

MIKE MCCALLISTER PLANNING AND ZONING DIRECTOR

#### DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT

DEVELOPMENT SERVICES BUILDING 150 BEAVERCREEK ROAD OREGON CITY, OR 97045

NOTICE OF LAND USE APPLICATION IN YOUR AREA

Date:

04/17/2017

File Number:

Z0201-17-HDA; Z0202-17-HMV; Z0203-17-WBV: Z0204-17-CMP HCA Development Permit; HCA Map Verification; WQRA Boundary Verification, and

Application:

Construction Management Plan

From:

Clackamas County Planning and Zoning

Notice Mailed To:

Property owners within 300 feet

Community Planning Organizations (CPO)

Interested Citizens and Agencies

#### **Application Proposal:**

Within the area of the Boardman Wetlands complex, the Oak Lodge Water Services District is proposing to enhance the wetland and replace sanitary sewer infrastructure within the wetland itself, along with developing, around the periphery of the wetland, a public boardwalk system and outdoor classroom with associated parking and restroom. The subject area is located within Habitat Conservation Area (HCA) and Water Quality Resource Area (WQRA) that are associated with the wetland. There will be some impacts to the HCA and WQRA that will be mitigated through the aforementioned wetland enhancements. These applications are being reviewed concurrently with County Design Review Permit No. Z0200-17, while the project is also undergoing state and federal review through Joint Permit Application No. APP0059995.

Property Owner:

OAK LODGE SANITARY DIST

17900 SE ADDIE ST MILWAUKIE, OR 97267

**Applicant:** 

OAK LODGE SANITARY DIST

17900 SE ADDIE ST MILWAUKIE, OR 97267

Address:

17900 SE ADDIE ST

MILWAUKIE, OR 97267

Location:

Legal Description: 22E18CA04200

Acres: 5.5

Zone:

MR1 - Medium Density Residential, R-7 Urban Low Density Residential

Staff:

Stephen Hanschka 503-742-4512 **E-mail:** stevehan@co.clackamas.or.us

How to Comment on this Application:

1. To be sure your comments will be considered prior to the decision, we need to have them within 20 days of the date of this notice.

File Number: Z0201-17

2. You may use the space provided below, mail a separate letter or e-mail the information. Please include the file number, address the information to the staff member handling this matter, and focus your comments on the approval criteria for the application.

3. Return your mailed comments to: Clackamas County Planning and Zoning, 150 Beavercreek Rd, Oregon City, OR 97045; FAX to (503) 742-4550.

Community Planning Organization: The following recognized Community Planning Organization (CPO) has been notified of this application. This organization may develop a recommendation on this application. You are welcome to contact this organization and attend their meeting. If this Community Planning Organization is currently inactive, and you are interested in becoming involved in Land Use Planning in your area, please contact the Citizen Involvement Office at (503) 655-8552.

JENNINGS LODGE CPO ED GRONKE (503) 656-6546 4912 SE RINEARSON RD MILWAUKIE OR 97267

<u>Decision Process:</u> In order to be approved, this proposal must meet the approval criteria in the Zoning and Development Ordinance, Section(s)

706, 709

The Ordinance criteria for evaluating this application can be obtained from this office or viewed at <a href="https://accela.clackamas.us/citizenaccess/">www.clackamas.us/planning/zdo.html</a>. You may view the submitted application at the following link, <a href="https://accela.clackamas.us/citizenaccess/">https://accela.clackamas.us/citizenaccess/</a> within five days of the date of this notice, or at our office during weekday lobby hours, 8:00 am to 3:00 pm, Monday through Friday.

A decision on this proposal will be made and a copy will be mailed to you. If you disagree with the decision you may appeal to the Land Use Hearings Officer who will conduct a public hearing. There is a \$250 appeal fee.

Comments:	
<del> </del>	
Your Name/Organization	Telephone Number



# Planning & Zoning Development Services Building

Development Services Building 150 Beavercreek Road | Oregon City, OR | 97045 Phone: (503) 742-4500 | Fax: (503) 742-4550 E-mail: zoninginfo@co.clackamas.or.us

Web: http://www.clackamas.us/transportation/planning/

# LAND USE APPLICATION

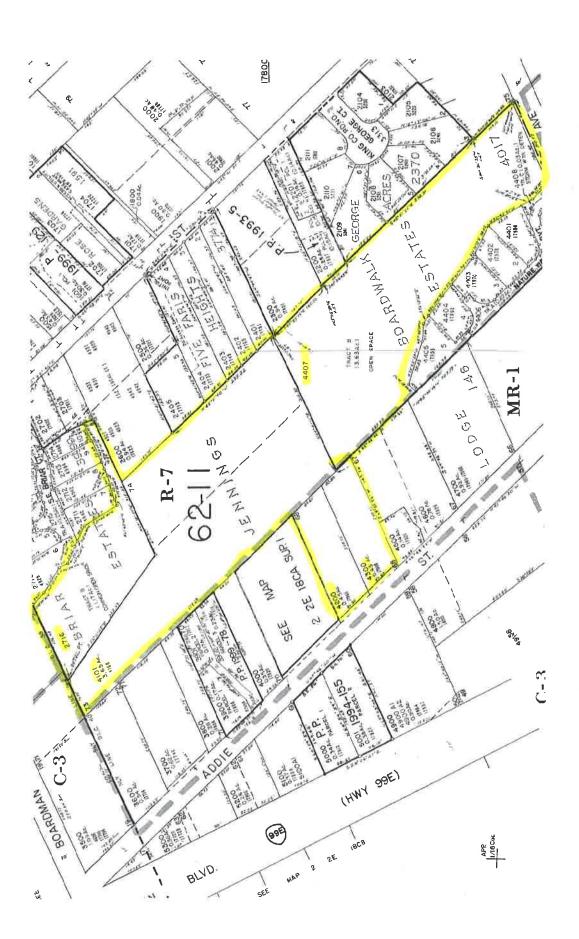
#### **DEEMED COMPLETE**

	ORIGINAL DATE SUBMITTED: 3/20/17
	ORIGINAL DATE SUBMITTED: 3/20/17  FILE NUMBER: 20201.17.HDA, 20202.17.HMU, 20203.17.WBL  ZO 204.17.CMP  APPLICATION TYPE: HCA Deu fermit HCA map verificatu  WORA Boundary verificatur const. mgmt. Plan
The Pl Revise	anning and Zoning Division staff deemed this application complete for the purposes of Oregon ed Statutes (ORS) 215.427 on:
Print N	Same  nents:
Check	The subject property is located inside an urban growth boundary. The 120-day deadline for final action on the application pursuant to ORS 215.427(1) is:
•	8112117
0	The subject property is not located inside an urban growth boundary. The 150-day deadline for final action on the application pursuant to ORS 215.427(1) is:
	-



CLACKAMAS COUNTY PLANNING AND ZONING DIVISION
DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT
DEVELOPMENT SERVICES BUILDING
150 BEAVERCREEK ROAD | OREGON CITY, OR 97045
503-742-4500 | ZONINGINFO@CLACKAMAS.US

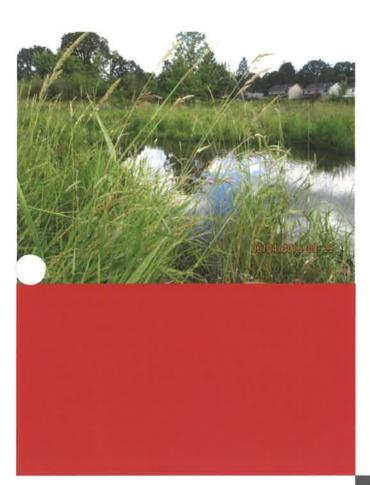
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		For Staff Use Only	
Date received:	2/30/2011	File number:	
Application type:	DESIGN REVIEW 4	-CA Fee:	2,148.75
Zone:	MEI	CPO/Hamlet	Jennings 1000E
Violation #:			and the state of t
		oplicant Information:	
What is proposed?	wetland enhancement	ts, sanitary sewer rep	placements, and public facilities including
an outdoor class	sroom, boardwalk trail s	ystem, parking lot ar	nd public restroom.
Name of applicant		Services Attn: Jas	
Mailing address:	14611 SE River Road		
City Oak Grov		tate OR	Zip 97267
Applicant is (selec	t one): Property owner 🗆	Contract purchaser 🔼	all Constitution
			purchaser
-	erson (if other than applica	ant):	
Mailing address of	contact person:		
Applicant #s:	-Wk: (503) 353-4202	Cell: (503) 490-00	16 Email: jason@olwsd.org
Contact person #s	: Wk:	Cell:	Email:
Other persons (if a	nny)to be mailed notices re	garding this application	n:
Name	Address		Zip Relationship
Name	Address		Zip Relationship
SITE ADDRESS:	17908 SE Addie Stre	et	
TAX LOT #:	T 2S R 2E	Section 18	Tax Lot(s) 4200, 4300, 4101, 4407, 27
Adjacent propertie	es under same ownership:		Total land area: 5.5 acres
T	R	Section	Tax lot(s)
T	R	Section	Tax lot(s)
Т	R	Section	Tax lot(s)
	hat the statements contai correct to the best of my		the evidence submitted, are in all
•	out to the book of my	3/10/17	THRONDIOE
Jason Rice	ect purchaser's name (print)	Date	Owner or contract purchaser's signature
	Ket purchaser a name (print)	21.0	DAS ALCI CE
Jason Rice		3/10/11	Applicant's signature
Applicant's name (print)		Date	Aburent o affinition



#### WETLAND DELINEATION / DETERMINATION REPORT COVER FORM

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

check payable to the Oregon Department of State Lands. To pay	the fee by credit card, call 503-986-5200.		
Applicant Owner Name, Firm and Address:	Business phone # (503) 353-4202		
Oaks Lodge Sanitary District	Mobile phone # (optional) (503) 490-0016		
Attn: Jason Rice	E-mail: jlrice@olsd.net		
14611 SE River Road			
Oak Grove, Oregon 97267			
Authorized Legal Agent, Name and Address:	Business phone # (503) 353-4202		
Oaks Lodge Sanitary District	Mobile phone # (503) 490-0016		
Attn: Jason Rice	E-mail: jlrice@olsd.net		
14611 SE River Road Oak Grove, Oregon 97267			
I either own the property described below or I have legal authority	to allow access to the property. I authorize the Department to access the		
property for the purpose of confirming the information in the report	, after prior notification to the primary contact.		
Typed/Printed Name: Jason Rice	Signature:		
Date: 11/09/16 Special instructions regarding site acc	ess: None		
Project and Site Information (using decimal degree format	for lat/long.,enter centroid of site or start & end points of linear project)		
Project Name: Boardman Wetland Design	Latitude: <b>45.394</b> Longitude: <b>-122.612</b>		
Proposed Use: OLSD is proposing wetland	Tax Map # 22E18CA		
enhancement, construction of a public boardwalk			
system, and sewer rehabilitation or replacement			
Project Street Address (or other descriptive location):	Township 2S Range 2E Section 18 QQ N/A		
oardman Wetlands: project site bordered by SE	Tax Lot(s) 02716, 04101, 04407, 04200, 04300		
doardman Avenue to the north, SE Cook Street to the west, SE Jennings Avenue to the south and SE Addie	Waterway: Boardman Creek River Mile: XX		
Road to the west.			
City: Milwaukie County: Clackamas NWI Quad(s): Gladstone			
City: Milwaukie County: Clackamas	NWI Quad(s): Gladstone		
	NWI Quad(s): Gladstone neation Information		
	Phone # (503) 423-3774		
Wetland Delin Wetland Consultant Name, Firm and Address: Jennifer Maze	Phone # (503) 423-3774  Mobile phone # N/A		
Wetland Delin Wetland Consultant Name, Firm and Address: Jennifer Maze Michael Witter	Phone # (503) 423-3774		
Wetland Delin Wetland Consultant Name, Firm and Address: Jennifer Maze Michael Witter HDR Engineering, Inc.	Phone # (503) 423-3774  Mobile phone # N/A		
Wetland Delin Wetland Consultant Name, Firm and Address: Jennifer Maze Michael Witter HDR Engineering, Inc. 1001 SW 5 <sup>th</sup> Avenue, Suite 1800	Phone # (503) 423-3774  Mobile phone # N/A		
Wetland Delin Wetland Consultant Name, Firm and Address: Jennifer Maze Michael Witter HDR Engineering, Inc.	Phone # (503) 423-3774  Mobile phone # N/A		
Wetland Delin Wetland Consultant Name, Firm and Address: Jennifer Maze Michael Witter HDR Engineering, Inc. 1001 SW 5 <sup>th</sup> Avenue, Suite 1800	Phone # (503) 423-3774  Mobile phone # N/A  E-mail: jennifer.maze@hdrinc.com		
Wetland Delin Wetland Consultant Name, Firm and Address: Jennifer Maze Michael Witter HDR Engineering, Inc. 1001 SW 5 <sup>th</sup> Avenue, Suite 1800 Portland, Oregon 97204	Phone # (503) 423-3774  Mobile phone # N/A  E-mail: jennifer.maze@hdrinc.com		
Wetland Consultant Name, Firm and Address: Jennifer Maze Michael Witter HDR Engineering, Inc. 1001 SW 5 <sup>th</sup> Avenue, Suite 1800 Portland, Oregon 97204 The information and conclusions on this form and in the attached reconsultant Signature:	Phone # (503) 423-3774  Mobile phone # N/A  E-mail: jennifer.maze@hdrinc.com  report are true and correct to the best of my knowledge.  Date: 01/09/16		
Wetland Consultant Name, Firm and Address:  Jennifer Maze Michael Witter HDR Engineering, Inc. 1001 SW 5 <sup>th</sup> Avenue, Suite 1800 Portland, Oregon 97204  The information and conclusions on this form and in the attached reconsultant Signature:  Primary Contact for report review and site access is   C	Phone # (503) 423-3774  Mobile phone # N/A  E-mail: jennifer.maze@hdrinc.com  report are true and correct to the best of my knowledge.  Date: 01/09/16  onsultant		
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# Habitat Conservation Area

Boardman Wetland Design Project

Clackamas County, Oregon

February 14, 2017

#### **Contents**

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# **Appendices**

Appendix A. Figures

Appendix B. Wetland Delineation

Appendix C. Civil Design Plans

# Introduction

The application for a Habitat Conservation Area (HCA) Development Permit has been prepared for the Oak Lodge Water Services District (OLWSD) Boardman Wetland Design Project (project) in compliance with requirements outlined in Section 706 of the Clackamas County Zoning and Development Ordinance (ZDO). The project area lies within the Portland Metropolitan region (Metro) urban growth boundary (UGB) in the northwestern portion of Clackamas County, Oregon, east of Oregon Route 99E, and north of the City of Gladstone (Figure 1, all figures included in Appendix A). The Boardman Wetlands are bordered by SE Boardman Avenue to the north, SE Cook Street to the east, SE Jennings Avenue to the south, and SE Addie Street to the west (Figure 2). Boardman Creek and the Boardman Wetlands are identified as High Category HCA, as designated on maps required by Title 13 of the Metro Urban Growth Functional Plan (Figure 3).

OLWSD is proposing improvements to wetland and utility function within the 8.4-acre Boardman Wetlands. The project would replace the sanitary sewer line and manholes, provide wetland enhancement and functional uplift for approximately half of the wetland site, and develop a public boardwalk trail system through the wetland. OLWSD has a sanitary sewer maintenance easement through the site and recently purchased approximately half of the wetland area and two adjacent residential lots on SE Addie Street. Both residential lots will be re-developed to provide a parking lot and an outdoor classroom for use by the community and the nearby schools; however, the majority of development will occur outside of the HCA. No proposed project activities would result in removal of HCA area or change the existing HCA category.

#### 2 **Habitat Conservation Area**

Subsection 706.06(B)(1)(a) of the Clackamas County ZDO states than an HCA Map Verification shall be required for development that is proposed to be either in an HCA or less than 100 feet outside of the boundary of an HCA, as shown on the HCA Map. The mapped HCA on the Title 13 map for Township 2E, Range 2E, Section 18, shows the majority of the proposed project area is categorized as High HCA (Figure 3). The HCA mapped along Boardman Creek and the Boardman Wetlands occurs on the following taxlot parcels:

- 22E18CA02716
- 22E18CA04101
- 22E18CA04407
- 22E18CA04200
- 22E18CA04300

The Boardman Wetlands are drained by Boardman Creek, which passes through the central portion of the project area and wetland, and eventually discharges to the Willamette River. A wetland delineation was performed in the project area in June 2016 by a qualified wetland specialist pursuant to the Oregon Department of State Lands wetland delineation procedures (Appendix B). The wetland delineation report concluded approximately 4.7 acres of Palustrine Emergent Semipermanently Flooded wetland habitat (PEM1F) are present within the project area. No major obstructions currently prevent connectivity between habitat and water resources. Forest canopy is restricted to the periphery of the HCA and there is little or no diversity in herbaceous groundcover species. There are few large standing or downed woody debris features and limited channel dynamics within the study area.

Boardman Creek and the majority of the Boardman Wetlands are located in an area zoned Urban Low Density Residential (R)-7, while the most westerly taxlots (22E18CA04200 and 22E18CA04300) are zoned Medium Density Residential (MR)-1. The overall contiguous area of vegetative cover is low structure, non-native and invasive in nature.

# 3 Proposed Development within the HCA

# 3.1 Sanitary Sewer Line Rehabilitation

A sanitary sewer line was installed beneath Boardman Creek in 1961 and is currently managed by OLWSD. The line extends approximately 1500 feet through the center of the wetland and connects three lateral lines that service adjacent residences to the main trunk line. As the line has reached the end of its design life, it must be replaced. The existing sanitary sewer line through the wetland will be replaced with a new pipeline. Proposed repair to the sanitary sewer line will be completed using trenchless technology. The three aforementioned existing lateral sewer lines will be restored to the main trunk line once repairs have been made; this action is considered maintenance, alteration, repair and/or replacement of existing utilities. Ingress and egress to the site will occur from the SE Addie Street lots and via the OLWSD easement located on the SE Jennings and SE Boardman Streets. Additionally, the proposed action will be localized to the sewer line easement and will not intrude further into the surrounding HCA; therefore, the action is considered an exempted use within the HCA District per Section 706.04(M) of the Clackamas County ZDO and will not be discussed further in this application.

# 3.2 Wetland Enhancement

Much of the HCA is dominated by non-native, invasive plant species. As outlined in the civil design plans (Appendix C), the proposed wetland enhancement component of the project includes removing some of the invasive and non-native communities, and planting mixes of native trees and herbaceous vegetation designed to function in riparian and buffer/upland areas as well as riparian fringe and seasonally flooded areas (Appendix C). A series of features will be implemented throughout the wetland enhancement area for the purposes of enhancing habitat complexity and diversity. These

features include hummocks and hollows, brush piles, habitat logs, vertical snags, a small pond and a simulated beaver dam foundation. An existing beaver dam located on Boardman Creek in the northern portion of the project area would be removed. Although the mapped High HCA will experience temporary impacts during restoration work, the acreage of High HCA will not be impacted, and restoration activities are expected to increase the overall function of the wetland and its associated habitats. The sole purpose of the proposed restoration is to enhance Boardman Wetlands and Boardman Creek, and is part of local efforts to enhance the Boardman-Rinearson Wetland Complex. Restoration work is exempt from the requirements of Section 706 as outlined in 706.04(O); therefore, these restoration activities will not be discussed further in this application.

# 3.3 Public Space Development

A component of the proposed project is to provide recreation and educational opportunities to the surrounding communities. The project proposes to develop a public space to provide a parking lot and an outdoor classroom for the surrounding community and nearby Candy Lane Elementary School (see Appendix C for plan set). This development will occur on taxlots 22E18CA04200 and 22E18CA04300 located on SE Addie Street. The majority of this development will occur outside the HCA. The project proposes to construct an elevated boardwalk path that circumnavigates the wetland feature. The proposed boardwalk would be constructed within the HCA and categorized as High HCA. Due to the elevated boardwalk design and construction methods, permanent impacts to the HCA only include impacts in the area occupied by each helical screw pile. Because the boardwalk will be founded with helical screw piles, decking can be constructed from an elevated position, eliminating the need for temporary construction impacts within High HCA. The boardwalk alignment was chosen to minimize impacts to high quality wetland features. There would be up to two public ingress/egress routes to the boardwalk from taxlot 22E18CA04200 on SE Addie Street. The two pervious pavement paths connecting the boardwalk to the parking area will be 4 feet and 8 feet wide. Path construction includes excavating soils to a depth of approximately 6-8 inches, backfilling with crushed rock, and placing pervious pavers. Rockwalls will be installed to create viewing and resting opportunities for users of the public space. A portion of one rock wall will be constructed within the HCA (see Appendix C for plan set).

# 3.4 Project Effects

Development within the HCA will be avoided to the extent possible; however, the project will result in temporary and permanent impacts to the HCA. Approaches were implemented during the project design phase to minimize development impacts resulting from the footprint of the boardwalk and trail system. During the design phase, several alternatives were evaluated and subsequently dismissed due to their higher level of impact. A path constructed at grade would have required substantial grading and fill within the HCA and would have permanently impacted water quality functions in the area of the path. A floating boardwalk design was also dismissed, as this design option would have allowed the boardwalk to rest on the ground surface during periods of lower water causing the natural physical processes necessary for healthy plant survival to be

disrupted, thereby increasing the impact footprint. The proposed elevated boardwalk allows those critical functions to be preserved while eliminating the need for grading, thereby minimizing the footprint of the design (Appendix C).

