (B5) We Soil Cracks (B6) Wation Visible on A cely Vegetated Corervations: Water Present? No cole Present? Ye perpending (Present)	erial Image ncave Surfa 2 2 5	Wa	iter-Staine xcept ML t Crust (B: uatic Invertiged Rhizesence of I cent Iron I inted or St iner (Explainment): ches): ches): 10	ed Leaves ( RA 1,2,4A, L1)  rtebrates ( Ifide Odor zospheres Reduced Ir Reduction tressed Pla in in Rema	and 4B) (C1) along Living (C4) in Tilled Sounts (D1)(Lirks)	ng Roots (C3)  poils (C6)  RR A)	Water Draina Dry-Se Satura Geom Shallor FAC-N Raised Frost-l	-Stained Leaves (B9)(MLRA 1,2,4A,4B)  Ige Patterns (B10)  Isason Water Table (C2)  Ition Visible on Aerial Imagery (C9)  Iorphic Position (D2)  W Aquitard (D3)  Eutral Test (D5)  I Ant Mounds (D6)(LRR A)  Heave Hummocks (D7)		
Wetland I Primary Ir  Surface High V X Satura Water Sedim Drift I Algal I Iron D Surface Inund Sparse Surface W Water Tal Saturation (includes co	Hydrology Indicated andicators (minimulated Water (A1) Water Table (A2) Water Table (A2) Water Table (B1) Water Table (B3) Water Deposits (B3) Wat or Crust (B4) Weposits (B5) We Soil Cracks (B6) Wation Visible on A cely Vegetated Corervations: Water Present? No cole Present? Ye perpending (Present)	erial Image ncave Surfa 2 2 5	Wa	iter-Staine xcept ML t Crust (B: uatic Invertiged Rhizesence of I cent Iron I inted or St iner (Explainment): ches): ches): 10	ed Leaves ( RA 1,2,4A, L1)  rtebrates ( Ifide Odor zospheres Reduced Ir Reduction tressed Pla in in Rema	and 4B) (C1) along Living (C4) in Tilled Sounts (D1)(Lirks)	ng Roots (C3)  poils (C6)  RR A)	Water Draina Dry-Se Satura Geom Shallor FAC-N Raised Frost-l	-Stained Leaves (B9)(MLRA 1,2,4A,4B)  Ige Patterns (B10)  Isason Water Table (C2)  Ition Visible on Aerial Imagery (C9)  Iorphic Position (D2)  W Aquitard (D3)  Eutral Test (D5)  I Ant Mounds (D6)(LRR A)  Heave Hummocks (D7)		
Wetland I Primary Ir SurfacHigh \ X_SaturaWaterSedimDrift IAlgal IIron DSurfacInundSparse Field Obse Surface W Water Tal Saturation (includes ca	Hydrology Indicated andicators (minimulated Water (A1) Water Table (A2) Water Table (A2) Water Table (B1) Water Table (B3) Water Deposits (B3) Wat or Crust (B4) Weposits (B5) We Soil Cracks (B6) Wation Visible on A cely Vegetated Corervations: Water Present? No cole Present? Ye perpending (Present)	erial Image ncave Surfa 2 2 5	Wa	iter-Staine xcept ML t Crust (B: uatic Invertiged Rhizesence of I cent Iron I inted or St iner (Explainment): ches): ches): 10	ed Leaves ( RA 1,2,4A, L1)  rtebrates ( Ifide Odor zospheres Reduced Ir Reduction tressed Pla in in Rema	and 4B) (C1) along Living (C4) in Tilled Sounts (D1)(Lirks)	ng Roots (C3)  poils (C6)  RR A)	Water Draina Dry-Se Satura Geom Shallor FAC-N Raised Frost-l	-Stained Leaves (B9)(MLRA 1,2,4A,4B)  Ige Patterns (B10)  Isason Water Table (C2)  Ition Visible on Aerial Imagery (C9)  Iorphic Position (D2)  W Aquitard (D3)  Eutral Test (D5)  I Ant Mounds (D6)(LRR A)  Heave Hummocks (D7)		

Applicant/Owner: <u>NEXT Energy</u> State: <u>OR</u>	Lat: geted NWI this time of year? disturbed? oblematic?	W Section 16 nvex, none): co 46.17282600 classification: Yes(if no, exp	Long: <u>-123.1</u> none plain in Remai Are "Normal (if needed, e	rks.) Circumstances" present? <u>Yes</u> xplain any answers in Remarks.)					
Hydrophytic Vegetation Present? Yes	18 30111P1111B POI	The rocations,	transcets, n	inportant reacures, etc.					
Hydric Soil Present? No  Wetland Hydrology Present? No  Is the Sampled Area within a Wetland? No									
Wetland Hydrology Present? No Is the Sampled Area within a Wetland? No Remarks:									
VEGETATION – Use scientific names of plants.									
VEGETATION OSC SCIENCING NAMES OF PLANES.	Absolute %	Dominant	Indicator	Dominance Test worksheet:					
<u>Tree Stratum</u> (Plot size: <u>0</u> )	Cover	Species?	Status	Number of Dominant Species					
1. 2.				That Are OBL, FACW, or FAC: $\underline{4}$ (A)					
3.				Total Number of Dominant					
4.				Species Across All Strata: $\underline{4}$ (B)					
Total Cover = <u>0</u>									
Sapling/Shrub Stratum (Plot size: _0_)				Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)					
1.				Prevalence Index worksheet:					
2. 3.				Total % Cover of: Multiply by:					
4.				OBL species $\underline{0}$ $\times 1 = \underline{0}$					
5.				FACW species $90 \times 2 = 180 \times 3 = 90$					
Total Cover = 0			<u> </u>	FACU species $\underline{0}$ $\times$ $3 = \underline{90}$					
Herb Stratum (Plot size: 4 m²)  1. Phalaris arundinacea	<u>70</u>	Yes	FACW	UPL species $\underline{0}$ x 5 = $\underline{0}$					
Equisetum arvense	10	<u>Yes</u>	FAC	Column Totals: <u>120</u> (A) <u>270</u> (B)					
3. <u>Juncus balticus</u>	<u>20</u>	<u>Yes</u>	<u>FACW</u>	Prevalence Index = B/A = 2.25					
6.				Hydrophytic Vegetation Indicators:					
7.				1 -Rapid Test for Hydrophytic Vegetation					
8.				$\frac{X}{2}$ 2 – Dominance Test >50% X 3 - Prevalence Index is ≤ 3.0¹					
9.				4 - Morphological Adaptions <sup>1</sup> (Provide supporting					
11.	ļ			data in Remarks or on a separate sheet)					
Total Cover = <u>100</u>	ļ			5 - Wetland Non-Vascular Plants <sup>1</sup> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)					
	ļ								
Woody Vine Stratum (Plot size: _4 m²_)				<sup>1</sup> Indicators of hydric soil and wetland hydrology					
1. Rubus armeniacus	<u>20</u>	<u>Yes</u>	<u>FAC</u>	must be present, unless disturbed or problematic.					
2. Total Cover = <u>20</u>									
% Bare Ground in Herb Stratum: <u>0</u>				Hydrophytic Vegetation Present? Yes					
Remarks:									

SOIL Sampling Point: <u>42a</u>

	<u>Mat</u>	<u>rix</u>		Redox I	-eatures						
Depth	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture		Remarks		
(inches) <u>0-24</u>	10YR 4/3	<u>95</u>	10YR 5/8	<u>5</u>	<u>C</u>	<u>M</u>	Silty Clay Loam				
0-24	<u>1011( 4/3</u>	<u>33</u>	<u> 1011( 5/6</u>			101	Sitty Clay Loain				
<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											
¹Type: C=	Concentration, D	)=Depletior	n, RM=Reduced Ma	atrix, CS=0	Covered o	r Coated S	and Grains. <sup>2</sup> Lo	cation: Pl	L=Pore Lining, M=Matrix		
		plicable to	all LRRs, unless ot	herwise ı	noted.)			Indicato	rs for Problematic Hydric Soils <sup>3</sup> :		
·	sol (A1)			ndy Redo					m Muck (A10)		
	Epipedon (A2)			ripped Ma					d Parent Material (TF2)		
	Histic (A3)		· · · · · · · · · · · · · · · · · · ·				ept MLRA 1)	II .	ry Shallow Dark Surface (TF12)		
	ogen Sulfide (A4)				ed Matrix	(F2)		Otr	ner (Explain in Remarks)		
	ted Below Dark S	•	· —	pleted M		<b>C</b> \		2, 1,			
	Dark Surface (A1				Surface (F				tors of hydrophytic vegetation and		
	Mucky Mineral ( Gleyed Matrix (				ark Surface essions (F		wetland hydrology must be present, unless disturbed or problematic.				
				dox Debi	essions (F	9)			·		
Type:	e Layer (if preser	nt):									
Depth (in	ches): 0							Hydric	Soil Present? No		
Remarks:	· <u>-</u>							1			
iterriarks.											
HYDROLO	GY.										
	Hydrology Indica	tors:									
Primary In	ndicators (minimu	ım of one r	equired; check all	that apply	<b>/</b> )		:	Secondary	/ Indicators (two or more required)		
Surfac	e Water (A1)		Wa	ter-Staine	ed Leaves	(B9)		Water	r-Stained Leaves (B9)( <b>MLRA 1,2,4A,4B</b> )		
High \	Water Table (A2)		(e	xcept ML	RA 1,2,4A	and 4B)	_	Draina	age Patterns (B10)		
Satura	ation (A3)		Salt	t Crust (B:	L1)			Dry-Se	eason Water Table (C2)		
Water	Marks (B1)		Aqı	uatic Inve	rtebrates (	B13)		Satura	ation Visible on Aerial Imagery (C9)		
Sedim	ent Deposits (B2)	)	Нус	drogen Su	lfide Odor	(C1)	-	Geom	orphic Position (D2)		
Drift [	Deposits (B3)		Oxi	dized Rhi	zospheres	along Livi	ng Roots (C3)	Shallo	w Aquitard (D3)		
Algal I	Mat or Crust (B4)		Pre	sence of	Reduced Ir	on (C4)	-	FAC-N	eutral Test (D5)		
Iron D	eposits (B5)		Rec	ent Iron I	Reduction	in Tilled S	oils (C6)		d Ant Mounds (D6)( <b>LRR A</b> )		
	ce Soil Cracks (B6)				ressed Pla		RR A)	Frost-	Heave Hummocks (D7)		
	ation Visible on A	_		ner (Expla	in in Rema	rks)					
	ely Vegetated Cor	ncave Surfa	ce (B8)								
Field Obse		_	Danth (in	-l\·							
	/ater Present? <u>No</u> ple Present? <u>N</u>	<del></del>	Depth (ind Depth (ind	-							
Saturation	_	<del></del> '	Depth (in	· .							
(includes ca	apillary fringe)	_	· ·				Wetland Hydro	logy Pres	ent? <u>No</u>		
Describe F	Recorded Data (st	tream gaug	e, monitoring well	, aerial ph	otos, prev	vious inspe	ections), if available	e:			
Remarks:											

Project/Site: Port Westward Renewable Diesel Refinery Applicant/Owner: NEXT Energy Group, Inc. State: OR Investigator(s): Sue Brady Section, Township Landform (hillslope, terrace, etc.): Flats Local relief (conca Subregion (LRR): Northwest Forests & Coast (LRR A) Soil Map Unit Name: Crims silt loam, protected NWI clat Are climatic/hydrologic conditions on the site typical for the Vegetation X, Soil, or Hydrology significantly of Are Vegetation, Soil, or Hydrology naturally pro SUMMARY OF FINDINGS - Attach site map showing	o, Range: T8N RO ve, convex, none Lat: ssification: PEM: his time of year? disturbed? blematic?	e): <u>none</u> 46.16395560 1 <u>A</u> Y <u>Yes</u> (if no, ex	Slope (%): <u>0</u> Long: <u>-123.1</u> plain in Remal Are "Normal (if needed, e	rks.) Circumstances" present? <u>Yes</u> xplain any answers in Remarks.)
Hydrophytic Vegetation Present? <u>Yes</u> Hydric Soil Present? <u>Yes</u>				
Wetland Hydrology Present? Yes		Is the	Sampled Area	within a Wetland? Yes
Remarks: grazed pasture  VEGETATION – Use scientific names of plants.				
VEGETATION – Ose scientific flames of plants.	Absolute %	Dominant	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: 0 ) 1. 2. 3.	Cover	Species?	Status	Number of Dominant Species That Are OBL, FACW, or FAC: $\underline{3}$ (A) Total Number of Dominant
4. Total Cover =0				Species Across All Strata: <u>3</u> (B)
Sapling/Shrub Stratum (Plot size: _0_)				Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)
1. 2. 3. 4. 5.  Total Cover = 0  Herb Stratum (Plot size: 4 m²)  1. Juncus balticus 2. Ranunculus repens 3. Lolium perenne	30 50 20	Yes Yes Yes	FACW FAC FAC	Prevalence Index worksheet:
4.	<u> </u>	100	17.10	Prevalence Index = B/A = 2.70
5. 6. 7. 8. 9. 10. 11. Total Cover = 100				Hydrophytic Vegetation Indicators:
1. 2.				must be present, unless disturbed or problematic.
Total Cover = <u>0</u>				
% Bare Ground in Herb Stratum: <u>0</u>				Hydrophytic Vegetation Present? Yes
Remarks: grazed pasture				

SOIL Sampling Point: <u>43</u>

	Mat	rix		Redox F	eatures				
Depth (inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture		Remarks
0-14	10YR 3/2	<u>90</u>	10YR 4/6	<u>10</u>	<u>C</u>	<u>M</u>	Silty Clay Loam		
¹Type: C=	Concentration, D	=Depletion	ı, RM=Reduced Ma	atrix, CS=0	Covered o	r Coated S	and Grains. <sup>2</sup> Lo	cation: PI	L=Pore Lining, M=Matrix
			all LRRs, unless ot						rs for Problematic Hydric Soils <sup>3</sup> :
Histo	sol (A1)		Sa	ndy Redo	x (S5)			2 cr	n Muck (A10)
	Epipedon (A2)			ripped Ma					Parent Material (TF2)
	Histic (A3)		· · · · · · · · · · · · · · · · · · ·			l (F1) (exc	ept MLRA 1)		ry Shallow Dark Surface (TF12)
Hydro	ogen Sulfide (A4)		 Lo	amy Gley	ed Matrix	(F2)			ner (Explain in Remarks)
Deple	ted Below Dark S	urface (A1:	1)De	pleted M	atrix (F3)				
Thick	Dark Surface (A1	2)	<u>_X_</u> Re	dox Dark	Surface (F	6)		<sup>3</sup> Indicat	tors of hydrophytic vegetation and
Sandy	/ Mucky Mineral (	S1)	De	pleted Da	ark Surface	e (F7)			d hydrology must be present, unless
Sandy	/ Gleyed Matrix (S	54)	Re	dox Depr	essions (F8	3)		disturb	ed or problematic.
Restrictiv	e Layer (if preser	nt):							
Type:									
Depth (in	ches): <u>0</u>							Hydric	Soil Present? Yes
Remarks:									
HYDROLO									
	Hydrology Indicat ndicators (minimu		equired; check all	that apply	<b>/</b> )		S	Secondary	Indicators (two or more required)
Surfac	ce Water (A1)		Wa	ter-Staine	ed Leaves	(B9)		Water	-Stained Leaves (B9)(MLRA 1,2,4A,4B)
	Vater Table (A2)				RA 1,2,4A,		<del>-</del>		age Patterns (B10)
X Satura			•	t Crust (B:		,	<del>-</del>		eason Water Table (C2)
	r Marks (B1)				rtebrates (	(B13)			ition Visible on Aerial Imagery (C9)
	ent Deposits (B2)				lfide Odor				orphic Position (D2)
	Deposits (B3)		-	_			ng Roots (C3)		w Aquitard (D3)
Algal I	Mat or Crust (B4)		Pre	sence of I	Reduced Ir	on (C4)	_	FAC-N	eutral Test (D5)
Iron D	eposits (B5)		Rec	ent Iron F	Reduction	in Tilled S	oils (C6)	Raised	Ant Mounds (D6)(LRR A)
Surfac	ce Soil Cracks (B6)		Stu	nted or St	ressed Pla	ants (D1)(I	RR A)	Frost-l	Heave Hummocks (D7)
Inund	ation Visible on A	erial Image	ery (B7)Oth	ner (Expla	in in Rema	ırks)			
Sparse	ely Vegetated Cor	ncave Surfa	ce (B8)						
	ervations:								
	/ater Present? No		Depth (inc	•					
	ole Present? <u>Ye</u> n Present?          Ye			iches): <u>10</u> nches): 5	<u>.</u>				
	apillary fringe)	<u>.s</u>	Deptii (ii	iciic3). <u>5</u>			Wetland Hydro	logy Pres	ent? <u>Yes</u>
		ream gaug	e, monitoring well	, aerial ph	otos, prev	ious inspe	ections), if available	:	
Dame - al-									
Remarks:									

	ip, Range: <u>T8N R0</u> 4			Sampling Date: <u>04/08/2021</u> Sampling Point: <u>44</u>
Landform (hillslope, terrace, etc.): Flats Local relief (cond	ave, convex, none	e): <u>none</u>	Slope (%): <u>0</u>	
Subregion (LRR): Northwest Forests & Coast (LRR A)	Lat:	<u>46.16407840</u>	Long: <u>-123.1</u>	.5250690 Datum: <u>WGS84</u>
Soil Map Unit Name: <u>Crims silt loam, protected</u> NWI cl	assification: <u>PEM</u> 2	<u>1A</u>		
Are climatic/hydrologic conditions on the site typical for	this time of year?	Yes (if no, ex	plain in Rema	rks.)
Are Vegetation $\underline{X}$ , Soil $\underline{\hspace{0.1cm}}$ , or Hydrology $\underline{\hspace{0.1cm}}$ significantly	disturbed?		Are "Normal	Circumstances" present? Yes
Are Vegetation, Soil, or Hydrology naturally pr	oblematic?		(if needed, e	xplain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map showi	ng sampling poi	nt locations,	transects, ir	nportant features, etc.
Hydrophytic Vegetation Present? Yes				
Hydric Soil Present? Yes		Is the	Sampled Area	within a Wetland? Yes
Wetland Hydrology Present? Yes				<u></u>
Remarks: grazed pasture  VEGETATION – Use scientific names of plants.				
VEGETATION OSE SCIENTING HARRIES OF PIGNESS	Absolute %	Dominant	Indicator	Dominance Test worksheet:
<u>Tree Stratum</u> (Plot size: <u>0</u> )	Cover	Species?	Status	Number of Dominant Species
1.				That Are OBL, FACW, or FAC: <u>3</u> (A)
2.				
3.				Total Number of Dominant
4.				Species Across All Strata: <u>3</u> (B)
Total Cover = <u>0</u>				Percent of Dominant Species
Sapling/Shrub Stratum (Plot size: 0)				That Are OBL, FACW, or FAC: 100 (A/B)
1.				Prevalence Index worksheet:
2.				_ Total % Cover of: Multiply by:
3.				OBL species $\underline{0}$ $\times 1 = \underline{0}$
4. 5.				FACW species $0 \times 2 = 0$
Total Cover =0				FAC species $\underline{100}$ x 3 = $\underline{300}$
Herb Stratum (Plot size: _4 m²_)				FACU species $\underline{0}$ x 4 = $\underline{0}$
1. Poa pratensis	<u>70</u>	<u>Yes</u>	<u>FAC</u>	UPL species $\underline{0}$ x 5 = $\underline{0}$
2. Ranunculus repens	<u>20</u>	<u>Yes</u>	<u>FAC</u>	Column Totals: <u>100</u> (A) <u>300</u> (B)
3. <u>Trifolium repens</u>	<u>10</u>	<u>Yes</u>	<u>FAC</u>	Prevalence Index = B/A = 3.00
4.				= 1.00
5. 6.				Hydrophytic Vegetation Indicators:
7.				1 –Rapid Test for Hydrophytic Vegetation
8.				X 2 – Dominance Test >50%
9.				$\underline{X}$ 3 - Prevalence Index is ≤ 3.0 <sup>1</sup>
10.				4 - Morphological Adaptions¹ (Provide supporting
11.				data in Remarks or on a separate sheet) 5 – Wetland Non-Vascular Plants¹
Total Cover = 100				9 - Wetland Norrevascular Flants Problematic Hydrophytic Vegetation¹ (Explain)
				Troblematic Tryanophytic Vegetation (Explain)
Woody Vine Stratum (Plot size: 0 )				<sup>1</sup> Indicators of hydric soil and wetland hydrology
1.				must be present, unless disturbed or problematic.
2.				
Total Cover = <u>0</u>				
% Bare Ground in Herb Stratum: <u>0</u>				Hydrophytic Vegetation Present? Yes
Remarks: grazed pasture				

SOIL Sampling Point: 44

	Mat	rix		Redox F	<u>eatures</u>				
Depth	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture		Remarks
(inches) <u>0-11</u>	10YR 3/2	<u>95</u>	10YR 4/6	<u>5</u>	<u>C</u>	<u>M</u>	Silty Clay Loam		
<u>0 11</u>	<u>1011(3/2</u>	<u> </u>	<u> 1011( 4/ 0</u>	<u> </u>	<u> </u>	101	Sitty Clay Loam		
¹Type: C=	Concentration, D	=Depletion	, RM=Reduced Ma	atrix, CS=0	Covered o	r Coated S	and Grains. <sup>2</sup> Lo	cation: P	L=Pore Lining, M=Matrix
Hydric So	il Indicators: (Ap	plicable to	all LRRs, unless ot	herwise r	noted.)			Indicato	rs for Problematic Hydric Soils <sup>3</sup> :
Histos	sol (A1)		Sa	ndy Redo	x (S5)			2 cı	n Muck (A10)
Histic	Epipedon (A2)		Sti	ripped Ma	itrix (S6)			Rec	l Parent Material (TF2)
Black	Histic (A3)		Lo	amy Muc	ky Minera	l (F1) (exc	ept MLRA 1)	Ve	ry Shallow Dark Surface (TF12)
Hydro	ogen Sulfide (A4)		Lo	amy Gley	ed Matrix	(F2)		Oth	ner (Explain in Remarks)
	ted Below Dark S	•	1)De	pleted M	atrix (F3)				
	Dark Surface (A12	-			Surface (F			1	tors of hydrophytic vegetation and
-	Mucky Mineral (			•	ark Surface				d hydrology must be present, unless ed or problematic.
	Gleyed Matrix (S		Re	dox Depr	essions (F8	3)		distails	ed of problematic.
Restrictiv Type:	e Layer (if preser	it):							
Depth (in	ches): <u>0</u>							Hydric	Soil Present? <u>Yes</u>
Remarks:									
HYDROLO	GY								
	Hydrology Indicat		equired; check all	that apply	<b>(</b> )		S	Secondary	Indicators (two or more required)
	ce Water (A1)				ed Leaves	(RQ)			-Stained Leaves (B9)(MLRA 1,2,4A,4B)
	Vater Table (A2)		<del></del>		RA 1,2,4A,		-		age Patterns (B10)
X Satura			•	t Crust (Bí		, a.i.a i.b.,	-		eason Water Table (C2)
·	Marks (B1)				rtebrates (	(B13)	_		ation Visible on Aerial Imagery (C9)
	ent Deposits (B2)		Hyd	drogen Su	lfide Odor	(C1)			orphic Position (D2)
Drift [	Deposits (B3)		Oxi	dized Rhi	zospheres	along Livi	ng Roots (C3)	Shallo	w Aquitard (D3)
Algal I	Mat or Crust (B4)		Pre	sence of I	Reduced Ir	on (C4)	_	FAC-N	eutral Test (D5)
Iron D	eposits (B5)		Rec	ent Iron F	Reduction	in Tilled S	oils (C6)	Raised	Ant Mounds (D6)(LRR A)
Surfac	e Soil Cracks (B6)		Stu	nted or St	tressed Pla	ants (D1)( <b>I</b>	_RR A)	Frost-	Heave Hummocks (D7)
Inund	ation Visible on A	erial Image	ery (B7)Oth	er (Expla	in in Rema	ırks)			
	ely Vegetated Cor	ncave Surfa	ce (B8)						
Field Obse			Danth //w	-l\.					
	/ater Present? <u>No</u> ple Present? <u>Ye</u>		Depth (inc	ches): <u>10</u>	1				
	Present? Ye			nches): 5	<u> </u>				
	apillary fringe)	_					Wetland Hydro		ent? Yes
Describe F	Recorded Data (st	ream gaug	e, monitoring well	, aerial ph	iotos, prev	ious inspe	ections), if available	::	
Remarks:									

Project/Site: Port Westward Renewable Diesel Refiner Applicant/Owner: Next Energy Group, Inc. State: OR Investigator(s): Sup Brady. Section Towns	<u> </u>	mty: Columbia		Sampling Date: <u>11/29/2018</u> Sampling Point: <u>45</u>
	ship, Range: T8N R4		Clana (0/), 0	
Landform (hillslope, terrace, etc.): Flats Local relief (con			Slope (%): <u>0</u>	TOO Datum, M/CCOA
Subregion (LRR): Northwest Forests & Coast (LRR A)		46.175932 Lo		592 Datum: <u>WGS84</u>
Soil Map Unit Name: <u>Udipsamments, nearly level, prot</u>		classification:	·	
Are climatic/hydrologic conditions on the site typical fo	•			
Are Vegetation, Soil, or Hydrology significant				Circumstances" present? <u>Yes</u>
Are Vegetation, Soil, or Hydrology naturally	problematic?		(if needed, e	xplain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map show	ving sampling poi	nt locations,	transects, i	mportant features, etc.
Hydrophytic Vegetation Present? Yes				
Hydric Soil Present? <u>Yes</u>				
Wetland Hydrology Present? Yes		Is the S	Sampled Area	within a Wetland? Yes
Remarks:				
VEGETATION – Use scientific names of plants.				
T () () () ()	Absolute %	Dominant	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: 0 ) 1.	Cover	Species?	Status	Number of Dominant Species
2.				That Are OBL, FACW, or FAC: <u>2</u> (A)
3.				Total Number of Dominant
4.				Species Across All Strata: <u>2</u> (B)
Total Cover = <u>0</u>				_ ( ,
Sapling/Shrub Stratum (Plot size: 0 )				Percent of Dominant Species
1.				That Are OBL, FACW, or FAC: 100 (A/B)
2.				Prevalence Index worksheet:
3.				Total % Cover of: Multiply by:
4.				OBL species $\underline{0}$ x 1 = $\underline{0}$
5.				FACW species $\frac{50}{2}$ x 2 = $\frac{100}{2}$
Total Cover = <u>0</u>				FAC species $\underline{50}$ x 3 = $\underline{150}$
Herb Stratum (Plot size: 4 m <sup>2</sup> )				FACU species $\underline{0}$ $\times$ 4 = $\underline{0}$ UPL species $\underline{0}$ $\times$ 5 = $\underline{0}$
Phalaris arundinacea	<u>50</u>	<u>Yes</u>	<u>FACW</u>	UPL species $\underline{0}$ x 5 = $\underline{0}$ Column Totals: $\underline{100}$ (A) $\underline{250}$ (B)
2. <u>Poa palustris</u>	<u>50</u>	<u>Yes</u>	<u>FAC</u>	(b)
3.				Prevalence Index = $B/A = 2.50$
4. 5.				· —
6.				Hydrophytic Vegetation Indicators:
7.				1 –Rapid Test for Hydrophytic Vegetation
8.				X 2 – Dominance Test >50%
9.				X 3 - Prevalence Index is ≤ 3.0¹
10.				4 - Morphological Adaptions <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
11.				5 – Wetland Non-Vascular Plants <sup>1</sup>
Total Cover = 100				Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
Woody Vine Stratum (Plot size: 0 )				<sup>1</sup> Indicators of hydric soil and wetland hydrology
1.				must be present, unless disturbed or problematic.
2.				
Total Cover = <u>0</u>				
% Bare Ground in Herb Stratum: <u>0</u>		<u> </u>		Hydrophytic Vegetation Present? Yes
Remarks:				

SOIL Sampling Point: <u>45</u>

	Mat	<u>rix</u>		Redox F	eatures				
Depth	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture		Remarks
(inches)									
<u>0-4</u>	10YR 2/2	100					Silty Clay Loam		
4-18	10YR 3/2	<u>95</u>	10YR 4/6	<u>5</u>	<u>C</u>	<u>M</u>	Silty Clay Loam		
				_	_	_			
¹Type: C=	Concentration, D	=Depletion	, RM=Reduced Ma	atrix, CS=0	Covered or	Coated S	and Grains. <sup>2</sup> Lo	cation: Pl	L=Pore Lining, M=Matrix
Hydric So	il Indicators: (Apı	olicable to	all LRRs, unless ot	herwise r	oted.)			Indicato	rs for Problematic Hydric Soils <sup>3</sup> :
Histor	sol (A1)		Sa	ndy Redo:	((\$5)			2 cr	m Muck (A10)
	Epipedon (A2)			ipped Ma					Parent Material (TF2)
	Histic (A3)		· · · · · · · · · · · · · · · · · · ·			(E1) (ave	ept MLRA 1)	II	ry Shallow Dark Surface (TF12)
	• •			•	•		ept with 1)		
	ogen Sulfide (A4)				ed Matrix	(FZ)		Oth	er (Explain in Remarks)
	ted Below Dark S			pleted M					
	Dark Surface (A12	-	·		Surface (F	-			ors of hydrophytic vegetation and
-	Mucky Mineral (		De	pleted Da	rk Surface	: (F7)			d hydrology must be present, unless
Sandy	Gleyed Matrix (S	4)	Re	dox Depr	essions (F8	3)		disturb	ed or problematic.
Restrictiv	e Layer (if presen	it):							
Type:	, , ,	•							
Depth (in	ches): 0							Hydric	Soil Present? Yes
Remarks:									
Remarks.									
HYDROLO	ιGΥ								
	Hydrology Indicat	ors:							
			equired; check all	that apply	·)		g	Secondary	Indicators (two or more required)
						'DO\			· · · ·
	te Water (A1)		· <u></u>		d Leaves (		-		-Stained Leaves (B9)(MLRA 1,2,4A,4B)
	/ater Table (A2)		•	•	RA 1,2,4A,	and 4B)	-		ge Patterns (B10)
<u>X</u> Satura			Salt	Crust (B1	.1)		-	Dry-Se	eason Water Table (C2)
Water	Marks (B1)		Aqı	ıatic Invei	tebrates (	B13)	-	Satura	tion Visible on Aerial Imagery (C9)
Sedim	ent Deposits (B2)		Hyd	rogen Sul	fide Odor	(C1)	-	Geom	orphic Position (D2)
Drift D	Deposits (B3)		Oxi	dized Rhiz	ospheres	along Livi	ng Roots (C3)	Shallo	w Aquitard (D3)
Algal I	Mat or Crust (B4)		Pre	sence of I	Reduced Ir	on (C4)	_	FAC-N	eutral Test (D5)
Iron D	eposits (B5)		Red	ent Iron F	Reduction	in Tilled S	oils (C6)	Raised	Ant Mounds (D6)(LRR A)
	ce Soil Cracks (B6)				ressed Pla				Heave Hummocks (D7)
	ation Visible on A				n in Rema				
	ely Vegetated Cor	·		ici (Expidi	II III IKCIIIu	113)			
	<u> </u>	icave Suria	се (во)						
	ervations:		Donth /:	·hoc)·					
	/ater Present? <u>No</u> ble Present?      Ye	_	Depth (ind Depth (in	•					
Saturation				ches): <u>15</u> iches): 10					
	apillary fringe)	<u>3</u>	Deptii (ii	101103). <u>10</u>	<u>-</u>		Wetland Hydro	logy Pres	ent? Yes
		ream gaug	e, monitoring well	, aerial ph	otos, prev	ious inspe	ections), if available		
	(	5 0	. 5		.,				
Remarks:									

	ip, Range: T8N R4 elief (concave, con Lat: cted NWI this time of year? disturbed? oblematic?	nvex, none): <u>cc</u> 46.175950 L classification: ? <u>Yes</u> (if no, ex	ong: <u>-123.186</u> none olain in Rema Are "Normal (if needed, e	rks.) Circumstances" present? <u>Yes</u> xplain any answers in Remarks.)
Hydric Soil Present? No				
Wetland Hydrology Present? No		Is the	Sampled Area	within a Wetland? <u>No</u>
Remarks:  VEGETATION – Use scientific names of plants.				
	Absolute %	Dominant	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: 0 ) 1. 2. 3.	Cover	Species?	Status	Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)  Total Number of Dominant
4. Total Cover =0				Species Across All Strata: <u>4</u> (B)
Sapling/Shrub Stratum (Plot size: 0 ) 1.				Percent of Dominant Species That Are OBL, FACW, or FAC: <u>75</u> (A/B)
2. 3. 4. 5. Total Cover = 0				Prevalence Index worksheet:
Herb Stratum (Plot size: _4 m² )  1. Phalaris arundinacea  2. Sisymbrium altissimum  3. Lolium perenne  4.	20 20 50	Yes Yes Yes	FACW FACU FAC	FACU species $\underline{20}$ x 4 = $\underline{80}$ UPL species $\underline{0}$ x 5 = $\underline{0}$ Column Totals: $\underline{100}$ (A) $\underline{300}$ (B)  Prevalence Index = B/A = $\underline{2.75}$
5. 6. 7. 8. 9. 10. 11. Total Cover = <u>90</u>				Hydrophytic Vegetation Indicators: 1 — Rapid Test for Hydrophytic Vegetation  X2 — Dominance Test >50%  X3 - Prevalence Index is ≤ 3.0¹ 4 - Morphological Adaptions¹ (Provide supporting data in Remarks or on a separate sheet) 5 — Wetland Non-Vascular Plants¹  Problematic Hydrophytic Vegetation¹ (Explain)
Woody Vine Stratum (Plot size: 4 m²)  1. Rubus armeniacus  2. Total Cover = 10	10	<u>Yes</u>	FAC	<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
% Bare Ground in Herb Stratum: <u>10</u>				Hydrophytic Vegetation Present? Yes
Remarks:				

