# **Exhibit J**

## **Wetlands and Other Waters**

## Mist Resiliency Project August 2024

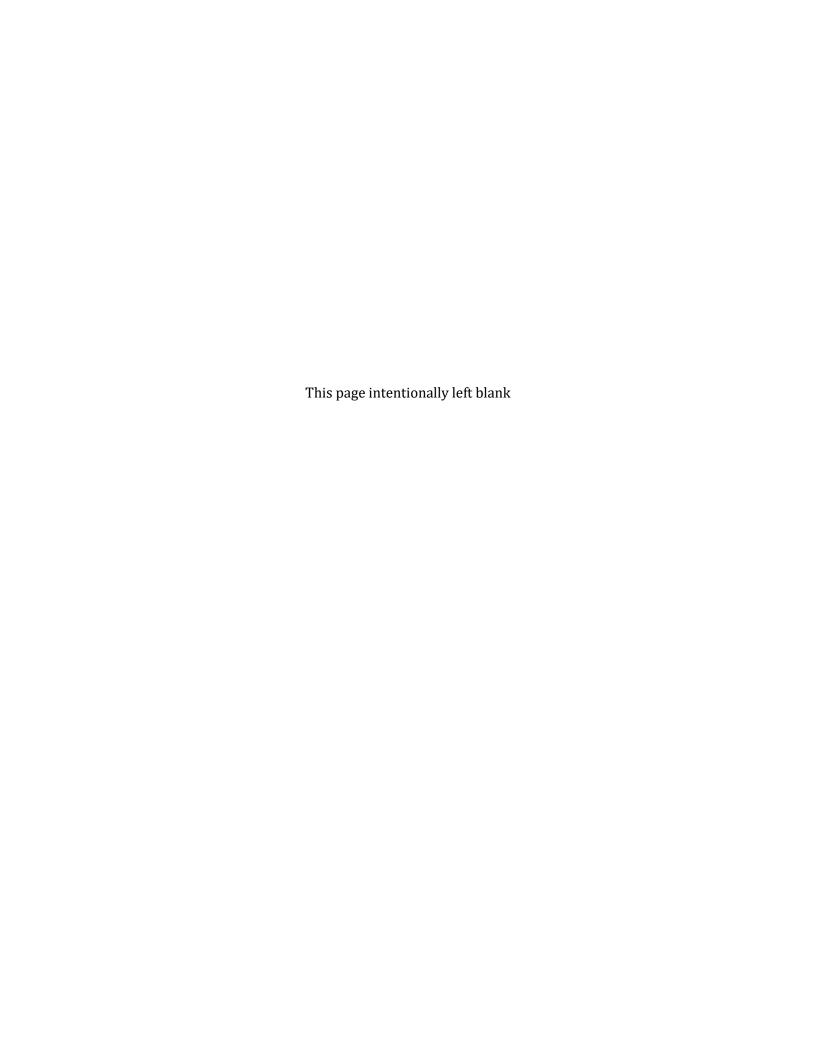
**Prepared for** 



**Northwest Natural Gas** 

Prepared by





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### **Acronyms and Abbreviations**

HDD Horizonal Directional Drilling

NHD National Hydrography Dataset

NWI National Wetland Inventory

NWN Northwest Natural Gas

OAR Oregon Administrative Rules

ODSL Oregon Department of State Lands

ORS Oregon Revised Statutes

PEM Palustrine Emergent Wetland

PFO Palustrine Forested Wetland

Project Mist Resiliency Project

USACE US Army Corps of Engineers

USGS US Geological Survey

### 1.0 Introduction

Exhibit J provides information pertaining to wetlands and waters located in the Site Boundary and potential adverse impacts of construction and operation of the Mist Resiliency Project (Project) on regulated waters of the state, as required by Oregon Administrative Rules (OAR) 345-021-0010(1)(j) paragraphs (A) through (F).

# 2.0 Wetlands and Other Jurisdictional Waters – OAR 345-021-0010(1)(j)(A)

OAR 345-021-0010(1)(j) Information based on literature and field study, as appropriate, about waters of this state, as defined under ORS 196.800, including:

 $OAR\ 345-021-0010(1)(j)(A)\ A$  description of all areas within the site boundary that might be waters of this state and a map showing the location of these features;

The following sections describe wetlands and other waters identified by Northwest Natural Gas (NWN), the Certificate Holder, as required by OAR 345-021-0010(1)(j)(A). Detailed descriptions of the wetlands and other waters of the state are presented in Attachment J-1 Wetlands and Waters Delineation Report.

#### 2.1 Definitions

Oregon Revised Statutes (ORS) 196.800(15) defines "Waters of the State" as:

All natural waterways, tidal and non-tidal bays, intermittent streams, constantly flowing streams, lakes, wetlands, that portion of the Pacific Ocean that is in the boundaries of this state, all other navigable and non-navigable bodies of water in this state and those portions of the ocean shore, as defined in ORS 390.605, where removal or fill activities are regulated under a state-assumed permit program as provided in 33 United States Code 1344(g) of the Federal Water Pollution Control Act, as amended.

### 2.2 Jurisdictional Versus Non-Jurisdictional Waters

The Oregon Department of State Lands (ODSL) does not regulate ephemeral waters and only regulates some roadside ditches. State jurisdictional determinations will occur once ODSL has reviewed and approved the wetlands and waters delineation report with a concurrence letter and expiration date of that jurisdictional determination.

Based on OAR 141-85-0515(10), roadside ditches are not jurisdictional if they are less than 10 feet wide, artificially created, not adjacent, connected, or contiguous with wetlands, and do not contain food and game fish. This exhibit presents NWN's best professional judgment as to which features are jurisdictional under ODSL regulation. Most of the roadside ditches would not be jurisdictional,

as they do not appear to meet the definition provided above. Any ditch and culvert connected or adjacent to a wetland should be considered jurisdictional.

NWN recognizes that any final determination of agency jurisdiction will be made by ODSL based on the information presented by NWN.

#### 2.3 Desktop Study

NWN conducted a desktop study of potentially jurisdictional wetlands and other waters to assist in planning for field delineations. Site-specific literature and Geographic Information System map layers reviewed as part of the desktop study included:

- The Natural Resources Conservation Service Soil Surveys of Columbia County in Oregon (NRCS 1986). The soil surveys were useful in estimating the likelihood and extent of wetlands indicated by mapped hydric soil units.
- National Wetland Inventory (NWI) maps, see Figure J-1 (USFWS 2012). The NWI data were
  useful not only for identifying potential wetlands, but also for identifying the likely location
  of off-site wetlands with the potential for influencing the duration of flow in on-site streams.
- US Geological Survey (USGS) 7.5-minute quadrangle maps for the proposed transmission pipeline corridor.
- USGS National Hydrography Dataset (NHD; USGS 2001) (Figure J-1). The NHD provided the location of potential streams.

#### 2.4 Delineation Methods

Field investigations for the delineation of wetlands and other waters included pedestrian surveys within the study area. Field delineations were conducted during the following time periods:

- September 2022; and
- September and December 2023.

Delineations were conducted utilizing techniques published in the 1987 USACE Wetlands Delineation Manual (Environmental Laboratory 1987), the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys and Coast Region (USACE 2010), and OARs for Wetland Delineations 141-090-0005 through 141-090-0055.

During the delineation effort, each wetland or other water encountered was examined for field indicators (vegetation, soils, and hydrology) and this evidence was documented using standard field data sheets. The location and extent of each wetland or other water (regardless of its characteristics) was mapped with GPS technology. Streams were characterized as intermittent or ephemeral using the Oregon Streamflow Duration Assessment Method, Interim Version (Nadeau 2011). The data sheets are provided in the wetland delineation report.

Detailed descriptions of delineation methods for wetlands and other waters are provided in the Wetlands and Waters Delineation Report (Attachment J-1). NWN has not yet received written concurrence from ODSL.

#### 2.5 Delineation Results

**Ephemeral Waters** 

Ditches

Based on the results of the site investigations, 19 wetlands and nine other water features were delineated within the Site Boundary. Table J-1 summarizes all wetland and other waters of the state delineated within the Site Boundary by water type classification. Attachment J-1 provides additional detail about each of the wetlands and other waters, including ephemeral streams. Figure J-2 presents all wetlands and waters mapped within the Project Site Boundary.

Type of WaterNumber of FeaturesPalustrine Emergent (PEM) Wetland12Palustrine Scrub-Shrub (PSS) Wetland3Palustrine Forested (PFO)4Perennial Waters (Lindgren and Lindgren Tributary)2

Table J-1. Summary of Delineated Wetlands and Other Water Features

# 3.0 Effects on Wetlands and Other Jurisdictional Waters of the State – OAR 345-021-0010(1)(j)(B)

 $OAR\ 345-021-0010(1)(j)(B)$  An analysis of whether construction or operation of the proposed facility would adversely affect any waters of this state;

Since the start of Project planning and design, NWN has made efforts to avoid and minimize impacts to wetlands and other waters. While developing the initial Project layout, NWN utilized NWI and NHD data to site all of the Project facilities away from wetlands and other waters to the maximum extent practicable. After the wetland delineation in 2022 and 2023, the resulting wetland and waters data were used to inform the micrositing of the pipeline and other facilities.

Impacts to wetlands and other waters have been and will continue to be avoided to the extent practicable as the Project design moves forward. Horizontal directional drilling (HDD) will be used in many locations to avoid direct impacts to wetlands and streams. For example, HDD will be used to cross waters such as Lindgren Creek, which is considered Essential Salmonid Habitat. NWN will narrow the construction footprint to avoid wetlands and will construct aspects of the Project to traverse over or under culverts to avoid direct impacts to other waters to the maximum extent feasible. Construction mats will be used when heavy machinery is not on improved roads or surfaces.

3

The only aspect of the Project that will have wetland impacts is the placement of a buried powerline starting at Highway 202 and ending at Miller Station. Those impacts will be temporary, there are no permanent impacts proposed. These wetlands are in an exisiting powerline corridor and will be restored post-construction. All other identified wetlands and other waters of the state will be avoided.

### 4.0 Significance of Impacts – OAR 345-021-0010(1)(j)(C)

OAR 345-021-0010(1)(j)(C) A description of the significance of potential adverse impacts to each feature identified in (A), including the nature and amount of material the applicant would remove from or place in the waters analyzed in (B);

NWN estimates the construction of the Project would result in temporary impacts to wetlands which are summarized in Table J-2. Due to avoidance and minimization efforts, the Project will not permanently impact wetlands or other jurisdictional waters. Temporary impacts to wetlands total 0.016 acres.

Wetland Name	Temporary Impact (acres)	Removal (cubic yards)	Fill (cubic yards)
WET-10	0.001	<1	<1
WET-11	0.005	16	16
WET-12	0.010	33	33
Total	0.016	50	50

Table J-2. Summary of Impacts to Wetlands

As described above, NWN will use HDD methods to install the pipeline under culverts of waterways. For locations where the pipeline will not be installed using HDD methods, NWN will utilize the trenching method. Trenching will consist of excavation of soils, stockpiling soils (separating topsoil and subsoil), placement of the conduit, and subsequent backfill to preconstruction contours. Trenching is expected to be a temporary impact.

No other impacts to wetlands and other waters will occur within laydown areas and bore pads associated with HDD pipeline installation methods and temporary extra workspace. The bore pad is the entry point where the pilot hole and pipe will be drilled underground through an excavated pit. The laydown areas extend in the opposite direction of the bore pad. Laydown areas are utilized to assemble the pipe segments prior to installing. Temporary extra work space is needed for construction along the pipeline route in locations where the construction corridor is not wide enough to work in safely. Construction vehicles will operate on laydown areas and designated temporary extra workspace areas when soils are dry. If soil is moist, construction mats would be used to lessen impacts to soil. No impacts to wetlands and other waters will occur with use of the off-site storage yards.

### 5.0 Information Supporting Lack of Requirement for Removal-Fill Permit – OAR 345-021-0010(1)(j)(D)

OAR 345-021-0010(1)(j)(D) If the proposed facility would not need a removal-fill authorization, an explanation of why no such authorization is required for the construction and operation of the proposed facility;

The project will exceed 50 cubic yards of removal and fill within jurisdictional wetlands. There is not an exemption that can be applied to the Project. Because impacts from the Project will only consist of temporary wetland impacts; however, the General Authorization for Temporary Disturbance to Non-Tidal Wetlands will be used to authorize the impacts.

# 6.0 Information Supporting Issuance of Removal-Fill Permit – OAR 345-021-0010(1)(j)(E)

OAR 345-021-0010(1)(j)(E) If the proposed facility would need a removal-fill authorization, information to support a determination by the Council that the Oregon Department of State Lands should issue a removal-fill permit, including information in the form required by the Department of State Lands under OAR Chapter 141 Division 85; and

General Authorizations are a less robust permitting route compared to the Individual Permit which requires the Joint Permit Application to be submitted for permitting. The General Authorization for Temporary Disturbance to Non-Tidal Wetlands requires that there are no permanent impacts to wetlands and no impacts to waters. Temporary impacts to wetlands cannot exceed 0.2 acres. Because the project has avoided all permanent impacts and will only temporarily impact 0.016 acres of wetland, the General Authorization is the appropriate permitting route for this project. General Authorizations are valid for 3 years and can be reviewed and approved in as little as 30 days. These cannot be renewed after the expiration date. The wetland delineation report must be concurred with prior to issuance of the General Authorization. The wetland report review time usually takes a minimum of 120 days.

# 7.0 Mitigation and Monitoring Program – OAR 345-021-0010(1)(j)(F)

OAR 345-021-0010(1)(j)(F) A description of proposed actions to mitigate adverse impacts to the features identified in (A) and the applicant's proposed monitoring program, if any, for such impacts.

The ODSL does not require mitigation for temporary impacts to wetlands or other waters. Temporary impacts are defined by ODSL as adverse impacts to waters of this state that are rectified within 24 months from the date of the initiation of the impact.

Following construction, temporary impact sites will be reestablished to the original ground elevation, the ground will be revegetated, and precautions will be taken to ensure that the site's hydrology is retained by placing erosion control devices in appropriate areas. In locations where wetlands will be directly affected by trenching, no net loss of wetland area and no loss of wetland functions will result since construction will be temporary. Monitoring is not required if the project is approved under the General Authorization.

Table J-3. Submittal Requirements Matrix

Requirement	Location
OAR 345-021-0010(1)(j) Information based on literature and field study, as appropriate, about waters of this state, as defined under ORS 196.800 including:	-
(A) A description of all areas within the site boundary that might be waters of this state and a map showing the location of these features.	Section 2
(B) An analysis of whether construction or operation of the proposed facility would adversely affect any waters of this state.	Section 3
(C) A description of the significance of potential adverse impacts to each feature identified in (A), including the nature and amount of material the applicant would remove from or place in the waters analyzed in (B).	Section 4
(D) If the proposed facility would not need a removal-fill authorization, an explanation of why no such authorization is required for the construction and operation of the proposed facility.	Section 5
(E) If the proposed facility would need a removal-fill authorization, information to support a determination by the Council that the Oregon Department of State Lands should issue a removal-fill permit, including information in the form required by the Department of State Lands under OAR chapter 141 division 85.	Section 6
(F) A description of proposed actions to mitigate adverse impacts to the features identified in (A) and the applicant's proposed monitoring program, if any, for such impacts.	Section 7

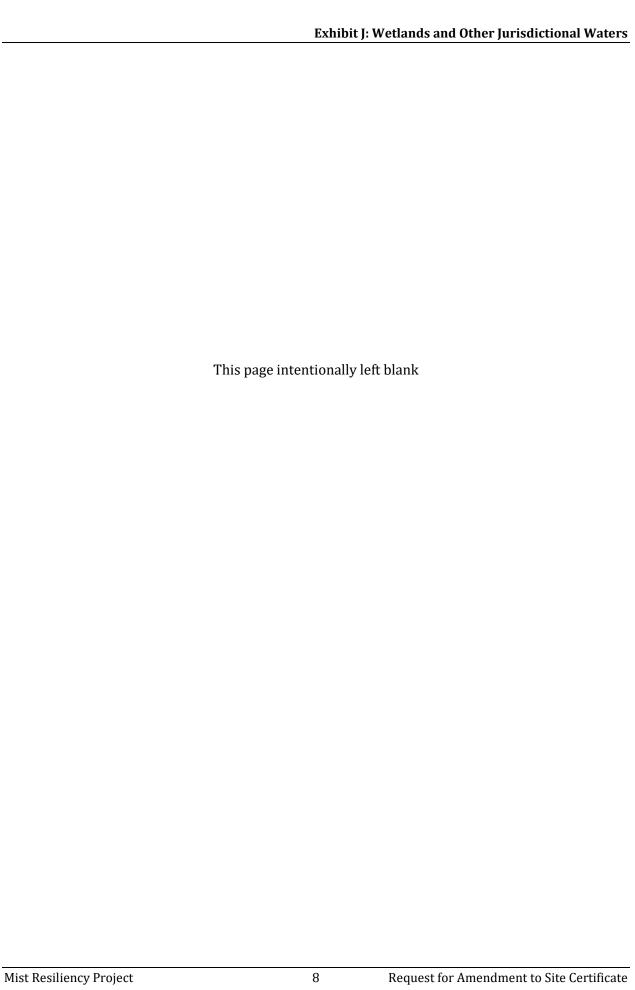
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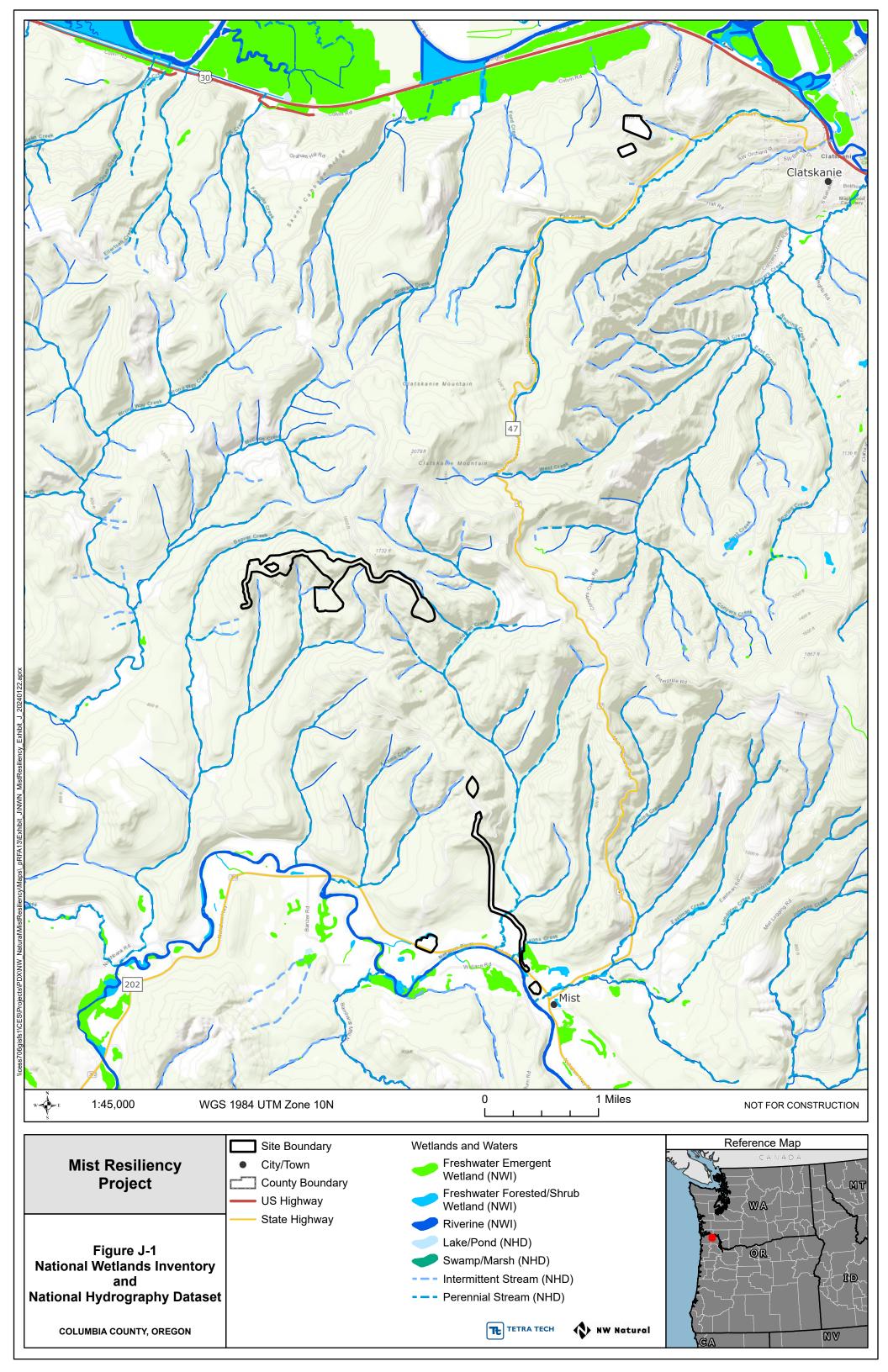
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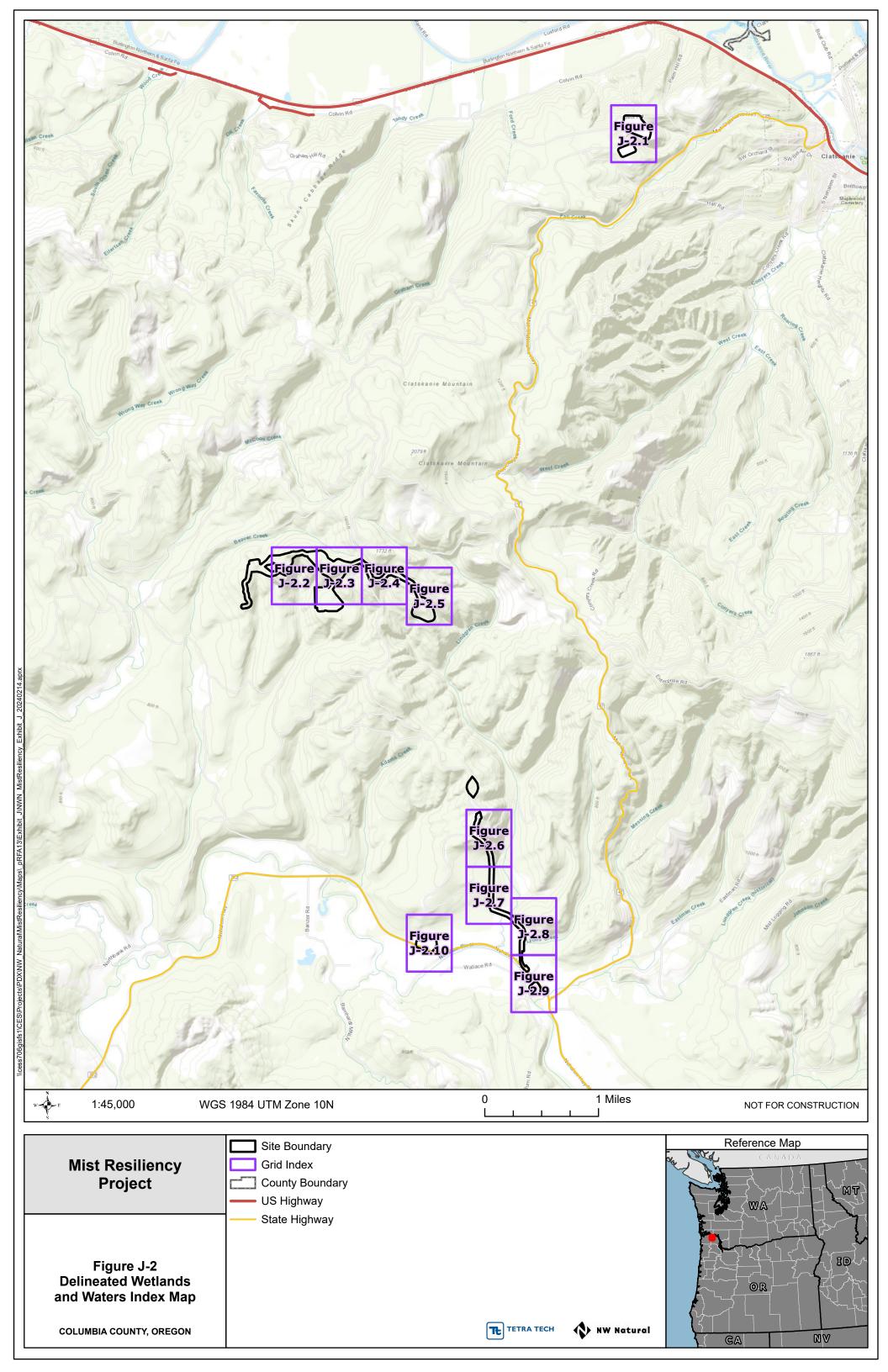
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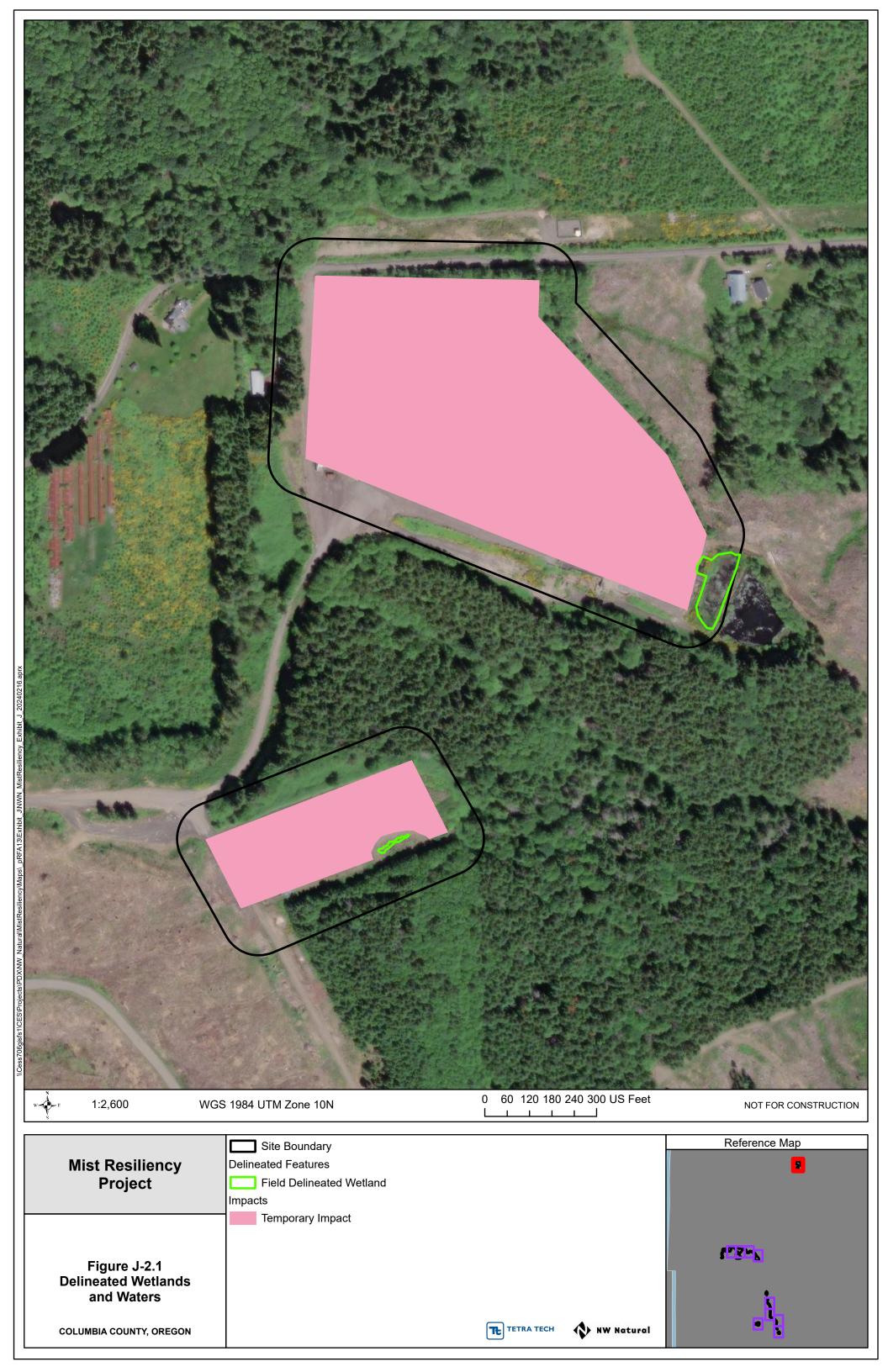


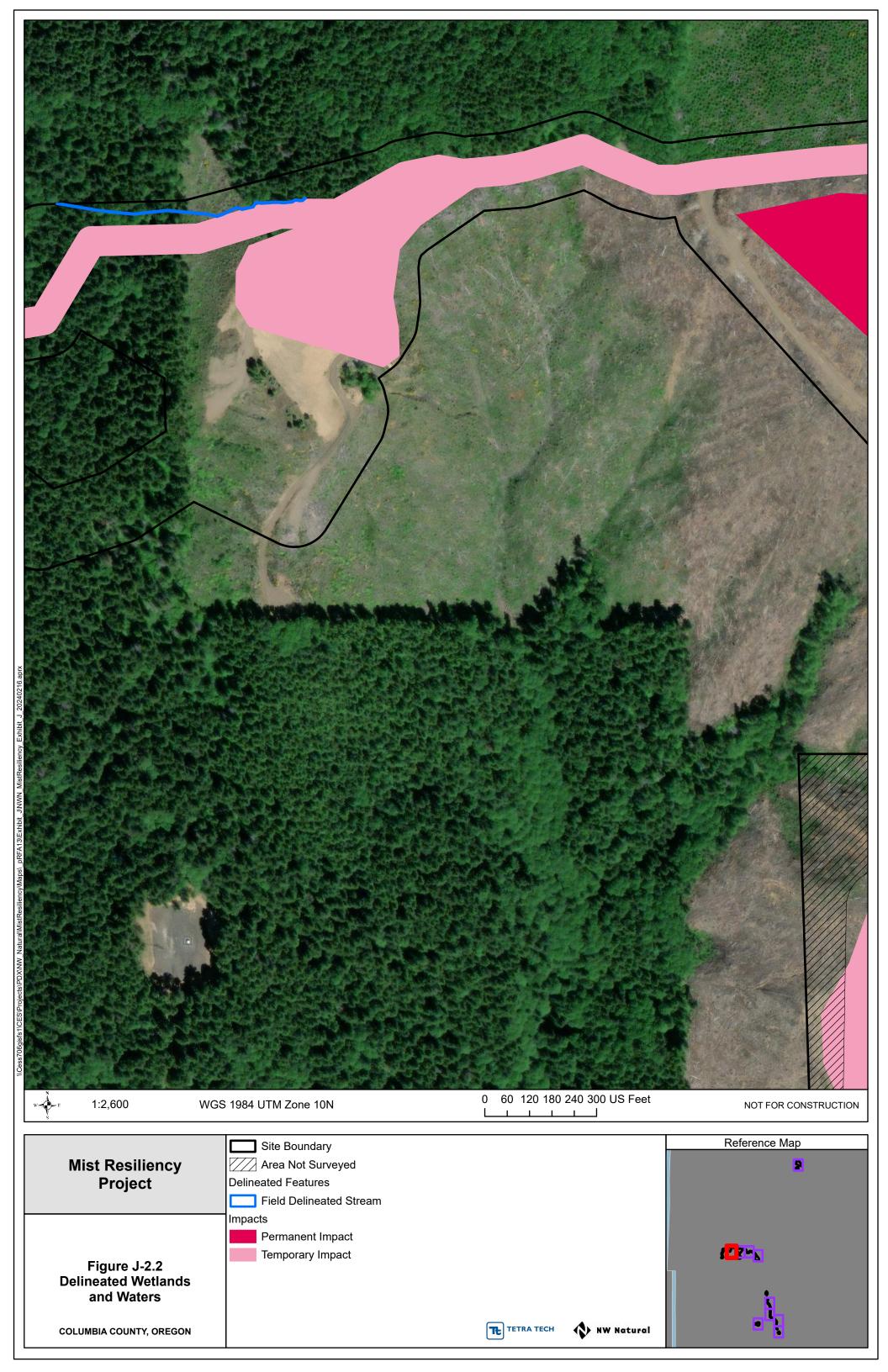
# **Figures**

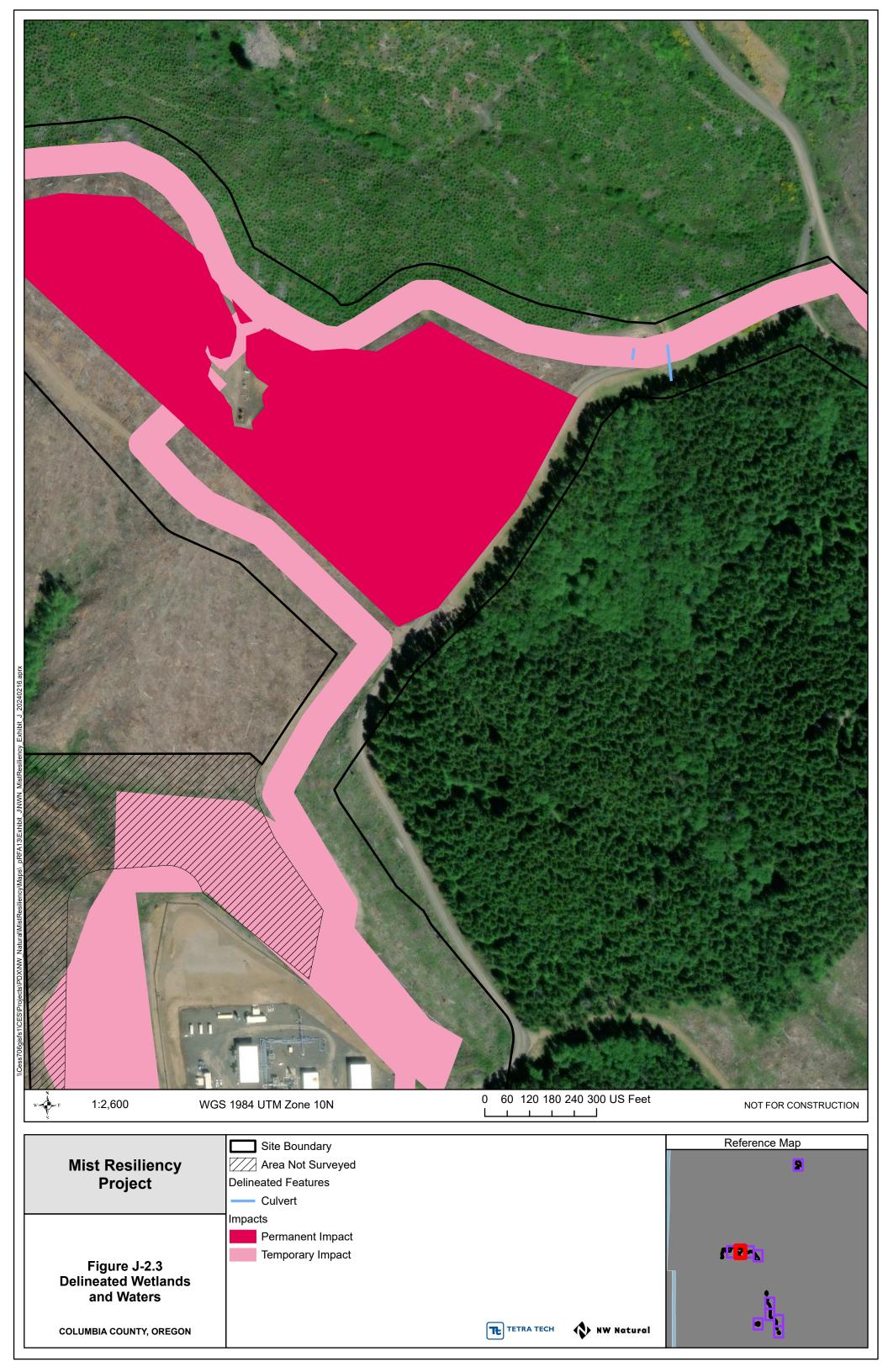


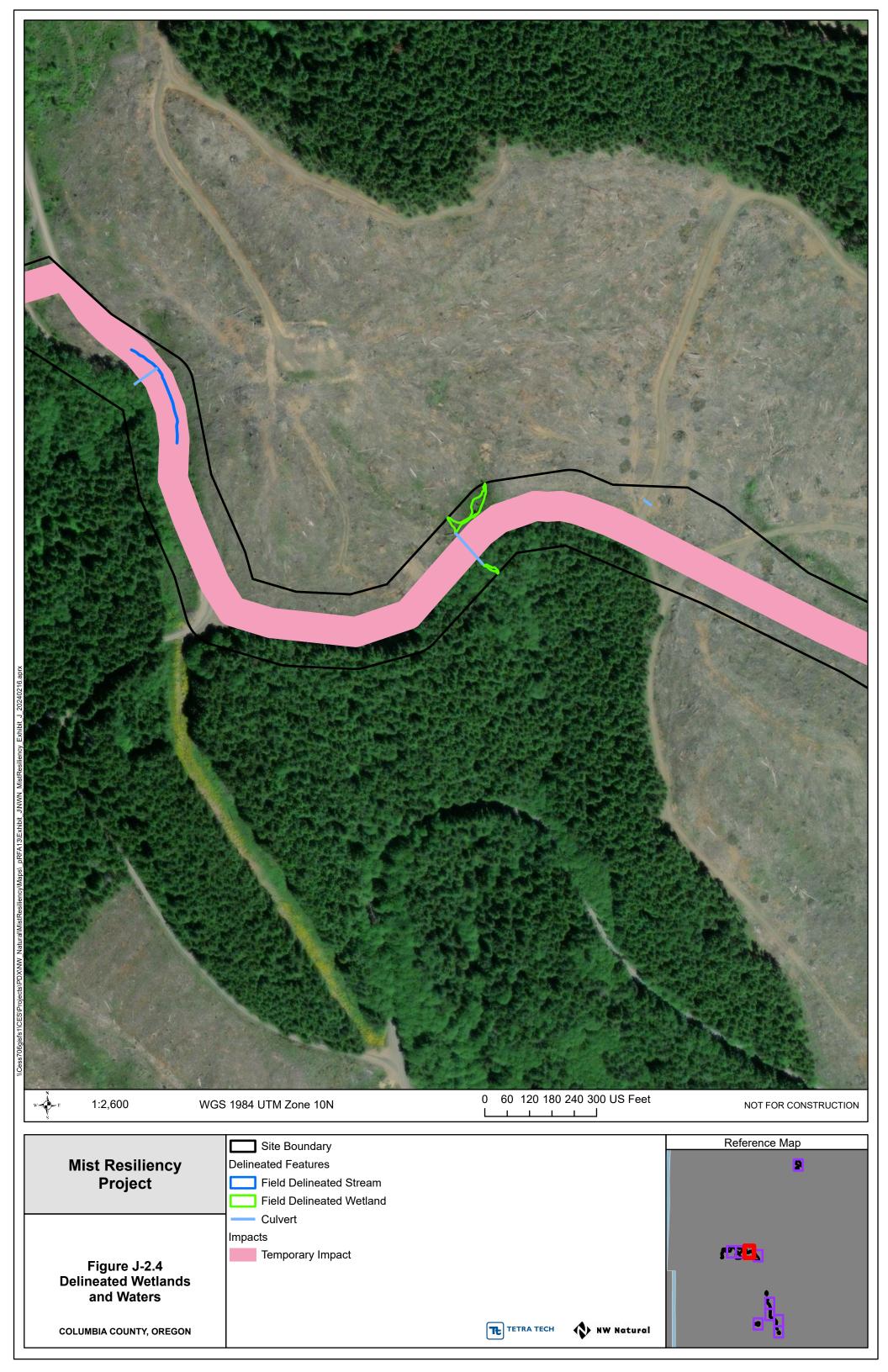


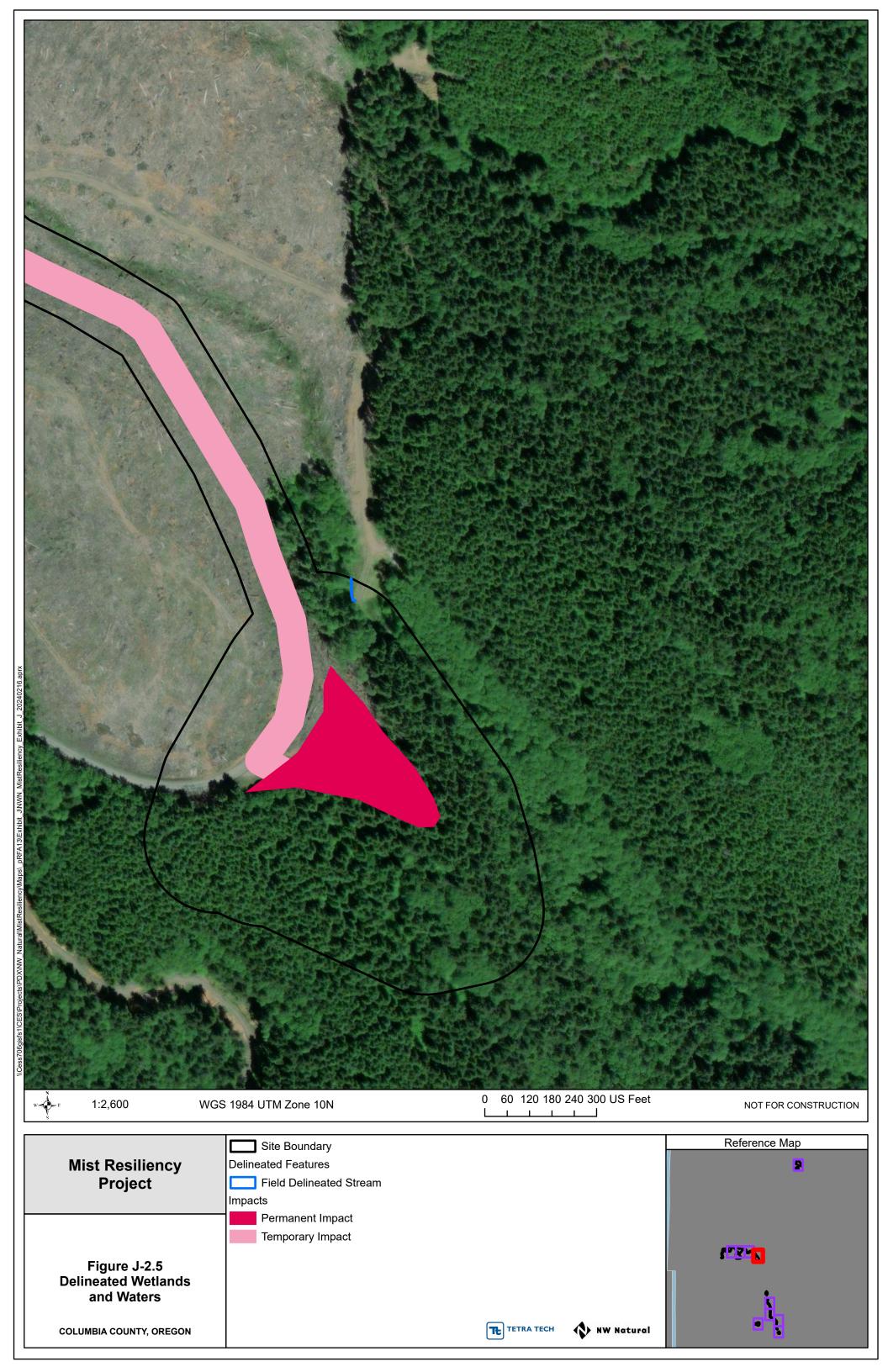




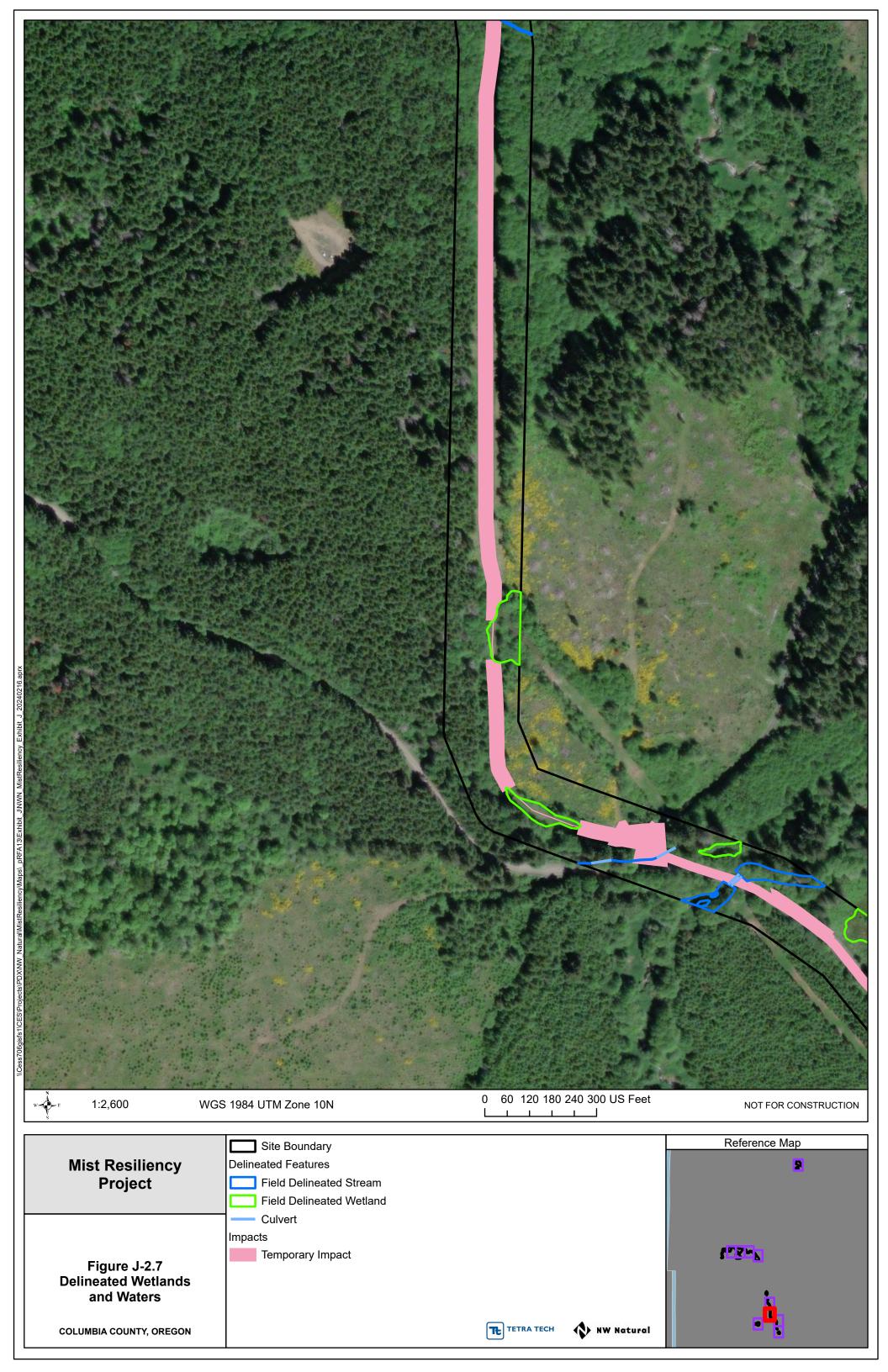


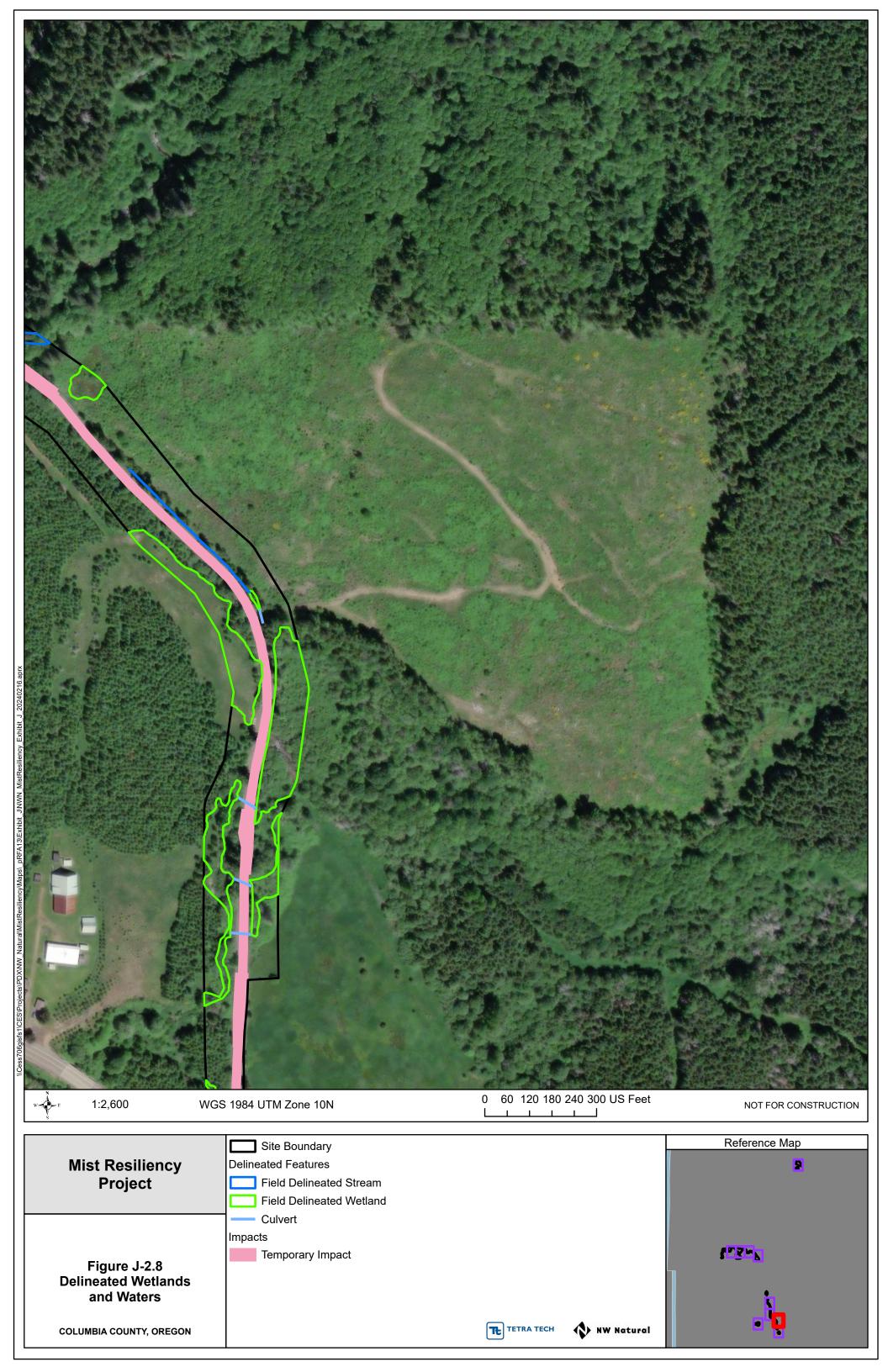


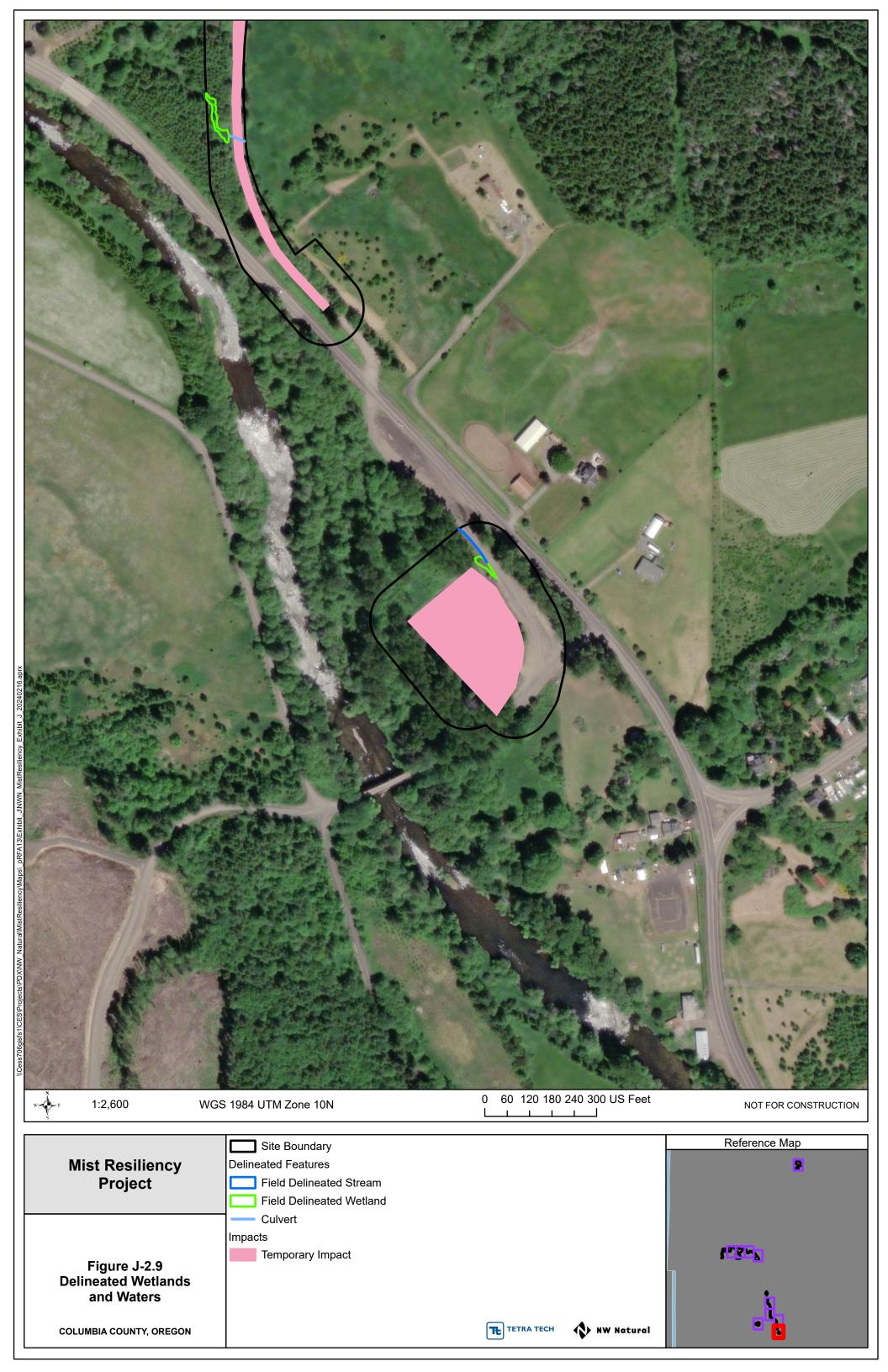


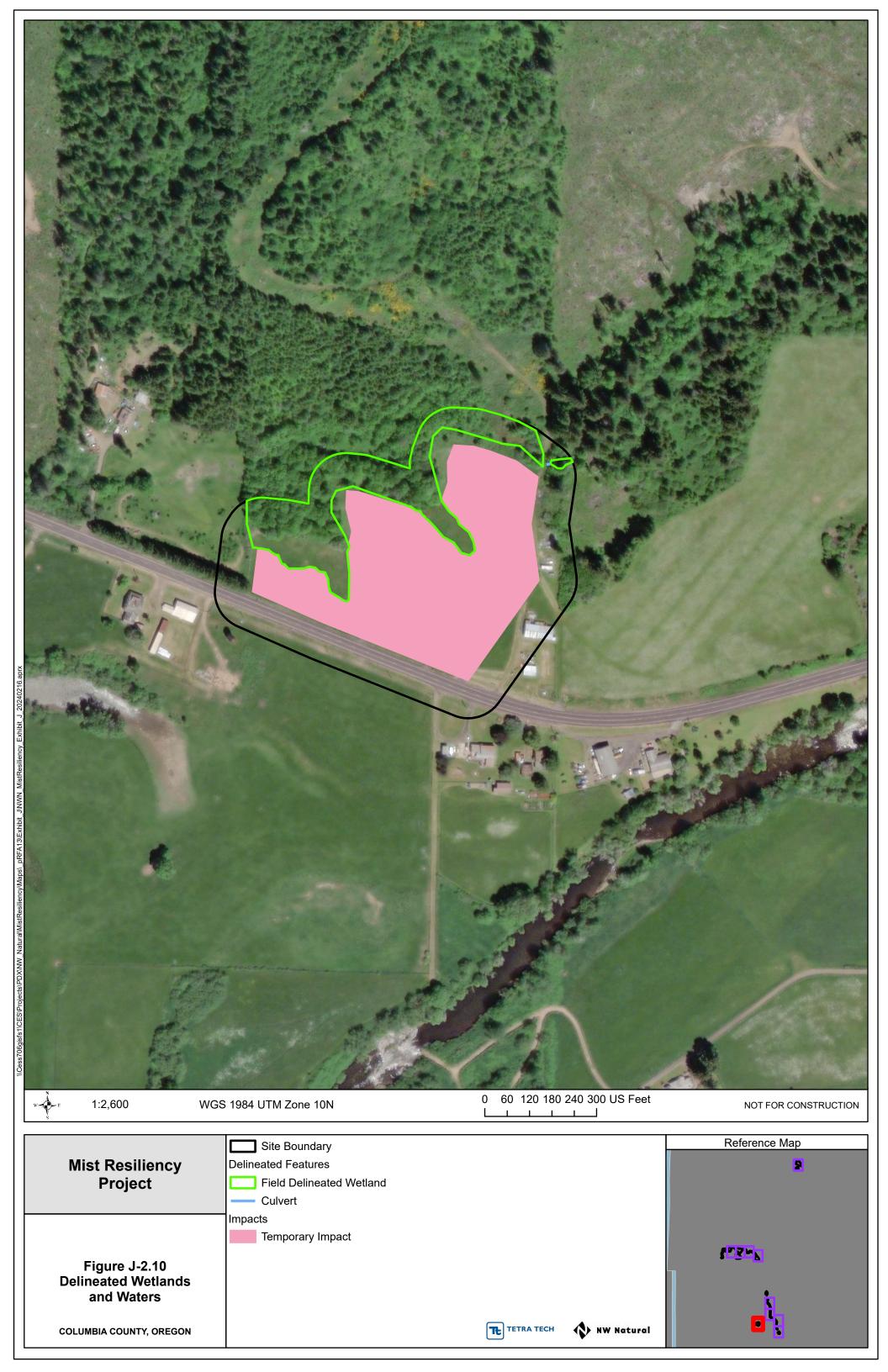




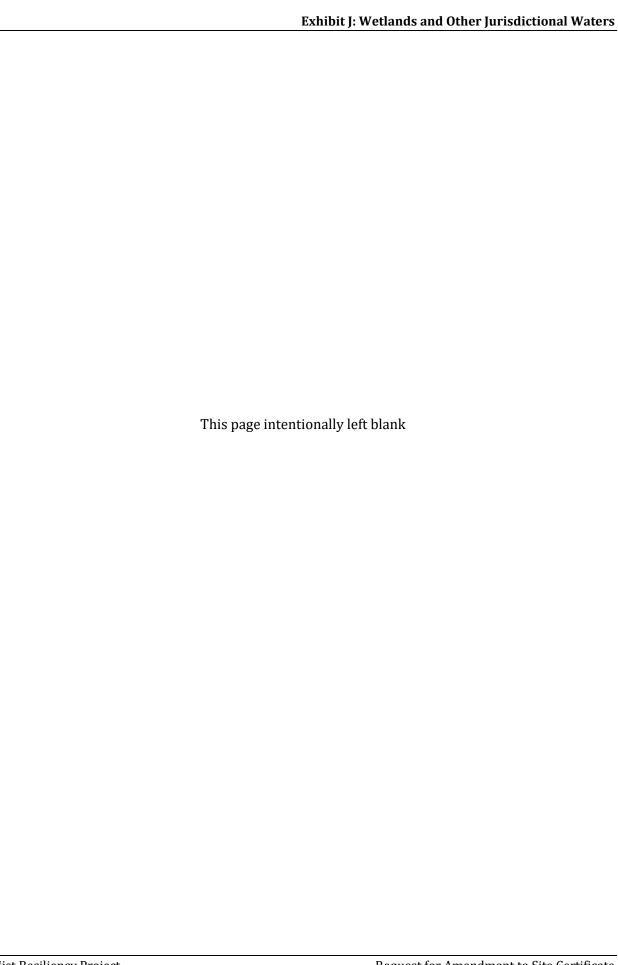




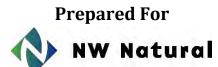




# Attachment J-1: Wetlands and other Waters Delineation Report



# Mist Resiliency Project Wetland Delineation Report



**NW Natural** 

**Prepared By** 



Tetra Tech, Inc.

February 2024



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Mist Resiliency Project

### **Acronyms and Abbreviations**

FAC Facultative [indicator code]

FACU Facultative Upland [indicator code]
FACW Facultative Wetland [indicator code]

LRR Land Resource Region

Manual Wetlands Delineation Manual, Technical Report Y-87-1

NHD National Hydrography Dataset

NI No Indicator [indicator code]

NRCS Natural Resources Conservation Service

NWI National Wetlands Inventory

OAR Oregon Administrative Rules

OBL Obligate [indicator code]

PEM Palustrine, Emergent

PEM1C Palustrine, Emergent, Persistent, Seasonally Flooded, Excavated

PFO Palustrine, Forested

PFOA Palustrine, Forested, Temporarily Flooded

Project Mist Resiliency Project
PSS Palustrine Scrub-Shrub

PSSC Palustrine, Scrub-Shrub, Seasonally Flooded

PUBFh Palustrine, Unconsolidated Bottom, Semi-permanently Flooded,

Impounded

PUBHx Palustrine, Unconsolidated Bottom, Permanently Flooded, Excavated

R4SBC Riverine, Intermittent, Streambed, Seasonally Flooded

SDAM Streamflow Duration Assessment Method for the Pacific Northwest

Tetra Tech, Inc.

UPL Upland [indicator code]

WETS Climate Analysis for Wetlands Tables



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Mist Resiliency Project

### 1.0 Introduction

NW Natural (NWN) is proposing the Mist Resiliency Project (Project) near Mist, Oregon (Figure 1). The purpose of the Project is to amend the Mist Underground Natural Gas Storage Site Certificate for its underground natural gas storage facility in Columbia County, Oregon. NWN proposes to upgrade and replace the two existing natural gas compressors; upgrade and replace the existing electric power supply line from its origin at Highway 202 to Miller Station; develop the existing Newton, Medicine, Crater, and Stegosaur underground storage reservoirs; install injection and withdrawal wells; install three reciprocating engine driven natural gas compressors; install two natural gas dehydration equipment systems; and construct a control and operations building.

NWN contracted Tetra Tech, Inc. (Tetra Tech) to perform a wetland delineation in the vicinity of the proposed excavation work areas (Study Area) that will be potentially impacted by the Project. Based on the information gained from the wetland delineation, NWN designed the Project with construction methods that will have only minimal, temporary impacts to wetlands.

### 2.0 Landscape Setting and Land Use

#### 2.1 Study Area

The Project Study Area is located within Columbia County, Oregon between the townships of Mist and Clatskanie. The Study Area consists of three Project Areas and their associated buffers, ranging from 100 to 200 feet, totaling approximately 240 acres. The Study Area for wetlands and other potentially jurisdictional waters encompasses all Project components that would potentially involve ground disturbance. The Project is within a highly modified forest landscape, managed for timber harvest, and consists of mixed conifer-deciduous forest, recently cleared timber lands, gravel roadways, existing buried utilities, and grassy pasture. NWN will utilize existing roads and the cleared right-of-way to access the Project during construction. Figure 2 shows the tax lots in and adjacent to the Study Area. Tax lots are listed in Table 1 below.

140.0 1. 140.1 14po 141.1 2000		
Тах Мар	Tax Lot Numbers	
6050000	300	
6050000	200	
6050000	2500	
6050000	2501	
6050000	2600	
6050000	2700	
6050000	2800	

Table 1. Tax Maps - Tax Lots

Тах Мар	Tax Lot Numbers
7050000	2200
7050000	3000
7050000	5100
7050000	5000
7050000	4900
7050000	4800
7050000	4700
6051500	200
6051500	900
6051500	202
6051500	300
6051500	100
6051500	ROAD
6051400	100
6051400	500
6051400	501
6051400	401
6051400	400
6051400	100
6051400	ROAD
6051400	200
6050000	2502
7051200	400
6051500	500
7051200	100
7050000	4500
7051200	ROAD
7051200	500
7051200	401
7051200	100
7050000	4701

Mist Resiliency Project 2

#### 2.2 Landscape Setting

The Project is located within the Level III Coast Range Ecoregion and within the Level IV Volcanics and Willapa Hills Ecoregions (Thorson et al. 2003). In addition, the Project is within US Department of Agriculture Land Resource Region (LRR) A, Northwest Forest, Forage, and Specialty Crop Region (NRCS 2006). The LRR A, Northwest Forest, Forage, and Specialty Crop Region is equivalent to the LRR A Northwest Forests and Coast Region in the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region* (Version 2.0) (WMVC Supplement; USACE 2010).

The Project is primarily situated within two sub-watersheds of the Northern Oregon Coastal Watershed: Calvin Creek-Nehalem River and Lindgren Creek-Nehalem River, while the northernmost area of the project is located within one Lower Columbia sub-watershed: Lower Clatskanie River (6th level HUC; Oregon Explorer 2021). Plant species' names and associated wetland indicator status ratings are from the 2020 National Wetland Plant List (USACE 2020a). The following wetland indicator ratings are ordered according to the percent likelihood of the plant occurring in wetlands, from most likely to least likely: Obligate (OBL), Facultative Wetland (FACW), Facultative (FAC), Facultative Upland (FACU), and Upland (UPL). Species with an indicator of NI (No Indicator) refers to plants that are not listed in the wetland plant list and are thereby considered to be Upland plants.

Reed canary grass (*Phalaris arundinacea*, FACW) was the predominant species in the grassy pasture in the southern portion of the Project. Red alder (*Alnus rubra*, FAC), cascara (*Frangula purshiana*, FAC), and Himalayan blackberry (*Rubus armeniacus*, FAC) were common throughout the Project and documented in both upland and wetland sample plots. Dominant tree species in the project study area also included Oregon ash (*Fraxinus latifolia*, FACW), Douglas fir (*Pseudotsuga menziesii*, FACU), Scouler's willow (*Salix scouleriana*, FACW), and Western red cedar (*Thuja plicata*, FAC).

The most prevalent shrub species in the Project area included snowberry (*Symphoricarpus albus*, FACU), Douglas' Meadowsweet (*Spiraea douglasii*, FACW), vine maple (*Acer circinatum*, FAC), Oregon cherry (*Prunus emarginata*, FACU), Pacific ninebark (*Physocarpus capitatus*, FACW), Pacific dogwood (*Cornus nuttallii*, FACU), beaked hazelnut (*Corylus cornuta*, FACU), Nootka rose (*Rosa nutkana*, FAC), trailing blackberry (*Rubus ursinus*, FACU), cutleaf blackberry (*Rubus laciniatus*, FACU), and oneseed hawthorne (*Crataegus monogyyna*, FAC).

Herbaceous vegetation commonly observed in upland areas in the Project Study Area included sword fern (*Polystichum munitum*, FACU), field horsetail (*Equisetum arvense*, FAC), common ladyfern (*Athyrium filix-femina*, NI), white clover (*Trifolium repens*, FAC), creeping bentgrass (*Agrositis stolonifera*, FAC), field-meadow foxtail (*Alopecurus pratensis*, FAC), and velvet grass (*Holcus lanatus*, FAC).

# 2.3 National Wetlands Inventory, Local Wetlands Inventory, Natural Resources Conservation Service Soils, and National Hydrography Dataset Mapped Features

Prior to field work, Tetra Tech reviewed the National Wetlands Inventory (NWI), Local Wetlands Inventory, the National Hydrography Dataset (NHD), Natural Resources Conservation Service (NRCS) hydric soils data, and aerial photographs to identify potential wetlands and other waters.

#### 2.3.1 National Wetland Inventory and Local Wetlands Inventory Data

Desktop review of NWI data determined that seven NWI wetlands intersect the Study Area. There is one mapped NWI palustrine, emergent, persistent, seasonally flooded, excavated (PEM1C) wetland that is bordered by a palustrine, scrub-shrub, seasonally flooded (PSSC) wetland just to the north of where the Project study area splits off from Highway 202. Another NWI mapped PSSC wetland is located roughly a third of a mile north, adjacent to a palustrine, forested, temporarily flooded (PFOA) wetland. In another area of the Project, a few miles north, a mapped riverine, intermittent, streambed, seasonally flooded (R4SBC) wetland runs along and through the Project study area. This mapped R4SBC wetland is broken up by a palustrine, unconsolidated bottom, semi-permanently flooded, impounded (PUBFh) wetland which skims the edge of the study area. In the most northern part of the Project study area there is a palustrine, unconsolidated bottom, permanently flooded, excavated wetland (PUBHx) at the southeastern edge of the study area. Lastly, in the most southwestern portion of the Project study area there is another PSSC wetland. Figure 3 shows the NWI map layered over the Project study area. There is no Local Wetland Inventory available at this location (ODSL 2023).

#### 2.3.2 Hydric Soils Data

Four hydric rated soil map units are mapped in one of the Study Area sites (Figure 4):

- 20 Eilersten silt loam;
- 32—McNulty silt loam;
- 37 Natal silty clay loam; and
- 58 Treharne silt loam (NRCS 2016, NRCS 2021a, NRCS 2021b).

Table 2 below summarizes the soil types found in the project study area.

Table 2. Soils Mapped in the Project Study Area

Map Unit Symbol	Map Unit Name	Hydric Rating
24	Hapludalfs-Udifluvents complex	No
20	Eilersten silt loam	Yes
32	McNulty silt loam	Yes

Map Unit Symbol	Map Unit Name	Hydric Rating
36D	Murnen silt loam, 3 to 30 percent slopes	No
37	Natal silty clay loam	Yes
3E	Alstony gravelly loam, 30 to 60 percent north slopes	No
50E	Scaponia-Braun silt loams, 30 to 60 percent south slopes	No
56D	Tolke silt loam, 5 to 30 percent slopes	No
58	Treharne silt loam	Yes
5D	Anunde silt loam, 3 to 30 percent slopes	No
7D	Braun-Scaponia silt loams, 5 to 30 percent slopes	No
9F	Braun-Scaponia silt loams, 60 to 90 percent south slopes	No

#### 2.3.3 National Hydrography Dataset

Five NHD streams are mapped within the Study Area. One is an unnamed intermittent waterway that overlaps one of the mapped R4SBC wetlands near the center of the Project. Another unnamed NHD feature overlaps the PUBHx wetland in the northern portion of the Project area. The other three mapped NHD features are perennial waterways, two of which are named. The third unnamed perennial feature is a continuation of the intermittent waterway, and overlaps another mapped NWI R4SBC wetland (NHD 2017).

One of the named NHD streams, Lindgren Creek, runs through the southern end of the Project, along the northern end of the mapped NWI PEM1C wetland. The other named NHD stream, Lyons Creek, is a perennial waterway that crosses through the Project along the NWI mapped PFOA wetland (NHD 2017, NWI 2020).

# 3.0 Site Alterations

Site alterations are activities that would directly or indirectly impact wetlands and other waters in such a way that the function or area of the feature changes significantly. A significant alteration would be one that renders the feature non-functioning, or one that changes the feature boundaries. The dominant land use adjacent to the Study Area is timber harvest, gravel logging roads, state and county highways, and an underground natural gas storage facility. Activity associated with these practices have likely affected the geographic size or the hydroperiod of wetlands and other waters.

# 4.0 Precipitation Data and Analysis

Average historical monthly and daily precipitation data for the periods preceding and during field work were obtained from the National Oceanic and Atmospheric Administration's National Weather Service (Table 3, Table 4; NOAA 2022). The closest geographical location with an NRCS WETS table is Clatskanie, Oregon, approximately 5 miles northeast of the project area (NOAA 2022, NOAA 2023).

Table 3. Precipitation Data for Fall 2022 Site Visit - Current and Historic (Inches)

Precipitation	Oct. 2021	Nov. 2021	Dec. 2021	Jan. 2022	Feb. 2022	Mar. 2022	Apr. 2022	May 2022	June 2022	July 2022	Aug. 2022	Sept. 2022	Total
Recorded Monthly Precipitation Totals <sup>1</sup> (inches); (Clatskanie, OR)	7.41	10.81	10.54	8.75	3.87	4.80	7.42	4.89	2.40	0.00	0.00	0.20	61.09
WETS Average Monthly Precipitation <sup>2</sup> (inches); (Clatskanie, OR)	4.41	8.71	9.17	8.32	6.07	6.09	4.07	2.70	1.80	0.67	0.83	2.21	55.05
Recorded Precipitation Relative to WETS Average Monthly Precipitation	168%	124%	115%	105%	64%	79%	182%	181%	133%	0%	0%	9%	111%
Normal Monthly Range of Precipitation <sup>2</sup> (inches)	2.55- 5.37	5.98- 10.39	6.63- 10.81	5.58- 9.96	4.16- 7.24	4.38- 7.19	2.93 - 4.65	1.74- 3.25	1.26- 2.13	0.23- 0.76	0.33- 1.00	2.21- 0.79	0.23- 10.81

<sup>1.</sup> National Weather Service, Clatskanie, OR Climate Station.

Table 4. Precipitation Data for Fall 2023 (Winter 2024) Site Visit - Current and Historic (Inches)

Precipitation	Oct. 2022 2023	Nov. 2022 2023	Dec. 2022 2023	Jan. 2023	Feb. 2023	Mar. 2023	Apr. 2023	May 2023	June 2023	July 2023	Aug. 2023	Sept. 2023	Total
Recorded Monthly Precipitation Totals <sup>1</sup> (inches); (Clatskanie, OR)	3.34 3.57	9.16 6.60	7.88 10.84	4.45	4.05	4.05	6.55	0.81	0.63	0.14	0.33	2.26	43.65
WETS Average Monthly Precipitation <sup>2</sup> (inches); (Clatskanie, OR)	4.40	8.71	9.17	8.25	6.03	6.05	4.11	2.66	1.77	0.66	0.82	2.21	54.84
Recorded Precipitation Relative to WETS Average Monthly Precipitation	76% 81%	105% 75%	86% 118%	54%	67%	67%	159%	30%	36%	21%	40%	102%	80%
Normal Monthly Range of Precipitation <sup>2</sup> (inches)	2.55- 5.34	5.98- 10.39	6.63- 10.81	5.53- 9.87	4.14- 7.19	4.36- 7.14	2.94- 4.86	1.70- 3.21	1.23- 2.11	0.23- 0.75	0.33- 0.98	0.80- 2.66	0.23- 10.81

<sup>1.</sup> National Weather Service, Clatskanie, OR Climate Station.

<sup>2.</sup> WETS Table for Clatskanie, OR, years 1971-2022.

<sup>2.</sup> WETS Table for Clatskanie, OR, years 1971-2023.

#### 4.1 Fall 2022 Site Visit

For the 10-day span preceding field work (which began on September 27, 2022), zero inches of precipitation were measured (NOAA 2022). There was no recorded precipitation for September 2022, through the 27th of the month, nor was there any recorded precipitation in July or August 2022. Total accumulated precipitation between October 2021 and September 2022 was 111 percent of average due to above average precipitation in October, November, and December 2021, along with January, April, May, and June 2022.

Higher than average precipitation levels followed by no precipitation until after field work had begun did not affect the delineation of waters, as determinations were made using indicators described in the Streamflow Duration Assessment Method for the Pacific Northwest (SDAM; Nadeau 2015). The SDAM relies on multiple indicators that are independent of hydrology.

#### 4.2 Fall 2023 Site Visit

For the 10-day span preceding field work (which began on September 26, 2023), 0.32 inches of precipitation were measured (NOAA 2023). During the survey period between September 26 to 28, there was 0.82 inches of precipitation. Total accumulated precipitation between October 2022 and September 2023 was 80 percent of average due to below average precipitation in October and December 2022, along with January, February, March, May, June, July, and August 2023.

Below average precipitation level, followed by precipitation during field work did not affect the delineation of waters, as determinations were made using indicators described in the Streamflow Duration Assessment Method for the Pacific Northwest (SDAM; Nadeau 2015). The SDAM relies on multiple indicators that are independent of hydrology.

#### 4.3 Winter 2023 Site Visit

For the 10-day span preceding field work (which began on September 26, 2023), 0.32 inches of precipitation were measured (NOAA 2023). During the survey period between September 26 to 28, there was 0.82 inches of precipitation. Total accumulated precipitation between October 2022 and September 2023 was 80 percent of average due to below average precipitation in October and December 2022, along with January, February, March, May, June, July, and August 2023.

This site visit was conducted as a hydrology check to verify the boundaries of WET-18. Datasheets are provided and the boundary was expanded based on saturation and a water table within the first 12 inches of the pit. Several pits were dug and left open for a minimum of 15 minutes to observe hydrology. None of the pit locations had standing water, but there was standing water in the pasture adjacent to the wooded area.

## 5.0 Methods

#### 5.1 Pre-field Work

In preparation for field work, Tetra Tech reviewed NWI, NHD, hydric soils data, and aerial photographs to identify potential wetlands and other waters, as described in Section 2.3. Tetra Tech prepared digital field maps with these data and uploaded these maps onto a Samsung Android data collection tablet to assist field staff in identifying the locations of probable wetlands and non-wetland waters within or adjacent to the Project Study Area.

Wetland and surface water data were also obtained from the Oregon Wetlands Database, which includes NWI and miscellaneous wetland mapping by state and federal agencies, non-governmental organizations, academia, and consultants, and from the NHD (NHD 2017, NWI 2020). Soils data were also obtained from the NRCS Web Soil Survey (NRCS 2021b). Tetra Tech used high-resolution ESRI aerial imagery captured during 2017 because it provided recent, 1 meter or better resolution satellite imagery taken during the growing season (ESRI 2017).

The following guidance documents and procedures were reviewed:

- The WMVC Supplement (USACE 2010);
- Wetlands Delineation Manual, Technical Report Y-87-1 (the Manual; USACE 1987);
- Navigable Waters Protection Rule (USACE 2020b);
- SDAM (Nadeau 2015);
- Classification of Wetlands and Deepwater Habitats of the United States (Cowardin et al. 1979);
- Oregon Administrative Rule (OAR) 141-090, Administrative Rules for Wetland Delineation Report Requirements and for Jurisdictional Determinations for the Purpose of Regulating Fill and Removal within Waters of the State; and

#### 5.2 Field Work

Field investigations for the delineation of wetlands and other waters included pedestrian surveys within the Project Study Area. Tetra Tech conducted the field delineation September 27, 2022, September 29 and 30, 2022, October 4 to 6, 2022, October 10 to 12, 2022, September 26 to 28, 2023, and December 20, 2023. The desktop wetland data were used to focus the wetland delineations, while the desktop surface water data were used to focus the non-wetlands water evaluation, as necessary. The Study Area has been changed and reduced because of Project layout changes. Therefore, names of features and sample plots may not be sequential. Currently, only minor temporary impacts are proposed to wetlands within the Study Area.

#### 5.2.1 Wetland Delineations

Wetland presence was determined per the methods in the Manual and the WMVC Supplement. Wetland indicator status for plants was determined using the 2020 National Wetland Plant List (USACE 2020a).

- Sample plots were established in all features identified by NWI data (Appendix A; NWI 2020). The sample plot was located within each feature that Tetra Tech judged most likely to have wetland characteristics (i.e., the lowest or most green place).
- Paired sample plots were established in logical locations to document wetland boundaries.
- The number of sample plots established in a wetland was commensurate with the size and complexity of the wetland.
- Photographs were taken to document wetland and upland conditions at the sample plots, and to document the wetland boundary (Appendix B).
- Wetland boundaries were recorded as a polygon using a survey grade Juniper Geode GPS unit. Details on mapping methods are presented in Section 8.0.

#### 5.2.2 Non-wetland Water Evaluations

- The ordinary high water mark was determined using criteria such as change in the soil character or vegetation, sediment, litter or debris deposition, and scour lines.
- The centerlines of non-wetland waters less than 6 feet wide were recorded as line features and buffered to the stream width determined in the field.
- Non-wetland waters with a width greater than 6 feet were recorded as two line features, mapping both the right and left banks of the stream's ordinary high water lines.
- Photographs were taken to document streams, ditches, and upland conditions at locations that NHD mapped as streams. The wetland and waters photolog is provided in Appendix B.

# 6.0 Description of Wetlands and Non-wetland Waters

#### 6.1 Wetlands

Wetlands delineated within the Project included palustrine emergent (PEM), palustrine forested (PFO), and palustrine scrub-shrub (PSS) wetlands, or were some combination of the classifications listed above (Table 5). Dominant herbaceous species found in delineated wetlands include slough sedge (*Carex obnupta*, OBL), soft rush (*Juncus effusus*, FACW), Reed canary grass (*Phalaris arundinacea*, FACW), and water parsley (*Oenanthe sarmentosa*, OBL). Wetlands in the project also commonly included Douglas' Meadowsweet (*Spiraea douglasii*, FACW), Pacific ninebark (*Physocarpus capitatus*, FACW), Oregon ash (*Fraxinus latifolia*, FACW), and Scouler's willow (*Salix*)

*scouleriana*, FACW). Many delineated wetlands continued outside the boundaries of the Project. WET-03 and WET-04 are separated by islands of upland within the Project, although they are hydrologically connected outside of the Project (Table 5). All wetlands and non-wetland waters are mapped in Figure 5.

Table 5. Wetlands Mapped in the Project Study Area

Wetland Name	HGM (subclass) Wetland Type	Dominant Cowardin Class	Acres	Figure #	General Conditions
WET-01	Depressional (Outflow)	PEM	0.02	5.15.2	Wetland located between gravel road and laydown yard. Dominant vegetation spreading rush ( <i>Juncus patens</i> , FACW) and creeping bentgrass ( <i>Agrostis stolonifera</i> , FAC).
WET-03	Slope (Valley)	PFO	1.09	5.14.3 5.14.4	Wetland location ranges from in a swale about eight feet past the ends of three culverts, near the toe of fill on a slope of the mainline road, the side of a vegetated mound, and a swale off of a logging road. Both polygons are hydrologically connected outside of the study area. Majority of wetland was forested with some open patches of shrubs.  Dominant vegetation was Sitka willow (Salix sitchensis, FACW), western redcedar (Thuja plicata, FAC), slough sedge, red alder (Alnus rubra, FAC), pacific willow (Salix lasiandra, FACW), pacific ninebark (Physocarpus capitatus, FACW), western dogwood (Cornus alba var. occidentalis, FACW), Scouler's willow (Salix scouleriana, FAC), cascara (Frangula purshiana, FAC), and reed canary grass.
WET-04	Depressional (Outflow)	PSS	.048	5.14.3 5.14.4	Wetland is approximately four to six feet lower than surrounding upland within a swale. Both polygons are hydrologically connected outside of the study area.  Wetland contains a culvert outflow into dense reed canary grass. Other dominant vegetation consisted of spotted touch-me-not ( <i>Impatiens capensis</i> , FACW), and water parsley ( <i>Oenanthe sarmentosa</i> , OBL), Oregon ash ( <i>Fraxinus latifolia</i> , FACW), and field meadow-foxtail ( <i>Alopecurus pratensis</i> , FAC).
WET-05	Flats	PEM	0.73	5.14.1 5.14.2 5.14.3	Reed canary grass field along west side of road at the toe of a slope. Other vegetation observed was slough sedge, reed canary grass, soft rush, creeping bentgrass, Oregon crabapple ( <i>Malus fusca</i> , FACW), Oregon ash, and Douglas' meadowsweet ( <i>Spiraea douglasii</i> , FACW).
WET-06	Depressional (Outflow)	PEM	0.01	5.14.3	Wetland is contained in the south end of an excavated roadside ditch. Dominant vegetation present in the wetland was slough sedge, soft rush, and Canada thistle ( <i>Cirsium arvense</i> , FAC).
WET-07a	Riverine (Flow-through)	PEM	0.002	5.14.1	Wetland is on a vegetated gravel bar below the ordinary high-water line of ST-01. This wetland is hydrologically connected underground to WET-07b. Dominant vegetation consisted of red-tinge bulrush ( <i>Scirpus microcarpus</i> , OBL) and reed canary grass.

Wetland Name	HGM (subclass) Wetland Type	Dominant Cowardin Class	Acres	Figure #	General Conditions
WET-07b	Riverine (Flow-through)	PEM	0.01	5.14.1	Wetland is on a vegetated gravel bar below the ordinary high-water line of ST-01. This wetland is hydrologically connected underground to WET-07a. Vegetation consisted of stinging nettle ( <i>Urtica dioica</i> , FAC), reed canary grass, water parsley, and tall manna grass ( <i>Glyceria elata</i> , FACW).
WET-08	Flats	PSS	0.06	5.14.1	Low wetland follows edge of upland area north of logging road and west of ST-01. Approximately three feet below road was vegetation such as Oregon crabapple, slough sedge, climbing nightshade ( <i>Solanum dulcamara</i> , FAC), creeping buttercup ( <i>Rananculus repens</i> , FAC), and water parsley. Wetland boundary follows vegetation change and gradual elevation change with additional hydric soil confirmation.
WET-09	Flats	PEM	0.06	5.11.1	Wetland is located within a potentially disturbed site on a terrace between a larger logged hillside and a dense forest. Wetland vegetation consisted of soft rush and slough sedge.
WET-10	Slope (Headwater)	PEM	0.04	5.11.1	Wetland vegetated and partially channelized turning into ST-02 in the middle of the survey corridor. Dominant wetland vegetation consisted of cursed buttercup ( <i>Ranunculus sceleratus</i> , OBL) and water parsley.
WET-11	Flats	PSS	0.30	5.12.1	Wetland located on a lower terrace of a logged hillside and is in an existing gas line corridor. Dominant vegetation consisted of Scouler's willow, Oregon ash, slough sedge, and reed canary grass.
WET-12	Slope (Headwater)	PEM	0.14	5.12.1 5.14.1	Wetland is located on a grassy toe slope lowland near a parking pullout. Dominant vegetation observed within the wetland was reed canary grass and trailing blackberry ( <i>Rubus ursinus</i> , FACU).
WET-15a	Slope (Headwater)	PEM	0.05	5.7.1	Wetland is in the channel of a shallow ravine. Dominant vegetation observed was soft rush, American brooklime ( <i>Veronica americana</i> , OBL), and red-tinge bulrush.
WET-15b	Slope (Headwater)	PFO	0.01	5.7.1	Wetland is a culvert outflow downhill of WET-15a. Dominant vegetation consisted of red alder, western skunk cabbage ( <i>Lysichiton americanus</i> , OBL), sword fern ( <i>Polystichum munitum</i> , FACU), stinging nettle, and vine maple ( <i>Acer circinatum</i> , FAC).
WET-16	Flats	PEM	0.13	5.14.2	Wetland slightly uphill of road and is lower in elevation than to the northwest and southeast where Douglas fir ( <i>Pseudotsuga menziesii</i> , FACU) and western redcedar grow. Wetland dominated by soft rush.

Wetland Name	HGM (subclass) Wetland Type	Dominant Cowardin Class	Acres	Figure #	General Conditions
WET-17	Flats	PEM	0.02	5.1	Wetland is made up of problematic shallow soils in a gravel laydown yard. Dominant vegetation was soft rush and red alder.
WET-18	Depressional (Outflow)	PFO	2.64	5.13.1	Depressional wetland partially forested, scrub-shrub, and emergent vegetation classes present. Wetland includes a naturally vegetated portion with clear breaks between hydrophytic and upland vegetation communities, and a portion that extends into an open hay field and had significantly disturbed vegetation. The wetland boundary within the hay field portion was delineated based on a combination of aerial imagery, topography, and subtle changes in vegetation community composition. Dominant vegetation included Oregon ash, Douglas' meadowsweet, reed canary grass, and soft rush.
WET-19	Depressional (Outflow)	PFO	0.02	5.13.1	Wetland depression next to culvert, bed elevation is below culvert invert. Wetland continues outside of site boundary to the northeast. Dominant vegetation included Oregon ash, pacific ninebark, water parsley, slough sedge, and Douglas' meadowsweet.
WET-21	Depressional (Closed Permanent)	PEM	0.32	5.1	Emergent wetland within an excavated pond that collects parking lot storm water runoff. Dominant vegetation included broad-leaf cattail ( <i>Typha latifolia</i> , OBL) and reed canary grass.

#### 6.2 Non-wetland Waters

The non-wetland waters in the project study area consist of two perennial streams, three ephemeral streams, and four roadside ditches (Table 6). The delineated ditch features are primarily gravel bottomed and are found alongside the gravel logging roads throughout the Project. Where ditches were not bare gravel, vegetation commonly included trailing blackberry (*Rubus ursinus*, FACU), creeping bentgrass (*Agrositis stolonifera*, FAC), tansy ragwort (*Jacobaea vulgaris*, FACU), Kentucky bluegrass (*Poa pratensis*, FAC), Fuller's teasel (*Dipsacus fullonum*, FAC), and white clover (*Trifolium repens*, FAC). All ditches were found to be ephemeral.

Table 6. Wetlands Mapped in the Project Study Area

Feature Name	Water Type	Flow Duration	Length Feet	Width Feet	Acres	ESH	Figures
ST-01	Lindgren Creek	Perennial	501	15	0.260	Yes	5.14.1
ST-02	Incised Stream	Perennial	108	4	0.010	No	5.11.1
ST-03	Stream	Ephemeral	65	2	0.003	No	5.8
ST-05	Stream	Ephemeral	672	3	0.047	No	5.4
ST-06	Stream	Ephemeral	119	3	0.008	No	5.4
D-01	Roadside Ditch*	Ephemeral	113	1	0.003	No Fish	5.15.2
D-04	Roadside Ditch*	Ephemeral	459	1	0.111	No Fish	5.14.2
D-05	Roadside Ditch*	Ephemeral	153	1	0.004	No Fish	5.14.1
D-07	Roadside Ditch*	Ephemeral	297	2	0.014	No Fish	5.5
*Roadside Ditch	n is not jurisdictio	nal based on OAR	141-085-0515(1	.0).			

The beds and banks of the ephemeral streams are dominated by sword fern (*Polystichum munitum*, FACU), Douglas fir saplings (*Pseudotsuga menziesii*, FACU), vine maple (*Acer circinatum*, FAC), creeping barberry (*Mahonia repens*, NI), devilsclub (*Oplopanax horridus*, FAC), trailing blackberry (*Rubus ursinus*, FACU), velvet grass (*Holcus lanatus*, FAC), and piggyback plant (*Tolmiea menziesii*, FAC).

Both perennial streams had flowing water. Lindgren Creek (also named Fords Creek), delineated as ST-01 had vegetated banks and gravel bars, but no vegetation within the stream bed (Table 6).

Lindgren Creek is considered an Essential Salmonid Habitat (ESH) waterway and is a tributary to the Nehalem River. ST-02 is an unnamed tributary to Lindgren creek and is not considered ESH. The tributary originates outside of the study area to the west and is mapped as WET-10 within the study area and then becomes a narrow steep unvegetated channelized stream as it flows out of the study area to the east (Table 6).

Lyons Creek crosses the study area and is also a tributary to the Nehalem River, but is not considered ESH. There are four culverts that flow under Miller Station Road from the east to the west. It is likely that Miller Station Road was constructed over a braided system and there is not a main channel for Lyons Creek. There are no obvious bed and banks for Lyons Creek within the study area and flows through vegetated wetlands on either side of the culverts (Table 6).

# 7.0 Mapping Methods

Wetland and other waters boundaries, and sample plot locations were recorded using a Juniper Geode series GPS unit. The Geode uses Global Navigation Satellite System and Satellite Based Augmentation System technology to collect data and differentially correct positions in real-time, which typically results in positional error of less than 1 meter (Juniper Systems 2019) under ideal conditions. During the site visit, GPS accuracy was typically less than 1 foot.

#### 8.0 Results and Conclusions

The total area of potentially jurisdictional wetlands reported within the Study Area is 6.138 acres. Table 7 provides the acreage and length of the wetlands and waters delineated with the Study Area.

Number of Feature Acreage **Linear Feet Features** Wetlands 19 6.138 Other Waters (Streams) 2 0.271 609 Potentially Non-Jurisdictional Ephemeral Streams 3 856 Potentially Non-Jurisdictional Roadside Ditches 4 1022

**Table 7. Summary** 

### 9.0 Disclaimer

This disclaimer is included per OAR 141-090-0035(12)(j):

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

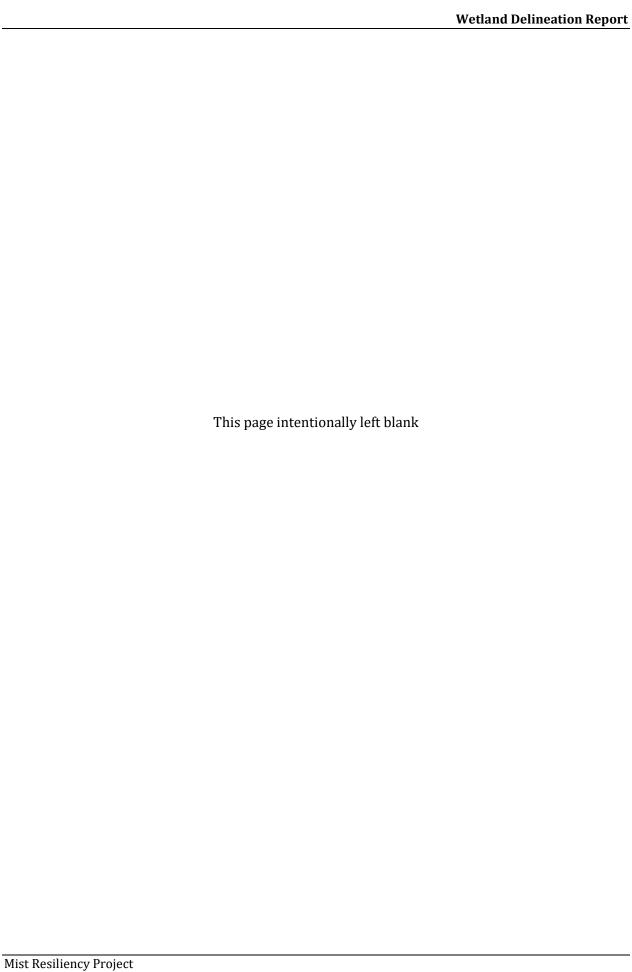
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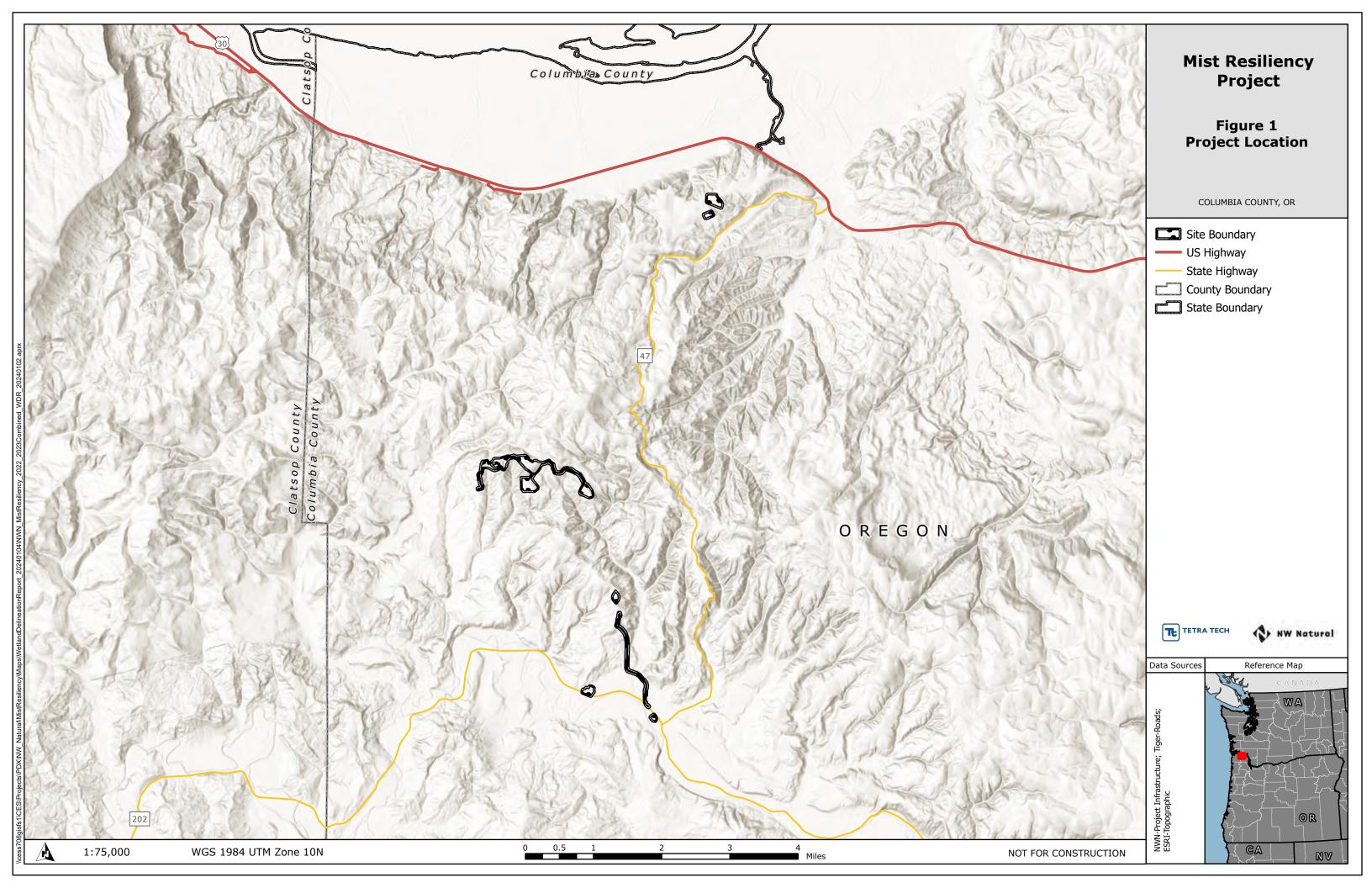
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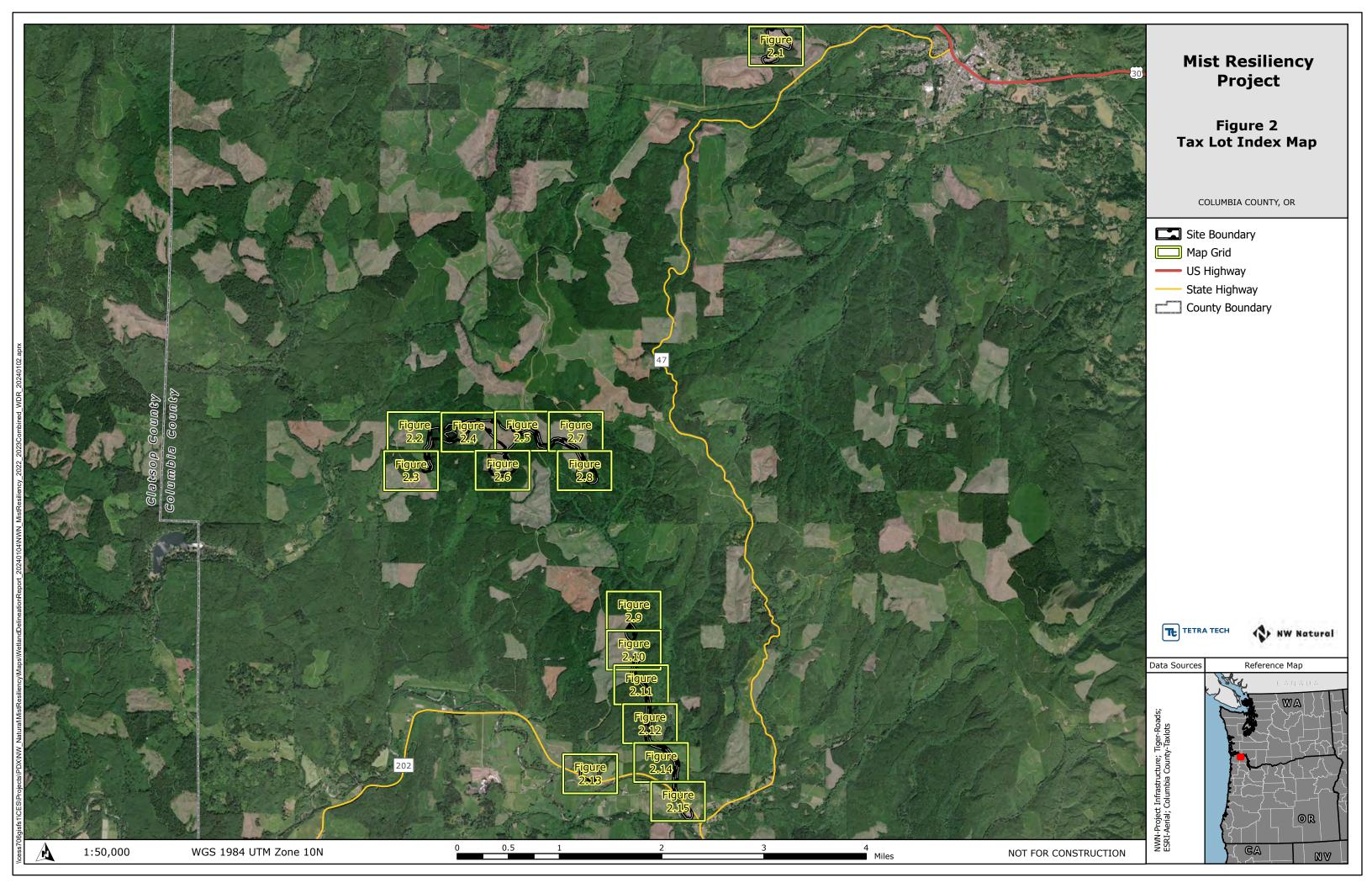
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# **Figures**