The project design team evaluated several path alignment alternatives through and around the wetland area using a wetland habitat map created early during project development (Figure 4). This wetland habitat map highlighted areas of Oregon Ash, spirea, willow, and reed canary grass. Using this information, the project team formulated a path alignment that would minimize impacts to the higher quality wetlands containing Oregon ash, spirea, and willow. The project also includes an extensive planting plan around the boardwalk within the HCA. Several native plant pallets will be used to increase plant success and overall plant diversity. The diverse plants include species adapted to upland, riparian, emergent wetlands and open water environments, and can be found on the planting plan sheets found in Appendix C.

Although impact-reduction approaches would be incorporated, minor temporary and permanent impacts to the HCA are anticipated during construction of the boardwalk and trail system, and during the placement of a rock wall (Appendix C).

Table 1. Summary of Project-related Impacts

Construction Element	Impact Type	Acreage	Square Feet	% of Resource Area
Boardwalk	Permanent	0.007	284	0.1
	Permanent	0.002	108	0.04
Rockwall	Temporary	0.019	836	0.4
Pervious Path	Permanent	0.008	344	0.2
1 01110001 001	Temporary	0.024	1050	0.5

Overall, ecological function will be improved by the project by creating greater connectivity of habitat to water features, increasing the complexity of habitats within the HCA, and improving the quality and quantity of plant species onsite.

# 4 Project Mitigation

Because a Water Quality Resource Area is also present within the proposed project area, all temporary and permanent impacts to trees, vegetation, and soils will be mitigated onsite in accordance with sections 706.08, 706.10(B) and 709.10 of the Clackamas County ZDO. Boardwalk design, layout, and installation technique will minimize impacts to vegetation and soils in riparian and upland areas while still achieving overall project goals. Construction footprints and impacts would be minimized by developing and implementing a Construction Management Plan (Appendix C) and an Erosion Prevention and Sediment Control (EPSC) Plan (Appendix C), as outlined in Section 706.7(A). Prior to ground disturbing activities, EPSC measures and fencing would be installed pursuant to Section 706.08. A construction work easement would be

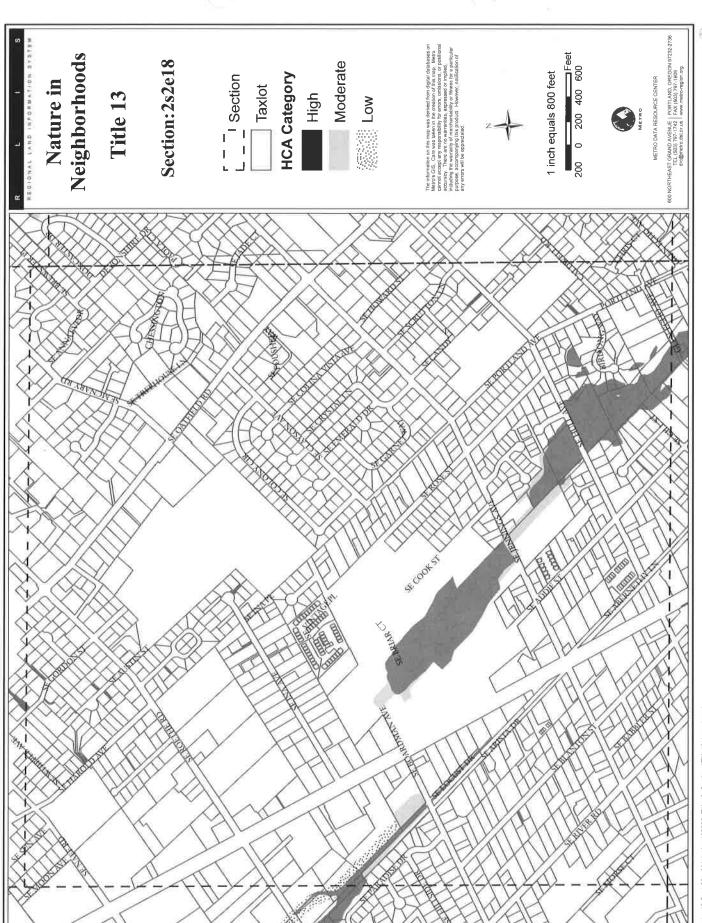
clearly marked, and those areas of the HCA not authorized for disturbance would be identified on project plans and in the field. At a minimum, the areas of the HCA proposed to be graded for utility and restoration work will be delineated with silt fencing. All stormwater inlets will be protected for the duration of the project and will remain in place after construction activities are completed until soils on site have stabilized. The work area around the manhole within the wetland will be isolated and dewatered. Water removed from the work area will be pumped north and discharged in an area outside the HCA. When not in use, equipment (excavators, graders, pavers, cement mixers, personnel vehicles, etc.) and material will be staged and/or stockpiled outside the HCA on the SE Addie Street residential tax lots 22E18CA04200 and 22E18CA04300. Project personnel and equipment ingress and egress for the site will occur mainly on the SE Addie Street lots, as well as through the OLWSD easements from SE Jennings Avenue (Figure 2). Native landscaping materials will be used and will be harvested locally where possible. Trees within the HCA not proposed for removal during restoration work would be protected from impacts from construction equipment, and native soils not contaminated with invasive species rhizomes or seed stock will be conserved onsite. Approximately 13,500 trees and herbaceous vegetation starts and plugs will be planted throughout the entire 4.7-acre wetland area as part of the proposed project. Monitoring of planting establishment will be conducted by OLWSD until plant establishment is complete and invasive plant communities have been reduced for the survivorship of newly planted native species. By implementing the mitigation and construction best management practices outlined above, the boardwalk and trail system will not impact the overall ecological function, size or value of the HCA.

# Appendix A. Figures

# HABITAT CONSERVATION AND WATER QUALITY RESOURCE AREAS

WETLAND DESIGN

FIGURE 2



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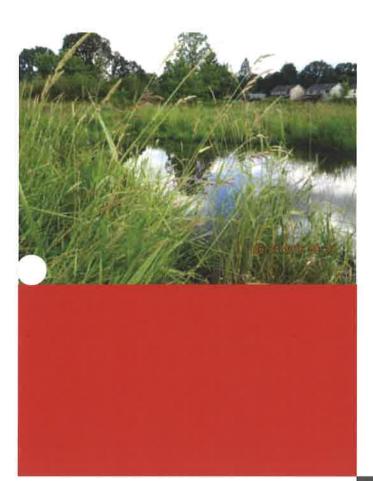
Figure 3. Habitat Conservation Area Map

# WETLAND AND VEGETATION INVENTORY



# Appendix B. Wetland Delineation





# Wetlands and Waterbodies Delineation Report

**Boardman Wetland Design** Clackamas County, Oregon

January 9, 2017

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# 1 Landscape Setting and Land Use

Oak Lodge Sanitary District (OLSD) is proposing to improve wetland functions for approximately half of the 8.4-acre wetland known as the Boardman Wetlands, which is part of the Boardman Wetland Design project (project), (Figure 1; all figures are located in Appendix A). The project would provide rehabilitation or replacement of the sanitary sewer line and manholes in the wetland, wetland enhancement, and construction areas of the public boardwalk trail system through a portion of the wetland. OLSD has a sewer maintenance easement through the site and recently purchased approximately half of the wetland area and two adjacent residential lots on SE Addie Street: parcels 22E18CA04200 and 22E18CA04300 (Figure 2). At least one of the residential lots would be re-developed to provide parking, a public restroom, and an outdoor classroom for the nearby Candy Lane Elementary School. These lots have a direct connection to the Boardman Wetlands.

The 5.5-acre Boardman Wetland Design project study area is located within the United States Geological Survey (USGS) Gladstone Quadrangle Map (USGS 1984), Township 2 South, Range 2 East, Section 18 (Figure 1). The study area lies within the Portland Metropolitan region (Metro) urban growth boundary (UGB) in the northwestern portion of Clackamas County, Oregon, east of Oregon Route 99E, and north of the City of Gladstone. The Boardman Wetlands are bordered by SE Boardman Avenue to the north, SE Cook Street to the west, SE Jennings Avenue to the south, and SE Addie Road to the west.

As defined by the Environmental Protection Agency (EPA), the project study area occurs within the Willamette Valley Ecoregion. The Willamette Valley Ecoregion is defined by the Willamette River and consists of broad alluvial flats and low basalt hills, with soils of deep alluvial silts from river deposits and dense heavy clays from fluvial deposits. The Willamette Valley Ecoregion is relatively low gradient, and historically, the Willamette River was extensively braided. These factors contribute to the current hydrology of the valley, characterized by numerous oxbow lakes, ponds and wetlands as well as sluggish, meandering streams and rivers (EPA 2016). The project study area occurs in the EPA Level IV Ecoregion 3c, Prairie Terraces. This ecoregion supports Oregon white oak prairies, and in wetter areas supports Oregon ash and Douglas fir. This ecoregion was historically comprised of seasonal wetlands and ponds, and currently many streams are channelized, ditched, and/or diverted (EPA 2016).

The Boardman Creek drainage basin, comprised of the South and North Boardman basins, covers approximately 1,327 acres. The basin consists of 21 miles of piped creek and 4 miles of open stream. Boardman Creek begins in the Boardman Wetlands, flows along the Trolley Trail, through Stringfield Family Park, and enters the Willamette River at Walta Vista Street (NCUWC 2016). The majority of Boardman Creek is piped beneath existing development in the area. The Boardman Wetlands habitat is classified as a Palustrine Emergent (persistent) Seasonally Flooded (PEM1C) wetland by the National Wetland Inventory (NWI, Figure 3; [USFWS 2016a]).

Elevations within the Boardman Wetland Design project study area are between 67 and 75 feet above sea level. The majority of the study area is flat with slopes of less than

3 percent occurring mainly along the boundaries where the wetland area transitions to residential development. Boardman Creek enters the study area from a culvert beneath SE Jennings Avenue and travels approximately 1,500 feet from southeast to northwest forming several ponds through the central portion of the study area (Figure 5A). The creek discharges to a culvert beneath SE Boardman Avenue north of the East Side Athletic Club, located at 4606 SE Boardman Avenue (Figure 5A).

The project study area is bordered by residential development zoned R-7 (Urban Low Density Residential) occurring on SE Boardman Avenue to the north, SE Cook Street to the east, and SE Jennings Avenue to the south; development zoned MR-1 (Medium Density Residential) occurs on SE Addie Street to the west.

# 2 Site Alterations

Land surveys completed in the 1880s show that Boardman Creek was originally a large, unrestricted, terrace wetland with numerous small tributaries (WSM 2014). As the area began to be settled, the wetlands were extensively ditched and converted to a series of stream channels. In the early 1900s the wetlands were effectively drained for agricultural purposes (WSM 2014). The land was subsequently converted to commercial, industrial, and residential development, and was modified further by construction of the local road system and placement of utility infrastructure. Aerial imagery dating back to 1936 indicates the area may have been used for agricultural purposes (See Historic Aerial Imagery in Appendix E). The majority of SE Addie Street was developed with residences at this time but very little development had occurred on SE Jennings Avenue or SE Cook Street. No residences or businesses had been developed on SE Boardman Avenue and Boardman Creek appears to have been ditched. Agricultural uses of the wetland area apparently ceased between 1956 and 1966. Residential and infrastructure development in the area continued steadily until recently. A sanitary sewer trunk line was installed through the wetland, beneath Boardman Creek, in 1961. The majority of disturbance within the project study area over the past 15 years is associated with residential development on SE Briar Court, SE Cook Street, SE Nature Way, and SE Lucas Court (See Google Earth aerial imagery in Appendix E).

Currently the remaining wetlands are surrounded by residential development to the north, east, and west, and SE Jennings Avenue to the south. As shown in aerial imagery, the majority of the area surrounding the Boardman Wetlands had been previously developed (Appendix E). Between 2002 and 2005, four single-family dwellings were construction on SE Cook Street; parcels were also developed on SE Briar Court and SE Nature Way. In July 2007 parcels were developed on SE Lucas Court. By 2008, all development in residential areas surrounding the wetlands was completed and no other apparent site alterations have occurred since.

The historic and ongoing development of the surrounding area has degraded the overall quality of the vegetation and habitat in the study area. Previous development has significantly altered natural drainage in the area through ditching, piping, rerouting, and the installation of culverts. Areas with large amounts of impervious surface decrease infiltration and increase stormwater discharge to the wetland area. Residential development has resulted in fill material being placed along the borders of adjacent

Wetlands and Wa

parcels that surround the study area. Remaining, undeveloped portions of the Boardman Wetlands are vegetated; however, non-native and invasive species are abundant due to historic development and ongoing disturbance.

#### 3 **Precipitation Data and Analysis**

The project study area lies within Clackamas County, which is situated at the western base of the northern Oregon Cascade Mountain Range. According to the National Climatic Data Center, the project study area is within U.S. Climate Division 2, Willamette Valley. The Oregon Climate Service describes this division as similar to a Mediterranean climate, with warm, dry summers and cool, wet winters (Taylor and Bartlett 1993). The growing season in this area lasts from February 15 to December 4 (292 days) (NRCS 2016a; Appendix D). Annual average temperatures recorded at the closest Natural Resources Conservation Service (NRCS) Climate Analysis for Wetlands (WETS) station in Oregon City (OR6334) range from 45.1°F to 64.8°F (NRCS 2016a). Average annual precipitation recorded at the WETS station is 46.05 inches (NRCS 2016a). The cooler months are the wettest, with the majority of annual rainfall occurring between November and March. Conversely, the warmer months are driest; average rainfall is less than 2 inches per month between June and September (NRCS 2016a).

Recorded precipitation data for the 3 months preceding the field survey, conducted on June 22 and June 24, 2016, were gathered from the nearest weather station in Oregon City, Oregon (Station 356334, Appendix D), and compared to the average precipitation range reported in the WETS table (Table 3-1 and Appendix D). Rainfall throughout the study area was average and normal for the month of April, below average and not within normal range during May, and below average, but within the normal range for June. Approximately 0.97 inches of rainfall was recorded during the 2 weeks prior to the field survey (June 8 - June 21, 2016). Approximately 0.52 inches of rainfall was recorded on June 22, and no rainfall was recorded on June 24. The precipitation for the water year to the date of the wetland survey (October 2015 - June 2016) is 48.62 inches; approximately 115 percent of the average water year of 42.29 inches for the same period (NRCS 2016a).

Because the current water year is above average, below average and out of normal range precipitation during the month of May is not expected to have influenced the presence or absence of vegetation, hydrologic indicators, or wetlands in the study area. Observed precipitation data in the months leading up to the field investigation was analyzed using the Direct Antecedent Rainfall Evaluation Method (NRCS 2015); climate in area was drier than normal.

Table 3-1. Summary of Precipitation between April and June 2016 in Oregon City, Clackamas County, Oregon

		<u> </u>			
Month	Recorded Monthly		Percent of	30% chance (inches) <sup>1</sup>	
Month	Precipitation (inches)	Precipitation Average (inches)	Average Recorded	Less Than	More Than
April	3,45	3.46	99.7%	<2.44	>4.10
May	1.12	2.70	41.2%	<1.72	>3.26
June	1.49	1.83	81.4%	<1.11	>2.22

Source: NRCS 2016a (See WETS table in Appendix D)

# 4 Methods

# 4.1 Review of Existing Materials

- USGS Topographical, Gladstone Quadrangle Map
- NWI, Gladstone Quadrangle Map (U.S. Fish and Wildlife Service [USFWS] 2016a)
   (Figure 3, Appendix A)
- Soil Survey of Clackamas County, Oregon (Gerig 1985) (Figure 4, Appendix A)
- Precipitation data from Climate Analysis for Wetlands (WETS) OR6334, Oregon City, Oregon (NRCS 2016a, Appendix F)
- Hydric Soils List, Clackamas County, Oregon (NRCS 2016b) (Figure 4, Appendix A)

### 4.2 Wetlands

Field investigations were conducted by HDR on June 22 and 24, 2016. The NWI identified one PEM1C wetland, which covers the majority of the study area (Figure 3, Appendix A).

The wetland area was delineated using the methods described in the United States Army Corps of Engineers' (USACE) Wetlands Delineation Manual (Environmental Laboratory 1987) and the Regional Supplement to the USACE Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Environmental Laboratory 2010).

Sample plots (labeled SP on figures) were taken in areas to confirm the presence and characteristics of wetland and upland areas. Plots were selected by initial observation of topographic depressions, wetland vegetation, visual evidence of hydrology, and examination of soil samples. At sites exhibiting positive indicators of wetland characteristics, multiple soil pits were dug in conjunction with analysis of vegetative and hydrologic indicators to aid in the determination of wetland boundaries. Once a plot site was selected, a soil pit was dug, soils, hydrology and vegetation were investigated, and results were recorded using the USACE Wetland Determination Data Form

<sup>&</sup>lt;sup>1</sup> 30 percent chance less than or more than ranges for normal precipitation.

(Appendix B). In many areas, the wetland continues offsite and no corresponding upland plot exists within the project study area. In areas highly modified by fill placement, the wetland boundary was determined by observed changes in vegetation communities and hydrological features similar to those observed at representative wetland sample plots in which data was collected. In these cases, test soil pits were dug to confirm the presence of wetland soils. Landscape elevations were reviewed on maps and in the field to aid in determining the wetland boundary in these areas.

Sample plot locations are shown in Figure 5A-5E in Appendix A and data forms associated with sample plots are included in Appendix B. Representative site photographs from sample plots and observation points are included in Appendix C. Methods used to determine the presence of hydric soil, hydrology, and hydrophytic vegetation are discussed below. Variations to the standard methodology, if necessary, are indicated on the data forms.

#### 4.2.1 Vegetation

At each plot, the percent absolute cover for each species was visually estimated and recorded. Herbaceous cover was assessed within a 10-foot radius plot, and trees, shrubs, and woody vines were estimated within a 30-foot radius plot (Environmental Laboratory 1987, 2010). In accordance with USACE methodology, greater than 50 percent of the dominant plant species must be classified as hydrophytic or have a prevalence index less than or equal to 3.00 for a site to display a positive wetland vegetation indicator.

The dominant plant species were identified using standard taxonomic references (Guard 2010; Pojar and MacKinnon 2004; and Cooke 1997). The wetland indicator status for each species was determined in accordance with the National Wetland Plant List (Environmental Laboratory 2014; USACE 2016). Vegetation was recorded as obligate (OBL), facultative-wetland (FACW), facultative (FAC), facultative upland (FACU), or upland (UPL).

At the time of the wetland delineation surveys some of the herb species, including grasses and sedges, did not have additional characteristics present to help species identification. All dominant plants were identified to species level and the wetland indicator status was recorded on the datasheet. Non-dominant plants that could not be identified to the species level were omitted from the analysis. If necessary, the most common indicator status for the genus was selected to determine dominance based on the National Wetland Plant List. These instances are noted on the data sheets, where applicable.

#### 4.2.2 Soils

Soils at each representative wetland and upland sample plot were typically inspected to a depth of 15 to 26 inches to determine the presence or absence of hydric soil indicators based on the NRCS Indicators of Hydric Soils (NRCS 2010). Soil samples were moistened when necessary to aid in the determination of soil matrix and redoximorphic features (if present): hue, value, and chroma colors (Munsell Color Services, 2009). Soil texture was evaluated using field methods described by USACE and NRCS.

Figure 4 shows the mapped soils in the study area. Table 4-1 provides soil names, hydric status, and the approximate percentage of each soil in the study area (NRCS 2016b).

Table 4-1. Study Area Soils

Soil Type (Map Unit Symbol)	Percentage of Study Area	Hydric Status
Cove silty clay loam (25)	84.5	Hydric
Woodburn silt loam, 3 to 8 percent slopes (91B)	15.5	Non-hydric, hydric inclusions

Source: NRCS 2016b

Cove silty clay loam soils are deep, poorly-drained soils on floodplains formed in clayey alluvium. The surface layer of these soils is typically comprised of black silty clay loam (Gerig 1985). Woodburn silt loam soils are deep, moderately well-drained soil occurring on broad valley terraces. Surface layers are comprised of very dark brown and dark brown silt loam (Gerig 1985).

#### 4.2.3 Hydrology

To document wetland hydrology characteristics, primary and secondary indicators were investigated at each of the sample plots. These indicators included the presence of inundation or standing water at the surface, saturation, drainage patterns, hydrogen sulfide odor, iron deposits, high water table, and/or reduced iron when using an Alpha-alpha dipyridyl solution (alpha-alpha).

# 4.3 Ordinary High Water Mark

The ordinary high water mark (OHWM) for waterways in the study area was determined in the field using the methodology outlined in the USACE Regulatory Guidance Letter 05-05 (USACE 2005). The USACE guidance is consistent with the definition of OHWM put forth by the Oregon Department of State Lands (DSL). For purposes of the Clean Water Act (CWA), OHWM is "that line on the shore established by the fluctuation of water and indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas" (USACE 2005). These indicators were not observed in the field for Boardman Creek or any other water feature present on site.