SOIL Sampling Point: 45a

	<u>Mati</u>	<u> </u>		INCUOX I	-eatures				
Depth	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture		Remarks
(inches)									
<u>0-9</u>	<u>10YR 3/3</u>	<u>100</u>		<u>0</u>			Silty Clay Loam		
<u>9-18</u>	10YR 3/2	<u>100</u>		<u>0</u>			Silty Clay Loam		
<u>18-26</u>	<u>10YR 3/2</u>	<u>95</u>	<u>10YR 4/6</u>	<u>5</u>	<u>C</u>	<u>M</u>	Silty Clay Loam		
¹Type: C=	Concentration, D	=Depletion	n, RM=Reduced Ma	atrix, CS=0	Covered o	r Coated S	and Grains. <sup>2</sup> Lo	ocation: Pl	_=Pore Lining, M=Matrix
Hydric So	il Indicators: (App	olicable to	all LRRs, unless ot	herwise ı	noted.)			Indicato	rs for Problematic Hydric Soils <sup>3</sup> :
Histos	sol (A1)		Sa	ndy Redo	x (S5)			2 cr	m Muck (A10)
Histic	Epipedon (A2)		St	ripped Ma	atrix (S6)			Rec	Parent Material (TF2)
Black	Histic (A3)		Lo	amy Muc	ky Minera	l (F1) (exc	ept MLRA 1)	Ve	ry Shallow Dark Surface (TF12)
Hydro	ogen Sulfide (A4)		Lo	amy Gley	ed Matrix	(F2)		Oth	er (Explain in Remarks)
Deple	ted Below Dark S	urface (A1:	1)De	pleted M	atrix (F3)				
Thick	Dark Surface (A12	2)	Re	dox Dark	Surface (F	6)		3Indicat	ors of hydrophytic vegetation and
Sandy	/ Mucky Mineral (	S1)	De	pleted Da	ark Surface	e (F7)			d hydrology must be present, unless
Sandy	Gleyed Matrix (S	4)	Re	dox Depr	essions (F	3)		disturb	ed or problematic.
Restrictiv	e Layer (if presen	it):							
Type:									
Depth (in	ches): <u>0</u>							Hydric	Soil Present? No
Remarks:								1	
HYDROLO	IGY								
		ors:							
	Hydrology Indicat		equired; check all	that apply	<i>(</i> )			Secondary	Indicators (two or more required)
<b>Wetland I</b> Primary In	Hydrology Indicat ndicators (minimu					(B9)			<u> </u>
Wetland In Primary InSurface	Hydrology Indicat ndicators (minimu ce Water (A1)		Wa	ter-Staine	ed Leaves			Water	-Stained Leaves (B9)(MLRA 1,2,4A,4B)
Wetland In Primary In Surface	Hydrology Indicat ndicators (minimu ce Water (A1) Water Table (A2)		Wa	ter-Staine	ed Leaves RA 1,2,4A		- -	Water Draina	-Stained Leaves (B9)(MLRA 1,2,4A,4B) ge Patterns (B10)
Wetland In Primary In Surface High V	Hydrology Indicat ndicators (minimu ce Water (A1) Water Table (A2) ation (A3)		Wa ( <b>e</b> Sal	ter-Staine xcept ML t Crust (B:	ed Leaves <b>RA 1,2,4A</b> , 11)	, and 4B)	-	Water Draina Dry-Se	-Stained Leaves (B9)(MLRA 1,2,4A,4B)  ge Patterns (B10)  ason Water Table (C2)
Wetland Primary InSurfacHigh VSaturaWater	Hydrology Indicat ndicators (minimu ce Water (A1) Water Table (A2) ation (A3) r Marks (B1)	m of one r	Wa ( <b>e</b> Sal: Aqu	ter-Staine xcept ML t Crust (B: uatic Inve	ed Leaves RA 1,2,4A, 11) rtebrates (	(B13)	-	WaterDrainaDry-Se	-Stained Leaves (B9)(MLRA 1,2,4A,4B)  ge Patterns (B10)  eason Water Table (C2)  tion Visible on Aerial Imagery (C9)
Wetland I Primary In Surfac High V Satura Water Sedim	Hydrology Indicated indicators (minimuse Water (A1) Water Table (A2) Action (A3) Marks (B1) Ment Deposits (B2)	m of one r	Wa ( <b>e</b> Sal: Aqu Hyo	ter-Staine xcept ML t Crust (B: uatic Inve	ed Leaves RA 1,2,4A, 11) rtebrates ( Ifide Odor	(B13) (C1)	- - - -	Water Draina Dry-Se Satura	-Stained Leaves (B9)(MLRA 1,2,4A,4B)  Ige Patterns (B10)  Isason Water Table (C2)  Ition Visible on Aerial Imagery (C9)  Orphic Position (D2)
Wetland I Primary In Surfac High V Satura Water Sedim Drift D	Hydrology Indicated Indicators (minimulate Water (A1) Water Table (A2) Indicators (A3) Indicators (B1) Indicators (B1) Indicators (B2) Deposits (B3)	m of one r	Wa ( <b>e</b> Sal: Aqu Hyo Oxi	ter-Staine xcept ML t Crust (B: uatic Inve drogen Su dized Rhi	ed Leaves RA 1,2,4A, 11) rtebrates ( Ifide Odor zospheres	, <b>and 4B</b> ) (B13) (C1) along Livi	- - - - - - - - - - -	Water Draina Dry-Se Satura Geom Shallo	-Stained Leaves (B9)(MLRA 1,2,4A,4B) Ige Patterns (B10) Isason Water Table (C2) Ition Visible on Aerial Imagery (C9) In Position (D2) Ition Value (D3)
Wetland I Primary In Surfac High V Satura Water Sedim Drift C Algal I	Hydrology Indicated Indicators (minimulate Water (A1) Water Table (A2) Action (A3) Marks (B1) Ment Deposits (B2) Deposits (B3) Mat or Crust (B4)	m of one r	Wa (e Sal: Aqı Hyo Oxi Pre	xcept ML t Crust (B: uatic Inve drogen Su dized Rhi	ed Leaves RA 1,2,4A, 11) rtebrates ( Ifide Odor zospheres Reduced Ir	(B13) (C1) along Livi	ng Roots (C3)	Water Draina Dry-Se Satura Geom Shallo	-Stained Leaves (B9)(MLRA 1,2,4A,4B)  age Patterns (B10)  ason Water Table (C2)  tion Visible on Aerial Imagery (C9)  orphic Position (D2)  w Aquitard (D3)  eutral Test (D5)
Wetland I Primary In Surfac High V Satura Water Sedim Drift C Algal I	Hydrology Indicated Indicators (minimulate Water (A1) Water Table (A2) Action (A3) F Marks (B1) Bent Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5)	m of one r	Wa (e Sal <sup>*</sup> Aqı Hyo Oxi Pre	xcept ML t Crust (B: uatic Inve drogen Su dized Rhi	RA 1,2,4A, 11) rtebrates ( Ifide Odor zospheres Reduced II	(B13) (C1) along Livi on (C4) in Tilled S	ng Roots (C3)	Water Draina Dry-Se Satura Geom Shallo FAC-N Raised	-Stained Leaves (B9)(MLRA 1,2,4A,4B)  age Patterns (B10)  ason Water Table (C2)  tion Visible on Aerial Imagery (C9)  orphic Position (D2)  w Aquitard (D3)  eutral Test (D5)  I Ant Mounds (D6)(LRR A)
Wetland I Primary In Surfac High V Satura Water Sedim Drift D Algal I Iron D Surfac	Hydrology Indicated Indicators (minimulate Water (A1) Water Table (A2) Action (A3) Fr Marks (B1) Juent Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) De Soil Cracks (B6)	m of one r	Wa (e Sal: Aqı Pyo Pre Reo Stu	xcept ML t Crust (B: uatic Inve drogen Su dized Rhi sence of I cent Iron I	RA 1,2,4A, 11) rtebrates ( lfide Odor zospheres Reduced In Reduction tressed Pla	(B13) (C1) along Livi ron (C4) in Tilled S	ng Roots (C3)	Water Draina Dry-Se Satura Geom Shallo FAC-N Raised	-Stained Leaves (B9)(MLRA 1,2,4A,4B)  age Patterns (B10)  ason Water Table (C2)  tion Visible on Aerial Imagery (C9)  orphic Position (D2)  w Aquitard (D3)  eutral Test (D5)
Wetland I Primary In Surfac High V Satura Water Sedim Drift D Algal I Iron D Surfac	Hydrology Indicated andicators (minimulated Water (A1)) Water Table (A2) Aution (A3) In Marks (B1) Ident Deposits (B2) Deposits (B3) Mat or Crust (B4) Idenosits (B5) Idenosits (B5) Idenosits (B6)	m of one r	Wa	xcept ML t Crust (B: uatic Inve drogen Su dized Rhi sence of I cent Iron I	RA 1,2,4A, 11) rtebrates ( Ifide Odor zospheres Reduced II	(B13) (C1) along Livi ron (C4) in Tilled S	ng Roots (C3)	Water Draina Dry-Se Satura Geom Shallo FAC-N Raised	-Stained Leaves (B9)(MLRA 1,2,4A,4B)  age Patterns (B10)  ason Water Table (C2)  tion Visible on Aerial Imagery (C9)  orphic Position (D2)  w Aquitard (D3)  eutral Test (D5)  I Ant Mounds (D6)(LRR A)
Wetland I Primary In Surfac High V Satura Water Sedim Drift E Algal I Iron D Surfac Inunda	Hydrology Indicated Indicators (minimulated Water (A1) Water Table (A2) Action (A3) Marks (B1) Ment Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) Mat or Crust (B6) Mation Visible on Action Visible Con	m of one r	Wa	xcept ML t Crust (B: uatic Inve drogen Su dized Rhi sence of I cent Iron I	RA 1,2,4A, 11) rtebrates ( lfide Odor zospheres Reduced In Reduction tressed Pla	(B13) (C1) along Livi ron (C4) in Tilled S	ng Roots (C3)	Water Draina Dry-Se Satura Geom Shallo FAC-N Raised	-Stained Leaves (B9)(MLRA 1,2,4A,4B)  age Patterns (B10)  ason Water Table (C2)  tion Visible on Aerial Imagery (C9)  orphic Position (D2)  w Aquitard (D3)  eutral Test (D5)  I Ant Mounds (D6)(LRR A)
Wetland I Primary In Surfac High V Satura Water Sedim Drift E Algal I Iron D Surfac Inunda Sparse Field Obse	Hydrology Indicated indicators (minimulated Water (A1)) Water Table (A2) Action (A3) Marks (B1) Ment Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) Des Soil Cracks (B6) Action Visible on Action Visible on Action Visible on Action Visible Concervations:	m of one r erial Image acave Surfa	Wa	xcept ML t Crust (B: uatic Inve drogen Su dized Rhi esence of I cent Iron I nted or Si ner (Expla	RA 1,2,4A, 11) rtebrates ( lfide Odor zospheres Reduced In Reduction tressed Pla	(B13) (C1) along Livi ron (C4) in Tilled S	ng Roots (C3)	Water Draina Dry-Se Satura Geom Shallo FAC-N Raised	-Stained Leaves (B9)(MLRA 1,2,4A,4B)  age Patterns (B10)  ason Water Table (C2)  tion Visible on Aerial Imagery (C9)  orphic Position (D2)  w Aquitard (D3)  eutral Test (D5)  I Ant Mounds (D6)(LRR A)
Wetland I Primary In Surfac High V Satura Water Sedim Drift E Algal I Iron D Surfac Inunda Sparse Surface W	Hydrology Indicated indicators (minimulated Water (A1)) Water Table (A2) Action (A3) Fr Marks (B1) Bent Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) De Soil Cracks (B6) Action Visible on Action V	m of one r	Wa	xcept ML t Crust (B: uatic Inve drogen Su dized Rhia sence of I cent Iron I nted or Si ner (Expla	RA 1,2,4A, 11) rtebrates ( lfide Odor zospheres Reduced In Reduction tressed Pla	(B13) (C1) along Livi ron (C4) in Tilled S	ng Roots (C3)	Water Draina Dry-Se Satura Geom Shallo FAC-N Raised	-Stained Leaves (B9)(MLRA 1,2,4A,4B)  age Patterns (B10)  ason Water Table (C2)  tion Visible on Aerial Imagery (C9)  orphic Position (D2)  w Aquitard (D3)  eutral Test (D5)  I Ant Mounds (D6)(LRR A)
Wetland I Primary In Surface High V Satura Water Sedim Drift E Algal I Iron D Surface Inunda Sparse Surface W Water Tab	Hydrology Indicated adicators (minimulated Water (A1)) Water Table (A2) Action (A3) Fr Marks (B1) Bent Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) De Soil Cracks (B6) Action Visible on Action Vi	m of one ro erial Image ncave Surfa	Wa	xcept ML t Crust (B: uatic Inve drogen Su dized Rhia sence of I cent Iron I nted or Si ner (Expla	RA 1,2,4A, 11) rtebrates ( lfide Odor zospheres Reduced In Reduction tressed Pla in in Rema	(B13) (C1) along Livi ron (C4) in Tilled S	ng Roots (C3)  oils (C6)  RR A)	Water Draina Dry-Se Satura Geom Shallo FAC-N Raised Frost-l	-Stained Leaves (B9)(MLRA 1,2,4A,4B)  Ige Patterns (B10)  Isason Water Table (C2)  Ition Visible on Aerial Imagery (C9)  Iorphic Position (D2)  W Aquitard (D3)  Eutral Test (D5)  I Ant Mounds (D6)(LRR A)  Heave Hummocks (D7)
Wetland I Primary In Surface High V Satura Water Sedim Drift E Algal I Iron D Surface Inunda Sparse Surface W Water Tab Saturation (includes ca	Hydrology Indicated andicators (minimuse Water (A1)) Water Table (A2) Action (A3) Franks (B1) Bent Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) Desoil Cracks (B6) Action Visible on Action Visible	m of one root one roo	Wa	iter-Staine xcept ML t Crust (B: uatic Inve drogen Su dized Rhin esence of I cent Iron I nted or Si ner (Expla	RA 1,2,4A, 11) rtebrates ( Ifide Odor zospheres Reduced In Reduction tressed Pla in in Rema	, and 4B) (B13) (C1) along Livi ron (C4) in Tilled S ants (D1)(I	ng Roots (C3)  oils (C6)  .RR A)	Water Draina Dry-Se Satura Geom Shallo FAC-N Raised Frost-l	-Stained Leaves (B9)(MLRA 1,2,4A,4B)  Ige Patterns (B10)  Isason Water Table (C2)  Ition Visible on Aerial Imagery (C9)  Iorphic Position (D2)  W Aquitard (D3)  Eutral Test (D5)  I Ant Mounds (D6)(LRR A)  Heave Hummocks (D7)
Wetland I Primary In Surface High V Satura Water Sedim Drift E Algal I Iron D Surface Inunda Sparse Surface W Water Tab Saturation (includes ca	Hydrology Indicated andicators (minimuse Water (A1)) Water Table (A2) Action (A3) Franks (B1) Bent Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) Desoil Cracks (B6) Action Visible on Action Visible	m of one root one roo	Wa	iter-Staine xcept ML t Crust (B: uatic Inve drogen Su dized Rhin esence of I cent Iron I nted or Si ner (Expla	RA 1,2,4A, 11) rtebrates ( Ifide Odor zospheres Reduced In Reduction tressed Pla in in Rema	, and 4B) (B13) (C1) along Livi ron (C4) in Tilled S ants (D1)(I	ng Roots (C3)  oils (C6)  RR A)	Water Draina Dry-Se Satura Geom Shallo FAC-N Raised Frost-l	-Stained Leaves (B9)(MLRA 1,2,4A,4B)  Ige Patterns (B10)  Isason Water Table (C2)  Ition Visible on Aerial Imagery (C9)  Iorphic Position (D2)  W Aquitard (D3)  Eutral Test (D5)  I Ant Mounds (D6)(LRR A)  Heave Hummocks (D7)
Wetland I Primary In Surface High V Satura Water Sedim Drift E Algal I Iron D Surface Inunda Sparse Surface W Water Tab Saturation (includes ca	Hydrology Indicated andicators (minimuse Water (A1)) Water Table (A2) Action (A3) Franks (B1) Bent Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) Desoil Cracks (B6) Action Visible on Action Visible	m of one root one roo	Wa	iter-Staine xcept ML t Crust (B: uatic Inve drogen Su dized Rhin esence of I cent Iron I nted or Si ner (Expla	RA 1,2,4A, 11) rtebrates ( Ifide Odor zospheres Reduced In Reduction tressed Pla in in Rema	, and 4B) (B13) (C1) along Livi ron (C4) in Tilled S ants (D1)(I	ng Roots (C3)  oils (C6)  .RR A)	Water Draina Dry-Se Satura Geom Shallo FAC-N Raised Frost-l	-Stained Leaves (B9)(MLRA 1,2,4A,4B)  Ige Patterns (B10)  Isason Water Table (C2)  Ition Visible on Aerial Imagery (C9)  Iorphic Position (D2)  W Aquitard (D3)  Eutral Test (D5)  I Ant Mounds (D6)(LRR A)  Heave Hummocks (D7)
Wetland I Primary In Surfac High V Satura Water Sedim Drift D Algal I Iron D Surfac Inunda Sparse Field Obse Surface W Water Tak Saturation (includes ca Describe F	Hydrology Indicated andicators (minimuse Water (A1)) Water Table (A2) Action (A3) Franks (B1) Bent Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) Desoil Cracks (B6) Action Visible on Action Visible	m of one root one roo	Wa	iter-Staine xcept ML t Crust (B: uatic Inve drogen Su dized Rhin esence of I cent Iron I nted or Si ner (Expla	RA 1,2,4A, 11) rtebrates ( Ifide Odor zospheres Reduced In Reduction tressed Pla in in Rema	, and 4B) (B13) (C1) along Livi ron (C4) in Tilled S ants (D1)(I	ng Roots (C3)  oils (C6)  .RR A)	Water Draina Dry-Se Satura Geom Shallo FAC-N Raised Frost-l	-Stained Leaves (B9)(MLRA 1,2,4A,4B)  Ige Patterns (B10)  Isason Water Table (C2)  Ition Visible on Aerial Imagery (C9)  Iorphic Position (D2)  W Aquitard (D3)  Eutral Test (D5)  I Ant Mounds (D6)(LRR A)  Heave Hummocks (D7)
Wetland I Primary In Surface High V Satura Water Sedim Drift E Algal I Iron D Surface Inunda Sparse Surface W Water Tab Saturation (includes ca	Hydrology Indicated andicators (minimuse Water (A1)) Water Table (A2) Action (A3) Franks (B1) Bent Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) Desoil Cracks (B6) Action Visible on Action Visible	m of one root one roo	Wa	iter-Staine xcept ML t Crust (B: uatic Inve drogen Su dized Rhin esence of I cent Iron I nted or Si ner (Expla	RA 1,2,4A, 11) rtebrates ( Ifide Odor zospheres Reduced In Reduction tressed Pla in in Rema	, and 4B) (B13) (C1) along Livi ron (C4) in Tilled S ants (D1)(I	ng Roots (C3)  oils (C6)  .RR A)	Water Draina Dry-Se Satura Geom Shallo FAC-N Raised Frost-l	-Stained Leaves (B9)(MLRA 1,2,4A,4B)  Ige Patterns (B10)  Isason Water Table (C2)  Ition Visible on Aerial Imagery (C9)  Iorphic Position (D2)  W Aquitard (D3)  Eutral Test (D5)  I Ant Mounds (D6)(LRR A)  Heave Hummocks (D7)
Wetland I Primary In Surfac High V Satura Water Sedim Drift D Algal I Iron D Surfac Inunda Sparse Field Obse Surface W Water Tak Saturation (includes ca Describe F	Hydrology Indicated andicators (minimuse Water (A1)) Water Table (A2) Action (A3) Franks (B1) Bent Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) Desoil Cracks (B6) Action Visible on Action Visible	m of one root one roo	Wa	iter-Staine xcept ML t Crust (B: uatic Inve drogen Su dized Rhin esence of I cent Iron I nted or Si ner (Expla	RA 1,2,4A, 11) rtebrates ( Ifide Odor zospheres Reduced In Reduction tressed Pla in in Rema	, and 4B) (B13) (C1) along Livi ron (C4) in Tilled S ants (D1)(I	ng Roots (C3)  oils (C6)  .RR A)	Water Draina Dry-Se Satura Geom Shallo FAC-N Raised Frost-l	-Stained Leaves (B9)(MLRA 1,2,4A,4B)  Ige Patterns (B10)  Isason Water Table (C2)  Ition Visible on Aerial Imagery (C9)  Iorphic Position (D2)  W Aquitard (D3)  Eutral Test (D5)  I Ant Mounds (D6)(LRR A)  Heave Hummocks (D7)

Project/Site: Port Westward Renewable Diesel Refinery Applicant/Owner: Next Energy Group, Inc. State: OR Investigator(s): Sue Brady Section, Township, I Landform (hillslope, terrace, etc.): Flats Local relief (concave) Subregion (LRR): Northwest Forests & Coast (LRR A) Soil Map Unit Name: Udipsamments, nearly level, protected Are climatic/hydrologic conditions on the site typical for thi Are Vegetation, Soil, or Hydrology significantly dis Are Vegetation, Soil, or Hydrology naturally proble  SUMMARY OF FINDINGS - Attach site map showing Hydrophytic Vegetation Present? Yes Hydric Soil Present? Yes Wetland Hydrology Present? Yes Remarks:	Range: T8N R4W ve, convex, none Lat: 46 NWI cl s time of year? Y sturbed? ematic?	: concave 5.1807740 L assification: Yes (if no, exp	llain in Remark Are "Normal C (if needed, exp <b>transects, im</b>	s.) ircumstances" present? <u>Yes</u> olain any answers in Remarks.)
VEGETATION – Use scientific names of plants.  Tree Stratum (Plot size: _0 ) 1. 2. 3. 4. Total Cover =0	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:  Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)  Total Number of Dominant Species Across All Strata: 4 (B)
Sapling/Shrub Stratum (Plot size:25 m²_)  1. Rubus armeniacus  2.  3.  4.  5.  Total Cover = 20	<u>20</u>	<u>Yes</u>	<u>FAC</u>	Percent of Dominant Species   That Are OBL, FACW, or FAC:   100 (A/B)
Herb Stratum (Plot size:4 m²_ )  1. Phalaris arundinacea 2. Poa palustris 3. Carex nebrascensis 4. 5. 6. 7. 8. 9. 10. 11. Total Cover = 100	30 40 30	Yes Yes Yes	FACW FAC OBL	FACU species $0$ $x 4 = 0$ UPL species $0$ $x 5 = 0$ Column Totals: $120$ (A) $270$ (B)  Prevalence Index = $B/A = 2.25$ Hydrophytic Vegetation Indicators:
1. 2. Total Cover = 0				must be present, unless disturbed or problematic.
% Bare Ground in Herb Stratum: <u>10</u> Remarks:				Hydrophytic Vegetation Present? Yes

SOIL Sampling Point: <u>46</u>

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

**Redox Features** 

Matrix

/· · ·	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc²	Texture		Remarks
(inches)	10VD 2/2	100					Ciltu Clay Laam		
<u>0-2</u>	10YR 3/2	100 05	10VP 4/4	Е	_	D.C	Silty Clay Loam		
<u>2-18</u>	10YR 3/2	<u>95</u>	10YR 4/4	<u>5</u>	<u>C</u>	<u>RC</u>	Silty Clay Loam		
¹Type: C=	Concentration, D	  =Depletion	, RM=Reduced M	atrix, CS=	Covered o	r Coated S	Sand Grains. <sup>2</sup> Lo	ocation: Pl	L=Pore Lining, M=Matrix
			all LRRs, unless of						rs for Problematic Hydric Soils <sup>3</sup> :
		pileable to							<u> </u>
	sol (A1)		· · · · · · · · · · · · · · · · · · ·	ndy Redo					m Muck (A10) d Parent Material (TF2)
	Epipedon (A2) Histic (A3)			ripped Ma		/E1\ /ove	ont MIDA 1\		ry Shallow Dark Surface (TF12)
l ——	ogen Sulfide (A4)			-	-		ept MLRA 1)		ner (Explain in Remarks)
	eted Below Dark S	urfaca (A11	· · · · · · · · · · · · · · · · · · ·		ed Matrix	(Г2)		011	iei (Expiaiii iii Keiliaiks)
		•	·	pleted M		c)		3Indicat	tors of hydrophytic vogotation and
	Dark Surface (A12 / Mucky Mineral (	•	·		Surface (Fo Ark Surface	-			tors of hydrophytic vegetation and dhydrology must be present, unless
	/ Mucky Milleral ( / Gleyed Matrix (S		· · · · · · · · · · · · · · · · · · ·						ed or problematic.
-				иох рерг	essions (F	) ————————————————————————————————————			•
	e Layer (if presen	it):							
Type: Depth (in	chos): 0							Hydric	Soil Present? Yes
	· <del>-</del>							,	
Remarks:									
	Hydrology Indicat		equired: check all	that annly	d)			Secondan	/ Indicators (two or more required)
<b>Wetland I</b> Primary Ir	Hydrology Indicat ndicators (minimu		equired; check all			( )			y Indicators (two or more required)
Wetland I Primary Ir Surfac	Hydrology Indicat ndicators (minimu ce Water (A1)		Wa	ter-Staine	ed Leaves			Water	-Stained Leaves (B9)(MLRA 1,2,4A,4B)
Wetland I Primary Ir Surface High V	Hydrology Indicat ndicators (minimu ce Water (A1) Nater Table (A2)		Wa	ter-Staine	ed Leaves RA 1,2,4A			Water Draina	-Stained Leaves (B9)(MLRA 1,2,4A,4B) age Patterns (B10)
Wetland I Primary IrSurfacHigh VSatura	Hydrology Indicated indicators (minimuste Water (A1) Water Table (A2) ation (A3)		Wa ( <b>e</b> Sal	ter-Staine xcept ML t Crust (B:	ed Leaves RA 1,2,4A,	and 4B)	-	Water Draina Dry-Se	r-Stained Leaves (B9)(MLRA 1,2,4A,4B) age Patterns (B10) eason Water Table (C2)
Wetland I Primary IrSurfacHigh \SaturaWater	Hydrology Indicated indicators (minimuste Water (A1) Water Table (A2) Action (A3) F Marks (B1)	m of one re	Wa ( <b>e</b> Sal: Aqu	ter-Staine xcept ML t Crust (B: uatic Inve	ed Leaves RA 1,2,4A, 11) rtebrates (	and 4B)	-	Water Draina Dry-Se	r-Stained Leaves (B9)(MLRA 1,2,4A,4B) age Patterns (B10) eason Water Table (C2) ation Visible on Aerial Imagery (C9)
Wetland I Primary Ir Surfac High V Satura Water Sedim	Hydrology Indicated indicators (minimuse Water (A1) Water Table (A2) Action (A3) Marks (B1) Ment Deposits (B2)	m of one re	Wa ( <b>e</b> Sali Aqı Hyo	ter-Staine xcept ML t Crust (B: uatic Inve	ed Leaves RA 1,2,4A, 11) rtebrates (	(B13) (C1)	- - - -	Water Draina Dry-Se Satura X Geom	r-Stained Leaves (B9)(MLRA 1,2,4A,4B) age Patterns (B10) asson Water Table (C2) ation Visible on Aerial Imagery (C9) orphic Position (D2)
Wetland I Primary Ir Surfac High V Satura Water Sedim Drift I	Hydrology Indicated adicators (minimulated Water (A1) Water Table (A2) ation (A3) Mar Marks (B1) Bent Deposits (B2) Deposits (B3)	m of one re	Wa ( <b>e</b> Sal: Aqu Hyo X_Oxio	ter-Staine xcept ML t Crust (B: uatic Inve drogen Su dized Rhiz	ed Leaves RA 1,2,4A, 11) rtebrates ( Ifide Odor cospheres	and 4B) (B13) (C1) along Livi	-	Water Draina Dry-Se Satura X Geom Shallo	r-Stained Leaves (B9)(MLRA 1,2,4A,4B) age Patterns (B10) eason Water Table (C2) ation Visible on Aerial Imagery (C9) orphic Position (D2) w Aquitard (D3)
Wetland I Primary Ir Surfac High V Satura Water Sedim Drift C Algal I	Hydrology Indicated andicators (minimulated Water (A1) Water Table (A2) ation (A3) r Marks (B1) ment Deposits (B2) Deposits (B3) Mat or Crust (B4)	m of one re	Wa Sal Aqu Hyo Pre	ter-Staine xcept ML t Crust (B: uatic Inve drogen Su dized Rhiz sence of	ed Leaves RA 1,2,4A, 11) rtebrates ( Ifide Odor cospheres Reduced II	(B13) (C1) along Livi	ng Roots (C3)	Water Draina Dry-Se Satura X Geom Shallo	r-Stained Leaves (B9)(MLRA 1,2,4A,4B) age Patterns (B10) eason Water Table (C2) ation Visible on Aerial Imagery (C9) orphic Position (D2) w Aquitard (D3) eutral Test (D5)
Wetland I Primary Ir Surfac High V Satura Water Sedim Drift I Algal I	Hydrology Indicated Indicators (minimulated Water (A1) Water Table (A2) Action (A3) F Marks (B1) Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5)	m of one re	Wa (e Sal Aqı Hyo X_Oxi Pre	ter-Staine xcept ML t Crust (B: uatic Inve drogen Su dized Rhiz sence of I	ed Leaves RA 1,2,4A, 11) rtebrates ( Ifide Odor cospheres Reduced II	and 4B) (B13) (C1) along Livi on (C4) in Tilled S	ng Roots (C3)	Water Draina Dry-Se Satura X Geom Shallo X FAC-No	r-Stained Leaves (B9)(MLRA 1,2,4A,4B) age Patterns (B10) eason Water Table (C2) ation Visible on Aerial Imagery (C9) orphic Position (D2) w Aquitard (D3) eutral Test (D5) d Ant Mounds (D6)(LRR A)
Wetland I Primary Ir Surfac High V Satura Water Sedim Drift I Algal I Iron D Surfac	Hydrology Indicated Indicators (minimulated Water (A1) Water Table (A2) Action (A3) Marks (B1) Ment Deposits (B2) Deposits (B3) Mat or Crust (B4) Meposits (B5) Mes Soil Cracks (B6)	m of one re	Wa	ter-Staine xcept ML t Crust (B: uatic Inve drogen Su dized Rhiz sence of cent Iron I	ed Leaves RA 1,2,4A, 11) rtebrates ( Ifide Odor cospheres Reduced In Reduction tressed Pla	B13) (C1) along Livi on (C4) in Tilled S	ng Roots (C3)	Water Draina Dry-Se Satura X Geom Shallo X FAC-No	r-Stained Leaves (B9)(MLRA 1,2,4A,4B) age Patterns (B10) eason Water Table (C2) ation Visible on Aerial Imagery (C9) orphic Position (D2) w Aquitard (D3) eutral Test (D5)
Wetland I Primary Ir Surfac High V Satura Water Sedim Drift I Algal I Iron D Surfac	Hydrology Indicated andicators (minimulated Water (A1)) Water Table (A2) action (A3) or Marks (B1) Deposits (B3) Mat or Crust (B4) Deposits (B5) De Soil Cracks (B6) Action Visible on A	m of one re	Wa	ter-Staine xcept ML t Crust (B: uatic Inve drogen Su dized Rhiz sence of cent Iron I	ed Leaves RA 1,2,4A, 11) rtebrates ( Ifide Odor cospheres Reduced II	B13) (C1) along Livi on (C4) in Tilled S	ng Roots (C3)	Water Draina Dry-Se Satura X Geom Shallo X FAC-No	r-Stained Leaves (B9)(MLRA 1,2,4A,4B) age Patterns (B10) eason Water Table (C2) ation Visible on Aerial Imagery (C9) orphic Position (D2) w Aquitard (D3) eutral Test (D5) d Ant Mounds (D6)(LRR A)
Wetland I Primary Ir  Surfac High V Satura Water Sedim Drift E Algal I Iron D Surfac Inund Sparse	Hydrology Indicated indicators (minimuste Water (A1)) Water Table (A2) Action (A3) Marks (B1) Ment Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) Mat or Crust (B6) Mation Visible on Action Visible Core	m of one re	Wa	ter-Staine xcept ML t Crust (B: uatic Inve drogen Su dized Rhiz sence of cent Iron I	ed Leaves RA 1,2,4A, 11) rtebrates ( Ifide Odor cospheres Reduced In Reduction tressed Pla	B13) (C1) along Livi on (C4) in Tilled S	ng Roots (C3)	Water Draina Dry-Se Satura X Geom Shallo X FAC-No	r-Stained Leaves (B9)(MLRA 1,2,4A,4B) age Patterns (B10) eason Water Table (C2) ation Visible on Aerial Imagery (C9) orphic Position (D2) w Aquitard (D3) eutral Test (D5) d Ant Mounds (D6)(LRR A)
Wetland I Primary Ir  Surfac High V Satura Water Sedim Drift E Algal I Iron D Surfac Inund Sparse Field Obse	Hydrology Indicated indicators (minimulated Water (A1)) Water Table (A2) Action (A3) Marks (B1) Ment Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) Mat or Crust (B6) Mation Visible on Action Visible on Action Visible on Actions:	m of one re erial Image ncave Surfac	Wa	ter-Staine xcept ML t Crust (B: uatic Inve drogen Su dized Rhiz sence of I sent Iron I nted or Si ner (Expla	ed Leaves RA 1,2,4A, 11) rtebrates ( Ifide Odor cospheres Reduced In Reduction tressed Pla	B13) (C1) along Livi on (C4) in Tilled S	ng Roots (C3)	Water Draina Dry-Se Satura X Geom Shallo X FAC-No	r-Stained Leaves (B9)(MLRA 1,2,4A,4B) age Patterns (B10) eason Water Table (C2) ation Visible on Aerial Imagery (C9) orphic Position (D2) w Aquitard (D3) eutral Test (D5) d Ant Mounds (D6)(LRR A)
Wetland I Primary Ir  Surfac High V Satura Water Sedim Drift I Algal I Iron D Surfac Inund Sparse Surface W	Hydrology Indicated indicators (minimulated Water (A1)) Water Table (A2) Action (A3) Fr Marks (B1) Deposits (B3) Mat or Crust (B4) Deposits (B5) Desce Soil Cracks (B6) Action Visible on Action	erial Image	Wa	ter-Staine xcept ML t Crust (B: uatic Inve drogen Su dized Rhiz sence of I tent Iron I nted or Si ner (Expla	ed Leaves RA 1,2,4A, 11) rtebrates ( Ifide Odor cospheres Reduced In Reduction tressed Pla	B13) (C1) along Livi on (C4) in Tilled S	ng Roots (C3)	Water Draina Dry-Se Satura X Geom Shallo X FAC-No	r-Stained Leaves (B9)(MLRA 1,2,4A,4B) age Patterns (B10) eason Water Table (C2) ation Visible on Aerial Imagery (C9) orphic Position (D2) w Aquitard (D3) eutral Test (D5) d Ant Mounds (D6)(LRR A)
Wetland I Primary Ir  Surface High V Satura Water Sedim Drift I Algal I Iron D Surface Inund Sparse Surface W Water Tab	Hydrology Indicated indicators (minimulated Water (A1)) Water Table (A2) Action (A3) Fr Marks (B1) Deposits (B3) Mat or Crust (B4) Deposits (B5) Desoil Cracks (B6) Action Visible on Action Visible Octoor Visible Octoor Visible Octoor Visible Octoor Visible Visible Octoor Visible Oc	erial Image ncave Surface	Wa	ter-Staine  xcept ML  t Crust (B:  uatic Inve  drogen Su  dized Rhiz  sence of ( cent Iron I  nted or Si  ner (Expla	ed Leaves RA 1,2,4A, 11) rtebrates ( Ifide Odor cospheres Reduced In Reduction tressed Pla	B13) (C1) along Livi on (C4) in Tilled S	ng Roots (C3)	Water Draina Dry-Se Satura X Geom Shallo X FAC-No	r-Stained Leaves (B9)(MLRA 1,2,4A,4B) age Patterns (B10) eason Water Table (C2) ation Visible on Aerial Imagery (C9) orphic Position (D2) w Aquitard (D3) eutral Test (D5) d Ant Mounds (D6)(LRR A)
Wetland I Primary Ir  Surface High V Satura Water Sedim Drift I Algal I Iron D Surface Inund Sparse Field Obse Surface W Water Tal Saturation	Hydrology Indicated indicators (minimulated Water (A1)) Water Table (A2) Action (A3) Fr Marks (B1) Deposits (B3) Mat or Crust (B4) Deposits (B5) Desce Soil Cracks (B6) Action Visible on Action	erial Image ncave Surface	Wa	ter-Staine  xcept ML  t Crust (B:  uatic Inve  drogen Su  dized Rhiz  sence of ( cent Iron I  nted or Si  ner (Expla	ed Leaves RA 1,2,4A, 11) rtebrates ( Ifide Odor cospheres Reduced In Reduction tressed Pla	B13) (C1) along Livi on (C4) in Tilled S	ng Roots (C3)	Water Draina Dry-Se Satura X Geom Shallo X FAC-Ne Raisec Frost-	r-Stained Leaves (B9)(MLRA 1,2,4A,4B) age Patterns (B10) eason Water Table (C2) ation Visible on Aerial Imagery (C9) orphic Position (D2) w Aquitard (D3) eutral Test (D5) d Ant Mounds (D6)(LRR A) Heave Hummocks (D7)
Wetland I Primary Ir  Surface High V Satura Water Sedim Drift I Algal I Iron D Surface Inund Sparse Surface W Water Tal Saturation (includes ca	Hydrology Indicated andicators (minimulated Water (A1)) Water Table (A2) Action (A3) From Marks (B1) Deposits (B3) Mat or Crust (B4) Deposits (B5) Desoil Cracks (B6) Action Visible on Action V	erial Image ncave Surface	Wa	ter-Staine  xcept ML  t Crust (B:  uatic Inve  drogen Su  dized Rhiz  sence of le  cent Iron I  nted or So  ner (Expla	ed Leaves RA 1,2,4A, 11) rtebrates ( lifide Odor cospheres Reduced In Reduction tressed Platin in Rema	and 4B) (B13) (C1) along Livi ron (C4) in Tilled S ants (D1)(I	oils (C6)	Water Draina Dry-Se Satura X Geom Shallo X FAC-N Raisec Frost-	r-Stained Leaves (B9)(MLRA 1,2,4A,4B) age Patterns (B10) eason Water Table (C2) ation Visible on Aerial Imagery (C9) orphic Position (D2) w Aquitard (D3) eutral Test (D5) d Ant Mounds (D6)(LRR A) Heave Hummocks (D7)
Wetland I Primary Ir  Surface High V Satura Water Sedim Drift I Algal I Iron D Surface Inund Sparse Surface W Water Tal Saturation (includes ca	Hydrology Indicated andicators (minimulated Water (A1)) Water Table (A2) Action (A3) From Marks (B1) Deposits (B3) Mat or Crust (B4) Deposits (B5) Desoil Cracks (B6) Action Visible on Action V	erial Image ncave Surface	Wa	ter-Staine  xcept ML  t Crust (B:  uatic Inve  drogen Su  dized Rhiz  sence of le  cent Iron I  nted or So  ner (Expla	ed Leaves RA 1,2,4A, 11) rtebrates ( lifide Odor cospheres Reduced In Reduction tressed Platin in Rema	and 4B) (B13) (C1) along Livi ron (C4) in Tilled S ants (D1)(I	ng Roots (C3) oils (C6) .RR A)	Water Draina Dry-Se Satura X Geom Shallo X FAC-N Raisec Frost-	r-Stained Leaves (B9)(MLRA 1,2,4A,4B) age Patterns (B10) eason Water Table (C2) ation Visible on Aerial Imagery (C9) orphic Position (D2) w Aquitard (D3) eutral Test (D5) d Ant Mounds (D6)(LRR A) Heave Hummocks (D7)
Wetland I Primary Ir  Surfac High V Satura Water Sedim Drift I Algal I Iron D Surfac Inund Sparse Field Obse Surface W Water Tak Saturation (includes ca	Hydrology Indicated andicators (minimulated Water (A1)) Water Table (A2) Action (A3) From Marks (B1) Deposits (B3) Mat or Crust (B4) Deposits (B5) Desoil Cracks (B6) Action Visible on Action V	erial Image ncave Surface	Wa	ter-Staine  xcept ML  t Crust (B:  uatic Inve  drogen Su  dized Rhiz  sence of le  cent Iron I  nted or So  ner (Expla	ed Leaves RA 1,2,4A, 11) rtebrates ( lifide Odor cospheres Reduced In Reduction tressed Platin in Rema	and 4B) (B13) (C1) along Livi ron (C4) in Tilled S ants (D1)(I	ng Roots (C3) oils (C6) .RR A)	Water Draina Dry-Se Satura X Geom Shallo X FAC-N Raisec Frost-	r-Stained Leaves (B9)(MLRA 1,2,4A,4B) age Patterns (B10) eason Water Table (C2) ation Visible on Aerial Imagery (C9) orphic Position (D2) w Aquitard (D3) eutral Test (D5) d Ant Mounds (D6)(LRR A) Heave Hummocks (D7)
Wetland I Primary Ir  Surface High V Satura Water Sedim Drift I Algal I Iron D Surface Inund Sparse Field Obse Surface W Water Tal Saturation (includes ca	Hydrology Indicated andicators (minimulated Water (A1)) Water Table (A2) Action (A3) From Marks (B1) Deposits (B3) Mat or Crust (B4) Deposits (B5) Desoil Cracks (B6) Action Visible on Action V	erial Image ncave Surface	Wa	ter-Staine  xcept ML  t Crust (B:  uatic Inve  drogen Su  dized Rhiz  sence of le  cent Iron I  nted or So  ner (Expla	ed Leaves RA 1,2,4A, 11) rtebrates ( lifide Odor cospheres Reduced In Reduction tressed Platin in Rema	and 4B) (B13) (C1) along Livi ron (C4) in Tilled S ants (D1)(I	ng Roots (C3) oils (C6) .RR A)	Water Draina Dry-Se Satura X Geom Shallo X FAC-N Raisec Frost-	r-Stained Leaves (B9)(MLRA 1,2,4A,4B) age Patterns (B10) eason Water Table (C2) ation Visible on Aerial Imagery (C9) orphic Position (D2) w Aquitard (D3) eutral Test (D5) d Ant Mounds (D6)(LRR A) Heave Hummocks (D7)
Wetland I Primary Ir  Surfac High V Satura Water Sedim Drift I Algal I Iron D Surfac Inund Sparse Field Obse Surface W Water Tak Saturation (includes ca	Hydrology Indicated andicators (minimulated Water (A1)) Water Table (A2) Action (A3) From Marks (B1) Deposits (B3) Mat or Crust (B4) Deposits (B5) Desoil Cracks (B6) Action Visible on Action V	erial Image ncave Surface	Wa	ter-Staine  xcept ML  t Crust (B:  uatic Inve  drogen Su  dized Rhiz  sence of le  cent Iron I  nted or So  ner (Expla	ed Leaves RA 1,2,4A, 11) rtebrates ( lifide Odor cospheres Reduced In Reduction tressed Platin in Rema	and 4B) (B13) (C1) along Livi ron (C4) in Tilled S ants (D1)(I	ng Roots (C3) oils (C6) .RR A)	Water Draina Dry-Se Satura X Geom Shallo X FAC-N Raisec Frost-	r-Stained Leaves (B9)(MLRA 1,2,4A,4B) age Patterns (B10) eason Water Table (C2) ation Visible on Aerial Imagery (C9) orphic Position (D2) w Aquitard (D3) eutral Test (D5) d Ant Mounds (D6)(LRR A) Heave Hummocks (D7)
Wetland I Primary Ir  Surface Water Tak Saturation Surface W Water Tak Saturation Cincludes ca	Hydrology Indicated andicators (minimulated Water (A1)) Water Table (A2) Action (A3) From Marks (B1) Deposits (B3) Mat or Crust (B4) Deposits (B5) Desoil Cracks (B6) Action Visible on Action V	erial Image ncave Surface	Wa	ter-Staine  xcept ML  t Crust (B:  uatic Inve  drogen Su  dized Rhiz  sence of le  cent Iron I  nted or So  ner (Expla	ed Leaves RA 1,2,4A, 11) rtebrates ( lifide Odor cospheres Reduced In Reduction tressed Platin in Rema	and 4B) (B13) (C1) along Livi ron (C4) in Tilled S ants (D1)(I	ng Roots (C3) oils (C6) .RR A)	Water Draina Dry-Se Satura X Geom Shallo X FAC-N Raisec Frost-	r-Stained Leaves (B9)(MLRA 1,2,4A,4B) age Patterns (B10) eason Water Table (C2) ation Visible on Aerial Imagery (C9) orphic Position (D2) w Aquitard (D3) eutral Test (D5) d Ant Mounds (D6)(LRR A) Heave Hummocks (D7)