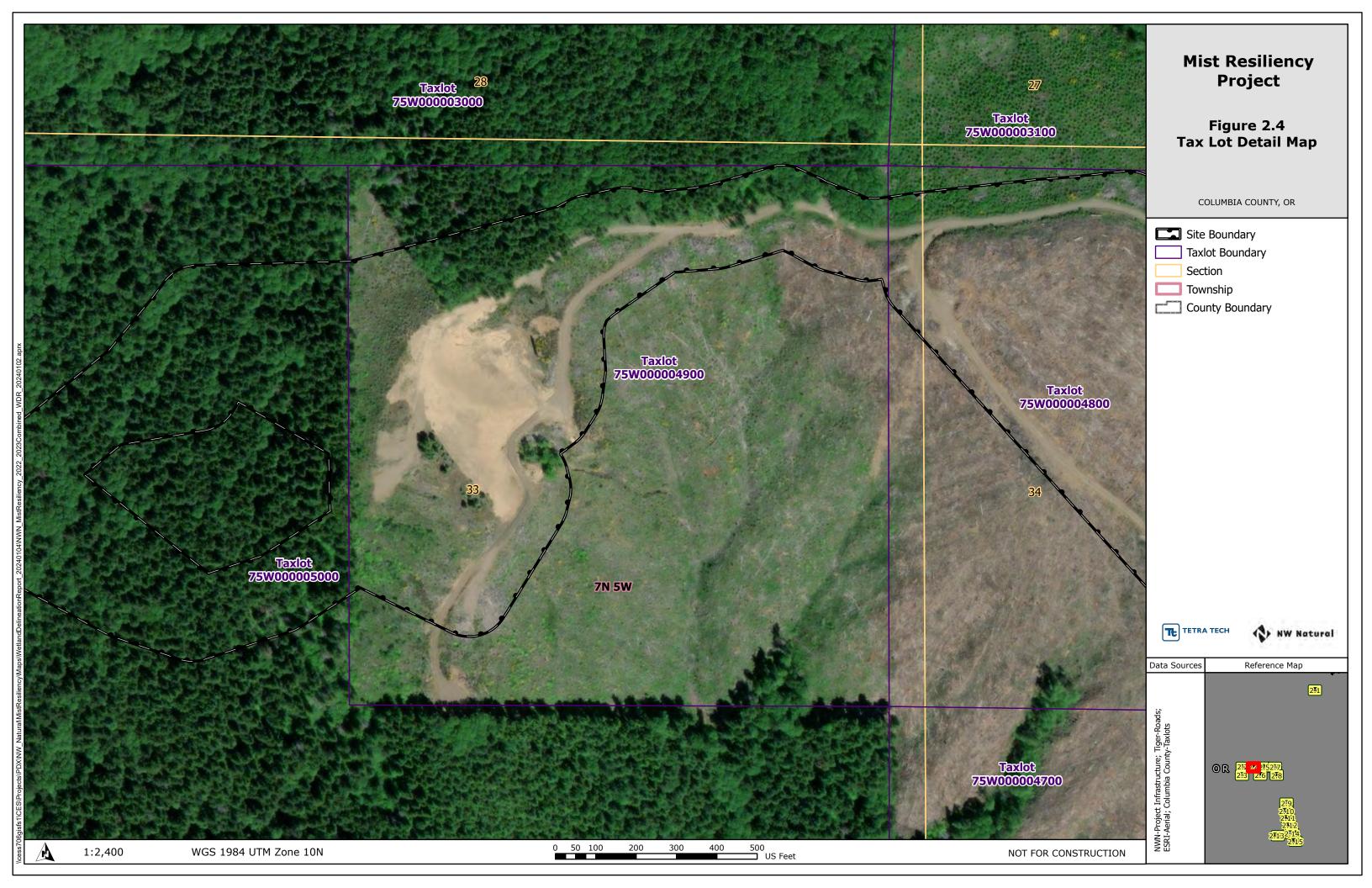






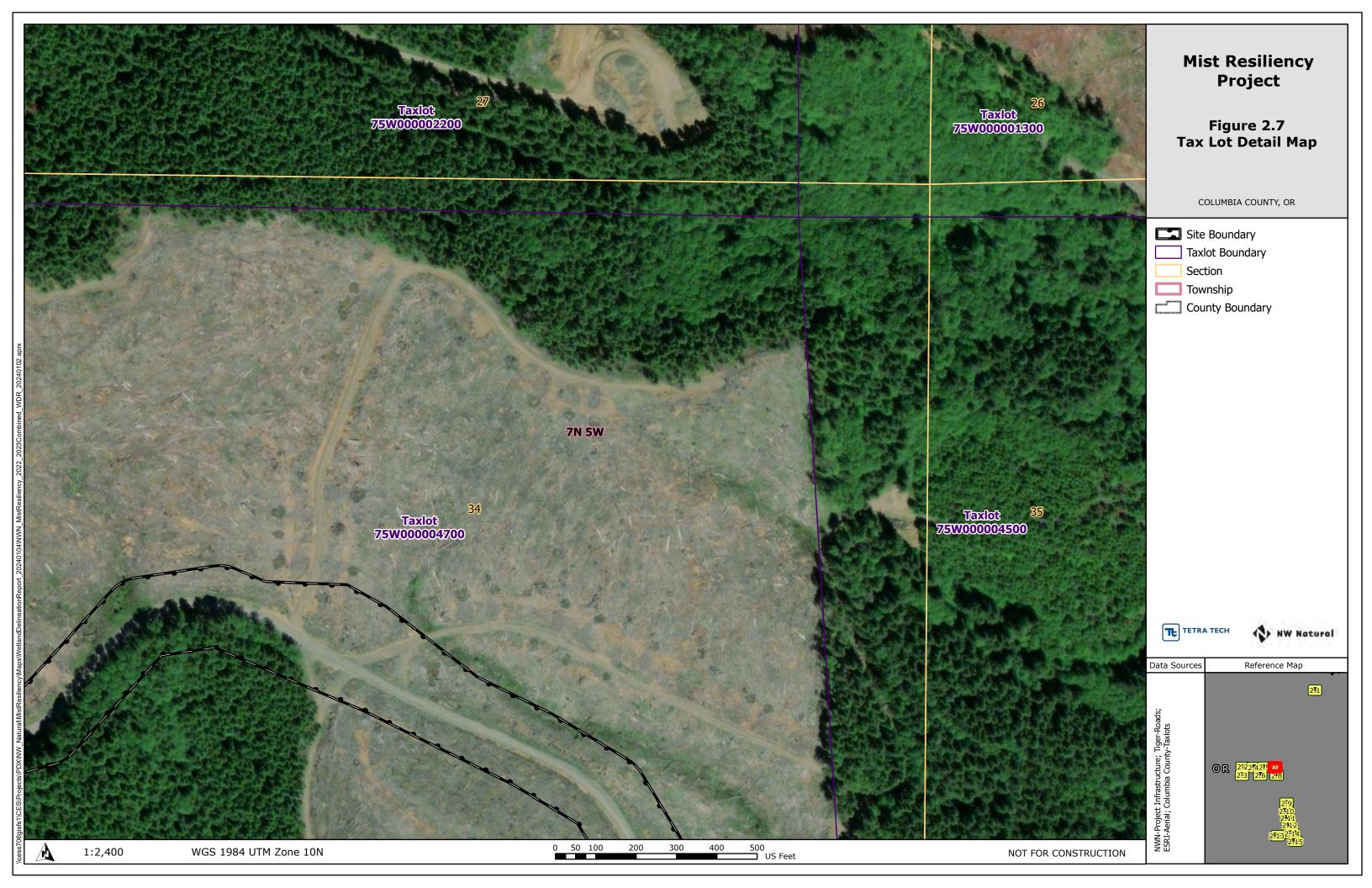










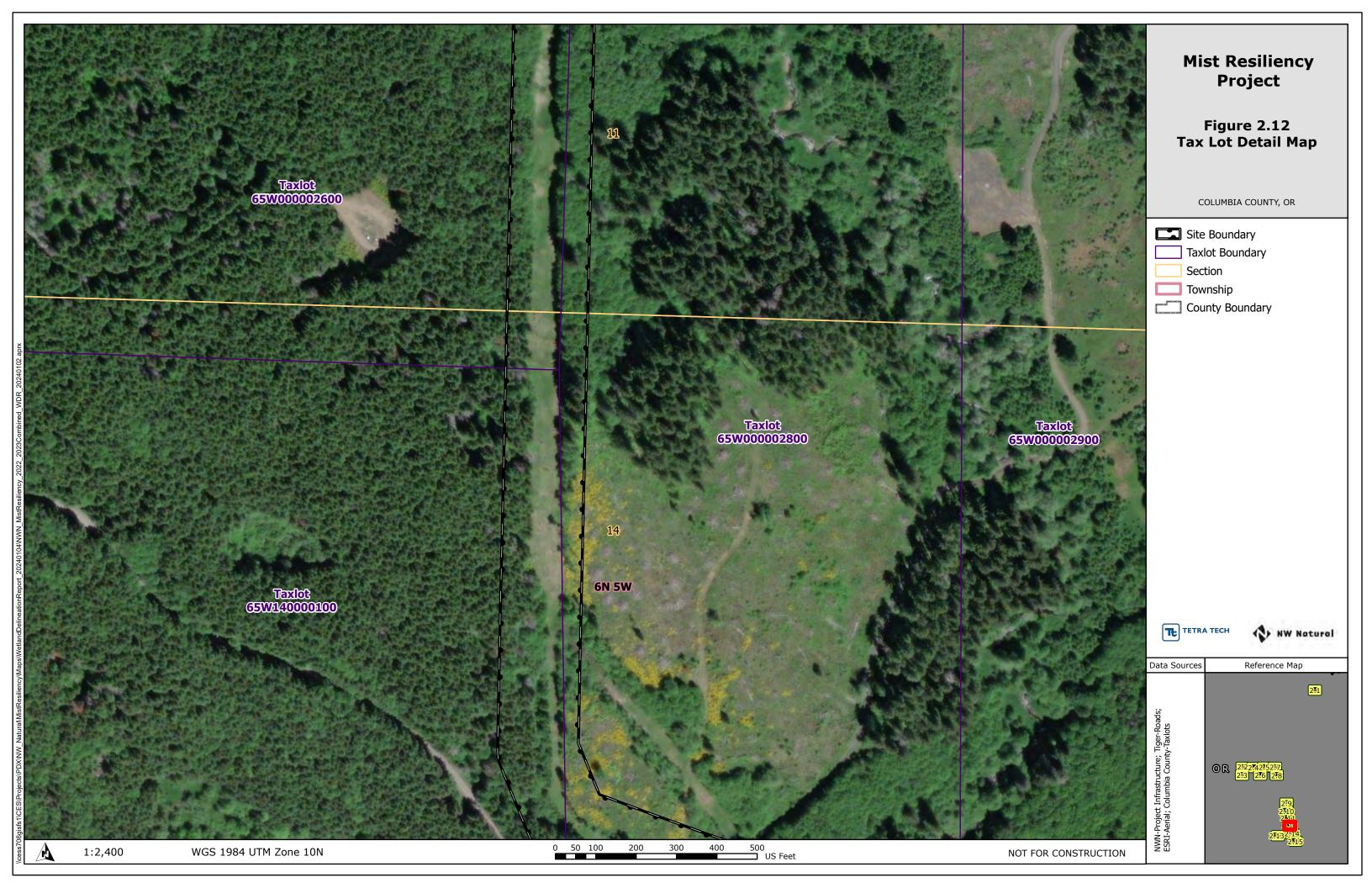


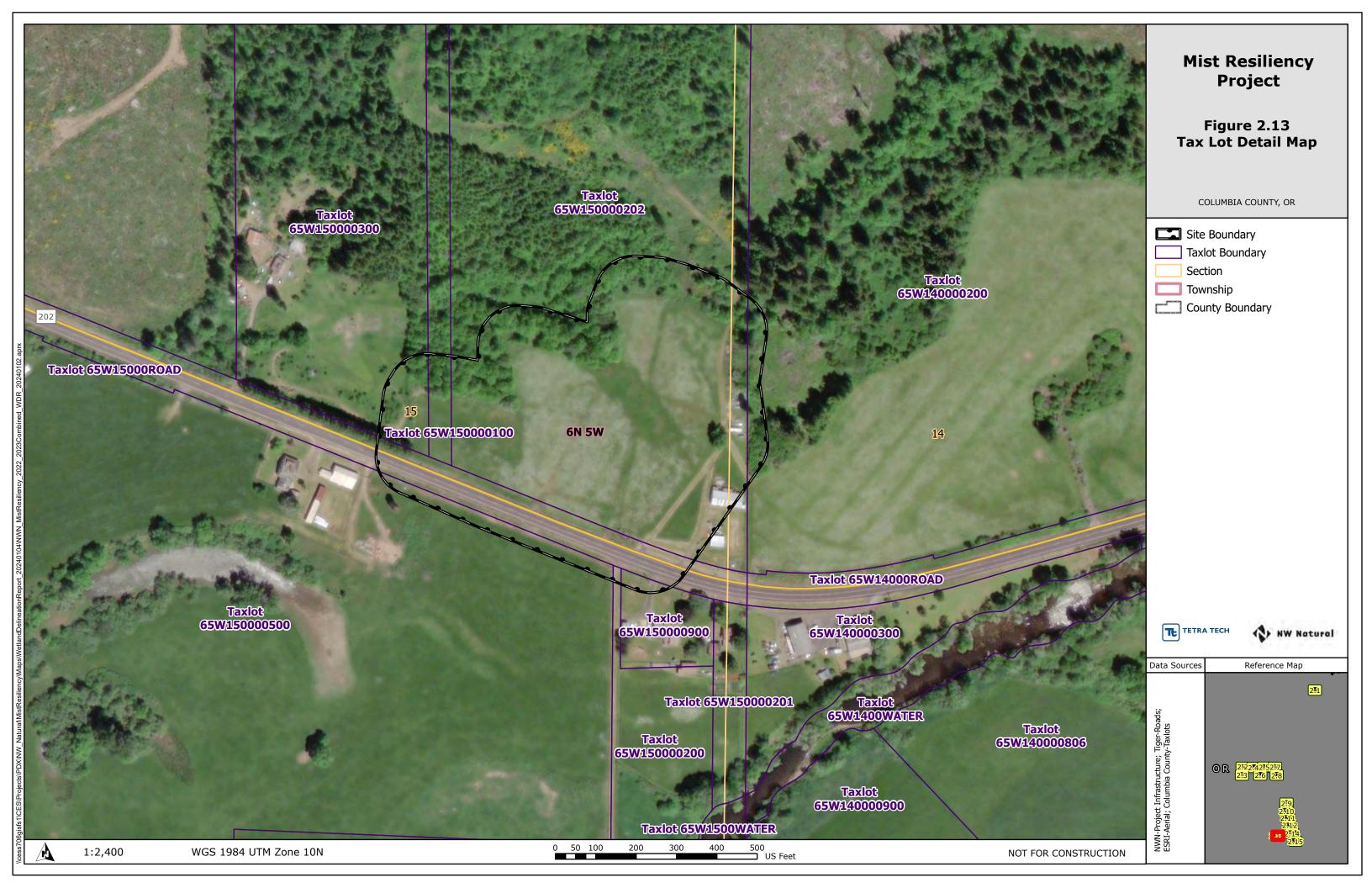




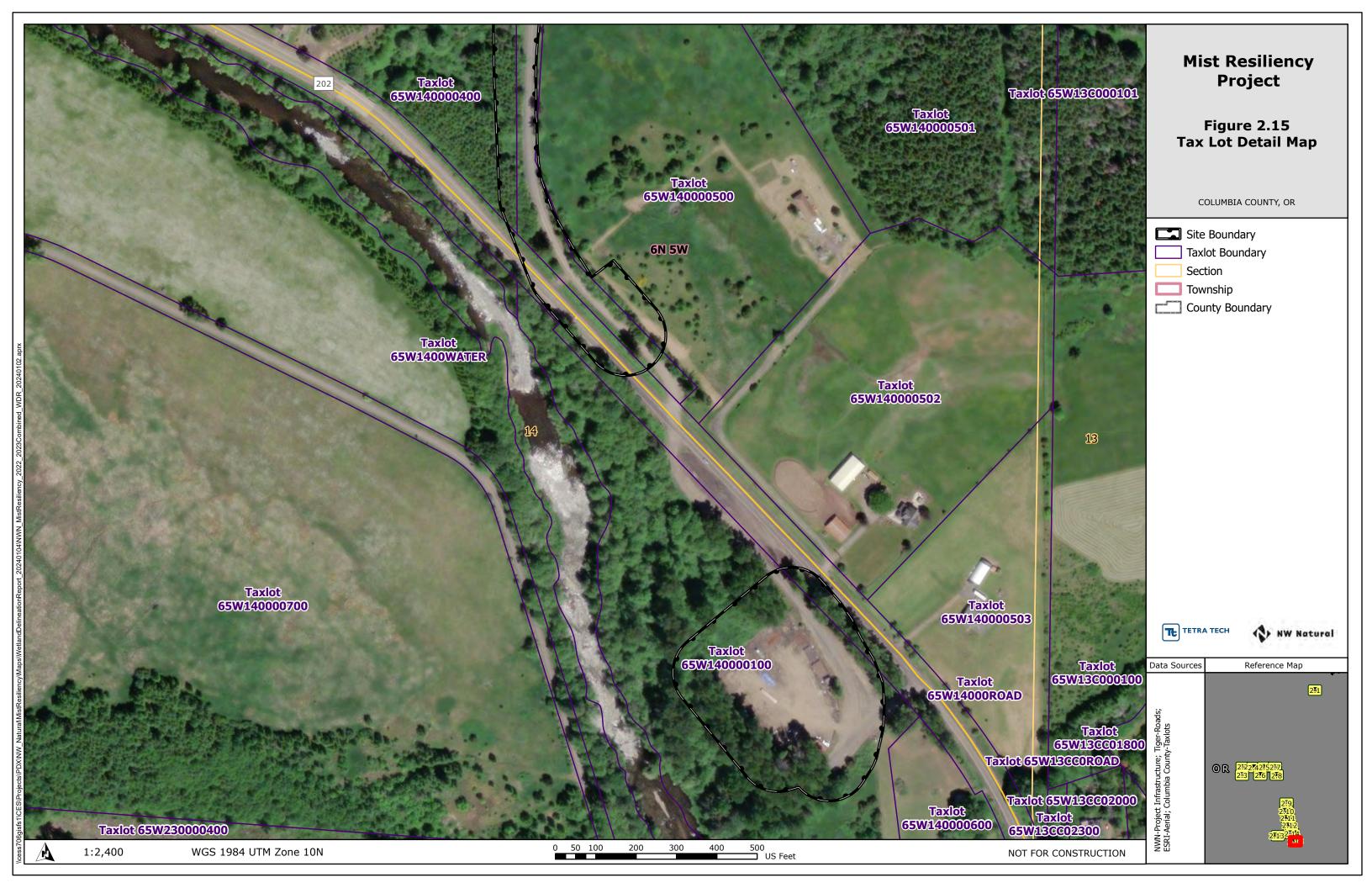


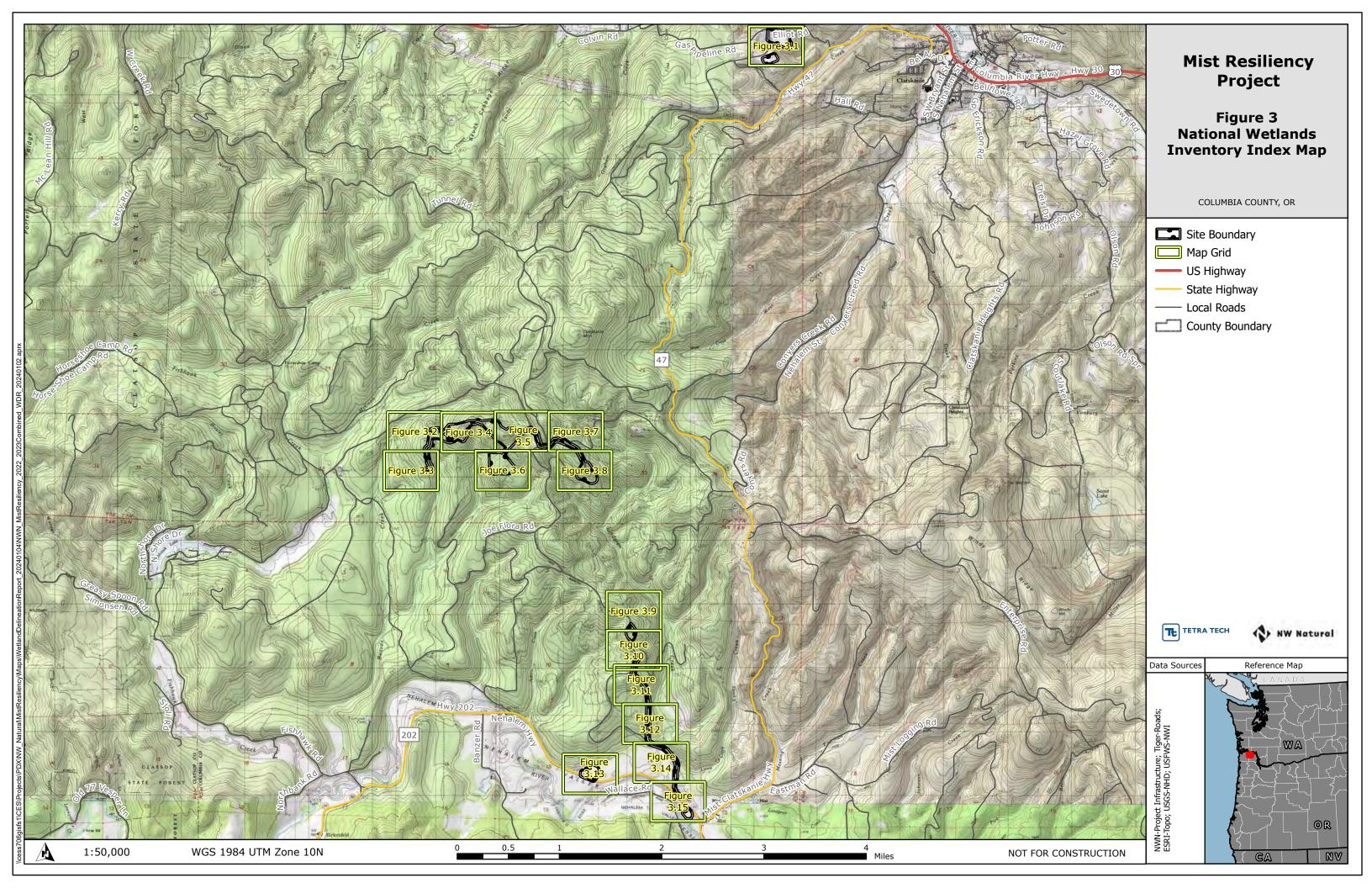


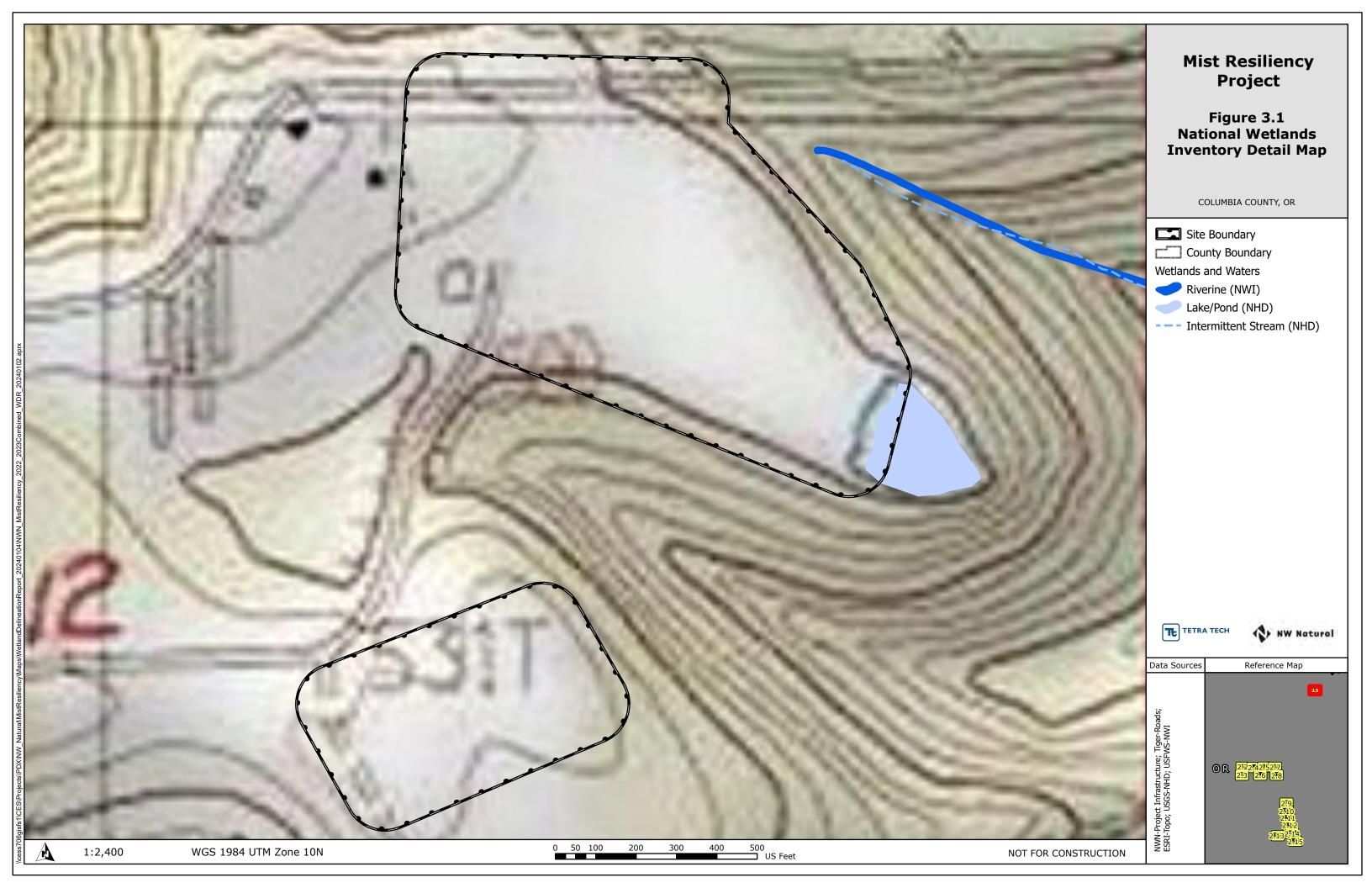


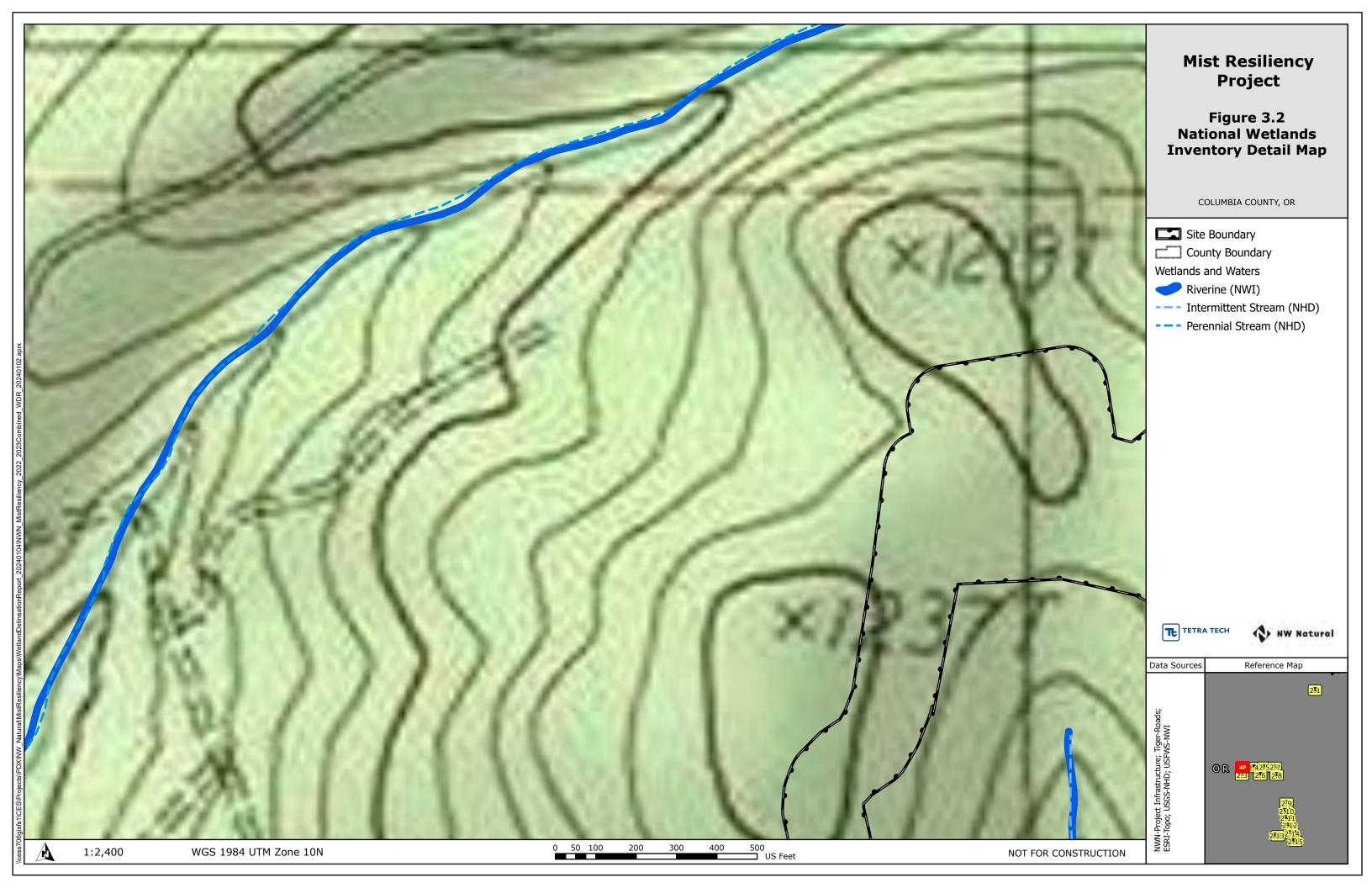




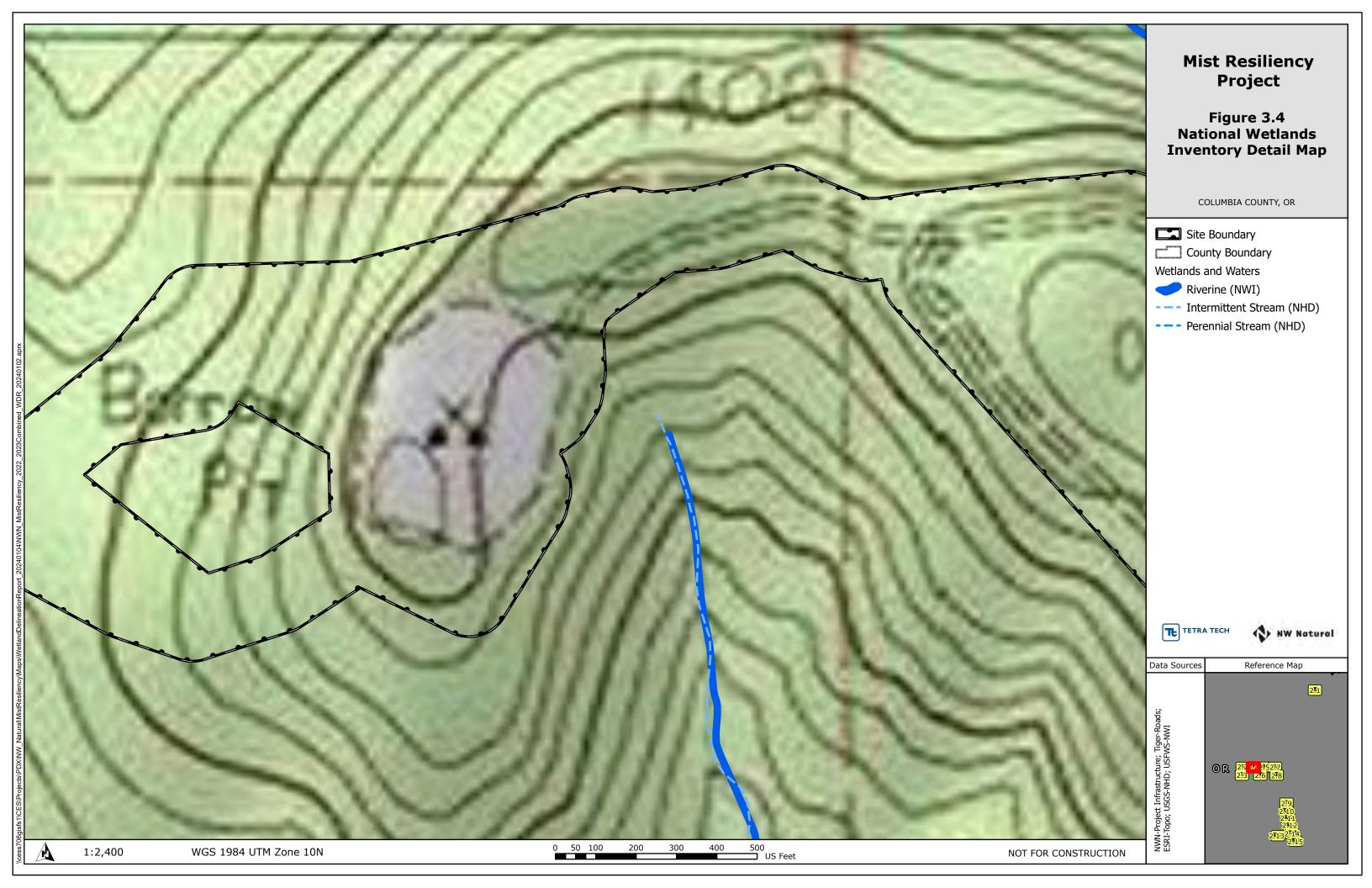






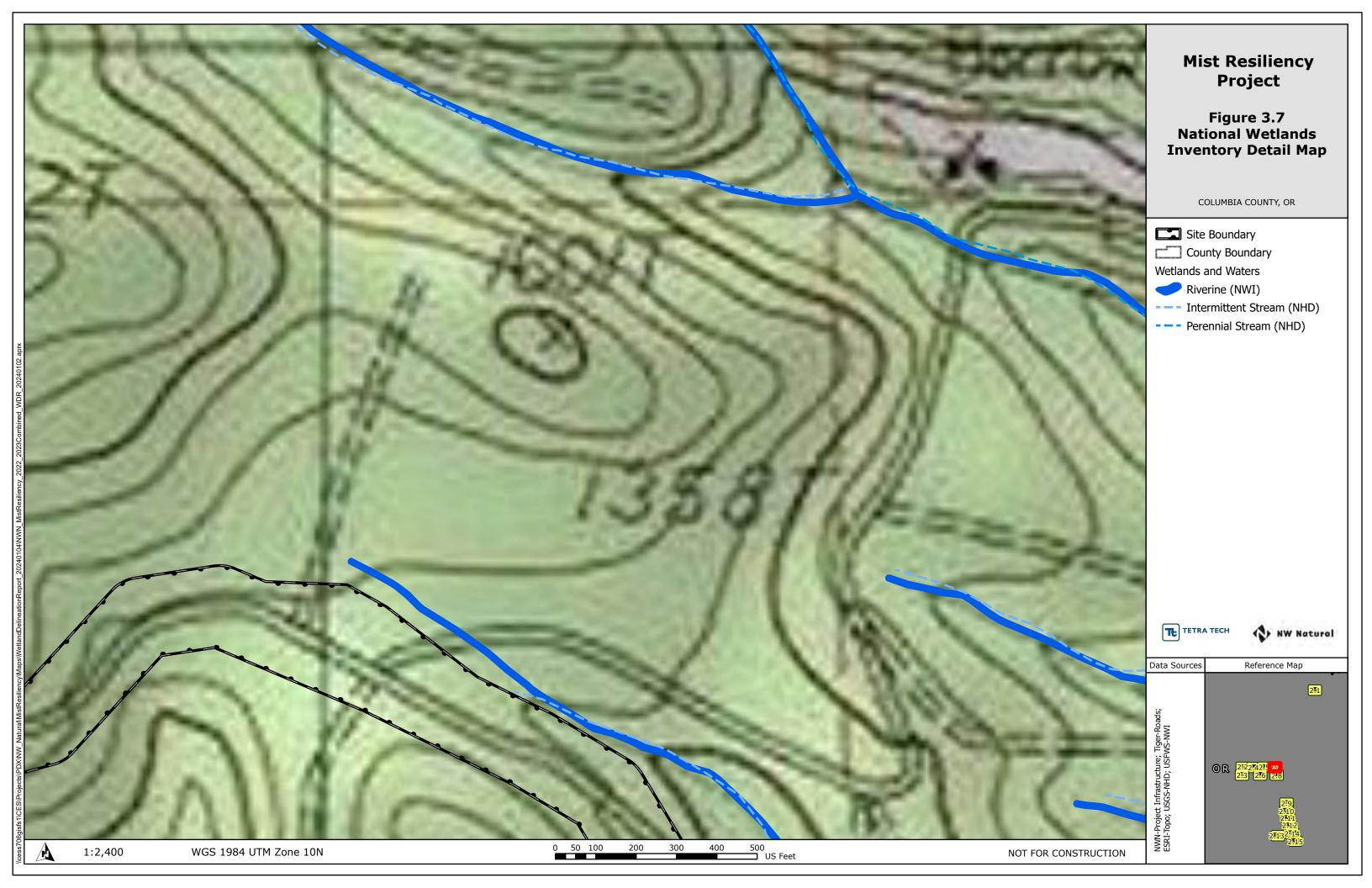


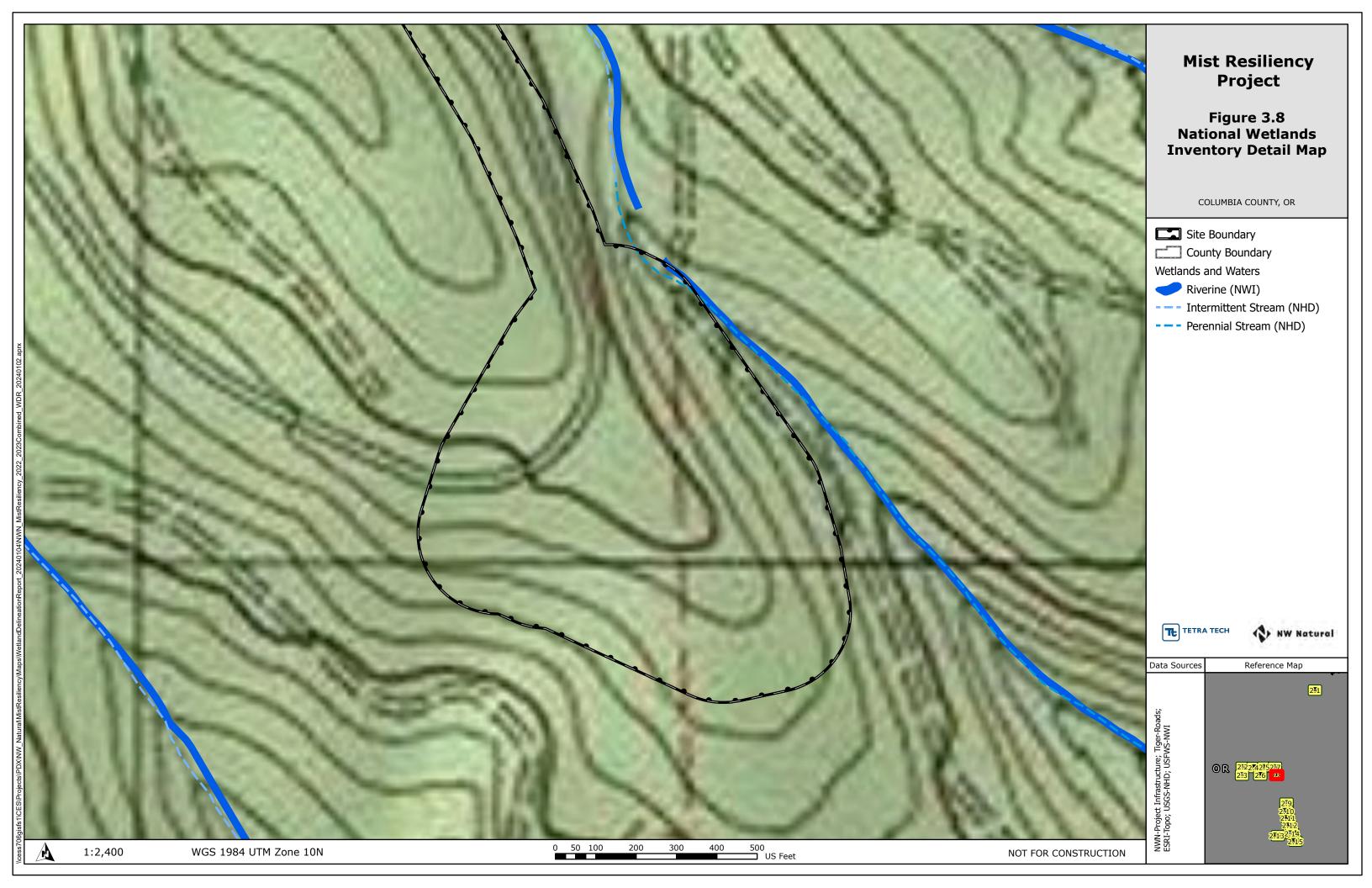


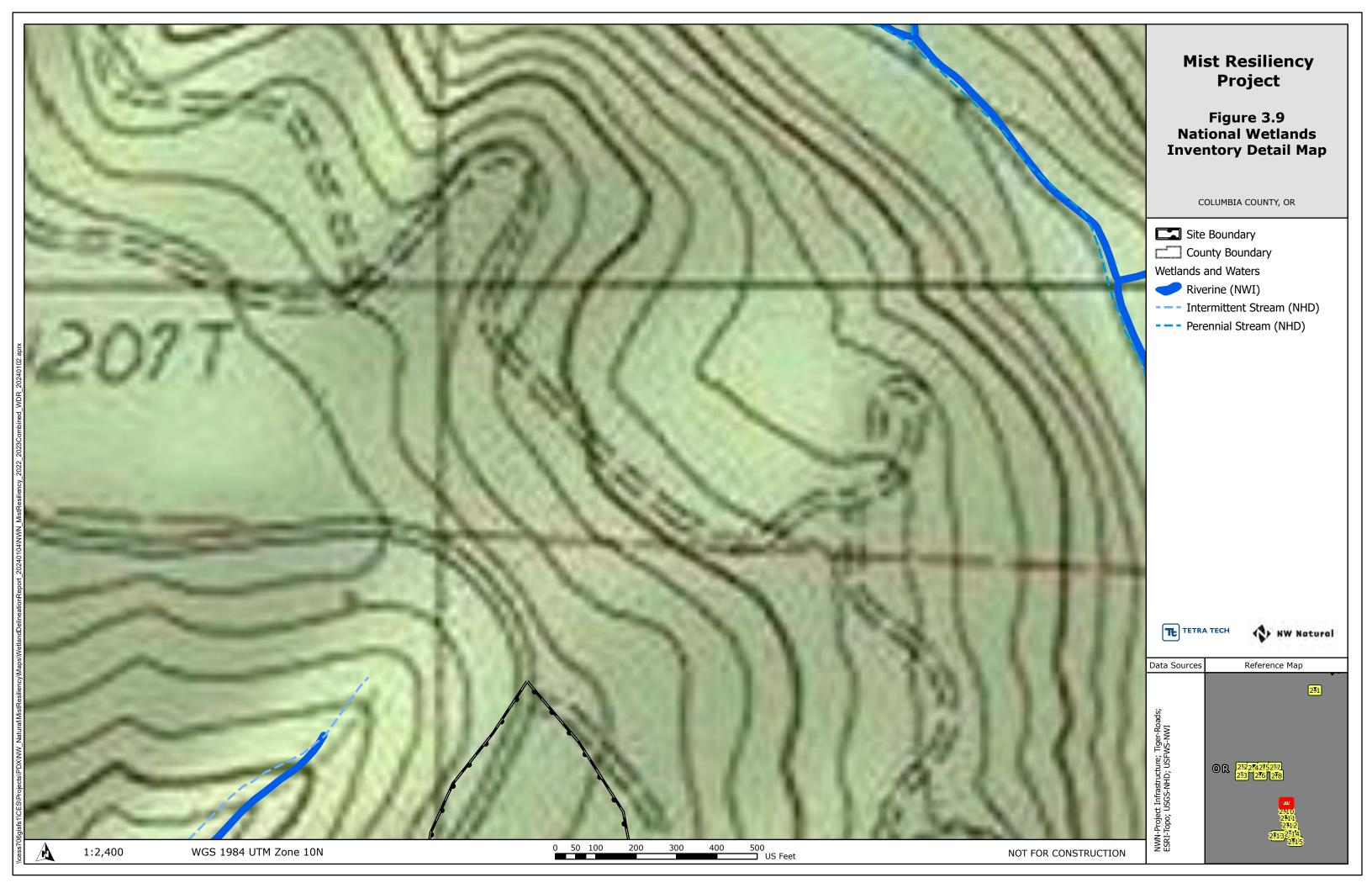












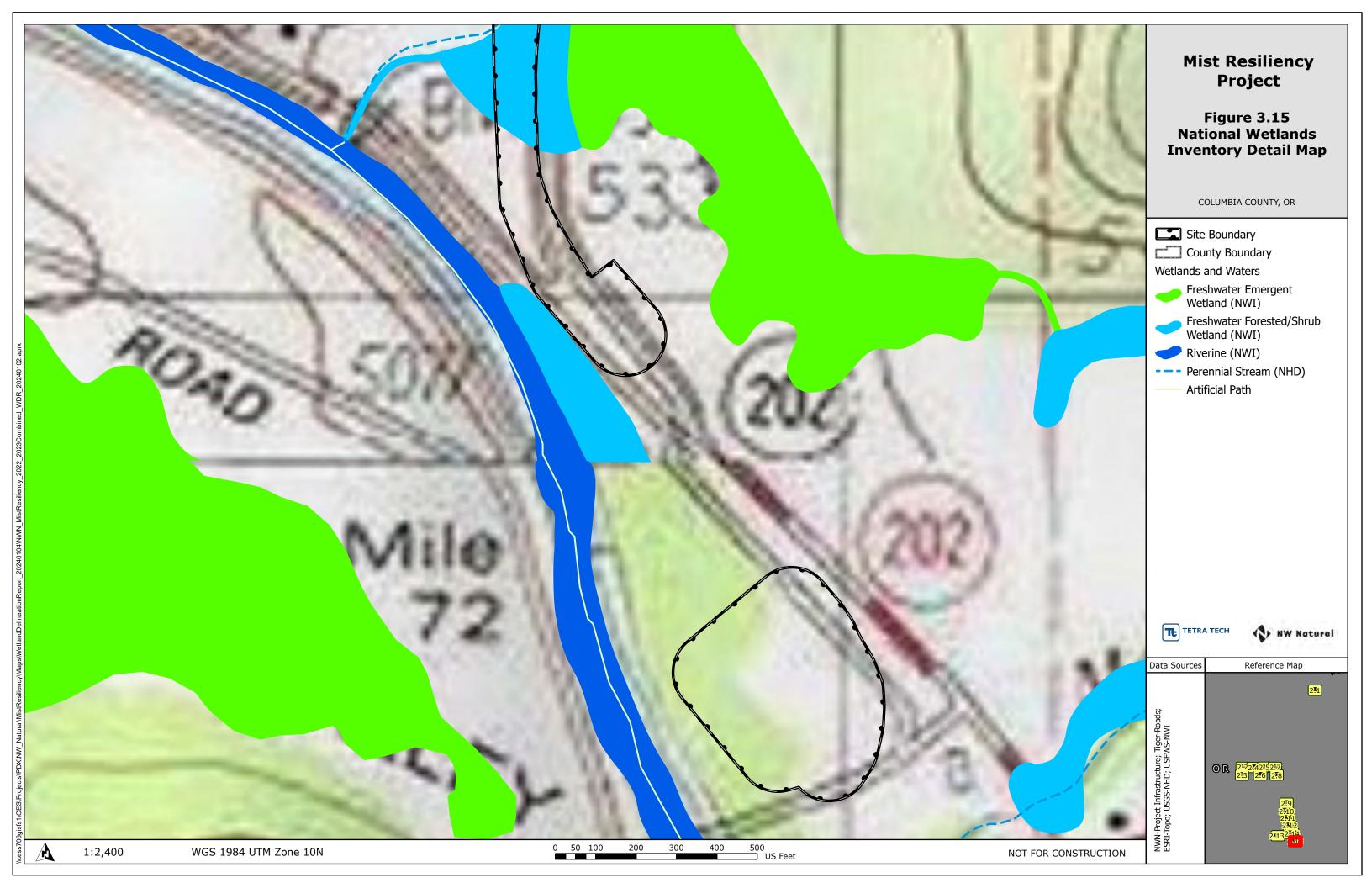


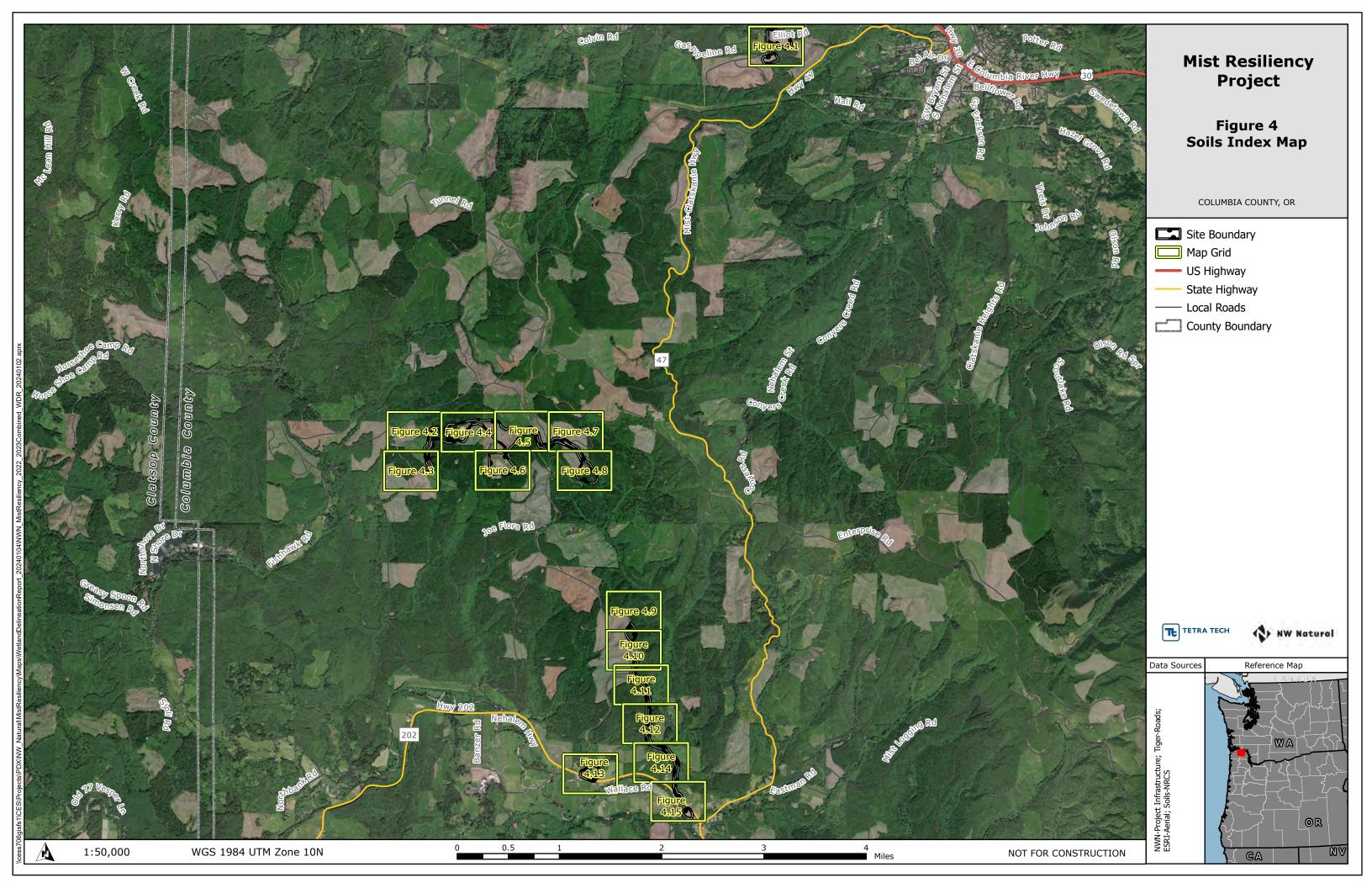
























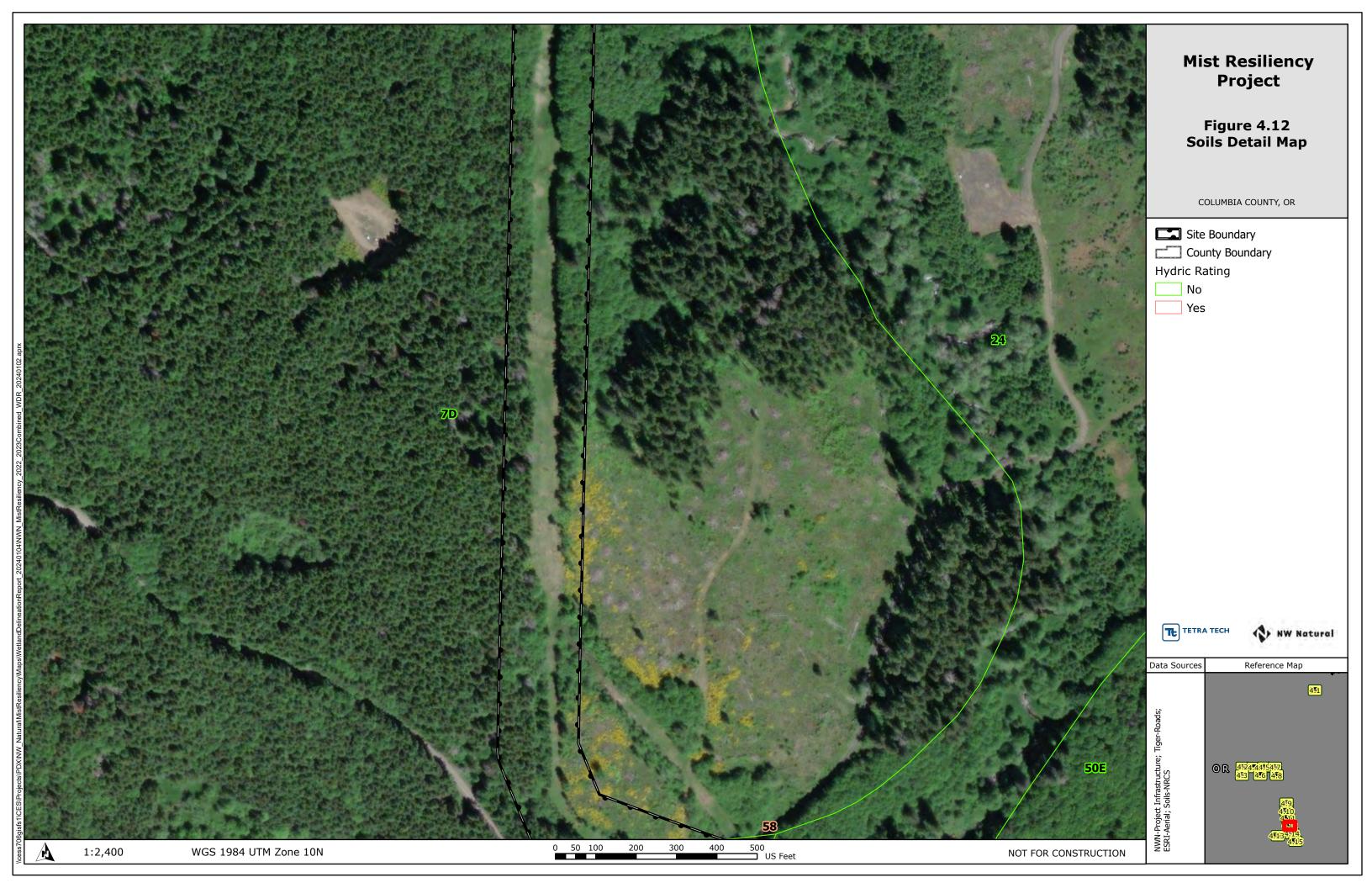










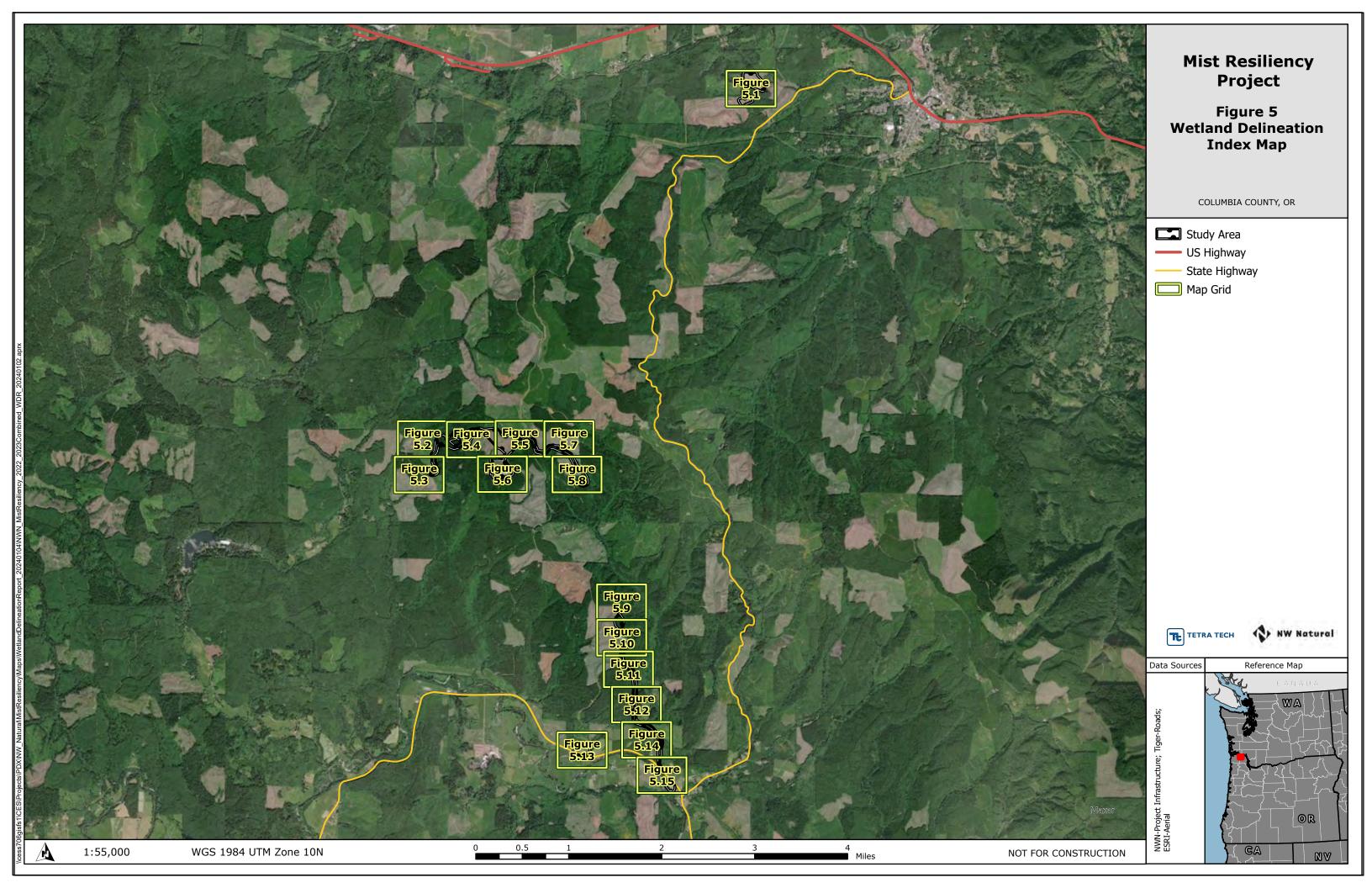




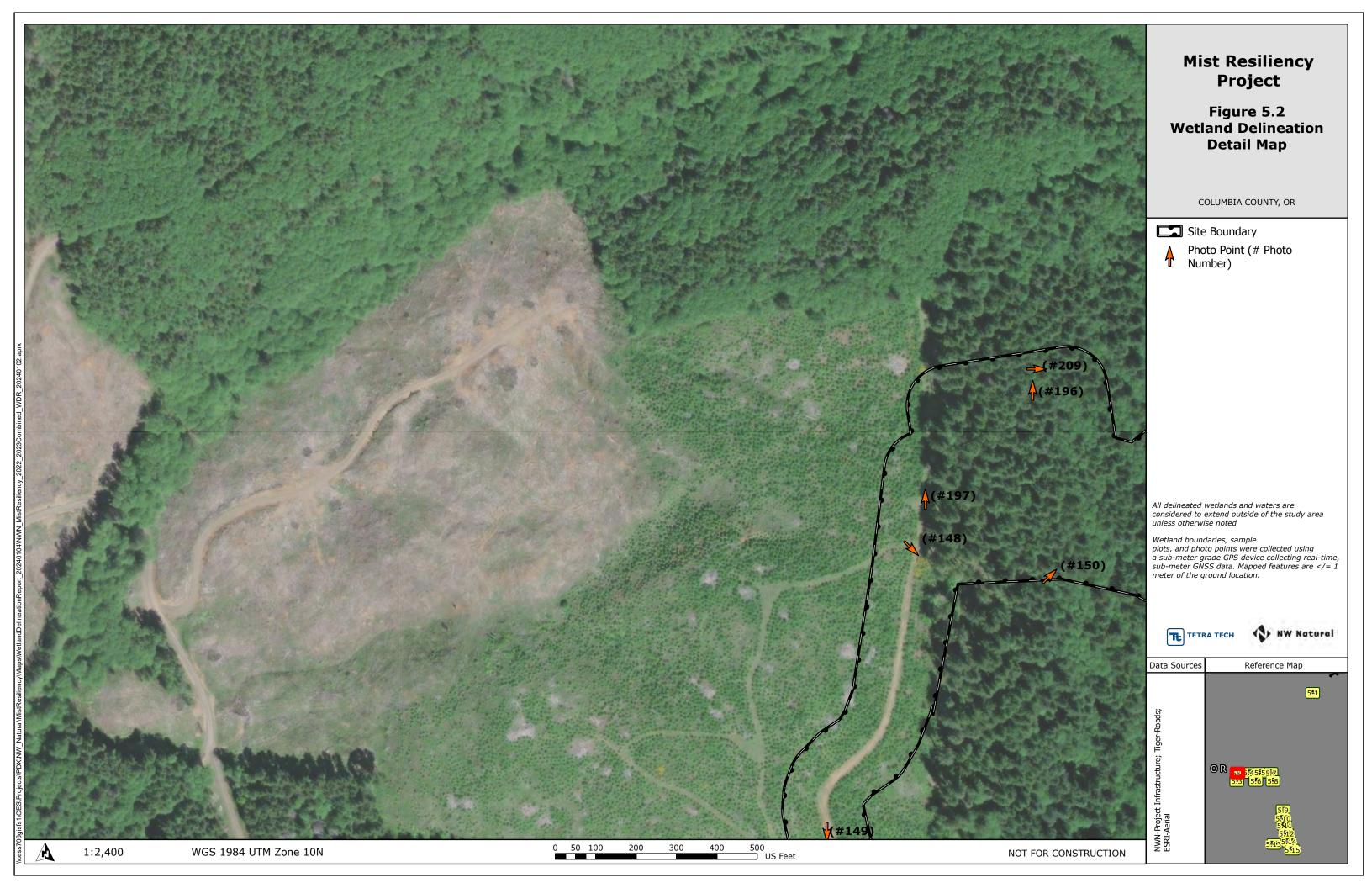




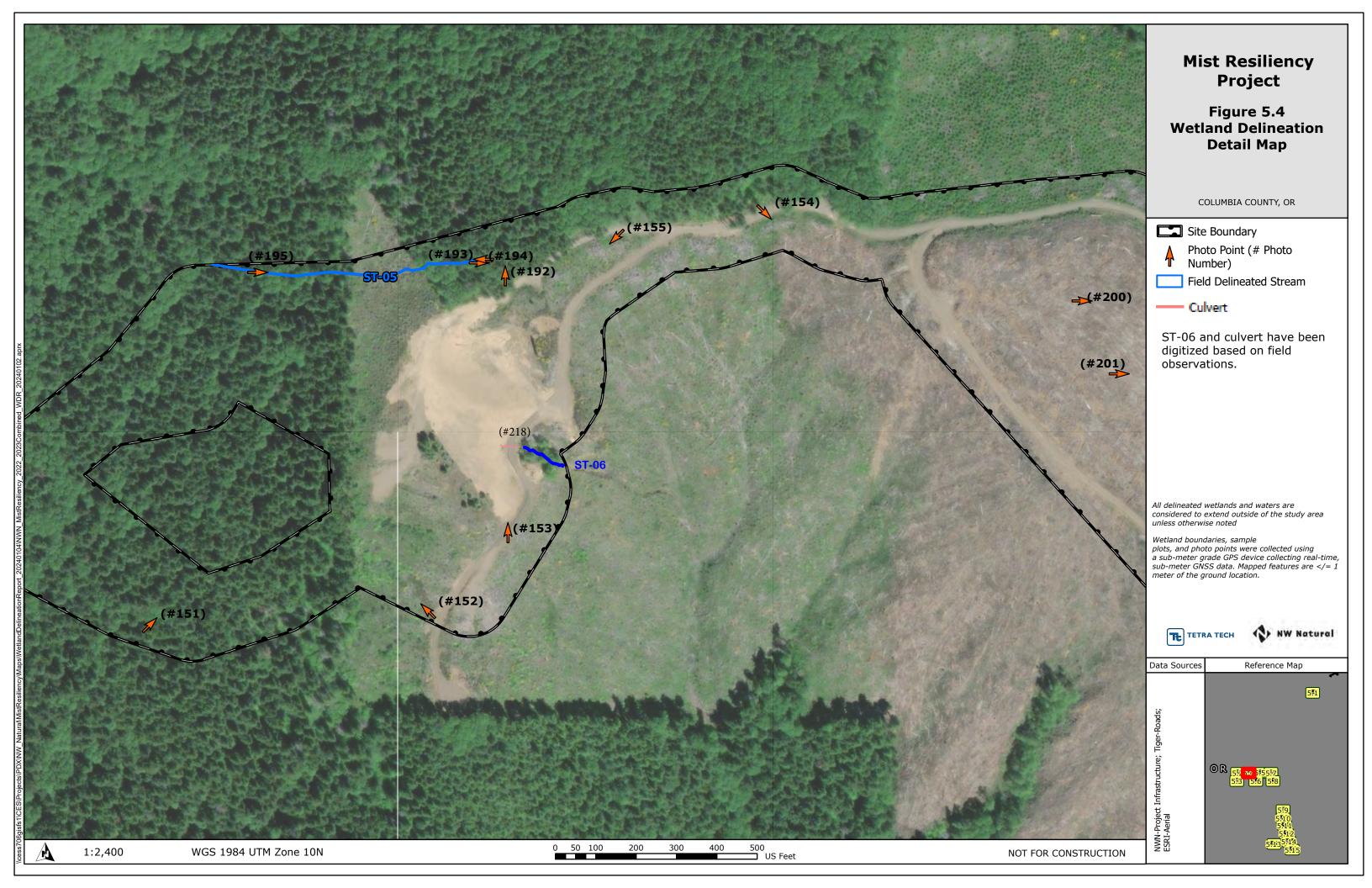
## **Mist Resiliency Project** Figure 4a **Soils Legend** COLUMBIA COUNTY, OR Map Unit Symbol, Map Unit Name 20 - Eilertsen silt loam 24 - Hapludalfs-Udifluvents complex 32 - McNulty silt loam 36D - Murnen silt loam, 3 to 30 percent slopes 37 - Natal silty clay loam 3E - Alstony gravelly loam, 30 to 60 percent north slopes 49E - Scaponia-Braun silt loams, 30 to 60 percent north slopes 50E - Scaponia-Braun silt loams, 30 to 60 percent south slopes 56D - Tolke silt loam, 5 to 30 percent slopes 58 - Treharne silt loam 5D - Anunde silt loam, 3 to 30 percent slopes 7D - Braun-Scaponia silt loams, 5 to 30 percent slopes 8F - Braun-Scaponia silt loams, 60 to 90 percent north slopes 9F - Braun-Scaponia silt loams, 60 to 90 percent south slopes TETRA TECH NW Natural Data Sources Reference Map





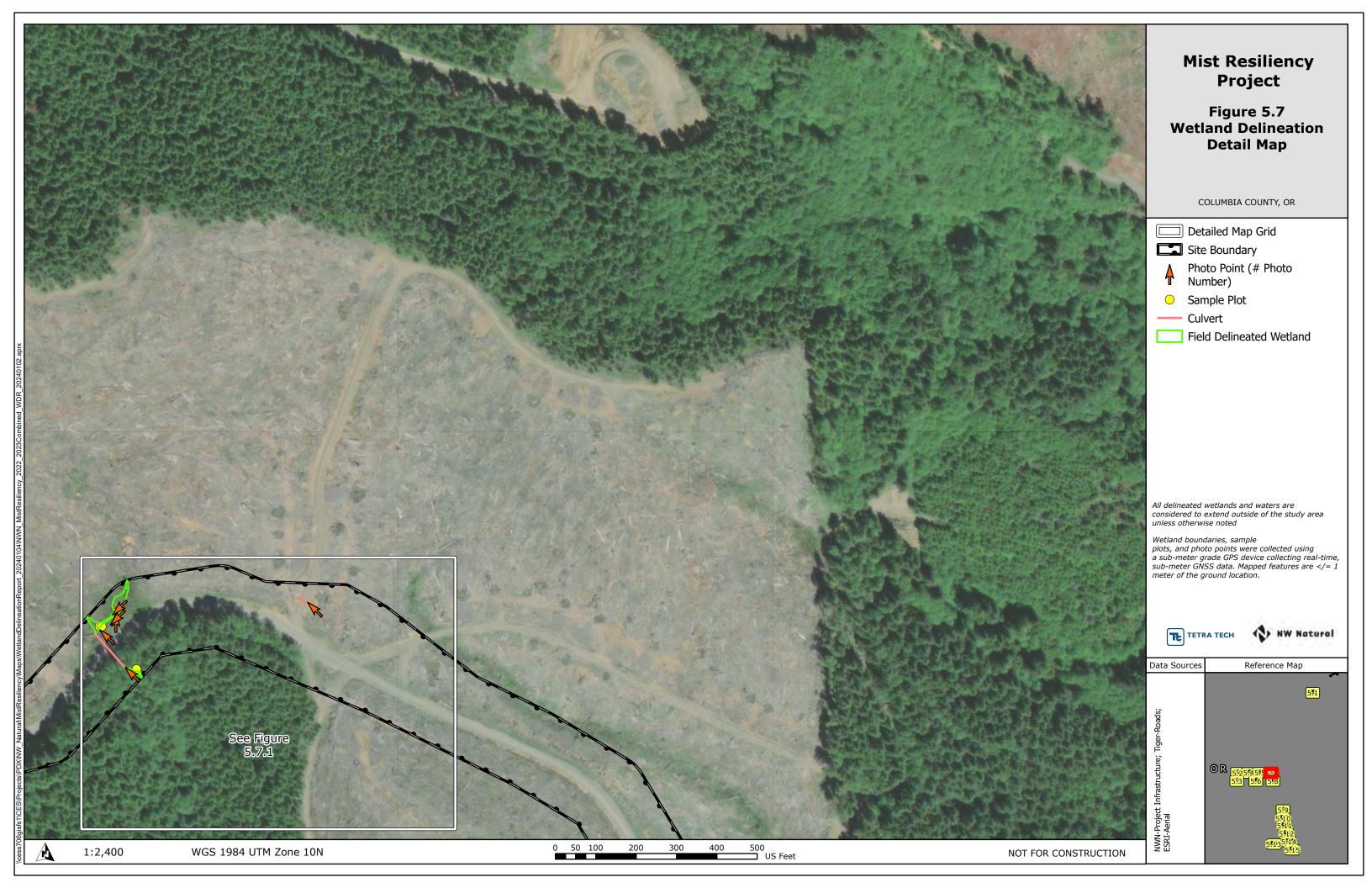


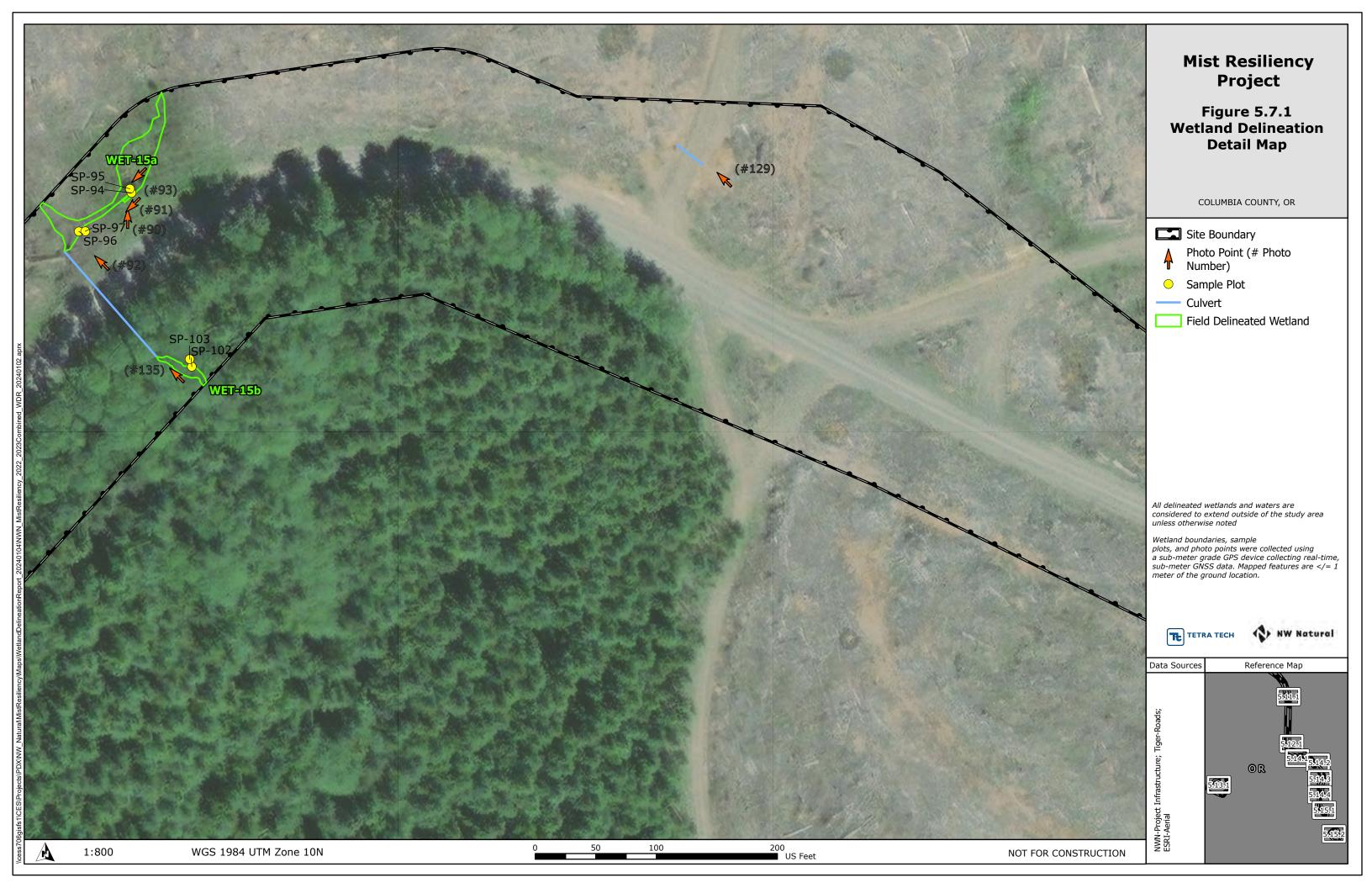


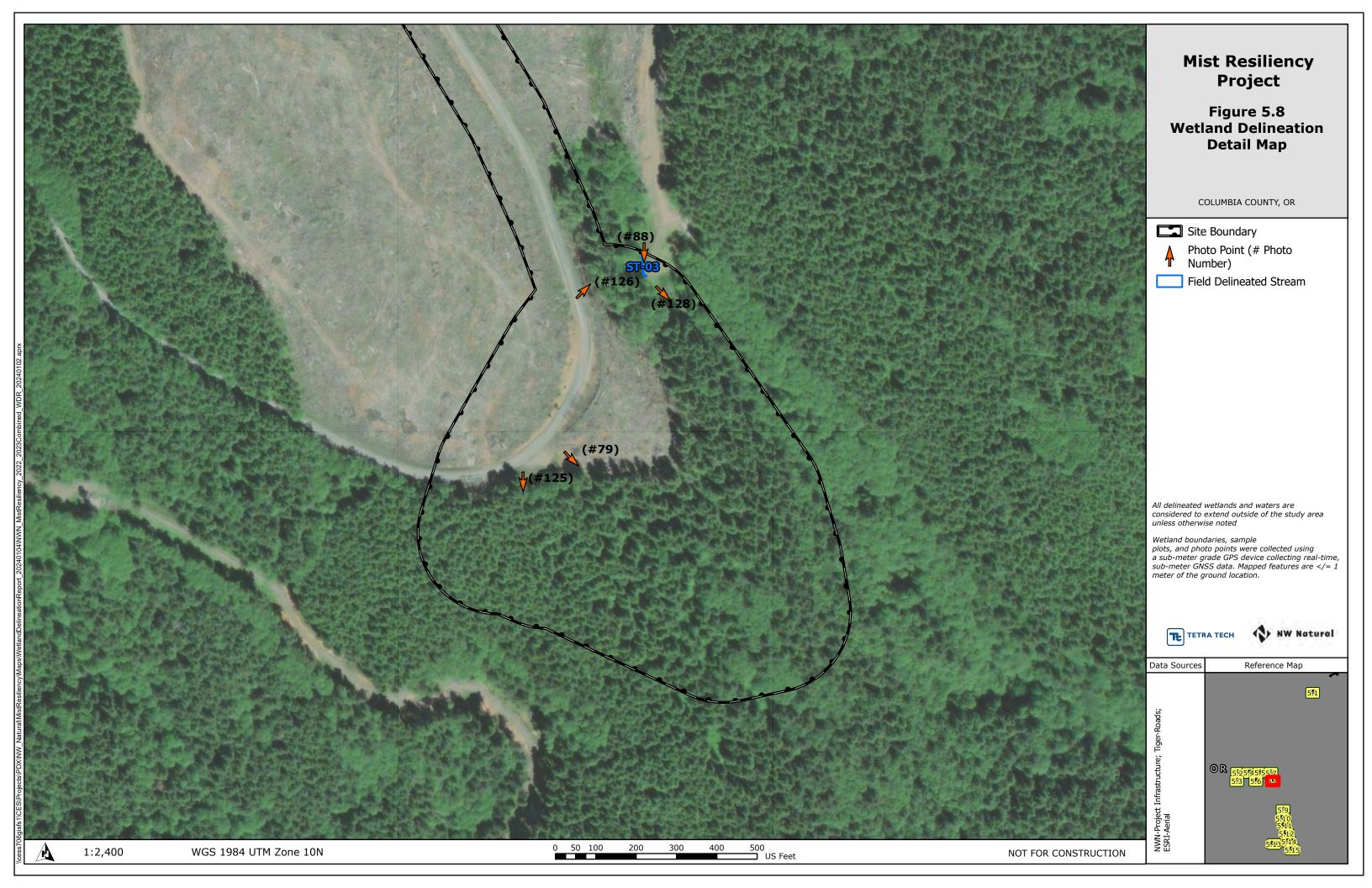










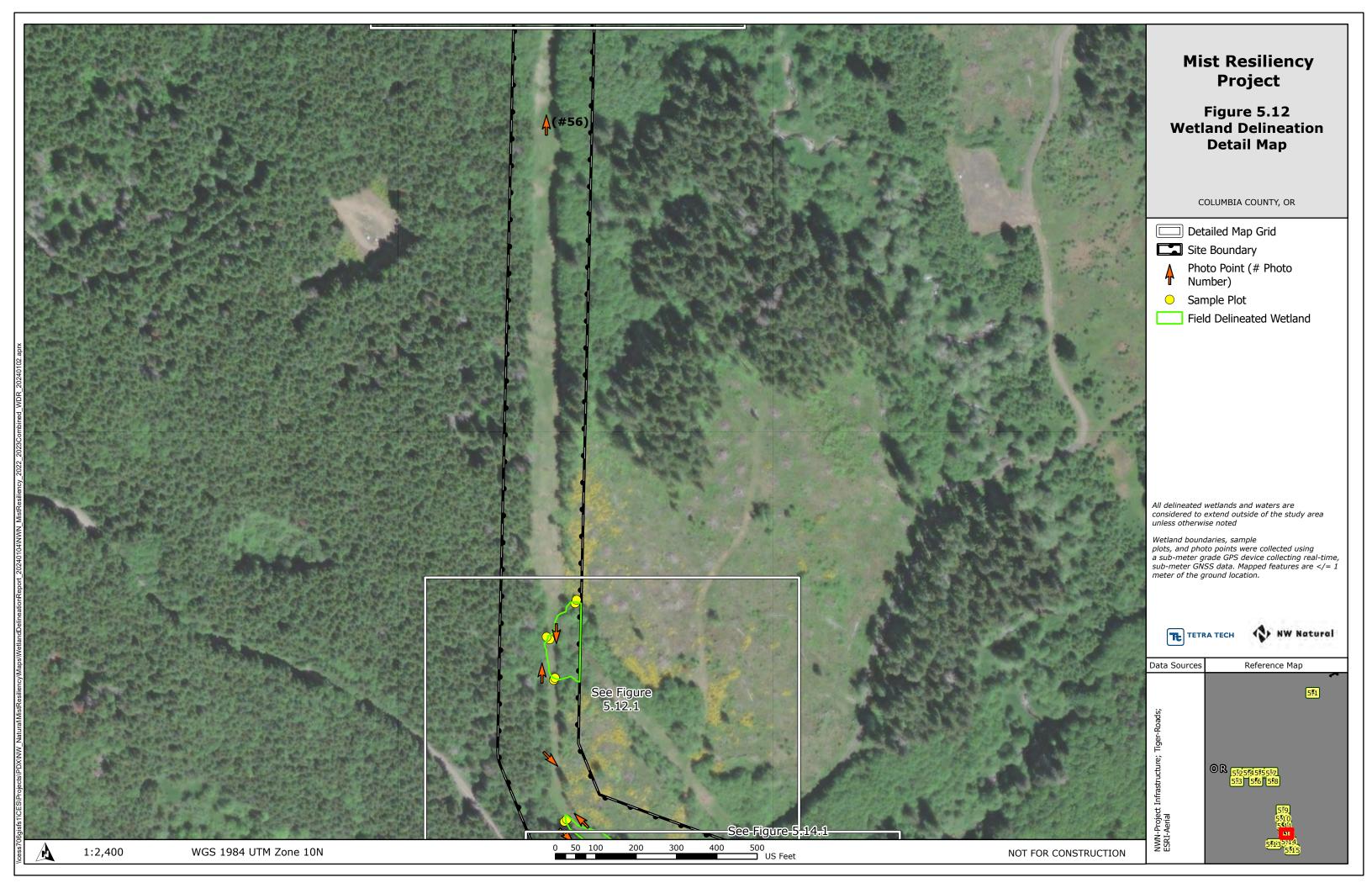


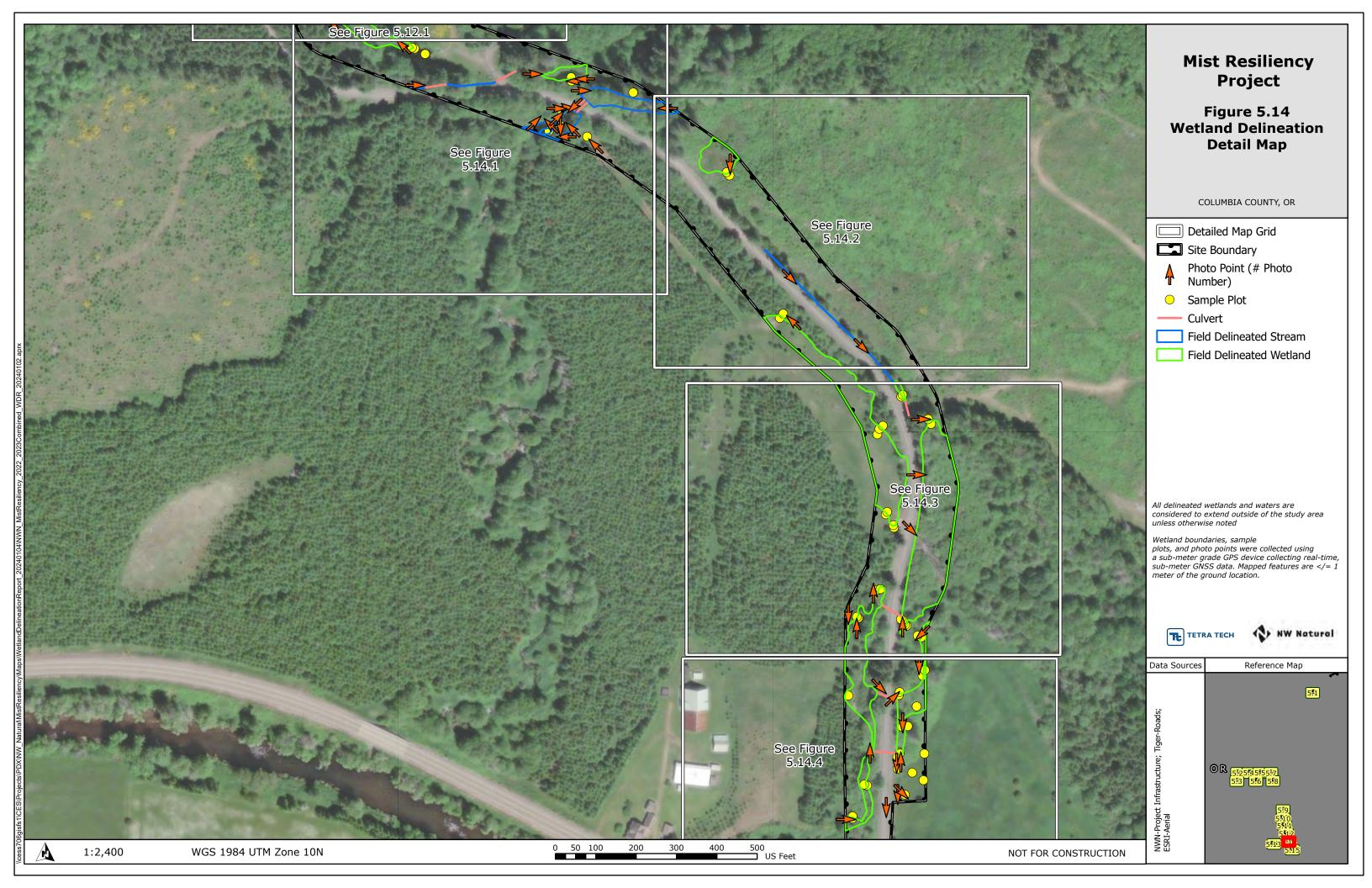






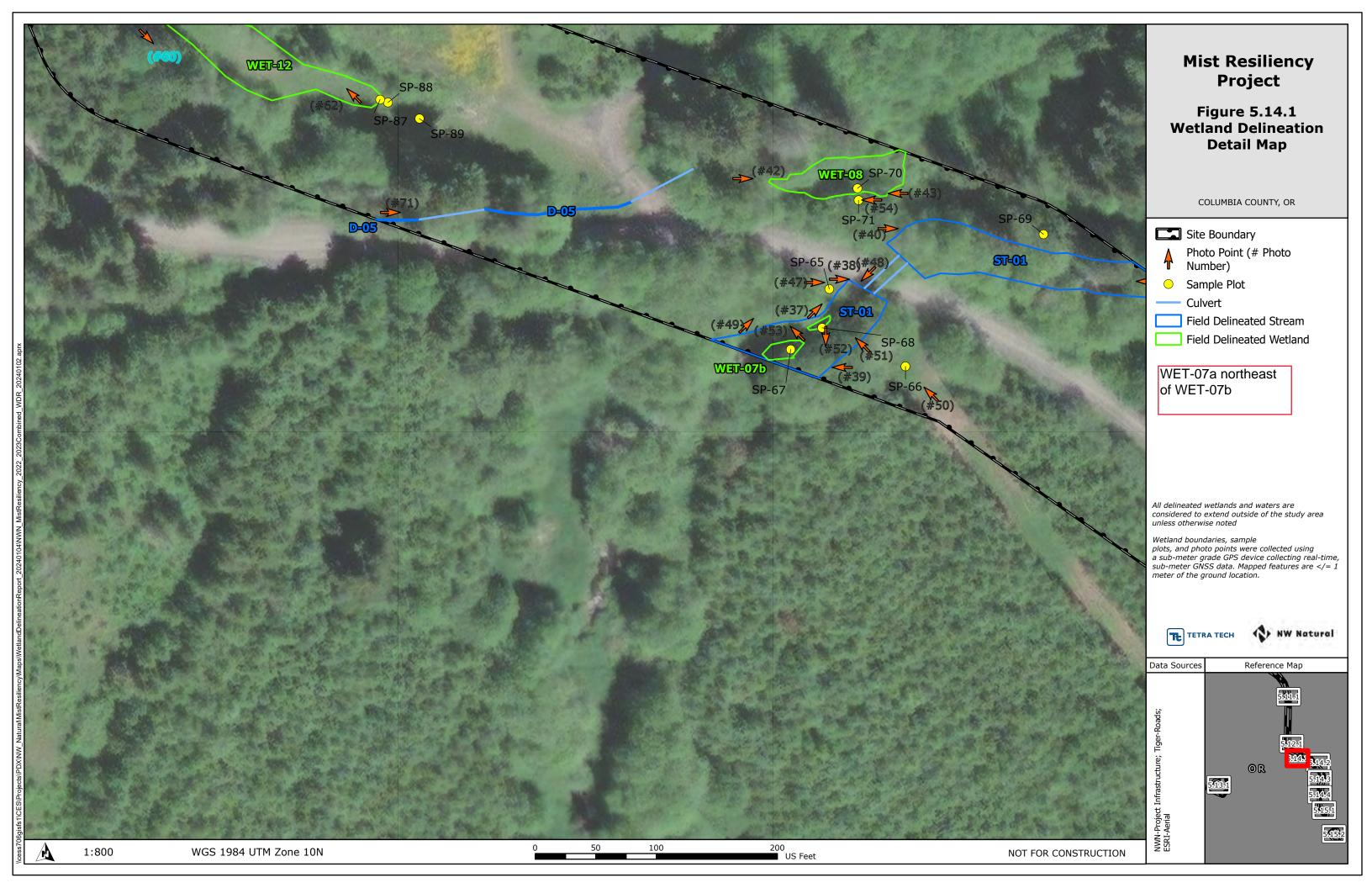


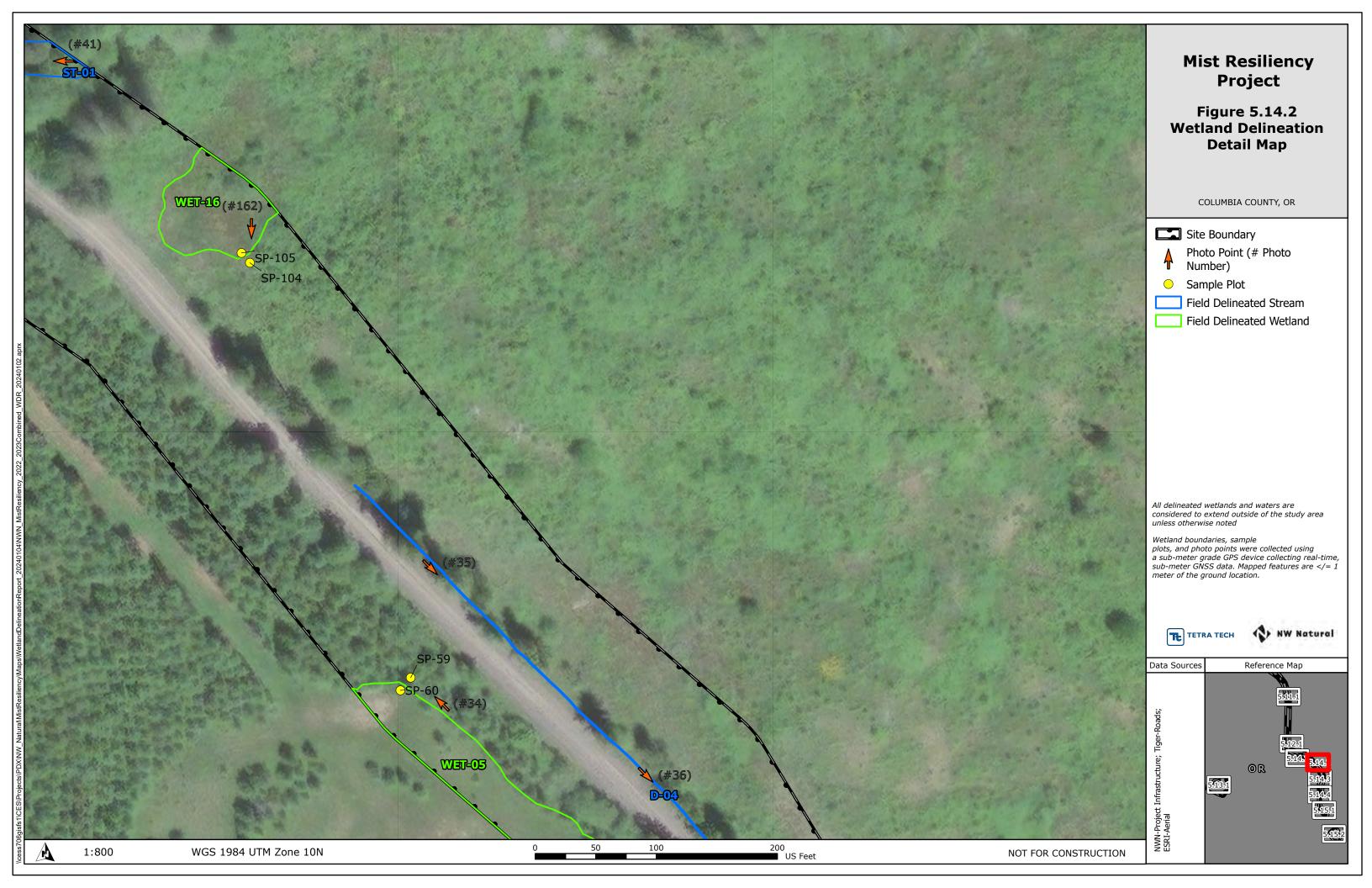




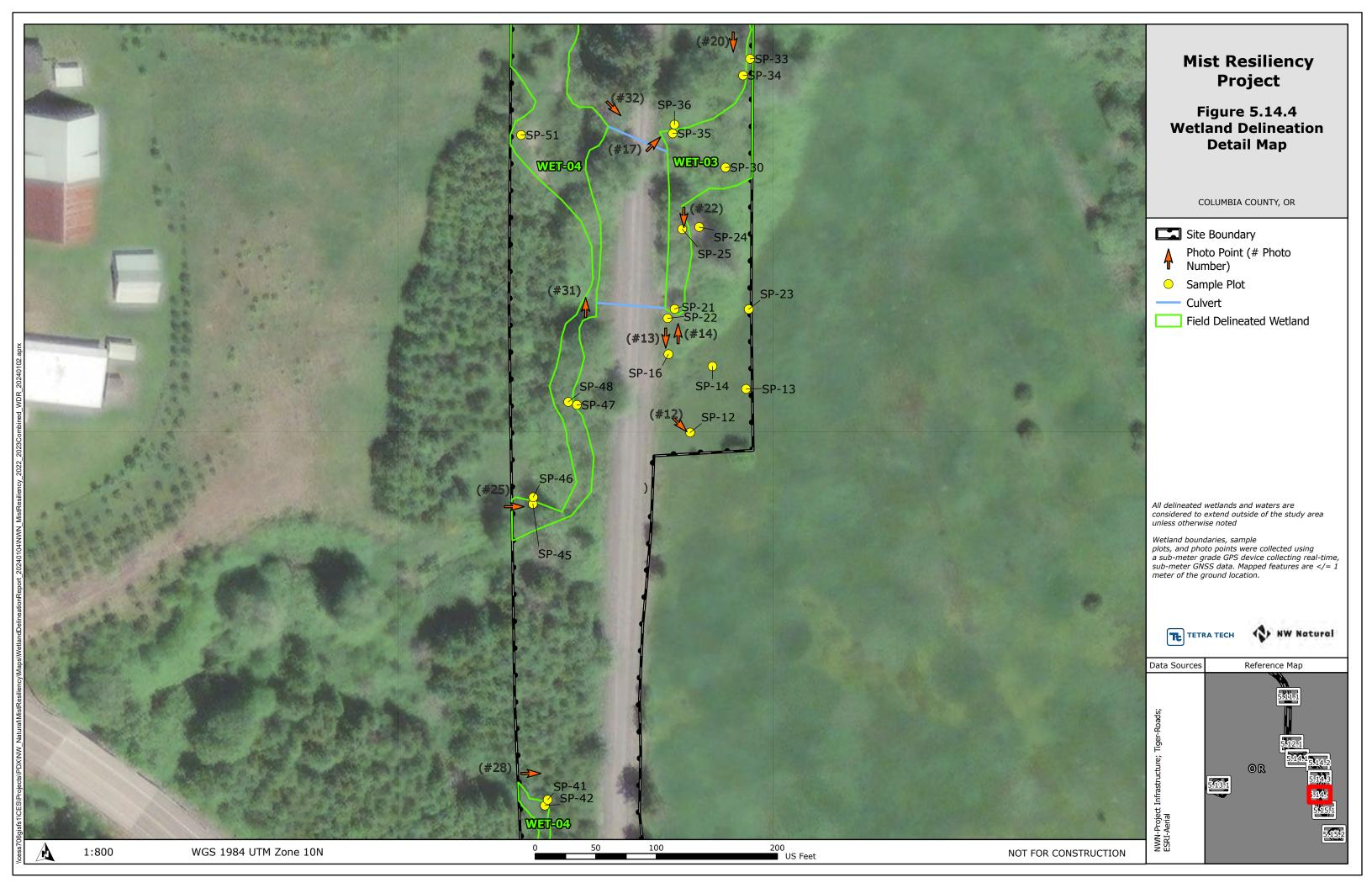






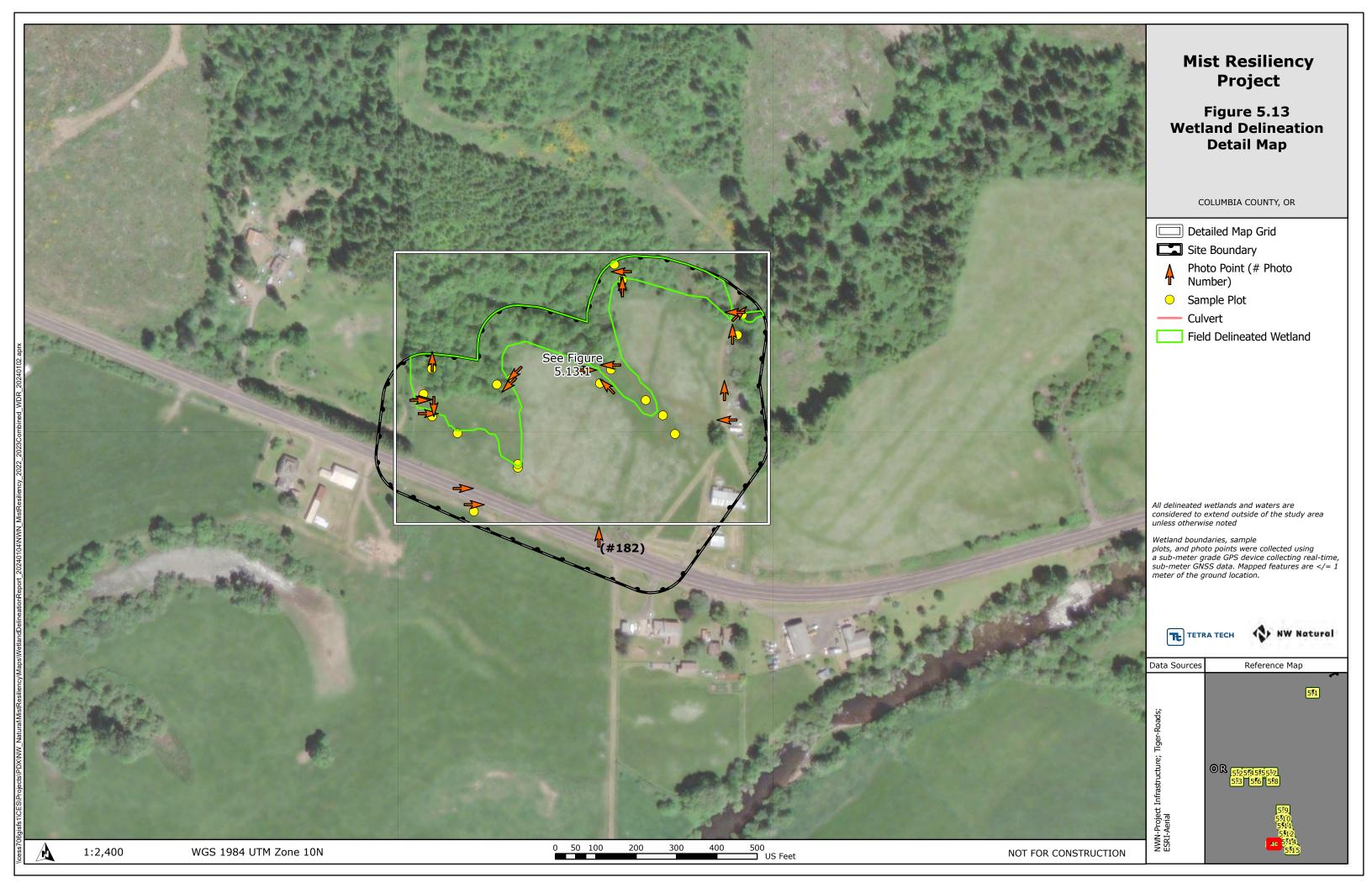


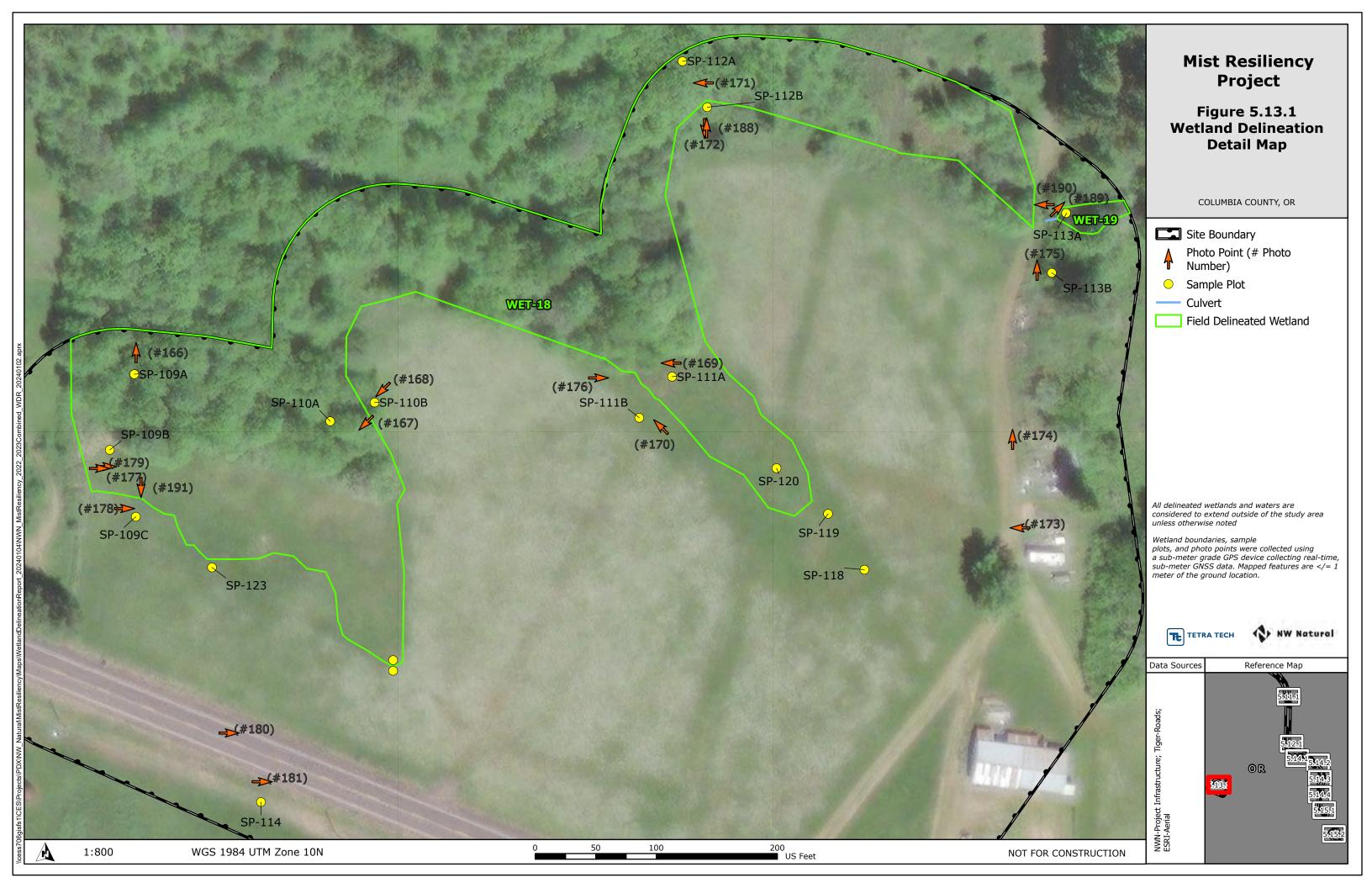




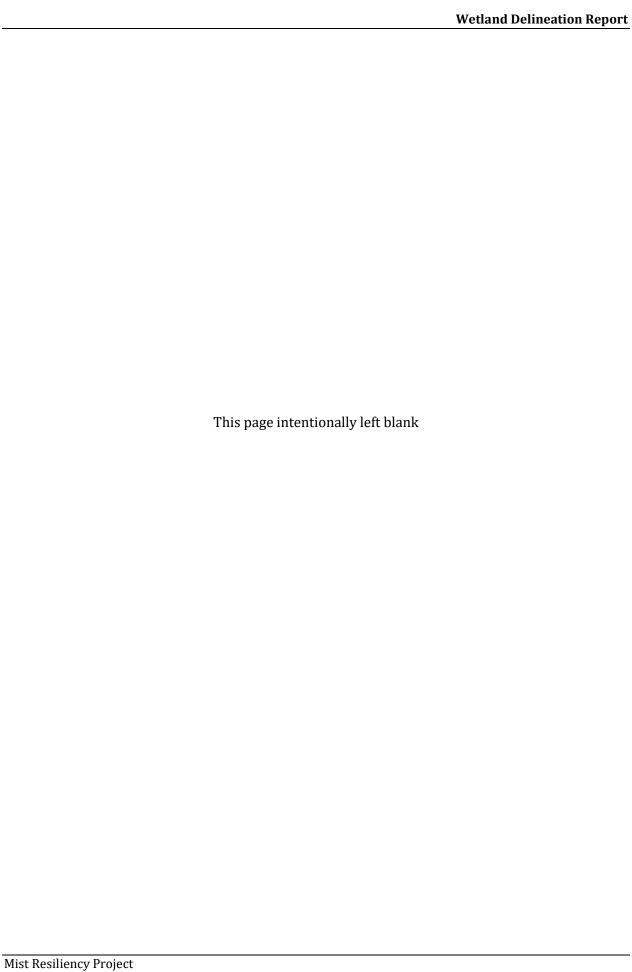








Wetland Delineation Report
Appendix A. USACE Datasheets



Project/Site: North Mist Expansion	City/County: Columbia	Sampling Date: 27-Sep-22
Applicant/Owner: NW Natural		State: Oregon Sampling Point: SP-01
Investigator(s): Ed Strohmaier, Sara Frank	Section, Township,	
Landform (hillslope, terrace, etc.): Flat	Local relief (concave	e, convex, none): concave Slope: % /0.0
Subregion (LRR): LRR A		Long.: -123.259909 Datum: WGS 1984
Soil Map Unit Name: 58-Treharne silt loam	43.770003	NWI classification: N/A
re climatic/hydrologic conditions on the site typical for this	time of year? Yes   No	
		"Normal Circumstances" present? Yes  No
		<b>F</b>
Are Vegetation	naturally problematic? (If r	needed, explain any answers in Remarks.)
Summary of Findings - Attach site map she	owing sampling point lo	cations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes • No O	la tha Campulae	1 0
Hydric Soil Present? Yes   No	Is the Sampleo	Voc Ala
Wetland Hydrology Present? Yes   No	within a Wetla	nd? Tes © NO C
Remarks:		
Wetland plot at the NW end of wetland		
<b>VEGETATION</b> - Use scientific names of plan	ts. Dominant Species?	
- (Plot size)	Absolute Rel.Strat. Indicate	or Dominance Test worksheet:
Tree Stratum (Plot size:)	% Cover Cover Status 0 □ 0.0%	Number of Dominant Species
1		That are OBL, FACW, or FAC: 2 (A)
3		Total Number of Dominant Species Across All Strata: 2 (B)
4.		Species Across All Strata: 2 (B)
	0 = Total Cover	Percent of dominant Species That Are OBL FACW or FAC: 100.0% (A/B)
Sapling/Shrub Stratum (Plot size:)		That Are OBL, FACW, or FAC: 100.0% (A/B)
1,		Prevalence Index worksheet:
2		Total % Cover of: Multiply by:
3		OBL species 0 x 1 = 0
4 5.	0 0.0%	FACW species 20 x 2 = 40
<u>.                                    </u>		FAC species $80 \times 3 = 240$
_Herb Stratum (Plot size: 5ft)	0 = Total Cover	Thou species
1. Juncus patens	20 <b>2</b> 20.0% FACW	5. 2 Species
2 <sub>.</sub> Agrostis stolonifera		Column Totals: <u>100</u> (A) <u>280</u> (B)
3. Holcus lanatus	<u>5</u> <u>5.0%</u> <u>FAC</u>	Prevalence Index = B/A = 2.800
4.		Hydrophytic Vegetation Indicators:
5		☐ 1 - Rapid Test for Hydrologic Vegetation
6 7		✓ 2 - Dominance Test is > 50%
8		✓ 3 - Prevalence Index is ≤3.0 <sup>1</sup>
9.		4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
10.	0	5 - Wetland Non-Vascular Plants 1
11.		Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
(District	100 = Total Cover	
Woody Vine Stratum (Plot size:)	0	Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. 2.	0 0.0%	Hydrophytic
<u> </u>	0 = Total Cover	Vegetation Vac A Na O
		Present? Yes No
% Bare Ground in Herb Stratum: <sub>()</sub>		

<sup>\*</sup>Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil Sampling Point: SP-01 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Matrix **Redox Features** Depth Loc2 Texture (inches) Color (moist) Color (moist) % Type Remarks 10YR 3/2 80 C Silt Loam 0-4 10YR 20 PL <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 Soils3: 2 cm Muck (A10) Histosol (A1) Sandy Redox (S5) Histic Epipedon (A2) Stripped Matrix (S6) Red Parent Material (TF2) Black Histic (A3) Loamy Mucky Mineral (F1) (except in MLRA 1) Other (Explain in Remarks) Loamy Gleyed Matrix (F2) ☐ Hydrogen Sulfide (A4) Depleted Below Dark Surface (A11) Depleted Matrix (F3) Redox Dark Surface (F6) ☐ Thick Dark Surface (A12) <sup>3</sup>Indicators of hydrophytic vegetation and Depleted Dark Surface (F7) Sandy Muck Mineral (S1) wetland hydrology must be present, unless disturbed or problematic. Redox depressions (F8) Sandy Gleyed Matrix (S4) Restrictive Layer (if present): Type: Rock No O **Hydric Soil Present?** Depth (inches): 4 Remarks: Refusal due to compact gravel. Oxidized roots in about 5 percent of soil sample, 15 percent concentrations. Problematic soils due to shallow sample. Hydrology Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (minimum of two required) Surface Water (A1) Water-Stained Leaves (B9) (except MLRA Water-Stained Leaves (B9) (MLRA 1, 2, 1, 2, 4A, and 4B) 4A, and 4B) High Water Table (A2) Saturation (A3) Salt Crust (B11) ☐ Drainage Patterns (B10) Aquatic Invertebrates (B13) Water Marks (B1) Dry Season Water Table (C2) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Saturation Visible on Aerial Imagery (C9) Drift deposits (B3) Oxidized Rhizospheres on Living Roots (C3) ✓ Geomorphic Position (D2) Presence of Reduced Iron (C4) Shallow Aquitard (D3) Algal Mat or Crust (B4) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) ✓ FAC-neutral Test (D5) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Inundation Visible on Aerial Imagery (B7) Frost Heave Hummocks (D7) Other (Explain in Remarks) Sparsely Vegetated Concave Surface (B8) Field Observations: Yes O No 💿 Surface Water Present? Depth (inches): Yes O No 💿 Water Table Present? Depth (inches): Yes 

No Wetland Hydrology Present? Saturation Present? Yes O No 💿 Depth (inches): (includes capillary fringe) Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Project/Site: North Mist Expansion				City/County:	Columbia Co	ounty	Sampling Date: 27-S	ep-22
Applicant/Owner: Northwest Natural						State: OR	Sampling Point:	SP-02
Investigator(s): Sara Frank, Ed Strohn	maier			Section, To	wnship, Ra	ange: S 14 T 6	N R 5W	
Landform (hillslope, terrace, etc.):	Flat			Local relief	(concave, c	convex, none): concave	Slope:	<u>0.0</u> % / <u>0.0</u> °
Subregion (LRR): LRR A			Lat.: 45	.998881		Long.: -123.259933	Datum	n: WGS 1984
Soil Map Unit Name: 58 - Treharne s	silt loam					NWI classifi	ication: N/A	-
re climatic/hydrologic conditions on	the site ty	pical for this	time of year	? Yes	. ● No C	(If no, explain in F	Remarks.)	
Are Vegetation, Soil 🗹	, or Hydro	logy .	significantly	disturbed?	Are "N	ormal Circumstances" pr	resent? Yes •	No O
Are Vegetation, Soil	, or Hydro	ology 🗌 ı	naturally pro	blematic?	(If nee	eded, explain any answe	rs in Remarks.)	
Summary of Findings - At	-				•		·	tures, etc.
Hydrophytic Vegetation Present?	Yes	No O		1				
Hydric Soil Present?	Yes $\bigcirc$	No 💿			Sampled A	Vac O Na 📵		
Wetland Hydrology Present?	Yes $\bigcirc$	No 💿		within	a Wetland	1? 1es 0 NO 0		
Remarks:				I				
Gravel road just east of WET-01. A	Area has be	en disturbed	by creation	of laydown y	ard and gr	avel restricts the ability t	o dig a pit past a fev	w inches.
VEGETATION - Use scien	ntific nam	es of plan	 ts.	Dominant				
				Species? . Rel.Strat.	Indicator	Dominance Test works	heet:	
Tree Stratum (Plot size: 30 feet	)		% Cover		Status	Number of Dominant Spe		
1				0.0%		That are OBL, FACW, or F		(A)
2				0.0%		Total Number of Dominar	nt	
3				0.0%		Species Across All Strata:	1_	(B)
4				0.0%		Percent of dominant S	pecies	
_Sapling/Shrub Stratum (Plot size:	: 15 feet	)	0	= Total Cove	er	That Are OBL, FACW,		% (A/B)
1,			0	0.0%		Prevalence Index work	 sheet:	
2.			0	0.0%		Total % Cover of	f: Multiply by:	
3			0	0.0%		OBL speci es	0 x 1 =	0
4			0	0.0%		FACW species	0 x 2 =	0
5			0	0.0%		FAC speciles1	<u>20</u> <b>x 3</b> = <u>3</u>	860
(Dist size of first	,		0	= Total Cove	er	FACU species	0 x 4 =	0
Herb Stratum (Plot size: 5 feet	)		00		540	UPL speci es —	<u>0</u> x 5 =	0
1 Rubus armeniacus				<u>16.7%</u> 66.7%	FAC	Column Totals:1	<u>20</u> <b>(A)</b> <u>3</u>	60 <b>(B)</b>
2 Agrostis stolonifera 3 Holcus lanatus				<b>✓</b> 66.7% 8.3%	FAC FAC	Prevalence Index	= B/A = 3.000	0
			10	8.3%	FAC			
5			0	0.0%		Hydrophytic Vegetation		
6				0.0%		<ul><li></li></ul>	lydrologic Vegetation	n
7			0	0.0%				
8.—				0.0%		3 - Prevalence Inde		
9.———				0.0%			daptations <sup>1</sup> (Provide s or on a separate she	
10.			_	0.0%		5 - Wetland Non-Va		,
11.			120	= Total Cove		Problematic Hydrop	ohytic Vegetation <sup>1</sup> (E	Explain)
Woody Vine Stratum (Plot size:		)		- Total Cove	<b>21</b>	<sup>1</sup> Indicators of hydric s	soil and wetland hydr	rology must
1			0	0.0%		be present, unless dist	urbed or problemation	c.
2			0	0.0%		Hydrophytic Vegetation	_	
			0	= Total Cove	er	Present? Yes	● No ○	
% Bare Ground in Herb Stratum	: <u> 0</u>							
Remarks:								

<sup>\*</sup>Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil Sampling Point: SP-02 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Matrix **Redox Features** Depth Loc2 (inches) Color (moist) % Color (moist) % Type Texture Remarks No redox 10YR 3/3 100 Silt Loam 0-6 <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 Soils3: 2 cm Muck (A10) Histosol (A1) Sandy Redox (S5) Histic Epipedon (A2) Stripped Matrix (S6) Red Parent Material (TF2) Black Histic (A3) Loamy Mucky Mineral (F1) (except in MLRA 1) Other (Explain in Remarks) Loamy Gleyed Matrix (F2) ☐ Hydrogen Sulfide (A4) Depleted Below Dark Surface (A11) Depleted Matrix (F3) Redox Dark Surface (F6) ☐ Thick Dark Surface (A12) <sup>3</sup>Indicators of hydrophytic vegetation and Depleted Dark Surface (F7) Sandy Muck Mineral (S1) wetland hydrology must be present, unless disturbed or problematic. Redox depressions (F8) Sandy Gleyed Matrix (S4) Restrictive Layer (if present): Type: Gravel No 💿 **Hydric Soil Present?** Yes 🔾 Depth (inches): \_6\_ Remarks: Disturbed laydown yard area along gravel roadside Hydrology Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (minimum of two required) Surface Water (A1) Water-Stained Leaves (B9) (except MLRA Water-Stained Leaves (B9) (MLRA 1, 2, 1, 2, 4A, and 4B) 4A, and 4B) High Water Table (A2) Saturation (A3) Salt Crust (B11) ☐ Drainage Patterns (B10) Aquatic Invertebrates (B13) Water Marks (B1) Dry Season Water Table (C2) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Saturation Visible on Aerial Imagery (C9) Drift deposits (B3) Oxidized Rhizospheres on Living Roots (C3) Geomorphic Position (D2) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Shallow Aquitard (D3) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) FAC-neutral Test (D5) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Inundation Visible on Aerial Imagery (B7) Frost Heave Hummocks (D7) U Other (Explain in Remarks) Sparsely Vegetated Concave Surface (B8) Field Observations: Yes O No 💿 Surface Water Present? Depth (inches): Yes  $\bigcirc$ No 💿 Water Table Present? Depth (inches): Yes O No 💿 Wetland Hydrology Present? Saturation Present? Yes O No 💿 Depth (inches): (includes capillary fringe) Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

No Hydrology present

roject/Site: North Mist Expansion	City/County: Columbia	Sampling Date: 29-Sep-22
pplicant/Owner: <u>NW Natural</u>		State: Oregon Sampling Point: SP-12
nvestigator(s): Ed Strohmaier, Sara Frank	Section, Township, R	tange: S 14 T 6N R 5W
Landform (hillslope, terrace, etc.): Flat	Local relief (concave,	convex, none): flat Slope:0.0 % /0.
ubregion (LRR): LRR A	Lat.: 46.0030724	Long.: -123.262242 Datum: WGS 1984
oil Map Unit Name: 58-Treharne silt loam		NWI classification: N/A
climatic/hydrologic conditions on the site typical for this	s time of year? Yes   No	
re Vegetation 🔲 , Soil 🔲 , or Hydrology 🗌	significantly disturbed? Are "N	Normal Circumstances" present? Yes  No
re Vegetation . , Soil . , or Hydrology .	naturally problematic? (If ne	eded, explain any answers in Remarks.)
-		
	nowing sampling point loc	ations, transects, important features, etc
Hydrophytic Vegetation Present? Yes • No O	Is the Sampled	Area
Hydric Soil Present? Yes No •	within a Wetlan	d? Yes ○ No •
Vetland Hydrology Present? Yes ● No ○		
Remarks:		
representative upland plot		
/EGETATION - Use scientific names of plan	nts. Dominant	
- Colimental Color plan	Species?Species?	Dominance Test worksheet:
Tree Stratum (Plot size:)	% Cover Cover Status	Number of Dominant Species
1	0	That are OBL, FACW, or FAC:
2,		Total Number of Dominant
3		Species Across All Strata:
4	0	Percent of dominant Species
Sapling/Shrub Stratum (Plot size: 15ft )	0 = Total Cover	That Are OBL, FACW, or FAC: 100.0% (A/B)
1. Frangula purshiana	10 🗹 100.0% FAC	Prevalence Index worksheet:
2		Total % Cover of: Multiply by:
3.		0BL species 0 x 1 = 0
4	0	FACW species 0 x 2 = 0
5	0 0.0%	FAC species110 x 3 =330
(District of	10 = Total Cover	FACU species $0 \times 4 = 0$
Herb Stratum (Plot size: 5ft )	100 <b>✓</b> 95.2% FAC	UPL species $\frac{0}{x}$ $5 = \frac{0}{x}$
1_Festuca arundinacea 2.	100	Column Totals: <u>110</u> (A) <u>330</u> (B)
2		Prevalence Index = B/A = 3.000
4		
5	0 0.0%	Hydrophytic Vegetation Indicators:  1 - Rapid Test for Hydrologic Vegetation
6		✓ 2 - Dominance Test is > 50%
7		3 - Prevalence Index is ≤3.0 ¹
8	0 0004	4 - Morphological Adaptations <sup>1</sup> (Provide supporting
9 10		data in Remarks or on a separate sheet)
10.————————————————————————————————————		5 - Wetland Non-Vascular Plants 1
	105 = Total Cover	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
Woody Vine Stratum (Plot size:)		Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1		
2	00.0%	Hydrophytic Vegetation
2		vegetation ( )
% Bare Ground in Herb Stratum: 0	0 = Total Cover	Present? Yes • No

<sup>\*</sup>Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil Sampling Point: SP-12 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Matrix **Redox Features** Depth Loc2 Texture (inches) Color (moist) % Color (moist) % Type Remarks 10YR 2/2 100 Silt Loam 0-6 6-20 10YR 4/2 100 Silty Clay Loam 4/2 95 10YR С 20-22 10YR 3/6 5 M Silty Clay Loam <sup>1</sup>Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains <sup>2</sup>Location: PL=Pore Lining. M=Matrix Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils3: Histosol (A1) Sandy Redox (S5) 2 cm Muck (A10) Histic Epipedon (A2) Stripped Matrix (S6) Red Parent Material (TF2) Black Histic (A3) Loamy Mucky Mineral (F1) (except in MLRA 1) Other (Explain in Remarks) Loamy Gleyed Matrix (F2) ☐ Hydrogen Sulfide (A4) Depleted Below Dark Surface (A11) Depleted Matrix (F3) Redox Dark Surface (F6) ☐ Thick Dark Surface (A12) <sup>3</sup>Indicators of hydrophytic vegetation and Depleted Dark Surface (F7) Sandy Muck Mineral (S1) wetland hydrology must be present, unless disturbed or problematic. Redox depressions (F8) Sandy Gleyed Matrix (S4) Restrictive Layer (if present): Type: No 💿 **Hydric Soil Present?** Yes 🔾 Depth (inches): Remarks: Hydrology Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (minimum of two required) Surface Water (A1) Water-Stained Leaves (B9) (except MLRA Water-Stained Leaves (B9) (MLRA 1, 2, 1, 2, 4A, and 4B) 4A, and 4B) High Water Table (A2) Saturation (A3) Salt Crust (B11) ☐ Drainage Patterns (B10) Aquatic Invertebrates (B13) Water Marks (B1) Dry Season Water Table (C2) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Saturation Visible on Aerial Imagery (C9) Drift deposits (B3) Oxidized Rhizospheres on Living Roots (C3) ✓ Geomorphic Position (D2) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Shallow Aquitard (D3) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) FAC-neutral Test (D5) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Inundation Visible on Aerial Imagery (B7) Frost Heave Hummocks (D7) U Other (Explain in Remarks) Sparsely Vegetated Concave Surface (B8) Field Observations: Yes O No 💿 Surface Water Present? Depth (inches): Yes O No 💿 Water Table Present? Depth (inches): Yes ● No ○ Wetland Hydrology Present? Saturation Present? Yes O No 💿 Depth (inches): (includes capillary fringe) Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

No hydrology present

roject/Site: North Mist Expansion			c	City/County:	Columbia C	ounty Sam	pling Date: 29-Se	p-22
Applicant/Owner: Northwest Natural						State: OR Sa	ampling Point:	SP-13
nvestigator(s): Sara Frank, Ed Strohm	ıaier			Section, To	wnship, Ra	ange: \$ 14 T_6N	R <sub>5W</sub>	
Landform (hillslope, terrace, etc.):	Toeslope			Local relief	(concave, o	convex, none): flat	<b>Slope:</b> 0.	.0 % /
- Subregion (LRR): LRR A			Lat.: 46	.003172		Long.: -123.262061	 Datum	: WGS 1984
oil Map Unit Name: 58 - Treharne si						NWI classification	on: PSSC	
e climatic/hydrologic conditions on		pical for this	time of year	? Yes	s ● No ○			
	, or Hydro		significantly			lormal Circumstances" preser		No O
	, or Hydro		naturally pro			eded, explain any answers in		
Summary of Findings - Att	-					•		ures etc.
Hydrophytic Vegetation Present?	Yes	No O					- Portain rout	<u>uros, etc.</u>
Hydric Soil Present?	Yes $\bigcirc$	No 💿		Is the	Sampled A			
Wetland Hydrology Present?	Yes $\bigcirc$	No 💿		within	a Wetland	<sub>d?</sub> Yes ○ No •		
Remarks:								
VEGETATION - Use scient	tific nam	es of plan	its.	Dominant				
			Absolute	_Species? _ Rel.Strat.	Indicator	Dominance Test worksheet	t:	
Tree Stratum (Plot size:			% Cover		Status	Number of Dominant Species		
1				0.0%		That are OBL, FACW, or FAC:	1	(A)
2				0.0%		Total Number of Dominant		
3			0	0.0%		Species Across All Strata:	1_	_ (B)
4						Percent of dominant Specie	es	
Sapling/Shrub Stratum (Plot size:		_)	0	= Total Cove	er.	That Are OBL, FACW, or FA		<u>(A/B)</u>
1,			0	0.0%		Prevalence Index workshee	<del></del> et:	
2.			_	0.0%		Total % Cover of:	Multiply by:	_
3			0	0.0%		OBL species 0		)
4			0	0.0%		FACW species 100	x 2 =	00
5				0.0%		FAC species0	x 3 =	)
(Diet size: 5 feet	١		0	= Total Cove	∍r	FACU speci es 0	x 4 =	)
Herb Stratum (Plot size: 5 feet	,		100	100.0%	EAC\A/	UPL speci es 0	- x 5 =	)
1 Phalaris arundinacea			0	100.0%	FACVV	Column Totals: 100	(A) <u>20</u>	00 <b>(B)</b>
2				0.0%		Prevalence Index = B/	'A = 2.000	
4				0.0%				
5				0.0%		Hydrophytic Vegetation Inc		
6			0	0.0%		✓ 1 - Rapid Test for Hydro ✓ 2 - Dominance Test is >		
7				0.0%		3 - Prevalence Index is		
8.———				0.0%				
9				0.0%		4 - Morphological Adapt data in Remarks or o		
10.			_	0.0%		5 - Wetland Non-Vascul	lar Plants <sup>1</sup>	
11.				= Total Cove		Problematic Hydrophyti	c Vegetation 1 (E)	(plain)
Woody Vine Stratum (Plot size:						Indicators of hydric soil a     be present, unless disturbe	nd wetland hydro	ology must
1,				0.0%			a or problematio	<u> </u>
. 2			0_	0.0%		Hydrophytic Vegetation		
2						i vegetation		
% Bare Ground in Herb Stratum:			0	= Total Cove	er	Present? Yes •	No O	

<sup>\*</sup>Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil Sampling Point: SP-13 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Matrix **Redox Features** Depth Loc2 Texture (inches) Color (moist) Color (moist) % Type Remarks 0-10 10YR 2/2 99 7.5YR С Silt Loam 5/6 1 Μ 95 5 С 10-20 10YR 2/2 7.5YR 5/6 Μ Silt Loam <sup>1</sup>Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains <sup>2</sup>Location: PL=Pore Lining. M=Matrix Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils3: Histosol (A1) Sandy Redox (S5) 2 cm Muck (A10) Histic Epipedon (A2) Stripped Matrix (S6) Red Parent Material (TF2) Black Histic (A3) Loamy Mucky Mineral (F1) (except in MLRA 1) Other (Explain in Remarks) Loamy Gleyed Matrix (F2) ☐ Hydrogen Sulfide (A4) Depleted Below Dark Surface (A11) Depleted Matrix (F3) Redox Dark Surface (F6) ☐ Thick Dark Surface (A12) <sup>3</sup>Indicators of hydrophytic vegetation and Depleted Dark Surface (F7) Sandy Muck Mineral (S1) wetland hydrology must be present, unless disturbed or problematic. Redox depressions (F8) Sandy Gleyed Matrix (S4) Restrictive Layer (if present): Type: No 💿 **Hydric Soil Present?** Yes 🔾 Depth (inches): Remarks: No pore linings Hydrology Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (minimum of two required) Surface Water (A1) Water-Stained Leaves (B9) (except MLRA Water-Stained Leaves (B9) (MLRA 1, 2, 1, 2, 4A, and 4B) 4A, and 4B) High Water Table (A2) Saturation (A3) Salt Crust (B11) ☐ Drainage Patterns (B10) Aquatic Invertebrates (B13) Water Marks (B1) Dry Season Water Table (C2) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Saturation Visible on Aerial Imagery (C9) Drift deposits (B3) Oxidized Rhizospheres on Living Roots (C3) Geomorphic Position (D2) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Shallow Aquitard (D3) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) ✓ FAC-neutral Test (D5) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Inundation Visible on Aerial Imagery (B7) Frost Heave Hummocks (D7) U Other (Explain in Remarks) Sparsely Vegetated Concave Surface (B8) Field Observations: Yes O No 💿 Surface Water Present? Depth (inches): Yes  $\bigcirc$ No 💿 Water Table Present? Depth (inches): Yes ○ No ● Wetland Hydrology Present? Saturation Present? Yes O No 💿 Depth (inches): (includes capillary fringe) Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

No Hydrology present

roject/Site: North Mist Expansion	City/County: Columbia	Sampling Date: 29-Sep-22
pplicant/Owner: NW Natural		State: Oregon Sampling Point: SP-14
nvestigator(s): Ed Strohmaier, Sara Frank	Section, Township,	Range: S 14 T 7N R 5W
Landform (hillslope, terrace, etc.): Toeslope	Local relief (concave	e, convex, none): concave Slope: % /0.0
ubregion (LRR): LRR A	Lat.: 46.003222	Long.: -123.262170 Datum: WGS 1984
bil Map Unit Name: 58-Treharne silt loam	10.000222	NWI classification: PSSC
e climatic/hydrologic conditions on the site typical for the	his time of year? Yes   No	
re Vegetation . , Soil . , or Hydrology .	,	"Normal Circumstances" present? Yes No
		F. T.
re Vegetation 🔲 , Soil 🔲 , or Hydrology 📙	naturally problematic? (If i	needed, explain any answers in Remarks.)
Summary of Findings - Attach site map	showing sampling point lo	ocations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No	Is the Sample	d Area
Hydric Soil Present? Yes No •	•	Vac O Na 🔘
Wetland Hydrology Present? Yes No	within a Wetla	and?
Remarks:		
Upland verification		
VEGETATION III III III III III III III III III		
VEGETATION - Use scientific names of plants	ants. Dominant Species?	
Tree Stratum (Plot size:)	Absolute Rel.Strat. Indicate % Cover Cover Status	
1		Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)
2.		
3	0	Total Number of Dominant Species Across All Strata: 2 (B)
4	0	_
Sapling/Shrub Stratum (Plot size: 15ft )	= Total Cover	Percent of dominant Species That Are OBL, FACW, or FAC: 50.0% (A/B)
1. Prunus emarginata	10 🗹 100.0% FACU	Prevalence Index worksheet:
2.		Total % Cover of: Multiply by:
3.		0BL species 0 x 1 = 0
4		FACW species 0 x 2 = 0
5	0 0.0%	FAC species90 x 3 =270
(Dist. inc. 56	10 = Total Cover	FACU species $\frac{10}{}$ x 4 = $\frac{40}{}$
Herb Stratum (Plot size: 5ft )	90 <b>✓</b> 94.7% FAC	UPL species $0 \times 5 = 0$
1 Festuca arundinacea		Column Total s: 100 (A) 310 (B)
2. 3.	0.0%	Prevalence Index = B/A = 3.100
4		
5	0.0%	Hydrophytic Vegetation Indicators:
6	0.0%	☐ ☐ 1 - Rapid Test for Hydrologic Vegetation ☐ ☐ 2 - Dominance Test is > 50%
7		3 - Prevalence Index is ≤3.0 ¹
8.—		4 - Morphological Adaptations <sup>1</sup> (Provide supporting
9		data in Remarks or on a separate sheet)
10.	0 0.0%	_
11.	95 = Total Cover	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
Woody Vine Stratum (Plot size: )		<sup>1</sup> Indicators of hydric soil and wetland hydrology must
1,	00.0%	be present, unless disturbed or problematic.
2.	0 0.0%	Hydrophytic
		Vegetation
-	0 = Total Cover	Present? Yes No •

<sup>\*</sup>Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil Sampling Point: SP-14 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Matrix **Redox Features** Depth Loc2 Texture (inches) Color (moist) % Color (moist) % Type Remarks 10YR 100 Silt Loam 0-6 3/2 6-18 10YR 3/2 100 Silty Clay Loam 4/2 95 10YR С 18-20 10YR 3/6 5 M Silty Clay Loam <sup>1</sup>Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains <sup>2</sup>Location: PL=Pore Lining. M=Matrix Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils3: Histosol (A1) Sandy Redox (S5) 2 cm Muck (A10) Histic Epipedon (A2) Stripped Matrix (S6) Red Parent Material (TF2) Black Histic (A3) Loamy Mucky Mineral (F1) (except in MLRA 1) Other (Explain in Remarks) Loamy Gleyed Matrix (F2) ☐ Hydrogen Sulfide (A4) Depleted Below Dark Surface (A11) Depleted Matrix (F3) Redox Dark Surface (F6) ☐ Thick Dark Surface (A12) <sup>3</sup>Indicators of hydrophytic vegetation and Depleted Dark Surface (F7) Sandy Muck Mineral (S1) wetland hydrology must be present, unless disturbed or problematic. Redox depressions (F8) Sandy Gleyed Matrix (S4) Restrictive Layer (if present): Type: No 💿 **Hydric Soil Present?** Yes 🔾 Depth (inches): Remarks: No soil indicators present Hydrology Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (minimum of two required) Surface Water (A1) Water-Stained Leaves (B9) (except MLRA Water-Stained Leaves (B9) (MLRA 1, 2, 1, 2, 4A, and 4B) 4A, and 4B) High Water Table (A2) Saturation (A3) Salt Crust (B11) ☐ Drainage Patterns (B10) Aquatic Invertebrates (B13) Water Marks (B1) Dry Season Water Table (C2) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Saturation Visible on Aerial Imagery (C9) Drift deposits (B3) Oxidized Rhizospheres on Living Roots (C3) Geomorphic Position (D2) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Shallow Aquitard (D3) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) FAC-neutral Test (D5) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Inundation Visible on Aerial Imagery (B7) Frost Heave Hummocks (D7) U Other (Explain in Remarks) Sparsely Vegetated Concave Surface (B8) Field Observations: Yes O No 💿 Surface Water Present? Depth (inches): Yes  $\bigcirc$ No 💿 Water Table Present? Depth (inches): Yes ○ No ● Wetland Hydrology Present? Saturation Present? Yes O No 💿 Depth (inches): (includes capillary fringe) Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

No hydrology present

Project/Site: North Mist Expansion		с	city/County: _C	olumbia	Sampling Date: 29-Sep-22
Applicant/Owner: NW Natural					State: Oregon Sampling Point: SP-16
Investigator(s): Ed Strohmaier			Section, Tov	nship, Ra	ange: S 14 T 6N R 5W
Landform (hillslope, terrace, etc.):			Local relief (	oncave, o	convex, none): flat Slope: % /
Subregion (LRR): LRR A		 Lat.: 46.	.003249		Long.: -123.262314 Datum: WGS 1984
Soil Map Unit Name: 58-Treharne sil			.550217		NWI classification: PSSC
re climatic/hydrologic conditions on		time of year?	y ν <sub>Δ</sub> ε	● No ○	
Are Vegetation	·	ilme or year?			Iormal Circumstances" present? Yes No
		-			
Are Vegetation, Soil	, or Hydrology L n	naturally prol	blematic?	(If nee	eded, explain any answers in Remarks.)
Summary of Findings - At	tach site map sho	owing sai	mpling po	int loc	ations, transects, important features, et
Hydrophytic Vegetation Present?	Yes ● No ○				
Hydric Soil Present?	Yes O No 💿		Is the S	ampled A	Area H2 Yes ○ No ◉
Wetland Hydrology Present?	Yes ○ No •		within a	a Wetland	d? Yes ∨ NO ♥
Remarks:					
<b>VEGETATION</b> - Use scien	itific names of plant	ts.	Dominant		
<b>7-1</b>				ndicator	Dominance Test worksheet:
Tree Stratum (Plot size:		% Cover		status	Number of Dominant Species
1			0.0%		That are OBL, FACW, or FAC: (A)
2, 3,			0.0%		Total Number of Dominant
3 4		_	0.0%		Species Across All Strata: (B)
<u></u>			= Total Cover		Percent of dominant Species
Sapling/Shrub Stratum (Plot size:			. 5141 50761		That Are OBL, FACW, or FAC: 100.0% (A/B)
1. Rubus armeniacus			100%	FAC	Prevalence Index worksheet:
2			0.0%		Total % Cover of: Multiply by:
3			0.0%		0BL species x 1 =0
4			0.0%		FACW species 0 x 2 = 0
5			0.0%		FAC species $70 \times 3 = 210$
Herb Stratum (Plot size:	)	70	= Total Cover		FACU species $0 \times 4 = 0$
1			0.0%		UPL speci es x 5 =0
2.		0	0.0%		Col umn Total s:
3		0	0.0%		Prevalence Index = B/A = 3.000
4		0	0.0%		Hydrophytic Vegetation Indicators:
5			0.0%		1 - Rapid Test for Hydrologic Vegetation
6			0.0%		✓ 2 - Dominance Test is > 50%
7.————————————————————————————————————			0.0%		3 - Prevalence Index is ≤3.0 <sup>1</sup>
9			0.0%		4 - Morphological Adaptations <sup>1</sup> (Provide supporting
10.		-	0.0%		data in Remarks or on a separate sheet)
11		0	0.0%		5 - Wetland Non-Vascular Plants 1
		0	= Total Cover		Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
Woody Vine Stratum (Plot size:					Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1			0.0%		
2			0.0%		Hydrophytic Vegetation
		0	= Total Cover		Present? Yes  No
% Bare Ground in Herb Stratum	: 30				
Remarks:					
Bare ground from mowing activity					
Bare ground from mowing activity					

<sup>\*</sup>Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil Sampling Point: SP-16 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Matrix **Redox Features** Depth Loc2 Texture (inches) Color (moist) % Color (moist) % Type Remarks 10YR 3/2 100 Silt Loam 0-9 9-16 10YR 4/2 100 Sandy Clay Loam 4/3 10YR С 16-20 10YR 80 5/2 20 M Silty Clay Loam <sup>1</sup>Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains <sup>2</sup>Location: PL=Pore Lining. M=Matrix Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils3: Histosol (A1) Sandy Redox (S5) 2 cm Muck (A10) Histic Epipedon (A2) Stripped Matrix (S6) Red Parent Material (TF2) Black Histic (A3) Loamy Mucky Mineral (F1) (except in MLRA 1) Other (Explain in Remarks) Loamy Gleyed Matrix (F2) ☐ Hydrogen Sulfide (A4) Depleted Below Dark Surface (A11) Depleted Matrix (F3) Redox Dark Surface (F6) ☐ Thick Dark Surface (A12) <sup>3</sup>Indicators of hydrophytic vegetation and Depleted Dark Surface (F7) Sandy Muck Mineral (S1) wetland hydrology must be present, unless disturbed or problematic. Redox depressions (F8) Sandy Gleyed Matrix (S4) Restrictive Layer (if present): Type: No 💿 **Hydric Soil Present?** Yes 🔾 Depth (inches): Remarks: Hydrology Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (minimum of two required) Surface Water (A1) Water-Stained Leaves (B9) (except MLRA Water-Stained Leaves (B9) (MLRA 1, 2, 1, 2, 4A, and 4B) 4A, and 4B) High Water Table (A2) Saturation (A3) Salt Crust (B11) ☐ Drainage Patterns (B10) Aquatic Invertebrates (B13) Water Marks (B1) Dry Season Water Table (C2) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Saturation Visible on Aerial Imagery (C9) Drift deposits (B3) Oxidized Rhizospheres on Living Roots (C3) ✓ Geomorphic Position (D2) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Shallow Aquitard (D3) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) FAC-neutral Test (D5) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Inundation Visible on Aerial Imagery (B7) Frost Heave Hummocks (D7) U Other (Explain in Remarks) Sparsely Vegetated Concave Surface (B8) Field Observations: Yes  $\bigcirc$ No 💿 Surface Water Present? Depth (inches): n Yes O No 💿 Water Table Present? Depth (inches): 0 Yes ○ No ● Wetland Hydrology Present? Saturation Present? Yes O No 💿 Depth (inches): (includes capillary fringe) Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

No hydrology present

Subregion (LRR): LRR A Lat.: 46.003352 Long: -123.262294 Datum: Soil Map Unit Name: 58-Treharne silt loam NWI classification: PSSC  re climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)  Are Vegetation , Soil , or Hydrology   significantly disturbed? Are "Normal Circumstances" present? Yes No Are Vegetation   ,Soil   , or Hydrology   naturally problematic? (If needed, explain any answers in Remarks.)  Summary of Findings - Attach site map showing sampling point locations, transects, important feature Hydrophytic Vegetation Present? Yes No   Lis the Sampled Area within a Wetland? Yes No   No   Wetland Hydrology Present? Yes No   No   Wetland Hydrology Present? Yes No   No   Wetland Hydrology Present?   Yes No   No   Wetland Hydrology Present?   Yes No   No   Wetland Hydrology Present?   Yes No   No   Wetland Hydrology Present?   Yes No   No   Wetland Hydrology Present?   Yes No   No   Wetland Hydrology Present?   Yes No   No   Wetland Hydrology Present?   Yes No   No   Wetland Hydrology Present?   Yes No   No   Wetland Hydrology Present?   Yes No   No   Wetland Hydrology Present?   Yes No   No   Wetland Hydrology Present?   Yes No   No   Wetland Hydrology Present?   Yes No   No   Wetland Hydrology Present?   Yes No   No   Wetland?   Yes No   No   Wetland?   Yes No   No   No   Wetland?   Yes No   No   Wetland?   Yes No   No   Wetland?   Yes No   No   No   No   No   No   No   No	SP-21  2% /	
Local relief (concave, convex, none): _concave	WGS 1984	
Subregion (LRR): LRR A Lat.: 46.003352 Long: -123.262294 Datum: NWI classification: PSSC re climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)  Are Vegetation , Soil , or Hydrology   significantly disturbed? Are "Normal Circumstances" present? Yes No Are Vegetation   Soil , or Hydrology   naturally problematic? (If needed, explain any answers in Remarks.)  Summary of Findings - Attach site map showing sampling point locations, transects, important feature Hydrophytic Vegetation Present? Yes No   Is the Sampled Area within a Wetland? Yes No   Wetland Hydrology Present? Yes No   Wetland Hydrology Present? Yes No   No   Wetland Hydrology Present?   Yes No   No   Wetland Hydrology Present?   Yes No   Wetland Hydrology Present?   Yes No   No   Wetland Hydrology Present?   Yes No   Wetland Hydrology Present?   Yes No   No   Wetland Hydrology Present?   Yes No   No   Wetland Hydrology Present?   Yes No   Wetland Hydrology Present?   Yes No   Wetland Hydrology Present?   Yes No   No   Wetland Hydrology Present?   Yes No   Wetland Hydrology Present?   Yes No   No   No   Yes No   No   Wetland Hydrology Present?   Yes No   No   No   Yes No   No   Yes No   No   No   No   Yes No   No   No   No   No   No   No   No	WGS 1984	
Soll Map Unit Name: 58-Treharne slit loam	No O	
re climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)  Are Vegetation , Soil , or Hydrology   significantly disturbed? Are "Normal Circumstances" present? Yes No Are Vegetation   Soil , or Hydrology   naturally problematic? (If needed, explain any answers in Remarks.)  Summary of Findings - Attach site map showing sampling point locations, transects, important feature Hydrophytic Vegetation Present? Yes No   Is the Sampled Area within a Wetland? Yes No   Wetland Hydrology Present? Yes No   No   Wetland Hydrology Present? Yes No   No   Wetland Hydrology Present? Yes No   No   Wetland Hydrology Present?   Yes No   No   Wetland Hydrology Present?   Yes No   No   Wetland Hydrology Present?   Yes No   No   Wetland Hydrology Present?   Yes No   No   Wetland Hydrology Present?   Yes No   No   Wetland Hydrology Present?   Yes No   No   Wetland Hydrology Present?   Yes No   No   Wetland Hydrology Present?   Yes No   No   Wetland Hydrology Present?   Yes No   No   Wetland Hydrology Present?   Yes No   No   No   Wetland Hydrology Present?   Yes No   No   No   No   No   No   No   No		
Are Vegetation		
Are Vegetation		
Summary of Findings - Attach site map showing sampling point locations, transects, important feature.  Hydrophytic Vegetation Present? Yes No No Wetland Hydrology Present? Yes No No Wetland Hydrology Present? Yes No No No Wetland Hydrology Present?  Tree Stratum (Plot size: )	ıres, etc.	
Summary of Findings - Attach site map showing sampling point locations, transects, important feature Hydrophytic Vegetation Present? Yes  No  Is the Sampled Area within a Wetland? Yes  No  Wetland Hydrology Present? Yes  No  No  Wetland Hydrology Present? Yes  No  No  Wetland Hydrology Present? Yes  No  No  Wetland? Yes  No  No  Wetland? Yes  No  No  Wetland? Yes  No  No  No  Wetland? Yes  No  No  No  No  No  No  No  No  No  N	ures, etc.	
Hydrophytic Vegetation Present? Yes ● No ○  Hydric Soil Present? Yes ● No ○  Wetland Hydrology Present? Yes ● No ○  Wetland? Yes ● No ○  Wetland? Yes ● No ○  Within a Wetland? Yes ● No ○  Dominant Species Tolicitator Status Number of Dominant Species That are OBL, FACW, or FAC: 2		
Tree Stratum (Plot size:		
Wetland Hydrology Present?         Yes No         within a Wetland?         Yes No           Wetland Hydrology Present?         Yes No         within a Wetland?         Yes No         Dominant Species         Indicator Systatus         Number of Dominant Species         That are OBL, FACW, or FAC:         2         Dominant Species         That are OBL, FACW, or FAC:         2         Percent of dominant Species         That Are OBL, FACW, or FAC:         100.0%         Percent of dominant Species         That Are OBL, FACW, or FAC:         100.0%         Percent of dominant Species         That Are OBL, FACW, or FAC:         100.0%         That Are OBL, FACW         OBL Species <th c<="" td=""><td></td></th>	<td></td>	
VEGETATION - Use scientific names of plants.         Dominant Species?           Tree Stratum (Plot size:)         Absolute % Cover Cover Status         Rel.Strat. Indicator Status         Number of Dominant Species That are OBL, FACW, or FAC:2         Q		
VEGETATION - Use scientific names of plants.         Dominant Species?           Tree Stratum         (Plot size:)         Absolute % Cover Status         Rel. Strat. Indicator % Cover Status         Dominance Test worksheet: Number of Dominant Species That are OBL, FACW, or FAC:		
Tree Stratum		
Tree Stratum		
Tree Stratum         (Plot size:)         Absolute % Cover Cover Cover Status         Indicator Cover Status         Dominance Test worksheet: Number of Dominant Species That are OBL, FACW, or FAC:		
1.       0       0.0%       1.0% <td< td=""><td></td></td<>		
2.       0       0.0%       Total Number of Dominant Species Across All Strata:       2         4.       0       0.0%       Percent of dominant Species That Are OBL, FACW, or FAC:       100.0%         1, Salix sitchensis       40       88.9%       FACW       FACW       Prevalence Index worksheet:       Total % Cover of:       Multiply by:         3.       0       0.0%       OBL species       0       x 1 = 0         4.       0       0.0%       FACW species       135       x 2 = 270         5.       0       0.0%       FAC species       0       x 3 = 0         FAC species       0       x 4 = 0       0         FACU species       0       x 4 = 0         FACU species       0       x 4 = 0	(4)	
3	(A)	
4.	(B)	
Sapling/Shrub Stratum       (Plot size: 15ft )       That Are OBL, FACW, or FAC: 100.0%         1, Salix sitchensis       40       ✓ 88.9% FACW       FACW       Prevalence Index worksheet: Total % Cover of: Multiply by: OBL species 0 x 1 = 0         3.       0       0.0%       0.0%       0BL species 0 x 1 = 0       0         5.       0       0.0%       FACW species 135 x 2 = 270       FAC species 0 x 3 = 0       FAC species 0 x 4 = 0         FACU species       0       x 4 = 0       FACU species 0 x 4 = 0       0	(b)	
Sapling/Shrub Stratum       (Plot size: 15ft )         1, Salix sitchensis       40       ✓ 88.9%       FACW       Prevalence Index worksheet:         2, Salix lasiandra       5       11.1%       FACW       Total % Cover of: Multiply by:         3.       0       0.0%       0.0%       0BL speciles       0       x 1 = 0         4.       0       0.0%       FACW speciles       135       x 2 = 270         5.       0       0.0%       FAC speciles       0       x 3 = 0         FAC speciles       0       x 4 = 0         FACU speciles       0       x 4 = 0	(A/B)	
2. Salix lasiandra  3. 0 0.0%  4. 0 0.0%  5 0.0%  6 FACW species 0 x 1 = 0  FACW species 135 x 2 = 270  FAC species 0 x 3 = 0  FACU species 0 x 4 = 0  FACU species 0 x 4 = 0	(A/B)	
3.		
4. $0  \boxed{0.0\%}$ 5. $0  \boxed{0.0\%}$ FACW species $135  \text{x } 2 = 270$ FAC species $0  \text{x } 3 = 0$ FACU species $0  \text{x } 4 = 0$ FACU species $0  \text{x } 4 = 0$		
5.		
Herb Stratum (Plot size: 5ft ) $ \frac{45}{100} = \text{Total Cover} $ FACU species $\frac{0}{100} \times 4 = \frac{0}{100} \times 4 = $		
Herb Stratum (Plot size: 5ft )		
UNI U F U		
1 Phalaris arundinacea 90  ✓ 100.0% FACW		
2. Column Totals: 135 (A) 270	) (B)	
3		
4. Hydrophytic Vegetation Indicators:		
5		
6		
7		
0 0 0.0% 4 - Morphological Adaptations <sup>1</sup> (Provide s		
0 0.0% data in Remarks or on a separate shee	t)	
11 0 0.0% 5 - Wetland Non-Vascular Plants		
90 = Total Cover Problematic Hydrophytic Vegetation 1 (Exp		
Woody Vine Stratum (Plot size:)   1 Indicators of hydric soil and wetland hydrol be present, unless disturbed or problematic.	ogy must	
Vegetation V. O. N. O. N		
© = Total Cover Present? Yes ♥ NO ♥  % Bare Ground in Herb Stratum: 10		
Remarks:		
Remarks:		

<sup>\*</sup>Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil Sampling Point: SP-21 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Matrix **Redox Features** Depth Loc2 (inches) Color (moist) % Color (moist) % Type **Texture** Remarks cobble is common 0-3 10YR 60 Clay 4/2 10YR 4/6 20 С Μ С 10YR 3/6 20 Μ С 3-6 10YR 2/2 95 10YR 3/4 5 M Silty Clay Loam 3/10Y from gley 1 page С 6-9 50 5YR 3/4 50 М Silty Clay 9-18 10YR 70 10YR 30 С М 4/1 3/6 Silty Clay <sup>1</sup>Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains <sup>2</sup>Location: PL=Pore Lining. M=Matrix Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils3: 2 cm Muck (A10) Histosol (A1) Sandy Redox (S5) Histic Epipedon (A2) Stripped Matrix (S6) Red Parent Material (TF2) Black Histic (A3) Loamy Mucky Mineral (F1) (except in MLRA 1) Other (Explain in Remarks) Loamy Gleyed Matrix (F2) ☐ Hydrogen Sulfide (A4) Depleted Below Dark Surface (A11) ✓ Depleted Matrix (F3) Redox Dark Surface (F6) ☐ Thick Dark Surface (A12) <sup>3</sup>Indicators of hydrophytic vegetation and Depleted Dark Surface (F7) Sandy Muck Mineral (S1) wetland hydrology must be present, unless disturbed or problematic. Redox depressions (F8) Sandy Gleyed Matrix (S4) Restrictive Layer (if present): Type: No O **Hydric Soil Present?** Yes Depth (inches): Remarks: Two redox colors in the first horizon Hydrology Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (minimum of two required) Surface Water (A1) Water-Stained Leaves (B9) (except MLRA Water-Stained Leaves (B9) (MLRA 1, 2, 1, 2, 4A, and 4B) 4A, and 4B) High Water Table (A2) Saturation (A3) Salt Crust (B11) ☐ Drainage Patterns (B10) Aquatic Invertebrates (B13) Water Marks (B1) Dry Season Water Table (C2) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Saturation Visible on Aerial Imagery (C9) Drift deposits (B3) Oxidized Rhizospheres on Living Roots (C3) ✓ Geomorphic Position (D2) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Shallow Aquitard (D3) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) ▼ FAC-neutral Test (D5) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Inundation Visible on Aerial Imagery (B7) Frost Heave Hummocks (D7) U Other (Explain in Remarks) Sparsely Vegetated Concave Surface (B8)

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

Depth (inches):

Depth (inches):

Depth (inches):

n

0

Wetland Hydrology Present?