# 5 Description of All Wetlands and Other Non-Wetland Waters

### 5.1 Delineated Wetlands

The Boardman Wetlands encompass approximately 8.4 total acres (Figure 5A). One wetland, Wetland A, was delineated within the 5.5-acre study area (Figure 2). Wetland A is approximately 4.7 acres and is located in a topographic depression (Figure 5A). The majority of Wetland A classifies as Palustrine Emergent Semipermanently Flooded habitat (PEM1F, [USFWS 1979]), and classifies as a Depressional wetland

hydrogeographically (Adamus 2001). A total of 15 sample plots (SP1 to SP15) were completed in the project study area. Ten sample plots were determined to be within the wetland boundary and five sample plots were determined to be within upland areas. In many areas the wetland continues outside the boundaries of the study area; in such cases, a paired upland plot was not completed due to access restrictions.

The majority of the wetland has open herbaceous cover with isolated pockets of shrubs and trees that occur mainly along the wetland borders and within the northern portion of the project study area. Herbaceous vegetation in the wetland is dominated by reed canary grass (Phalaris arundinacea, FACW). The tree and shrub community of the wetland is dominated by Oregon ash (Fraxinus latifolia, FACW) and willow species (Salix ssp., FAC/FACW). The wetland and upland vine community, where present, is solely dominated by Himalayan blackberry (Rubus armeniacus, FAC). The surrounding upland community varies widely, but is mainly comprised of Oregon ash (Fraxinus latifolia, FACW), facultative willow species (Salix ssp.), reed canary grass (Phalaris arundinacea, FACW), common velvet grass (Holcus lanatus), and Himalayan blackberry (Rubus armeniacus, FAC; See datasheets in Appendix B).

The wetland hydrology is primarily influenced by Boardman Creek and stormwater runoff from surrounding residential development that is conveyed to the wetland by several stormwater outfalls (Figure 5A-5C). Boardman Creek enters the wetland area from a culvert beneath SE Jennings Avenue, flows approximately 1,500 feet northwest through the central portion of the wetland and exits the area via a culvert beneath SE Boardman Avenue. A total of five stormwater outfalls discharge to the wetland (Figure 5A-5C). Additionally, one unmapped, open air outfall was encountered just east of the project study area (PP16, Figure 5C). Due to topographic position, field observations of highly saturated conditions, and presence of surface water throughout most of the wetland area, hydrology may also be attributed to groundwater inputs. Multiple historic aerial images evaluated over a number of years at different times of the year indicate a large portion of the study area appears to be saturated/flooded for most of the year. Historical aerial images available from the US Army Corps of Engineers and Google Earth date back to July 1936 and are shown in Appendix E. Surface saturation is visible in all images beginning in 1977; high water table is assumed throughout the wetland area for all years except years of extreme drought.

Soils within the wetland area are mapped as Cove silty clay loam (25) and Woodburn silt loam, 3 to 8 percent slopes (91B); both are hydric soils (NRCS 2016b). Soils at SP4 and SP6 were problematic due to lack of hydric soil indicators; the problematic soils procedure outlined in the Western Mountains, Valley, and Coast Regional Supplement was applied (Environmental Laboratory 2010). Problematic soil situation 4b(6), Seasonally Ponded Soils, was applied when evaluating SP4 and SP6 and soils were considered hydric. Landscape setting is likely to concentrate flow away from the sample plot in both cases.

In the northeastern portion of the study area the natural landscape has been modified by placement of fill associated with residential development on SE Briar Court. This modification has likely shifted the natural wetland boundary west and modified natural hydrology. In this area hydrology and wetland vegetation were comparable to SP10 (Figure 5C) and was used primarily to determine the wetland boundary. Additionally, test pits were dug (See Photo 34 is Appendix C for example of test pit) along the boundary

and wetland soils were confirmed by strong hydrogen sulfide odor and the presence of redoximorphic features within the upper 6 inches of soil profiles (Photo 35, Appendix C).

The wetland continues offsite along the study area boundaries to the south and southeast (Figure 5B, 5C, and 5E). Most parcels that border the wetland area to the east of the study area have been filled; therefore, the wetland is not expected to continue offsite in this area.

#### 5.2 Waters of the State/United States

Boardman Creek enters the study area from a culvert beneath SE Jennings Avenue and travels approximately 1,500 feet from southeast to northwest forming several ponds through the central portion of the study area (Figure 5A). The creek discharges to a culvert beneath the east parking lot of the East Side Athletic Club located at 4606 SE Boardman Avenue (Figure 5A) and eventually discharges to the Willamette River at a point approximately 3,000 feet northwest of the project area, as the crow flies. Boardman Creek is an at-grade stream with an unconsolidated bottom and no defined bed and bank; therefore, no OHWM was determined during field surveys. Due to the relatively flat landscape and extensive presence of reed canary grass, the creek channel is not apparent though much of the wetland corridor. Large ponds, backwater channels and areas of standing water are prevalent through the study area. The thalweg of Boardman Creek is likely the lowest point in the area where water collects, channelizes and moves offsite. Based on these characteristics and considering the additional hydrologic inputs, Boardman Creek acts as a discharge point for the surrounding headwater wetland area. No fish species occur in Boardman Creek (Streamnet 2016).

# 6 Deviation from LWI or NWI

The Local Wetland Inventory (LWI) did not show any mapped wetlands within the project study area. The Boardman Wetlands are classified as a Palustrine Emergent (persistent) Seasonally Flooded (PEM1C) wetland habitat by the NWI (USFWS 2016a; Figure 4). However, based on historic aerial imagery (Appendix E) and field observations (Appendix A and Appendix C), it is likely that surface water and high water table persists throughout the year; therefore Wetland A should be classified as a Palustrine Emergent (persistent) Semipermanently flooded (PEM1F) wetland habitat.

# 7 Mapping Methods

During the field delineation, data plot locations, wetland boundaries, and OHWM boundaries were recorded using a resource grade Trimble GeoXH 6000 Global Positioning System (GPS). Mapping accuracy of the unit is 50 cm (1.64 feet) using post-processed differential data correction after being downloaded. Once post-processing was completed, the data were overlain onto the National Agriculture Imagery Program (NAIP) aerial photographs used for field maps with the project, and GPS data using GIS software. The data illustrated on Figure 5A-5C has a sub-meter mapping accuracy using post-processed differential data correction.

# 8 Additional Information

USACE and DSL will assert jurisdiction over water and wetland features that meet regulatory authority as defined by the following:

- USACE will assert jurisdiction over traditional navigable waters, which includes all
  the waters described in 33 C.F.R. § 328.3(a)(1), and 40 C.F.R. § 230.3 (s)(1). The
  agencies will assert jurisdiction over wetlands adjacent to traditional navigable
  waters, including over adjacent wetlands that do not have a continuous surface
  connection to traditional navigable waters.
- DSL regulates "waters" (including rivers and wetlands) for the State of Oregon. DSL regulates waters using volume amounts of materials (i.e., sediments) removed or filled into a regulated water resource and location of activity. Waters of the state are regulated under the Removal/Fill Law (Oregon Revised Statue [ORS] 196.795–990) are defined under OAR 141-085-0515.

Based on observations made at the site of surface or clear subsurface connections to regulated waters, including the Willamette River, and best professional judgment, Wetland A and Boardman Creek would be considered jurisdictional and regulated by both USACE and DSL:

- Wetland A meets the jurisdictional definition of a wetland by both USACE and DSL as defined in 33 C.F.R. § 328.7 and OAR 141-085-0515(4).
- Boardman Creek is connected via surface drainage to the Willamette River, which is considered jurisdictional to USACE and DSL and would be considered jurisdictional per 33 C.F.R. § 328.3(f).
- Boardman Creek within the project study area is not a fish-bearing stream and does
  not serve as critical habitat to any species listed under the Endangered Species Act
  (USFWS 2016b). No sensitive species are known to occur within the wetland
  (ORBIC 2016). Many wildlife species, including ducks, songbirds, red-tailed hawks,
  and nutria, were observed using the wetlands during field surveys.

# 9 Results and Conclusions

Within the project study area there is one wetland (Wetland A) and one surface water resource (Boardman Creek). Wetland A is approximately 4.7 acres, classified as a PEM1F wetland habitat located in a topographic depression that receives water from Boardman Creek, stormwater conveyance system discharges, and likely from groundwater inputs. Boardman Creek is a low-gradient, perennial, non-fish bearing stream moving through developed, residential areas in unincorporated Clackamas County to its confluence with the Willamette River. Both Wetland A and Boardman Creek would be considered jurisdictional to the USACE and DSL.

# 10 Disclaimer

This report documents the investigation, best professional judgment, and conclusions of the investigators. It should be considered a Preliminary Jurisdictional Determination and used at your own risk until it has been approved in writing by the DSL in accordance with OAR 141-090-0005 through 141-090-0055, and the USACE in accordance with Section 404 of the CWA (OAR 141-090-0035 [7][k]).

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# Appendix A. Figures

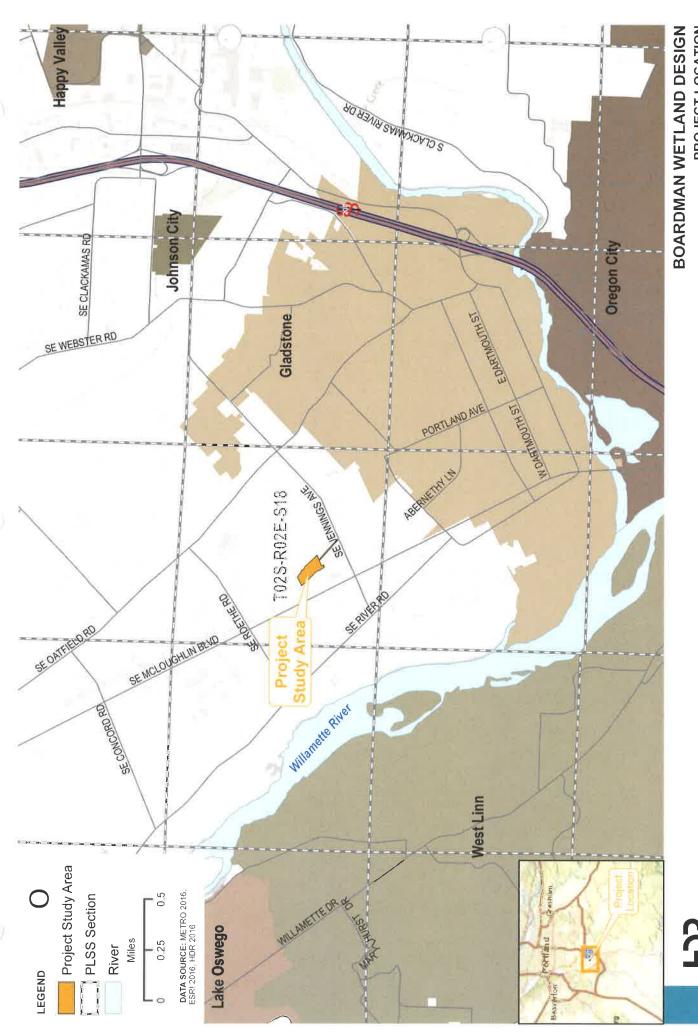
Figure 1. Project Location

Figure 2. Taxlots

Figure 3. NWI

Figure 4. NRCS Soil Survey

Figure 5. Wetland Delineation (A-E)



BOARDMAN WETLAND DESIGN
PROJECT LOCATION
FIGURE 1

了 公 (GISPROJECTS)GLSDIBOARDMAN WETLAND REPORTIMAP DOCS/WETLANDREPORTIFIGURET PROJECTLOCATION MXD - USER: JMAZE - DATE 9/30/2016

## **BOARDMAN WETLAND DESIGN TAXLOTS**

INEATION REPORT

BOARDMAN WETLA.

BOARDMAN WETLAND DESIGN NATIONAL WETLAND INVENTORY FIGURE 3

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BOARDMAN WETLA.

INEATION REPORT



WETLAND DELINEATION INDEX

## BOARDMAN WETLAND DESIGN WETLAND DELINEATION

FIGURE 5B

INEATION REPORT

PATH MPORE-SRV4/GISIPROJ

WETLAND DELINEATION **BOARDMAN WETLAND DESIGN** 

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FIGURE 5D INEATION REPORT

BOARDMAN WETLA.

BOARDMAN WETLAND DESIGN WETLAND DELINEATION FIGURE SE

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## Appendix B. Delineation Data Forms

**Data Sheet Summary Index** 

Associated Wetland	Plot ID	Met Vegetation Criteria	Met Soils Criteria	Met Hydrology Criteria	Is Plot within a Wetland?
Wetland A	SP1	Yes	Yes	Yes	Yes
Wetland A	SP2	Yes	Yes	Yes	Yes
Wetland A	SP3	Yes	Yes	Yes	Yes
Wetland A	SP4	Yes	Yes	Yes	Yes
Wetland A	SP5	No	No	Yes	No
Wetland A	SP6	Yes	Yes	Yes	Yes
Wetland A	SP7	Yes	Yes	Yes	Yes
Wetland A	SP8	Yes	Yes	Yes	Yes
Wetland A	SP9	Yes	Yes	No	No
Wetland A	SP10	Yes	Yes	Yes	Yes
Wetland A	SP11	Yes	No	No	No
Wetland A	SP12	Yes	No	No	No
Wetland A	SP13	Yes	No	No	No
Wetland A	SP14	Yes	No	No	No
Wetland A	SP15	Yes	Yes	Yes	Yes

WETLAND DETERMINATION DATA	A FORM - N	Western M	ountains	, Yalleys, ar	าd Coas	t Regi	on		
Project/Site: Boardman Creek	City/Count	ty: Cl	lackamas Co	ou,	Sampling	Date:	6/22/20	016	
Applicant/Owner: OLSD			State	: OR	Sampling	Point:	SP1		
Investigators: Irina Lapina Jennifer Ma	ze		Section, Tov	wnship, Range	S 18	T 2S	R	2E	
dform (hillslope, terrace, etc.): Floodplain	L	ocal Relief (co	oncave, conv	vex, none): Co	oncave		Slop	e(%) 1	
Subregion (LRR): A Lat: 45,3	92985	Long	: -122.609	865	Datu	um: NAD	83		
Soil Map Unit Name: Cove silty clay loam				NWI Classifica	tion: PE	M1C			
Are climatic / hydrologic conditions on the site typical for this time	of year?	Yes X	No	(If No, expl	ain in Rem	narks)			
Are Vegetation, Soil, Hydrology, significant	tly disturbed?	A	Are "Normal	Circumstances	" present?	Yes	Х	No	
Are Vegetation, Soil, Hydrology, naturally p	oroblematic?		(If needed,	explain any an	swers in R	lemarks.	)		
SUMMARY OF FINDINGS - Attach a site map sh	owing sar	nnling noi						res et	c
Hydrophytic Vegetation Present? Yes X No	owing sai	iipiiiig poi	nt locatio	no, transco	to, impe	, talle	cata	103, 00	0.
Hydric Soil Present? Yes X No	Is the Sa	ampled Area							
Wetland Hydrology Present? Yes X No		Wetland?		Yes 2	X No				
Remarks:									
Sunny, 58-80 deg F, no rain past 3 days.									
VECETATION Lies scientific names of plants	Absolute	Dominant	Indicator						
<b>VEGETATION</b> — Use scientific names of plants.	% Cover	Species	Status	Dominance	Test Worl	ksheet:			
Tree Stratum				Number of D				4	(4)
Shrub Stratum				That Are OB	L, FACW,	or FAC:		1	(A)
Herb Stratum (Plot size: 6 Ft )				Total Numbe					
Phalaris arundinacea	100	Υ	FACW	Species Acro	oss all Stra	ata:		1	(B)
	100	=Total Cover		Percent of D	ominant S	necies			
Vine Stratum				That Are OB				100.0%	(A/B)
				Prevalence	Index Wo	rksheet:			
				Total %	Cover of:		Mult	iply by:	
				OBL species		0	x 1 =	0	
				FACW speci	es	100	x 2 =	200	
				FAC species		0	x 3 =	0	
				FACU speci		0	x 4 =	0	
				UPL species		0	x 5 =	0	
						100	(A)	200	(B)
				Column Tota	IS:	100	(, ()	200	(0)
				Prevale	ence Index	x = <i>B/A</i> =		2.00	
				Hydrophytic	Vegetatio	n Indica	tors:		
				X Rapid Te	est for Hyd	Irophytic	Veget	ation	
				X Dominar	nce Test >	50%			
				X Prevaler	oo Indov	- 2 0			
				A Flevalei	ice maex s	≥ 3.0			
					ogical Ada Remarks or				orting
					atic Hydro		•		nlain)
				Indicators of			•		
				must be pre					
% Bare Ground in Herb Stratum 0				Hydroph Vegetation F		Yes	Х	No	
arks: (Include photo numbers here or on a separate sheet.)									
Plot adjacent to Boardman Creek; appox 0.5 ft west. Pedestrian	mentioned ol	bservation of l	beaver earlie	er in spring whe	n grass w	as shorte	er.		

Depth										
(inches) Colo	r (moist)	%	Color (moist)	%	Type	Loc 2	T	exture		Remarks
0 to 1 10YR	2/2	100					SILTY CLA	Y	Oi m	noist
1 to 11 10YR	2/2	20	2.5YR 2.5/1	60	D	M	SILTY CLA	Y	A	
1 to 11	1		5YR 3/4	20	C	PL	SILTY CLA	Y		
11 to 22 G1	2.5 / 1	100					SILTY CLA	Υ	B ve	ry black, gleyed
22 to 24 5Y	3 / 1	90	5YR 4/6	10		PL	SILTY CLA	Υ	Depl	eted
Type: C=Concentration,	D=Depletion,	RM=Redu	iced Martix, CS=C	overed or	Coated	Sand Gra	ins 2L	ocation: PL=Pore	Lining, M=Ma	atrix.
Hydric Soil Indicators:  Histosol (A1)  Histic Epipedon (A2)  Black Histic (A3)  Hydrogen Sulfide (A4)  Depleted Below Dark Su  Thick Dark Surface (A12  Sandy Mucky Mineral (Some Sandy Gleyed Matrix (	1)	d):	Sandy Redox (St. Stripped Matrix (St. Loamy Mucky Mill Loamy Gleyed Mill Depleted Matrix (Redox Dark Surf. Depleted Dark St. Redox Depression	S6) neral (F1) ( latrix (F2) (F3) ace (F6) urface (F7)		LRA 1)	2 c Re Ve Ot	tors for Problem om Muck (A10) ad Parent Material (* ery Shallow Dark Su ther (Explain in Rem cators of hydrophytic ology must be press ss disturbed or prob	rface (TF12) arks) c vegetation and ent, elematic	
ositive reaction to alpha, alp	oha-dipyridyl re	agent, Fair	t depletions, very pro	minently bla	ack orgar	ic material	(muck) filtered	d in horizons below.		
Positive reaction to alpha, alpositive reaction rea	licators:				ack orgar	ic material				
Positive reaction to alpha, alpositive reaction to alpha, alpha	licators: num of one is	required;		y) ned Leaves d 4B) B11) ertebrates ( sulfide Odor hizosphere of Reduced Reduction Stressed P	(B13) r (C1) s along Li Iron (C4) in Tilled 3	cept MLRA iving Roots Soils (C6)	Se (C3)	econdary Indicato Water-Stained 4A, and 4B) Drainage Patte Dry-Season Wa Saturation Visit Geomorphic Po Shallow Aquital FAC-Neutral Te Paised Ant Mot Frost-Heave Hu	Leaves (B9) (Morns (B10) ater Table (C2) ble on Aerial Imagesition (D2) and (D3) est (D5) unds (D6) (LRR	LRA 1, 2,
YDROLOGY  Wetland Hydrology Ind Primary Indicators (minin 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 Ae Sparsely Vegetated Con	licators: num of one is	required;	check all that apply Water-Stair 1, 2, 4A and Salt Crust ( Aquatic Involution Hydrogen S Oxidized R Presence of Recent Iron Stunted or	y) ned Leaves d 4B) B11) ertebrates ( sulfide Odor hizosphere of Reduced Reduction Stressed P	(B13) r (C1) s along Li Iron (C4) in Tilled 3	cept MLRA iving Roots Soils (C6)	Se (C3)	econdary Indicato Water-Stained 4A, and 4B) Drainage Patte Dry-Season Wa Saturation Visit Geomorphic Po Shallow Aquitan FAC-Neutral Te	Leaves (B9) (Morns (B10) ater Table (C2) ble on Aerial Imagesition (D2) and (D3) est (D5) unds (D6) (LRR	LRA 1, 2,
Positive reaction to alpha, alp  YDROLOGY  Wetland Hydrology Ind  Primary Indicators (minin  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 Ae  Sparsely Vegetated Con  Field Observations:  Surface Water Present?	licators: num of one is	required;	check all that apply Water-Stain 1, 2, 4A and Salt Crust ( Aquatic Involution Hydrogen S Oxidized R Presence of Recent Iron Stunted or Other (Expl	y) ned Leaves d 4B) B11) ertebrates ( sulfide Odor hizosphere: of Reduced n Reduction Stressed P ain in Remain	(B13) r (C1) s along Li Iron (C4) in Tilled 3	cept MLRA ving Roots Soils (C6)	Se (C3)	econdary Indicato Water-Stained 4A, and 4B) Drainage Patte Dry-Season Wa Saturation Visit Geomorphic Po Shallow Aquitan FAC-Neutral Te	Leaves (B9) (Morns (B10) ater Table (C2) ble on Aerial Imagesition (D2) and (D3) est (D5) unds (D6) (LRR	LRA 1, 2,
Positive reaction to alpha, alp  (YDROLOGY  Wetland Hydrology Ind  Primary Indicators (minin  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 Ae  Sparsely Vegetated Con  Field Observations:  Surface Water Present?  Water Table Present?	licators: num of one is rial Imagery (B cave Surface ( Yes Yes	required;  7)  B8)  N  X	check all that apply Water-Stair 1, 2, 4A and Salt Crust ( Aquatic Involution Hydrogen S Oxidized R Presence of Recent Iron Stunted or Other (Expl	y) ned Leaves d 4B) B11) ertebrates ( sulfide Odor hizosphere of Reduced Reduction Stressed P ain in Remain (inches):	(B13) r (C1) s along Li Iron (C4) in Tilled 3	cept MLRA ving Roots Soils (C6) ) (LRR A)	(C3)	econdary Indicato Water-Stained 4A, and 4B) Drainage Patte Pry-Season Wa Saturation Visik Geomorphic Po Shallow Aquital FAC-Neutral Te Paised Ant Mot	Leaves (B9) (M rns (B10) ater Table (C2) ble on Aerial Ima sistion (D2) rd (D3) est (D5) unds (D6) (LRR ummocks (D7)	LRA 1, 2, ag. (C9)
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 Ae Sparsely Vegetated Con Field Observations: Surface Water Present?	licators: num of one is rial Imagery (B cave Surface (	required; 7) B8)	check all that apply Water-Stair 1, 2, 4A and Salt Crust ( Aquatic Involution Hydrogen S Oxidized R Presence of Recent Iron Stunted or Other (Expl	y) ned Leaves d 4B) B11) ertebrates ( sulfide Odor hizosphere: of Reduced n Reduction Stressed P ain in Remain	(B13) r (C1) s along Li Iron (C4) in Tilled 3	cept MLRA ving Roots Soils (C6)	(C3)	econdary Indicato Water-Stained 4A, and 4B) Drainage Patte Dry-Season Wa Saturation Visit Geomorphic Po Shallow Aquitan FAC-Neutral Te	Leaves (B9) (M rns (B10) ater Table (C2) ble on Aerial Ima sistion (D2) rd (D3) est (D5) unds (D6) (LRR ummocks (D7)	LRA 1, 2,