Project/Site: Port Westward Renewable Diesel Refinery Applicant/Owner: Next Energy Group, Inc. State: OR Investigator(s): Sue Brady Section, Township, F Landform (hillslope, terrace, etc.): Flats Local relief (concave) Subregion (LRR): Northwest Forests & Coast (LRR A) Soil Map Unit Name: Udipsamments, nearly level, protected Are climatic/hydrologic conditions on the site typical for thi Are Vegetation, Soil, or Hydrology significantly dis Are Vegetation, Soil, or Hydrology naturally problem  SUMMARY OF FINDINGS - Attach site map showing in Hydrophytic Vegetation Present? Yes Hydric Soil Present? No Wetland Hydrology Present? No Remarks:	Range: T8N R4W ve, convex, none Lat: 4 d NWI cl s time of year? sturbed? ematic?	): concave 6.1807660 I lassification: Yes (if no, exp	none plain in Remark Are "Normal C (if needed, exp transects, im	ircumstances" present? <u>Yes</u> plain any answers in Remarks.)
VEGETATION – Use scientific names of plants.  Tree Stratum (Plot size: _0 )  1. 2. 3. 4.	Absolute % Cover  30 50 520	Dominant Species?  Yes Yes No	Indicator Status  FACW FAC OBL	Dominance Test worksheet:  Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)  Total Number of Dominant Species Across All Strata: 3 (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: 66 (A/B)  Prevalence Index worksheet:  Total % Cover of: Multiply by: OBL species 5 x 1 = 5 FACW species 30 x 2 = 60 FAC species 50 x 3 = 150 FACU species 20 x 4 = 80 UPL species 0 x 5 = 0 Column Totals: 105 (A) 295 (B)  Prevalence Index = B/A = 2.81
4. <u>Daucas carota</u> 5. 6. 7. 8. 9. 10. 11.	<u>20</u>	<u>Yes</u>	FACU	Hydrophytic Vegetation Indicators:  1 — Rapid Test for Hydrophytic Vegetation  X 2 — Dominance Test > 50%  X 3 - Prevalence Index is ≤ 3.0¹  4 - Morphological Adaptions¹ (Provide supporting data in Remarks or on a separate sheet)  5 — Wetland Non-Vascular Plants¹  Problematic Hydrophytic Vegetation¹ (Explain)  ¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
% Bare Ground in Herb Stratum: <u>10</u> Remarks:				Hydrophytic Vegetation Present? Yes

SOIL Sampling Point: <u>46a</u>

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

**Redox Features** 

Matrix

(inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc²	Texture		Remarks
<u>0-5</u>	10YR 3/3	<u>100</u>					Silty Clay Loam		
<u>5-17</u>	10YR 3/2	<u>100</u>					Silty Clay Loam		
<u>17-25</u>	10YR 3/2	<u>97</u>	10YR 4/6	<u>3</u>	<u>C</u>	<u>M</u>	Silty Clay Loam		
1Tunos C-	Consontration D	-Donlotion	DM-Dadusad M	atrix CC-4	Covered	r Cootod (	and Crains 21 a	acation. Di	-Doro Lining M-Matrix
-Type: C=	-concentration, D	=Depletior	n, RM=Reduced M	atrix, CS=0	Lovered o	r Coated S	and GrainsLC	ocation: Pi	L=Pore Lining, M=Matrix
Hydric So	il Indicators: (App	plicable to	all LRRs, unless of	therwise i	noted.)			Indicato	rs for Problematic Hydric Soils <sup>3</sup> :
Histos	sol (A1)		Sa	ndy Redo	x (S5)			2 cr	m Muck (A10)
	Epipedon (A2)		· <u></u>	ripped Ma					l Parent Material (TF2)
	Histic (A3)					l (F1) (exc	ept MLRA 1)		ry Shallow Dark Surface (TF12)
l ——	ogen Sulfide (A4)			-	ed Matrix		<b>- p</b> - ,		ner (Explain in Remarks)
	eted Below Dark S	urface (A1		epleted M		(/			ici (Explain in Nemarks)
Ī	Dark Surface (A12				Surface (F	<b>6</b> )		3Indicat	tors of hydrophytic vegetation and
l —	/ Mucky Mineral (	•			ark Surface	,			d hydrology must be present, unless
l — ·		-		•					ed or problematic.
	/ Gleyed Matrix (S		KE	dox Depr	essions (F	3)			
	e Layer (if presen	nt):							
Type:									0.11.0
Depth (in	ches): <u>0</u>							Hyaric	Soil Present? No
Remarks:									
VDROLOG	·v								
		-0							
	Hydrology Indicat		equired: check all	that annly	<i>(</i> )			Secondary	/ Indicators (two or more required)
<b>Wetland I</b> Primary Ir	Hydrology Indicat ndicators (minimu		equired; check all						ndicators (two or more required)
Wetland I Primary Ir Surfac	Hydrology Indicat ndicators (minimu ce Water (A1)		Wa	iter-Staine	ed Leaves		9	Water	-Stained Leaves (B9)(MLRA 1,2,4A,4B)
Wetland In Primary In Surface High V	Hydrology Indicat ndicators (minimu ce Water (A1) Water Table (A2)		Wa	ter-Staine	ed Leaves (		-	Water	-Stained Leaves (B9)(MLRA 1,2,4A,4B) age Patterns (B10)
Wetland I Primary IrSurfacHigh VSatura	Hydrology Indicated indicators (minimuse Water (A1) Water Table (A2) ation (A3)		Wa ( <b>e</b> Sal	ter-Staine xcept ML t Crust (B2	ed Leaves ( RA 1,2,4A,	and 4B)	- - -	Water Draina Dry-Se	r-Stained Leaves (B9)(MLRA 1,2,4A,4B) age Patterns (B10) eason Water Table (C2)
Wetland I Primary IrSurfacHigh VSatura	Hydrology Indicat ndicators (minimu ce Water (A1) Water Table (A2)		Wa ( <b>e</b> Sal	ter-Staine xcept ML t Crust (B2	ed Leaves (	and 4B)	- - - -	Water Draina Dry-Se	-Stained Leaves (B9)(MLRA 1,2,4A,4B) age Patterns (B10)
Wetland I Primary IrSurfacHigh \SaturaWater	Hydrology Indicated indicators (minimuse Water (A1) Water Table (A2) ation (A3)	m of one r	Wa ( <b>e</b> Sal Aqı	xcept ML t Crust (B2 uatic Inve	ed Leaves ( RA 1,2,4A,	and 4B)	- - -	Water Draina Dry-Se Satura	r-Stained Leaves (B9)(MLRA 1,2,4A,4B) age Patterns (B10) eason Water Table (C2)
Wetland I Primary Ir Surface High V Satura Water Sedim	Hydrology Indicated indicators (minimuste Water (A1) Water Table (A2) Action (A3) F Marks (B1)	m of one r	Wa ( <b>e</b> Sal Aqı Hyo	xcept ML t Crust (B2 uatic Inve	ed Leaves ( RA 1,2,4A, L1) rtebrates ( Ifide Odor	(B13) (C1)	- - -	Water Draina Dry-Se Satura	r-Stained Leaves (B9)(MLRA 1,2,4A,4B) age Patterns (B10) eason Water Table (C2) ation Visible on Aerial Imagery (C9)
Wetland I Primary Ir Surfac High V Satura Water Sedim Drift I	Hydrology Indicated indicators (minimuse Water (A1) Water Table (A2) ation (A3) Marks (B1) Ment Deposits (B2)	m of one r	Wa (e Sal Aq Hyo Oxi	xcept ML xcept ML t Crust (B: uatic Inve drogen Su	ed Leaves ( RA 1,2,4A, L1) rtebrates ( Ifide Odor	and 4B) (B13) (C1) along Livi	- - - -	Water Draina Dry-Se Satura X Geome Shallo	r-Stained Leaves (B9)(MLRA 1,2,4A,4B) age Patterns (B10) asson Water Table (C2) ation Visible on Aerial Imagery (C9) orphic Position (D2)
Wetland I Primary Ir Surfac High V Satura Water Sedim Drift C Algal I	Hydrology Indicated adicators (minimulated Water (A1) Water Table (A2) ation (A3) or Marks (B1) bent Deposits (B2) Deposits (B3)	m of one r	Wa Sal Aqi Hyu Oxi Pre	xcept ML t Crust (B2 uatic Inve drogen Su dized Rhiz	ed Leaves ( RA 1,2,4A, L1) rtebrates ( Ifide Odor zospheres	(B13) (C1) along Livi	- - - - ng Roots (C3)	Water Draina Dry-Se Satura X Geome Shallo FAC-N	r-Stained Leaves (B9)(MLRA 1,2,4A,4B) age Patterns (B10) asson Water Table (C2) ation Visible on Aerial Imagery (C9) arrhic Position (D2) w Aquitard (D3)
Wetland I Primary Ir Surfac High V Satura Water Sedim Drift I Algal I	Hydrology Indicated Indicators (minimulated Water (A1) Water Table (A2) Indicators (A3) Indicators (B1) Indicators (B1) Indicators (B2) Indicators (B3) Indicators (B4) Indicators (B4)	m of one r	WaSalAqıHyoOxiPre	xcept ML t Crust (B2 uatic Inve drogen Su dized Rhiz esence of I	ed Leaves ( RA 1,2,4A, L1) rtebrates ( Ifide Odor cospheres Reduced Ir	and 4B) (B13) (C1) along Livi on (C4) in Tilled S		Water Draina Dry-Se Satura X Geome Shallo FAC-N Raisec	r-Stained Leaves (B9)(MLRA 1,2,4A,4B) age Patterns (B10) eason Water Table (C2) ation Visible on Aerial Imagery (C9) orphic Position (D2) w Aquitard (D3) eutral Test (D5) If Ant Mounds (D6)(LRR A)
Wetland I Primary Ir Surfac High V Satura Water Sedim Drift I Algal I Iron D Surfac	Hydrology Indicated Indicators (minimulated Water (A1) Water Table (A2) Action (A3) F Marks (B1) Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5)	m of one r	Wa	xcept ML t Crust (B: uatic Inve drogen Su idized Rhiz esence of I	ed Leaves ( RA 1,2,4A, L1) rtebrates ( Ifide Odor zospheres Reduced Ir Reduction cressed Pla	B13) (C1) along Livi on (C4) in Tilled S		Water Draina Dry-Se Satura X Geome Shallo FAC-N Raisec	r-Stained Leaves (B9)(MLRA 1,2,4A,4B) age Patterns (B10) eason Water Table (C2) ation Visible on Aerial Imagery (C9) orphic Position (D2) w Aquitard (D3) eutral Test (D5)
Wetland I Primary Ir  Surfac High V Satura Water Sedim Drift I Algal I Iron D Surfac	Hydrology Indicated andicators (minimulated Water (A1)) Water Table (A2) action (A3) or Marks (B1) Deposits (B3) Mat or Crust (B4) Deposits (B5) Description (B6) Description (B	m of one r	Wa	xcept ML t Crust (B: uatic Inve drogen Su idized Rhiz esence of I	ed Leaves ( RA 1,2,4A, L1) rtebrates ( Ifide Odor cospheres Reduced Ir	B13) (C1) along Livi on (C4) in Tilled S		Water Draina Dry-Se Satura X Geome Shallo FAC-N Raisec	r-Stained Leaves (B9)(MLRA 1,2,4A,4B) age Patterns (B10) eason Water Table (C2) ation Visible on Aerial Imagery (C9) orphic Position (D2) w Aquitard (D3) eutral Test (D5) If Ant Mounds (D6)(LRR A)
Wetland I Primary Ir  Surfac High V Satura Water Sedim Drift E Algal I Iron D Surfac Inund Sparse	Hydrology Indicated Indicators (minimulated Water (A1) Water Table (A2) Action (A3) Marks (B1) Ment Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) Mat or Crust (B6) Mation Visible on Action Visible Core	m of one r	Wa	xcept ML t Crust (B: uatic Inve drogen Su idized Rhiz esence of I	ed Leaves ( RA 1,2,4A, L1) rtebrates ( Ifide Odor zospheres Reduced Ir Reduction cressed Pla	B13) (C1) along Livi on (C4) in Tilled S		Water Draina Dry-Se Satura X Geome Shallo FAC-N Raisec	r-Stained Leaves (B9)(MLRA 1,2,4A,4B) age Patterns (B10) eason Water Table (C2) ation Visible on Aerial Imagery (C9) orphic Position (D2) w Aquitard (D3) eutral Test (D5) If Ant Mounds (D6)(LRR A)
Wetland I Primary Ir  Surfac High V Satura Water Sedim Drift E Algal I Iron D Surfac Inund Sparse Field Obse	Hydrology Indicated indicators (minimulated Water (A1)) Water Table (A2) Action (A3) Marks (B1) Ment Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) Mat or Crust (B6) Mation Visible on Action Visible on Action Visible on Actions:	m of one r erial Image ncave Surfa	Wa	iter-Staine xcept ML t Crust (B: uatic Inve- drogen Su dized Rhizesence of I esence of I cent Iron I inted or Si ner (Explain	ed Leaves ( RA 1,2,4A, L1) rtebrates ( Ifide Odor zospheres Reduced Ir Reduction cressed Pla	B13) (C1) along Livi on (C4) in Tilled S		Water Draina Dry-Se Satura X Geome Shallo FAC-N Raisec	r-Stained Leaves (B9)(MLRA 1,2,4A,4B) age Patterns (B10) eason Water Table (C2) ation Visible on Aerial Imagery (C9) orphic Position (D2) w Aquitard (D3) eutral Test (D5) If Ant Mounds (D6)(LRR A)
Wetland I Primary Ir  Surfac High V Satura Water Sedim Drift I Algal I Iron D Surfac Inund Sparse Field Obse Surface W	Hydrology Indicated Indicators (minimulated Water (A1) Water Table (A2) Action (A3) Marks (B1) Ment Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) Mat or Crust (B6) Mation Visible on Action Visible Core	erial Image ncave Surfa	Wa	iter-Staine xcept ML t Crust (B: uatic Inveited Rhizesence of I cent Iron I inted or Si ner (Explain	ed Leaves ( RA 1,2,4A, L1) rtebrates ( Ifide Odor zospheres Reduced Ir Reduction cressed Pla	B13) (C1) along Livi on (C4) in Tilled S		Water Draina Dry-Se Satura X Geome Shallo FAC-N Raisec	r-Stained Leaves (B9)(MLRA 1,2,4A,4B) age Patterns (B10) eason Water Table (C2) ation Visible on Aerial Imagery (C9) orphic Position (D2) w Aquitard (D3) eutral Test (D5) If Ant Mounds (D6)(LRR A)
Wetland I Primary Ir  Surface High V Satura Water Sedim Drift I Algal I Iron D Surface Inund Sparse Surface W Water Tab	Hydrology Indicated indicators (minimulated Water (A1)) Water Table (A2) Action (A3) Marks (B1) Ment Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) De Soil Cracks (B6) Action Visible on Action Visible Octoor Visible	erial Image ncave Surfa	Wa	iter-Staine xcept ML t Crust (B: uatic Inve drogen Su dized Rhiz esence of I cent Iron I inted or Si ner (Explai	ed Leaves ( RA 1,2,4A, L1) rtebrates ( Ifide Odor zospheres Reduced Ir Reduction cressed Pla	B13) (C1) along Livi on (C4) in Tilled S	ng Roots (C3) oils (C6) LRR A)	Water Draina Dry-Se Satura X Geome Shallo FAC-N Raisec Frost-	r-Stained Leaves (B9)(MLRA 1,2,4A,4B) age Patterns (B10) beason Water Table (C2) bition Visible on Aerial Imagery (C9) borphic Position (D2) w Aquitard (D3) eutral Test (D5) d Ant Mounds (D6)(LRR A) Heave Hummocks (D7)
Wetland I Primary Ir  Surface High V Satura Water Sedim Drift I Algal I Iron D Surface Inund Sparse Surface W Water Tal Saturation (includes ca	Hydrology Indicated andicators (minimulated Water (A1)) Water Table (A2) Action (A3) From Marks (B1) Deposits (B3) Mat or Crust (B4) Deposits (B5) Desoil Cracks (B6) Action Visible on Action V	erial Image ncave Surfa	Wa	iter-Staine xcept ML t Crust (B: uatic Inve drogen Su dized Rhiz esence of I cent Iron I inted or Si ner (Explai	ed Leaves ( RA 1,2,4A, I1) rtebrates ( Ifide Odor zospheres Reduced Ir Reduction cressed Pla in in Rema	and 4B) (B13) (C1) along Livi ron (C4) in Tilled S ants (D1)(I	ng Roots (C3)  oils (C6)  _RR A)  Wetland Hydro	Water Draina Dry-Se Satura X Geome Shallo FAC-N Raisec Frost-	r-Stained Leaves (B9)(MLRA 1,2,4A,4B) age Patterns (B10) beason Water Table (C2) bition Visible on Aerial Imagery (C9) borphic Position (D2) w Aquitard (D3) eutral Test (D5) d Ant Mounds (D6)(LRR A) Heave Hummocks (D7)
Wetland I Primary Ir  Surface High V Satura Water Sedim Drift I Algal I Iron D Surface Inund Sparse Surface W Water Tal Saturation (includes ca	Hydrology Indicated andicators (minimulated Water (A1)) Water Table (A2) Action (A3) From Marks (B1) Deposits (B3) Mat or Crust (B4) Deposits (B5) Desoil Cracks (B6) Action Visible on Action V	erial Image ncave Surfa	Wa	iter-Staine xcept ML t Crust (B: uatic Inve drogen Su dized Rhiz esence of I cent Iron I inted or Si ner (Explai	ed Leaves ( RA 1,2,4A, I1) rtebrates ( Ifide Odor zospheres Reduced Ir Reduction cressed Pla in in Rema	and 4B) (B13) (C1) along Livi ron (C4) in Tilled S ants (D1)(I	ng Roots (C3) oils (C6) LRR A)	Water Draina Dry-Se Satura X Geome Shallo FAC-N Raisec Frost-	r-Stained Leaves (B9)(MLRA 1,2,4A,4B) age Patterns (B10) beason Water Table (C2) bition Visible on Aerial Imagery (C9) borphic Position (D2) w Aquitard (D3) eutral Test (D5) d Ant Mounds (D6)(LRR A) Heave Hummocks (D7)
Wetland I Primary Ir  Surface High V Satura Water Sedim Drift I Algal I Iron D Surface Inund Sparse Surface W Water Tal Saturation (includes ca	Hydrology Indicated andicators (minimulated Water (A1)) Water Table (A2) Action (A3) From Marks (B1) Deposits (B3) Mat or Crust (B4) Deposits (B5) Desoil Cracks (B6) Action Visible on Action V	erial Image ncave Surfa	Wa	iter-Staine xcept ML t Crust (B: uatic Inve drogen Su dized Rhiz esence of I cent Iron I inted or Si ner (Explai	ed Leaves ( RA 1,2,4A, I1) rtebrates ( Ifide Odor zospheres Reduced Ir Reduction cressed Pla in in Rema	and 4B) (B13) (C1) along Livi ron (C4) in Tilled S ants (D1)(I	ng Roots (C3)  oils (C6)  _RR A)  Wetland Hydro	Water Draina Dry-Se Satura X Geome Shallo FAC-N Raisec Frost-	r-Stained Leaves (B9)(MLRA 1,2,4A,4B) age Patterns (B10) beason Water Table (C2) bition Visible on Aerial Imagery (C9) borphic Position (D2) w Aquitard (D3) eutral Test (D5) d Ant Mounds (D6)(LRR A) Heave Hummocks (D7)
Wetland I Primary Ir  Surfac High V Satura Water Sedim Drift I Algal I Iron D Surfac Inund Sparse Field Obse Surface W Water Tak Saturation (includes ca	Hydrology Indicated andicators (minimulated Water (A1)) Water Table (A2) Action (A3) From Marks (B1) Deposits (B3) Mat or Crust (B4) Deposits (B5) Desoil Cracks (B6) Action Visible on Action V	erial Image ncave Surfa	Wa	iter-Staine xcept ML t Crust (B: uatic Inve drogen Su dized Rhiz esence of I cent Iron I inted or Si ner (Explai	ed Leaves ( RA 1,2,4A, I1) rtebrates ( Ifide Odor zospheres Reduced Ir Reduction cressed Pla in in Rema	and 4B) (B13) (C1) along Livi ron (C4) in Tilled S ants (D1)(I	ng Roots (C3)  oils (C6)  _RR A)  Wetland Hydro	Water Draina Dry-Se Satura X Geome Shallo FAC-N Raisec Frost-	r-Stained Leaves (B9)(MLRA 1,2,4A,4B) age Patterns (B10) beason Water Table (C2) bition Visible on Aerial Imagery (C9) borphic Position (D2) w Aquitard (D3) eutral Test (D5) d Ant Mounds (D6)(LRR A) Heave Hummocks (D7)
Wetland I Primary Ir  Surface High V Satura Water Sedim Drift I Algal I Iron D Surface Inund Sparse Surface W Water Tal Saturation (includes ca	Hydrology Indicated andicators (minimulated Water (A1)) Water Table (A2) Action (A3) From Marks (B1) Deposits (B3) Mat or Crust (B4) Deposits (B5) Desoil Cracks (B6) Action Visible on Action V	erial Image ncave Surfa	Wa	iter-Staine xcept ML t Crust (B: uatic Inve drogen Su dized Rhiz esence of I cent Iron I inted or Si ner (Explai	ed Leaves ( RA 1,2,4A, I1) rtebrates ( Ifide Odor zospheres Reduced Ir Reduction cressed Pla in in Rema	and 4B) (B13) (C1) along Livi ron (C4) in Tilled S ants (D1)(I	ng Roots (C3)  oils (C6)  _RR A)  Wetland Hydro	Water Draina Dry-Se Satura X Geome Shallo FAC-N Raisec Frost-	r-Stained Leaves (B9)(MLRA 1,2,4A,4B) age Patterns (B10) beason Water Table (C2) bition Visible on Aerial Imagery (C9) borphic Position (D2) w Aquitard (D3) eutral Test (D5) d Ant Mounds (D6)(LRR A) Heave Hummocks (D7)
Wetland I Primary Ir  Surfac High V Satura Water Sedim Drift I Algal I Iron D Surfac Inund Sparse Field Obse Surface W Water Tak Saturation (includes ca	Hydrology Indicated andicators (minimulated Water (A1)) Water Table (A2) Action (A3) From Marks (B1) Deposits (B3) Mat or Crust (B4) Deposits (B5) Desoil Cracks (B6) Action Visible on Action V	erial Image ncave Surfa	Wa	iter-Staine xcept ML t Crust (B: uatic Inve drogen Su dized Rhiz esence of I cent Iron I inted or Si ner (Explai	ed Leaves ( RA 1,2,4A, I1) rtebrates ( Ifide Odor zospheres Reduced Ir Reduction cressed Pla in in Rema	and 4B) (B13) (C1) along Livi ron (C4) in Tilled S ants (D1)(I	ng Roots (C3)  oils (C6)  _RR A)  Wetland Hydro	Water Draina Dry-Se Satura X Geome Shallo FAC-N Raisec Frost-	r-Stained Leaves (B9)(MLRA 1,2,4A,4B) age Patterns (B10) beason Water Table (C2) bition Visible on Aerial Imagery (C9) borphic Position (D2) w Aquitard (D3) eutral Test (D5) d Ant Mounds (D6)(LRR A) Heave Hummocks (D7)
Wetland I Primary Ir  Surfac High V Satura Water Sedim Drift I Algal I Iron D Surfac Inund Sparse Field Obse Surface W Water Tak Saturation (includes ca	Hydrology Indicated andicators (minimulated Water (A1)) Water Table (A2) Action (A3) From Marks (B1) Deposits (B3) Mat or Crust (B4) Deposits (B5) Desoil Cracks (B6) Action Visible on Action V	erial Image ncave Surfa	Wa	iter-Staine xcept ML t Crust (B: uatic Inve drogen Su dized Rhiz esence of I cent Iron I inted or Si ner (Explai	ed Leaves ( RA 1,2,4A, I1) rtebrates ( Ifide Odor zospheres Reduced Ir Reduction cressed Pla in in Rema	and 4B) (B13) (C1) along Livi ron (C4) in Tilled S ants (D1)(I	ng Roots (C3)  oils (C6)  _RR A)  Wetland Hydro	Water Draina Dry-Se Satura X Geome Shallo FAC-N Raisec Frost-	r-Stained Leaves (B9)(MLRA 1,2,4A,4B) age Patterns (B10) beason Water Table (C2) bition Visible on Aerial Imagery (C9) borphic Position (D2) w Aquitard (D3) eutral Test (D5) d Ant Mounds (D6)(LRR A) Heave Hummocks (D7)
Wetland I Primary Ir  Surface Water Tak Saturat  Mater Tak Saturation  Drift I  Algal I  Iron D  Surface Water Tak Saturation (includes ca	Hydrology Indicated andicators (minimulated Water (A1)) Water Table (A2) Action (A3) From Marks (B1) Deposits (B3) Mat or Crust (B4) Deposits (B5) Desoil Cracks (B6) Action Visible on Action V	erial Image ncave Surfa	Wa	iter-Staine xcept ML t Crust (B: uatic Inve drogen Su dized Rhiz esence of I cent Iron I inted or Si ner (Explai	ed Leaves ( RA 1,2,4A, I1) rtebrates ( Ifide Odor zospheres Reduced Ir Reduction cressed Pla in in Rema	and 4B) (B13) (C1) along Livi ron (C4) in Tilled S ants (D1)(I	ng Roots (C3)  oils (C6)  _RR A)  Wetland Hydro	Water Draina Dry-Se Satura X Geome Shallo FAC-N Raisec Frost-	r-Stained Leaves (B9)(MLRA 1,2,4A,4B) age Patterns (B10) beason Water Table (C2) bition Visible on Aerial Imagery (C9) borphic Position (D2) w Aquitard (D3) eutral Test (D5) d Ant Mounds (D6)(LRR A) Heave Hummocks (D7)

Project/Site: Port Westward Renewable Diesel Refinery Applicant/Owner: Next Energy Group, Inc. State: OR Investigator(s): Sue Brady Section, Township, Investigator (hillslope, terrace, etc.): Flats Local relief (concave) Subregion (LRR): Northwest Forests & Coast (LRR A) Soil Map Unit Name: Udipsamments, nearly level, protected Are climatic/hydrologic conditions on the site typical for this Are Vegetation, Soil, or Hydrology significantly dis Are Vegetation, Soil, or Hydrology naturally problem SUMMARY OF FINDINGS – Attach site map showing Hydrophytic Vegetation Present? Yes Hydric Soil Present? Yes Wetland Hydrology Present? Yes Remarks:	Range: T8N R4W ve, convex, none Lat: 40 MWI cl is time of year? Y sturbed? ematic?	): concave 9 6.1719930 Liassification: F Yes (if no, expl	lain in Remark Are "Normal C (if needed, exp :ransects, im	s.) ircumstances" present? <u>Yes</u> olain any answers in Remarks.)
VEGETATION – Use scientific names of plants.           Tree Stratum (Plot size: _0 )         )           1.         2.           3.         4.           5.         Total Cover = 0           Herb Stratum (Plot size: _4 m² )         1.           1. Phalaris arundinacea         2. Poa palustris           3.         4.           5.         6.           7.         8.           9.         10.           11.         11.	Absolute % Cover	Dominant Species? Yes Yes	Indicator Status  FACW FAC	Dominance Test worksheet:Number of Dominant SpeciesThat Are OBL, FACW, or FAC: $\underline{2}$ (A)Total Number of Dominant $\underline{2}$ (B)Percent of Dominant SpeciesThat Are OBL, FACW, or FAC: $\underline{100}$ (A/B)Prevalence Index worksheet:Total % Cover of:Multiply by:OBL species $\underline{0}$ x 1 = $\underline{0}$ FACW species $\underline{60}$ x 2 = $\underline{120}$ FAC species $\underline{40}$ x 3 = $\underline{120}$ FACU species $\underline{0}$ x 4 = $\underline{0}$ UPL species $\underline{0}$ x 5 = $\underline{0}$ Column Totals: $\underline{100}$ (A) $\underline{240}$ (B)Prevalence Index = B/A = $\underline{2.40}$ Hydrophytic Vegetation Indicators: $\underline{X}$ 1 -Rapid Test for Hydrophytic Vegetation $\underline{X}$ 2 - Dominance Test >50% $\underline{X}$ 3 - Prevalence Index is ≤ 3.0¹ $\underline{A}$ - Morphological Adaptions¹ (Provide supporting data in Remarks or on a separate sheet)
Total Cover = 100  Woody Vine Stratum (Plot size: 0 )  1. 2. Total Cover = 0  % Bare Ground in Herb Stratum: 10				5 – Wetland Non-Vascular Plants¹ Problematic Hydrophytic Vegetation¹ (Explain)  ¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.  Hydrophytic Vegetation Present? Yes
Remarks:				nyurophytic vegetation Present? <u>Yes</u>