Remarks:

Field Observations:

Water Table Present?

(includes capillary fringe)

Saturation Present?

Surface Water Present?

Very moist. Plot is in the low point of wetland swale and is about 8' past the ends of 3 36" culverts

Yes O

Yes  $\bigcirc$ 

Yes  $\bigcirc$ 

No 💿

No 💿

No •

Yes ● No ○

Are Vegetation , Soil , or Hydrology nat  Summary of Findings - Attach site map show  Hydrophytic Vegetation Present? Yes No  Hydric Soil Present? Yes No  Wetland Hydrology Present? Yes No  Remarks:	Lat.: 46.00  me of year? phificantly disturally proble	Yes No Consturbed? Are "No consturbed? (If need)	Convex, none): flat  Long.: -123.262317  NWI classification: PSSC  (If no, explain in Remarks.)  cormal Circumstances" present?  Yes  No  No  No  No  Reded, explain any answers in Remarks.)
Landform (hillslope, terrace, etc.): Toeslope Subregion (LRR): LRR A  Soil Map Unit Name: 58-Treharne silt loam  The climatic/hydrologic conditions on the site typical for this time of the state of the sile typical for the sile typical fo	Lat.: 46.00  me of year? phificantly disturally proble	Yes No Sturbed? Are "N	Convex, none): flat  Long.: -123.262317  NWI classification: PSSC  (If no, explain in Remarks.)  cormal Circumstances" present?  Yes  No  No  No  No  Reded, explain any answers in Remarks.)
Subregion (LRR): LRR A  Soil Map Unit Name: 58-Treharne silt loam  The climatic/hydrologic conditions on the site typical for this time  Are Vegetation  , Soil  , or Hydrology  signer  Are Vegetation  , Soil  , or Hydrology  nate  Summary of Findings - Attach site map show  Hydrophytic Vegetation Present?  Yes  No    Hydric Soil Present?  Yes  No    Wetland Hydrology Present?  Yes  No    Remarks:	Lat.: 46.00 me of year? politicantly disturally proble	Yes No Sturbed? Are "Nematic? (If nee	Long.: -123.262317 Datum: WGS 1984  NWI classification: PSSC  (If no, explain in Remarks.)  lormal Circumstances" present? Yes No
Soil Map Unit Name: 58-Treharne silt loam  re climatic/hydrologic conditions on the site typical for this time. Are Vegetation , Soil , or Hydrology signer. Are Vegetation , Soil , or Hydrology nate.  Summary of Findings - Attach site map show. Hydrophytic Vegetation Present? Yes No  Hydric Soil Present? Yes No  Wetland Hydrology Present? Yes No  Remarks:	me of year? Inificantly dis	Yes No Consturbed? Are "No consturbed? (If need)	NWI classification: PSSC  (If no, explain in Remarks.)  lormal Circumstances" present? Yes No
re climatic/hydrologic conditions on the site typical for this time.  Are Vegetation  , Soil  , or Hydrology  sign  , or Hydrology  nate.  Summary of Findings - Attach site map show.  Hydrophytic Vegetation Present?  Yes  No   Hydroc Soil Present?  Yes  No   Wetland Hydrology Present?  Yes  No   Remarks:	nificantly dis	sturbed? Are "N ematic? (If nee	(If no, explain in Remarks.)  formal Circumstances" present? Yes   No   eded, explain any answers in Remarks.)
Are Vegetation , Soil , or Hydrology sign Are Vegetation , Soil , or Hydrology nate Summary of Findings - Attach site map show Hydrophytic Vegetation Present? Yes No Yes No Wetland Hydrology Present? Yes No Remarks:	nificantly dis	sturbed? Are "N ematic? (If nee	ormal Circumstances" present? Yes No No Oeded, explain any answers in Remarks.)
Are Vegetation , Soil , or Hydrology nate  Summary of Findings - Attach site map show  Hydrophytic Vegetation Present? Yes No  Hydric Soil Present? Yes No  Wetland Hydrology Present? Yes No  Remarks:	turally probl	ematic? (If nee	eded, explain any answers in Remarks.)
Summary of Findings - Attach site map show  Hydrophytic Vegetation Present? Yes No   Hydric Soil Present? Yes No   Wetland Hydrology Present? Yes No   Remarks:		•	
Summary of Findings - Attach site map show  Hydrophytic Vegetation Present? Yes No  Hydric Soil Present? Yes No  Wetland Hydrology Present? Yes No  Remarks:		•	
Hydric Soil Present?  Wetland Hydrology Present?  Remarks:  Yes  No		1	
Wetland Hydrology Present? Yes No Remarks:		Is the Sampled A	
Remarks:		·	Vac Ala
		within a Wetland	103 0 110 0
No. 1 and C. Cillian and Constitution of the C		•	
Near toe of fill on slope of mainline road			
<b>VEGETATION</b> - Use scientific names of plants.		Dominant	
·		Species?	Dominance Test worksheet:
	Absolute F % Cover C		Number of Dominant Species
1	_0	0.0%	That are OBL, FACW, or FAC:1(A)
2	_0	0.0%	Total Number of Dominant
3	0	0.0%	Species Across All Strata:1 (B)
4			Percent of dominant Species
Sapling/Shrub Stratum (Plot size:)		Total Cover	That Are OBL, FACW, or FAC: 100.0% (A/B)
1,	_0	0.0%	Prevalence Index worksheet:
2			Total % Cover of: Multiply by:
3		0.0%	0BL speci es x 1 =0
4. 5.	0 [		FACW species $20 \times 2 = 40$
J			FAC speciles $0 \times 3 = 0$
Herb Stratum (Plot size: 5ft )	=	Total Cover	FACU species $0$ x 4 = $0$
1. Phalaris arundinacea	20	<b>✓</b> 100.0% FACW	UPL species $0 \times 5 = 0$
2		0.0%	Column Totals:
3	[	0.0%	Prevalence Index = B/A =
4		0.0%	Hydrophytic Vegetation Indicators:
5			✓ 1 - Rapid Test for Hydrologic Vegetation
6	0 [		✓ 2 - Dominance Test is > 50%
7	0 [	0.0%	✓ 3 - Prevalence Index is ≤3.0 <sup>1</sup>
8	0	0.0%	4 - Morphological Adaptations 1 (Provide supporting
10	0	0.0%	data in Remarks or on a separate sheet)
11	0	0.0%	5 - Wetland Non-Vascular Plants 1
	20 =	Total Cover	Problematic Hydrophytic Vegetation 1 (Explain)
Woody Vine Stratum (Plot size:) 1	0 [	0.0%	Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2.	0	0.0%	Hydrophytic
	0 =	Total Cover	Vegetation Present? Yes ● No ○
% Bare Ground in Herb Stratum: <u>80</u>			

<sup>\*</sup>Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil Sampling Point: SP-22 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Matrix **Redox Features** Depth Loc2 **Texture** (inches) Color (moist) % Color (moist) % Type Remarks 0-12 10YR 80 С М Silty Clay Loam 4/4 2.5Y 5/4 10 С М 10YR 4/6 10 С 10YR 4/6 20 12-16 10YR 4/4 80 M Silty Clay Loam <sup>1</sup>Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains <sup>2</sup>Location: PL=Pore Lining. M=Matrix Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils3: Histosol (A1) Sandy Redox (S5) 2 cm Muck (A10) Histic Epipedon (A2) Stripped Matrix (S6) Red Parent Material (TF2) Black Histic (A3) Loamy Mucky Mineral (F1) (except in MLRA 1) Other (Explain in Remarks) Loamy Gleyed Matrix (F2) ☐ Hydrogen Sulfide (A4) Depleted Below Dark Surface (A11) Depleted Matrix (F3) Redox Dark Surface (F6) ☐ Thick Dark Surface (A12) <sup>3</sup>Indicators of hydrophytic vegetation and Depleted Dark Surface (F7) Sandy Muck Mineral (S1) wetland hydrology must be present, unless disturbed or problematic. Redox depressions (F8) Sandy Gleyed Matrix (S4) Restrictive Layer (if present): Type: No O **Hydric Soil Present?** Yes Depth (inches): Remarks: cobbles and mixed matrix in upper layer. Hydrology Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (minimum of two required) Surface Water (A1) Water-Stained Leaves (B9) (except MLRA ✓ Water-Stained Leaves (B9) (MLRA 1, 2, 1, 2, 4A, and 4B) 4A, and 4B) High Water Table (A2) Saturation (A3) Salt Crust (B11) Drainage Patterns (B10) Aquatic Invertebrates (B13) Water Marks (B1) Dry Season Water Table (C2) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Saturation Visible on Aerial Imagery (C9) Drift deposits (B3) Oxidized Rhizospheres on Living Roots (C3) Geomorphic Position (D2) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Shallow Aquitard (D3) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) ▼ FAC-neutral Test (D5) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Inundation Visible on Aerial Imagery (B7) Frost Heave Hummocks (D7) U Other (Explain in Remarks) Sparsely Vegetated Concave Surface (B8) Field Observations: Yes O No 💿 Surface Water Present? Depth (inches): n Yes  $\bigcirc$ No 💿 Water Table Present? Depth (inches): 0

Saturation Present?

Remarks:

(includes capillary fringe)

Yes O

Soil is dry, plot is about 3 feet above the wetland plot of the pair.

No •

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

Depth (inches):

Yes ● No ○

Wetland Hydrology Present?

Project/Site: North Mist Expansion	City/County: Columbia	County Sampling Date: 29-Sep-22
Applicant/Owner: Northwest Natural		State: OR Sampling Point: SP-23
nvestigator(s): Sara Frank, Ed Strohmaier		Range: S 14 T 6N R 5W
Landform (hillslope, terrace, etc.): Flat	Local relief (concave,	convex, none): flat Slope:0.0 % /0.0
Subregion (LRR): LRR A	Lat.: 46.003352	Long.: -123.262053 Datum: WGS 1984
oil Map Unit Name: 58 - Treharne silt loam	13.00002	NWI classification: PSSC
e climatic/hydrologic conditions on the site typical for this	time of year? Yes   No	
		Normal Circumstances" present? Yes  No  No
		<b>,</b> , , , , , , , , , , , , , , , , , ,
<b>3</b> — . — . <b>3 3</b> —		eeded, explain any answers in Remarks.)
	owing sampling point loo	cations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No Hydric Soil Present? Yes No	Is the Sampled	Area
	within a Wetlan	<sub>id?</sub> Yes ○ No •
Wetland Hydrology Present? Yes O No •		
Remarks:	una likahu ta maart	
Dug pit to check indicators in location where vegetation w	as likely to meet	
VEGETATION - Use scientific names of plan	ts. Dominant	
(5)	Species?Species	Dominance Test worksheet:
Tree Stratum (Plot size:)	% Cover Cover Status	Number of Dominant Species
1		That are OBL, FACW, or FAC: (A)
3.		Total Number of Dominant
4.		Species Across All Strata: (B)
Sapling/Shrub Stratum (Plot size:)	0 = Total Cover	Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)
1	0 0.0%	Prevalence Index worksheet:
2		Total % Cover of: Multiply by:
3		OBL species 0 x 1 = 0
4.		FACW species 90 x 2 = 180
5	0 0.0%	FAC species 10 x 3 = 30
	0 = Total Cover	FACU species $0 \times 4 = 0$
Herb Stratum (Plot size: 5 feet )		UPL species $\frac{0}{x}$ $5 = \frac{0}{x}$
1 Phalaris arundinacea	90 90.0% FACW	Column Total s: 100 (A) 210 (B)
2. Rubus armeniacus 3.		Prevalence Index = B/A = 2.100
4		
5		Hydrophytic Vegetation Indicators:
6		✓ 1 - Rapid Test for Hydrologic Vegetation
7		✓ 2 - Dominance Test is > 50%
8		3 - Prevalence Index is ≤3.0 ¹
9		4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
10.—		5 - Wetland Non-Vascular Plants 1
11.		☐ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
Woody Vine Stratum (Plot size:)		<sup>1</sup> Indicators of hydric soil and wetland hydrology must
1	0 0.0%	be present, unless disturbed or problematic.
2	0 0.0%	Hydrophytic
	0 = Total Cover	Vegetation Present? Yes   No ○

<sup>\*</sup>Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil Sampling Point: SP-23 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Matrix **Redox Features** Depth Loc2 **Texture** (inches) Color (moist) % Color (moist) % Type Remarks 10YR 99 С Silt Loam 0-9 3/2 4/3 Μ 9-15 10YR 2/2 100 Silt Loam 3/3 10YR С 15-24 10YR 95 5/6 5 M Silty Clay Loam <sup>1</sup>Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains <sup>2</sup>Location: PL=Pore Lining. M=Matrix Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils3: Histosol (A1) Sandy Redox (S5) 2 cm Muck (A10) Histic Epipedon (A2) Stripped Matrix (S6) Red Parent Material (TF2) Black Histic (A3) Loamy Mucky Mineral (F1) (except in MLRA 1) Other (Explain in Remarks) Loamy Gleyed Matrix (F2) ☐ Hydrogen Sulfide (A4) Depleted Below Dark Surface (A11) Depleted Matrix (F3) Redox Dark Surface (F6) ☐ Thick Dark Surface (A12) <sup>3</sup>Indicators of hydrophytic vegetation and Depleted Dark Surface (F7) Sandy Muck Mineral (S1) wetland hydrology must be present, unless disturbed or problematic. Redox depressions (F8) Sandy Gleyed Matrix (S4) Restrictive Layer (if present): Type: **Hydric Soil Present?** Yes C Depth (inches): Remarks: Hydrology Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (minimum of two required) Surface Water (A1) Water-Stained Leaves (B9) (except MLRA Water-Stained Leaves (B9) (MLRA 1, 2, 1, 2, 4A, and 4B) 4A, and 4B) High Water Table (A2) Saturation (A3) Salt Crust (B11) ☐ Drainage Patterns (B10) Aquatic Invertebrates (B13) Water Marks (B1) Dry Season Water Table (C2) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Saturation Visible on Aerial Imagery (C9) Drift deposits (B3) Oxidized Rhizospheres on Living Roots (C3) Geomorphic Position (D2) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Shallow Aquitard (D3) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) ✓ FAC-neutral Test (D5) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Inundation Visible on Aerial Imagery (B7) Frost Heave Hummocks (D7) U Other (Explain in Remarks) Sparsely Vegetated Concave Surface (B8) Field Observations: Yes O No 💿 Surface Water Present? Depth (inches): Yes  $\bigcirc$ No 💿 Water Table Present? Depth (inches): Yes ○ No ● Wetland Hydrology Present? Saturation Present? Yes O No 💿 Depth (inches): (includes capillary fringe)

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

No hydrology present

Project/Site: North Mist Expansion	City/Co	ounty: Columbia C	county	Sampling	Date: 29-Se	ep-22
Applicant/Owner: Northwest Natural			State: OR	Sampl	ing Point:	SP-24
nvestigator(s): Sara Frank, Ed Strohmaier		ion, Township, R	ange: S 14	T 6N	R 5W	
Landform (hillslope, terrace, etc.): Toeslope		relief (concave,	convex, none): COr	ncave	Slope: 6	
Subregion (LRR): LRR A			Long.: -123.262		Datum	 : WGS 1984
oil Map Unit Name: 58 - Treharne silt loam				classification: N		
e climatic/hydrologic conditions on the site typical for this	time of year?	Yes  No		ain in Remarks.		
	significantly disturi		Jormal Circumstand		yes <b>⊙</b>	No O
				•		110
Are Vegetation $\;\sqcup\;\;$ , Soil $\;\sqcup\;\;$ , or Hydrology $\;\sqcup\;\;$ Summary of Findings - Attach site map sh	naturally problema	•	eded, explain any a			turos oto
Hydrophytic Vegetation Present? Yes No	Owing sampli	ng point loc	ations, transe	ects, impor	tant iea	iures, etc.
Hydric Soil Present? Yes ○ No ●		Is the Sampled A	_			
Wetland Hydrology Present? Yes No •		within a Wetland	<sub>d?</sub> Yes O No	lacktriangle		
Remarks:						-
Upland pit on east side of WET-03						
opiana pit on east side of the co						
VEGETATION - Use scientific names of plan		inant				
Tree Stratum (Plot size: 30 feet )	Absolute Rel.S % Cover Cove	trat. Indicator	Dominance Test	worksheet:		
1. Thuja plicata			Number of Domina That are OBL, FAC		4	(A)
2. Acer macrophyllum		0.0% FACU	That are ODE, The	, 61 17.6.		_ (1)
3		0.0%	Total Number of D Species Across All		6	(B)
4.		0.0%	Species Across Air	Strata.		_ (5)
Sapling/Shrub Stratum (Plot size: 15 feet )	100 = <b>Tot</b>	al Cover	Percent of domine That Are OBL, F.		66.7%	6 (A/B)
1, Acer circinatum	20	2.2% FAC	Prevalence Index	x worksheet:		
2. Cornus nuttallii	70 🗹 7	7.8% FACU	Total % Co	over of: N	lultiply by:	
3		0.0%	OBL species	0 x	1 =	<u> </u>
4		0.0%	FACW species	0x	2 =	<u>)                                    </u>
5		0.0%	FAC species	<u>125</u> x	<b>3</b> = <u>3</u>	75
	90 = Tot	al Cover	FACU species	130 <b>x</b>	4 = 5	20
Herb Stratum (Plot size: 5 feet )	30 🗹 4	/ 20/ FAC	UPL species	x	5 =	<u>)                                    </u>
Rubus armeniacus     Urtica dioica		6.2% FAC 5.4% FAC	Column Totals:	<u>255</u> (	A) <u>8</u>	95 <b>(B)</b>
3 Carex deweyana		3.1% FAC	Prevalence	Index = B/A =	3.510	)
4_Pteridium aquilinum		7.7% FACU				_
5_Polystichum munitum	5 🗆 :	7.7% FACU	Hydrophytic Veg			
6	_ 0	0.0%	☐ 1 - Rapid Tes			1
7		0.0%				
8.———		0.0%	l	e Index is ≤3.0		
9		0.0%	4 - Morpholog	gical Adaptatio marks or on a		
10.—		0.0%	5 - Wetland		•	-
11.		0.0% al Cover	Problematic H			xplain)
Woody Vine Stratum (Plot size:)	= 10t	ai cuvei	1 Indicators of his	ydric soil and w	etland hydr	ology must
1		0.0%		ss aistarpea or	problematio	<i>.</i> .
2		0.0%	Hydrophytic Vegetation		$\sim$	
	0 = Tot	al Cover	Present?	Yes   No	)	
% Bare Ground in Herb Stratum: 35						

<sup>\*</sup>Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil Sampling Point: SP-24 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Redox Features Matrix Depth Loc2 Texture (inches) Color (moist) % Color (moist) % Type 10YR 2/2 100 0-6 6-18 10YR 3/2 100 <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 Soils3: 2 cm Muck (A10) Histosol (A1) Sandy Redox (S5) Histic Epipedon (A2) Stripped Matrix (S6) Red Parent Material (TF2) Black Histic (A3) Loamy Mucky Mineral (F1) (except in MLRA 1) Other (Explain in Remarks) Loamy Gleyed Matrix (F2) ☐ Hydrogen Sulfide (A4) Depleted Below Dark Surface (A11) Depleted Matrix (F3) Redox Dark Surface (F6) ☐ Thick Dark Surface (A12) <sup>3</sup>Indicators of hydrophytic vegetation and Depleted Dark Surface (F7) Sandy Muck Mineral (S1) wetland hydrology must be present, unless disturbed or problematic. Redox depressions (F8) Sandy Gleyed Matrix (S4) Restrictive Layer (if present): Type: Root restriction No 💿 **Hydric Soil Present?** Yes 🔾 Depth (inches): 18 Remarks: No redox Hydrology Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (minimum of two required) Surface Water (A1) Water-Stained Leaves (B9) (except MLRA Water-Stained Leaves (B9) (MLRA 1, 2, 1, 2, 4A, and 4B) 4A, and 4B) High Water Table (A2) Saturation (A3) Salt Crust (B11) ☐ Drainage Patterns (B10) Aquatic Invertebrates (B13) Water Marks (B1) Dry Season Water Table (C2) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Saturation Visible on Aerial Imagery (C9) Drift deposits (B3) Oxidized Rhizospheres on Living Roots (C3) Geomorphic Position (D2) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Shallow Aquitard (D3) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) FAC-neutral Test (D5) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Inundation Visible on Aerial Imagery (B7) Frost Heave Hummocks (D7) U Other (Explain in Remarks) Sparsely Vegetated Concave Surface (B8) Field Observations: Yes O No 💿 Surface Water Present? Depth (inches): Yes  $\bigcirc$ No 💿 Water Table Present? Depth (inches): Yes O No 💿 Wetland Hydrology Present? Saturation Present? Yes O No 💿 Depth (inches): (includes capillary fringe) Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available: Remarks:

No Hydrology present

roject/Site: North Mist Expansion			c	City/County:	Columbia C	ounty Sampling D	ate: 29-Sep-22
Applicant/Owner: Northwest Natural						State: OR Sampling	Point: SP-25
nvestigator(s): Sara Frank, Ed Strohma	aier			Section, To	wnship, Ra	ange: S 14 T 6N R	5W
Landform (hillslope, terrace, etc.): T	oeslope		_	Local relief	(concave, o	convex, none): CONVEX	lope: 5.0 % / 2.9
			Lat.: 46	.003533		Long.: -123.262271	Datum: WGS 1984
oil Map Unit Name: 58 - Treharne sili	t loam					NWI classification: N/A	-
e climatic/hydrologic conditions on t		pical for this ti	me of year	? Yes	No C		
	, or Hydrol		gnificantly o		Are "N	•	Yes ● No ○
	, or Hydrol	loav 🗌 na	aturally prol	blematic?		eded, explain any answers in Remar	ks)
Summary of Findings - Atta					-		•
Hydrophytic Vegetation Present?	Yes	No O		Is the	Sampled A	Aroa	
	Yes	No $\bigcirc$			•	Vac ( Na (	
Wetland Hydrology Present?	Yes	No O		within	a Wetland	<u></u>	
Remarks:				•			
<b>VEGETATION</b> - Use scienti	ific nam	es of plants	<b>3.</b>	DominantSpecies? _			
- (Plot cize: 30 feet	1		Absolute % Cover	Rel.Strat.	Indicator	Dominance Test worksheet:	
4 71 1 11 1	)		<u>% Cover</u>	<b>✓</b> 90.9%	<b>Status</b> FAC	Number of Dominant Species That are OBL, FACW, or FAC:	2 (A)
2. Acer macrophyllum			5	9.1%	FACU	That are OBL, FACW, OF FAC.	2(A)
3			0	0.0%		Total Number of Dominant	3 (B)
4.			0	0.0%		Species Across All Strata:	
Sapling/Shrub Stratum (Plot size: 2	15 feet	)	55	= Total Cove	÷r	Percent of dominant Species That Are OBL, FACW, or FAC:	66.7% (A/B)
1. Cornus nuttallii		— ·	80	<b>1</b> 00.0%	FACU	Prevalence Index worksheet:	
2.			0	0.0%			tiply by:
3.			0	0.0%		0BL species 10 x 1	
4.			0	0.0%		FACW species 65 x 2	
5			0	0.0%		FAC species 55 x 3	= 165
* · · · · · · · · · · · · · · · · · ·			80	= Total Cove	er:	FACU speci es 85 x 4	= 340
Herb Stratum (Plot size: 5 feet	)			- a. aay	=- 0	UPL species x 5	= 0
1 Phalaris arundinacea			65	81.3%	FACW	Column Totals: 215 (A)	<u>645</u> <b>(B)</b>
2. Carex obnupta 3. Urtica dioica			<u>10</u> 5	12.5%	OBL FAC	Prevalence Index = B/A =	3.000
4			0	0.0%	TAC		
5				0.0%		Hydrophytic Vegetation Indicators	
6			_	0.0%		1 - Rapid Test for Hydrologic V	egetation
7				0.0%		2 - Dominance Test is > 50%	
8.—				0.0%		<b>2</b> 3 - Prevalence Index is ≤3.0 <sup>1</sup>	_
9				0.0%		4 - Morphological Adaptations data in Remarks or on a se	
10.				0.0%		5 - Wetland Non-Vascular Plan	
11.			 			Problematic Hydrophytic Vege	
Woody Vine Stratum (Plot size:		)		= 10(a) 00+0	;1	<sup>1</sup> Indicators of hydric soil and wet	· ·
1.			0	0.0%		be present, unless disturbed or pr	oblematic.
1.			0	0.0%		Hydrophytic	
						Vogotation	
2			0	= Total Cove	١r		
			0	= Total Cove	er	Present? Yes No	

<sup>\*</sup>Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil Sampling Point: SP-25 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Matrix **Redox Features** Depth Loc2 Texture (inches) Color (moist) Color (moist) % Type Remarks 10YR 3/2 90 10YR С М Silty Clay Loam 0-6 4/6 10 85 10YR 15 С M 6-24 10YR 3/3 4/6 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 Soils3: Histosol (A1) Sandy Redox (S5) 2 cm Muck (A10) Histic Epipedon (A2) Stripped Matrix (S6) Red Parent Material (TF2) Black Histic (A3) Loamy Mucky Mineral (F1) (except in MLRA 1) Other (Explain in Remarks) Loamy Gleyed Matrix (F2) ☐ Hydrogen Sulfide (A4) Depleted Below Dark Surface (A11) Depleted Matrix (F3) Redox Dark Surface (F6) ☐ Thick Dark Surface (A12) <sup>3</sup>Indicators of hydrophytic vegetation and Depleted Dark Surface (F7) Sandy Muck Mineral (S1) wetland hydrology must be present, unless disturbed or problematic. Redox depressions (F8) Sandy Gleyed Matrix (S4) Restrictive Layer (if present): Type: No O **Hydric Soil Present?** Yes Depth (inches): Remarks: Hydrology Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (minimum of two required) Surface Water (A1) Water-Stained Leaves (B9) (except MLRA Water-Stained Leaves (B9) (MLRA 1, 2, 1, 2, 4A, and 4B) 4A, and 4B) High Water Table (A2) Saturation (A3) Salt Crust (B11) ☐ Drainage Patterns (B10) Aquatic Invertebrates (B13) Water Marks (B1) Dry Season Water Table (C2) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Saturation Visible on Aerial Imagery (C9) Drift deposits (B3) Oxidized Rhizospheres on Living Roots (C3) ✓ Geomorphic Position (D2) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Shallow Aquitard (D3) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) ▼ FAC-neutral Test (D5) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Inundation Visible on Aerial Imagery (B7) Frost Heave Hummocks (D7) U Other (Explain in Remarks) Sparsely Vegetated Concave Surface (B8) Field Observations: Yes  $\bigcirc$ No 💿 Surface Water Present? Depth (inches): Yes  $\bigcirc$ No 💿 Water Table Present? Depth (inches): Yes ● No ○ Wetland Hydrology Present? Saturation Present? Yes O No 💿 Depth (inches): (includes capillary fringe) Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Project/Site: North Mist Expansion Pro	ject		ity/County:	Coulmbia C	County Sampling Date: 29-Sep-22
Applicant/Owner: Northwest Natural					State: Oregon Sampling Point: SP-26
Investigator(s): ES			Section, To	wnship, R	Range: S 15 T 6N R 5W
Landform (hillslope, terrace, etc.):	Swale		Local relief	(concave,	convex, none): CONCAVE Slope: 0.0 % /
Subregion (LRR): LRR A		Lat.: 46.	.00425972		Long.: -123.2622698 Datum: WGS 1984
oil Map Unit Name: 58 - Treharne :	silt loam				NWI classification: N/A
e climatic/hydrologic conditions or		time of year?	? Yes	● No (	
Are Vegetation, Soil		significantly of		Are "N	Normal Circumstances" present? Yes  No
Are Vegetation, Soil	, or Hydrology	naturally prol	blematic?		eeded, explain any answers in Remarks.)
<b>5</b> – , –					cations, transects, important features, et
Hydrophytic Vegetation Present?	Yes   No				
Hydric Soil Present?	Yes ● No ○		Is the	Sampled A	
Wetland Hydrology Present?	Yes ● No ○		within	a Wetland	<sub>d?</sub> Yes ◉ No ○
Remarks:					
VEGETATION - Use scier	ntific names of plan	ts.	Dominant		
		Absolute	_Species? . Rel.Strat.	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: 30 feet	)	% Cover	_	Status	Number of Dominant Species
• • • • • •			60.0%	FAC	That are OBL, FACW, or FAC:3 (A)
			40.0%	FACW	Total Number of Dominant
3 4.			0.0%		Species Across All Strata:3(B)
1,			= Total Cove		Percent of dominant Species
Sapling/Shrub Stratum (Plot size	: 15 feet )		- Total Cove	:1	That Are OBL, FACW, or FAC: 100.0% (A/B)
1		0	0.0%		Prevalence Index worksheet:
2		0	0.0%		Total % Cover of: Multiply by:
3		•	0.0%		0BL speci es x 1 =0
4			0.0%		FACW species <u>120</u> x 2 = <u>240</u>
5		0	0.0%		FAC species <u>30</u> x 3 = <u>90</u>
Herb Stratum (Plot size: 5 feet	)	0	= Total Cove	er	FACU speci es $0 \times 4 = 0$
1 Phalaris arundinacea		100	<b>✓</b> 100.0%	FACW	UPL species $\frac{0}{x}$ $5 = \frac{0}{x}$
2.		0	0.0%	171011	Col umn Total s: <u>150</u> (A) <u>330</u> (B)
3		0	0.0%		Prevalence Index = $B/A = 2.200$
4		0	0.0%		Hydrophytic Vegetation Indicators:
5		0	0.0%		1 - Rapid Test for Hydrologic Vegetation
6			0.0%		✓ 2 - Dominance Test is > 50%
7		_	0.0%		✓ 3 - Prevalence Index is ≤3.0 <sup>1</sup>
8.————————————————————————————————————			0.0%		4 - Morphological Adaptations <sup>1</sup> (Provide supporting
10.			0.0%		data in Remarks or on a separate sheet)
11.			0.0%		□ 5 - Wetland Non-Vascular Plants <sup>1</sup>
11.			= Total Cove	er	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
Woody Vine Stratum (Plot size:	)				<sup>1</sup> Indicators of hydric soil and wetland hydrology must
1,		0	0.0%		be present, unless disturbed or problematic.
2		0	0.0%		Hydrophytic Vegetation
		0	= Total Cove	er	Present? Yes No
% Bare Ground in Herb Stratum	ı: <u>0</u>				
Remarks:					

<sup>\*</sup>Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil Sampling Point: SP-26 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Matrix **Redox Features** Depth Texture Loc2 (inches) Color (moist) % Color (moist) % Type Remarks 0-3 10YR 3/2 90 RM PL Silt Loam 10YR 4/6 10 10YR 10YR RM PL 3-6 3/2 80 4/6 20 Clay Loam 6-18 3/2 10YR 4/6 5 С 10YR 95 M 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 Soils3: Histosol (A1) Sandy Redox (S5) 2 cm Muck (A10) Histic Epipedon (A2) Stripped Matrix (S6) Red Parent Material (TF2) Black Histic (A3) Loamy Mucky Mineral (F1) (except in MLRA 1) Other (Explain in Remarks) Loamy Gleyed Matrix (F2) ☐ Hydrogen Sulfide (A4) Depleted Below Dark Surface (A11) Depleted Matrix (F3) ✓ Redox Dark Surface (F6) ☐ Thick Dark Surface (A12) <sup>3</sup>Indicators of hydrophytic vegetation and Depleted Dark Surface (F7) Sandy Muck Mineral (S1) wetland hydrology must be present, unless disturbed or problematic. Redox depressions (F8) Sandy Gleyed Matrix (S4) Restrictive Layer (if present): Type: No O **Hydric Soil Present?** Yes Depth (inches): Remarks: Hydrology Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (minimum of two required) Surface Water (A1) Water-Stained Leaves (B9) (except MLRA Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) 1, 2, 4A, and 4B) High Water Table (A2) Saturation (A3) Salt Crust (B11) ☐ Drainage Patterns (B10) Aquatic Invertebrates (B13) Water Marks (B1) Dry Season Water Table (C2) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Saturation Visible on Aerial Imagery (C9) Drift deposits (B3) Oxidized Rhizospheres on Living Roots (C3) Geomorphic Position (D2) Presence of Reduced Iron (C4) Algal Mat or Crust (B4) Shallow Aquitard (D3) ☐ Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) ✓ FAC-neutral Test (D5) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Inundation Visible on Aerial Imagery (B7) Frost Heave Hummocks (D7) U Other (Explain in Remarks) Sparsely Vegetated Concave Surface (B8) Field Observations: Yes O No 💿 Surface Water Present? Depth (inches): Yes  $\bigcirc$ No 💿 Water Table Present? Depth (inches): Yes 

No Wetland Hydrology Present? Saturation Present? Yes O No 💿 Depth (inches): (includes capillary fringe) Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Soil is moist but not saturated

Project/Site: North Mist Expansion Pro	ject		City/County:	Coulmbia Co	ounty Sa	ampling Date: 29-Se	ep-22
Applicant/Owner: Northwest Natural					State: Oregon	Sampling Point:	SP-27
Investigator(s): ES			Section, To	wnship, Ra	ange: <b>S</b> 15 <b>T</b> 6N	<b>R</b> 5W	
Landform (hillslope, terrace, etc.):			Local relief	(concave,	convex, none): CONVEX	Slope:4	.0 % /°
Subregion (LRR): LRR A		Lat.: 46	.00426469		Long.: -123.2622868	 Datum	: WGS 1984
Soil Map Unit Name: 58 - Treharne s					NWI classific		
re climatic/hydrologic conditions on		s time of year	? Yes	s ● No ○			
Are Vegetation, Soil	, or Hydrology	significantly		Are "N	ormal Circumstances" pre		No $\bigcirc$
Are Vegetation  , Soil	, or Hydrology	naturally pro	blematic?		eded, explain any answers		
Summary of Findings - At				-		·	uros oto
Hydrophytic Vegetation Present?	Yes No •	lowing sa		OITIL IOC	ations, transects, i	inportant leat	ures, etc.
Hydric Soil Present?	Yes ○ No ●		Is the	Sampled A			
Wetland Hydrology Present?	Yes ○ No ●		withir	a Wetland	<sub>d?</sub> Yes $\bigcirc$ No $lacktrian$		
Remarks:	103 0 110 0						
Upland plot paired with SP-26. Plo	ot is roughly 3' higher th	han the wetla	nd and is loc	ated on the	e fill slope of road		
' ' '					<u>'</u>		
VEGETATION - Use scien	ntific names of plan	nts.	Dominant				
<b>751</b>			_Species? Rel.Strat.		Dominance Test worksh	neet:	
Tree Stratum (Plot size:		% Cover		Status	Number of Dominant Speci		(1)
1. 2.			0.0%		That are OBL, FACW, or FA	AC: <u>1</u>	(A)
3			0.0%		Total Number of Dominant		(D)
4.			0.0%		Species Across All Strata:	2	(B)
			= Total Cove	 er	Percent of dominant Sports That Are OBL, FACW, or		(A/B)
Sapling/Shrub Stratum (Plot size:	: <u>15 feet</u> )	-			That Are Obl., FACW, O	TAC	<u></u>
			100.0%	FACU	Prevalence Index works		
2			0.0%		Total % Cover of:		
34.			0.0%				)
4 5.			0.0%		FACW species 85		
<u>.                                    </u>			= Total Cove		FAC speciles 20		<u>5</u>
Herb Stratum (Plot size: 5 feet	)		- Total Cov	21			)
1. Phalaris arundinacea		85	<b>✓</b> 85.0%	FACW	or E specifes	x 5 =	
2 Equisetum arvense		15	15.0%	FAC	Column Totals: 12	<u>20</u> (A) <u>29</u>	95 <b>(B)</b>
3			0.0%		Prevalence Index =	B/A = <u>2.458</u>	_
4			0.0%		Hydrophytic Vegetation	Indicators:	
5		_	0.0%		1 - Rapid Test for Hy	drologic Vegetation	
6			0.0%		2 - Dominance Test i	is > 50%	
8			0.0%		3 - Prevalence Index	c is ≤3.0 <sup>1</sup>	
9			0.0%		4 - Morphological Ad	aptations 1 (Provide	supporting
10.		-	0.0%		l	or on a separate she	et)
11		_	0.0%		5 - Wetland Non-Vas		
		100	= Total Cov	er	Problematic Hydroph		-
Woody Vine Stratum (Plot size:		0	0.0%		1 Indicators of hydric so be present, unless distu	il and wetland hydro Irbed or problematic	ology must
1, 2.			0.0%		Hydrophytic		
<u> </u>			= Total Cove		Vegetation Present? Yes	No ●	
% Bare Ground in Herb Stratum	<b>1</b> : 0		_ 10tul 001		Present?	110	
Remarks:	<u>.</u>					<del> </del>	
Kemarks.							
l							

<sup>\*</sup>Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil Sampling Point: SP-27 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Matrix **Redox Features** Depth Loc2 (inches) Color (moist) % Color (moist) % Type Texture Remarks Crushed rock 0-3 10YR 2/2 100 Sandy 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 Soils3: Histosol (A1) Sandy Redox (S5) 2 cm Muck (A10) Histic Epipedon (A2) Stripped Matrix (S6) Red Parent Material (TF2) Black Histic (A3) Loamy Mucky Mineral (F1) (except in MLRA 1) Other (Explain in Remarks) Loamy Gleyed Matrix (F2) ☐ Hydrogen Sulfide (A4) Depleted Below Dark Surface (A11) Depleted Matrix (F3) Redox Dark Surface (F6) ☐ Thick Dark Surface (A12) <sup>3</sup>Indicators of hydrophytic vegetation and Depleted Dark Surface (F7) Sandy Muck Mineral (S1) wetland hydrology must be present, Redox depressions (F8) unless disturbed or problematic. Sandy Gleyed Matrix (S4) Restrictive Layer (if present): Type: Rock No • Yes O **Hydric Soil Present?** Depth (inches): 3 Remarks: Hydrology Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (minimum of two required) Surface Water (A1) Water-Stained Leaves (B9) (except MLRA Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) 1, 2, 4A, and 4B) High Water Table (A2) Saturation (A3) Salt Crust (B11) ☐ Drainage Patterns (B10) Aquatic Invertebrates (B13) Water Marks (B1) Dry Season Water Table (C2) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Saturation Visible on Aerial Imagery (C9) Drift deposits (B3) Oxidized Rhizospheres on Living Roots (C3) Geomorphic Position (D2) Presence of Reduced Iron (C4) ☐ Algal Mat or Crust (B4) Shallow Aquitard (D3) ☐ Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) FAC-neutral Test (D5) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Inundation Visible on Aerial Imagery (B7) Frost Heave Hummocks (D7) U Other (Explain in Remarks) Sparsely Vegetated Concave Surface (B8) Field Observations: Yes O No 💿 Surface Water Present? Depth (inches): Yes  $\bigcirc$ No 💿 Water Table Present? Depth (inches): Yes ○ No ● Wetland Hydrology Present? Saturation Present? Yes O No 💿 Depth (inches): (includes capillary fringe) Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

No hydrology present

County Sampling Date: 30-Sep-22
State: Oregon Sampling Point: SP-28
lange: S 15 T 6N R 5W
convex, none): flat Slope: 25.0 % / 14.0
Long.: -123.2621228 Datum: WGS 1984
NWI classification: N/A
(If no, explain in Remarks.)
No O
eded, explain any answers in Remarks.)
ations, transects, important features, etc.
Area
d? Yes ○ No •
Dominance Test worksheet:
Number of Dominant Species
That are OBL, FACW, or FAC:3 (A)
Total Number of Dominant
Species Across All Strata:3 (B)
Percent of dominant Species
That Are OBL, FACW, or FAC: 100.0% (A/B)
Prevalence Index worksheet:
Total % Cover of: Multiply by:
0BL species 0 x 1 = 0
FACW species
FAC species x 3 =
FACU species $0 \times 4 = 0$
UPL species $0 \times 5 = 0$
Column Totals: <u>190</u> (A) <u>470</u> (B)
Prevalence Index = B/A = 2.474
Hydrophytic Vegetation Indicators:
1 - Rapid Test for Hydrologic Vegetation
✓ 2 - Dominance Test is > 50%
3 - Prevalence Index is ≤3.0 <sup>1</sup>
4 - Morphological Adaptations <sup>1</sup> (Provide supporting
data in Remarks or on a separate sheet)
5 - Wetland Non-Vascular Plants 1
Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Hydrophytic
Vegetation Present? Yes No
Present?
<u></u>
_

<sup>\*</sup>Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil Sampling Point: SP-28 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Matrix **Redox Features** Depth Loc2 Texture (inches) Color (moist) % Color (moist) % Type Remarks 0-10 10YR 3/2 100 Silt Loam 10-14 10YR 3/3 100 Silt Loam 4/3 Silt Loam 14-18 10YR 100 <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 Soils3: Histosol (A1) Sandy Redox (S5) 2 cm Muck (A10) Histic Epipedon (A2) Stripped Matrix (S6) Red Parent Material (TF2) Black Histic (A3) Loamy Mucky Mineral (F1) (except in MLRA 1) Other (Explain in Remarks) Loamy Gleyed Matrix (F2) ☐ Hydrogen Sulfide (A4) Depleted Below Dark Surface (A11) Depleted Matrix (F3) Redox Dark Surface (F6) ☐ Thick Dark Surface (A12) <sup>3</sup>Indicators of hydrophytic vegetation and Depleted Dark Surface (F7) Sandy Muck Mineral (S1) wetland hydrology must be present, unless disturbed or problematic. Redox depressions (F8) Sandy Gleyed Matrix (S4) Restrictive Layer (if present): Type: No • Yes O **Hydric Soil Present?** Depth (inches): Remarks: Slightly moist, not saturated Hydrology Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (minimum of two required) Surface Water (A1) Water-Stained Leaves (B9) (except MLRA Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) 1, 2, 4A, and 4B) High Water Table (A2) Saturation (A3) Salt Crust (B11) ☐ Drainage Patterns (B10) Aquatic Invertebrates (B13) Water Marks (B1) Dry Season Water Table (C2) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Saturation Visible on Aerial Imagery (C9) Drift deposits (B3) Oxidized Rhizospheres on Living Roots (C3) Geomorphic Position (D2) Presence of Reduced Iron (C4) ☐ Algal Mat or Crust (B4) Shallow Aquitard (D3) ☐ Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) ✓ FAC-neutral Test (D5) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Inundation Visible on Aerial Imagery (B7) Frost Heave Hummocks (D7) Other (Explain in Remarks) Sparsely Vegetated Concave Surface (B8) Field Observations: Yes O No 💿 Surface Water Present? Depth (inches): Yes  $\bigcirc$ No 💿 Water Table Present? Depth (inches): Yes ○ No ● Wetland Hydrology Present? Saturation Present? Yes O No 💿 Depth (inches): (includes capillary fringe) Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

No hydrology present

Project/Site: North Mist Expansion Pro	ject			City/County:	Coulmbia Co	ounty	Sampling Date: 30-S	Sep-22
Applicant/Owner: Northwest Natural						State: Oregon	Sampling Point:	Sp-29
Investigator(s): ES				Section, To	wnship, Ra	ange: <b>S</b> 15 T 6	N R 5W	
Landform (hillslope, terrace, etc.):	Swale			Local relief	(concave,	convex, none): concave	Slope:	0.0 % / 0.0
Subregion (LRR): LRR A			Lat.: 46	.0041415		Long.: -123.2620887	Datur	m: WGS 1984
Soil Map Unit Name: 58 - Treharne s	silt loam					NWI classif	ication: N/A	
re climatic/hydrologic conditions on	the site typ	ical for this t	time of year	? Yes	s ● No C	(If no, explain in I	Remarks.)	
Are Vegetation . , Soil .	, or Hydrol	ogy 🗌 si	ignificantly	disturbed?	Are "N	ormal Circumstances" pi	resent? Yes •	No $\bigcirc$
Are Vegetation, Soil	, or Hydrol	ogy 🗌 n	aturally pro	blematic?	(If ne	eded, explain any answe	rs in Remarks.)	
Summary of Findings - At	tach site	map sho	owing sa	mpling p				itures, etc.
Hydrophytic Vegetation Present?	Yes	No O		In the	Sampled A	Aron.		
Hydric Soil Present?	Yes	No $\bigcirc$			Sampled A	Van ( Na (		
Wetland Hydrology Present?	Yes 💿	No O		within	a Wetland	1? 163 0 140 0		
Remarks:								
Wetland plot on the east side of ve	egetated mo	ound						
VEGETATION - Use scien	itific name	es of plant	is.	Dominant _Species? _				
Tree Stratum (Plot size:	)		Absolute % Cover	Rel.Strat.	Indicator Status	Dominance Test works	heet:	
1				0.0%	Status	Number of Dominant Spe That are OBL, FACW, or I		(A)
2.				0.0%				
3,			•	0.0%		Total Number of Dominal Species Across All Strata:		(B)
4			0	0.0%				` ` '
_Sapling/Shrub Stratum_ (Plot size:	:	)	0	= Total Cove	er	Percent of dominant S That Are OBL, FACW,		)%(A/B)
1,			0	0.0%		Prevalence Index work	sheet:	
2			0	0.0%		Total % Cover or	f: Multiply by:	
3				0.0%		OBL speci es	0 x 1 =	0
4				0.0%		FACW species1	<u>00</u> x 2 =2	200
5				0.0%				0
_Herb Stratum_ (Plot size: 5 feet	)		0	= Total Cove	∍r			0
1 Phalaris arundinacea			100	100.0%	FACW	UPL speci es —	<u>0</u> x 5 = —	0
2.			0	0.0%		Column Totals:1	<u>00</u> (A) _2	200 <b>(B)</b>
3			0	0.0%		Prevalence Index	= B/A = <u>2.00</u>	<u> 10</u>
4			0	0.0%		Hydrophytic Vegetatio	n Indicators:	
5			0	0.0%		✓ 1 - Rapid Test for H		ın.
6				0.0%		✓ 2 - Dominance Test		
7				0.0%		✓ 3 - Prevalence Inde		
8.				0.0%		4 - Morphological A		e supporting
9 10				0.0%			s or on a separate sh	
11.			_	0.0%		5 - Wetland Non-Va	ascular Plants <sup>1</sup>	
11.			100	= Total Cove	 er	Problematic Hydrop	hytic Vegetation <sup>1</sup> (I	Explain)
Woody Vine Stratum (Plot size:			0	0.0%		Indicators of hydric s     be present, unless dist	oil and wetland hyd	rology must ic.
1, 2.			0	0.0%		Hydrophytic		
			0	= Total Cove	er .	Vegetation Present? Yes	● No ○	
% Bare Ground in Herb Stratum	ı: <u>0</u>	_						
Remarks:								

<sup>\*</sup>Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil Sampling Point: Sp-29 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) **Redox Features** Matrix Depth Loc2 Texture (inches) Color (moist) % Color (moist) % Type Remarks 10YR 3/2 93 С Silt Loam 0-6 10YR 3/6 Μ 95 С 6-10 10Y 2.5/1 5Y 4/6 5 Μ Silty Clay С 3/2 10YR 3/4 5 Silt Loam 10-20 10YR 95 M <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 Soils3: Histosol (A1) Sandy Redox (S5) 2 cm Muck (A10) Histic Epipedon (A2) Stripped Matrix (S6) Red Parent Material (TF2) Black Histic (A3) Loamy Mucky Mineral (F1) (except in MLRA 1) Other (Explain in Remarks) Loamy Gleyed Matrix (F2) ☐ Hydrogen Sulfide (A4) Depleted Below Dark Surface (A11) Depleted Matrix (F3) Redox Dark Surface (F6) ☐ Thick Dark Surface (A12) <sup>3</sup>Indicators of hydrophytic vegetation and Depleted Dark Surface (F7) Sandy Muck Mineral (S1) wetland hydrology must be present, unless disturbed or problematic. Redox depressions (F8) Sandy Gleyed Matrix (S4) Restrictive Layer (if present): Type: No O **Hydric Soil Present?** Yes Depth (inches): Remarks: Soil moist throughout Hydrology Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (minimum of two required) Surface Water (A1) Water-Stained Leaves (B9) (except MLRA Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) 1, 2, 4A, and 4B) High Water Table (A2) Saturation (A3) Salt Crust (B11) ☐ Drainage Patterns (B10) Aquatic Invertebrates (B13) Water Marks (B1) Dry Season Water Table (C2) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Saturation Visible on Aerial Imagery (C9) Drift deposits (B3) Oxidized Rhizospheres on Living Roots (C3) ✓ Geomorphic Position (D2) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Shallow Aquitard (D3) ☐ Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) ▼ FAC-neutral Test (D5) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Inundation Visible on Aerial Imagery (B7) Frost Heave Hummocks (D7) U Other (Explain in Remarks) Sparsely Vegetated Concave Surface (B8) Field Observations: Yes O No 💿 Surface Water Present? Depth (inches): Yes  $\bigcirc$ No 💿 Water Table Present? Depth (inches):

Saturation Present?

Remarks:

(includes capillary fringe)

No 💿

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

Depth (inches):

Yes O

Yes ● No ○

Wetland Hydrology Present?

Project/Site: North Mist Expansion				City/County:	Columbia C	ounty	Sampling Date: 30-S	ep-22
Applicant/Owner: Northwest Natural						State: OR	Sampling Point:	SP-30
Investigator(s): Sara Frank, Ed Strohn	naier			Section, To	wnship, Ra	ange: S 14 T 6	N R 5W	
Landform (hillslope, terrace, etc.):	Flat			Local relief	(concave, o	convex, none): flat	Slope:1	1.0 % / <u>0.6</u> °
Subregion (LRR): LRR A			Lat.: 46	.003673		Long.: -123.262131	Datum	n: WGS 1984
Soil Map Unit Name: 58 - Treharne s	ilt loam					NWI classif	ication: N/A	
re climatic/hydrologic conditions on	the site typ	pical for this ti	ime of year	? Yes	s • No	(If no, explain in I	Remarks.)	
Are Vegetation 🗌 , Soil 🗌	, or Hydro	logy 🗌 si	gnificantly	disturbed?	Are "N	lormal Circumstances" pi	resent? Yes	No $\bigcirc$
Are Vegetation, Soil	, or Hydrol	logy 🗌 na	aturally pro	blematic?	(If nec	eded, explain any answe	rs in Remarks.)	
Summary of Findings - At								tures, etc.
Hydrophytic Vegetation Present?	Yes	No O		ls tho	Sampled A	Aroa		
Hydric Soil Present?	Yes 💿	No O			•	Vac ( Na (		
Wetland Hydrology Present?	Yes 💿	No O		within	n a Wetland	17 103 0 110 0		
Remarks:								
Wetland confirmation between bla	ckberry thic	kets						
<b>VEGETATION</b> - Use scien	tific nam	es of plants	s.	DominantSpecies? _				
Tree Stratum (Plot size: 30 feet	)		Absolute % Cover	Rel.Strat.	Indicator Status	Dominance Test works  Number of Dominant Spe		
1			0	0.0%		That are OBL, FACW, or I		(A)
2,			0	0.0%		Total Number of Dominar	nt	
3			0	0.0%		Species Across All Strata:		(B)
4				0.0%		Percent of dominant S	nocios	
Sapling/Shrub Stratum (Plot size:	15 feet	)	0	= Total Cove	er	That Are OBL, FACW,		% (A/B)
1. Physocarpus capitatus			50	71.4%	FACW	Prevalence Index work	(sheet:	
2. Cornus alba var. occidentalis				28.6%	FACW	Total % Cover of		
3				0.0%		-		0
4 5.			0	0.0%				30_
J								45
Herb Stratum (Plot size: 5 feet	)		70	= Total Cove	ar ar	FACU speci es	^ ^ -	<u>20                                    </u>
1. Phalaris arundinacea			95	<b>✓</b> 82.6%	FACW	or E specifes	x	
2. Rubus armeniacus			15	13.0%	FAC	Column Totals:1	185 <b>(A)</b> 3	95 <b>(B)</b>
3 Pteridium aquilinum			5	4.3%	FACU	Prevalence Index	= B/A = <u>2.135</u>	<u>5</u>
4				0.0%		Hydrophytic Vegetation	n Indicators:	
5				0.0%		✓ 1 - Rapid Test for H		n
6				0.0%		✓ 2 - Dominance Test		
7				0.0%		✓ 3 - Prevalence Inde	ex is ≤3.0 <sup>1</sup>	
8.———				0.0%		4 - Morphological A		
10.—				0.0%		l	s or on a separate she	eet)
11.			_	0.0%		5 - Wetland Non-Va		
			115	= Total Cove	er		ohytic Vegetation <sup>1</sup> (E	-
Woody Vine Stratum (Plot size:			0	0.0%		1 Indicators of hydric s be present, unless dist	oil and wetland hydr turbed or problemati	ology must c.
2.			0	0.0%		Hydrophytic		
			0	= Total Cove	er	Vegetation Present? Yes	No	
% Bare Ground in Herb Stratum	: 0							
Remarks:								
No tree cover								

<sup>\*</sup>Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil Sampling Point: SP-30 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Matrix **Redox Features** Depth Loc2 Texture (inches) Color (moist) % Color (moist) Type Remarks 10YR 3/2 100 Silty Clay Loam 0-4 4-24 10YR 4/2 85 10YR 4/6 15 C. Μ 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 Soils3: Histosol (A1) Sandy Redox (S5) 2 cm Muck (A10) Histic Epipedon (A2) Stripped Matrix (S6) Red Parent Material (TF2) Black Histic (A3) Loamy Mucky Mineral (F1) (except in MLRA 1) Other (Explain in Remarks) Loamy Gleyed Matrix (F2) ☐ Hydrogen Sulfide (A4) Depleted Below Dark Surface (A11) Depleted Matrix (F3) Redox Dark Surface (F6) ☐ Thick Dark Surface (A12) <sup>3</sup>Indicators of hydrophytic vegetation and Depleted Dark Surface (F7) Sandy Muck Mineral (S1) wetland hydrology must be present, unless disturbed or problematic. Redox depressions (F8) Sandy Gleyed Matrix (S4) Restrictive Layer (if present): Type: No O **Hydric Soil Present?** Yes Depth (inches): Remarks: Hydrology Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (minimum of two required) Surface Water (A1) Water-Stained Leaves (B9) (except MLRA Water-Stained Leaves (B9) (MLRA 1, 2, 1, 2, 4A, and 4B) 4A, and 4B) High Water Table (A2) Saturation (A3) Salt Crust (B11) ☐ Drainage Patterns (B10) Aquatic Invertebrates (B13) Water Marks (B1) Dry Season Water Table (C2) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Saturation Visible on Aerial Imagery (C9) Drift deposits (B3) Oxidized Rhizospheres on Living Roots (C3) ✓ Geomorphic Position (D2) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Shallow Aquitard (D3) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) ▼ FAC-neutral Test (D5) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Inundation Visible on Aerial Imagery (B7) Frost Heave Hummocks (D7) U Other (Explain in Remarks) Sparsely Vegetated Concave Surface (B8) Field Observations: Yes  $\bigcirc$ No 💿 Surface Water Present? Depth (inches): Yes  $\bigcirc$ No 💿 Water Table Present? Depth (inches): Yes ● No ○ Wetland Hydrology Present? Saturation Present? Yes O No 💿 Depth (inches): (includes capillary fringe) Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

City/County: Coulmbia County Sampling Date: 30-Sep-22	c	Project	Project/Site: North Mist Expansion Proj
State: Oregon Sampling Point: SP-31		al	Applicant/Owner: Northwest Natural
Section, Township, Range: S 15 T 6N R 5W			Investigator(s): ES
Local relief (concave, convex, none): none Slope: 22.0 % / 12.4		:.): Hillside	Landform (hillslope, terrace, etc.):
Lat.: 46.00421972 Long.: -123.2622309 Datum: WGS 1984	Lat.: 46.		Subregion (LRR): LRR A
NWI classification: Ŋ/Ą		ne silt loam	Soil Map Unit Name: 58 - Treharne s
nis time of year?  Yes No (If no, explain in Remarks.)  significantly disturbed?  Are "Normal Circumstances" present?  No naturally problematic?  (If needed, explain any answers in Remarks.)  Showing sampling point locations, transects, important features, etc.	significantly o	, or Hydrology, or Hydrology	
Is the Sampled Area			Hydrophytic Vegetation Present?
within a Wetland? Yes ○ No ●		Yes O No 💿	Hydric Soil Present?
within a wettanu:		Yes ○ No •	Wetland Hydrology Present?
ants. Dominant ———————————————————————————————————	lants.	entific names of plan	VEGETATION - Use scien
Absolute Rel.Strat. Indicator Dominance Test worksheet:  % Cover Cover Status		)	Tree Stratum (Plot size:
Number of Dominant Species			1
0			2,
			3,
0 0.0%			4
= Total Cover	0	ize:)	Sapling/Shrub Stratum (Plot size:
0.0% Prevalence Index worksheet:			1,
			2
			3
			4 5.
			5
= Total Cover		)	Herb Stratum (Plot size: 5 feet
95 95.0% FACW OFL SPECIES 75 = 75	95		1. Phalaris arundinacea
5	5		2 <sub>.</sub> Urtica dioica
			3
Hydrophytic Vegetation Indicators:			4
│			5
2 - Dominance Test is > 50%			6
2 Providence Index is < 2.0.1			8.
0 0.0% 4 - Morphological Adaptations <sup>1</sup> (Provide supporting			9,
0 0.0% data in Remarks or on a separate sneet)			10.
0 0.0% 5 - Wetland Non-Vascular Plants 1			11.
= Total Cover	100	:)	Woody Vine Stratum (Plot size:
be present, unless disturbed or problematic.	0		1,
			2.
= Total Cover   Vegetation   Yes • No •	0		
		um:	% Bare Ground in Herb Stratum
		um:_ <u>0</u>	% Bare Ground in Herb Stratum Remarks:

<sup>\*</sup>Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil Sampling Point: SP-31 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Matrix **Redox Features** Depth Loc2 Texture (inches) Color (moist) % Color (moist) % Type Remarks 0-16 10YR 2/2 90 10YR С М Silty Clay Loam 3/3 10 10YR 20 С М 16-24 10YR 4/2 80 4/4 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 Soils3: Histosol (A1) Sandy Redox (S5) 2 cm Muck (A10) Histic Epipedon (A2) Stripped Matrix (S6) Red Parent Material (TF2) Black Histic (A3) Loamy Mucky Mineral (F1) (except in MLRA 1) Other (Explain in Remarks) Loamy Gleyed Matrix (F2) ☐ Hydrogen Sulfide (A4) Depleted Below Dark Surface (A11) Depleted Matrix (F3) Redox Dark Surface (F6) ☐ Thick Dark Surface (A12) <sup>3</sup>Indicators of hydrophytic vegetation and Depleted Dark Surface (F7) Sandy Muck Mineral (S1) wetland hydrology must be present, Redox depressions (F8) unless disturbed or problematic. Sandy Gleyed Matrix (S4) Restrictive Layer (if present): Type: No • Yes O **Hydric Soil Present?** Depth (inches): Remarks: Hydrology Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (minimum of two required) Surface Water (A1) Water-Stained Leaves (B9) (except MLRA Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) 1, 2, 4A, and 4B) High Water Table (A2) Saturation (A3) Salt Crust (B11) ☐ Drainage Patterns (B10) Aquatic Invertebrates (B13) Water Marks (B1) Dry Season Water Table (C2) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Saturation Visible on Aerial Imagery (C9) Drift deposits (B3) Oxidized Rhizospheres on Living Roots (C3) Geomorphic Position (D2) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Shallow Aquitard (D3) ☐ Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) ✓ FAC-neutral Test (D5) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Inundation Visible on Aerial Imagery (B7) Frost Heave Hummocks (D7) U Other (Explain in Remarks) Sparsely Vegetated Concave Surface (B8) Field Observations: Yes O No 💿 Surface Water Present? Depth (inches): Yes  $\bigcirc$ No 💿 Water Table Present? Depth (inches): Yes ○ No ● Wetland Hydrology Present? Saturation Present? No 💿 Yes O Depth (inches): (includes capillary fringe) Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

No hydrology present

Project/Site: North Mist Expansion Proj	ect	City	/County:	Coulmbia Co	ounty	Sampling Date: 30-S	ep-22
Applicant/Owner: Northwest Natural					State: Oregon	Sampling Point:	SP-32
Investigator(s): ES		s	ection, To	wnship, Ra	ange: S 15 T 6	N <b>R</b> _5W	
Landform (hillslope, terrace, etc.):	Toeslope	Lo	cal relief	(concave,	convex, none): concave	Slope:	5.0 <b>% /</b>
Subregion (LRR): LRR A		Lat.: 46.00	421972		Long.: -123.2622309	Datun	n: WGS 1984
Soil Map Unit Name: 58 - Treharne s	ilt loam				NWI classif	fication: N/A	
e climatic/hydrologic conditions on	the site typical for this t	ime of year?	Yes	No C	(If no, explain in	Remarks.)	
Are Vegetation $\ \square$ , Soil $\ \square$	, or Hydrology S	gnificantly dis	turbed?	Are "N	ormal Circumstances" p	resent? Yes 💿	No O
Are Vegetation 🔲 , Soil 🗌	, or Hydrology $\ \square$ n	aturally proble	matic?	(If nee	eded, explain any answe	ers in Remarks.)	
Summary of Findings - At	tach site map sho	wing sam	pling p	oint loc	ations, transects,	, important fea	tures, etc.
Hydrophytic Vegetation Present?	Yes  No		latha	Communad A		<u> </u>	
Hydric Soil Present?	Yes   No			Sampled A	Vac ( Na (		
Wetland Hydrology Present?	Yes   No		withir	a Wetland	1? 163 C NO C		
Remarks:							
VEGETATION - Use scien	tific names of plant	S. D	ominant				
4-1		Absolute R			Dominance Test works	sheet:	
Tree Stratum (Plot size: 30 feet	)	% Cover Co	,	Status	Number of Dominant Spe		4-3
		20 20		FACW	That are OBL, FACW, or	FAC:3_	(A)
2. Salix lasiandra 3.			0.0%	FACW	Total Number of Domina		(5)
4		0	0.0%		Species Across All Strata	:3	(B)
Sapling/Shrub Stratum (Plot size:	15 feet		Total Cov	er	Percent of dominant S That Are OBL, FACW,		% (A/B)
1.		0	0.0%		Prevalence Index worl	vshoot:	
2.			0.0%		Total % Cover of		
3.			0.0%		OBL species		0
4.			0.0%		FACW species	<del></del>	40
5		0	0.0%		FAC speciles	20 x 3 = 6	50
(5)	,	0 =	Total Cov	er	FACU speci es	0 x 4 =	0
Herb Stratum (Plot size: 5 feet	)	100	100.00	FACIAL	UPL species —	0 x 5 =	0
1. Phalaris arundinacea 2.		100 🔽	100.0%	FACW	Column Totals:	140 <b>(A)</b> 3	<u>00</u> <b>(B)</b>
2			0.0%		Prevalence Index	= B/A = 2.14	3
4			0.0%				
5		0	0.0%		Hydrophytic Vegetation  1 - Rapid Test for I		_
6		_0	0.0%		2 - Dominance Tes	, , ,	1
7			0.0%		✓ 3 - Prevalence Inde		
8.			0.0%		4 - Morphological A		cupporting
9,			0.0%			s or on a separate sh	
10.		_	0.0%		5 - Wetland Non-V	ascular Plants <sup>1</sup>	
11,			Total Cov	er	Problematic Hydro	phytic Vegetation <sup>1</sup> (E	xplain)
Woody Vine Stratum (Plot size:	)				1 Indicators of hydric	soil and wetland hydr	rology must
1		0	0.0%		be present, unless dis	turbed or problemati	с.
2		0	0.0%		Hydrophytic Vegetation		
		= -	Total Cov	er	Present? Yes	● No ○	
% Bare Ground in Herb Stratum	:_0						
Remarks:							

<sup>\*</sup>Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil Sampling Point: SP-32 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Matrix **Redox Features** Depth Loc2 Texture (inches) Color (moist) % Color (moist) % Type Remarks 0-7 10YR 3/2 80 RM PL Silty Clay Loam 10YR 3/6 20 10YR 10YR С М 7-16 3/2 80 4/4 20 Silty Clay Loam С 3/2 10YR 4/6 10 16-20 10YR 90 M Silty Clay Loam <sup>1</sup>Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains <sup>2</sup>Location: PL=Pore Lining. M=Matrix Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils3: Histosol (A1) Sandy Redox (S5) 2 cm Muck (A10) Histic Epipedon (A2) Stripped Matrix (S6) Red Parent Material (TF2) Black Histic (A3) Loamy Mucky Mineral (F1) (except in MLRA 1) Other (Explain in Remarks) Loamy Gleyed Matrix (F2) ☐ Hydrogen Sulfide (A4) Depleted Below Dark Surface (A11) Depleted Matrix (F3) Redox Dark Surface (F6) ☐ Thick Dark Surface (A12) <sup>3</sup>Indicators of hydrophytic vegetation and Depleted Dark Surface (F7) Sandy Muck Mineral (S1) wetland hydrology must be present, unless disturbed or problematic. Redox depressions (F8) Sandy Gleyed Matrix (S4) Restrictive Layer (if present): Type: No O **Hydric Soil Present?** Yes Depth (inches): Remarks: Hydrology Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (minimum of two required) Surface Water (A1) Water-Stained Leaves (B9) (except MLRA Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) 1, 2, 4A, and 4B) High Water Table (A2) Saturation (A3) Salt Crust (B11) ☐ Drainage Patterns (B10) Aquatic Invertebrates (B13) Water Marks (B1) Dry Season Water Table (C2) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Saturation Visible on Aerial Imagery (C9) Drift deposits (B3) Oxidized Rhizospheres on Living Roots (C3) ✓ Geomorphic Position (D2) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Shallow Aquitard (D3) ☐ Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) ▼ FAC-neutral Test (D5) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Inundation Visible on Aerial Imagery (B7) Frost Heave Hummocks (D7) U Other (Explain in Remarks) Sparsely Vegetated Concave Surface (B8) Field Observations: Yes O No 💿 Surface Water Present? Depth (inches): Yes  $\bigcirc$ No 💿 Water Table Present? Depth (inches): Yes ● No ○ Wetland Hydrology Present? Saturation Present? No 💿 Yes O Depth (inches): (includes capillary fringe) Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Project/Site: North Mist Expansion				City/County:	Columbia Co	ounty	Sampling Date: 30-S	Sep-22
Applicant/Owner: Northwest Natural						State: OR	Sampling Point:	SP-33
Investigator(s): Sara Frank, Ed Strohmaier				Section, To	wnship, Ra	ange: S 14 T	6N <b>R</b> 5W	
Landform (hillslope, terrace, etc.):	Swale			Local relief	(concave, c	convex, none): concav	ve Slope:	5.0 <b>% /</b> 2.9 °
Subregion (LRR): LRR A			 Lat.: 46	.003919		Long.: -123.262052	 	n: WGS 1984
Soil Map Unit Name: 58 - Treharne s							sification: N/A	
re climatic/hydrologic conditions on		ical for this t	time of year	? Yes	. ● No ○			
Are Vegetation, Soil	, or Hydrold		ignificantly			ormal Circumstances		No O
Are Vegetation, Soil	, or Hydrold		aturally pro			eded, explain any ansv	p	
Summary of Findings - At	-							itures etc
Hydrophytic Vegetation Present?		No O				utions, transcot		
Hydric Soil Present?		No O		Is the	Sampled A			
Wetland Hydrology Present?		No O		within	a Wetland	<sub>i?</sub> Yes  ● No ○		
Remarks:								
Wetland plot of pair								
<b>VEGETATION</b> - Use scien	itific name	es of plant	:s.	Dominant				
Tree Stratum (Plot size: 30 feet	)		Absolute % Cover	Species? . Rel.Strat. Cover	Indicator Status	Dominance Test wo		
			45	<b>✓</b> 52.9%	FAC	Number of Dominant : That are OBL, FACW,		(A)
2. Salix scouleriana			40	<b>✓</b> 47.1%	FAC			` ` `
3			0	0.0%		Total Number of Domi Species Across All Stra		(B)
4			0	0.0%				_
_Sapling/Shrub Stratum_ (Plot size:	: 15 feet	)	85	= Total Cove	er	Percent of dominan That Are OBL, FACV		0% (A/B)
1,			0	0.0%		Prevalence Index w	orksheet:	
2				0.0%		Total % Cove	r of: Multiply by:	
3				0.0%		OBL species	x 1 =	0
4				0.0%		_		70
5				0.0%		FAC species _		270
Herb Stratum (Plot size: 5 feet	)			= Total Cove	er	FACU species -	^ ~	0
1 Phalaris arundinacea			35	<b>✓</b> 87.5%	FACW	UPL species -	^ 3	0
2. Rubus armeniacus			5	12.5%	FAC	Column Totals: _	<u>125</u> <b>(A)</b> <u>3</u>	340 <b>(B)</b>
3			0	0.0%		Prevalence Inde	ex = B/A = <u>2.72</u>	0
4			0	0.0%		Hydrophytic Vegeta	tion Indicators:	
5				0.0%			r Hydrologic Vegetatio	n
6			_	0.0%		✓ 2 - Dominance T		
7			_	0.0%		✓ 3 - Prevalence II	ndex is ≤3.0 <sup>1</sup>	
8.———				0.0%		4 - Morphologica	al Adaptations 1 (Provid	e supportina
10				0.0%		data in Rema	rks or on a separate sh	
11			0	0.0%		5 - Wetland Non		
11.			40	= Total Cove	er	Problematic Hyd	rophytic Vegetation <sup>1</sup> (I	Explain)
Woody Vine Stratum (Plot size:			0	0.0%		<sup>1</sup> Indicators of hydri be present, unless of	ic soil and wetland hyd disturbed or problemati	rology must ic.
1, 2.			0	0.0%		Hydrophytic		
			0	= Total Cove	er		s • No O	
% Bare Ground in Herb Stratum	ı: <sub>60</sub>					Present:	, , , , , ,	
Remarks:								
No shrubs								
THO STILLEDS								

<sup>\*</sup>Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil Sampling Point: SP-33 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Matrix **Redox Features** Depth Loc2 Texture (inches) Color (moist) % Color (moist) Type Remarks 10YR 3/2 100 Silty Clay Loam 0-6 6-18 10YR 4/2 10YR 4/6 10 C. PL 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 Soils3: Histosol (A1) Sandy Redox (S5) 2 cm Muck (A10) Histic Epipedon (A2) Stripped Matrix (S6) Red Parent Material (TF2) Black Histic (A3) Loamy Mucky Mineral (F1) (except in MLRA 1) Other (Explain in Remarks) Loamy Gleyed Matrix (F2) ☐ Hydrogen Sulfide (A4) Depleted Below Dark Surface (A11) Depleted Matrix (F3) Redox Dark Surface (F6) ☐ Thick Dark Surface (A12) <sup>3</sup>Indicators of hydrophytic vegetation and Depleted Dark Surface (F7) Sandy Muck Mineral (S1) wetland hydrology must be present, unless disturbed or problematic. Redox depressions (F8) Sandy Gleyed Matrix (S4) Restrictive Layer (if present): Type: Root No O **Hydric Soil Present?** Yes Depth (inches): 8 Remarks: Unable to dig past 18" due to root restriction Hydrology Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (minimum of two required) Surface Water (A1) Water-Stained Leaves (B9) (except MLRA Water-Stained Leaves (B9) (MLRA 1, 2, 1, 2, 4A, and 4B) 4A, and 4B) High Water Table (A2) Saturation (A3) Salt Crust (B11) ☐ Drainage Patterns (B10) Aquatic Invertebrates (B13) Water Marks (B1) Dry Season Water Table (C2) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Saturation Visible on Aerial Imagery (C9) Drift deposits (B3) Oxidized Rhizospheres on Living Roots (C3) Geomorphic Position (D2) Presence of Reduced Iron (C4) Algal Mat or Crust (B4) Shallow Aquitard (D3) ☐ Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) ✓ FAC-neutral Test (D5) ✓ Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Inundation Visible on Aerial Imagery (B7) Frost Heave Hummocks (D7) U Other (Explain in Remarks) Sparsely Vegetated Concave Surface (B8) Field Observations: Yes O No 💿 Surface Water Present? Depth (inches): Yes  $\bigcirc$ No 💿 Water Table Present? Depth (inches): Yes ● No ○ Wetland Hydrology Present? Saturation Present? Yes O No 💿 Depth (inches): (includes capillary fringe) Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Project/Site: North Mist Expansion				City/County:	Columbia C	County Sampling Date: 30-Sep-22
Applicant/Owner: Northwest Natural						State: OR Sampling Point: SP-34
investigator(s): Sara Frank, Ed Strohm	aier			Section, To	ownship, R	ange: S 14
Landform (hillslope, terrace, etc.): §	Swale			Local relief	(concave,	convex, none): flat Slope:5.0 % /2
Subregion (LRR): LRR A				.003882		Long.: -123.262074 Datum: WGS 1984
oil Map Unit Name: 58 - Treharne si	lt loam			.003002		NWI classification: N/A
				2 Va	s • No	
e climatic/hydrologic conditions on t Are Vegetation $\ \square \ $ , Soil $\ \square$			-	-		
	, or Hydro			disturbed?		
- , –	, or Hydro	<b>.</b>	iturally pro		•	eded, explain any answers in Remarks.)
			wing sa	mpling p	oint loc	ations, transects, important features, etc
Hydrophytic Vegetation Present?	Yes O	No 💿		Is the	Sampled A	Area
Hydric Soil Present? Yes No				withi	n a Wetland	d? Yes ○ No •
Wetland Hydrology Present?	Yes O	No 💿			Tu Treclain	<del>-</del> -
Remarks:						
Upland of paired plot						
VECETATION						
<b>VEGETATION -</b> Use scient	tific nam	es of plants	5.	DominantSpecies?		
Tree Stratum (Plot size: 30 feet	)		Absolute % Cover	Rel.Strat.	Indicator Status	Dominance Test worksheet:
at Alice to the	·		60	<b>✓</b> 85.7%	FAC	Number of Dominant Species That are OBL, FACW, or FAC: 3 (A)
2. Salix scouleriana			10	14.3%	FAC	That are obt., FACW, or FAC.
3.			0	0.0%		Total Number of Dominant Species Across All Strata: 3 (B)
4.			0	0.0%		Species Across All Strata.
			70	= Total Cov	er	Percent of dominant Species That Are ORL FACW or FAC: 100.0% (A/B)
Sapling/Shrub Stratum (Plot size:	15 feet	)		_		That Are OBL, FACW, or FAC: 100.0% (A/B)
1. Acer circinatum			50	76.9%	FAC	Prevalence Index worksheet:
2. Cornus nuttallii			5	7.7%	FACU	Total % Cover of: Multiply by:
			10	15.4%	FACU	OBL species 0 x 1 = 0
4				0.0%		FACW species $0 \times 2 = 0$
5			0	0.0%		FAC species $145 \times 3 = 435$
Herb Stratum (Plot size: 5 feet	)		65	= Total Cov	er	FACU species $\frac{20}{3}$ x 4 = $\frac{80}{3}$
1 Polystichum munitum			5	16.7%	FACU	UPL species $0 \times 5 = 0$
Tolmiea menziesii			20	✓ 66.7%	FAC	Column Totals: <u>165</u> (A) <u>515</u> (B)
3 Heracleum maximum			5	16.7%	FAC	Prevalence Index = B/A = 3.121
4			0	0.0%		Hydrophytic Vegetation Indicators:
5			0	0.0%		1 - Rapid Test for Hydrologic Vegetation
6				0.0%		✓ 2 - Dominance Test is > 50%
7				0.0%		3 - Prevalence Index is ≤3.0 <sup>1</sup>
8.—			0	0.0%		4 - Morphological Adaptations <sup>1</sup> (Provide supporting
9.————————————————————————————————————				0.0%		data in Remarks or on a separate sheet)
11.			0	0.0%		5 - Wetland Non-Vascular Plants 1
11.			30	= Total Cov	er	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
Woody Vine Stratum (Plot size:				□ a aa⁄		Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1				0.0%		Hydrophytic
2				0.0%		Vegetation Vac Na (A)
			0	= Total Cov	er	Present? Yes U NO U
% Bare Ground in Herb Stratum:	<b>C</b> E					

<sup>\*</sup>Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil Sampling Point: SP-34 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) Loc2 **Texture** Remarks (inches) % % Type 0-6 10YR 3/2 100 Silty Clay Loam 10YR 95 10YR 6-24 3/3 3/6 С Μ 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 Soils3: Histosol (A1) Sandy Redox (S5) 2 cm Muck (A10) Histic Epipedon (A2) Stripped Matrix (S6) Red Parent Material (TF2) Black Histic (A3) Loamy Mucky Mineral (F1) (except in MLRA 1) Other (Explain in Remarks) Loamy Gleyed Matrix (F2) ☐ Hydrogen Sulfide (A4) Depleted Below Dark Surface (A11) Depleted Matrix (F3) Redox Dark Surface (F6) ☐ Thick Dark Surface (A12) <sup>3</sup>Indicators of hydrophytic vegetation and Depleted Dark Surface (F7) wetland hydrology must be present, Sandy Muck Mineral (S1) unless disturbed or problematic. Redox depressions (F8) Sandy Gleyed Matrix (S4) Restrictive Layer (if present): Type: Yes 🔾 **Hydric Soil Present?** Depth (inches): Remarks: **Hydrology Wetland Hydrology Indicators:** Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (minimum of two required) Surface Water (A1) Water-Stained Leaves (B9) (except MLRA Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) 1, 2, 4A, and 4B) High Water Table (A2) Saturation (A3) Salt Crust (B11) Drainage Patterns (B10) Aquatic Invertebrates (B13) Water Marks (B1) Dry Season Water Table (C2) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Saturation Visible on Aerial Imagery (C9) ☐ Drift deposits (B3) Oxidized Rhizospheres on Living Roots (C3) Geomorphic Position (D2) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Shallow Aquitard (D3) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) FAC-neutral Test (D5) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Inundation Visible on Aerial Imagery (B7) Frost Heave Hummocks (D7) U Other (Explain in Remarks) Sparsely Vegetated Concave Surface (B8) **Field Observations:** Yes 🔾 No 💿 Surface Water Present? Depth (inches): Yes  $\bigcirc$ No 💿 Water Table Present? Depth (inches): Yes ○ No ● **Wetland Hydrology Present?** Saturation Present? Yes 🔾 No 💿 Depth (inches): (includes capillary fringe) Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

No Hydrology present

Project/Site: North Mist Expansion				City/County:	Columbia Co	ounty	Sampling Date: 30-Se	ep-22
Applicant/Owner: Northwest Natural						State: OR	Sampling Point:	SP-35
Investigator(s): Sara Frank, Ed Strohmaier				Section, Township, Range: S 14 T 6N R 5W				
Landform (hillslope, terrace, etc.):	Swale			Local relief	(concave, c	convex, none): flat	Slope:15	5.0 % / <u>8.5</u> °
Subregion (LRR): LRR A			Lat.: 46	.00375		Long.: -123.262303	 Datum	n: WGS 1984
Soil Map Unit Name: 58 - Treharne s	silt loam						ication: N/A	
re climatic/hydrologic conditions on		cal for this ti	me of year	? Yes	s • No			
Are Vegetation, Soil	, or Hydrolo	gy 🗌 siç	gnificantly (	disturbed?	Are "N	lormal Circumstances" pi	resent? Yes •	No O
Are Vegetation, Soil	, or Hydrolo	av 🗌 na	nturally pro	blematic?		eded, explain any answe		
Summary of Findings - At						-		tures, etc.
Hydrophytic Vegetation Present?	Yes 💿 I	No O		Is the	Sampled A			
Hydric Soil Present? Yes  No					•	Van (a) Na (		
Wetland Hydrology Present? Yes No				within	n a Wetland	l? 163 © 140 ©		
Remarks:								
Steep drop into swale off of loggin	ng road.							
<b>VEGETATION</b> - Use scien	ntific name	s of plants	ŝ.	Dominant				
Tree Stratum (Plot size:	)		Absolute % Cover		Indicator Status	Dominance Test works		
1			0_	0.0%		Number of Dominant Spe That are OBL, FACW, or I		(A)
2,			0	0.0%		Total Number of Dominar	nt	
3,			0	0.0%		Species Across All Strata:		(B)
4			0	0.0%		Percent of dominant S	nocios	
_Sapling/Shrub Stratum_ (Plot size:	: 15 feet	)	0	= Total Cove	er	That Are OBL, FACW,		% (A/B)
1. Cornus nuttallii			15	37.5%	FACU	Prevalence Index work	(sheet:	
2			5	12.5%	FAC	Total % Cover of		
			<u>20</u> 0	50.0%	FAC			0
5.			0	0.0%			95 x 2 = 1	
<u>.                                    </u>			40	= Total Cove		I .		<u>05</u>
Herb Stratum (Plot size: 5 feet	)		40	- Total Cove	<b>71</b>	17,00 3,000,03	^ ^ -	0
1. Rubus armeniacus			10	9.5%	FAC	or E specifes —	x 3 -	
2. Phalaris arundinacea			95	90.5%	FACW	Column Totals:1	145 (A) 3!	<u>55</u> <b>(B)</b>
3			0	0.0%		Prevalence Index	= B/A = 2.448	3
4				0.0%		Hydrophytic Vegetatio	n Indicators:	
5			0 0	0.0%		1 - Rapid Test for H	lydrologic Vegetation	า
6			0	0.0%		2 - Dominance Test	t is > 50%	
8			0	0.0%		✓ 3 - Prevalence Inde	ex is ≤3.0 <sup>1</sup>	
9			0	0.0%		4 - Morphological A		
10.			0	0.0%		l	s or on a separate she	∍et)
11			0	0.0%		5 - Wetland Non-Va		
			105	= Total Cove	er e	1	ohytic Vegetation <sup>1</sup> (E	•
Woody Vine Stratum (Plot size:		-	0	0.0%		1 Indicators of hydric s be present, unless dist	oil and wetland hydr turbed or problemation	ology must c.
2			0	0.0%		Hydrophytic		
			0	= Total Cove	er	Vegetation Present? Yes	● No ○	
% Bare Ground in Herb Stratum	ı: <u>0</u>							
Remarks:								
No tree cover								

<sup>\*</sup>Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil Sampling Point: SP-35 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Matrix **Redox Features** Depth Loc2 Texture (inches) Color (moist) Color (moist) % Type Remarks 10YR 2/2 98 7.5YR 2 С М Silty Clay Loam 0-4 4/6 90 10YR С M 4-24 10YR 4/2 4/6 10 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 Soils3: Histosol (A1) Sandy Redox (S5) 2 cm Muck (A10) Histic Epipedon (A2) Stripped Matrix (S6) Red Parent Material (TF2) Black Histic (A3) Loamy Mucky Mineral (F1) (except in MLRA 1) Other (Explain in Remarks) Loamy Gleyed Matrix (F2) ☐ Hydrogen Sulfide (A4) Depleted Below Dark Surface (A11) Depleted Matrix (F3) Redox Dark Surface (F6) ☐ Thick Dark Surface (A12) <sup>3</sup>Indicators of hydrophytic vegetation and Depleted Dark Surface (F7) Sandy Muck Mineral (S1) wetland hydrology must be present, unless disturbed or problematic. Redox depressions (F8) Sandy Gleyed Matrix (S4) Restrictive Layer (if present): Type: No O **Hydric Soil Present?** Yes Depth (inches): Remarks: Hydrology Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (minimum of two required) Surface Water (A1) Water-Stained Leaves (B9) (except MLRA Water-Stained Leaves (B9) (MLRA 1, 2, 1, 2, 4A, and 4B) 4A, and 4B) High Water Table (A2) Saturation (A3) Salt Crust (B11) ☐ Drainage Patterns (B10) Aquatic Invertebrates (B13) Water Marks (B1) Dry Season Water Table (C2) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Saturation Visible on Aerial Imagery (C9) Drift deposits (B3) Oxidized Rhizospheres on Living Roots (C3) ✓ Geomorphic Position (D2) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Shallow Aquitard (D3) ☐ Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) FAC-neutral Test (D5) ✓ Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Inundation Visible on Aerial Imagery (B7) Frost Heave Hummocks (D7) U Other (Explain in Remarks) Sparsely Vegetated Concave Surface (B8) Field Observations: Yes O No 💿 Surface Water Present? Depth (inches): Yes  $\bigcirc$ No 💿 Water Table Present? Depth (inches): Yes ● No ○ Wetland Hydrology Present? Saturation Present? Yes O No 💿 Depth (inches): (includes capillary fringe) Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

roject/Site: North Mist Expansion Project	City/County: Coulmbia	County Sampling Date: 30-Sep-22
pplicant/Owner: Northwest Natural		State: Oregon Sampling Point: SP-36
nvestigator(s): ES	Section, Township,	Range: S 15 T 6N R 5W
Landform (hillslope, terrace, etc.): Toeslope	Local relief (concave	e, convex, none): none Slope: 4.0 % / 2.3
ubregion (LRR): LRR A	Lat.: 46.00376987	Long.: -123.2622968 Datum: WGS 1984
oil Map Unit Name: 58 - Treharne silt loam		NWI classification: N/A
climatic/hydrologic conditions on the site typical for	this time of year? Yes   No	
re Vegetation  , Soil , or Hydrology	_	'Normal Circumstances" present? Yes  No
re Vegetation , Soil , or Hydrology [		needed, explain any answers in Remarks.)
	,	cations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No		·
Hydric Soil Present? Yes No •		Vac Alo (
Vetland Hydrology Present? Yes ○ No ●	within a Wetlan	nd? Yes 🔾 NO 😇
Remarks:	•	
<b>/EGETATION -</b> Use scientific names of p	Diants. Dominant Species?	
(0) 5 10 20 5 1	Absolute Rel.Strat. Indicato	Dominance Test worksheet:
Tree Stratum (Plot size: 30 feet )	% Cover Cover Status	Number of Dominant Species
1 Frangula purshiana		That are OBL, FACW, or FAC: 0 (A)
2_Acer circinatum 3.		Total Number of Dominant
3 4.	0 0.0%	Species Across All Strata: 0 (B)
4,	0 = Total Cover	Percent of dominant Species
Sapling/Shrub Stratum (Plot size: 15 feet )		That Are OBL, FACW, or FAC: 0.0% (A/B)
1, Rubus armeniacus	0 0.0% FAC	Prevalence Index worksheet:
2. Oemleria cerasiformis	0 0.0% FACU	Total % Cover of: Multiply by:
3	0	0BL speci es 0 x 1 = 0
4	0	FACW species x 2 =0
5	00.0%	FAC speciles x 3 =
/Plot size: 5 feet	0 = Total Cover	FACU species $0 \times 4 = 0$
Herb Stratum (Plot size: 5 feet )	0	UPL speci es x 5 =0
1,	0 0.0%	Column Totals: (A) (B)
2		Prevalence Index = B/A = 0.000
4	0 0 000	
5.		Hydrophytic Vegetation Indicators:
6	0 0.0%	1 - Rapid Test for Hydrologic Vegetation 2 - Dominance Test is > 50%
7		2 - Dominance Test is > 50%  3 - Prevalence Index is ≤3.0 ¹
8.		-   _ `
9		4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
10.		□ 5 - Wetland Non-Vascular Plants <sup>1</sup>
11.	0 = Total Cover	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
Woody Vine Stratum (Plot size:)		<sup>1</sup> Indicators of hydric soil and wetland hydrology must
	0 0.0%	be present, unless disturbed or problematic.
1		Hydrophytic
1,	0 🔲 0.0%	
1. 2.		Vegetation Var O Na (a)
	0	

<sup>\*</sup>Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil Sampling Point: SP-36 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Matrix **Redox Features** Depth Loc2 **Texture** (inches) Color (moist) Color (moist) % Type Remarks cl ay nodul es 0-12 10YR 3/2 98 10YR С М Silt Loam 4/6 1 10YR 5/3 С M 1 <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 Soils3: Histosol (A1) Sandy Redox (S5) 2 cm Muck (A10) Histic Epipedon (A2) Stripped Matrix (S6) Red Parent Material (TF2) Black Histic (A3) Loamy Mucky Mineral (F1) (except in MLRA 1) Other (Explain in Remarks) Loamy Gleyed Matrix (F2) ☐ Hydrogen Sulfide (A4) Depleted Below Dark Surface (A11) Depleted Matrix (F3) Redox Dark Surface (F6) ☐ Thick Dark Surface (A12) <sup>3</sup>Indicators of hydrophytic vegetation and Depleted Dark Surface (F7) Sandy Muck Mineral (S1) wetland hydrology must be present, unless disturbed or problematic. Redox depressions (F8) Sandy Gleyed Matrix (S4) Restrictive Layer (if present): Type: root No • Yes O **Hydric Soil Present?** Depth (inches): 12 Remarks: two matirx colors in the horizon Hydrology Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (minimum of two required) Surface Water (A1) Water-Stained Leaves (B9) (except MLRA Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) 1, 2, 4A, and 4B) High Water Table (A2) Saturation (A3) Salt Crust (B11) ☐ Drainage Patterns (B10) Aquatic Invertebrates (B13) Water Marks (B1) Dry Season Water Table (C2) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Saturation Visible on Aerial Imagery (C9) Drift deposits (B3) Oxidized Rhizospheres on Living Roots (C3) Geomorphic Position (D2) Presence of Reduced Iron (C4) ☐ Algal Mat or Crust (B4) Shallow Aquitard (D3) ☐ Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) FAC-neutral Test (D5) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Inundation Visible on Aerial Imagery (B7) Frost Heave Hummocks (D7) U Other (Explain in Remarks) Sparsely Vegetated Concave Surface (B8) Field Observations: Yes O No 💿 Surface Water Present? Depth (inches): Yes  $\bigcirc$ No 💿 Water Table Present? Depth (inches): Yes ○ No ● Wetland Hydrology Present? Saturation Present? Yes O No 💿 Depth (inches): (includes capillary fringe)

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

No hydrology present

Project/Site: North Mist Expansion Project	City/County: Coulmbia	County Sampling Date: 30-Sep-22		
Applicant/Owner: Northwest Natural		State: Oregon Sampling Point: SP-37		
Investigator(s): ES				
Landform (hillslope, terrace, etc.): Toeslope		, convex, none): undulating Slope: 6.0 % / 3.		
		Long.: -123.26199845 Datum: WGS 1984		
oil Map Unit Name: 37 - Natal silt clay loam	40.00337200			
·	s time of year? Yes   No	NWI classification: N/A		
e climatic/hydrologic conditions on the site typical for this  Are Vegetation	, , , , , , , , , , , , , , , , , , ,			
		eeded, explain any answers in Remarks.)		
	nowing sampling point loo	cations, transects, important features, etc.		
	Is the Sampled	Area		
· • • · · ·	within a Wetlan	<sub>nd?</sub> Yes ◉ No ○		
Remarks:				
North end of wetland 3				
VEGETATION - Use scientific names of plar	nts. Dominant			
(Plot size: 30 feet	Species?  Absolute Rel.Strat. Indicator	Dominance Test worksheet:		
Tree Stratum (Plot size: 30 feet )	<u>% Cover Cover Status</u> 40	Number of Dominant Species		
1. Alnus rubra 2.		That are OBL, FACW, or FAC:3(A)		
3.		Total Number of Dominant		
4.	0 0.0%	Species Across All Strata: 4 (B)		
*	40 = Total Cover	Percent of dominant Species		
Sapling/Shrub Stratum (Plot size: 15 feet )		That Are OBL, FACW, or FAC: 75.0% (A/B)		
1. Rosa pisocarpa	60	Prevalence Index worksheet:		
2. Rubus ursinus	15 <b></b> _20.0%FACU	Total % Cover of: Multiply by:		
3		0BL species <u>80</u> x 1 = <u>80</u>		
4		FACW species x 2 =0		
5	0	FAC speciles110 x 3 =330		
Herb Stratum (Plot size: 5 feet )	75 = Total Cover	FACU speci es $\frac{25}{}$ x 4 = $\frac{100}{}$		
1 Carex obnupta	80 <b>✓</b> 80.0% OBL	UPL species $0 \times 5 = 0$		
2 Equisetum arvense	10 10.0% FAC	Column Totals: <u>215</u> (A) <u>510</u> (B)		
3 Pteridium aquilinum	10	Prevalence Index = B/A =2.372_		
4	0 0.0%	Hadaankatis Varakatisa Indiantasa		
5		Hydrophytic Vegetation Indicators:		
6	00.0%	☐ 1 - Rapid Test for Hydrologic Vegetation  ✓ 2 - Dominance Test is > 50%		
7		✓ 3 - Prevalence Index is ≤3.0 <sup>1</sup>		
8.—	0	4 - Morphological Adaptations <sup>1</sup> (Provide supporting		
9		data in Remarks or on a separate sheet)		
10.		5 - Wetland Non-Vascular Plants 1		
11.		Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)		
Woody Vine Stratum (Plot size:)		<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.		
1	0			
2.		Hydrophytic Vegetation		
	0 = Total Cover	Present? Yes • No		
% Bare Ground in Herb Stratum։ ႐				

<sup>\*</sup>Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil Sampling Point: SP-37 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) **Redox Features** Matrix Depth Loc2 Texture (inches) Color (moist) % Color (moist) % Type Remarks 0-9 10YR 3/1 93 10YR С Silt Loam 4/6 Μ 9-15 2.5Y 98 10YR 2 С М 4/1 4/6 Silty Clay <sup>1</sup>Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains <sup>2</sup>Location: PL=Pore Lining. M=Matrix Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils3: Histosol (A1) Sandy Redox (S5) 2 cm Muck (A10) Histic Epipedon (A2) Stripped Matrix (S6) Red Parent Material (TF2) Black Histic (A3) Loamy Mucky Mineral (F1) (except in MLRA 1) Other (Explain in Remarks) Loamy Gleyed Matrix (F2) ☐ Hydrogen Sulfide (A4) Depleted Below Dark Surface (A11) Depleted Matrix (F3) ✓ Redox Dark Surface (F6) ☐ Thick Dark Surface (A12) <sup>3</sup>Indicators of hydrophytic vegetation and Depleted Dark Surface (F7) Sandy Muck Mineral (S1) wetland hydrology must be present, unless disturbed or problematic. Redox depressions (F8) Sandy Gleyed Matrix (S4) Restrictive Layer (if present): Type: roots No O **Hydric Soil Present?** Yes Depth (inches): 15 Remarks: Hydrology Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (minimum of two required) Surface Water (A1) Water-Stained Leaves (B9) (except MLRA Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) 1, 2, 4A, and 4B) High Water Table (A2) Saturation (A3) Salt Crust (B11) ☐ Drainage Patterns (B10) Aquatic Invertebrates (B13) Water Marks (B1) Dry Season Water Table (C2) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Saturation Visible on Aerial Imagery (C9) Drift deposits (B3) Oxidized Rhizospheres on Living Roots (C3) ✓ Geomorphic Position (D2) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Shallow Aquitard (D3) ☐ Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) ▼ FAC-neutral Test (D5) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Inundation Visible on Aerial Imagery (B7) Frost Heave Hummocks (D7) U Other (Explain in Remarks) Sparsely Vegetated Concave Surface (B8) Field Observations: Yes O No 💿 Surface Water Present? Depth (inches): Yes  $\bigcirc$ No 💿 Water Table Present? Depth (inches): Yes ● No ○ Wetland Hydrology Present? Saturation Present? Yes O No 💿 Depth (inches): (includes capillary fringe) Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

roject/Site: North Mist Expansion		City/County:	Columbia Co	ounty Sampling Date: 30-Sep-22		
applicant/Owner: Northwest Natural				State: OR Sampling Point: SP-38		
nvestigator(s): Sara Frank, Ed Strohmaier		Section, Township, Range: S 14 T 6N R 5W				
Landform (hillslope, terrace, etc.): Toeslope		Local relief	(concave, c	convex, none): hummocky Slope: 30.0 % / 16.7		
Subregion (LRR): LRR A	 Lat.: 46	.005626		Long.: -123.262027 Datum: WGS 1984		
oil Map Unit Name: 37 - Natal silty clay loam				NWI classification: N/A		
e climatic/hydrologic conditions on the site typical for th	is time of year	· Yes	. ● No ○			
Are Vegetation . , Soil . , or Hydrology .	significantly			Iormal Circumstances" present? Yes No		
Are Vegetation . , Soil . , or Hydrology .	naturally pro			F		
3 — 1 — 1 33 —				eded, explain any answers in Remarks.) ations, transects, important features, etc.		
Hydrophytic Vegetation Present? Yes No •				· · · · · · · · · · · · · · · · · · ·		
Hydric Soil Present? Yes No •		Is the	Sampled A			
Wetland Hydrology Present? Yes No •		within	a Wetland	d? Yes ○ No		
Remarks:						
Upland plot of pair along logging road						
· · · · · · · · · · · · · · · · · · ·						
<b>VEGETATION</b> - Use scientific names of pla	ınts.	Dominant				
Tree Stratum (Plot size: 30 feet )	Absolute % Cover		Indicator Status	Dominance Test worksheet:		
1. Pseudotsuga menziesii	40	✓ 58.8%	FACU	Number of Dominant Species That are OBL, FACW, or FAC: (A)		
2. Alnus rubra	20	<b>✓</b> 29.4%	FAC	T. C. D. C.		
3. Thuja plicata	8	11.8%	FAC	Total Number of Dominant Species Across All Strata:5(B)		
4	0	0.0%				
Sapling/Shrub Stratum (Plot size: 15 feet )	68	= Total Cove	er	Percent of dominant Species That Are OBL, FACW, or FAC: 40.0% (A/B)		
1_Acer circinatum	5	33.3%	FAC	Prevalence Index worksheet:		
2. Rosa gymnocarpa		66.7%	FACU	Total % Cover of: Multiply by:		
3		0.0%		0BL species x 1 =0		
4		0.0%		FACW species x 2 =0		
5		0.0%		FAC species 33 x 3 = 99		
Herb Stratum (Plot size: 5 feet )	15	= Total Cove	er	FACU speci es $\frac{130}{2}$ x 4 = $\frac{520}{2}$		
1 Pteridium aquilinum	15	18.8%	FACU	UPL species $0 \times 5 = 0$		
2. Rubus ursinus		18.8%	FACU	Col umn Total s: <u>163</u> (A) <u>619</u> (B)		
3 Polystichum munitum	50	62.5%	FACU	Prevalence Index = B/A = 3.798		
4	0	0.0%		Hydrophytic Vegetation Indicators:		
5	0	0.0%		1 - Rapid Test for Hydrologic Vegetation		
6		0.0%		2 - Dominance Test is > 50%		
7	_	0.0%		3 - Prevalence Index is ≤3.0 ¹		
8.		0.0%		4 - Morphological Adaptations <sup>1</sup> (Provide supporting		
9		0.0%		data in Remarks or on a separate sheet)		
10.		0.0%		☐ 5 - Wetland Non-Vascular Plants <sup>1</sup>		
11,	80	= Total Cove		Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)		
Woody Vine Stratum (Plot size:)		0.0%		Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.		
12		0.0%		Hydrophytic		
2		= Total Cove		Vegetation Vac Na (8)		
		- 10141 0010	л ,	Present? Yes Uno U		
% Bare Ground in Herb Stratum: _0			İ			

<sup>\*</sup>Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil Sampling Point: SP-38 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Matrix **Redox Features** Depth Loc2 Texture (inches) Color (moist) % Color (moist) % Type Remarks Organic material 10YR 2/1 100 Silt Loam 0-1 1-10 10YR 3/2 100 Silt Loam <sup>1</sup>Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains <sup>2</sup>Location: PL=Pore Lining. M=Matrix Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils3: 2 cm Muck (A10) Histosol (A1) Sandy Redox (S5) Histic Epipedon (A2) Stripped Matrix (S6) Red Parent Material (TF2) Black Histic (A3) Loamy Mucky Mineral (F1) (except in MLRA 1) Other (Explain in Remarks) Loamy Gleyed Matrix (F2) ☐ Hydrogen Sulfide (A4) Depleted Below Dark Surface (A11) Depleted Matrix (F3) Redox Dark Surface (F6) ☐ Thick Dark Surface (A12) <sup>3</sup>Indicators of hydrophytic vegetation and Depleted Dark Surface (F7) Sandy Muck Mineral (S1) wetland hydrology must be present, unless disturbed or problematic. Redox depressions (F8) Sandy Gleyed Matrix (S4) Restrictive Layer (if present): Type: root No 💿 **Hydric Soil Present?** Yes 🔾 Depth (inches): 10 Remarks: Unable to dig past 10 inches. Organic material present in first soil horizon Hydrology Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (minimum of two required) Surface Water (A1) Water-Stained Leaves (B9) (except MLRA Water-Stained Leaves (B9) (MLRA 1, 2, 1, 2, 4A, and 4B) 4A, and 4B) High Water Table (A2) Saturation (A3) Salt Crust (B11) ☐ Drainage Patterns (B10) Aquatic Invertebrates (B13) Water Marks (B1) Dry Season Water Table (C2) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Saturation Visible on Aerial Imagery (C9) Drift deposits (B3) Oxidized Rhizospheres on Living Roots (C3) Geomorphic Position (D2) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Shallow Aquitard (D3) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) FAC-neutral Test (D5) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Inundation Visible on Aerial Imagery (B7) Frost Heave Hummocks (D7) U Other (Explain in Remarks) Sparsely Vegetated Concave Surface (B8) Field Observations: Yes O No 💿 Surface Water Present? Depth (inches): Yes O No 💿 Water Table Present? Depth (inches): Yes ○ No ● Wetland Hydrology Present? Saturation Present? Yes O No 💿 Depth (inches): (includes capillary fringe) Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

No Hydrology present

Applicant/Owner: Northwest Natural					
nvestigator(s): Sara Frank Ed Strohmaier					State: OR Sampling Point: SP-39
The configuration (c):			Section, To	wnship, Ra	ange: S 14 T 6N R 5W
Landform (hillslope, terrace, etc.): Swale			Local relief	(concave, c	convex, none): concave Slope: 10.0 % / 5.7
Gubregion (LRR): LRR A		Lat.: 46			Long.: -123.262746 Datum: WGS 1984
soil Map Unit Name: 58 - Treharne silt loam					NWI classification: PSSC
e climatic/hydrologic conditions on the site typ	pical for this t	ime of year	? Yes	. • No	
Are Vegetation . , Soil . , or Hydrol		ignificantly		Are "N	ormal Circumstances" present? Yes  No
Are Vegetation, Soil, or Hydrol		aturally pro			eded, explain any answers in Remarks.)
	•	wing sa	mpling p	oint loc	ations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes	No O		Is the	Sampled A	Area
Hydric Soil Present? Yes	No 💿		within	a Wetland	<sub>d?</sub> Yes ○ No •
Wetland Hydrology Present? Yes	No 💿				•
Remarks:			1.1	.1.	
West side of logging road. Wetland weaves the	rough dense	douglas firs	s, blackberry,	etc.	
<b>VEGETATION</b> - Use scientific nam	es of nlant	·s	Dominant		
			Species?	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: 30 feet )		% Cover		Status	Number of Dominant Species
1 <sub>.</sub> Malus fusca		60	100.0%	FACW	That are OBL, FACW, or FAC:3 (A)
2			0.0%		Total Number of Dominant
3,			0.0%		Species Across All Strata:5(B)
4			0.0%		Percent of dominant Species
Sapling/Shrub Stratum (Plot size: 15 feet	)	60	= Total Cove	er	That Are OBL, FACW, or FAC: 60.0% (A/B)
1. Frangula purshiana		20	66.7%	FAC	Prevalence Index worksheet:
2. Symphoricarpos albus		10	33.3%	FACU	Total % Cover of: Multiply by:
3		0	0.0%		0BL species 0 x 1 = 0
4		0	0.0%		FACW species <u>65</u> x 2 = <u>130</u>
5		0	0.0%		FAC species30 x 3 =90
(Plateine, Ffeet		30	= Total Cove	er	FACU species $35$ x 4 = $140$
Herb Stratum (Plot size: 5 feet )		20	<b>✓</b> 50.0%	FACIL	UPL species $0 \times 5 = 0$
Rubus ursinus     Polystichum munitum			12.5%	FACU FACU	Column Totals: 130 (A) 360 (B)
Rubus armeniacus		10	25.0%	FAC	Prevalence Index = B/A = 2.769
4 Equisetum telmateia		5	12.5%	FACW	
5		0	0.0%		Hydrophytic Vegetation Indicators:
6		0	0.0%		☐ 1 - Rapid Test for Hydrologic Vegetation  ✓ 2 - Dominance Test is > 50%
7			0.0%		3 - Prevalence Index is ≤ 3.0 <sup>1</sup>
8.———			0.0%		l <u> </u>
9			0.0%		4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
10.—			0.0%		5 - Wetland Non-Vascular Plants 1
11.		40	= Total Cove		Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
	)		- Total oov		<sup>1</sup> Indicators of hydric soil and wetland hydrology must
1.		0	0.0%		be present, unless disturbed or problematic.
2.		0	0.0%		Hydrophytic
		0	= Total Cove	er	Vegetation Present? Yes No
% Bare Ground in Herb Stratum: 60					
Pemarks:					
Remarks:					