Project/Size   Proj	WETLAND DETERMINATION DATA	A FORM - V	Vestern M	ountains	, V≏lleys, an	d Coast Reg	jion		
	Project/Site: Boardman Creek	City/Count	y: Cl	ackamas Co	ou., S	Sampling Date:	6/22/2	016	
	Applicant/Owner: OLSD			State	OR S	Sampling Point:	SP2		
Soil Map Unit Name   Cove sity clay loam   PEMTC   Soil Map Unit Name   Cove sity clay loam   PEMTC   Soil Map Unit Name   PEMTC   PEM	Investigators: Irina Lapina Jennifer Ma	aze		Section, Tov	vnship, Range	S 18 T 2S	R	2E	
Solition   Control   Con	dform (hillslope, terrace, etc.): Floodplain	Lo	ocal Relief (co	ncave, con	ex, none): No	ne	Slop	e(%) 0	
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If No, explain in Remarks)  Are Vegetation Soil , Hydrology , significantly disturbed? Are "Normal Circumstances" present? Yes X No Subdivision Soil , Hydrology , significantly disturbed? (If needed, explain any answers in Remarks.  SUMMARY OF FINDINGS - Attach a site map showing sampling point locations, transects, important features, etc  Hydrophytic Vegetation Present? Yes X No Is the Sampled Area (Methand Hydrophytic Vegetation Present) Yes X No Wetland Hydrophytic Vegetation Present? Yes X No Wetland Hydrophytic Vegetation Remarks or on a separate sheet)  **Vegetation Present?**  **Vegetation Present**	Subregion (LRR): A Lat: 45.3	393633	Long	: -122.6110	020	Datum: N	4D83		
Are climatic / hydrologic conditions on the site typical for this time of year?	Soil Map Unit Name: Cove silty clay loam				NWI Classificati	on: PEM1C			
Are Vegetation   Soil   Hydrology   significantly disturbed?   Are "Normal Circumstances" present?   Ves   X   No		e of year?	Yes X	No	(If No, expla	in in Remarks)			
Solid   Soli	Are Vegetation , Soil , Hydrology , significan	itly disturbed?	A	\re "Normal	Circumstances"	present? Ye	s X	No	
SUMMARY OF FINDINGS - Attach a site map showing sampling point locations, transects, important features, etc.						•			
Hydric Soil Present?				,			,		
Hydric Soil Present?		owing san	npling poil	nt locatio	ns, transect	s, importan	t teatu	res, et	ic.
Vediand Hydrology Present?									
Non-stratum   Plot size   6 Ft   1	Wotland Hydrology Propert?				Voc Y	No			
VEGETATION   Use scientific names of plants   Absolute % Cover   Spacies   Status	, es V 140				res A	INO			
Tree Stratum									
Tree Stratum									
Tree Stratum				W	ī				
Number of Dominant Species   1	VEGETATION Use scientific names of plants.				Dominanaa T	ant Markahaa	٠.		
Shrub Stratum   Shrub Strat	Tree Stratum	70 00.0.	<u> </u>	<u> </u>					
Phalaris arundinacea   80	Shrub Stratum							1	(A)
Phalaris arundinacea	200*				T	(D : .			
Municus effusus   10	1110031201 010	80	~	EAC\M				1	(B)
Typha latifolia			1000						(-/
Name								100.0%	(A/B
Total % Cover of:   Multiply by:	Callitriche heterophylla	3	N	OBL	That Are OBL	, FACW, or FAC	): 		` '
OBL species   13		103	=Total Cover		Prevalence Ir	ndex Workshee	et:		
FACW species 90 x 2 = 180  FAC species 0 x 3 = 0  FACU species 0 x 4 = 0  UPL species 0 x 5 = 0  Column Totals: 103 (A) 193 (B)  Prevalence Index = B/A= 1.87  Hydrophytic Vegetation Indicators:  X Rapid Test for Hydrophytic Vegetation  X Dominance Test > 50%  X Prevalence Index ≤ 3.0  Morphological Adaptations (Provide supporting data in Remarks or on a separate sheet)  Problematic Hydrophytic Vegetation (Explain)  Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.  Hydrophytic  Vegetation Present? Yes X No	Vine Stratum				Total % C	over of:			
FAC species 0 x3 = 0 FACU species 0 x4 = 0 UPL species 0 x5 = 0 Column Totals: 103 (A) 193 (B)  Prevalence Index = B/A= 1.87  Hydrophytic Vegetation Indicators:  X Rapid Test for Hydrophytic Vegetation X Dominance Test > 50% X Prevalence Index ≤ 3.0  Morphological Adaptations (Provide supporting data in Remarks or on a separate sheet) Problematic Hydrophytic Vegetation (Explain) Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.  Hydrophytic Vegetation Present? Yes X No					OBL species	13	x 1 =	13	
FACU species  FACU species  0					FACW specie	s 90	x 2 =	180	
UPL species 0 x5 = 0  Column Totals: 103 (A) 193 (B)  Prevalence Index = B/A= 1.87  Hydrophytic Vegetation Indicators:  X Rapid Test for Hydrophytic Vegetation  X Dominance Test > 50%  X Prevalence Index ≤ 3.0  Morphological Adaptations (Provide supporting data in Remarks or on a separate sheet)  Problematic Hydrophytic Vegetation (Explain)  Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.  Hydrophytic  Vegetation Present? Yes X No					FAC species	0	x 3 =	0	
Column Totals: 103 (A) 193 (B)  Prevalence Index = B/A= 1.87  Hydrophytic Vegetation Indicators:  X Rapid Test for Hydrophytic Vegetation  X Dominance Test > 50%  X Prevalence Index ≤ 3.0  Morphological Adaptations (Provide supporting data in Remarks or on a separate sheet)  Problematic Hydrophytic Vegetation (Explain)  Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.  Hydrophytic Vegetation Present? Yes X No					FACU specie	s 0	x 4 =	0	
## Prevalence Index = B/A= 1.87  ### Hydrophytic Vegetation Indicators:    X   Rapid Test for Hydrophytic Vegetation					UPL species	0	x 5 =	0	
## Prevalence Index = B/A= 1.87  ### Hydrophytic Vegetation Indicators:    X   Rapid Test for Hydrophytic Vegetation					Column Total	103	(A)	193	(B)
Hydrophytic Vegetation Indicators:  X Rapid Test for Hydrophytic Vegetation  X Dominance Test > 50%  X Prevalence Index ≤ 3.0  Morphological Adaptations (Provide supporting data in Remarks or on a separate sheet)  Problematic Hydrophytic Vegetation (Explain)  Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.  Hydrophytic  Vegetation Present? Yes X No					Column Totals	<b>.</b>	_ ` ′		, ,
X Rapid Test for Hydrophytic Vegetation  X Dominance Test > 50%  X Prevalence Index ≤ 3.0  Morphological Adaptations (Provide supporting data in Remarks or on a separate sheet)  Problematic Hydrophytic Vegetation (Explain)  Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.  Hydrophytic  Vegetation Present? Yes X No					Prevale	nce Index = B/A	í=	1.87	
X Dominance Test > 50%  X Prevalence Index ≤ 3.0  Morphological Adaptations (Provide supporting data in Remarks or on a separate sheet)  Problematic Hydrophytic Vegetation (Explain)  Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.  Hydrophytic  Vegetation Present? Yes X No					Hydrophytic V	egetation Indi	cators:		
X Prevalence Index ≤ 3.0  Morphological Adaptations (Provide supporting data in Remarks or on a separate sheet)  Problematic Hydrophytic Vegetation (Explain)  Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.  Hydrophytic  Vegetation Present? Yes X No					X Rapid Tes	st for Hydrophyt	ic Veget	ation	
Morphological Adaptations (Provide supporting data in Remarks or on a separate sheet)  Problematic Hydrophytic Vegetation (Explain)  Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.  Hydrophytic  Vegetation Present? Yes X No					X Dominano	ce Test > 50%			
Morphological Adaptations (Provide supporting data in Remarks or on a separate sheet)  Problematic Hydrophytic Vegetation (Explain)  Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.  Hydrophytic  Vegetation Present? Yes X No					Y Provalenc	na Inday < 3 N			
data in Remarks or on a separate sheet)  Problematic Hydrophytic Vegetation (Explain)  Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.  Hydrophytic  Vegetation Present? Yes X No									
Problematic Hydrophytic Vegetation (Explain)  Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.  Hydrophytic  Vegetation Present? Yes X No									orting
Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.  Hydrophytic  Vegetation Present? Yes X No							•	•	nlain)
must be present, unless disturbed or problematic.  Hydrophytic  Vegetation Present? Yes X No							_		
% Bare Ground in Herb Stratum 0 Vegetation Present? Yes X No									
, and a second s									
narks: (Include photo numbers here or on a separate sheet.)	% Bare Ground in Herb Stratum 0				Vegetation P	resent? Yes	X	No	
	narks: (Include photo numbers here or on a separate sheet.)								

	Matrix			Redox F	eatures					
Depth (inches)	Color (moist)	%	Color (mois		Type 1 Loc 2	Te	xture		Rem	arks
0 to 18	1		<b>(</b>	,	.,,,,,	SILTY MUCK		Mı	ıck	
	ration, D=Depletion,	RM=Reduc	ed Martix, CS	=Covered or	Coated Sand G		cation: PL=Pore L			
Hydric Soil Indic	ators:					Indicate	ors for Problema	tic Hydri	c Soils	. 3
Histosol (A1)			Sandy Redox	(S5)		pa motoria,		tic xiyaxi	e Borns	-
Histic Epipedon	(A2)		Stripped Matr	rix (S6)			n Muck (A10)			
Black Histic (A3	)				(except MLRA 1)		Parent Material (TF:	,		
✓ Hydrogen Sulfid	e (A4)		Loamy Gleye	d Matrix (F2)			y Shallow Dark Surfa			
Depleted Below	Dark Surface (A11)		Depleted Mat	` '		Oth	er (Explain in Remar	ks)		
Thick Dark Surfa	ace (A12)		Redox Dark S	Surface (F6)		3				
Sandy Mucky M	ineral (S1)		Depleted Dar	k Surface (F7)		- Indica hydro	tors of hydrophytic vilogy must be present	egetation a t.	nd wetla	ind
Sandy Gleyed M	latrix (S4)		Redox Depre	essions (F8)			s disturbed or proble			
Restrictive I	_ayer (if observe	d):								
Туре:	,									
Depth (inches):						Hydric Sc	il Present?	Yes	Х	No
IYDROLOGY										
Wetland Hydrold Primary Indicators Surface Water (A	s (minimum of one is A1)	required; c	Water-S	Stained Leaves	s (B9) (except MLf		condary Indicators  Water-Stained Le	•		
Wetland Hydrold Primary Indicators  Surface Water ( High Water Table	s (minimum of one is A1)	required; c	Water-9 1, 2, 4A	Stained Leaves and 4B)	s (B9) (except MLF		Water-Stained Le 4A, and 4B)	` aves (B9) (		
Wetland Hydrold Primary Indicators  Surface Water ( High Water Tabl  Saturation (A3)	s (minimum of one is A1) e (A2)	required; c	Water-S 1, 2, 4A	Stained Leaves and 4B) ust (B11)			Water-Stained Le 4A, and 4B)  Drainage Patterns	aves (B9) (	MLRA 1	
Wetland Hydrold Primary Indicators Surface Water ( High Water Tabl Saturation (A3) Water Marks (B	s (minimum of one is A1) e (A2)	required; c	Water-S 1, 2, 4A Salt Cru Aquatic	Stained Leaves A and 4B) ust (B11) Invertebrates	(B13)	RA [	Water-Stained Le 4A, and 4B)  Drainage Patterns  Dry-Season Wate	aves (B9) ( s (B10) r Table (C2	MLRA 1	, 2,
Wetland Hydrold Primary Indicators Surface Water ( High Water Tabl Saturation (A3) Water Marks (B Sediment Depos	s (minimum of one is A1) e (A2) I) sits (B2)	required; c	Water-\$ 1, 2, 4A  Salt Cru  Aquatic  ✓ Hydroge	Stained Leaves and 4B) ust (B11) Invertebrates on Sulfide Odo	(B13) r (C1)	ots (C3)	Water-Stained Le 4A, and 4B)  Drainage Patterns  Dry-Season Wate  Saturation Visible	aves (B9) ( s (B10) r Table (C2 on Aerial II	MLRA 1	, 2,
Wetland Hydrold Primary Indicators  ✓ Surface Water ( ✓ High Water Tabl ✓ Saturation (A3)  Water Marks (B  Sediment Deposits (B	s (minimum of one is A1) e (A2) 1) sits (B2) 3)	required; c	Water-5 1, 2, 4A Salt Cru Aquatic  ✓ Hydroge Oxidize	Stained Leaves and 4B) ust (B11) Invertebrates on Sulfide Odo	(B13) r (C1) s along Living Roo	ots (C3)	Water-Stained Le 4A, and 4B)  Drainage Patterns Dry-Season Wate Saturation Visible Geomorphic Posit	aves (B9) ( s (B10) or Table (C2 on Aerial II	MLRA 1	, 2,
Wetland Hydrold Primary Indicators Surface Water (A High Water Table Saturation (A3) Water Marks (B: Sediment Depos Drift Deposits (B	s (minimum of one is A1) e (A2) 1) sits (B2) 3) st (B4)	required; c	Water-5 1, 2, 4A Salt Cru Aquatic  ✓ Hydroge Oxidize Presence	Stained Leaves A and 4B) ust (B11) Invertebrates en Sulfide Odo d Rhizosphere ce of Reduced	(B13) r (C1) s along Living Roo	ots (C3)	Water-Stained Le 4A, and 4B)  Drainage Patterns Dry-Season Wate Saturation Visible Geomorphic Posit Shallow Aquitard	aves (B9) ( s (B10) or Table (C2 on Aerial II tion (D2) (D3)	MLRA 1	, 2,
Wetland Hydrold Primary Indicators  ✓ Surface Water ( ✓ High Water Tabl ✓ Saturation (A3)  Water Marks (B  Sediment Depos  Drift Deposits (B  Algal Mat or Cru	s (minimum of one is A1) e (A2) 1) sits (B2) 3) st (B4) 5)	required; c	Water-5 1, 2, 4A Salt Cru Aquatic  ✓ Hydroge Oxidize Present	Stained Leaves A and 4B) ust (B11) Invertebrates on Sulfide Odo d Rhizosphere ce of Reduced Iron Reduction	(B13) r (C1) s along Living Ro Iron (C4) in Tilled Soils (C6	ots (C3)	Water-Stained Le 4A, and 4B)  Drainage Patterns Dry-Season Wate Saturation Visible Geomorphic Posit Shallow Aquitard FAC-Neutral Test	aves (B9) ( s (B10) or Table (C2 on Aerial II tion (D2) (D3) (D5)	MLRA 1	, 2,
Wetland Hydrold Primary Indicators  ✓ Surface Water ( ✓ High Water Tabl ✓ Saturation (A3)  Water Marks (B Sediment Deposits (B Algal Mat or Cru ✓ Iron Deposits (B Surface Soil Cra	s (minimum of one is A1) e (A2) 1) sits (B2) 3) st (B4) 5) cks (B6)		Water-5 1, 2, 4A Salt Cru Aquatic Hydroge Oxidize Present Recent Stunted	Stained Leaves A and 4B)  ust (B11) Invertebrates en Sulfide Odo d Rhizosphere ce of Reduced Iron Reduction I or Stressed P	(B13) r (C1) s along Living Roo Iron (C4) in Tilled Soils (C6) lants (D1) (LRR A	ots (C3)	Water-Stained Le 4A, and 4B)  Drainage Patterns Dry-Season Wate Saturation Visible Geomorphic Posit Shallow Aquitard FAC-Neutral Test Paised Ant Mound	aves (B9) ( s (B10) or Table (C2 on Aerial II tion (D2) (D3) (D5) ds (D6) (LR	MLRA 1  2) mag.(C9	, 2,
Wetland Hydrold Primary Indicators  ✓ Surface Water ( ✓ High Water Tabl  ✓ Saturation (A3)  Water Marks (B  Sediment Deposits (B  Algal Mat or Cru  ✓ Iron Deposits (B  Surface Soil Cra  Inundation Visib	s (minimum of one is A1) e (A2)  1) sits (B2) 3) st (B4) 5) cks (B6) e on Aerial Imagery (B	7)	Water-5 1, 2, 4A Salt Cru Aquatic Hydroge Oxidize Present Recent Stunted	Stained Leaves A and 4B) ust (B11) Invertebrates on Sulfide Odo d Rhizosphere ce of Reduced Iron Reduction	(B13) r (C1) s along Living Roo Iron (C4) in Tilled Soils (C6) lants (D1) (LRR A	ots (C3)	Water-Stained Le 4A, and 4B)  Drainage Patterns Dry-Season Wate Saturation Visible Geomorphic Posit Shallow Aquitard FAC-Neutral Test	aves (B9) ( s (B10) or Table (C2 on Aerial II tion (D2) (D3) (D5) ds (D6) (LR	MLRA 1  2) mag.(C9	, 2,
Wetland Hydrold Primary Indicators  Surface Water (A High Water Table Saturation (A3) Water Marks (B: Sediment Depose Drift Deposits (B: Algal Mat or Cru Iron Deposits (B: Surface Soil Cra Inundation Visib Sparsely Vegeta	s (minimum of one is A1) e (A2) 1) sits (B2) 3) st (B4) 5) cks (B6) le on Aerial Imagery (B	7)	Water-5 1, 2, 4A Salt Cru Aquatic Hydroge Oxidize Present Recent Stunted	Stained Leaves A and 4B)  ust (B11) Invertebrates en Sulfide Odo d Rhizosphere ce of Reduced Iron Reduction I or Stressed P	(B13) r (C1) s along Living Roo Iron (C4) in Tilled Soils (C6) lants (D1) (LRR A	ots (C3)	Water-Stained Le 4A, and 4B)  Drainage Patterns Dry-Season Wate Saturation Visible Geomorphic Posit Shallow Aquitard FAC-Neutral Test Paised Ant Mound	aves (B9) ( s (B10) or Table (C2 on Aerial II tion (D2) (D3) (D5) ds (D6) (LR	MLRA 1  2) mag.(C9	, 2,
Wetland Hydrold Primary Indicators  ✓ Surface Water ( ✓ High Water Tabl ✓ Saturation (A3)  Water Marks (B Sediment Deposits (B Algal Mat or Cru ✓ Iron Deposits (B Surface Soil Cra Inundation Visib Sparsely Vegeta	s (minimum of one is A1) e (A2)  1) sits (B2) 3) st (B4) 5) cks (B6) le on Aerial Imagery (B ted Concave Surface (	7) B8)	Water-5 1, 2, 4A Salt Cru Aquatic Hydroge Oxidize Presend Recent Stunted Other (E	Stained Leaves A and 4B)  ust (B11) Invertebrates of the stain of the	(B13) r (C1) s along Living Roo Iron (C4) in Tilled Soils (C6 lants (D1) (LRR A	ots (C3)	Water-Stained Le 4A, and 4B)  Drainage Patterns Dry-Season Wate Saturation Visible Geomorphic Posit Shallow Aquitard FAC-Neutral Test Paised Ant Mound	aves (B9) ( s (B10) or Table (C2 on Aerial II tion (D2) (D3) (D5) ds (D6) (LR	MLRA 1  2) mag.(C9	, 2,
Wetland Hydrold Primary Indicators  ✓ Surface Water ( ✓ High Water Tabl ✓ Saturation (A3)  Water Marks (B Sediment Deposits (B Algal Mat or Cru ✓ Iron Deposits (B Surface Soil Cra Inundation Visib Sparsely Vegeta  Field Observation	s (minimum of one is A1) e (A2)  (A2)  (A3) st (B4) (A4) (A4) (A5) cks (B6) le on Aerial Imagery (B4) sted Concave Surface (Case) seent?  Yes	7) B8) X No	Water-5 1, 2, 4A Salt Cru Aquatic Hydroge Oxidize Present Recent Stunted Other (E	Stained Leaves A and 4B)  ust (B11) Invertebrates en Sulfide Odo d Rhizosphere ce of Reduced Iron Reduction d or Stressed P Explain in Rem	(B13) r (C1) s along Living Roo Iron (C4) in Tilled Soils (C6 lants (D1) (LRR A arks)	ots (C3)	Water-Stained Le 4A, and 4B)  Drainage Patterns Dry-Season Wate Saturation Visible Geomorphic Posit Shallow Aquitard FAC-Neutral Test Paised Ant Mound	aves (B9) ( s (B10) or Table (C2 on Aerial II tion (D2) (D3) (D5) ds (D6) (LR	MLRA 1  2) mag.(C9	, 2,
Wetland Hydrold Primary Indicators  Surface Water (A) High Water Table Saturation (A3) Water Marks (B) Sediment Deposits (B) Algal Mat or Cru Iron Deposits (B) Surface Soil Cra Inundation Visib Sparsely Vegeta Field Observation Surface Water Preservation	s (minimum of one is A1) e (A2)  (A2)  (A3) sits (B2) (A3) st (B4) (A4) (A5) cks (B6) le on Aerial Imagery (Betted Concave Surface (Concave Su	7) B8) X No X No	Water-5 1, 2, 4A Salt Cru Aquatic Hydroge Oxidize Presenc Recent Stunted Other (E	Stained Leaves A and 4B)  ust (B11) Invertebrates en Sulfide Odo d Rhizosphere ce of Reduced Iron Reduction d or Stressed P Explain in Rem epth (inches):	(B13) r (C1) s along Living Roo Iron (C4) in Tilled Soils (C6 lants (D1) (LRR A arks)	ots (C3)	Water-Stained Le 4A, and 4B)  Drainage Patterns Dry-Season Wate Saturation Visible Geomorphic Posit Shallow Aquitard FAC-Neutral Test Paised Ant Mound Frost-Heave Hum	aves (B9) ( s (B10) or Table (C2 on Aerial II tion (D2) (D3) (D5) ds (D6) (LR mocks (D7	MLRA 1  2) mag.(C9	)
Wetland Hydrold Primary Indicators  Surface Water ( High Water Tabl Saturation (A3) Water Marks (B Sediment Deposits (B Algal Mat or Cru Inon Deposits (B Surface Soil Cra Inundation Visib Sparsely Vegeta  Field Observation Surface Water Presentation Presentations	s (minimum of one is A1) e (A2)  (A2)  (A3) sits (B2) (A3) st (B4) (A4) (A4) (A4) (A5) cks (B6) le on Aerial Imagery (Betted Concave Surface (Concave Surface (	7) B8) X No X No	Water-5 1, 2, 4A Salt Cru Aquatic Hydroge Oxidize Presenc Recent Stunted Other (E	Stained Leaves A and 4B)  ust (B11) Invertebrates en Sulfide Odo d Rhizosphere ce of Reduced Iron Reduction d or Stressed P Explain in Rem	(B13) r (C1) s along Living Roo Iron (C4) in Tilled Soils (C6 lants (D1) (LRR A arks)	ots (C3)	Water-Stained Le 4A, and 4B)  Drainage Patterns Dry-Season Wate Saturation Visible Geomorphic Posit Shallow Aquitard FAC-Neutral Test Paised Ant Mound	aves (B9) ( s (B10) or Table (C2 on Aerial II tion (D2) (D3) (D5) ds (D6) (LR mocks (D7	MLRA 1	)
✓ Surface Water (A ✓ High Water Table ✓ Saturation (A3)  Water Marks (B ✓ Sediment Deposits (B ✓ Algal Mat or Cru ✓ Iron Deposits (B ✓ Surface Soil Cra ✓ Inundation Visib ✓ Sparsely Vegeta  Field Observation  Surface Water Pre ✓ Water Table Presentation Presentation Presentation	s (minimum of one is A1) e (A2)  (A2)  (A3) sits (B2) (A3) st (B4) (A4) (A4) (A4) (A5) cks (B6) le on Aerial Imagery (Betted Concave Surface (Concave Surface (	7) B8) X No X No X No	Water-5 1, 2, 4A Salt Cru Aquatic Hydroge Oxidize Present Recent Stunted Other (t	Stained Leaves A and 4B)  ust (B11) Invertebrates en Sulfide Odo d Rhizosphere ce of Reduced Iron Reduction If or Stressed P Explain in Rem epth (inches): epth (inches):	(B13) r (C1) s along Living Roo Iron (C4) in Tilled Soils (C6 lants (D1) (LRR A arks)  2 0 0	ots (C3)	Water-Stained Le 4A, and 4B)  Drainage Patterns Dry-Season Wate Saturation Visible Geomorphic Posit Shallow Aquitard FAC-Neutral Test Paised Ant Mound Frost-Heave Hum	aves (B9) ( s (B10) or Table (C2 on Aerial II tion (D2) (D3) (D5) ds (D6) (LR mocks (D7	MLRA 1	)
Wetland Hydrold Primary Indicators  Surface Water ( High Water Tabl Saturation (A3) Water Marks (B Sediment Deposits (B Algal Mat or Cru Iron Deposits (B Surface Soil Cra Inundation Visib Sparsely Vegeta Field Observatio Surface Water Pre Water Table Prese Saturation Presen (includes capillary	s (minimum of one is A1) e (A2)  (A2)  (A3) st (B4) (A4) (A4) (A5) cks (B6) e on Aerial Imagery (Betted Concave Surface (Concave Surface (Conc	7) B8) X No X No X No	Water-5 1, 2, 4A Salt Cru Aquatic Hydroge Oxidize Present Recent Stunted Other (t	Stained Leaves A and 4B)  ust (B11) Invertebrates en Sulfide Odo d Rhizosphere ce of Reduced Iron Reduction If or Stressed P Explain in Rem epth (inches): epth (inches):	(B13) r (C1) s along Living Roo Iron (C4) in Tilled Soils (C6 lants (D1) (LRR A arks)  2 0 0	ots (C3)	Water-Stained Le 4A, and 4B)  Drainage Patterns Dry-Season Wate Saturation Visible Geomorphic Posit Shallow Aquitard FAC-Neutral Test Paised Ant Mound Frost-Heave Hum	aves (B9) ( s (B10) or Table (C2 on Aerial II tion (D2) (D3) (D5) ds (D6) (LR mocks (D7	MLRA 1	, 2,