SOIL Sampling Point: <u>47</u>

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

Redox Features

(inches) <u>0-2</u>	10YR 3/3	70 100	Color (Illoist)	70	туре	LOC	Silty Clay Loam		reliidiks	
<u>2-6</u>	10YR 3/2	<u>95</u>	10YR 4/4	<u>5</u> 5	<u>C</u>	<u>M</u>	Silty Clay Loam			
<u>6-18</u>	<u>10YR 3/2</u>	<u>95</u>	<u>10YR 4/6</u>	<u>5</u>	<u>C</u>	<u>RC</u>	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 So	il Indicators: (App	olicable to	all LRRs, unless ot	herwise r	noted.)			Indicato	rs for Problematic Hydric Soils <sup>3</sup> :	
	sol (A1)		Sa	ndy Redo	x (S5)			2 cr	m Muck (A10)	
	Epipedon (A2)		·	ipped Ma					l Parent Material (TF2)	
Black	Histic (A3)		Lo	amy Mucl	ky Minera	l (F1) ( <b>exc</b> e	ept MLRA 1)		ry Shallow Dark Surface (TF12)	
	gen Sulfide (A4)		· · · · · · · · · · · · · · · · · · ·		ed Matrix	(F2)		Oth	er (Explain in Remarks)	
	ted Below Dark S		·	pleted M						
	Dark Surface (A12	-	·		Surface (F	-			ors of hydrophytic vegetation and	
	/ Mucky Mineral (			•	ark Surface				d hydrology must be present, unless ed or problematic.	
-	Gleyed Matrix (S		Re	dox Depr	essions (F	3)		uistuib	ed of problematic.	
	e Layer (if presen	it):								
Type: Depth (in	ches). O							Hvdric	Soil Present? Yes	
Remarks:	· <del>-</del>									
Remarks:										
YDROLOG	GY									
Wetland I	Hydrology Indicat									
	Hydrology Indicat		equired; check all	that apply	·)			Secondary	nIndicators (two or more required)	
Wetland I Primary In	Hydrology Indicat				v) ed Leaves (	(B9)			r Indicators (two or more required) -Stained Leaves (B9)(MLRA 1,2,4A,4B)	
Wetland In Primary InSurface	Hydrology Indicat ndicators (minimu		Wa	ter-Staine		. ,		Water	. ,	
Wetland In Primary In Surface High V	Hydrology Indicat adicators (minimu ce Water (A1)		Wa	ter-Staine	ed Leaves (	. ,		Water Draina	-Stained Leaves (B9)(MLRA 1,2,4A,4B)	
Wetland I Primary In Surfac High V	Hydrology Indicat ndicators (minimu se Water (A1) Water Table (A2)		Wa ( <b>e</b> Salt	ter-Staine xcept MLI : Crust (B1	ed Leaves (	and 4B)		Water Draina Dry-Se	-Stained Leaves (B9)(MLRA 1,2,4A,4B) age Patterns (B10)	
Wetland I Primary InSurfacHigh VSaturaWater	Hydrology Indicat ndicators (minimu se Water (A1) Water Table (A2) ation (A3)	m of one r	Wa ( <b>e</b> Sali Aqu	ter-Staine xcept MLI : Crust (B2 uatic Inve	ed Leaves ( RA 1,2,4A,	and 4B)		Water Draina Dry-Se Satura	-Stained Leaves (B9)(MLRA 1,2,4A,4B) age Patterns (B10) ason Water Table (C2)	
Wetland I Primary In Surfac High V Satura Water Sedim	Hydrology Indicated indicators (minimuste Water (A1) Water Table (A2) Action (A3) Marks (B1)	m of one r	Wa (e Salt Aqu Hyo	ter-Staine xcept MLI : Crust (B1 uatic Invel drogen Su	ed Leaves ( RA 1,2,4A, L1) rtebrates ( Ifide Odor	(B13) (C1)	ng Roots (C3)	Water Draina Dry-Se Satura X Geom	r-Stained Leaves (B9)(MLRA 1,2,4A,4B) age Patterns (B10) asson Water Table (C2) ation Visible on Aerial Imagery (C9)	
Wetland I Primary In Surfac High V Satura Water Sedim Drift E	Hydrology Indicated indicators (minimuse Water (A1) Water Table (A2) Action (A3) Marks (B1) Ment Deposits (B2)	m of one r	Wa (e Salt Aqu Hyo X_Oxio	ter-Staine xcept MLI : Crust (B2 uatic Inver drogen Su	ed Leaves ( RA 1,2,4A, L1) rtebrates ( Ifide Odor	(B13) (C1) along Livir		Water Draina Dry-Se Satura X_Geom Shallo	r-Stained Leaves (B9)(MLRA 1,2,4A,4B) rege Patterns (B10) reason Water Table (C2) rition Visible on Aerial Imagery (C9) orphic Position (D2)	
Wetland I Primary In Surfac High V Satura Water Sedim Drift C Algal I	Hydrology Indicated indicators (minimulated Water (A1) Water Table (A2) Aution (A3) Marks (B1) Ment Deposits (B2) Deposits (B3)	m of one r	Wa Sali Aqu Hyo Pre	ter-Staine xcept MLI : Crust (B1 uatic Inver drogen Su dized Rhiz sence of I	ed Leaves ( RA 1,2,4A, L1) rtebrates ( Ifide Odor	(B13) (C1) along Livir	ng Roots (C3)	Water Draina Dry-Se Satura X Geom Shallo X FAC-No	-Stained Leaves (B9)(MLRA 1,2,4A,4B) age Patterns (B10) eason Water Table (C2) tion Visible on Aerial Imagery (C9) orphic Position (D2) w Aquitard (D3)	
Wetland I Primary In Surfac High V Satura Water Sedim Drift E Algal I	Hydrology Indicated indicators (minimuster Water (A1) Water Table (A2) Action (A3) Marks (B1) Ment Deposits (B2) Deposits (B3) Wat or Crust (B4)	m of one r	Wa (e Salt Aqu Hyo Pre Rec	ter-Staine xcept MLI : Crust (B2 uatic Inver- drogen Su dized Rhiz sence of I	ed Leaves ( RA 1,2,4A, L1) rtebrates ( Ifide Odor ospheres Reduced Ir	(B13) (C1) along Livir on (C4) in Tilled So	ng Roots (C3)	Water Draina Dry-Se Satura X Geom Shallo X FAC-No	r-Stained Leaves (B9)(MLRA 1,2,4A,4B) rage Patterns (B10) rason Water Table (C2) ration Visible on Aerial Imagery (C9) orphic Position (D2) w Aquitard (D3) reutral Test (D5)	
Wetland I Primary In Surfac High V Satura Water Sedim Drift D Algal I Iron D Surfac	Hydrology Indicated adicators (minimuse Water (A1) Water Table (A2) Action (A3) Marks (B1) Ment Deposits (B2) Deposits (B3) Mat or Crust (B4) Meposits (B5)	m of one r	WaSaltAquHyoYOxioPreRecStu	ter-Staine xcept MLI : Crust (B2 uatic Inver- drogen Su dized Rhiz sence of I cent Iron I	ed Leaves ( RA 1,2,4A, L1) rtebrates ( Ifide Odor ospheres Reduced Ir	(B13) (C1) along Livir ron (C4) in Tilled So	ng Roots (C3)	Water Draina Dry-Se Satura X Geom Shallo X FAC-No	r-Stained Leaves (B9)(MLRA 1,2,4A,4B) rage Patterns (B10) rason Water Table (C2) ration Visible on Aerial Imagery (C9) orphic Position (D2) w Aquitard (D3) reutral Test (D5) I Ant Mounds (D6)(LRR A)	
Wetland I Primary In Surfac High V Satura Water Sedim Drift D Algal I Iron D Surfac	Hydrology Indicated indicators (minimuse Water (A1) Water Table (A2) Action (A3) Marks (B1) Ment Deposits (B2) Deposits (B3) Mat or Crust (B4) Meposits (B5) Mes Soil Cracks (B6)	m of one r	Wa	ter-Staine xcept MLI : Crust (B2 uatic Inver- drogen Su dized Rhiz sence of I cent Iron I	ed Leaves ( RA 1,2,4A, L1) rtebrates ( Ifide Odor cospheres Reduced Ir Reduction cressed Pla	(B13) (C1) along Livir ron (C4) in Tilled So	ng Roots (C3)	Water Draina Dry-Se Satura X Geom Shallo X FAC-No	r-Stained Leaves (B9)(MLRA 1,2,4A,4B) rage Patterns (B10) rason Water Table (C2) ration Visible on Aerial Imagery (C9) orphic Position (D2) w Aquitard (D3) reutral Test (D5) I Ant Mounds (D6)(LRR A)	
Wetland I Primary In Surfac High V Satura Water Sedim Drift D Algal I Iron D Surfac	Hydrology Indicated indicators (minimulate Water (A1) Water Table (A2) Action (A3) Marks (B1) Ment Deposits (B2) Deposits (B3) Wat or Crust (B4) Meposits (B5) Mes Soil Cracks (B6) Action Visible on Action Visible Con	m of one r	Wa	ter-Staine xcept MLI : Crust (B2 uatic Inver- drogen Su dized Rhiz sence of I cent Iron I	ed Leaves ( RA 1,2,4A, L1) rtebrates ( Ifide Odor cospheres Reduced Ir Reduction cressed Pla	(B13) (C1) along Livir ron (C4) in Tilled So	ng Roots (C3)	Water Draina Dry-Se Satura X Geom Shallo X FAC-No	r-Stained Leaves (B9)(MLRA 1,2,4A,4B) rage Patterns (B10) rason Water Table (C2) ration Visible on Aerial Imagery (C9) orphic Position (D2) w Aquitard (D3) reutral Test (D5) I Ant Mounds (D6)(LRR A)	
Wetland I Primary In Surfac High V Satura Water Sedim Drift D Algal I Iron D Surfac Inund: Sparse Surface W	Hydrology Indicated indicators (minimuse Water (A1) Water Table (A2) Action (A3) Marks (B1) Ment Deposits (B2) Deposits (B3) Mat or Crust (B4) Meposits (B5) Meter Soil Cracks (B6) Mation Visible on Action Visible Octoor Visible	m of one r erial Image ncave Surfa	Wa	ter-Staine xcept MLI : Crust (B2 uatic Inver- drogen Su dized Rhiz sence of I cent Iron I nted or Stainer (Explainer)	ed Leaves ( RA 1,2,4A, L1) rtebrates ( Ifide Odor cospheres Reduced Ir Reduction cressed Pla	(B13) (C1) along Livir ron (C4) in Tilled So	ng Roots (C3)	Water Draina Dry-Se Satura X Geom Shallo X FAC-No	r-Stained Leaves (B9)(MLRA 1,2,4A,4B) rage Patterns (B10) rason Water Table (C2) ration Visible on Aerial Imagery (C9) orphic Position (D2) w Aquitard (D3) reutral Test (D5) I Ant Mounds (D6)(LRR A)	
Wetland I Primary In Surfac High V Satura Water Sedim Drift E Algal I Iron D Surfac Inund: Sparse Field Obse Surface W Water Tak	Hydrology Indicated indicators (minimulate Water (A1) Water Table (A2) Action (A3) Marks (B1) Ment Deposits (B2) Deposits (B3) Mat or Crust (B4) Meterosits (B5) Meterosits (B5) Meterosits (B6) Meterosits (B	m of one r erial Image ncave Surfa	Wa	ter-Staine  xcept MLI  Crust (B2  uatic Invertigen Sudized Rhiz  sence of If  tent Iron Inted or State (Explain  ches): 0  ches): 0  ches): 0	ed Leaves ( RA 1,2,4A, L1) rtebrates ( Ifide Odor cospheres Reduced Ir Reduction cressed Pla	(B13) (C1) along Livir ron (C4) in Tilled So	ng Roots (C3)	Water Draina Dry-Se Satura X Geom Shallo X FAC-No	r-Stained Leaves (B9)(MLRA 1,2,4A,4B) rage Patterns (B10) rason Water Table (C2) ration Visible on Aerial Imagery (C9) orphic Position (D2) w Aquitard (D3) reutral Test (D5) I Ant Mounds (D6)(LRR A)	
Wetland I Primary In Surface High V Satura Water Sedim Drift E Algal I Iron D Surface Inunda Sparse Surface W Water Tak Saturation	Hydrology Indicated indicators (minimulated Mater (A1)) Water Table (A2) Action (A3) Marks (B1) Ment Deposits (B2) Deposits (B3) Mat or Crust (B4) Meposits (B5) Meter Soil Cracks (B6) Meter Soil Cracks (B6) Meter Visible on Action Visible on Acti	m of one r erial Image ncave Surfa	Wa	ter-Staine  xcept MLI  Crust (B2  uatic Invertigen Sudized Rhiz  sence of If  tent Iron Inted or State (Explain  ches): 0  ches): 0  ches): 0	ed Leaves ( RA 1,2,4A, L1) rtebrates ( Ifide Odor cospheres Reduced Ir Reduction cressed Pla	(B13) (C1) along Livir ron (C4) in Tilled So	ng Roots (C3)	Water Draina Dry-Se Satura X Geom Shallo X FAC-Ne Raisec Frost-	r-Stained Leaves (B9)(MLRA 1,2,4A,4B) rage Patterns (B10) reason Water Table (C2) ration Visible on Aerial Imagery (C9) orphic Position (D2) w Aquitard (D3) reutral Test (D5) I Ant Mounds (D6)(LRR A) Heave Hummocks (D7)	
Wetland I Primary In Surface High V Satura Water Sedim Drift E Algal I Iron D Surface Inund: Sparse Surface W Water Tab Saturation (includes ca	Hydrology Indicated indicators (minimuse Water (A1) Water Table (A2) Action (A3) Marks (B1) Ment Deposits (B2) Deposits (B3) Mat or Crust (B4) Meposits (B5) Meter Soil Cracks (B6) Meter Visible on A Mely Vegetated Corrections: Water Present? No Meresent? No Meresent.	erial Image ncave Surfa	Wa	ter-Staine xcept MLI : Crust (B2 uatic Inver- drogen Su dized Rhiz sence of I sent Iron I nted or Stainer (Explainer ches): <u>0</u> ches): <u>0</u> ches): <u>0</u>	ed Leaves ( RA 1,2,4A, L1)  rtebrates ( Ifide Odor cospheres Reduced Ir Reduction cressed Pla in in Rema	and 4B) (B13) (C1) along Livir con (C4) in Tilled Sonts (D1)(L	ng Roots (C3) oils (C6) .RR A)	Water Draina Dry-Se Satura X Geom Shallo X FAC-Ne Raisec Frost-	r-Stained Leaves (B9)(MLRA 1,2,4A,4B) rage Patterns (B10) reason Water Table (C2) ration Visible on Aerial Imagery (C9) orphic Position (D2) w Aquitard (D3) reutral Test (D5) I Ant Mounds (D6)(LRR A) Heave Hummocks (D7)	
Wetland I Primary In Surface High V Satura Water Sedim Drift E Algal I Iron D Surface Inund: Sparse Surface W Water Tab Saturation (includes ca	Hydrology Indicated indicators (minimuse Water (A1) Water Table (A2) Action (A3) Marks (B1) Ment Deposits (B2) Deposits (B3) Mat or Crust (B4) Meposits (B5) Meter Soil Cracks (B6) Meter Visible on A Mely Vegetated Corrections: Water Present? No Meresent? No Meresent.	erial Image ncave Surfa	Wa	ter-Staine xcept MLI : Crust (B2 uatic Inver- drogen Su dized Rhiz sence of I sent Iron I nted or Stainer (Explainer ches): <u>0</u> ches): <u>0</u> ches): <u>0</u>	ed Leaves ( RA 1,2,4A, L1)  rtebrates ( Ifide Odor cospheres Reduced Ir Reduction cressed Pla in in Rema	and 4B) (B13) (C1) along Livir con (C4) in Tilled Sonts (D1)(L	ng Roots (C3) oils (C6) .RR A)	Water Draina Dry-Se Satura X Geom Shallo X FAC-Ne Raisec Frost-	r-Stained Leaves (B9)(MLRA 1,2,4A,4B) rage Patterns (B10) reason Water Table (C2) ration Visible on Aerial Imagery (C9) orphic Position (D2) w Aquitard (D3) reutral Test (D5) I Ant Mounds (D6)(LRR A) Heave Hummocks (D7)	
Wetland I Primary In Surface High V Satura Water Sedim Drift E Algal I Iron D Surface Inund: Sparse Surface W Water Tab Saturation (includes ca	Hydrology Indicated indicators (minimuse Water (A1) Water Table (A2) Action (A3) Marks (B1) Ment Deposits (B2) Deposits (B3) Mat or Crust (B4) Meposits (B5) Meter Soil Cracks (B6) Meter Visible on A Mely Vegetated Corrections: Water Present? No Meresent? No Meresent.	erial Image ncave Surfa	Wa	ter-Staine xcept MLI : Crust (B2 uatic Inver- drogen Su dized Rhiz sence of I sent Iron I nted or Stainer (Explainer ches): <u>0</u> ches): <u>0</u> ches): <u>0</u>	ed Leaves ( RA 1,2,4A, L1)  rtebrates ( Ifide Odor cospheres Reduced Ir Reduction cressed Pla in in Rema	and 4B) (B13) (C1) along Livir con (C4) in Tilled Sonts (D1)(L	ng Roots (C3) oils (C6) .RR A)	Water Draina Dry-Se Satura X Geom Shallo X FAC-Ne Raisec Frost-	r-Stained Leaves (B9)(MLRA 1,2,4A,4B) rage Patterns (B10) reason Water Table (C2) ration Visible on Aerial Imagery (C9) orphic Position (D2) w Aquitard (D3) reutral Test (D5) I Ant Mounds (D6)(LRR A) Heave Hummocks (D7)	
Wetland I Primary In Surfac High V Satura Water Sedim Drift D Algal I Iron D Surfac Inunda Sparse Field Obse Surface W Water Tak Saturation (includes ca	Hydrology Indicated indicators (minimuse Water (A1) Water Table (A2) Action (A3) Marks (B1) Ment Deposits (B2) Deposits (B3) Mat or Crust (B4) Meposits (B5) Meter Soil Cracks (B6) Meter Visible on A Mely Vegetated Corrections: Water Present? No Meresent? No Meresent.	erial Image ncave Surfa	Wa	ter-Staine xcept MLI : Crust (B2 uatic Inver- drogen Su dized Rhiz sence of I sent Iron I nted or Stainer (Explainer ches): <u>0</u> ches): <u>0</u> ches): <u>0</u>	ed Leaves ( RA 1,2,4A, L1)  rtebrates ( Ifide Odor cospheres Reduced Ir Reduction cressed Pla in in Rema	and 4B) (B13) (C1) along Livir con (C4) in Tilled Sonts (D1)(L	ng Roots (C3) oils (C6) .RR A)	Water Draina Dry-Se Satura X Geom Shallo X FAC-Ne Raisec Frost-	r-Stained Leaves (B9)(MLRA 1,2,4A,4B) rage Patterns (B10) reason Water Table (C2) ration Visible on Aerial Imagery (C9) orphic Position (D2) w Aquitard (D3) reutral Test (D5) I Ant Mounds (D6)(LRR A) Heave Hummocks (D7)	
Wetland I Primary In Surfac High V Satura Water Sedim Drift D Algal I Iron D Surfac Inunda Sparse Field Obse Surface W Water Tak Saturation (includes ca	Hydrology Indicated indicators (minimuse Water (A1) Water Table (A2) Action (A3) Marks (B1) Ment Deposits (B2) Deposits (B3) Mat or Crust (B4) Meposits (B5) Meter Soil Cracks (B6) Meter Visible on A Mely Vegetated Corrections: Water Present? No Meresent? No Meresent.	erial Image ncave Surfa	Wa	ter-Staine xcept MLI : Crust (B2 uatic Inver- drogen Su dized Rhiz sence of I sent Iron I nted or Stainer (Explainer ches): <u>0</u> ches): <u>0</u> ches): <u>0</u>	ed Leaves ( RA 1,2,4A, L1)  rtebrates ( Ifide Odor cospheres Reduced Ir Reduction cressed Pla in in Rema	and 4B) (B13) (C1) along Livir con (C4) in Tilled Sonts (D1)(L	ng Roots (C3) oils (C6) .RR A)	Water Draina Dry-Se Satura X Geom Shallo X FAC-Ne Raisec Frost-	r-Stained Leaves (B9)(MLRA 1,2,4A,4B) rage Patterns (B10) reason Water Table (C2) ration Visible on Aerial Imagery (C9) orphic Position (D2) w Aquitard (D3) reutral Test (D5) I Ant Mounds (D6)(LRR A) Heave Hummocks (D7)	
Wetland I Primary In Surfac High V Satura Water Sedim Drift D Algal I Iron D Surfac Inunda Sparse Field Obse Surface W Water Tak Saturation (includes ca	Hydrology Indicated indicators (minimuse Water (A1) Water Table (A2) Action (A3) Marks (B1) Ment Deposits (B2) Deposits (B3) Mat or Crust (B4) Meposits (B5) Meter Soil Cracks (B6) Meter Visible on A Mely Vegetated Corrections: Water Present? No Meresent? No Meresent.	erial Image ncave Surfa	Wa	ter-Staine xcept MLI : Crust (B2 uatic Inver- drogen Su dized Rhiz sence of I sent Iron I nted or Stainer (Explainer ches): <u>0</u> ches): <u>0</u> ches): <u>0</u>	ed Leaves ( RA 1,2,4A, L1)  rtebrates ( Ifide Odor cospheres Reduced Ir Reduction cressed Pla in in Rema	and 4B) (B13) (C1) along Livir con (C4) in Tilled Sonts (D1)(L	ng Roots (C3) oils (C6) .RR A)	Water Draina Dry-Se Satura X Geom Shallo X FAC-Ne Raisec Frost-	r-Stained Leaves (B9)(MLRA 1,2,4A,4B) rage Patterns (B10) reason Water Table (C2) ration Visible on Aerial Imagery (C9) orphic Position (D2) w Aquitard (D3) reutral Test (D5) I Ant Mounds (D6)(LRR A) Heave Hummocks (D7)	

Project/Site: Port Westward Renewable Diesel Refinery Applicant/Owner: Next Energy Group, Inc. State: OR Investigator(s): Sue Brady Section, Township, F Landform (hillslope, terrace, etc.): Flats Local relief (concave) Subregion (LRR): Northwest Forests & Coast (LRR A) Soil Map Unit Name: Udipsamments, nearly level, protected Are climatic/hydrologic conditions on the site typical for thi Are Vegetation, Soil, or Hydrology significantly dis Are Vegetation, Soil, or Hydrology naturally problem  SUMMARY OF FINDINGS - Attach site map showing: Hydrophytic Vegetation Present? Yes Hydric Soil Present? No Wetland Hydrology Present? No Remarks:	Range: T8N R4W ve, convex, none Lat: 4 d NWI cl s time of year? sturbed? ematic?	t locations, t	lain in Remark Are "Normal C (if needed, exp :ransects, im	s.) ircumstances" present? <u>Yes</u> olain any answers in Remarks.)
VEGETATION – Use scientific names of plants.  Tree Stratum (Plot size: _0 ) 1.	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:  Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)
2. 3. 4. Total Cover = 0				Total Number of Dominant Species Across All Strata: 4 (B)  Percent of Dominant Species
Sapling/Shrub Stratum (Plot size:)  1. 2. 3. 4. 5.  Total Cover = 0  Herb Stratum (Plot size:4 m²)  1. Phalaris arundinacea  2. Poa palustris  3. Daucus carota  4. 5.	40 40 20	Yes Yes Yes	FACW FAC FACU	That Are OBL, FACW, or FAC: $75 \text{ (A/B)}$ Prevalence Index worksheet:  Total % Cover of: Multiply by:  OBL species $0 \times 1 = 0$ FACW species $40 \times 2 = 80$ FAC species $50 \times 3 = 150$ FACU species $0 \times 4 = 80$ UPL species $0 \times 5 = 0$ Column Totals: $110 \times 5 = 0$ Prevalence Index = B/A = $3.1$
6. 7. 8. 9. 10. 11. Total Cover = 100  Woody Vine Stratum (Plot size: _4 m²)				Hydrophytic Vegetation Indicators: 1 — Rapid Test for Hydrophytic Vegetation
1. <u>Rubus armeniacus</u> 2. Total Cover = 0	<u>10</u>	Y	<u>FAC</u>	must be present, unless disturbed or problematic.
% Bare Ground in Herb Stratum: <u>10</u> Remarks:				Hydrophytic Vegetation Present? Yes

SOIL Sampling Point: <u>47a</u>

	<u>Matri</u>	<u>x</u>		Redox Fe	eatures_				
Depth	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture		Remarks
(inches)									
<u>0-6</u>	10YR 3/3	<u>100</u>					Silty Clay Loam		
6-15	10YR 3/2	100					Silty Clay Loam		
15-24	10YR 3/2	99	10YR 4/6	<u>1</u>	<u>C</u>	М	Silty Clay Loam		
				_	_	_			
1- 0			D14 D 1 114			0 1 10	21.0	5	
1ype: C=	Concentration, L	=Depletior	, RM=Reduced M	atrix, CS=	Covered o	r Coated S	and Grains. Lo	cation: P	L=Pore Lining, M=Matrix
Hydric So	il Indicators: (Ap	plicable to	all LRRs, unless of	therwise i	noted.)			Indicato	rs for Problematic Hydric Soils <sup>3</sup> :
Histor	sol (A1)		Sa	ndy Redo	x (S5)			2 (1	m Muck (A10)
	Epipedon (A2)		·	ripped Ma					d Parent Material (TF2)
	Histic (A3)			• •	. ,	/E1\ /ove	ont MIDA 1)		ry Shallow Dark Surface (TF12)
l <del></del>	` '			-	ed Matrix		ept MLRA 1)		
	ogen Sulfide (A4)	C (0.4)				(FZ)		— Ott	ner (Explain in Remarks)
l — ·	ted Below Dark S	•		epleted M		<b>~</b> \		2, 1,	
	Dark Surface (A1				Surface (F				tors of hydrophytic vegetation and
l — ·	/ Mucky Mineral (		· · · · · · · · · · · · · · · · · · ·		ark Surface				d hydrology must be present, unless
Sandy	/ Gleyed Matrix (S	64)	Re	edox Depr	essions (F	3)		disturb	ed or problematic.
Restrictiv	e Layer (if preser	nt):							
Type:									
Depth (in	ches): <u>0</u>							Hydric	Soil Present? <u>No</u>
Remarks:									
YDROLOG	iΥ								
Wetland I	Hydrology Indicat	tors:							
Primary In	ndicators (minimu	ım of one r	equired; check all	that apply	y)		S	Secondary	/ Indicators (two or more required)
Surfac	ce Water (A1)		Wa	ter-Staine	ed Leaves	(R9)		Water	Stained Leaves (B9)(MLRA 1,2,4A,4B)
	Water Table (A2)				RA 1,2,4A		-		age Patterns (B10)
	` ,		•	•		, aliu 4b)	-		•
	ation (A3)		·	t Crust (B	•	(042)	-		eason Water Table (C2)
	Marks (B1)				rtebrates (		-		ation Visible on Aerial Imagery (C9)
	ent Deposits (B2)			_	ılfide Odor		-		orphic Position (D2)
	Deposits (B3)					_	ng Roots (C3)	Shallo	w Aquitard (D3)
Algal I	Mat or Crust (B4)		Pre	esence of	Reduced Ir	on (C4)	-	FAC-N	eutral Test (D5)
Iron D	eposits (B5)		Rec	cent Iron I	Reduction	in Tilled S	oils (C6)	Raised	d Ant Mounds (D6)( <b>LRR A</b> )
Surfac	ce Soil Cracks (B6)		Stu	inted or S	tressed Pla	nts (D1)(I	.RR A)	Frost-	Heave Hummocks (D7)
Inund	ation Visible on A	erial Image	ery (B7)Oth	ner (Expla	in in Rema	rks)			
Sparse	ely Vegetated Cor	ncave Surfa	ce (B8)						
Field Obse									
Surface W	ater Present? No	)	Depth (in	ches): 0					
Water Tak	ole Present? No	<u>0</u>	Depth (in	ches): <u>0</u>					
Saturation	n Present? <u>No</u>	<u>)</u>	Depth (in	iches): <u>0</u>					_
	apillary fringe)						Wetland Hydro		ent? <u>No</u>
Describe F	Recorded Data (st	ream gaug	e, monitoring well	I, aerial ph	notos, prev	ious inspe	ections), if available	2:	
D-: '									
Remarks:									

Project/Site: Port Westward Renewable Diesel Refinery Applicant/Owner: Next Energy Group, Inc. State: OR Investigator(s): Sue Brady Section, Township, I Landform (hillslope, terrace, etc.): Flats Local relief (concave Subregion (LRR): Northwest Forests & Coast (LRR A) Soil Map Unit Name: Wauna silt loam, protected NWI class Are climatic/hydrologic conditions on the site typical for thi Are Vegetation, Soil, or Hydrology significantly dis Are Vegetation, Soil, or Hydrology naturally probl  SUMMARY OF FINDINGS – Attach site map showing Hydrophytic Vegetation Present? Yes Hydric Soil Present? Yes Wetland Hydrology Present? Yes Remarks: hay field/pasture	Range: T8N R4W e, convex, none): Lat: 4 ification: PEM10 s time of year? sturbed? ematic?	: <u>none</u> 6.1636480 Yes (if no, exp	olain in Remark Are "Normal C (if needed, exp transects, im	ircumstances" present? <u>Yes</u> llain any answers in Remarks.)
VEGETATION – Use scientific names of plants.  Tree Stratum (Plot size: _0 )  1. 2. 3. 4.  Total Cover = 0  Sapling/Shrub Stratum (Plot size: _0 )  1. 2. 3. 4. 5.  Total Cover = 0  Herb Stratum (Plot size: _4 m²)  1. Phalaris arundinacea  2. 3.	Absolute % Cover	Dominant Species?	Indicator Status FACW	Dominance Test worksheet:  Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)  Total Number of Dominant Species Across All Strata: 1 (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)  Prevalence Index worksheet:  Total % Cover of: Multiply by: OBL species 0 x 1 = 0 FACW species 100 x 2 = 200 FAC species 0 x 3 = 0 FACU species 0 x 4 = 0 UPL species 0 x 5 = 0 Column Totals: 100 (A) 200 (B)
4. 5. 6. 7. 8. 9. 10. 11.  Total Cover = 100  Woody Vine Stratum (Plot size: 0) 1. 2.  Total Cover = 0				Hydrophytic Vegetation Indicators:  X 1 -Rapid Test for Hydrophytic Vegetation X 2 - Dominance Test >50% X 3 - Prevalence Index is ≤ 3.0¹ 4 - Morphological Adaptions¹ (Provide supporting data in Remarks or on a separate sheet) 5 - Wetland Non-Vascular Plants¹ Problematic Hydrophytic Vegetation¹ (Explain)  ¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
% Bare Ground in Herb Stratum: <u>0</u> Remarks:				Hydrophytic Vegetation Present? Yes