<sup>\*</sup>Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil Sampling Point: SP-39 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Matrix **Redox Features** Depth Loc2 Texture (inches) Color (moist) % Color (moist) % Type Remarks 0-9 10YR 3/2 100 Silty Clay Loam 9-24 10YR 3/3 100 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 Soils3: Histosol (A1) Sandy Redox (S5) 2 cm Muck (A10) Histic Epipedon (A2) Stripped Matrix (S6) Red Parent Material (TF2) Black Histic (A3) Loamy Mucky Mineral (F1) (except in MLRA 1) Other (Explain in Remarks) Loamy Gleyed Matrix (F2) ☐ Hydrogen Sulfide (A4) Depleted Below Dark Surface (A11) Depleted Matrix (F3) Redox Dark Surface (F6) ☐ Thick Dark Surface (A12) <sup>3</sup>Indicators of hydrophytic vegetation and Depleted Dark Surface (F7) Sandy Muck Mineral (S1) wetland hydrology must be present, unless disturbed or problematic. Redox depressions (F8) Sandy Gleyed Matrix (S4) Restrictive Layer (if present): Type: No 💿 **Hydric Soil Present?** Yes 🔾 Depth (inches): Remarks: No redox Hydrology Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (minimum of two required) Surface Water (A1) Water-Stained Leaves (B9) (except MLRA Water-Stained Leaves (B9) (MLRA 1, 2, 1, 2, 4A, and 4B) 4A, and 4B) High Water Table (A2) Saturation (A3) Salt Crust (B11) ☐ Drainage Patterns (B10) Aquatic Invertebrates (B13) Water Marks (B1) Dry Season Water Table (C2) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Saturation Visible on Aerial Imagery (C9) Drift deposits (B3) Oxidized Rhizospheres on Living Roots (C3) Geomorphic Position (D2) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Shallow Aquitard (D3) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) FAC-neutral Test (D5) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Inundation Visible on Aerial Imagery (B7) Frost Heave Hummocks (D7) U Other (Explain in Remarks) Sparsely Vegetated Concave Surface (B8) Field Observations: Yes O No 💿 Surface Water Present? Depth (inches): Yes  $\bigcirc$ No 💿 Water Table Present? Depth (inches): Yes ○ No ● Wetland Hydrology Present? Saturation Present? Yes  $\bigcirc$ No 💿 Depth (inches): (includes capillary fringe) Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Remarks: No hyrdology

		ity/ oounty.	Columbia Co	Sounty Sampling Date: 04-Oct-22	
				State: OR Sampling Point: SP-40	
		Section, To	wnship, Ra	range: S 14 T 6N R 5W	
		Local relief (	(concave, c	convex, none): _concave Slope:10.0 % /	5.7 °
	Lat.: 46.	.002139		Long.: -123.262724 Datum: WGS 198	4
n				NWI classification: PSSC	
e typical for this	time of year?	? Yes	● No ○		
	-		Are "N	Normal Circumstances" present? Yes  No	
vdrology	naturally pro	blematic?	(If ne	eded, explain any answers in Remarks )	
					c.
• No O				<u> </u>	
		Is the	Sampled A		
● No ○		within	a Wetland	d? Yes ♥ No ○	
names of plan	ıts.	Dominant			
	Absolute		Indicator	Dominance Test worksheet:	
			Status	Number of Dominant Species	
				That are OBL, FACW, or FAC: (A)	
	•			Total Number of Dominant	
				Species Across All Strata: 2 (B)	
			er	Percent of dominant Species That Are ORL FACILITY TARK 100 0% (A/R)	
)				That are OBL, FACW, or FAC: 100.078 (A/S)	
	0	0.0%		Prevalence Index worksheet:	
				Total % Cover of: Multiply by:	
	•				
)		- Total Cove	:1	, , , , , , , , , , , , , , , , , , ,	
	20	33.3%	FACW	UPL species X 5 =	
	40	$\overline{}$	OBL		
				Prevalence Index = B/A = 1.333	
				Hydrophytic Vegetation Indicators:	
				✓ 1 - Rapid Test for Hydrologic Vegetation	
	_	0.0%			
	0	0.0%		_	
		0.0%			3
				1	
١		- Total Cove	:1		
	0	0.0%		be present, unless disturbed or problematic.	
		0.0%		Hydrophytic	
		= Total Cove		Vegetation Present? Yes No	
	0	= TOTAL COVE	<b>!</b>		
		= Total Cove	:1	Present? Yes WO	
				Present? 163 C NO C	
	n ee typical for this ydrology site map sh  No N	Lat.: 46.  In  Ite typical for this time of year's ydrology  significantly of ydrology naturally professite map showing sale  No N	Section, To Local relief (  Lat.: 46.002139  In the typical for this time of year? Yes ydrology significantly disturbed?  ydrology naturally problematic?  Site map showing sampling port  No No State No State No Species?  Absolute % Cover Rel.Strat.  % Cover Cover  0 0.0%	Section, Township, R Local relief (concave, Lat.: 46.002139  n le typical for this time of year? Yes No (lift new policy of the significantly disturbed? Are "No ydrology and significantly disturbed? (If new policy of the site map showing sampling point local is the Sampled within a Wetland No (lift new policy of the site map showing sampling point local is the Sampled within a Wetland No (lift new policy of the site of the	Section, Township, Range: S 14

<sup>\*</sup>Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil Sampling Point: SP-40 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Matrix **Redox Features** Depth Loc2 Texture (inches) Color (moist) Color (moist) % Type Remarks 7.5YR 99 Silty Clay Loam 0-1 3/2 7.5YR 4/6 1 Μ С М 1-20 Gley 1 3/N 60 5YR 4/6 25 Sandy Clay 2.5/1 С 15 5YR M Sandy Clay <sup>1</sup>Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains <sup>2</sup>Location: PL=Pore Lining. M=Matrix Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils3: Histosol (A1) 2 cm Muck (A10) Histic Epipedon (A2) Stripped Matrix (S6) Red Parent Material (TF2) Black Histic (A3) Loamy Mucky Mineral (F1) (except in MLRA 1) Other (Explain in Remarks) Loamy Gleyed Matrix (F2) ☐ Hydrogen Sulfide (A4) Depleted Below Dark Surface (A11) Depleted Matrix (F3) ✓ Redox Dark Surface (F6) ☐ Thick Dark Surface (A12) <sup>3</sup>Indicators of hydrophytic vegetation and □ Depleted Dark Surface (F7) Sandy Muck Mineral (S1) wetland hydrology must be present, unless disturbed or problematic. Redox depressions (F8) Sandy Gleyed Matrix (S4) Restrictive Layer (if present): Type: No O **Hydric Soil Present?** Yes Depth (inches): Remarks: Three colors in the second horizon Hydrology Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (minimum of two required) Surface Water (A1) Water-Stained Leaves (B9) (except MLRA Water-Stained Leaves (B9) (MLRA 1, 2, 1, 2, 4A, and 4B) 4A, and 4B) High Water Table (A2) Saturation (A3) Salt Crust (B11) ☐ Drainage Patterns (B10) Aquatic Invertebrates (B13) Water Marks (B1) Dry Season Water Table (C2) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Saturation Visible on Aerial Imagery (C9) Drift deposits (B3) Oxidized Rhizospheres on Living Roots (C3) Geomorphic Position (D2) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Shallow Aquitard (D3) ☐ Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) ✓ FAC-neutral Test (D5) ✓ Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Inundation Visible on Aerial Imagery (B7) Frost Heave Hummocks (D7) U Other (Explain in Remarks) Sparsely Vegetated Concave Surface (B8) Field Observations: Yes O No 💿 Surface Water Present? Depth (inches): Yes  $\bigcirc$ No 💿 Water Table Present? Depth (inches): Yes ● No ○ Wetland Hydrology Present? Saturation Present? Yes O No 💿 Depth (inches): (includes capillary fringe) Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Project/Site: North Mist Expansion		City/County:	Columbia Co	ounty Sampling Date: 04-Oct-22
Applicant/Owner: Northwest Natural				State: OR Sampling Point: SP-41
Investigator(s): Sara Frank, Ed Strohmaier		Section, To	wnship, Ra	ange: S 14 T 6N R 5W
Landform (hillslope, terrace, etc.): Swale		Local relief	(concave, c	convex, none): concave Slope: 8.0 % / 4.6
Subregion (LRR): LRR A	 Lat.: 46	.002239		Long.: -123.262702 Datum: WGS 1984
ioil Map Unit Name: 58 - Treharne silt loam				NWI classification: PSSC
e climatic/hydrologic conditions on the site typical for this	time of year	2 Yes	• No C	
	ignificantly			Iormal Circumstances" present? Yes No
				F
Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ n	aturally pro	biematic?	(If nee	eded, explain any answers in Remarks.)
Summary of Findings - Attach site map sho	owing sa	mpling p	oint loc	ations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No •		Is the	Sampled A	Area
Hydric Soil Present? Yes ○ No ●			<del>-</del>	Vac O Na 📵
Wetland Hydrology Present? Yes ○ No ●		within	a Wetland	19 103 0 110 0
Remarks:		•		
Upland of paired plot				
<b>VEGETATION</b> - Use scientific names of plant	ts.	DominantSpecies?		
Tree Stratum (Plot size: 30 feet )	Absolute % Cover	Rel.Strat.	Indicator Status	Dominance Test worksheet:
1. Pseudotsuga menziesii		<b>✓</b> 100.0%	FACU	Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)
2		0.0%		That are obt., Frow, of Fro.
3,		0.0%		Total Number of Dominant Species Across All Strata: 5 (B)
4	0	0.0%		species vicios vin otrata.
Sapling/Shrub Stratum (Plot size: 15 feet )	75	= Total Cove	er	Percent of dominant Species That Are OBL, FACW, or FAC: 20.0% (A/B)
1. Symphoricarpos albus	10	<b>✓</b> 50.0%	FACU	Prevalence Index worksheet:
2. Frangula purshiana	10	<b>✓</b> 50.0%	FAC	Total % Cover of: Multiply by:
3	0	0.0%		0BL species <u>0</u> x 1 = <u>0</u>
4		0.0%		FACW species5 x 2 =10
5		0.0%		FAC species15 x 3 =45
_Herb Stratum_ (Plot size: _5 feet)	20	= Total Cove	er	FACU species $\frac{130}{}$ x 4 = $\frac{520}{}$
1 Pteridium aquilinum	15	<b>✓</b> 27.3%	FACU	UPL species $0 \times 5 = 0$
Equisetum telmateia	- <del>- 15</del> - 5	9.1%	FACW	Col umn Total s: <u>150</u> (A) <u>575</u> (B)
3. Urtica dioica	5	9.1%	FAC	Prevalence Index = B/A = 3.833
4. Rubus ursinus	25	<b>✓</b> 45.5%	FACU	Hydrophytic Vegetation Indicators:
5. Polystichum munitum	5	9.1%	FACU	1 - Rapid Test for Hydrologic Vegetation
6		0.0%		2 - Dominance Test is > 50%
7		0.0%		3 - Prevalence Index is ≤3.0 ¹
8.	_	0.0%		4 - Morphological Adaptations <sup>1</sup> (Provide supporting
9 10		0.0%		data in Remarks or on a separate sheet)
11	0	0.0%		☐ 5 - Wetland Non-Vascular Plants <sup>1</sup>
11,	55	= Total Cove	er	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
Woody Vine Stratum (Plot size:)				Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1,	0	0.0%		be present, unless disturbed or problematic.
2		0.0%		Hydrophytic Vegetation
	0	= Total Cove	er	Present? Yes No •
% Bare Ground in Herb Stratum: 45				

<sup>\*</sup>Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil Sampling Point: SP-41 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Matrix **Redox Features** Depth Loc2 Texture (inches) Color (moist) % Color (moist) % Type Remarks 10YR 2/2 100 Silt Loam 0-1 1-20 10YR 3/3 100 Silt Loam <sup>1</sup>Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains <sup>2</sup>Location: PL=Pore Lining. M=Matrix Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils3: 2 cm Muck (A10) Histosol (A1) Sandy Redox (S5) Histic Epipedon (A2) Stripped Matrix (S6) Red Parent Material (TF2) Black Histic (A3) Loamy Mucky Mineral (F1) (except in MLRA 1) Other (Explain in Remarks) Loamy Gleyed Matrix (F2) ☐ Hydrogen Sulfide (A4) Depleted Below Dark Surface (A11) Depleted Matrix (F3) Redox Dark Surface (F6) ☐ Thick Dark Surface (A12) <sup>3</sup>Indicators of hydrophytic vegetation and Depleted Dark Surface (F7) Sandy Muck Mineral (S1) wetland hydrology must be present, unless disturbed or problematic. Redox depressions (F8) Sandy Gleyed Matrix (S4) Restrictive Layer (if present): Type: No 💿 **Hydric Soil Present?** Yes 🔾 Depth (inches): Remarks: No redox Hydrology Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (minimum of two required) Surface Water (A1) Water-Stained Leaves (B9) (except MLRA Water-Stained Leaves (B9) (MLRA 1, 2, 1, 2, 4A, and 4B) 4A, and 4B) High Water Table (A2) Saturation (A3) Salt Crust (B11) ☐ Drainage Patterns (B10) Aquatic Invertebrates (B13) Water Marks (B1) Dry Season Water Table (C2) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Saturation Visible on Aerial Imagery (C9) Drift deposits (B3) Oxidized Rhizospheres on Living Roots (C3) Geomorphic Position (D2) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Shallow Aquitard (D3) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) FAC-neutral Test (D5) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Inundation Visible on Aerial Imagery (B7) Frost Heave Hummocks (D7) U Other (Explain in Remarks) Sparsely Vegetated Concave Surface (B8) Field Observations: Yes O No 💿 Surface Water Present? Depth (inches): Yes  $\bigcirc$ No 💿 Water Table Present? Depth (inches): Yes ○ No ● Wetland Hydrology Present? Saturation Present? Yes O No 💿 Depth (inches): (includes capillary fringe) Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

No hydrology present

Project/Site: North Mist Expansion			City/County:	Columbia Co	ounty Sa	ampling Date: 04-00	ct-22
Applicant/Owner: Northwest Natural					State: OR	Sampling Point:	SP-42
Investigator(s): Sara Frank, Ed Strohn	naier		Section, To	wnship, Ra	ange: S 14 T 6N	<b>R</b> _5W	
Landform (hillslope, terrace, etc.):	Swale		Local relief (	(concave, c	convex, none): concave	Slope: 5	.0 % /°
Subregion (LRR): LRR A		 Lat.: 46	.002226		Long.: -123.262711	 Datum	: WGS 1984
Soil Map Unit Name: 58 - Treharne s	silt loam				NWI classific		
re climatic/hydrologic conditions on		s time of year	? Yes	● No C			
Are Vegetation, Soil	, or Hydrology	significantly		Are "N	ormal Circumstances" pre		No O
Are Vegetation, Soil	, or Hydrology	naturally pro			eded, explain any answers		
Summary of Findings - At					•		ures, etc.
Hydrophytic Vegetation Present?	Yes ● No ○		La the	2lod /			
Hydric Soil Present?	Yes   No			Sampled A	Vac ( No (		
Wetland Hydrology Present?	Yes   No		within	a Wetland	i? tes © NO C		
Remarks:							
Wetland of paired plots							
VEGETATION - Use scien	tific names of pla	nts.	Dominant Species?				
Tree Stratum (Plot size: 30 feet	)	Absolute % Cover		Indicator Status	Dominance Test worksh		
1			0.0%	012122	Number of Dominant Speci That are OBL, FACW, or FA		(A)
2.			0.0%			-	_
3		_	0.0%		Total Number of Dominant Species Across All Strata:	1	(B)
4		0	0.0%				
Sapling/Shrub Stratum (Plot size:		0	= Total Cove	er	Percent of dominant Spo That Are OBL, FACW, or		% (A/B)
1		0	0.0%		Prevalence Index works	heet:	<del>,</del>
2,			0.0%		Total % Cover of:	Multiply by:	
3			0.0%				5
4			0.0%		FACW species 100	0 x 2 =20	00
5			0.0%		FAC species0		<u> </u>
_Herb Stratum_ (Plot size: 5 feet	)	0	= Total Cove	r	FACU speci es 0		<u>)                                    </u>
1 Phalaris arundinacea		90	<b>✓</b> 85.7%	FACW	UPL species 0		0
Oenanthe sarmentosa			4.8%	OBL	Column Totals: 109	<u>5</u> (A)20	<u>05</u> <b>(B)</b>
3 Impatiens capensis		10	9.5%	FACW	Prevalence Index =	B/A = 1.952	<u>!</u>
4		0	0.0%		Hydrophytic Vegetation	Indicators:	
5		0	0.0%		✓ 1 - Rapid Test for Hy		•
6			0.0%		✓ 2 - Dominance Test is		
7		_	0.0%		✓ 3 - Prevalence Index		
8.———			0.0%		4 - Morphological Ad		sunnortina
9			0.0%			or on a separate she	
11.			0.0%		5 - Wetland Non-Vas	cular Plants 1	
11.		105	= Total Cove	r	Problematic Hydroph	ytic Vegetation <sup>1</sup> (Ex	xplain)
Woody Vine Stratum (Plot size:		0	0.0%		1 Indicators of hydric so be present, unless distu	il and wetland hydro rbed or problemation	ology must
2			0.0%		Hydrophytic		
-		0	= Total Cove	r	Vegetation Present? Yes	No O	
% Bare Ground in Herb Stratum	: 0						
Remarks:							
No trees or shubs within plot							
'							

<sup>\*</sup>Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil Sampling Point: SP-42 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Matrix **Redox Features** Depth Loc2 Texture (inches) Color (moist) % Color (moist) % Type Remarks no redox 10YR 2/2 100 Silty Clay Loam 0-6 6-20 10YR 4/2 85 10YR 4/6 5 С Μ Silty Clay 2.5/1 С 5YR 10 M Silty Clay <sup>1</sup>Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains <sup>2</sup>Location: PL=Pore Lining. M=Matrix Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils3: Histosol (A1) Sandy Redox (S5) 2 cm Muck (A10) Histic Epipedon (A2) Stripped Matrix (S6) Red Parent Material (TF2) Black Histic (A3) Loamy Mucky Mineral (F1) (except in MLRA 1) Other (Explain in Remarks) Loamy Gleyed Matrix (F2) ☐ Hydrogen Sulfide (A4) Depleted Below Dark Surface (A11) ✓ Depleted Matrix (F3) Redox Dark Surface (F6) ☐ Thick Dark Surface (A12) <sup>3</sup>Indicators of hydrophytic vegetation and Depleted Dark Surface (F7) Sandy Muck Mineral (S1) wetland hydrology must be present, unless disturbed or problematic. Redox depressions (F8) Sandy Gleyed Matrix (S4) Restrictive Layer (if present): Type: No O **Hydric Soil Present?** Yes Depth (inches): Remarks: Three colors in the second horizon Hydrology Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (minimum of two required) Surface Water (A1) Water-Stained Leaves (B9) (except MLRA Water-Stained Leaves (B9) (MLRA 1, 2, 1, 2, 4A, and 4B) 4A, and 4B) High Water Table (A2) Saturation (A3) Salt Crust (B11) ☐ Drainage Patterns (B10) Aquatic Invertebrates (B13) Water Marks (B1) Dry Season Water Table (C2) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Saturation Visible on Aerial Imagery (C9) Drift deposits (B3) Oxidized Rhizospheres on Living Roots (C3) ✓ Geomorphic Position (D2) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Shallow Aquitard (D3) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) ▼ FAC-neutral Test (D5) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Inundation Visible on Aerial Imagery (B7) Frost Heave Hummocks (D7) U Other (Explain in Remarks) Sparsely Vegetated Concave Surface (B8) Field Observations: Yes O No 💿 Surface Water Present? Depth (inches): Yes  $\bigcirc$ No 💿 Water Table Present? Depth (inches): Yes ● No ○ Wetland Hydrology Present?

Saturation Present?

Remarks:

(includes capillary fringe)

Yes O

No 💿

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

Depth (inches):

Are Vegetation , Soil  Summary of Findings - Att  Hydrophytic Vegetation Present?  Hydric Soil Present?  Wetland Hydrology Present?  Remarks:	loam the site typ , or Hydrol , or Hydrol	ogy 🗌 s	Lat.: 46 time of year	Local relief .001913  ? Yes disturbed? blematic? mpling p	(concave, c	NWI classification: N/A  (If no, explain in Remarks.)	SP-43  -%/ WGS 1984 No O
Landform (hillslope, terrace, etc.):  Subregion (LRR): LRR A  Soil Map Unit Name: 58-Treharne silt re climatic/hydrologic conditions on the Vegetation , Soil    Are Vegetation , Soil    Summary of Findings - Att Hydrophytic Vegetation Present?  Hydric Soil Present?  Wetland Hydrology Present?  Remarks:	loam the site typ , or Hydrol , or Hydrol tach site Yes Yes	oical for this ogy	Lat.: 46 time of year	Local relief .001913  ? Yes disturbed? blematic? mpling p	(concave, c	Convex, none): Concave Slope: Datum:  NWI classification: N/A  (If no, explain in Remarks.)  ormal Circumstances" present? Yes  eded, explain any answers in Remarks.)	WGS 1984
Subregion (LRR): LRR A  Soil Map Unit Name: 58-Treharne silt re climatic/hydrologic conditions on to Are Vegetation , Soil  Are Vegetation , Soil  Summary of Findings - Att Hydrophytic Vegetation Present? Hydric Soil Present?  Wetland Hydrology Present?  Remarks:	the site typ , or Hydrol , or Hydrol cach site Yes Yes	ogy	time of year significantly naturally pro	.001913 ? Yes disturbed? blematic? mpling p	No ○ Are "N	Long.: -123.262568 Datum:  NWI classification: N/A  (If no, explain in Remarks.)  ormal Circumstances" present? Yes  eded, explain any answers in Remarks.)	WGS 1984
Soil Map Unit Name: 58-Treharne silt re climatic/hydrologic conditions on the Are Vegetation , Soil , Soil  Are Vegetation , Soil  Summary of Findings - Att  Hydrophytic Vegetation Present?  Hydric Soil Present?  Wetland Hydrology Present?  Remarks:	the site typ , or Hydrol , or Hydrol cach site Yes Yes	ogy	time of year significantly naturally pro	? Yes disturbed? blematic? mpling p	Are "N	NWI classification: N/A  (If no, explain in Remarks.)  ormal Circumstances" present? Yes	No O
Soil Map Unit Name: 58-Treharne silt re climatic/hydrologic conditions on the Are Vegetation , Soil , Soil  Are Vegetation , Soil  Summary of Findings - Att  Hydrophytic Vegetation Present?  Hydric Soil Present?  Wetland Hydrology Present?  Remarks:	the site typ , or Hydrol , or Hydrol cach site Yes Yes	ogy	time of year significantly naturally pro	? Yes disturbed? blematic? mpling p	Are "N	NWI classification: N/A  (If no, explain in Remarks.)  ormal Circumstances" present? Yes	
re climatic/hydrologic conditions on to the Are Vegetation	the site typ , or Hydrol , or Hydrol cach site Yes Yes	ogy	significantly on aturally pro	disturbed? blematic? mpling p	Are "N	(If no, explain in Remarks.)  ormal Circumstances" present? Yes  eded, explain any answers in Remarks.)	
Are Vegetation , Soil  Summary of Findings - Att  Hydrophytic Vegetation Present?  Hydric Soil Present?  Wetland Hydrology Present?  Remarks:	, or Hydrologach site	ogy    remap she	naturally pro	blematic? mpling p	(If nee	eded, explain any answers in Remarks.)	
Summary of Findings - Att  Hydrophytic Vegetation Present?  Hydric Soil Present?  Wetland Hydrology Present?  Remarks:	each site	e map she		mpling p			ures, etc.
Summary of Findings - Att  Hydrophytic Vegetation Present?  Hydric Soil Present?  Wetland Hydrology Present?  Remarks:	each site	e map she		mpling p			ures, etc.
Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present? Remarks:	Yes • Yes •	No O				<u> </u>	
Wetland Hydrology Present? Remarks:				Is the	Sampled A		
Remarks:	Yes 🔾	No (•)			a Wetland	Vac Ala	
		110 😇		withir	a vvetiano		
<b>VEGETATION</b> - Use scient	tific name	as of plan	tc	Dominant			
AFOLIVITOM - OSE SCIENT	Line Hallle	cs of high		_Species?	Landin 1	Deminence Test weeks to at	
Tree Stratum (Plot size: 30ft	)		Absolute % Cover		Indicator Status	Dominance Test worksheet:	
4 Dd-t				<b>✓</b> 50.0%	FACU	Number of Dominant Species That are OBL, FACW, or FAC: 3	_ (A)
2, Frangula purshiana			20	50.0%	FAC	Total Number of Dominant	
3				0.0%		Species Across All Strata: 4	_ (B)
4			0	0.0%		Percent of dominant Species	
_Sapling/Shrub Stratum_ (Plot size:	15ft	)	40	= Total Cov	er	That Are OBL, FACW, or FAC: 75.0%	(A/B)
1. Rubus armeniacus			50	90.9%	FAC	Prevalence Index worksheet:	
2. Rubus laciniatus				9.1%	FACU	Total % Cover of: Multiply by:	
3			_	0.0%		0BL species 0 x 1 = 0	
4 5.				0.0%		FACW species	
5						FAC speciles 80 x 3 = 24	
Herb Stratum (Plot size: 5ft	)		55	= Total Cove	<b>21</b>	17.00 Spool 03	0
1. Phalaris arundinacea			50	<b>✓</b> 83.3%	FACW	ore species — x 5 = —	
2. Equisetum arvense			10	16.7%	FAC	Column Totals: <u>155</u> (A) <u>44</u>	<u>0</u> (B)
3				0.0%		Prevalence Index = B/A = 2.839	_
4				0.0%		Hydrophytic Vegetation Indicators:	
5				0.0%		1 - Rapid Test for Hydrologic Vegetation	
6				0.0%		✓ 2 - Dominance Test is > 50%	
8				0.0%		3 - Prevalence Index is ≤3.0 <sup>1</sup>	
9			•	0.0%		4 - Morphological Adaptations <sup>1</sup> (Provide	
10.———				0.0%		data in Remarks or on a separate shee	et)
11.———				0.0%		b - Wetland Non-Vascular Plants  Problematic Hydrophytic Vegetation <sup>1</sup> (Ex	nloin)
(5)		,	60	= Total Cove	er		•
Woody Vine Stratum (Plot size:			^	0.004		Indicators of hydric soil and wetland hydro be present, unless disturbed or problematic.	logy must
1,				0.0%		Hydrophytic	
2						Vegetation Var A Na O	
% Rare Ground in Horh Stratum.	0		0	= Total Cove	;ı	Present? Yes No	
% Bare Ground in Herb Stratum:	U	_					
Remarks:							

<sup>\*</sup>Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil Sampling Point: SP-43 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Matrix **Redox Features** Depth Loc2 Texture (inches) Color (moist) % Color (moist) % Type Remarks 10YR 100 Silt Loam 0-8 3/2 8-16 10YR 3/3 100 Silt Loam 3/2 10YR С 16-20 10YR 90 5/6 10 M Silt Loam <sup>1</sup>Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains <sup>2</sup>Location: PL=Pore Lining. M=Matrix Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils3: Histosol (A1) Sandy Redox (S5) 2 cm Muck (A10) Histic Epipedon (A2) Stripped Matrix (S6) Red Parent Material (TF2) Black Histic (A3) Loamy Mucky Mineral (F1) (except in MLRA 1) Other (Explain in Remarks) Loamy Gleyed Matrix (F2) ☐ Hydrogen Sulfide (A4) Depleted Below Dark Surface (A11) Depleted Matrix (F3) Redox Dark Surface (F6) ☐ Thick Dark Surface (A12) <sup>3</sup>Indicators of hydrophytic vegetation and Depleted Dark Surface (F7) Sandy Muck Mineral (S1) wetland hydrology must be present, unless disturbed or problematic. Redox depressions (F8) Sandy Gleyed Matrix (S4) Restrictive Layer (if present): Type: No 💿 **Hydric Soil Present?** Yes 🔾 Depth (inches): Remarks: Hydrology Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (minimum of two required) Surface Water (A1) Water-Stained Leaves (B9) (except MLRA Water-Stained Leaves (B9) (MLRA 1, 2, 1, 2, 4A, and 4B) 4A, and 4B) High Water Table (A2) Saturation (A3) Salt Crust (B11) ☐ Drainage Patterns (B10) Aquatic Invertebrates (B13) Water Marks (B1) Dry Season Water Table (C2) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Saturation Visible on Aerial Imagery (C9) Drift deposits (B3) Oxidized Rhizospheres on Living Roots (C3) Geomorphic Position (D2) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Shallow Aquitard (D3) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) FAC-neutral Test (D5) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Inundation Visible on Aerial Imagery (B7) Frost Heave Hummocks (D7) U Other (Explain in Remarks) Sparsely Vegetated Concave Surface (B8) Field Observations: Yes O No 💿 Surface Water Present? Depth (inches): n Yes  $\bigcirc$ No 💿 Water Table Present? Depth (inches): 0 Yes ○ No ● Wetland Hydrology Present? Saturation Present? Yes O No 💿 Depth (inches): (includes capillary fringe) Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available: Remarks:

roject/Site: North Mist Expansion				City/County:	Columbia	Sampling Date: 04-Oct-22				
pplicant/Owner: NW Natural						State: Oregon Sampling Point: SP-44				
nvestigator(s): Ed Strohmaier				Section, To	wnship, R	ange: S 14 T 6N R 5W				
Landform (hillslope, terrace, etc.):				Local relief	(concave,	convex, none): concave Slope: % /				
ubregion (LRR): LRR A			 Lat.: 46	.001923		Long.: -123.262571 Datum: WGS 198				
pil Map Unit Name: 58-Treharne sill	t loam			.00		NWI classification: N/A				
e climatic/hydrologic conditions on		pical for this	time of year	? Ye!	s • No					
re Vegetation, Soil	, or Hydro		ignificantly			Normal Circumstances" present? Yes  No				
re Vegetation, Soil	, or Hydro		naturally pro			eded, explain any answers in Remarks.)				
<b>.</b>						eations, transects, important features, et				
Hydrophytic Vegetation Present?	Yes •	No O		To the	2 -1-4	-				
Hydric Soil Present?	Yes	No $\bigcirc$		Is the Sampled Area						
Wetland Hydrology Present?	Yes	No $\bigcirc$		within a Wetland? Yes   No						
Remarks:										
VEGETATION - Use scien	tific nam	es of plant	is.	Dominant						
(51.1.1.00)					Indicator	Dominance Test worksheet:				
Tree Stratum (Plot size: 30ft	)		% Cover		Status	Number of Dominant Species				
1				0.0%		That are OBL, FACW, or FAC: (A)				
2			_	0.0%		Total Number of Dominant				
34			- 0	0.0%		Species Across All Strata: (B)				
4				= Total Cove		Percent of dominant Species				
Sapling/Shrub Stratum (Plot size:	15ft	)	0	= 10tai cove	•r	That Are OBL, FACW, or FAC: 100.0% (A/B)				
4.5.1			10	100.0%	FAC	Prevalence Index worksheet:				
2. Rubus ursinus			0	0.0%	FACU	Total % Cover of: Multiply by:				
3			0	0.0%		0BL species 0 x 1 = 0				
4				0.0%		FACW species				
5				0.0%		FAC species				
/Dist size, Eft	١		10	= Total Cove	er	FACU species0 x 4 =0				
Herb Stratum (Plot size: 5ft			70	100.00/	E 4 C\4/	UPL species x 5 =				
1 Phalaris arundinacea				100.0%	FACW	Column Totals: <u>80</u> (A) <u>170</u> (B)				
2				0.0%		Prevalence Index = B/A = 2.125				
4				0.0%						
5				0.0%		Hydrophytic Vegetation Indicators:				
6				0.0%		☐ 1 - Rapid Test for Hydrologic Vegetation  ✓ 2 - Dominance Test is > 50%				
7				0.0%		✓ 2 - Dominance Test is > 50%  ✓ 3 - Prevalence Index is ≤3.0 ¹				
8				0.0%		_				
9				0.0%		4 - Morphological Adaptations 1 (Provide supporting data in Remarks or on a separate sheet)				
10.			_	0.0%		5 - Wetland Non-Vascular Plants 1				
11.			- <u>- 0</u> 70	= Total Cove		Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)				
Woody Vine Stratum (Plot size:					.1	<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.				
1			0	0.0%		Hydrophytic				
7						Vogotation				
2			^	Tatal Cove						
2. % Bare Ground in Herb Stratum:			0	= Total Cove	er	Present? Yes No				

<sup>\*</sup>Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil Sampling Point: SP-44 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Matrix **Redox Features** Depth Loc2 Texture (inches) Color (moist) % Color (moist) % Type Remarks 10YR 3/2 100 Silt Loam 0-6 С 6-8 10YR 3/2 98 10YR 5/6 2 Μ Silt Loam С 8-20 4/2 10YR 5/6 25 10YR 75 M Silt Loam <sup>1</sup>Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains <sup>2</sup>Location: PL=Pore Lining. M=Matrix Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils3: Histosol (A1) 2 cm Muck (A10) Histic Epipedon (A2) Stripped Matrix (S6) Red Parent Material (TF2) Black Histic (A3) Loamy Mucky Mineral (F1) (except in MLRA 1) Other (Explain in Remarks) Loamy Gleyed Matrix (F2) ☐ Hydrogen Sulfide (A4) Depleted Below Dark Surface (A11) ✓ Depleted Matrix (F3) Redox Dark Surface (F6) ☐ Thick Dark Surface (A12) <sup>3</sup>Indicators of hydrophytic vegetation and Depleted Dark Surface (F7) Sandy Muck Mineral (S1) wetland hydrology must be present, unless disturbed or problematic. Redox depressions (F8) Sandy Gleyed Matrix (S4) Restrictive Layer (if present): Type: No O **Hydric Soil Present?** Yes Depth (inches): Remarks: Hydrology Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (minimum of two required) Surface Water (A1) Water-Stained Leaves (B9) (except MLRA Water-Stained Leaves (B9) (MLRA 1, 2, 1, 2, 4A, and 4B) 4A, and 4B) High Water Table (A2) Saturation (A3) Salt Crust (B11) ☐ Drainage Patterns (B10) Aquatic Invertebrates (B13) Water Marks (B1) Dry Season Water Table (C2) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Saturation Visible on Aerial Imagery (C9) Drift deposits (B3) Oxidized Rhizospheres on Living Roots (C3) ✓ Geomorphic Position (D2) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Shallow Aquitard (D3) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) ▼ FAC-neutral Test (D5) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Inundation Visible on Aerial Imagery (B7) Frost Heave Hummocks (D7) U Other (Explain in Remarks) Sparsely Vegetated Concave Surface (B8) Field Observations: Yes  $\bigcirc$ No 💿 Surface Water Present? Depth (inches): n Yes  $\bigcirc$ No 💿 Water Table Present? Depth (inches): 0 Yes ● No ○ Wetland Hydrology Present? Saturation Present? Yes 🔾 No 💿 Depth (inches): (includes capillary fringe) Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available: Soil moist throughout,

cal for this time gy signif gy natur map showi No N	Lat.: 46. e of year? ificantly or all y proliting sal	Nocal relief (1) (002909)  Personal Yes disturbed?  Is the within ure flows through the content of the content	(concave, concave, co	Area
cal for this time gy signif gy natur map showi No N	Lat.: 46. e of year? ificantly of a rally proliting sali	Nocal relief (1002909)  Present Yes disturbed?  Is the within within within the content of the c	(concave, concave, co	Long.:123.262753 Datum: WGS 1984  NWI classification: N/A  (If no, explain in Remarks.)  Jormal Circumstances" present? Yes No oeded, explain any answers in Remarks.)  ations, transects, important features, etc  Area
cal for this time gy signif gy natur map showi No N	e of year? ificantly or ally proliting salimnel feature. Absolute & Cover	? Yes disturbed? blematic? mpling pe  Is the within  Dominant Species? Rel.Strat. Cover	Are "No Care	NWI classification: N/A  (If no, explain in Remarks.)  lormal Circumstances" present? Yes No oeded, explain any answers in Remarks.)  ations, transects, important features, etc.  Area
cal for this time gy signif gy natur map showi No N	e of year? ificantly or ally problems and sales and sale	? Yes disturbed? blematic? mpling po  Is the within  ure flows three  Dominant Species? Rel.Strat. Cover	Are "No (If need oint local Sampled A a Wetland ou the wetlate Indicator Status	NWI classification: N/A  (If no, explain in Remarks.)  lormal Circumstances" present? Yes No cleded, explain any answers in Remarks.)  ations, transects, important features, etc.  Area
cal for this time gy signif gy natur map showi No N	e of year? ificantly or ally problems and sales and sale	? Yes disturbed? blematic? mpling po  Is the within  ure flows three  Dominant Species? Rel.Strat. Cover	Are "No (If need oint local Sampled A a Wetland ou the wetlate Indicator Status	NWI classification: N/A  (If no, explain in Remarks.)  lormal Circumstances" present? Yes No cleded, explain any answers in Remarks.)  ations, transects, important features, etc.  Area
gy signif gy natur map showi No No N	ing sal	Is the within ure flows through Pominant Species? Rel.Strat. Cover	Are "No (If need oint local Sampled A a Wetland ou the wetlate Indicator Status	(If no, explain in Remarks.)  lormal Circumstances" present? Yes No ceded, explain any answers in Remarks.)  ations, transects, important features, etc.  Area
gy signif gy natur map showi No No N	ing sal	Is the within ure flows through Pominant Species? Rel.Strat. Cover	Are "No (If need oint local Sampled A a Wetland ou the wetlate Indicator Status	Area Area Area Area Area Area Area Area
gy natur map showi No N	nnel featu	Is the within ure flows through Pominant Species? Rel.Strat.	(If nee	ations, transects, important features, etc  Area
map showi	nnel featu	Is the within ure flows through the control of the	Sampled An a Wetland u the wetland Indicator	ations, transects, important features, etc  Area d? Yes No and. Standing water in the channel outside the study area
No ONO ONO ONO ONO ONO ONO ONO ONO ONO O	Absolute % Cover	Is the within ure flows through the properties of the properties o	Sampled An a Wetland  u the wetland  Indicator  Status	Area  d? Yes No and. Standing water in the channel outside the study area
d. Shallow chan study area. s of plants.	Absolute % Cover	within  ure flows three  Dominant  Species?  Rel.Strat.  Cover	u the wetland	Yes No Cand. Standing water in the channel outside the study area
d. Shallow chan study area. s of plants. Al	Absolute % Cover	Dominant Species? Rel.Strat. Cover	u the wetla	and. Standing water in the channel outside the study area
study area. s of plants. A	Absolute % Cover	Dominant Species? - Rel.Strat. Cover	Indicator Status	
study area. s of plants. A	Absolute % Cover	Dominant Species? - Rel.Strat. Cover	Indicator Status	
Al	% Cover 30	Species? - Rel.Strat. Cover	Status	Dominance Test worksheet:
<u>%</u>	% Cover 30	Rel.Strat. Cover	Status	Dominance Test worksheet:
<u>%</u>	% Cover 30	Cover	Status	
		100.0%	EACM	Number of Dominant Species
	0	17 - 20/	FACW	That are OBL, FACW, or FAC: (A)
		0.0%		Total Number of Dominant
		0.0%		Species Across All Strata: 2 (B)
		0.0%		Percent of dominant Species
) -			÷r	That Are OBL, FACW, or FAC: 100.0% (A/B)
	0	0.0%		Prevalence Index worksheet:
	0	0.0%		Total % Cover of: Multiply by:
		0.0%		0BL species x 1 =0
		0.0%		FACW species <u>130</u> x 2 = <u>260</u>
		0.0%		FAC species x 3 =
	0	= Total Cove	er	FACU speci es $0 \times 4 = 0$
	100	100.0%	FAC\N/	UPL species $0$ x 5 = $0$
			FACVV	Col umn Total s: <u>130</u> (A) <u>260</u> (B)
	0	0.0%		Prevalence Index = B/A = 2.000
	0	0.0%		
	0	0.0%		Hydrophytic Vegetation Indicators:
	0	0.0%		1 - Rapid Test for Hydrologic Vegetation
	0	0.0%		2 - Dominance Test is > 50%
	0	0.0%		✓ 3 - Prevalence Index is ≤3.0 ¹
		0.0%		4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
				5 - Wetland Non-Vascular Plants 1
				Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
_	100	= 10tal cove	er	<sup>1</sup> Indicators of hydric soil and wetland hydrology must
	0	0.0%		be present, unless disturbed or problematic.
	0	0.0%		Hydrophytic
	0	= Total Cove	er	Vegetation Present? Yes  No
		0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0.0% 0 0.0%	0 0.0% 0 0.0%

<sup>\*</sup>Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil Sampling Point: SP-45 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Matrix **Redox Features** Depth Loc2 **Texture** (inches) Color (moist) % Color (moist) % Type Remarks 10YR 3/2 100 Muck 0-6 С 6-13 10Y 2.5/1 80 10YR 5/6 20 Μ Silt Loam С 2.5/1 10YR 5/6 5 13-20 10Y 95 M Silty Clay <sup>1</sup>Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains <sup>2</sup>Location: PL=Pore Lining. M=Matrix Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils3: Histosol (A1) 2 cm Muck (A10) Histic Epipedon (A2) Stripped Matrix (S6) Red Parent Material (TF2) Black Histic (A3) Loamy Mucky Mineral (F1) (except in MLRA 1) Other (Explain in Remarks) Loamy Gleyed Matrix (F2) ☐ Hydrogen Sulfide (A4) Depleted Below Dark Surface (A11) Depleted Matrix (F3) Redox Dark Surface (F6) ☐ Thick Dark Surface (A12) <sup>3</sup>Indicators of hydrophytic vegetation and Depleted Dark Surface (F7) Sandy Muck Mineral (S1) wetland hydrology must be present, unless disturbed or problematic. Redox depressions (F8) Sandy Gleyed Matrix (S4) Restrictive Layer (if present): Type: No O **Hydric Soil Present?** Yes Depth (inches): Remarks: Hydrology Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (minimum of two required) Surface Water (A1) Water-Stained Leaves (B9) (except MLRA Water-Stained Leaves (B9) (MLRA 1, 2, 1, 2, 4A, and 4B) 4A, and 4B) ✓ High Water Table (A2) ✓ Saturation (A3) Salt Crust (B11) ☐ Drainage Patterns (B10) Aquatic Invertebrates (B13) Water Marks (B1) Dry Season Water Table (C2) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Saturation Visible on Aerial Imagery (C9) Drift deposits (B3) Oxidized Rhizospheres on Living Roots (C3) ✓ Geomorphic Position (D2) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Shallow Aquitard (D3) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) ▼ FAC-neutral Test (D5) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Inundation Visible on Aerial Imagery (B7) Frost Heave Hummocks (D7) U Other (Explain in Remarks) Sparsely Vegetated Concave Surface (B8) Field Observations: No 💿 Yes O Surface Water Present? Depth (inches): 0 No  $\bigcirc$ Yes Water Table Present? Depth (inches): 12 Yes ● No ○ Wetland Hydrology Present? Saturation Present? Yes No O Depth (inches): (includes capillary fringe)

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

State:   Occopy   Sampling Point   Sp-46   Investigator(s)   55 Sechment   10 A   10	Project/Site: North Mist Expansion			c	City/County:	Columbia	Sampling Date: 04-Oct-22
Local relief (concave, convex, none):	Applicant/Owner: NW Natural						State: Oregon Sampling Point: SP-46
Lacid relief (concave, convex, none): CONCAVE   Slope:   94   Subregion (LRR): LRR A   Latt   46 002925   Long: -123 262752   Datum: WCS 1984   Subregion (LRR): LRR A   Latt   46 002925   Long: -123 262752   Datum: WCS 1984   Latt   46 002925   Latt   46 002925   Latt   Latt	Investigator(s): Ed Strohmaier				Section, To	wnship, Ra	ange: S 14 T 6N R 5W
Sout Map Unit Name: 58-Trehame still Journ   Name: 58-Treham	Landform (hillslope, terrace, etc.):				Local relief	(concave, o	convex, none): concave Slope: % /
Sour Map Unit Name: 58-Treburne still loam  re climatic/hydrologic Conditions on the site typical for this time of year?  re climatic/hydrologic Conditions on the site typical for this time of year?  re climatic/hydrologic Conditions on the site typical for this time of year?  re climatic/hydrologic Conditions on the site typical for this time of year?  re vegetation	Subregion (LRR): LRR A			 Lat.: 46	.002925		Long.: -123.262752 Datum: WGS 1984
re climatic/hydrologic conditions on the site typical for this time of year?  re vegetation							
Are Vegetation   , Soil   , or Hydrology   significantly disturbed? Are "Normal Circumstancos" present? Yes ® No Are Vegetation   , Soil   , or Hydrology   naturally problematic? (If needed, explain any answers in Remarks.)  Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc. Hydrophytic Vegetation Present? Yes No well within a Wetland? Yes No well and Hydrology Present? Yes No well and Yes No well	· -		ical for this t	ime of year	? Yes	s • No	
Are vegetation		•		-			
Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc. Hydrophytic Vegetation Present? Yes No Wolf and Hydrology Present? Yes No No Wolf and Hydrology Present? Yes No No No No Wolf and Hydrology Present? Yes No No No No Wolf and Hydrology Present? Yes No No No No No Wolf and Hydrology Present? Yes No		-		-			F
Hydric Soil Present? Yes No	-	-					
Hydric Soil Present?   Yes				wing sa	mpling p	oint loc	ations, transects, important features, etc
Wetland Hydrology Present?   Yes					Is the	Sampled A	Area
VEGETATION - Use scientific names of plants.   Species   Status   Species	Hydric Soil Present?				within	n a Wetland	<sub>d?</sub> Yes ○ No ●
Pote is about 4' higher than the adjacent wetland	Wetland Hydrology Present?	Yes ∪	No 🔍				
VEGETATION - Use scientific names of plants.   Dominant Species?   Absolute   Species?   Species							
Species   Spe	Plot is about 4' higher than the adj	acent wetla	nd				
Species   Spe	VEGETATION - Use scien	tific name	es of plant		Dominant		
Tree Stratum					•	Indicator	Dominance Test worksheet:
1	Tree Stratum (Plot size: 30ft	)					
3.	,				0.0%		I · · · · · · · · · · · · · · · · · · ·
Sapiling/Shrub Stratum (Plot size: 15ft   15							Total Number of Dominant
Sapiling/Shrub Stratum   (Plot size: 15ft   )							Species Across All Strata:3(B)
That Are OBL, FACW, or FAC: 66.7% (A/B)	4,						Percent of dominant Species
1	Sapling/Shrub Stratum (Plot size:	15ft	)	0	= Total Cove	er	
3.				15	<b>✓</b> 60.0%	FACU	Prevalence Index worksheet:
4.	2. Rubus armeniacus			10	40.0%	FAC	Total % Cover of: Multiply by:
Description	3			0	0.0%		0BL species 0 x 1 = 0
Herb Stratum (Plot size: 5ft   )				0	0.0%		FACW species 0 x 2 = 0
Herb Stratum	5			0	0.0%		FAC species110 x 3 =330
1 Schedonorus arundinaceus  2 .		,		25	= Total Cove	er	FACU species $\frac{15}{}$ x 4 = $\frac{60}{}$
2				100	100.00/	FAC	UPL species $0 \times 5 = 0$
3.						FAC	Column Totals: <u>125</u> (A) <u>390</u> (B)
4.	2						
Solution   Stratum   St	4			0	0.0%		
6. 7. 8. 9. 10. 11. 100 = Total Cover  Woody Vine Stratum (Plot size:) 1. 2. Bare Ground in Herb Stratum: 0  0 0.0% 0 0.0				0	0.0%		
7. 8. 9. 10. 10. 11.  Woody Vine Stratum (Plot size: 2.  Bare Ground in Herb Stratum: 0  0 0.0% 0 0	6			0	0.0%		1
8.	7			0_			
10.	8.—						
11	- ·						
Moody Vine Stratum (Plot size: )   100   = Total Cover   Problematic Hydrophytic Vegetation 1 (Explain)   1 Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.   1 Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.   Hydrophytic Vegetation Present?   Yes ● No ○							☐ 5 - Wetland Non-Vascular Plants <sup>1</sup>
Woody Vine Stratum (Plot size:)  1	11,						Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
1	Woody Vine Stratum (Plot size:		)		- Total ook		1 Indicators of hydric soil and wetland hydrology must
2				0	0.0%		be present, unless disturbed or problematic.
	2.			0	0.0%		
				0	= Total Cove	er	
Domarks:	% Bare Ground in Herb Stratum	: 0					
I NEURINA.	Remarks:						

<sup>\*</sup>Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil Sampling Point: SP-46 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Matrix **Redox Features** Depth Loc2 Texture (inches) Color (moist) % Color (moist) % Type Remarks 10YR 3/3 40% Matrix 0-3 10YR 3/2 60 Silt Loam 3-18 10YR 3/3 100 Silt Loam <sup>1</sup>Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains <sup>2</sup>Location: PL=Pore Lining. M=Matrix Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils3: Histosol (A1) Sandy Redox (S5) 2 cm Muck (A10) Histic Epipedon (A2) Stripped Matrix (S6) Red Parent Material (TF2) Black Histic (A3) Loamy Mucky Mineral (F1) (except in MLRA 1) Other (Explain in Remarks) Loamy Gleyed Matrix (F2) ☐ Hydrogen Sulfide (A4) Depleted Below Dark Surface (A11) Depleted Matrix (F3) Redox Dark Surface (F6) ☐ Thick Dark Surface (A12) <sup>3</sup>Indicators of hydrophytic vegetation and Depleted Dark Surface (F7) Sandy Muck Mineral (S1) wetland hydrology must be present, unless disturbed or problematic. Redox depressions (F8) Sandy Gleyed Matrix (S4) Restrictive Layer (if present): Type: No 💿 **Hydric Soil Present?** Yes 🔾 Depth (inches): Remarks: Hydrology Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (minimum of two required) Surface Water (A1) Water-Stained Leaves (B9) (except MLRA Water-Stained Leaves (B9) (MLRA 1, 2, 1, 2, 4A, and 4B) 4A, and 4B) High Water Table (A2) Saturation (A3) Salt Crust (B11) ☐ Drainage Patterns (B10) Aquatic Invertebrates (B13) Water Marks (B1) Dry Season Water Table (C2) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Saturation Visible on Aerial Imagery (C9) Drift deposits (B3) Oxidized Rhizospheres on Living Roots (C3) Geomorphic Position (D2) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Shallow Aquitard (D3) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) FAC-neutral Test (D5) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Inundation Visible on Aerial Imagery (B7) Frost Heave Hummocks (D7) U Other (Explain in Remarks) Sparsely Vegetated Concave Surface (B8) Field Observations: Yes O No 💿 Surface Water Present? Depth (inches): n Yes  $\bigcirc$ No 💿 Water Table Present? Depth (inches): 0 Yes ○ No ● Wetland Hydrology Present? Saturation Present? Yes O No 💿 Depth (inches): (includes capillary fringe) Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available: Remarks:

pplicant/Owner: Northwest Natural  nvestigator(s): Sara Frank, Ed Strohmaier  Landform (hillslope, terrace, etc.): Swale  ubregion (LRR): LRR A  pil Map Unit Name: 58 - Treharne silt loam  e climatic/hydrologic conditions on the site typical for this ti			wnship, Ra	State: OR Sampling Point: SP-47 ange: S 14 T 6N R 5W
Landform (hillslope, terrace, etc.): Swale  Swale  Swale  LRR A  Sil Map Unit Name: 58 - Treharne silt loam			wnship, Ra	ange: S 14 T 6N R 5W
ubregion (LRR): LRR A  bil Map Unit Name: 58 - Treharne silt loam		Local relief		
oil Map Unit Name: 58 - Treharne silt loam			(concave, c	convex, none): concave Slope: 5.0 % / 2.9 °
oil Map Unit Name: 58 - Treharne silt loam	Lat.: 40	.003134		Long.: -123.262611 Datum: WGS 1984
-				NWI classification: N/A
chillatic/ flyarologic conditions on the site typical for this ti	ime of year	yes	• No C	
re Vegetation 🔲 , Soil 🔲 , or Hydrology 🔲 si	gnificantly			Iormal Circumstances" present? Yes  No
	aturally pro			F
summary of Findings - Attach site map sho				eded, explain any answers in Remarks.)  ations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No •	<u>-</u>			·
Hydric Soil Present? Yes O No •			Sampled A	Vac O Na 🔘
Wetland Hydrology Present? Yes ○ No ●		within	a Wetland	1? Tes C 140 C
Remarks:				
Upland of paired plot				
VEGETATION - Use scientific names of plants	s.	Dominant Species?		
Tree Stratum (Plot size: 30 feet )	Absolute % Cover	Rel.Strat.	Indicator Status	Dominance Test worksheet:
1. Alnus rubra	70	100.0%	FAC	Number of Dominant Species That are OBL, FACW, or FAC:3(A)
2,	0	0.0%		Total Number of Dominant
3,	0	0.0%		Species Across All Strata:6(B)
4	0	0.0%		Percent of deminant Species
Sapling/Shrub Stratum (Plot size: 15 feet )	70	= Total Cove	er	Percent of dominant Species That Are OBL, FACW, or FAC:50.0% (A/B)
1, Corylus cornuta	50	71.4%	FACU	Prevalence Index worksheet:
2. Sambucus racemosa	10	14.3%	FACU	Total % Cover of: Multiply by:
3. Oemleria cerasiformis	10	14.3%	FACU	0BL species x 1 =0
4		0.0%		FACW species
5		0.0%		FAC species x 3 =
Herb Stratum (Plot size: 5 feet )	70	= Total Cove	er	FACU species $90 \times 4 = 360$
1 Urtica dioica	15	<b>✓</b> 30.0%	FAC	UPL species $\frac{0}{x}$ 5 = $\frac{0}{x}$
2 Rubus ursinus	10	20.0%	FACU	Col umn Total s: <u>190</u> (A) <u>660</u> (B)
3. Polystichum munitum	10	20.0%	FACU	Prevalence Index = B/A = 3.474
4. Tolmiea menziesii	15	30.0%	FAC	Hydrophytic Vegetation Indicators:
5	0	0.0%		1 - Rapid Test for Hydrologic Vegetation
6		0.0%		2 - Dominance Test is > 50%
7	0	0.0%		3 - Prevalence Index is ≤3.0 ¹
8.		0.0%		4 - Morphological Adaptations <sup>1</sup> (Provide supporting
9	0	0.0%		data in Remarks or on a separate sheet)
11	0	0.0%		5 - Wetland Non-Vascular Plants 1
11.	50	= Total Cove	er	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
Woody Vine Stratum (Plot size:)				Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1,		0.0%		
2		0.0%		Hydrophytic Vegetation
9/ Para Cround in Horb Stratum.	0	= Total Cove	er	Present? Yes No •
% Bare Ground in Herb Stratum: 50				

<sup>\*</sup>Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil Sampling Point: SP-47 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Matrix **Redox Features** Depth Loc2 Texture (inches) Color (moist) % Color (moist) % Type Remarks 0-16 10YR 3/3 100 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 Soils3: 2 cm Muck (A10) Histosol (A1) Sandy Redox (S5) Histic Epipedon (A2) Stripped Matrix (S6) Red Parent Material (TF2) Black Histic (A3) Loamy Mucky Mineral (F1) (except in MLRA 1) Other (Explain in Remarks) Loamy Gleyed Matrix (F2) ☐ Hydrogen Sulfide (A4) Depleted Below Dark Surface (A11) Depleted Matrix (F3) Redox Dark Surface (F6) ☐ Thick Dark Surface (A12) <sup>3</sup>Indicators of hydrophytic vegetation and Depleted Dark Surface (F7) Sandy Muck Mineral (S1) wetland hydrology must be present, unless disturbed or problematic. Redox depressions (F8) Sandy Gleyed Matrix (S4) Restrictive Layer (if present): Type: Root restriction No 💿 **Hydric Soil Present?** Yes 🔾 Depth (inches): 16 Remarks: No redox Hydrology Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (minimum of two required) Surface Water (A1) Water-Stained Leaves (B9) (except MLRA Water-Stained Leaves (B9) (MLRA 1, 2, 1, 2, 4A, and 4B) 4A, and 4B) High Water Table (A2) Saturation (A3) Salt Crust (B11) ☐ Drainage Patterns (B10) Aquatic Invertebrates (B13) Water Marks (B1) Dry Season Water Table (C2) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Saturation Visible on Aerial Imagery (C9) Drift deposits (B3) Oxidized Rhizospheres on Living Roots (C3) Geomorphic Position (D2) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Shallow Aquitard (D3) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) FAC-neutral Test (D5) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Inundation Visible on Aerial Imagery (B7) Frost Heave Hummocks (D7) U Other (Explain in Remarks) Sparsely Vegetated Concave Surface (B8) Field Observations: Yes O No 💿 Surface Water Present? Depth (inches): Yes  $\bigcirc$ No 💿 Water Table Present? Depth (inches): Yes O No 💿 Wetland Hydrology Present? Saturation Present? Yes O No 💿 Depth (inches): (includes capillary fringe) Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available: Remarks:

No hydrology present

Project/Site: North Mist Expansion	City/County: Columbia	County Sampling Date: 04-Oct-22						
Applicant/Owner: Northwest Natural		State: OR Sampling Point: SP-48						
Investigator(s): Sara Frank, Ed Strohmaier	Section, Township, F	2ange: S 14 T 6N R 5W						
Landform (hillslope, terrace, etc.): Swale		convex, none): concave Slope:3.0 % /1.7						
Subregion (LRR): LRR A	Lat.: 46.003141	Long.: -123.262639 Datum: WGS 1984						
	<u>-a</u> 40.003141	<u> </u>						
oil Map Unit Name: 58 - Treharne silt loam	time of year? Yes  No	NWI classification: N/A						
e climatic/hydrologic conditions on the site typical for this	· · · · •							
		F. 555.11.						
Are Vegetation 🔲 , Soil 🔲 , or Hydrology 🔲	naturally problematic? (If ne	eded, explain any answers in Remarks.)						
Summary of Findings - Attach site map sh	owing sampling point loo	cations, transects, important features, etc.						
Hydrophytic Vegetation Present? Yes  No	Is the Sampled	Area						
Hydric Soil Present? Yes   No	-	Vac ( No (						
Wetland Hydrology Present? Yes   No	within a wetian	within a Wetland?						
Remarks:								
<b>VEGETATION</b> - Use scientific names of plan	ts. Dominant Species?							
Tree Stratum (Plot size: 30 feet )	Absolute Rel.Strat. Indicator % Cover Cover Status	Dominance Test worksheet:						
1 Alnus rubra	5	Number of Dominant Species That are OBL, FACW, or FAC: 4 (A)						
2. Salix lasiandra	25 2 24 24 51 51 51	That are OBE, TNOW, OF TNO.						
3		Total Number of Dominant Species Across All Strata: 4 (B)						
4.	0 0.0%	Species Across Air Strata.						
	90 = Total Cover	Percent of dominant Species That Are OBL_FACW_or_FAC: 100.0% (A/B)						
Sapling/Shrub Stratum (Plot size: 15 feet )		That Are OBL, FACW, or FAC: 100.0% (A/B)						
1, Physocarpus capitatus	40 <u> 100.0%</u> FACW	Prevalence Index worksheet:						
2		Total % Cover of: Multiply by:						
34.		0BL speci es <u>20</u> x 1 = <u>20</u>						
4 5.		FACW species 125 x 2 = 250						
<u>.                                    </u>		FAC species 45 x 3 = 135						
Herb Stratum (Plot size: 5 feet )	40 = Total Cover	FACU species $0 \times 4 = 0$						
1. Oenanthe sarmentosa	20 <b></b> 33.3% OBL	UPL species $0 \times 5 = 0$						
2. Urtica dioica	10 16.7% FAC	Column Totals: <u>190</u> (A) <u>405</u> (B)						
3 Tolmiea menziesii	30	Prevalence Index = B/A = 2.132						
4		Hydrophytic Vegetation Indicators:						
5		☐ 1 - Rapid Test for Hydrologic Vegetation						
6		<b>✓</b> 2 - Dominance Test is > 50%						
7 8		✓ 3 - Prevalence Index is ≤3.0 <sup>1</sup>						
9		4 - Morphological Adaptations <sup>1</sup> (Provide supporting						
10.		data in Remarks or on a separate sheet)						
11.		5 - Wetland Non-Vascular Plants 1						
	60 = Total Cover	☐ Problematic Hydrophytic Vegetation 1 (Explain)						
Woody Vine Stratum (Plot size:)		1 Indicators of hydric soil and wetland hydrology must						
1	0	be present, unless disturbed or problematic.						
2	0 0.0%	Hydrophytic Vegetation						
	0 = Total Cover	Present? Yes • No						
% Bare Ground in Herb Stratum: 45								

<sup>\*</sup>Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil Sampling Point: SP-48 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Matrix **Redox Features** Depth Loc2 Texture (inches) Color (moist) Color (moist) % Type Remarks 0-7 10YR 3/2 95 10YR 5 С PL Silty Clay Loam 4/6 90 10YR С PL 7-24 10YR 4/1 4/6 10 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 Soils3: Histosol (A1) Sandy Redox (S5) 2 cm Muck (A10) Histic Epipedon (A2) Stripped Matrix (S6) Red Parent Material (TF2) Black Histic (A3) Loamy Mucky Mineral (F1) (except in MLRA 1) Other (Explain in Remarks) Loamy Gleyed Matrix (F2) ☐ Hydrogen Sulfide (A4) Depleted Below Dark Surface (A11) Depleted Matrix (F3) Redox Dark Surface (F6) ☐ Thick Dark Surface (A12) <sup>3</sup>Indicators of hydrophytic vegetation and Depleted Dark Surface (F7) Sandy Muck Mineral (S1) wetland hydrology must be present, unless disturbed or problematic. Redox depressions (F8) Sandy Gleyed Matrix (S4) Restrictive Layer (if present): Type: No O **Hydric Soil Present?** Yes Depth (inches): Remarks: Hydrology Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (minimum of two required) Surface Water (A1) Water-Stained Leaves (B9) (except MLRA Water-Stained Leaves (B9) (MLRA 1, 2, 1, 2, 4A, and 4B) 4A, and 4B) High Water Table (A2) ✓ Saturation (A3) Salt Crust (B11) ☐ Drainage Patterns (B10) Aquatic Invertebrates (B13) Water Marks (B1) Dry Season Water Table (C2) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Saturation Visible on Aerial Imagery (C9) Drift deposits (B3) Oxidized Rhizospheres on Living Roots (C3) ✓ Geomorphic Position (D2) Presence of Reduced Iron (C4) Algal Mat or Crust (B4) Shallow Aquitard (D3) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) ▼ FAC-neutral Test (D5) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Inundation Visible on Aerial Imagery (B7) Frost Heave Hummocks (D7) U Other (Explain in Remarks) Sparsely Vegetated Concave Surface (B8) Field Observations: Yes O No 💿 Surface Water Present? Depth (inches): Yes O No 💿 Water Table Present? Depth (inches): Yes ● No ○ Wetland Hydrology Present? Saturation Present? Yes No O Depth (inches): (includes capillary fringe) Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available: Remarks:

Project/Site: North Mist Expansion	City/County: Columbia	Sampling Date: 04-Oct-22
Applicant/Owner: NW Natural		State: Oregon Sampling Point: SP-49
nvestigator(s): Ed Strohmaier	Section, Township,	Range: S 14 T 6N R 5W
Landform (hillslope, terrace, etc.):	Local relief (concave	s, convex, none): flat Slope:0.0 % /0.0
ubregion (LRR): LRR A	Lat.: 46.004281	Long.: -123.262716 Datum: WGS 1984
oil Map Unit Name: 58-Treharne silt loam		NWI classification: N/A
e climatic/hydrologic conditions on the site typical for this	time of year? Yes   No	
		'Normal Circumstances" present? Yes • No
		process.
		eeded, explain any answers in Remarks.) cations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No		·
Hydric Soil Present? Yes No •	Is the Sampled	l Area nd2 Yes ◯ No ◉
Wetland Hydrology Present? Yes No	within a Wetla	nd? Yes ○ No ●
Remarks:		
VEGETATION - Use scientific names of plan		
	Species?Species?Species?Species?	Dominance Test worksheet:
Tree Stratum (Plot size: 30ft )	% Cover Cover Status	Number of Dominant Species
1_Pseudotsuga menziesii	10	That are OBL, FACW, or FAC:3 (A)
2		Total Number of Dominant
3	0 0.0%	Species Across All Strata:4 (B)
4		Percent of dominant Species
Sapling/Shrub Stratum (Plot size: 15ft )	10 = Total Cover	That Are OBL, FACW, or FAC: 75.0% (A/B)
1, Fraxinus latifolia	5 100.0% FACW	Prevalence Index worksheet:
2	0 0.0%	Total % Cover of: Multiply by:
3		0BL speciles 0 x 1 = 0
4	0 000	FACW species <u>5</u> x 2 = <u>10</u>
5	0 0.0%	FAC speciles 100 x 3 = 300
(Diet size: Eft	5 = Total Cover	FACU species $\frac{10}{10}$ x 4 = $\frac{40}{10}$
Herb Stratum (Plot size: 5ft )	20 🗹 20.0% FAC	UPL species $\frac{0}{x}$ x 5 = $\frac{0}{x}$
Ranunculus repens     Alopecurus pratensis		Column Totals: <u>115</u> (A) <u>350</u> (B)
3	0 0.0%	Prevalence Index = B/A = 3.043
4	0 0.0%	
5	0 0.0%	Hydrophytic Vegetation Indicators:
6	0 0.0%	☐ ☐ 1 - Rapid Test for Hydrologic Vegetation ☐ ☐ ☐ 2 - Dominance Test is > 50%
7		3 - Prevalence Index is ≤ 3.0 <sup>1</sup>
8.—		-   _ `
9		4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
10.		5 - Wetland Non-Vascular Plants <sup>1</sup>
11.	100 = Total Cover	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
Woody Vine Stratum (Plot size:)		<sup>1</sup> Indicators of hydric soil and wetland hydrology must
1.	0	be present, unless disturbed or problematic.
2.	0 0.0%	Hydrophytic
	0 = Total Cover	Vegetation Present? Yes No
		Trosont:
% Bare Ground in Herb Stratum: _0		

<sup>\*</sup>Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil Sampling Point: SP-49 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Matrix **Redox Features** Depth Loc2 Texture (inches) Color (moist) % Color (moist) % Type Remarks 0-20 10YR 2/2 100 Silt Loam <sup>1</sup>Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains <sup>2</sup>Location: PL=Pore Lining. M=Matrix Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils3: Histosol (A1) Sandy Redox (S5) 2 cm Muck (A10) Histic Epipedon (A2) Stripped Matrix (S6) Red Parent Material (TF2) Black Histic (A3) Loamy Mucky Mineral (F1) (except in MLRA 1) Other (Explain in Remarks) Loamy Gleyed Matrix (F2) ☐ Hydrogen Sulfide (A4) Depleted Below Dark Surface (A11) Depleted Matrix (F3) Redox Dark Surface (F6) ☐ Thick Dark Surface (A12) <sup>3</sup>Indicators of hydrophytic vegetation and Depleted Dark Surface (F7) Sandy Muck Mineral (S1) wetland hydrology must be present, unless disturbed or problematic. Redox depressions (F8) Sandy Gleyed Matrix (S4) Restrictive Layer (if present): Type: No 💿 **Hydric Soil Present?** Yes 🔾 Depth (inches): Remarks: Hydrology Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (minimum of two required) Surface Water (A1) Water-Stained Leaves (B9) (except MLRA Water-Stained Leaves (B9) (MLRA 1, 2, 1, 2, 4A, and 4B) 4A, and 4B) High Water Table (A2) Saturation (A3) Salt Crust (B11) ☐ Drainage Patterns (B10) Aquatic Invertebrates (B13) Water Marks (B1) Dry Season Water Table (C2) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Saturation Visible on Aerial Imagery (C9) Drift deposits (B3) Oxidized Rhizospheres on Living Roots (C3) Geomorphic Position (D2) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Shallow Aquitard (D3) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) FAC-neutral Test (D5) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Inundation Visible on Aerial Imagery (B7) Frost Heave Hummocks (D7) U Other (Explain in Remarks) Sparsely Vegetated Concave Surface (B8) Field Observations: Yes O No 💿 Surface Water Present? Depth (inches): n Yes  $\bigcirc$ No 💿 Water Table Present? Depth (inches): 0 Yes ○ No ● Wetland Hydrology Present? Saturation Present? Yes O No 💿 Depth (inches): (includes capillary fringe) Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available: Remarks:

Project/Site: North Mist Expansion				City/County:	Columbia	Sampling Date: 04-Oct-22
Applicant/Owner: NW Natural						State: Oregon Sampling Point: SP-50
nvestigator(s): Ed Strohmaier				Section, To	wnship, Ra	ange: S 14 T 6N R 5W
Landform (hillslope, terrace, etc.):				Local relief	(concave, o	convex, none): flat Slope:0.0 % /0.0 °
- Subregion (LRR): LRR A			 Lat.: 46	.004272		Long.: -123.262703 Datum: WGS 1984
oil Map Unit Name: 58-Treharne silt						NWI classification: N/A
e climatic/hydrologic conditions on		nical for this	time of year	2 Yes	s • No	
Are Vegetation, Soil	, or Hydro	. –	significantly			No O
Are Vegetation, Soil	, or Hydro		naturally pro			F
ire vegetation, soii	, or Hydro	logy 🗀	naturany pro	biematic	(IT nee	eded, explain any answers in Remarks.)
Summary of Findings - At	tach site	e map sh	nowing sa	mpling p	oint loc	ations, transects, important features, etc.
Hydrophytic Vegetation Present?	Yes 💿	No O		Is the	Sampled A	Δεοα
Hydric Soil Present?	Yes 💿	No 🔾			-	Von ( No (
Wetland Hydrology Present?	Yes 💿	No 🔾		within	n a Wetland	1? 163 5 116 5
Remarks:						
<b>VEGETATION</b> - Use scient	tific nam	es of plar	nts.	DominantSpecies? _		
Tree Stratum (Plot size: 30ft	)		Absolute % Cover	Rel.Strat.	Indicator Status	Dominance Test worksheet:
			-	0.0%	FACW	Number of Dominant Species That are OBL, FACW, or FAC: 2 (A)
1. Fraxinus latifolia 2.				0.0%	171011	That are obt, facw, of fac.
3.				0.0%		Total Number of Dominant Species Across All Strata: 3 (B)
4				0.0%		Species Across Air Strata.
			0	= Total Cove	er	Percent of dominant Species That Are OBL_FACW_or_FAC: 66.7% (A/B)
Sapling/Shrub Stratum (Plot size:	15ft	)				That Are OBL, FACW, or FAC: 66.7% (A/B)
				0.0%	FACW	Prevalence Index worksheet:
2. Symphoricarpos albus				83.3%	FACU	Total % Cover of: Multiply by:
3. Fraxinus latifolia				16.7%	FACW	0BL species 0 x 1 = 0
4 5.				0.0%		FACW species <u>42</u> x 2 = <u>84</u>
5						FAC species $\underline{60}$ x 3 = $\underline{180}$
Herb Stratum (Plot size: 5ft	)		12	= Total Cove	∍r	FACU species $10 \times 4 = 40$
1. Phalaris arundinacea			40	<b>4</b> 0.0%	FACW	or E specifies — X 5 - —
2 Alopecurus pratensis			40	<b>✓</b> 40.0%	FAC	Column Totals: <u>112</u> (A) <u>304</u> (B)
3 Ranunculus repens			10	10.0%	FAC	Prevalence Index = B/A = 2.714
4. Equisetum arvense				10.0%	FAC	Hydrophytic Vegetation Indicators:
5				0.0%		1 - Rapid Test for Hydrologic Vegetation
6				0.0%		✓ 2 - Dominance Test is > 50%
7				0.0%		✓ 3 - Prevalence Index is ≤3.0 <sup>1</sup>
8				0.0%		4 - Morphological Adaptations <sup>1</sup> (Provide supporting
10.—			-	0.0%		data in Remarks or on a separate sheet)
11.			0	0.0%		5 - Wetland Non-Vascular Plants 1
			100	= Total Cove	er	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
Woody Vine Stratum (Plot size:		)				<sup>1</sup> Indicators of hydric soil and wetland hydrology must
1,			0	0.0%		be present, unless disturbed or problematic.
			0	0.0%		Hydrophytic
2						
2			0	= Total Cove	er	Vegetation Present? Yes ● No ○
2		_	0	= Total Cove	er	
			0	= Total Cov	er 	

<sup>\*</sup>Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil Sampling Point: SP-50 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Matrix **Redox Features** Depth Loc2 Texture (inches) Color (moist) % Color (moist) % Type Remarks 0-5 10YR 2/2 80 С Silt Loam 10YR 3/6 20 PL 10YR 5 С 5-18 10YR 2/2 95 3/4 Μ Silt Loam С 2/2 10YR 3/4 10 18-20 10YR 90 M <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 Soils3: Histosol (A1) 2 cm Muck (A10) Histic Epipedon (A2) Stripped Matrix (S6) Red Parent Material (TF2) Black Histic (A3) Loamy Mucky Mineral (F1) (except in MLRA 1) Other (Explain in Remarks) Loamy Gleyed Matrix (F2) ☐ Hydrogen Sulfide (A4) Depleted Below Dark Surface (A11) Depleted Matrix (F3) Redox Dark Surface (F6) ☐ Thick Dark Surface (A12) <sup>3</sup>Indicators of hydrophytic vegetation and Depleted Dark Surface (F7) Sandy Muck Mineral (S1) wetland hydrology must be present, unless disturbed or problematic. Redox depressions (F8) Sandy Gleyed Matrix (S4) Restrictive Layer (if present): Type: No O **Hydric Soil Present?** Yes Depth (inches): Remarks: Hydrology Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (minimum of two required) Surface Water (A1) Water-Stained Leaves (B9) (except MLRA ✓ Water-Stained Leaves (B9) (MLRA 1, 2, 1, 2, 4A, and 4B) 4A, and 4B) High Water Table (A2) Saturation (A3) Salt Crust (B11) Drainage Patterns (B10) Aquatic Invertebrates (B13) Water Marks (B1) Dry Season Water Table (C2) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Saturation Visible on Aerial Imagery (C9) Drift deposits (B3) Oxidized Rhizospheres on Living Roots (C3) Geomorphic Position (D2) ✓ Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Shallow Aquitard (D3) ☐ Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) FAC-neutral Test (D5) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Inundation Visible on Aerial Imagery (B7) Frost Heave Hummocks (D7) U Other (Explain in Remarks) Sparsely Vegetated Concave Surface (B8) Field Observations: Yes O No 💿 Surface Water Present? Depth (inches): n Yes  $\bigcirc$ No 💿 Water Table Present? Depth (inches): 0 Yes ● No ○ Wetland Hydrology Present? Saturation Present? Yes O No 💿 Depth (inches): (includes capillary fringe) Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Project/Site: North Mist Expansion				City/County:	Columbia Co	ounty	Sampling Date: 04-0	Oct-22
Applicant/Owner: Northwest Natural						State: OR	Sampling Point:	SP-51
Investigator(s): Sara Frank, Ed Strohr	maier			Section, To	wnship, Ra	ange: S 14 T 6	N R 5W	
Landform (hillslope, terrace, etc.):	Flat			Local relief	(concave, c	convex, none): undulatir	ng Slope:	<u>2.0</u> % / <u>1.1</u> °
Subregion (LRR): LRR A			Lat.: 46	.003745		Long.: -123.262796	Datur	m: WGS 1984
Soil Map Unit Name: 58 - Treharne s	silt loam					NWI classif	fication: N/A	
re climatic/hydrologic conditions on		pical for this t	ime of year	? Yes	No C			
Are Vegetation, Soil	, or Hydrol	logy 🗌 si	gnificantly	disturbed?	Are "N	lormal Circumstances" p	oresent? Yes •	No $\bigcirc$
Are Vegetation  , Soil	, or Hydrol	logy na	aturally pro	blematic?		eded, explain any answe		
Summary of Findings - At	-					, ,		itures, etc.
Hydrophytic Vegetation Present?	Yes	No O		Is the	Sampled A	area.		
Hydric Soil Present?	Yes 💿	No O			•	Vac ( No (		
Wetland Hydrology Present?	Yes	No O		within	a Wetland	l? 103 © 110 =		
Remarks:								
Wetland confirmation plot on edge	of reed car	nary grass				_		
<b>VEGETATION</b> - Use scien	itific nam	es of plant	s.	Dominant				
Tree Stratum (Plot size: 30 feet	)		Absolute % Cover		Indicator Status	Dominance Test works		
1			0	0.0%		Number of Dominant Spe That are OBL, FACW, or		(A)
2.			0	0.0%				_
3			0	0.0%		Total Number of Domina Species Across All Strata		(B)
4			0	0.0%				_
Sapling/Shrub Stratum (Plot size:	:_15 feet	)	0	= Total Cove	er	Percent of dominant S That Are OBL, FACW,		)% (A/B)
1,			0	0.0%		Prevalence Index work	ksheet:	
2			0	0.0%		Total % Cover o		
3				0.0%				0
4 5.			0	0.0%			_	200
J								0
Herb Stratum (Plot size: 5 feet	)		0	= Total Cove	ŧr	. Also specific		0
1 Phalaris arundinacea			100	100.0%	FACW	UPL species —	x 5 =	0
2.			0	0.0%		Column Totals:1	100 (A) 2	200 <b>(B)</b>
3			0	0.0%		Prevalence Index	= B/A = <u>2.00</u>	<u> 10</u>
4			0	0.0%		Hydrophytic Vegetation	on Indicators:	
5				0.0%		✓ 1 - Rapid Test for I		'n
6				0.0%		✓ 2 - Dominance Tes		
7			•	0.0%		<b>✓</b> 3 - Prevalence Inde	lex is ≤3.0 <sup>1</sup>	
8.———				0.0%		4 - Morphological A	Adaptations <sup>1</sup> (Provid	e supporting
10.				0.0%		data in Remark	s or on a separate sh	
11.			0	0.0%		5 - Wetland Non-V		
11,			100	= Total Cove	er:	Problematic Hydro	phytic Vegetation <sup>1</sup> (E	Explain)
Woody Vine Stratum (Plot size:1,			0	0.0%		1 Indicators of hydric s be present, unless dis	soil and wetland hyd turbed or problemati	rology must ic.
2			0	0.0%		Hydrophytic		
			0	= Total Cove	÷r	Vegetation Present? Yes	● No ○	
% Bare Ground in Herb Stratum	ı: <u>0</u>							
Remarks:								
No trees or shrubs in plot								

<sup>\*</sup>Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil Sampling Point: SP-51 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Matrix **Redox Features** Depth Loc2 Texture (inches) Color (moist) % Color (moist) % Type Remarks no redox 10YR 3/3 100 Silty Clay Loam 0-4 95 С 4-10 10YR 2/2 7.5YR 4/6 PLSilty Clay Loam no redox 2/2 Silty Clay Loam 10-16 10YR 100 <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 Soils3: Histosol (A1) Sandy Redox (S5) 2 cm Muck (A10) Histic Epipedon (A2) Stripped Matrix (S6) Red Parent Material (TF2) Black Histic (A3) Loamy Mucky Mineral (F1) (except in MLRA 1) Other (Explain in Remarks) Loamy Gleyed Matrix (F2) ☐ Hydrogen Sulfide (A4) Depleted Below Dark Surface (A11) Depleted Matrix (F3) Redox Dark Surface (F6) ☐ Thick Dark Surface (A12) <sup>3</sup>Indicators of hydrophytic vegetation and Depleted Dark Surface (F7) Sandy Muck Mineral (S1) wetland hydrology must be present, unless disturbed or problematic. Redox depressions (F8) Sandy Gleyed Matrix (S4) Restrictive Layer (if present): Type: No O **Hydric Soil Present?** Yes Depth (inches): Remarks: Hydrology Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (minimum of two required) Surface Water (A1) Water-Stained Leaves (B9) (except MLRA Water-Stained Leaves (B9) (MLRA 1, 2, 1, 2, 4A, and 4B) 4A, and 4B) High Water Table (A2) Saturation (A3) Salt Crust (B11) ☐ Drainage Patterns (B10) Aquatic Invertebrates (B13) Water Marks (B1) Dry Season Water Table (C2) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Saturation Visible on Aerial Imagery (C9) Drift deposits (B3) Oxidized Rhizospheres on Living Roots (C3) Geomorphic Position (D2) Presence of Reduced Iron (C4) Algal Mat or Crust (B4) Shallow Aquitard (D3) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) ✓ FAC-neutral Test (D5) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Inundation Visible on Aerial Imagery (B7) Frost Heave Hummocks (D7) U Other (Explain in Remarks) Sparsely Vegetated Concave Surface (B8) Field Observations: Yes  $\bigcirc$ No 💿 Surface Water Present? Depth (inches): Yes  $\bigcirc$ No 💿 Water Table Present? Depth (inches): Yes ● No ○ Wetland Hydrology Present? Saturation Present? Yes O No 💿 Depth (inches): (includes capillary fringe)

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

Project/Site: North Mist Expansion	City/County: Columbia	Sampling Date: 05-Oct-22
Applicant/Owner: Northwest Natural		State: OR Sampling Point: SP-52
Investigator(s): Sara Frank, Ed Strohmaier	Section, Township,	Range: S 14 T 6N R 5W
Landform (hillslope, terrace, etc.): Swale	Local relief (concave	e, convex, none): concave Slope: 3.0 % / 1.7
Subregion (LRR): LRR A	Lat.: 46.004464	Long.: -123.262514 Datum: WGS 1984
soil Map Unit Name: 58 - Treharne silt loam		NWI classification: N/A
re climatic/hydrologic conditions on the site typical f	or this time of year? Yes  No	
Are Vegetation, Soil, or Hydrology		"Normal Circumstances" present? Yes  No
Are Vegetation , Soil , or Hydrology		needed, explain any answers in Remarks.)
		ocations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No	•	·
Hydric Soil Present? Yes O No		Voc O No 🗨
Wetland Hydrology Present? Yes O No	within a Wetla	ind? 163 C 190 C
Remarks:		
<b>VEGETATION</b> - Use scientific names of	plants. Dominant Species?	
(Diot size, 20 feet	Absolute Rel.Strat. Indicate	Dominance Test worksheet:
Tree Stratum (Plot size: 30 feet )	<u>% Cover Cover Status</u> 8 ✓ 100.0% FACU	Number of Dominant Species
1. Pseudotsuga menziesii 2.		That are OBL, FACW, or FAC: (A)
3		Total Number of Dominant Species Across All Strata: 3 (B)
4	0 0.0%	Species Across All Strata: 3 (B)
	8 = Total Cover	Percent of dominant Species That are ORL FACW or FAC: 33.3% (A/B)
Sapling/Shrub Stratum (Plot size: 15 feet		That Are OBL, FACW, or FAC: 33.3% (A/B)
1, Prunus emarginata	10 <u> </u>	Prevalence Index worksheet:
2		Total % Cover of: Multiply by:
34.	0 000	OBL species 0 x 1 = 0
4. 5.	0 0.0%	FACW species 100 x 2 = 200
	10 = Total Cover	FAC species $0 \times 3 = 0$ FACU species $18 \times 4 = 72$
Herb Stratum (Plot size: 5 feet )	= Iotal Covei	1 '
1. Phalaris arundinacea	100	·
2	0 0.0%	
3		Prevalence Index = B/A =
4		Hydrophytic Vegetation Indicators:
5		1 - Rapid Test for Hydrologic Vegetation
7		2 - Dominance Test is > 50%
8	0	3 - Prevalence Index is ≤3.0 ¹
9		4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
10.		5 - Wetland Non-Vascular Plants 1
11.		_
Woody Vine Stratum (Plot size:)	= rotal cover	<sup>1</sup> Indicators of hydric soil and wetland hydrology must
1.	0 0.0%	be present, unless disturbed or problematic.
2.		Hydrophytic
	0 = Total Cover	Vegetation Present?  Yes No   No
% Bare Ground in Herb Stratum: ∩		
% Bare Ground in Herb Stratum: _0		

<sup>\*</sup>Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil Sampling Point: SP-52 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Matrix **Redox Features** Depth Loc2 Texture (inches) Color (moist) % Color (moist) % Type Remarks 10YR 3/3 100 Silt Loam 0-6 С 6-12 10YR 2/2 98 5YR 4/6 Μ Silty Clay Loam 12-18 10YR 2/1 100 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 Soils3: Histosol (A1) Sandy Redox (S5) 2 cm Muck (A10) Histic Epipedon (A2) Stripped Matrix (S6) Red Parent Material (TF2) Black Histic (A3) Loamy Mucky Mineral (F1) (except in MLRA 1) Other (Explain in Remarks) Loamy Gleyed Matrix (F2) ☐ Hydrogen Sulfide (A4) Depleted Below Dark Surface (A11) Depleted Matrix (F3) Redox Dark Surface (F6) ☐ Thick Dark Surface (A12) <sup>3</sup>Indicators of hydrophytic vegetation and Depleted Dark Surface (F7) Sandy Muck Mineral (S1) wetland hydrology must be present, unless disturbed or problematic. Redox depressions (F8) Sandy Gleyed Matrix (S4) Restrictive Layer (if present): Type: No 💿 **Hydric Soil Present?** Yes 🔾 Depth (inches): Remarks: not quite enough redox to meet f6 Hydrology Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (minimum of two required) Surface Water (A1) Water-Stained Leaves (B9) (except MLRA Water-Stained Leaves (B9) (MLRA 1, 2, 1, 2, 4A, and 4B) 4A, and 4B) High Water Table (A2) Saturation (A3) Salt Crust (B11) ☐ Drainage Patterns (B10) Aquatic Invertebrates (B13) Water Marks (B1) Dry Season Water Table (C2) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Saturation Visible on Aerial Imagery (C9) Drift deposits (B3) Oxidized Rhizospheres on Living Roots (C3) Geomorphic Position (D2) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Shallow Aquitard (D3) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) FAC-neutral Test (D5) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Inundation Visible on Aerial Imagery (B7) Frost Heave Hummocks (D7) U Other (Explain in Remarks) Sparsely Vegetated Concave Surface (B8) Field Observations: Yes O No 💿 Surface Water Present? Depth (inches): Yes  $\bigcirc$ No 💿 Water Table Present? Depth (inches): Yes ○ No ● Wetland Hydrology Present? Saturation Present? Yes O No 💿 Depth (inches): (includes capillary fringe)

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

No Hydrology present

Project/Site: North Mist Expansion				City/County:	Columbia	Sampling Date: 05-Oct-22
Applicant/Owner: NW Natural						State: Oregon Sampling Point: SP-53
Investigator(s): Ed Strohmaier				Section, To	ownship, Ra	ange: S 14 T 6N R 5W
Landform (hillslope, terrace, etc.):				Local relief	(concave,	convex, none): flat Slope: 0.0 % / 0.0
Subregion (LRR): LRR A		 Lat.: 46	.004469		Long.: -123.262488 Datum: WGS 1984	
Soil Map Unit Name: 58-Treharne sil						NWI classification: N/A
re climatic/hydrologic conditions on		nical for this	time of year	? Yes	s • No	
Are Vegetation . , Soil .	or Hydro ,	. –	significantly			Normal Circumstances" present? Yes No
Are Vegetation, Soil	, or Hydro		naturally pro			F
Are vegetation, soil	, or mydro	iogy 🗀 i	naturany pro	biematic:	(IT nee	eded, explain any answers in Remarks.)
Summary of Findings - At	tach site	e map sh	owing sa	mpling p	oint loc	ations, transects, important features, etc.
Hydrophytic Vegetation Present?	Yes	No O		Is the	Sampled A	Δεο
Hydric Soil Present?	Yes 💿	No $\bigcirc$			•	Voc ( No (
Wetland Hydrology Present?	Yes 💿	No $\bigcirc$		withir	n a Wetland	1? 103 0 110 0
Remarks:						
VEGETATION - Use scien	itific nam	es of plan	ts.	DominantSpecies?		
Tree Stratum (Plot size: 30ft	)		Absolute % Cover	Rel.Strat.	Indicator Status	Dominance Test worksheet:
1.				0.0%	Status	Number of Dominant Species That are OBL, FACW, or FAC: 3 (A)
2				0.0%		That are ODE, FACW, OF FAC.
3				0.0%		Total Number of Dominant Species Across All Strata: 4 (B)
4				0.0%		
_Sapling/Shrub Stratum_ (Plot size:	_15ft	)	0	= Total Cov	er	Percent of dominant Species That Are OBL, FACW, or FAC: 75.0% (A/B)
			10	✓ 58.8%	FAC	Prevalence Index worksheet:
2. Symphoricarpos albus			5	29.4%	FACU	Total % Cover of: Multiply by:
3. Rubus ursinus				11.8%	FACU	0BL speci es x 1 =0
4				0.0%		FACW species
5				0.0%		FAC species <u>35</u> x 3 = <u>105</u>
Herb Stratum (Plot size: 5ft	)		17	= Total Cove	er	FACU species $\frac{7}{2}$ x 4 = $\frac{28}{2}$
1 Phalaris arundinacea			75	<b>✓</b> 75.0%	FACW	UPL species $0$ x 5 = $0$
2. Alopecurus pratensis			25	25.0%	FAC	Column Totals: <u>117</u> (A) <u>283</u> (B)
3			0	0.0%		Prevalence Index = B/A = <u>2.419</u>
4				0.0%		Hydrophytic Vegetation Indicators:
5				0.0%		1 - Rapid Test for Hydrologic Vegetation
6				0.0%		✓ 2 - Dominance Test is > 50%
7 8			_	0.0%		✓ 3 - Prevalence Index is ≤3.0 <sup>1</sup>
8.————————————————————————————————————				0.0%		4 - Morphological Adaptations <sup>1</sup> (Provide supporting
10.			-	0.0%		data in Remarks or on a separate sheet)
11			0	0.0%		5 - Wetland Non-Vascular Plants 1
			100	= Total Cov	er	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
Woody Vine Stratum (Plot size:			0	0.0%		Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2				0.0%		Hydrophytic
· ·			0	= Total Cove	er	Vegetation Present? Yes No No
% Bare Ground in Herb Stratum	ı: o					Present:
Remarks:	<u>U</u>					
Remarks.						
I						

<sup>\*</sup>Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil Sampling Point: SP-53 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Matrix **Redox Features** Depth Loc2 Texture (inches) Color (moist) % Color (moist) % Type Remarks 0-8 10YR 2/2 80 С PL Silt Loam 10YR 4/6 20 10YR 5 С М 8-16 10YR 2/2 95 4/6 Silty Clay Loam С 2/2 10YR 4/6 5 Silty Clay Loam 16-20 10YR 95 M <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 Soils3: Histosol (A1) Sandy Redox (S5) 2 cm Muck (A10) Histic Epipedon (A2) Stripped Matrix (S6) Red Parent Material (TF2) Black Histic (A3) Loamy Mucky Mineral (F1) (except in MLRA 1) Other (Explain in Remarks) Loamy Gleyed Matrix (F2) ☐ Hydrogen Sulfide (A4) Depleted Below Dark Surface (A11) Depleted Matrix (F3) Redox Dark Surface (F6) ☐ Thick Dark Surface (A12) <sup>3</sup>Indicators of hydrophytic vegetation and Depleted Dark Surface (F7) Sandy Muck Mineral (S1) wetland hydrology must be present, unless disturbed or problematic. Redox depressions (F8) Sandy Gleyed Matrix (S4) Restrictive Layer (if present): Type: No O **Hydric Soil Present?** Yes Depth (inches): Remarks: Hydrology Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (minimum of two required) Surface Water (A1) Water-Stained Leaves (B9) (except MLRA Water-Stained Leaves (B9) (MLRA 1, 2, 1, 2, 4A, and 4B) 4A, and 4B) High Water Table (A2) Saturation (A3) Salt Crust (B11) ☐ Drainage Patterns (B10) Aquatic Invertebrates (B13) Water Marks (B1) Dry Season Water Table (C2) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Saturation Visible on Aerial Imagery (C9) Drift deposits (B3) Oxidized Rhizospheres on Living Roots (C3) Geomorphic Position (D2) Presence of Reduced Iron (C4) Algal Mat or Crust (B4) Shallow Aquitard (D3) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) FAC-neutral Test (D5) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Inundation Visible on Aerial Imagery (B7) Frost Heave Hummocks (D7) U Other (Explain in Remarks) Sparsely Vegetated Concave Surface (B8) Field Observations: Yes O No 💿 Surface Water Present? Depth (inches): n Yes  $\bigcirc$ No 💿 Water Table Present? Depth (inches): 0 Yes ● No ○ Wetland Hydrology Present? Saturation Present? Yes O No 💿 Depth (inches): (includes capillary fringe)

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

Project/Site: North Mist Expansion				city/County:	Columbia C	ounty	Sampling Date: <u>05-0</u>	)ct-22
Applicant/Owner: Northwest Natural						State: OR	Sampling Point:	SP-54
Investigator(s): Sara Frank, Ed Strohn	naier			Section, To	wnship, Ra	ange: <b>S</b> 14 T 6	N R 5W	
Landform (hillslope, terrace, etc.):	Toeslope			Local relief	(concave, o	convex, none): flat	Slope:	5.0 % / <u>2.9</u> °
Subregion (LRR): LRR A	Lat.: 46	.005558		Long.: -123.262503	Datun	n: WGS 1984		
Soil Map Unit Name: 37 - Natal silty	clay loam					NWI classif	ication: N/A	•
re climatic/hydrologic conditions on		ical for this ti	ime of year	? Yes	No C			
Are Vegetation, Soil	, or Hydrold	ogy 🗌 si	gnificantly	disturbed?	Are "N	ormal Circumstances" p	resent? Yes	No O
Are Vegetation, Soil	, or Hydrold	pav na	aturally pro	blematic?	(If ne	eded, explain any answe	rs in Remarks.)	
Summary of Findings - At								tures, etc.
Hydrophytic Vegetation Present?	Yes	No O		Is the	Sampled A	Aroa		
Hydric Soil Present? Yes   No					•	Vac ( No (		
Wetland Hydrology Present? Yes ● No ○				within	a Wetland	1? 103 0 110 0		
Remarks:				•				
Toe of slope on west side of road								
VEGETATION - Use scien	tific name	es of plant	s.	Dominant Species?				
Tree Stratum (Plot size: 30 feet	)		Absolute % Cover		Indicator Status	Dominance Test works	heet:	
1			0	0.0%	Otatus	Number of Dominant Spe That are OBL, FACW, or		(A)
2,			0	0.0%				
3			0	0.0%		Total Number of Dominal Species Across All Strata:		(B)
4,			0	0.0%				
Sapling/Shrub Stratum (Plot size:	15 feet	)	0	= Total Cove	er	Percent of dominant S That Are OBL, FACW,		% (A/B)
1			0	0.0%		Prevalence Index work	(sheet:	
2			0	0.0%		Total % Cover o	f: Multiply by:	
3				0.0%		OBL species	0 x 1 =	0
4 5.				0.0%				80
J				0.0%				<u>15</u>
Herb Stratum (Plot size: 5 feet	)		0	= Total Cove	er		<u> </u>	20
1 Juncus effusus			40	<b>✓</b> 40.0%	FACW	or E specifies —	x 5 =	0
2. Agrostis stolonifera			5	5.0%	FAC	Column Totals:1	<u>00</u> (A) <u>2</u>	<u>215</u> <b>(B)</b>
3 Rubus ursinus			5	5.0%	FACU	Prevalence Index	= B/A = <u>2.15</u> 0	0_
4. Phalaris arundinacea			50	50.0%	FACW	Hydrophytic Vegetatio	n Indicators:	
5				0.0%		✓ 1 - Rapid Test for H		n
6				0.0%		✓ 2 - Dominance Test		
7			•	0.0%		<b>✓</b> 3 - Prevalence Inde	ex is ≤3.0 <sup>1</sup>	
8.				0.0%		│	daptations 1 (Provide	e supportina
9				0.0%		data in Remarks	s or on a separate sh	
11.			0	0.0%		5 - Wetland Non-Va	ascular Plants 1	
11,			100	= Total Cove	er	Problematic Hydrop	ohytic Vegetation <sup>1</sup> (E	xplain)
Woody Vine Stratum (Plot size:1,			0	0.0%		1 Indicators of hydric s be present, unless dis	oil and wetland hydr turbed or problemati	rology must c.
2.			0	0.0%		Hydrophytic		
			0	= Total Cove	er	Vegetation Present? Yes	● No ○	
% Bare Ground in Herb Stratum	:_0	_						
Remarks:						-		
No trees, No shrubs								

<sup>\*</sup>Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

rome besc	ription: (Des	scribe to t	he depth	needed to	document	the indi	cator or c	onfirm the	absence of indicator	rs.)
Depth		Matrix			Red	ox Featu	res			
(inches) 0-3	Color (I	moist)	<u>%</u>	Color	(moist)	<u>%</u>	Type 1	Loc2	Texture Silty Clay Loam	Remarks dense, fine roots
3-8	10YR	5/3	80	5YR	 5/8	20		M/PL	Silty Clay Loam	
8-22	10YR	4/3	75	5YR	5/8	15		M	only only Louin	
0-22				2.5Y	6/3	10				
ype: C=Cor	ncentration. D	=Depletion	. RM=Red	uced Matrix	, CS=Covere	ed or Coat	ed Sand G	rains <sup>2</sup> Loc	ation: PL=Pore Lining.	. M=Matrix
-	Indicators:	(Applicab	le to all L	RRs, unles	s otherwis	e noted.	)		Indicators for Pr	roblematic Hydric Soils <sup>3</sup> :
Histosol					ndy Redox ( ripped Matri				2 cm Muck (A	•
☐ Histic Epi   ☐ Black His   ☐ Histic Epi   ☐ Black Histic Epi   ☐ Histic	ipedon (A2)						1) (excent	in MLRA 1)	Red Parent M	• •
_	n Sulfide (A4)				amy Gleyed			w.c.v. 1)	✓ Other (Explai	п ш кетаку
	Below Dark S		1)		epleted Matr					
Thick Da	rk Surface (A1	12)		_	dox Dark Su					ophytic vegetation and
Sandy M	uck Mineral (S	51)			pleted Dark		(F7)			gy must be present,
	leyed Matrix (			∟ ке	dox depress	sions (F8)			unless disturbed	or problematic.
	Layer (if pres	sent):								
Type: _		sent):							Hydric Soil Presen	nt? Yes • No O
Type: Depth (inc Remarks:	ches):		hroma is	high for hy	ydric soil ir	ndicators	, but ther	e are redox	Hydric Soil Presen	
Type: Depth (inc Remarks:	ches):		hroma is	high for hy	ydric soil ir	ndicators	, but ther	e are redox		
Type: Depth (in: Remarks: ree colors	ches):in third soil		hroma is	high for hy	ydric soil ir	ndicators	, but ther	e are redox		
Type:	ches):in third soil	horizon, c	hroma is	high for hy	ydric soil ir	ndicators	, but ther	e are redox		
Type:	in third soil	horizon, C					, but ther	e are redo:	ximorphic features p	
Type:	in third soil    y drology Indi licators (min Water (A1)	horizon, c		red; check		oply)ed Leaves			ximorphic features p	resent  ndicators (minimum of two retained Leaves (B9) (MLRA 1, 2,
Depth (indexemarks:  Iree colors   ydrolog  Vetland Hydrimary Indexed  Surface  High Wa	in third soil    y drology Indi licators (min Water (A1) ter Table (A2)	horizon, c		red; check	all that ap Water-Staine	oply) ed Leaves d 4B)			ximorphic features p  Secondary I  Water-S 4A, and	ndicators (minimum of two retained Leaves (B9) (MLRA 1, 2, 4B)
Type:	in third soil    y drology Indi licators (min Water (A1) ter Table (A2)	horizon, c		red; check	all that ap Water-Staine 1, 2, 4A, and	oply) ed Leaves d 4B) s11)	(B9) (exce		Secondary I  Secondary I  Water-S 4A, and Drainage	ndicators (minimum of two retained Leaves (B9) (MLRA 1, 2, 4B) e Patterns (B10)
Type:	y drology Indi licators (min Water (A1) other Table (A2)	cators:		red; check	all that ap Water-Staine 1, 2, 4A, and Salt Crust (B	pply) ed Leaves d 4B) 811) ertebrates	(B9) (exce		Secondary I  Secondary I  Water-S 4A, and Drainage Dry Sea:	ndicators (minimum of two retained Leaves (B9) (MLRA 1, 2, 4B)
Type:	y drology Indi licators (min Water (A1) other Table (A2) on (A3) larks (B1)	cators:		red; check	all that ap Water-Staind 1, 2, 4A, and Salt Crust (B Aquatic Inve	oply)ed Leaves d 48) d11) ortebrates ulfide Odo	(B9) (exce (B13) r (C1)	ept MLRA	Secondary I  Secondary I  Water-S 4A, and Drainage Dry Sea: Saturatie	ndicators (minimum of two retained Leaves (B9) (MLRA 1, 2, 4B) e Patterns (B10) son Water Table (C2)
Type:	y drology Indi dicators (min Water (A1) ther Table (A2) on (A3) larks (B1) the Deposits (B2)	cators: imum of (		red; check	all that ap Water-Staine 1, 2, 4A, and Salt Crust (B Aquatic Inve Hydrogen Su	oply) ed Leaves d 4B) s11) ertebrates ulfide Odo zospheres	(B9) (exce (B13) r (C1) s on Living	ept MLRA	Secondary I  Secondary I  Water-S 4A, and Drainage Dry Sease Saturatie Geomory	ndicators (minimum of two retained Leaves (B9) (MLRA 1, 2, 4B) e Patterns (B10) son Water Table (C2) on Visible on Aerial Imagery (C9)
Type:	in third soil    y drology Indi dicators (min Water (A1) ater Table (A2) on (A3) larks (B1) at Deposits (B3) posits (B3)	cators: imum of (		red; check	all that ap Water-Staine 1, 2, 4A, and Salt Crust (B Aquatic Inve Hydrogen Su Dxidized Rhi	oply) ed Leaves 1 4B) 311) ertebrates ulfide Odo zospheres Reduced	(B9) (exce (B13) r (C1) s on Living Iron (C4)	ept MLRA Roots (C3)	Secondary I  Secondary I  Water-S 4A, and  Drainage Dry Sea: Saturatie Geomore Shallow	ndicators (minimum of two retained Leaves (B9) (MLRA 1, 2, 4B) e Patterns (B10) son Water Table (C2) on Visible on Aerial Imagery (C9) phic Position (D2)
Type:	in third soil of	cators: imum of (		red; check	all that ap Water-Staine 1, 2, 4A, and Salt Crust (B Aquatic Inve Hydrogen St Oxidized Rhi Presence of	oply) ed Leaves d 48) et11) ertebrates ulfide Odo zospheres Reduced Reduction	(B9) (exce (B13) r (C1) s on Living lron (C4) n in Tilled S	ept MLRA Roots (C3) Soils (C6)	Secondary I  Secondary I  Water-S 4A, and  Drainage Dry Sea: Saturatie Geomore Shallow FAC-neu	ndicators (minimum of two retained Leaves (B9) (MLRA 1, 2, 4B) e Patterns (B10) son Water Table (C2) on Visible on Aerial Imagery (C9) phic Position (D2) Aquitard (D3)
Type:	y drology Indi licators (min Water (A1) oter Table (A2) on (A3) larks (B1) ot Deposits (B3) ot or Crust (B4) posits (B5)	cators: imum of (	one requii	red; check	all that ap Water-Staine 1, 2, 4A, and Salt Crust (B Aquatic Inve Hydrogen St Oxidized Rhi Presence of Recent Iron	oply) ed Leaves d 4B) entebrates ulfide Odo zospheres Reduced Reductior entersed Pl	(B9) (exce (B13) r (C1) s on Living fron (C4) n in Tilled S lants (D1)	ept MLRA Roots (C3) Soils (C6)	Secondary I  Water-S 4A, and Drainage Dry Sea: Saturatie Geomory Shallow FAC-neu Raised A	ndicators (minimum of two retained Leaves (B9) (MLRA 1, 2, 4B) e Patterns (B10) son Water Table (C2) on Visible on Aerial Imagery (C9) phic Position (D2) Aquitard (D3)
Type:	y drology Indi licators (min Water (A1) ater Table (A2) on (A3) larks (B1) at Deposits (B3) at or Crust (B4) cosits (B5) Soil Cracks (B	cators: imum of o	one requii	red; check	all that ap Water-Stain 1, 2, 4A, and Salt Crust (B Aquatic Inve Hydrogen Su Dxidized Rhi Presence of Recent Iron Stunted or S	oply) ed Leaves d 4B) entebrates ulfide Odo zospheres Reduced Reductior entersed Pl	(B9) (exce (B13) r (C1) s on Living fron (C4) n in Tilled S lants (D1)	ept MLRA Roots (C3) Soils (C6)	Secondary I  Water-S 4A, and Drainage Dry Sea: Saturatie Geomory Shallow FAC-neu Raised A	resent  Indicators (minimum of two restained Leaves (B9) (MLRA 1, 2, 4B)  Patterns (B10)  Son Water Table (C2)  Ton Visible on Aerial Imagery (C9)  Phic Position (D2)  Aquitard (D3)  Itral Test (D5)  Ant Mounds (D6) (LRR A)
Type:	y drology Indi licators (min Water (A1) ater Table (A2) on (A3) larks (B1) at Deposits (B3) at or Crust (B4 cosits (B5) Soil Cracks (B ion Visible on a Vegetated Co	cators: imum of of  2) Aerial Imagencave Surf	one requii gery (B7) face (B8)	red; check	all that ap Water-Staind 1, 2, 4A, and Salt Crust (B Aquatic Inve Hydrogen Su Dxidized Rhi Presence of Recent Iron Stunted or S	oply) ed Leaves d 4B) entebrates ulfide Odo zospheres Reduced Reductior entersed Pl	(B9) (exce (B13) r (C1) s on Living fron (C4) n in Tilled S lants (D1)	ept MLRA Roots (C3) Soils (C6)	Secondary I  Water-S 4A, and Drainage Dry Sea: Saturatie Geomory Shallow FAC-neu Raised A	resent  Indicators (minimum of two restained Leaves (B9) (MLRA 1, 2, 4B)  Patterns (B10)  Son Water Table (C2)  Ton Visible on Aerial Imagery (C9)  Phic Position (D2)  Aquitard (D3)  Itral Test (D5)  Ant Mounds (D6) (LRR A)
Type:	y drology Indi licators (min Water (A1) atter Table (A2) on (A3) larks (B1) at Deposits (B3) at or Crust (B4) cosits (B5) Soil Cracks (B ion Visible on v Vegetated Co	cators: imum of o	one requii gery (B7) face (B8)	red; check	all that ap Water-Staind 1, 2, 4A, and Salt Crust (B Aquatic Inve Hydrogen Su Dxidized Rhi Presence of Recent Iron Stunted or S	oply) ed Leaves d 4B) entebrates ulfide Odo zospheres Reduced Reductior stressed Pl in in Rem	(B9) (exce (B13) r (C1) s on Living fron (C4) n in Tilled S lants (D1)	ept MLRA Roots (C3) Soils (C6)	Secondary I  Water-S 4A, and Drainage Dry Sea: Saturatie Geomory Shallow FAC-neu Raised A	resent  Indicators (minimum of two restained Leaves (B9) (MLRA 1, 2, 4B)  Patterns (B10)  Son Water Table (C2)  Ton Visible on Aerial Imagery (C9)  Phic Position (D2)  Aquitard (D3)  Itral Test (D5)  Ant Mounds (D6) (LRR A)
Type:	y drology Indi dicators (min Water (A1) ther Table (A2) on (A3) larks (B1) the Deposits (B3) at or Crust (B4) cosits (B5) Soil Cracks (B ion Visible on v Vegetated Co vations: vr Present?	cators: imum of of  2) Aerial Imagencave Surf	one required persons of the second persons o	red; check	all that ap Water-Staind 1, 2, 4A, and Salt Crust (B Aquatic Inve Hydrogen Su Oxidized Rhi Presence of Recent Iron Stunted or S Other (Expla	oply) ed Leaves d 4B) st11) ertebrates ulfide Odo izospheres Reduced Reductior stressed Pl inin in Rem	(B9) (exce (B13) r (C1) s on Living fron (C4) n in Tilled S lants (D1)	Roots (C3) Soils (C6) (LRR A)	Secondary I  Water-S 4A, and Drainage Dry Sea: Saturatie Geomory Shallow FAC-neu Raised A	ndicators (minimum of two retained Leaves (B9) (MLRA 1, 2, 4B) e Patterns (B10) son Water Table (C2) on Visible on Aerial Imagery (C9) phic Position (D2) Aquitard (D3) atral Test (D5) Ant Mounds (D6) (LRR A) eave Hummocks (D7)

Project/Site: North Mist Expansion		City/County:	Columbia Co	ounty Sampling Date: <u>05-Oct-22</u>
Applicant/Owner: Northwest Natural				State: OR Sampling Point: SP-55
		Section, To	wnship, Ra	ange: S 14 T 6N R 5W
Landform (hillslope, terrace, etc.): Swale		Local relief	(concave, c	convex, none): flat Slope:15.0 % /8.5 °
Subregion (LRR): LRR A	Lat.: 4	6.005579		Long.: -123.262469 Datum: WGS 1984
Soil Map Unit Name: 37 - Natal silty clay loam		0.0222		NWI classification: N/A
re climatic/hydrologic conditions on the site typ	nical for this time of yea	r? Yes	. ● No ○	
Are Vegetation \( \square\) , Soil \( \square\) , or Hydrol				Iormal Circumstances" present? Yes  No
Are Vegetation, Soil, or Hydrol				eded, explain any answers in Remarks.)
-				ations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes	No •			· · · · · · · · · · · · · · · · · · ·
Hydric Soil Present? Yes	No •		Sampled A	Voc O No O
Wetland Hydrology Present? Yes	No •	within	a Wetland	1? Tes C NO G
Remarks:	-	I		
Plot on slope from road to wetland				
VEGETATION - Use scientific name	es of plants.	Dominant Species?		
Tree Stratum (Plot size: 30 feet )	Absolute % Cover	e Rel.Strat.	Indicator Status	Dominance Test worksheet:
1 Pseudotsuga menziesii		<b>✓</b> 38.5%	FACU	Number of Dominant Species That are OBL, FACW, or FAC:3 (A)
2. Frangula purshiana	40	61.5%	FAC	Total Number of Dominant
3		0.0%		Species Across All Strata:6(B)
4		0.0%		Percent of dominant Species
Sapling/Shrub Stratum (Plot size: 15 feet	)65	= Total Cove	er	That Are OBL, FACW, or FAC: 50.0% (A/B)
1, Malus fusca		40.0%	FACW	Prevalence Index worksheet:
2. Prunus emarginata		20.0%	FACU	Total % Cover of: Multiply by:
3. Symphoricarpos albus		40.0%	FACU	0BL species 0 x 1 = 0
4 5.		0.0%		FACW species 25 x 2 = 50
J				FAC species $90 \times 3 = 270$
Herb Stratum (Plot size: 5 feet )	25	= Total Cove	er	FACU species $\frac{50}{}$ x 4 = $\frac{200}{}$
1 Berberis nervosa	5	6.3%	UPL	UPL species $\frac{5}{}$ x 5 = $\frac{25}{}$
2. Agrostis stolonifera	50	62.5%	FAC	Column Totals: <u>170</u> (A) <u>545</u> (B)
3 Rubus ursinus	10	12.5%	FACU	Prevalence Index = B/A = 3.206
4. Phalaris arundinacea		18.8%	FACW	Hydrophytic Vegetation Indicators:
5	0	0.0%		1 - Rapid Test for Hydrologic Vegetation
6		0.0%		2 - Dominance Test is > 50%
7		0.0%		3 - Prevalence Index is ≤3.0 ¹
8.———		0.0%		4 - Morphological Adaptations <sup>1</sup> (Provide supporting
9		0.0%		data in Remarks or on a separate sheet)
10.		0.0%		5 - Wetland Non-Vascular Plants 1
11.	80	= Total Cove		Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
(Plot size:			.1	Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1,		0.0%		
2		0.0%		Hydrophytic Vegetation
9/ Para Cround in Harb Stratum.	0	= Total Cove	er	Present? Yes No •
% Bare Ground in Herb Stratum: <u>15</u>				
Remarks:				

<sup>\*</sup>Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil Sampling Point: SP-55 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Matrix **Redox Features** Depth Loc2 Texture (inches) Color (moist) Color (moist) % Remarks 10YR 3/3 99 10YR М Silty Clay Loam 0-4 5/8 1 С 7.5YR С М 4-20 10YR 4/3 96 5/6 4 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 Soils3: Histosol (A1) Sandy Redox (S5) 2 cm Muck (A10) Histic Epipedon (A2) Stripped Matrix (S6) Red Parent Material (TF2) Black Histic (A3) Loamy Mucky Mineral (F1) (except in MLRA 1) Other (Explain in Remarks) Loamy Gleyed Matrix (F2) ☐ Hydrogen Sulfide (A4) Depleted Below Dark Surface (A11) Depleted Matrix (F3) Redox Dark Surface (F6) ☐ Thick Dark Surface (A12) <sup>3</sup>Indicators of hydrophytic vegetation and Depleted Dark Surface (F7) Sandy Muck Mineral (S1) wetland hydrology must be present, unless disturbed or problematic. Redox depressions (F8) Sandy Gleyed Matrix (S4) Restrictive Layer (if present): Type: No 💿 **Hydric Soil Present?** Yes 🔾 Depth (inches): Remarks: Hydrology Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (minimum of two required) Surface Water (A1) Water-Stained Leaves (B9) (except MLRA Water-Stained Leaves (B9) (MLRA 1, 2, 1, 2, 4A, and 4B) 4A, and 4B) High Water Table (A2) Saturation (A3) Salt Crust (B11) ☐ Drainage Patterns (B10) Aquatic Invertebrates (B13) Water Marks (B1) Dry Season Water Table (C2) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Saturation Visible on Aerial Imagery (C9) Drift deposits (B3) Oxidized Rhizospheres on Living Roots (C3) Geomorphic Position (D2) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Shallow Aquitard (D3) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) FAC-neutral Test (D5) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Inundation Visible on Aerial Imagery (B7) Frost Heave Hummocks (D7) U Other (Explain in Remarks) Sparsely Vegetated Concave Surface (B8) Field Observations: Yes O No 💿 Surface Water Present? Depth (inches): Yes  $\bigcirc$ No 💿 Water Table Present? Depth (inches): Yes ○ No ● Wetland Hydrology Present? Saturation Present? Yes O No 💿 Depth (inches): (includes capillary fringe) Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

No hydrology present

Project/Site: North Mist Expansion			City/County:	Columbia	Sampling Date: 05-Oct-22
Applicant/Owner: NW Natural					State: Oregon Sampling Point: SP-56
nvestigator(s): Ed Strohmaier			Section, To	wnship, Ra	ange: S 14 T 6N R 5W
Landform (hillslope, terrace, etc.):			Local relief	(concave, c	convex, none): flat Slope:0.0 % /0.0
Gubregion (LRR): LRR A		Lat.: 46	00552		Long.: -123.262522 Datum: WGS 1984
oil Map Unit Name: 37-Natal silly clay loam					NWI classification: N/A
e climatic/hydrologic conditions on the site	tvoical for this t	ime of year	? Yes	. ● No C	
Are Vegetation  , Soil  , or Hyd	· –	gnificantly			ormal Circumstances" present? Yes  No
		aturally pro			eded, explain any answers in Remarks.)
					ations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes				Sampled A	
Hydric Soil Present? Yes •				•	Voc 📵 No 🔘
Wetland Hydrology Present? Yes .	No 🔾		within	a Wetland	19 - 100 - 110 -
Remarks:					
VEGETATION - Use scientific na	mes of plant		Dominant		
VEGETATION - OSE SCIENTIFIC HA	— Plant		_Species? _		Dentition Testamentologic
_Tree Stratum (Plot size: _30ft)		% Cover		Indicator Status	Dominance Test worksheet:
1. Pseudotsuga menziesii		30	100.0%	FACU	Number of Dominant Species That are OBL, FACW, or FAC:4 (A)
2		0	0.0%		Total Number of Dominant
3,		0	0.0%		Species Across All Strata:6(B)
4		0	0.0%		Descent of dominant Charles
Sapling/Shrub Stratum (Plot size: 15ft	)	30	= Total Cove	er	Percent of dominant Species That Are OBL, FACW, or FAC: 66.7% (A/B)
1. Malus fusca		5	25.0%	FACW	Prevalence Index worksheet:
2. Fraxinus latifolia		10	50.0%	FACW	Total % Cover of: Multiply by:
3. Rubus ursinus			25.0%	FACU	0BL speci es x 1 = 0
4 5.		0	0.0%		FACW species 90 x 2 = 180
5					FAC species $25$ x 3 = $75$
Herb Stratum (Plot size: 5ft )		20	= Total Cove	<del>!</del> r	FACU species $\frac{35}{0}$ x 4 = $\frac{140}{0}$
1. Phalaris arundinacea		75	<b>✓</b> 75.0%	FACW	UPL species $0 \times 5 = 0$
2. Alopecurus pratensis		20	20.0%	FAC	Column Totals: <u>150</u> (A) <u>395</u> (B)
3 Agrostis gigantea		5	5.0%	FAC	Prevalence Index = B/A =
4			0.0%		Hydrophytic Vegetation Indicators:
5			0.0%		1 - Rapid Test for Hydrologic Vegetation
6			0.0%		✓ 2 - Dominance Test is > 50%
7			0.0%		✓ 3 - Prevalence Index is ≤3.0 <sup>1</sup>
8.———			0.0%		4 - Morphological Adaptations <sup>1</sup> (Provide supporting
10			0.0%		data in Remarks or on a separate sheet)
11.		_	0.0%		5 - Wetland Non-Vascular Plants 1
11.		100	= Total Cove	÷r	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
Woody Vine Stratum (Plot size:	)				1 Indicators of hydric soil and wetland hydrology must
1,		0	0.0%		be present, unless disturbed or problematic.
2.		0	0.0%		Hydrophytic Vegetation
		0	= Total Cove	er l	Present? Yes No
					1 Tosone.
% Bare Ground in Herb Stratum: <u>0</u>					

<sup>\*</sup>Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil Sampling Point: SP-56 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Matrix **Redox Features** Depth Loc2 (inches) Color (moist) % Color (moist) % Type **Texture** Remarks 10YR 2/2 100 0-6 95 С 6-10 10YR 2/2 10YR 4/6 5 PL Silty Clay Loam С 10YR 2/2 10YR 15 10-16 85 4/6 Μ Silty Clay Loam С 16-20 10YR 4/2 80 10YR 4/6 20 М 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 Soils3: Histosol (A1) Sandy Redox (S5) 2 cm Muck (A10) Histic Epipedon (A2) Stripped Matrix (S6) Red Parent Material (TF2) Black Histic (A3) Loamy Mucky Mineral (F1) (except in MLRA 1) Other (Explain in Remarks) Loamy Gleyed Matrix (F2) ☐ Hydrogen Sulfide (A4) Depleted Below Dark Surface (A11) Depleted Matrix (F3) Redox Dark Surface (F6) ☐ Thick Dark Surface (A12) <sup>3</sup>Indicators of hydrophytic vegetation and Depleted Dark Surface (F7) Sandy Muck Mineral (S1) wetland hydrology must be present, unless disturbed or problematic. Redox depressions (F8) Sandy Gleyed Matrix (S4) Restrictive Layer (if present): Type: No O **Hydric Soil Present?** Yes Depth (inches): Remarks: Hydrology Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (minimum of two required) Surface Water (A1) Water-Stained Leaves (B9) (except MLRA Water-Stained Leaves (B9) (MLRA 1, 2, 1, 2, 4A, and 4B) 4A, and 4B) High Water Table (A2) Saturation (A3) Salt Crust (B11) ☐ Drainage Patterns (B10) Aquatic Invertebrates (B13) Water Marks (B1) Dry Season Water Table (C2) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Saturation Visible on Aerial Imagery (C9) Drift deposits (B3) Oxidized Rhizospheres on Living Roots (C3) Geomorphic Position (D2) Presence of Reduced Iron (C4) Algal Mat or Crust (B4) Shallow Aquitard (D3) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) ✓ FAC-neutral Test (D5) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Inundation Visible on Aerial Imagery (B7) Frost Heave Hummocks (D7) U Other (Explain in Remarks) Sparsely Vegetated Concave Surface (B8) Field Observations: Yes O No 💿 Surface Water Present? Depth (inches): n Yes  $\bigcirc$ No 💿 Water Table Present? Depth (inches): 0 Yes ● No ○ Wetland Hydrology Present? Saturation Present? Yes  $\bigcirc$ No 💿 Depth (inches): (includes capillary fringe)

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

Project/Site: North Mist Expansion			City/County:	Columbia	Sampling Date: 05-Oct-22
Applicant/Owner: NW Natural					State: Oregon Sampling Point: SP-57
Investigator(s): Ed Strohmaier			Section, To	wnship, Ra	ange: S 14 T 6N R 5W
Landform (hillslope, terrace, etc.):			Local relief	(concave, o	convex, none): flat Slope: 0.0 % / 0
Subregion (LRR): LRR A		<b>Lat</b> .: 46	.004887		Long.: -123.262357 Datum: WGS 1984
soil Map Unit Name: 37-Natal silly c	lay loam				NWI classification: N/A
e climatic/hydrologic conditions or Are Vegetation  , Soil	, or Hydrology s	significantly	disturbed?	(If nee	(If no, explain in Remarks.)  lormal Circumstances" present? Yes  No  eded, explain any answers in Remarks.)  ations, transects, important features, et
Hydrophytic Vegetation Present?	Yes O No 💿		lo tho	Sampled A	- Area
Hydric Soil Present?	Yes O No 💿			•	Voc O No O
Wetland Hydrology Present?	Yes 🔾 No 💿		within	a Wetland	1? 163 0 110 0
VEGETATION - Use scien	ntific names of plant		Dominant Species? -	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: 30ft	)	% Cover		Status	Number of Dominant Species
1. Pseudotsuga menziesii		40	72.7%	FACU	That are OBL, FACW, or FAC: (A)
_			27.3%	FACU	Total Number of Dominant
3			0.0%		Species Across All Strata:5(B)
4			0.0%		Percent of dominant Species
Sapling/Shrub Stratum (Plot size	: 15ft )	55	= Total Cove	er	That Are OBL, FACW, or FAC: 40.0% (A/B)
4.0 1 1 11		25	71.4%	FACU	Prevalence Index worksheet:
2. Rosa pisocarpa		10	28.6%	FAC	Total % Cover of: Multiply by:
3		0	0.0%		0BL species 0 x 1 = 0
4		0	0.0%		FACW species <u>20</u> x 2 = <u>40</u>
5		0	0.0%		FAC speciles
Herb Stratum (Plot size: 5ft	1	35	= Total Cove	er	FACU speci es $80 \times 4 = 320$
1 Phalaris arundinacea	/	20	100.0%	FΔCW	UPL speci es $0 \times 5 = 0$
2.		0	0.0%	TACV	Col umn Total s:110 (A)390 (B)
3		0	0.0%		Prevalence Index = B/A = 3.545
4		0	0.0%		Hydrophytic Vegetation Indicators:
5		0	0.0%		1 - Rapid Test for Hydrologic Vegetation
6			0.0%		2 - Dominance Test is > 50%
7.———			0.0%		3 - Prevalence Index is ≤3.0 <sup>1</sup>
8.———			0.0%		4 - Morphological Adaptations <sup>1</sup> (Provide supporting
9.————————————————————————————————————			0.0%		data in Remarks or on a separate sheet)
11.		_	0.0%		☐ 5 - Wetland Non-Vascular Plants <sup>1</sup>
117		20	= Total Cove	er	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
Woody Vine Stratum (Plot size:					Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1,		0	0.0%		
2			0.0%		Hydrophytic Vegetation
		0	= Total Cove	er	Present? Yes No •
% Bare Ground in Herb Stratum	1: <u>80</u>				
Remarks:					