WETLAND DETERMINATION DAT	A FORM -	Western M	ountains	, Yalleys, an	d Coast Reg	ion		
Project/Site: Boardman Creek	City/Cour	nty: Cl	lackamas Co	ou, S	Sampling Date:	6/22/2	016	
Applicant/Owner: OLSD			State	: OR S	Sampling Point:	SP3		
Investigators: Irina Lapina Jennifer Ma	aze		Section, Tov	vnship, Range	S 18 T 2S	R	2E	
. dform (hillslope, terrace, etc.): Floodplain	L	ocal Relief (co	oncave, conv	/ex, none): No	ne	Slor	oe(%) C	0
oubregion (LRR): A Lat: 45.	393930	Long	: -122.612	345	Datum: NA		,	
Soil Map Unit Name: Woodburn silt loam, 3 to 8 percent slo		3		NWI Classificati				
Are climatic / hydrologic conditions on the site typical for this tim		Yes X	No		ain in Remarks)			
	ntly disturbed			Circumstances"	,		No	
	problematic?						140	
					wers in Remarks	•		
SUMMARY OF FINDINGS - Attach a site map she Hydrophytic Vegetation Present? Yes X No	nowing sa	mpling poi	nt locatio	ns, transect	s, important	featu	ires, e	tc.
Watland Hydrology Procent?		Sampled Area a Wetland?		Yes X	No			
Remarks:				162 7	NO			
Sunny, 58-80 deg F, no rain past 3 days.								
	Absoluto	Dominant	Indicator					
<b>VEGETATION</b> Use scientific names of plants.	Absolute % Cover	Species	Indicator Status	Dominance T	Test Worksheet:			
Tree Stratum (Plot size: 30 Ft )					ominant Species			
Salix lasiandra	50	Υ	FACW		_, FACW, or FAC		4	(A)
Salix bebbiana	20	Y	FACW	Total Number	of Daminout			
Salix scouleriana	15	Y	FAC	Total Number Species Acros			5	(B)
	85	=Total Cover						= ` ´
Shrub Stratum (Plot size: 30 Ft )					minant Species		80.0%	(A/B
Rosa woodsii	20	Υ	FACU	That Are OBL	, FACW, or FAC	20		
Fraxinus latifolia	5	N	FACW	Prevalence In	ndex Worksheet	t:		
Salix bebbiana	5	N N	FACW	Total % C	over of:	Mult	tiply by:	
Salix scouleriana	5	N	FAC	OBL species	0	x 1 =	0	
	35	=Total Cover		FACW specie	s 140	x 2 =	280	
Herb Stratum (Plot size: 6 Ft )				FAC species	30	x 3 =	90	
Phalaris arundinacea	60	Υ	FACW	FACU specie	s 20	x 4 =	80	
Solanum dulcamara	10	N	FAC	UPL species	0	x 5 =	0	
	70	=Total Cover		· ·	. 190	(A)	450	(B)
Vine Stratum				Column Totals	3: 190	(^)	430	(D)
				Prevalei	nce Index = B/A=	=	2.37	
				Hydrophytic V	egetation Indic	ators:		
				Rapid Tes	st for Hydrophytic	: Veget	tation	
				X Dominano	ce Test > 50%			
				X Prevalenc				
				Morpholog	gical Adaptations			porting
					emarks or on a se			mlai-\
					tic Hydrophytic V			
				must be pres	hydric soil and w ent, unless distu			
% Bare Ground in Herb Stratum 0				Hydrophy Vegetation Pr		x	No	
arks: (Include photo numbers here or on a separate sheet.)								

Depth Matrix			Redox F	eatures		
(inches) Color (moist)	%	Color (moist)	%	Type <sup>1</sup> Loc <sup>2</sup>	Texture	Remarks
0 to 21 10YR 2/1	100				SILT LOAM	
¹Type: C=Concentration, D=Depletio	n, RM=Reduc	ed Martix, CS=Cov	vered or	Coated Sand Grain	ns. <sup>2</sup> Location: PL=Pore Lini	ng, M=Matrix.
Hydric Soil Indicators:  Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Depleted Below Dark Surface (A11)		Sandy Redox (S5) Stripped Matrix (St Loamy Mucky Mind Loamy Gleyed Mat	6) eral (F1) ( trix (F2)	except MLRA 1)	Indicators for Problematic  2 cm Muck (A10)  Red Parent Material (TF2)  Very Shallow Dark Surface  Other (Explain in Remarks)	(TF12)
Thick Dark Surface (A12) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4)		Redox Dark Surface Depleted Dark Sur Redox Depression	face (F7)		<sup>3</sup> Indicators of hydrophytic vegathydrology must be present, unless disturbed or problema	
Restrictive Layer (if observed Type:  Depth (inches):	ed):				Hydric Soil Present?	Yes X No
Wetland Hydrology Indicators:						
Wetland Hydrology Indicators: Primary Indicators (minimum of one  Surface Water (A1)	(B7)	Water-Staine 1, 2, 4A and Salt Crust (B Aquatic Inver Hydrogen Su Oxidized Rhi Presence of Recent Iron F	ed Leaves 4B) 11) tebrates ( Ifide Odor zosphere Reduced Reduction	r (C1) s along Living Roots Iron (C4) in Tilled Soils (C6) lants (D1) (LRR A)	Secondary Indicators (m  Water-Stained Leave 4A, and 4B)  Drainage Patterns (E  Dry-Season Water T  Saturation Visible on  Geomorphic Position  Shallow Aquitard (D3  FAC-Neutral Test (D  Paised Ant Mounds  Frost-Heave Hummo	es (B9) (MLRA 1, 2, B10) able (C2) a Aerial Imag.(C9) n (D2) 3) (D6) (LRR A)
✓ 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) e (B8) es _X No es _X No	Water-Staine 1, 2, 4A and Salt Crust (B Aquatic Inver Hydrogen Su Oxidized Rhi Presence of Recent Iron F Stunted or S Other (Explain	ed Leaves 4B) 11) tebrates ( Ifide Odor zosphere Reduced Reduction tressed P in in Rem nches):	(B13) r (C1) s along Living Roots (Iron (C4) in Tilled Soils (C6) lants (D1) (LRR A)	Water-Stained Leave 4A, and 4B)  Drainage Patterns (E Dry-Season Water T Saturation Visible on Geomorphic Position Shallow Aquitard (DS FAC-Neutral Test (D Paised Ant Mounds	es (B9) (MLRA 1, 2, B10) Fable (C2) A Aerial Imag.(C9) In (D2) B3) S5) (D6) (LRR A) Docks (D7)

WETLAND DETERMINATION I				10 10 10	_			
Project/Site: Boardman Creek	City/Cour	nty: C	ackamas Co	ou. S	Sampling Date:	6/22/20	016	
Applicant/Owner: OLSD			State	: OR	Sampling Point:	SP4		
Investigators: Irina Lapina Jennii	er Maze		Section, Tov	wnship, Range	S 18 T 2S	R	2Ë	
dform (hillslope, terrace, etc.): Floodplain	1	_ocal Relief (co	ncave, con	/ex, none): No	ne	Slop	e(%) 0	)
Subregion (LRR): A Lat:	45.394430	Long	: -122.612	896	Datum: N/	4D83		
Soil Map Unit Name: Cove silty clay loam				NWI Classificat	ion: PEM1C			
Are climatic / hydrologic conditions on the site typical for th	is time of year?	Yes X	No	(If No, expla	ain in Remarks)			
Are Vegetation, Soil, Hydrology, sign	nificantly disturbed	? /	\re "Normal	Circumstances"	present? Yes	s X	No	
Are Vegetation, Soil, Hydrology, natu	urally problematic?		(If needed	explain any ans	wers in Remark	s )		
SUMMARY OF FINDINGS - Attach a site ma	n chowing co	malina noi		, ,		,	roc of	60
Hydrophytic Vegetation Present? Yes X No	p snowing sa	inpling pol	iit iocatio	iis, transect	is, important	. ieatu	res, et	
Hydric Soil Present? Yes X No	Is the S	Sampled Area						
Wetland Hydrology Present? Yes X No		a Wetland?		Yes X	. No			
Remarks: Sunny, 58-80 deg F, no rain past 3 days. Transitional area	a continues south;	problematic so	ils.					
VEGETATION Use scientific names of plants	Absolute % Cover	Dominant Species	Indicator Status	Dominance 1	Test Worksheet	::		
<u>Tree Stratum</u> (Plot size: 30 Ft ) Corylus cornuta	5	Υ	FACU		ominant Species L, FACW, or FA		2	(A)
	5	=Total Cover		T / IAI	(D : .			
Shrub Stratum (Plot size: 30 Ft )				Total Number Species Acro			3	(B)
Physocarpus capitatus	5	Υ	FACW					_ ` ′
Herb Stratum (Plot size: 6 Ft )	5	=Total Cover			ominant Species ., FACW, or FAC		66.7%	(A/B)
Herb Stratum (Plot size: 6 Ft )  Phalaris arundinacea	80	Υ	FACW	Prevalence li	ndex Workshee	rt:		
Convolvulus arvensis	2	N	NL	Total % C	Cover of:	Mult	iply by:	
	82	=Total Cover		OBL species	0	x 1 =	0	
Vine Stratum_				FACW specie	es 85	x 2 =	170	
				FAC species	0	x 3 =	0	
				FACU specie	es 5	x 4 =	20	
				UPL species	0	x 5 =	0	
				Column Total	s: 90	(A)	190	(B)
				Prevale	ence Index = B/A	=	2.11	
				Hydrophytic \	egetation Indic	cators:		
				Rapid Te	st for Hydrophyt	ic Veget	ation	
				X Dominan	ce Test > 50%			
				X Prevalenc	ce Index ≤ 3.0			
					gical Adaptation emarks or on a s			orting
				Problema	atic Hydrophytic	Vegetati	on (Ex	plain)
					hydric soil and v sent, unless dist			
				Hydrophy				
% Bare Ground in Herb Stratum 0				Vegetation P	resent? Yes	Х	No	
arks: (Include photo numbers here or on a separate sh	eet.)							