SOIL Sampling Point: <u>48</u>

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

**Redox Features** 

Matrix

Depth	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture		Remarks		
(inches)											
<u>0-16</u>	10YR 3/2	<u>95</u>	<u>10YR 4/6</u>	<u>5</u>	<u>C</u>	<u>RC</u>	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.)  Indicators for Problematic Hydric Soils <sup>3</sup> :											
Histos	sol (A1)		Sa	ndy Redo	x (S5)			2 cr	m Muck (A10)		
	Epipedon (A2)		·	ripped Ma					Parent Material (TF2)		
	Histic (A3)					l (F1) (exce	ept MLRA 1)		ry Shallow Dark Surface (TF12)		
l ——	ogen Sulfide (A4)			-	ed Matrix		. ,		ner (Explain in Remarks)		
	eted Below Dark S	urface (A1:	· · · · · · · · · · · · · · · · · · ·	pleted M		. ,			,		
· ·	Dark Surface (A12				Surface (F	6)		3Indicat	tors of hydrophytic vegetation and		
	y Mucky Mineral (				ark Surface				d hydrology must be present, unless		
	y Gleyed Matrix (S		· · · · · · · · · · · · · · · · · · ·		essions (F				ed or problematic.		
				. шох вор.		-1					
Type:	e Layer (if presen	ıt):									
Depth (in	ches): 0							Hvdric	Soil Present? Yes		
	· <del>-</del>							,			
Remarks:											
YDROLOG	SY .										
	Hydrology Indicat										
Primary Ir	ndicators (minimu	m of one r	equired; check all	that apply	<b>'</b> )		:	Secondary	Indicators (two or more required)		
Surfac	ce Water (A1)		Wa	iter-Staine	d Leaves	(B9)	_	Water	-Stained Leaves (B9)(MLRA 1,2,4A,4B)		
High \	Water Table (A2)		(e	xcept ML	RA 1,2,4A,	and 4B)		Draina	age Patterns (B10)		
Satura	ation (A3)		Sal	t Crust (B:	L1)			Dry-Se	eason Water Table (C2)		
Water	r Marks (B1)		Aqı	uatic Inve	rtebrates (	(B13)		Satura	ition Visible on Aerial Imagery (C9)		
Sedim	nent Deposits (B2)				lfide Odor		-	Saturation Visible on Aerial Imagery (C9)			
	Deposits (B3)			-				Geomorphic Position (D2)			
			X Oxi	X Oxidized Rhizospheres along Living Roots (C3)							
	Mat or Crust (B4)		<del></del>		•	•	. , ,	Shallo	w Aquitard (D3)		
Iron D	Mat or Crust (B4) Deposits (B5)		Pre	sence of I	Reduced Ir	on (C4)		Shallo X FAC-N	w Aquitard (D3) leutral Test (D5)		
	Deposits (B5)		Pre	esence of I cent Iron I	Reduced Ir Reduction	on (C4) in Tilled So	oils (C6)	Shallo X FAC-N Raisec	w Aquitard (D3) leutral Test (D5) I Ant Mounds (D6)( <b>LRR A</b> )		
Surfac	Deposits (B5) ce Soil Cracks (B6)		Pre Rec Stu	esence of I cent Iron I Inted or St	Reduced Ir Reduction cressed Pla	on (C4) in Tilled So ants (D1)( <b>L</b>	oils (C6)	Shallo X FAC-N Raisec	w Aquitard (D3) leutral Test (D5)		
Surfac	Deposits (B5) ce Soil Cracks (B6) ation Visible on A	erial Image	Pre	esence of I cent Iron I Inted or St	Reduced Ir Reduction	on (C4) in Tilled So ants (D1)( <b>L</b>	oils (C6)	Shallo X FAC-N Raisec	w Aquitard (D3) leutral Test (D5) I Ant Mounds (D6)( <b>LRR A</b> )		
Surface Inund Sparse	Deposits (B5) ce Soil Cracks (B6) ation Visible on A ely Vegetated Con	erial Image	Pre	esence of I cent Iron I Inted or St	Reduced Ir Reduction cressed Pla	on (C4) in Tilled So ants (D1)( <b>L</b>	oils (C6)	Shallo X FAC-N Raisec	w Aquitard (D3) leutral Test (D5) I Ant Mounds (D6)( <b>LRR A</b> )		
Surface Inund Sparse Field Obse	Deposits (B5) ce Soil Cracks (B6) ation Visible on A ely Vegetated Con ervations:	erial Image ncave Surfa	Pre Rec Stu ery (B7)Oth ce (B8)	esence of I cent Iron I inted or Si ner (Explai	Reduced Ir Reduction cressed Pla	on (C4) in Tilled So ants (D1)( <b>L</b>	oils (C6)	Shallo X FAC-N Raisec	w Aquitard (D3) leutral Test (D5) I Ant Mounds (D6)( <b>LRR A</b> )		
Surface	Deposits (B5) ce Soil Cracks (B6) ation Visible on A ely Vegetated Con	erial Image ncave Surfa <u>0</u>	Pre	esence of I cent Iron I inted or Si ner (Explai	Reduced Ir Reduction cressed Pla	on (C4) in Tilled So ants (D1)( <b>L</b>	oils (C6)	Shallo X FAC-N Raisec	w Aquitard (D3) leutral Test (D5) I Ant Mounds (D6)( <b>LRR A</b> )		
Surface W Water Tab	Deposits (B5) Ce Soil Cracks (B6) ation Visible on A ely Vegetated Con ervations: Vater Present? No	erial Image ncave Surfa 2	PrePrePreStuOth _	esence of I cent Iron I inted or Si ner (Explai ches): ches):	Reduced Ir Reduction cressed Pla	on (C4) in Tilled So ants (D1)( <b>L</b>	pils (C6)	Shallo X FAC-N Raisec Frost-	w Aquitard (D3) leutral Test (D5) d Ant Mounds (D6)( <b>LRR A</b> ) Heave Hummocks (D7)		
SurfaceInundSparse Field Obse Surface W Water Tab Saturation (includes ca	Deposits (B5) Ce Soil Cracks (B6) ation Visible on A ely Vegetated Con ervations: Vater Present? No ble Present? No n Present? No apillary fringe)	erial Image ncave Surfa <u>0</u> 0	Pre Pre Rec Stu Pry (B7) Oth Ce (B8)  Depth (in Depth (in Depth (in	esence of I cent Iron I inted or Si ner (Explai ches): ches): iches):	Reduced Ir Reduction cressed Pla in in Rema	ron (C4) in Tilled So ants (D1)( <b>L</b> irks)	oils (C6) RR A)	Shallo X FAC-N Raisec Frost-	w Aquitard (D3) leutral Test (D5) d Ant Mounds (D6)( <b>LRR A</b> ) Heave Hummocks (D7)		
SurfaceInundSparse Field Obse Surface W Water Tab Saturation (includes ca	Deposits (B5) Ce Soil Cracks (B6) ation Visible on A ely Vegetated Con ervations: Vater Present? No ble Present? No n Present? No apillary fringe)	erial Image ncave Surfa <u>0</u> 0	Pre Pre Rec Stu Pry (B7) Oth Ce (B8)  Depth (in Depth (in Depth (in	esence of I cent Iron I inted or Si ner (Explai ches): ches): iches):	Reduced Ir Reduction cressed Pla in in Rema	ron (C4) in Tilled So ants (D1)( <b>L</b> irks)	pils (C6)	Shallo X FAC-N Raisec Frost-	w Aquitard (D3) leutral Test (D5) d Ant Mounds (D6)( <b>LRR A</b> ) Heave Hummocks (D7)		
SurfaceInundSparse Field Obse Surface W Water Tab Saturation (includes ca	Deposits (B5) Ce Soil Cracks (B6) ation Visible on A ely Vegetated Con ervations: Vater Present? No ble Present? No n Present? No apillary fringe)	erial Image ncave Surfa <u>0</u> 0	Pre Pre Rec Stu Pry (B7) Oth Ce (B8)  Depth (in Depth (in Depth (in	esence of I cent Iron I inted or Si ner (Explai ches): ches): iches):	Reduced Ir Reduction cressed Pla in in Rema	ron (C4) in Tilled So ants (D1)( <b>L</b> irks)	oils (C6) RR A)	Shallo X FAC-N Raisec Frost-	w Aquitard (D3) leutral Test (D5) d Ant Mounds (D6)( <b>LRR A</b> ) Heave Hummocks (D7)		
Surfac Inund Sparse Field Obse Surface W Water Tal Saturation (includes ca Describe F	Deposits (B5) Ce Soil Cracks (B6) ation Visible on A ely Vegetated Con ervations: Vater Present? NC ble Present? NC n Present? NC apillary fringe) Recorded Data (st	erial Image ncave Surfa <u>0</u> 0	Pre Pre Rec Stu Pry (B7) Oth Ce (B8)  Depth (in Depth (in Depth (in	esence of I cent Iron I inted or Si ner (Explai ches): ches): iches):	Reduced Ir Reduction cressed Pla in in Rema	ron (C4) in Tilled So ants (D1)( <b>L</b> irks)	oils (C6) RR A)	Shallo X FAC-N Raisec Frost-	w Aquitard (D3) leutral Test (D5) d Ant Mounds (D6)( <b>LRR A</b> ) Heave Hummocks (D7)		
SurfaceInundSparse Field Obse Surface W Water Tab Saturation (includes ca	Deposits (B5) Ce Soil Cracks (B6) ation Visible on A ely Vegetated Con ervations: Vater Present? NC ble Present? NC n Present? NC apillary fringe) Recorded Data (st	erial Image ncave Surfa <u>0</u> 0	Pre Pre Rec Stu Pry (B7) Oth Ce (B8)  Depth (in Depth (in Depth (in	esence of I cent Iron I inted or Si ner (Explai ches): ches): iches):	Reduced Ir Reduction cressed Pla in in Rema	ron (C4) in Tilled So ants (D1)( <b>L</b> irks)	oils (C6) RR A)	Shallo X FAC-N Raisec Frost-	w Aquitard (D3) leutral Test (D5) d Ant Mounds (D6)( <b>LRR A</b> ) Heave Hummocks (D7)		
Surfac Inund Sparse Field Obse Surface W Water Tal Saturation (includes ca Describe F	Deposits (B5) Ce Soil Cracks (B6) ation Visible on A ely Vegetated Con ervations: Vater Present? NC ble Present? NC n Present? NC apillary fringe) Recorded Data (st	erial Image ncave Surfa <u>0</u> 0	Pre Pre Rec Stu Pry (B7) Oth Ce (B8)  Depth (in Depth (in Depth (in	esence of I cent Iron I inted or Si ner (Explai ches): ches): iches):	Reduced Ir Reduction cressed Pla in in Rema	ron (C4) in Tilled So ants (D1)( <b>L</b> irks)	oils (C6) RR A)	Shallo X FAC-N Raisec Frost-	w Aquitard (D3) leutral Test (D5) d Ant Mounds (D6)( <b>LRR A</b> ) Heave Hummocks (D7)		
Surfac Inund Sparse Field Obse Surface W Water Tal Saturation (includes ca Describe F	Deposits (B5) Ce Soil Cracks (B6) ation Visible on A ely Vegetated Con ervations: Vater Present? NC ble Present? NC n Present? NC apillary fringe) Recorded Data (st	erial Image ncave Surfa <u>0</u> 0	Pre Pre Rec Stu Pry (B7) Oth Ce (B8)  Depth (in Depth (in Depth (in	esence of I cent Iron I inted or Si ner (Explai ches): ches): iches):	Reduced Ir Reduction cressed Pla in in Rema	ron (C4) in Tilled So ants (D1)( <b>L</b> irks)	oils (C6) RR A)	Shallo X FAC-N Raisec Frost-	w Aquitard (D3) leutral Test (D5) d Ant Mounds (D6)( <b>LRR A</b> ) Heave Hummocks (D7)		

Project/Site: Port Westward Renewable Diesel Refinery Applicant/Owner: Next Energy Group, Inc. State: OR Investigator(s): Sue Brady Section, Township, Landform (hillslope, terrace, etc.): Flats Local relief (concave Subregion (LRR): Northwest Forests & Coast (LRR A) Soil Map Unit Name: Wauna silt loam, protected NWI class Are climatic/hydrologic conditions on the site typical for thi Are Vegetation, Soil, or Hydrology significantly di. Are Vegetation, Soil, or Hydrology naturally problems.  SUMMARY OF FINDINGS – Attach site map showing Hydrophytic Vegetation Present? Yes Hydric Soil Present? Yes Wetland Hydrology Present? Yes Remarks: hay field/pasture	Range: T8N R4W e, convex, none): Lat: 44 ification: PEM1C is time of year? Y sturbed? lematic?	t locations,	lain in Remark Are "Normal C (if needed, exp transects, im	ircumstances" present? <u>Yes</u> plain any answers in Remarks.)
VEGETATION – Use scientific names of plants.  Tree Stratum (Plot size: _0 )  1. 2. 3. 4.	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:  Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)  Total Number of Dominant Species Across All Strata: 1 (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)  Prevalence Index worksheet:  Total % Cover of: Multiply by:  OBL species 0 x 1 = 0 FACW species 100 x 2 = 200 FAC species 0 x 3 = 0 FACU species 0 x 4 = 0 UPL species 0 x 5 = 0
1. Mentha x piperita 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. Total Cover = 100  Woody Vine Stratum (Plot size: 0) 1. 2.	100	<u>Yes</u>	FACW	UPL species $0$ x 5 = $0$ Column Totals: $0$ (A) $0$ (B)  Prevalence Index = B/A = $0$ (B)  Prevalence Index = B/A = $0$ (B)  Hydrophytic Vegetation Indicators:  X 1 - Rapid Test for Hydrophytic Vegetation X 2 - Dominance Test >50% X 3 - Prevalence Index is $0$ 3 - Prevalence Index is $0$ 3 - Prevalence Index is $0$ 1 (Provide supporting data in Remarks or on a separate sheet) 5 - Wetland Non-Vascular Plants Problematic Hydrophytic Vegetation (Explain)  1 Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. Total Cover = 0 % Bare Ground in Herb Stratum: 0 Remarks:				Hydrophytic Vegetation Present? <u>Yes</u>

SOIL Sampling Point: 49

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

**Redox Features** 

Matrix

Depth	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture		Remarks		
(inches)											
<u>0-18</u>	10YR 3/2	<u>95</u>	<u>10YR 4/6</u>	<u>5</u>	<u>C</u>	<u>RC</u>	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.)  Indicators for Problematic Hydric Soils <sup>3</sup> :											
Histos	sol (A1)		Sa	ndy Redo	x (S5)			2 cr	m Muck (A10)		
	Epipedon (A2)		·	ripped Ma					Parent Material (TF2)		
	Histic (A3)					(F1) (exce	ept MLRA 1)		ry Shallow Dark Surface (TF12)		
l ——	ogen Sulfide (A4)				, ed Matrix		,		ner (Explain in Remarks)		
	eted Below Dark S	urface (A1:	· · · · · · · · · · · · · · · · · · ·	pleted M					, ,		
· ·	Dark Surface (A12				Surface (F	5)		3Indicat	tors of hydrophytic vegetation and		
	y Mucky Mineral (				rk Surface				d hydrology must be present, unless		
	, y Gleyed Matrix (S		· · · · · · · · · · · · · · · · · · ·		essions (F8			disturb	ed or problematic.		
	ve Layer (if presen			•	•	•					
Type:	re Layer (ii presen										
Depth (in	ches): 0							Hydric	Soil Present? Yes		
	· <del>-</del>										
Remarks:											
YDROLOG											
	Hydrology Indicat				,			<b>.</b>			
Primary ir	ndicators (minimu	m of one r	equired; check all	tnat appiy	<u>')</u>		· · · · · · · · · · · · · · · · · · ·	Secondary	Indicators (two or more required)		
Surfac	ce Water (A1)		Wa	ter-Staine	ed Leaves (	B9)	-	Water	-Stained Leaves (B9)( <b>MLRA 1,2,4A,4B</b> )		
High \	Water Table (A2)		(e	xcept ML	RA 1,2,4A,	and 4B)		Drainage Patterns (B10)			
Satura	ation (A3)		Sal	t Crust (B	L <b>1</b> )		·-	Dry-Season Water Table (C2)			
Water	r Marks (B1)		Λ	Salt Crust (B11)					eason Water Table (C2)		
Sedim	nent Deposits (B2)		Aq	Aquatic Invertebrates (B13)					eason Water Table (C2) ution Visible on Aerial Imagery (C9)		
Drift D					rtebrates ( lfide Odor		-	Dry-Se Satura	` '		
DHILL	Deposits (B3)		Ну	drogen Su	lfide Odor	(C1)	g Roots (C3)	Dry-Se Satura Geom	ntion Visible on Aerial Imagery (C9)		
	Deposits (B3) Mat or Crust (B4)		Hyd X_Oxi	drogen Su dized Rhiz	lfide Odor	(C1) along Livin	` '   -	Dry-Se Satura Geom Shallo	ntion Visible on Aerial Imagery (C9) orphic Position (D2)		
Algal I			Hyo _ <u>X_</u> Oxi Pre	drogen Su dized Rhiz sence of I	lfide Odor ospheres Reduced Ir	(C1) along Livin		Dry-Se Satura Geom Shallo X FAC-N	ntion Visible on Aerial Imagery (C9) orphic Position (D2) w Aquitard (D3)		
Algal I Iron D	Mat or Crust (B4)		Hyo _X_Oxi Pre Red	drogen Su dized Rhiz sence of I cent Iron I	lfide Odor ospheres Reduced Ir Reduction	(C1) along Livin on (C4)	pils (C6)	Dry-Se Satura Geom Shallo X FAC-N Raiseo	ortion Visible on Aerial Imagery (C9) orphic Position (D2) w Aquitard (D3) leutral Test (D5)		
Algal I Iron D Surfac	Mat or Crust (B4) Deposits (B5)		Hyo Pre Rec Stu	drogen Su dized Rhiz sence of I cent Iron I nted or St	lfide Odor ospheres Reduced Ir Reduction	(C1) along Livin on (C4) in Tilled So ints (D1)(L	pils (C6)	Dry-Se Satura Geom Shallo X FAC-N Raiseo	otion Visible on Aerial Imagery (C9) orphic Position (D2) w Aquitard (D3) leutral Test (D5) I Ant Mounds (D6)(LRR A)		
Algal I Iron D Surfac Inund	Mat or Crust (B4) Deposits (B5) Ce Soil Cracks (B6)	erial Image	Hyd Pre Stu Stu Oth	drogen Su dized Rhiz sence of I cent Iron I nted or St	Ifide Odor ospheres Reduced Ir Reduction cressed Pla	(C1) along Livin on (C4) in Tilled So ints (D1)(L	pils (C6)	Dry-Se Satura Geom Shallo X FAC-N Raiseo	otion Visible on Aerial Imagery (C9) orphic Position (D2) w Aquitard (D3) leutral Test (D5) I Ant Mounds (D6)(LRR A)		
Algal I Iron D Surfac Inund Sparse	Mat or Crust (B4) Deposits (B5) Ce Soil Cracks (B6) ation Visible on A	erial Image	Hyd Pre Stu Stu Oth	drogen Su dized Rhiz sence of I cent Iron I nted or St	Ifide Odor ospheres Reduced Ir Reduction cressed Pla	(C1) along Livin on (C4) in Tilled So ints (D1)(L	pils (C6)	Dry-Se Satura Geom Shallo X FAC-N Raiseo	otion Visible on Aerial Imagery (C9) orphic Position (D2) w Aquitard (D3) leutral Test (D5) I Ant Mounds (D6)(LRR A)		
Algal IIron DSurfacInundSparse	Mat or Crust (B4) Deposits (B5) See Soil Cracks (B6) Sation Visible on A ely Vegetated Con	erial Image ncave Surfa	Hyd Pre Stu Stu Oth	drogen Su dized Rhiz sence of I cent Iron I nted or Si ner (Expla	Ifide Odor ospheres Reduced Ir Reduction cressed Pla	(C1) along Livin on (C4) in Tilled So ints (D1)(L	pils (C6)	Dry-Se Satura Geom Shallo X FAC-N Raiseo	otion Visible on Aerial Imagery (C9) orphic Position (D2) w Aquitard (D3) leutral Test (D5) I Ant Mounds (D6)(LRR A)		
Algal IIIron DSurfaceInundSparse Field Obse Surface W Water Tab	Mat or Crust (B4) Deposits (B5) De Soil Cracks (B6) De Soil Cracks (B4) De Soil Cracks	erial Image ocave Surfa <u>0</u>	Hyd 	drogen Sudized Rhiz sence of I sent Iron I nted or Si ner (Explai ches): ches):	Ifide Odor ospheres Reduced Ir Reduction cressed Pla	(C1) along Livin on (C4) in Tilled So ints (D1)(L	pils (C6)	Dry-Se Satura Geom Shallo X FAC-N Raiseo	otion Visible on Aerial Imagery (C9) orphic Position (D2) w Aquitard (D3) leutral Test (D5) I Ant Mounds (D6)(LRR A)		
Algal IIIron DSurfaceInundSparse Field Obse Surface W Water Tal Saturation	Mat or Crust (B4) Deposits (B5) De Soil Cracks (B6) ation Visible on A ely Vegetated Cor ervations: Vater Present? No ble Present? No n Present? No	erial Image ocave Surfa <u>0</u>	Hyu 	drogen Sudized Rhiz sence of I sent Iron I nted or Si ner (Explai ches): ches):	Ifide Odor ospheres Reduced Ir Reduction cressed Pla	(C1) along Livin on (C4) in Tilled So ints (D1)(L	pils (C6)	Dry-Se Satura Geom Shallo X FAC-N Raisec Frost-	ortion Visible on Aerial Imagery (C9) orphic Position (D2) w Aquitard (D3) deutral Test (D5) d Ant Mounds (D6)(LRR A) Heave Hummocks (D7)		
Algal IIIron DSurfaceInundSparse Field Obse Surface W Water Tab Saturation (includes ca	Mat or Crust (B4) Deposits (B5) De Soil Cracks (B6) Dation Visible on A Dely Vegetated Core Dervations: Vater Present? No Dele Present? No Dele Present? No Dele Present? No Delepresent? No Delepresent? No Delepresent? No Delepresent? No Delepresent?	erial Image ocave Surfa <u>0</u> 0	Hyd X Oxi — Pre — Red — Stu ery (B7) — Oth ce (B8) Depth (ind Depth (ind	drogen Sudized Rhizence of Icent Iron Inted or State (Explainment):  ches):  ches):  ches):	Ifide Odor ospheres Reduced Ir Reduction cressed Pla n in Rema	(C1) along Livin on (C4) in Tilled So ints (D1)( <b>L</b> rks)	oils (C6) RR A)	Dry-Se Satura Geom Shallo X FAC-N Raised Frost-	ortion Visible on Aerial Imagery (C9) orphic Position (D2) w Aquitard (D3) deutral Test (D5) d Ant Mounds (D6)(LRR A) Heave Hummocks (D7)		
Algal IIIron DSurfaceInundSparse Field Obse Surface W Water Tab Saturation (includes ca	Mat or Crust (B4) Deposits (B5) De Soil Cracks (B6) Dation Visible on A Dely Vegetated Core Dervations: Vater Present? No Dele Present? No Dele Present? No Dele Present? No Delepresent? No Delepresent? No Delepresent? No Delepresent? No Delepresent?	erial Image ocave Surfa <u>0</u> 0	Hyd X Oxi — Pre — Red — Stu ery (B7) — Oth ce (B8) Depth (ind Depth (ind	drogen Sudized Rhizence of Icent Iron Inted or State (Explainment):  ches):  ches):  ches):	Ifide Odor ospheres Reduced Ir Reduction cressed Pla n in Rema	(C1) along Livin on (C4) in Tilled So ints (D1)( <b>L</b> rks)	pils (C6)	Dry-Se Satura Geom Shallo X FAC-N Raised Frost-	ortion Visible on Aerial Imagery (C9) orphic Position (D2) w Aquitard (D3) deutral Test (D5) d Ant Mounds (D6)(LRR A) Heave Hummocks (D7)		
Algal IIIron DSurfaceInundSparse Field Obse Surface W Water Tab Saturation (includes ca	Mat or Crust (B4) Deposits (B5) De Soil Cracks (B6) Dation Visible on A Dely Vegetated Core Dervations: Vater Present? No Dele Present? No Dele Present? No Dele Present? No Delepresent? No Delepresent? No Delepresent? No Delepresent? No Delepresent?	erial Image ocave Surfa <u>0</u> 0	Hyd X Oxi — Pre — Red — Stu ery (B7) — Oth ce (B8) Depth (ind Depth (ind	drogen Sudized Rhizence of Icent Iron Inted or State (Explainment):  ches):  ches):  ches):	Ifide Odor ospheres Reduced Ir Reduction cressed Pla n in Rema	(C1) along Livin on (C4) in Tilled So ints (D1)( <b>L</b> rks)	oils (C6) RR A)	Dry-Se Satura Geom Shallo X FAC-N Raised Frost-	ortion Visible on Aerial Imagery (C9) orphic Position (D2) w Aquitard (D3) deutral Test (D5) d Ant Mounds (D6)(LRR A) Heave Hummocks (D7)		
Algal IIIron DSurfaceInundSparse Field Obse Surface W Water Tab Saturation (includes ca	Mat or Crust (B4) Deposits (B5) Ce Soil Cracks (B6) ation Visible on A ely Vegetated Con ervations: Vater Present? No ble Present? No n Present? No apillary fringe) Recorded Data (st	erial Image ocave Surfa <u>0</u> 0	Hyd X Oxi — Pre — Red — Stu ery (B7) — Oth ce (B8) Depth (ind Depth (ind	drogen Sudized Rhizence of Icent Iron Inted or State (Explainment):  ches):  ches):  ches):	Ifide Odor ospheres Reduced Ir Reduction cressed Pla n in Rema	(C1) along Livin on (C4) in Tilled So ints (D1)( <b>L</b> rks)	oils (C6) RR A)	Dry-Se Satura Geom Shallo X FAC-N Raised Frost-	ortion Visible on Aerial Imagery (C9) orphic Position (D2) w Aquitard (D3) deutral Test (D5) d Ant Mounds (D6)(LRR A) Heave Hummocks (D7)		
Algal IIIron DSurfacInundSparse Field Obse Surface W Water Tab Saturation (includes ca Describe F	Mat or Crust (B4) Deposits (B5) Ce Soil Cracks (B6) ation Visible on A ely Vegetated Con ervations: Vater Present? No ble Present? No n Present? No apillary fringe) Recorded Data (st	erial Image ocave Surfa <u>0</u> 0	Hyd X Oxi — Pre — Red — Stu ery (B7) — Oth ce (B8) Depth (ind Depth (ind	drogen Sudized Rhizence of Icent Iron Inted or State (Explainment):  ches):  ches):  ches):	Ifide Odor ospheres Reduced Ir Reduction cressed Pla n in Rema	(C1) along Livin on (C4) in Tilled So ints (D1)( <b>L</b> rks)	oils (C6) RR A)	Dry-Se Satura Geom Shallo X FAC-N Raised Frost-	ortion Visible on Aerial Imagery (C9) orphic Position (D2) w Aquitard (D3) deutral Test (D5) d Ant Mounds (D6)(LRR A) Heave Hummocks (D7)		
Algal IIIron DSurfacInundSparse Field Obse Surface W Water Tab Saturation (includes ca Describe F	Mat or Crust (B4) Deposits (B5) Ce Soil Cracks (B6) ation Visible on A ely Vegetated Con ervations: Vater Present? No ble Present? No n Present? No apillary fringe) Recorded Data (st	erial Image ocave Surfa <u>0</u> 0	Hyd X Oxi — Pre — Red — Stu ery (B7) — Oth ce (B8) Depth (ind Depth (ind	drogen Sudized Rhizence of Icent Iron Inted or State (Explainment):  ches):  ches):  ches):	Ifide Odor ospheres Reduced Ir Reduction cressed Pla n in Rema	(C1) along Livin on (C4) in Tilled So ints (D1)( <b>L</b> rks)	oils (C6) RR A)	Dry-Se Satura Geom Shallo X FAC-N Raised Frost-	ortion Visible on Aerial Imagery (C9) orphic Position (D2) w Aquitard (D3) deutral Test (D5) d Ant Mounds (D6)(LRR A) Heave Hummocks (D7)		
Algal IIIron DSurfacInundSparse Field Obse Surface W Water Tab Saturation (includes ca Describe F	Mat or Crust (B4) Deposits (B5) Ce Soil Cracks (B6) ation Visible on A ely Vegetated Con ervations: Vater Present? No ble Present? No n Present? No apillary fringe) Recorded Data (st	erial Image ocave Surfa <u>0</u> 0	Hyd X Oxi — Pre — Red — Stu ery (B7) — Oth ce (B8) Depth (ind Depth (ind	drogen Sudized Rhizence of Icent Iron Inted or State (Explainment):  ches):  ches):  ches):	Ifide Odor ospheres Reduced Ir Reduction cressed Pla n in Rema	(C1) along Livin on (C4) in Tilled So ints (D1)( <b>L</b> rks)	oils (C6) RR A)	Dry-Se Satura Geom Shallo X FAC-N Raised Frost-	ortion Visible on Aerial Imagery (C9) orphic Position (D2) w Aquitard (D3) deutral Test (D5) d Ant Mounds (D6)(LRR A) Heave Hummocks (D7)		

Project/Site: NEXT Renewable Fuels Oregon - Mitigation Applicant/Owner: NEXT Renewable Fuels LLC State: OR Investigator(s): Sue Brady Section, Township Landform (hillslope, terrace, etc.): Flats Local relief (conca Subregion (LRR): Northwest Forests & Coast (LRR A) Soil Map Unit Name: Wauna-Locoda silt loams, protected Are climatic/hydrologic conditions on the site typical for t Are Vegetation, Soil, or Hydrology significantly of Are Vegetation, Soil, or Hydrology naturally pro  SUMMARY OF FINDINGS - Attach site map showin Hydrophytic Vegetation Present? Yes Hydric Soil Present? Yes Wetland Hydrology Present? Yes Remarks:	ve, Range: <u>T8N R4W</u> ve, convex, none) Lat: <u>4</u> NWI classification his time of year? disturbed? blematic?	: <u>none</u> 6.16350400 on: <u>none</u> Yes (if no, exp	Are "Normal C (if needed, ex <sub>l</sub> transects, im	cs.) Circumstances" present? <u>Yes</u> plain any answers in Remarks.)
VEGETATION – Use scientific names of plants.				
Osc scientific fames of plants.	Absolute %	Dominant	Indicator	Dominance Test worksheet:
<u>Tree Stratum</u> (Plot size: <u>25 m²</u> )	Cover	Species?	Status	Number of Dominant Species
1. Populus balsamifera	<u>100</u>	Yes	FAC	That Are OBL, FACW, or FAC: <u>2</u> (A)
2.				
3.				Total Number of Dominant
4.				Species Across All Strata: <u>2</u> (B)
Total Cover = <u>100</u>				
Sapling/Shrub Stratum (Plot size: 0 )				Percent of Dominant Species
1.				That Are OBL, FACW, or FAC: 100 (A/B)
2.				Prevalence Index worksheet:
3.				Total % Cover of: Multiply by:
4.				OBL species $\underline{0}$ x 1 = $\underline{0}$
5.				FACW species $\underline{0}$ x 2 = $\underline{0}$
Total Cover = <u>0</u>				FAC species 200 x 3 = 600 FACU species 0 x 4 = 0
Herb Stratum (Plot size: 4 m <sup>2</sup> )				
1. Ranunculus repens	<u>100</u>	<u>Yes</u>	<u>FAC</u>	UPL species $\underline{0}$ x 5 = $\underline{0}$ Column Totals: $\underline{200}$ (A) $\underline{600}$ (B)
2.				Column rotals. <u>200</u> (A) <u>000</u> (B)
3.				Prevalence Index = $B/A = 3.00$
4.				<u> </u>
5. 6.				Hydrophytic Vegetation Indicators:
6.   7.				1 –Rapid Test for Hydrophytic Vegetation
8.				X 2 – Dominance Test >50%
9.				$\underline{X}$ 3 - Prevalence Index is $\leq 3.0^1$
10.				4 - Morphological Adaptions <sup>1</sup> (Provide supporting
11.				data in Remarks or on a separate sheet)
Total Cover =100				5 – Wetland Non-Vascular Plants <sup>1</sup>
				Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
Manda Vina Chrote (D) 1 1 2 2			1	
Woody Vine Stratum (Plot size: 0 )				<sup>1</sup> Indicators of hydric soil and wetland hydrology
1.				must be present, unless disturbed or problematic.
2. Total Cover = <u>0</u>				
% Bare Ground in Herb Stratum: <u>0</u>				Hydrophytic Vegetation Present? Yes
Remarks:				

SOIL Sampling Point: 50

	Matri	X		Redox Fe	atures				
Depth	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture		Remarks
(inches) <u>0-11</u>	10YR 5/1	<u>90</u>	10YR 4/6	<u>10</u>	<u>C</u>	<u>RC</u>	Silty Clay Loam		
1-	0		D14 D 1 114			0 1 10	21.0	5	
		-	, RM=Reduced M			r Coated S	and Grains. Lo		L=Pore Lining, M=Matrix
_		plicable to	all LRRs, unless of					1	rs for Problematic Hydric Soils <sup>3</sup> :
l —	sol (A1)		·	ndy Redo					m Muck (A10)
	Epipedon (A2) Histic (A3)			ripped Ma	` '	(E1) (ove	ont MIPA 1)		d Parent Material (TF2) ry Shallow Dark Surface (TF12)
	nistic (A3) ogen Sulfide (A4)			-	ky Millerai ed Matrix		ept MLRA 1)		ner (Explain in Remarks)
	eted Below Dark S	urface (A11		pleted M		(12)		0	iei (Expiaiii iii Neiliaiks)
	Dark Surface (A1	•	· —		Surface (F	6)		3Indicat	tors of hydrophytic vegetation and
	/ Mucky Mineral (				ark Surface				d hydrology must be present, unless
. —	Gleyed Matrix (S			•	essions (F8				ed or problematic.
Restrictiv	e Layer (if preser	nt):							
Type:								Usalain	Sail Drasaut2 Vos
Depth (in								пуштс	Soil Present? Yes
Remarks:									
VDDOLOG	· · ·								
YDROLOG	y Hydrology Indicat	tors							
			equired; check all	that apply	<b>/</b> )		S	Secondary	/ Indicators (two or more required)
Surfac	ce Water (A1)		Wa	ter-Staine	ed Leaves (	(B9)	_	Water	-Stained Leaves (B9)( <b>MLRA 1,2,4A,4B</b> )
High \	Water Table (A2)		(e	xcept ML	RA 1,2,4A,	and 4B)	-	Draina	age Patterns (B10)
Satura	ation (A3)		Sal	t Crust (B	11)		-	Dry-Se	eason Water Table (C2)
Water	Marks (B1)				rtebrates (	•	-	Satura	ation Visible on Aerial Imagery (C9)
Sedim	ent Deposits (B2)	)	Ну	drogen Su	lfide Odor	(C1)	-	Geom	orphic Position (D2)
	Deposits (B3)		<del></del>		•	•	ng Roots (C3)	Shallo	w Aquitard (D3)
	Mat or Crust (B4)				Reduced Ir		-		eutral Test (D5)
	eposits (B5)				Reduction				d Ant Mounds (D6)(LRR A)
	ce Soil Cracks (B6)				tressed Pla		.RR A)	Frost-	Heave Hummocks (D7)
	ation Visible on A	_	· · · · —	ner (Expla	in in Rema	rks)			
	ely Vegetated Cor	icave Surra	се (ва)				-		
Field Obse	ervations: /ater Present? <u>No</u>	n	Depth (in	ches).					
	ole Present? <u>No</u>	<del>_</del>	Depth (in	-					
	Present? No	<del></del> '	Depth (in						
	apillary fringe)						Wetland Hydro		ent? Yes
Describe F	Recorded Data (st	ream gauge	e, monitoring well	ı, aerial ph	notos, prev	vious inspe	ections), if available	2:	
Remarks:									

Project/Site: NEXT Renewable Fuels Oregon - Mitigation Applicant/Owner: NEXT Renewable Fuels LLC State: OR Investigator(s): Sue Brady Section, Township, Landform (hillslope, terrace, etc.): Flats Local relief (concave) Subregion (LRR): Northwest Forests & Coast (LRR A) Soil Map Unit Name: Wauna-Locoda silt loams, protected Are climatic/hydrologic conditions on the site typical for th Are Vegetation, Soil, or Hydrology significantly di Are Vegetation, Soil, or Hydrology naturally prob  SUMMARY OF FINDINGS - Attach site map showing Hydrophytic Vegetation Present? Yes Hydric Soil Present? Yes Wetland Hydrology Present? Yes Remarks:	Range: T8N R4W e, convex, none) Lat: <u>4</u> NWI classificatio is time of year? sturbed? lematic?	t locations, 1	Are "Normal C (if needed, ex <sub>l</sub> transects, im	ks.) Circumstances" present? <u>Yes</u> plain any answers in Remarks.)
VEGETATION – Use scientific names of plants.	Absolute %	Dominant	Indicator	Dominance Test worksheet:
<u>Tree Stratum</u> (Plot size: <u>25 m²</u> )	Cover	Dominant Species?	Status	Number of Dominant Species
1. Populus balsamifera	100	Yes	FAC	That Are OBL, FACW, or FAC: $\underline{4}$ (A)
2.				_ , , _ , _ , ,
3.				Total Number of Dominant
4. Total Cover = 100				Species Across All Strata: $\underline{4}$ (B)
Total Cover = <u>100</u>				Percent of Dominant Species
Sapling/Shrub Stratum (Plot size: 25m <sup>2</sup> )	20	W	FA.C	That Are OBL, FACW, or FAC: 100 (A/B)
1. <u>Sambucus nigra</u> 2.	<u>20</u>	<u>Yes</u>	FAC	Prevalence Index worksheet:
3.				Total % Cover of: Multiply by:
4.				OBL species $\underline{0}$ $\times 1 = \underline{0}$
5.				FACW species $\underline{0}$ x 2 = $\underline{0}$ FAC species 220 x 3 = 660
Total Cover = <u>20</u>				FAC species $\underline{220}$ x 3 = $\underline{660}$ FACU species $\underline{0}$ x 4 = $\underline{0}$
Herb Stratum (Plot size: 4 m <sup>2</sup> )  1. Ranunculus repens	<u>60</u>	<u>Yes</u>	FAC	UPL species $\underline{0}$ $\times$ 5 = $\underline{0}$
2.	00	163	FAC	Column Totals: <u>220</u> (A) <u>660</u> (B)
3.				Browley as Index B/A 200
4.				Prevalence Index = B/A = 3.00
5.				Hydrophytic Vegetation Indicators:
6. 7.				1 –Rapid Test for Hydrophytic Vegetation
8.				X 2 – Dominance Test >50%
9.				X 3 - Prevalence Index is ≤ 3.0 <sup>1</sup> 4 - Morphological Adaptions <sup>1</sup> (Provide supporting
10.				data in Remarks or on a separate sheet)
11. Total Cover = <u>60</u>				5 – Wetland Non-Vascular Plants <sup>1</sup>
10tal cover = <u>00</u>				Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
Woody Vine Stratum (Plot size: 4 m <sup>2</sup> )				<sup>1</sup> Indicators of hydric soil and wetland hydrology
1. Rubus armeniacus	<u>40</u>	Yes	FAC	must be present, unless disturbed or problematic.
2.	<u></u>	100	17.0	must be present, amess distance of problematic.
Total Cover = <u>40</u>				
% Bare Ground in Herb Stratum: <u>40</u>				Hydrophytic Vegetation Present? Yes
Remarks:				

SOIL Sampling Point: <u>51</u>

	<u>Matri</u>	<u>x</u>		Redox Fe	atures					
Depth	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture		Remarks	
(inches)										
<u>0-3</u>	10YR 3/2	<u>100</u>					Silty Clay Loam			
3-16	10YR 4/2	<u>95</u>	10YR 4/6	<u>5</u>	<u>C</u>	<u>M</u>	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 So	il Indicators: (Ap	plicable to	all LRRs, unless of	therwise i	noted.)			Indicato	rs for Problematic Hydric Soils <sup>3</sup> :	
Histos	sol (A1)		Sa	ndy Redo	x (S5)			2 cr	m Muck (A10)	
	Epipedon (A2)		· <u></u>	ripped Ma					d Parent Material (TF2)	
	Histic (A3)		<del></del>	• •	` '	(F1) (exc	ept MLRA 1)		ry Shallow Dark Surface (TF12)	
l ——	ogen Sulfide (A4)			-	ed Matrix		,		ner (Explain in Remarks)	
	ted Below Dark S	urface (A1:	· <u></u>	pleted M		,			- ( )	
	Dark Surface (A1	-	· —		Surface (F	6)		3Indicat	tors of hydrophytic vegetation and	
	Mucky Mineral (				ark Surface			1	d hydrology must be present, unless	
l — ·	, Gleyed Matrix (S			•	essions (F8			disturb	ed or problematic.	
_	e Layer (if preser		<u> </u>	<u> </u>	· ·	<u>*                                      </u>				
Type:		,.								
Depth (in	ches): <u>0</u>							Hydric	Soil Present? Yes	
Remarks:										
VDD0100										
YDROLOG										
	Hydrology Indicat Idicators (minimu		equired; check all	that apply	<b>(</b> )		S	Secondary	/ Indicators (two or more required)	
Surfac	ce Water (A1)		Wa	ter-Staine	ed Leaves (	'B9)		Water	Stained Leaves (B9)(MLRA 1,2,4A,4B)	
	Water Table (A2)				RA 1,2,4A,	. ,	-		age Patterns (B10)	
X Satura	• •		•	t Crust (B:			-		eason Water Table (C2)	
	· Marks (B1)		·	•	, rtebrates (	B13)	-		ation Visible on Aerial Imagery (C9)	
	ent Deposits (B2)	١			lfide Odor	•	-		orphic Position (D2)	
	Deposits (B3)	'		_			ng Roots (C3)		w Aquitard (D3)	
	Mat or Crust (B4)				Reduced Ir	_			eutral Test (D5)	
	eposits (B5)		·		Reduction		oils (C6)		Ant Mounds (D6)(LRR A)	
	ce Soil Cracks (B6)	1	·		tressed Pla				Heave Hummocks (D7)	
	ation Visible on A				in in Rema				(27)	
	ely Vegetated Cor	_		.c. (_xp.a		,				
Field Obse	· •		()							
	ater Present? No	)	Depth (in	ches):						
Water Tak	ole Present? Ye	<u> </u>	Depth (ir	nches): <u>15</u>	1					
	n Present? Ye	<u>!S</u>	Depth (ir	nches): <u>10</u>	<u>)</u>		Medicality	l B		
	apillary fringe)			ا ما اما اما		.: :	Wetland Hydro		entr res	
Describe i	Recorded Data (St	ream gaug	e, monitoring weil	i, aeriai pr	iotos, prev	rious inspe	ections), if available	2:		
Remarks:										