<sup>\*</sup>Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil Sampling Point: SP-57 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Matrix **Redox Features** Depth Loc2 Texture (inches) Color (moist) % Color (moist) % Type Remarks 10YR 2/2 98 Silty Clay Loam 0-2 10YR 3/6 2 Μ 2-12 10YR 2/2 100 Silty Clay Loam 2/2 7.5YR С 12-18 10YR 90 5/6 10 M Silty Clay Loam <sup>1</sup>Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains <sup>2</sup>Location: PL=Pore Lining. M=Matrix Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils3: Histosol (A1) Sandy Redox (S5) 2 cm Muck (A10) Histic Epipedon (A2) Stripped Matrix (S6) Red Parent Material (TF2) Black Histic (A3) Loamy Mucky Mineral (F1) (except in MLRA 1) Other (Explain in Remarks) Loamy Gleyed Matrix (F2) ☐ Hydrogen Sulfide (A4) Depleted Below Dark Surface (A11) Depleted Matrix (F3) Redox Dark Surface (F6) ☐ Thick Dark Surface (A12) <sup>3</sup>Indicators of hydrophytic vegetation and Depleted Dark Surface (F7) Sandy Muck Mineral (S1) wetland hydrology must be present, unless disturbed or problematic. Redox depressions (F8) Sandy Gleyed Matrix (S4) Restrictive Layer (if present): Type: No 💿 **Hydric Soil Present?** Yes 🔾 Depth (inches): Remarks: Hydrology Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (minimum of two required) Surface Water (A1) Water-Stained Leaves (B9) (except MLRA Water-Stained Leaves (B9) (MLRA 1, 2, 1, 2, 4A, and 4B) 4A, and 4B) High Water Table (A2) Saturation (A3) Salt Crust (B11) ☐ Drainage Patterns (B10) Aquatic Invertebrates (B13) Water Marks (B1) Dry Season Water Table (C2) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Saturation Visible on Aerial Imagery (C9) Drift deposits (B3) Oxidized Rhizospheres on Living Roots (C3) Geomorphic Position (D2) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Shallow Aquitard (D3) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) FAC-neutral Test (D5) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Inundation Visible on Aerial Imagery (B7) Frost Heave Hummocks (D7) U Other (Explain in Remarks) Sparsely Vegetated Concave Surface (B8) Field Observations: Yes O No 💿 Surface Water Present? Depth (inches): n Yes  $\bigcirc$ No 💿 Water Table Present? Depth (inches): 0 Yes ○ No ● Wetland Hydrology Present? Saturation Present? Yes O No 💿 Depth (inches): (includes capillary fringe) Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

roject/Site: North Mist Expansion				City/County:	Columbia	Sampling Date: 05-Oct-22
Applicant/Owner: NW Natural						State: Oregon Sampling Point: SP-58
nvestigator(s): Ed Strohmaier				Section, To	wnship, Ra	ange: S 14 T 6N R 5W
Landform (hillslope, terrace, etc.):				Local relief	(concave, o	convex, none): flat Slope:0.0 % /0.0
- Subregion (LRR): LRR A			 Lat.: 46	.004904		Long.: -123.262364 Datum: WGS 1984
oil Map Unit Name: 37-Natal silly cla	ay loam					NWI classification: N/A
e climatic/hydrologic conditions on		pical for this	time of year	? Yes	s ● No ○	
Are Vegetation, Soil	, or Hydro	ology 🗌 🤈	significantly	disturbed?	Are "N	Iormal Circumstances" present? Yes  No
	, or Hydro		naturally pro			eded, explain any answers in Remarks.)
		-	owing sa	mpling po	oint loc	ations, transects, important features, etc
Hydrophytic Vegetation Present?	Yes   O	No O		Is the	Sampled A	Area
Hydric Soil Present?	Yes •	No O		within	a Wetland	<sub>d?</sub> Yes ◉ No ○
Wetland Hydrology Present?	Yes •	No O				
Remarks:						
VEGETATION - Use scient	tific nam	es of plan	ts.	Dominant		
				_Species? _	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: 30ft	)		% Cover		Status	Number of Dominant Species
1				0.0%		That are OBL, FACW, or FAC: (A)
2,				0.0%		Total Number of Dominant
3				0.0%		Species Across All Strata: 2 (B)
4			0	0.0%		Percent of dominant Species
Sapling/Shrub Stratum (Plot size:	15ft	)	0	= Total Cove	∍r	That Are OBL, FACW, or FAC: 100.0% (A/B)
40: 1 ! "			25	<b>1</b> 00.0%	FACW	Prevalence Index worksheet:
2.				0.0%		Total % Cover of: Multiply by:
3.				0.0%		0BL species 0 x 1 = 0
4			0	0.0%		FACW species 125 x 2 = 250
5			0	0.0%		FAC species x 3 =0
(5)	,		25	= Total Cove	∍r	FACU species $0 \times 4 = 0$
Herb Stratum (Plot size: 5ft	)		100	100.00/	E4014	UPL species $\frac{0}{x}$ $x = \frac{0}{x}$
1 Phalaris arundinacea			0	100.0%	FACW	Col umn Total s: 125 (A) 250 (B)
2				0.0%		Prevalence Index = B/A = 2.000
4				0.0%		
5				0.0%		Hydrophytic Vegetation Indicators:
6			0	0.0%		✓ 1 - Rapid Test for Hydrologic Vegetation ✓ 2 - Dominance Test is > 50%
7			0	0.0%		✓ 2 - Dominance Test is > 50%  ✓ 3 - Prevalence Index is ≤ 3.0 ¹
8.—				0.0%		<u>  _                                   </u>
9				0.0%		4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
10.			_	0.0%		☐ 5 - Wetland Non-Vascular Plants <sup>1</sup>
11.			100	= Total Cove	er er	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
Woody Vine Stratum (Plot size:		)		_		Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1,			0	0.0%		
2			0	0.0%		Hydrophytic Vegetation
2						
% Bare Ground in Herb Stratum:			0	= Total Cove	er	Present? Yes No

<sup>\*</sup>Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil Sampling Point: SP-58 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Matrix **Redox Features** Depth Loc2 Texture (inches) Color (moist) % Color (moist) % Type Remarks 10YR 2/2 100 Silty Clay Loam 0-4 С 4-12 10YR 2/2 95 10YR 3/6 5 Μ Silty Clay Loam С 2/2 7.5YR 4/6 10 12-18 10YR 90 M Silty Clay Loam <sup>1</sup>Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains <sup>2</sup>Location: PL=Pore Lining. M=Matrix Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils3: Histosol (A1) Sandy Redox (S5) 2 cm Muck (A10) Histic Epipedon (A2) Stripped Matrix (S6) Red Parent Material (TF2) Black Histic (A3) Loamy Mucky Mineral (F1) (except in MLRA 1) Other (Explain in Remarks) Loamy Gleyed Matrix (F2) ☐ Hydrogen Sulfide (A4) Depleted Below Dark Surface (A11) Depleted Matrix (F3) Redox Dark Surface (F6) ☐ Thick Dark Surface (A12) <sup>3</sup>Indicators of hydrophytic vegetation and Depleted Dark Surface (F7) Sandy Muck Mineral (S1) wetland hydrology must be present, unless disturbed or problematic. Redox depressions (F8) Sandy Gleyed Matrix (S4) Restrictive Layer (if present): Type: No O **Hydric Soil Present?** Yes Depth (inches): Remarks: Hydrology Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (minimum of two required) Surface Water (A1) Water-Stained Leaves (B9) (except MLRA Water-Stained Leaves (B9) (MLRA 1, 2, 1, 2, 4A, and 4B) 4A, and 4B) High Water Table (A2) Saturation (A3) Salt Crust (B11) ☐ Drainage Patterns (B10) Aquatic Invertebrates (B13) Water Marks (B1) Dry Season Water Table (C2) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Saturation Visible on Aerial Imagery (C9) Drift deposits (B3) Oxidized Rhizospheres on Living Roots (C3) ✓ Geomorphic Position (D2) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Shallow Aquitard (D3) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) ▼ FAC-neutral Test (D5) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Inundation Visible on Aerial Imagery (B7) Frost Heave Hummocks (D7) U Other (Explain in Remarks) Sparsely Vegetated Concave Surface (B8) Field Observations: Yes  $\bigcirc$ No 💿 Surface Water Present? Depth (inches): n Yes  $\bigcirc$ No 💿 Water Table Present? Depth (inches): 0 Yes ● No ○ Wetland Hydrology Present? Saturation Present? Yes O No 💿 Depth (inches): (includes capillary fringe) Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

roject/Site: North Mist Expansion		c	city/County:	Columbia Co	ounty Sampling Date: 05-Oct-22
pplicant/Owner: Northwest Natural					State: OR Sampling Point: SP-59
nvestigator(s): Sara Frank, Ed Strohmaier			Section, To	wnship, Ra	ange: S 14 T 6N R 5W
Landform (hillslope, terrace, etc.): Flat			Local relief	(concave, c	convex, none): undulating Slope: 7.0 % / 4.0
ubregion (LRR): LRR A		 Lat.: 46.	.006338		Long.: -123.263445 Datum: WGS 1984
oil Map Unit Name: 58 - Treharne silt loam					NWI classification: N/A
e climatic/hydrologic conditions on the site typ	ical for this time	e of vear	? Yes	. ● No ○	
re Vegetation ☐ , Soil ☐ , or Hydrol		•	disturbed?	Are "N	ormal Circumstances" present? Yes  No
re Vegetation  , Soil  , or Hydrol		_	blematic?		eded, explain any answers in Remarks.)
-		-		•	ations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes	No O				
Hydric Soil Present? Yes	No •			Sampled A	Vac O No 🗨
Wetland Hydrology Present? Yes	No 💿		within	a Wetland	tes C NO S
Remarks:					
small conifer forest on edge of road before field	ld of reed canary	y grass			
VEGETATION - Use scientific name	es of plants.		Dominant		
Tree Stratum (Plot size: 30 feet )		Absolute % Cover		Indicator Status	Dominance Test worksheet:
1. Pseudotsuga menziesii	_	95	100.0%	FACU	Number of Dominant Species That are OBL, FACW, or FAC: 4 (A)
2.		0	0.0%		mature obe, mon, or me.
3.		0	0.0%		Total Number of Dominant Species Across All Strata: 6 (B)
4		0	0.0%		Species Across Air Strata.
Sapling/Shrub Stratum (Plot size: 15 feet	)	95	= Total Cove	er	Percent of dominant Species That Are OBL, FACW, or FAC: 66.7% (A/B)
1. Crataegus monogyna		5	100.0%	FAC	Prevalence Index worksheet:
2		0	0.0%		Total % Cover of: Multiply by:
3		0	0.0%		0BL speci es x 1 =0
4		0	0.0%		FACW species
5			0.0%		FAC species
Herb Stratum (Plot size: 5 feet )		5	= Total Cove	er	FACU species $\frac{100}{}$ x 4 = $\frac{400}{}$
1 Phalaris arundinacea		5	<b>✓</b> 25.0%	FACW	UPL species $0 \times 5 = 0$
2. Rubus ursinus		5	<b>✓</b> 25.0%	FACU	Column Totals: <u>120</u> (A) <u>450</u> (B)
3 Tolmiea menziesii		5	25.0%	FAC	Prevalence Index = B/A =3.750_
4. Equisetum telmateia		5	<b>✓</b> 25.0%	FACW	I hadaankatis Vanatatian ladisataa
5		0	0.0%		Hydrophytic Vegetation Indicators:  1 - Rapid Test for Hydrologic Vegetation
6			0.0%		✓ 2 - Dominance Test is > 50%
7		0	0.0%		3 - Prevalence Index is ≤3.0 ¹
8.—			0.0%		4 - Morphological Adaptations <sup>1</sup> (Provide supporting
9		0	0.0%		data in Remarks or on a separate sheet)
10		0	0.0%		☐ 5 - Wetland Non-Vascular Plants <sup>1</sup>
11			= Total Cove		Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
Woody Vine Stratum (Plot size:				•	Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1,			0.0%		Hydrophytic
2					Vegetation Vac A Na O
		0	= Total Cove	er	Present? Yes VO
% Bare Ground in Herb Stratum: 80					

<sup>\*</sup>Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil Sampling Point: SP-59 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Matrix **Redox Features** Depth Loc2 Texture (inches) Color (moist) % Color (moist) Type Remarks 0-5 10YR 2/2 100 Silty Clay Loam 10YR 5-20 10YR 2/2 98 3/6 C. Μ 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 Soils3: Histosol (A1) Sandy Redox (S5) 2 cm Muck (A10) Histic Epipedon (A2) Stripped Matrix (S6) Red Parent Material (TF2) Black Histic (A3) Loamy Mucky Mineral (F1) (except in MLRA 1) Other (Explain in Remarks) Loamy Gleyed Matrix (F2) ☐ Hydrogen Sulfide (A4) Depleted Below Dark Surface (A11) Depleted Matrix (F3) Redox Dark Surface (F6) ☐ Thick Dark Surface (A12) <sup>3</sup>Indicators of hydrophytic vegetation and Depleted Dark Surface (F7) Sandy Muck Mineral (S1) wetland hydrology must be present, unless disturbed or problematic. Redox depressions (F8) Sandy Gleyed Matrix (S4) Restrictive Layer (if present): Type: No 💿 **Hydric Soil Present?** Yes 🔾 Depth (inches): Remarks: Hydrology Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (minimum of two required) Surface Water (A1) Water-Stained Leaves (B9) (except MLRA Water-Stained Leaves (B9) (MLRA 1, 2, 1, 2, 4A, and 4B) 4A, and 4B) High Water Table (A2) Saturation (A3) Salt Crust (B11) ☐ Drainage Patterns (B10) Aquatic Invertebrates (B13) Water Marks (B1) Dry Season Water Table (C2) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Saturation Visible on Aerial Imagery (C9) Drift deposits (B3) Oxidized Rhizospheres on Living Roots (C3) Geomorphic Position (D2) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Shallow Aquitard (D3) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) FAC-neutral Test (D5) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Inundation Visible on Aerial Imagery (B7) Frost Heave Hummocks (D7) U Other (Explain in Remarks) Sparsely Vegetated Concave Surface (B8) Field Observations: Yes O No 💿 Surface Water Present? Depth (inches): Yes  $\bigcirc$ No 💿 Water Table Present? Depth (inches): Yes ○ No ● Wetland Hydrology Present? Saturation Present? Yes O No 💿 Depth (inches): (includes capillary fringe) Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

No Hydrology present

Project/Site: North Mist Expansion		City	/County: Columbia	County S	ampling Date: 05-Oct-22
Applicant/Owner: Northwest Natural				State: OR	Sampling Point: SP-60
Investigator(s): Sara Frank, Ed Stroh	maier	Se	ection, Township, I	Range: S 14 T 6N	<b>R</b> _5W
Landform (hillslope, terrace, etc.):	Flat	Loc	cal relief (concave	, convex, none): flat	Slope: 3.0 % / 1.7
Subregion (LRR): LRR A		Lat.: 46.006	6309	Long.: -123.263478	Datum: WGS 1984
Soil Map Unit Name: 58 - Treharne s	silt loam			NWI classific	cation: N/A
re climatic/hydrologic conditions on		time of year?	Yes   No		
Are Vegetation  , Soil	, or Hydrology	significantly dist	urbed? Are "	Normal Circumstances" pre	
Are Vegetation, Soil	, or Hydrology	naturally probler		eeded, explain any answers	
Summary of Findings - At			•	• •	•
Hydrophytic Vegetation Present?	Yes  No		Т .	<u> </u>	
Hydric Soil Present?	Yes  No		Is the Sampled		
Wetland Hydrology Present?	Yes  No		within a Wetlar	<sub>nd?</sub> Yes ● No ○	
Remarks:	100 - 110 -		<u> </u>		
Remarks.					
VEGETATION - Use scien	ntific names of plar		ominant pecies?		
Tree Stratum (Plot size:	)	Absolute Re	el.Strat. Indicato over Status	r Dominance Test worksh	neet:
1			0.0%	Number of Dominant Spec That are OBL, FACW, or FA	
2,			0.0%		
3.			0.0%	Total Number of Dominant Species Across All Strata:	t 2 (B)
4			0.0%	.   `	
Sapling/Shrub Stratum (Plot size	:)	0 = T	otal Cover	Percent of dominant Sp That Are OBL, FACW, o	
1,			0.0%	Prevalence Index works	sheet:
2			0.0%	Total % Cover of:	: Multiply by:
3			0.0%	OBL species 30	0 x 1 = 30
4 5.			0.0%	· · · · · ·	<u>0</u> x 2 = <u>140</u>
J		0	0.0%		) x 3 = 0
Herb Stratum (Plot size: 5 feet	)	= T	otal Cover		) x 4 = 0
1. Carex obnupta		30	30.0% OBL	S Spec. 55	) x 5 = 0
2. Phalaris arundinacea		70	70.0% FACW	Column Totals: 10	00 (A) 170 (B)
3		0 🔲	0.0%	Prevalence Index =	= B/A = <u>1.700</u>
4			0.0%	Hydrophytic Vegetation	Indicators:
5			0.0%	✓ 1 - Rapid Test for Hy	
6			0.0%	✓ 2 - Dominance Test i	
7.————————————————————————————————————			0.0%	✓ 3 - Prevalence Index	x is ≤3.0 <sup>1</sup>
9			0.0%	4 - Morphological Ad	daptations 1 (Provide supporting
10.			0.0%	data in Remarks	or on a separate sheet)
11			0.0%	5 - Wetland Non-Vas	
			otal Cover		hytic Vegetation <sup>1</sup> (Explain)
Woody Vine Stratum (Plot size:		,	0.00/	<sup>1</sup> Indicators of hydric so be present, unless distu	oil and wetland hydrology must urbed or problematic.
1,		_ 0	0.0%	Hydrophytic	
2				Vegetation	No O
O/ Boys Cround in Horb Street up		= T	otal Cover	Present? Yes	, NO C
% Bare Ground in Herb Stratum	ı: <u>()</u>				
Remarks:					
No trees or shrubs in plot					
1					

<sup>\*</sup>Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil Sampling Point: SP-60 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Matrix **Redox Features** Depth Loc2 Texture (inches) Color (moist) % Color (moist) % Type Remarks 0-7 10YR 2/2 98 5YR 2 PL Silty Clay Loam 4/6 С 95 10YR 5/8 5 С PL 7-20 10YR 4/2 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 Soils3: Histosol (A1) Sandy Redox (S5) 2 cm Muck (A10) Histic Epipedon (A2) Stripped Matrix (S6) Red Parent Material (TF2) Black Histic (A3) Loamy Mucky Mineral (F1) (except in MLRA 1) Other (Explain in Remarks) Loamy Gleyed Matrix (F2) ☐ Hydrogen Sulfide (A4) Depleted Below Dark Surface (A11) ✓ Depleted Matrix (F3) Redox Dark Surface (F6) ☐ Thick Dark Surface (A12) <sup>3</sup>Indicators of hydrophytic vegetation and Depleted Dark Surface (F7) Sandy Muck Mineral (S1) wetland hydrology must be present, unless disturbed or problematic. Redox depressions (F8) Sandy Gleyed Matrix (S4) Restrictive Layer (if present): Type: No O **Hydric Soil Present?** Yes Depth (inches): Remarks: Hydrology Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (minimum of two required) Surface Water (A1) Water-Stained Leaves (B9) (except MLRA Water-Stained Leaves (B9) (MLRA 1, 2, 1, 2, 4A, and 4B) 4A, and 4B) High Water Table (A2) Saturation (A3) Salt Crust (B11) ☐ Drainage Patterns (B10) Aquatic Invertebrates (B13) Water Marks (B1) Dry Season Water Table (C2) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Saturation Visible on Aerial Imagery (C9) Drift deposits (B3) Oxidized Rhizospheres on Living Roots (C3) Geomorphic Position (D2) Presence of Reduced Iron (C4) Algal Mat or Crust (B4) Shallow Aquitard (D3) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) ✓ FAC-neutral Test (D5) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Inundation Visible on Aerial Imagery (B7) Frost Heave Hummocks (D7) U Other (Explain in Remarks) Sparsely Vegetated Concave Surface (B8) Field Observations: Yes  $\bigcirc$ No 💿 Surface Water Present? Depth (inches): Yes  $\bigcirc$ No 💿 Water Table Present? Depth (inches): Yes ● No ○ Wetland Hydrology Present? Saturation Present? Yes O No 💿 Depth (inches): (includes capillary fringe) Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

roject/Site: North Mist Expansion	City/County: Columbia C	ounty Sampling Date: 05-Oct-22
pplicant/Owner: Northwest Natural		State: OR Sampling Point: SP-61
nvestigator(s): Sara Frank, Ed Strohmaier	Section, Township, Ra	ange: S 14 T 6N R 5W
Landform (hillslope, terrace, etc.): Flat	Local relief (concave,	convex, none): flat Slope:2.0 % /1.1 °
ubregion (LRR): LRR A	Lat.: 46.004977	Long.: -123.262438 Datum: WGS 1984
oil Map Unit Name: 58 - Treharne silt loam		NWI classification: N/A
e climatic/hydrologic conditions on the site typical for this	s time of year? Yes   No	
re Vegetation, Soil, or Hydrology	•	Iormal Circumstances" present? Yes  No
re Vegetation . , Soil . , or Hydrology .		eded, explain any answers in Remarks.)
	•	ations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes  No		
Hydric Soil Present? Yes No •	Is the Sampled F	area Ha Yes ○ No ●
Wetland Hydrology Present? Yes No	within a Wetland	1? Yes Uno S
Remarks:		
Open field, mostly flat		
<b>VEGETATION -</b> Use scientific names of plan	1ts. Dominant Species?	
(Dist. in 20 fort	Absolute Rel.Strat. Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: 30 feet )	% Cover Cover Status 0 0.0%	Number of Dominant Species
1. 2.		That are OBL, FACW, or FAC: (A)
3.		Total Number of Dominant Species Across All Strata: 1 (B)
4.	0 0.0%	Species Across All Strata: (B)
Sapling/Shrub Stratum (Plot size: 15 feet )	0 = Total Cover	Percent of dominant Species That Are OBL, FACW, or FAC:100.0% (A/B)
1,	0 0.0%	Prevalence Index worksheet:
2		Total % Cover of: Multiply by:
3	0 0.0%	0BL species 0 x 1 = 0
4	0 0.0%	FACW species 100 x 2 = 200
5	0	FAC species x 3 = 0
(0)	0 = Total Cover	FACU species $0 \times 4 = 0$
Herb Stratum (Plot size: 5 feet )		UPL species $0 \times 5 = 0$
1 Phalaris arundinacea		Col umn Total s: 100 (A) 200 (B)
2	0	Prevalence Index = B/A = 2.000
4		
5		Hydrophytic Vegetation Indicators:
6		✓ 1 - Rapid Test for Hydrologic Vegetation ✓ 2 - Dominance Test is > 50%
7	0	2 - Dominance Test is > 50%  3 - Prevalence Index is ≤ 3.0 ¹
8.———		
9.		4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
10.—		5 - Wetland Non-Vascular Plants 1
11.		Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
Woody Vine Stratum (Plot size:)		Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1	0	
2	0	Hydrophytic Vegetation
	0 = Total Cover	Present? Yes No
% Bare Ground in Herb Stratum: 0		

<sup>\*</sup>Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil Sampling Point: SP-61 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Matrix **Redox Features** Depth Loc2 Texture (inches) Color (moist) % Color (moist) % Type Remarks 0-5 10YR 3/3 100 Silty Clay Loam С 5-12 10YR 2/2 98 5YR 4/6 Μ Silty Clay Loam 2/2 12-18 10YR 100 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 Soils3: Histosol (A1) Sandy Redox (S5) 2 cm Muck (A10) Histic Epipedon (A2) Stripped Matrix (S6) Red Parent Material (TF2) Black Histic (A3) Loamy Mucky Mineral (F1) (except in MLRA 1) Other (Explain in Remarks) Loamy Gleyed Matrix (F2) ☐ Hydrogen Sulfide (A4) Depleted Below Dark Surface (A11) Depleted Matrix (F3) Redox Dark Surface (F6) ☐ Thick Dark Surface (A12) <sup>3</sup>Indicators of hydrophytic vegetation and Depleted Dark Surface (F7) Sandy Muck Mineral (S1) wetland hydrology must be present, unless disturbed or problematic. Redox depressions (F8) Sandy Gleyed Matrix (S4) Restrictive Layer (if present): Type: No 💿 **Hydric Soil Present?** Yes 🔾 Depth (inches): Remarks: Hydrology Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (minimum of two required) Surface Water (A1) Water-Stained Leaves (B9) (except MLRA Water-Stained Leaves (B9) (MLRA 1, 2, 1, 2, 4A, and 4B) 4A, and 4B) High Water Table (A2) Saturation (A3) Salt Crust (B11) ☐ Drainage Patterns (B10) Aquatic Invertebrates (B13) Water Marks (B1) Dry Season Water Table (C2) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Saturation Visible on Aerial Imagery (C9) Drift deposits (B3) Oxidized Rhizospheres on Living Roots (C3) Geomorphic Position (D2) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Shallow Aquitard (D3) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) ✓ FAC-neutral Test (D5) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Inundation Visible on Aerial Imagery (B7) Frost Heave Hummocks (D7) U Other (Explain in Remarks) Sparsely Vegetated Concave Surface (B8) Field Observations: Yes O No 💿 Surface Water Present? Depth (inches): Yes  $\bigcirc$ No 💿 Water Table Present? Depth (inches): Yes ○ No ● Wetland Hydrology Present? Saturation Present? Yes O No 💿 Depth (inches): (includes capillary fringe) Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Project/Site: North Mist Expansion	Cit	ty/County: Columbia C	county	Sampling Date: 05	-Oct-22
Applicant/Owner: Northwest Natural			State: OR	Sampling Point:	SP-62
nvestigator(s): Sara Frank, Ed Strohmaier		Section, Township, R	ange: S 14 T	6N <b>R</b> 5W	
Landform (hillslope, terrace, etc.): Flat		ocal relief (concave,	convex, none): flat	Slope:	3.0 % / 1.7
Subregion (LRR): LRR A	<b>Lat.</b> : 46.0	004994	Long.: -123.26242!	Datu	ım: WGS 1984
oil Map Unit Name: 58 - Treharne silt loam			NWI clas	ssification: N/A	-
e climatic/hydrologic conditions on the site typic.  Are Vegetation	significantly di naturally probl	lematic? (If nee	lormal Circumstances	" present? Yes  wers in Remarks.)	
		Is the Sampled A	Area		
•	0	within a Wetland	Voc ( No (	)	
Wetland Hydrology Present? Yes 💿 N		within a wetland	u?		
VEGETATION - Use scientific names	<u> </u>	Dominant Species? Rel.Strat. Indicator	Dominance Test wo	urkshaat.	
	% Cover		Number of Dominant		
1	0	0.0%	That are OBL, FACW,	•	(A)
2,		0.0%	Total Number of Dom	inant	
3,			Species Across All Str		(B)
4	0		Percent of dominar	nt Species	
Sapling/Shrub Stratum (Plot size: 15 feet		: Total Cover	That Are OBL, FAC		0% (A/B)
1,		0.0%	Prevalence Index w	orksheet:	
2		0.0%	Total % Cove	r of: Multiply by	<u>:</u>
3		0.0%	OBL species	<u> </u>	0
4			FACW species	100 x 2 =	200
5	0		FAC species .	<u> </u>	0
Herb Stratum (Plot size: 5 feet )		: Total Cover	1	<u> </u>	0
1 Phalaris arundinacea	100	<b>✓</b> 100.0% FACW	UPL species	<u> </u>	0
2.		0.0%	Column Totals: .		200 <b>(B)</b>
3		0.0%	Prevalence Ind	ex = B/A = 2.0	00_
4.	• [	0.0%	Hydrophytic Vegeta	tion Indicators	
5		0.0%		or Hydrologic Vegetati	on
6		0.0%	✓ 2 - Dominance 1		011
7		0.0%	✓ 3 - Prevalence I		
8.		0.0%	l	al Adaptations <sup>1</sup> (Provi	de supportina
9.————————————————————————————————————		0.0%	data in Rema	irks or on a separate s	
11.		0.0%	5 - Wetland Nor	-Vascular Plants 1	
		Total Cover	Problematic Hyd	rophytic Vegetation <sup>1</sup>	(Explain)
Woody Vine Stratum (Plot size:1_	0 [	0.0%	<sup>1</sup> Indicators of hydr be present, unless	ic soil and wetland hy disturbed or problema	drology must tic.
2.		0.0%	Hydrophytic		
			Vegetation	s • No O	
	0 =	: Total Cover	Present? Ye		
% Bare Ground in Herb Stratum: _0		: Total Cover	Present?	S © NO O	

<sup>\*</sup>Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil Sampling Point: SP-62 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Matrix **Redox Features** Depth Loc2 Texture (inches) Color (moist) Color (moist) % Remarks 10YR 3/2 95 7.5YR PL Silty Clay Loam 0-6 5/8 5 С 92 8 С PL 6-22 10YR 5/2 7.5YR 5/8 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 Soils3: Histosol (A1) Sandy Redox (S5) 2 cm Muck (A10) Histic Epipedon (A2) Stripped Matrix (S6) Red Parent Material (TF2) Black Histic (A3) Loamy Mucky Mineral (F1) (except in MLRA 1) Other (Explain in Remarks) Loamy Gleyed Matrix (F2) ☐ Hydrogen Sulfide (A4) Depleted Below Dark Surface (A11) ✓ Depleted Matrix (F3) Redox Dark Surface (F6) ☐ Thick Dark Surface (A12) <sup>3</sup>Indicators of hydrophytic vegetation and Depleted Dark Surface (F7) Sandy Muck Mineral (S1) wetland hydrology must be present, unless disturbed or problematic. Redox depressions (F8) Sandy Gleyed Matrix (S4) Restrictive Layer (if present): Type: No O **Hydric Soil Present?** Yes Depth (inches): Remarks: Hydrology Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (minimum of two required) Surface Water (A1) Water-Stained Leaves (B9) (except MLRA Water-Stained Leaves (B9) (MLRA 1, 2, 1, 2, 4A, and 4B) 4A, and 4B) High Water Table (A2) Saturation (A3) Salt Crust (B11) ☐ Drainage Patterns (B10) Aquatic Invertebrates (B13) Water Marks (B1) Dry Season Water Table (C2) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Saturation Visible on Aerial Imagery (C9) Drift deposits (B3) Oxidized Rhizospheres on Living Roots (C3) Geomorphic Position (D2) Presence of Reduced Iron (C4) Algal Mat or Crust (B4) Shallow Aquitard (D3) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) ✓ FAC-neutral Test (D5) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Inundation Visible on Aerial Imagery (B7) Frost Heave Hummocks (D7) U Other (Explain in Remarks) Sparsely Vegetated Concave Surface (B8) Field Observations: Yes O No 💿 Surface Water Present? Depth (inches): Yes  $\bigcirc$ No 💿 Water Table Present? Depth (inches): Yes ● No ○ Wetland Hydrology Present? Saturation Present? Yes O No 💿 Depth (inches): (includes capillary fringe) Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Investigator(s): Ed Strohmaler	te: North Mist Expansion	City/C	County: Columbia	San	npling Date: 05-Oct-22
Landform (hillslope, terrace, etc.): Roadside ditch   Local relief (concave, convex, none): concave   Stope: _0.0 % / Subregion (LRR): _LRR	Owner: NW Natural			State: Oregon S	Sampling Point: SP-63
Subregion (LRR):RRA	or(s): Ed Strohmaier	Sec	tion, Township, R	ange: S 14 T 6N	<b>R</b> _5W
Soil Map Unit Name: 37-Natal slily clay loam	(hillslope, terrace, etc.): Roadside ditch	Loca	Il relief (concave,	convex, none): concave	Slope:0.0 % /0.
Tree Stratum (Plot size: 30ft   )	(LRR): LRR A	Lat.: 46.0057	19	Long.: -123.262278	Datum: WGS 1984
re climatic/hydrologic conditions on the site typical for this time of year?  Are Vegetation	nit Name: 37-Natal silly clay loam			NWI classificat	ion: N/A
Are Vegetation	/hydrologic conditions on the site typical for this time	of year?	Yes   No	(If no, explain in Ren	narks.)
Summary of Findings - Attach site map showing sampling point locations, transects, important features, of Hydrophytic Vegetation Present? Yes No Is the Sampled Area within a Wetland Hydrology Present? Yes No No Wetland Hydrology Present? Yes No No No Wetland Hydrology Present? Yes No	ation 🗌 , Soil 🔲 , or Hydrology 🗌 signif	ficantly distu	rbed? Are "N	lormal Circumstances" prese	ent? Yes 💿 No 🔾
Summary of Findings - Attach site map showing sampling point locations, transects, important features, of Hydrophytic Vegetation Present? Yes No Is the Sampled Area within a Wetland Hydrology Present? Yes No Is the Sampled Area within a Wetland? Yes No No Wetland Hydrology Present? Yes No No Wetland Hydrology Present? Yes No No Wetland is contained in the south end of the excavated roadside ditch.  VEGETATION - Use scientific names of plants.	ation 🗌 , Soil 🔲 , or Hydrology 🔲 natur	rally problem	atic? (If ne	eded, explain any answers i	n Remarks.)
Hydric Soil Present?			•	-	
Wetland Hydrology Present?   Yes	tic Vegetation Present? Yes  No		Is the Sampled	Area	
Wetland Hydrology Present? Yes ● No →         No →         Wetland is contained in the south end of the excavated roadside ditch.           VEGETATION - Use scientific names of plants.         Dominant Species Tree Stratum (Plot size: 30ft			•	Vac ( No (	
VEGETATION - Use scientific names of plants.   Species?   Species?   Species?   Species?   Species?   Species?   Species?   Species?   Status   Species?   Status   Species?   Status   Species?   Status   Status   Status   Species?   Status   Species   Status   Status   Status   Status   Status   Status   Species   Status   Status   Status   Species   Status   Status   Species   Status   Status   Species   Status   Status   Status   Species   Status   Species   Status   Status   Species   Status   Species   Status   Species   Status   Status   Species   Status   Status   Species   Status   Status   Species   Status   S	-lydrology Present? Yes  No		within a Wetlan	d? 103 0 110 0	
VEGETATION - Use scientific names of plants.         Dominant Species Species?           Tree Stratum (Plot size: 30ft )         Absolute Rel.Strat. % Cover Cover Status         Indicator Status         Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)         1 (A)           2         0         0.0%         50.0%         1.0%	::	-			
Tree Stratum   (Plot size: 30ft   )     Absolute   Rel Stratus   Number of Dominance Test worksheet:   Number of Dominant Species   That are OBL, FACW, or FAC:   1 (A)	is contained in the south end of the excavated roadsic	de ditch.			
Absolute   Rel. Stratum   Plot size: 30ft   Moderate   Rel. Stratus   Indicator   Status   Number of Dominant Species   That are OBL, FACW, or FAC:   1	ATION - Use scientific names of plants.				
1.		Absolute Rel.	Strat. Indicator	Dominance Test workshee	et:
2.				· ·	
3.				That are OBL, FACW, or FAC	(A)
4.				•	4 (D)
Sapling/Shrub Stratum       (Plot size: 15ft )       1       That Are OBL, FACW, or FAC: 100.0% (A/IIII)       100.0% (A/IIII)       100.0% (A/IIII)       Prevalence Index worksheet: Total % Cover of: Multiply by: OBL species 90 x 1 = 90       OBL species 90 x 1 = 90       FACW species 5 x 2 = 10       OBL species 5 x 3 = 15       FACW species 0 x 4 = 0       OUD Species 0 x 5 = 0				Species Across Ali Strata:	(B)
1.       0       0.0%       Prevalence Index worksheet:         2.       0       0.0%       OBL species       90       x 1 = 90         4.       0       0.0%       FACW species       5 x 2 = 10         5.       0       0.0%       FACW species       5 x 3 = 15         Herb Stratum (Plot size: 5ft )       0       FACU species       0 x 4 = 0         1 Carex obnupta       90       90.0% OBL       UPL species       0 x 5 = 0         2 Juncus effusus       5       5.0% FACW       Col umn Total s:       100 (A) 115 (B         4.       0       0.0%       O.0%       O.0%       Hydrophytic Vegetation Indicators:         4.       0       0.0%       O.0%       V.0%	Shrub Stratum (Plot size: 15ft )	= To	tal Cover		
3.		0	0.0%	Prevalence Index workshe	eet:
4.		_0	0.0%	Total % Cover of:	Multiply by:
5.		_0	0.0%	OBL species 90	<b>x 1</b> = 90
Herb Stratum (Plot size: 5ft   )   0			0.0%	FACW species5_	_ x 2 =10
Herb Stratum (Plot size: 5ft )1. Carex obnupta90 $\checkmark$ 90.0% OBL2. Juncus effusus5 $5.0\%$ FACW3. Cirsium arvense5 $5.0\%$ FAC4.0 $0.0\%$ 5.0 $0.0\%$ 6.0 $0.0\%$ 7.0 $0.0\%$ 8.0 $0.0\%$ 9.0 $0.0\%$ 4. Morphological Adaptations $^1$ (Provide supportion of the power for the color)		_0	0.0%	FAC species5	_ x 3 =15
1. Carex obnupta 2. Juncus effusus 3. Cirsium arvense 4.	-A (Plot size: 5ft	0 = <b>To</b>	tal Cover	FACU speci es0	_ x 4 =0
2 Juncus effusus       5       5.0%       FACW         3 Cirsium arvense       5       5.0%       FAC         4.       0       0.0%         5.       0       0.0%         6.       0       0.0%         7.       0       0.0%         8.       0       0.0%         9.       0       0.0%         4.       4.       4.         Mydrophytic Vegetation Indicators:       ✓ 1 - Rapid Test for Hydrologic Vegetation         ✓ 2 - Dominance Test is > 50%         ✓ 3 - Prevalence Index is ≤3.0 ¹         4 - Morphological Adaptations ¹ (Provide supportion of the in Powerles or an account or the characters of		00	00 09/ OBI	UPL speci es 0	- x 5 = -0
3 Cirsium arvense  5	·			Column Totals: 100	(A) <u></u>
4.				Prevalence Index = B	B/A = 1.150
5.		0			
6.		_0	0.0%	1 * * * *	
7.  8.  0 0.0%  0 0.0%  4 - Morphological Adaptations ¹ (Provide supportion of the in Powerks error a separate sheet)		_0	0.0%		
8. 0 0.0% 4 - Morphological Adaptations <sup>1</sup> (Provide supporting the in Remarks or on a separate sheet)				l	
data in Domarka or on a congreta cheet)				l	
U   U.U.76 I					
I   5 - Wetland Non-Vascular Plants '				5 - Wetland Non-Vascu	ılar Plants <sup>1</sup>
11. $\frac{0}{100} = \text{Total Cover}$ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)				Problematic Hydrophyt	tic Vegetation <sup>1</sup> (Explain)
Woody Vine Stratum (Plot size:)   1 Indicators of hydric soil and wetland hydrology mu he present upless disturbed or problematic				Indicators of hydric soil     be present, unless disturb	and wetland hydrology must bed or problematic.
1				Hydrophytic	
Vegetation Vegetation				Vegetation	No O
	e Ground in Herh Stratum:	= 10	tai covei	Present?	NO O
% Bare Ground in Herb Stratum: _0	<del></del>			<u> </u>	
Remarks:	:				

<sup>\*</sup>Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil Sampling Point: SP-63 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Matrix **Redox Features** Depth Loc2 Texture (inches) Color (moist) Color (moist) % Type 0-5 10YR 2/3 90 10YR С 10 <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 Soils3: Histosol (A1) Sandy Redox (S5) 2 cm Muck (A10) Histic Epipedon (A2) Stripped Matrix (S6) Red Parent Material (TF2) Black Histic (A3) Loamy Mucky Mineral (F1) (except in MLRA 1) Other (Explain in Remarks) Loamy Gleyed Matrix (F2) ☐ Hydrogen Sulfide (A4) Depleted Below Dark Surface (A11) Depleted Matrix (F3) Redox Dark Surface (F6) ☐ Thick Dark Surface (A12) <sup>3</sup>Indicators of hydrophytic vegetation and Depleted Dark Surface (F7) Sandy Muck Mineral (S1) wetland hydrology must be present, unless disturbed or problematic. Redox depressions (F8) Sandy Gleyed Matrix (S4) Restrictive Layer (if present): Type: Rock No O **Hydric Soil Present?** Yes Depth (inches): 5 Remarks: Hydrology Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (minimum of two required) Surface Water (A1) Water-Stained Leaves (B9) (except MLRA Water-Stained Leaves (B9) (MLRA 1, 2, 1, 2, 4A, and 4B) 4A, and 4B) High Water Table (A2) Saturation (A3) Salt Crust (B11) ☐ Drainage Patterns (B10) Aquatic Invertebrates (B13) Water Marks (B1) Dry Season Water Table (C2) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Saturation Visible on Aerial Imagery (C9) Drift deposits (B3) Oxidized Rhizospheres on Living Roots (C3) ✓ Geomorphic Position (D2) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Shallow Aquitard (D3) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) ▼ FAC-neutral Test (D5) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Inundation Visible on Aerial Imagery (B7) Frost Heave Hummocks (D7) U Other (Explain in Remarks) Sparsely Vegetated Concave Surface (B8) Field Observations: Yes O No 💿 Surface Water Present? Depth (inches): n Yes  $\bigcirc$ No 💿 Water Table Present? Depth (inches): 0 Yes ● No ○ Wetland Hydrology Present? Saturation Present? Yes O No 💿 Depth (inches): (includes capillary fringe) Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available: Remarks:

Project/Site: North Mist Expansion	City/County: Columbia	Sampling Date: 05-Oct-22
Applicant/Owner: NW Natural		State: Oregon Sampling Point: SP-64
Investigator(s): Ed Strohmaier	Section, Township, I	Range: S 14 T 6N R 5W
Landform (hillslope, terrace, etc.): Roadside ditch		, convex, none): concave Slope:0.0 % /0.0
Subregion (LRR): LRR A		Long.: -123.262291 Datum: WGS 1984
ioil Map Unit Name: 37-Natal silly clay loam	10.000770	NWI classification: N/A
e climatic/hydrologic conditions on the site typical for t	his time of year? Yes  No	
Are Vegetation, Soil, or Hydrology	<b></b>	'Normal Circumstances" present? Yes ● No ○
	-	F
3 — 1 — 1 3 33 —	, , , , , , , , , , , , , , , , , , ,	eeded, explain any answers in Remarks.)
	snowing sampling point lo	cations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No No Hydric Soil Present? Yes No No	Is the Sampled	Area
	within a Wetlar	nd? Yes ○ No •
Wetland Hydrology Present? Yes No   No		
Remarks:	igher than the westland in the distri	
Plot is on the shoulder of the road and is about 1.5ft hi	igner than the wetland in the ditch.	
VEGETATION - Use scientific names of pl		
·	Species?  Absolute Rel.Strat. Indicato	pr Dominance Test worksheet:
Tree Stratum (Plot size: 30ft )	% Cover Cover Status	Number of Dominant Species
1		That are OBL, FACW, or FAC:1 (A)
2		Total Number of Dominant
3	0 0000	Species Across All Strata:1 (B)
4		Percent of dominant Species
Sapling/Shrub Stratum (Plot size: 15ft )	0 = Total Cover	That Are OBL, FACW, or FAC: 100.0% (A/B)
1	0 0.0%	Prevalence Index worksheet:
2	0 0.0%	Total % Cover of: Multiply by:
3		0BL species 0 x 1 = 0
4		FACW species
5	0	FAC species <u>55</u> x 3 = <u>165</u>
(No. 1	0 = Total Cover	FACU species $0 \times 4 = 0$
Herb Stratum (Plot size: 5ft )	<b>.</b> □ ••• •••	UPL species x 5 =0
1 Lotus corniculatus	5	Column Totals: <u>55</u> (A) <u>165</u> (B)
Trifolium repens     Agrostis stolonifera	5	Prevalence Index = B/A = 3.000
Schedonorus arundinaceus	5 9.1% FAC	-
5		Hydrophytic Vegetation Indicators:
6		1 - Rapid Test for Hydrologic Vegetation
7		2 - Dominance Test is > 50%
8.—	0	3 - Prevalence Index is ≤3.0 ¹
9		4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
10.	0 0000	5 - Wetland Non-Vascular Plants 1
11.	0	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
Woody Vine Stratum (Plot size:)	= Total cover	<sup>1</sup> Indicators of hydric soil and wetland hydrology must
1	0	be present, unless disturbed or problematic.
2.		Hydrophytic
		Vegetation Present?  Yes  No
	0 = Total Cover	Present? Yes No
% Bare Ground in Herb Stratum: 45	= Total Cover	Present?

<sup>\*</sup>Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil Sampling Point: SP-64 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Matrix **Redox Features** Depth Loc2 Texture (inches) Color (moist) % Color (moist) % Type Remarks Soil mixed with crushed rock from adiacent road. 10YR 3/2 100 Silt Loam 0-4 <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 Soils3: 2 cm Muck (A10) Histosol (A1) Sandy Redox (S5) Histic Epipedon (A2) Stripped Matrix (S6) Red Parent Material (TF2) Black Histic (A3) Loamy Mucky Mineral (F1) (except in MLRA 1) Other (Explain in Remarks) Loamy Gleyed Matrix (F2) ☐ Hydrogen Sulfide (A4) Depleted Below Dark Surface (A11) Depleted Matrix (F3) Redox Dark Surface (F6) ☐ Thick Dark Surface (A12) <sup>3</sup>Indicators of hydrophytic vegetation and Depleted Dark Surface (F7) Sandy Muck Mineral (S1) wetland hydrology must be present, unless disturbed or problematic. Redox depressions (F8) Sandy Gleyed Matrix (S4) Restrictive Layer (if present): Type: No 💿 **Hydric Soil Present?** Yes 🔾 Depth (inches): Remarks: Hydrology Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (minimum of two required) Surface Water (A1) Water-Stained Leaves (B9) (except MLRA Water-Stained Leaves (B9) (MLRA 1, 2, 1, 2, 4A, and 4B) 4A, and 4B) High Water Table (A2) Saturation (A3) Salt Crust (B11) ☐ Drainage Patterns (B10) Aquatic Invertebrates (B13) Water Marks (B1) Dry Season Water Table (C2) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Saturation Visible on Aerial Imagery (C9) Drift deposits (B3) Oxidized Rhizospheres on Living Roots (C3) Geomorphic Position (D2) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Shallow Aquitard (D3) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) FAC-neutral Test (D5) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Inundation Visible on Aerial Imagery (B7) Frost Heave Hummocks (D7) U Other (Explain in Remarks) Sparsely Vegetated Concave Surface (B8) Field Observations: Yes  $\bigcirc$ No 💿 Surface Water Present? Depth (inches): n Yes  $\bigcirc$ No 💿 Water Table Present? Depth (inches): 0 Yes O No 💿 Wetland Hydrology Present? Saturation Present? Yes O No 💿 Depth (inches): (includes capillary fringe) Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Project/Site: North Mist Expansion			c	City/County:	Columbia	Sampling Date: 06-Oct-22	
Applicant/Owner: NW Natural						State: Oregon Sampling Point: SP-65	5
Investigator(s): Ed Strohmaier				Section, To	ownship, Ra	range: S 14 T 6N R 5W	
Landform (hillslope, terrace, etc.):				Local relief	(concave,	convex, none): flat Slope: 0.0 % /	0.0
Subregion (LRR): LRR A	· iooupiuii		Lat.: 46				
	It loom		Lat 40	.007713			
Soil Map Unit Name: 58-Treharne si				- V	s • No	NWI classification: N/A	
Are climatic/hydrologic conditions or			•			(······, ··· <b>·</b> , ·····,	
Are Vegetation, Soil	, or Hydrolo	gy ∐ sig —	inificantly	disturbed?	Are "N	Normal Circumstances" present? Yes ♥ No ○	
Are Vegetation, Soil	, or Hydrolo	gy 🗌 na	turally pro	blematic?	(If nee	eded, explain any answers in Remarks.)	
Summary of Findings - A	ttach site	map sho	wing sa	mpling p	oint loc	ations, transects, important features, e	∍tc.
Hydrophytic Vegetation Present?		No O		Is the	Sampled A	Area	
Hydric Soil Present?		No 💿			•	Vac O Na 📵	
Wetland Hydrology Present?	Yes 🔾	No 💿		withir	n a Wetland	d? 165 1 N6 1	
Remarks:							
Plot is on the right bank, of the do stream bank, and 8 feet from the			h is about	8 feet above	the active	e channel. Plot is also about 10 feet north of the top of t	the
·							
VEGETATION - Use scier	ntific name	s of plants		Dominant _Species?			
	)		Absolute % Cover	Rel.Strat.	Indicator Status	Dominance Test worksheet:	
1.			0	0.0%	Status	Number of Dominant Species That are OBL, FACW, or FAC: 2 (A)	
2.			0	0.0%		That are OBL, FACW, or FAC: (A)	
3.			0	0.0%		Total Number of Dominant Species Across All Strata: 2 (B)	
4,			0	0.0%		Species Across Air Strata.	
_Sapling/Shrub Stratum_ (Plot size	:: 15ft	)	0	= Total Cov	er	Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/E	В)
4.5.1			30	<b>1</b> 00.0%	FAC	Prevalence Index worksheet:	
2.			0	0.0%		Total % Cover of: Multiply by:	
3			0	0.0%		OBL species	
4			0	0.0%		FACW species 95 x 2 = 190	
5			0	0.0%		FAC species <u>35</u> x 3 = <u>105</u>	
(Diet siese Eff	,		30	= Total Cov	er	FACU species $0 \times 4 = 0$	
Herb Stratum (Plot size: 5ft	)		0.5	<b>✓</b> 95.0%	E A C) A /	UPL species $0 \times 5 = 0$	
1 Phalaris arundinacea 2 Urtica dioica			<u>95</u> 5	<b>✓</b> 95.0% 5.0%	FACW FAC	Column Totals: <u>130</u> (A) <u>295</u> (B	3)
2. Urtica dioica			0	0.0%	TAC	Prevalence Index = B/A = 2.269	
4			0	0.0%			
5.			0	0.0%		Hydrophytic Vegetation Indicators:	
6			0	0.0%		☐ 1 - Rapid Test for Hydrologic Vegetation ☐ 2 - Dominance Test is > 50%	
7			0	0.0%		2 - Dominance Test is > 50%  3 - Prevalence Index is ≤3.0 ¹	
8				0.0%			
9			0	0.0%		4 - Morphological Adaptations <sup>1</sup> (Provide supportindata in Remarks or on a separate sheet)	лg
10.———			0	0.0%		5 - Wetland Non-Vascular Plants 1	
11.————————————————————————————————————			100	= Total Cov	 er	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)	
Woody Vine Stratum (Plot size:						Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	st
1				0.0%		<u> </u>	
2				0.0%		Hydrophytic Vegetation	
% Raro Ground in Horb Stratum	<b>3</b> : 0		0	= Total Cov	er	Present? Yes No	
% Bare Ground in Herb Stratum	ı. <u>()</u>					<u> </u>	
Remarks:							

<sup>\*</sup>Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil Sampling Point: SP-65 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Matrix **Redox Features** Depth Loc2 (inches) Color (moist) % Color (moist) % Type Texture 0-20 10YR 4/4 100 Silt <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 Soils3: 2 cm Muck (A10) Histosol (A1) Sandy Redox (S5) Histic Epipedon (A2) Stripped Matrix (S6) Red Parent Material (TF2) Black Histic (A3) Loamy Mucky Mineral (F1) (except in MLRA 1) Other (Explain in Remarks) Loamy Gleyed Matrix (F2) ☐ Hydrogen Sulfide (A4) Depleted Below Dark Surface (A11) Depleted Matrix (F3) Redox Dark Surface (F6) ☐ Thick Dark Surface (A12) <sup>3</sup>Indicators of hydrophytic vegetation and Depleted Dark Surface (F7) Sandy Muck Mineral (S1) wetland hydrology must be present, unless disturbed or problematic. Redox depressions (F8) Sandy Gleyed Matrix (S4) Restrictive Layer (if present): Type: No 💿 **Hydric Soil Present?** Yes 🔾 Depth (inches): Remarks: Hydrology Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (minimum of two required) Surface Water (A1) Water-Stained Leaves (B9) (except MLRA Water-Stained Leaves (B9) (MLRA 1, 2, 1, 2, 4A, and 4B) 4A, and 4B) High Water Table (A2) Saturation (A3) Salt Crust (B11) ☐ Drainage Patterns (B10) Aquatic Invertebrates (B13) Water Marks (B1) Dry Season Water Table (C2) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Saturation Visible on Aerial Imagery (C9) Drift deposits (B3) Oxidized Rhizospheres on Living Roots (C3) Geomorphic Position (D2) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Shallow Aquitard (D3) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) ✓ FAC-neutral Test (D5) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Inundation Visible on Aerial Imagery (B7) Frost Heave Hummocks (D7) U Other (Explain in Remarks) Sparsely Vegetated Concave Surface (B8) Field Observations: Yes  $\bigcirc$ No 💿 Depth (inches): n Surface Water Present? Yes  $\bigcirc$ No 💿 Water Table Present? Depth (inches): 0 Yes ○ No ● Wetland Hydrology Present? Saturation Present? Yes  $\bigcirc$ No 💿 Depth (inches): (includes capillary fringe) Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available: Soil is slightly moist. Remarks:

Project/Site: North Mist Expansion				City/County:	Columbia	Sampling Date: 06-Oct-22
Applicant/Owner: NW Natural						State: Oregon Sampling Point: SP-66
Investigator(s): Ed Strohmaier				Section, To	wnship, Ra	ange: S 14 T 6N R 5W
Landform (hillslope, terrace, etc.):				Local relief	(concave, o	convex, none): concave Slope: 0.0 % / 0.0
Subregion (LRR): LRR A			 Lat.: 46	.007538		Long.: -123.265363 Datum: WGS 1984
Soil Map Unit Name: 58-Treharne sil						NWI classification: N/A
re climatic/hydrologic conditions on		nical for this t	ime of year	? Yes	. ● No ○	
Are Vegetation $\square$ , Soil $\square$	or Hydrol ,		ignificantly			No ○
Are Vegetation, Soil	, or Hydrol		aturally pro			F
Are vegetation, soil	, or nyuror	ogy 🗀 n	aturany pro	blematic	(IT nee	eded, explain any answers in Remarks.)
Summary of Findings - At	tach site	e map sho	owing sa	mpling p	oint loc	ations, transects, important features, etc.
Hydrophytic Vegetation Present?	Yes	No O		Is the	Sampled A	Δεο
Hydric Soil Present?	Yes 🔾	No 💿			-	Vac O No 🗨
Wetland Hydrology Present?	Yes 🔾	No 💿		within	a Wetland	17 103 0 100 0
Remarks:						
Plot is in an existing utility corridor	г.					
VEGETATION - Use scien	itific nam	es of plant	S.	DominantSpecies?		
_Tree Stratum _ (Plot size: _30ft	)		Absolute % Cover	Rel.Strat.	Indicator Status	Dominance Test worksheet:
			5	100.0%	FACU	Number of Dominant Species That are OBL, FACW, or FAC: 2 (A)
2.				0.0%		
3				0.0%		Total Number of Dominant Species Across All Strata: 3 (B)
4			0	0.0%		
_Sapling/Shrub Stratum_ (Plot size:	:_15ft	)	5	= Total Cove	er	Percent of dominant Species That Are OBL, FACW, or FAC: 66.7% (A/B)
1. Rubus armeniacus			15	100.0%	FAC	Prevalence Index worksheet:
2				0.0%		Total % Cover of: Multiply by:
3			0	0.0%		0BL speci es x 1 =0
4				0.0%		FACW species x 2 =
5				0.0%		FAC species15 x 3 =45
Herb Stratum (Plot size: 5ft	)		15	= Total Cove	er	FACU species $\frac{5}{2}$ x 4 = $\frac{20}{2}$
1 Phalaris arundinacea			100	100.0%	FACW	UPL species $\frac{0}{x}$ x 5 = $\frac{0}{x}$
2.			0	0.0%		Col umn Total s: 120 (A) 265 (B)
3			0	0.0%		Prevalence Index = B/A = 2.208
4			0	0.0%		Hydrophytic Vegetation Indicators:
5			0	0.0%		1 - Rapid Test for Hydrologic Vegetation
6				0.0%		✓ 2 - Dominance Test is > 50%
7				0.0%		3 - Prevalence Index is ≤3.0 <sup>1</sup>
8.———				0.0%		4 - Morphological Adaptations <sup>1</sup> (Provide supporting
10				0.0%		data in Remarks or on a separate sheet)
11.			0	0.0%		5 - Wetland Non-Vascular Plants 1
11.			100	= Total Cove	er	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
Woody Vine Stratum (Plot size:			0	0.0%		Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2			0	0.0%		Hydrophytic
			0	= Total Cove	er	Vegetation Present? Yes No No
% Bare Ground in Herb Stratum	I: O					Tresent.
Remarks:						
1.0.1.0.1						
1						

<sup>\*</sup>Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil Sampling Point: SP-66 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Matrix **Redox Features** Depth Loc2 **Texture** (inches) Color (moist) % Color (moist) % Type Remarks 10YR 100 Silt 0-6 3/4 6-12 10YR 3/4 80 10YR 2/2 20 С Μ Silt Loam С 3/3 10YR 3/6 10 12-18 10YR 90 M Silt Loam <sup>1</sup>Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains <sup>2</sup>Location: PL=Pore Lining. M=Matrix Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils3: Histosol (A1) Sandy Redox (S5) 2 cm Muck (A10) Histic Epipedon (A2) Stripped Matrix (S6) Red Parent Material (TF2) Black Histic (A3) Loamy Mucky Mineral (F1) (except in MLRA 1) Other (Explain in Remarks) Loamy Gleyed Matrix (F2) ☐ Hydrogen Sulfide (A4) Depleted Below Dark Surface (A11) Depleted Matrix (F3) Redox Dark Surface (F6) ☐ Thick Dark Surface (A12) <sup>3</sup>Indicators of hydrophytic vegetation and Depleted Dark Surface (F7) Sandy Muck Mineral (S1) wetland hydrology must be present, unless disturbed or problematic. Redox depressions (F8) Sandy Gleyed Matrix (S4) Restrictive Layer (if present): Type: Yes O No 💿 **Hydric Soil Present?** Depth (inches): Remarks: Hydrology Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (minimum of two required) Surface Water (A1) Water-Stained Leaves (B9) (except MLRA Water-Stained Leaves (B9) (MLRA 1, 2, 1, 2, 4A, and 4B) 4A, and 4B) High Water Table (A2) Saturation (A3) Salt Crust (B11) ☐ Drainage Patterns (B10) Aquatic Invertebrates (B13) Water Marks (B1) Dry Season Water Table (C2) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Saturation Visible on Aerial Imagery (C9) Drift deposits (B3) Oxidized Rhizospheres on Living Roots (C3) Geomorphic Position (D2) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Shallow Aquitard (D3) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) FAC-neutral Test (D5) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Inundation Visible on Aerial Imagery (B7) Frost Heave Hummocks (D7) U Other (Explain in Remarks) Sparsely Vegetated Concave Surface (B8) Field Observations: Yes O No 💿 Surface Water Present? Depth (inches): n Yes  $\bigcirc$ No 💿 Water Table Present? Depth (inches): 0 Yes ○ No ● Wetland Hydrology Present? Saturation Present? Yes O No 💿 Depth (inches): (includes capillary fringe) Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

roject/Site: North Mist Expansion	City/County: Columbia	Sampling Date: 06-Oct-22
pplicant/Owner: NW Natural		State: Oregon Sampling Point: SP-67
nvestigator(s): Ed Strohmaier	Section, Township, F	
Landform (hillslope, terrace, etc.): Channel (active)		, convex, none): concave Slope: 0.0 % / 0.0
ubregion (LRR): LRR A		Long.: -123.265737 Datum: WGS 1984
bil Map Unit Name: 58-Treharne silt loam	40.007370	
	time of year? Yes   No	NWI classification: N/A
e climatic/hydrologic conditions on the site typical for this are Vegetation $\ \square$ , Soil $\ \square$ , or Hydrology $\ \square$	<b>.</b>	○ (If no, explain in Remarks.) Normal Circumstances" present? Yes ● No ○
		eeded, explain any answers in Remarks.)
	lowing sampling point loo	cations, transects, important features, etc.
	Is the Sampled	
·	within a Wetlar	<sub>nd?</sub> Yes ◉ No ○
Remarks:		
Plot is on vegetated gravel bar of WET-7B		
VEGETATION - Use scientific names of plan	ts. Dominant	
(District, 206)	Species?Species?	Dominance Test worksheet:
Tree Stratum (Plot size: 30ft )	% Cover Cover Status	Number of Dominant Species
1. 2.		That are OBL, FACW, or FAC: (A)
3.		Total Number of Dominant
4.	0 000	Species Across All Strata: (B)
	0 = Total Cover	Percent of dominant Species That Are OBL, FACW, or FAC:100.0% (A/B)
Sapling/Shrub Stratum (Plot size: 15ft )		That Are OBL, FACW, OF FAC:
1,		Prevalence Index worksheet:
2		Total % Cover of: Multiply by:
3		0BL species 10 x 1 = 10
4 5.		FACW species <u>15</u> x 2 = <u>30</u>
J	0 .0%	FAC speciles x 3 =
Herb Stratum (Plot size: 5ft )	= Total Cover	FACU species $0 \times 4 = 0$
1 Urtica dioica	40 <b>✓</b> 61.5% FAC	UPL species $\frac{0}{x}$ $5 = \frac{0}{x}$
Phalaris arundinacea	10	Column Totals: <u>65</u> (A) <u>160</u> (B)
3 Oenanthe sarmentosa	10 15.4% OBL	Prevalence Index = B/A = 2.462
4. Glyceria elata	5 7.7% FACW	Hydrophytic Vegetation Indicators:
5	0	1 - Rapid Test for Hydrologic Vegetation
6	0	✓ 2 - Dominance Test is > 50%
7		✓ 3 - Prevalence Index is ≤3.0 <sup>1</sup>
8.—		·
9		4 - Morphological Adaptations 1 (Provide supporting data in Remarks or on a separate sheet)
10.	0 0000	5 - Wetland Non-Vascular Plants 1
11.	65 = Total Cover	☐ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
Woody Vine Stratum (Plot size:)		Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1,	0	
2	0	Hydrophytic Vegetation
	0 = Total Cover	Present? Yes No
% Bare Ground in Herb Stratum: 35		

<sup>\*</sup>Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil Sampling Point: SP-67 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Matrix **Redox Features** Depth Loc2 (inches) Color (moist) % Color (moist) % Type Texture Remarks Mi xed with cobbles and 0-3 10YR 3/3 100 Coarse Sand pebbl es <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 Soils3: 2 cm Muck (A10) Histosol (A1) Sandy Redox (S5) Histic Epipedon (A2) Stripped Matrix (S6) Red Parent Material (TF2) Black Histic (A3) Loamy Mucky Mineral (F1) (except in MLRA 1) Other (Explain in Remarks) Loamy Gleyed Matrix (F2) ☐ Hydrogen Sulfide (A4) Depleted Below Dark Surface (A11) Depleted Matrix (F3) Redox Dark Surface (F6) ☐ Thick Dark Surface (A12) <sup>3</sup>Indicators of hydrophytic vegetation and Depleted Dark Surface (F7) Sandy Muck Mineral (S1) wetland hydrology must be present, unless disturbed or problematic. Redox depressions (F8) Sandy Gleyed Matrix (S4) Restrictive Layer (if present): Type: <u>Compacted river substrate</u> No O **Hydric Soil Present?** Yes Depth (inches): 3 Remarks: Vegetated gravel bar below the OHWL of the stream. Hydrology Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (minimum of two required) Surface Water (A1) Water-Stained Leaves (B9) (except MLRA Water-Stained Leaves (B9) (MLRA 1, 2, 1, 2, 4A, and 4B) 4A, and 4B) High Water Table (A2) ✓ Saturation (A3) Salt Crust (B11) ✓ Drainage Patterns (B10) Aquatic Invertebrates (B13) Water Marks (B1) Dry Season Water Table (C2) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Saturation Visible on Aerial Imagery (C9) ✓ Drift deposits (B3) Oxidized Rhizospheres on Living Roots (C3) ✓ Geomorphic Position (D2) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Shallow Aquitard (D3) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) FAC-neutral Test (D5) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Inundation Visible on Aerial Imagery (B7) Frost Heave Hummocks (D7) Other (Explain in Remarks) Sparsely Vegetated Concave Surface (B8) Field Observations: Yes O No 💿 Surface Water Present? Depth (inches): n Yes  $\bigcirc$ No 💿 Water Table Present? Depth (inches): 0 Yes ● No ○ Wetland Hydrology Present? Saturation Present? Yes No O Depth (inches): (includes capillary fringe) Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Project/Site: North Mist Expansion			c	city/County:	Columbia	Sampling Date: 06-Oct-22	
Applicant/Owner: NW Natural						State: Oregon Sampling Point: SP-	-68
Investigator(s): Ed Strohmaier				Section, To	wnship, Ra	ange: S 14 T 6N R 5W	
Landform (hillslope, terrace, etc.):	Channel (act	ive)		Local relief	(concave, o	convex, none): concave Slope: 0.0 % /	0.0
Subregion (LRR): LRR A			Lat.: 46	.007625		Long.: -123.265635 Datum: WGS	1984
Soil Map Unit Name: 58-Treharne sil	t loam					NWI classification: N/A	
re climatic/hydrologic conditions on		al for this ti	me of year'	? Yes	s • No	(If no, explain in Remarks.)	
Are Vegetation . , Soil .	, or Hydrolog	gy 🗌 si	gnificantly	disturbed?	Are "N	lormal Circumstances" present? Yes 💿 No 🔾	)
Are Vegetation, Soil	, or Hydrolo	gy 🗌 na	aturally pro	blematic?	(If nee	eded, explain any answers in Remarks.)	
Summary of Findings - At	tach site	map sho	wing sa	mpling p		ations, transects, important features	, etc.
Hydrophytic Vegetation Present?	Yes 💿 I	No O		Is the	Sampled A	Aroa	
Hydric Soil Present?		No O			•	Vac (a) No (	
Wetland Hydrology Present?	Yes 💿 I	No O		within	a Wetland	a, 160 - 160 -	
Remarks:				-			
Plot is on vegetated gravel bar of	NET-7a.						
VEGETATION - Use scien	tific name	s of plants	s.	Dominant			
(5)					Indicator	Dominance Test worksheet:	
Tree otratam (	)		% Cover		Status	Number of Dominant Species	(A)
1 2			0	0.0%		That are OBL, FACW, or FAC: 2 (	(A)
3			0	0.0%		Total Number of Dominant Species Across All Strata: 2 (	(B)
4.			0	0.0%		Species Across All Strata: 2 (	(D)
	15ft	)	0	= Total Cove	er	Percent of dominant Species That Are OBL, FACW, or FAC: 100.0%	(A/B)
1,			0	0.0%		Prevalence Index worksheet:	
2			0	0.0%		Total % Cover of: Multiply by:	
3			0	0.0%		0BL species <u>35</u> x 1 = <u>35</u>	
4			0	0.0%		FACW species	
5				0.0%		FAC species x 3 =0	
Herb Stratum (Plot size: 5ft	1		0	= Total Cove	er	FACU speci es $0 \times 4 = 0$	
1 Scirpus microcarpus			25	<b>✓</b> 38.5%	OBL	UPL species $\frac{0}{x}$ 5 = $\frac{0}{x}$	
Phalaris arundinacea			25	38.5%	FACW	Column Totals: <u>65</u> (A) <u>95</u>	(B)
3 Glyceria elata			5	7.7%	FACW	Prevalence Index = B/A =1.462	
4. Ranunculus sceleratus			5	7.7%	OBL	Hudronhutia Vanatatian Indicatore.	
5. Persicaria hydropiperoides			5	7.7%	OBL	Hydrophytic Vegetation Indicators:  1 - Rapid Test for Hydrologic Vegetation	
6			0	0.0%		✓ 1 - Rapid Test for Hydrologic Vegetation ✓ 2 - Dominance Test is > 50%	
7				0.0%		✓ 3 - Prevalence Index is ≤3.0 ¹	
8.———			•	0.0%		4 - Morphological Adaptations <sup>1</sup> (Provide suppo	rtina
9				0.0%		data in Remarks or on a separate sheet)	rung
10.———			0	0.0%		☐ 5 - Wetland Non-Vascular Plants <sup>1</sup>	
11			65	= Total Cove	 er	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)	
Woody Vine Stratum (Plot size:				0.0%		<sup>1</sup> Indicators of hydric soil and wetland hydrology n be present, unless disturbed or problematic.	nust
1. 2.			0	0.0%		Hydrophytic	
Z			0	= Total Cove		Vegetation Value Ala	
% Bare Ground in Herb Stratum	. 25			- Total Cove	<b>21</b>	Present? Yes No	
Remarks:	· <u>35</u>					L	
Romarks.							

<sup>\*</sup>Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil Sampling Point: SP-68 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Matrix **Redox Features** Depth Loc2 (inches) Color (moist) % Color (moist) % Type Texture Remarks Mixed with cobbles and 0-3 10YR 3/3 100 Coarse Sand aravel <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 Soils3: 2 cm Muck (A10) Histosol (A1) Sandy Redox (S5) Histic Epipedon (A2) Stripped Matrix (S6) Red Parent Material (TF2) Black Histic (A3) Loamy Mucky Mineral (F1) (except in MLRA 1) Other (Explain in Remarks) Loamy Gleyed Matrix (F2) ☐ Hydrogen Sulfide (A4) Depleted Below Dark Surface (A11) Depleted Matrix (F3) Redox Dark Surface (F6) ☐ Thick Dark Surface (A12) <sup>3</sup>Indicators of hydrophytic vegetation and Depleted Dark Surface (F7) Sandy Muck Mineral (S1) wetland hydrology must be present, unless disturbed or problematic. Redox depressions (F8) Sandy Gleyed Matrix (S4) Restrictive Layer (if present): Type: River rock No O **Hydric Soil Present?** Yes Depth (inches): 3 Remarks: Plot is located on a vegetated gravel bar below the OHWL of the stream. Hydrology Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (minimum of two required) Surface Water (A1) Water-Stained Leaves (B9) (except MLRA Water-Stained Leaves (B9) (MLRA 1, 2, 1, 2, 4A, and 4B) 4A, and 4B) High Water Table (A2) ✓ Saturation (A3) Salt Crust (B11) ✓ Drainage Patterns (B10) Aquatic Invertebrates (B13) Water Marks (B1) Dry Season Water Table (C2) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Saturation Visible on Aerial Imagery (C9) Drift deposits (B3) Oxidized Rhizospheres on Living Roots (C3) ✓ Geomorphic Position (D2) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Shallow Aquitard (D3) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) ✓ FAC-neutral Test (D5) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Inundation Visible on Aerial Imagery (B7) Frost Heave Hummocks (D7) Other (Explain in Remarks) Sparsely Vegetated Concave Surface (B8) Field Observations: Yes O No 💿 Surface Water Present? Depth (inches): n Yes  $\bigcirc$ No 💿 Water Table Present? Depth (inches): 0 Yes ● No ○ Wetland Hydrology Present? Saturation Present? Yes No O Depth (inches): (includes capillary fringe) Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

City/County: Columbia County Sampling Date: 06-Oct-22	ity/County:				ct/Site: North Mist Expansion
State: OR Sampling Point: SP-69					cant/Owner: Northwest Natural
Section, Township, Range: S 14 T 6N R 5W	Section, To			maier	stigator(s): Sara Frank, Ed Strohr
Local relief (concave, convex, none): flat Slope: 5.0 % / 2.9 °	Local relief			Flat	dform (hillslope, terrace, etc.):
66.007838 Long.: -123.264916 Datum: WGS 1984	007838	 Lat.: 46			egion (LRR): LRR A
NWI classification: PFOA	007000	10	s complex	s-Udifluvent	lap Unit Name: 24 - Hapludalfs
	V0s	time of year'			matic/hydrologic conditions on
		significantly	. –	or Hydro ,	regetation
,				-	
oblematic? (If needed, explain any answers in Remarks.) ampling point locations, transects, important features, etc.		naturally pro		or Hydro,	egetation □ , Soil □
		ownig sa	No O	Yes   Yes	rophytic Vegetation Present?
Is the Sampled Area  Within a Westland? Yes O No	Is the		No 💿	Yes 🔾	ric Soil Present?
within a Wetland? Yes VNO V	within		No 💿	Yes $\bigcirc$	land Hydrology Present?
L					marks:
ngside ST-01.	side ST-01.	d data. Alono	on of mapped	r confirmatio	pped NWI polygon - Pit dug for
Dominant Supplied		ts.	nes of plant	ntific nam	GETATION - Use scien
Species?  e Rel.Strat. Indicator Dominance Test worksheet:  er Cover Status	Rel.Strat.	Absolute % Cover		)	e Stratum (Plot size: 30 feet
Number of Dominant Species That are OBL, FACW, or FAC: 4 (A)	<b>✓</b> 31.3%	25			T
✓ 62.5% FAC	<b>✓</b> 62.5%	50			A l
Total Number of Dominant Species Across All Strata: 7 (B)	6.3%	5			Pseudotsuga menziesii
0.0%	0.0%	0			
Percent of dominant Species That Are OBL, FACW, or FAC: 57.1% (A/B)	= Total Cove	80	)	:_15 feet	oling/Shrub Stratum (Plot size
<b>✓</b> 50.0% FACU Prevalence Index worksheet:	✓ 50.0%	5			Sambucus racemosa
✓ 50.0% FACU Total % Cover of: Multiply by:	50.0%	5			Cornus nuttallii
O.0%OBL species x 1 =O	0.0%	0			
FAC species $135 \times 3 = 405$	0.0%				
FACU species $\frac{40}{}$ x 4 = $\frac{160}{}$	= Total Cove	10		١	b Stratum (Plot size: 5 feet
UPL species $\frac{0}{11.8\%}$ FACU	11 00/	10			Polystichum munitum
✓ 17.6% FACU Column Totals: 175 (A) 565 (B)		15			Rubus ursinus
11.8% FAC Prevalence Index = B/A = 3.229	$\overline{}$	10			Oplopanax horridus
<b>✓</b> 23.5% FAC		20			Oxalis trilliifolia
✓ 23.5% FAC Hydrophytic Vegetation Indicators:	23.5%	20			Tolmiea menziesii
11.8% FAC 1 - Rapid Test for Hydrologic Vegetation	11.8%	10			Urtica dioica
□ 0.0%	0.0%	0			
3 - Prevalence Index is ≤3.0 ¹	0.0%	0			
0.0% 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)	0.0%	-			
U.0% S - Wetland Non-Vascular Plants 1		0			•
0.0%					
= Total Cover    Problematic Hydrophytic Vegetation (Explain)    Indicators of hydric soil and wetland hydrology must	= Total Cove	85	)		ody Vine Stratum (Plot size:
be present, unless disturbed or problematic.	0.0%	0	_		
0.0% Hydrophytic		0			
Vegetation Var 🔊 Na 🔾					
, research				): 1E	6 Bare Ground in Herb Stratum
				12	
= Total Cover Present? Yes No V	= Total Cove	0		n: <u>15</u>	6 Bare Ground in Herb Stratum narks:

<sup>\*</sup>Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil Sampling Point: SP-69 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Matrix **Redox Features** Depth Loc2 Texture (inches) Color (moist) % Color (moist) % Type Remarks 0-24 10YR 4/4 100 Silt Loam <sup>1</sup>Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains <sup>2</sup>Location: PL=Pore Lining. M=Matrix Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils3: Histosol (A1) Sandy Redox (S5) 2 cm Muck (A10) Histic Epipedon (A2) Stripped Matrix (S6) Red Parent Material (TF2) Black Histic (A3) Loamy Mucky Mineral (F1) (except in MLRA 1) Other (Explain in Remarks) Loamy Gleyed Matrix (F2) ☐ Hydrogen Sulfide (A4) Depleted Below Dark Surface (A11) Depleted Matrix (F3) Redox Dark Surface (F6) ☐ Thick Dark Surface (A12) <sup>3</sup>Indicators of hydrophytic vegetation and Depleted Dark Surface (F7) Sandy Muck Mineral (S1) wetland hydrology must be present, unless disturbed or problematic. Redox depressions (F8) Sandy Gleyed Matrix (S4) Restrictive Layer (if present): Type: No 💿 **Hydric Soil Present?** Yes 🔾 Depth (inches): Remarks: No redox Hydrology Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (minimum of two required) Surface Water (A1) Water-Stained Leaves (B9) (except MLRA Water-Stained Leaves (B9) (MLRA 1, 2, 1, 2, 4A, and 4B) 4A, and 4B) High Water Table (A2) Saturation (A3) Salt Crust (B11) ☐ Drainage Patterns (B10) Aquatic Invertebrates (B13) Water Marks (B1) Dry Season Water Table (C2) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Saturation Visible on Aerial Imagery (C9) Drift deposits (B3) Oxidized Rhizospheres on Living Roots (C3) Geomorphic Position (D2) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Shallow Aquitard (D3) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) FAC-neutral Test (D5) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Inundation Visible on Aerial Imagery (B7) Frost Heave Hummocks (D7) U Other (Explain in Remarks) Sparsely Vegetated Concave Surface (B8) Field Observations: Yes O No 💿 Surface Water Present? Depth (inches): Yes  $\bigcirc$ No 💿 Water Table Present? Depth (inches): Yes ○ No ● Wetland Hydrology Present? Saturation Present? Yes O No 💿 Depth (inches): (includes capillary fringe) Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available: Remarks:

No Hydrology present

Landform (hillslope, terrace, etc.): Swale  Subregion (LRR): LRR A  Soil Map Unit Name: 24 - Hapludalfs-Udiffuvents complex  Are climatic/hydrologic conditions on the site typical for this time of year?  Are Vegetation  , Soil  , or Hydrology  significantly di  Are Vegetation  , Soil  , or Hydrology  naturally prob  Summary of Findings - Attach site map showing san  Hydrophytic Vegetation Present?  Yes  No  Hydrology  No  Wetland Hydrology Present?  Yes  No  No  No  No  No  No  No  No  No  N	Yes osturbed?  Is the Samp within a Westpecies?  Poominant Species?  Rel.Strat. Indice	Are "Normal Circumstances" present? Yes No Ciff needed, explain any answers in Remarks.)  A locations, transects, important features, etc.  Pled Area etland? Yes No Circumstance Test worksheet:  Number of Dominant Species That are OBL, FACW, or FAC: 4 (A)  Total Number of Dominant Species Across All Strata: 4 (B)  Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)
Landform (hillslope, terrace, etc.): Swale  Subregion (LRR): LRR A  Soil Map Unit Name: 24 - Hapludalfs-Udifluvents complex  re climatic/hydrologic conditions on the site typical for this time of year?  Are Vegetation  , Soil  , or Hydrology  significantly di  Are Vegetation  , Soil  , or Hydrology  naturally prob  Summary of Findings - Attach site map showing san  Hydrophytic Vegetation Present?  Yes  No    Hydrophytic Vegetation Present?  Yes  No    Wetland Hydrology Present?  Yes  No    Wetland Hydrology Present?  Yes  No     Remarks:  Low spot north of logging road, west of stream 01   VEGETATION - Use scientific names of plants.  Tree Stratum (Plot size: 30 feet  )	relief (concontrol of the concontrol of the conc	Long.: -123.265521 Datum: WGS 1984  NWI classification: N/A  NO (If no, explain in Remarks.)  Are "Normal Circumstances" present? Yes No (If needed, explain any answers in Remarks.)  It locations, transects, important features, etc.  Pled Area etland? Yes No (A)  Total Number of Dominant Species That are OBL, FACW, or FAC: 4 (A)  Total Number of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)  Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)  Prevalence Index worksheet: Total % Cover of: Multiply by:
Soil Map Unit Name: 24 - Hapludalfs-Udifluvents complex re climatic/hydrologic conditions on the site typical for this time of year? Are Vegetation  , Soil  , or Hydrology  significantly di Are Vegetation  , Soil  , or Hydrology  naturally prob  Summary of Findings - Attach site map showing san  Hydrophytic Vegetation Present? Yes  No    Hydric Soil Present? Yes  No    Wetland Hydrology Present? Yes  No     Wetland Hydrology Present? Yes  No     Wetland Hydrology Present? Yes  No     Wetland Hydrology Present? Yes  No     Wetland Hydrology Present? Yes  No     Wetland Hydrology Present? Yes  No     Wetland Hydrology Present? Yes  No     Wetland Hydrology Present? Yes  No     Wetland Hydrology Present? Yes  No     Wetland Hydrology Present? Yes  No     Wetland Hydrology Present? Yes  No     Wetland Hydrology Present? Yes  No     Wetland Hydrology Present? Yes  No     Wetland Hydrology Present? Yes  No     Wetland Hydrology Present? Yes  No     Wetland Hydrology Present? Yes  No     Wetland Hydrology Present? Yes  No     Wetland Hydrology Present? Yes  No     Wetland Hydrology Present? Yes  No     No     Wetland Hydrology Present? Yes  No     Wetland Hydrology Present? Yes  No     o     No     No     No     No    No     No    No     No	Yes sturbed? A ematic? (Inpling point within a West Species? Rel.Strat. Cover 100.0% FACT 100.0% Total Cover 100.0% FACT 100.0%	NWI classification: N/A  NO (If no, explain in Remarks.)  Are "Normal Circumstances" present? Yes No (If needed, explain any answers in Remarks.)  It locations, transects, important features, etc.  Pled Area etland? Yes No (If needed, explain any answers in Remarks.)  Total Number of Dominant Species That are OBL, FACW, or FAC: 4 (A)  Total Number of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)  Prevalence Index worksheet: Total % Cover of: Multiply by:
Soil Map Unit Name: 24 - Hapludalfs-Udifluvents complex re climatic/hydrologic conditions on the site typical for this time of year? Are Vegetation	Tes ematic?  Is the Samp within a West of State	NWI classification: N/A  No (If no, explain in Remarks.)  Are "Normal Circumstances" present? Yes No (If needed, explain any answers in Remarks.)  I locations, transects, important features, etc.  Pled Area etland? Yes No   Dominance Test worksheet:  Number of Dominant Species That are OBL, FACW, or FAC: 4 (A)  Total Number of Dominant Species That Are OBL, FACW, or FAC: 4 (B)  Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)  W Prevalence Index worksheet:  Total % Cover of: Multiply by:
Soil Map Unit Name: 24 - Hapludalfs-Udifluvents complex re climatic/hydrologic conditions on the site typical for this time of year? Are Vegetation	Tes ematic?  Is the Samp within a West of State	NWI classification: N/A  No (If no, explain in Remarks.)  Are "Normal Circumstances" present? Yes No (If needed, explain any answers in Remarks.)  I locations, transects, important features, etc.  Pled Area etland? Yes No   Dominance Test worksheet:  Number of Dominant Species That are OBL, FACW, or FAC: 4 (A)  Total Number of Dominant Species That Are OBL, FACW, or FAC: 4 (B)  Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)  W Prevalence Index worksheet:  Total % Cover of: Multiply by:
re climatic/hydrologic conditions on the site typical for this time of year?  Are Vegetation	Dominant Species? Rel.Strat. Cover FACT 100.0% FACT 10	No (If no, explain in Remarks.)  Are "Normal Circumstances" present? Yes No Ciff needed, explain any answers in Remarks.)  I locations, transects, important features, etc.  Pled Area etland? Yes No Ciff needed Area etland? Yes No Ciff needed, explain any answers in Remarks.)  Dominance Test worksheet:  Number of Dominant Species That are OBL, FACW, or FAC: 4 (A)  Total Number of Dominant Species That Are OBL, FACW, or FAC: 4 (B)  Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)  W Prevalence Index worksheet:  Total % Cover of: Multiply by:
Are Vegetation	Dominant Species? Rel.Strat. Cover FACT 100.0% FACT 10	Cator Us Number of Dominant Species That are OBL, FACW, or FAC:  Total Number of Dominant Species That Are OBL, FACW, or FAC:  Percent of dominant Species That Are OBL, FACW, or FAC:  Total % Cover of:  Multiply by:  No O
Are Vegetation  , Soil  , or Hydrology  naturally probi	Is the Same within a West Species? Rel.Strat. Cover State  100.0% FACC 0.0%  100.0% FACC 0.0%  100.0% FACC 0.0%  100.0% FACC 0.0%	Cator Us Number of Dominant Species That are OBL, FACW, or FAC:  Total Number of Dominant Species That Are OBL, FACW, or FAC:  Percent of dominant Species That Are OBL, FACW, or FAC:  Percent of dominant Species That Are OBL, FACW, or FAC:  Percent of dominant Species That Are OBL, FACW, or FAC:  Total Number of Dominant Species That Are OBL, FACW, or FAC:  Percent of dominant Species That Are OBL, FACW, or FAC:  Total % Cover of: Multiply by:
Summary of Findings - Attach site map showing san  Hydrophytic Vegetation Present? Yes No Hydric Soil Present? Yes No Wetland Hydrology Present? No Wetland Hydrology Present? No Wetland Hydrology Present? No Wetland Hydrology Present? Yes No Wetland Hydrology Present? No Wetland Hydrology Present. No Wetland Hydrology Presen	Is the Samp within a West Species? Rel.Strat. Indicates Cover State Stat	Cator Setland?  Dominance Test worksheet:  Number of Dominant Species That are OBL, FACW, or FAC:  Total Number of Dominant Species Across All Strata:  Percent of dominant Species That Are OBL, FACW, or FAC:  100.0%  Prevalence Index worksheet:  Total % Cover of: Multiply by:
Hydric Soil Present?  Wetland Hydrology Present?  Remarks:  Low spot north of logging road, west of stream 01  VEGETATION - Use scientific names of plants.  Tree Stratum (Plot size: 30 feet )	within a Website Species? Rel.Strat. Indicate State St	Cator us    Number of Dominant Species   That are OBL, FACW, or FAC:   4
Wetland Hydrology Present? Yes ● No ○   Remarks:   Low spot north of logging road, west of stream 01    VEGETATION - Use scientific names of plants.  \[ \begin{align*} \text{Absolute} \\ \% Cover \\ \frac{\pi}{\pi} Cover \	within a Website Species? Rel.Strat. Indicate State St	Cator us    Number of Dominant Species   That are OBL, FACW, or FAC:   4
Name	Dominant Species? Rel.Strat. Cover Statu  2 100.0% FAC  0.0%  0.0%  Total Cover  2 100.0% FAC  0.0%  0.0%	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)  Percent of dominant Species That Are OBL, FACW, or FAC:100.0% (A/B)  W Prevalence Index worksheet:Total % Cover of: Multiply by:
Remarks:           Low spot north of logging road, west of stream 01           VEGETATION - Use scientific names of plants.           Image: Imag	Species   Rel.Strat.   Indicate   Cover   State   Cover   Co	Number of Dominant Species That are OBL, FACW, or FAC: 4 (A)  Total Number of Dominant Species Across All Strata: 4 (B)  Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)  Prevalence Index worksheet: Total % Cover of: Multiply by:
VEGETATION - Use scientific names of plants.           Tree Stratum         (Plot size: 30 feet )         Absolute % Cover 1           1, Malus fusca         30         9           2, 3, 0         0         4           4, 0         0         30           Sapling/Shrub Stratum         (Plot size: 15 feet )         5           1, Malus fusca         5         9           2, 0         0         3           3, 0         0         6           4, 0         0         5           5, 0         0         5           Herb Stratum         (Plot size: 5 feet )         1           1, Carex obnupta         25         5           2, Solanum dulcamara         25         3           3, Ranunculus repens         15         4           4, Oenanthe sarmentosa         15         15	Species   Rel.Strat.   Indicate   Cover   State   Cover   Co	Number of Dominant Species That are OBL, FACW, or FAC: 4 (A)  Total Number of Dominant Species Across All Strata: 4 (B)  Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)  Prevalence Index worksheet: Total % Cover of: Multiply by:
Tree Stratum         (Plot size: 30 feet         )         Absolute % Cover           1. Malus fusca         30         5           2.         0         30           3.         0         30           4.         0         30           Sapling/Shrub Stratum         (Plot size: 15 feet         )           1. Malus fusca         5         5           2.         0         5           3.         0         0           4.         0         5           4.         0         5           Herb Stratum         (Plot size: 5 feet         )           1. Carex obnupta         25         5           2. Solanum dulcamara         25         5           3. Ranunculus repens         15         4           4. Oenanthe sarmentosa         15         15	Species   Rel.Strat.   Indicate   Cover   State   Cover   Co	Number of Dominant Species That are OBL, FACW, or FAC: 4 (A)  Total Number of Dominant Species Across All Strata: 4 (B)  Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)  Prevalence Index worksheet: Total % Cover of: Multiply by:
Tree Stratum         (Plot size: 30 feet         )         Absolute % Cover           1. Malus fusca         30         0           2.         0         30           3.         0         4           4.         0         30           5 sapling/Shrub Stratum         (Plot size: 15 feet         )           1. Malus fusca         5         5           2.         0         0           3.         0         1           4.         0         5           5.         0         5           Herb Stratum         (Plot size: 5 feet         )           1. Carex obnupta         25         5           2. Solanum dulcamara         25         5           3. Ranunculus repens         15         4           4. Oenanthe sarmentosa         15         15	100.0%	Number of Dominant Species That are OBL, FACW, or FAC: 4 (A)  Total Number of Dominant Species Across All Strata: 4 (B)  Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)  Prevalence Index worksheet: Total % Cover of: Multiply by:
1. Malus fusca       30         2.       0         3.       0         4.       0         1. Malus fusca       5         2.       0         3.       0         4.       0         5.       0         4.       0         5.       0         4.       0         5.       0         4.       5         4.       0         5.       0         5.       0         5.       2         Carex obnupta       25         2.       Solanum dulcamara         3. Ranunculus repens       15         4. Oenanthe sarmentosa       15	0.0% 0.0%  Total Cover  100.0% FAC 0.0%	That are OBL, FACW, or FAC:4 (A)  Total Number of Dominant Species Across All Strata:4 (B)  Percent of dominant Species That Are OBL, FACW, or FAC:100.0% (A/B)  W Prevalence Index worksheet: Total % Cover of: Multiply by:
3. 0   0   30   30   5apling/Shrub Stratum (Plot size: 15 feet )   1. Malus fusca   5   5   5   5   5   5   6   7   7   7   7   7   7   7   7   7	0.0%  0.0%  Total Cover  100.0%  FACT  0.0%	Species Across All Strata:4 (B)  Percent of dominant Species That Are OBL, FACW, or FAC:100.0% (A/B)  Prevalence Index worksheet:Total % Cover of: Multiply by:
4. 0   30   30   30   30   30   30   30	0.0%  Total Cover  100.0%  FACT  0.0%	Species Across All Strata:4 (B)  Percent of dominant Species That Are OBL, FACW, or FAC:100.0% (A/B)  Prevalence Index worksheet:Total % Cover of: Multiply by:
Sapling/Shrub Stratum   (Plot size: 15 feet   )	Total Cover  100.0% FACT  0.0%  0.0%	That Are OBL, FACW, or FAC:100.0% (A/B)  W Prevalence Index worksheet: Total % Cover of: Multiply by:
Sapling/Shrub Stratum       (Plot size: 15 feet       )         1, Malus fusca       5       2         2.       0       3         3.       0       4         4.       0       5         5.       0       5         Herb Stratum (Plot size: 5 feet       )       5         1 Carex obnupta       25       2         2 Solanum dulcamara       25       3         3 Ranunculus repens       15       4         4 Oenanthe sarmentosa       15       15	0.0% FAC	That Are OBL, FACW, or FAC:100.0% (A/B)  W Prevalence Index worksheet: Total % Cover of: Multiply by:
2.       0         3.       0         4.       0         5.       0         Herb Stratum (Plot size: 5 feet )         1. Carex obnupta       25         2. Solanum dulcamara       25         3. Ranunculus repens       15         4. Oenanthe sarmentosa       15	0.0%	Total % Cover of: Multiply by:
3. 0	0.0%	
4. 0 5 5. 0 5 Herb Stratum (Plot size: 5 feet )  1 Carex obnupta 25 2 Solanum dulcamara 25 3 Ranunculus repens 15 4 Oenanthe sarmentosa 15	$\neg$	OBL species 40 x 1 = 40
5.       0         Herb Stratum (Plot size: 5 feet )       5         1 Carex obnupta 25       25         2 Solanum dulcamara 3 Ranunculus repens 4 Oenanthe sarmentosa 15       15	0.0%	
Herb Stratum (Plot size: 5 feet )	0.0%	FACW species 35 x 2 = 70
Herb Stratum (Plot size: 5 feet )         1 Carex obnupta       25         2 Solanum dulcamara       25         3 Ranunculus repens       15         4 Oenanthe sarmentosa       15		FAC speciles x 3 =
1 Carex obnupta       25         2 Solanum dulcamara       25         3 Ranunculus repens       15         4 Oenanthe sarmentosa       15	Total Cover	FACU species $0 \times 4 = 0$
3 Ranunculus repens 15 4 Oenanthe sarmentosa 15	<b>✓</b> 31.3% OBL	UPL species $\frac{0}{}$ x 5 = $\frac{0}{}$
4 Oenanthe sarmentosa 15	<b>✓</b> 31.3% FAC	Column Totals: <u>115</u> (A) <u>230</u> (B)
<u> </u>	18.8% FAC	Prevalence Index = B/A = 2.000
	18.8%OBL	Hydrophytic Vegetation Indicators:
50	_ <u></u>	1 - Rapid Test for Hydrologic Vegetation
6		2 - Dominance Test is > 50%
70	0.0%	3 - Prevalence Index is ≤3.0 ¹
8. 0	0.0%	4 - Morphological Adaptations 1(Provide supporting
10.	0.0%	data in Remarks or on a separate sheet)
11.	0.0%	5 - Wetland Non-Vascular Plants 1
	Total Cover	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
Woody Vine Stratum         (Plot size:)           1	0.0%	<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. 0	0.0%	Hydrophytic
	Total Cover	Vegetation Present? Yes • No •
% Bare Ground in Herb Stratum: 20		

<sup>\*</sup>Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil Sampling Point: SP-70 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Matrix **Redox Features** Depth Loc2 Texture (inches) Color (moist) % Color (moist) Type Remarks organic material 0-3 10YR 3/3 100 Silt Loam 3-24 10YR 4/2 85 5YR 4/6 15 C. Μ 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 Soils3: Histosol (A1) Sandy Redox (S5) 2 cm Muck (A10) Histic Epipedon (A2) Stripped Matrix (S6) Red Parent Material (TF2) Black Histic (A3) Loamy Mucky Mineral (F1) (except in MLRA 1) Other (Explain in Remarks) Loamy Gleyed Matrix (F2) ☐ Hydrogen Sulfide (A4) Depleted Below Dark Surface (A11) ✓ Depleted Matrix (F3) Redox Dark Surface (F6) ☐ Thick Dark Surface (A12) <sup>3</sup>Indicators of hydrophytic vegetation and Depleted Dark Surface (F7) Sandy Muck Mineral (S1) wetland hydrology must be present, unless disturbed or problematic. Redox depressions (F8) Sandy Gleyed Matrix (S4) Restrictive Layer (if present): Type: No O **Hydric Soil Present?** Yes Depth (inches): Remarks: Hydrology Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (minimum of two required) Surface Water (A1) Water-Stained Leaves (B9) (except MLRA Water-Stained Leaves (B9) (MLRA 1, 2, 1, 2, 4A, and 4B) 4A, and 4B) High Water Table (A2) Saturation (A3) Salt Crust (B11) ☐ Drainage Patterns (B10) Aquatic Invertebrates (B13) Water Marks (B1) Dry Season Water Table (C2) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Saturation Visible on Aerial Imagery (C9) Drift deposits (B3) Oxidized Rhizospheres on Living Roots (C3) ✓ Geomorphic Position (D2) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Shallow Aquitard (D3) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) ▼ FAC-neutral Test (D5) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Inundation Visible on Aerial Imagery (B7) Frost Heave Hummocks (D7) U Other (Explain in Remarks) Sparsely Vegetated Concave Surface (B8) Field Observations: Yes  $\bigcirc$ No 💿 Surface Water Present? Depth (inches): Yes  $\bigcirc$ No 💿 Water Table Present? Depth (inches): Yes ● No ○ Wetland Hydrology Present? Saturation Present? Yes O Depth (inches): (includes capillary fringe) Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

roject/Site: North Mist Expansion	City/County: Columbia C	County Sampling Date: 06-Oct-22
pplicant/Owner: Northwest Natural		State: OR Sampling Point: SP-71
nvestigator(s): Sara Frank, Ed Strohmaier	Section, Township, R	range: S 14 T 6N R 5W
Landform (hillslope, terrace, etc.): Flat	Local relief (concave,	convex, none): flat Slope:2.0 % /1.1
ubregion (LRR): LRR A	Lat.: 46.007914	Long.: -123.265518 Datum: WGS 1984
oil Map Unit Name: 24 - Hapludalfs-Udifluvents complex		NWI classification: N/A
e climatic/hydrologic conditions on the site typical for this	time of year? Yes   No	
		Normal Circumstances" present? Yes No
		Freedom.
		eded, explain any answers in Remarks.) cations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes • No		·
Hydric Soil Present? Yes No •	Is the Sampled	Area ⊶a Yes ○ No ◉
Wetland Hydrology Present? Yes O No •	within a Wetlan	d? Yes ○ No ●
Remarks:		
VEGETATION - Use scientific names of plan	ts. Dominant	
<u> </u>	Species?Species?Species?Species?	Dominance Test worksheet:
Tree Stratum (Plot size: 30 feet )	% Cover Cover Status	Number of Dominant Species
1 Alnus rubra		That are OBL, FACW, or FAC:3(A)
2		Total Number of Dominant
3,		Species Across All Strata:5 (B)
4,	0 0.0%	Percent of dominant Species
Sapling/Shrub Stratum (Plot size: 15 feet )	= Total Cover	That Are OBL, FACW, or FAC: 60.0% (A/B)
1 <sub>.</sub> Crataegus monogyna	5 100.0% FAC	Prevalence Index worksheet:
2		Total % Cover of: Multiply by:
3	0	0BL species x 1 =0
4		FACW species x 2 =0
5	0	FAC species $\underline{115}$ x 3 = $\underline{345}$
Herb Stratum (Plot size: 5 feet )	5 = Total Cover	FACU speci es $\frac{40}{}$ x 4 = $\frac{160}{}$
1 Polystichum munitum	25 🗹 33.3% FACU	UPL species $\frac{0}{x}$ $5 = \frac{0}{x}$
2. Rubus ursinus	15 <b>✓</b> 20.0% FACU	Column Totals: <u>155</u> (A) <u>505</u> (B)
3 Rubus armeniacus	35 <b>✓</b> 46.7% FAC	Prevalence Index = B/A = 3.258
4	0 0.0%	Hydrophytic Vegetation Indicators:
5		1 - Rapid Test for Hydrologic Vegetation
6		✓ 2 - Dominance Test is > 50%
7		3 - Prevalence Index is ≤3.0 <sup>1</sup>
8.		4 - Morphological Adaptations <sup>1</sup> (Provide supporting
9		data in Remarks or on a separate sheet)
11.		5 - Wetland Non-Vascular Plants 1
	75 = Total Cover	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
Woody Vine Stratum (Plot size:)	•	<sup>1</sup> Indicators of hydric soil and wetland hydrology must
1,	0 0.0%	be present, unless disturbed or problematic.
2	0 0.0%	Hydrophytic Vegetation
	0 = Total Cover	Present? Yes No
		·
% Bare Ground in Herb Stratum: 25		

<sup>\*</sup>Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil Sampling Point: SP-71 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Matrix **Redox Features** Depth Loc2 Texture (inches) Color (moist) % Color (moist) Type 10YR 3/6 100 0-6 <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 Soils3: 2 cm Muck (A10) Histosol (A1) Sandy Redox (S5) Histic Epipedon (A2) Stripped Matrix (S6) Red Parent Material (TF2) Black Histic (A3) Loamy Mucky Mineral (F1) (except in MLRA 1) Other (Explain in Remarks) Loamy Gleyed Matrix (F2) ☐ Hydrogen Sulfide (A4) Depleted Below Dark Surface (A11) Depleted Matrix (F3) Redox Dark Surface (F6) ☐ Thick Dark Surface (A12) <sup>3</sup>Indicators of hydrophytic vegetation and Depleted Dark Surface (F7) Sandy Muck Mineral (S1) wetland hydrology must be present, unless disturbed or problematic. Redox depressions (F8) Sandy Gleyed Matrix (S4) Restrictive Layer (if present): Type: Rock restriction No 💿 **Hydric Soil Present?** Yes 🔾 Depth (inches): \_6 Remarks: Gravel compaction from logging road egde Hydrology Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (minimum of two required) Surface Water (A1) Water-Stained Leaves (B9) (except MLRA Water-Stained Leaves (B9) (MLRA 1, 2, 1, 2, 4A, and 4B) 4A, and 4B) High Water Table (A2) Saturation (A3) Salt Crust (B11) ☐ Drainage Patterns (B10) Aquatic Invertebrates (B13) Water Marks (B1) Dry Season Water Table (C2) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Saturation Visible on Aerial Imagery (C9) Drift deposits (B3) Oxidized Rhizospheres on Living Roots (C3) Geomorphic Position (D2) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Shallow Aquitard (D3) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) FAC-neutral Test (D5) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Inundation Visible on Aerial Imagery (B7) Frost Heave Hummocks (D7) U Other (Explain in Remarks) Sparsely Vegetated Concave Surface (B8) Field Observations: Yes O No 💿 Surface Water Present? Depth (inches): Yes O No 💿 Water Table Present? Depth (inches): Yes O No 💿 Wetland Hydrology Present? Saturation Present? Yes O No 💿 Depth (inches): (includes capillary fringe) Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available: Remarks:

No hydrology present

roject/Site: North Mist Expansion	City/County: Columbia	County Sampling Date: 06-Oct-22
pplicant/Owner: Northwest Natural		State: OR Sampling Point: SP-72
nvestigator(s): Sara Frank, Ed Strohmaier	Section, Township,	Range: S 11 T_6N R_5W
Landform (hillslope, terrace, etc.): Flat	Local relief (concave	, convex, none): undulating Slope: 5.0 % / 2.9
ubregion (LRR): LRR A	Lat.: 46.015112	Long.: -123.267874 Datum: WGS 1984
oil Map Unit Name: 7D - Braun-Scaponia silt loams, 5 to		NWI classification: N/A
e climatic/hydrologic conditions on the site typical for th		
re Vegetation . , Soil . , or Hydrology .	•	'Normal Circumstances" present? Yes  No
re Vegetation , Soil , or Hydrology		eeded, explain any answers in Remarks.)
	•	cations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes  No		
Hydric Soil Present? Yes No	Is the Sampled	
Wetland Hydrology Present?	within a Wetlan	<sub>nd?</sub> Yes ○ No •
Remarks:		
Logged area		
VEGETATION - Use scientific names of pla		
Tree Stratum (Plot size: 30 feet )	Species?  Absolute Rel.Strat. Indicato % Cover Cover Status	
1. Pseudotsuga menziesii	50 <b>✓</b> 62.5% FACU	Number of Dominant Species That are OBL, FACW, or FAC: 3 (A)
2. Alnus rubra		
3		Total Number of Dominant Species Across All Strata:5(B)
4	0 0.0%	
Sapling/Shrub Stratum (Plot size: 15 feet )	80 = Total Cover	Percent of dominant Species That Are OBL, FACW, or FAC: 60.0% (A/B)
1_Acer circinatum	5 <u>✓</u> 100.0% FAC	Prevalence Index worksheet:
2.	0	Total % Cover of: Multiply by:
3	0	0BL speci es <u>40</u> x 1 = <u>40</u>
4		FACW species x 2 =
5	0	FAC species <u>35</u> x 3 = <u>105</u>
(Plot size: 5 feet	5 = Total Cover	FACU species $\frac{95}{}$ x 4 = $\frac{380}{}$
Herb Stratum (Plot size: 5 feet )  1. Carex obnupta	40 <b>⊻</b> 47.1% OBL	UPL speci es0 x 5 =0
Carex obnupta     Rubus ursinus	10 11.8% FACU	Column Totals: <u>170</u> (A) <u>525</u> (B)
Polystichum munitum	35 ✓ 41.2% FACU	Prevalence Index = B/A =3.088_
4		
5	0 0.0%	Hydrophytic Vegetation Indicators:  1 1 - Rapid Test for Hydrologic Vegetation
6		☐ 1 - Rapid Test for Hydrologic Vegetation  ✓ 2 - Dominance Test is > 50%
7	0 0000	3 - Prevalence Index is ≤ 3.0 ¹
8.—	0 0000	4 - Morphological Adaptations <sup>1</sup> (Provide supporting
9		data in Remarks or on a separate sheet)
10.		5 - Wetland Non-Vascular Plants 1
11.	85 = Total Cover	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
Woody Vine Stratum (Plot size:)		Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1		•
2	0	Hydrophytic Vegetation Present? Yes • No
	0 = Total Cover	Present? Yes • No
% Bare Ground in Herb Stratum: 20		

<sup>\*</sup>Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil Sampling Point: SP-72 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Redox Features Matrix Depth Loc2 Texture (inches) Color (moist) % Color (moist) % Type Remarks 10YR 2/2 100 Silt Loam 0-1 1-3 10YR 3/3 100 Silt Loam 4/2 С 3-18 10YR 99 5YR 4/6 1 M Silty Clay Loam С 18-22 10YR 4/2 97 5YR 4/6 3 М 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 Soils3: Histosol (A1) Sandy Redox (S5) 2 cm Muck (A10) Histic Epipedon (A2) Stripped Matrix (S6) Red Parent Material (TF2) Black Histic (A3) Loamy Mucky Mineral (F1) (except in MLRA 1) Other (Explain in Remarks) Loamy Gleyed Matrix (F2) ☐ Hydrogen Sulfide (A4) Depleted Below Dark Surface (A11) Depleted Matrix (F3) Redox Dark Surface (F6) ☐ Thick Dark Surface (A12) <sup>3</sup>Indicators of hydrophytic vegetation and Depleted Dark Surface (F7) Sandy Muck Mineral (S1) wetland hydrology must be present, unless disturbed or problematic. Redox depressions (F8) Sandy Gleyed Matrix (S4) Restrictive Layer (if present): Type: No 💿 **Hydric Soil Present?** Yes 🔾 Depth (inches): Remarks: Hydrology Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (minimum of two required) Surface Water (A1) Water-Stained Leaves (B9) (except MLRA Water-Stained Leaves (B9) (MLRA 1, 2, 1, 2, 4A, and 4B) 4A, and 4B) High Water Table (A2) Saturation (A3) Salt Crust (B11) ☐ Drainage Patterns (B10) Aquatic Invertebrates (B13) Water Marks (B1) Dry Season Water Table (C2) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Saturation Visible on Aerial Imagery (C9) Drift deposits (B3) Oxidized Rhizospheres on Living Roots (C3) Geomorphic Position (D2) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Shallow Aquitard (D3) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) FAC-neutral Test (D5) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Inundation Visible on Aerial Imagery (B7) Frost Heave Hummocks (D7) U Other (Explain in Remarks) Sparsely Vegetated Concave Surface (B8) Field Observations: Yes O No 💿 Surface Water Present? Depth (inches): Yes  $\bigcirc$ No 💿 Water Table Present? Depth (inches): Yes ○ No ● Wetland Hydrology Present? Saturation Present? Yes  $\bigcirc$ No 💿

Depth (inches):

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

(includes capillary fringe)

No hydrology present

Project/Site: North Mist Expansion			City/County:	Columbia Co	ounty Sai	mpling Date: <u>06-0</u> 0	ct-22
Applicant/Owner: Northwest Natural					State: OR	Sampling Point:	SP-73
Investigator(s): Sara Frank, Ed Strohn	naier		Section, To	wnship, Ra	ange: \$ 11 T_6N	R 5W	
Landform (hillslope, terrace, etc.):	Terrace		Local relief (concave, convex, none): flat Slope: 6.0 % / 3.4				.0 % / <u>3.4</u> °
Subregion (LRR): LRR A		 Lat.: 46	.014822		Long.: -123.267962	—— Datum	ı: WGS 1984
Soil Map Unit Name: 7D - Braun-Sca	ponia silt loams, 5 to 30				NWI classifica		
re climatic/hydrologic conditions on	•			● No C			
Are Vegetation, Soil	·	significantly of		Are "N	ormal Circumstances" pres		No O
Are Vegetation . , Soil .		naturally pro	blematic?		eded, explain any answers i		
Summary of Findings - At				•	• •	•	tures, etc.
Hydrophytic Vegetation Present?	Yes ● No ○						<del>,</del>
Hydric Soil Present?				Sampled A	Vec ( No (		
Wetland Hydrology Present?			within	a Wetland	i? res © No C		
Remarks:			<u> </u>		-	·	
ON terrace of larger logged hillside	•						
VEGETATION - Use scien	tific names of plan	ts.	Dominant Species?				
Tree Stratum (Plot size:	1	Absolute % Cover	Rel.Strat.	Indicator Status	Dominance Test workshe	et:	
1.			0.0%	Status	Number of Dominant Specie That are OBL, FACW, or FAC		(A)
2.			0.0%		That are obe, thow, or the	·	_ (//
3.			0.0%		Total Number of Dominant Species Across All Strata:	1	(B)
4		0	0.0%		opedies /idioss /iii otiutu.		_ (5)
_Sapling/Shrub Stratum_ (Plot size:	)	0	= Total Cove	r	Percent of dominant Spe That Are OBL, FACW, or		% (A/B)
1		0	0.0%		Prevalence Index worksh	eet:	
2		0	0.0%		Total % Cover of:	Multiply by:	
3			0.0%		OBL species 15	_ x 1 =1	5
4			0.0%		FACW species75_	_ x 2 = <u>15</u>	50
5			0.0%		FAC species0	x 3 =(	0
_Herb Stratum_ (Plot size:	)	0	= Total Cove	r	FACU speci es 10		0
1 Juncus effusus	′	75	<b>✓</b> 75.0%	FACW	UPL species 0	— x 5 = — (	0
2. Carex obnupta		15	15.0%	OBL	Column Totals: 100	(A) _20	<u>05</u> <b>(B)</b>
3 Rubus ursinus		10	10.0%	FACU	Prevalence Index = I	B/A = 2.050	)
4		0	0.0%		Hudrophytic Vegetation I	ndicators	
5		0	0.0%		Hydrophytic Vegetation I  1 - Rapid Test for Hyd		
6			0.0%		2 - Dominance Test is		1
7		_	0.0%		✓ 3 - Prevalence Index i		
8.			0.0%		4 - Morphological Ada		supporting
9			0.0%		data in Remarks of		
11			0.0%		5 - Wetland Non-Vasc	ular Plants <sup>1</sup>	
11,			= Total Cove		Problematic Hydrophy	rtic Vegetation <sup>1</sup> (E	xplain)
Woody Vine Stratum (Plot size:		0	0.0%		Indicators of hydric soil     be present, unless disturb	and wetland hydro bed or problemation	ology must
1		0	0.0%		Hydrophytic		
2			= Total Cove		Vegetation Present? Yes	No O	
% Bare Ground in Herb Stratum	: 0				Fresent:		
Remarks:							
no bare ground							

<sup>\*</sup>Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil Sampling Point: SP-73 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Matrix **Redox Features** Depth Loc2 Texture (inches) Color (moist) % Color (moist) % Type Remarks organic material 0-11 10YR 78 С Silty Clay Loam 4/2 10YR 5/8 20 Μ 10YR 2/1 2 С М Silty Clay Loam 2 С 5YR 4/6 11-20 10YR 2/1 98 M Silt Loam <sup>1</sup>Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains <sup>2</sup>Location: PL=Pore Lining. M=Matrix Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils3: Histosol (A1) 2 cm Muck (A10) Histic Epipedon (A2) Stripped Matrix (S6) Red Parent Material (TF2) Black Histic (A3) Loamy Mucky Mineral (F1) (except in MLRA 1) Other (Explain in Remarks) Loamy Gleyed Matrix (F2) ☐ Hydrogen Sulfide (A4) Depleted Below Dark Surface (A11) ✓ Depleted Matrix (F3) Redox Dark Surface (F6) ☐ Thick Dark Surface (A12) <sup>3</sup>Indicators of hydrophytic vegetation and Depleted Dark Surface (F7) Sandy Muck Mineral (S1) wetland hydrology must be present, unless disturbed or problematic. Redox depressions (F8) Sandy Gleyed Matrix (S4) Restrictive Layer (if present): Type: No O **Hydric Soil Present?** Yes Depth (inches): Remarks: Three colors in the first horizon. Likely disturbed due to logging Hydrology Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (minimum of two required) Surface Water (A1) Water-Stained Leaves (B9) (except MLRA Water-Stained Leaves (B9) (MLRA 1, 2, 1, 2, 4A, and 4B) 4A, and 4B) High Water Table (A2) Saturation (A3) Salt Crust (B11) ☐ Drainage Patterns (B10) Aquatic Invertebrates (B13) Water Marks (B1) Dry Season Water Table (C2) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Saturation Visible on Aerial Imagery (C9) Drift deposits (B3) Oxidized Rhizospheres on Living Roots (C3) ✓ Geomorphic Position (D2) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Shallow Aquitard (D3) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) ▼ FAC-neutral Test (D5) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Inundation Visible on Aerial Imagery (B7) Frost Heave Hummocks (D7) U Other (Explain in Remarks) Sparsely Vegetated Concave Surface (B8) Field Observations: Yes O No 💿 Surface Water Present? Depth (inches): Yes  $\bigcirc$ No 💿 Water Table Present? Depth (inches):

Saturation Present?