Depth		Matrix				eatures					
(inches)	Color	(moist)	%	Color (moist)	%	Type 1	Loc <sup>2</sup>	Texture		Remarks	
to		1		7.5YR 4/3	1	D	_M_	SILTY CLAY LOAM	Grey	depleted	inclusior
to		1		2.5YR 8/4	1	C	M	SILTY CLAY LOAM	Dark	when wet	
) to 1									Oa la	ayer, dry d	uff
1 to 13	10YR	2/1	100	/. 				SILTY CLAY LOAM	Α		
3 to 21	10YR	2/1	97	2.5YR 8/4	11	C	PL	SILTY CLAY LOAM			
ydric Soil In Histosol (A' Histic Epipe Black Histic Hydrogen S Depleted Bo Thick Dark Sandy Mucl	ndicators:  1) edon (A2) : (A3)	ace (A11)		Sandy Redox ( Stripped Matrix Loamy Mucky Loamy Gleyed Depleted Matrix Redox Dark St Depleted Dark Redox Depress	(S5) x (S6) Mineral (F1) Matrix (F2) x (F3) urface (F6) Surface (F7)	(except M		Indicators for Problem  2 cm Muck (A10) Red Parent Material (* Very Shallow Dark Su Other (Explain in Rem  3 Indicators of hydrophytic hydrology must be prese unless disturbed or prob	natic Hydric  TF2)  rface (TF12)  earks)  c vegetation and ent,  elematics	Soils: <sup>3</sup>	
ark organic ma ituration and h ea may be sea	aterial transloc	is present. La	andscape s	etting is likely to co	ncentrate wa	ater at gen	tle toe of s	eators; problematic hydric soil proc lope just east of sample plot along Due to presence of wetland vego	transitional are	ea of wetlar	nd boun
marks: ark organic ma aturation and h rea may be sea ydric. YDROLOG	aterial transloca igh water table asonally ponde Y Irology Indi	is present. Lad, 4b(6) p.113	andscape s 3, organic m	etting is likely to co natter might mask f	encentrate wa leatures in up	ater at gen	tle toe of s	lope just east of sample plot along	transitional are	ea of wetlar	nd boun
marks: ark organic maturation and hea may be sead or control of the control of th	aterial translocing water table asonally ponder  Y  Irology Indivators (minimum ater (A1) Table (A2) (A3) (as (B1) Deposits (B2) (its (B3) (r Crust (B4)	eators:  al Imagery (B7	andscape signification of the state of the s	check all that ap  Water-St 1, 2, 4A Salt Crus Aquatic II Hydroger Oxidized Presence Recent Ir Stunted o	ply) sained Leave	s (B9) (exc (B13) or (C1) es along Li Hron (C4) n in Tilled	tle toe of s shes of soil	Secondary Indicato  Secondary Indicato  Water-Stained 4A, and 4B)  Drainage Patter  Dry-Season Wa  Saturation Visit  Geomorphic Po  Shallow Aquitar  FAC-Neutral Te	rs (minimum of Leaves (B9) (Morns (B10) ple on Aerial Imposition (D2) ard (D3) pest (D5) unds (D6) (LRR	of two req LRA 1, 2,	nd bourn is consi
marks: ark organic maturation and hea may be service.  YDROLOG  Yetland Hyd  Yimary Indication Surface Wa  High Water Saturation ( Water Mark Sediment D Drift Deposition of the properties of t	Aterial translocation water table as on ally ponder the sacrature of the s	eators:  al Imagery (B7	andscape signification of the state of the s	check all that ap  Water-St 1, 2, 4A Salt Crus Aquatic II Hydroger Oxidized Presence Recent Ir Stunted o	ply)  ained Leave and 4B)  st (B11)  nvertebrates n Sulfide Odo Rhizosphere e of Reduced on Reduction or Stressed F	s (B9) (exc (B13) or (C1) es along Li Hron (C4) n in Tilled	tle toe of s shes of soil	Secondary Indicato  Secondary Indicato  Water-Stained 4A, and 4B)  Drainage Patter  Dry-Season Wa  Saturation Visib.  Geomorphic Po Shallow Aquitar  FAC-Neutral Te	rs (minimum of Leaves (B9) (Morns (B10) ple on Aerial Imposition (D2) ard (D3) pest (D5) unds (D6) (LRR	of two req LRA 1, 2,	nd bourn is consi
marks: ark organic maturation and hea may be service.  YDROLOG  Yetland Hyd  Yimary Indication Surface Wa  High Water Saturation ( Water Mark Sediment D Drift Deposition of the properties of t	aterial translocing water table asonally ponder  Y  Irology Indivators (minimulators (	eators:  al Imagery (B7	andscape signification of the state of the s	check all that ap  Water-St 1, 2, 4A a Salt Crus Aquatic II Hydroger Oxidized Presence Recent Ir Stunted o	ply)  ained Leave and 4B)  st (B11)  nvertebrates n Sulfide Odo Rhizosphere e of Reduced on Reduction or Stressed F	s (B9) (exc (B13) or (C1) es along Li Hron (C4) n in Tilled	tle toe of s shes of soil	Secondary Indicato  Secondary Indicato  Water-Stained 4A, and 4B)  Drainage Patter  Dry-Season Wa  Saturation Visib.  Geomorphic Po Shallow Aquitar  FAC-Neutral Te	rs (minimum of Leaves (B9) (Morns (B10) ple on Aerial Imposition (D2) ard (D3) pest (D5) unds (D6) (LRR	of two req LRA 1, 2,	nd bourn is consi
marks: ark organic ma aturation and h rea may be sea dric.  YDROLOG  Vetland Hyd Primary Indica High Water Saturation ( Water Mark Sediment D Drift Deposi Algal Mat or Iron Deposi Surface Soi Inundation ( Sparsely Ve	aterial translocing water table as on ally ponder the sacration of the sacratic of the sacration of the sacratic of the sacration of the sacratic of the sacration of the sacration of the sacratic of the sacration of the sacration of the sacratic of the sacration of the sacratic of the sacration of the sacratic of the sacration of the sacratic of the sacration o	cators: um of one is limagery (B7	required;	check all that ap  Water-St 1, 2, 4A Salt Crus Aquatic II Hydroger Oxidized Presence Recent Ir Stunted 6 Other (Ex	ply)  rained Leave and 4B)  st (B11)  nvertebrates in Sulfide Odo Rhizosphere e of Reduced on Reduction or Stressed F  xplain in Ren	s (B9) (exc (B13) or (C1) es along Li Hron (C4) n in Tilled	tle toe of s shes of soil	Secondary Indicato  Secondary Indicato  Water-Stained 4A, and 4B)  Drainage Patter  Dry-Season Wa  Saturation Visib.  Geomorphic Po Shallow Aquitar  FAC-Neutral Te	rs (minimum of Leaves (B9) (Morns (B10) ple on Aerial Imposition (D2) ard (D3) pest (D5) unds (D6) (LRR	of two req LRA 1, 2,	nd boun is consid
marks: ark organic material may be sea yearic.  YDROLOG  Vetland Hyd Primary Indication ( Water Mark Sediment D Drift Deposition Deposition ( Surface Soil Inundation ( Sparsely Vetled Observets)	Aterial translocing water table as on ally ponder the sacral translocing water table as on all y ponder the sacral translocing water (A1)  Table (A2) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3	eators:  Imagery (B7 ave Surface (E	required;  N	check all that ap  Check all that ap  Water-St 1, 2, 4A Salt Crus Aquatic II Hydroger Oxidized Presence Recent Ir Stunted of Other (E)	ply)  ained Leave and 4B)  st (B11)  nvertebrates in Sulfide Odd Rhizosphere e of Reduced on Reduction or Stressed F  explain in Ren	s (B9) (exc (B13) or (C1) es along Li Hron (C4) n in Tilled	tle toe of soil ches of soil cept MLRA viving Roots Soils (C6)	Secondary Indicato  Secondary Indicato  Water-Stained 4A, and 4B)  Drainage Patter  Dry-Season Wa  Saturation Visib.  Geomorphic Po Shallow Aquitar  FAC-Neutral Te	rs (minimum of Leaves (B9) (Morns (B10) of the Table (C2) of the One on Aerial Image of the One of	of two req LRA 1, 2,	nd bouns consider
marks: ark organic material may be sea ydric.  YDROLOG  Vetland Hyd Primary Indication ( Water Mark Sediment D Drift Deposition ( Iron Deposition ( Surface Soit ( Inundation ( Sparsely Vetled Observation ( Water Table for the part of	Aterial translocing water table as on ally ponder the sacral translocing water table as on all y ponder the sacral translocing water (A1)  Table (A2)  (A3)  (A4)	eators: al Imagery (B7 ave Surface (E	required;  Y)  X  N  X  N	check all that ap  Check all that ap  Water-St 1, 2, 4A Salt Crus Aquatic II Hydroger Oxidized Presence Recent Ir Stunted of Other (E)	ply)  ained Leave and 4B)  at (B11)  nvertebrates a Sulfide Odo Rhizosphera e of Reduced on Reduction or Stressed F  explain in Rem  th (inches):	s (B9) (exc (B13) or (C1) es along Li Hron (C4) n in Tilled	tle toe of soil sches of soil cept MLRA ving Roots Soils (C6) ) (LRR A)	Secondary Indicato  Secondary Indicato  Water-Stained 4A, and 4B)  Drainage Pattel  Dry-Season Wa  Saturation Visit  Geomorphic Po  Shallow Aquitar  FAC-Neutral Te  Paised Ant Mot  Frost-Heave Hu	rs (minimum of Leaves (B9) (Morns (B10) of the Table (C2) of the One on Aerial Image of the One of	of two req LRA 1, 2, ag.(C9)	nd bouns consi

WETLAND DETERMINATION DATA Project/Site: Boardman Creek	A FORM - \		<b>ountains</b> , ackamas Co	7.	oast Reg ling Date:	<b>jion</b> 6/22/20	016	
Applicant/Owner: OLSD	•		State		oling Point:	SP5		
Investigators: Irina Lapina Jennifer Ma	270			vnship, Range S 18	-		2E	
								2
dform (hillslope, terrace, etc.): Terrace		•		ex, none): Concave			oe(%) 2	-3
Subregion (LRR): A Lat: 45.3		Long	: -122.6136		Datum: NA	(D63		
Soil Map Unit Name: Woodburn silt loam, 3 to 8 percent slop					PEM1C			
Are climatic / hydrologic conditions on the site typical for this time	e of year?	Yes X	No	(If No, explain in	Remarks)			
Are Vegetation, Soil, Hydrology, significan	ntly disturbed?	A	Are "Normal	Circumstances" prese	ent? Yes	s X	No	
Are Vegetation, Soil, Hydrology, naturally	problematic?		(If needed,	explain any answers	in Remark	s.)		
SUMMARY OF FINDINGS - Attach a site map sh	nowing sar	nplina poi	nt locatio	ns, transects, in	nportant	t featu	res, et	c.
Hydrophytic Vegetation Present? Yes No X							*//	
Hydric Soil Present? Yes No X	Is the S	ampled Area						
Wetland Hydrology Present? Yes X No		Wetland?		Yes	No X			
Sunny, 58-80 deg F, no rain past 3 days.	Absolute	Dominant	lu di cata a					
<b>VEGETATION</b> Use scientific names of plants.	Absolute % Cover	<u>Species</u>	Indicator Status	Dominance Test V	Norksheet	::		
<u>Tree Stratum</u> <u>Shrub Stratum</u> (Plot size: 30 Ft )				Number of Domina That Are OBL, FA	•		1	(A)
Crataegus monogyna	3	Υ	FAC	Total Number of De	ominant			
	3	=Total Cover		Species Across all			4	(B)
Herb Stratum (Plot size: 6 Ft )  Lapsana communis	15	Υ	FACU	Percent of Domina That Are OBL, FAC			25.0%	(A/B)
Hedera helix	7	Υ	FACU	Prevalence Index	Workshee	st·		
Phalaris arundinacea	_ 3	N	FACW	Total % Cover			tiply by:	
Bromus tectorum	2	N	NL NL	OBL species	0	x 1 =		
Convolvulus arvensis	29		INL	•	3	x 2 =	6	
Vina Charley	20	_=Total Cover		FACW species	3	x 3 =		
Vine Stratum (Plot size: _30 Ft )				FAC species	97	x 4 =		
Rubus armeniacus	75	Y	FACU	FACU species		x 5 =		
	75	_=Total Cover		UPL species	0	x 5 -	U	
				Column Totals;	103	(A)	403	(B)
				Prevalence I	ndex = B/A	i=	3.91	
				Hydrophytic Veget	tation Indi	cators:		
				Rapid Test for	Hydrophyt	ic Veget	ation	
				Dominance Te	est > 50%			
				Prevalence Inc	dex ≤ 3.0			
				Morphological data in Remar				orting
				Problematic H	ydrophytic '	Vegetat	ion (Ex	plain)
				Indicators of hydri must be present, t				
% Bare Ground in Herb Stratum 0				Hydrophytic Vegetation Preser	nt? Yes		No 2	x

parks: (Include photo numbers here or on a separate sheet.)

West side of plot reduced due to position along fence and parking lot.

Depth	Matrix			Redox Fea	atures					
	r (moist)	%	Color (moist)	% 7	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Rema	ırks	
0 to 18 10YR	2/1	100					CLAY LOAM	Soil uniforn sample.	n throug	jhout <sup>'</sup>
<sup>1</sup> Type: C=Concentration,	D=Depletion,	RM=Redu	ced Martix, CS=C	overed or Co	oated S	and Grair	s. 2Location: PL=Pore Li	ning, M=Matrix.		
Hydric Soil Indicators:		-	-				Indicators for Problemat	tic Hydric Soils:	3	
Histosol (A1)			Sandy Redox (S				2 cm Muck (A10)			
Histic Epipedon (A2)			Stripped Matrix (	*			Red Parent Material (TF2	2)		
Black Histic (A3)		L	Loamy Mucky Mi	neral (F1) (ex	cept MLF	RA 1)	Very Shallow Dark Surfa	ce (TF12)		
Hydrogen Sulfide (A4)		L	Loamy Gleyed M				Other (Explain in Remark	(s)		
Depleted Below Dark Su		L	Depleted Matrix (							
Thick Dark Surface (A12	•	L.	_ Redox Dark Surf	, ,			<sup>3</sup> Indicators of hydrophytic ve	egetation and wetla	nd	
Sandy Mucky Mineral (S	•	L,	Depleted Dark S				hydrology must be present unless disturbed or probler	1		
Sandy Gleyed Matrix (S4	4)	-	Redox Depression	ons (F8)			unless disturbed of probler	natio,		
Restrictive Layer	(if observed	I):								
Туре:							Hydric Soil Present?	Yes	No	х
Depth (inches):							Tryana com raccom.	100		
	licators:									
HYDROLOGY  Wetland Hydrology Ind  Primary Indicators (minin  Surface Water (A1)		required; c		y) ned Leaves (B	39) (exce	ept MLRA	Secondary Indicators	`		ed)
Wetland Hydrology Ind Primary Indicators (minin		required; c	Water-Stair	ned Leaves (B d 4B)	39) (exce	ept MLRA		(minimum of two aves (B9) (MLRA 1,		ed)
Wetland Hydrology Ind Primary Indicators (minin		required; c	Water-Stair 1, 2, 4A an	ned Leaves (B d 4B) (B11)		ept MLRA	Water-Stained Lea	aves (B9) (MLRA 1,		ed)
Wetland Hydrology Ind Primary Indicators (minin Surface Water (A1) High Water Table (A2)		required; c	Water-Stair 1, 2, 4A an Salt Crust ( Aquatic Inv	ned Leaves (B d 4B) (B11) ertebrates (B1	13)	ept MLRA	Water-Stained Lea	aves (B9) (MLRA 1,		ed)
Wetland Hydrology Ind Primary Indicators (minin Surface Water (A1) High Water Table (A2) Saturation (A3)		required; c	Water-Stair 1, 2, 4A an Salt Crust ( Aquatic Inv	ned Leaves (B d 4B) (B11) ertebrates (B1	13) C1)		Water-Stained Lead 4A, and 4B)  Drainage Patterns  Pry-Season Wate  Saturation Visible	aves (B9) (MLRA 1,	2,	ed)
Wetland Hydrology Ind Primary Indicators (minin Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1)		required; c	Water-Stain 1, 2, 4A an Salt Crust ( Aquatic Inv Hydrogen S Oxidized R	ned Leaves (Bd 4B) (B11) ertebrates (B1 Sulfide Odor (Chizospheres a	13) C1) along Livi		Water-Stained Lead 4A, and 4B)  Drainage Patterns  Pry-Season Wate  Saturation Visible	aves (B9) (MLRA 1, (B10) r Table (C2) on Aerial Imag.(C9	2,	ed)
Wetland Hydrology Ind Primary Indicators (minin Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2)		required; c	Water-Stain 1, 2, 4A an Salt Crust ( Aquatic Inv Hydrogen S Oxidized R Presence c	ned Leaves (Bd 4B) (B11) ertebrates (B1 Sulfide Odor (Chizospheres a	13) C1) along Livi on (C4)	ing Roots (	Water-Stained Leader, and 4B)  □ Drainage Patterns □ Dry-Season Wate □ Saturation Visible	aves (B9) (MLRA 1, (B10) r Table (C2) on Aerial Imag.(C9) ion (D2)	2,	ed)
Wetland Hydrology Ind Primary Indicators (minin Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3)		required; c	Water-Stain 1, 2, 4A an Salt Crust ( Aquatic Inv Hydrogen S Oxidized R Presence of	med Leaves (Bd 4B) (B11) ertebrates (B1 Sulfide Odor (Chizospheres a of Reduced Iro	13) C1) along Livi on (C4) a Tilled So	ing Roots (	Water-Stained Lead 4A, and 4B)  Drainage Patterns  Dry-Season Wate  Saturation Visible  Geomorphic Posit	aves (B9) (MLRA 1, (B10) r Table (C2) on Aerial Imag.(C9 ion (D2)	2,	ed)
Wetland Hydrology Ind Primary Indicators (minin Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4)	num of one is	required; c	Water-Stain 1, 2, 4A an Salt Crust ( Aquatic Inv Hydrogen S Oxidized R Presence of	ned Leaves (Bd 4B) (B11) ertebrates (B1 Sulfide Odor (Chizospheres a	13) C1) along Livi on (C4) a Tilled So	ing Roots (	Water-Stained Lead 4A, and 4B)  Drainage Patterns  Dry-Season Wate  Saturation Visible  Geomorphic Posit  Shallow Aquitard (	aves (B9) (MLRA 1, (B10) r Table (C2) on Aerial Imag.(C9 ion (D2) (D3) (D5)	2,	ed)
Wetland Hydrology Ind Primary Indicators (minin 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 Ae	num of one is ) rial Imagery (B7	7)	Water-Stain 1, 2, 4A an Salt Crust ( Aquatic Inv Hydrogen S Oxidized R Presence c Recent Iron Stunted or	med Leaves (Bd 4B) (B11) ertebrates (B1 Sulfide Odor (Chizospheres a of Reduced Iro	13) C1) along Livi on (C4) i Tilled So nts (D1) (	ing Roots (	Water-Stained Lead 4A, and 4B)  Drainage Patterns  Pry-Season Wate  Saturation Visible  Geomorphic Posit  Shallow Aquitard ( FAC-Neutral Test	aves (B9) (MLRA 1, c (B10) r Table (C2) on Aerial Imag.(C9 ion (D2) (D3) (D5) ds (D6) (LRR A)	2,	ed)
Wetland Hydrology Ind Primary Indicators (minin 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 Ae Sparsely Vegetated Con	num of one is ) rial Imagery (B7	7)	Water-Stain 1, 2, 4A an Salt Crust ( Aquatic Inv Hydrogen S Oxidized R Presence c Recent Iron Stunted or	ned Leaves (Bd 4B) (B11) ertebrates (B1 Sulfide Odor (Chizospheres a of Reduced Iro n Reduction in Stressed Plan	13) C1) along Livi on (C4) i Tilled So nts (D1) (	ing Roots (	Water-Stained Lea 4A, and 4B)  Drainage Patterns  Pory-Season Wate  Saturation Visible  Geomorphic Posit  Shallow Aquitard ( FAC-Neutral Test  Paised Ant Mounce	aves (B9) (MLRA 1, c (B10) r Table (C2) on Aerial Imag.(C9 ion (D2) (D3) (D5) ds (D6) (LRR A)	2,	ed)
Wetland Hydrology Ind Primary Indicators (minin 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 Ae Sparsely Vegetated Con	num of one is ) rial Imagery (B7	7)	Water-Stain 1, 2, 4A an Salt Crust ( Aquatic Inv Hydrogen S Oxidized R Presence c Recent Iron Stunted or	ned Leaves (Bd 4B) (B11) ertebrates (B1 Sulfide Odor (Chizospheres a of Reduced Iro n Reduction in Stressed Plan	13) C1) along Livi on (C4) i Tilled So nts (D1) (	ing Roots (	Water-Stained Lea 4A, and 4B)  Drainage Patterns  Pory-Season Wate  Saturation Visible  Geomorphic Posit  Shallow Aquitard ( FAC-Neutral Test  Paised Ant Mounce	aves (B9) (MLRA 1, c (B10) r Table (C2) on Aerial Imag.(C9 ion (D2) (D3) (D5) ds (D6) (LRR A)	2,	ed)
Wetland Hydrology Ind Primary Indicators (minin 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 Ae Sparsely Vegetated Con	num of one is ) rial Imagery (B7	7)	Water-Stain 1, 2, 4A an Salt Crust ( Aquatic Inv Hydrogen S Oxidized R Presence c Recent Iron Stunted or Other (Expl	ned Leaves (Bd 4B) (B11) ertebrates (B1 Sulfide Odor (Chizospheres a of Reduced Iro n Reduction in Stressed Plan	13) C1) along Livi on (C4) i Tilled So nts (D1) (	ing Roots (	Water-Stained Lea 4A, and 4B)  Drainage Patterns  Pory-Season Wate  Saturation Visible  Geomorphic Posit  Shallow Aquitard ( FAC-Neutral Test  Paised Ant Mounce	aves (B9) (MLRA 1, c (B10) r Table (C2) on Aerial Imag.(C9 ion (D2) (D3) (D5) ds (D6) (LRR A)	2,	ed)
Wetland Hydrology Ind Primary Indicators (minin 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 Ae Sparsely Vegetated Con Field Observations: Surface Water Present? Water Table Present?	num of one is rial Imagery (B7 cave Surface (E Yes Yes	7) 38) No X	Water-Stain 1, 2, 4A an Salt Crust ( Aquatic Inv Hydrogen S Oxidized R Presence c Recent Iron Stunted or Other (Expl	ned Leaves (Bd 4B) (B11) ertebrates (B1 Sulfide Odor (Chizospheres a of Reduced Iro n Reduction in Stressed Plan lain in Remark (inches): (inches):	13) C1) along Livi on (C4) i Tilled Sc nts (D1) ( ks)	ing Roots (	Water-Stained Lea 4A, and 4B)  Drainage Patterns  Pry-Season Wate  Saturation Visible  Geomorphic Posit  Shallow Aquitard (  FAC-Neutral Test  Paised Ant Mounc  Frost-Heave Humi	aves (B9) (MLRA 1, c (B10) r Table (C2) on Aerial Imag.(C9 ion (D2) (D3) (D5) ds (D6) (LRR A) mocks (D7)	2,	ed)
Wetland Hydrology Ind Primary Indicators (minin  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 Ae  Sparsely Vegetated Con  Field Observations:  Surface Water Present?  Water Table Present?	num of one is ) rial Imagery (B7 cave Surface (E Yes	7) 38)	Water-Stain 1, 2, 4A an Salt Crust ( Aquatic Inv Hydrogen S Oxidized R Presence c Recent Iron Stunted or Other (Expl	med Leaves (Bd 4B) (B11) ertebrates (B1 Sulfide Odor (Chizospheres a of Reduced Iro n Reduction in Stressed Plan lain in Remark (inches):	13) C1) along Livi on (C4) i Tilled Sc nts (D1) ( ks)	ing Roots ( pils (C6) (LRR A)	Water-Stained Lea 4A, and 4B)  Drainage Patterns  Pory-Season Wate  Saturation Visible  Geomorphic Posit  Shallow Aquitard ( FAC-Neutral Test  Paised Ant Mounce	aves (B9) (MLRA 1, c (B10) r Table (C2) on Aerial Imag.(C9 ion (D2) (D3) (D5) ds (D6) (LRR A) mocks (D7)	2,	ed)
Wetland Hydrology Ind Primary Indicators (minin 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 Ae Sparsely Vegetated Con Field Observations: Surface Water Present? Water Table Present? Saturation Present? (includes capillary fringe)	num of one is rial Imagery (B7 cave Surface (B Yes Yes Yes	7) 38) No X No	Water-Stain 1, 2, 4A an Salt Crust ( Aquatic Inv Hydrogen S Oxidized R Presence c Recent Iron Stunted or Other (Expl	med Leaves (Bd 4B) (B11) ertebrates (B1 Sulfide Odor (Chizospheres a of Reduced Iro n Reduction in Stressed Plan lain in Remark (inches): (inches):	13) C1) along Livi on (C4) i Tilled Sc ints (D1) (	ing Roots ( pils (C6) (LRR A) (20)	Water-Stained Lea 4A, and 4B)  Drainage Patterns  Pry-Season Wate  Saturation Visible  Geomorphic Posit  Shallow Aquitard (  FAC-Neutral Test  Paised Ant Mounc  Frost-Heave Humi	aves (B9) (MLRA 1, c (B10) r Table (C2) on Aerial Imag.(C9 ion (D2) (D3) (D5) ds (D6) (LRR A) mocks (D7)	2,	ed)
Wetland Hydrology Ind Primary Indicators (minin  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 Ae  Sparsely Vegetated Con  Field Observations:  Surface Water Present?  Water Table Present?	num of one is rial Imagery (B7 cave Surface (B Yes Yes Yes	7) 38) No X No	Water-Stain 1, 2, 4A an Salt Crust ( Aquatic Inv Hydrogen S Oxidized R Presence c Recent Iron Stunted or Other (Expl	med Leaves (Bd 4B) (B11) ertebrates (B1 Sulfide Odor (Chizospheres a of Reduced Iro n Reduction in Stressed Plan lain in Remark (inches): (inches):	13) C1) along Livi on (C4) i Tilled Sc ints (D1) (	ing Roots ( pils (C6) (LRR A) (20)	Water-Stained Lea 4A, and 4B)  Drainage Patterns  Pry-Season Wate  Saturation Visible  Geomorphic Posit  Shallow Aquitard (  FAC-Neutral Test  Paised Ant Mounc  Frost-Heave Humi	aves (B9) (MLRA 1, c (B10) r Table (C2) on Aerial Imag.(C9 ion (D2) (D3) (D5) ds (D6) (LRR A) mocks (D7)	2,	ed)
Wetland Hydrology Ind Primary Indicators (minin 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 Ae Sparsely Vegetated Con Field Observations: Surface Water Present? Water Table Present? Saturation Present? (includes capillary fringe)	num of one is rial Imagery (B7 cave Surface (B Yes Yes Yes	7) 38) No X No	Water-Stain 1, 2, 4A an Salt Crust ( Aquatic Inv Hydrogen S Oxidized R Presence c Recent Iron Stunted or Other (Expl	med Leaves (Bd 4B) (B11) ertebrates (B1 Sulfide Odor (Chizospheres a of Reduced Iro n Reduction in Stressed Plan lain in Remark (inches): (inches):	13) C1) along Livi on (C4) i Tilled Sc ints (D1) (	ing Roots ( pils (C6) (LRR A) (20)	Water-Stained Lea 4A, and 4B)  Drainage Patterns  Pry-Season Wate  Saturation Visible  Geomorphic Posit  Shallow Aquitard (  FAC-Neutral Test  Paised Ant Mounc  Frost-Heave Humi	aves (B9) (MLRA 1, c (B10) r Table (C2) on Aerial Imag.(C9 ion (D2) (D3) (D5) ds (D6) (LRR A) mocks (D7)	2,	ed)