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

Project/Site: <u>NEXT Renewable Fuels Oregon - Mitigat</u>	ion City/Coun	ty: <u>Columbia</u>		Sampling Date: <u>10/15/2020</u>
Applicant/Owner: <u>NEXT Renewable Fuels LLC</u> State:	: <u>OR</u>			Sampling Point: <u>52</u>
nvestigator(s): <u>Sue Brady</u> Section, Town	ship, Range: <u>T8N R4W</u>	Section 21		
Landform (hillslope, terrace, etc.): <u>Flats</u> Local relief (co	oncave, convex, none):	none S	Slope (%): <u>0</u>	
Subregion (LRR): Northwest Forests & Coast (LRR A)			Long: <u>-123.16</u>	885600 Datum: <u>WGS84</u>
Soil Map Unit Name: Wauna silt loam, protected NW			<u> </u>	<del></del>
Are climatic/hydrologic conditions on the site typical		Yes (if no. exp	lain in Remark	cs.)
Are Vegetation, Soil, or Hydrology significar	· ·			Circumstances" present? <u>Yes</u>
Are Vegetation, Soil, or Hydrology naturally				plain any answers in Remarks.)
the regetation, son, or rivationegy naturally	problematic.	,	(ii iiccaca, cx	ordin arry answers in nemarks.
SUMMARY OF FINDINGS – Attach site map sho	wing campling point	· locations t	rancacts im	nortant features, etc
Hydrophytic Vegetation Present? Yes	willig sampling point	l locations, t	iransects, iii	portant reatures, etc.
Hydric Soil Present? Yes				
' <del>-</del>		Is the	Sampled Area	a within a Wetland? Yes
			•	
Remarks:				
/EGETATION – Use scientific names of plants.	AL 1 . 0/		1	
Tree Chartery (Diet size, 25 m²)	Absolute %	Dominant	Indicator	Dominance Test worksheet:
<u>Tree Stratum</u> (Plot size: <u>25 m²</u> )  1. Populus balsamifera	Cover	Species?	Status	Number of Dominant Species That Are ORL EACW or EAC:  (4.(A)
2.	<u>100</u>	<u>Yes</u>	<u>FAC</u>	That Are OBL, FACW, or FAC: $\underline{4}$ (A)
3.				Total Number of Dominant
4.				Species Across All Strata: <u>4</u> (B)
Total Cover = 100				_ ( ,
Sapling/Shrub Stratum (Plot size: 0 )				Percent of Dominant Species
1.				That Are OBL, FACW, or FAC: <u>100</u> (A/B)
2.				Prevalence Index worksheet:
3.				Total % Cover of: Multiply by:
4.				OBL species $\underline{0}$ x 1 = $\underline{0}$
5.				FACW species $\underline{0}$ x 2 = $\underline{0}$
Total Cover = <u>0</u>				FAC species $\frac{125}{2}$ x 3 = $\frac{375}{2}$
Herb Stratum (Plot size: 40 m <sup>2</sup> )				FACU species $\underline{0}$ $\times$ 4 = $\underline{0}$
1. Poa palustris	<u>10</u>	<u>Yes</u>	<u>FAC</u>	UPL species $\underline{0}$ x 5 = $\underline{0}$ Column Totals: $\underline{125}$ (A) $\underline{375}$ (B)
2. <u>Urtica dioica</u>	<u>5</u>	<u>Yes</u>	<u>FAC</u>	Column Totals. <u>125</u> (A) <u>575</u> (b)
3. 4.				Prevalence Index = B/A = 3.00
5.				,
6.				Hydrophytic Vegetation Indicators:
7.				1 –Rapid Test for Hydrophytic Vegetation
8.				X 2 – Dominance Test >50%
9.				$\frac{X}{X}$ 3 - Prevalence Index is $\leq 3.0^1$
10.				4 - Morphological Adaptions <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
11.				5 – Wetland Non-Vascular Plants <sup>1</sup>
Total Cover = 15				Problematic Hydrophytic Vegetation¹ (Explain)
Woody Vine Stratum (Plot size: 4 m <sup>2</sup> )				<sup>1</sup> Indicators of hydric soil and wetland hydrology
1. Rubus armeniacus	<u>10</u>	<u>Yes</u>	<u>FAC</u>	must be present, unless disturbed or problematic.
2.				
Total Cover = 10				
% Bare Ground in Herb Stratum: <u>85</u>				Hydrophytic Vegetation Present? Yes
Remarks:				

SOIL Sampling Point: <u>52</u>

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

	Matri	X		Redox Fe	atures				
Depth	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture		Remarks
(inches)									
<u>0-5</u>	10YR 3/2	<u>100</u>					Silty Clay Loam		
5-16	10YR 4/2	<u>95</u>	10YR 4/6	<u>5</u>	<u>C</u>	RC	Silty Clay Loam		
			<u> </u>	_	_				
1T C	Composition D	Doubletien	DNA Dadwaad NA	- <b>-</b>	^	. Caatad C	and Cuaina 21 a	+: DI	Dave Limina NA Matrix
-Type: C	=Concentration, D	=Depletion	, RM=Reduced M	atrix, CS=0	Lovered o	Coated S	and GrainsLo	cation: Pi	_=Pore Lining, M=Matrix
Hydric So	oil Indicators: (Ap	plicable to	all LRRs, unless of	herwise i	noted.)			Indicato	rs for Problematic Hydric Soils <sup>3</sup> :
Histo	sol (A1)		Sa	ndy Redo	x (S5)			2 cr	m Muck (A10)
l —	Epipedon (A2)			ripped Ma					Parent Material (TF2)
	Histic (A3)		<del></del>	• •	` '	(F1) (exc	ept MLRA 1)		ry Shallow Dark Surface (TF12)
	ogen Sulfide (A4)			-	ed Matrix		<b>- Pt 111213 ( 2</b> )		er (Explain in Remarks)
	eted Below Dark S	urface (A11	<del></del>	pleted Ma		(12)			er (Explain in Nemarks)
	Dark Surface (A1:	•				۵۱		3Indicat	ors of hydrophytic vegetation and
	y Mucky Mineral (				Surface (F ark Surface				d hydrology must be present, unless
l — ·				•					ed or problematic.
	y Gleyed Matrix (S		K6	dox Depr	essions (F	3)		0.000.0	
	e Layer (if preser	nt):							
Type:								l le caluda e	Cail Busseut 3 Vos
Depth (in	ches): <u>0</u>							Hyaric	Soil Present? Yes
Remarks:									
W220100									
	Hydrology Indicat		oguirod: chock all	that apply	a)		c	Cocondan	Undicators (two or more required)
<b>Wetland</b> I Primary Ir	Hydrology Indicat ndicators (minimu		equired; check all				S		Indicators (two or more required)
<b>Wetland</b> I Primary Ir	Hydrology Indicat				v) ed Leaves	(B9)	S -		Indicators (two or more required) -Stained Leaves (B9)(MLRA 1,2,4A,4B)
Wetland I Primary Ir Surfac	Hydrology Indicat ndicators (minimu		Wa	ter-Staine		. ,	S -	Water	
Wetland I Primary IrSurfac	Hydrology Indicated indicators (minimuse Water (A1)		Wa	ter-Staine	ed Leaves (	. ,	S	Water Draina	-Stained Leaves (B9)(MLRA 1,2,4A,4B)
Wetland I Primary Ir Surface High V	Hydrology Indicat ndicators (minimu ce Water (A1) Water Table (A2)		Wa Sal	ter-Staine xcept ML t Crust (B:	ed Leaves (	and 4B)	S	Water Draina Dry-Se	-Stained Leaves (B9)(MLRA 1,2,4A,4B) ge Patterns (B10)
Wetland I Primary Ir Surfac High \SaturaWater	Hydrology Indicated indicators (minimusce Water (A1) Water Table (A2) ation (A3)	ım of one re	Wa Sal Aqı	ter-Staine xcept ML t Crust (B2 uatic Inve	ed Leaves ( RA 1,2,4A,	and 4B)	S	WaterDrainaDry-Se	-Stained Leaves (B9)(MLRA 1,2,4A,4B) age Patterns (B10) ason Water Table (C2)
Wetland I Primary Ir Surfac High \ Satura Water Sedim	Hydrology Indicated andicators (minimusce Water (A1) Water Table (A2) ation (A3) r Marks (B1)	ım of one re	Wa ( <b>e</b> Sal Aqı Hyo	ter-Staine xcept ML t Crust (B2 uatic Inve	ed Leaves ( RA 1,2,4A, L1) rtebrates ( Ifide Odor	B13) (C1)	- - - - - ng Roots (C3)	Water Draina Dry-Se Satura Geom	-Stained Leaves (B9)(MLRA 1,2,4A,4B)  age Patterns (B10)  ason Water Table (C2)  tion Visible on Aerial Imagery (C9)
Wetland I Primary Ir Surfac High \ Satura Watel Sedim Drift I	Hydrology Indicators (minimuse Water (A1) Water Table (A2) ation (A3) r Marks (B1) nent Deposits (B2)	ım of one re	Wa (e Sal Aq Hyo X_Oxi	ter-Staine xcept MLI t Crust (B: uatic Inve drogen Su dized Rhiz	ed Leaves ( RA 1,2,4A, L1) rtebrates ( Ifide Odor	B13) (C1) along Livir	- - - -	Water Draina Dry-Se Satura Geom Shallo	-Stained Leaves (B9)(MLRA 1,2,4A,4B)  Ige Patterns (B10)  Igeson Water Table (C2)  Ition Visible on Aerial Imagery (C9)  Igesorphic Position (D2)
Wetland I Primary Ir Surfac High I Satura Water Sedim Drift I	Hydrology Indicated andicators (minimuse Water (A1) Water Table (A2) ation (A3) r Marks (B1) ment Deposits (B2) Deposits (B3) Mat or Crust (B4)	ım of one re	Wa Sal Aqı Hyu YOxi Pre	ter-Staine xcept ML t Crust (B: uatic Inve drogen Su dized Rhiz sence of I	ed Leaves ( RA 1,2,4A, L1) rtebrates ( Ifide Odor ospheres Reduced Ir	B13) (C1) along Livin	- - - - ng Roots (C3)	Water Draina Dry-Se Satura Geom Shallo FAC-N	-Stained Leaves (B9)(MLRA 1,2,4A,4B) age Patterns (B10) asson Water Table (C2) tion Visible on Aerial Imagery (C9) orphic Position (D2) w Aquitard (D3) eutral Test (D5)
Wetland I Primary Ir Surfac High I Satura Water Sedim Drift I Algal I	Hydrology Indicated Indicators (minimulated Water (A1) Water Table (A2) action (A3) In Marks (B1) Inent Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5)	m of one re	WaSalAqıHyoX_OxiPre	ter-Staine xcept ML t Crust (B: uatic Inve- drogen Su dized Rhiz sence of I	ed Leaves ( RA 1,2,4A, L1) rtebrates ( Ifide Odor ospheres Reduced Ir	B13) (C1) along Livinon (C4) in Tilled S		Water Draina Dry-Se Satura Geom Shallo FAC-N Raised	-Stained Leaves (B9)(MLRA 1,2,4A,4B)  age Patterns (B10)  ason Water Table (C2)  tion Visible on Aerial Imagery (C9)  orphic Position (D2)  w Aquitard (D3)  eutral Test (D5)  I Ant Mounds (D6)(LRR A)
Wetland I Primary Ir Surfac High I Satura Water Sedim Drift I Algal I Iron D Surfac	Hydrology Indicated andicators (minimulated Water (A1)) Water Table (A2) ation (A3) or Marks (B1) nent Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) Ce Soil Cracks (B6)	m of one re	Wa	ter-Staine xcept ML t Crust (B: uatic Inver- drogen Sur dized Rhiz sence of Interest Iron Interest	ed Leaves ( RA 1,2,4A, L1) rtebrates ( Ifide Odor ospheres Reduced Ir Reduction cressed Pla	B13) (C1) along Livin con (C4) in Tilled S ants (D1)(I		Water Draina Dry-Se Satura Geom Shallo FAC-N Raised	-Stained Leaves (B9)(MLRA 1,2,4A,4B) age Patterns (B10) asson Water Table (C2) tion Visible on Aerial Imagery (C9) orphic Position (D2) w Aquitard (D3) eutral Test (D5)
Wetland I Primary Ir  Surfac High \ Satura Water Sedim Drift I Algal I Iron D Surfac	Hydrology Indicated andicators (minimusce Water (A1) Water Table (A2) ation (A3) r Marks (B1) nent Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) ce Soil Cracks (B6) ation Visible on A	erial Image	Wa	ter-Staine xcept ML t Crust (B: uatic Inver- drogen Sur dized Rhiz sence of Interest Iron Interest	ed Leaves ( RA 1,2,4A, L1) rtebrates ( Ifide Odor ospheres Reduced Ir	B13) (C1) along Livin con (C4) in Tilled S ants (D1)(I		Water Draina Dry-Se Satura Geom Shallo FAC-N Raised	-Stained Leaves (B9)(MLRA 1,2,4A,4B)  age Patterns (B10)  ason Water Table (C2)  tion Visible on Aerial Imagery (C9)  orphic Position (D2)  w Aquitard (D3)  eutral Test (D5)  I Ant Mounds (D6)(LRR A)
Wetland I Primary Ir Surfac High I Satura Water Sedim Drift I Algal I Iron D Surfac Inund Sparse	Hydrology Indicated indicators (minimuse Water (A1)) Water Table (A2) ation (A3) In Marks (B1) Inent Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) In Soil Cracks (B6) Ation Visible on A Bely Vegetated Cor	erial Image	Wa	ter-Staine xcept ML t Crust (B: uatic Inver- drogen Sur dized Rhiz sence of Interest Iron Interest	ed Leaves ( RA 1,2,4A, L1) rtebrates ( Ifide Odor ospheres Reduced Ir Reduction cressed Pla	B13) (C1) along Livin con (C4) in Tilled S ants (D1)(I		Water Draina Dry-Se Satura Geom Shallo FAC-N Raised	-Stained Leaves (B9)(MLRA 1,2,4A,4B)  age Patterns (B10)  ason Water Table (C2)  tion Visible on Aerial Imagery (C9)  orphic Position (D2)  w Aquitard (D3)  eutral Test (D5)  I Ant Mounds (D6)(LRR A)
Wetland I Primary Ir Surfac High I Satura Water Sedim Drift I Algal I Iron D Surfac Inund Sparse	Hydrology Indicated indicators (minimulated Water (A1)) Water Table (A2) ation (A3) In Marks (B1) In Marks (B3) Mat or Crust (B4) Deposits (B5) De Soil Cracks (B6) ation Visible on A dely Vegetated Core	erial Image	Wa	ter-Staine xcept ML t Crust (B: uatic Inve- drogen Su dized Rhiz sence of I cent Iron I nted or Si ner (Explai	ed Leaves ( RA 1,2,4A, L1) rtebrates ( Ifide Odor ospheres Reduced Ir Reduction cressed Pla	B13) (C1) along Livin con (C4) in Tilled S ants (D1)(I		Water Draina Dry-Se Satura Geom Shallo FAC-N Raised	-Stained Leaves (B9)(MLRA 1,2,4A,4B)  age Patterns (B10)  ason Water Table (C2)  tion Visible on Aerial Imagery (C9)  orphic Position (D2)  w Aquitard (D3)  eutral Test (D5)  I Ant Mounds (D6)(LRR A)
Wetland I Primary Ir  Surfac High I Satura Water Sedim Drift I Algal I Iron D Surfac Inund Sparse Surface W	Hydrology Indicated andicators (minimulated Water (A1)) Water Table (A2) action (A3) or Marks (B1) Deposits (B3) Mat or Crust (B4) Deposits (B5) De Soil Cracks (B6) action Visible on Action Vi	erial Image	Wa	ter-Staine xcept ML t Crust (B: uatic Inver- drogen Su dized Rhiz sence of I tent Iron I nted or Stainer (Explainance):	ed Leaves ( RA 1,2,4A, L1) rtebrates ( Ifide Odor ospheres Reduced Ir Reduction cressed Pla	B13) (C1) along Livin con (C4) in Tilled S ants (D1)(I		Water Draina Dry-Se Satura Geom Shallo FAC-N Raised	-Stained Leaves (B9)(MLRA 1,2,4A,4B)  age Patterns (B10)  ason Water Table (C2)  tion Visible on Aerial Imagery (C9)  orphic Position (D2)  w Aquitard (D3)  eutral Test (D5)  I Ant Mounds (D6)(LRR A)
Wetland I Primary Ir Surface High V Satura Water Sedim Drift I Algal I Iron D Surface Inund Sparse Surface W Water Tal	Hydrology Indicated andicators (minimulated Water (A1)) Water Table (A2) action (A3) or Marks (B1) ment Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) ce Soil Cracks (B6) action Visible on A dely Vegetated Corervations: Vater Present? No	erial Image ncave Surface	Wa	ter-Staine xcept ML t Crust (B: uatic Inve drogen Su dized Rhiz sence of I cent Iron I nted or Si ner (Explainer): ches):	ed Leaves ( RA 1,2,4A, L1) rtebrates ( Ifide Odor ospheres Reduced Ir Reduction cressed Pla	B13) (C1) along Livin con (C4) in Tilled S ants (D1)(I		Water Draina Dry-Se Satura Geom Shallo FAC-N Raised	-Stained Leaves (B9)(MLRA 1,2,4A,4B)  age Patterns (B10)  ason Water Table (C2)  tion Visible on Aerial Imagery (C9)  orphic Position (D2)  w Aquitard (D3)  eutral Test (D5)  I Ant Mounds (D6)(LRR A)
Wetland I Primary Ir Surfac High V Satura Water Sedim Drift I Algal I Iron D Surfac Inund Sparse Field Obse Surface W Water Tal Saturation	Hydrology Indicated andicators (minimulated Water (A1)) Water Table (A2) action (A3) or Marks (B1) Deposits (B3) Mat or Crust (B4) Deposits (B5) De Soil Cracks (B6) action Visible on Action Visible Ordervations: Vater Present? Notice Present? Notice Visible Present?	erial Image ncave Surface	Wa	ter-Staine xcept ML t Crust (B: uatic Inve drogen Su dized Rhiz sence of I cent Iron I nted or Si ner (Explainer): ches):	ed Leaves ( RA 1,2,4A, L1) rtebrates ( Ifide Odor ospheres Reduced Ir Reduction cressed Pla	B13) (C1) along Livin con (C4) in Tilled S ants (D1)(I		Water Draina Dry-Se Satura Geom Shallo FAC-N Raised Frost-l	-Stained Leaves (B9)(MLRA 1,2,4A,4B) age Patterns (B10) asson Water Table (C2) tion Visible on Aerial Imagery (C9) orphic Position (D2) w Aquitard (D3) eutral Test (D5) I Ant Mounds (D6)(LRR A) Heave Hummocks (D7)
Wetland I Primary Ir Surface High V Satura Water Sedim Drift I Algal I Iron D Surface Inund Sparse Surface W Water Tal Saturation (includes co	Hydrology Indicated andicators (minimulated Water (A1)) Water Table (A2) action (A3) or Marks (B1) Deposits (B3) Mat or Crust (B4) Deposits (B5) De Soil Cracks (B6) action Visible on A cely Vegetated Corervations: Vater Present? No Deposits (B6) or Present? No Deposits (B6) or Present? No Deposits (B6)	erial Image ncave Surface	Wa	ter-Staine xcept ML t Crust (B: uatic Invedrogen Sudized Rhizesence of Internal Invedrogen Sudized Rhizesence (Explainment	ed Leaves ( RA 1,2,4A, I1) rtebrates ( Ifide Odor cospheres Reduced Ir Reduction cressed Pla in in Rema	and 4B) (C1) along Livin con (C4) in Tilled S ants (D1)(I		Water Draina Dry-Se Satura Geom Shallo FAC-N Raised Frost-l	-Stained Leaves (B9)(MLRA 1,2,4A,4B) age Patterns (B10) asson Water Table (C2) tion Visible on Aerial Imagery (C9) orphic Position (D2) w Aquitard (D3) eutral Test (D5) I Ant Mounds (D6)(LRR A) Heave Hummocks (D7)
Wetland I Primary Ir Surface High V Satura Water Sedim Drift I Algal I Iron D Surface Inund Sparse Surface W Water Tal Saturation (includes co	Hydrology Indicated andicators (minimulated Water (A1)) Water Table (A2) action (A3) or Marks (B1) Deposits (B3) Mat or Crust (B4) Deposits (B5) De Soil Cracks (B6) action Visible on A cely Vegetated Corervations: Vater Present? No Deposits (B6) or Present? No Deposits (B6) or Present? No Deposits (B6)	erial Image ncave Surface	Wa	ter-Staine xcept ML t Crust (B: uatic Invedrogen Sudized Rhizesence of Internal Invedrogen Sudized Rhizesence (Explainment	ed Leaves ( RA 1,2,4A, I1) rtebrates ( Ifide Odor cospheres Reduced Ir Reduction cressed Pla in in Rema	and 4B) (C1) along Livin con (C4) in Tilled S ants (D1)(I	ng Roots (C3) oils (C6) RR A) Wetland Hydro	Water Draina Dry-Se Satura Geom Shallo FAC-N Raised Frost-l	-Stained Leaves (B9)(MLRA 1,2,4A,4B) age Patterns (B10) asson Water Table (C2) tion Visible on Aerial Imagery (C9) orphic Position (D2) w Aquitard (D3) eutral Test (D5) I Ant Mounds (D6)(LRR A) Heave Hummocks (D7)
Wetland I Primary Ir Surface Water Sedim Drift I Algal I Iron D Surface Inund Sparse Field Obse Surface W Water Tal Saturation (includes ca	Hydrology Indicated andicators (minimulated Water (A1)) Water Table (A2) action (A3) or Marks (B1) Deposits (B3) Mat or Crust (B4) Deposits (B5) De Soil Cracks (B6) action Visible on A cely Vegetated Corervations: Vater Present? No Deposits (B6) or Present? No Deposits (B6) or Present? No Deposits (B6)	erial Image ncave Surface	Wa	ter-Staine xcept ML t Crust (B: uatic Invedrogen Sudized Rhizesence of Internal Invedrogen Sudized Rhizesence (Explainment	ed Leaves ( RA 1,2,4A, I1) rtebrates ( Ifide Odor cospheres Reduced Ir Reduction cressed Pla in in Rema	and 4B) (C1) along Livin con (C4) in Tilled S ants (D1)(I	ng Roots (C3) oils (C6) RR A) Wetland Hydro	Water Draina Dry-Se Satura Geom Shallo FAC-N Raised Frost-l	-Stained Leaves (B9)(MLRA 1,2,4A,4B) age Patterns (B10) asson Water Table (C2) tion Visible on Aerial Imagery (C9) orphic Position (D2) w Aquitard (D3) eutral Test (D5) I Ant Mounds (D6)(LRR A) Heave Hummocks (D7)
Wetland I Primary Ir Surface High V Satura Water Sedim Drift I Algal I Iron D Surface Inund Sparse Surface W Water Tal Saturation (includes care	Hydrology Indicated andicators (minimulated Water (A1)) Water Table (A2) action (A3) or Marks (B1) Deposits (B3) Mat or Crust (B4) Deposits (B5) De Soil Cracks (B6) action Visible on A cely Vegetated Corervations: Vater Present? No Deposits (B6) or Present? No Deposits (B6) or Present? No Deposits (B6)	erial Image ncave Surface	Wa	ter-Staine xcept ML t Crust (B: uatic Invedrogen Sudized Rhizesence of Internal Invedrogen Sudized Rhizesence (Explainment	ed Leaves ( RA 1,2,4A, I1) rtebrates ( Ifide Odor cospheres Reduced Ir Reduction cressed Pla in in Rema	and 4B) (C1) along Livin con (C4) in Tilled S ants (D1)(I	ng Roots (C3) oils (C6) RR A) Wetland Hydro	Water Draina Dry-Se Satura Geom Shallo FAC-N Raised Frost-l	-Stained Leaves (B9)(MLRA 1,2,4A,4B) age Patterns (B10) asson Water Table (C2) tion Visible on Aerial Imagery (C9) orphic Position (D2) w Aquitard (D3) eutral Test (D5) I Ant Mounds (D6)(LRR A) Heave Hummocks (D7)
Wetland I Primary Ir Surface Water Sedim Drift I Algal I Iron D Surface Inund Sparse Field Obse Surface W Water Tal Saturation (includes ca	Hydrology Indicated andicators (minimulated Water (A1)) Water Table (A2) action (A3) or Marks (B1) Deposits (B3) Mat or Crust (B4) Deposits (B5) De Soil Cracks (B6) action Visible on A cely Vegetated Corervations: Vater Present? No Deposits (B6) or Present? No Deposits (B6) or Present? No Deposits (B6)	erial Image ncave Surface	Wa	ter-Staine xcept ML t Crust (B: uatic Invedrogen Sudized Rhizesence of Internal Invedrogen Sudized Rhizesence (Explainment	ed Leaves ( RA 1,2,4A, I1) rtebrates ( Ifide Odor cospheres Reduced Ir Reduction cressed Pla in in Rema	and 4B) (C1) along Livin con (C4) in Tilled S ants (D1)(I	ng Roots (C3) oils (C6) RR A) Wetland Hydro	Water Draina Dry-Se Satura Geom Shallo FAC-N Raised Frost-l	-Stained Leaves (B9)(MLRA 1,2,4A,4B) age Patterns (B10) asson Water Table (C2) tion Visible on Aerial Imagery (C9) orphic Position (D2) w Aquitard (D3) eutral Test (D5) I Ant Mounds (D6)(LRR A) Heave Hummocks (D7)
Wetland I Primary Ir Surface Water Sedim Drift I Algal I Iron D Surface Inund Sparse Field Obse Surface W Water Tal Saturation (includes ca	Hydrology Indicated andicators (minimulated Water (A1)) Water Table (A2) action (A3) or Marks (B1) Deposits (B3) Mat or Crust (B4) Deposits (B5) De Soil Cracks (B6) action Visible on A cely Vegetated Corervations: Vater Present? No Deposits (B6) or Present? No Deposits (B6) or Present? No Deposits (B6)	erial Image ncave Surface	Wa	ter-Staine xcept ML t Crust (B: uatic Invedrogen Sudized Rhizesence of Internal Invedrogen Sudized Rhizesence (Explainment	ed Leaves ( RA 1,2,4A, I1) rtebrates ( Ifide Odor cospheres Reduced Ir Reduction cressed Pla in in Rema	and 4B) (C1) along Livin con (C4) in Tilled S ants (D1)(I	ng Roots (C3) oils (C6) RR A) Wetland Hydro	Water Draina Dry-Se Satura Geom Shallo FAC-N Raised Frost-l	-Stained Leaves (B9)(MLRA 1,2,4A,4B) age Patterns (B10) asson Water Table (C2) tion Visible on Aerial Imagery (C9) orphic Position (D2) w Aquitard (D3) eutral Test (D5) I Ant Mounds (D6)(LRR A) Heave Hummocks (D7)

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

Project/Site: NEXT Renewable Fuels Oregon - Mitigation Applicant/Owner: NEXT Renewable Fuels LLC Investigator(s): Sue Brady Section, Township Landform (hillslope, terrace, etc.): Flats Local relief (conca Subregion (LRR): Northwest Forests & Coast (LRR A) Soil Map Unit Name: Udipsamments, nearly level, protect Are climatic/hydrologic conditions on the site typical for t Are Vegetation, Soil, or Hydrology significantly Are Vegetation, Soil, or Hydrology naturally pro  SUMMARY OF FINDINGS — Attach site map showin Hydrophytic Vegetation Present? Yes Hydric Soil Present? Yes Wetland Hydrology Present? Yes Remarks:	ve, Range: <u>T8N R4W</u> ve, convex, none) Lat: <u>4</u> red NWI c his time of year? disturbed? blematic?	: <u>none</u> 6.16363800 lassification: <u>Yes</u> (if no, exp	lain in Remark Are "Normal C (if needed, ex transects, im	cs.) Circumstances" present? <u>Yes</u> Dlain any answers in Remarks.)
VEGETATION – Use scientific names of plants.				
True Chartery (Dist. 1 25 2 )	Absolute %	Dominant	Indicator	Dominance Test worksheet:
<u>Tree Stratum</u> (Plot size: <u>25 m²</u> )  1. Populus balsamifera	Cover <u>100</u>	Species? Yes	Status FAC	Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A)
2.	100	103	<u>IAC</u>	111at Are Obt, FACW, OF FAC. <u>5</u> (A)
3.				Total Number of Dominant
4.				Species Across All Strata: <u>3</u> (B)
Total Cover = <u>100</u>				Percent of Deminant Species
Sapling/Shrub Stratum (Plot size: 0 )				Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)
1.				Prevalence Index worksheet:
2. 3.				_Total % Cover of:Multiply by:
4.				OBL species $\underline{0}$ $\times 1 = \underline{0}$
5.				FACW species $\underline{0}$ x 2 = $\underline{0}$
Total Cover = <u>0</u>				FAC species $\underline{115}$ x 3 = $\underline{345}$
Herb Stratum (Plot size: 4 m <sup>2</sup> )				FACU species $\underline{0}$ $\times$ 4 = $\underline{0}$ UPL species $\underline{0}$ $\times$ 5 = $\underline{0}$
Equisetum arvense     2.	<u>10</u>	<u>Yes</u>	<u>FAC</u>	Column Totals: <u>115</u> (A) <u>345</u> (B)
3.				
4.				Prevalence Index = $B/A = 3.00$
5.				Hydrophytic Vegetation Indicators:
6.				1 –Rapid Test for Hydrophytic Vegetation
7. 8.				X 2 – Dominance Test >50%
9.				$\underline{X}$ 3 - Prevalence Index is ≤ 3.0 <sup>1</sup>
10.				4 - Morphological Adaptions <sup>1</sup> (Provide supporting
11.				data in Remarks or on a separate sheet)  5 – Wetland Non-Vascular Plants <sup>1</sup>
Total Cover = <u>10</u>				Problematic Hydrophytic Vegetation¹ (Explain)
Woody Vine Stratum (Plot size: 4 m <sup>2</sup> )	_	.,		<sup>1</sup> Indicators of hydric soil and wetland hydrology
1. Rubus armeniacus 2.	<u>5</u>	<u>Yes</u>	<u>FAC</u>	must be present, unless disturbed or problematic.
Total Cover =5				
% Bare Ground in Herb Stratum: <u>90</u>				Hydrophytic Vegetation Present? Yes
Remarks:	<del>.</del>			<del></del>