Remarks:

(includes capillary fringe)

Yes O

No 💿

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

Depth (inches):

Yes ● No ○

Wetland Hydrology Present?

roject/Site: North Mist Expansion	City/	County: Columbia C	county Sampling Date: 06-Oct-22
pplicant/Owner: Northwest Natural			State: OR Sampling Point: SP-74
nvestigator(s): Sara Frank, Ed Strohmaier	Se	ction, Township, R	ange: S 11 T 6N R 5W
Landform (hillslope, terrace, etc.): Terrace	Loc	al relief (concave,	convex, none): undulating Slope: 6.0 % / 3.4°
ubregion (LRR): LRR A	Lat.: 46.014	816	Long.: -123.268017 Datum: WGS 1984
oil Map Unit Name: 7D - Braun-Scaponia silt loams, 5 to 30			NWI classification: N/A
e climatic/hydrologic conditions on the site typical for this		Yes   No	
	ignificantly distu		Iormal Circumstances" present? Yes  No
	naturally problem		eded, explain any answers in Remarks.)
		•	ations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No •	<u>B</u>		·
Hydric Soil Present? Yes No •		Is the Sampled A	Vac O Na 🔘
Wetland Hydrology Present? Yes O No •		within a Wetland	d? Tes C NO C
Remarks:			
On bench of logging hillside			
VEGETATION - Use scientific names of plant		minant ecies?	
Tree Stratum (Plot size: 30 feet )	•	.Strat. Indicator	
1	0	0.0%	Number of Dominant Species That are OBL, FACW, or FAC:  0 (A)
2	0	0.0%	Total Number of Deminant
3		0.0%	Total Number of Dominant Species Across All Strata: (B)
4	_ 0	0.0%	Percent of deminant Species
Sapling/Shrub Stratum (Plot size: 15 feet )	0 = To	otal Cover	Percent of dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)
1. Symphoricarpos albus	_ 5 💆	100.0% FACU	Prevalence Index worksheet:
2		0.0%	Total % Cover of: Multiply by:
3		0.0%	0BL species x 1 =0
45.		0.0%	FACW species $0 \times 2 = 0$
J			FAC species x 3 =
Herb Stratum (Plot size: 5 feet )	5 = To	otal Cover	FACU species $\frac{100}{0}$ x 4 = $\frac{400}{0}$
1 Agrostis stolonifera	10	9.5% FAC	UPL species $0 \times 5 = 0$
2. Rubus ursinus	90	85.7% FACU	Col umn Total s:110 (A)430 (B)
3 Pteridium aquilinum	5	4.8% FACU	Prevalence Index = B/A = 3.909
4		0.0%	Hydrophytic Vegetation Indicators:
5		0.0%	1 - Rapid Test for Hydrologic Vegetation
6		0.0%	2 - Dominance Test is > 50%
7		0.0%	3 - Prevalence Index is ≤3.0 <sup>1</sup>
8.——		0.0%	4 - Morphological Adaptations <sup>1</sup> (Provide supporting
9	=-	0.0%	data in Remarks or on a separate sheet)
11	0 🗆	0.0%	5 - Wetland Non-Vascular Plants 1
11.	105 = <b>T</b> o	otal Cover	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
Woody Vine Stratum (Plot size:)		0.004	Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1		0.0%	Hydrophytic
2	0 L_ 0 = Te	0.0%otal Cover	Vegetation Vac O Na O
		otal Covel	Present? Yes V NO V
% Bare Ground in Herb Stratum: ()			

<sup>\*</sup>Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil Sampling Point: SP-74 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Matrix **Redox Features** Depth Loc2 Texture (inches) Color (moist) % Color (moist) % Type Remarks 0-5 10YR 4/3 95 5YR 5 С М Silty Clay Loam 4/6 90 10YR С М 5-16 10YR 5/3 5/8 10 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 Soils3: Histosol (A1) Sandy Redox (S5) 2 cm Muck (A10) Histic Epipedon (A2) Stripped Matrix (S6) Red Parent Material (TF2) Black Histic (A3) Loamy Mucky Mineral (F1) (except in MLRA 1) Other (Explain in Remarks) Loamy Gleyed Matrix (F2) ☐ Hydrogen Sulfide (A4) Depleted Below Dark Surface (A11) Depleted Matrix (F3) Redox Dark Surface (F6) ☐ Thick Dark Surface (A12) <sup>3</sup>Indicators of hydrophytic vegetation and Depleted Dark Surface (F7) Sandy Muck Mineral (S1) wetland hydrology must be present, unless disturbed or problematic. Redox depressions (F8) Sandy Gleyed Matrix (S4) Restrictive Layer (if present): Type: No 💿 **Hydric Soil Present?** Yes 🔾 Depth (inches): Remarks: Hydrology Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (minimum of two required) Surface Water (A1) Water-Stained Leaves (B9) (except MLRA Water-Stained Leaves (B9) (MLRA 1, 2, 1, 2, 4A, and 4B) 4A, and 4B) High Water Table (A2) Saturation (A3) Salt Crust (B11) ☐ Drainage Patterns (B10) Aquatic Invertebrates (B13) Water Marks (B1) Dry Season Water Table (C2) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Saturation Visible on Aerial Imagery (C9) Drift deposits (B3) Oxidized Rhizospheres on Living Roots (C3) Geomorphic Position (D2) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Shallow Aquitard (D3) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) FAC-neutral Test (D5) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Inundation Visible on Aerial Imagery (B7) Frost Heave Hummocks (D7) U Other (Explain in Remarks) Sparsely Vegetated Concave Surface (B8) Field Observations: Yes O No 💿 Surface Water Present? Depth (inches): Yes  $\bigcirc$ No 💿 Water Table Present? Depth (inches): Yes ○ No ● Wetland Hydrology Present? Saturation Present? Yes O No 💿 Depth (inches): (includes capillary fringe) Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

No hydrology present

Subregion (LRR): LRR A Lat.: 46.  Soil Map Unit Name: 7D-Braun-Scaponia silt loads, 5 to 30 percent slopes are climatic/hydrologic conditions on the site typical for this time of year?  Are Vegetation  , Soil  , or Hydrology  significantly of Are Vegetation  , Soil  , or Hydrology  naturally probable states are vegetation  , Soil  , or Hydrology  naturally probable states are vegetation Present?  Yes  No    Hydrophytic Vegetation Present?  Yes  No    Hydrophytic Vegetation Present?  Yes  No    Wetland Hydrology Present?  Yes  No    Remarks: Plot is in a depression just inside the edge of the forest.  VEGETATION - Use scientific names of plants.  Tree Stratum (Plot size: 30ft )	Position of the state of the st	Convex, none): Concave  Long.: -123.267858  NWI classification: N/A  (If no, explain in Remarks.)  Identify the concave of the
Landform (hillslope, terrace, etc.): Channel (active)  Subregion (LRR): LRR A Lat.: 46.  Soil Map Unit Name: 7D-Braun-Scaponia silt loads, 5 to 30 percent slopes re climatic/hydrologic conditions on the site typical for this time of year?  Are Vegetation  , Soil  , or Hydrology  significantly of Are Vegetation  , Soil  , or Hydrology  naturally probability and a substitution of year?  Are Vegetation  , Soil  , or Hydrology  naturally probability of Are Vegetation Present?  Yes  No    Hydrophytic Vegetation Present?  Yes  No    Hydrophytic Vegetation Present?  Yes  No    Wetland Hydrology Present?  Yes  No    Remarks: Plot is in a depression just inside the edge of the forest.   VEGETATION - Use scientific names of plants.  Tree Stratum (Plot size: 30ft )	Yes No	Convex, none): Concave Slope: 0.0 % / 0.0 °  Long.: -123.267858 Datum: WGS 1984  NWI classification: N/A  (If no, explain in Remarks.)  Identify the concave of the concave
Subregion (LRR): LRR A  Soil Map Unit Name: 7D-Braun-Scaponia silt loads, 5 to 30 percent slopes re climatic/hydrologic conditions on the site typical for this time of year? Are Vegetation	Position of the state of the st	NWI classification: N/A  (If no, explain in Remarks.)  Itermal Circumstances" present? Yes No  ations, transects, important features, etc.  Area  Area  Area  Total Number of Dominant Species That are OBL, FACW, or FAC:  Total Number of Dominant Species Across All Strata:  Percent of dominant Species  Percent of dominant Species
Soil Map Unit Name: 7D-Braun-Scaponia silt loads, 5 to 30 percent slopes re climatic/hydrologic conditions on the site typical for this time of year? Are Vegetation	Yes No isturbed? Are "N lematic? (If necessary in the sampled Are "N  Is the Sampled Are "N within a Wetland  Dominant Species? Rel.Strat. Indicator Status  0.0% 0.0% 0.0% 0.0%  Total Cover	NWI classification: N/A  (If no, explain in Remarks.)  lormal Circumstances" present? Yes No added, explain any answers in Remarks.)  ations, transects, important features, etc.  Area  Yes No   Dominance Test worksheet:  Number of Dominant Species That are OBL, FACW, or FAC:
re climatic/hydrologic conditions on the site typical for this time of year?  Are Vegetation	Yes No isturbed? Are "No lematic? (If new npling point loc  Is the Sampled A within a Wetland  Dominant Species? Rel.Strat. Cover Status  0.0% 0.0% 0.0% 0.0%  Total Cover	(If no, explain in Remarks.)  Itermal Circumstances" present? Yes No eded, explain any answers in Remarks.)  ations, transects, important features, etc.  Area  Area  Yes No  Dominance Test worksheet:  Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)  Total Number of Dominant Species Across All Strata: 2 (B)  Percent of dominant Species
Are Vegetation	Dominant Species? Rel.Strat.	Iormal Circumstances" present? Yes No ceded, explain any answers in Remarks.)  ations, transects, important features, etc.  Area  d? Yes No Ceded, explain any answers in Remarks.)  Dominance Test worksheet:  Number of Dominant Species That are OBL, FACW, or FAC:
Are Vegetation  , Soil  , or Hydrology  naturally prob  Summary of Findings - Attach site map showing sar  Hydrophytic Vegetation Present? Yes  No  Hydric Soil Present? Yes  No  Wetland Hydrology Present? Yes  No    Remarks:  Plot is in a depression just inside the edge of the forest.  VEGETATION - Use scientific names of plants.  Tree Stratum (Plot size: 30ft )  Absolute % Cover	Dominant Species? Rel.Strat. Indicator Status  0.0% 0.0% 0.0% 0.0% 10.0%	Area  Area  Area  One of Dominant Species That are OBL, FACW, or FAC:  Total Number of Dominant Species Across All Strata:  Percent of dominant Species  Percent of dominant Species
Summary of Findings - Attach site map showing sar  Hydrophytic Vegetation Present? Yes No Hydric Soil Present? Yes No Wetland Hydrology Present? Yes No Remarks:  Plot is in a depression just inside the edge of the forest.  VEGETATION - Use scientific names of plants.  Tree Stratum (Plot size: 30ft ) Absolute % Cover 1 O O O O O O O O O O O O O O O O O O	Dominant Species? Rel.Strat. Indicator Cover Status  0.0% 0.0% 0.0%	Area Area Area Area Area Area Area Area
Hydrophytic Vegetation Present? Yes No Hydric Soil Present? Yes No Wetland Hydrology Present? No Wetland Hydrology Present? Yes No Wetland Hydrology Present. Yes No Wetland Hydrology Present. Yes No Wetland Hydrology Present.	Dominant Species? Rel.Strat. Cover Status 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0	Area Area Area Area Area Area Area Area
Hydric Soil Present?  Wetland Hydrology Present?  Remarks: Plot is in a depression just inside the edge of the forest.  VEGETATION - Use scientific names of plants.  Tree Stratum (Plot size: 30ft )	Dominant Species? Rel.Strat. Indicator Cover Status  0.0% 0.0% 0.0% 0.0%  Total Cover	Dominance Test worksheet:  Number of Dominant Species That are OBL, FACW, or FAC:1 (A)  Total Number of Dominant Species Across All Strata:2 (B)  Percent of dominant Species
Wetland Hydrology Present?  Remarks: Plot is in a depression just inside the edge of the forest.  VEGETATION - Use scientific names of plants.  Tree Stratum (Plot size: 30ft )	Dominant Species? Rel.Strat. Indicator Cover Status  0.0% 0.0% 0.0% 0.0%  Total Cover	Dominance Test worksheet:  Number of Dominant Species That are OBL, FACW, or FAC:1
Remarks:   Plot is in a depression just inside the edge of the forest.	Dominant Species? Rel.Strat. Indicator Status  0.0% 0.0% 0.0% 0.0%  Total Cover	Dominance Test worksheet:  Number of Dominant Species That are OBL, FACW, or FAC:
Plot is in a depression just inside the edge of the forest.  VEGETATION - Use scientific names of plants.  Tree Stratum (Plot size: 30ft )	Species? Rel.Strat. Cover Status  0.0% 0.0% 0.0% 0.0%  Total Cover	Number of Dominant Species That are OBL, FACW, or FAC:
VEGETATION - Use scientific names of plants.           Tree Stratum         (Plot size: 30ft         )         Absolute % Cover           1         0         0           2         0         0           3         0         0           4         0         0           Sapling/Shrub Stratum         (Plot size: 15ft         )           1         0         0           2         0         0           3         0         0           4         0         0           5         0         0           Herb Stratum         (Plot size:	Species? Rel.Strat. Cover Status  0.0% 0.0% 0.0% 0.0%  Total Cover	Number of Dominant Species That are OBL, FACW, or FAC:
Tree Stratum         (Plot size: 30ft         )         Absolute % Cover           1         0         0           2         0         0           3         0         0           4         0         0           Sapling/Shrub Stratum         (Plot size: 15ft         )           1         0         0           2         0         0           3         0         0           4         0         0           5         0         0           Herb Stratum         (Plot size: )         )           1         Carex obnupta         50	Species? Rel.Strat. Cover Status  0.0% 0.0% 0.0% 0.0%  Total Cover	Number of Dominant Species That are OBL, FACW, or FAC:
Tree Stratum         (Plot size: 30ft         % Cover           1.         0           2.         0           3.         0           4.         0           Sapling/Shrub Stratum         (Plot size: 15ft           1.         0           2.         0           3.         0           4.         0           5.         0           Herb Stratum         (Plot size: )           1. Carex obnupta         50	Rel.Strat. Indicator Cover Status  0.0% 0.0% 0.0% 0.0%  Total Cover	Number of Dominant Species That are OBL, FACW, or FAC:
1.       0         2.       0         3.       0         4.       0         Sapling/Shrub Stratum (Plot size: 15ft )       0         2.       0         3.       0         4.       0         5.       0         Herb Stratum (Plot size: )         1. Carex obnupta       50	0.0% 0.0% 0.0% 0.0% = Total Cover	That are OBL, FACW, or FAC: (A)  Total Number of Dominant Species Across All Strata: (B)  Percent of dominant Species
2.       0         3.       0         4.       0         Sapling/Shrub Stratum       (Plot size: 15ft )         1.       0         2.       0         3.       0         4.       0         5.       0         Herb Stratum (Plot size: )         1. Carex obnupta       50	0.0% 0.0% 0.0% = Total Cover	Total Number of Dominant Species Across All Strata:  Percent of dominant Species  (B)
3, 0 4, 0  Sapling/Shrub Stratum (Plot size: 15ft )  1, 0 2, 0 3, 0 4, 0 5, 0  Herb Stratum (Plot size: )  1, Carex obnupta 50	0.0% 0.0% = Total Cover	Species Across All Strata: (B)  Percent of dominant Species
Sapling/Shrub Stratum	= Total Cover	Percent of dominant Species
Sapling/Shrub Stratum       (Plot size: 15ft )         1.	$\neg$	
2.       0         3.       0         4.       0         5.       0         Herb Stratum (Plot size: )         1. Carex obnupta       50	7 0 00/	That Are OBL, FACW, or FAC:50.0% (A/B)
3. 0 4. 0 5. 0  Herb Stratum (Plot size: )  1 Carex obnupta 50	0.0%	Prevalence Index worksheet:
4. 0 5. 0  Herb Stratum (Plot size: )  1 Carex obnupta 50	0.0%	Total % Cover of: Multiply by:
5. 0 0 0 1 Carex obnupta 50		0BL species <u>50</u> x 1 = <u>50</u>
Merb Stratum (Plot size:)	0.0%	FACW species x 2 =
Herb Stratum         (Plot size:)           1_ Carex obnupta         50	= Total Cover	FACU speciles 0 x 3 = 0  FACU speciles 15 x 4 = 60
-	- Total Cover	
2 Lysimachia nummularia 0	<b>✓</b> 76.9% OBL	ort species
	0.0% FACW	
J	<b>✓</b> 23.1% FACU 0.0%	Prevalence Index = B/A = 1.692
4	0.0%	Hydrophytic Vegetation Indicators:
60	0.0%	1 - Rapid Test for Hydrologic Vegetation
70	0.0%	2 - Dominance Test is > 50%
80	0.0%	✓ 3 - Prevalence Index is ≤3.0 <sup>1</sup>
9	0.0%	4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
10		5 - Wetland Non-Vascular Plants <sup>1</sup>
11		Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
	= Total Cover	<sup>1</sup> Indicators of hydric soil and wetland hydrology must
10	0.0%	be present, unless disturbed or problematic.
2	0.0%	Hydrophytic Vegetation
	= Total Cover	Present? Yes No
% Bare Ground in Herb Stratum: 35		

<sup>\*</sup>Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil Sampling Point: SP-75 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Matrix **Redox Features** Depth Loc2 (inches) Color (moist) % Color (moist) % Type Texture Remarks 10YR 4/2 85 10YR С Clay 0-4 4/6 15 10YR 2 С 4-8 10YR 4/2 98 4/6 М Clay <sup>1</sup>Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains <sup>2</sup>Location: PL=Pore Lining. M=Matrix Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils3: Histosol (A1) 2 cm Muck (A10) Histic Epipedon (A2) Stripped Matrix (S6) Red Parent Material (TF2) Black Histic (A3) Loamy Mucky Mineral (F1) (except in MLRA 1) Other (Explain in Remarks) Loamy Gleyed Matrix (F2) ☐ Hydrogen Sulfide (A4) Depleted Below Dark Surface (A11) ✓ Depleted Matrix (F3) Redox Dark Surface (F6) ☐ Thick Dark Surface (A12) <sup>3</sup>Indicators of hydrophytic vegetation and Depleted Dark Surface (F7) Sandy Muck Mineral (S1) wetland hydrology must be present, unless disturbed or problematic. Redox depressions (F8) Sandy Gleyed Matrix (S4) Restrictive Layer (if present): Type: Heavy clay No O **Hydric Soil Present?** Yes Depth (inches): 8 Remarks: Hydrology Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (minimum of two required) Surface Water (A1) ✓ Water-Stained Leaves (B9) (except MLRA Water-Stained Leaves (B9) (MLRA 1, 2, 1, 2, 4A, and 4B) 4A, and 4B) High Water Table (A2) Saturation (A3) Salt Crust (B11) ☐ Drainage Patterns (B10) Aquatic Invertebrates (B13) Water Marks (B1) Dry Season Water Table (C2) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Saturation Visible on Aerial Imagery (C9) Drift deposits (B3) Oxidized Rhizospheres on Living Roots (C3) ✓ Geomorphic Position (D2) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Shallow Aquitard (D3) ☐ Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) FAC-neutral Test (D5) ✓ Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Inundation Visible on Aerial Imagery (B7) Frost Heave Hummocks (D7) U Other (Explain in Remarks) Sparsely Vegetated Concave Surface (B8) Field Observations: Yes  $\bigcirc$ No 💿 Surface Water Present? Depth (inches): n Yes  $\bigcirc$ No 💿 Water Table Present? Depth (inches): 0 Yes ● No ○ Wetland Hydrology Present? Saturation Present? Yes O No 💿 Depth (inches): (includes capillary fringe) Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Project/Site: North Mist Expansion	City/County: Columbia	Sampling Date: 06-Oct-22
Applicant/Owner: NW Natural		State: Oregon Sampling Point: SP-76
nvestigator(s): ES		
Landform (hillslope, terrace, etc.): Swale		, convex, none): concave Slope:0.0 % /0.0
Subregion (LRR): LRR A	Lat.: 46.014846	Long.: -123.26785 Datum: WGS 1984
oil Map Unit Name: 7D-Braun-Scaponia silt loads, 5 to 30 p		NWI classification: N/A
e climatic/hydrologic conditions on the site typical for this		
		Normal Circumstances" present? Yes No
tre vegetation, soil, or nyurology r	naturally problematic: (If no	eeded, explain any answers in Remarks.)
Summary of Findings - Attach site map sh	owing sampling point lo	cations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes O No   No	Is the Sampled	Area
Hydric Soil Present? Yes ● No ○	·	Voc O No 🗨
Wetland Hydrology Present? Yes ○ No •	within a Wetlar	nd? 163 © NO ©
Remarks:	•	
Plot is on a mound inside the edge of the forest.		
<b>VEGETATION</b> - Use scientific names of plan	ts. Dominant Species?	
Tree Stratum (Plot size: 30ft )	Absolute Rel.Strat. Indicato % Cover Cover Status	r Dominance Test worksheet:
1. Pseudotsuga menziesii		Number of Dominant Species That are OBL, FACW, or FAC: 0 (A)
2,		That are ODE, Thow, OT The.
3.		Total Number of Dominant Species Across All Strata: 3 (B)
4	0 0.0%	
Diot size: 45ft	80 = Total Cover	Percent of dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)
Sapling/Shrub Stratum (Plot size: 15ft )  1 Rubus ursinus	40 <b>✓</b> 50.0% FACU	
1, Rubus ursinus 2, Mahonia nervosa		Prevalence Index worksheet:
3.		Total % Cover of: Multiply by:  OBL species 0 x 1 = 0
4.		FACW species x 2 =
5		FAC species $0 \times 3 = 0$
	80 = Total Cover	FACU species $\frac{160}{100}$ x 4 = $\frac{640}{100}$
Herb Stratum (Plot size:)		UPL species $\frac{0}{0} \times 5 = \frac{0}{0}$
1	_ 0	Column Totals: <u>160</u> (A) <u>640</u> (B)
2		Prevalence Index = B/A = 4.000
4	0 0.0%	
5	0 0.0%	Hydrophytic Vegetation Indicators:
6	0 0.0%	1 - Rapid Test for Hydrologic Vegetation
7		2 - Dominance Test is > 50%  3 - Prevalence Index is ≤3.0 ¹
8.———	0 0000	4 - Morphological Adaptations <sup>1</sup> (Provide supporting
9		data in Remarks or on a separate sheet)
10	0 0000	5 - Wetland Non-Vascular Plants <sup>1</sup>
11.	0 = Total Cover	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
		<sup>1</sup> Indicators of hydric soil and wetland hydrology must
1	0 0.0%	be present, unless disturbed or problematic.
2	0 0.0%	Hydrophytic
	0 = Total Cover	Vegetation Yes No •
		Present? Yes V No S

<sup>\*</sup>Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil Sampling Point: SP-76 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Matrix **Redox Features** Depth Loc2 Texture (inches) Color (moist) % Color (moist) % Type Remarks 0-2 10YR 2/2 100 Silty Clay Loam 95 10YR D 2-8 10YR 3/2 5/4 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 Soils3: Histosol (A1) Sandy Redox (S5) 2 cm Muck (A10) Histic Epipedon (A2) Stripped Matrix (S6) Red Parent Material (TF2) Black Histic (A3) Loamy Mucky Mineral (F1) (except in MLRA 1) Other (Explain in Remarks) Loamy Gleyed Matrix (F2) ☐ Hydrogen Sulfide (A4) Depleted Below Dark Surface (A11) Depleted Matrix (F3) Redox Dark Surface (F6) ☐ Thick Dark Surface (A12) <sup>3</sup>Indicators of hydrophytic vegetation and Depleted Dark Surface (F7) Sandy Muck Mineral (S1) wetland hydrology must be present, unless disturbed or problematic. Redox depressions (F8) Sandy Gleyed Matrix (S4) Restrictive Layer (if present): Type: No O **Hydric Soil Present?** Yes Depth (inches): Remarks: Hydrology Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (minimum of two required) Surface Water (A1) Water-Stained Leaves (B9) (except MLRA Water-Stained Leaves (B9) (MLRA 1, 2, 1, 2, 4A, and 4B) 4A, and 4B) High Water Table (A2) Saturation (A3) Salt Crust (B11) ☐ Drainage Patterns (B10) Aquatic Invertebrates (B13) Water Marks (B1) Dry Season Water Table (C2) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Saturation Visible on Aerial Imagery (C9) Drift deposits (B3) Oxidized Rhizospheres on Living Roots (C3) Geomorphic Position (D2) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Shallow Aquitard (D3) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) FAC-neutral Test (D5) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Inundation Visible on Aerial Imagery (B7) Frost Heave Hummocks (D7) U Other (Explain in Remarks) Sparsely Vegetated Concave Surface (B8) Field Observations: Yes O No 💿 Surface Water Present? Depth (inches): n Yes  $\bigcirc$ No 💿 Water Table Present? Depth (inches): 0 Yes ○ No ● Wetland Hydrology Present? Saturation Present? Yes O No 💿 Depth (inches): (includes capillary fringe) Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Sampling Date: 06-Oct-22
gon Sampling Point: SP-77
T_6N R_5W
Convex Slope: 83.9 % / 40.0
68053 <b>Datum</b> : WGS 1984
/I classification: N/A
plain in Remarks.)
ances" present? Yes • No
F
y answers in Remarks.)
sects, important features, etc.
No •
<b>v</b> O $\subset$
est worksheet:
ninant Species FACW, or FAC: 1 (A)
ACW, OF FAC.
of Dominant All Strata: 4 (B)
<u> </u>
minant Species , FACW, or FAC: <u>25.0%</u> (A/B)
TACW, OF FAC.
dex worksheet:
Cover of: Multiply by:  0 x 1 = 0
$\begin{array}{cccccccccccccccccccccccccccccccccccc$
$20 \times 3 = 60$
$\frac{120}{120}$ x 4 = $\frac{480}{120}$
0 x 5 = 0
s: <u>140</u> (A) <u>540</u> (B)
te Index = B/A = 3.857
e muex – b/A –
egetation Indicators:
Test for Hydrologic Vegetation
ance Test is > 50% ence Index is ≤3.0 <sup>1</sup>
logical Adaptations <sup>1</sup> (Provide supporting
Remarks or on a separate sheet)
d Non-Vascular Plants <sup>1</sup>
c Hydrophytic Vegetation <sup>1</sup> (Explain)
f hydric soil and wetland hydrology must
nless disturbed or problematic.
_
Yes ○ No •
-

<sup>\*</sup>Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil Sampling Point: SP-77 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Matrix **Redox Features** Depth Loc2 **Texture** (inches) Color (moist) Color (moist) % Type Remarks 0-10 10YR 95 10YR С Silty Clay Loam 4/4 Μ <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 Soils3: Histosol (A1) Sandy Redox (S5) 2 cm Muck (A10) Histic Epipedon (A2) Stripped Matrix (S6) Red Parent Material (TF2) Black Histic (A3) Loamy Mucky Mineral (F1) (except in MLRA 1) Other (Explain in Remarks) Loamy Gleyed Matrix (F2) ☐ Hydrogen Sulfide (A4) Depleted Below Dark Surface (A11) Depleted Matrix (F3) Redox Dark Surface (F6) ☐ Thick Dark Surface (A12) <sup>3</sup>Indicators of hydrophytic vegetation and Depleted Dark Surface (F7) Sandy Muck Mineral (S1) wetland hydrology must be present, unless disturbed or problematic. Redox depressions (F8) Sandy Gleyed Matrix (S4) Restrictive Layer (if present): Type: No 💿 **Hydric Soil Present?** Yes 🔾 Depth (inches): Remarks: Hydrology Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (minimum of two required) Surface Water (A1) Water-Stained Leaves (B9) (except MLRA Water-Stained Leaves (B9) (MLRA 1, 2, 1, 2, 4A, and 4B) 4A, and 4B) High Water Table (A2) Saturation (A3) Salt Crust (B11) ☐ Drainage Patterns (B10) Aquatic Invertebrates (B13) Water Marks (B1) Dry Season Water Table (C2) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Saturation Visible on Aerial Imagery (C9) Drift deposits (B3) Oxidized Rhizospheres on Living Roots (C3) Geomorphic Position (D2) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Shallow Aquitard (D3) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) FAC-neutral Test (D5) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Inundation Visible on Aerial Imagery (B7) Frost Heave Hummocks (D7) U Other (Explain in Remarks) Sparsely Vegetated Concave Surface (B8) Field Observations: Yes O No 💿 Surface Water Present? Depth (inches): n Yes  $\bigcirc$ No 💿 Water Table Present? Depth (inches): 0 Yes ○ No ● Wetland Hydrology Present? Saturation Present? Yes O No 💿 Depth (inches): (includes capillary fringe) Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

roject/Site: North Mist Expansion	City/County: Columbia	Sampling Date: 06-Oct-22
pplicant/Owner: NW Natural		State: Oregon Sampling Point: SP-78
nvestigator(s): ES	Section, Township, R	eange: S 11 T 6N R 5W
Landform (hillslope, terrace, etc.): Channel (active)		convex, none): convex Slope: %/
ubregion (LRR): LRR A	Lat.: 46.014107	Long.: -123.268059 Datum: WGS 198
iil Map Unit Name: 7D-Braun-Scaponia silt loads, 5 to 30		NWI classification: N/A
climatic/hydrologic conditions on the site typical for this	<b></b>	
e Vegetation 🔲 , Soil 🔲 , or Hydrology 🔲	naturally problematic? (If ne	eded, explain any answers in Remarks.)
ummary of Findings - Attach site map sh	nowing sampling point loo	ations, transects, important features, et
Hydrophytic Vegetation Present? Yes No		·
Hydric Soil Present? Yes No	Is the Sampled	
	within a Wetlan	<sub>d?</sub> Yes ◉ No ○
Vetland Hydrology Present? Yes No C		
Plot is on the south edge of the WET-10.		
That is on the south edge of the WET To.		
/EGETATION - Use scientific names of plar	nts. Dominant	
	Species?Species?	Dominance Test worksheet:
Tree Stratum (Plot size: 30ft )	% Cover Cover Status	
1	0 0.0%	Number of Dominant Species That are OBL, FACW, or FAC:1 (A)
2	0 0.0%	Total Number of Deminant
3	0	Total Number of Dominant Species Across All Strata:1 (B)
4	0 0.0%	Descent of deminant Species
Sapling/Shrub Stratum (Plot size: 15ft )	0 = Total Cover	Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)
1.	0	Prevalence Index worksheet:
2.		Total % Cover of: Multiply by:
3		0BL species 80 x 1 = 80
4.		FACW species x 2 =10
5	0	FAC species x 3 =
	0 = Total Cover	FACU species $0 \times 4 = 0$
Herb Stratum (Plot size: 5ft )		UPL species $\frac{10}{10}$ x 5 = $\frac{50}{10}$
1 Ranunculus sceleratus	65 65.0% OBL	Column Total s: 95 (A) 140 (B)
Trifolium arvense     Oenanthe sarmentosa		Prevalence Index = B/A = 1.474
4 Glyceria elata	5	
5 Symplocarpus foetidus	5 5.0% NI	Hydrophytic Vegetation Indicators:
6	0 0.0%	✓ 1 - Rapid Test for Hydrologic Vegetation ✓ 2 - Dominance Test is > 50%
7	0	✓ 2 - Dominance Test is > 50%  ✓ 3 - Prevalence Index is ≤3.0 ¹
8.		
9,		4 - Morphological Adaptations 1 (Provide supporting data in Remarks or on a separate sheet)
10.		☐ 5 - Wetland Non-Vascular Plants <sup>1</sup>
11.————————————————————————————————————	100 = Total Cover	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
Woody Vine Stratum (Plot size:)		<sup>1</sup> Indicators of hydric soil and wetland hydrology must
1	0 0.0%	be present, unless disturbed or problematic.
2		Hydrophytic
	0 = Total Cover	Vegetation Present? Yes No
% Bare Ground in Herb Stratum: <sub>()</sub>		

<sup>\*</sup>Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil Sampling Point: SP-78 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Matrix **Redox Features** Depth Loc2 Texture (inches) Color (moist) Color (moist) % Type Remarks 0-3 10YR 95 10YR 5 С Silt Loam 3/2 3/6 Μ 90 10YR С М 3-14 10Y 3/1 3/6 10 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 Soils3: Histosol (A1) Sandy Redox (S5) 2 cm Muck (A10) Histic Epipedon (A2) Stripped Matrix (S6) Red Parent Material (TF2) Black Histic (A3) Loamy Mucky Mineral (F1) (except in MLRA 1) Other (Explain in Remarks) Loamy Gleyed Matrix (F2) ☐ Hydrogen Sulfide (A4) Depleted Below Dark Surface (A11) Depleted Matrix (F3) Redox Dark Surface (F6) ☐ Thick Dark Surface (A12) <sup>3</sup>Indicators of hydrophytic vegetation and Depleted Dark Surface (F7) Sandy Muck Mineral (S1) wetland hydrology must be present, unless disturbed or problematic. Redox depressions (F8) Sandy Gleyed Matrix (S4) Restrictive Layer (if present): Type: No O **Hydric Soil Present?** Yes Depth (inches): Remarks: Hydrology Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (minimum of two required) Surface Water (A1) Water-Stained Leaves (B9) (except MLRA Water-Stained Leaves (B9) (MLRA 1, 2, 1, 2, 4A, and 4B) 4A, and 4B) ✓ High Water Table (A2) ✓ Saturation (A3) Salt Crust (B11) ☐ Drainage Patterns (B10) Aquatic Invertebrates (B13) Water Marks (B1) Dry Season Water Table (C2) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Saturation Visible on Aerial Imagery (C9) Drift deposits (B3) Oxidized Rhizospheres on Living Roots (C3) Geomorphic Position (D2) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Shallow Aquitard (D3) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) ✓ FAC-neutral Test (D5) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Inundation Visible on Aerial Imagery (B7) Frost Heave Hummocks (D7) U Other (Explain in Remarks) Sparsely Vegetated Concave Surface (B8) Field Observations: No 💿 Yes O Surface Water Present? Depth (inches): 0 No  $\bigcirc$ Yes Water Table Present? Depth (inches): 12 Yes ● No ○ Wetland Hydrology Present? Saturation Present? Yes No O Depth (inches): (includes capillary fringe) Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Project/Site: North Mist Expansion	City/County: Columbia	County Sampling Date: 10-Oct-22
Applicant/Owner: Northwest Natural		State: OR Sampling Point: SP-79
Investigator(s): Sara Frank, Ed Strohmaier	Section, Township, F	Range: S 14 T 6N R 5W
Landform (hillslope, terrace, etc.): Bench	Local relief (concave	, convex, none): undulating Slope: 0.0 % / 0.0
Subregion (LRR): LRR A	Lat.: 46.00986	Long.: -123.267759 Datum: WGS 1984
Soil Map Unit Name: 7D - Braun-Scaponia silt loams, 5 to 3	30 percent slopes	NWI classification: N/A
re climatic/hydrologic conditions on the site typical for this	s time of year? Yes O No	
Are Vegetation, Soil, or Hydrology	significantly disturbed? Are "	Normal Circumstances" present? Yes  No
Are Vegetation, Soil, or Hydrology	naturally problematic? (If no	eeded, explain any answers in Remarks.)
	•	cations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No		
Hydric Soil Present? Yes ● No ○	Is the Sampled	l Area
Wetland Hydrology Present? Yes ● No ○	within a Wetlar	nd? Yes ♥ No ○
Remarks:	<u> </u>	_
Lower terrace on logged hillside		
<b>VEGETATION</b> - Use scientific names of plan	nts. Dominant Species?	
Tree Stratum (Plot size: 30 feet )	Absolute Rel.Strat. Indicato % Cover Cover Status	
1 Salix scouleriana	25 <b>S</b> 55.6% FAC	Number of Dominant Species That are OBL, FACW, or FAC:4 (A)
2. Fraxinus latifolia	20 <b>4</b> 4.4% FACW	Total Number of Dominant
3	0	Total Number of Dominant Species Across All Strata:
4	0	Descent of deminent Charles
Sapling/Shrub Stratum (Plot size: 15 feet )	45 = Total Cover	Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)
1, Acer circinatum	5 <u>V</u> 100.0% FAC	Prevalence Index worksheet:
2		Total % Cover of: Multiply by:
3		0BL speci es x 1 =60
4. 5.	0	FACW species $20 \times 2 = 40$
J		FAC speciles 40 x 3 = 120
Herb Stratum (Plot size: 5 feet )	5 = Total Cover	FACU species $\frac{10}{0}$ x 4 = $\frac{40}{0}$
	60 🗹 75.0% OBL	or L species X 3 -
2. Rubus armeniacus	10	Column Totals: <u>130</u> (A) <u>260</u> (B)
3 Rubus ursinus	10	Prevalence Index = B/A = 2.000
4.		Hydrophytic Vegetation Indicators:
5		□ 1 - Rapid Test for Hydrologic Vegetation
6 7		✓ 2 - Dominance Test is > 50%
8	0 0000	<b>3</b> - Prevalence Index is ≤3.0 <sup>1</sup>
9	0 0001	4 - Morphological Adaptations <sup>1</sup> (Provide supporting
10		data in Remarks or on a separate sheet)
11		5 - Wetland Non-Vascular Plants 1
	80 = Total Cover	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
Woody Vine Stratum (Plot size:)  1.	0 0.0%	Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2.	0 0.0%	Hydrophytic
	0 = Total Cover	Vegetation Present? Yes No O
1		
% Bare Ground in Herb Stratum: 20		

<sup>\*</sup>Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil Sampling Point: SP-79 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Matrix **Redox Features** Depth Loc2 Texture (inches) Color (moist) % Color (moist) % Type Remarks organic material 10YR 2/1 100 Silt Loam 0-4 С 4-6 10YR 2/2 98 7.5YR 3/6 2 Μ Silty Clay Loam С 4/2 10YR 5/8 5 6-13 10YR 95 M Silty Clay Loam <sup>1</sup>Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains <sup>2</sup>Location: PL=Pore Lining. M=Matrix Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils3: Histosol (A1) Sandy Redox (S5) 2 cm Muck (A10) Histic Epipedon (A2) Stripped Matrix (S6) Red Parent Material (TF2) Black Histic (A3) Loamy Mucky Mineral (F1) (except in MLRA 1) Other (Explain in Remarks) Loamy Gleyed Matrix (F2) ☐ Hydrogen Sulfide (A4) Depleted Below Dark Surface (A11) Depleted Matrix (F3) Redox Dark Surface (F6) ☐ Thick Dark Surface (A12) <sup>3</sup>Indicators of hydrophytic vegetation and Depleted Dark Surface (F7) Sandy Muck Mineral (S1) wetland hydrology must be present, unless disturbed or problematic. Redox depressions (F8) Sandy Gleyed Matrix (S4) Restrictive Layer (if present): Type: Root restriction No O **Hydric Soil Present?** Yes Depth (inches): 13 Remarks: Hydrology Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (minimum of two required) Surface Water (A1) Water-Stained Leaves (B9) (except MLRA Water-Stained Leaves (B9) (MLRA 1, 2, 1, 2, 4A, and 4B) 4A, and 4B) High Water Table (A2) Saturation (A3) Salt Crust (B11) ☐ Drainage Patterns (B10) Aquatic Invertebrates (B13) Water Marks (B1) Dry Season Water Table (C2) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Saturation Visible on Aerial Imagery (C9) Drift deposits (B3) Oxidized Rhizospheres on Living Roots (C3) ✓ Geomorphic Position (D2) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Shallow Aquitard (D3) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) ▼ FAC-neutral Test (D5) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Inundation Visible on Aerial Imagery (B7) Frost Heave Hummocks (D7) U Other (Explain in Remarks) Sparsely Vegetated Concave Surface (B8) Field Observations: Yes O No 💿 Surface Water Present? Depth (inches): Yes  $\bigcirc$ No 💿 Water Table Present? Depth (inches): Yes ● No ○ Wetland Hydrology Present? Saturation Present? Yes O No 💿

Depth (inches):

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

(includes capillary fringe)

roject/Site: North Mist Expansion	City/	County: Columbia C	ounty Sampling Date: 10-Oct-22
pplicant/Owner: Northwest Natural			State: OR Sampling Point: SP-80
nvestigator(s): Sara Frank, Ed Strohmaier	Se	ction, Township, R	ange: S 14 T 6N R 5W
Landform (hillslope, terrace, etc.): Bench	Loc	al relief (concave,	convex, none): undulating Slope: 4.0 % / 2.3
ubregion (LRR): LRR A	Lat.: 46.009		Long.: -123.267746 Datum: WGS 1984
oil Map Unit Name: 7D - Braun-Scaponia silt loams, 5 to 30		004	120/2017 10
•		Yes   No	NWI classification: N/A
e climatic/hydrologic conditions on the site typical for this			
	ignificantly distu		prosenti
re Vegetation 🔲 , Soil 📙 , or Hydrology 📙 r	aturally problem	natic? (If ne	eded, explain any answers in Remarks.)
iummary of Findings - Attach site map sh	owing samp	ling point loc	ations, transects, important features, etc.
-Hydrophytic Vegetation Present? Yes O No 💿		Is the Sampled A	Area
Hydric Soil Present? Yes No 💿			Voc O No 🗨
Wetland Hydrology Present? Yes ○ No ●		within a Wetland	17 103 0 110 0
Remarks:		•	
<b>VEGETATION</b> - Use scientific names of plan		minant	
	Absolute Rel	ecies? I.Strat. Indicator	Dominance Test worksheet:
Tree Stratum (Plot size:)	% Cover Cov		Number of Dominant Species
1,		0.0%	That are OBL, FACW, or FAC: (A)
2	• □	0.0%	Total Number of Dominant
3,	0	0.0%	Species Across All Strata:4 (B)
4			Percent of dominant Species
Sapling/Shrub Stratum (Plot size: 15 feet )	= To	otal Cover	That Are OBL, FACW, or FAC: 0.0% (A/B)
1, Corylus cornuta	8 🗆	18.6% FACU	Prevalence Index worksheet:
2. Pseudotsuga menziesii	5	11.6% FACU	Total % Cover of: Multiply by:
3. Cytisus scoparius	30	69.8% UPL	0BL species 0 x 1 = 0
4		0.0%	FACW species 5 x 2 = 10
5	_ 0	0.0%	FAC species x 3 =
(0)	43 = To	otal Cover	FACU species88 x 4 =352
Herb Stratum (Plot size: 5 feet )	50 <b>.</b>	50.00/ FACH	UPL species $\frac{50}{}$ x 5 = $\frac{250}{}$
1 Polystichum munitum		50.0% FACU	Column Totals: <u>143</u> (A) <u>612</u> (B)
2 Berberis nervosa 3 Phalaris arundinacea		20.0% UPL 5.0% FACW	Prevalence Index = B/A = 4.280
4 Rubus ursinus		25.0% FACU	
5		0.0%	Hydrophytic Vegetation Indicators:
6		0.0%	1 - Rapid Test for Hydrologic Vegetation
7		0.0%	2 - Dominance Test is > 50%  3 - Prevalence Index is ≤3.0 ¹
8.—		0.0%	
9		0.0%	4 - Morphological Adaptations 1 (Provide supporting data in Remarks or on a separate sheet)
10.————		0.0%	5 - Wetland Non-Vascular Plants 1
11.———		otal Cover	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
Woody Vine Stratum (Plot size:)		otal cover	<sup>1</sup> Indicators of hydric soil and wetland hydrology must
1.	0 🗌	0.0%	be present, unless disturbed or problematic.
	0 🗀	0.0%	Hydrophytic
,			Vegetation Var O Na (a)
2	n - T	otal Cover	I Drocont2 YeS V NO (*)
% Bare Ground in Herb Stratum: _0	= To	otal Cover	Present? Yes O NO O

<sup>\*</sup>Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil Sampling Point: SP-80 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Matrix **Redox Features** Depth Loc2 Texture (inches) Color (moist) % Color (moist) % Type Remarks organic material 0-14 10YR 3/2 100 Silt Loam <sup>1</sup>Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains <sup>2</sup>Location: PL=Pore Lining. M=Matrix Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils3: 2 cm Muck (A10) Histosol (A1) Sandy Redox (S5) Histic Epipedon (A2) Stripped Matrix (S6) Red Parent Material (TF2) Black Histic (A3) Loamy Mucky Mineral (F1) (except in MLRA 1) Other (Explain in Remarks) Loamy Gleyed Matrix (F2) ☐ Hydrogen Sulfide (A4) Depleted Below Dark Surface (A11) Depleted Matrix (F3) Redox Dark Surface (F6) ☐ Thick Dark Surface (A12) <sup>3</sup>Indicators of hydrophytic vegetation and Depleted Dark Surface (F7) Sandy Muck Mineral (S1) wetland hydrology must be present, unless disturbed or problematic. Redox depressions (F8) Sandy Gleyed Matrix (S4) Restrictive Layer (if present): Type: root restrition No 💿 **Hydric Soil Present?** Yes 🔾 Depth (inches): 14 Remarks: Hydrology Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (minimum of two required) Surface Water (A1) Water-Stained Leaves (B9) (except MLRA Water-Stained Leaves (B9) (MLRA 1, 2, 1, 2, 4A, and 4B) 4A, and 4B) High Water Table (A2) Saturation (A3) Salt Crust (B11) ☐ Drainage Patterns (B10) Aquatic Invertebrates (B13) Water Marks (B1) Dry Season Water Table (C2) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Saturation Visible on Aerial Imagery (C9) Drift deposits (B3) Oxidized Rhizospheres on Living Roots (C3) Geomorphic Position (D2) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Shallow Aquitard (D3) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) FAC-neutral Test (D5) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Inundation Visible on Aerial Imagery (B7) Frost Heave Hummocks (D7) U Other (Explain in Remarks) Sparsely Vegetated Concave Surface (B8) Field Observations: Yes O No 💿 Surface Water Present? Depth (inches): Yes  $\bigcirc$ No 💿 Water Table Present? Depth (inches): Yes ○ No ● Wetland Hydrology Present? Saturation Present? Yes O No 💿 Depth (inches): (includes capillary fringe) Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available: Remarks:

No hydrology present

roject/Site: North Mist Expansion	City/County: Columbia	Sampling Date: 10-Oct-22
pplicant/Owner: NW Natural		State: Oregon Sampling Point: SP-81
nvestigator(s): ES	Section, Township, R	Range: S 14 T 6N R 5W
Landform (hillslope, terrace, etc.): Footslope	Local relief (concave,	convex, none): concave Slope: % /
ubregion (LRR): LRR A	Lat.: 46.009615	Long.: -123.268006 Datum: WGS 1984
oil Map Unit Name: 7D-Braun-Scaponia silt loads, 5 to 30		NWI classification: N/A
e climatic/hydrologic conditions on the site typical for th		
re Vegetation , Soil , or Hydrology	•	Normal Circumstances" present? Yes No   No
re Vegetation, Soil, or Hydrology		eeded, explain any answers in Remarks.)
-	•	cations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No	t the Commission	_
Hydric Soil Present? Yes • No	Is the Sampled	Vac ( No (
Wetland Hydrology Present? Yes   No	within a Wetlan	d? Yes © NO C
Remarks:	1	
Plot is in an existing gas line corridor.		
VEGETATION - Use scientific names of pla	nts. Dominant Species?	
Tree Stratum (Plot size: 30ft )	Absolute Rel.Strat. Indicator % Cover Cover Status	Dominance Test worksheet:
1.		Number of Dominant Species That are OBL, FACW, or FAC: 2 (A)
2		
3		Total Number of Dominant Species Across All Strata: 2 (B)
4	0 0.0%	
Sapling/Shrub Stratum (Plot size: 15ft )	0 = Total Cover	Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)
1	0	Prevalence Index worksheet:
2		Total % Cover of: Multiply by:
3		OBL species <u>30</u> x 1 = <u>30</u>
4		FACW species <u>65</u> x 2 = <u>130</u>
5	0	FAC speciles5 x 3 =15
Herb Stratum (Plot size: 5ft )	0 = Total Cover	FACU species $0 \times 4 = 0$
1 Phalaris arundinacea	60 <b>✓</b> 60.0% FACW	UPL speci es x 5 = 0
2. Carex obnupta	30 30.0% OBL	Col umn Total s: (A)
3 Juncus effusus	5 5.0% FACW	Prevalence Index = B/A = 1.750
4 Agrostis stolonifera	5 <u>5.0%</u> FAC	Hydrophytic Vegetation Indicators:
5	0	✓ 1 - Rapid Test for Hydrologic Vegetation
6		✓ 2 - Dominance Test is > 50%
7	0 0000	✓ 3 - Prevalence Index is ≤3.0 <sup>1</sup>
8.—	0 0000	4 - Morphological Adaptations <sup>1</sup> (Provide supporting
9		data in Remarks or on a separate sheet)
10.	_	☐ 5 - Wetland Non-Vascular Plants <sup>1</sup>
11.	100 = Total Cover	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
Woody Vine Stratum (Plot size:)	0 0.0%	<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1, 2,	0 0.0%	Hydrophytic
۷	0 = Total Cover	Vegetation Var A Na O
		Present? Yes No
% Bare Ground in Herb Stratum: _0		I and the second

<sup>\*</sup>Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil Sampling Point: SP-81 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Matrix **Redox Features** Depth Loc2 **Texture** (inches) Color (moist) % Color (moist) % Type Remarks Also 10YR 4/6 concentrations in matrix 10YR 3/2 70 С PL Silty Clay Loam 0-6 10YR 3/6 15 10YR С М 6-16 10YR 2/2 80 4/6 20 Silt Loam <sup>1</sup>Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains <sup>2</sup>Location: PL=Pore Lining. M=Matrix Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils3: 2 cm Muck (A10) Histosol (A1) Sandy Redox (S5) Histic Epipedon (A2) Stripped Matrix (S6) Red Parent Material (TF2) Black Histic (A3) Loamy Mucky Mineral (F1) (except in MLRA 1) Other (Explain in Remarks) Loamy Gleyed Matrix (F2) ☐ Hydrogen Sulfide (A4) Depleted Below Dark Surface (A11) Depleted Matrix (F3) Redox Dark Surface (F6) ☐ Thick Dark Surface (A12) <sup>3</sup>Indicators of hydrophytic vegetation and Depleted Dark Surface (F7) Sandy Muck Mineral (S1) wetland hydrology must be present, unless disturbed or problematic. Redox depressions (F8) Sandy Gleyed Matrix (S4) Restrictive Layer (if present): Type: Clav No O **Hydric Soil Present?** Yes Depth (inches): 15 Remarks: Hydrology Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (minimum of two required) Surface Water (A1) Water-Stained Leaves (B9) (except MLRA Water-Stained Leaves (B9) (MLRA 1, 2, 1, 2, 4A, and 4B) 4A, and 4B) High Water Table (A2) Saturation (A3) Salt Crust (B11) ☐ Drainage Patterns (B10) Aquatic Invertebrates (B13) Water Marks (B1) Dry Season Water Table (C2) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Saturation Visible on Aerial Imagery (C9) Drift deposits (B3) Oxidized Rhizospheres on Living Roots (C3) Geomorphic Position (D2) Presence of Reduced Iron (C4) Algal Mat or Crust (B4) Shallow Aquitard (D3) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) ✓ FAC-neutral Test (D5) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Inundation Visible on Aerial Imagery (B7) Frost Heave Hummocks (D7) U Other (Explain in Remarks) Sparsely Vegetated Concave Surface (B8) Field Observations: Yes  $\bigcirc$ No 💿 Surface Water Present? Depth (inches): n Yes  $\bigcirc$ No 💿 Water Table Present? Depth (inches): 0 Yes ● No ○ Wetland Hydrology Present? Saturation Present? Yes O No 💿 Depth (inches): (includes capillary fringe) Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Project/Site: North Mist Expansion				City/County:	Columbia		Sampling Date: 10-C	)ct-22
Applicant/Owner: NW Natural						State: Oregon	Sampling Point:	SP-82
Investigator(s): ES				Section, To	wnship, Ra	ange: <b>S</b> 14 T 6N	N R 5W	
Landform (hillslope, terrace, etc.):	Footslope			Local relief	(concave, c	convex, none): CONVEX	Slope:	_%/
Subregion (LRR): LRR A			Lat.: 46	.009631		Long.: -123.268037	Datun	n: WGS 1984
Soil Map Unit Name: 7D-Braun-Scap	onia silt load	s, 5 to 30 pe	 ercent slope	:S		NWI classifi	cation: N/A	•
re climatic/hydrologic conditions on	the site typi	cal for this ti	ime of year	? Yes	s ● No C	(If no, explain in R	Remarks.)	
Are Vegetation . , Soil .	, or Hydrolo	ogy 🗌 si	gnificantly	disturbed?	Are "N	lormal Circumstances" pr	resent? Yes	No •
Are Vegetation, Soil	, or Hydrolo	ogy 🗌 na	aturally pro	blematic?	(If ne	eded, explain any answer	rs in Remarks.)	
Summary of Findings - At	tach site	map sho	wing sa	mpling p	-		•	tures, etc.
Hydrophytic Vegetation Present?	Yes O	No 💿		lo tho	Sampled A	Nr.o.o		
Hydric Soil Present?	$_{Yes}$ $\bigcirc$	No 💿			Sampled A	Vac O Na 🔘		
Wetland Hydrology Present?	Yes $\bigcirc$	No 💿		within	a Wetland	1? 1C3 © 110 ©		
Remarks:								
Plot is on the edge of an existing of	gas line corrid	dor and rece	ntly logged	area.				
VEGETATION - Use scien	ıtific name	s of plant	s.	Dominant Species?				
Tree Stratum (Plot size: 30ft	)		Absolute % Cover	Rel.Strat.	Indicator Status	Dominance Test works	heet:	
1.	·		0	0.0%	Status	Number of Dominant Spe That are OBL, FACW, or F		(A)
2			0	0.0%		That are OBE, TAGW, of T	Ac	(A)
3.			0	0.0%		Total Number of Dominan Species Across All Strata:		(B)
4.			0	0.0%		Species Across Air Strata.		(b)
Sapling/Shrub Stratum (Plot size:	:_15ft	)	0	= Total Cove	er .	Percent of dominant Sp That Are OBL, FACW, of		6 (A/B)
4.51			30	100.0%	FACU	Prevalence Index work	sheet:	
2,			0	0.0%		Total % Cover of	f: Multiply by:	
3			0	0.0%		OBL speci es	0 x 1 =	0
4			0	0.0%		FACW species	0 x 2 =	0
5			0	0.0%		FAC speci es	<u>0</u> x 3 =	0
Hart Charten (Plot size: Eft	١		30	= Total Cove	er.	FACU speci es 6	$\frac{50}{}$ x 4 = $\frac{2}{}$	240
Herb Stratum (Plot size: 5ft	/		30	100.0%	FACIL	UPL speci es	<u>0</u> x 5 = —	0
1. Polystichum munitum 2.			0	0.0%	FACU	Column Totals:6	<u>60</u> (A) <u>2</u>	240 <b>(B)</b>
3			0	0.0%		Prevalence Index :	= B/A = 4.00	0
4			0	0.0%				
5			0	0.0%		Hydrophytic Vegetation		
6			0	0.0%		1 - Rapid Test for H 2 - Dominance Test	lydrologic Vegetation	n
7				0.0%		3 - Prevalence Inde		
8.———			•	0.0%			daptations ¹ (Provide	
9				0.0%			daptations * (Provide s or on a separate sh	
10.———			0	0.0%		5 - Wetland Non-Va	scular Plants 1	
11			30	= Total Cove		Problematic Hydrop	hytic Vegetation <sup>1</sup> (E	Explain)
Woody Vine Stratum (Plot size:		_				1 Indicators of hydric so be present, unless dist	oil and wetland hydr urbed or problemati	rology must
1,			0	0.0%		Hydrophytic		
2						Vegetation	O No ●	
% Bare Ground in Herb Stratum	ı: 70		0	= Total Cove	<b>)</b>	Present? Yes	) NU C	
Remarks:								
Bare ground from logging activity.								

<sup>\*</sup>Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil Sampling Point: SP-82 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Matrix **Redox Features** Depth Loc2 Texture (inches) Color (moist) % Color (moist) % Type Remarks 0-5 10YR 3/4 100 Silty Clay 5-7 10YR 3/3 95 10YR 5/4 5 С Μ Silty Clay Loam С 3/4 10YR 3/6 10 7-15 10YR 90 M Silty Clay Loam <sup>1</sup>Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains <sup>2</sup>Location: PL=Pore Lining. M=Matrix Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils3: Histosol (A1) Sandy Redox (S5) 2 cm Muck (A10) Histic Epipedon (A2) Stripped Matrix (S6) Red Parent Material (TF2) Black Histic (A3) Loamy Mucky Mineral (F1) (except in MLRA 1) Other (Explain in Remarks) Loamy Gleyed Matrix (F2) ☐ Hydrogen Sulfide (A4) Depleted Below Dark Surface (A11) Depleted Matrix (F3) Redox Dark Surface (F6) ☐ Thick Dark Surface (A12) <sup>3</sup>Indicators of hydrophytic vegetation and Depleted Dark Surface (F7) Sandy Muck Mineral (S1) wetland hydrology must be present, unless disturbed or problematic. Redox depressions (F8) Sandy Gleyed Matrix (S4) Restrictive Layer (if present): Type: Clav No 💿 **Hydric Soil Present?** Yes 🔾 Depth (inches): 15 Remarks: Hydrology Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (minimum of two required) Surface Water (A1) Water-Stained Leaves (B9) (except MLRA Water-Stained Leaves (B9) (MLRA 1, 2, 1, 2, 4A, and 4B) 4A, and 4B) High Water Table (A2) Saturation (A3) Salt Crust (B11) ☐ Drainage Patterns (B10) Aquatic Invertebrates (B13) Water Marks (B1) Dry Season Water Table (C2) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Saturation Visible on Aerial Imagery (C9) Drift deposits (B3) Oxidized Rhizospheres on Living Roots (C3) Geomorphic Position (D2) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Shallow Aquitard (D3) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) FAC-neutral Test (D5) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Inundation Visible on Aerial Imagery (B7) Frost Heave Hummocks (D7) U Other (Explain in Remarks) Sparsely Vegetated Concave Surface (B8) Field Observations: Yes O No 💿 Surface Water Present? Depth (inches): n Yes  $\bigcirc$ No 💿 Water Table Present? Depth (inches): 0 Yes ○ No ● Wetland Hydrology Present? Saturation Present? Yes O No • Depth (inches):

Plot is about 1 foot higher than the wetland. Dry soil.

(includes capillary fringe)

Remarks:

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

Applicant/Owner: Northwest Natural Investigator(s): Sara Frank, Ed Strohmaier  Landform (hillslope, terrace, etc.): Bench Subregion (LRR): LRR A  oil Map Unit Name: 7D - Braun-Scaponia silt loa e climatic/hydrologic conditions on the site typ					State: OR T_6N		SP-83
Landform (hillslope, terrace, etc.): Bench Subregion (LRR): LRR A  oil Map Unit Name: 7D - Braun-Scaponia silt loa							_
oil Map Unit Name: 7D - Braun-Scaponia silt loa			Local relief	(concave (		-	
oil Map Unit Name: 7D - Braun-Scaponia silt loa				(concave, c	convex, none): undulating	Slope:	4.0 % / 2.3
oil Map Unit Name: 7D - Braun-Scaponia silt loa		<b>Lat</b> .: 46	.009352		Long.: -123.267954	Datun	n: WGS 1984
·	ams, 5 to 30				NWI classific	cation: N/A	
o ominano, ny aronogra comanica o on tino one typ				s ● No ○			
Are Vegetation $\ \square$ , Soil $\ \square$ , or Hydrol		ignificantly			lormal Circumstances" pre		No O
Are Vegetation, Soil, or Hydrol		aturally pro			•		
Summary of Findings - Attach site	<b>33</b> —				eded, explain any answers ations, transects, i		tures, etc.
Hydrophytic Vegetation Present? Yes	No O	<b>. . .</b> .	1	Sampled A			
Hydric Soil Present? Yes   Yes	No O			-	Vac ( Na (		
Wetland Hydrology Present? Yes	No O		withir	a Wetland	17 100 - 110 -		
VEGETATION - Use scientific name	es of plant	ts.	Dominant				
				Indicator	Dominance Test worksh	neet:	
Tree Stratum (Plot size: 30 feet )		% Cover	_	Status	Number of Dominant Spec		
1 <sub>.</sub> Alnus rubra			100.0%	FAC	That are OBL, FACW, or FA	AC:3_	(A)
2			0.0%		Total Number of Dominant		(5)
3,		0	0.0%		Species Across All Strata:	3_	(B)
<del></del>		10	= Total Cove	er	Percent of dominant Sp		% (A/B)
Sapling/Shrub Stratum (Plot size: 15 feet	)				That Are OBL, FACW, o	r FAC: <u>100.0</u>	70 (A/B)
1. Salix scouleriana		45	100.0%	FAC	Prevalence Index works	heet:	
2			0.0%		Total % Cover of:	Multiply by:	
3		_	0.0%				0
4			0.0%		FACW species 80		60
5			0.0%			_	80
Herb Stratum (Plot size: 5 feet )		45	= Total Cove	er	FACU speci es 15		<u>60</u>
1 Phalaris arundinacea		80	<b>✓</b> 80.0%	FACW	or E specifics	— x 5 = —	0
2. Rumex crispus		5	5.0%	FAC	Column Totals: 15	<u>55</u> (A) <u>4</u>	<u>00</u> <b>(B)</b>
3 Rubus ursinus		15	15.0%	FACU	Prevalence Index =	B/A = <u>2.58</u>	1_
4		0	0.0%		Hydrophytic Vegetation	Indicators:	
5			0.0%		1 - Rapid Test for Hy		n
6			0.0%		✓ 2 - Dominance Test i		
7		•	0.0%		✓ 3 - Prevalence Index	c is ≤3.0 <sup>1</sup>	
8.—			0.0%		4 - Morphological Ad	laptations <sup>1</sup> (Provide	e supporting
10.			0.0%		data in Remarks	or on a separate sh	
11.		•	0.0%		5 - Wetland Non-Vas		
 		100	= Total Cov	er	Problematic Hydroph		•
Woody Vine Stratum (Plot size:	_)		_		1 Indicators of hydric so	oil and wetland hydi	rology must
1,		0	0.0%		be present, unless distu	ırbed or problemati	С.
2		0	0.0%		Hydrophytic Vegetation		
		0	= Total Cove	er	Present? Yes •	No 🔾	
					i		
% Bare Ground in Herb Stratum: 0							
% Bare Ground in Herb Stratum: _0							

<sup>\*</sup>Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil Sampling Point: SP-83 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Matrix **Redox Features** Depth Loc2 Texture (inches) Color (moist) % Color (moist) % Type Remarks 10YR 3/3 100 Silt Loam 0-2 С 2-16 10YR 3/2 90 10YR 5/8 5 Μ Silty Clay Loam С 10YR 5/6 5 M 16-18 10YR 2/1 100 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 Soils3: Histosol (A1) Sandy Redox (S5) 2 cm Muck (A10) Histic Epipedon (A2) Stripped Matrix (S6) Red Parent Material (TF2) Black Histic (A3) Loamy Mucky Mineral (F1) (except in MLRA 1) Other (Explain in Remarks) Loamy Gleyed Matrix (F2) ☐ Hydrogen Sulfide (A4) Depleted Below Dark Surface (A11) Depleted Matrix (F3) Redox Dark Surface (F6) ☐ Thick Dark Surface (A12) <sup>3</sup>Indicators of hydrophytic vegetation and Depleted Dark Surface (F7) Sandy Muck Mineral (S1) wetland hydrology must be present, unless disturbed or problematic. Redox depressions (F8) Sandy Gleyed Matrix (S4) Restrictive Layer (if present): Type: No O **Hydric Soil Present?** Yes Depth (inches): Remarks: Hydrology Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (minimum of two required) Surface Water (A1) Water-Stained Leaves (B9) (except MLRA Water-Stained Leaves (B9) (MLRA 1, 2, 1, 2, 4A, and 4B) 4A, and 4B) High Water Table (A2) Saturation (A3) Salt Crust (B11) ☐ Drainage Patterns (B10) Aquatic Invertebrates (B13) Water Marks (B1) Dry Season Water Table (C2) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Saturation Visible on Aerial Imagery (C9) Drift deposits (B3) Oxidized Rhizospheres on Living Roots (C3) ✓ Geomorphic Position (D2) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Shallow Aquitard (D3) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) ▼ FAC-neutral Test (D5) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Inundation Visible on Aerial Imagery (B7) Frost Heave Hummocks (D7) U Other (Explain in Remarks) Sparsely Vegetated Concave Surface (B8) Field Observations: Yes O No 💿 Surface Water Present? Depth (inches): Yes  $\bigcirc$ No 💿 Water Table Present? Depth (inches): Yes ● No ○ Wetland Hydrology Present?

Saturation Present?

Remarks:

(includes capillary fringe)

Yes O

No 💿

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

Depth (inches):

Project/Site: North Mist Expansion			City/County:	Columbia C	ounty Sampling Date: 10-	Oct-22
Applicant/Owner: Northwest Natural					State: OR Sampling Point:	SP-84
Investigator(s): Sara Frank, Ed Strohma	ier		Section, To	wnship, R	ange: S 14 T 6N R 5W	
Landform (hillslope, terrace, etc.): Be	ench		Local relief	(concave,	convex, none): undulating Slope:	5.0 <b>% /</b> 2.9
Subregion (LRR): LRR A		Lat.: 4 <i>6</i>	5.009338		Long.: -123.267966 Datu	<b>m</b> : WGS 1984
Soil Map Unit Name: 7D - Braun-Scapo	nia silt loams.				NWI classification: N/A	-
re climatic/hydrologic conditions on th		· · · · · · · · · · · · · · · · · · ·		. ● No ○		
	or Hydrology				ormal Circumstances" present? Yes	No O
	or Hydrology				process.	
	3 03				eded, explain any answers in Remarks.) ations, transects, important fea	atures, etc.
	Yes • No	0		Sampled A	<del>-</del>	· ·
Hydric Soil Present?	Yes O No			-	Voc O No 🔘	
Wetland Hydrology Present?	Yes O No	ullet	within	a Wetland	17 103 0 110 0	
VEGETATION - Use scienti	fic names o	f plants.	Dominant Species?			
Tree Stratum (Plot size: 30 feet	1	Absolute % Cover	Rel.Strat.	Indicator Status	Dominance Test worksheet:	
d Alexandre		10	<b>✓</b> 28.6%	FAC	Number of Dominant Species That are OBL, FACW, or FAC:2	(A)
2, Pseudotsuga menziesii			<b>✓</b> 71.4%	FACU	That are obe, thow, of the.	(A)
3			0.0%		Total Number of Dominant Species Across All Strata: 3	(B)
4.		0	0.0%		Species Across All Strata.	(5)
Sapling/Shrub Stratum (Plot size:		35	= Total Cove	er	Percent of dominant Species That Are OBL, FACW, or FAC: 66.7	/% (A/B)
1			0.0%		Prevalence Index worksheet:	
2			0.0%		Total % Cover of: Multiply by:	
3			0.0%		0BL speci es x 1 =	0
4			0.0%		FACW species x 2 =	0
5			0.0%			300
Herb Stratum (Plot size: 5 feet	)	0	= Total Cove	er	17,00 Species x +	140
1 Rumex crispus		5	5.0%	FAC	UPL species — 0 x 5 = —	0
2. Rubus ursinus		10	10.0%	FACU	Column Totals: 135 (A)	440 <b>(B)</b>
3 Agrostis stolonifera		85	<b>✓</b> 85.0%	FAC	Prevalence Index = B/A = 3.29	59
4			0.0%		Hydrophytic Vegetation Indicators:	
5			0.0%		☐ 1 - Rapid Test for Hydrologic Vegetation	on
6			0.0%		✓ 2 - Dominance Test is > 50%	
7			0.0%		☐ 3 - Prevalence Index is ≤3.0 <sup>1</sup>	
8.———			0.0%		4 - Morphological Adaptations <sup>1</sup> (Providence)	de supporting
10.			0.0%		data in Remarks or on a separate s	heet)
11.		•	0.0%		5 - Wetland Non-Vascular Plants 1	
11.		100	= Total Cove	er	$\square$ Problematic Hydrophytic Vegetation $^1$ (	(Explain)
Woody Vine Stratum (Plot size:	)				<sup>1</sup> Indicators of hydric soil and wetland hyd	drology must
1,			0.0%		be present, unless disturbed or problema	tic.
2			0.0%		Hydrophytic	
1		0	= Total Cove	er	Vegetation Present? Yes No	
% Bare Ground in Herb Stratum: _	)					

<sup>\*</sup>Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil Sampling Point: SP-84 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Matrix **Redox Features** Depth Loc2 **Texture** (inches) Color (moist) Color (moist) % Type Remarks 0-16 10YR 3/3 97 10YR С Silty Clay Loam 3 Μ <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 Soils3: Histosol (A1) Sandy Redox (S5) 2 cm Muck (A10) Histic Epipedon (A2) Stripped Matrix (S6) Red Parent Material (TF2) Black Histic (A3) Loamy Mucky Mineral (F1) (except in MLRA 1) Other (Explain in Remarks) Loamy Gleyed Matrix (F2) ☐ Hydrogen Sulfide (A4) Depleted Below Dark Surface (A11) Depleted Matrix (F3) Redox Dark Surface (F6) ☐ Thick Dark Surface (A12) <sup>3</sup>Indicators of hydrophytic vegetation and Depleted Dark Surface (F7) Sandy Muck Mineral (S1) wetland hydrology must be present, unless disturbed or problematic. Redox depressions (F8) Sandy Gleyed Matrix (S4) Restrictive Layer (if present): Type: No 💿 **Hydric Soil Present?** Yes 🔾 Depth (inches): Remarks: Hydrology Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (minimum of two required) Surface Water (A1) Water-Stained Leaves (B9) (except MLRA Water-Stained Leaves (B9) (MLRA 1, 2, 1, 2, 4A, and 4B) 4A, and 4B) High Water Table (A2) Saturation (A3) Salt Crust (B11) ☐ Drainage Patterns (B10) Aquatic Invertebrates (B13) Water Marks (B1) Dry Season Water Table (C2) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Saturation Visible on Aerial Imagery (C9) Drift deposits (B3) Oxidized Rhizospheres on Living Roots (C3) Geomorphic Position (D2) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Shallow Aquitard (D3) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) FAC-neutral Test (D5) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Inundation Visible on Aerial Imagery (B7) Frost Heave Hummocks (D7) U Other (Explain in Remarks) Sparsely Vegetated Concave Surface (B8) Field Observations: Yes O No 💿 Surface Water Present? Depth (inches): Yes  $\bigcirc$ No 💿 Water Table Present? Depth (inches): Yes ○ No ● Wetland Hydrology Present? Saturation Present? Yes O No 💿 Depth (inches): (includes capillary fringe) Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available: Remarks:

No Hydrology present

# **U.S. Army Corps of Engineers**

# WETLAND DETERMINATION DATA SHEET – Western Mountains, Valleys, and Coast Region See ERDC/EL TR-10-3; the proponent agency is CECW-CO-R

OMB Control #: 0710-0024, Exp: 11/30/2024 Requirement Control Symbol EXEMPT: (Authority: AR 335-15, paragraph 5-2a)

Project/Site: North Mist Expansion		City/Cour	nty: Columb	pia	Sampling Date:	10/10/22
Applicant/Owner: NW Natural				State: OR	Sampling Point:	SP-85
Investigator(s): ES		Section, T	ownship, Ra	ange: 14, 06N, 05W		
Landform (hillside, terrace, etc.): Footslope		Local relief (co	oncave, conv	/ex, none): concave	Slo	pe (%):
Subregion (LRR): LRR A, MLRA 1 Lat: 46.0	008376		Long: -	123.267856	Datum:	WGS 84
Soil Map Unit Name: 7D-Braun-Scaponia silt loads,		slopes	_		fication: N/A	
Are climatic / hydrologic conditions on the site typica	al for this time o	f year?	Yes			
Are Vegetation , Soil , or Hydrology				Circumstances" present?		0
Are Vegetation , Soil , or Hydrology				rplain any answers in Re		
SUMMARY OF FINDINGS – Attach site						tures, etc.
Hydrophytic Vegetation Present? Yes X	No	Is the	Sampled A	ırea		
Hydric Soil Present? Yes X	No	within	n a Wetland	? Yes X	No	
Wetland Hydrology Present? Yes X	No					
Remarks:						
NEGET 17101						
VEGETATION – Use scientific names of	Absolute	Dominant	Indicator	Τ		
Tree Stratum (Plot size:)			Status	Dominance Test wor	ksheet:	
1				Number of Dominant	Species That	
2				Are OBL, FACW, or F	AC:	1 (A)
3.				Total Number of Dom	inant Species	. (5)
4		=Total Cover		Across All Strata:		1 (B)
Sapling/Shrub Stratum (Plot size:		=10tal Covel		Percent of Dominant S Are OBL, FACW, or F	•	00.0% (A/B)
1	′					(*1=)
2.				Prevalence Index wo	orksheet:	
3.				Total % Cover of	f: Multiply	y by:
4				· -	0 x 1 =	0
5					0 x 2 =	0
(8)		=Total Cover		· -		300
Herb Stratum (Plot size: 5' )	70	Yes	FAC	· -	0 x 4 = 0 x 5 =	0
Agrostis gigantea     Ranunculus repens	15	No	FAC	-		300 (B)
3. Lotus corniculatus	15	No	FAC	Prevalence Index	``/	` '
4.						
5.				Hydrophytic Vegetat	ion Indicators:	
6	_			1 - Rapid Test for	Hydrophytic Veget	ation
7				X 2 - Dominance Te		
8				X 3 - Prevalence Inc		
9.					Adaptations <sup>1</sup> (Proviess or on a separate	
10				5 - Wetland Non-		Sileet)
11	100	=Total Cover			vascular Plants ophytic Vegetation <sup>1</sup>	(Explain)
Woody Vine Stratum (Plot size:	)	10.01 00001		<sup>1</sup> Indicators of hydric s		
1	′ 			be present, unless dis	•	0,
2.				Hydrophytic		
W Dave Convention Heath Charles		=Total Cover		Vegetation	V	
% Bare Ground in Herb Stratum				Present? Yes	XNo	
Remarks:						

SOIL Sampling Point: SP-85

•	needed to document t	ne maicato	r or c	onfirm the absent	e or marcators.)
Depth Matrix	Redox Featu				
(inches) Color (moist) %	Color (moist) %	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0-4 10YR 2/2 90	10YR 4/6 10	С	PL	Loamy/Clayey	Prominent redox concentrations
4-9 2.5Y 5/4 50					10YR 2/2 50% mixed matrix
					_
		· — -			_
		· — -			
<sup>1</sup> Type: C=Concentration, D=Depletion, RM=R	educed Matrix, CS=Cov	ered or Coa	ted Sa	and Grains. <sup>2</sup> L	ocation: PL=Pore Lining, M=Matrix.
Hydric Soil Indicators: (Applicable to all LR	Rs, unless otherwise i	noted.)		Indica	tors for Problematic Hydric Soils <sup>3</sup> :
Histosol (A1)	Sandy Gleyed Ma	trix (S4)		2	cm Muck (A10) <b>(LRR A, E)</b>
Histic Epipedon (A2)	Sandy Redox (S5	)		Iro	on-Manganese Masses (F12) (LRR D)
Black Histic (A3)	Stripped Matrix (S	6)		R	ed Parent Material (F21)
Hydrogen Sulfide (A4)	Loamy Mucky Mir	eral (F1) <b>(e</b> :	xcept	MLRA 1) \/-	ery Shallow Dark Surface (F22)
1 cm Muck (A9) (LRR D, G)	Loamy Gleyed Ma	trix (F2)		<u></u> o	her (Explain in Remarks)
Depleted Below Dark Surface (A11)	Depleted Matrix (F	,			
Thick Dark Surface (A12)	X Redox Dark Surfa	` '			tors of hydrophytic vegetation and
Sandy Mucky Mineral (S1)	Depleted Dark Su				etland hydrology must be present,
2.5 cm Mucky Peat or Peat (S2) (LRR G)	? Redox Depression	ns (F8)		ur	lless disturbed or problematic.
Restrictive Layer (if observed):					
Type: Clay	_				
Depth (inches): 9	_			Hydric Soil Pres	ent? Yes X No
Remarks:					
LIVED OL OOV					
HYDROLOGY					
Wetland Hydrology Indicators:					
Wetland Hydrology Indicators: Primary Indicators (minimum of one is required					dary Indicators (2 or more required)
Wetland Hydrology Indicators:  Primary Indicators (minimum of one is required Surface Water (A1)	Water-Stained Lea	` , `	xcept		ater-Stained Leaves (B9) (MLRA 1, 2
Wetland Hydrology Indicators:  Primary Indicators (minimum of one is required  Surface Water (A1)  High Water Table (A2)	Water-Stained Lea	` , `	xcept	w	ater-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B)
Wetland Hydrology Indicators:  Primary Indicators (minimum of one is required  Surface Water (A1)  High Water Table (A2)  Saturation (A3)	Water-Stained Lea MLRA 1, 2, 4A Salt Crust (B11)	, and 4B)	xcept	:W D	ater-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) rainage Patterns (B10)
Wetland Hydrology Indicators:  Primary Indicators (minimum of one is required  Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1)	Water-Stained Lea MLRA 1, 2, 4A Salt Crust (B11) Aquatic Invertebra	, and 4B)	xcept		ater-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) rainage Patterns (B10) ry-Season Water Table (C2)
Wetland Hydrology Indicators:  Primary Indicators (minimum of one is required  Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1)  Sediment Deposits (B2)	Water-Stained Lea MLRA 1, 2, 4A Salt Crust (B11) Aquatic Invertebra Hydrogen Sulfide	, and 4B) ates (B13) Odor (C1)			ater-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) rainage Patterns (B10) ry-Season Water Table (C2) aturation Visible on Aerial Imagery (C9)
Wetland Hydrology Indicators:  Primary Indicators (minimum of one is required Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3)	Water-Stained Lea MLRA 1, 2, 4A Salt Crust (B11) Aquatic Invertebra Hydrogen Sulfide x Oxidized Rhizospi	tes (B13) Odor (C1) neres on Liv	ring Ro	— W — D — D — D — S — S  Doots (C3) — G	ater-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) rainage Patterns (B10) ry-Season Water Table (C2) aturation Visible on Aerial Imagery (C9) recomorphic Position (D2)
Wetland Hydrology Indicators:  Primary Indicators (minimum of one is required Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4)	Water-Stained Lea  MLRA 1, 2, 4A  Salt Crust (B11)  Aquatic Invertebra  Hydrogen Sulfide  X Oxidized Rhizospl  Presence of Redu	tes (B13) Odor (C1) neres on Liv	ring Ro 4)	- W - Di - Di - Si - S	ater-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) rainage Patterns (B10) ry-Season Water Table (C2) aturation Visible on Aerial Imagery (C9) recomorphic Position (D2) reallow Aquitard (D3)
Wetland Hydrology Indicators:  Primary Indicators (minimum of one is required  Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1)  Sediment Deposits (B2)  Drift Deposits (B3)  Algal Mat or Crust (B4)  Iron Deposits (B5)	Water-Stained Lea  MLRA 1, 2, 4A  Salt Crust (B11)  Aquatic Invertebra  Hydrogen Sulfide  x Oxidized Rhizospi  Presence of Redu  Recent Iron Redu	tes (B13) Odor (C1) neres on Liv ced Iron (Cotion in Tille	ring Ro 4) d Soils	D D S S CO S (C3)	ater-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) rainage Patterns (B10) ry-Season Water Table (C2) raturation Visible on Aerial Imagery (C9) reomorphic Position (D2) rallow Aquitard (D3) AC-Neutral Test (D5)
Wetland Hydrology Indicators:  Primary Indicators (minimum of one is required Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1)  Sediment Deposits (B2)  Drift Deposits (B3)  Algal Mat or Crust (B4)  Iron Deposits (B5)  Surface Soil Cracks (B6)	Water-Stained Lea  MLRA 1, 2, 4A  Salt Crust (B11)  Aquatic Invertebra  Hydrogen Sulfide  x Oxidized Rhizospi  Presence of Redu  Recent Iron Redu  Stunted or Stresse	tes (B13) Odor (C1) neres on Liv ced Iron (C- ction in Tille	ring Ro 4) d Soils	Di D	ater-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) rainage Patterns (B10) ry-Season Water Table (C2) aturation Visible on Aerial Imagery (C9) reomorphic Position (D2) rallow Aquitard (D3) AC-Neutral Test (D5) raised Ant Mounds (D6) (LRR A)
Wetland Hydrology Indicators:  Primary Indicators (minimum of one is required Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B7)	Water-Stained Lea  MLRA 1, 2, 4A  Salt Crust (B11)  Aquatic Invertebra  Hydrogen Sulfide  X Oxidized Rhizospi  Presence of Redu  Recent Iron Redu  Stunted or Stresse  Other (Explain in I	tes (B13) Odor (C1) neres on Liv ced Iron (C- ction in Tille	ring Ro 4) d Soils	Di D	ater-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) rainage Patterns (B10) ry-Season Water Table (C2) raturation Visible on Aerial Imagery (C9) reomorphic Position (D2) rallow Aquitard (D3) AC-Neutral Test (D5)
Wetland Hydrology Indicators:  Primary Indicators (minimum of one is required Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1)  Sediment Deposits (B2)  Drift Deposits (B3)  Algal Mat or Crust (B4)  Iron Deposits (B5)  Surface Soil Cracks (B6)  Inundation Visible on Aerial Imagery (B7)  Sparsely Vegetated Concave Surface (B8)	Water-Stained Lea  MLRA 1, 2, 4A  Salt Crust (B11)  Aquatic Invertebra  Hydrogen Sulfide  X Oxidized Rhizospi  Presence of Redu  Recent Iron Redu  Stunted or Stresse  Other (Explain in I	tes (B13) Odor (C1) neres on Liv ced Iron (C- ction in Tille	ring Ro 4) d Soils	Di D	ater-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) rainage Patterns (B10) ry-Season Water Table (C2) aturation Visible on Aerial Imagery (C9) reomorphic Position (D2) rallow Aquitard (D3) AC-Neutral Test (D5) raised Ant Mounds (D6) (LRR A)
Wetland Hydrology Indicators:  Primary Indicators (minimum of one is required Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B7)	Water-Stained Lea  MLRA 1, 2, 4A  Salt Crust (B11)  Aquatic Invertebra  Hydrogen Sulfide  x Oxidized Rhizospi  Presence of Redu  Recent Iron Redu  Stunted or Stresse  Other (Explain in I	tes (B13) Odor (C1) neres on Liv ced Iron (C- ction in Tille	ring Ro 4) d Soils	Di D	ater-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) rainage Patterns (B10) ry-Season Water Table (C2) aturation Visible on Aerial Imagery (C9) reomorphic Position (D2) rallow Aquitard (D3) AC-Neutral Test (D5) raised Ant Mounds (D6) (LRR A)
Wetland Hydrology Indicators:  Primary Indicators (minimum of one is required Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1)  Sediment Deposits (B2)  Drift Deposits (B3)  Algal Mat or Crust (B4)  Iron Deposits (B5)  Surface Soil Cracks (B6)  Inundation Visible on Aerial Imagery (B7)  Sparsely Vegetated Concave Surface (B8)	Water-Stained Lea  MLRA 1, 2, 4A  Salt Crust (B11)  Aquatic Invertebra  Hydrogen Sulfide  x Oxidized Rhizospi  Presence of Redu  Recent Iron Redu  Stunted or Stresso  Other (Explain in I	tes (B13) Odor (C1) neres on Liv ced Iron (C- ction in Tille ed Plants (D Remarks)	ring Ro 4) d Soils	Di D	ater-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) rainage Patterns (B10) ry-Season Water Table (C2) aturation Visible on Aerial Imagery (C9) reomorphic Position (D2) rallow Aquitard (D3) AC-Neutral Test (D5) raised Ant Mounds (D6) (LRR A)
Wetland Hydrology Indicators:  Primary Indicators (minimum of one is required Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes	Water-Stained Lea  MLRA 1, 2, 4A  Salt Crust (B11)  Aquatic Invertebra  Hydrogen Sulfide  x Oxidized Rhizospi  Presence of Redu  Recent Iron Redu  Stunted or Stresso  Other (Explain in I	tes (B13) Odor (C1) neres on Liv ced Iron (Cc ction in Tille ed Plants (D Remarks)	ring Ro 4) d Soils	W	ater-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) rainage Patterns (B10) ry-Season Water Table (C2) aturation Visible on Aerial Imagery (C9) reomorphic Position (D2) rallow Aquitard (D3) AC-Neutral Test (D5) raised Ant Mounds (D6) (LRR A)
Wetland Hydrology Indicators:  Primary Indicators (minimum of one is required Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes Water Table Present? Yes	Water-Stained Lea  MLRA 1, 2, 4A  Salt Crust (B11)  Aquatic Invertebra  Hydrogen Sulfide  x Oxidized Rhizospi  Presence of Redu  Recent Iron Redu  Stunted or Stresso  Other (Explain in I	tes (B13) Odor (C1) heres on Liv ced Iron (C- ction in Tille ed Plants (D- Remarks) inches): inches):	ring Ro 4) d Soils	W	ater-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) rainage Patterns (B10) ry-Season Water Table (C2) raturation Visible on Aerial Imagery (C9) reomorphic Position (D2) rallow Aquitard (D3) rac-Neutral Test (D5) raised Ant Mounds (D6) (LRR A) rost-Heave Hummocks (D7)
Wetland Hydrology Indicators:  Primary Indicators (minimum of one is required Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8)  Field Observations: Surface Water Present? Yes Water Table Present? Yes Saturation Present? Yes	Water-Stained Lea  MLRA 1, 2, 4A  Salt Crust (B11)  Aquatic Invertebra  Hydrogen Sulfide  x Oxidized Rhizospi  Presence of Redu  Recent Iron Redu  Stunted or Stresse  Other (Explain in I)  No x Depth (  No x Depth (	tes (B13) Odor (C1) neres on Liv ced Iron (C- ction in Tille ed Plants (D- Remarks) inches): inches):	ring Ro 4) d Soils 1) ( <b>LF</b>	Wetland Hydro	ater-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) rainage Patterns (B10) ry-Season Water Table (C2) raturation Visible on Aerial Imagery (C9) reomorphic Position (D2) rallow Aquitard (D3) rac-Neutral Test (D5) raised Ant Mounds (D6) (LRR A) rost-Heave Hummocks (D7)
Wetland Hydrology Indicators:  Primary Indicators (minimum of one is required Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes Water Table Present? Yes Saturation Present? Yes (includes capillary fringe) Describe Recorded Data (stream gauge, monit	Water-Stained Lea  MLRA 1, 2, 4A  Salt Crust (B11)  Aquatic Invertebra  Hydrogen Sulfide  x Oxidized Rhizospi  Presence of Redu  Recent Iron Redu  Stunted or Stresse  Other (Explain in I)  No x Depth (  No x Depth (	tes (B13) Odor (C1) neres on Liv ced Iron (C- ction in Tille ed Plants (D- Remarks) inches): inches):	ring Ro 4) d Soils 1) ( <b>LF</b>	Wetland Hydro	ater-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) rainage Patterns (B10) ry-Season Water Table (C2) raturation Visible on Aerial Imagery (C9) reomorphic Position (D2) rallow Aquitard (D3) rac-Neutral Test (D5) raised Ant Mounds (D6) (LRR A) rost-Heave Hummocks (D7)
Wetland Hydrology Indicators:  Primary Indicators (minimum of one is required Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8)  Field Observations: Surface Water Present? Yes Water Table Present? Yes Saturation Present? Yes (includes capillary fringe)	Water-Stained Lea  MLRA 1, 2, 4A  Salt Crust (B11)  Aquatic Invertebra  Hydrogen Sulfide  x Oxidized Rhizospi  Presence of Redu  Recent Iron Redu  Stunted or Stresse  Other (Explain in I)  No x Depth (  No x Depth (	tes (B13) Odor (C1) neres on Liv ced Iron (C- ction in Tille ed Plants (D- Remarks) inches): inches):	ring Ro 4) d Soils 1) ( <b>LF</b>	Wetland Hydro	ater-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) rainage Patterns (B10) ry-Season Water Table (C2) raturation Visible on Aerial Imagery (C9) reomorphic Position (D2) rallow Aquitard (D3) rac-Neutral Test (D5) raised Ant Mounds (D6) (LRR A) rost-Heave Hummocks (D7)
Wetland Hydrology Indicators:  Primary Indicators (minimum of one is required Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes Water Table Present? Yes Saturation Present? Yes (includes capillary fringe) Describe Recorded Data (stream gauge, monit	Water-Stained Lea  MLRA 1, 2, 4A  Salt Crust (B11)  Aquatic Invertebra  Hydrogen Sulfide  x Oxidized Rhizospi  Presence of Redu  Recent Iron Redu  Stunted or Stresse  Other (Explain in I)  No x Depth (  No x Depth (	tes (B13) Odor (C1) neres on Liv ced Iron (C- ction in Tille ed Plants (D- Remarks) inches): inches):	ring Ro 4) d Soils 1) ( <b>LF</b>	Wetland Hydro	ater-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) rainage Patterns (B10) ry-Season Water Table (C2) raturation Visible on Aerial Imagery (C9) reomorphic Position (D2) rallow Aquitard (D3) rac-Neutral Test (D5) raised Ant Mounds (D6) (LRR A) rost-Heave Hummocks (D7)

# **U.S. Army Corps of Engineers**

# WETLAND DETERMINATION DATA SHEET – Western Mountains, Valleys, and Coast Region See ERDC/EL TR-10-3; the proponent agency is CECW-CO-R

OMB Control #: 0710-0024, Exp: 11/30/2024 Requirement Control Symbol EXEMPT: (Authority: AR 335-15, paragraph 5-2a)

Project/Site: North Mist Expansion		City/Cou	nty: Columb	oia .	Sampling Date:	10-10-22
Applicant/Owner: NW Natural				State: OR	Sampling Point:	SP-86
Investigator(s): ES		Section, T	ownship, Ra	nge: 14, 06N, 05W	•	
Landform (hillside, terrace, etc.): Footslope		Local relief (co	oncave, conv	/ex, none): convex	Slo	pe (%):
Subregion (LRR): LRR A, MLRA 1 Lat: 46.0	008391		Long: -	123.267833	Datum:	WGS 84
Soil Map Unit Name: 7D-Braun-Scaponia silt loads,	5 to 30 percent	t slopes	_	NWI classi	fication: N/A	
Are climatic / hydrologic conditions on the site typica	al for this time o	f year?	Yes_x_	No (If no, ex	plain in Remarks.)	
Are Vegetation , Soil , or Hydrology				Circumstances" present?		lo
Are Vegetation , Soil , or Hydrology				plain any answers in Re	· · · · · · · · · · · · · · · · · · ·	
SUMMARY OF FINDINGS – Attach site						tures, etc.
Hydrophytic Vegetation Present? Yes	No X	Is the	Sampled A	rea		
Hydric Soil Present? Yes	No X		n a Wetland		No X	
Wetland Hydrology Present? Yes	No X					
Remarks:						
VEGETATION – Use scientific names of	-	Danis	la d'a ata a			
Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test wo	rksheet:	
Pseudotsuga menziesii	40	Yes	FACU	Number of Dominant		
2.				Are OBL, FACW, or F	•	2 (A)
3.				Total Number of Dom Across All Strata:	inant Species	7 (B)
	40	=Total Cover		Percent of Dominant	Species That	(=)
Sapling/Shrub Stratum (Plot size: 30'	)			Are OBL, FACW, or F		8.6% (A/B)
Corylus cornuta	30	Yes	FACU			
2. Rubus ursinus	30	Yes	FACU	Prevalence Index we	orksheet:	
3. Symphoricarpos albus	5	No	FACU	Total % Cover o		<del></del>
4				· —	0 x 1 =	0
5		=Total Cover			5 x 2 =	10
Herb Stratum (Plot size: 5' )	65	= rotal Cover			25 x 3 = 25 x 4 =	75 500
1. Holcus lanatus	10	Yes	FAC	· -	0 x5=	50
Ranunculus repens	10	Yes	FAC		65 (A)	635 (B)
3. Juncus effusus	5	No	FACW	Prevalence Index	= B/A = 3.8	
4. Trifolium arvense	10	Yes	UPL			
5. Polystichum munitum	20	Yes	FACU	Hydrophytic Vegeta	tion Indicators:	
6. Schedonorus arundinaceus	5	No	FAC		· Hydrophytic Vege	tation
7				2 - Dominance Te		
8.	_			3 - Prevalence In		
9.					Adaptations <sup>1</sup> (Provi s or on a separate	
10 11.				5 - Wetland Non-		Si locty
11	60	=Total Cover			ophytic Vegetation	<sup>1</sup> (Explain)
Woody Vine Stratum (Plot size:	)	. 5.2. 50101		<sup>1</sup> Indicators of hydric s		, , ,
1.				be present, unless dis		
2.				Hydrophytic	-	
% Bare Ground in Herb Stratum 40		=Total Cover		Vegetation Present? Yes	No_X	
Remarks:				L	<u> </u>	_

SOIL Sampling Point: SP-86

Profile Desc Depth	ription: (Describe t Matrix	o the dept		<b>ment th</b> Featur		tor or o	confirm the a	bsence o	f indicators.)
(inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Textu	ıre	Remarks
0-4	10YR 2/2	90	Color (molet)		- 7   -		Loamy/C		10Y/R 4/2 10% mixed matrix
4-7	10YR 3/2	95	10YR 3/6	5		M	Loamy/C		Prominent redox concentrations
			-						
7-16	10YR 3/3	90	10YR 4/6	5	С	M	Loamy/C	лауеу	Distinct redox concentrations
							· <del></del>		2.5 Y/R 5/4 5%
- '	ncentration, D=Depl					oated S			tion: PL=Pore Lining, M=Matrix.
•	ndicators: (Applica	ble to all L	*		•				s for Problematic Hydric Soils <sup>3</sup> :
Histosol (			Sandy Gley				-		Muck (A10) (LRR A, E)
	ipedon (A2)		Sandy Red						Manganese Masses (F12) (LRR D)
Black His	` ,		Stripped Ma	`	,	, .			Parent Material (F21)
	n Sulfide (A4)		Loamy Muc	-		(except	t MLRA 1)		Shallow Dark Surface (F22)
	ck (A9) (LRR D, G)	(444)	Loamy Gley				•	Otner	(Explain in Remarks)
	Below Dark Surface rk Surface (A12)	: (A11)	Depleted M Redox Darl					3Indiantor	s of hydrophytic vegetation and
	ucky Mineral (S1)		Depleted D						nd hydrology must be present,
	lucky Peat or Peat (S	32) (I RR G							s disturbed or problematic.
	ayer (if observed):	)	,reach zep					455	o alotaloga of problematic.
Type:	ayer (ii observed).								
Depth (in	ches):						Hydric Soi	l Present	? Yes No X
Remarks:							,		
rtomanto.									
HYDROLO	GY								
Wetland Hyd	Irology Indicators:								
Primary Indic	ators (minimum of or	ne is requir	ed; check all that a	pply)				<u>Secondar</u>	y Indicators (2 or more required)
	Nater (A1)		Water-Stair				ot .		r-Stained Leaves (B9) (MLRA 1, 2
<del></del> ~	ter Table (A2)				, and 4B)				A, and 4B)
Saturatio			Salt Crust (				-		age Patterns (B10)
Water Ma	, ,		Aquatic Inv						eason Water Table (C2)
	t Deposits (B2)		Hydrogen S				looto (C2)		ation Visible on Aerial Imagery (C9)
	osits (B3) t or Crust (B4)		Oxidized R Presence o			-	(0018 (03)		norphic Position (D2) ow Aquitard (D3)
	osits (B5)		Recent Iron		,	,	ls (C6)		Neutral Test (D5)
	Soil Cracks (B6)		Stunted or						ed Ant Mounds (D6) (LRR A)
	on Visible on Aerial Ir	nagery (B7				(51) (=			Heave Hummocks (D7)
	Vegetated Concave	• • •	/ <u>—</u>				•		
Field Observ	vations:		,						
Surface Water		s	No I	Depth (i	inches):				
Water Table					inches):		•		
Saturation Pr	esent? Yes	<u></u>			inches):		Wetland	Hydrolog	y Present? Yes No_X_
(includes cap	illary fringe)				· -		•	,	<u> </u>
	corded Data (stream	gauge, mo	nitoring well, aerial	photos	, previous	inspec	ctions), if avai	lable:	
Remarks:									

roject/Site: North Mist Expansion	City/County: Columbia (	County Sampling Date: 10-Oct-22
pplicant/Owner: Northwest Natural		State: OR Sampling Point: SP-87
nvestigator(s): Sara Frank	Section, Township, R	Range: S 14 T 6N R 5W
Landform (hillslope, terrace, etc.): Toeslope	Local relief (concave,	convex, none): flat Slope:2.0 % /1.1
ubregion (LRR): LRR A	Lat.: 46.008139	Long.: -123.267075 Datum: WGS 1984
oil Map Unit Name: 58 - Treharne silt loam		NWI classification: N/A
climatic/hydrologic conditions on the site typical for this	time of year? Yes   No	_
		Normal Circumstances" present? Yes  No
	-	eeded, explain any answers in Remarks.)
-	•	
	lowing sampling point loc	cations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes • No O	Is the Sampled	Area
	within a Wetlan	<sub>d?</sub> Yes ◉ No ○
Tonana Tryan crogy T Toocht.		
Remarks:		
Grassy toeslope lowland near parking pullout		
/EGETATION - Use scientific names of plan	its. Dominant	
	Species?Species?	Dominance Test worksheet:
Tree Stratum (Plot size: 30 feet )	% Cover Cover Status	Number of Dominant Species
1		That are OBL, FACW, or FAC:1 (A)
2		Total Number of Dominant
3		Species Across All Strata: 1 (B)
4	0 0.0%	Percent of dominant Species
Sapling/Shrub Stratum (Plot size: 15 feet )	0 = Total Cover	That Are OBL, FACW, or FAC: 100.0% (A/B)
1.	0 0.0%	Prevalence Index worksheet:
2.		Total % Cover of: Multiply by:
3		OBL species
4	0 0.0%	FACW species 100 x 2 = 200
5	0 0.0%	FAC speciles
(0)	0 = Total Cover	FACU speci es x 4 =40
Herb Stratum (Plot size: 5 feet )	400 🗖 00 00:	UPL species $\frac{0}{x}$ $5 = \frac{0}{x}$
1 Phalaris arundinacea	100 <b>9</b> 0.9% FACW	Column Total s: <u>110</u> (A) <u>240</u> (B)
2 Rubus ursinus		Prevalence Index = B/A = 2.182
4		
5		Hydrophytic Vegetation Indicators:
6		✓ 1 - Rapid Test for Hydrologic Vegetation
7	0 0.0%	✓ 2 - Dominance Test is > 50%
8	0	✓ 3 - Prevalence Index is ≤3.0 <sup>1</sup>
9		4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
10.—		5 - Wetland Non-Vascular Plants 1
11.————		☐ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
Woody Vine Stratum (Plot size:)	= Total Cover	<sup>1</sup> Indicators of hydric soil and wetland hydrology must
1	0	be present, unless disturbed or problematic.
2	0 0.0%	Hydrophytic
		Vegetation Present?  Yes  No
-	0 = Total Cover	Present? Tes © NO C
% Bare Ground in Herb Stratum:	= Total Cover	Present? Yes WO

<sup>\*</sup>Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil Sampling Point: SP-87 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Matrix **Redox Features** Depth Loc2 Texture (inches) Color (moist) % Color (moist) % Type Remarks 0-3 10YR 90 С Silty Clay Loam 3/1 10YR 5/8 10 Μ С PL 3-16 10YR 3/2 85 2.5Y 6/2 8 Silty Clay Loam 2.5/1 С 5/8 5 5YR 2 10YR M <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 Soils3: Histosol (A1) 2 cm Muck (A10) Histic Epipedon (A2) Stripped Matrix (S6) Red Parent Material (TF2) Black Histic (A3) Loamy Mucky Mineral (F1) (except in MLRA 1) Other (Explain in Remarks) Loamy Gleyed Matrix (F2) ☐ Hydrogen Sulfide (A4) Depleted Below Dark Surface (A11) Depleted Matrix (F3) Redox Dark Surface (F6) ☐ Thick Dark Surface (A12) <sup>3</sup>Indicators of hydrophytic vegetation and Depleted Dark Surface (F7) Sandy Muck Mineral (S1) wetland hydrology must be present, Redox depressions (F8) unless disturbed or problematic. Sandy Gleyed Matrix (S4) Restrictive Layer (if present): Type: No O **Hydric Soil Present?** Yes Depth (inches): Remarks: Four colors in second soil horizon, likely disturbed due to logging Hydrology Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (minimum of two required) Surface Water (A1) Water-Stained Leaves (B9) (except MLRA Water-Stained Leaves (B9) (MLRA 1, 2, 1, 2, 4A, and 4B) 4A, and 4B) High Water Table (A2) Saturation (A3) Salt Crust (B11) ☐ Drainage Patterns (B10) Aquatic Invertebrates (B13) Water Marks (B1) Dry Season Water Table (C2) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Saturation Visible on Aerial Imagery (C9) Drift deposits (B3) Oxidized Rhizospheres on Living Roots (C3) ✓ Geomorphic Position (D2) Presence of Reduced Iron (C4) Shallow Aquitard (D3) Algal Mat or Crust (B4) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) ▼ FAC-neutral Test (D5) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Inundation Visible on Aerial Imagery (B7) Frost Heave Hummocks (D7) U Other (Explain in Remarks) Sparsely Vegetated Concave Surface (B8) Field Observations: Yes O No 💿 Surface Water Present? Depth (inches): Yes  $\bigcirc$ No 💿 Water Table Present? Depth (inches): Yes ● No ○ Wetland Hydrology Present? Saturation Present? Yes O No 💿 Depth (inches): (includes capillary fringe)

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

roject/Site: North Mist Expansion	C	City/County:	Columbia Co	ounty Sampling Date: 10-Oct-22			
pplicant/Owner: Northwest Natural				State: OR Sampling Point: SP-88			
nvestigator(s): Sara Frank		Section, Township, Range: S 14 T 6N R 5W					
Landform (hillslope, terrace, etc.): Toeslope		Local relief (	(concave, c	convex, none): flat Slope:3.0 % /1.7 °			
ubregion (LRR): LRR A	 Lat.: 46	.008132		Long.: -123.267049 Datum: WGS 1984			
bil Map Unit Name: 58 - Treharne silt loam				NWI classification: N/A			
e climatic/hydrologic conditions on the site typical for thi	s time of year'	? Yes	● No C				
re Vegetation . , Soil . , or Hydrology .	significantly		Are "N	Iormal Circumstances" present? Yes  No			
re Vegetation , Soil , or Hydrology	naturally pro			eded, explain any answers in Remarks.)			
<b>3</b> — , — , <b>3 33</b> —				ations, transects, important features, etc.			
Hydrophytic Vegetation Present? Yes No			2 A A				
Hydric Soil Present? Yes No   No			Sampled A	Van O No 🗨			
Wetland Hydrology Present? Yes O No •		within	a Wetland	1? Tes U NU U			
Remarks:							
grassy lowland near parking pullout off logging road							
VEGETATION - Use scientific names of plan	nts.	Dominant					
Tree Stratum (Plot size: 30 feet )	Absolute % Cover		Indicator Status	Dominance Test worksheet:			
1. Pseudotsuga menziesii	10	40.0%	FACU	Number of Dominant Species That are OBL, FACW, or FAC:4 (A)			
2. Frangula purshiana	10	40.0%	FAC	Tatal Number of Descious			
3, Alnus rubra	5	20.0%	FAC	Total Number of Dominant Species Across All Strata:  9 (B)			
4,	0	0.0%					
Sapling/Shrub Stratum (Plot size: 15 feet )	25	= Total Cove	er	Percent of dominant Species That Are OBL, FACW, or FAC: 44.4% (A/B)			
1, Symphoricarpos albus	5	50.0%	FACU	Prevalence Index worksheet:			
2. Cytisus scoparius		50.0%	UPL	Total % Cover of: Multiply by:			
3		0.0%		0BL species x 1 =			
4		0.0%		FACW species			
5		0.0%		FAC species $\underline{45}$ x 3 = $\underline{135}$			
Herb Stratum (Plot size: 5 feet )	10	= Total Cove	r	FACU species $\frac{60}{}$ x 4 = $\frac{240}{}$			
1 Pteridium aquilinum	5	5.6%	FACU	UPL species $\frac{5}{}$ x 5 = $\frac{25}{}$			
2. Rubus ursinus		27.8%	FACU	Column Totals: <u>125</u> (A) <u>430</u> (B)			
3 Rubus armeniacus	10	11.1%	FAC	Prevalence Index = B/A = 3.440			
4. Polystichum munitum	15	16.7%	FACU	Hydraphytic Vogotation Indicators			
5. Agrostis stolonifera	20	22.2%	FAC	Hydrophytic Vegetation Indicators:  1 - Rapid Test for Hydrologic Vegetation			
6. Phalaris arundinacea	15	16.7%	FACW	2 - Dominance Test is > 50%			
7		0.0%		3 - Prevalence Index is ≤3.0 ¹			
8.		0.0%		4 - Morphological Adaptations <sup>1</sup> (Provide supporting			
9		0.0%		data in Remarks or on a separate sheet)			
		0.0%		5 - Wetland Non-Vascular Plants 1			
11.		= Total Cove		Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)			
Woody Vine Stratum (Plot size:)		0.0%		Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.			
1	0	0.0%		Hydrophytic			
۷		= Total Cove		Vegetation Present? Yes No •			
		- · • • • · · ·	•	Present:			
% Bare Ground in Herb Stratum: 10							

<sup>\*</sup>Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil Sampling Point: SP-88 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Matrix **Redox Features** Depth Loc2 (inches) Color (moist) Color (moist) % Type Texture Remarks Some gravel mixed in 0-16 10YR 3/2 99 10YR М 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 Soils3: Histosol (A1) Sandy Redox (S5) 2 cm Muck (A10) Histic Epipedon (A2) Stripped Matrix (S6) Red Parent Material (TF2) Black Histic (A3) Loamy Mucky Mineral (F1) (except in MLRA 1) Other (Explain in Remarks) Loamy Gleyed Matrix (F2) ☐ Hydrogen Sulfide (A4) Depleted Below Dark Surface (A11) Depleted Matrix (F3) Redox Dark Surface (F6) ☐ Thick Dark Surface (A12) <sup>3</sup>Indicators of hydrophytic vegetation and Depleted Dark Surface (F7) Sandy Muck Mineral (S1) wetland hydrology must be present, unless disturbed or problematic. Redox depressions (F8) Sandy Gleyed Matrix (S4) Restrictive Layer (if present): Type: No 💿 **Hydric Soil Present?** Yes 🔾 Depth (inches): Remarks: Hydrology Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (minimum of two required) Surface Water (A1) Water-Stained Leaves (B9) (except MLRA Water-Stained Leaves (B9) (MLRA 1, 2, 1, 2, 4A, and 4B) 4A, and 4B) High Water Table (A2) Saturation (A3) Salt Crust (B11) ☐ Drainage Patterns (B10) Aquatic Invertebrates (B13) Water Marks (B1) Dry Season Water Table (C2) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Saturation Visible on Aerial Imagery (C9) Drift deposits (B3) Oxidized Rhizospheres on Living Roots (C3) Geomorphic Position (D2) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Shallow Aquitard (D3) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) FAC-neutral Test (D5) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Inundation Visible on Aerial Imagery (B7) Frost Heave Hummocks (D7) U Other (Explain in Remarks) Sparsely Vegetated Concave Surface (B8) Field Observations: Yes O No 💿 Surface Water Present? Depth (inches): Yes  $\bigcirc$ No 💿 Water Table Present? Depth (inches): Yes ○ No ● Wetland Hydrology Present? Saturation Present? Yes O No 💿 Depth (inches): (includes capillary fringe) Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available: Remarks:

No hydrology present

roject/Site: North Mist Expansion		(	City/County:	Columbia Co	ounty Sampling Date: 10-Oct-22			
pplicant/Owner: Northwest Natural					State: OR Sampling Point: SP-89			
Investigator(s): Sara Frank			Section, Township, Range: S 14 T 6N R 5W					
Landform (hillslope, terrace, etc.): Toeslope			Local relief	(concave, c	convex, none): CONVEX Slope: 5.0 % / 2.9			
ubregion (LRR): LRR A		Lat.: 46	.008096		Long.: -123.266946 Datum: WGS 1984			
bil Map Unit Name: 58 - Treharne silt loam					NWI classification: N/A			
e climatic/hydrologic conditions on the site ty	pical for this ti	ime of year	? Yes	s • No C				
re Vegetation  , Soil  , or Hydro	. –	gnificantly		Are "N	Iormal Circumstances" present? Yes  No			
re Vegetation, Soil, or Hydro		aturally pro			eded, explain any answers in Remarks.)			
				•	ations, transects, important features, etc.			
Hydrophytic Vegetation Present? Yes	No O		In the	2lod /				
Hydric Soil Present? Yes	No •			Sampled A	Voc O No 🗨			
Wetland Hydrology Present? Yes	No 💿		within	n a Wetland	1? Tes - IND -			
Remarks:								
Confirmation that the wetland does not conti	nue east							
VEGETATION - Use scientific nam	nes of plants	S.	Dominant					
Tree Stratum (Plot size: 30 feet )		Absolute % Cover		Indicator Status	Dominance Test worksheet:			
1. Pseudotsuga menziesii		10	<b>✓</b> 40.0%	FACU	Number of Dominant Species That are OBL, FACW, or FAC:			
2. Frangula purshiana		5	20.0%	FAC	T-1-1 Number of Deminent			
3. Alnus rubra		10	40.0%	FAC	Total Number of Dominant Species Across All Strata:6(B)			
4		0	0.0%		De contrat de descinent Chapita			
Sapling/Shrub Stratum (Plot size: 15 feet	)	25	= Total Cove	er	Percent of dominant Species That Are OBL, FACW, or FAC: 83.3% (A/B)			
1. Frangula purshiana		5	50.0%	FAC	Prevalence Index worksheet:			
2. Acer circinatum		5	50.0%	FAC	Total % Cover of: Multiply by:			
3			0.0%		0BL speci es x 1 =0			
4			0.0%		FACW species $20 \times 2 = 40$			
5			0.0%		FAC species $100 \times 3 = 300$			
Herb Stratum (Plot size: 5 feet )		10	= Total Cove	∍r	FACU species $\frac{20}{3}$ x 4 = $\frac{80}{3}$			
1 Ranunculus repens		5	4.8%	FAC	UPL species $0 \times 5 = 0$			
2. Rubus armeniacus		5	4.8%	FAC	Column Total s: <u>140</u> (A) <u>420</u> (B)			
3 Rubus ursinus		10	9.5%	FACU	Prevalence Index = B/A = 3.000			
4. Lotus corniculatus		5	4.8%	FAC	Hydrophytic Vegetation Indicators:			
5. Agrostis stolonifera		60	57.1%	FAC	1 - Rapid Test for Hydrologic Vegetation			
6. Phalaris arundinacea			19.0%	FACW	✓ 2 - Dominance Test is > 50%			
7		_	0.0%		3 - Prevalence Index is ≤3.0 ¹			
8.——			0.0%		4 - Morphological Adaptations <sup>1</sup> (Provide supporting			
9			0.0%		data in Remarks or on a separate sheet)			
11		0	0.0%		5 - Wetland Non-Vascular Plants 1			
11.		105	= Total Cove	er	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)			
Woody Vine Stratum (Plot size:		0	0.0%		Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.			
2.		0	0.0%		Hydrophytic			
<u></u>		0	= Total Cove	 er	Vegetation Present? Yes No			
					riesent:			
% Bare Ground in Herb Stratum: 0				i				

<sup>\*</sup>Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil Sampling Point: SP-89 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Matrix **Redox Features** Depth Loc2 Texture (inches) Color (moist) % Color (moist) % Type Remarks 0-3 10YR 3/2 100 Silty Clay Loam 97 С 3-16 10YR 3/3 7.5YR 5/8 2 Μ Silty Clay Loam С 2.5Y 6/2 1 M <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 Soils3: Histosol (A1) Sandy Redox (S5) 2 cm Muck (A10) Histic Epipedon (A2) Stripped Matrix (S6) Red Parent Material (TF2) Black Histic (A3) Loamy Mucky Mineral (F1) (except in MLRA 1) Other (Explain in Remarks) Loamy Gleyed Matrix (F2) ☐ Hydrogen Sulfide (A4) Depleted Below Dark Surface (A11) Depleted Matrix (F3) Redox Dark Surface (F6) ☐ Thick Dark Surface (A12) <sup>3</sup>Indicators of hydrophytic vegetation and Depleted Dark Surface (F7) Sandy Muck Mineral (S1) wetland hydrology must be present, unless disturbed or problematic. Redox depressions (F8) Sandy Gleyed Matrix (S4) Restrictive Layer (if present): Type: No 💿 **Hydric Soil Present?** Yes 🔾 Depth (inches): Remarks: three colors in second soil horizon Hydrology Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (minimum of two required) Surface Water (A1) Water-Stained Leaves (B9) (except MLRA Water-Stained Leaves (B9) (MLRA 1, 2, 1, 2, 4A, and 4B) 4A, and 4B) High Water Table (A2) Saturation (A3) Salt Crust (B11) ☐ Drainage Patterns (B10) Aquatic Invertebrates (B13) Water Marks (B1) Dry Season Water Table (C2) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Saturation Visible on Aerial Imagery (C9) Drift deposits (B3) Oxidized Rhizospheres on Living Roots (C3) Geomorphic Position (D2) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Shallow Aquitard (D3) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) FAC-neutral Test (D5) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Inundation Visible on Aerial Imagery (B7) Frost Heave Hummocks (D7) U Other (Explain in Remarks) Sparsely Vegetated Concave Surface (B8) Field Observations: Yes O No 💿 Surface Water Present? Depth (inches): Yes  $\bigcirc$ No 💿 Water Table Present? Depth (inches): Yes ○ No ● Wetland Hydrology Present? Saturation Present? Yes O No 💿 Depth (inches): (includes capillary fringe)

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

Project/Site: North Mist Expansion	City/County: Columbia	Sampling Date: 10-Oct-22
Applicant/Owner: NW Natural		State: Oregon Sampling Point: SP-94
nvestigator(s): ES	Section, Township, Ra	ange: \$ 34  T_7N  R_5W
Landform (hillslope, terrace, etc.): Channel (active)	Local relief (concave, c	convex, none): Concave Slope: % / £###
Subregion (LRR): LRR A	Lat.: 46.051108	Long.: -123.287536 Datum: WGS 1984
oil Map Unit Name: 36D - Murnen silt loam, 3 to 30 percent	slopes	NWI classification: N/A
e climatic/hydrologic conditions on the site typical for this	time of year? Yes   No	(If no, explain in Remarks.)
Are Vegetation $\ \square$ , Soil $\ \square$ , or Hydrology $\ \square$ s	ignificantly disturbed? Are "No	ormal Circumstances" present? Yes   No
Are Vegetation 🔲 , Soil 🔲 , or Hydrology 🔲 r	naturally problematic? (If nee	eded, explain any answers in Remarks.)
Summary of Findings - Attach site map sh		ations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes  No	Is the Sampled A	
Hydric Soil Present? Yes ● No ○	·	Vac A No
Wetland Hydrology Present? Yes ● No ○	within a Wetland	19 103 0 110 0
Remarks:		
Plot is in the channel of a shallow ravine.		
VEGETATION - Use scientific names of plant	S. Dominant Species?	
Tree Stratum (Plot size: 30ft )	Absolute Rel.Strat. Indicator % Cover Cover Status	Dominance Test worksheet:
1		Number of Dominant Species That are OBL, FACW, or FAC: 2 (A)
2		
3.		Total Number of Dominant Species Across All Strata: 2 (B)
4	0 0.0%	
Sapling/Shrub Stratum (Plot size: 15ft )	= Total Cover	Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)
1,	0 0.0%	Prevalence Index worksheet:
2	0 0.0%	Total % Cover of: Multiply by:
3		0BL species <u>35</u> x 1 = <u>35</u>
4		FACW species
5	0 0.0%	FAC species x 3 =60
Herb Stratum (Plot size: 5ft )	0 = Total Cover	FACU species $0 \times 4 = 0$
1 Juncus effusus	30 <b>✓</b> 35.3% FACW	UPL species $\frac{0}{x}$ $5 = \frac{0}{x}$
2 Veronica americana	30 <b>✓</b> 35.3% OBL	Column Totals: <u>85</u> (A) <u>155</u> (B)
3_Lotus corniculatus	5 5.9% FAC	Prevalence Index = B/A = 1.824
4 Lysichiton americanum	5 5.9% OBL	Hydrophytic Vegetation Indicators:
5. Equisetum arvense	1517.6%FAC	✓ 1 - Rapid Test for Hydrologic Vegetation
6		✓ 2 - Dominance Test is > 50%
7		✓ 3 - Prevalence Index is ≤3.0 ¹
8.—	0 0 00/	4 - Morphological Adaptations <sup>1</sup> (Provide supporting
9	=	data in Remarks or on a separate sheet)
11.		5 - Wetland Non-Vascular Plants 1
11.	85 = Total Cover	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
Woody Vine Stratum (Plot size:) 1.	0	Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2	0 0.0%	Hydrophytic
<u></u>	0 = Total Cover	Vegetation Present? Yes No
		Fieschi:
% Bare Ground in Herb Stratum: _15		

<sup>\*</sup>Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil Sampling Point: SP-94 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Matrix **Redox Features** Depth Loc2 (inches) Color (moist) % Color (moist) Type **Texture** Remarks 0-3 10YR 2/2 100 Muck 2.5Y 75 10YR 3-16 4/2 5/8 25 C. Μ Sandy 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 Soils3: Histosol (A1) Sandy Redox (S5) 2 cm Muck (A10) Histic Epipedon (A2) Stripped Matrix (S6) Red Parent Material (TF2) Black Histic (A3) Loamy Mucky Mineral (F1) (except in MLRA 1) Other (Explain in Remarks) Loamy Gleyed Matrix (F2) ☐ Hydrogen Sulfide (A4) Depleted Below Dark Surface (A11) ✓ Depleted Matrix (F3) Redox Dark Surface (F6) ☐ Thick Dark Surface (A12) <sup>3</sup>Indicators of hydrophytic vegetation and Depleted Dark Surface (F7) Sandy Muck Mineral (S1) wetland hydrology must be present, unless disturbed or problematic. Redox depressions (F8) Sandy Gleyed Matrix (S4) Restrictive Layer (if present): Type: No O **Hydric Soil Present?** Yes Depth (inches): Remarks: Hydrology Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (minimum of two required) Surface Water (A1) Water-Stained Leaves (B9) (except MLRA Water-Stained Leaves (B9) (MLRA 1, 2, 1, 2, 4A, and 4B) 4A, and 4B) ✓ High Water Table (A2) ✓ Saturation (A3) Salt Crust (B11) ☐ Drainage Patterns (B10) Aquatic Invertebrates (B13) Water Marks (B1) Dry Season Water Table (C2) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Saturation Visible on Aerial Imagery (C9) Drift deposits (B3) Oxidized Rhizospheres on Living Roots (C3) Geomorphic Position (D2) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Shallow Aquitard (D3) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) ✓ FAC-neutral Test (D5) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Inundation Visible on Aerial Imagery (B7) Frost Heave Hummocks (D7) U Other (Explain in Remarks) Sparsely Vegetated Concave Surface (B8) Field Observations: No 💿 Yes O Surface Water Present? Depth (inches): n No  $\bigcirc$ Yes Water Table Present? Depth (inches): 4 Yes ● No ○ Wetland Hydrology Present? Saturation Present? Yes No O Depth (inches): (includes capillary fringe) Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

roject/Site: North Mist Expansion	City	<b>County</b> : Columbia	Sampling Date: 10-	-Oct-22
pplicant/Owner: NW Natural			State: Oregon Sampling Point:	SP-95
nvestigator(s): ES		ection, Township, R		
Landform (hillslope, terrace, etc.): Channel (active)	Loc	cal relief (concave,	convex, none): convex Slope:	~ %/t###
ubregion (LRR): LRR A	 Lat.: 46.05	1117	Long.: -123.287542 Datu	um: WGS 1984
bil Map Unit Name: 36D - Murnen silt loam, 3 to 30 percer		1117		
		Yes   No	NWI classification: N/A	
e climatic/hydrologic conditions on the site typical for this re Vegetation $\ \square \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ $	-			No O
	significantly dist			NO C
re Vegetation 🔲 , Soil 🔲 , or Hydrology 🔲	naturally probler	matic? (If ne	eded, explain any answers in Remarks.)	
ummary of Findings - Attach site map sh	owing samp	oling point loc	ations, transects, important fe	atures, etc
Hydrophytic Vegetation Present? Yes O No 💿		In the Committee of	N	
Hydric Soil Present? Yes O No •		Is the Sampled I	area az Yes ○ No •	
Wetland Hydrology Present? Yes ○ No ●		within a Wetland	d? Yes UNO S	
Remarks:				
Plot is on the slope of the ravine.				
<b>/EGETATION -</b> Use scientific names of plan		ominant		
	Absolute Re		Dominance Test worksheet:	
Tree Stratum (Plot size: 30ft )	% Cover Co		Number of Dominant Species	
1		0.0%	That are OBL, FACW, or FAC: 2	<u>2</u> (A)
3.		0.0%	Total Number of Dominant	- (-)
3 4.		0.0%	Species Across All Strata:7	7 (B)
Τ,		otal Cover	Percent of dominant Species	
Sapling/Shrub Stratum (Plot size: 15ft )		otal cover	That Are OBL, FACW, or FAC: 28.6	6% (A/B)
1. Rubus leucodermis	15	37.5% FACU	Prevalence Index worksheet:	
2. Rubus parviflorus	15	37.5% FACU	Total % Cover of: Multiply by:	<u>:                                    </u>
3. Rubus spectabilis	10	25.0% FAC	0BL species 0 x 1 =	0
4		0.0%	FACW species 0 x 2 =	0
5	_ 0	0.0%	FAC species x 3 =	60
Herb Stratum (Plot size: 5ft )	40 = <b>T</b>	otal Cover	FACU species $\frac{70}{}$ x 4 = ${}$	280
1 Holcus lanatus	10	20.0% FAC	UPL species $\frac{0}{x}$ $x = -$	0
Polystichum munitum	15	30.0% FACU	Column Totals: 90 (A)	340 <b>(B)</b>
3 Hypochaeris radicata	10	20.0% FACU	Prevalence Index = B/A = 3.7	78
4 Digitalis purpurea	15	30.0% FACU		
5	_ 0	0.0%	Hydrophytic Vegetation Indicators:	
6	_ 0	0.0%	1 - Rapid Test for Hydrologic Vegetati 2 - Dominance Test is > 50%	on
7		0.0%	3 - Prevalence Index is ≤3.0 ¹	
8.		0.0%		
9.		0.0%	4 - Morphological Adaptations 1 (Providata in Remarks or on a separate s	
10		0.0%	☐ 5 - Wetland Non-Vascular Plants <sup>1</sup>	
11		otal Cover	Problematic Hydrophytic Vegetation 1	(Explain)
Woody Vine Stratum (Plot size:)			<sup>1</sup> Indicators of hydric soil and wetland hydric	• • •
1	0	0.0%	be present, unless disturbed or problema	tic.
2		0.0%	Hydrophytic	
		otal Cover	Vegetation Present? Yes No •	
% Bare Ground in Herb Stratum: 50				

<sup>\*</sup>Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil Sampling Point: SP-95 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Matrix **Redox Features** Depth Loc2 Texture (inches) Color (moist) % Color (moist) % Type Remarks 10YR 4/4 100 Silt Loam 0-4 4-16 10YR 4/6 100 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 Soils3: Histosol (A1) Sandy Redox (S5) 2 cm Muck (A10) Histic Epipedon (A2) Stripped Matrix (S6) Red Parent Material (TF2) Black Histic (A3) Loamy Mucky Mineral (F1) (except in MLRA 1) Other (Explain in Remarks) Loamy Gleyed Matrix (F2) ☐ Hydrogen Sulfide (A4) Depleted Below Dark Surface (A11) Depleted Matrix (F3) Redox Dark Surface (F6) ☐ Thick Dark Surface (A12) <sup>3</sup>Indicators of hydrophytic vegetation and Depleted Dark Surface (F7) Sandy Muck Mineral (S1) wetland hydrology must be present, unless disturbed or problematic. Redox depressions (F8) Sandy Gleyed Matrix (S4) Restrictive Layer (if present): Type: No 💿 **Hydric Soil Present?** Yes 🔾 Depth (inches): Remarks: Hydrology Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (minimum of two required) Surface Water (A1) Water-Stained Leaves (B9) (except MLRA Water-Stained Leaves (B9) (MLRA 1, 2, 1, 2, 4A, and 4B) 4A, and 4B) High Water Table (A2) Saturation (A3) Salt Crust (B11) ☐ Drainage Patterns (B10) Aquatic Invertebrates (B13) Water Marks (B1) Dry Season Water Table (C2) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Saturation Visible on Aerial Imagery (C9) Drift deposits (B3) Oxidized Rhizospheres on Living Roots (C3) Geomorphic Position (D2) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Shallow Aquitard (D3) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) FAC-neutral Test (D5) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Inundation Visible on Aerial Imagery (B7) Frost Heave Hummocks (D7) U Other (Explain in Remarks) Sparsely Vegetated Concave Surface (B8) Field Observations: Yes O No 💿 Surface Water Present? Depth (inches): n Yes  $\bigcirc$ No 💿 Water Table Present? Depth (inches): 0 Yes ○ No ● Wetland Hydrology Present? Saturation Present? Yes O No 💿 Depth (inches): (includes capillary fringe) Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available: Remarks:

Plot is about 3 ft higher than the wetland.