WETLAND DETERMINATION DATA	FORM - V	Western M	ountains,	, V≏lleys, ar	ıd Coas	st Reg	ion		
Project/Site: Boardman Creek	City/Count	ty: Cl	ackamas Co	ou.	Sampling	Date:	6/22/20	)16	
Applicant/Owner: OLSD			State	: OR	Sampling	g Point:	SP6		
Investigators: Irina Lapina Jennifer Ma	ze	;	Section, Tov	vnship, Range	S 18	T 2S	R	2E	
dform (hillslope, terrace, etc.): Depression	L	ocal Relief (co	ncave, conv	ex, none): Co	ncave		Slop	e(%) 0	
oregion (LRR): A Lat: 45.3	94824	Long:	-122,6136	323	Dat	um: NA	D83		
Soil Map Unit Name: Woodburn silt loam, 3 to 8 percent slop	es			NWI Classifica	tion: Pf	EM1C			
Are climatic / hydrologic conditions on the site typical for this time		Yes X	No	(If No, expl	ain in Re	marks)			
Are Vegetation , Soil , Hydrology , significant			re "Normal	Circumstances	" present	? Yes	Х	No	
Are Vegetation , Soil , Hydrology , naturally r	-	,							
SUMMARY OF FINDINGS - Attach a site map sh		nnling noi		explain any an				roe of	rc.
Hydrophytic Vegetation Present? Yes X No	owing sai	iipiiiig poii	it locatio	ns, transco	to, imp	Ortant	Icatai	03, 00	
Hydric Soil Present? Yes X No	le the S	ampled Area							
Wotland Hydrology Propent?		Wetland?		Yes 2	X No				
Remarks:									
Sunny, 58-80 deg F, no rain past 3 days. Transitional area, soil	pit was dug ~	4-5 feet east o	of SP5; 6 fee	et east of SP5 is	s flooded.				
	Absolute	Dominant	Indicator						
<b>VEGETATION</b> — Use scientific names of plants.	% Cover	Species	Status	Dominance	Test Wo	rksheet:			
<u>Tree Stratum</u> (Plot size: <u>30 Ft</u> )				Number of D	ominant	Species			
Fraxinus latifolia	20	Y	FACW	That Are OB	L, FACW	, or FAC	:	5	(A)
	20	=Total Cover		Total Numbe	r of Domi	inant			
Shrub Stratum (Plot size: _30 Ft)				Species Acro				6	(B)
Physocarpus capitatus	30	Υ	FACW						
Spiraea douglasii	30	Y	FACW	Percent of D That Are OB				83.3%	(A/B)
Crataegus monogyna	20	Y	FAC	-					
	80	=Total Cover		Prevalence					
Herb Stratum (Plot size: 6 Ft )					Cover of:			ply by:	
Phalaris arundinacea	65	Υ	FACW	OBL species		0	x 1 =	0	
Convolvulus arvensis	3	N	NL	FACW speci	es	147	x 2 =	294	
Juncus effusus	2	N	FACW	FAC species		20	x 3 =	60	
	70	=Total Cover		FACU speci	es	15	x 4 =	60	
Vine Stratum (Plot size: 30 Ft )				UPL species		0	x 5 =	0	
Rubus armeniacus	15	Y	FACU	Column Tota	ıls:	182	(A)	414	(B)
	15	=Total Cover							
				Prevale	ence Inde	ex = B/A=	=	2.27	
				Hydrophytic	Vegetati	on Indic	ators:		
				Rapid Te	est for Hy	drophyti	: Vegeta	ation	
				X Dominar	nce Test >	> 50%			
				X Prevaler	nce Index	≤ 3.0			
				Morphol	ogical Ada	aptations	s (Provi	ide supr	orting
					Remarks o atic Hydro		•	,	nlain\
				Indicators of	•			` '	
				must be pre	sent, unle				
% Bare Ground in Herb Stratum 5				Hydroph Vegetation F		Yes	х	No	
parks: (Include photo numbers here or on a separate sheet.)									

Depth		Matrix				Redox F	eatures						
(inches)	Color	(moist)	%		Color (moist)	%	Туре	1 Loc <sup>2</sup>		Texture		Rema	arks
1 to 16	10YR	2/1	100						SILT L	OAM			7
16 to 18	10YR	2/1	99		10YR 4/1	1	D	M	SILT L	OAM			-
¹Type: C=Cond	entration, D	=Depletion,	RM=Re	duce	d Martix, CS=C	overed or	Coated	Sand Gra	ins.	²Location: PL≃Pore Lin	ning, M=M	atrix.	
Hydric Soil In	dicators:								In	dicators for Problemati	ic Hydric	Soils:	3
Histosol (A1	)				Sandy Redox (S	5)			Γ	2 cm Muck (A10)			
Histic Epipe	don (A2)				Stripped Matrix (	S6)				• • • •	)		
Black Histic	(A3)				Loamy Mucky Mi	ineral (F1) (	except M	LRA 1)					
Hydrogen S	Hydrogen Sulfide (A4)  Depleted Below Dark Surface (A11)				Loamy Gleyed M	latrix (F2)				Other (Explain in Remarks			
Depleted Below Dark Surface (A11)  Thick Dark Surface (A12)					Depleted Matrix (	(F3)					- /		
Thick Dark S	Surface (A12)				Redox Dark Surf	ace (F6)			3	Indicators of hydrophytic veg	detation an	d wetla	nd
Sandy Mucky Mineral (S1)					Depleted Dark S	, ,				hydrology must be present,			
Sandy Gleyed Matrix (S4)					Redox Depression	ons (F8)				unless disturbed or problem	atic.		
Restrictiv	ve Layer (i	f observe	d):										
Type:									Hvd	ric Soil Present?	Yes	х	No
Depth (inche	es):								пуи	nc son Fresent!	162	^	NO
										sent; problematic hydric soil p s likely to concentrate farther		ipplied	due to presence
HYDROLOG	Y												
Wetland Hyd Primary Indica			s require	d; che	eck all that apply	y)				Secondary Indicators (	minimum	of two	required)
✓ Surface Wa	ter (A1)				Water-Stair	ned Leaves	(B9) (ex	cept MLRA	١	(T) Water-Stained Lea			
✓ High Water	Table (A2)				1, 2, 4A an					4A, and 4B)			Τ
Saturation (	43)				Salt Crust					Drainage Patterns	(B10)		
Water Mark	s (B1)				Aquatic Inv	ertebrates (	B13)			Dry-Season Water			
Sediment D	eposits (B2)				Hydrogen S		, ,			Saturation Visible of			)
Drift Deposi	ts (B3)					hizosphere	-	_	s (C3)	✓ Geomorphic Position		, ·	,
Algal Mat or	Crust (B4)				✓ Presence of		, ,			✓ Shallow Aquitard (Ľ			
Iron Deposit	s (B5)				Recent Iron	Reduction	in Tilled	Soils (C6)		✓ FAC-Neutral Test (			
Surface Soil	Cracks (B6)				Stunted or	Stressed P	lants (D1	) (LRR A)		Paised Ant Mounds		R A)	
Inundation \	isible on Aeria	al Imagery (E	37)		Other (Exp	lain in Rema	arks)			Frost-Heave Humm	nocks (D7)	•	
Sparsely Ve	getated Conca	ave Surface	(B8)										
Field Observa	tions:												
Surface Wate	Present?	Yes	X	No	Depth	(inches):		2					
Water Table F	resent?	Yes	X	No	Depth	(inches):		9					
Saturation Pre	esent?	Yes	X	No	Depth	(inches):		2	W	etland Hydrology Preser	nt? Y	es X	No
(includes capi													
Describe Record	ed Data (strea	im gauge, m	onitoring v	well, a	erial photos, previ	ious inspect	ions), if a	available:					
Remarks:													
Positive reaction	to alpha, alph	a-dipyridyl re	eagent, D2	2 - Adja	acent to floodplair	n <sub>e</sub>							

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

2 0					.,				
WETLAND DETEI	RMINATION DAT	A FORM -	Western M	lountains,	V≏lleys, and C	oast Regi	on		
Project/Site: Boardman Creek		City/Coun	ity: C	lackamas Co	ou. Samp	oling Date:	6/22/20	)16	
Applicant/Owner: OLSD				State	: OR Sam	oling Point:	SP7		
Investigators: Irina Lapina	Jennifer Ma	aze		Section, Tov	vnship, Range S 18	3 T 2S	R	2E	
dform (hillslope, terrace, etc.): De	pression	L	ocal Relief (co	oncave, conv	ex, none): Concav	e	Slop	e(%) 0	)
oubregion (LRR): A	Lat: 45.	394832	Long	j: -122.6136	31	Datum: NAI	D83		
	pam, 3 to 8 percent slo	pes			NWI Classification:	PEM1C			
Are climatic / hydrologic conditions on the		•	Yes X	No	(If No, explain in	Remarks)			
Are Vegetation , Soil , Hydro		ntly disturbed?			Circumstances" pres	,	Х	No	
, ,	ology , naturally	•			•				
•		•		,	explain any answers		,		
SUMMARY OF FINDINGS - Atta		howing sa	mpling poi	nt locatio	ns, transects, i	mportant	featu	res, et	c.
, , , ,	es X No								
	es X No		ampled Area a Wetland?						
	es X No	WILLIIII	a wellanur		Yes X	No			
Remarks: Sunny, 58-80 deg F, no rain past 3 days.									
Carmy, oo oo acg 1, no tam pact o days.									
VEGETATION Use scientific na	ames of plants	<u>Absolute</u>	Dominant	Indicator					
		% Cover	<u>Species</u>	<u>Status</u>	Dominance Test	Worksheet:			
Tree Stratum (Plot size: 30	Ft )	20	V	EAC)4/	Number of Domin	•		5	(A)
Fraxinus latifolia		20	Y	FACW	That Are OBL, FA	CVV, or FAC			( ' ')
	62-6	20	=Total Cover		Total Number of D				
Shrub Stratum (Plot size: 30	Ft )	22	431	E4.0044	Species Across al	l Strata:		6	(B)
Physocarpus capitatus		30	- <del>Y</del>	FACW	Percent of Domina	ant Species			
Spiraea douglasii Crataegus monogyna		30	- Y	FAC	That Are OBL, FA			83.3%	(A/B
Cratacgus monogyna		80	=Total Cover		Prevalence Index	Worksheet			
Herb Stratum (Plot size: 6 l	F. (A)		Total Cover		Total % Cover			iply by:	
Herb Stratum (Plot size: 6 l	-τ)	65	Y	FACW	OBL species	0	x 1 =	0	
Convolvulus arvensis		3	N	NL	FACW species	147	x 2 =	294	
Juncus effusus		2	N	FACW	•	20	x 3 =	60	
		70	=Total Cover		FAC species	15	x 4 =	60	
Vine Stratum(Plat sinex 20					FACU species	0	x 5 =	0	
(Plot size: 30	rt )	15	Y	FACU	UPL species				
Rubus armeniacus		15			Column Totals:	182	(A)	414	(B)
		10	=Total Cover		Prevalence	Index = R/A=		2.27	
					Hydrophytic Vege	_		2,2,	
								adia.a	
					Rapid Test for	пушорпуш	vege	allon	
					X Dominance Te	est > 50%			
					X Prevalence In	dex ≤ 3.0			
					Morphological				porting
					Problematic H		•	,	(plain)
					Indicators of hydr	ic soil and w	etland I	hydrolog	ЭУ
% Bare Ground in Herb Stratum 5					Hydrophytic Vegetation Prese		х		

% Bare Ground in Herb Stratum

narks: (Include photo numbers here or on a separate sheet.)

Profile Descrip	ption: (Descr		depth r	need	ed to docume			confirm th	he absence of Indicators.)	
Depth	Calar (	Matrix	0/		Calay (magical)	%	Features	1 00 2	Testure	Domorko
(inches)	Color (		%		Color (moist)	70	Туре	Loc <sup>2</sup>	Texture	Remarks
0 to 15	10YR	3/2	100	_		_			SILT LOAM	
<sup>1</sup> Type: C=Cond	centration, D=	Depletion,	RM=Re	duce	ed Martix, CS=	Covered o	r Coated	Sand Grair	ns. <sup>2</sup> Location: PL=Pore Lining	M=Matrix
Hydric Soil In	ndicators:								Indicators for Problematic H	ydric Soils: 3
Histosol (A1	)				Sandy Redox (	S5)			2 cm Muck (A10)	
Histic Epipe	don (A2)				Stripped Matrix	(S6)			Red Parent Material (TF2)	
Black Histic	(A3)				Loamy Mucky I	Mineral (F1)	(except M	LRA 1)	Very Shallow Dark Surface (T	E42\
✓ Hydrogen S	ulfide (A4)				Loamy Gleyed	Matrix (F2)			Other (Explain in Remarks)	-12)
Depleted Be	low Dark Surfa	ce (A11)			Depleted Matri	x (F3)			Other (Explain in Nemarks)	
Thick Dark 9	Surface (A12)				Redox Dark Su	ırface (F6)			3 Indicators of hydrophytic vegeta	tion and wetland
Sandy Muck	y Mineral (S1)				Depleted Dark	Surface (F7	')		hydrology must be present,	Horr and wetland
Sandy Gleye	ed Matrix (S4)				Redox Depress	sions (F8)			unless disturbed or problematic	
Restrictiv	ve Layer (if	observe	d):				_	_		
Type:	<b>)</b> - (		,							
Depth (inche	es):								Hydric Soil Present?	res X No
Remarks:										
✓ Surface Wat ✓ High Water ✓ Saturation (/  Water Marks  Sediment De  Drift Deposit	ter (A1) Table (A2) A3) s (B1) eposits (B2)	,, 6, 6, 6	, roquino	α, σ	1, 2, 4A a Salt Crus Aquatic Ir Hydrogen	ained Leave and 4B)	s (B13) or (C1)		Secondary Indicators (min  Water-Stained Leaves 4A, and 4B)  Drainage Patterns (B10  Dry-Season Water Tab  Saturation Visible on Ac	(B9) (MLRA 1, 2, 0) le (C2) erial Imag.(C9)
Algal Mat or	, ,					of Reduced	-	•	Geomorphic Position (I	)2)
Iron Deposit						on Reductio		Soils (C6)	Shallow Aquitard (D3)	
	Cracks (B6)				Stunted of	or Stressed	Plants (D1	(LRR A)	FAC-Neutral Test (D5)	2) (I DD A)
	/isible on Aerial	Imagery (R	7)			plain in Rer	•	,	Paised Ant Mounds (D6	, ,
	getated Conca	• , ,	,		(2)	cproduct to recor	, idi ito,		Frost-Heave Hummock	s (D7)
Field Observa			,							
Surface Water		Yes	Х	No	Den	th (inches):		6		
Water Table P		Yes		No		th (inches):		0		
Saturation Pre		Yes		No		th (inches):		0	Wetland Hydrology Present?	Yes X No
(includes capil		, 30			200	().				
Describe Record	The LOVE beautiful to the State of the second	n gauge, mo	onitoring v	well, a	aerial photos, pre	vious inspe	ctions), if a	vailable:		
Remarks: D2 - Adjacent to	floodplain									
rajoonii to										