SOIL Sampling Point: <u>53</u>

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

**Redox Features** 

Matrix

	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture		Remarks
(inches)									
<u>0-7</u>	<u>10YR 3/2</u>	<u>100</u>					Silty Clay Loam		
7-18	10YR 4/2	<u>95</u>	10YR 4/6	<u>5</u>	<u>C</u>	<u>RC</u>	Silty Clay Loam		
¹Typo: C-	-Concontration D	-Donlotion	l n, RM=Reduced Ma	ntriv CS-0	Covered o	Coatod S	and Grains 21 o	ocation: D	L=Pore Lining, M=Matrix
Type. C-	-concentration, D	-Depletioi	i, Kivi–Kedacea ivi	atrix, C5–0	Lovered O	Coated	and Grains.		
Hydric So	oil Indicators: (App	olicable to	all LRRs, unless of	herwise r	oted.)			Indicato	rs for Problematic Hydric Soils <sup>3</sup> :
Histos	sol (A1)		Sa	ndy Redo	x (S5)			2 cı	m Muck (A10)
Histic	Epipedon (A2)		St	ripped Ma	trix (S6)			Rec	d Parent Material (TF2)
Black	Histic (A3)		Lo	amy Mucl	ky Minera	(F1) (exc	ept MLRA 1)	Ve	ry Shallow Dark Surface (TF12)
Hydro	ogen Sulfide (A4)		Lo	amy Gley	ed Matrix	(F2)		Oth	ner (Explain in Remarks)
Deple	eted Below Dark S	urface (A1	1) X De	pleted Ma	atrix (F3)				
· ·	Dark Surface (A12				Surface (F	6)		3Indica	tors of hydrophytic vegetation and
	y Mucky Mineral (				rk Surface				d hydrology must be present, unless
l — ·	y Gleyed Matrix (S	-	· · · · · · · · · · · · · · · · · · ·		essions (F				ed or problematic.
				dox bepi		-1			
Type:	e Layer (if presen	it):							
Depth (in	choc): 0							Hydric	Soil Present? Yes
-	· <del>-</del>							11,411.10	
Remarks:									
YDROLOG	GY								
YDROLOG	GY Hydrology Indicat	ors:							
Wetland I	Hydrology Indicat		equired; check all	that apply	·)			Secondary	y Indicators (two or more required)
<b>Wetland I</b> Primary Ir	<b>Hydrology Indicat</b> ndicators (minimu		· · · · · · · · · · · · · · · · · · ·			(B9)			
Wetland I Primary Ir Surfac	Hydrology Indicat ndicators (minimu ce Water (A1)		Wa	ter-Staine	d Leaves			Water	r-Stained Leaves (B9)(MLRA 1,2,4A,4B)
Wetland In Primary In Surface High V	Hydrology Indicat ndicators (minimu ce Water (A1) Water Table (A2)		Wa	ter-Staine	ed Leaves (		-	Water Draina	r-Stained Leaves (B9)( <b>MLRA 1,2,4A,4B</b> ) age Patterns (B10)
Wetland I Primary IrSurfacHigh \Satura	Hydrology Indicated Indicators (minimustee Water (A1) Water Table (A2) Sation (A3)		Wa ( <b>e</b> Sal	ter-Staine xcept MLI t Crust (B1	ed Leaves ( RA 1,2,4A,	and 4B)	- - -	WaterDraina	r-Stained Leaves (B9)(MLRA 1,2,4A,4B) age Patterns (B10) eason Water Table (C2)
Wetland I Primary IrSurfacHigh \Satura _Water	Hydrology Indicat Indicators (minimu Se Water (A1) Water Table (A2) Indication (A3) Indication (A3)	m of one r	Wa ( <b>e</b> Sal: Aqu	ter-Staine xcept MLI t Crust (B2 uatic Inve	ed Leaves ( RA 1,2,4A, 11) rtebrates (	and 4B)	- - - -	Water Draina Dry-Se Satura	r-Stained Leaves (B9)(MLRA 1,2,4A,4B) age Patterns (B10) eason Water Table (C2) ation Visible on Aerial Imagery (C9)
Wetland I Primary Ir Surface High V Satura Water Sedim	Hydrology Indicated indicators (minimuse Water (A1) Water Table (A2) ation (A3) or Marks (B1) ment Deposits (B2)	m of one r	Wa ( <b>e</b> Sal Aqı Hyo	ter-Staine xcept MLi t Crust (B2 uatic Invel drogen Su	ed Leaves ( RA 1,2,4A, 11) rtebrates ( Ifide Odor	and 4B) B13) (C1)	- - - -	Water Draina Dry-Se Satura	r-Stained Leaves (B9)(MLRA 1,2,4A,4B) age Patterns (B10) eason Water Table (C2) ation Visible on Aerial Imagery (C9) orphic Position (D2)
Wetland I Primary Ir Surfac High V Satura Water Sedim Drift E	Hydrology Indicated Indicators (minimulated Water (A1) Water Table (A2) ation (A3) r Marks (B1) nent Deposits (B2) Deposits (B3)	m of one r	Wa ( <b>e</b> Sal: Aqı Hyo X_Oxio	ter-Staine xcept MLI t Crust (B2 uatic Inver drogen Su dized Rhiz	ed Leaves ( RA 1,2,4A, 11) rtebrates ( Ifide Odor ospheres	and 4B) (B13) (C1) along Livin	- - - - - - ng Roots (C3)	Water Draina Dry-Se Satura Geom Shallo	r-Stained Leaves (B9)(MLRA 1,2,4A,4B) age Patterns (B10) eason Water Table (C2) ation Visible on Aerial Imagery (C9) orphic Position (D2) w Aquitard (D3)
Wetland I Primary Ir Surfac High V Satura Water Sedim Drift I	Hydrology Indicated Indicators (minimuster Water (A1) Water Table (A2) ation (A3) or Marks (B1) ment Deposits (B2) Deposits (B3) Mat or Crust (B4)	m of one r	Wa Sal: Aqu Hyo Yoxi: Pre	ter-Staine xcept MLI t Crust (B1 uatic Inver drogen Su dized Rhiz sence of I	d Leaves ( RA 1,2,4A, L1) rtebrates ( Ifide Odor ospheres Reduced Ir	B13) (C1) along Livingon (C4)	- - - - ng Roots (C3)	Water Draina Dry-Se Satura Geom Shallo FAC-N	r-Stained Leaves (B9)(MLRA 1,2,4A,4B) age Patterns (B10) eason Water Table (C2) ation Visible on Aerial Imagery (C9) orphic Position (D2) w Aquitard (D3) leutral Test (D5)
Wetland I Primary Ir Surfac High V Satura Water Sedim Drift I Algal I	Hydrology Indicated Indicators (minimuster Water (A1)) Water Table (A2) Action (A3) In Marks (B1) In Marks (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5)	m of one r	Wa 	ter-Staine xcept MLI t Crust (B2 uatic Inver drogen Su dized Rhiz sence of I	d Leaves ( RA 1,2,4A, L1) rtebrates ( Ifide Odor ospheres Reduced Ir	B13) (C1) along Livingon (C4) in Tilled S		Water Draina Dry-Se Satura Geom Shallo FAC-N Raisec	r-Stained Leaves (B9)(MLRA 1,2,4A,4B) age Patterns (B10) eason Water Table (C2) ation Visible on Aerial Imagery (C9) orphic Position (D2) w Aquitard (D3) leutral Test (D5) d Ant Mounds (D6)(LRR A)
Wetland I Primary Ir Surfac High V Satura Water Sedim Drift I Algal I Iron D Surfac	Hydrology Indicated Indicators (minimuster Water (A1)) Water Table (A2) Action (A3) In Marks (B1) Inent Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) Ince Soil Cracks (B6)	m of one r	WaSalrAqıHyoYOxioPreRec	ter-Staine xcept MLI t Crust (B2 uatic Inver drogen Su dized Rhiz sence of I	ed Leaves ( RA 1,2,4A, 1.1) rtebrates ( Ifide Odor ospheres Reduced Ir Reduction ressed Pla	B13) (C1) along Livingon (C4) in Tilled Sonts (D1)(I		Water Draina Dry-Se Satura Geom Shallo FAC-N Raisec	r-Stained Leaves (B9)(MLRA 1,2,4A,4B) age Patterns (B10) eason Water Table (C2) ation Visible on Aerial Imagery (C9) orphic Position (D2) w Aquitard (D3) leutral Test (D5)
Wetland I Primary Ir Surfac High V Satura Water Sedim Drift I Algal I Iron D Surfac	Hydrology Indicated Indicators (minimulated Water (A1) Water Table (A2) Indication (A3) Indication (A3) Indication (B1) Indication (B2) Indication (B3) Indication (B4) Indication (B5) Indication (B5) Indication (B5) Indication (B6) Indica	m of one r	Wa	ter-Staine xcept MLI t Crust (B2 uatic Inver drogen Su dized Rhiz sence of I	d Leaves ( RA 1,2,4A, L1) rtebrates ( Ifide Odor ospheres Reduced Ir	B13) (C1) along Livingon (C4) in Tilled Sonts (D1)(I		Water Draina Dry-Se Satura Geom Shallo FAC-N Raisec	r-Stained Leaves (B9)(MLRA 1,2,4A,4B) age Patterns (B10) eason Water Table (C2) ation Visible on Aerial Imagery (C9) orphic Position (D2) w Aquitard (D3) leutral Test (D5) d Ant Mounds (D6)(LRR A)
Wetland I Primary Ir Surfac High V Satura Water Sedim Drift I Algal I Iron D Surfac	Hydrology Indicated Indicators (minimuster Water (A1)) Water Table (A2) Action (A3) In Marks (B1) Inent Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) Ince Soil Cracks (B6)	m of one r	Wa	ter-Staine xcept MLI t Crust (B2 uatic Inver drogen Su dized Rhiz sence of I	ed Leaves ( RA 1,2,4A, 1.1) rtebrates ( Ifide Odor ospheres Reduced Ir Reduction ressed Pla	B13) (C1) along Livingon (C4) in Tilled Sonts (D1)(I		Water Draina Dry-Se Satura Geom Shallo FAC-N Raisec	r-Stained Leaves (B9)(MLRA 1,2,4A,4B) age Patterns (B10) eason Water Table (C2) ation Visible on Aerial Imagery (C9) orphic Position (D2) w Aquitard (D3) leutral Test (D5) d Ant Mounds (D6)(LRR A)
Wetland I Primary Ir Surfac High V Satura Water Sedim Drift I Algal I Iron D Surfac Inund Sparse Field Obse	Hydrology Indicated Indicators (minimulated Water (A1)) Water Table (A2) Action (A3) In Marks (B1) In Marks (B3) Mat or Crust (B4) Deposits (B5) In See Soil Cracks (B6) Action Visible on A Ely Vegetated Concervations:	m of one r erial Image ncave Surfa	Wa	ter-Staine xcept MLI t Crust (B2 uatic Inver drogen Su dized Rhiz sence of I cent Iron I nted or St ner (Explai	ed Leaves ( RA 1,2,4A, 1.1) rtebrates ( Ifide Odor ospheres Reduced Ir Reduction ressed Pla	B13) (C1) along Livingon (C4) in Tilled Sonts (D1)(I		Water Draina Dry-Se Satura Geom Shallo FAC-N Raisec	r-Stained Leaves (B9)(MLRA 1,2,4A,4B) age Patterns (B10) eason Water Table (C2) ation Visible on Aerial Imagery (C9) orphic Position (D2) w Aquitard (D3) leutral Test (D5) d Ant Mounds (D6)(LRR A)
Wetland I Primary Ir  Surface High V Satura Water Sedim Drift I Algal I Iron D Surface Inund Sparse Surface W	Hydrology Indicated Indicators (minimuse Water (A1)) Water Table (A2) Action (A3) In Marks (B1) In Marks (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) De Soil Cracks (B6) Action Visible on Action Visible O	m of one r erial Image ncave Surfa	Wa	ter-Staine xcept MLI t Crust (B2 uatic Inver drogen Su dized Rhiz sence of I tent Iron I nted or St ner (Explai	ed Leaves ( RA 1,2,4A, 1.1) rtebrates ( Ifide Odor ospheres Reduced Ir Reduction ressed Pla	B13) (C1) along Livingon (C4) in Tilled Sonts (D1)(I		Water Draina Dry-Se Satura Geom Shallo FAC-N Raisec	r-Stained Leaves (B9)(MLRA 1,2,4A,4B) age Patterns (B10) eason Water Table (C2) ation Visible on Aerial Imagery (C9) orphic Position (D2) w Aquitard (D3) leutral Test (D5) d Ant Mounds (D6)(LRR A)
Wetland I Primary Ir  Surface High V Satura Water Sedim Drift I Algal I Iron D Surface Inund Sparse Field Obse Surface W Water Tab	Hydrology Indicated Indicators (minimuse Water (A1)) Water Table (A2) Action (A3) In Marks (B1) In Marks (B1) In Mater Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) In See Soil Cracks (B6) In Action Visible on Action Visible Ordervations:  Water Present? No	m of one r erial Image ncave Surfa	Wa	ter-Staine xcept MLI t Crust (B2 uatic Invertigen Sudized Rhiz sence of I cent Iron I nted or St her (Explain ches):	ed Leaves ( RA 1,2,4A, 1.1) rtebrates ( Ifide Odor ospheres Reduced Ir Reduction ressed Pla	B13) (C1) along Livingon (C4) in Tilled Sonts (D1)(I		Water Draina Dry-Se Satura Geom Shallo FAC-N Raisec	r-Stained Leaves (B9)(MLRA 1,2,4A,4B) age Patterns (B10) eason Water Table (C2) ation Visible on Aerial Imagery (C9) orphic Position (D2) w Aquitard (D3) leutral Test (D5) d Ant Mounds (D6)(LRR A)
Wetland I Primary Ir  Surface High V Satura Water Sedim Drift I Algal I Iron D Surface Inund Sparse Field Obse Surface W Water Tal Saturation	Hydrology Indicated Indicators (minimuse Water (A1)) Water Table (A2) Aution (A3) In Marks (B1) In Marks (B1) In Mater Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) In See Soil Cracks (B6) In Aution Visible on Aution Visible Ordervations: Vater Present? Note on Present? Note on Present? Note on Present?	m of one r erial Image ncave Surfa	Wa	ter-Staine xcept MLI t Crust (B2 uatic Invertigen Sudized Rhiz sence of I cent Iron I nted or St her (Explain ches):	ed Leaves ( RA 1,2,4A, 1.1) rtebrates ( Ifide Odor ospheres Reduced Ir Reduction ressed Pla	B13) (C1) along Livingon (C4) in Tilled Sonts (D1)(I	ng Roots (C3) oils (C6) RR A)	Water Draina Dry-Se Satura Geom Shallo FAC-N Raisec Frost-	r-Stained Leaves (B9)(MLRA 1,2,4A,4B) age Patterns (B10) eason Water Table (C2) ation Visible on Aerial Imagery (C9) orphic Position (D2) w Aquitard (D3) leutral Test (D5) d Ant Mounds (D6)(LRR A) Heave Hummocks (D7)
Wetland I Primary Ir  Surface High V Satura Water Sedim Drift I Algal I Iron D Surface Inund Sparse Field Obse Surface W Water Tal Saturation (includes ca	Hydrology Indicated Indicators (minimuse Water (A1) Water Table (A2) Action (A3) In Marks (B1) In Marks (B1) In Mater Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) In See Soil Cracks (B6) In Action Visible on Action Visible Ordervations: Vater Present? Note the Present? Note on Present?	erial Image ncave Surfa	Wa	ter-Staine xcept MLI t Crust (B2 uatic Invertigen Sudized Rhiz sence of I cent Iron I nted or St ner (Explain ches): ches): ches):	ed Leaves ( RA 1,2,4A, 11) retebrates ( Iffide Odor ospheres Reduced Ir Reduction cressed Pla n in Rema	and 4B) (C1) along Living (C4) in Tilled Sonts (D1)(I	oils (C6) RR A)  Wetland Hydro	Water Draina Dry-Se Satura Geom Shallo FAC-N Raisec Frost-	r-Stained Leaves (B9)(MLRA 1,2,4A,4B) age Patterns (B10) eason Water Table (C2) ation Visible on Aerial Imagery (C9) orphic Position (D2) w Aquitard (D3) leutral Test (D5) d Ant Mounds (D6)(LRR A) Heave Hummocks (D7)
Wetland I Primary Ir  Surface High V Satura Water Sedim Drift I Algal I Iron D Surface Inund Sparse Field Obse Surface W Water Tal Saturation (includes ca	Hydrology Indicated Indicators (minimuse Water (A1) Water Table (A2) Action (A3) In Marks (B1) In Marks (B1) In Mater Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) In See Soil Cracks (B6) In Action Visible on Action Visible Ordervations: Vater Present? Note the Present? Note on Present?	erial Image ncave Surfa	Wa	ter-Staine xcept MLI t Crust (B2 uatic Invertigen Sudized Rhiz sence of I cent Iron I nted or St ner (Explain ches): ches): ches):	ed Leaves ( RA 1,2,4A, 11) retebrates ( Iffide Odor ospheres Reduced Ir Reduction cressed Pla n in Rema	and 4B) (C1) along Living (C4) in Tilled Sonts (D1)(I	ng Roots (C3) oils (C6) RR A)	Water Draina Dry-Se Satura Geom Shallo FAC-N Raisec Frost-	r-Stained Leaves (B9)(MLRA 1,2,4A,4B) age Patterns (B10) eason Water Table (C2) ation Visible on Aerial Imagery (C9) orphic Position (D2) w Aquitard (D3) leutral Test (D5) d Ant Mounds (D6)(LRR A) Heave Hummocks (D7)
Wetland I Primary Ir  Surface High V Satura Water Sedim Drift I Algal I Iron D Surface Inund Sparse Field Obse Surface W Water Tal Saturation (includes ca	Hydrology Indicated Indicators (minimuse Water (A1) Water Table (A2) Action (A3) In Marks (B1) In Marks (B1) In Mater Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) In See Soil Cracks (B6) In Action Visible on Action Visible Ordervations: Vater Present? Note the Present? Note on Present?	erial Image ncave Surfa	Wa	ter-Staine xcept MLI t Crust (B2 uatic Invertigen Sudized Rhiz sence of I cent Iron I nted or St ner (Explain ches): ches): ches):	ed Leaves ( RA 1,2,4A, 11) retebrates ( Iffide Odor ospheres Reduced Ir Reduction cressed Pla n in Rema	and 4B) (C1) along Living (C4) in Tilled Sonts (D1)(I	oils (C6) RR A)  Wetland Hydro	Water Draina Dry-Se Satura Geom Shallo FAC-N Raisec Frost-	r-Stained Leaves (B9)(MLRA 1,2,4A,4B) age Patterns (B10) eason Water Table (C2) ation Visible on Aerial Imagery (C9) orphic Position (D2) w Aquitard (D3) leutral Test (D5) d Ant Mounds (D6)(LRR A) Heave Hummocks (D7)
Wetland I Primary Ir  Surface High V Satura Water Sedim Drift I Algal I Iron D Surface Inund Sparse Field Obse Surface W Water Tal Saturation (includes ca	Hydrology Indicated Indicators (minimuse Water (A1) Water Table (A2) Action (A3) In Marks (B1) In Marks (B1) In Mater Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) In See Soil Cracks (B6) In Action Visible on Action Visible Ordervations: Vater Present? Note the Present? Note on Present?	erial Image ncave Surfa	Wa	ter-Staine xcept MLI t Crust (B2 uatic Invertigen Sudized Rhiz sence of I cent Iron I nted or St ner (Explain ches): ches): ches):	ed Leaves ( RA 1,2,4A, 11) retebrates ( Iffide Odor ospheres Reduced Ir Reduction cressed Pla n in Rema	and 4B) (C1) along Living (C4) in Tilled Sonts (D1)(I	oils (C6) RR A)  Wetland Hydro	Water Draina Dry-Se Satura Geom Shallo FAC-N Raisec Frost-	r-Stained Leaves (B9)(MLRA 1,2,4A,4B) age Patterns (B10) eason Water Table (C2) ation Visible on Aerial Imagery (C9) orphic Position (D2) w Aquitard (D3) leutral Test (D5) d Ant Mounds (D6)(LRR A) Heave Hummocks (D7)
Wetland I Primary Ir Surfac High V Satura Water Sedim Drift I Algal I Iron D Surfac Inund Sparse Field Obse Surface W Water Tak Saturation (includes ca	Hydrology Indicated Indicators (minimuse Water (A1) Water Table (A2) Action (A3) In Marks (B1) In Marks (B1) In Mater Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) In See Soil Cracks (B6) In Action Visible on Action Visible Ordervations: Vater Present? Note the Present? Note on Present?	erial Image ncave Surfa	Wa	ter-Staine xcept MLI t Crust (B2 uatic Invertigen Sudized Rhiz sence of I cent Iron I nted or St ner (Explain ches): ches): ches):	ed Leaves ( RA 1,2,4A, 11) retebrates ( Iffide Odor ospheres Reduced Ir Reduction cressed Pla n in Rema	and 4B) (C1) along Living (C4) in Tilled Sonts (D1)(I	oils (C6) RR A)  Wetland Hydro	Water Draina Dry-Se Satura Geom Shallo FAC-N Raisec Frost-	r-Stained Leaves (B9)(MLRA 1,2,4A,4B) age Patterns (B10) eason Water Table (C2) ation Visible on Aerial Imagery (C9) orphic Position (D2) w Aquitard (D3) leutral Test (D5) d Ant Mounds (D6)(LRR A) Heave Hummocks (D7)
Wetland I Primary Ir Surfac High V Satura Water Sedim Drift I Algal I Iron D Surfac Inund Sparse Field Obse Surface W Water Tak Saturation (includes ca	Hydrology Indicated Indicators (minimuse Water (A1) Water Table (A2) Action (A3) In Marks (B1) In Marks (B1) In Mater Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) In See Soil Cracks (B6) In Action Visible on Action Visible Ordervations: Vater Present? Note the Present? Note on Present?	erial Image ncave Surfa	Wa	ter-Staine xcept MLI t Crust (B2 uatic Invertigen Sudized Rhiz sence of I cent Iron I nted or St ner (Explain ches): ches): ches):	ed Leaves ( RA 1,2,4A, 11) retebrates ( Iffide Odor ospheres Reduced Ir Reduction cressed Pla n in Rema	and 4B) (C1) along Living (C4) in Tilled Sonts (D1)(I	oils (C6) RR A)  Wetland Hydro	Water Draina Dry-Se Satura Geom Shallo FAC-N Raisec Frost-	r-Stained Leaves (B9)(MLRA 1,2,4A,4B) age Patterns (B10) eason Water Table (C2) ation Visible on Aerial Imagery (C9) orphic Position (D2) w Aquitard (D3) leutral Test (D5) d Ant Mounds (D6)(LRR A) Heave Hummocks (D7)
Wetland I Primary Ir  Surfac High V Satura Water Sedim Drift I Algal I Iron D Surfac Inund Sparse Field Obse Surface W Water Tak Saturation (includes ca	Hydrology Indicated Indicators (minimuse Water (A1) Water Table (A2) Action (A3) In Marks (B1) In Marks (B1) In Mater Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) In See Soil Cracks (B6) In Action Visible on Action Visible Ordervations: Vater Present? Note the Present? Note on Present?	erial Image ncave Surfa	Wa	ter-Staine xcept MLI t Crust (B2 uatic Invertigen Sudized Rhiz sence of I cent Iron I nted or St ner (Explain ches): ches): ches):	ed Leaves ( RA 1,2,4A, 11) retebrates ( Iffide Odor ospheres Reduced Ir Reduction cressed Pla n in Rema	and 4B) (C1) along Living (C4) in Tilled Sonts (D1)(I	oils (C6) RR A)  Wetland Hydro	Water Draina Dry-Se Satura Geom Shallo FAC-N Raisec Frost-	r-Stained Leaves (B9)(MLRA 1,2,4A,4B) age Patterns (B10) eason Water Table (C2) ation Visible on Aerial Imagery (C9) orphic Position (D2) w Aquitard (D3) leutral Test (D5) d Ant Mounds (D6)(LRR A) Heave Hummocks (D7)

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

Project/Site: <u>NEXT Renewable Fuels Oregon - Mit</u>	<u>ligation</u> City/Count	.y: <u>Columbia</u>	<u>l</u>	Sampling Date: <u>10/15/2020</u>
Applicant/Owner: NEXT Renewable Fuels LLC St	tate: <u>OR</u>			Sampling Point: <u>54</u>
Investigator(s): <u>Sue Brady</u> Section, To	ownship, Range: <u>T8N R4W</u>	Section 21		
Landform (hillslope, terrace, etc.): Flats Local relie	f (concave, convex, none):	none	Slope (%): <u>0</u>	
Subregion (LRR): Northwest Forests & Coast (LRR	A) Lat: 46	5.16369600	Long: -123.16	110500 Datum: <u>WGS84</u>
Soil Map Unit Name: <u>Udipsamments, nearly level</u> ,		assification:		<del></del>
Are climatic/hydrologic conditions on the site typ			· · · · · · · · · · · · · · · · · · ·	s)
Are Vegetation, Soil, or Hydrology signif	· ·	<u>co</u> () c		Circumstances" present? <u>Yes</u>
Are Vegetation, Soil, or Hydrology nature				plain any answers in Remarks.)
Are vegetation, soil, or rivarology natur	rany problematic:		(II riccucu, cx)	nair arry arrawers in Kernarks.
CLINANA A DV OF FINIDINICS Attack site or service	-lt			and the state of t
SUMMARY OF FINDINGS – Attach site map	snowing sampling point	locations,	transects, im	portant reatures, etc.
Hydrophytic Vegetation Present? Yes				
Hydric Soil Present? Yes		Is the	e Sampled Area	within a Wetland? Yes
Wetland Hydrology Present? <u>Yes</u>		15 (11)	e Jampieu Area	within a wetland: <u>res</u>
Remarks:				
VEGETATION – Use scientific names of plant	ts.			
	Absolute %	Dominant	Indicator	Dominance Test worksheet:
<u>Tree Stratum</u> (Plot size: <u>25 m²</u> )	Cover	Species?	Status	Number of Dominant Species
1. Populus balsamifera	<u>50</u>	Yes	<u>FAC</u>	That Are OBL, FACW, or FAC: $\underline{3}$ (A)
2.				
3.				Total Number of Dominant
4.				Species Across All Strata: <u>3</u> (B)
Total Cover = <u>50</u>				Dorsont of Dominant Species
Sapling/Shrub Stratum (Plot size: 0 )				Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)
1.				Prevalence Index worksheet:
2.				Total % Cover of: Multiply by:
3.				OBL species $0 \times 1 = 0$
4.				FACW species $\frac{20}{20}$ x 2 = $\frac{40}{20}$
5. Total Cover =0				FAC species 130 x 3 = 390
Herb Stratum (Plot size: 4 m <sup>2</sup> )				FACU species $\underline{0}$ x 4 = $\underline{0}$
1. Poa palustris	<u>70</u>	Yes	FAC	UPL species $\underline{0}$ x 5 = $\underline{0}$
Ranunculus repens	<u>70</u> <u>5</u>	No	FAC	Column Totals: <u>150</u> (A) <u>430</u> (B)
3. Rumex crispus	<u>5</u>	<u>No</u>	FAC	
4. Juncus balticus	<u>20</u>	Yes	FACW	Prevalence Index = $B/A = 2.87$
5.				
6.				Hydrophytic Vegetation Indicators:
7.				1 –Rapid Test for Hydrophytic Vegetation
8.				$\frac{X}{2}$ 2 – Dominance Test >50% $\frac{X}{3}$ 3 - Prevalence Index is ≤ 3.0 <sup>1</sup>
9.				4 - Morphological Adaptions <sup>1</sup> (Provide supporting
10.				data in Remarks or on a separate sheet)
11.				5 – Wetland Non-Vascular Plants <sup>1</sup>
Total Cover = 100				Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
Woody Vine Stratum (Plot size: 0 )				<sup>1</sup> Indicators of hydric soil and wetland hydrology
1.				must be present, unless disturbed or problematic.
2.				
Total Cover = <u>0</u>				
% Bare Ground in Herb Stratum: <u>0</u>				Hydrophytic Vegetation Present? Yes
Remarks:	<u>.                                      </u>		<u> </u>	

SOIL Sampling Point: <u>54</u>

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

**Redox Features** 

Matrix

Depth	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc²	Texture		Remarks	
(inches)	1015 0 10	0-	4000 440	_						
<u>0-9</u>	<u>10YR 3/2</u>	<u>95</u>	<u>10YR 4/6</u>	<u>5</u>	<u>C</u>	<u>M</u>	Silty Clay Loam			
¹Type: C=	=Concentration, D	=Depletior	n, RM=Reduced M	atrix, CS=	Covered o	r Coated S	Sand Grains. <sup>2</sup> Lo	cation: P	L=Pore Lining, M=Matrix	
Hvdric So	oil Indicators: (Ap	plicable to	all LRRs, unless of	herwise	noted.)			Indicato	ors for Problematic Hydric Soils <sup>3</sup> :	
	sol (A1)			ndy Redo				1	m Muck (A10)	
	Epipedon (A2)		·	ipped Ma					d Parent Material (TF2)	
	Histic (A3)					/E1\ /exe	ept MLRA 1)		ry Shallow Dark Surface (TF12)	
	ogen Sulfide (A4)				ed Matrix		ept MERA 1)		ner (Explain in Remarks)	
	eted Below Dark S	urfaco (A1	<u></u>			(Г2)		0	iei (Expiaiii iii Keiliaiks)	
		-			atrix (F3)	C)		3Indicat	tors of hydrophytic vogotation and	
	Dark Surface (A1				Surface (F				tors of hydrophytic vegetation and d hydrology must be present, unless	
l ——	y Mucky Mineral (		·		ark Surface				ed or problematic.	
	y Gleyed Matrix (S		KE	dox Depr	essions (F	3)				
	e Layer (if preser	it):								
Type:								Usednie	Soil Bresont? Voc	
Depth (in	ches): <u>0</u>							nyuric	Soil Present? Yes	
Remarks:										
YDROLOG	SY									
	Hydrology Indicat	ors:								
			equired; check all	that appl	y)		9	Secondary	Indicators (two or more required)	
Surfac	ce Water (A1)		Wa	ter-Stain	ed Leaves	(B9)		Water	r-Stained Leaves (B9)( <b>MLRA 1,2,4A,4B</b> )	
	Vater Table (A2)		· · · · · · · · · · · · · · · · · · ·		RA 1,2,4A		-		age Patterns (B10)	
X Satura				Crust (B		,,	-	Dramage Fatterns (B10) Dry-Season Water Table (C2)		
	r Marks (B1)				rtebrates (	(B13)	-	Saturation Visible on Aerial Imagery (C9)		
	nent Deposits (B2)				ılfide Odor		-		orphic Position (D2)	
	Deposits (B3)			_			ng Roots (C3)		w Aquitard (D3)	
	Mat or Crust (B4)				Reduced II	•	• • •		leutral Test (D5)	
	Deposits (B5)		· <del></del>		Reduction		-		d Ant Mounds (D6)(LRR A)	
					tressed Pla					
	ce Soil Cracks (B6)		·				LKK A)	FIOSt-	Heave Hummocks (D7)	
	ation Visible on A	U	, , , <u>—</u>	ier (Expia	in in Rema	irks)				
	ely Vegetated Cor	icave Surra	ce (B8)							
	<b>ervations:</b> /ater Present?  No		Donth (in	shock:						
	ble Present? Ye		Depth (in Depth (ir	•						
	n Present? Ye			iches): <u>0</u>						
	apillary fringe)	_	- <b> </b>				Wetland Hydro	logy Pres	ent? Yes	
Describe I	Recorded Data (st	ream gaug	e, monitoring well	, aerial pl	notos, prev	ious inspe	ections), if available	e:		
_										
Remarks:										
Remarks:										
Remarks:										
Remarks:										

# **APPENDIX C Site Photographs**



PHOTOGRAPH 1 - Wetland 1, looking south at Plots 1 and 1a. Photograph taken by Sue Brady on November 27, 2018.



PHOTOGRAPH 2 - Wetland 1, looking south at Plots 2 and 2a. Photograph taken by Sue Brady on November 28, 2018.



NEXT RENEWABLE FUELS OREGON WETLAND DELINEATION REPORT

**SITE PHOTOGRAPHS 1** 

**APPENDIX** 



PHOTOGRAPH 3 - Wetland 1, looking east at Plots 3 and 3a. Photograph taken by Sue Brady on November 27, 2018.



PHOTOGRAPH 4 - Wetland 1, looking north at Plots 4 and 4a. Photograph taken by Sue Brady on November 28, 2018.



NEXT RENEWABLE FUELS OREGON WETLAND DELINEATION REPORT

**SITE PHOTOGRAPHS 2** 

**APPENDIX** 



PHOTOGRAPH 5 - Wetland 1, looking west toward Plots 5 and 5a. Photograph taken by Sue Brady on October 23, 2018.



PHOTOGRAPH 6 - Wetland 1, looking south at Plots 6, 6a, 7 and 7a. Photograph taken by Sue Brady on November 28, 2018.



NEXT RENEWABLE FUELS OREGON WETLAND DELINEATION REPORT

**SITE PHOTOGRAPHS 3** 

**APPENDIX** 



PHOTOGRAPH 7 - Wetland 1, looking west at Plots 8 and 8a. Photograph taken by Sue Brady on November 28, 2018.



PHOTOGRAPH 8 - Wetland 1, looking east at Plots 9 and 9a. Photograph taken by Sue Brady on November 28, 2018.



NEXT RENEWABLE FUELS OREGON WETLAND DELINEATION REPORT

**SITE PHOTOGRAPHS 4** 

**APPENDIX** 



PHOTOGRAPH 9 - Wetland 1, looking south at Plots 10 and 10a. Photograph taken by Sue Brady on November 28, 2018.



PHOTOGRAPH 10 - Wetland 1, looking north at Plots 11 and 11a. Photograph taken by Sue Brady on November 28, 2018.



NEXT RENEWABLE FUELS OREGON WETLAND DELINEATION REPORT

**SITE PHOTOGRAPHS 5** 

**APPENDIX** 



PHOTOGRAPH 11 - Wetland 1, looking south at Plots 12 and 12a. Photograph taken by Sue Brady on November 28, 2018.



PHOTOGRAPH 12 - Wetland 1, looking north at Plots 17 and 17a. Photograph taken by Sue Brady on November 29, 2018.



NEXT RENEWABLE FUELS OREGON WETLAND DELINEATION REPORT

**SITE PHOTOGRAPHS 6** 

**APPENDIX** 



PHOTOGRAPH 13 - Wetland 1, looking west at Plot 13. Photograph taken by Sue Brady on November 29, 2018.



PHOTOGRAPH 14 - Wetland 1, looking west at Plot 14. Photograph taken by Sue Brady on November 29, 2018.



NEXT RENEWABLE FUELS OREGON WETLAND DELINEATION REPORT

**SITE PHOTOGRAPHS 7** 

**APPENDIX** 



PHOTOGRAPH 15 - Wetland 1, looking west at Plot 15. Photograph taken by Sue Brady on November 29, 2018.



PHOTOGRAPH 16 - Wetland 1, looking west at Plot 16. Photograph taken by Sue Brady on November 29, 2018.



NEXT RENEWABLE FUELS OREGON WETLAND DELINEATION REPORT

**SITE PHOTOGRAPHS 8** 

**APPENDIX** 



PHOTOGRAPH 17 - Wetland 1, looking north at the end of the ditch. Photograph taken by Sue Brady on October 22, 2018.



PHOTOGRAPH 18 - Looking west along the ditch at the southern edge of the study area. Photograph taken by Sue Brady on October 22, 2018.



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NEXT RENEWABLE FUELS OREGON, LLC

NEXT RENEWABLE FUELS OREGON WETLAND DELINEATION REPORT

**SITE PHOTOGRAPHS 9** 

**APPENDIX** 



PHOTOGRAPH 19 - Looking west along the ditch at the southern edge of the study area. Photograph taken by Sue Brady on October 22, 2018.



PHOTOGRAPH 20 - Wetland 1, Looking east at Plot 18. Photograph taken by Sue Brady on October 23, 2018.



NEXT RENEWABLE FUELS OREGON, LLC

NEXT RENEWABLE FUELS OREGON WETLAND DELINEATION REPORT

**SITE PHOTOGRAPHS 10** 

**APPENDIX** 



PHOTOGRAPH 21 - Wetland 1, looking northwest at Plot 19. Photograph taken by Sue Brady on November 29, 2018.



PHOTOGRAPH 22 - Wetland 1, Looking west at Plot 20. Photograph taken by Sue Brady on November 29, 2018.



NEXT RENEWABLE FUELS OREGON WETLAND DELINEATION REPORT

SITE PHOTOGRAPHS 11

**APPENDIX** 



PHOTOGRAPH 23 - Wetland 1, looking south at Plots 21 and 21a. Photograph taken by Sue Brady on November 29, 2018.



PHOTOGRAPH 24 - Wetland 1, Looking south at Plots 22 and 22a. Photograph taken by Sue Brady on November 29, 2018.



NEXT RENEWABLE FUELS OREGON WETLAND DELINEATION REPORT

**SITE PHOTOGRAPHS 12** 

**APPENDIX** 

PHOTOGRAPH 25 No longer applicable - Plots 23 and 23a removed from study area.



PHOTOGRAPH 26 - Wetland 1, Looking southwest at Plots 24 and 24a. Photograph taken by Sue Brady on November 29, 2018.



NEXT RENEWABLE FUELS OREGON, LLC

NEXT RENEWABLE FUELS OREGON WETLAND DELINEATION REPORT

**SITE PHOTOGRAPHS 13** 

**APPENDIX** 



PHOTOGRAPH 27 - Wetland 3, looking southeast at Plots 25 and 25a. Photograph taken by Sue Brady on November 29, 2018.



PHOTOGRAPH 28 - Wetland 3, Looking southeast at Plots 26 and 26a. Photograph taken by Sue Brady on November 29, 2018.



NEXT RENEWABLE FUELS OREGON WETLAND DELINEATION REPORT

**SITE PHOTOGRAPHS 14** 

**APPENDIX** 



PHOTOGRAPH 29 - Wetland 4, looking north at Plots 27 and 27a. Photograph taken by Sue Brady on November 29, 2018.



PHOTOGRAPH 30 - Wetland 1, Looking east at Plot 28. Photograph taken by Sue Brady on November 29, 2018.



NEXT RENEWABLE FUELS OREGON WETLAND DELINEATION REPORT

**SITE PHOTOGRAPHS 15** 

**APPENDIX** 



PHOTOGRAPH 31 - Wetland 1, looking west at Plot 29. Photograph taken by Sue Brady on April 12, 2019.



PHOTOGRAPH 32 - Wetland 1, Looking east at Plot 30. Photograph taken by Sue Brady on April 12, 2019.



NEXT RENEWABLE FUELS OREGON WETLAND DELINEATION REPORT

**SITE PHOTOGRAPHS 16** 

**APPENDIX** 



PHOTOGRAPH 33 - Wetland 1, looking south at Plot 31. Photograph taken by Sue Brady on November 14, 2019.



PHOTOGRAPH 34 - Wetland 1, Looking southeast at Plot 32. Photograph taken by Sue Brady on November 14, 2019.



NEXT RENEWABLE FUELS OREGON WETLAND DELINEATION REPORT

**SITE PHOTOGRAPHS 17** 

**APPENDIX** 



PHOTOGRAPH 35 - Wetland 1, looking southeast at Plot 33. Photograph taken by Sue Brady on November 14, 2019.



PHOTOGRAPH 36 - Wetland 1, Looking northeast at Plots 34 and 34a. Photograph taken by Sue Brady on November 14, 2019.



NEXT RENEWABLE FUELS OREGON, LLC

NEXT RENEWABLE FUELS OREGON WETLAND DELINEATION REPORT

**SITE PHOTOGRAPHS 18** 

**APPENDIX** 



PHOTOGRAPH 37 - Wetland 1, looking southeast at Plot 35. Photograph taken by Sue Brady on November 14, 2019.



PHOTOGRAPH 38 - Wetland 1, Looking northwest at Plot 38. Photograph taken by Sue Brady on November 14, 2019.