		• •	State:         Oregon         Sampling Point:         SP-96           ange:         S         34         T         7N         R         5W
		• •	
	Local relief	(concave (	
		(concave, c	convex, none): concave Slope: 4.0 % / 2.3
Lat.: 46.	05102014		Long.: -123.2876866 Datum: WGS 1984
cent slopes			NWI classification: N/A
	Yes	• No	
1		Are "N	Iormal Circumstances" present? Yes  No
naturally prob	olematic?		eded, explain any answers in Remarks.)
			ations, transects, important features, etc.
<u> </u>	1		·
	Is the	Sampled A	
	within	a Wetland	d? Yes  ● No ○
	<u> </u>		
lants.	Dominant		
	Rel.Strat.		Dominance Test worksheet:
		Status	Number of Dominant Species That are OBL, FACW, or FAC: 3 (A)
	0.0%		That are ODE, FACW, OF FAC.
	0.0%		Total Number of Dominant Species Across All Strata: 3 (B)
0	0.0%		eposition / in culture.
=	= Total Cove	er	Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)
	0.0%		Prevalence Index worksheet:
	0.0%		Total % Cover of: Multiply by:
	0.0%		0BL species <u>40</u> x 1 = <u>40</u>
			FACW species <u>15</u> x 2 = <u>30</u>
			FAC species $35 \times 3 = 105$
	= Total Cove	er	FACU species $0 \times 4 = 0$
40	<b>✓</b> 44.4%	OBL	UPL species $0 \times 5 = 0$
15	<b>✓</b> 16.7%	FACW	Column Total s: $90$ (A) $175$ (B)
	11.1%	FAC	Prevalence Index = B/A = 1.944
	11.1%	FAC	Hydrophytic Vegetation Indicators:
			1 - Rapid Test for Hydrologic Vegetation
		FAC	✓ 2 - Dominance Test is > 50%
	0.0%		✓ 3 - Prevalence Index is ≤3.0 <sup>1</sup>
	0.0%		4 - Morphological Adaptations <sup>1</sup> (Provide supporting
	0.0%		data in Remarks or on a separate sheet)
	0.0%		5 - Wetland Non-Vascular Plants 1
90	= Total Cove	er	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
			Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
			Hydrophytic Vegetation
	= Total Cove	er	Present? Yes No
			1
	Significantly of naturally probability of na	significantly disturbed?   naturally problematic?     showing sampling post	Significantly disturbed?   Are "Not anturally problematic? (If new showing sampling point location   Is the Sampled within a Wetland   Within a

<sup>\*</sup>Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil Sampling Point: SP-96 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Matrix **Redox Features** Depth Loc2 Texture (inches) Color (moist) % Color (moist) Type Remarks 10YR 3/3 100 Sandy Loam 0-6 10YR 6-12 4/2 80 10YR 3/6 20 C. Μ Silt Loam gl ey 1, 4/5gy 12-16 <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 Soils3: Histosol (A1) Sandy Redox (S5) 2 cm Muck (A10) Histic Epipedon (A2) Stripped Matrix (S6) Red Parent Material (TF2) Black Histic (A3) Loamy Mucky Mineral (F1) (except in MLRA 1) Other (Explain in Remarks) Loamy Gleyed Matrix (F2) ☐ Hydrogen Sulfide (A4) Depleted Below Dark Surface (A11) Depleted Matrix (F3) Redox Dark Surface (F6) ☐ Thick Dark Surface (A12) <sup>3</sup>Indicators of hydrophytic vegetation and Depleted Dark Surface (F7) Sandy Muck Mineral (S1) wetland hydrology must be present, unless disturbed or problematic. Redox depressions (F8) Sandy Gleyed Matrix (S4) Restrictive Layer (if present): Type: rock No O **Hydric Soil Present?** Yes Depth (inches): 9 Remarks: very moist but not saturated soil Hydrology Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (minimum of two required) Surface Water (A1) Water-Stained Leaves (B9) (except MLRA Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) 1, 2, 4A, and 4B) High Water Table (A2) Saturation (A3) Salt Crust (B11) ☐ Drainage Patterns (B10) Aquatic Invertebrates (B13) Water Marks (B1) Dry Season Water Table (C2) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Saturation Visible on Aerial Imagery (C9) Drift deposits (B3) Oxidized Rhizospheres on Living Roots (C3) ✓ Geomorphic Position (D2) Presence of Reduced Iron (C4) Shallow Aquitard (D3) Algal Mat or Crust (B4) ☐ Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) ▼ FAC-neutral Test (D5) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Inundation Visible on Aerial Imagery (B7) Frost Heave Hummocks (D7) Other (Explain in Remarks) Sparsely Vegetated Concave Surface (B8) Field Observations: Yes O No 💿 Surface Water Present? Depth (inches): Yes  $\bigcirc$ No 💿 Water Table Present? Depth (inches): Yes ● No ○ Wetland Hydrology Present? Saturation Present? Yes O No 💿 Depth (inches): (includes capillary fringe) Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

No hydrology present

	Oity/ County. County	bia County Sampling Date: 11-Oct-22
pplicant/Owner: Northwest Natural		State: Oregon Sampling Point: Sp-97
vestigator(s): ES	Section, Townshi	
andform (hillslope, terrace, etc.): Swale		ave, convex, none): flat Slope: 10.0 % / 5.7
bregion (LRR): LRR A	Lat.: 46.05102014	Long.: -123.2876866 Datum: WGS 1984
il Map Unit Name: 36D - Murnen silt loam, 3 to 30 perce		
		NWI classification: N/A
climatic/hydrologic conditions on the site typical for thise e Vegetation $\hfill \square$ , Soil $\hfill \square$ , or Hydrology $\hfill \square$		
		γ
e Vegetation 🔲 , Soil 🔲 , or Hydrology 🔲	naturally problematic? (I	If needed, explain any answers in Remarks.)
ummary of Findings - Attach site map sh	nowing sampling point	locations, transects, important features, etc.
ydrophytic Vegetation Present? Yes   No		_
ydric Soil Present? Yes No •	Is the Samp	
/etland Hydrology Present? Yes No •	within a We	tland? Yes O No 💿
Remarks:		
Jpland plot, 3 feet higher than wetland plot below		
/EGETATION - Use scientific names of plan	nts. Dominant	
•	Species?Species?	ator Dominance Test worksheet:
Tree Stratum (Plot size:)	% Cover Cover Statu	
1	0	That are OBL, FACW, or FAC:3(A)
2,	0	Total Number of Dominant
3,		Species Across All Strata: 5 (B)
4,	0	Percent of dominant Species
Sapling/Shrub Stratum (Plot size: 15 feet )	0 = Total Cover	That Are OBL, FACW, or FAC: 60.0% (A/B)
1. Pseudotsuga menziesii	5 🗹 100.0% FACU	Prevalence Index worksheet:
2.		Total % Cover of: Multiply by:
3.		0BL species 0 x 1 = 0
4		FACW species 30 x 2 = 60
5	0 0.0%	FAC speciles x 3 =
	5 = Total Cover	FACU speci es $\frac{25}{}$ x 4 = $\frac{100}{}$
Herb Stratum (Plot size: 5 feet )	<b>-</b>	UPL species $\frac{0}{x}$ $5 = \frac{0}{x}$
1 Holcus lanatus	20 26.7% FAC	Column Totals: <u>80</u> (A) <u>235</u> (B)
2_Digitalis purpurea 3_Epilobium ciliatum	5	<u>'</u>
Jacobaea vulgaris		<u> </u>
5 Agrostis exarata	15 🗹 20.0% FACW	Hydrophytic Vegetation Indicators:
6 Equisetum arvense	5 a 6.7% FAC	☐ 1 - Rapid Test for Hydrologic Vegetation  ✓ 2 - Dominance Test is > 50%
7	0	2 - Dominance Test is > 50%  3 - Prevalence Index is ≤3.0 ¹
8.—		—   _
9.		4 - Morphological Adaptations 1 (Provide supporting data in Remarks or on a separate sheet)
10		5 - Wetland Non-Vascular Plants 1
11		Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
Woody Vine Stratum (Plot size: )		<sup>1</sup> Indicators of hydric soil and wetland hydrology must
1	0	be present, unless disturbed or problematic.
2		Hydrophytic
	0 = Total Cover	Vegetation Present? Yes No

<sup>\*</sup>Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil Sampling Point: Sp-97 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Matrix **Redox Features** Depth Loc2 Texture (inches) Color (moist) % Color (moist) Type Remarks 0-8 10YR 4/4 100 Silty Clay Loam 95 10YR С 8-18 10YR 4/6 6/8 Μ 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 Soils3: Histosol (A1) Sandy Redox (S5) 2 cm Muck (A10) Histic Epipedon (A2) Stripped Matrix (S6) Red Parent Material (TF2) Black Histic (A3) Loamy Mucky Mineral (F1) (except in MLRA 1) Other (Explain in Remarks) Loamy Gleyed Matrix (F2) ☐ Hydrogen Sulfide (A4) Depleted Below Dark Surface (A11) Depleted Matrix (F3) Redox Dark Surface (F6) ☐ Thick Dark Surface (A12) <sup>3</sup>Indicators of hydrophytic vegetation and Depleted Dark Surface (F7) Sandy Muck Mineral (S1) wetland hydrology must be present, Redox depressions (F8) unless disturbed or problematic. Sandy Gleyed Matrix (S4) Restrictive Layer (if present): Type: No 💿 Yes O **Hydric Soil Present?** Depth (inches): Remarks: Hydrology Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (minimum of two required) Surface Water (A1) Water-Stained Leaves (B9) (except MLRA Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) 1, 2, 4A, and 4B) High Water Table (A2) Saturation (A3) Salt Crust (B11) ☐ Drainage Patterns (B10) Aquatic Invertebrates (B13) Water Marks (B1) Dry Season Water Table (C2) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Saturation Visible on Aerial Imagery (C9) Drift deposits (B3) Oxidized Rhizospheres on Living Roots (C3) Geomorphic Position (D2) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Shallow Aquitard (D3) ☐ Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) FAC-neutral Test (D5) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Inundation Visible on Aerial Imagery (B7) Frost Heave Hummocks (D7) U Other (Explain in Remarks) Sparsely Vegetated Concave Surface (B8) Field Observations: Yes O No 💿 Surface Water Present? Depth (inches): Yes  $\bigcirc$ No 💿 Water Table Present? Depth (inches): Yes ○ No ● Wetland Hydrology Present? Saturation Present? Yes O No 💿 Depth (inches): (includes capillary fringe) Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Remarks:

Project/Site: North Mist Expansion		Ci	ity/County:	Columbia C	ounty San	npling Date: 11-Oct-22	
Applicant/Owner: Northwest Natural					State: OR S	Sampling Point: SP-10	)2
Investigator(s): Sara Frank, Ed Strohr	naier		Section, To	wnship, Ra	ange: <b>S</b> 34 <b>T</b> 7N	<b>R</b> _5W	
Landform (hillslope, terrace, etc.):	Hillside		Local relief	(concave, o	convex, none): concave	Slope: 15.0 % /	8.5
Subregion (LRR): LRR A		<b>Lat</b> .: 46.	050714		Long.: -123.287338	Datum: WGS 19	984
oil Map Unit Name: 7D - Braun-Sca	ponia silt loams, 5 to 30	—	es		NWI classificat	tion: N/A	
e climatic/hydrologic conditions on				● No (			
Are Vegetation, Soil		significantly d		Are "N	lormal Circumstances" prese		
Are Vegetation, Soil	, or Hydrology  r	naturally prob	olematic?		eded, explain any answers in		
Summary of Findings - At						•	etc.
Hydrophytic Vegetation Present?	Yes  No		1			· · ·	
Hydric Soil Present?	Yes ● No ○		Is the	Sampled A			
Wetland Hydrology Present?	Yes ● No ○		within	a Wetland	<sub>d?</sub> Yes • No ·		
Remarks:							
<b>VEGETATION</b> - Use scien	tific names of plan	ts.	Dominant				
4-1			Species? Rel.Strat.		Dominance Test workshee	et:	
Tree Stratum (Plot size: 30 feet	)	% Cover		Status	Number of Dominant Species		
`			100.0%	FAC	That are OBL, FACW, or FAC	: <u>3</u> (A)	)
2. 3.			0.0%		Total Number of Dominant	F (D)	`
4.		0	0.0%		Species Across All Strata:	<u>5</u> (B)	)
Sapling/Shrub Stratum (Plot size:	)	35	= Total Cove	r	Percent of dominant Spec That Are OBL, FACW, or F		/B)
1,		0	0.0%		Prevalence Index workshe	eet·	
2		0	0.0%		Total % Cover of:	Multiply by:	
3.		•	0.0%		OBL species 20	x 1 = 20	
4		0	0.0%		FACW species10	x 2 =	
5		0	0.0%		FAC species <u>35</u>	_ x 3 = <u>105</u>	
Herb Stratum (Plot size: 5 feet	1	0 :	= Total Cove	r	FACU speci es 20	_ x 4 =80	
1 Lysichiton americanum		20	<b>✓</b> 40.0%	OBL	UPL species 0	_ x 5 =	
Asarum caudatum			<b>✓</b> 20.0%	FACU	Column Totals: 85	(A) <u>225</u> (I	(B)
3. Glechoma hederacea			<b>✓</b> 20.0%	FACU	Prevalence Index = B	B/A = 2.647	
4. Phalaris arundinacea		10	20.0%	FACW	Hydrophytic Vegetation Ir	ndicators:	
5		0	0.0%		1 - Rapid Test for Hydi		
6			0.0%		✓ 2 - Dominance Test is		
7			0.0%		✓ 3 - Prevalence Index is	s ≤3.0 <sup>1</sup>	
8.————————————————————————————————————			0.0%		4 - Morphological Adar	ptations <sup>1</sup> (Provide supporti	ing
10			0.0%		data in Remarks or	on a separate sheet)	J
11.			0.0%		5 - Wetland Non-Vascu		
11.			= Total Cove	r	Problematic Hydrophy	tic Vegetation <sup>1</sup> (Explain)	
Woody Vine Stratum (Plot size:	)		_		1 Indicators of hydric soil	and wetland hydrology mu	ıst
1,		0	0.0%		be present, unless disturb	ed or problematic.	
2		0	0.0%		Hydrophytic Vegetation		
		:	= Total Cove	r	Present? Yes	No O	
% Bare Ground in Herb Stratum	:_50						
Remarks:							

<sup>\*</sup>Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil Sampling Point: SP-102 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Matrix **Redox Features** Depth Loc2 Texture (inches) Color (moist) % Color (moist) % Type Remarks 10YR 100 Silt Loam 0-2 3/3 2-10 10YR 3/4 100 Silt Loam 10-20 Gley 1 4/10Y 100 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 Soils3: Histosol (A1) Sandy Redox (S5) 2 cm Muck (A10) Histic Epipedon (A2) Stripped Matrix (S6) Red Parent Material (TF2) Black Histic (A3) Loamy Mucky Mineral (F1) (except in MLRA 1) Other (Explain in Remarks) Loamy Gleyed Matrix (F2) ✓ Hydrogen Sulfide (A4) Depleted Below Dark Surface (A11) ✓ Depleted Matrix (F3) Redox Dark Surface (F6) ☐ Thick Dark Surface (A12) <sup>3</sup>Indicators of hydrophytic vegetation and Depleted Dark Surface (F7) Sandy Muck Mineral (S1) wetland hydrology must be present, unless disturbed or problematic. Redox depressions (F8) Sandy Gleyed Matrix (S4) Restrictive Layer (if present): Type: No O **Hydric Soil Present?** Yes Depth (inches): Remarks: Hydrology Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (minimum of two required) Surface Water (A1) Water-Stained Leaves (B9) (except MLRA Water-Stained Leaves (B9) (MLRA 1, 2, 1, 2, 4A, and 4B) 4A, and 4B) High Water Table (A2) ✓ Saturation (A3) Salt Crust (B11) ☐ Drainage Patterns (B10) Aquatic Invertebrates (B13) Water Marks (B1) Dry Season Water Table (C2) Sediment Deposits (B2) ✓ Hydrogen Sulfide Odor (C1) Saturation Visible on Aerial Imagery (C9) Drift deposits (B3) Oxidized Rhizospheres on Living Roots (C3) Geomorphic Position (D2) Presence of Reduced Iron (C4) Algal Mat or Crust (B4) Shallow Aquitard (D3) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) FAC-neutral Test (D5) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Inundation Visible on Aerial Imagery (B7) Frost Heave Hummocks (D7) U Other (Explain in Remarks) Sparsely Vegetated Concave Surface (B8) Field Observations: Yes O No 💿 Surface Water Present? Depth (inches): Yes O No 💿 Water Table Present? Depth (inches): Yes ● No ○ Wetland Hydrology Present? Saturation Present? Yes No O Depth (inches): (includes capillary fringe) Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Remarks:

Project/Site: Enter Project/Site	City/County: Columbia (	Sampling Date: 11-Oct-22
Applicant/Owner: Northwest Natural		State: OR Sampling Point: SP-103
nvestigator(s): Sara Frank, Ed Strohmaier	Section, Township, F	Range: S 34 T 7N R 5W
Landform (hillslope, terrace, etc.): Hillside	Local relief (concave,	convex, none): concave Slope: 15.0 % / 8.5
subregion (LRR): LRR A	Lat.: 46.050731	Long.: -123.287345 Datum: WGS 1984
oil Map Unit Name: 7D - Braun-Scaponia silt loams, 5 to 30	percent slopes	NWI classification: N/A
e climatic/hydrologic conditions on the site typical for this t		
		Normal Circumstances" present? Yes  No
		eeded, explain any answers in Remarks.)
		cations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No •		· · · · · · · · · · · · · · · · · · ·
Hydric Soil Present? Yes No	Is the Sampled	
Wetland Hydrology Present? Yes ○ No ●	within a Wetlan	<sub>id?</sub> Yes ○ No
Remarks:	ļ	
<b>VEGETATION</b> - Use scientific names of plant		
	Species?Species	Dominance Test worksheet:
Tree Stratum (Plot size: 30 feet )	% Cover Cover Status	Number of Dominant Species
1_Alnus rubra	30 <u>50.0%</u> FAC	That are OBL, FACW, or FAC:1 (A)
2. Pseudotsuga menziesii	30	Total Number of Dominant
3 4.	0 0.0%	Species Across All Strata: 4 (B)
4		Percent of dominant Species
Sapling/Shrub Stratum (Plot size: 15 feet )	60 = Total Cover	That Are OBL, FACW, or FAC: 25.0% (A/B)
1. Vaccinium parvifolium	5	Prevalence Index worksheet:
2	0 0.0%	Total % Cover of: Multiply by:
3		0BL speci es <u>0</u> x 1 = <u>0</u>
4	0 0.0%	FACW species 0 x 2 = 0
5	0 0.0%	FAC species30 x 3 =90
Herb Stratum (Plot size: 5 feet )	5 = Total Cover	FACU speci es $\frac{115}{}$ x 4 = $\frac{460}{}$
1 Polystichum munitum	80 🗹 100.0% FACU	UPL species x 5 =0
0	0 0.0%	Col umn Total s: <u>145</u> (A) <u>550</u> (B)
3	0 0.0%	Prevalence Index = B/A = 3.793
4.	0 0.0%	Hadaaa kadia Waasa Adiaa Ladia ahaa
5	0 0.0%	Hydrophytic Vegetation Indicators:
6	0 0.0%	☐ 1 - Rapid Test for Hydrologic Vegetation☐ 2 - Dominance Test is > 50%
7		3 - Prevalence Index is ≤3.0 ¹
8.—		4 - Morphological Adaptations <sup>1</sup> (Provide supporting
9		data in Remarks or on a separate sheet)
10. 11.	0 0.0%	☐ 5 - Wetland Non-Vascular Plants <sup>1</sup>
11.	80 = Total Cover	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
Woody Vine Stratum (Plot size:)		<sup>1</sup> Indicators of hydric soil and wetland hydrology must
1.	0 0.0%	be present, unless disturbed or problematic.
2.	0 0.0%	Hydrophytic
		Vegetation Present? Yes No •
	0 = Total Cover	Present? ICS C NO C
% Bare Ground in Herb Stratum: 20	= Total Cover	Present? Yes O NO S

<sup>\*</sup>Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil Sampling Point: SP-103 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Matrix **Redox Features** Depth Loc2 Texture (inches) Color (moist) % Color (moist) % Type Remarks organic material 10YR 2/2 100 Silty Clay Loam 0-8 8-12 10YR 3/2 100 Silty Clay Loam 6/2 94 2.5Y С 12-16 2.5Y 6/8 6 M Silty Clay Loam <sup>1</sup>Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains <sup>2</sup>Location: PL=Pore Lining. M=Matrix Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils3: Histosol (A1) Sandy Redox (S5) 2 cm Muck (A10) Histic Epipedon (A2) Stripped Matrix (S6) Red Parent Material (TF2) Black Histic (A3) Loamy Mucky Mineral (F1) (except in MLRA 1) Other (Explain in Remarks) Loamy Gleyed Matrix (F2) ☐ Hydrogen Sulfide (A4) ✓ Depleted Below Dark Surface (A11) Depleted Matrix (F3) Redox Dark Surface (F6) ☐ Thick Dark Surface (A12) <sup>3</sup>Indicators of hydrophytic vegetation and Depleted Dark Surface (F7) Sandy Muck Mineral (S1) wetland hydrology must be present, unless disturbed or problematic. Redox depressions (F8) Sandy Gleyed Matrix (S4) Restrictive Layer (if present): Type: No O **Hydric Soil Present?** Yes Depth (inches): Remarks: Hydrology Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (minimum of two required) Surface Water (A1) Water-Stained Leaves (B9) (except MLRA Water-Stained Leaves (B9) (MLRA 1, 2, 1, 2, 4A, and 4B) 4A, and 4B) High Water Table (A2) Saturation (A3) Salt Crust (B11) ☐ Drainage Patterns (B10) Aquatic Invertebrates (B13) Water Marks (B1) Dry Season Water Table (C2) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Saturation Visible on Aerial Imagery (C9) Drift deposits (B3) Oxidized Rhizospheres on Living Roots (C3) ✓ Geomorphic Position (D2) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Shallow Aquitard (D3) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) FAC-neutral Test (D5) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Inundation Visible on Aerial Imagery (B7) Frost Heave Hummocks (D7) U Other (Explain in Remarks) Sparsely Vegetated Concave Surface (B8) Field Observations: Yes O No 💿 Surface Water Present? Depth (inches): Yes  $\bigcirc$ No 💿 Water Table Present? Depth (inches): Yes ○ No ● Wetland Hydrology Present? Saturation Present? Yes O No 💿 Depth (inches): (includes capillary fringe) Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

No Hydrology present

Remarks:

Project/Site: North Mist Expansion				City/County:	Columbia Co	County Sampling Date: 12-Oct-22	
Applicant/Owner: Northwest Natural						State: OR Sampling Point: SP-104	4
Investigator(s): Sara Frank				Section, To	wnship, Ra	tange: \$ 14	
Landform (hillslope, terrace, etc.):	Toeslope			Local relief (	(concave, c	convex, none): undulating Slope: 5.0 % /	2.9
Subregion (LRR): LRR A			Lat.: 46	.007277		Long.: -123.263972 Datum: WGS 198	84
Soil Map Unit Name: 58 - Treharne s	silt loam					NWI classification: N/A	
e climatic/hydrologic conditions on		oical for this t	time of vear	? Yes	• No C		
Are Vegetation, Soil	, or Hydro		significantly			Normal Circumstances" present? Yes  No	
Are Vegetation, Soil	, or Hydro		naturally pro			eded, explain any answers in Remarks.)	
	-		7.			cations, transects, important features, e	etc.
Hydrophytic Vegetation Present?	Yes O	No 💿				·	
Hydric Soil Present?	Yes $\bigcirc$	No 💿		Is the	Sampled A	<sub>d2</sub> Yes ○ No ●	
Wetland Hydrology Present?	$_{Yes}$ $\bigcirc$	No 💿		within	a Wetland	d? Yes U No U	
Remarks:							
VEGETATION - Use scier		es of plant		Dominant			
VEGETATION - 03e 3ciei	Tune mann	es or plant		_Species? _		T	
Tree Stratum (Plot size:	)		Absolute % Cover	Rel.Strat. Cover	Indicator Status		
1,			0	0.0%		Number of Dominant Species That are OBL, FACW, or FAC:1 (A)	
2,			0	0.0%		Total Number of Deminent	
3			0	0.0%		Total Number of Dominant Species Across All Strata: (B)	
4			0	0.0%		Descent of deminent Species	
Sapling/Shrub Stratum (Plot size	: 15 feet	)	0	= Total Cove	ır	Percent of dominant Species That Are OBL, FACW, or FAC: 50.0% (A/B	3)
1. Pseudotsuga menziesii			25	100.0%	FACU	Prevalence Index worksheet:	
2,				0.0%		Total % Cover of: Multiply by:	
3				0.0%		0BL speci es x 1 =	
4				0.0%		FACW species 10 x 2 = 20	
5				0.0%		FAC species $\frac{70}{25}$ x 3 = $\frac{210}{100}$	
Herb Stratum (Plot size: 5 feet	)		25	= Total Cove	r	FACU species $\frac{25}{2}$ x 4 = $\frac{100}{2}$	
1 Agrostis stolonifera	·		60	<b>✓</b> 75.0%	FAC	UPL species $\frac{0}{x}$ x 5 = $\frac{0}{x}$	
2. Rubus armeniacus			10	12.5%	FAC	Column Totals: 105 (A) 330 (B)	)
3 Juncus effusus			5	6.3%	FACW	Prevalence Index = B/A = 3.143	
1.				6.3%	FACW	Hydrophytic Vegetation Indicators:	
5				0.0%		☐ 1 - Rapid Test for Hydrologic Vegetation	
6				0.0%		2 - Dominance Test is > 50%	
7				0.0%		☐ 3 - Prevalence Index is ≤3.0 <sup>1</sup>	
8.————————————————————————————————————				0.0%		4 - Morphological Adaptations <sup>1</sup> (Provide supportin	nq
10				0.0%		data in Remarks or on a separate sheet)	•
11.				0.0%		□ 5 - Wetland Non-Vascular Plants <sup>1</sup>	
11.			80	= Total Cove	r .	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)	
Woody Vine Stratum (Plot size:			0	0.0%		<sup>1</sup> Indicators of hydric soil and wetland hydrology mus be present, unless disturbed or problematic.	it
2				0.0%		Hydrophytic	
			0	= Total Cove		Vegetation Present? Yes No   No	
% Bare Ground in Herb Stratum	<b>1</b> : 20			- rotal cove	•	Present?	
	12()						
Remarks:							

<sup>\*</sup>Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil Sampling Point: SP-104 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Matrix **Redox Features** Depth Loc2 Texture (inches) Color (moist) % Color (moist) % Remarks 10YR 3/3 98 10YR С М Silty Clay Loam 0-4 5/8 2 98 10YR 2 С М 4-20 10YR 4/2 6/8 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 Soils3: Histosol (A1) Sandy Redox (S5) 2 cm Muck (A10) Histic Epipedon (A2) Stripped Matrix (S6) Red Parent Material (TF2) Black Histic (A3) Loamy Mucky Mineral (F1) (except in MLRA 1) Other (Explain in Remarks) Loamy Gleyed Matrix (F2) ☐ Hydrogen Sulfide (A4) Depleted Below Dark Surface (A11) Depleted Matrix (F3) Redox Dark Surface (F6) ☐ Thick Dark Surface (A12) <sup>3</sup>Indicators of hydrophytic vegetation and Depleted Dark Surface (F7) Sandy Muck Mineral (S1) wetland hydrology must be present, unless disturbed or problematic. Redox depressions (F8) Sandy Gleyed Matrix (S4) Restrictive Layer (if present): Type: No 💿 **Hydric Soil Present?** Yes 🔾 Depth (inches): Remarks: Hydrology Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (minimum of two required) Surface Water (A1) Water-Stained Leaves (B9) (except MLRA Water-Stained Leaves (B9) (MLRA 1, 2, 1, 2, 4A, and 4B) 4A, and 4B) High Water Table (A2) Saturation (A3) Salt Crust (B11) ☐ Drainage Patterns (B10) Aquatic Invertebrates (B13) Water Marks (B1) Dry Season Water Table (C2) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Saturation Visible on Aerial Imagery (C9) Drift deposits (B3) Oxidized Rhizospheres on Living Roots (C3) Geomorphic Position (D2) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Shallow Aquitard (D3) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) FAC-neutral Test (D5) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Inundation Visible on Aerial Imagery (B7) Frost Heave Hummocks (D7) U Other (Explain in Remarks) Sparsely Vegetated Concave Surface (B8) Field Observations: Yes O No 💿 Surface Water Present? Depth (inches): Yes  $\bigcirc$ No 💿 Water Table Present? Depth (inches): Yes ○ No ● Wetland Hydrology Present? Saturation Present? Yes O No 💿 Depth (inches): (includes capillary fringe) Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available: Remarks:

No Hydrology present

roject/Site: North Mist Expansion				City/County:	Columbia Co	Sounty Sampling Date: 12-Oct-22
pplicant/Owner: Northwest Natural						State: OR Sampling Point: SP-105
nvestigator(s): Sara Frank			Section, To	wnship, Ra	ange: S 14 T 6N R 5W	
Landform (hillslope, terrace, etc.):	Toeslope			Local relief	(concave, c	convex, none): undulating Slope: 0.0 % / 0.0
ubregion (LRR): LRR A			<b>Lat</b> .: 46	.007299		Long.: -123.264 Datum: WGS 1984
oil Map Unit Name: 58 - Treharne s	ilt loam					NWI classification: N/A
e climatic/hydrologic conditions on	the site tyr	pical for this	time of year	? Yes	s • No C	
are Vegetation, Soil	, or Hydrol	logy 🗌 s	significantly	disturbed?	Are "N	Iormal Circumstances" present? Yes   No
Are Vegetation, Soil	, or Hydrol	logy 🗌 r	naturally pro	blematic?	(If nea	eded, explain any answers in Remarks.)
Summary of Findings - At	-					ations, transects, important features, etc.
Hydrophytic Vegetation Present?	Yes	No O		1	C	
Hydric Soil Present?	Yes	No $\bigcirc$			Sampled A	Voc 📵 No 🔾
Wetland Hydrology Present?	Yes	No $\bigcirc$		within	a Wetland	19 163 - 140 -
Remarks:						
<b>VEGETATION</b> - Use scien	tific nam	es of plant	ts.	DominantSpecies? _		
T O (Plot size:	```		Absolute % Cover	Rel.Strat.	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size:				0.0%	Status	Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)
2.				0.0%		That are obc, facw, of fac.
3.				0.0%		Total Number of Dominant Species Across All Strata: 1 (B)
4.			0	0.0%		Species Across Am Strata.
Sapling/Shrub Stratum (Plot size:		)	0	= Total Cove	er	Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)
1,			0	0.0%		Prevalence Index worksheet:
2				0.0%		Total % Cover of: Multiply by:
3				0.0%		0BL species x 1 =
4				0.0%		FACW species <u>85</u> x 2 = <u>170</u>
5				0.0%		FAC species $\underline{15}$ x 3 = $\underline{45}$
Herb Stratum (Plot size: 5 feet	)		0	= Total Cove	÷r	FACU species $0 \times 4 = 0$
1 Juncus effusus			80	<b>✓</b> 80.0%	FACW	UPL species $\frac{0}{x}$ x 5 = $\frac{0}{x}$
2. Phalaris arundinacea			5	5.0%	FACW	Col umn Total s:100 (A)215 (B)
3 Rubus armeniacus			5	5.0%	FAC	Prevalence Index = B/A =2.150
4. Cirsium arvense			10	10.0%	FAC	Hydrophytic Vegetation Indicators:
5				0.0%		✓ 1 - Rapid Test for Hydrologic Vegetation
6				0.0%		✓ 2 - Dominance Test is > 50%
7			•	0.0%		✓ 3 - Prevalence Index is ≤3.0 <sup>1</sup>
8.———				0.0%		4 - Morphological Adaptations <sup>1</sup> (Provide supporting
10.—				0.0%		data in Remarks or on a separate sheet)
11.			_	0.0%		5 - Wetland Non-Vascular Plants 1
			100	= Total Cove	∍r	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
Woody Vine Stratum (Plot size:			0	0.0%		Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
			0	0.0%		Hydrophytic
۷.						Vegetation
2			0	= Total Cove	)r	Present? Yes No
% Bare Ground in Herb Stratum:	:_0		0	= Total Cove	er	
	· <u>0</u>		0	= Total Cove	er 	

<sup>\*</sup>Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil Sampling Point: SP-105 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Matrix **Redox Features** Depth Loc2 Texture (inches) Color (moist) % Color (moist) % Type Remarks 10YR 2/2 100 Silt Loam 0-4 95 4-16 10YR 2/2 7.5YR 5/8 RM PL Silt Loam <sup>1</sup>Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains <sup>2</sup>Location: PL=Pore Lining. M=Matrix Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils3: Histosol (A1) Sandy Redox (S5) 2 cm Muck (A10) Histic Epipedon (A2) Stripped Matrix (S6) Red Parent Material (TF2) Black Histic (A3) Loamy Mucky Mineral (F1) (except in MLRA 1) Other (Explain in Remarks) Loamy Gleyed Matrix (F2) ☐ Hydrogen Sulfide (A4) Depleted Below Dark Surface (A11) Depleted Matrix (F3) Redox Dark Surface (F6) ☐ Thick Dark Surface (A12) <sup>3</sup>Indicators of hydrophytic vegetation and Depleted Dark Surface (F7) Sandy Muck Mineral (S1) wetland hydrology must be present, unless disturbed or problematic. Redox depressions (F8) Sandy Gleyed Matrix (S4) Restrictive Layer (if present): Type: No O **Hydric Soil Present?** Yes Depth (inches): Remarks: Hydrology Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (minimum of two required) Surface Water (A1) Water-Stained Leaves (B9) (except MLRA Water-Stained Leaves (B9) (MLRA 1, 2, 1, 2, 4A, and 4B) 4A, and 4B) High Water Table (A2) Saturation (A3) Salt Crust (B11) ☐ Drainage Patterns (B10) Aquatic Invertebrates (B13) Water Marks (B1) Dry Season Water Table (C2) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Saturation Visible on Aerial Imagery (C9) Drift deposits (B3) Oxidized Rhizospheres on Living Roots (C3) Geomorphic Position (D2) Presence of Reduced Iron (C4) Algal Mat or Crust (B4) Shallow Aquitard (D3) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) ✓ FAC-neutral Test (D5) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Inundation Visible on Aerial Imagery (B7) Frost Heave Hummocks (D7) U Other (Explain in Remarks) Sparsely Vegetated Concave Surface (B8) Field Observations: Yes O No 💿 Surface Water Present? Depth (inches): Yes  $\bigcirc$ No 💿 Water Table Present? Depth (inches): Yes ● No ○ Wetland Hydrology Present? Saturation Present? Yes O No 💿 Depth (inches): (includes capillary fringe) Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Remarks:

Project/Site: North Mist Expansion	City/County: Columbia (	County Sampling Date: 12-Oct-22
Applicant/Owner: Northwest Natural		State: OR Sampling Point: SP-106
Investigator(s): Sara Frank		
Landform (hillslope, terrace, etc.): Flat	Local relief (concave,	
		Long.: -123.261668 Datum: WGS 1984
Soil Map Unit Name: 58 - Treharne silt loam	40.000734	NWI classification: N/A
re climatic/hydrologic conditions on the site typical for this	s time of year? Yes   No	
Are Vegetation	,	Normal Circumstances" present? Yes No
		F
Are Vegetation 🔲 , Soil 🔲 , or Hydrology 🔲	naturally problematic? (If ne	eded, explain any answers in Remarks.)
Summary of Findings - Attach site map sh	nowing sampling point loo	cations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes   No	la tha Camaniad	Area
Hydric Soil Present? Yes ○ No •	Is the Sampled	Van O Na 🔘
Wetland Hydrology Present? Yes ○ No ●	within a Wetlan	d? Tes O NO O
Remarks:	<u> </u>	
Reed canary grass on gravel bar between highway and lo	ogging road.	
<b>VEGETATION</b> - Use scientific names of plan	nts. Dominant Species?	
- (Plot size:	Absolute Rel.Strat. Indicator	Dominance Test worksheet:
Tree Stratum (Plot size:)	% Cover Cover Status 0 □ 0.0%	Number of Dominant Species That are OBL, FACW, or FAC: 2 (A)
1		That are OBL, FACW, or FAC: (A)
3		Total Number of Dominant Species Across All Strata: 2 (B)
4,	0	Species Across Air Strata.
	0 = Total Cover	Percent of dominant Species That Are OBL_FACW_or_FAC: 100.0% (A/B)
Sapling/Shrub Stratum (Plot size:)		That Are OBL, FACW, or FAC: 100.0% (A/B)
1,		Prevalence Index worksheet:
2		Total % Cover of: Multiply by:
3 4.		0BL species 0 x 1 = 0
4. 5.	0 0.0%	FACW species 60 x 2 = 120
<u> </u>	0 = Total Cover	FACI species x 3 =
Herb Stratum (Plot size: 5 feet )	= Total cover	
1. Phalaris arundinacea	60 <b></b> _60.0%FACW	
2. Rubus armeniacus	40	
3		Prevalence Index = B/A = 2.400
4		Hydrophytic Vegetation Indicators:
5		1 - Rapid Test for Hydrologic Vegetation
7	0 000/	✓ 2 - Dominance Test is > 50%
8	0	3 - Prevalence Index is ≤3.0 <sup>1</sup>
9		4 - Morphological Adaptations 1 (Provide supporting data in Remarks or on a separate sheet)
10.		5 - Wetland Non-Vascular Plants 1
11.		Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
Woody Vine Stratum (Plot size:)	= Total Cover	Indicators of hydric soil and wetland hydrology must
1	0	be present, unless disturbed or problematic.
2		Hydrophytic
·	0 = Total Cover	Vegetation Present? Yes No
		Ficaciit:
% Bare Ground in Herb Stratum:		

<sup>\*</sup>Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil Sampling Point: SP-106 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Matrix **Redox Features** Depth Loc2 Texture (inches) Color (moist) % Color (moist) % Type Remarks 0-10 10YR 3/2 100 Silt Loam <sup>1</sup>Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains <sup>2</sup>Location: PL=Pore Lining. M=Matrix Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils3: 2 cm Muck (A10) Histosol (A1) Sandy Redox (S5) Histic Epipedon (A2) Stripped Matrix (S6) Red Parent Material (TF2) Black Histic (A3) Loamy Mucky Mineral (F1) (except in MLRA 1) Other (Explain in Remarks) Loamy Gleyed Matrix (F2) ☐ Hydrogen Sulfide (A4) Depleted Below Dark Surface (A11) Depleted Matrix (F3) Redox Dark Surface (F6) ☐ Thick Dark Surface (A12) <sup>3</sup>Indicators of hydrophytic vegetation and Depleted Dark Surface (F7) Sandy Muck Mineral (S1) wetland hydrology must be present, unless disturbed or problematic. Redox depressions (F8) Sandy Gleyed Matrix (S4) Restrictive Layer (if present): Type: rock No 💿 **Hydric Soil Present?** Yes 🔾 Depth (inches): 10 Remarks: Gravel restriction at 10 inches from nearby roads Hydrology Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (minimum of two required) Surface Water (A1) Water-Stained Leaves (B9) (except MLRA Water-Stained Leaves (B9) (MLRA 1, 2, 1, 2, 4A, and 4B) 4A, and 4B) High Water Table (A2) Saturation (A3) Salt Crust (B11) ☐ Drainage Patterns (B10) Aquatic Invertebrates (B13) Water Marks (B1) Dry Season Water Table (C2) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Saturation Visible on Aerial Imagery (C9) Drift deposits (B3) Oxidized Rhizospheres on Living Roots (C3) Geomorphic Position (D2) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Shallow Aquitard (D3) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) ✓ FAC-neutral Test (D5) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Inundation Visible on Aerial Imagery (B7) Frost Heave Hummocks (D7) U Other (Explain in Remarks) Sparsely Vegetated Concave Surface (B8) Field Observations: Yes O No 💿 Surface Water Present? Depth (inches): Yes O No 💿 Water Table Present? Depth (inches): Yes O No 💿 Wetland Hydrology Present? Saturation Present? Yes O No 💿 Depth (inches): (includes capillary fringe) Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available: Remarks:

No Hydrology present

roject/Site: North Mist Expansion			(	City/County:	Columbia Co	County Sampling Date: 12-Oct-22
pplicant/Owner: Northwest Natural						State: OR Sampling Point: SP-107
nvestigator(s): Sara Frank			Section, To	wnship, Ra	ange: \$ 12 T_6N R_5W	
Landform (hillslope, terrace, etc.): Flat				Local relief	(concave, o	convex, none): concave Slope: 0.0 % / 0.0
ubregion (LRR): LRR A			Lat.: 46	.105151		Long.: -123.243014 Datum: WGS 1984
pil Map Unit Name: 5D - Anunde silt loa	 am, 3 to	30 percent s	lopes			NWI classification: N/A
e climatic/hydrologic conditions on the				? Yes	s • No	
re Vegetation , Soil , or	Hydrol	ogy 🗌 si	gnificantly	disturbed?	Are "N	No O
re Vegetation 🔲 , Soil 🗌 , or	· Hydrol	ogy 🗌 na	aturally pro	blematic?	(If nee	eded, explain any answers in Remarks.)
-	-					ations, transects, important features, etc.
	es •	No O	willig 3a			ations, transcets, important reatures, etc.
	es O	No •		Is the	Sampled A	
-	es 💿	No O		within	a Wetland	<sub>d?</sub> Yes ◉ No ○
Remarks:						
Problemtic shallow soils in gravel laydo	own yar	d.				
VEGETATION - Use scientific	: nam	es of plant	s.	DominantSpecies? _		
Tree Stratum (Plot size: 30 feet	)		Absolute % Cover	Rel.Strat.	Indicator Status	Dominance Test worksheet:
1. Alnus rubra	_′		10	100.0%	FAC	Number of Dominant Species That are OBL, FACW, or FAC: 2 (A)
2,			0	0.0%		
3			0	0.0%		Total Number of Dominant Species Across All Strata: 2 (B)
4			0_	0.0%		
Sapling/Shrub Stratum (Plot size: 15 f	feet	)	10	= Total Cove	er	Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)
1,			0	0.0%		Prevalence Index worksheet:
2			0	0.0%		Total % Cover of: Multiply by:
3			0	0.0%		0BL speci es x 1 =
4				0.0%		FACW species
5			0	0.0%		FAC species x 3 =30
Herb Stratum (Plot size: 5 feet	)		0	= Total Cove	∍r	FACU species $0 \times 4 = 0$
1 Juncus effusus	— <i>'</i>		60	100.0%	FACW	UPL species $\frac{0}{x}$ $5 = \frac{0}{x}$
2.			0	0.0%		Column Totals:
3			0	0.0%		Prevalence Index = B/A =
4			0	0.0%		Hydrophytic Vegetation Indicators:
5			0	0.0%		1 - Rapid Test for Hydrologic Vegetation
6				0.0%		✓ 2 - Dominance Test is > 50%
7			_	0.0%		3 - Prevalence Index is ≤3.0 <sup>1</sup>
8.———				0.0%		4 - Morphological Adaptations <sup>1</sup> (Provide supporting
9.————————————————————————————————————				0.0%		data in Remarks or on a separate sheet)
11.			0	0.0%		5 - Wetland Non-Vascular Plants 1
11.			60	= Total Cove	er	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
Woody Vine Stratum (Plot size:1,			0	0.0%		Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2			0	0.0%		Hydrophytic
			0	= Total Cove	er	Vegetation Present? Yes No
						Present?
% Bare Ground in Herb Stratum: $_{\underline{40}}$		_			-	Present?

<sup>\*</sup>Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil Sampling Point: SP-107 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Matrix **Redox Features** Depth Loc2 Texture (inches) Color (moist) % Color (moist) Type Remarks Gravel 0-5 10YR 3/2 100 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 Soils3: 2 cm Muck (A10) Histosol (A1) Sandy Redox (S5) Histic Epipedon (A2) Stripped Matrix (S6) Red Parent Material (TF2) Black Histic (A3) Loamy Mucky Mineral (F1) (except in MLRA 1) Other (Explain in Remarks) Loamy Gleyed Matrix (F2) ☐ Hydrogen Sulfide (A4) Depleted Below Dark Surface (A11) Depleted Matrix (F3) Redox Dark Surface (F6) ☐ Thick Dark Surface (A12) <sup>3</sup>Indicators of hydrophytic vegetation and Depleted Dark Surface (F7) Sandy Muck Mineral (S1) wetland hydrology must be present, unless disturbed or problematic. Redox depressions (F8) Sandy Gleyed Matrix (S4) Restrictive Layer (if present): Type: Rock Yes O No 💿 **Hydric Soil Present?** Depth (inches): 5 Remarks: Problematic soil in gravel laydown yard. Compaction and rock make it impossible to dig past a few inches Hydrology Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (minimum of two required) Surface Water (A1) Water-Stained Leaves (B9) (except MLRA Water-Stained Leaves (B9) (MLRA 1, 2, 1, 2, 4A, and 4B) 4A, and 4B) High Water Table (A2) Saturation (A3) Salt Crust (B11) ☐ Drainage Patterns (B10) Aquatic Invertebrates (B13) Water Marks (B1) Dry Season Water Table (C2) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Saturation Visible on Aerial Imagery (C9) Drift deposits (B3) Oxidized Rhizospheres on Living Roots (C3) ✓ Geomorphic Position (D2) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Shallow Aquitard (D3) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) ✓ FAC-neutral Test (D5) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Inundation Visible on Aerial Imagery (B7) Frost Heave Hummocks (D7) Other (Explain in Remarks) Sparsely Vegetated Concave Surface (B8) Field Observations: Yes O No 💿 Surface Water Present? Depth (inches): Yes  $\bigcirc$ No 💿 Water Table Present? Depth (inches): Yes ● No ○ Wetland Hydrology Present? Saturation Present? Yes O No 💿 Depth (inches): (includes capillary fringe) Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available: Remarks:

Project/Site: North Mist Expansion	City	//County: Columbia (	County Sampling Date: 12-Oct-22		
Applicant/Owner: Northwest Natural			State: OR Sampling Point: SP-10	nt: SP-108	
Investigator(s): Sara Frank		Section, Township, R	ange: <b>S</b> 12 <b>T</b> 7N <b>R</b> 5W		
Landform (hillslope, terrace, etc.): Flat	Lo	ocal relief (concave,	convex, none): flat Slope:0.0 % /	0.0	
Subregion (LRR): LRR A	 Lat.: 46.10	05168	Long.: -123.243044 Datum: WGS 19	984	
ioil Map Unit Name: 5D - Anunde silt loam, 3 to 30 percent			NWI classification: N/A		
e climatic/hydrologic conditions on the site typical for this	time of year?	Yes   No			
Are Vegetation , Soil , or Hydrology s	ignificantly dis	turbed? Are "N	Normal Circumstances" present? Yes  No		
Are Vegetation, Soil, or Hydrology r	naturally proble	ematic? (If ne	eded, explain any answers in Remarks.)		
Summary of Findings - Attach site map sho		•	•	ot o	
	owing sam		ations, transects, important leatures, t	elc.	
		Is the Sampled			
		within a Wetlan	<sub>d?</sub> Yes ○ No •		
, 3,					
Remarks: Upland plot in gravel laydown yard					
opiana piot in gravoria jaovin jara					
VEGETATION - Use scientific names of plan		ominant			
(5)	Absolute R		Dominance Test worksheet:		
Tree Stratum (Plot size: 30 feet )	% Cover C	-	Number of Dominant Species		
1_Alnus rubra 2.		100.0% FAC 0.0%	That are OBL, FACW, or FAC: (A)		
3.		0.0%	Total Number of Dominant		
4.	0 [	0.0%	Species Across All Strata:4 (B)	,	
-	10 =	Total Cover	Percent of dominant Species	/D)	
Sapling/Shrub Stratum (Plot size: 15 feet )			That Are OBL, FACW, or FAC: 50.0% (A/	В)	
1_Cytisus scoparius	10	100.0% UPL	Prevalence Index worksheet:		
2		0.0%	Total % Cover of: Multiply by:		
3		0.0%	0BL species x 1 =0		
4		0.0%	FACW species x 2 =		
5		0.0%	FAC species x 3 =60		
_Herb Stratum_ (Plot size: 5 feet)	=	Total Cover	FACU species $\frac{10}{10}$ x 4 = $\frac{40}{10}$		
1 Agrostis stolonifera	10	50.0% FAC	UPL species $\frac{10}{}$ x 5 = $\frac{50}{}$		
Leontodon saxatilis	10		Column Totals: <u>40</u> (A) <u>150</u> (I	B)	
3.	0	0.0%	Prevalence Index = B/A = 3.750		
4	_ 0	0.0%	Hydrophytic Vegetation Indicators:		
5		0.0%	1 - Rapid Test for Hydrologic Vegetation		
6		0.0%	2 - Dominance Test is > 50%		
7		0.0%	3 - Prevalence Index is ≤3.0 <sup>1</sup>		
8.———		0.0%	4 - Morphological Adaptations <sup>1</sup> (Provide supporti	ina	
9.————————————————————————————————————		0.0%	data in Remarks or on a separate sheet)	3	
11.		0.0%	5 - Wetland Non-Vascular Plants 1		
		Total Cover	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)		
Woody Vine Stratum (Plot size:)		7	Indicators of hydric soil and wetland hydrology mu be present, unless disturbed or problematic.	ıst	
1. 2.	0 _	0.0%	Hydrophytic		
۷٠		Total Cover	Vegetation V		
	· -	. Jean Joven	Present? Yes V NO S		
% Bare Ground in Herb Stratum: 60					

<sup>\*</sup>Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil Sampling Point: SP-108 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Matrix **Redox Features** Depth Loc2 Texture (inches) Color (moist) % Color (moist) % Type Remarks aravel 0-5 10YR 3/2 100 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 Soils3: 2 cm Muck (A10) Histosol (A1) Sandy Redox (S5) Histic Epipedon (A2) Stripped Matrix (S6) Red Parent Material (TF2) Black Histic (A3) Loamy Mucky Mineral (F1) (except in MLRA 1) Other (Explain in Remarks) Loamy Gleyed Matrix (F2) ☐ Hydrogen Sulfide (A4) Depleted Below Dark Surface (A11) Depleted Matrix (F3) Redox Dark Surface (F6) ☐ Thick Dark Surface (A12) <sup>3</sup>Indicators of hydrophytic vegetation and Depleted Dark Surface (F7) Sandy Muck Mineral (S1) wetland hydrology must be present, unless disturbed or problematic. Redox depressions (F8) Sandy Gleyed Matrix (S4) Restrictive Layer (if present): Type: Rock No 💿 **Hydric Soil Present?** Yes 🔾 Depth (inches): 5 Remarks: Hydrology Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (minimum of two required) Surface Water (A1) Water-Stained Leaves (B9) (except MLRA Water-Stained Leaves (B9) (MLRA 1, 2, 1, 2, 4A, and 4B) 4A, and 4B) High Water Table (A2) Saturation (A3) Salt Crust (B11) ☐ Drainage Patterns (B10) Aquatic Invertebrates (B13) Water Marks (B1) Dry Season Water Table (C2) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Saturation Visible on Aerial Imagery (C9) Drift deposits (B3) Oxidized Rhizospheres on Living Roots (C3) Geomorphic Position (D2) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Shallow Aquitard (D3) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) FAC-neutral Test (D5) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Inundation Visible on Aerial Imagery (B7) Frost Heave Hummocks (D7) U Other (Explain in Remarks) Sparsely Vegetated Concave Surface (B8) Field Observations: Yes O No 💿 Surface Water Present? Depth (inches): Yes  $\bigcirc$ No 💿 Water Table Present? Depth (inches): Yes ○ No ● Wetland Hydrology Present? Saturation Present? Yes O No 💿 Depth (inches): (includes capillary fringe) Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

No hydrology present

Remarks:

WETLAND DETERMINATION DATA SHEET – Western Mountains, Valleys, and Coast Region See ERDC/EL TR-10-3; the proponent agency is CECW-CO-R

Project/Site: North Mist Resiliency		City/Cou	nty: Columbi	Sampling Date: 09/262			
Applicant/Owner: NW Natural				OR	Sampling Point:	SP-109A	
Investigator(s): Joseph Patzych, Summer Roberts		Section, T	ownship, Ran	ge: S15 T6N	l R5W		
Landform (hillside, terrace, etc.): Depression		Local relief (co	oncave, conve	ex, none): <u>Co</u>	oncave	Slo	pe (%): 0
Subregion (LRR): LRR A Lat: 46.004	1322 N		Long: <u>12</u>	3.281279 W		Datum:	WGS 84
Soil Map Unit Name: Natal Silty Clay Loam				N	WI classifica	ation: N/A	
Are climatic / hydrologic conditions on the site typical for	or this time of	f year?	Yes X	No	(If no, expla	in in Remarks.)	
Are Vegetation, Soil, or Hydrology	significantly o	disturbed? A	Are "Normal C	ircumstances"	present?	Yes X N	lo
Are Vegetation, Soil, or Hydrology	naturally prob	olematic? (	If needed, exp	olain any answ	ers in Rema	rks.)	
SUMMARY OF FINDINGS – Attach site ma	ap showin	g samplin	g point loc	ations, trar	nsects, in	nportant fea	tures, etc.
Hydrophytic Vegetation Present? Yes X No	0	Is the	e Sampled Ar	ea			
	0		n a Wetland?		es X	No	
Wetland Hydrology Present? Yes X No	<u> </u>						
Remarks: Ground cover sparse in lower elevation portions of this	s wetland.						
VEGETATION – Use scientific names of p		Dominant	Indicator				
<u>Tree Stratum</u> (Plot size: 15 )	Absolute % Cover	Dominant Species?	Indicator Status	Dominance	Test works	sheet:	
1. Fraxinus latifolia	80	Yes	FACW	Number of D	ominant Sp	ecies That	
2. Salix scouleriana	15	No	FAC	Are OBL, FA	CW, or FAC	D:	4 (A)
3	-			Total Number		ant Species	
4	95	=Total Cover		Across All S		. <u>-</u>	4 (B)
Sapling/Shrub Stratum (Plot size: 15	)	= Total Cover		Percent of D Are OBL, FA			00.0% (A/B)
1. Rosa nutkana	10	Yes	FAC	,	,		(12)
2.				Prevalence	Index work	sheet:	
3				_	Cover of:	Multipl	<del></del>
4				OBL species		x1=	0
5	10	=Total Cover		FACW species		x 2 = x 3 =	380 75
Herb Stratum (Plot size: 5 )		-10tal <b>0</b> 0vol		FACU specie		x 4 =	0
Spiraea douglasii	75	Yes	FACW	UPL species	0	x 5 =	0
2. Phalaris arundinacea	35	Yes	FACW	Column Tota	als: 215	(A)	455 (B)
3.				Prevalend	ce Index = I	B/A = 2.1	2
4 5.				Hydrophytic	Vogotatio	n Indicators:	
6.					_	ydrophytic Vege	tation
7.				X 2 - Domi			idilon.
8.				X 3 - Preva	alence Index	c is ≤3.0 <sup>1</sup>	
9.						laptations <sup>1</sup> (Provi	
10						or on a separate	sheet)
11	110	=Total Cover				scular Plants <sup>1</sup> hytic Vegetation	<sup>1</sup> (Evolain)
Woody Vine Stratum (Plot size: 5	)	= Total Cover				and wetland hyd	
1.	,					rbed or problema	
2.				Hydrophytic			
		=Total Cover		Vegetation			
% Bare Ground in Herb Stratum 5				Present?	Yes_	X No	_
Remarks:							

SOIL Sampling Point: SP-100A

Profile Desc Depth	cription: (Describe to Matrix	to the dep		ment the Feature		tor or o	confirm the	absence o	f indicators	.)	
(inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Tex	Texture		Remarks	
0-4	10YR 3/1	100			-71			/Clayey	All textures clay loam, abundance of organic material in this		aterial in this horizon.
4-6	10YR 3/1	80	5YR 4/6	20	С	М		/Clayey		nt redox conce	
6-12	10YR 5/1	60	5YR 4/6	40		M	Loamy			nt redox conce	
0-12	10113/1		31K 4/0	40		IVI	LUalliy	Clayey	FIOIIIIIei	it redux conce	rillalions
4											
	oncentration, D=Depl					oated S	and Grains.			re Lining, M=N	
-	Indicators: (Applica	ble to all I			•					matic Hydric	Soils":
Histosol	` '		Sandy Gley		ıx (S4)				Muck (A10) (	-	\
	pipedon (A2)		Sandy Red						-	lasses (F12) (	LRR D)
Black Hi	` '		Stripped M	,	,				Parent Materi	,	
	n Sulfide (A4)		Loamy Mud			(except	MLRA 1)			Surface (F22	)
	ick (A9) (LRR D, G)	(0.4.4)	Loamy Gle					Other	(Explain in F	Remarks)	
	d Below Dark Surface	e (A11)	X Depleted M					3Indiantor	a of budronbu	tio voqetation	and
	ark Surface (A12)		Redox Darl							tic vegetation	
	lucky Mineral (S1) /lucky Peat or Peat (ទ	52) <b>(I PP (</b>	Depleted D Redox Dep							must be preser problematic.	ent,
		32) (LKK C	Redux Dep	162210113	5 (1-0)			uriles	s distuibed 0	i problematic.	
	Layer (if observed):										
Type: Depth (ii	oches).		<u> </u>				Hydric S	oil Present	2	Voc Y	No
Remarks:							nyuric 3	on Fresent	<u>'</u>	Yes X	No
HYDROLC											
_	drology Indicators:										
-	cators (minimum of o	ne is requi			·	,			-	2 or more req	
	Water (A1)		Water-Stair		, ,						
	ater Table (A2)				and 4B)		4A, and 4B)				
Saturation	on (A3) larks (B1)		Salt Crust ( Aquatic Inv	. ,	oo (D12)		Drainage Patterns (B10)  Dry-Season Water Table (C2)				
	nt Deposits (B2)		Hydrogen S							on Aerial Imag	nery (C0)
	oosits (B3)		Oxidized R				oots (C3)		norphic Positi		gery (Ca)
	at or Crust (B4)		Presence of			-	0013 (00)		ow Aquitard (	` '	
	osits (B5)		Recent Iron		,	,	ls (C6)				
	Soil Cracks (B6)		Stunted or								
	on Visible on Aerial Ir	magery (B				(= .) (=.	,		Heave Humi	. , .	7
	Vegetated Concave	0 , .	<i>'</i> — ` '		,					(= : )	
Field Obser	vations:										
Surface Wat		s	No X	Depth (ii	nches):						
Water Table		s			nches):						
Saturation P				Depth (ii	_		Wetlan	d Hydrolog	y Present?	Yes X	No
(includes ca	oillary fringe)				_						
	corded Data (stream	gauge, mo	onitoring well, aerial	photos,	previous	s inspec	tions), if ava	ailable:			
Remarks:											
Ì											

## WETLAND DETERMINATION DATA SHEET – Western Mountains, Valleys, and Coast Region See ERDC/EL TR-10-3; the proponent agency is CECW-CO-R

Project/Site: North Mist Resiliency	•	City/Cou	nty: Columb	oia .	Sampling Date:	09/262023
Applicant/Owner: NW Natural				State: OR	Sampling Point:	SP-109B
Investigator(s): Joseph Patzych, Summer Roberts		Section, T	ownship, Ra	nge: S15 T6N R5W		
Landform (hillside, terrace, etc.): Depression		Local relief (co	oncave, conv	vex, none): Concave	Slo	pe (%):1
Subregion (LRR): LRR A Lat: 46.0	04151 N		Long: 1	23.281358 W	Datum:	WGS 84
Soil Map Unit Name: 58 Treharnae Silt Loam				NWI classi	fication: N/A	
Are climatic / hydrologic conditions on the site typical	I for this time o	f year?	Yes X	No (If no, exp	olain in Remarks.)	
Are Vegetation X , Soil , or Hydrology	_significantly	disturbed? A	re "Normal (	Circumstances" present?	Yes_X_ N	0
Are Vegetation , Soil , or Hydrology	naturally prol	olematic? (I	If needed, ex	plain any answers in Rer	narks.)	
SUMMARY OF FINDINGS – Attach site n	– nap showir	g sampling	g point lo	cations, transects,	important feat	ures, etc.
Hydrophytic Vegetation Present? Yes X	No	Is the	Sampled A	rea		
	No		n a Wetland		No	
· · · · · · · · · · · · · · · · · · ·	No					
Remarks:						
Vegetation significantly disturbed due to haying.						
VEGETATION – Use scientific names of	plants.					
	Absolute	Dominant	Indicator	Ι		
Tree Stratum (Plot size: 15	% Cover	Species?	Status	Dominance Test wor	ksheet:	
1. 2.				Number of Dominant Are OBL, FACW, or F	•	2 (A)
3.	_			Total Number of Dom		<u>Z</u> (A)
4.				Across All Strata:	nant Species	2 (B)
		=Total Cover		Percent of Dominant	Species That	, , ,
Sapling/Shrub Stratum (Plot size: 15	_)			Are OBL, FACW, or F	AC: <u>10</u>	00.0% (A/B)
1.				Barrelon a la la com		
2. 3.				Prevalence Index wo Total % Cover of		v by:
4.					x 1 =	5
5.				· —		240
		=Total Cover		FAC species	5 x 3 =	15
Herb Stratum (Plot size: 5					x 4 =	20
1. Juncus effusus	35	Yes	FACW		x 5 =	0 280 (B)
Phalaris arundinacea     Ranunculus repens	<u>85</u>	Yes No	FACW FAC	Prevalence Index	`` ′	280 (B)
4. Jacobaea vulgaris	5	No	FACU	T TO TOLICO		<u>'</u>
5. Carex obnupta	5	No	OBL	Hydrophytic Vegetat	ion Indicators:	
6.				·	Hydrophytic Veget	ation
7.				X 2 - Dominance Te		
8.				X 3 - Prevalence Inc		da accessorantes
9					Adaptations <sup>1</sup> (Providus or on a separate	
10 11				5 - Wetland Non-		
	135	=Total Cover			ophytic Vegetation <sup>1</sup>	(Explain)
Woody Vine Stratum (Plot size: 5	)			<sup>1</sup> Indicators of hydric se		
1.				be present, unless dis	turbed or problema	itic.
2		-Total Carra		Hydrophytic		
% Bare Ground in Herb Stratum 5		=Total Cover		Vegetation Present? Yes	X No	
Remarks:				1000		
nomano.						

**SOIL** Sampling Point: SP-100B

	cription: (Describe	to the depth		tor or o	confirm the	absence c	of indicators	.)			
Depth	Matrix			x Featur		Loc <sup>2</sup>	. т	4		Damadia	
(inches)	Color (moist)	<u>%</u>	Color (moist)	%	Type <sup>1</sup>	Loc		ture			
0-4	10YR 3/2	100						/Clayey		orizons silty cla	-
4-8	10YR 3/2	60	7.5YR 4/6	40	<u>C</u>	M	Loamy	/Clayey	Promine	nt redox conce	ntrations
							•				
	· -		-								
¹Type: C=C	Concentration, D=Depl	etion, RM=F	Reduced Matrix, C	S=Cove	ered or Co	ated S	and Grains.	<sup>2</sup> Loca	tion: PL=Po	re Lining, M=M	latrix.
Hydric Soil	Indicators: (Applica	ble to all Li	RRs, unless othe	rwise n	oted.)			Indicator	s for Proble	matic Hydric	Soils <sup>3</sup> :
Histoso	l (A1)		Sandy Gle	yed Mat	rix (S4)			2 cm	Muck (A10)	(LRR A, E)	
Histic E	pipedon (A2)		Sandy Red	dox (S5)				Iron-N	Manganese N	Masses (F12) <b>(</b> I	LRR D)
Black H	listic (A3)		Stripped M	latrix (Se	6)			Red F	Parent Materi	ial (F21)	
Hydroge	en Sulfide (A4)		Loamy Mu	cky Mine	eral (F1) <b>(</b>	except	t MLRA 1)	Very	Shallow Dark	Surface (F22)	)
1 cm M	uck (A9) (LRR D, G)		Loamy Gle	eyed Ma	trix (F2)			Other	r (Explain in F	Remarks)	
Deplete	d Below Dark Surface	(A11)	Depleted N	∕latrix (F	3)						
Thick D	ark Surface (A12)		X Redox Dar	k Surfac	e (F6)					ytic vegetation	
	Mucky Mineral (S1)		Depleted D							must be prese	ent,
2.5 cm	Mucky Peat or Peat (	S2) <b>(LRR G)</b>	Redox Dep	oression	s (F8)		T	unles	s disturbed o	or problematic.	
Restrictive	Layer (if observed):										
Type:	Hard grou	ınd	<u> </u>								
Depth (i	inches):	8					Hydric S	oil Present	:?	Yes X	No
Remarks:											
Thickness c	riteria not met for red	ox dark surfa	ace, but indicator	expecte	d to conti	nue pas	st restrictive	layer.			
HYDROLO	OGY										
	/drology Indicators:										
-	icators (minimum of o	na is raquire	ad: check all that a	annly)				Secondar	v Indicators	(2 or more requ	iired)
-	Water (A1)	no io regaire	Water-Stai		ves (R9)	(excen	nt		•	aves (B9) ( <b>MLF</b>	
	ater Table (A2)				and 4B)	(excep			ا المساوط الدور A, and 4B)	aves (DS) (ME	\A 1, Z
Saturati			Salt Crust		,				age Patterns	s (B10)	
	//arks (B1)		Aquatic Inv		tes (B13)				Season Wate		
	nt Deposits (B2)		Hydrogen							on Aerial Imag	ery (C9)
	posits (B3)		Oxidized R				loots (C3)		norphic Posit	-	
	at or Crust (B4)		Presence of	of Redu	ced Iron (	C4)	, ,		low Aquitard		
Iron De	posits (B5)		Recent Iro	n Reduc	tion in Til	led Soi	ls (C6)	X FAC-	Neutral Test	(D5)	
Surface	Soil Cracks (B6)		Stunted or	Stresse	d Plants	(D1) ( <b>L</b> l	RR A)	Raise	ed Ant Mound	ds (D6) (LRR A	.)
Inundat	ion Visible on Aerial Ir	magery (B7)	Other (Exp	lain in F	temarks)			Frost	-Heave Hum	mocks (D7)	
Sparsel	y Vegetated Concave	Surface (B	3)								
Field Obse	rvations:										
Surface Wa	ter Present? Ye	s	No X	Depth (i	nches):						
Water Table	e Present? Ye	s	No X	Depth (i	nches):		.				
Saturation F	Present? Ye	s	No X	Depth (i	nches):		Wetlan	d Hydrolog	gy Present?	Yes X	No
(includes ca	pillary fringe)										
Describe Re	ecorded Data (stream	gauge, mor	nitoring well, aeria	l photos	, previous	inspec	ctions), if av	ailable:			
Remarks:											

## WETLAND DETERMINATION DATA SHEET – Western Mountains, Valleys, and Coast Region See ERDC/EL TR-10-3; the proponent agency is CECW-CO-R

Project/Site: North Mist Resiliency	•	City/Cou	nty: Columb	ia	Sampling Date	e: 09/262023
Applicant/Owner: NW Natural				State: OR	Sampling Poir	nt: SP-109C
Investigator(s): Joseph Patzych, Summer Roberts		Section, T	ownship, Rai	nge: S15 T6N R5W		
Landform (hillside, terrace, etc.): Depression		Local relief (co	oncave, conv	ex, none): Concave	s	lope (%): 0
Subregion (LRR): LRR A Lat: 46.	003999 N		Long: <u>12</u>	23.281272 W	Datun	n: WGS 84
Soil Map Unit Name: 58 Treharne Silt Loam				NWI class	sification: N/A	
Are climatic / hydrologic conditions on the site typic	al for this time o	of year?	Yes X	No (If no, ex	plain in Remarks.	.)
Are Vegetation X, Soil, , or Hydrology	significantly	disturbed? A	Are "Normal C	ircumstances" present	? Yes	No X
Are Vegetation, Soil, or Hydrology	naturally pro	blematic? (I	If needed, exp	olain any answers in Re	marks.)	
SUMMARY OF FINDINGS – Attach site	map showir	ng sampling	g point lo	cations, transects	, important fe	atures, etc.
Hydrophytic Vegetation Present? Yes X	No	Is the	Sampled A	rea		
Hydric Soil Present? Yes	No X		n a Wetland		No <u>X</u>	
Wetland Hydrology Present? Yes	No <u>X</u>					
Remarks: Upland representative plot. No Juncus spp. or Card	ex spp. observe	ed here, higher	in elevation b	oy around 1.5 ft in comp	arison to SP-100	3.
VEGETATION – Use scientific names o	f plants.					
Tree Charles (Diet sine) 45	Absolute	Dominant	Indicator	Daminanaa Taat wa	ulaska a t	
Tree Stratum (Plot size: 15 ) 1.	% Cover	Species?	Status	Dominance Test wo		
2.		·		Number of Dominant Are OBL, FACW, or	•	2 (A)
3.				Total Number of Don		` `
4				Across All Strata:	<u> </u>	2 (B)
Sapling/Shrub Stratum (Plot size: 15	\	=Total Cover		Percent of Dominant	•	100 00/ /A/D
Sapling/Shrub Stratum (Plot size: 15 1.				Are OBL, FACW, or		100.0% (A/B
2.				Prevalence Index w	orksheet:	
3.				Total % Cover of	of: Multi	ply by:
4	_			OBL species	0 x 1 =	0
5		=Total Cover			80 x 2 =	160
Herb Stratum (Plot size: 5 )		= rotal Cover		FAC species FACU species	55 x 3 = 5 x 4 =	165 20
1. Trifolium repens	55	Yes	FAC		0 x 5 =	0
2. Phalaris arundinacea	80	Yes	FACW	Column Totals: 1	40 (A)	345 (B)
3. Jacobaea vulgaris	5	No	FACU	Prevalence Index	= B/A =2	.46
4 5.	_			Hydrophytic Vegeta	tion Indicators:	
6.					r Hydrophytic Veg	etation
7.				X 2 - Dominance T		
8				3 - Prevalence Ir		
9.					l Adaptations <sup>1</sup> (Pro	
10. 11				5 - Wetland Non		ie sneet)
11		=Total Cover			rophytic Vegetation	on <sup>1</sup> (Explain)
Woody Vine Stratum (Plot size: 5	)			<sup>1</sup> Indicators of hydric		
1.	<u> </u>			be present, unless di		
2		Tatal O		Hydrophytic		
% Bare Ground in Herb Stratum 3		=Total Cover		Vegetation Present? Yes	s X No	
Remarks:					<del></del>	

SOIL Sampling Point: SP-100C

	cription: (Describe Matrix	to the depth		ument th x Featur		tor or o	confirm the	absence of	ndicators.)		
Depth (inches)		0/	Color (moist)			Loc <sup>2</sup>	Tox	turo		Domorko	
(inches)	Color (moist)		Color (moist)	%	Type <sup>1</sup>	LOC	Tex			Remarks	
0-12	10YR 3/2	100					Loamy/	/Clayey	Silt	y Clay Loan	n
							· -				
1Tyrpo: C-C	anaontration D_Da	plotion PM-P	aduand Matrix C		rod or Co	notod S	and Crains	<sup>2</sup> l contin	n: PL=Pore	Lining M-N	Actrix
• • •	oncentration, D=De	•				baled 5	and Grains.		or Problema		
-	Indicators: (Applic	able to all LK			-					-	SUIIS .
Histosol			Sandy Gle						uck (A10) <b>(LF</b>	-	I DD D\
	pipedon (A2)		Sandy Red						nganese Mas		LKK D)
	istic (A3)		Stripped M	,	,	'avaant	MI DA 4\		rent Material		۸
	en Sulfide (A4)		Loamy Mu	-		except	WILKA I)		allow Dark S	•	)
	uck (A9) (LRR D, G)		Loamy Gle					Other (i	Explain in Rei	marks)	
	d Below Dark Surfac	œ (A11)	Depleted N	,	,			3Indicators	of hydrophytic	voastation	and
	ark Surface (A12)  Mucky Mineral (S1)		Redox Dar Depleted [						hydrology m	-	
	Mucky Peat or Peat	(S2) (I PP C)	Redox Der						disturbed or p		ent,
			Redox Del	716221011	5 (1-0)	1		uniess	aisturbeu or p	noblematic.	
Type:	Layer (if observed)	)-									
Depth (i	nches):		_				Hydric S	oil Present?	,	Yes	No Y
	<u> </u>		_				riyuric 30	on Fresent:		163	No X
Remarks:											
HYDROLO	OGY										
Wetland Hy	drology Indicators	:									
Primary Indi	cators (minimum of	one is require	d; check all that	apply)				Secondary	ndicators (2	or more req	uired)
Surface	Water (A1)		Water-Sta	ined Lea	ives (B9)	(ехсер	t	Water-S	Stained Leave	es (B9) ( <b>ML</b>	RA 1, 2
High Wa	ater Table (A2)		MLRA	1, 2, 4A,	and 4B)			4A,	and 4B)		
Saturati	on (A3)		Salt Crust	(B11)				Drainag	e Patterns (E	310)	
Water M	larks (B1)		Aquatic In	vertebrat	tes (B13)			Dry-Sea	ason Water T	able (C2)	
Sedime	nt Deposits (B2)		Hydrogen	Sulfide (	Odor (C1)			Saturati	on Visible on	Aerial Imaç	gery (C9)
Drift De	posits (B3)		Oxidized F	Rhizosph	eres on L	iving R	oots (C3)	Geomo	rphic Position	n (D2)	
Algal Ma	at or Crust (B4)		Presence	of Reduc	ced Iron (	C4)		Shallow	Aquitard (D3	3)	
Iron Dep	oosits (B5)		Recent Iro	n Reduc	tion in Til	led Soil	ls (C6)	X FAC-Ne	eutral Test (D	5)	
Surface	Soil Cracks (B6)		Stunted or	Stresse	d Plants	(D1) ( <b>L</b> l	RR A)	Raised	Ant Mounds	(D6) ( <b>LRR</b> A	<b>A</b> )
	on Visible on Aerial		Other (Exp	olain in R	Remarks)			Frost-H	eave Hummo	ocks (D7)	
Sparsely	y Vegetated Concav	e Surface (B8	)								
Field Obser	vations:										
Surface Wat	ter Present? Y	es	No X	Depth (i	nches):						
Water Table	Present? Y	es	No X	Depth (i	nches):		. ]				
Saturation P	resent? Y	es	No X	Depth (i	nches):		Wetlan	d Hydrology	Present?	Yes	No X
(includes ca	pillary fringe)										
Describe Re	corded Data (strear	n gauge, moni	toring well, aeria	l photos	, previous	inspec	ctions), if ava	ailable:			
Remarks:											

# WETLAND DETERMINATION DATA SHEET – Western Mountains, Valleys, and Coast Region See ERDC/EL TR-10-3; the proponent agency is CECW-CO-R

Project/Site: North Mist Resiliency		City/Cou	nty: Columb	nia	Sampling Date:	09/262023
Applicant/Owner: NW Natural				State: OR	Sampling Point:	SP-110A
Investigator(s): Joseph Patzych, Summer Roberts		Section, T	ownship, Ra	nge: S15 T6N R5W		
Landform (hillside, terrace, etc.): Depression		Local relief (co	oncave, conv	vex, none): Concave	Slor	De (%): 3
Subregion (LRR): LRR A Lat: 46.00	4217 N			23.280641 W		WGS 84
Soil Map Unit Name: 37 Natal Silty Clay Loam			_		sification: N/A	
Are climatic / hydrologic conditions on the site typical	for this time o	f vear?	Yes X	No (If no, e	xplain in Remarks.)	
Are Vegetation, Soil, or Hydrology				Circumstances" present		0
Are Vegetation , Soil , or Hydrology	='			plain any answers in R	<del></del>	
SUMMARY OF FINDINGS – Attach site m	•					ures, etc.
	•			·	<u> </u>	
	10		Sampled A n a Wetland		No	
	10 <u> </u>	Within	ii a wellallu	: 163 <u> </u>		
Remarks:						
Ground cover sparse in lower elevation portions of th	is wetland.					
VEGETATION – Use scientific names of p		Dominant	Indicator	1		
<u>Tree Stratum</u> (Plot size: 15 )	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test we	orksheet:	
1. Fraxinus latifolia	60	Yes	FACW	Number of Dominan		
2.				Are OBL, FACW, or	•	3 (A)
3				Total Number of Dor	ninant Species	
4				Across All Strata:		3 (B)
Openition (Obserts Opening ) (Plantaines 45	( 60	=Total Cover		Percent of Dominant	•	10 00/ /A/D
Sapling/Shrub Stratum (Plot size: 15 1. Rosa nutkana	20	Yes	FAC	Are OBL, FACW, or	FAC: 10	0.0% (A/B)
2.		165	TAC	Prevalence Index w		
3.	· ———			Total % Cover		/ bv:
4.				OBL species	5 x 1 =	5
5.				FACW species	100 x 2 = 2	200
	20	=Total Cover		· -	20 x 3 =	60
Herb Stratum (Plot size: 5 )				FACU species	0 x 4 =	0
1. Carex obnupta	5	No Yee	OBL FACW	UPL species Column Totals:	0 x 5 =	0 265 (B)
Spiraea douglasii     S	40	Yes	FACVV	Prevalence Index		
				i revalence index	- D/A - 2.12	<del>-</del>
5.				Hydrophytic Vegeta	ation Indicators:	
6.					or Hydrophytic Vegeta	ation
7.				X 2 - Dominance 1	est is >50%	
8				X 3 - Prevalence I		
9					ll Adaptations <sup>1</sup> (Provid	
10					rks or on a separate	sneet)
11	45	=Total Cover			I-Vascular Plants <sup>1</sup> Irophytic Vegetation <sup>1</sup>	(Explain)
Woody Vine Stratum (Plot size: 5	)	= rotal Gover		l <del></del>	soil and wetland hyd	` ' '
1	_′				isturbed or problema	
2.				Hydrophytic	·	
		=Total Cover		Vegetation		
% Bare Ground in Herb Stratum 0				Present? Yes	sX No	
Remarks:						

SOIL Sampling Point: SP-101A

Profile Desc Depth	cription: (Describe to Matrix	to the dept		<b>ment th</b> Feature		ator or o	confirm the	absence o	f indicators	s.)	
(inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	C <sup>2</sup> Texture			Remarks	
0-4	10YR 3/1	100	, ,				Loamy/	Clavey	All	textures clay l	oam.
4-6	10YR 3/1	80	5YR 4/6	20	С	M	Loamy/	_		nt redox conc	
6-12	10YR 5/1	60	5YR 4/6	40	С	M	Loamy/			nt redox conc	
			<u> </u>		<u> </u>			<u> C.ayoy</u>		THE TOTAL OF THE	
							·				
¹Type: C=C	oncentration, D=Depl	etion RM=	Reduced Matrix C	S=Cove	red or C	nated S	and Grains	2l oca	tion: PI =Pc	ore Lining, M=	Matrix
	Indicators: (Applica					outou o	dia Cialio.			matic Hydric	
Histosol			Sandy Gley		•				Muck (A10)	-	
	pipedon (A2)		Sandy Red		(0 .)					Masses (F12)	(LRR D)
Black Hi			Stripped M		<b>i</b> )				arent Mater		(= = )
	n Sulfide (A4)		Loamy Muc	,	,	(except	t MLRA 1)			k Surface (F22	2)
	ick (A9) (LRR D, G)		Loamy Gle	•		(cacep.	,		(Explain in		-,
	d Below Dark Surface	(A11)	X Depleted M						<b>(</b> )	,	
	ark Surface (A12)	,	Redox Darl					<sup>3</sup> Indicators	of hydroph	ytic vegetatior	n and
	lucky Mineral (S1)		Depleted D			)				must be pres	
2.5 cm N	Mucky Peat or Peat (S	S2) <b>(LRR G</b>	Redox Dep	ressions	s (F8)			unless	s disturbed o	or problematic	
Restrictive	Layer (if observed):										
Type:											
Depth (in	nches):		<u> </u>				Hydric So	oil Present	?	Yes X	No
Remarks:						<u>'</u>					
HYDROLC											
_	drology Indicators: cators (minimum of o	no ie roguir	od: chack all that a	nnly)				Secondari	/ Indicators	(2 or more red	ruirod)
	Water (A1)	ne is requir	Water-Stair		ves (BQ)	(avcan	<u></u>			aves (B9) ( <b>ML</b>	<del></del>
	iter Table (A2)				and 4B)				-3tailled Le , and 4B)	aves (D3) (WIL	-IVA 1, Z
Saturation			Salt Crust (		una 40)	<b>'</b>			age Patterns	s (B10)	
	larks (B1)		Aquatic Inv	,	es (B13)				-	r Table (C2)	
	nt Deposits (B2)		Hydrogen S							on Aerial Ima	gery (C9)
	posits (B3)		Oxidized R				loots (C3)		orphic Posi		<b>5</b> , ( ,
	at or Crust (B4)		Presence of			-	,	Shallo	w Aquitard	(D3)	
Iron Dep	osits (B5)		Recent Iron	Reduc	tion in Ti	lled Soi	ls (C6)	X FAC-1	Neutral Test	(D5)	
Surface	Soil Cracks (B6)		Stunted or	Stresse	d Plants	(D1) (L	RR A)	Raise	d Ant Mound	ds (D6) ( <b>LRR</b>	A)
Inundation	on Visible on Aerial Ir	magery (B7	Other (Exp	ain in R	emarks)			Frost-	Heave Hum	mocks (D7)	
Sparsely	Vegetated Concave	Surface (B	38)								
Field Obser	vations:										
Surface Wat	er Present? Ye	s	No X	Depth (ii	nches): _						
Water Table	Present? Ye	s		Depth (ii	nches): _		.				
Saturation P	resent? Ye	s	No X	Depth (ii	nches):		Wetland	d Hydrolog	y Present?	Yes X	No
(includes car	oillary fringe)										
Describe Re	corded Data (stream	gauge, mo	nitoring well, aerial	photos,	previous	s inspec	ctions), if ava	ailable:			
Remarks:											

WETLAND DETERMINATION DATA SHEET – Western Mountains, Valleys, and Coast Region See ERDC/EL TR-10-3; the proponent agency is CECW-CO-R

Project/Site: North Mist Resiliency	//County: Columbia Sampling Date: 09/262023					
Applicant/Owner: NW Natural				State: OR	Sampling Point:	SP-110B
Investigator(s): Joseph Patzych, Summer Roberts		Section, T	Township, Ra	nge: S15 T6N R5W		
Landform (hillside, terrace, etc.): Slope		Local relief (co	oncave, conv	Slop	pe (%): <u>2</u>	
Subregion (LRR): LRR A Lat: 46.004	260 N		Datum:	WGS 84		
Soil Map Unit Name: Natal Silty Clay Loam				NWI classi	fication: N/A	•
Are climatic / hydrologic conditions on the site typical for	or this time o	of year?	Yes X	No (If no, exp	olain in Remarks.)	
Are Vegetation, Soil, or Hydrology	significantly	disturbed? A	Are "Normal C	Circumstances" present?	Yes_X_ No	0
Are Vegetation, Soil, or Hydrology			If needed, ex	plain any answers in Rer	marks.)	
SUMMARY OF FINDINGS – Attach site ma			g point lo	cations, transects,	important feat	ures, etc.
Lludrophytic Vegetation Present? Veg V N		lo the	Compled A	***		
<u> </u>	) <u>X</u>		e Sampled A n a Wetland'		No X	
Wetland Hydrology Present? Yes No	$\frac{x}{X}$		ii a wellana	. 100	<u> </u>	
Remarks:						
Side slope from farm field down to wetland depression	۱.					
\						
VEGETATION – Use scientific names of p	Absolute	Dominant	Indicator			
<u>Tree Stratum</u> (Plot size: 15 )	% Cover	Species?	Status	Dominance Test wor	ksheet:	
Fraxinus latifolia	50	Yes	FACW	Number of Dominant	Species That	
2. Malus fusca	46	Yes	FACW	Are OBL, FACW, or F	AC:	5 (A)
3				Total Number of Dom	inant Species	
4		Tatal Causar		Across All Strata:		9 (B)
Sapling/Shrub Stratum (Plot size: 15	96	=Total Cover		Percent of Dominant : Are OBL, FACW, or F	•	5.6% (A/B)
1. Rosa nutkana	, 15	Yes	FAC	Ale OBL, I ACW, OI I	AC	3.0 % (A/D)
Symphoricarpos albus	60	Yes	FACU	Prevalence Index wo	orksheet:	
3.				Total % Cover of		/ by:
4.				OBL species 1	0 x 1 =	10
5	-			· -		192
	75	=Total Cover				60
Herb Stratum (Plot size: 5 )	E	Voc	EAC			264 25
Poa pratensis     Athyrium filix-femina	<u>5</u>	Yes Yes	FAC UPL	· -		551 (B)
3. Carex obnupta	10	Yes	OBL	Prevalence Index		
4.						
5.				Hydrophytic Vegetat	ion Indicators:	
6	-				Hydrophytic Vegeta	ation
7				X 2 - Dominance Te		
8.				3 - Prevalence Inc		da a como anto a
9. 10.		· <del></del>			Adaptations <sup>1</sup> (Provides or on a separate	
10 11.	-			5 - Wetland Non-		,
· · ·	20	=Total Cover			ophytic Vegetation <sup>1</sup>	(Explain)
Woody Vine Stratum (Plot size: 5		•		<sup>1</sup> Indicators of hydric s		` ' '
1. Rubus ursinus	3	Yes	FACU	be present, unless dis		
2. Rubus laciniatus	3	Yes	FACU	Hydrophytic		
0/ Para Crayand in Heath Chartering	6	=Total Cover		Vegetation	V N-	
% Bare Ground in Herb Stratum 5				Present? Yes	X No	
Remarks:						

SOIL Sampling Point: SP-101B

Profile Desc Depth	ription: (Describe Matrix	to the depth		ment the Featur		tor or o	confirm the	absence of ind	icators.)	
(inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Tex	ture	Remarks	
0-4	10YR 3/1	100	, , , , ,				Loamy	/Clavev	Clay Loam	
		<u> </u>	_							
¹Type: C=Co	oncentration, D=Dep	oletion, RM=F	Reduced Matrix, C	S=Cove	red or Co	oated S	and Grains.	<sup>2</sup> Location:	PL=Pore Lining, M=	:Matrix.
Hydric Soil I	ndicators: (Applic	able to all Li	RRs, unless othe	rwise n	oted.)			Indicators for	Problematic Hydric	: Soils <sup>3</sup> :
Histosol	(A1)		Sandy Gley	ed Mati	rix (S4)			2 cm Muck	(A10) <b>(LRR A, E)</b>	
Histic Ep	pipedon (A2)		Sandy Red	ox (S5)				Iron-Manga	anese Masses (F12)	(LRR D)
Black His	stic (A3)		Stripped Ma	atrix (S6	6)			Red Paren	t Material (F21)	
Hydrogei	n Sulfide (A4)		Loamy Mud	ky Mine	eral (F1)	(except	MLRA 1)	Very Shallo	ow Dark Surface (F2	2)
1 cm Mu	ck (A9) (LRR D, G)		Loamy Gle	yed Mat	rix (F2)			Other (Exp	lain in Remarks)	
Depleted	Below Dark Surfac	e (A11)	Depleted M	latrix (F	3)					
Thick Da	rk Surface (A12)		Redox Dark	c Surfac	e (F6)			<sup>3</sup> Indicators of h	ydrophytic vegetatio	n and
	ucky Mineral (S1)		Depleted D	ark Sur	face (F7)			wetland hy	drology must be pre	sent,
2.5 cm M	lucky Peat or Peat	(S2) <b>(LRR G)</b>	Redox Dep	ressions	s (F8)			unless dist	urbed or problemation	Э.
Restrictive L	_ayer (if observed)	:								
Type:	Roots		_							
Depth (in	nches):	4	_				Hydric S	oil Present?	Yes	No X
Remarks:										
HYDROLO	GY									
	drology Indicators:									
-	cators (minimum of		ed; check all that a	(ylqq				Secondary Indi	cators (2 or more re	quired)
Surface \	Water (A1)		Water-Stair	ned Lea	ves (B9)	(ехсер	t	•	ned Leaves (B9) (M	
High Wa	ter Table (A2)		MLRA 1	, 2, 4A,	and 4B)			4A, and	, , ,	•
Saturation	on (A3)		Salt Crust (	B11)				Drainage F	atterns (B10)	
Water M	arks (B1)		Aquatic Inv	ertebrat	es (B13)			Dry-Seaso	n Water Table (C2)	
Sedimen	t Deposits (B2)		Hydrogen S	Sulfide C	Odor (C1)	)		Saturation	Visible on Aerial Ima	agery (C9)
Drift Dep	osits (B3)		Oxidized R	hizosph	eres on L	iving R	oots (C3)	Geomorph	ic Position (D2)	
	t or Crust (B4)		Presence of		,	,			quitard (D3)	
	osits (B5)		Recent Iron						al Test (D5)	
	Soil Cracks (B6)		Stunted or			(D1) ( <b>L</b> l	RR A)		Mounds (D6) (LRR	A)
	on Visible on Aerial	0 , ,		ain in R	emarks)			Frost-Heav	re Hummocks (D7)	
Sparsely	Vegetated Concav	e Surface (B	3)							
Field Observ										
Surface Water		es			nches): _					
Water Table		es			nches): _				10 V	
Saturation Pr		es	No X	Jeptn (i	nches):		wetian	a Hyarology Pre	esent? Yes	No X
(includes cap		0.00000 ~~	itoring wall assist	nhotoc	provious	inono	rtions) if sim	ailabla:		
Describe Ke	corded Data (stream	ı yauye, mon	moning well, aerial	ρποιος,	previous	s mspec	nions), ii ava	a⊪a⊭.		
Remarks:										

# WETLAND DETERMINATION DATA SHEET – Western Mountains, Valleys, and Coast Region See ERDC/EL TR-10-3; the proponent agency is CECW-CO-R

Project/Site: North Mist Resiliency		City/Cou	nty: Columbi	a		Sampling Date:	09/262023
Applicant/Owner: NW Natural				State:	OR	Sampling Point:	SP-111A
Investigator(s): Joseph Patzych, Summer Roberts		Section, T	ownship, Ran	ge: S15 T6l	N R5W		
Landform (hillside, terrace, etc.): Swale		Local relief (co	oncave, conve	ex, none): C	oncave	Slo	ope (%): 0
Subregion (LRR): LRR A Lat: 46.004	4321 N		Long: 12	3.279530 W		Datum:	WGS 84
Soil Map Unit Name: Natal Silty Clay Loam				١	WI classific	cation: N/A	
Are climatic / hydrologic conditions on the site typical f	or this time o	f year?	Yes X	No	(If no, expla	ain in Remarks.)	
Are Vegetation X , Soil , or Hydrology	significantly	disturbed? A	re "Normal C				No
Are Vegetation, Soil, or Hydrology				lain any answ		<u> </u>	
SUMMARY OF FINDINGS – Attach site ma			g point loc	ations, tra	nsects, i	mportant fea	tures, etc.
				·			
	o		e Sampled Ar n a Wetland?		res_X_	No	
	<u> </u>	"""	a monana	•	<u> </u>		
Remarks:		•					
Landowner indicated that this part of the field floods s portion of the wetland in an active agriculture field.	easonally. S	ignificantly dist	urbed vegeta	tion due to ha	y field, this p	olot represents a	distrubed
VEGETATION – Use scientific names of p	olants.						
<u>Tree Stratum</u> (Plot size: 15 )	Absolute % Cover	Dominant Species?	Indicator Status	Dominance	Test work	sheet.	
1.	70 OOVCI	Орсскоз:	Otatus	Number of I			
2.				Are OBL, F		•	2 (A)
3.				Total Numb	er of Domin	ant Species	
4				Across All S	Strata:		2 (B)
Sapling/Shrub Stratum (Plot size: 15	, ———	=Total Cover		Percent of D Are OBL, FA			00.0% (A/B)
1.	,			Ale OBL, 17	ACW, OITA	<u> </u>	<u>00.078</u> (A/D)
2.				Prevalence	Index wor	ksheet:	
3.				Total %	% Cover of:	Multip	ly by:
4.				OBL specie		x 1 =	0
5		=Total Cover		FACW spec			150 210
Herb Stratum (Plot size: 5 )		= rotal Cover		FAC specie FACU speci			28
Agrostis stolonifera	70	Yes	FAC	UPL species		x 5 =	0
Phalaris arundinacea	75	Yes	FACW	Column Tot	als: 152	(A)	388 (B)
3. Jacobaea vulgaris	7	No	FACU	Prevalen	nce Index =	B/A = 2.5	55
4				Usalno o busti	a Vagatatia	n Indiantoro	
5. 6.					_	on Indicators: Hydrophytic Vege	atation
7.					ninance Test		tation
8.				X 3 - Prev	alence Inde	ex is ≤3.0 <sup>1</sup>	
9						daptations <sup>1</sup> (Prov	
10						or on a separate	sheet)
11	152	=Total Cover				ascular Plants¹ ohytic Vegetation	n <sup>1</sup> (Explain)
Woody Vine Stratum (Plot size: 5	)	= rotal Gover			, ,	l and wetland hyd	` ' '
1.	,					urbed or problema	
2.				Hydrophyti			
, , , , , , , , , , , , , , , , , , ,		=Total Cover		Vegetation			
% Bare Ground in Herb Stratum5				Present?	Yes_	X No	
Remarks:							

SOIL Sampling Point: SP-102A

Profile Desc Depth	cription: (Describe t Matrix	o the dept		<b>iment th</b> x Feature		tor or o	confirm the	absence o	f indicators.	)	
(inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	- Texture			Remarks	
0-2	10YR 3/1	90	5YR 4/6	10	C	М	Loamy		All hor	izons silty cla	y loam
2-12	10YR 3/1	20	10YR 4/1	40	D	M		/Clayey		, , , , , ,	
\			10YR 4/6	20		M		<i>y y</i>	Prominer	nt redox conce	entrations
-			10111 -1/0		<u> </u>	141			. TOTALLICE	10407 001100	
							·				
1								2.			
	oncentration, D=Depl					oated S	and Grains.			re Lining, M=N	
•	Indicators: (Applica	DIE TO AII L			•					matic Hydric	Solis":
Histosol	` '		Sandy Gle		rix (S4)				Muck (A10) (	-	' DD D\
	pipedon (A2)		Sandy Red		.,				-	lasses (F12) (	LRR D)
Black Hi	` '		Stripped M	,	,	<i>.</i>			arent Materi	` '	Λ.
	n Sulfide (A4)		Loamy Mu	•	, ,	(except	t WLKA 1)			Surface (F22	()
	ick (A9) (LRR D, G)	(0.44)	Loamy Gle	-				Other	(Explain in F	kemarks)	
	d Below Dark Surface	(A11)	Depleted N	,	,			3Indicators	of budranh	tia vaaatatian	and
	ark Surface (A12) lucky Mineral (S1)		X Redox Dar Depleted D							tic vegetation must be pres	
	Ոսску Mineral (ՏԴ) Ոսску Peat or Peat (Տ	32) (I RR G								r problematic.	
	Layer (if observed):	) (LITIT O	,Redox Ber	7103310110	3 (1 0)			dilics	s disturbed o	i probicinatio.	
Type:	Layer (ii observed).										
Depth (ir	nches):						Hydric S	oil Present	?	Yes X	No
Remarks:			<del></del>				11,741.10		-	<u> </u>	
HYDROLO											
_	drology Indicators: cators (minimum of o	oo io roquir	ad: abaak all that a	nanlu)				Cocondon	, Indicatora (	2 or more rea	uirod\
	Water (A1)	ie is requir	eu, check all that a Water-Stai		vos (BO)	/ovcon	<u></u>	-	-	<u>2 or more req</u> aves (B9) ( <b>ML</b>	
	iter Table (A2)				and 4B)	•	,,		-3tained Lea , and 4B)	ives (Da) (MIL	NA 1, 2
Saturation	` '		Salt Crust		and 4D,				age Patterns	(B10)	
	larks (B1)		Aquatic Inv	. ,	es (B13)				eason Water		
	nt Deposits (B2)		Hydrogen :							on Aerial Imag	gery (C9)
	posits (B3)		X Oxidized R				loots (C3)		orphic Positi		, , ,
	at or Crust (B4)		Presence of			-	, ,	Shallo	w Aquitard (	D3)	
Iron Dep	osits (B5)		Recent Iro	n Reduc	tion in Ti	lled Soi	Is (C6)	X FAC-N	Neutral Test	(D5)	
Surface	Soil Cracks (B6)		Stunted or	Stresse	d Plants	(D1) ( <b>L</b>	RR A)	Raise	d Ant Mound	s (D6) ( <b>LRR</b> /	<b>A</b> )
Inundation	on Visible on Aerial Ir	nagery (B7	Other (Exp	lain in R	emarks)			Frost-	Heave Humr	mocks (D7)	
Sparsely	Vegetated Concave	Surface (B	8)								
Field Obser	vations:										
Surface Wat	er Present? Yes	s	No X	Depth (ii	nches):						
Water Table	Present? Yes	s	No X	Depth (ii	nches):						
Saturation P	resent? Ye	s	No X	Depth (ii	nches):		Wetlan	d Hydrolog	y Present?	Yes X	No
(includes car	oillary fringe)										
Describe Re	corded Data (stream	gauge, mo	nitoring well, aerial	photos,	previous	s inspec	ctions), if ava	ailable:			
Remarks:											
1											
İ											

## WETLAND DETERMINATION DATA SHEET – Western Mountains, Valleys, and Coast Region See ERDC/EL TR-10-3; the proponent agency is CECW-CO-R

Project/Site: North Mist Resiliency	•	City/Cour	nty: Columb	ia	Sampling Date:	09/262023
Applicant/Owner: NW Natural			-	State: OR	Sampling Point:	SP-111B
Investigator(s): Joseph Patzych, Summer Roberts		Section, T	ownship, Ra	nge: S15 T6N R5W		
Landform (hillside, terrace, etc.): Slope		Local relief (co	oncave, conv	ex, none): Convex	Slo	pe (%): 0
Subregion (LRR): LRR A Lat: 46.00	14228 N		Long: 1	23.279636 W	Datum:	WGS 84
Soil Map Unit Name: Natal Silty Clay Loam				NWI classi	fication: N/A	
Are climatic / hydrologic conditions on the site typical	for this time o	f year?	Yes X	No (If no, ex	olain in Remarks.)	
Are Vegetation X , Soil , or Hydrology	significantly of	disturbed? A	re "Normal C	circumstances" present?	Yes N	lo X
Are Vegetation, SoilX_, or Hydrology	='			plain any answers in Rei		
SUMMARY OF FINDINGS – Attach site m	='		g point lo	cations, transects,	important fea	tures, etc.
Hydrophytic Vegetation Present? Yes X N	No	Is the	Sampled A	rea		
	No		n a Wetland		No_X_	
Wetland Hydrology Present? Yes N	lo X					
Remarks:		-				
Area is significantly disturbed due to active agricultur Located on side slope of shallow depression, around				ntist returns in the spring	g to confirm delinea	ation borders.
		iii elevation tii	an 31 -102A.			
VEGETATION – Use scientific names of	Absolute	Dominant	Indicator			
<u>Tree Stratum</u> (Plot size: 15 )	% Cover	Species?	Status	Dominance Test wo	rksheet:	
1				Number of Dominant	Species That	
2				Are OBL, FACW, or F	AC:	2 (A)
3.				Total Number of Dom	inant Species	
4		=Total Cover		Across All Strata:		<u>2</u> (B)
Sapling/Shrub Stratum (Plot size: 15		- Total Cover		Percent of Dominant : Are OBL, FACW, or F	•	00.0% (A/B)
1.	_′			, o o o o o o o o o o o o o o o o o		(, 1, 2)
2.				Prevalence Index wo	orksheet:	
3				Total % Cover of	: Multip	y by:
4					x 1 =	0
5		=Total Cover			$\frac{5}{0}$ $x 2 = $	<u>170</u> 240
Herb Stratum (Plot size: 5 )		=10tal Covel			5 x4=	20
1. Trifolium repens	50	Yes	FAC		x 5 =	0
2. Phalaris arundinacea	85	Yes	FACW		70 (A)	430 (B)
3. Agrostis stolonifera	30	No	FAC	Prevalence Index	= B/A = 2.5	i3
4. Jacobaea vulgaris	5	No	FACU			
5.				Hydrophytic Vegetat		
6. 7.				X 2 - Dominance Te	Hydrophytic Vege	tation
8				3 - Prevalence Inc		
9.					Adaptations <sup>1</sup> (Prov	ide supporting
10					s or on a separate	
11				5 - Wetland Non-		
	170	=Total Cover		_	ophytic Vegetation	
Woody Vine Stratum (Plot size: 5	_)			<sup>1</sup> Indicators of hydric s		
1. 2.	<u> </u>			be present, unless dis	sturbed or problems	auc.
		=Total Cover		Hydrophytic Vegetation		
% Bare Ground in Herb Stratum		. 3.0. 30101			X No	
Remarks:						

**SOIL** Sampling Point: SP-102B

Profile Desc Depth	cription: (Describe t Matrix	to the dept		<b>ıment t</b> ı x Featu		ator or c	confirm the	absence o	5.)		
(inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture			Remarks	
0-2	10YR 3/2	100			<del></del>		Loamy	/Clayey	Both h	orizons silty o	lay loam
2-8	10YR 3/1	85	7.5YR 4/6	15	С	M		/Clayey		nt redox cond	
-											
			_								
1T C. C	tration D Donl	ation DM	Dadwaad Matrix C					21	Liener DI De	un Linima M	Matrix
	oncentration, D=Depl Indicators: (Applica					oated S	and Grains.			ore Lining, M=	•
Histosol		DIC to all L	Sandy Gle						Muck (A10)	-	, oons .
	oipedon (A2)		Sandy Red	-						Masses (F12)	(I RR D)
	stic (A3)		Stripped M						arent Mater		(LIKIT D)
	en Sulfide (A4)		Loamy Mu	`	,	(except	MLRA 1)			k Surface (F2	2)
	uck (A9) (LRR D, G)		Loamy Gle	-		(	,		(Explain in		,
	d Below Dark Surface	e (A11)	Depleted N	-					•	,	
Thick Da	ark Surface (A12)		X Redox Dar	k Surfac	ce (F6)			3Indicators	of hydroph	ytic vegetatio	n and
Sandy N	lucky Mineral (S1)		Depleted [	Oark Sur	face (F7)	)		wetlar	nd hydrology	must be pre	sent,
2.5 cm M	Mucky Peat or Peat (	S2) <b>(LRR G</b>	)Redox Dep	oression	ıs (F8)			unless	s disturbed o	or problemation	D.
Restrictive	Layer (if observed):										
Type:	Hard grou	ınd									
Depth (i	nches):	8					Hydric S	oil Present	?	Yes X	No
Remarks:											
HYDROLO	)CV										
	drology Indicators:										
-	cators (minimum of o	ne is requir	ed: check all that a	annly)				Secondar	/ Indicators	(2 or more re	auired)
	Water (A1)	no io roquii	Water-Stai		aves (B9)	(excep		-		aves (B9) ( <b>M</b>	
	ater Table (A2)				, and 4B)				, and 4B)		,
Saturation			Salt Crust					Draina	age Patterns	s (B10)	
Water M	larks (B1)		Aquatic Inv	vertebra	tes (B13)			Dry-S	eason Wate	r Table (C2)	
Sedimer	nt Deposits (B2)		Hydrogen	Sulfide (	Odor (C1)	)		Satura	ation Visible	on Aerial Ima	agery (C9)
Drift Dep	posits (B3)		Oxidized R	Rhizosph	neres on L	Living R	oots (C3)	Geom	orphic Posi	tion (D2)	
	at or Crust (B4)		Presence		,	` '			ow Aquitard	` '	
	posits (B5)		Recent Iro				, ,		Neutral Test		•
	Soil Cracks (B6)	(DZ	Stunted or			(D1) ( <b>Li</b>	RR A)			ds (D6) ( <b>LRR</b>	A)
	on Visible on Aerial Ir / Vegetated Concave			nain in F	kemarks)			Frost-	neave num	mocks (D7)	
		Surface (D	0)								
Field Obser Surface Wat		•	No. V	Donth (	inahaa):						
Water Table		s s			inches): _ inches):						
Saturation P		s			inches): _		Wetlan	d Hydrolog	v Present?	Yes	No X
	pillary fringe)	<u> </u>	<u> </u>	Бори (			Trotlan	a riya.o.og	y		· ···· <u> </u>
	corded Data (stream	gauge, moi	nitoring well, aeria	l photos	, previous	s inspec	tions), if av	ailable:			
							<u>,</u>				
Remarks:											

WETLAND DETERMINATION DATA SHEET – Western Mountains, Valleys, and Coast Region See ERDC/EL TR-10-3; the proponent agency is CECW-CO-R

Project/Site: North Mist Resiliency		City/Cou	nty: Columbi		Sampling Date:	09/262023	
Applicant/Owner: NW Natural				State:	OR	Sampling Point:	: SP-112A
Investigator(s): Joseph Patzych, Summer Roberts		Section, T	ownship, Ran	ge: S15 T6N	N R5W		
Landform (hillside, terrace, etc.): Depression		Local relief (co	oncave, conve	ex, none): <u>C</u>	oncave	Slo	ope (%): 0
Subregion (LRR): LRR A Lat: 46.0050	)36 N		Long: <u>12</u>	3.279500 W		Datum:	WGS 84
Soil Map Unit Name: Natal Silty Clay Loam				N	WI classific	ation: PSSC	
Are climatic / hydrologic conditions on the site typical for	this time o	f year?	Yes X	No	(If no, expla	ain in Remarks.)	
Are Vegetation, Soil, or Hydrologysi	gnificantly of	disturbed? A	Are "Normal C	rcumstances"	present?	Yes X N	No
Are Vegetation, Soil, or Hydrologyn	aturally prol	olematic? (	If needed, exp	lain any answ	ers in Rema	arks.)	
SUMMARY OF FINDINGS – Attach site ma	p showin	g samplin	g point loc	ations, trai	nsects, ir	mportant fea	tures, etc.
Hydrophytic Vegetation Present? Yes X No		Is the	e Sampled Ar	ea			
			n a Wetland?		es X	No	
Wetland Hydrology Present? Yes X No							
Remarks:							
Ground cover sparse in lower elevation portions of this	wetland.						
VEGETATION – Use scientific names of pl	ants						
	Absolute	Dominant	Indicator				
Tree Stratum (Plot size: 15	% Cover	Species?	Status	Dominance	Test work	sheet:	
1. Fraxinus latifolia	65	Yes No	FACW	Number of E			3 (A)
Physocarpus capitatus     3.		INO	FACW	Are OBL, FA			3 (A)
4.				Total Number		ant Species	3(B)
	71	=Total Cover		Percent of D	ominant Sp	ecies That	`` /
Sapling/Shrub Stratum (Plot size: 15 )				Are OBL, FA	CW, or FA	C: <u>1</u>	00.0% (A/B)
1.							
2. 3.				Prevalence	Index worl Cover of:		ly by
4				OBL species		Multip x 1 =	40
5.				FACW spec			212
		=Total Cover		FAC species		x 3 =	0
Herb Stratum (Plot size: 5				FACU speci	es 0	x 4 =	0
Carex obnupta	40	Yes	OBL	UPL species		x 5 =	0
2. Phalaris arundinacea	10	No	FACW	Column Tota			252 (B)
Spiraea douglasii  4.	25	Yes	FACW	Prevalen	ce Index =	B/A = 1.7	<u>′3</u>
5.				Hydrophytic	. Vegetatio	n Indicators:	
6.					_	lydrophytic Vege	etation
7.				X 2 - Dom			
8.				X 3 - Prev	alence Inde	x is ≤3.0 <sup>1</sup>	
9.						daptations <sup>1</sup> (Prov	
10						or on a separate	sheet)
11		<del></del>				ascular Plants <sup>1</sup>	1,
Woody Vine Stratum (Plot size: 5 )	75	=Total Cover			, ,	hytic Vegetation	` ' '
1. (Flot size)				'Indicators o	f hydric soil unless distu	l and wetland hydrbed or problem	drology must
2.				· · · · · · · · · · · · · · · · · · ·		indea of problem	auo.
		=Total Cover		Hydrophytic Vegetation	,		
% Bare Ground in Herb Stratum 15				Present?	Yes_	X No	_
Remarks:			·				

SOIL Sampling Point: SP-103A

Depth	Matrix	to the depti		ument tı x Featuı		nor or C	John the	ausence of	mulcators	o. <i>j</i>	
(inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Text	ure		Remarks	
0-1	10YR 3/1	100					Loamy/0	Clayey	All I	horizons clay loa	am.
1-6	10YR 3/1	80	5YR 4/6	20	С	М				ent redox concer	
6-12	10YR 5/1	70	5YR 4/6	30	С	М		<del></del> -		ent redox concer	
0.12	1011(0/1		01111110						1 101111110	THE TOGON CONTROL	induorio
	·										
<sup>1</sup> Typo: C-C	Concentration, D=Dep	lotion PM-	Poducod Matrix (		orod or Co	natad S	and Grains	<sup>2</sup> l ocat	ion: DI _Do	ore Lining, M=Ma	otriv
	Indicators: (Applica					Jaleu 3	and Grains.			ematic Hydric S	
Histosol	,		Sandy Gle		•					(LRR A, E)	
	pipedon (A2)		Sandy Re	-						Masses (F12) <b>(L</b>	.RR D)
	listic (A3)		Stripped N						arent Mater		,
	en Sulfide (A4)		Loamy Mu	,	,	(except	MLRA 1)			k Surface (F22)	
	uck (A9) (LRR D, G)		Loamy Gle				•		(Explain in		
	d Below Dark Surface	e (A11)	X Depleted I						•	•	
Thick D	ark Surface (A12)		X Redox Da	rk Surfac	ce (F6)			<sup>3</sup> Indicators	of hydroph	ytic vegetation a	and
Sandy N	Mucky Mineral (S1)		Depleted I	Dark Sur	face (F7)			wetlan	d hydrology	must be prese	nt,
2.5 cm l	Mucky Peat or Peat (	S2) (LRR <b>G</b> )	Redox De	pression	s (F8)			unless	disturbed	or problematic.	
Restrictive	Layer (if observed):										
Type:	-		<u> </u>								
Depth (i	inches):						Hydric So	il Present?	•	Yes X	No
Remarks:											
HYDROLO	nev .										
	/drology Indicators:										
-	icators (minimum of o	ne is require	ed: check all that	annly)				Secondary	Indicators	(2 or more requ	ired)
	Water (A1)	no io roquire	Water-Sta		aves (B9)	(excen		-		aves (B9) ( <b>MLR</b>	
	ater Table (A2)				, and 4B)	•	•		and 4B)	avoo (50) ( <b>1112</b> 11	., ., <u>-</u>
Saturati			Salt Crust		,,				ige Patterns	s (B10)	
	//arks (B1)		Aquatic In		tes (B13)				_	er Table (C2)	
	nt Deposits (B2)		Hydrogen							on Aerial Image	ery (C9)
	posits (B3)		Oxidized F	Rhizosph	eres on L	_iving R	oots (C3)		orphic Posi		• ` '
Algal Ma	at or Crust (B4)		Presence	of Redu	ced Iron (	C4)		Shallo	w Aquitard	(D3)	
Iron De	posits (B5)		Recent Iro	n Reduc	ction in Ti	lled Soil	ls (C6)	X FAC-N	leutral Test	(D5)	
Surface	Soil Cracks (B6)		Stunted or	Stresse	ed Plants	(D1) ( <b>LI</b>	RR A)	Raised	d Ant Mound	ds (D6) ( <b>LRR A</b> )	)
	ion Visible on Aerial I			olain in F	Remarks)			Frost-l	Heave Hum	mocks (D7)	
Sparsel	y Vegetated Concave	Surface (B	3)								
Field Obser	rvations:										
Surface Wa	ter Present? Ye	s	No X	Depth (	inches): _						
Water Table		es	No X		inches): _						
Saturation F	Present? Ye	es	No X	Depth (	inches): _		Wetland	l Hydrolog	y Present?	Yes X	No
	pillary fringe)										
Describe Re	ecorded Data (stream	gauge, mor	ntoring well, aeria	II photos	, previous	sinspec	ctions), if ava	ılable:			
Remarks:											

WETLAND DETERMINATION DATA SHEET – Western Mountains, Valleys, and Coast Region See ERDC/EL TR-10-3; the proponent agency is CECW-CO-R

Project/Site: North Mist Resiliency	•	City/Cou	nty: Columb	ia	Sampling Date:	09/262023
Applicant/Owner: NW Natural				State: OR	Sampling Point:	SP-112B
Investigator(s): Joseph Patzych, Summer Roberts		Section, T	ownship, Ra	nge: S15 T6N R5W		
Landform (hillside, terrace, etc.): Terrace		Local relief (co	oncave, conv	ex, none): Flat	Slo	pe (%): <u>0</u>
Subregion (LRR): LRR A Lat: 46.	004932 N		Long: <u>1</u>	23.279419 W	Datum:	WGS 84
Soil Map Unit Name: Natal Silty Clay Loam				NWI class	fication: PSSC	
Are climatic / hydrologic conditions on the site typic	al for this time o	f year?	Yes X	No (If no, ex	plain in Remarks.)	
Are Vegetation, Soil, or Hydrology	significantly	disturbed? A	Are "Normal (	Circumstances" present?	Yes X N	o
Are Vegetation, Soil, or Hydrology	naturally pro	blematic? (	If needed, ex	plain any answers in Re	marks.)	
SUMMARY OF FINDINGS – Attach site	map showir	ng sampling	g point lo	cations, transects,	important feat	ures, etc.
Hydrophytic Vegetation Present? Yes	No X	Is the	Sampled A	rea		
Hydric Soil Present? Yes	No X		n a Wetland		No X	
Wetland Hydrology Present? Yes	No X					
Remarks: Flat terrace above wetland.						
Flat terrace above wetland.						
VEGETATION – Use scientific names o	f plants.					
	Absolute	Dominant	Indicator			
Tree Stratum (Plot size: 15 )	% Cover	Species?	Status	Dominance Test wo	rksheet:	
Physocarpus capitatus     .	5	Yes	FACW	Number of Dominant Are OBL, FACW, or F	•	2 (A)
3.				Total Number of Dom		<u>Z</u> (A)
4.				Across All Strata:		6 (B)
	5	=Total Cover		Percent of Dominant	•	
Sapling/Shrub Stratum (Plot size: 15	)	.,	=	Are OBL, FACW, or F	FAC: 3	3.3% (A/B)
1. Rosa nutkana	<u>35</u> 	Yes Yes	FACU	Prevalence Index we	arkahaati	
Symphoricarpos albus     3.		168	FACU	Total % Cover o		v bv:
3. 4.	_			-	0 x 1 =	0
5.				FACW species	5 x 2 =	10
	60	=Total Cover		· -	85 x 3 =	105
Herb Stratum (Plot size: 5 )  1. Polystichum munitum	10	Voo	FACIL			280 0
Galium aparine	10	Yes Yes	FACU FACU			395 (B)
3.	_			Prevalence Index	``	
4.						
5.				Hydrophytic Vegeta		
6. 7.				1 - Rapid Test for 2 - Dominance To	Hydrophytic Vege	ation
8				3 - Prevalence In		
9.				4 - Morphological	Adaptations <sup>1</sup> (Provi	de supporting
10.				data in Remar	ks or on a separate	sheet)
11				5 - Wetland Non-		1
Woody Vino Stratum (Plot size: F		=Total Cover			ophytic Vegetation	
Woody Vine Stratum (Plot size: 5  1. Rubus laciniatus	<b>—</b> )	Yes	FACU	<sup>1</sup> Indicators of hydric s be present, unless dis		
2.				Hydrophytic	p. ooom	
	25	=Total Cover		Vegetation		
% Bare Ground in Herb Stratum 0				Present? Yes	No_X	_
Remarks:						

**SOIL** Sampling Point: SP-112B

Profile Desc Depth	cription: (Describe Matrix	to the dept		ment the Featur		tor or o	confirm the	absence of indi	cators.)	
(inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Tex	ture	Remarks	
0-6	10YR 3/2	30	, , ,				Loamy/	/Clavev		
	10YR 2/1	70								
-	1011(2)1						-			
	-									
<sup>1</sup> Type: C=C	oncentration, D=Dep	letion, RM=	Reduced Matrix, C	S=Cove	red or C	oated S	and Grains.	<sup>2</sup> Location:	PL=Pore Lining, M=	Matrix.
Hydric Soil	Indicators: (Applica	ble to all L	RRs, unless other	rwise n	oted.)			Indicators for	Problematic Hydric	: Soils <sup>3</sup> :
Histosol	(A1)		Sandy Gley	ed Mati	rix (S4)			2 cm Muck	(A10) (LRR A, E)	
Histic Ep	pipedon (A2)		Sandy Red	ox (S5)				Iron-Manga	nese Masses (F12)	(LRR D)
Black Hi	stic (A3)		Stripped Ma	atrix (S6	6)			Red Parent	Material (F21)	
Hydroge	n Sulfide (A4)		Loamy Mud	ky Mine	eral (F1)	(except	MLRA 1)	Very Shallo	w Dark Surface (F2	2)
	ıck (A9) <b>(LRR D, G)</b>		Loamy Gle					Other (Expl	ain in Remarks)	
	d Below Dark Surface	e (A11)	Depleted M	,	,			2		
	ark Surface (A12)		Redox Dark					-	drophytic vegetatio	
	fucky Mineral (S1)	00) (1 00 00	Depleted D					-	drology must be pre	
	Mucky Peat or Peat (		) Redox Dep	ressions	s (F8)	1		unless disti	urbed or problemation	<b>).</b>
	Layer (if observed):									
Type:	Hard Grou		<u> </u>					- !! D 10	V	N. V
Depth (ii	ncnes):	6	_				Hyaric So	oil Present?	Yes	No <u>X</u>
Remarks:										
HYDROLC	GY									
Wetland Hy	drology Indicators:									
Primary India	cators (minimum of c	ne is requir	ed; check all that a	pply)				Secondary Indi	cators (2 or more re	quired)
Surface	Water (A1)		Water-Stair	ned Lea	ves (B9)	(excep	t	Water-Stair	ned Leaves (B9) (M	LRA 1, 2
High Wa	ater Table (A2)		MLRA 1	, 2, 4A,	and 4B)			4A, and	<b>4B</b> )	
Saturation	on (A3)		Salt Crust (						atterns (B10)	
	larks (B1)		Aquatic Inv						Water Table (C2)	
	nt Deposits (B2)		Hydrogen S						Visible on Aerial Ima	agery (C9)
	posits (B3)		Oxidized R			-	oots (C3)		c Position (D2)	
	at or Crust (B4)		Presence o		,	,	(00)		quitard (D3)	
	oosits (B5)		Recent Iron					FAC-Neutra		• >
	Soil Cracks (B6)	magan, (D7	Stunted or			(D1) ( <b>Li</b>	RR A)		Mounds (D6) (LRR	<b>A</b> )
	on Visible on Aerial I	0, 1	· · · ·	ain in R	emarks)			Frost-neav	e Hummocks (D7)	
		Surface (D	0)							
Field Obser		_	Na V	)						
Surface Wat		es			nches): _					
Water Table Saturation P		es			nches): _		Motion	d Hydrology Bra	sent? Voc	No Y
(includes cap			NU	⊃ehiii (I	nches):		vvetian	a nyarology Pre	sent? Yes	No <u>X</u>
	corded Data (stream	dande mo	nitoring well aerial	photos	previous	sinsneo	tions) if ava	ailable <sup>.</sup>		
Pescine ive	ooraca bata (stidalli	gauge, IIIO	moning well, aelial	ριισισό,	Picvious	, mapec	monoj, ii ava	andolo.		
Remarks:										
Remarks:										
Remarks:										

# WETLAND DETERMINATION DATA SHEET – Western Mountains, Valleys, and Coast Region See ERDC/EL TR-10-3; the proponent agency is CECW-CO-R

Project/Site: North Mist Resiliency		City/Cou	nty: Columb	ia	Sampling Date:	09/262023
Applicant/Owner: NW Natural				State: OR	Sampling Point:	SP-113A
Investigator(s): Joseph Patzych, Summer Roberts		Section, T	ownship, Rar	nge: S15 T6N R5W		
Landform (hillside, terrace, etc.): Depression		Local relief (co	oncave, conv	ex, none): Concave	Slo	pe (%): <u>0</u>
Subregion (LRR): LRR A Lat: 46.004	4695 N		Long: <u>12</u>	23.278250 W	Datum:	WGS 84
Soil Map Unit Name: Natal Silty Clay Loam				NWI classi	fication: N/A	
Are climatic / hydrologic conditions on the site typical f	or this time o	f year?	Yes X	No (If no, exp	olain in Remarks.)	
Are Vegetation, Soil, or Hydrology	significantly	disturbed? A	Are "Normal C	ircumstances" present?	Yes X N	lo
Are Vegetation, Soil, or Hydrology			If needed, exp	olain any answers in Rer	marks.)	
SUMMARY OF FINDINGS – Attach site ma			g point loc	ations, transects,	important feat	ures, etc.
Hydrophytic Vegetation Present? Yes X N	0	Is the	Sampled A	rea		
	<u> </u>		n a Wetland?		No	
	0				·	
Remarks:	at the count					
Depression next to culvert, bed elevation below culve	rt invert.					
VEGETATION – Use scientific names of p	olants.					
	Absolute	Dominant	Indicator			
Tree Stratum (Plot size: 15 )	% Cover	Species?	Status	Dominance Test wor		
Fraxinus latifolia     Physocarpus capitatus	30 5	Yes No	FACW FACW	Number of Dominant Are OBL, FACW, or F	•	3 (A)
3.			TAOW	Total Number of Dom		<u> </u>
4.				Across All Strata:	mant Species	3(B)
	35	=Total Cover		Percent of Dominant	Species That	、 /
Sapling/Shrub Stratum (Plot size: 15	)			Are OBL, FACW, or F	AC: <u>10</u>	00.0% (A/B)
1. Rosa nutkana	5	Yes	FAC			
2				Prevalence Index wo		
3.				Total % Cover of OBL species 9	f: Multiply 5 x 1 =	y by: 95
5.						100
o	5	=Total Cover		-	5 x 3 =	45
Herb Stratum (Plot size: 5 )				-	) x 4 =	0
Rumex crispus	10	No	FAC	UPL species (	x 5 =	0
2. Oenanthe sarmentosa	85	Yes	OBL	Column Totals: 16		240 (B)
3. Spiraea douglasii	15	No	FACW	Prevalence Index	= B/A = 1.50	0
4. Carex obnupta 5.	10	No	OBL	Hydrophytic Vegetat	ion Indicators	
6.					Hydrophytic Veget	tation
7.				X 2 - Dominance Te		ation
8.				X 3 - Prevalence Inc		
9.				4 - Morphological	Adaptations <sup>1</sup> (Provi	de supporting
10.				data in Remark	s or on a separate	sheet)
11				5 - Wetland Non-		1
W 1 V 0 1 1 7 5	120	=Total Cover		<del></del>	ophytic Vegetation <sup>1</sup>	` ' '
Woody Vine Stratum (Plot size: 5	)			<sup>1</sup> Indicators of hydric s be present, unless dis		
1. 2.				•	ruibed of problema	niG.
<del></del>		=Total Cover		Hydrophytic Vegetation		
% Bare Ground in Herb Stratum15		22 20.31		•	X No	
Remarks:						

SOIL Sampling Point: SP-104A

Profile Desc Depth	ription: (Describe Matrix	to the depth		<b>iment th</b> x Feature		ator or c	confirm the	absence of in	dicators.)	
(inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Tex	ture	Remarks	
0-12	10YR 4/1	70	7.5YR 4/6	30	C	PL/M	Loamy	/Clayey		
							-			
	-									
			_							
¹Type: C=Co	oncentration, D=Dep	letion, RM=F	Reduced Matrix, C	S=Cove	red or C	oated Sa	and Grains.	<sup>2</sup> Location	: PL=Pore Lining, M=Matrix.	
Hydric Soil I	Indicators: (Applica	ble to all LF	RRs, unless othe	rwise n	oted.)			Indicators fo	r Problematic Hydric Soils <sup>3</sup> :	
Histosol	(A1)		Sandy Gle	yed Matr	ix (S4)			2 cm Mud	ck (A10) <b>(LRR A, E)</b>	
Histic Ep	pipedon (A2)		Sandy Red	dox (S5)				Iron-Man	ganese Masses (F12) (LRR D)	
Black His	stic (A3)		Stripped M	latrix (S6	i)			Red Pare	ent Material (F21)	
Hydroge	n Sulfide (A4)		Loamy Mu	cky Mine	eral (F1)	(except	MLRA 1)	Very Sha	llow Dark Surface (F22)	
1 cm Mu	ck (A9) (LRR D, G)		Loamy Gle	yed Mat	rix (F2)			Other (Ex	rplain in Remarks)	
	Below Dark Surface	e (A11)	X Depleted N							
	ark Surface (A12)		Redox Dar		. ,				hydrophytic vegetation and	
	lucky Mineral (S1)		Depleted D			)			nydrology must be present,	
2.5 cm N	Mucky Peat or Peat (	S2) <b>(LRR G)</b>	Redox Dep	pressions	s (F8)			unless di	sturbed or problematic.	
	_ayer (if observed):									
Type:			_							
Depth (ir	nches):		<u> </u>				Hydric S	oil Present?	Yes <u>X</u> No	
Remarks:										
ì										
HYDROLO	GY									
-	drology Indicators:									
	cators (minimum of c	ne is require	ed; check all that a	apply)				-	dicators (2 or more required)	
	Water (A1)		Water-Stai		` '	•	t		ained Leaves (B9) (MLRA 1, 2	
	ter Table (A2)			1, 2, 4A,	and 4B)	)		•	nd 4B)	
Saturation	` '		Salt Crust						Patterns (B10)	
	arks (B1)		Aquatic Inv						son Water Table (C2)	
	t Deposits (B2)		Hydrogen		, ,		. (00)		n Visible on Aerial Imagery (C9	
	oosits (B3)		X Oxidized R			-	oots (C3)		ohic Position (D2)	
	t or Crust (B4)		Presence of			` '	lo (CC)		Aquitard (D3)	
	osits (B5)		Recent Iro						etral Test (D5)	
	Soil Cracks (B6) on Visible on Aerial I	maganı (P7)	Stunted or Other (Exp			(D1) ( <b>L1</b>	KK A)		nt Mounds (D6) (LRR A)	
	Vegetated Concave	0, ,	` '	nani iii K	emaiks)				ave Hummocks (D7)	
		Sunace (Do	·)							
Field Observ			No. V	Donth (i	ooboo\.					
Surface Water Table		es		Depth (ii	-					
Saturation P		es		Depth (ii			Wetlan	d Hydrology P	resent? Yes X No	
(includes cap		,··	<u> </u>	Depth (ii			Wellall	a riyarology F	resent? Yes X No	
	corded Data (stream	dande mon	itoring well aeria	l photos	previous	s inspec	tions) if av	ailable <sup>.</sup>		
Pescibe I/6	ooraca Dala (siidaiii	gauge, mon	moning well, aella	, priotos,	Picvious	o mopec	aono, n av	anabic.		
Remarks:										
ı										
ı										

WETLAND DETERMINATION DATA SHEET – Western Mountains, Valleys, and Coast Region See ERDC/EL TR-10-3; the proponent agency is CECW-CO-R

Project/Site: North Mist Resiliency		City/County: Columbia Sampling Date:					
Applicant/Owner: NW Natural				State: OR	Sampling Point:	SP-113B	
Investigator(s): Joseph Patzych, Summer Roberts		Section, T	ownship, Ra	nge: S15 T6N R5W			
Landform (hillside, terrace, etc.): Slope		Local relief (c	oncave, conv	ex, none): Convex	Slor	oe (%): <u>1</u>	
Subregion (LRR): LRR A Lat: 46.00	04559 N		Long: 1	23.278296 W	Datum:	WGS 84	
Soil Map Unit Name: Natal Silty Clay Loam				NWI classi	fication: N/A		
Are climatic / hydrologic conditions on the site typical	for this time of	of year?	Yes X	No (If no, ex	plain in Remarks.)		
Are Vegetation, Soil, or Hydrology	significantly	disturbed? A	Are "Normal C	Circumstances" present?	Yes X No	٥	
Are Vegetation, Soil, or Hydrology	naturally pro	blematic? (	If needed, ex	plain any answers in Re	marks.)		
SUMMARY OF FINDINGS – Attach site m	nap showii	ng samplin	g point lo	cations, transects,	important feat	ures, etc.	
Hydrophytic Vegetation Present? Yes N	No X	Is the	Sampled A	rea			
Hydric Soil Present? Yes	No X		n a Wetland		No_X_		
Wetland Hydrology Present? Yes	No X						
Remarks:							
Located on a side slope of a shallow depression.							
VEGETATION – Use scientific names of	plants.						
	Absolute	Dominant	Indicator				
Tree Stratum (Plot size: 15 )	% Cover	Species?	Status	Dominance Test wo	rksheet:		
Pseudotsuga menziesii     Fraxinus latifolia	15 10	Yes Yes	FACU FACW	Number of Dominant Are OBL, FACW, or F	•	2 (A)	
3.	10	163	TACV	Total Number of Dom		<u>Z</u> (A)	
4.	<u> </u>			Across All Strata:	mant opecies	6 (B)	
	25	=Total Cover		Percent of Dominant	Species That		
Sapling/Shrub Stratum (Plot size: 15	_)			Are OBL, FACW, or F	AC: <u>33</u>	3.3% (A/B)	
Symphoricarpos albus	60	Yes	FACU	Duning lands and an all and an annual and an annual and an an an an an an an an an an an an an	- wheels a st		
2. 3.				Prevalence Index wo Total % Cover o		/ bv·	
4.				-	0 x 1 =	0	
5.					0 x 2 =	20	
	60	=Total Cover		FAC species	5 x 3 =	15	
Herb Stratum (Plot size: 5	_		=	· —		460	
Equisetum arvense     Polystichum munitum	5 5	Yes Yes	FACU	·	$\frac{0}{30}$ $x = 5 = 6$	0 495 (B)	
3.		162	TACO	Prevalence Index			
4.						<u>-</u>	
5.				Hydrophytic Vegetat	ion Indicators:		
6					Hydrophytic Vegeta	ation	
7.				2 - Dominance Te			
8. 9.	_				dex is ≤3.0 Adaptations¹(Provid	de supportina	
10					s or on a separate		
11.				5 - Wetland Non-	Vascular Plants <sup>1</sup>		
	10	=Total Cover		Problematic Hydr	ophytic Vegetation <sup>1</sup>	(Explain)	
Woody Vine Stratum (Plot size: 5	_)	.,	=	<sup>1</sup> Indicators of hydric s			
1. Rubus laciniatus	35	Yes	FACU	be present, unless dis	turbed or problema	tic.	
2	35	=Total Cover		Hydrophytic Vegetation			
% Bare Ground in Herb Stratum5				Present? Yes	No_X		
Remarks:							

Profile Desc Depth	ription: (Describe Matrix	to the dept		ment the Featur		tor or o	confirm the	absence of ind	icators.)	
(inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Tex	ture	Remarks	
0-4	10YR 3/1	100	, ,				Loamy	/Clavev	Silty clay loa	m
		<u> </u>							, ·,	
	-									
¹Type: C=Co	oncentration, D=Dep	oletion, RM=	Reduced Matrix, C	S=Cove	red or C	oated S	and Grains.	<sup>2</sup> Location:	PL=Pore Lining, M=	=Matrix.
Hydric Soil I	ndicators: (Applic	able to all L	RRs, unless othe	rwise n	oted.)			Indicators for	Problematic Hydric	c Soils³:
Histosol	(A1)		Sandy Gley	ed Mat	rix (S4)			2 cm Muck	(A10) <b>(LRR A, E)</b>	
Histic Ep	ipedon (A2)		Sandy Red	ox (S5)				Iron-Manga	anese Masses (F12)	(LRR D)
Black His	stic (A3)		Stripped M	atrix (S6	6)			Red Paren	t Material (F21)	
Hydroger	n Sulfide (A4)		Loamy Mud	cky Mine	eral (F1)	(except	MLRA 1)	Very Shallo	ow Dark Surface (F2	22)
1 cm Mu	ck (A9) (LRR D, G)		Loamy Gle	yed Mat	rix (F2)			Other (Exp	lain in Remarks)	
Depleted	Below Dark Surfac	e (A11)	Depleted M	latrix (F	3)					
Thick Da	rk Surface (A12)		Redox Dari						ydrophytic vegetatio	
	ucky Mineral (S1)		Depleted D					-	drology must be pre	
2.5 cm M	lucky Peat or Peat	(S2) <b>(LRR G</b>	)Redox Dep	ressions	s (F8)			unless dist	urbed or problemation	C.
	ayer (if observed)									
Type:	Hard gro									
Depth (in	iches):	4					Hydric S	oil Present?	Yes	NoX
Remarks:										
HYDROLO	GV									
	Irology Indicators:									
-	ators (minimum of		ed: check all that a	(vlaai				Secondary Indi	cators (2 or more re	auired)
	Water (A1)	<u> </u>	Water-Stair		ves (B9)	(excep	t	•	ned Leaves (B9) (M	
	ter Table (A2)				and 4B)	•	-	4A, and	, , ,	,_
Saturation			Salt Crust (		,			•	atterns (B10)	
Water M	arks (B1)		Aquatic Inv		es (B13)				n Water Table (C2)	
Sedimen	t Deposits (B2)		Hydrogen S						Visible on Aerial Im-	agery (C9)
Drift Dep	osits (B3)		Oxidized R	hizosph	eres on l	_iving R	oots (C3)	Geomorph	ic Position (D2)	
Algal Ma	t or Crust (B4)		Presence of	of Reduc	ed Iron (	C4)		Shallow A	quitard (D3)	
Iron Dep	osits (B5)		Recent Iror	n Reduc	tion in Ti	lled Soi	ls (C6)	FAC-Neutr	al Test (D5)	
	Soil Cracks (B6)		Stunted or			(D1) ( <b>L</b>	RR A)		Mounds (D6) (LRR	<b>A</b> )
	on Visible on Aerial	0 , (	′ <del></del> ` '	lain in R	emarks)			Frost-Heav	e Hummocks (D7)	
Sparsely	Vegetated Concav	e Surface (B	8)							
Field Observ	/ations:									
Surface Water	er Present? Y	es		Depth (i	nches):					
Water Table		es			nches):				_	
Saturation Pr		es	No X	Depth (i	nches):		Wetlan	d Hydrology Pre	esent? Yes	No X
(includes cap										
Describe Red	corded Data (strean	n gauge, mo	nitoring well, aerial	photos,	previous	s inspec	tions), if ava	allable:		
Remarks:										

## WETLAND DETERMINATION DATA SHEET – Western Mountains, Valleys, and Coast Region See ERDC/EL TR-10-3; the proponent agency is CECW-CO-R

Project/Site: North Mist Resiliency		City/Cou	nty: Columb	ia	Sampling Date:	09/262023
Applicant/Owner: NW Natural			'-	State: OR	Sampling Point:	SP-115
Investigator(s): Joseph Patzych, Summer Roberts		Section, T	ownship, Ra	nge: S11 T6N R5W		
Landform (hillside, terrace, etc.): Flat		Local relief (co	oncave, conv	ex, none): Flat	Slo	pe (%): <u>0</u>
Subregion (LRR): LRR A Lat: 46.	024758 N		Long: <u>1</u>	23.271360 W	Datum:	WGS 84
Soil Map Unit Name: 7D Braun-Scaponia Silt Loam	s, 5 to 30 perce	nt slopes		NWI classi	fication: N/A	
Are climatic / hydrologic conditions on the site typic	al for this time o	f year?	Yes X	No (If no, ex	plain in Remarks.)	
Are Vegetation, Soil, or Hydrology	significantly of	disturbed? A	re "Normal C	Circumstances" present?	Yes X N	o
Are Vegetation, Soil, or Hydrology	naturally prob	olematic? (I	If needed, ex	plain any answers in Re	marks.)	
SUMMARY OF FINDINGS – Attach site	map showin	ıg samplin	g point lo	cations, transects,	important feat	ures, etc.
Hydrophytic Vegetation Present? Yes	No X	Is the	Sampled A	rea		
Hydric Soil Present? Yes	No X		n a Wetland		No X	
Wetland Hydrology Present? Yes	No X					
Remarks:						
Confirming no wetland present.						
VEGETATION – Use scientific names o	f nlants					
VEGETATION - 03c 30lcmino maines o	Absolute	Dominant	Indicator			
<u>Tree Stratum</u> (Plot size:)	% Cover	Species?	Status	Dominance Test wo	rksheet:	
Pseudotsuga menziesii	60	Yes	FACU	Number of Dominant	•	4 (4)
2. Acer circinatum 3.	10	<u>No</u>	FAC	Are OBL, FACW, or F		1 (A)
4.				Total Number of Dom Across All Strata:	inant Species	3 (B)
	70	=Total Cover		Percent of Dominant	Species That	( /
Sapling/Shrub Stratum (Plot size: 15	)			Are OBL, FACW, or F	AC: <u>3</u>	3.3% (A/B)
1.						
2. 3.				Prevalence Index wo Total % Cover o		, by:
4.					$\frac{1}{0} \frac{\text{wattpi}}{\text{x 1}} =$	0
5.				FACW species	0 x 2 =	0
		=Total Cover		FAC species 5	55 x 3 =	165
Herb Stratum (Plot size: 5 )			<b>5.0</b> 00	· —		520
Polystichum munitum     Trifolium repens		Yes Yes	FACU FAC		0 x 5 =	0 685 (B)
3.		103	170	Prevalence Index	``	
4.						
5.				Hydrophytic Vegetat	ion Indicators:	
6.					Hydrophytic Veget	ation
7. 8.				2 - Dominance Te 3 - Prevalence In		
9.		· · · · · · · · · · · · · · · · · · ·			Adaptations <sup>1</sup> (Provi	de supportino
10					ks or on a separate	
11.				5 - Wetland Non-		
	115	=Total Cover			ophytic Vegetation <sup>1</sup>	
Woody Vine Stratum (Plot size: 5	)			<sup>1</sup> Indicators of hydric s be present, unless dis		
1. 2.				·	numbed of problettle	
		=Total Cover		Hydrophytic Vegetation		
% Bare Ground in Herb Stratum 0				Present? Yes	No X	_
Remarks:				•		

Depth	ription: (Describe Matrix	to the dept		x Featur				and distribution		
(inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Text	ure	Remarks	
0-6	10YR 3/2	100					Loamy/0	Clayey	Silt Loam	
		·					-			
							-			
								<del></del>		
	-									
• • • • • • • • • • • • • • • • • • • •	oncentration, D=Dep					oated Sa	and Grains.	<sup>2</sup> Location: F	L=Pore Lining, M=	=Matrix.
Hydric Soil	Indicators: (Applica	able to all L	RRs, unless other	erwise n	oted.)			Indicators for P	roblematic Hydri	c Soils³:
Histosol	(A1)		Sandy Gle	yed Mat	rix (S4)			2 cm Muck (	A10) (LRR A, E)	
Histic Ep	pipedon (A2)		Sandy Re	dox (S5)				Iron-Mangar	ese Masses (F12)	(LRR D)
Black Hi	stic (A3)		Stripped N	1atrix (S6	6)			Red Parent	Material (F21)	
	n Sulfide (A4)		Loamy Mu	•	, ,	(except	MLRA 1)		v Dark Surface (F2	22)
	ck (A9) (LRR D, G)		Loamy Gle					Other (Expla	in in Remarks)	
	Below Dark Surfac	e (A11)	Depleted I	,	,			0		
	ark Surface (A12)		Redox Da						drophytic vegetatio	
	lucky Mineral (S1)		Depleted [		` '				rology must be pre	
	Mucky Peat or Peat (		Redox De	oression	s (F8)			unless distu	bed or problemati	C.
	_ayer (if observed):									
Type:	Root/Ro						115. 1	U.B		<b>51</b> 32
Depth (ir	ncnes):	6					Hydric So	il Present?	Yes	<u> No X</u>
Remarks:										
HYDROLO	GY									
	drology Indicators:									
_	cators (minimum of o		ed: check all that	apply)				Secondary Indic	ators (2 or more re	equired)
-	Water (A1)	ono io roquii	Water-Sta		ves (B9)	(except	<u> </u>	-	ed Leaves (B9) (M	
	ter Table (A2)				and 4B)	-	-	4A, and		,_
Saturation			Salt Crust		,			Drainage Pa	,	
	arks (B1)		Aquatic In		tes (B13)				Water Table (C2)	
	nt Deposits (B2)		Hydrogen			1			isible on Aerial Im	agery (C9)
	osits (B3)		Oxidized F		, ,		oots (C3)		Position (D2)	,
Algal Ma	t or Crust (B4)		Presence	of Reduc	ced Iron (	C4)		Shallow Aqu	uitard (D3)	
Iron Dep	osits (B5)		Recent Iro	n Reduc	tion in Ti	led Soil	s (C6)	FAC-Neutra	Test (D5)	
Surface	Soil Cracks (B6)		Stunted or	Stresse	d Plants	(D1) ( <b>LF</b>	RR A)	Raised Ant I	Mounds (D6) (LRR	<b>A</b> )
Inundation	on Visible on Aerial I	magery (B7	Other (Exp	olain in R	emarks)			Frost-Heave	Hummocks (D7)	
Sparsely	Vegetated Concave	e Surface (B	88)							
Field Obser	vations:									
Surface Wat	er Present? Ye	es	No X	Depth (i	nches):					
Water Table	Present? Ye	es	No X	Depth (i	nches):					
Saturation P	resent? Ye	es	No X	Depth (i	nches): _		Wetland	Hydrology Pres	ent? Yes	No X
(includes car	oillary fringe)									
Describe Re	corded Data (stream	gauge, mo	nitoring well, aeria	l photos	, previous	inspec	tions), if avai	lable:		
Remarks:										
iveillains.										