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NEXT RENEWABLE FUELS OREGON WETLAND DELINEATION REPORT

**SITE PHOTOGRAPHS 19** 

**APPENDIX** 



PHOTOGRAPH 39 - Wetland 2, looking northwest at Plots 40 and 40a. Photograph taken by Sue Brady on November 29, 2018.



PHOTOGRAPH 40 - Wetland 3, Looking northwest at Plot 41 and 41a. Photograph taken by Sue Brady on September 30, 2020.



NEXT RENEWABLE FUELS OREGON, LLC

NEXT RENEWABLE FUELS OREGON WETLAND DELINEATION REPORT

**SITE PHOTOGRAPHS 20** 

**APPENDIX** 



PHOTOGRAPH 41 - Wetland 3, looking northwest at Plots 42 and 42a. Photograph taken by Sue Brady on September 30, 2020.



PHOTOGRAPH 42 - Wetland 1, Looking northwest at Plot 43. Photograph taken by Sue Brady on April 8, 2021.



NEXT RENEWABLE FUELS OREGON WETLAND DELINEATION REPORT

**SITE PHOTOGRAPHS 21** 

**APPENDIX** 



PHOTOGRAPH 43 - Wetland 1, looking northwest at Plot 44. Photograph taken by Sue Brady on April 8, 2021.



PHOTOGRAPH 44 - Wetland 1 and intersecting ditches, looking northwest. Photograph taken by Sue Brady on April 8, 2021.



NEXT RENEWABLE FUELS OREGON WETLAND DELINEATION REPORT

**SITE PHOTOGRAPHS 22** 

**APPENDIX** 



PHOTOGRAPH 45 - Wetland 2, looking southeast at Plots 45 and 45a. Photograph taken by Sue Brady on November 29, 2018.



PHOTOGRAPH 46 - Wetland 5, looking southeast at Plots 46 and 46a. Photograph taken by Sue Brady on May 11, 2021.



NEXT RENEWABLE FUELS OREGON WETLAND DELINEATION REPORT

**SITE PHOTOGRAPHS 23** 

**APPENDIX** 



PHOTOGRAPH 47 - Wetland 6, looking southeast at Plots 47 and 47a. Photograph taken by Sue Brady on May 11, 2021.



PHOTOGRAPH 48 - Wetland 1, looking south at Plot 48. Photograph taken by Sue Brady on July 7, 2021.



NEXT RENEWABLE FUELS OREGON WETLAND DELINEATION REPORT

**SITE PHOTOGRAPHS 24** 

**APPENDIX** 



PHOTOGRAPH 49 - Wetland 1, looking north at Plot 49. Photograph taken by Sue Brady on July 7, 2021.



PHOTOGRAPH 50 - Wetland 1, looking northeast at Plot 50. Photograph taken by Sue Brady on October 14, 2020.



NEXT RENEWABLE FUELS OREGON WETLAND DELINEATION REPORT

**SITE PHOTOGRAPHS 25** 

**APPENDIX** 



PHOTOGRAPH 51 - Wetland 1, looking northwest at Plot 51. Photograph taken by Sue Brady on October 14, 2020.



PHOTOGRAPH 52 - Wetland 1, looking northeast at Plot 52. Photograph taken by Sue Brady on October 15, 2020.



NEXT RENEWABLE FUELS OREGON WETLAND DELINEATION REPORT

**SITE PHOTOGRAPHS 26** 

**APPENDIX** 



PHOTOGRAPH 53 - Wetland 1, looking northeast at Plot 53. Photograph taken by Sue Brady on October 15, 2020.



PHOTOGRAPH 54 - Wetland 1, looking southwest at Plot 54. Photograph taken by Sue Brady on October 15, 2020.



NEXT RENEWABLE FUELS OREGON WETLAND DELINEATION REPORT

**SITE PHOTOGRAPHS 27** 

**APPENDIX** 

## **APPENDIX D Additional Information**

WETS Station: CLATSKANIE, OR Requested years: 1971 - 2000

	Tem	peratur	e (°F)	Precipitation (inches)						
Month	Avg daily	Avg daily	Avg daily	Avg		chance have	Avg number of days with	Average total		
	max	min	mean	11,8	less than	more than	0.10 inch or more	snowfall		
Jan	45.3	33.6	39.5	8.28	5.13	10.00	14	2.4		
Feb	49.8	34.8	42.3	6.74	4.56	8.06	13	1.3		
Mar	54.6	37.1	45.8	5.94	4.36	6.98	14	0.3		
Apr	58.9	39.5	49.2	4.08	2.85	4.85	10	0.0		
May	64.2	44.5	54.4	2.70	1.82	3.22	8	0.0		
Jun	68.3	49.1	58.7	1.83	1.28	2.17	6	0.0		
Jul	73.6	52.6	63.1	0.84	0.40	1.01	2	0.0		
Aug	74.6	53.0	63.8	0.96	0.40	1.17	3	0.0		
Sep	71.6	48.8	60.2	2.22	0.72	2.65	5	0.0		
Oct	61.7	42.3	52.0	4.08	2.17	4.98	8	0.0		
Nov	50.7	37.6	44.2	8.84	5.92	10.59	15	0.4		
Dec	44.9	33.9	39.4	9.12	6.35	10.83	15	1.4		
Annual:					49.06	61.32				
Average	59.8	42.2	51.0	_	_	-	-	-		
Total	-	_	_	55.62			114	5.7		

### **GROWING SEASON DATES**

Requested years of data:	1971 - 2000		
Years with missing data:	$24 \deg = 1$	$28 \deg = 1$	$32 \deg = 0$
Years with no occurrence:	$24 \deg = 8$	$28 \deg = 0$	$32 \deg = 0$
Data years used:	$24 \deg = 29$	$28 \deg = 29$	$32 \deg = 30$

	Temperature						
Probability	24 F or higher	28 F or higher	32 F or higher				
Tiobability		Beginning and Ending Dates Growing Season Length					
50 percent *	1/24 to 12/22 332 days		4/17 to 10/28 194 days				
70 percent *	12/29 to 1/17 384 days		4/10 to 11/4 208 days				

<sup>\*</sup> Percent chance of the growing season occurring between the Beginning and Ending dates.

Monthly Total Precipitation for CLATSKANIE, OR

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
2017	5.27	11.23	11.27	5.38	2.55	1.27	0.02	0.17	2.21	7.39	12.14	5.76	64.66
2018	9.29	4.98	4.21	6.34	0.16	1.00	0.01	0.45	2.52	4.41	5.17	8.43	46.97
2019	4.70	5.62	1.40	4.58	1.69	1.03	1.17	0.40	3.22	3.57	2.59	8.49	38.46
2020	16.44	7.00	3.76	2.20	3.21	2.93	0.58	0.29	4.75	5.12	9.24	7.67	63.19
2021	10.60	М	3.22	1.18	1.72	2.78	М	М	М	М	М	М	М
Mean	9.26	7.21	4.77	3.94	1.87	1.80	0.44	0.33	3.18	5.12	7.29	7.59	53.32

Date	Max Temperature	Min Temperature	Avg Temperature	GDD Base 40	GDD Base 50	Precipitation	Snowfall	Snow Depth
2018-10-01	66	52	59.0	19	9	0.00	0.0	0
2018-10-02	65	51	58.0	18	8	0.00	0.0	0
2018-10-03	63	37	50.0	10	0	0.00	0.0	0
2018-10-04	62	39	50.5	11	1	0.00	0.0	0
2018-10-05	61	42	51.5	12	2	0.04	0.0	0
2018-10-06	54	44	49.0	9	0	0.30	0.0	0
2018-10-07	62	43	52.5	13	3	0.23	0.0	0
2018-10-08	53	51	52.0	12	2	0.13	0.0	0
2018-10-09	60	52	56.0	16	6	0.18	0.0	0
2018-10-10	64	48	56.0	16	6	0.00	0.0	0
2018-10-11	64	37	50.5	11	1	0.00	0.0	0
2018-10-12	67	37	52.0	12	2	0.00	0.0	0
2018-10-13	66	37	51.5	12	2	0.00	0.0	0
2018-10-14	65	32	48.5	9	0	0.00	0.0	0
2018-10-15	69	32	50.5	11	1	0.00	0.0	0
2018-10-16	72	36	54.0	14	4	0.00	0.0	0
2018-10-17	73	33	53.0	13	3	0.00	0.0	0
2018-10-18	74	35	54.5	15	5	0.00	0.0	0
2018-10-19	60	37	48.5	9	0	0.00	0.0	0
2018-10-20	56	38	47.0	7	0	0.00	0.0	0
2018-10-21	61	40	50.5	11	1	0.00	0.0	0
2018-10-22	62	39	50.5	11	1	0.00	0.0	0
2018-10-23	64	39	51.5	12	2	0.00	0.0	0
2018-10-24	56	41	48.5	9	0	0.00	0.0	0
2018-10-25	60	46	53.0	13	3	0.28	0.0	0
2018-10-26	60	46	53.0	13	3	0.60	0.0	0
2018-10-27	62	47	54.5	15	5	0.02	0.0	0
2018-10-28	58	49	53.5	14	4	1.39	0.0	0
2018-10-29	56	42	49.0	9	0	0.99	0.0	0
2018-10-30	57	42	49.5	10	0	0.05	0.0	0
2018-10-31	56	48	52.0	12	2	0.20	0.0	0
Average Sum	62.2	41.7	51.9	378	76	4.41	0.0	0.0

Date	Max Temperature	Min Temperature	Avg Temperature	GDD Base 40	GDD Base 50	Precipitation	Snowfall	Snow Depth
2018-11-01	54	49	51.5	12	2	0.35	0.0	0
2018-11-02	62	54	58.0	18	8	0.28	0.0	0
2018-11-03	60	50	55.0	15	5	0.05	0.0	0
2018-11-04	58	51	54.5	15	5	0.47	0.0	0
2018-11-05	60	42	51.0	11	1	0.10	0.0	0
2018-11-06	57	40	48.5	9	0	0.23	0.0	0
2018-11-07	56	37	46.5	7	0	0.03	0.0	0
2018-11-08	53	30	41.5	2	0	0.02	0.0	0
2018-11-09	52	29	40.5	1	0	0.00	0.0	0
2018-11-10	47	31	39.0	0	0	0.03	0.0	0
2018-11-11	50	29	39.5	0	0	0.02	0.0	0
2018-11-12	57	28	42.5	3	0	0.00	0.0	0
2018-11-13	59	29	44.0	4	0	0.00	0.0	0
2018-11-14	51	29	40.0	0	0	0.12	0.0	0
2018-11-15	48	42	45.0	5	0	0.00	0.0	0
2018-11-16	53	39	46.0	6	0	0.02	0.0	0
2018-11-17	53	35	44.0	4	0	0.02	0.0	0
2018-11-18	55	28	41.5	2	0	0.01	0.0	0
2018-11-19	54	27	40.5	1	0	0.00	0.0	0
2018-11-20	53	27	40.0	0	0	0.00	0.0	0
2018-11-21	53	27	40.0	0	0	0.02	0.0	0
2018-11-22	48	41	44.5	5	0	0.29	0.0	0
2018-11-23	49	43	46.0	6	0	0.93	0.0	0
2018-11-24	49	32	40.5	1	0	0.29	0.0	0
2018-11-25	46	30	38.0	0	0	0.02	0.0	0
2018-11-26	46	38	42.0	2	0	0.08	0.0	0
2018-11-27	55	45	50.0	10	0	1.05	0.0	0
2018-11-28	53	43	48.0	8	0	0.55	0.0	0
2018-11-29	51	38	44.5	5	0	0.05	0.0	0
2018-11-30	51	39	45.0	5	0	0.14	0.0	0
Average Sum	53.1	36.7	44.9	157	21	5.17	0.0	0.0

Date	Max Temperature	Min Temperature	Avg Temperature	GDD Base 40	GDD Base 50	Precipitation	Snowfall	Snow Depth
2019-03-01	42	29	35.5	0	0	0.05	0.0	0
2019-03-02	52	26	39.0	0	0	0.00	0.0	0
2019-03-03	53	22	37.5	0	0	0.01	0.0	0
2019-03-04	46	18	32.0	0	0	0.00	0.0	0
2019-03-05	44	18	31.0	0	0	0.00	0.0	0
2019-03-06	49	18	33.5	0	0	0.00	0.0	0
2019-03-07	38	28	33.0	0	0	0.22	Т	0
2019-03-08	45	27	36.0	0	0	0.02	Т	0
2019-03-09	44	28	36.0	0	0	0.17	0.0	0
2019-03-10	49	23	36.0	0	0	0.00	0.0	0
2019-03-11	53	24	38.5	0	0	0.00	0.0	0
2019-03-12	55	25	40.0	0	0	0.35	0.0	0
2019-03-13	48	38	43.0	3	0	0.27	0.0	0
2019-03-14	52	31	41.5	2	0	0.00	0.0	0
2019-03-15	54	31	42.5	3	0	0.00	0.0	0
2019-03-16	62	33	47.5	8	0	0.00	0.0	0
2019-03-17	70	31	50.5	11	1	0.00	0.0	0
2019-03-18	70	30	50.0	10	0	0.00	0.0	0
2019-03-19	73	33	53.0	13	3	0.00	0.0	0
2019-03-20	74	35	54.5	15	5	0.00	0.0	0
2019-03-21	74	38	56.0	16	6	0.00	0.0	0
2019-03-22	59	34	46.5	7	0	0.00	0.0	0
2019-03-23	54	38	46.0	6	0	0.03	0.0	0
2019-03-24	57	36	46.5	7	0	0.00	0.0	0
2019-03-25	60	36	48.0	8	0	0.00	0.0	0
2019-03-26	50	33	41.5	2	0	0.13	0.0	0
2019-03-27	59	31	45.0	5	0	0.00	0.0	0
2019-03-28	51	34	42.5	3	0	0.15	0.0	0
2019-03-29	51	32	41.5	2	0	0.00	0.0	0
2019-03-30	67	34	50.5	11	1	0.00	0.0	0
2019-03-31	68	33	50.5	11	1	0.00	0.0	0
Average Sum	55.6	29.9	42.7	143	17	1.40	T	0.0

Date	Max Temperature	Min Temperature	Avg Temperature	GDD Base 40	GDD Base 50	Precipitation	Snowfall	Snow Depth
2019-04-01	69	33	51.0	11	1	0.00	0.0	0
2019-04-02	67	46	56.5	17	7	0.05	0.0	0
2019-04-03	60	47	53.5	14	4	0.51	0.0	0
2019-04-04	59	41	50.0	10	0	0.03	0.0	0
2019-04-05	59	44	51.5	12	2	0.19	0.0	0
2019-04-06	58	40	49.0	9	0	0.42	0.0	0
2019-04-07	59	40	49.5	10	0	0.70	0.0	0
2019-04-08	55	46	50.5	11	1	0.02	0.0	0
2019-04-09	62	46	54.0	14	4	0.43	0.0	0
2019-04-10	56	44	50.0	10	0	0.08	0.0	0
2019-04-11	52	46	49.0	9	0	0.79	0.0	0
2019-04-12	52	46	49.0	9	0	0.35	0.0	0
2019-04-13	57	42	49.5	10	0	0.00	0.0	0
2019-04-14	53	38	45.5	6	0	0.25	0.0	0
2019-04-15	51	37	44.0	4	0	0.15	0.0	0
2019-04-16	52	42	47.0	7	0	0.12	0.0	0
2019-04-17	58	46	52.0	12	2	0.18	0.0	0
2019-04-18	63	44	53.5	14	4	0.05	0.0	0
2019-04-19	71	49	60.0	20	10	0.00	0.0	0
2019-04-20	71	48	59.5	20	10	0.18	0.0	0
2019-04-21	62	44	53.0	13	3	0.00	0.0	0
2019-04-22	59	37	48.0	8	0	0.00	0.0	0
2019-04-23	59	42	50.5	11	1	0.08	0.0	0
2019-04-24	56	38	47.0	7	0	0.00	0.0	0
2019-04-25	63	34	48.5	9	0	0.00	0.0	0
2019-04-26	69	35	52.0	12	2	0.00	0.0	0
2019-04-27	58	45	51.5	12	2	0.00	0.0	0
2019-04-28	55	37	46.0	6	0	0.00	0.0	0
2019-04-29	63	33	48.0	8	0	0.00	0.0	0
2019-04-30	66	33	49.5	10	0	0.00	0.0	0
Average Sum	59.8	41.4	50.6	325	53	4.58	0.0	0.0

Date	Max Temperature	Min Temperature	Avg Temperature	GDD Base 40	GDD Base 50	Precipitation	Snowfall	Snow Depth
2019-11-01	54	24	39.0	0	0	0.00	0.0	0
2019-11-02	60	28	44.0	4	0	0.00	0.0	0
2019-11-03	61	28	44.5	5	0	0.00	0.0	0
2019-11-04	52	35	43.5	4	0	0.00	0.0	0
2019-11-05	55	35	45.0	5	0	0.00	0.0	0
2019-11-06	52	34	43.0	3	0	0.00	0.0	0
2019-11-07	59	30	44.5	5	0	0.00	0.0	0
2019-11-08	59	30	44.5	5	0	0.00	0.0	0
2019-11-09	57	38	47.5	8	0	0.06	0.0	0
2019-11-10	53	44	48.5	9	0	0.09	0.0	0
2019-11-11	55	46	50.5	11	1	0.00	0.0	0
2019-11-12	64	42	53.0	13	3	0.10	0.0	0
2019-11-13	49	46	47.5	8	0	0.07	0.0	0
2019-11-14	56	39	47.5	8	0	0.00	0.0	0
2019-11-15	55	39	47.0	7	0	0.20	0.0	0
2019-11-16	56	39	47.5	8	0	0.08	0.0	0
2019-11-17	55	39	47.0	7	0	0.08	0.0	0
2019-11-18	54	50	52.0	12	2	0.15	0.0	0
2019-11-19	53	46	49.5	10	0	0.96	0.0	0
2019-11-20	53	31	42.0	2	0	0.05	0.0	0
2019-11-21	53	29	41.0	1	0	0.00	0.0	0
2019-11-22	51	27	39.0	0	0	0.00	0.0	0
2019-11-23	51	27	39.0	0	0	0.03	0.0	0
2019-11-24	49	37	43.0	3	0	0.17	0.0	0
2019-11-25	52	35	43.5	4	0	0.38	0.0	0
2019-11-26	50	34	42.0	2	0	0.10	0.0	0
2019-11-27	40	31	35.5	0	0	0.07	0.0	0
2019-11-28	47	24	35.5	0	0	0.00	0.0	0
2019-11-29	45	21	33.0	0	0	0.00	0.0	0
2019-11-30	40	18	29.0	0	0	0.00	0.0	0
Average Sum	53.0	34.2	43.6	144	6	2.59	0.0	0.0

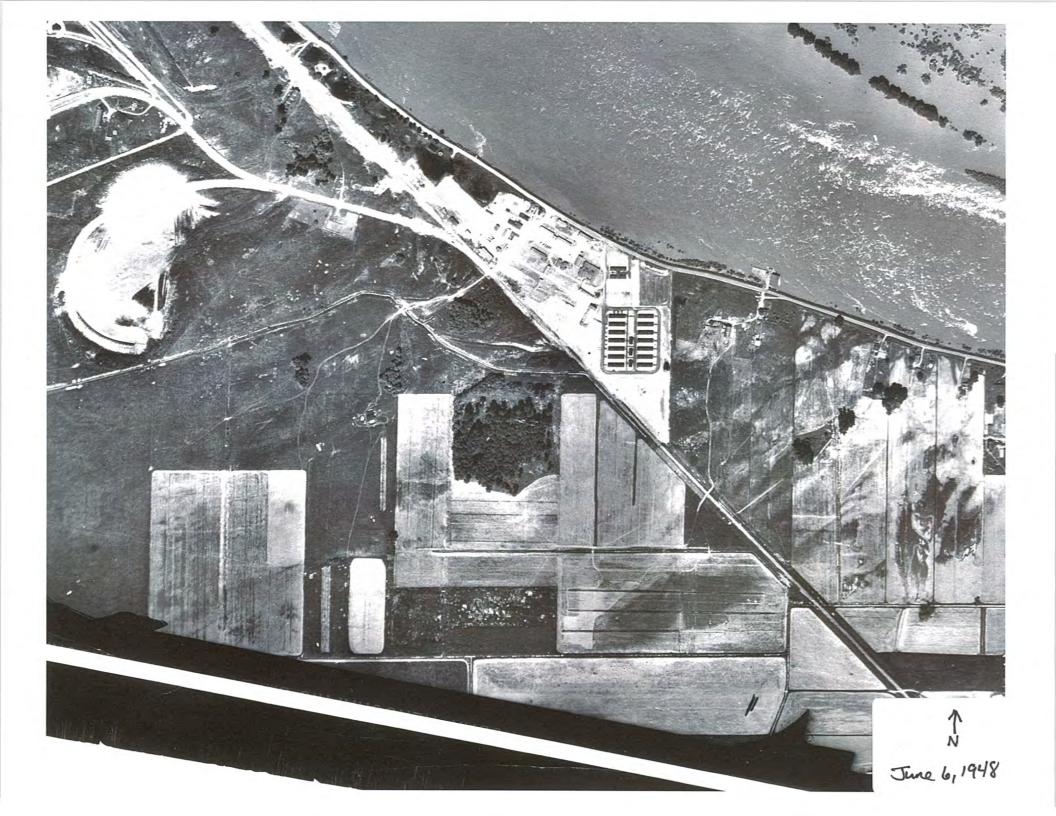
Date	Max Temperature	Min Temperature	Avg Temperature	GDD Base 40	GDD Base 50	Precipitation	Snowfall	Snow Depth
2020-09-01	73	49	61.0	21	11	0.00	0.0	0
2020-09-02	83	55	69.0	29	19	0.00	0.0	0
2020-09-03	81	51	66.0	26	16	0.00	0.0	0
2020-09-04	91	55	73.0	33	23	0.00	0.0	0
2020-09-05	72	56	64.0	24	14	0.00	0.0	0
2020-09-06	85	49	67.0	27	17	0.00	0.0	0
2020-09-07	86	57	71.5	32	22	0.00	0.0	0
2020-09-08	84	47	65.5	26	16	0.00	0.0	0
2020-09-09	82	43	62.5	23	13	0.00	0.0	0
2020-09-10	88	46	67.0	27	17	0.00	0.0	0
2020-09-11	88	46	67.0	27	17	0.00	0.0	0
2020-09-12	58	49	53.5	14	4	0.00	0.0	0
2020-09-13	64	48	56.0	16	6	0.00	0.0	0
2020-09-14	68	50	59.0	19	9	0.00	0.0	0
2020-09-15	71	58	64.5	25	15	0.11	0.0	0
2020-09-16	73	56	64.5	25	15	0.00	0.0	0
2020-09-17	71	58	64.5	25	15	0.00	0.0	0
2020-09-18	71	60	65.5	26	16	0.55	0.0	0
2020-09-19	64	55	59.5	20	10	1.30	0.0	0
2020-09-20	67	55	61.0	21	11	0.22	0.0	0
2020-09-21	72	51	61.5	22	12	0.00	0.0	0
2020-09-22	72	51	61.5	22	12	0.00	0.0	0
2020-09-23	72	55	63.5	24	14	0.16	0.0	0
2020-09-24	63	53	58.0	18	8	1.60	0.0	0
2020-09-25	69	55	62.0	22	12	0.32	0.0	0
2020-09-26	67	50	58.5	19	9	0.09	0.0	0
2020-09-27	67	49	58.0	18	8	0.19	0.0	0
2020-09-28	69	45	57.0	17	7	0.11	0.0	0
2020-09-29	79	47	63.0	23	13	0.04	0.0	0
2020-09-30	80	47	63.5	24	14	0.06	0.0	0
Average Sum	74.3	51.5	62.9	695	395	4.75	0.0	0.0

Date	Max Temperature	Min Temperature	Avg Temperature	GDD Base 40	GDD Base 50	Precipitation	Snowfall	Snow Depth
2021-03-01	53	33	43.0	3	0	0.00	0.0	0
2021-03-02	56	37	46.5	7	0	0.00	0.0	0
2021-03-03	49	29	39.0	0	0	0.00	0.0	0
2021-03-04	49	28	38.5	0	0	0.00	0.0	0
2021-03-05	54	29	41.5	2	0	0.09	0.0	0
2021-03-06	51	34	42.5	3	0	0.01	0.0	0
2021-03-07	49	37	43.0	3	0	0.25	0.0	0
2021-03-08	48	28	38.0	0	0	0.00	0.0	0
2021-03-09	53	28	40.5	1	0	0.07	0.0	0
2021-03-10	54	34	44.0	4	0	0.00	0.0	0
2021-03-11	54	29	41.5	2	0	0.01	0.0	0
2021-03-12	57	28	42.5	3	0	0.03	0.0	0
2021-03-13	59	28	43.5	4	0	0.01	0.0	0
2021-03-14	60	36	48.0	8	0	0.03	0.0	0
2021-03-15	47	28	37.5	0	0	0.12	0.0	0
2021-03-16	47	25	36.0	0	0	0.00	0.0	0
2021-03-17	52	28	40.0	0	0	0.00	0.0	0
2021-03-18	62	30	46.0	6	0	0.12	0.0	0
2021-03-19	51	34	42.5	3	0	0.37	0.0	0
2021-03-20	53	40	46.5	7	0	0.75	0.0	0
2021-03-21	53	36	44.5	5	0	0.09	0.0	0
2021-03-22	46	41	43.5	4	0	0.32	0.0	0
2021-03-23	50	30	40.0	0	0	0.08	0.0	0
2021-03-24	55	38	46.5	7	0	0.05	0.0	0
2021-03-25	49	40	44.5	5	0	0.26	0.0	0
2021-03-26	52	32	42.0	2	0	0.00	0.0	0
2021-03-27	54	35	44.5	5	0	0.00	0.0	0
2021-03-28	58	35	46.5	7	0	0.00	0.0	0
2021-03-29	50	34	42.0	2	0	0.56	0.0	0
2021-03-30	52	29	40.5	1	0	0.00	0.0	0
2021-03-31	51	28	39.5	0	0	0.00	0.0	0
Average Sum	52.5	32.3	42.4	94	0	3.22	0.0	0.0

Date	Max Temperature	Min Temperature	Avg Temperature	GDD Base 40	GDD Base 50	Precipitation	Snowfall	Snow Depth
2021-04-01	70	33	51.5	12	2	0.00	0.0	0
2021-04-02	58	35	46.5	7	0	0.00	0.0	0
2021-04-03	58	35	46.5	7	0	0.00	0.0	0
2021-04-04	63	44	53.5	14	4	0.00	0.0	0
2021-04-05	54	28	41.0	1	0	0.00	0.0	0
2021-04-06	57	29	43.0	3	0	0.00	0.0	0
2021-04-07	60	41	50.5	11	1	0.02	0.0	0
2021-04-08	52	38	45.0	5	0	0.18	0.0	0
2021-04-09	53	28	40.5	1	0	0.00	0.0	0
2021-04-10	53	34	43.5	4	0	0.15	0.0	0
2021-04-11	51	27	39.0	0	0	0.00	0.0	0
2021-04-12	56	29	42.5	3	0	0.00	0.0	0
2021-04-13	63	31	47.0	7	0	0.00	0.0	0
2021-04-14	65	31	48.0	8	0	0.00	0.0	0
2021-04-15	69	34	51.5	12	2	0.00	0.0	0
2021-04-16	76	37	56.5	17	7	0.00	0.0	0
2021-04-17	81	37	59.0	19	9	0.00	0.0	0
2021-04-18	82	39	60.5	21	11	0.00	0.0	0
2021-04-19	75	42	58.5	19	9	0.00	0.0	0
2021-04-20	69	42	55.5	16	6	0.00	0.0	0
2021-04-21	73	45	59.0	19	9	0.00	0.0	0
2021-04-22	69	45	57.0	17	7	0.00	0.0	0
2021-04-23	61	38	49.5	10	0	0.00	0.0	0
2021-04-24	61	38	49.5	10	0	0.38	0.0	0
2021-04-25	51	42	46.5	7	0	0.26	0.0	0
2021-04-26	55	42	48.5	9	0	0.18	0.0	0
2021-04-27	60	39	49.5	10	0	0.00	0.0	0
2021-04-28	61	37	49.0	9	0	0.00	0.0	0
2021-04-29	68	42	55.0	15	5	0.00	0.0	0
2021-04-30	69	47	58.0	18	8	0.01	0.0	0
Average Sum	63.1	37.0	50.0	311	80	1.18	0.0	0.0

Date	Max Temperature	Min Temperature	Avg Temperature	GDD Base 40	GDD Base 50	Precipitation	Snowfall	Snow Depth
2021-05-01	59	48	53.5	14	4	0.00	0.0	0
2021-05-02	60	40	50.0	10	0	0.00	0.0	0
2021-05-03	64	41	52.5	13	3	0.00	0.0	0
2021-05-04	56	47	51.5	12	2	0.00	0.0	0
2021-05-05	64	37	50.5	11	1	0.00	0.0	0
2021-05-06	80	44	62.0	22	12	0.00	0.0	0
2021-05-07	61	42	51.5	12	2	0.37	0.0	0
2021-05-08	57	40	48.5	9	0	0.23	0.0	0
2021-05-09	58	40	49.0	9	0	0.06	0.0	0
2021-05-10	62	42	52.0	12	2	0.00	0.0	0
2021-05-11	64	39	51.5	12	2	0.00	0.0	0
2021-05-12	71	47	59.0	19	9	0.00	0.0	0
2021-05-13	72	47	59.5	20	10	0.00	0.0	0
2021-05-14	72	49	60.5	21	11	0.00	0.0	0
2021-05-15	67	45	56.0	16	6	0.00	0.0	0
2021-05-16	59	49	54.0	14	4	0.00	0.0	0
2021-05-17	59	49	54.0	14	4	0.00	0.0	0
2021-05-18	60	42	51.0	11	1	0.06	0.0	0
2021-05-19	58	35	46.5	7	0	0.22	0.0	0
2021-05-20	58	35	46.5	7	0	0.13	0.0	0
2021-05-21	60	41	50.5	11	1	0.00	0.0	0
2021-05-22	60	48	54.0	14	4	0.00	0.0	0
2021-05-23	63	48	55.5	16	6	0.02	0.0	0
2021-05-24	63	48	55.5	16	6	0.14	0.0	0
2021-05-25	60	50	55.0	15	5	0.16	0.0	0
2021-05-26	60	49	54.5	15	5	0.00	0.0	0
2021-05-27	66	47	56.5	17	7	0.19	0.0	0
2021-05-28	60	47	53.5	14	4	0.14	0.0	0
2021-05-29	66	38	52.0	12	2	0.00	0.0	0
2021-05-30	77	44	60.5	21	11	0.00	0.0	0
2021-05-31	78	44	61.0	21	11	0.00	0.0	0
Average Sum	63.7	43.9	53.8	437	135	1.72	0.0	0.0

Date	Max Temperature	Min Temperature	Avg Temperature	GDD Base 40	GDD Base 50	Precipitation	Snowfall	Snow Depth
2021-06-01	82	52	67.0	27	17	0.00	0.0	0
2021-06-02	89	52	70.5	31	21	0.00	0.0	0
2021-06-03	78	54	66.0	26	16	0.00	0.0	0
2021-06-04	71	45	58.0	18	8	0.00	0.0	0
2021-06-05	72	45	58.5	19	9	0.06	0.0	0
2021-06-06	60	43	51.5	12	2	0.22	0.0	0
2021-06-07	60	43	51.5	12	2	0.46	0.0	0
2021-06-08	62	43	52.5	13	3	0.22	0.0	0
2021-06-09	63	40	51.5	12	2	0.10	0.0	0
2021-06-10	63	42	52.5	13	3	0.05	0.0	0
2021-06-11	64	48	56.0	16	6	0.03	0.0	0
2021-06-12	59	46	52.5	13	3	0.10	0.0	0
2021-06-13	74	57	65.5	26	16	0.63	0.0	0
2021-06-14	61	56	58.5	19	9	0.75	0.0	0
2021-06-15	68	47	57.5	18	8	0.00	0.0	0
2021-06-16	68	45	56.5	17	7	0.16	0.0	0
2021-06-17	74	46	60.0	20	10	0.00	0.0	0
2021-06-18	76	47	61.5	22	12	0.00	0.0	0
2021-06-19	76	45	60.5	21	11	0.00	0.0	0
2021-06-20	73	56	64.5	25	15	0.00	0.0	0
2021-06-21	85	54	69.5	30	20	0.00	0.0	0
2021-06-22	84	57	70.5	31	21	0.00	0.0	0
2021-06-23	84	55	69.5	30	20	0.00	0.0	0
2021-06-24	71	53	62.0	22	12	0.00	0.0	0
2021-06-25	78	55	66.5	27	17	0.00	0.0	0
2021-06-26	90	59	74.5	35	25	0.00	0.0	0
2021-06-27	99	62	80.5	41	31	0.00	0.0	0
2021-06-28	103	66	84.5	45	35	0.00	0.0	0
2021-06-29	91	60	75.5	36	26	0.00	0.0	0
2021-06-30	75	58	66.5	27	17	0.00	0.0	0
Average Sum	75.1	51.0	63.1	704	404	2.78	0.0	0.0



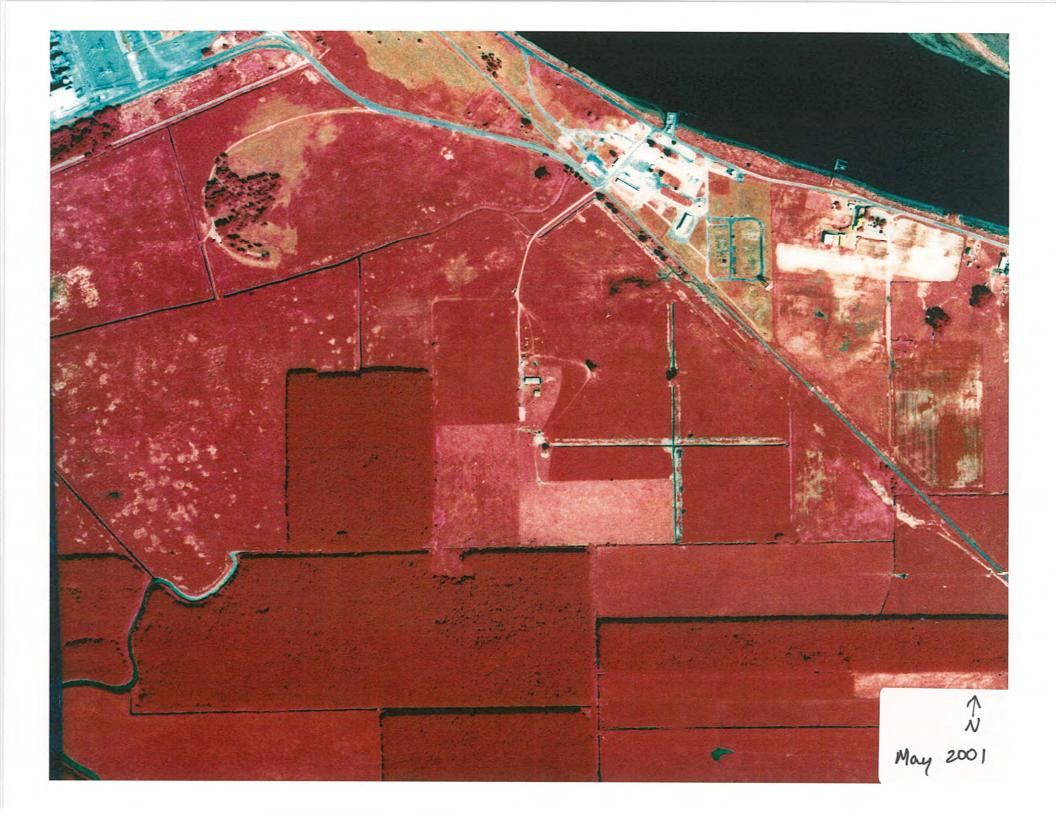












## **APPENDIX E Literature Citations and References**

## **Literature Citations and References**

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