WETLAND DETERMINATION DATA SHEET – Western Mountains, Valleys, and Coast Region See ERDC/EL TR-10-3; the proponent agency is CECW-CO-R

Project/Site: North Mist Resiliency		City/Cou	nty: Columbia	a		Sampling Date:	09/28/2023	3
Applicant/Owner: NW Natural				State:	OR :	Sampling Point:	: SP-117A	
Investigator(s): Joseph Patzych, Summer Roberts		Section, T	ownship, Ran	ge: S12 T6N	R5W			
Landform (hillside, terrace, etc.): Pond depression		Local relief (co	oncave, conve	x, none): Co	ncave	Sk	ope (%): 3	
Subregion (LRR): LRR A Lat: 46.106	890		Long: <u>12</u>	3.239781		Datum:	WGS 84	
Soil Map Unit Name: 5D: Anunde silt loam, 3 to 30 per	cent slopes			N\	WI classifica	ation: N/A		
Are climatic / hydrologic conditions on the site typical for	or this time of	f year?	Yes X	No	(If no, explai	in in Remarks.)		
Are Vegetation, Soil, or Hydrologys	significantly of	disturbed? A	re "Normal Ci	rcumstances"	present?	Yes X N	No	
Are Vegetation, Soil, or Hydrology	naturally prob	olematic? (I	If needed, exp	lain any answe	ers in Rema	rks.)		
SUMMARY OF FINDINGS – Attach site ma	ap showin	g sampling	g point loc	ations, trar	ısects, in	nportant fea	tures, etc.	
Hydrophytic Vegetation Present? Yes X No	0	Is the	Sampled Are	ea				_
			n a Wetland?		es X	No		
Wetland Hydrology Present? Yes X No	<u> </u>							
Remarks: Excavated pond with storm water collection.								
Excavated point with storm water concention.								
VEGETATION – Use scientific names of p								
Tree Stratum (Plot size: 15 )	Absolute % Cover	Dominant Species?	Indicator Status	Dominance	Tost works	heet.		
1. Alnus rubra	8	Yes	FAC	Number of D				
2.				Are OBL, FA			3 (A)	
3.				Total Numbe	r of Domina	ent Species		
4				Across All St	rata:	_	4 (B)	
Sapling/Shrub Stratum (Plot size: 15	8	=Total Cover		Percent of D			75 00/ / \/E	٥١
Sapling/Shrub Stratum (Plot size: 15 )	)			Are OBL, FA	CVV, OI FAC	<i></i>	75.0% (A/B	(د
2.				Prevalence	Index work	sheet:		_
3.				Total %	Cover of:	Multip	ly by:	
4				OBL species		x 1 =	60	
5		T-1-1-0		FACW speci		x 2 =	160	
Herb Stratum (Plot size: 5 )		=Total Cover		FAC species FACU species		x 3 = x 4 =	39 40	
1. Typha latifolia	60	Yes	OBL	UPL species		x =	0	
Phalaris arundinacea	80	Yes	FACW	Column Tota		(A)	299 (B)	
3. Cirsium arvense	5	No	FAC	Prevalenc	ce Index = E	B/A = 1.8	33	
4.					· · · · ·			_
5.					_	n Indicators: ydrophytic Vege	atation	
6 7.				X 2 - Domi			itation	
8.				X 3 - Preva				
9.						laptations <sup>1</sup> (Prov		g
10				data ir	n Remarks o	or on a separate	sheet)	
11						scular Plants <sup>1</sup>	1 (	
Woody Vino Stratum (Plot size: 5	145	=Total Cover				hytic Vegetation		
Woody Vine Stratum (Plot size: 5 )  1. Rubus ursinus	) 10	Yes	FACU	be present u	: nyarıc soil ınless distur	and wetland hydrbed or problema	arology must atic.	
2.				Hydrophytic				_
	10	=Total Cover		Vegetation				
% Bare Ground in Herb Stratum 5	_			Present?	Yes	X No	_	
Remarks:			•					

Profile Desc Depth	cription: (Describe t Matrix	o the dep		<b>ıment t</b> l x Featuı		tor or c	confirm the	absence of in	idicators.)	
(inches)	Color (moist)	%	Color (moist)	% ************************************	Type <sup>1</sup>	Loc <sup>2</sup>	Tex	ture	Remarks	
0-6	10YR 3/2	100	Color (moiot)		. , , , ,			/Clayey	Loam	
6-12	10YR 4/1	80	7.5YR 5/8	20	С	M		/Clayey	Silty clay loa	m
0-12	1011( 4/1		7.511( 5/6			IVI	Loaniy	Clayey	Only clay loa	
	oncentration, D=Depl					oated S	and Grains.		n: PL=Pore Lining, M=	•
-	Indicators: (Application)	ble to all L			•				or Problematic Hydric	: Soils <sup>3</sup> :
Histosol	` '		Sandy Gle						ck (A10) (LRR A, E)	<i>(</i> ,)
	pipedon (A2)		Sandy Red						ganese Masses (F12)	(LRR D)
	stic (A3)		Stripped M	,	,	lovoont	MI DA 4)		ent Material (F21)	20)
	en Sulfide (A4) uck (A9) <b>(LRR D, G)</b>		Loamy Mu Loamy Gle			(except	WLKA I)		allow Dark Surface (F2 xplain in Remarks)	2)
	d Below Dark Surface	(A11)	X Depleted N	•				Other (L)	xpiaiii iii Neiliaiks)	
	ark Surface (A12)	(A11)	Redox Dar	•	,			<sup>3</sup> Indicators of	hydrophytic vegetatio	n and
	Mucky Mineral (S1)		Depleted D						nydrology must be pre	
	Mucky Peat or Peat (S	S2) (LRR G			` '				sturbed or problemation	
	Layer (if observed):		<u> </u>						·	
Type:	, , , , , , , , , , , , , , , , , , , ,									
Depth (i	nches):		<u> </u>				Hydric S	oil Present?	Yes X	No
Remarks:										
HYDROLC										
-	drology Indicators:									
	cators (minimum of or	ne is requi			(DO)	/		•	ndicators (2 or more re	
	Water (A1) ater Table (A2)		Water-Stai				τ		ained Leaves (B9) ( <b>M</b> nd <b>4B</b> )	LRA 1, 2
X Saturation	, ,		Salt Crust		, and 4B)			•	Patterns (B10)	
	larks (B1)		Aquatic Inv	, ,	tes (R13)				son Water Table (C2)	
	nt Deposits (B2)		Hydrogen			١			on Visible on Aerial Ima	agery (C9)
	posits (B3)		Oxidized R				oots (C3)		phic Position (D2)	3-7(7
Algal Ma	at or Crust (B4)		Presence			-	, ,		Aquitard (D3)	
Iron Dep	oosits (B5)		Recent Iro	n Reduc	tion in Ti	lled Soil	s (C6)	X FAC-Neu	ıtral Test (D5)	
	Soil Cracks (B6)		Stunted or	Stresse	d Plants	(D1) ( <b>Li</b>	RR A)	Raised A	ant Mounds (D6) (LRR	A)
	on Visible on Aerial In			lain in F	Remarks)			Frost-Hea	ave Hummocks (D7)	
Sparsely	/ Vegetated Concave	Surface (E	38)				-			
Field Obser	vations:									
Surface Wat		s			inches):					
Water Table		s <u>X</u>			inches): _		387.41			
Saturation P		s <u>X</u>	No	Deptn (	inches):	4	wetian	ia Hyarology P	Present? Yes X	No
(includes ca	corded Data (stream	aauge ma	nitoring well aeria	Inhotos	previous	inenec	tions) if av	ailable:		
Pescupe Ke	corded Data (Stredtti	gauge, mic	milioning well, aella	י איוטנט	, previous	, mapec	nonoj, n ave	aliabic.		
Remarks:										
Pond depres	ssion 30%. Standing v	vater one f	oot downsope from	sample	e plot.					

## WETLAND DETERMINATION DATA SHEET – Western Mountains, Valleys, and Coast Region See ERDC/EL TR-10-3; the proponent agency is CECW-CO-R

Project/Site: North Mist Resiliency	•	City/Cour	nty: Columb	ia	Sampling Date:	09/28/2023
Applicant/Owner: NW Natural				State: OR	Sampling Point:	SP-117B
Investigator(s): Joseph Patzych, Summer Roberts		Section, T	ownship, Ra	nge: S12 T6N R5W		
Landform (hillside, terrace, etc.): Pond depression		Local relief (co	oncave, conv	ex, none): Concave	Slo	pe (%): <u>15</u>
Subregion (LRR): LRR A Lat: 46.7	106885		Long: <u>1</u>	23.239832	Datum:	WGS 84
Soil Map Unit Name: 5D: Anunde silt loam, 3 to 30 p	percent slopes			NWI classi	ification: N/A	
Are climatic / hydrologic conditions on the site typical	al for this time o	f year?	Yes X	No (If no, ex	plain in Remarks.)	
Are Vegetation, Soil, or Hydrology	significantly	disturbed? A	re "Normal (	Circumstances" present?	Yes X N	0
Are Vegetation, Soil, or Hydrology	naturally pro	blematic? (I	f needed, ex	plain any answers in Re	marks.)	
SUMMARY OF FINDINGS – Attach site	map showir	ng sampling	g point lo	cations, transects,	important feat	ures, etc.
Hydrophytic Vegetation Present? Yes	No X	Is the	Sampled A	rea		
Hydric Soil Present? Yes	No X		n a Wetland		No X	
Wetland Hydrology Present? Yes	No X					
Remarks: Upland representative plot for SP-117A.						
opiand representative plot for SF-117A.						
VEGETATION – Use scientific names of	f plants.					
T 0	Absolute	Dominant	Indicator			
<u>Tree Stratum</u> (Plot size: <u>15</u> ) 1.	% Cover	Species?	Status	Dominance Test wo		
2.				Number of Dominant Are OBL, FACW, or F	•	1 (A)
3.				Total Number of Dom		``
4				Across All Strata:	·	3 (B)
Openition (Obserts Openity Ope	, ———	=Total Cover		Percent of Dominant	•	0.00/ ///D)
Sapling/Shrub Stratum (Plot size: 15  1. Cytisus scoparius	) 	Yes	UPL	Are OBL, FACW, or F	AC: 3	3.3% (A/B)
2			- 0. 2	Prevalence Index we	orksheet:	
3.				Total % Cover o	f: Multiply	y by:
4				' <u></u>	0 x 1 =	0
5		Total Cayor		· —	0 x 2 =	0
Herb Stratum (Plot size: 5 )	20	=Total Cover		· -		105 300
1.						100
2.				Column Totals: 1	30 (A)	505 (B)
3. Cirsium arvense	35	Yes	FAC	Prevalence Index	= B/A = 3.88	8
4 5.				Hydrophytic Vegeta	tion Indicators:	
6.					r Hydrophytic Veget	ation
7.				2 - Dominance Te		
8.				3 - Prevalence In		
9.					Adaptations <sup>1</sup> (Provi ks or on a separate	
10				5 - Wetland Non-		Sileet)
11	35	=Total Cover			ophytic Vegetation <sup>1</sup>	(Explain)
Woody Vine Stratum (Plot size: 5	)			<sup>1</sup> Indicators of hydric s		
1. Rubus ursinus	75	Yes	FACU	be present, unless dis		
2		Total O		Hydrophytic		
% Bare Ground in Herb Stratum 5	75	=Total Cover		Vegetation Present? Yes	No X	
Remarks:						_

Profile Desc Depth	ription: (Describe Matrix	e to the dept	th needed to docu Redox	ment the Featur		tor or o	confirm the	absence of ind	icators.)	
(inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Tex	ture	Remarks	
0-2	10YR 3/2	100	, ,				Loamy	/Clavev	Loam	
¹Type: C=Co	oncentration, D=De	pletion, RM=	Reduced Matrix, C	S=Cove	red or C	oated S	and Grains.	<sup>2</sup> Location:	PL=Pore Lining, M=	Matrix.
Hydric Soil I	ndicators: (Applic	cable to all L	RRs, unless othe	rwise n	oted.)			Indicators for	Problematic Hydric	: Soils <sup>3</sup> :
Histosol	(A1)		Sandy Gley	ed Mat	rix (S4)			2 cm Muck	(A10) <b>(LRR A, E)</b>	
Histic Ep	ipedon (A2)		Sandy Red	ox (S5)				Iron-Manga	anese Masses (F12)	(LRR D)
Black His	stic (A3)		Stripped M	atrix (S6	6)			Red Paren	t Material (F21)	
Hydrogei	n Sulfide (A4)		Loamy Mud	cky Mine	eral (F1)	(except	MLRA 1)	Very Shall	ow Dark Surface (F2	22)
1 cm Mu	ck (A9) (LRR D, G	)	Loamy Gle	yed Mat	rix (F2)			Other (Exp	lain in Remarks)	
Depleted	Below Dark Surfa	ce (A11)	Depleted M	latrix (F	3)					
Thick Da	rk Surface (A12)		Redox Darl	k Surfac	e (F6)			<sup>3</sup> Indicators of h	ydrophytic vegetatic	n and
	ucky Mineral (S1)		Depleted D	ark Sur	face (F7)			wetland hy	drology must be pre	sent,
2.5 cm M	lucky Peat or Peat	(S2) (LRR G	Redox Dep	ression	s (F8)			unless dist	urbed or problemation	С.
Restrictive L	ayer (if observed	):								
Type:	Rock rest	triction	<u> </u>							
Depth (in	iches):	2					Hydric So	oil Present?	Yes	<u>No X</u>
Remarks:										
HYDROLO	GY									
	drology Indicators	<u> </u>								
-			ed; check all that a	(vlaa				Secondary Ind	icators (2 or more re	auired)
-	Water (A1)		Water-Stair		ves (B9)	(ехсер	<u> t</u>	-	ned Leaves (B9) (M	<del></del>
	ter Table (A2)				and 4B)			4A, and	, , ,	,
Saturatio			Salt Crust (	B11)	,			Drainage F	Patterns (B10)	
Water Ma	arks (B1)		Aquatic Inv	ertebrat	es (B13)			Dry-Seaso	n Water Table (C2)	
Sedimen	t Deposits (B2)		Hydrogen S	Sulfide (	Odor (C1)	)		Saturation	Visible on Aerial Im-	agery (C9)
Drift Dep	osits (B3)		Oxidized R	hizosph	eres on l	_iving R	oots (C3)	Geomorph	ic Position (D2)	
	t or Crust (B4)		Presence of	f Reduc	ed Iron (	C4)		Shallow Ad	quitard (D3)	
	osits (B5)		Recent Iror						al Test (D5)	
	Soil Cracks (B6)		Stunted or			(D1) ( <b>L</b> l	RR A)		t Mounds (D6) ( <b>LRR</b>	A)
	on Visible on Aerial	0 , (	′ <del></del>	ain in R	emarks)			Frost-Heav	e Hummocks (D7)	
Sparsely	Vegetated Concar	ve Surface (B	38)							
Field Observ										
Surface Water		/es			nches): _					
Water Table		/es			nches):					
Saturation Pr		/es	No <u>X</u>	Depth (i	nches):		Wetlan	d Hydrology Pro	esent? Yes	No X
(includes cap			and the section of th				(') ''	-11-1-1		
Describe Red	corded Data (Strea	m gauge, mo	nitoring well, aerial	pnotos,	previous	s inspec	tions), if ava	aliable:		
Remarks:										

## WETLAND DETERMINATION DATA SHEET – Western Mountains, Valleys, and Coast Region See ERDC/EL TR-10-3; the proponent agency is CECW-CO-R

·		<del>,</del>		L			
Project/Site: North Mist Expansion		City/Cou	nty: Columb	pia	Sampling Da	ate: 12/20	0/2023
Applicant/Owner: NW Natural				State: OR	Sampling Po	int: SP	-118
Investigator(s): LFS		Section, T	ownship, Ra	ange: S15 T6N R5W			
Landform (hillside, terrace, etc.): terrace		Local relief (co	oncave, conv	/ex, none): concave		Slope (%):	0
Subregion (LRR): LRR A, MLRA 1 Lat: 46.	.003136		Long:	123.279365	Datu	ım: WGS	84
Soil Map Unit Name: 58:Treharne Silt Loam				NWI classif	ication: n/a		
Are climatic / hydrologic conditions on the site typic	al for this time o	f year?	Yes x	No (If no, exp	olain in Remark	s.)	
Are Vegetation, Soil, or Hydrology	significantly	disturbed? A	re "Normal (	Circumstances" present?			
Are Vegetation , Soil , or Hydrology	<del></del>			plain any answers in Rei			-
SUMMARY OF FINDINGS – Attach site						features,	, etc.
Hydrophytic Vegetation Present? Yes X	No	Is the	Sampled A	ırea			
Hydric Soil Present? Yes	No X		n a Wetland		No_X		
Wetland Hydrology Present? Yes	No X						
Remarks:		•					
VEGETATION – Use scientific names o	f plants.						
T. 0	Absolute	Dominant	Indicator				
Tree Stratum (Plot size:)	% Cover	Species?	Status	Dominance Test wor			
2.				Number of Dominant S Are OBL, FACW, or F.	•	2	(A)
3.	_			Total Number of Domi	-		_(',')
4.				Across All Strata:	nant Species	2	(B)
		=Total Cover		Percent of Dominant S	- Species That		-` ′
Sapling/Shrub Stratum (Plot size:	)			Are OBL, FACW, or F	•	100.0%	(A/B)
1							
2				Prevalence Index wo			
3				Total % Cover of		Itiply by:	_
4					x 1 = _		_
5.		=Total Cover		FACW species 6 FAC species 8	) x2= 5 x3=		-
Herb Stratum (Plot size: 5 )		= rotal Cover		FACU species 1		60	-
1. Hypochaeris radicata	10	No	FACU	UPL species (	-	0	-
Schedonorus arundinaceus	20	Yes	FAC	Column Totals: 10		315	(B)
3. Trifolium repens	50	Yes	FAC	Prevalence Index	` _	3.15	<b>-</b> ` ′
4. Unidentified grass assumed FAC	15	No	FAC				_
5. Plantago lanceolata	5	No	FACU	Hydrophytic Vegetat	ion Indicators	:	
6				1 - Rapid Test for	Hydrophytic Ve	egetation	
7				X 2 - Dominance Te			
8				3 - Prevalence Inc			
9.				4 - Morphological data in Remark			porting
10				5 - Wetland Non-\	•		
11	100	=Total Cover		Problematic Hydro			ain)
Woody Vine Stratum (Plot size:	100	= Total Cover		l —			,
1.				<sup>1</sup> Indicators of hydric so be present, unless dis			must
2.				·			-
		=Total Cover		Hydrophytic Vegetation			
% Bare Ground in Herb Stratum				Present? Yes	X No		
Remarks:							

Depth	cription: (Describ Matrix	_		<b>ument t</b> i x Featui		itor or c	onfirm the	absence of inc	alcators.)	
(inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Tex	ture	Remark	(S
0-8	10YR 2/2	100	, ,		· <u></u>			/Clayey		
8-14	10YR 3/4	100						/Clayey		
0 14	1011(3/4	100					Loaniy	Olaycy		
	<del></del>									
<sup>1</sup> Type: C=C	Concentration, D=De	epletion, RM=I	Reduced Matrix, C	CS=Cove	ered or C	oated S	and Grains.	. <sup>2</sup> Location:	: PL=Pore Lining,	M=Matrix.
Hydric Soil	Indicators: (Appli	cable to all L	RRs, unless othe	erwise r	noted.)			Indicators for	r Problematic Hyd	lric Soils³:
Histoso	l (A1)		Sandy Gle	yed Mat	trix (S4)			2 cm Muc	k (A10) (LRR A, E	)
Histic E	pipedon (A2)		Sandy Red	dox (S5)	)			Iron-Mano	ganese Masses (F1	12) <b>(LRR D)</b>
Black H	istic (A3)		Stripped M	latrix (S	6)			Red Pare	nt Material (F21)	
Hydroge	en Sulfide (A4)		Loamy Mu	cky Min	eral (F1)	(except	MLRA 1)	Very Shal	llow Dark Surface (	(F22)
1 cm M	uck (A9) <b>(LRR D, G</b>	i)	Loamy Gle	eyed Ma	trix (F2)			Other (Ex	plain in Remarks)	
<del></del> ·	d Below Dark Surfa	ace (A11)	Depleted N	Лatrix (F	<sup>-</sup> 3)					
Thick D	ark Surface (A12)		Redox Da	rk Surfa	ce (F6)				hydrophytic vegeta	
Sandy N	Mucky Mineral (S1)		Depleted [	Dark Su	rface (F7)	)		wetland h	ydrology must be p	oresent,
2.5 cm	Mucky Peat or Pea	(S2) (LRR G	Redox De	oression	ıs (F8)			unless dis	sturbed or problema	atic.
Restrictive	Layer (if observed	i):								
Type:										
Depth (i	inches):						Hydric S	oil Present?	Yes	NoX
Remarks:										
HYDROLO	OGY									
	drology Indicator	e•								
_	icators (minimum o		ed: check all that a	(vlane				Secondary Inc	dicators (2 or more	required)
-	Water (A1)	ono io roquire	Water-Sta		aves (B9)	(excep	 t	-	ained Leaves (B9)	<del></del>
	ater Table (A2)				, and 4B)		•	4A, an		(, _
	ion (A3)		Salt Crust		, ,				Patterns (B10)	
	/larks (B1)		Aquatic In		tes (B13)				on Water Table (Ca	2)
	nt Deposits (B2)		Hydrogen					Saturation	n Visible on Aerial I	magery (C9)
Drift De	posits (B3)		Oxidized F	Rhizosph	neres on I	Living R	oots (C3)	Geomorp	hic Position (D2)	
Algal M	at or Crust (B4)		Presence	of Redu	ced Iron (	(C4)		Shallow A	Aquitard (D3)	
Iron De	posits (B5)		Recent Iro	n Reduc	ction in Ti	lled Soil	s (C6)	FAC-Neur	tral Test (D5)	
Surface	Soil Cracks (B6)		Stunted or	Stresse	ed Plants	(D1) ( <b>L</b> l	RR A)	Raised Ar	nt Mounds (D6) ( <b>LF</b>	RR A)
Inundat	ion Visible on Aeria	I Imagery (B7)	Other (Exp	olain in F	Remarks)			Frost-Hea	ave Hummocks (D7	7)
Sparsel	y Vegetated Conca	ve Surface (B	8)							
Field Obse				_						
		Yes			inches):					
Water Table		Yes			inches): _		l			
Saturation F		Yes	No <u>x</u>	Depth (	inches):		Wetlan	d Hydrology Pi	resent? Yes	NoX_
,	pillary fringe)	m aou ao =====	sitoring well ==='-	l nhata -	nrou!	n inar	tions\ if =	oiloble:		
Describe Re	ecorded Data (strea	m gauge, mor	ntoring well, aeria	ı pnotos	, previous	s inspec	tions), if ava	aliable:		
Remarks:									<del> </del>	
. tomano.										

## WETLAND DETERMINATION DATA SHEET – Western Mountains, Valleys, and Coast Region See ERDC/EL TR-10-3; the proponent agency is CECW-CO-R

Project/Site: North Mist Expansion		City/Cou	nty: Colum	bia	Sampling Date:	12/20/2023
Applicant/Owner: NW Natural				State: OR	Sampling Point:	SP-119
Investigator(s): LFS		Section, T	ownship, R	ange: S15 T6N R5W		
Landform (hillside, terrace, etc.): terrace		Local relief (c	oncave, con	vex, none): concave	Slop	e (%):
Subregion (LRR): LRR A, MLRA 1 Lat: 46.0	004013		Long:	-123.279021	Datum:	WGS 84
Soil Map Unit Name: 58:Treharne Silt Loam				NWI classit	fication: n/a	
Are climatic / hydrologic conditions on the site typica	I for this time of	f year?	Yes	No (If no, exp	olain in Remarks.)	
Are Vegetation, Soil, or Hydrology	significantly	disturbed? A	Are "Normal	Circumstances" present?	Yes No	)
Are Vegetation , Soil , or Hydrology				xplain any answers in Re	· · · · · · · · · · · · · · · · · · ·	
SUMMARY OF FINDINGS – Attach site i			g point lo	ocations, transects,	important feat	ures, etc.
	No_n/a_		e Sampled			
	No n/a No X	withi	n a Wetland	d? Yes	No X	
Remarks: This plot was only to document the presence of hydrogeneous control of the presence o		mine wetland	boundary. S	Several holes were dug to	determine wetland	boundary
based on saturarion and a corresponding water tab						
VEGETATION – Use scientific names of	Absolute	Dominant	Indicator	Т		
<u>Tree Stratum</u> (Plot size: )	% Cover	Species?	Status	Dominance Test wor	ksheet:	
1				Number of Dominant a	•	(A)
3.				Total Number of Dom Across All Strata:		(B)
Sapling/Shrub Stratum (Plot size:		=Total Cover		Percent of Dominant S Are OBL, FACW, or F	•	(A/B)
1						
2				Prevalence Index wo		L
3.				Total % Cover of OBL species		
5.				FACW species		
		=Total Cover		FAC species	_	
Herb Stratum (Plot size: )				FACU species	x 4 =	
1				UPL species	x 5 =	
2.				Column Totals:	(A)	(B)
3.				Prevalence Index	= B/A =	
4						
5.				Hydrophytic Vegetat		
6.				2 - Dominance Te	Hydrophytic Vegeta	ation
7.				3 - Prevalence Inc		
8 9.					dex is ≤3.0 Adaptations¹(Provid	lo cupportino
10	_				s or on a separate	
11.				5 - Wetland Non-	Vascular Plants <sup>1</sup>	
		=Total Cover		Problematic Hydro	ophytic Vegetation <sup>1</sup>	(Explain)
Woody Vine Stratum (Plot size:	_)			<sup>1</sup> Indicators of hydric so be present, unless dis		
2.		Total Cause		Hydrophytic		
% Bare Ground in Herb Stratum		=Total Cover		Vegetation Present? Yes	No X	_
Remarks:						

SOIL Sampling Point: SP-119 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Redox Features Loc<sup>2</sup> Color (moist) (inches) Color (moist) Type<sup>1</sup> Texture Remarks <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>: 2 cm Muck (A10) (LRR A, E) Histosol (A1) Sandy Gleyed Matrix (S4) Histic Epipedon (A2) Sandy Redox (S5) Iron-Manganese Masses (F12) (LRR D) Black Histic (A3) Stripped Matrix (S6) Red Parent Material (F21) Hydrogen Sulfide (A4) Loamy Mucky Mineral (F1) (except MLRA 1) Very Shallow Dark Surface (F22) 1 cm Muck (A9) (LRR D, G) Loamy Gleyed Matrix (F2) Other (Explain in Remarks) Depleted Below Dark Surface (A11) Depleted Matrix (F3) Thick Dark Surface (A12) Redox Dark Surface (F6) <sup>3</sup>Indicators of hydrophytic vegetation and Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) wetland hydrology must be present, 2.5 cm Mucky Peat or Peat (S2) (LRR G) Redox Depressions (F8) unless disturbed or problematic. Restrictive Layer (if observed): Type: Depth (inches): **Hydric Soil Present?** No Remarks: **HYDROLOGY** Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply) Secondary Indicators (2 or more required) Surface Water (A1) Water-Stained Leaves (B9) (except Water-Stained Leaves (B9) (MLRA 1, 2 High Water Table (A2) MLRA 1, 2, 4A, and 4B) 4A, and 4B) Drainage Patterns (B10) Saturation (A3) Salt Crust (B11) Water Marks (B1) Aquatic Invertebrates (B13) Dry-Season Water Table (C2) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Saturation Visible on Aerial Imagery (C9) Oxidized Rhizospheres on Living Roots (C3) Drift Deposits (B3) Geomorphic Position (D2) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Shallow Aquitard (D3) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) FAC-Neutral Test (D5) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) Frost-Heave Hummocks (D7) Sparsely Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Depth (inches): Yes No x Yes \_\_\_\_ Depth (inches): Water Table Present? Saturation Present? Depth (inches): Wetland Hydrology Present? Yes No X

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

It had rained the day before and the ground was moist.

(includes capillary fringe)

#### WETLAND DETERMINATION DATA SHEET – Western Mountains, Valleys, and Coast Region See ERDC/EL TR-10-3: the proponent agency is CECW-CO-R

OOO ERDO/EE TIC TO O, WIO	proportion a	goney io or	-011 00			
Project/Site: North Mist Expansion		City/Cou	nty: Colum	bia	Sampling Date:	12/20/2023
Applicant/Owner: NW Natural				State: OR	Sampling Point:	SP-120
Investigator(s): LFS		Section, T	ownship, R	ange: S15 T6N R5W		
Landform (hillside, terrace, etc.): terrace		Local relief (co	oncave, con	vex, none): concave	Sk	ope (%): 0
Subregion (LRR): LRR A, MLRA 1 Lat: 46.0	004116		Long: -	123.279184	Datum:	WGS 84
Soil Map Unit Name: 58:Treharne Silt Loam			_		ication: n/a	
Are climatic / hydrologic conditions on the site typica	al for this time o	f vear?	Yes	No (If no. exp	olain in Remarks.)	
Are Vegetation , Soil , or Hydrology						No
Are Vegetation , Soil , or Hydrology				xplain any answers in Rer		
SUMMARY OF FINDINGS – Attach site						atures, etc.
Hydrophytic Vegetation Present? Yes X	No	<del></del>	Sampled A	<u> </u>		· ·
Hydric Soil Present? Yes X	No		n a Wetland		No	
Wetland Hydrology Present? Yes X	No					
Remarks:		<u> </u>				
VEGETATION – Use scientific names of	f plants.					
Tree Stratum (Plot size: )	Absolute % Cover	Dominant Species?	Indicator	Dominance Test wor	kahaati	
Tree Stratum (Plot size:)  1.	% Cover	Species?	Status			
2.				Number of Dominant S Are OBL, FACW, or FA	•	3 (A)
3.				Total Number of Domi	nant Species	``
4.				Across All Strata:		3 (B)
		=Total Cover		Percent of Dominant S	•	
Sapling/Shrub Stratum (Plot size:				Are OBL, FACW, or F	AC: <u>1</u>	00.0% (A/B)
1. 2.				Prevalence Index wo		
2				Total % Cover of:		ly by:
4.				OBL species 0		0
5.					) x 2 =	0
		=Total Cover		FAC species 10	00 x 3 =	300
Herb Stratum (Plot size: 5')				FACU species 0	x 4 =	0
1. Trifolium repens		Yes	FAC	UPL species 0		0(7)
2. Schedonorus arundinaceus	45	Yes	FAC	Column Totals: 10		300 (B)
Ranunculus repens     Unidentified grass (assumed FAC)	<u>5</u> 30	No Yes	FAC FAC	Prevalence Index :	= B/A =3.0	<u> </u>
г		103	<u> </u>	Hydrophytic Vegetat	ion Indicators:	
6.				1 - Rapid Test for		etation
7.				X 2 - Dominance Te	st is >50%	
8				X 3 - Prevalence Inc		
9				4 - Morphological	. ,	
10					s or on a separate	e sheet)
11		-Total Cover		5 - Wetland Non-\ Problematic Hydro		<sup>1</sup> (Evploip)
Woody Vine Stratum (Plot size:	100	=Total Cover		<del></del>		
1				<sup>1</sup> Indicators of hydric so be present, unless dis		
2.	_			·		
		=Total Cover		Hydrophytic Vegetation		
% Bare Ground in Herb Stratum	<u></u>				X No	
Remarks:				•		
Pasture vegetation is short from mowing and elk gr	azing. Grasses	did not have	seed heads.			

Depth	ription: (Describe Matrix	to the dept		<b>ıment tr</b> x Featur		ator or C	Jonnie a	mzeuce o	i muicators.	)	
(inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Textu	ire		Remarks	
0-3	10YR 3/2	95	2.5YR 3/6	5	С	PL/M	Loamy/C	Clayey	Prominer	nt redox conc	entrations
3-14	10YR 3/2	85	2.5YR 3/6	10	С	M	Loamy/C			nt redox conce	
			10YR 4/1	5		M		))			
			10111 4/1			101					
				—							
		. —— -									
		. — -									
	ncentration, D=Dep					oated S				re Lining, M=I	
-	ndicators: (Applica	able to all L			-					matic Hydric	Solls :
Histosol (	,		Sandy Gle		IIX (S4)				Muck (A10) <b>(</b>	-	(I BB D)
Black His	ipedon (A2)		Sandy Red	. ,	2)				ranganese iv Parent Materi	Masses (F12)	(LKK D)
	n Sulfide (A4)			`	,	lovoont	MIDA 1			ai (F21) : Surface (F22	2)
	ck (A9) <b>(LRR D, G)</b>		Loamy Mu Loamy Gle	-		(except	WILKA I)		Explain in F	•	<u> </u>
	Below Dark Surfac	o (A11)	Depleted N				·	Other	(Explain in r	Kemarks)	
	rk Surface (A12)	e (ATT)	X Redox Dai	,	,			3Indicators	of hydronhy	tic vegetation	and
	ucky Mineral (S1)		Depleted [		` '	١				must be pres	
<u> </u>	ucky Peat or Peat (	S2) (I RR G			` '	,				r problematic	
	ayer (if observed)			010001011	o (i o)			4111000	, alotalboa o	- problematic	•
Type:	, (	•									
Depth (in	ches):						Hydric So	I Present	?	Yes X	No
Remarks:											
HYDROLO											
-	Irology Indicators: ators (minimum of o		ad: abaak all that c	annlu)				Caaaadam	, Indiantora (	2 01 2010 100	u irod)
	Vater (A1)	nie is requir	Water-Sta		VAS (RQ)	(eycen				<u>2 or more rec</u> aves (B9) ( <b>ML</b>	
	er Table (A2)			1, 2, 4A,					-3tained Lea ., and 4B)	IVES (DB) (IVIL	.NA 1, 2
x Saturatio	` ,		Salt Crust		una 45	,			age Patterns	(B10)	
Water Ma	` '		Aquatic In	. ,	es (B13)	)	·		eason Water		
	t Deposits (B2)		Hydrogen		` ′		•			on Aerial Ima	gery (C9)
	osits (B3)		x Oxidized F				oots (C3)		orphic Positi		, ,
Algal Mat	or Crust (B4)		Presence	of Reduc	ed Iron	(C4)		Shallo	w Aquitard (	D3)	
Iron Depo	osits (B5)		Recent Iro	n Reduc	tion in Ti	illed Soil	ls (C6)	FAC-N	Neutral Test	(D5)	
Surface S	Soil Cracks (B6)		Stunted or	Stresse	d Plants	(D1) ( <b>L</b> l	RR A)	Raise	d Ant Mound	ls (D6) ( <b>LRR</b> .	A)
Inundatio	n Visible on Aerial I	magery (B7	Other (Exp	olain in R	(emarks			Frost-	Heave Humr	mocks (D7)	
Sparsely	Vegetated Concave	e Surface (B	88)								
Field Observ											
Surface Wate		es	No <u>x</u>	Depth (i	′ -						
Water Table I		es x		Depth (i	-	9					
Saturation Pr		es x	No	Depth (i	nches):	5	Wetland	Hydrolog	y Present?	Yes X	No
(includes cap	_ · · · · · · · · · · · · · · · · · · ·										
Describe Rec	orded Data (stream	gauge, mo	nitoring well, aeria	i pnotos,	previou	s inspec	tions), if avai	lable:			
Remarks:											

#### WETLAND DETERMINATION DATA SHEET – Western Mountains, Valleys, and Coast Region See ERDC/EL TR-10-3: the proponent agency is CECW-CO-R

OUG ENDO/EE THE TO O, and	oroponont a	goney io or	-011 00 1	`		
Project/Site: North Mist Expansion		City/Cou	nty: Columb	pia	Sampling Da	te: 12/20/2023
Applicant/Owner: NW Natural				State: OR	Sampling Po	nt: SP-121
Investigator(s): LFS		Section, T	ownship. Ra	ange: S15 T6N R5W	, ,	
Landform (hillside, terrace, etc.): terrace				vex, none): concave		Slope (%): 0
•		Local Toller (or	·			
Subregion (LRR): LRR A, MLRA 1 Lat: 46.0	03445		Long	123.280494		m: <u>WGS 84</u>
Soil Map Unit Name: 58:Treharne Silt Loam					ication: n/a	
Are climatic / hydrologic conditions on the site typica						
Are Vegetation, Soil, or Hydrology			Are "Normal (	Circumstances" present?	Yes	No
Are Vegetation, Soil, or Hydrology	naturally pro	blematic? (	If needed, ex	cplain any answers in Re	marks.)	
SUMMARY OF FINDINGS – Attach site r	map showir	ng samplin	g point lo	cations, transects,	important f	eatures, etc.
Hydrophytic Vegetation Present? Yes X	No	le the	Sampled A	aroa		
	No X		n a Wetland		No X	
	No X				<u> </u>	
Remarks:						
<b>VEGETATION</b> – Use scientific names of	plants.					
	Absolute	Dominant	Indicator			
Tree Stratum (Plot size:)	% Cover	Species?	Status	Dominance Test wor	ksheet:	
1. 2.				Number of Dominant : Are OBL, FACW, or F	•	3 (A)
2					-	3 (A)
4.	_			Total Number of Dom Across All Strata:	inant Species	5 (B)
		=Total Cover		Percent of Dominant S	- Species That	(-)
Sapling/Shrub Stratum (Plot size:	)			Are OBL, FACW, or F	•	60.0% (A/B)
1.	_					<u>.</u>
2				Prevalence Index wo	rksheet:	
3				Total % Cover of	: Mul	tiply by:
4					) x1=_	
5		T-1-1 0		· -	5 x 2 = _	
Herb Stratum (Plot size: 5' )		=Total Cover			$\frac{5}{0}$ $x 3 = $	135 160
Herb Stratum (Plot size: 5' )  1. Schedonorus arundinaceus	20	Yes	FAC		$\frac{0}{0}  x = 1$	0
Phalaris arundinacea	15	Yes	FACW		00 (A)	325 (B)
3. Senecio jacobaea	5	No	FACU	Prevalence Index	` ′ _	3.25
4. Trifolium pratense	20	Yes	FACU			
5. Ranunculus repens	10	No	FAC	Hydrophytic Vegetat	ion Indicators:	
6. Taraxacum officinale	15	Yes	FACU	1 - Rapid Test for	Hydrophytic Ve	getation
7. Unidentified grass (assumed FAC)	15	Yes	FAC	X 2 - Dominance Te		
8.				3 - Prevalence Inc		
9.				4 - Morphological data in Remark		
10				5 - Wetland Non-		
11	100	=Total Cover		Problematic Hydro		
Woody Vine Stratum (Plot size:	)	. G.a. Gover		<sup>1</sup> Indicators of hydric se		
1	<b>_</b> ′			be present, unless dis		
2.				Hydrophytic	· ·	
		=Total Cover		Vegetation		
% Bare Ground in Herb Stratum				Present? Yes	X No_	
Remarks:				•		

Depth	cription: (Describe Matrix	to the dep		ument t x Featu		itor or c	onfirm the	absence of ind	icators.)	
(inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Tex	ture	Remarks	3
0-10	10YR 2/2	100	` /		· <u></u>		Loamy			
10-14	10YR 4/6	80	2.5YR 4/3	20	D	M		/Clayey		
10-14	10111 4/0		2.511( 4/5			IVI	Loaniy	Olaycy		
		· —— -								
		· —— -								
¹Type: C=C	Concentration, D=Dep	letion, RM=	Reduced Matrix, 0	CS=Cov	ered or C	oated S	and Grains.	Location:	PL=Pore Lining, M	1=Matrix.
	Indicators: (Applica								Problematic Hydr	•
Histosol	I (A1)		Sandy Gle	yed Ma	trix (S4)			2 cm Muck	(A10) <b>(LRR A, E)</b>	
Histic E	pipedon (A2)		Sandy Red					Iron-Manga	anese Masses (F12	2) <b>(LRR D)</b>
Black H	istic (A3)		Stripped M	1atrix (S	6)			Red Paren	t Material (F21)	
Hydroge	en Sulfide (A4)		Loamy Mu	icky Min	eral (F1)	(except	MLRA 1)	Very Shall	ow Dark Surface (F	<sup>-</sup> 22)
1 cm M	uck (A9) (LRR D, G)		Loamy Gle	eyed Ma	trix (F2)			Other (Exp	lain in Remarks)	
	d Below Dark Surfac	e (A11)	Depleted N	Matrix (F	3)					
Thick D	ark Surface (A12)		Redox Da	rk Surfa	ce (F6)			<sup>3</sup> Indicators of h	ydrophytic vegetat	ion and
Sandy N	Mucky Mineral (S1)		Depleted [	Dark Su	rface (F7)	)		wetland hy	drology must be pr	esent,
2.5 cm l	Mucky Peat or Peat (	S2) (LRR (	Redox De	pression	ıs (F8)			unless dist	urbed or problema	tic.
Restrictive	Layer (if observed):									
Type:										
Depth (i	inches):						Hydric S	oil Present?	Yes	No X
Remarks:						-				
HYDROLO	OGY									
	drology Indicators:									
_	icators (minimum of c		red; check all that a	apply)				Secondary Indi	cators (2 or more r	equired)
-	Water (A1)	•	Water-Sta		aves (B9)	(excep	<u></u>		ned Leaves (B9) (	
	ater Table (A2)				, and 4B)			4A, and		•
Saturati			Salt Crust		,				Patterns (B10)	
Water N	/larks (B1)		Aquatic In	vertebra	tes (B13)			Dry-Seaso	n Water Table (C2)	)
Sedime	nt Deposits (B2)		Hydrogen	Sulfide	Odor (C1	)		Saturation	Visible on Aerial In	nagery (C9)
Drift De	posits (B3)		Oxidized F	Rhizosph	neres on l	Living R	oots (C3)	Geomorph	ic Position (D2)	
Algal Ma	at or Crust (B4)		Presence	of Redu	ced Iron (	(C4)		Shallow Ad	quitard (D3)	
Iron De	posits (B5)		Recent Iro	n Redu	ction in Ti	lled Soil	s (C6)	FAC-Neutr	al Test (D5)	
	Soil Cracks (B6)		Stunted or	Stresse	ed Plants	(D1) ( <b>L</b> l	RR A)	Raised An	Mounds (D6) (LR	RA)
	ion Visible on Aerial I y Vegetated Concave			olain in F	Remarks)			Frost-Heav	ve Hummocks (D7)	
Field Obser			-,							
	ter Present? Ye	es	No x	Depth (	inches):					
Water Table		es	No x		inches):					
Saturation F		es	No x		inches):		Wetlan	d Hydrology Pre	esent? Yes	No X
(includes ca	pillary fringe)						1			
Describe Re	ecorded Data (stream	gauge, mo	onitoring well, aeria	l photos	, previous	s inspec	tions), if ava	ailable:		
Remarks:										

## WETLAND DETERMINATION DATA SHEET – Western Mountains, Valleys, and Coast Region See ERDC/EL TR-10-3; the proponent agency is CECW-CO-R

Project/Site: North Mist Expansion	-	City/Cou	nty: Columb	oia .	Sampling Date:	12/20/2023
Applicant/Owner: NW Natural				State: OR	Sampling Point:	SP-122
Investigator(s): LFS		Section, T	ownship, Ra	ange: S15 T6N R5W		
Landform (hillside, terrace, etc.): terrace		Local relief (co	oncave, con	vex, none): none	Slo	pe (%): 0
Subregion (LRR): LRR A, MLRA 1 Lat: 46.0	003446		Long: -	123.280497	Datum:	WGS 84
Soil Map Unit Name: 58:Treharne Silt Loam				NWI classi	fication: n/a	
Are climatic / hydrologic conditions on the site typica	I for this time o	of year?	Yes	No (If no, ex	olain in Remarks.)	
Are Vegetation , Soil , or Hydrology	significantly			<u></u>		0
Are Vegetation , Soil , or Hydrology				kplain any answers in Re		
SUMMARY OF FINDINGS – Attach site i			g point lo	cations, transects	important fea	tures, etc.
Hydrophytic Vegetation Present? Yes X	No	Is the	Sampled A	Area		
Hydric Soil Present? Yes X	No		n a Wetland		No	
Wetland Hydrology Present? Yes X	No					
Remarks:		•				
VEGETATION – Use scientific names of	f plants.					
<u>Tree Stratum</u> (Plot size: )	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test wo	rkshoot:	
1.	70 COVE	Opecies:	Status	Number of Dominant		
2.				Are OBL, FACW, or F	•	3 (A)
3.				Total Number of Dom	-	
4				Across All Strata:	·	3 (B)
		=Total Cover		Percent of Dominant		
Sapling/Shrub Stratum (Plot size:	)			Are OBL, FACW, or F	AC: 10	00.0% (A/B)
1 2.	_			Prevalence Index wo	arkshoot:	
3.				Total % Cover of		v hv:
4.					x 1 =	0
5.		·			5 x 2 =	90
		=Total Cover			5 x 3 =	165
Herb Stratum (Plot size: 5')					x 4 =	0
1. Phalaris arundinacea	45	Yes	FACW		x 5 =	0(
Unidentified grass (assumed FAC)      Parametria reners	25	Yes	FAC			255 (B)
Ranunculus repens     Trifolium repens		Yes No	FAC FAC	Prevalence Index	= b/A = <u>2.5</u>	<u>)                                    </u>
5.			TAO	Hydrophytic Vegeta	tion Indicators:	
6.	_				Hydrophytic Vege	ation
7.		· ·		X 2 - Dominance Te	est is >50%	
8	_			X 3 - Prevalence In		
9	_				Adaptations <sup>1</sup> (Provi	
10					s or on a separate	sheet)
11		Tatal Causer		5 - Wetland Non-		ا (ت.ساء:م)
Woody Vine Stratum (Plot size:	100	=Total Cover		1 <del></del>	ophytic Vegetation	
1	′			<sup>1</sup> Indicators of hydric s be present, unless dis		
2.				·	222 2. p. 00.01110	
		=Total Cover		Hydrophytic Vegetation		
% Bare Ground in Herb Stratum	<u> </u>				XNo	_
Remarks:						

Profile Dese	cription: (Describe Matrix	to the dep		<b>ıment th</b> x Feature		tor or o	confirm the	absence of	indicators.	)	
(inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Text	ture		Remarks	
0-8	10YR 2/1	95	7.5YR 4/6	5	C	M	Loamy/		Prominen	t redox conce	entrations
8-14	10YR 4/2	90	7.5YR 4/6	10	<u> </u>	M	Loamy/			t redox conce	
0 14	10111 4/2		7.511( 4/0	10	<u> </u>	101	Loamy	Olaycy	1 TOTTILITOTT	t rodox corice	Zittations
							· -				
	oncentration, D=Dep					oated S	and Grains.			e Lining, M=N	
-	Indicators: (Applic	able to all I			-					natic Hydric	Soils':
Histosol			Sandy Gle	-	IX (54)				Muck (A10) <b>(</b> I	-	(I DD D)
	pipedon (A2)		Sandy Red		١				_	asses (F12) (	(LKK D)
	istic (A3) en Sulfide (A4)		Stripped M Loamy Mu			(ovcont	- MI DA 1\		arent Materia	Surface (F22	<b>)</b> \
	uck (A9) <b>(LRR D, G)</b>		Loamy Gle	-		(excepi	I WILKA I)		(Explain in R		-)
	d Below Dark Surfac		X Depleted N						(Explain in it	.emarks)	
	ark Surface (A12)	(/(11)	X Redox Dai					3Indicators	of hydrophy	tic vegetation	and
	Mucky Mineral (S1)		Depleted I		, ,					must be pres	
	Mucky Peat or Peat	(S2) (LRR (								problematic.	
Restrictive	Layer (if observed)	:	<u> </u>		. ,					<u> </u>	
Type:											
Depth (i	nches):						Hydric So	oil Present	?	Yes X	No
Remarks:											
HYDROLO	OGY										
Wetland Hy	drology Indicators:										
	cators (minimum of o	one is requi							•	2 or more req	
	Water (A1)		Water-Stai				t			ves (B9) ( <b>ML</b>	RA 1, 2
	ater Table (A2)			1, 2, 4A,	and 4B)				, and 4B)	(D40)	
X Saturati	, ,		Salt Crust Aquatic Inv		oo (D12)				ige Patterns		
	Marks (B1) nt Deposits (B2)		Aquatic inv		, ,				eason Water	nable (C2) on Aerial Ima	aony (CO)
	posits (B3)		Oxidized F				oots (C3)		orphic Position		gery (Ca)
	at or Crust (B4)		Presence			-	10010 (00)		w Aquitard (I	` '	
	posits (B5)		Recent Iro		,	,	ls (C6)		Neutral Test (	,	
	Soil Cracks (B6)		Stunted or							s (D6) ( <b>LRR</b> A	<b>A</b> )
Inundati	on Visible on Aerial	Imagery (B	7) Other (Exp	lain in R	emarks)			Frost-	Heave Humn	nocks (D7)	
Sparsel	y Vegetated Concav	e Surface (I	38)								
Field Obser	vations:										
Surface Wat	ter Present? Y	es	No	Depth (ir	nches):						
Water Table		es x		Depth (ir	· -	12					
Saturation P		es x	No	Depth (ir	nches):	8	Wetland	d Hydrolog	y Present?	Yes X	No
,	pillary fringe)							9-1-1-			
Describe Re	ecorded Data (stream	n gauge, mo	onitoring well, aeria	ı pnotos,	previous	s inspec	πions), if ava	iliable:			
Remarks:											

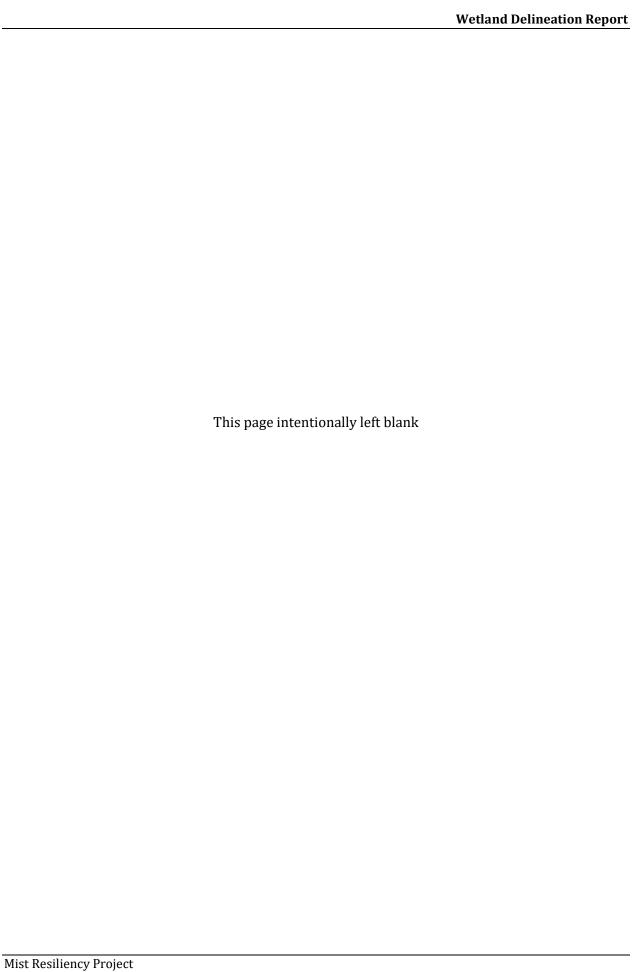
## WETLAND DETERMINATION DATA SHEET – Western Mountains, Valleys, and Coast Region See ERDC/EL TR-10-3; the proponent agency is CECW-CO-R

Investigator(s): LFS  Section, Township, Range: S15 T6N R5W  Landform (hillside, terrace, etc.): terrace  Local relief (concave, convex, none): none  Slope (%): 1  Subregion (LRR): LRR A, MLRA 1 Lat: 46.003636  Long: -123.281195  Datum: WGS 84	Project/Site: North Mist Expansion		City/Cou	nty: Columb	oia	Sampling Da	ate: 12/2	20/2023
Landomn (hillside, terrace, etc.): terrace   Local relief (concave, convex, none):   none   Slope (%):   1	Applicant/Owner: NW Natural				State: OR	Sampling Po	oint: S	P-123
Solid Map Unit Name: 58t-Trehame Still Loam	Investigator(s): LFS		Section, T	ownship, Ra	ange: S15 T6N R5W			
Note   Note	Landform (hillside, terrace, etc.): terrace		Local relief (co	oncave, conv	/ex, none): none		Slope (%	o): 1
Note   Note	Subregion (LRR): LRR A, MLRA 1 Lat: 46.0				·			
Are Vegetation	Soil Map Unit Name: 58:Treharne Silt Loam				NWI classif	ication: n/a		
Are Vegetation	Are climatic / hydrologic conditions on the site typical	for this time o	f year?	Yes	No (If no, exp	lain in Remark	(s.)	
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.  Hydrorytic Vegetation Present? Yes No X Is the Sampled Area within a Wetland Hydrology Present? Yes No X Wetland Hydrology Present? Yes No X Within a Wetland? Yes No X  Remarks:  This wetland boundary was mostly based on presence/absence of mowed reed canary grass and presence/absence of saturation/water table. Slight incline to the south towards the road.  VEGETATION – Use scientific names of plants.  Tree Stratum (Plot size: ) Absolute Dominant Indicator Species? Slatus Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)  Total Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)  Total Number of Dominant Species That Are OBL, FACW, or FAC: 1 (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: 1 (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: 1 (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: 1 (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: 1 (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: 1 (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: 1 (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: 1 (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: 1 (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: 1 (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: 1 (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: 1 (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: 1 (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: 1 (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: 1 (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: 1 (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: 1 (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: 1 (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: 1 (B)  Percent of Dominant Specie					' <u></u>			
SUMMARY OF FINDINGS — Attach site map showing sampling point locations, transects, important features, etc.  Hydrophytic Vegetation Present? Yes No X Wetland Hydrology Present? Yes No X Within a Wetland? Yes No X Wetland Hydrology Present? Yes No X Within a Wetland? Yes No X Wetland Hydrology Present? Yes No X Wetland Boundary was mostly based on presence/absence of mowed reed canary grass and presence/absence of saturation/water table. Slight incline to the south towards the road.  VEGETATION — Use scientific names of plants.  Tree Stratum (Plot size: ) Absolute Dominant Indicator Yes Cover Species? Status Dominance Test worksheet:  1.								
Hydric Soil Present?   Yes	<del></del>						feature	s, etc.
Hydric Soil Present?   Yes	Hydrophytic Vegetation Present? Yes X	No	Is the	Sampled A	ırea			
Wetland Hydrology Present?   Yes   No   X	· · · · · · · · · · · · · · · · · · ·			_		No X		
This wetland boundary was mostly based on presence/absence of wowd reed canary grass and presence/absence of saturation/water table. Slight incline to the south towards the road.    VEGETATION - Use scientific names of plants.								
VEGETATION - Use scientific names of plants.   Absolute   Dominant   Indicator   Status			•					
Absolute	·	nce/absence of	mowed reed	canary grass	s and presence/absence	of saturation/w	ater table	. Slight
Absolute   Species   Dominant   Indicator   Species   Status   S	l VEGETATION – Use scientific names of	plants.						
1. 2		_	Dominant	Indicator				
2.		% Cover	Species?	Status	Dominance Test wor	ksheet:		
Total Number of Dominant Species						•	1	(Λ)
Across All Strata:   1 (B)	2					-		— <sup>(A)</sup>
Sapling/Shrub Stratum   Plot size:	4.					nant Species	1	(B)
1. 2. 3. 4. 5. 6. 6. 6. 6. 6. 6. 6. 6. 6. 6. 6. 6. 6.			=Total Cover		Percent of Dominant S	Species That		
2.	Sapling/Shrub Stratum (Plot size:	_)			Are OBL, FACW, or F	AC:	100.0%	(A/B
Total % Cover of: Multiply by:					Blana landari	-111		
4.       OBL species       0       x 1 = 0         5.       FACW species       5       x 2 = 10         FACW species       5       x 2 = 10         FAC species       90       x 3 = 270         FAC species       90       x 3 = 270         FACU species       5       x 4 = 20         UPL species       0       x 5 = 0         UPL species       0       x 5 = 0 <tr< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td>ultiply by:</td><td></td></tr<>							ultiply by:	
FACW species   S   x 2 =   10	4				_			
Herb Stratum   (Plot size: 5' )	· · · · · · · · · · · · · · · · · · ·							
1. Ranunculus repens         5         No         FAC         UPL species         0         x 5 = 0           2. Schedonorus arundinaceus         70         Yes         FAC         Column Totals: 100 (A) 300 (B)           3. Unidentified grass (assumed FAC)         15         No         FAC         Prevalence Index = B/A = 3.00           4. Hypochaeris radicata         5         No         FACU         Hydrophytic Vegetation Indicators:           5. Phalaris arundinacea         5         No         FACW         Hydrophytic Vegetation Indicators:           7.			=Total Cover			0 x 3 =	270	
2. Schedonorus arundinaceus 3. Unidentified grass (assumed FAC) 4. Hypochaeris radicata 5. No FACU 5. Phalaris arundinacea 6. 1 - Rapid Test for Hydrophytic Vegetation 7. 2 - Dominance Test is >50% 8. 3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations¹(Provide supporting data in Remarks or on a separate sheet) 1. 5 - Wetland Non-Vascular Plants¹ 100 =Total Cover    Woody Vine Stratum   Plot size:	Herb Stratum (Plot size: 5')				· -	x 4 =	20	
3. Unidentified grass (assumed FAC)       15       No       FAC       Prevalence Index = B/A = 3.00         4. Hypochaeris radicata       5       No       FACU         5. Phalaris arundinacea       5       No       FACW         6. The phalaris arundinacea       1 - Rapid Test for Hydrophytic Vegetation         7. The phalaris arundinacea       1 - Rapid Test for Hydrophytic Vegetation         8. The phalaris arundinacea       2 - Dominance Test is >50%         3 - Prevalence Index is ≤ 3.0¹       4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)         10. The phalaris arundinacea       100 = Total Cover       5 - Wetland Non-Vascular Plants¹         Problematic Hydrophytic Vegetation¹ (Explain)       1 - Rapid Test for Hydrophytic Vegetation¹ (Explain)         4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)       5 - Wetland Non-Vascular Plants¹         Problematic Hydrophytic Vegetation¹ (Explain)       1 - Rapid Test for Hydrophytic Vegetation¹ (Explain)         11. The phalaris arundinacea       1 - Rapid Test for Hydrophytic Vegetation         12. The phalaris arundinacea       1 - Rapid Test for Hydrophytic Vegetation         13. The phalaris arundinacea       1 - Rapid Test for Hydrophytic Vegetation         14. Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)       1 - Rapid Test for Hydroph	· · · · · · · · · · · · · · · · · · ·							
4. Hypochaeris radicata  5 No FACU  5. Phalaris arundinacea  6. 1 - Rapid Test for Hydrophytic Vegetation  7. 2 - Dominance Test is >50%  8. 3 - Prevalence Index is ≤3.0¹  9. 4 - Morphological Adaptations¹(Provide supporting data in Remarks or on a separate sheet)  10. 11. 5 - Wetland Non-Vascular Plants¹  Problematic Hydrophytic Vegetation¹ (Explain)  Woody Vine Stratum (Plot size: )  1. 1 - Total Cover Hydrophytic Vegetation¹  Hydrophytic Vegetation¹  Hydrophytic Vegetation¹  Hydrophytic Vegetation¹  Hydrophytic Vegetation¹						``´		(B)
5 No FACW Hydrophytic Vegetation Indicators:  1 - Rapid Test for Hydrophytic Vegetation  X 2 - Dominance Test is >50%  X 2 - Dominance Test is >50%  3 - Prevalence Index is ≤3.0¹  4 - Morphological Adaptations¹(Provide supporting data in Remarks or on a separate sheet)  11.  5 - Wetland Non-Vascular Plants¹  Problematic Hydrophytic Vegetation¹ (Explain)  100 =Total Cover  Woody Vine Stratum (Plot size:  1 - Rapid Test for Hydrophytic Vegetation  4 - Morphological Adaptations¹(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.  Hydrophytic Vegetation					Prevalence Index	= B/A =	3.00	
6					Hydronhytic Vegetat	ion Indicators		
7. X 2 - Dominance Test is >50%   8. 3 - Prevalence Index is ≤3.0¹   9. 4 - Morphological Adaptations¹(Provide supporting data in Remarks or on a separate sheet)   10. 5 - Wetland Non-Vascular Plants¹   Problematic Hydrophytic Vegetation¹ (Explain)   1. 100 =Total Cover   Woody Vine Stratum (Plot size:)   1. 1ndicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.   2. Hydrophytic Vegetation				171011				
8	7						-9	
9. 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)  11. 5 - Wetland Non-Vascular Plants¹  Problematic Hydrophytic Vegetation¹ (Explain)  1. 1ndicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.  1. Hydrophytic Vegetation  Hydrophytic Vegetation	8							
11					4 - Morphological	Adaptations <sup>1</sup> (F	rovide su	pporting
Moody Vine Stratum (Plot size:)   100 = Total Cover	10.				data in Remark	s or on a sepa	rate sheet	t)
Woody Vine Stratum  (Plot size:)  1  2=Total Cover    Moody Vine Stratum	11	_						
be present, unless disturbed or problematic.  2		100	=Total Cover		Problematic Hydro	ophytic Vegeta	tion <sup>1</sup> (Exp	lain)
2		_)						y must
=Total Cover Vegetation					be present, unless dis	turbed or probl	ematic.	
			=Total Cover					
	% Bare Ground in Herb Stratum		1010100001			X No		
Remarks:	Remarks:				<u>.                                      </u>			

Depth	ription: (Describe Matrix	to the dept		ument t x Featu		ator or c	confirm the	absence of	indicators	.)	
(inches)	Color (moist)	%	Color (moist)	% r eatu	Type <sup>1</sup>	Loc <sup>2</sup>	Tex	ture		Remarks	
0-2	10YR 3/2	100			71		Loamy				
2-14	10YR 3/2	95	10YR 3/6	4	C	M	Loamy		Prominer	nt redox conc	entrations
2-14	10113/2	95	10113/0			IVI	LUality	Clayey	FIOIIIIIei	it redux conc	entiations
							-				
	-										
<sup>1</sup> Type: C=Co	ncentration, D=De	pletion, RM=	Reduced Matrix, 0	CS=Cov	ered or C	oated S	and Grains.	<sup>2</sup> Locat	ion: PL=Po	re Lining, M=	Matrix.
Hydric Soil I	ndicators: (Applic	able to all L	RRs, unless othe	erwise r	oted.)			Indicators	for Proble	matic Hydric	: Soils <sup>3</sup> :
Histosol	(A1)		Sandy Gle	yed Ma	trix (S4)			2 cm N	/luck (A10)	(LRR A, E)	
Histic Ep	ipedon (A2)		Sandy Re	dox (S5)	)			Iron-M	anganese N	lasses (F12)	(LRR D)
Black His	stic (A3)		Stripped N	latrix (S	6)			Red P	arent Materi	al (F21)	
Hydroge	n Sulfide (A4)		Loamy Mu	icky Min	eral (F1)	(except	MLRA 1)	Very S	Shallow Dark	Surface (F2	2)
1 cm Mu	ck (A9) (LRR D, G)	1	Loamy Gle	eyed Ma	trix (F2)			Other	(Explain in F	Remarks)	
Depleted	Below Dark Surface	ce (A11)	Depleted I	Matrix (F	<sup>-</sup> 3)						
Thick Da	rk Surface (A12)		Redox Da	rk Surfa	ce (F6)			<sup>3</sup> Indicators	of hydrophy	tic vegetation	n and
Sandy M	ucky Mineral (S1)		Depleted I	Dark Sui	rface (F7)	)		wetlan	d hydrology	must be pres	sent,
2.5 cm M	lucky Peat or Peat	(S2) (LRR G	) Redox De	pressior	ıs (F8)			unless	disturbed o	r problematio	<b>).</b>
Restrictive L	ayer (if observed)	):									
Type:											
Depth (in	ches):						Hydric S	oil Present?	•	Yes	No X
Remarks:											
	oughout 14 inches										
HYDROLO	GY										
Wetland Hyd	Irology Indicators	:									
Primary Indic	ators (minimum of	one is require	ed; check all that a	apply)				Secondary	Indicators (	2 or more red	quired)
Surface \	Nater (A1)		Water-Sta	ined Lea	aves (B9)	(excep	t	Water	Stained Lea	aves (B9) ( <b>MI</b>	LRA 1, 2
High Wa	ter Table (A2)		MLRA	1, 2, 4A	, and 4B)	)		4A	and 4B)		
Saturatio	n (A3)		Salt Crust	(B11)				Draina	ge Patterns	(B10)	
Water Ma	arks (B1)		Aquatic In	vertebra	tes (B13)	)		Dry-Se	eason Water	Table (C2)	
Sedimen	t Deposits (B2)		Hydrogen	Sulfide	Odor (C1	)		Satura	tion Visible	on Aerial Ima	agery (C9)
Drift Dep	osits (B3)		Oxidized F	Rhizosph	neres on	Living R	oots (C3)	Geom	orphic Posit	ion (D2)	
Algal Ma	t or Crust (B4)		Presence			` '		Shallo	w Aquitard (	D3)	
	osits (B5)		Recent Iro				` '		leutral Test	` '	
Surface S	Soil Cracks (B6)		Stunted or				RR A)			ls (D6) ( <b>LRR</b>	A)
	n Visible on Aerial Vegetated Concav			olain in F	Remarks)			Frost-l	Heave Humi	mocks (D7)	
Field Observ	ations:										
Surface Water	er Present? Y	es	No <u>x</u>	Depth (	inches):						
Water Table	Present? Y	es	No <u>x</u>	Depth (	inches):						
Saturation Pr	esent? Y	es	No <u>x</u>	Depth (	inches):		Wetlan	d Hydrolog	Present?	Yes	No X
(includes cap	illary fringe)										
Describe Red	orded Data (stream	n gauge, moi	nitoring well, aeria	l photos	, previou	s inspec	tions), if ava	ailable:			
Remarks:											
<del></del>											

Wetland Delineation Report

## **Appendix B. SDAM Forms**



Proje	ect # / Na	ame North Mist Exp	ansion Project		Assessor Sara Frank					
Addı	ress		-		3	aia Fidii	Date 9/29/2029			
	erway Na	ame ST-01			Coordinates	at Lat.				
	ch Boun				downstream					
					(ddd.mm.ss)		sturbed Site / Difficult			
Prec	ipitation	w/in 48 hours (cm) No	ne Channe	el Width (m)	53 feet	_	On (Describe in "Notes")			
	% of reach w/observed surface flow 0  % of reach w/any flow (surface or hyporheic) 0  # of pools observed 0									
		ved Wetland Plants		Observed	Macroinvert	ebrates:				
Observations	Reed	dicator status): canary grass - FACW sp FACW/OBL		Tε		ndicator Status	Ephemer- # of optera? Individuals			
	1. Are a	aquatic macroinvertebra	tes present?			✓ Yes	☐ No			
ors	2. Are 6	or more individuals of	the Order Ephe	meroptera p	resent?	✓ Yes	□No			
Indicators	3. Are p	perennial indicator taxa	present? (refer t	o Table 1)		☐ Yes	<b>☑</b> No			
Indi	4. Are f	FACW, OBL, or SAV pla	ints present? (\	Within ½ chann	el width)	✓ Yes	□No			
	5. Wha	t is the slope? (In percent	, measured for the	valley, not the	stream)	1	_ %			
Conclusions	macro F	re aquatic invertebrates present?  If No: Ar FACW, plants pi (Indica	e SAV, or OBL essent?	If Yes: Are perennial indicator taxa present? (Indicator 3)  If No: INTERMITTENT  If Yes: What is the slope? (Indicator 5)  If No: EPHEMERAL	If No: V SI  (Ind  Slope INTER  Slope EPHE	PERENNIAL  What is the lope? icator 5)  2 < 10.5%: MITTENT  ≥ 10.5%: EMERAL	Slope < 16%: INTERMITTENT  Slope ≥ 16%: PERENNIAL			
	☐ Fish	Indicators: Dhibians			Finding		Ephemeral Intermittent Perennial			

<b>Notes:</b> single indicator interfere with indicators, etc.)	conclusions, description of distu	rbances o	r modificatio	ons that may
Difficult Situation:	Describe situation. For disturb		eams, note	extent,
☐ Prolonged Abnormal Rainfall / Snowpad	• • • • • • • • • • • • • • • • • • • •			
☐ Below Average				
Above Average				
☐ Natural or Anthropogenic Disturbance				
Other:	_			
Additional Notes: (sketch of site, descript additional sheets as necessary. Braided perennial stream has gravel banks and stinging nettle, reed canary grass, and blackber	-	_		
Anaillaw, Information				
Ancillary Information:				
☐ Riparian Corridor				
☐ Erosion and Deposition				
☐ Floodplain Connectivity				
Г	Observed Amphibians, Snake	, and Fish	:	
		Life History	Location	Number of Individuals
	Taxa	Stage	Observed	Observed

Proje	ect # / Na	ame North Mist Expa	ansion Project		Assessor Sa	ra Fra	ınk			
Addı	Address Date 10/6/2022									
Wate	erway Na	ame ST-02			Coordinates a		at. 46.014	N		
Rea	ch Bound	daries			downstream (ddd.mm.ss)	end Lo	ong123.268	W		
Prec	rinitation	w/in 48 hours (cm) No	no Channe	el Width (m)		_	isturbed Site / Difficul	t		
1 100	/ipitation	Will 40 flours (ciri) No	ne Onanii	zi widai (iii) į	4 feet	Situa	ation (Describe in "Notes")			
		% of reach w/observed	surface flow 0							
	_									
	erved rology	% of reach w/any flow	(surface or hyp	orheic) <u>0</u>	<del></del>					
ı ı y u	# of pools observed 0									
	01	-								
		ved Wetland Plants dicator status):		Observed	Macroinverte	brates	S:			
တ္	•	e sarmentosa - OBL		Та		dicator tatus	Ephemer- # of optera? Individuals			
Observations		ilus sceleratus - OBL			3	iaius	optera? Individuals			
ırva										
pse										
0										
	1. Are a	aquatic macroinvertebra	tes present?			✓ Ye	es 🗌 No			
ırs		or more individuals of	•	meroptera p	resent?	<u> </u>				
cato		perennial indicator taxa				☐ Ye				
Indicators	_	FACW, OBL, or SAV pla			el width)	☑ Ye	<u>_</u>			
		t is the slope? (In percent		<u> </u>						
		(разовы	,	,,	,					
					If Year DE	RENNIAL	1			
				Yes: Are perennial indicator taxa	If Yes: PE	HENNIAL				
		If Yes: A more ind		present?			Slope < 16%: INTERMITTENT			
		of the 0	Order roptera	(Indicator 3)		hat is the pe?				
		prese		If No:	(Indic	ator 5)	Slope ≥ 16% : PERENNIAL			
ડા		e aquatic invertebrates (Indica	1012)	INTERMITTENT	)		PEREININAL			
sior		present?		If Yes: What is the		: 10.5%: IITTENT				
Conclusions	(In	dicator 1)  If No: Ar		slope? (Indicator 5)						
Cor		FACW, of plants pr		(maroator o)		: 10.5%: MERAL	)			
		(Indica:	tor 4)	If No: EPHEMERAL						
					)					
		Indicators:			Finding:		Ephemeral			
	☐ Fish	ohibians					Intermittent			
		טווטומווס					Perennial			

<b>Notes:</b> single indicato interfere with indicators, etc.)	or conclusions, description of disturbances or modifications that may
Difficult Situation:	Describe situation. For disturbed streams, note extent, type, and history of disturbance.
☐ Prolonged Abnormal Rainfall / Snowpa	ack
☐ Below Average	
☐ Above Average	
☐ Natural or Anthropogenic Disturbance	
Other:	
additional sheets as necessary. Wetland 10 becomes channelized and channel	tion of photos, comments on hydrological observations, etc.) Attach loses vegetation. Banks are steeply cut and an avergae height of about ling blackberry, and stinging nettle. Obligate wetland plants near origination
Ancillary Information:	
☐ Riparian Corridor	
☐ Erosion and Deposition	
☐ Floodplain Connectivity	
	Observed Amphibians, Snake, and Fish:
	Life Number of History Location Individuals
	Taxa Stage Observed Observed

Proje	Project # / Name North Mist Expansion Project					Assessor Sara Frank					
Add	Address Date 10/11/2022							1/2022			
	Waterway Name ST-03								46.048		N
	ch Bound					downstream (ddd.mm.ss)	end	Long.	123.28	1	w
Prec	rinitation	w/in 48 hours (cm) No	no (	Channe	el Width (m)			-	urbed Site		
Precipitation w/in 48 hours (cm) None Channel					el Width (m) 3 feet Situation (Describe in "					in "Notes")	
	% of reach w/observed surface flow										
	erved rology	% of reach w/any flow (surface or hyporheic) 0									
	3,	# of pools observed <sup>0</sup>									
	Obcor	yod Wotland Plants			Observed	Macroinverte	ahra	toe:			
	Observed Wetland Plants (and indicator status): None				Observed	Macioniverd	БЫа	ics.			
SL	None					dicator Status		Ephemer- # of optera? Individual	# of Individuals	s	
Observations											
erva											
sqc											
	1. Are aquatic macroinvertebrates present? ☐ Yes ☐ No										
tors	2. Are 6 or more individuals of the Order Ephemeroptera pr					resent?		Yes	abla	No	
Indicators	3. Are perennial indicator taxa present? (refer to Table 1)					☐ Yes ☑ No					
lnd	4. Are FACW, OBL, or SAV plants present? (Within ½ channel width) ☐ Yes ☐ No							No			
	5. What is the slope? (In percent, measured for the valley, not the stream)14 %										
	If Yes: Are perennial										
	If Yes: Are 6 or								CSI	ope < 16%:	\
		more ind	(Indicator 3)	If No: V		the		ERMITTENT	)		
	Ephemeroptera present? (Indicator 2)  INTER						ope? cator 5)	, ,	Old Old	ppe ≥ 16% :	\
										ERENNIAL	)
ions	macroinvertebrates present? Slope < 10.5%:										
lusi	(Indicator 1) (Indicator 1) (Indicator 1) (Indicator 1)										
Conclusions	If <b>No</b> : Are SAV, FACW, or OBL plants present?  (Indicator 5)  Slope ≥ 10.5%: EPHEMERAL										
ပ	(Indicator 4)										
					EPHEMERAL						
	Single	Indicators:				Finding	: [	<b>∕</b> E	pheme	ral	
	Single Indicators:  ☐ Fish ☐ Amphibians						ĺ	Ir	ntermitt	ent	
							_ [	P	Perennia	al	

<b>Notes:</b> single indicato interfere with indicators, etc.)	r conclusions, description of disturbances or modifications that may							
Difficult Situation:	Describe situation. For disturbed streams, note extent, type, and history of disturbance.							
☐ Prolonged Abnormal Rainfall / Snowpa	• • • • • • • • • • • • • • • • • • • •							
☐ Below Average								
☐ Above Average								
☐ Natural or Anthropogenic Disturbance								
☐ Other:								
additional sheets as necessary.	tion of photos, comments on hydrological observations, etc.) Attach bottom of a steep hillside. Channel is fully vegetated with piggyback plant, a fern, and velvet grass							
Ancillary Information:								
☐ Riparian Corridor								
☐ Erosion and Deposition								
☐ Floodplain Connectivity								
Observed Amphibians, Snake, and Fish:								
	Life Number of History Location Individuals							
	Taxa Stage Observed Observed							

### **Appendix B: Streamflow Duration Field Assessment Form**

				Asses	sor		7	
Pro	oject #/N	Dorth Mi	st Resiliency	702		Simmer Roberts		
Ad	dress	N/A				Date 09/27/2023		
Wa	iterway Na	me ST-05			nates at Lat. 4	,.053384 N		
Re	ach Bound	daries Originales in	study area flow	S Out of studio roud.mm		23,305798 W	1	
Pre	ecipitation	w/in 48 hours (cm)	.2 Chann	el Width (m)	<u> </u>	bed Site / Difficult (Describe in "Notes")		
		% of reach w/observ	ed surface flow	41				
	served	% of reach w/any flo	w (surface or hypo	rheic) <u>N/A</u>		20	1	
пу	drology	# of pools observed						
lons	(and ind	ed Wetland Plants dicator status): Nove.	4	Observed Macroinv	Indicator Eph	emer- # of era? Individuals		
Observations								
	1. Are a	quatic macroinvertebra	ites present?		Yes	No	0.50	
018	2. Are 6	or more individuals of	the Order Epheme	Yes	₩No	0.06		
cat	3. Are perennial indicator taxa present? (refer to Table 1)					₩No		
						√No		
_	5. What is the slope? (In percent, measured for the valley, not the stream)							
slons		indiv	as: Are 6 or more duals of the Order phemeroptera present? (Indicator 2)	If Yes: Are perennial indicator taxa present? (Indicator 3)  If No: INTERMITTENT.	What is the slope? dicator 5) Slope?	e < 16%; RMITTENT De ≥ 16%; RENNIAL	and the same	
Conclusion	If No: Are SAV, FACW, or OBL plants present? (Indicator 4)  If No: EPHEMERAL  Slope < 10.5%: INTERMITTENT  Slope < 10.5%: EPHEMERAL							
	Single inc Fish Amphi			Find	ling: 🔽 Epher ☐ Intern ☐ Peren	nittent		

	and history of disturbe	1000		ent, type,
Prolonged Abnormal Rainfall / Snowpack	and history of disturba	ince.		
☐ Below Average				
☐ Above Average				
Natural or Anthropogenic Disturbance				
riatara or rintinopogemo bistarbance				
Other:	2			
<b>ditional Notes:</b> (sketch of site, description ditional sheets as necessary. $C_1$				
Lphemer	a) drainage Filled w	•		
\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	Polystichur Thuja plic Acer circ Mahonia	n munit	um.
	dence viagodion	Thuja plic	wa	`
	Was Law VALL	Acer circ	iniour	`
	N V W VV	Perudote	suga men	nziesii
A		Almus r	ubra	
	3-6ft.	Optopan	ubra lax horri	dus
ncillary Information:				
Riparian Corridor				
Erosion and Deposition				
Floodplain Connectivity				
	Observed Amphibians, Sna	ike, and Fish:	Nove.	
	100000000000000000000000000000000000000	Life History	Location	Number of Individual
	Таха	Stage	Observed	Observed
	1	1	1	

# Appendix C. Wetlands and Waters Photolog

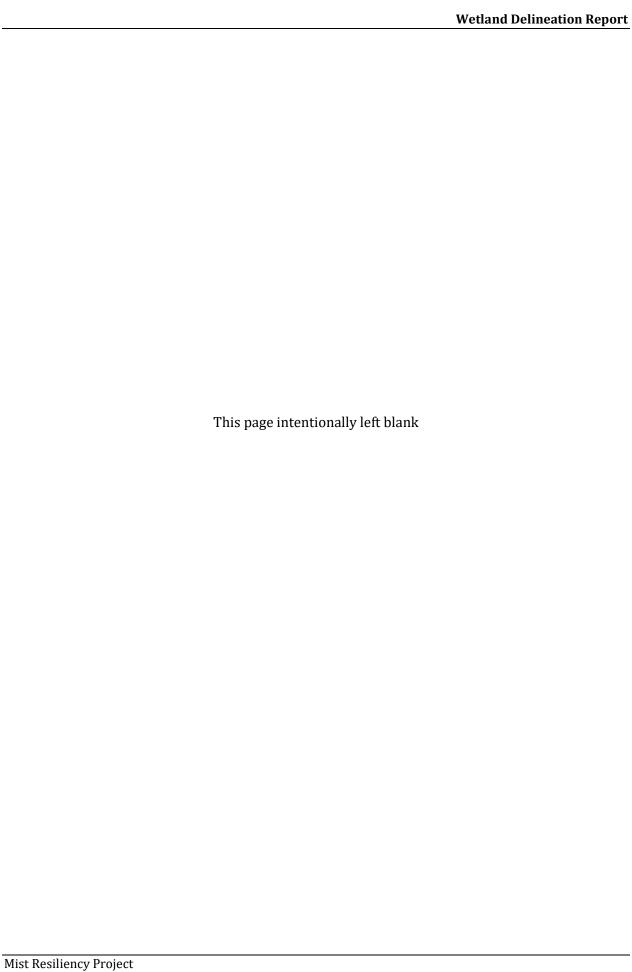




Photo 1. Southeast end of WET-01, wetland extends northwest between gravel road and laydown yard. Surface soil cracking can be seen in the foreground.. Looking NW. Taken: 9/27/2022. Lat/Long: 45.9987068, -123.2596903.



Photo 3. Shovel in pit along WET-01 boundary. Soft rush (Juncus effusus) dominates within the slight depression.. Looking SE. Taken: 9/27/2022. Lat/Long: 45.99887081, -123.259912.



Photo 2. Facing into survey area in ditch along gravel road.. Looking SE. Taken: 9/27/2022. Lat/Long: 45.9990031, -123.2599982.



Photo 12. Shovel showing the location of SP-12.. Looking SE. Taken: 9/29/2022. Lat/Long: 46.00309017, -123.2622761.



Photo 13. Shovel showing the location of SP-16.. Looking S. Taken: 9/29/2022. Lat/Long: 46.00328593, -123.2623231.



Photo 14. South end of WET-03.. Looking N. Taken: 9/29/2022. Lat/Long: 46.00329642, -123.2622828.



Photo 15. Looking east into WET-03 from a gravel road.. Looking E. Taken: 9/30/2022. Lat/Long: 46.00524683, -123.2621361.



Photo 16. Looking southeast into WET-03 from a gravel road.. Looking SE. Taken: 9/30/2022. Lat/Long: 46.0048796, -123.2622001.



Photo 17. Looking northeast into WET-03 from a gravel road.. Looking NE. Taken: 9/30/2022. Lat/Long: 46.00372573, -123.2623645.



Photo 19. Shovel marking elevation change between upland and WET-03 plots. Looking SW. Taken: 9/30/2022. Lat/Long: 46.00417136, -123.2620551.



Photo 18. Shovel on WET-03 boundary. Slough sedge (Carex obnupta) and low elevation (right) within wetland. Sword fern (Polystichum munitum) and dwarf rose (Rosa gymnocarpa) uphill of wetland (left).. Looking E. Taken: 9/30/2022. Lat/Long: 46.0056232, -123.2620488.



Photo 20. Shovel on WET-03 boundary, marking elevation change between snowberry (Symphoricarpos albus) and reed canary grass (Phalaris arundinacea).. Looking S. Taken: 9/30/2022. Lat/Long: 46.00395526, -123.2620621.



Photo 21. Shovel marking WET-03 boundary. Looking N. Taken: 9/30/2022. Lat/Long: 46.0042282, -123.2622615.



Photo 23. Facing the south end of WET-04.. Looking SE. Taken: 10/4/2022. Lat/Long: 46.00196109, -123.2626155.



Photo 22. Shovel marks change in elevation and vegetation. Slough sedge and low elevation (right) and higher elevation (left).. Looking S. Taken: 9/30/2022. Lat/Long: 46.00355977, -123.2622655.



Photo 24. Typical vegetation community south of WET-04 includes cascara (Frangula purshiana), big leaf maple (Acer macrophyllum), trailing blackberry (Rubus ursinus), sword fern, and oso-berry (Oemleria cerasiformis).. Looking N. Taken: 10/4/2022. Lat/Long: 46.00153738, -123.2625149.



Photo 25. Looking east into WET-04. Looking E. Taken: 10/4/2022. Lat/Long: 46.0029031, -123.2628134.



Photo 27. Conifers and other upland vegetation in background. End of reed canary grass marks WET-04 boundary. Looking N. Taken: 10/5/2022. Lat/Long: 46.00420196, -123.2627162.



Photo 26. Looking toward sample plots on northwest end of WET-04.. Looking NE. Taken: 10/5/2022. Lat/Long: 46.00425562, -123.2627347.



Photo 28. Shovel marking change in elevation and vegetation of WET-04.. Looking E. Taken: 10/4/2022. Lat/Long: 46.00224749, -123.2627715.



Photo 29. Shovel marking boundary where sudden elevation change of WET-04 is present.. Looking N. Taken: 10/4/2022. Lat/Long: 46.00209574, -123.2627263.



Photo 31. Culvert outflow at pink flagging tape.. Looking N. Taken: 10/4/2022. Lat/Long: 46.00335513, -123.2625839.



Photo 30. Culvert outflow into dense reed canary grass.. Looking E. Taken: 10/4/2022. Lat/Long: 46.00197452, -123.2626028.



Photo 32. Culvert end.. Looking SE. Taken: 10/5/2022. Lat/Long: 46.00378456, -123.2625327.



Photo 33. Conifers (upland) at north edge of WET-04.. Looking N. Taken: 10/5/2022. Lat/Long: 46.00445311, -123.2625078.



Photo 35. General site conditions of D-04.. Looking SE. Taken: 10/5/2022. Lat/Long: 46.00658771, -123.2633822.



Photo 34. WET-05 boundary. Looking NW. Taken: 10/5/2022. Lat/Long: 46.00629087, -123.263409.



Photo 36. General site conditions of D-04.. Looking SE. Taken: 10/5/2022. Lat/Long: 46.0061194, -123.2626789.



Photo 37. Culvert outflow into creek.. Looking NE. Taken: 10/6/2022. Lat/Long: 46.00766304, -123.2656578.



Photo 39. Looking at vegetated gravel bar from left bank of ST-01.. Looking W. Taken: 10/6/2022. Lat/Long: 46.00755025, -123.2655918.



Photo 38. View of ST-01 from road.. Looking SW. Taken: 10/6/2022. Lat/Long: 46.00774669, -123.265486.



Photo 40. ST-01 around bend before culvert inflow. Looking E. Taken: 10/6/2022. Lat/Long: 46.00785005, -123.2654211.



Photo 41. ST-01 flowing into study area.. Looking W. Taken: 10/6/2022. Lat/Long: 46.00773249, -123.2645809.



Photo 43. WET-08 boundary. Looking W. Taken: 10/6/2022. Lat/Long: 46.00791901, -123.2654915.



Photo 42. WET-08 boundary. Looking E. Taken: 10/6/2022. Lat/Long: 46.00794175, -123.2657762.



Photo 44. Looking down survey corridor.. Looking S. Taken: 10/6/2022. Lat/Long: 46.01593472, -123.2685425.



Photo 45. General site conditions of WET-10.. Looking NW. Taken: 10/6/2022. Lat/Long: 46.01414056, -123.2679911.



Photo 47. Shovel is at upland verification plot of WET-07a.. Looking E. Taken: 10/6/2022. Lat/Long: 46.00772743, -123.2656592.



Photo 46. General site conditions of ST-02.. Looking SE. Taken: 10/7/2022. Lat/Long: 46.01402106, -123.2677977.



Photo 48. Very large culverts under the mainline road conveys perennial ST-01.. Looking E. Taken: 10/6/2022. Lat/Long: 46.00771432, -123.2655757.



Photo 49. Vegetated gravel bar below the OHWL of the stream. Looking NE. Taken: 10/6/2022. Lat/Long: 46.00760388, -123.2658592.



Photo 50. Shovel is at SP-66. Looking NW. Taken: 10/6/2022. Lat/Long: 46.00747524, -123.2652799.



Photo 51. Facing large culverts under mainline road. Looking NW. Taken: 10/6/2022. Lat/Long: 46.00758645, -123.2655033.



Photo 52. Vegetated gravel bar below the ordinary high water line of ST-01.. Looking NW. Taken: 10/6/2022. Lat/Long: 46.00759704, -123.265693.



Photo 53. General site conditions of WET-07b.. Looking S. Taken: 10/6/2022. Lat/Long: 46.00761574, -123.2656526.



Photo 55. General site conditions of WET-09.. Looking S. Taken: 10/6/2022. Lat/Long: 46.01487445, -123.2678965.



Photo 54. Southern boundary of WET-08.. Looking W. Taken: 10/6/2022. Lat/Long: 46.00792537, -123.265445.



Photo 56. Looking uphill towards WET-09 and WET-10.. Looking N. Taken: 10/7/2022. Lat/Long: 46.01310947, -123.2680556.



Photo 57. General site conditions of WET-11.. Looking N. Taken: 10/10/2022. Lat/Long: 46.00938111, -123.268004.



Photo 59. Looking downhill along survey corridor. Looking SE. Taken: 10/10/2022. Lat/Long: 46.00879983, -123.2679932.



Photo 58. General site conditions of WET-11.. Looking S. Taken: 10/10/2022. Lat/Long: 46.00962635, -123.267972.



Photo 60. General site conditions of WET-12.. Looking SE. Taken: 10/10/2022. Lat/Long: 46.00833994, -123.2678142.



Photo 61. Looking uphill along survey corridor. Looking NW. Taken: 10/10/2022. Lat/Long: 46.0083655, -123.2677468.



Photo 71. Looking east along D-05.. Looking E. Taken: 10/10/2022. Lat/Long: 46.00786582, -123.2670364.



Photo 62. General site conditions of WET-12.. Looking NW. Taken: 10/10/2022. Lat/Long: 46.00814732, -123.2671607.



Photo 79. Scotch broom, ragwort (Jacobaea vulgaris), and Douglas fir saplings on edge of Douglas fir forest. Looking SE. Taken: 10/10/2022. Lat/Long: 46.04664351, -123.2812842.



Photo 83. Scotch broom and stumps off of a logging access road.. Looking E. Taken: 10/10/2022. Lat/Long: 46.01771429, -123.2714253.



Photo 88. General site conditions of ST-03.. Looking S. Taken: 10/11/2022. Lat/Long: 46.04804537, -123.2805819.



Photo 90. General site conditions of WET-15a.. Looking N. Taken: 10/11/2022. Lat/Long: 46.05107332, -123.2875457.



Photo 91. General site conditions of WET-15a.. Looking SW. Taken: 10/11/2022. Lat/Long: 46.0510914, -123.2875455.



Photo 92. General site conditions of WET-15a.. Looking NW. Taken: 10/11/2022. Lat/Long: 46.05094923, -123.2876333.



Photo 93. General site conditions of WET-15a.. Looking SW. Taken: 10/11/2022. Lat/Long: 46.05112544, -123.2875354.



Photo 95. Dense young forest.. Looking E. Taken: 10/11/2022. Lat/Long: 46.05256813, -123.2957118.



Photo 94. Looking north up a grassy hillside.. Looking N. Taken: 10/11/2022. Lat/Long: 46.05050037, -123.2904934.



Photo 96. Logged hillside with no wetland or water features.. Looking NW. Taken: 10/11/2022. Lat/Long: 46.05187449, -123.2986267.



Photo 97. Well pad.. Looking N. Taken: 10/11/2022. Lat/Long: 46.0517453, -123.298432.



Photo 112. Looking northwest along narrow gravel road.. Looking NW. Taken: 10/11/2022. Lat/Long: 46.04741619, -123.3124775.



Photo 98. Logged hillside with no wetland or water features.. Looking S. Taken: 10/11/2022. Lat/Long: 46.05153555, -123.2982326.



Photo 125. Steep drop into Douglas fir, vine maple, and sword fern vegetation.. Looking S. Taken: 10/11/2022. Lat/Long: 46.04648541, -123.2817556.



Photo 128. Overgrown with sword ferns.. Looking SE. Taken: 10/11/2022. Lat/Long: 46.0477695, -123.2803955.



Photo 126. Very steep drop off on forested hillside.. Looking NE. Taken: 10/11/2022. Lat/Long: 46.04778493, -123.2811709.



Photo 129. Culvert outflow is short, wide, and mostly unvegetated. Looking NW. Taken: 10/11/2022. Lat/Long: 46.05114293, -123.2856082.



Photo 135. Culvert outflow (WET-15b) downhill of WET-15a. Wetland vegetated by sword fern, skunk cabbage (Lysichiton americanus), red elderberry (Sambucus racemosa), stinging nettle (Urtica dioica), and vine maple.. Looking NW. Taken: 10/11/2022. Lat/Long: 46.05069524, -123.2873873.



Photo 136. Vegetated hillside with no bed or banks. sword fern, vine maple, trailing blackberry, etc.. Looking NE. Taken: 10/11/2022. Lat/Long: 46.05190877, -123.2907737.



Photo 137. Very steep drop off into dense vine maple, sword fern, and red elderberry. No visible wetland, waters, or hydric plants.. Looking SW. Taken: 10/11/2022. Lat/Long: 46.0518783, -123.2910599.



Photo 139. No bed or banks on hillside.. Looking NE. Taken: 10/11/2022. Lat/Long: 46.0521491, -123.291014.



Photo 138. Road above sword fern hillside to the left.. Looking NW. Taken: 10/11/2022. Lat/Long: 46.05215493, -123.2908735.



Photo 140. Culvert outflow hangs off steep hillside.. Looking W. Taken: 10/11/2022. Lat/Long: 46.05205523, -123.2910865.



Photo 141. Culvert flows out into Douglas fir and sword fern forest.. Looking S. Taken: 10/11/2022. Lat/Long: 46.05212166, -123.2937127.



Photo 143. Wide hillside swale full of Douglas fir saplings, red alder saplings, Canada thistle, and foxglove.. Looking NW. Taken: 10/11/2022. Lat/Long: 46.04732803, -123.295645.



Photo 142. No ditch at culvert outflow. Looking W. Taken: 10/11/2022. Lat/Long: 46.05222865, -123.2940617.



Photo 144. Scrape in large swale feature leading up to natural gas well pad.. Looking S. Taken: 10/11/2022. Lat/Long: 46.04935896, -123.2970543.



Photo 145. Logged hillside.. Looking N. Taken: 10/11/2022. Lat/Long: 46.04965212, -123.2969672.



Photo 146. Hillside outside a fenced natural gas facility vegetated with scotch broom, foxglove, Douglas fir saplings, and upland grasses.. Looking S. Taken: 10/11/2022. Lat/Long: 46.04810779, -123.2993671.



Photo 148. Red alder, scotch broom, Douglas fir, and trailing blackberry. Looking SE. Taken: 10/11/2022. Lat/Long: 46.05147988, -123.3125659.



Photo 149. Dense young forest.. Looking S. Taken: 10/11/2022. Lat/Long: 46.04950764, -123.3133791.



Photo 151. Vine maple, Douglas fir, sword fern, and snowberry. Looking NE. Taken: 10/11/2022. Lat/Long: 46.05089105, -123.3090388.



Photo 150. Older forest with primarily sword fern undergrowth. Looking NE. Taken: 10/11/2022. Lat/Long: 46.05129546, -123.3112144.



Photo 152. Scotch broom, Douglas fir saplings, dandelion (Taraxacum officinale), and upland grasses. Looking NW. Taken: 10/11/2022. Lat/Long: 46.05099308, -123.3063252.



Photo 153. Dry hillside with some scotch broom and red alder. Looking N. Taken: 10/11/2022. Lat/Long: 46.05152747, -123.3055469.



Photo 154. Logged hillside.. Looking SE. Taken: 10/11/2022. Lat/Long: 46.05371025, -123.3030539.



Photo 155. Saplings, Canada thistle, and red alder shrubs.. Looking SW. Taken: 10/11/2022. Lat/Long: 46.05353949, -123.3044985.



Photo 156. Laydown yard.. Looking NE. Taken: 10/11/2022. Lat/Long: 46.1048256, -123.2443664.



Photo 157. Trailing blackberry, scotch broom, and red alder. Looking N. Taken: 10/11/2022. Lat/Long: 46.10539594, -123.2425702.



Photo 159. Downed wood and disturbed vegetation.. Looking NW. Taken: 10/12/2022. Lat/Long: 46.10450994, -123.2445906.



Photo 158. Trailing blackberry thicket.. Looking W. Taken: 10/12/2022. Lat/Long: 46.10560302, -123.243302.



Photo 160. Sword fern, big leaf maple, vine maple, and trailing blackberry. Looking NW. Taken: 10/12/2022. Lat/Long: 46.00048443, -123.2617395.



Photo 161. Vegetation on east side of road includes red alder, cascara, Douglas fir, trailing blackberry, and big leaf maple. Looking NW. Taken: 10/12/2022. Lat/Long: 46.00062757, -123.261286.



Photo 163. Scotch broom, red alder, trailing blackberry, Canada thistle, ragwort, Queen Anne's lace (Daucus carota), vine maple, bracken fern, and velvetgrass.. Looking SW. Taken: 10/12/2022. Lat/Long: 46.02022766, -123.270563.



Photo 162. WET-16 boundary between Douglas fir and soft rush. Looking S. Taken: 10/12/2022. Lat/Long: 46.00735402, -123.2639674.



Photo 165. Soft rush in laydown yard depression (WET-17).. Looking NE. Taken: 10/12/2022. Lat/Long: 46.10510486, -123.2431617.



Photo 167. Depression where WET-18 is.. Looking SW. Taken: 9/26/2023. Lat/Long: 46.00421352, -123.2805247.



Photo 166. Looking towards SP-109a dominated by Oregon ash (Fraxinus latifolia) and Douglas' spirea (Spiraea douglasii).. Looking N. Taken: 9/26/2023. Lat/Long: 46.0043713, -123.2812729.



Photo 168. Looking from upland field towards WET-18.. Looking SW. Taken: 9/26/2023. Lat/Long: 46.00428892, -123.2804706.



Photo 169. Looking west showing concave depression of WET-18.. Looking W. Taken: 9/26/2023. Lat/Long: 46.00435173, -123.2795335.



Photo 171. looking west at WET-18.. Looking W. Taken: 9/26/2023. Lat/Long: 46.00498678, -123.2794316.



Photo 170. Upland plot up-slope from WET-18.. Looking NW. Taken: 9/26/2023. Lat/Long: 46.00420733, -123.279566.



Photo 172. Distinct upland vegetation community here.. Looking S. Taken: 9/26/2023. Lat/Long: 46.00493072, -123.2794276.



Photo 173. Looking towards field and forested area.. Looking W. Taken: 9/26/2023. Lat/Long: 46.00398132, -123.2783968.



Photo 175. Looking at dense forested understory.. Looking N. Taken: 9/26/2023. Lat/Long: 46.00456687, -123.2783191.



Photo 174. Looking north up-slope and east of road.. Looking N. Taken: 9/26/2023. Lat/Long: 46.00418182, -123.2784219.



Photo 176. Vegetation boundary of WET-18.. Looking E. Taken: 9/26/2023. Lat/Long: 46.004346, -123.2797172.



Photo 177. Shallow relief of WET-18.. Looking E. Taken: 9/26/2023. Lat/Long: 46.00414753, -123.2813754.



Photo 179. Shallow relief used to defined boudary of WET-18.. Looking E. Taken: 9/26/2023. Lat/Long: 46.00414798, -123.281384.



Photo 178. WET-18 at left upland area at right.. Looking E. Taken: 9/26/2023. Lat/Long: 46.00401793, -123.2813086.



Photo 180. No ditch upland.. Looking E. Taken: 9/26/2023. Lat/Long: 46.00351025, -123.2809658.



Photo 181. Upland vegetation dominates.. Looking E. Taken: 9/26/2023. Lat/Long: 46.00340008, -123.2808578.



Photo 183. General site conditions within survey area, no hydric features present. Looking S. Taken: 9/26/2023. Lat/Long: 46.02485268, -123.2713157.



Photo 182. No hydric features present, upland vegetation dominates.. Looking E. Taken: 9/26/2023. Lat/Long: 46.00322582, -123.2796298.



Photo 188. General site conditions at SP-112.. Looking N. Taken: 9/26/2023. Lat/Long: 46.0049323, -123.2794205.



Photo 189. General site conditions at WET-19.. Looking NE. Taken: 9/26/2023. Lat/Long: 46.00469046, -123.2782502.



Photo 191. General site conditions at WET-19.. Looking S. Taken: 9/26/2023. Lat/Long: 46.00405565, -123.281284.



Photo 190. General site conditions at WET-19.. Looking W. Taken: 9/26/2023. Lat/Long: 46.00469998, -123.2782945.



Photo 192. Upland forest.. Looking N. Taken: 9/27/2023. Lat/Long: 46.05327278, -123.3055828.



Photo 193. No drainage channel up slope.. Looking E. Taken: 9/27/2023. Lat/Long: 46.05336002, -123.305837.



Photo 195. Looking upslope, recently cut.. Looking E. Taken: 9/27/2023. Lat/Long: 46.05328922, -123.3079982.



Photo 194. Looking downslope at ST-05.. Looking W. Taken: 9/27/2023. Lat/Long: 46.05338407, -123.3057983.



Photo 196. Clear cut with active timber harvest.. Looking N. Taken: 9/27/2023. Lat/Long: 46.05255807, -123.3113875.



Photo 197. No wetland features present.. Looking N. Taken: 9/27/2023. Lat/Long: 46.05181628, -123.3124318.



Photo 199. Upland forest.. Looking E. Taken: 9/27/2023. Lat/Long: 46.046913, -123.3139709.



Photo 198. Upland forest dominated by sword fern, Douglas fir, and red alder.. Looking W. Taken: 9/27/2023. Lat/Long: 46.04748833, -123.3122108.



Photo 200. Upland clear cut area.. Looking E. Taken: 9/27/2023. Lat/Long: 46.05311703, -123.2999496.



Photo 201. Upland clear cut area.. Looking E. Taken: 9/27/2023. Lat/Long: 46.05262212, -123.2995838.



Photo 203. Developed industrial area, no trespassing. Looking W. Taken: 9/27/2023. Lat/Long: 46.04692268, -123.2965784.



Photo 202. Upland clear cut, convex rise landform.. Looking N. Taken: 9/27/2023. Lat/Long: 46.0514116, -123.2966362.



Photo 204. Upland hillside.. Looking N. Taken: 9/27/2023. Lat/Long: 46.0471491, -123.2965497.



Photo 205. Industrial developed area, no wetland features observed from fenceline.. Looking W. Taken: 9/27/2023. Lat/Long: 46.04709752, -123.2967192.



Photo 206. Upland hillside.. Looking NE. Taken: 9/27/2023. Lat/Long: 46.04782948, -123.2979067.



Photo 207. Upland hillside.. Looking N. Taken: 9/27/2023. Lat/Long: 46.04813893, -123.2984824.



Photo 208. Industrial zone.. Looking S. Taken: 9/27/2023. Lat/Long: 46.04803083, -123.2983116.



Photo 209. Survey area has been clear cut.. Looking E. Taken: 9/27/2023. Lat/Long: 46.05270319, -123.311346.



Photo 211. Mowed field edge, no wetland features present. Looking S. Taken: 9/28/2023. Lat/Long: 46.10837128, -123.2440586.



Photo 210. Unused asphalt lot within survey area.. Looking S. Taken: 9/28/2023. Lat/Long: 46.10925773, -123.2438773.



Photo 212. Upland forest edge on slope.. Looking N. Taken: 9/28/2023. Lat/Long: 46.10829905, -123.2440967.



Photo 213. Trailing blackberry dominated slope.. Looking E. Taken: 9/28/2023. Lat/Long: 46.10756423, -123.2430697.



Photo 215. Looking at upland slope.. Looking E. Taken: 9/28/2023. Lat/Long: 46.10682662, -123.239873.



Photo 214. Looking down at pond from SP-108a.. Looking E. Taken: 9/28/2023. Lat/Long: 46.10690338, -123.2397875.



Photo 216. Storm water runoff to WET-21.. Looking E. Taken: 9/28/2023. Lat/Long: 46.10725955, -123.2398476.



Photo 217. Upland slope.. Looking SE. Taken: 9/28/2023. Lat/Long: 46.1077305, -123.2399356.



Photo 218. Culvert with sediment from the other side of the road after heavy rain. Ephemeral. Looking E. Taken: 12/20/2023. Lat/Long: 46.052154 -123.305456