WETLAND DETERMINATION DATA	A FORM -	Western M	ountains	lleys, and Coa	ast Regi	ion		
Project/Site: Boardman Creek	City/Coun	ity: Cl	ackamas Co	Samplin	ng Date:	6/24/20	016	
Applicant/Owner: OLSD			State	: OR Sampli	ng Point:	SP8		
Investigators: Irina Lapina Jennifer Ma	ze		Section, Tov	vnship, Range S 18	T 2S	R	2E	
dform (hillslope, terrace, etc.): Floodplain	L	ocal Relief (co	ncave, con	ex, none): Concave		Slop	e(%) 0	
oubregion (LRR): A Lat: 45.3	394198	Long	-122.611	585 Da	atum: NAI	D83		
Soil Map Unit Name: Cove silty clay loam				NWI Classification: F	PEM1C			
Are climatic / hydrologic conditions on the site typical for this time	e of year?	Yes X	No	(If No, explain in R	emarks)			
Are Vegetation , Soil , Hydrology , significan	tly disturbed?	,	re "Normal	 Circumstances" preser	nt? Yes	Х	No	
Are Vegetation, Soil, Hydrology, naturally	problematic?		(If needed,	explain any answers in	Remarks	.)		
SUMMARY OF FINDINGS - Attach a site map sh	owing sai	mpling poi	nt locatio	ns, transects, im	portant	featu	res, et	c.
Hydrophytic Vegetation Present? Yes X No								
Hydric Soil Present? Yes X No	Is the S	ampled Area						
Wetland Hydrology Present? Yes X No	within a	Wetland?		Yes X N	0			
Remarks: Cloudy, 56-67 deg F, 0.3in precip.								
<b>VEGETATION</b> — Use scientific names of plants.	Absolute % Cover	<u>Dominant</u> <u>Species</u>	Indicator Status	Dominance Test We	orksheet:			
<u>Tree Stratum</u> Shrub Stratum (Plot size: 30 Ft )				Number of Dominan That Are OBL, FAC		8	3	(A)
Rosa woodsii	60	Υ	FACU	T-4-1 Novel 1 D				
Spiraea douglasii	30	Υ	FACW	Total Number of Dor Species Across all S			5	(B)
Crataegus monogyna	25	Υ	FAC					
Чеrb Stratum (Plot size: 6 Ft )	115	=Total Cover		Percent of Dominant That Are OBL, FACV		:	60.0%	(A/B)
Phalaris arundinacea	5	Υ	FACW	Prevalence Index W	Vorksheet	:		
	5	=Total Cover		Total % Cover o	f:	Mult	iply by:	
Vine Stratum (Diet sizes 20 5th		70141 00101		OBL species	0	x 1 =	0	
(Plot size: 30 Ft )	7	Y	FACU	FACW species	35	x 2 =	70	
Rubus armeniacus	7		FACU	FAC species	25	x 3 =	75	
		=Total Cover		FACU species	67	x 4 =	268	
				UPL species	0	x 5 =	0	
				Column Totals:	127	(A)	413	(B)
					D/A		0.05	, ,
				Prevalence Inc			3.25	
				Hydrophytic Vegeta				
				Rapid Test for H	lydrophytic	: Veget	ation	
				X Dominance Test	t > 50%			
				Prevalence Inde	ex ≤ 3.0			
				Morphological A data in Remarks				orting
				Problematic Hyd	Irophytic V	/egetat	ion (Exp	olain)
				Indicators of hydric must be present, un				
% Bare Ground in Herb Stratum <1				Hydrophytic Vegetation Present	? Yes	х	No	
parks: (Include photo numbers here or on a separate sheet )					. 00			

	ches) Color (moist	Matrix			Redox Fe						
(inches)	Color (	(moist)	%	Color (mois	st) %	Type 1	Loc <sup>2</sup>		Texture		Remarks
0 to 13	I0YR	2/1	100					LOAM		A - mu	Loam, black and cky
3 to 15	I0YR	2/1	95	7.5YR 3/4	5	С	M	LOAM			
Type: C=Concen	tration, D=	Depletion,	RM=Redu	ced Martix, CS	=Covered or 0	Coated S	Sand Gra	ins.	<sup>2</sup> Location: PL=Pore I	_ining, M=N	1atrix
Hydric Soil Indi	cators:							Indic	ators for Problema	atic Hydric	Soils: 3
Histosol (A1)				Sandy Redox	x (S5)				2 cm Muck (A10)		
Histic Epipedor	(A2)		[	Stripped Mat	, ,				Red Parent Material (TF	=2)	
Black Histic (A3	3)			Loamy Muck	y Mineral (F1) (e	except ML	.RA 1)		Very Shallow Dark Surf	,	
✔ Hydrogen Sulfic	de (A4)		[	Loamy Gleye	ed Matrix (F2)				Other (Explain in Rema		
Depleted Below		ace (A11)		Depleted Ma	trix (F3)				other (Explain III Nome	ino,	
Thick Dark Surf	ace (A12)			Redox Dark	Surface (F6)			3 In	dicators of hydrophytic	venetation ar	nd wetland
Sandy Mucky M	lineral (S1)			Depleted Da	rk Surface (F7)			hy	drology must be preser	nt,	id wolland
Sandy Gleyed	Matrix (S4)			Redox Depre	essions (F8)			ur	less disturbed or proble	ematic.	
Restrictive	Layer (if	observe	d):								
Туре:								116.22	Call Daggard	V	V Na
Depth (inches):								Hydric	Soil Present?	Yes	X No
YDROLOGY											
Wetland Hydrol	O.										
Wetland Hydrol Primary Indicator	s (minimu		required;			(00)			Secondary Indicators	s (minimum	of two require
Wetland Hydrol Primary Indicator Surface Water	s (minimu (A1)		required;	Water-	Stained Leaves	(B9) (exc	ept MLRA		Water-Stained L		·
Wetland Hydrol Primary Indicator  Surface Water High Water Tak	rs (minimu (A1) ble (A2)		required;	Water-	Stained Leaves A and 4B)	(B9) (exc	ept MLRA		Water-Stained Le	eaves (B9) (I	·
Wetland Hydrol Primary Indicator Surface Water High Water Tak Saturation (A3)	(A1) ble (A2)		required;	Water-1, 2, 4A	Stained Leaves A and 4B) ust (B11)		ept MLRA		Water-Stained Lough 4A, and 4B)  Drainage Pattern	eaves (B9) (N	MLRA 1, 2,
Wetland Hydrol Primary Indicator  Surface Water High Water Tat  Saturation (A3)  Water Marks (E	(A1) (ble (A2)		required; (	Water-1, 2, 44 Salt Cr	Stained Leaves A and 4B) ust (B11) c Invertebrates (B	313)	ept MLRA		Water-Stained L- 4A, and 4B)  ✓ Drainage Patterr  Dry-Season Wat	eaves (B9) (Ins (B10) er Table (C2	MLRA 1, 2,
Wetland Hydrol Primary Indicator  Surface Water  High Water Tak  Saturation (A3)  Water Marks (E  Sediment Depo	(A1) (B) (B) (B) (B) (B) (B) (B) (B) (B) (B		required;	Water- 1, 2, 4 Salt Cr Aquatic	Stained Leaves A and 4B) ust (B11)	313) (C1)			Water-Stained Lead AA, and 4B)  ✓ Drainage Pattern  Dry-Season Wat  Saturation Visible	eaves (B9) (Ins (B10) er Table (C2 e on Aerial Ir	MLRA 1, 2,
Wetland Hydrol Primary Indicator Surface Water High Water Tak Saturation (A3) Water Marks (E Sediment Deposits (I	s (minimu (A1) ble (A2) (A1) sits (B2) (B3)		required; (	Water 1, 2, 4A Salt Cr Aquatic Hydrog Oxidize	Stained Leaves A and 4B) ust (B11) Invertebrates (Been Sulfide Odor ad Rhizospheres	313) (C1) along Liv			Water-Stained Le 4A, and 4B)  ✓ Drainage Patterr  Dry-Season Wat  Saturation Visible  ✓ Geomorphic Pos	eaves (B9) (Ins (B10) er Table (C2 e on Aerial Instition (D2)	MLRA 1, 2,
Wetland Hydrol Primary Indicator Surface Water High Water Tat Saturation (A3) Water Marks (E Sediment Depo Drift Deposits (I Algal Mat or Cri	(A1) ble (A2) sits (B2) sits (B2) sust (B4)		required;	Water 1, 2, 4A  Salt Cr  Aquatic  Hydrog  Oxidize  ✓ Presen	Stained Leaves A and 4B) ust (B11) c Invertebrates (E en Sulfide Odor	313) (C1) along Liv ron (C4)	ving Roots		Water-Stained Le 4A, and 4B)  Drainage Patterr Dry-Season Wat Saturation Visible Geomorphic Pos  Shallow Aquitard	ns (B10) er Table (C2 e on Aerial Ir sition (D2)	MLRA 1, 2,
Wetland Hydrol Primary Indicator Surface Water High Water Tat Saturation (A3) Water Marks (E Sediment Depo Drift Deposits (I Algal Mat or Cri	(A1) sole (A2) sits (B2) sits (B2) sust (B4) sits)		required; (	Water-1, 2, 44 Salt Cr Aquatic Hydrog Oxidize Presen Recent	Stained Leaves A and 4B) ust (B11) c Invertebrates (Been Sulfide Odored Rhizospheres ace of Reduced I Iron Reduction i	B13) (C1) salong Liv ron (C4) in Tilled S	ving Roots Soils (C6)		Water-Stained Leady, and 4B)  Drainage Patterr Dry-Season Wat Saturation Visible Geomorphic Pos Shallow Aquitand FAC-Neutral Tes	eaves (B9) (Ins (B10) er Table (C2 e on Aerial Instition (D2) et (D3) et (D5)	MLRA 1, 2,
Wetland Hydrol Primary Indicator Surface Water High Water Tak Saturation (A3) Water Marks (E Sediment Depo Drift Deposits (I Algal Mat or Cr Iron Deposits (I Surface Soil Cr	(A1) (A1) (A2) (A1) (A1) (A2) (A3) (A3) (A4) (A4) (A4) (A4) (A4) (A5) (A5) (A6) (A6) (A6) (A6)	m of one is		Water-1, 2, 44 Salt Cr Aquatic Hydrog Oxidize Presen Recent Stunted	Stained Leaves A and 4B) ust (B11) Invertebrates (Been Sulfide Odor ad Rhizospheres ace of Reduced I Iron Reduction id	B13) (C1) salong Liv ron (C4) in Tilled S ants (D1)	ving Roots Soils (C6)		Water-Stained Leady, and 4B)  Drainage Patterr Dry-Season Wat Saturation Visible Geomorphic Pos Shallow Aquitard FAC-Neutral Tes Paised Ant Mour	ns (B10) er Table (C2 e on Aerial Ir iition (D2) d (D3) et (D5) nds (D6) (LR	MLRA 1, 2, ) nag <sub>s</sub> (C9)
Vetland Hydrol Primary Indicator  Surface Water  High Water Tak  Saturation (A3)  Water Marks (E  Sediment Depo Drift Deposits (I  Algal Mat or Cr Iron Deposits (I  Surface Soil Cr  Inundation Visit	(A1) ble (A2)  (A1) ble (A2)  (A1) ble (B2)  (B1) ble (B2)  (B3) ble (B4)  (B4)  (B5)  (B6)  (B6)  (B6)  (B6)  (B6)	m of one is	7)	Water-1, 2, 44 Salt Cr Aquatic Hydrog Oxidize Presen Recent Stunted	Stained Leaves A and 4B) ust (B11) c Invertebrates (Been Sulfide Odored Rhizospheres ace of Reduced I Iron Reduction i	B13) (C1) salong Liv ron (C4) in Tilled S ants (D1)	ving Roots Soils (C6)		Water-Stained Leady, and 4B)  Drainage Patterr Dry-Season Wat Saturation Visible Geomorphic Pos Shallow Aquitand FAC-Neutral Tes	ns (B10) er Table (C2 e on Aerial Ir iition (D2) d (D3) et (D5) nds (D6) (LR	MLRA 1, 2, ) nag <sub>s</sub> (C9)
Wetland Hydrol Primary Indicator Surface Water High Water Tak Saturation (A3) Water Marks (E Sediment Depo Drift Deposits (I Algal Mat or Cr Iron Deposits (I Surface Soil Cr Inundation Visit	(A1) Sole (A2) Sole (A2) Sole (A2) Sole (B2) Sole (B4) Sole (B4) Sole (B6) Sole on Aeria Sole (B6) Sole on Aeria	m of one is	7)	Water-1, 2, 44 Salt Cr Aquatic Hydrog Oxidize Presen Recent Stunted	Stained Leaves A and 4B) ust (B11) Invertebrates (Been Sulfide Odor ad Rhizospheres ace of Reduced I Iron Reduction id	B13) (C1) salong Liv ron (C4) in Tilled S ants (D1)	ving Roots Soils (C6)		Water-Stained Leady, and 4B)  Drainage Patterr Dry-Season Wat Saturation Visible Geomorphic Pos Shallow Aquitard FAC-Neutral Tes Paised Ant Mour	ns (B10) er Table (C2 e on Aerial Ir iition (D2) d (D3) et (D5) nds (D6) (LR	MLRA 1, 2, ) nag <sub>s</sub> (C9)
Wetland Hydrol Primary Indicator Surface Water High Water Tak Saturation (A3) Water Marks (E Sediment Depo Drift Deposits (I Algal Mat or Cri Iron Deposits (E Surface Soil Cr Inundation Visit Sparsely Veget	(A1) sole (A2) solits (B2) solits (B2) solits (B4) solits (B4) solits (B6)	m of one is il Imagery (B ive Surface (	7) B8)	Water 1, 2, 44  Salt Cr  Aquatic  Hydrog  Oxidize  ✓ Presen  Recent  Stunted  Other (	Stained Leaves A and 4B) ust (B11) Invertebrates (Been Sulfide Odor Red Rhizospheres ace of Reduced I Iron Reduction if d or Stressed Pla Explain in Rema	B13) (C1) salong Liv ron (C4) in Tilled S ants (D1)	ving Roots Soils (C6)		Water-Stained Leady, and 4B)  Drainage Patterr Dry-Season Wat Saturation Visible Geomorphic Pos Shallow Aquitard FAC-Neutral Tes Paised Ant Mour	ns (B10) er Table (C2 e on Aerial Ir iition (D2) d (D3) et (D5) nds (D6) (LR	MLRA 1, 2, ) nag <sub>s</sub> (C9)
Wetland Hydrol Primary Indicator Surface Water High Water Tak Saturation (A3) Water Marks (E Sediment Depo Drift Deposits (I Algal Mat or Cr Iron Deposits (I Surface Soil Cr Inundation Visit Sparsely Veget Surface Water Pr	(A1) sits (B2) sits (B2) sits (B2) sits (B4) sits (B6) ole on Aeria ated Conca	m of one is il Imagery (B ive Surface ( Yes	7) B8) N	Water-1, 2, 44 Salt Cr Aquatic Hydrog Oxidize Presen Recent Stunted Other (	Stained Leaves A and 4B)  ust (B11) Invertebrates (Been Sulfide Odor ad Rhizospheres ace of Reduced I Iron Reduction if d or Stressed Pla Explain in Rema	B13) (C1) salong Liv ron (C4) in Tilled S ants (D1)	ving Roots Soils (C6) (LRR A)		Water-Stained Leady, and 4B)  Drainage Patterr Dry-Season Wat Saturation Visible Geomorphic Pos Shallow Aquitard FAC-Neutral Tes Paised Ant Mour	ns (B10) er Table (C2 e on Aerial Ir iition (D2) d (D3) et (D5) nds (D6) (LR	MLRA 1, 2, ) nag <sub>s</sub> (C9)
Wetland Hydrol Primary Indicator Surface Water High Water Tak Saturation (A3) Water Marks (E Sediment Depo Drift Deposits (I Algal Mat or Cri Iron Deposits (I Surface Soil Cr Inundation Visit Sparsely Veget Surface Water Pr Water Table Pres	(A1) (A1) (A1) (A2) (A1) (A1) (A1) (A2) (A3) (A3) (A3) (A4) (A4) (A5) (A5) (A6) (A6) (A6) (A6) (A6) (A6) (A6) (A6	n of one is I Imagery (B ive Surface ( Yes Yes	7) B8) N	Water-1, 2, 44 Salt Cr Aquatic Hydrog Oxidize Presen Recent Stunted Other (	Stained Leaves A and 4B)  ust (B11) c Invertebrates (Been Sulfide Odor ed Rhizospheres ace of Reduced I Iron Reduction i d or Stressed Pla Explain in Rema	B13) (C1) salong Liv ron (C4) in Tilled S ants (D1)	ving Roots Soils (C6) (LRR A)	(C3)	Water-Stained Leady, and 4B)  Drainage Patterr Dry-Season Wat Saturation Visible Geomorphic Pos Shallow Aquitard FAC-Neutral Tes Paised Ant Mour	eaves (B9) (Ins (B10)) er Table (C2) e on Aerial Instition (D2) I (D3) et (D5) ends (D6) (LRI enmocks (D7)	MLRA 1, 2, ) nag <sub>s</sub> (C9)
Wetland Hydrol Primary Indicator  Surface Water  High Water Tak  Saturation (A3)  Water Marks (E Sediment Depo Drift Deposits (I Algal Mat or Cr Iron Deposits (I Surface Soil Cr Inundation Visit Sparsely Veget  Field Observation  Surface Water Presentation Presentation Presentation Presentation  Saturation Presentation Presentation Presentation	s (minimu (A1) ble (A2) 31) sists (B2) B3) sust (B4) B5) acks (B6) ble on Aeria ated Conca Dns: esent?	m of one is il Imagery (B ive Surface ( Yes	7) B8) N <sub>1</sub>	Water-1, 2, 44 Salt Cr Aquatic Hydrog Oxidize Presen Recent Stunted Other (	Stained Leaves A and 4B)  ust (B11) Invertebrates (Been Sulfide Odor ad Rhizospheres ace of Reduced I Iron Reduction if d or Stressed Pla Explain in Rema	B13) (C1) salong Liv ron (C4) in Tilled S ants (D1)	ving Roots Soils (C6) (LRR A)	(C3)	Water-Stained Le 4A, and 4B)  ✓ Drainage Patterr  Dry-Season Wat  Saturation Visible  ✓ Geomorphic Pos  ✓ Shallow Aquitard  ✓ FAC-Neutral Tes  Paised Ant Mour  Frost-Heave Hur	eaves (B9) (Ins (B10)) er Table (C2) e on Aerial Instition (D2) I (D3) et (D5) ends (D6) (LRI enmocks (D7)	MLRA 1, 2, ) nag.(C9)
✓ High Water Tate ✓ Saturation (A3)  Water Marks (E Sediment Depo Drift Deposits (E Algal Mat or Cr Iron Deposits (E Surface Soil Cr Inundation Visit Sparsely Veget  Field Observation  Surface Water Preserved  Water Table Preserved  ✓ Investment Table Preserved  ✓ Investmen	s (minimu (A1) (A1) (A1) (A2) (A2) (A2) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3	n of one is I Imagery (B Ive Surface (  Yes Yes Yes	7) B8) N( X N/ X N/	Water 1, 2, 44  Salt Cr Aquatic Hydrog Oxidize ✓ Presen Recent Stuntec Other (	Stained Leaves A and 4B)  ust (B11) Invertebrates (Been Sulfide Odor ad Rhizospheres ace of Reduced I Iron Reduction in d or Stressed Pla Explain in Rema  epth (inches): epth (inches):	B13) (C1) s along Liv ron (C4) in Tilled S ants (D1)	ving Roots Soils (C6) (LRR A) 7	(C3)	Water-Stained Le 4A, and 4B)  ✓ Drainage Patterr  Dry-Season Wat  Saturation Visible  ✓ Geomorphic Pos  ✓ Shallow Aquitard  ✓ FAC-Neutral Tes  Paised Ant Mour  Frost-Heave Hur	eaves (B9) (Ins (B10)) er Table (C2) e on Aerial Instition (D2) I (D3) et (D5) ends (D6) (LRI enmocks (D7)	MLRA 1, 2, ) nag.(C9)
Wetland Hydrol Primary Indicator  Surface Water  High Water Tak  Saturation (A3)  Water Marks (E  Sediment Depo  Drift Deposits (I  Algal Mat or Cr  Iron Deposits (I  Surface Soil Cr  Inundation Visit  Sparsely Veget  Field Observatio  Surface Water Pr  Water Table Pres  Saturation Preser  (includes capillary	s (minimu (A1) (A1) (A1) (A2) (A2) (A2) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3	n of one is I Imagery (B Ive Surface (  Yes Yes Yes	7) B8) N( X N/ X N/	Water 1, 2, 44  Salt Cr Aquatic Hydrog Oxidize ✓ Presen Recent Stuntec Other (	Stained Leaves A and 4B)  ust (B11) Invertebrates (Been Sulfide Odor ad Rhizospheres ace of Reduced I Iron Reduction in d or Stressed Pla Explain in Rema  epth (inches): epth (inches):	B13) (C1) s along Liv ron (C4) in Tilled S ants (D1)	ving Roots Soils (C6) (LRR A) 7	(C3)	Water-Stained Le 4A, and 4B)  ✓ Drainage Patterr  Dry-Season Wat  Saturation Visible  ✓ Geomorphic Pos  ✓ Shallow Aquitard  ✓ FAC-Neutral Tes  Paised Ant Mour  Frost-Heave Hur	eaves (B9) (Ins (B10)) er Table (C2) e on Aerial Instition (D2) I (D3) et (D5) ends (D6) (LRI enmocks (D7)	MLRA 1, 2, ) nag.(C9)
Wetland Hydrol Primary Indicator  Surface Water of the property of the proper	s (minimu (A1) (A1) (A1) (A2) (A2) (A2) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3	n of one is I Imagery (B Ive Surface (  Yes Yes Yes	7) B8) N( X N/ X N/	Water 1, 2, 44  Salt Cr Aquatic Hydrog Oxidize ✓ Presen Recent Stuntec Other (	Stained Leaves A and 4B)  ust (B11) Invertebrates (Been Sulfide Odor ad Rhizospheres ace of Reduced I Iron Reduction in d or Stressed Pla Explain in Rema  epth (inches): epth (inches):	B13) (C1) s along Liv ron (C4) in Tilled S ants (D1)	ving Roots Soils (C6) (LRR A) 7	(C3)	Water-Stained Le 4A, and 4B)  ✓ Drainage Patterr  Dry-Season Wat  Saturation Visible  ✓ Geomorphic Pos  ✓ Shallow Aquitard  ✓ FAC-Neutral Tes  Paised Ant Mour  Frost-Heave Hur	eaves (B9) (Ins (B10)) er Table (C2) e on Aerial Instition (D2) I (D3) et (D5) ends (D6) (LRI enmocks (D7)	MLRA 1, 2, ) nag.(C9)

WETLAND DETERMINATION	DATA FO	PRM - V	Western M	ountains		•			
Project/Site: Boardman Creek	Ci	ity/Count	y: Cl	ackamas Co	Sar Sar	npling Date:	6/24/20	16	
Applicant/Owner: OLSD				State	: OR Sa	mpling Point:	SP9		
Investigators: Irina Lapina Jen	nifer Maze			Section, Tov	vnship, Range S	18 T 2S	R 2	E.	
dform (hillslope, terrace, etc.): Terrace		Lo	ocal Relief (co	ncave, con	vex, none): None		Slope	(%) 2	% to w
Subregion (LRR): A	at: 45.39462	24	Long	-122,611	928	Datum: NA	.D83		
Soil Map Unit Name: Cove silty clay loam					NWI Classification	: None			
Are climatic / hydrologic conditions on the site typical for	this time of ye	ear?	Yes X	No	(If No, explain	in Remarks)			
Are Vegetation , Soil , Hydrology , s	ignificantly dis	sturbed?	A	re "Normal	— Circumstances" pr	esent? Yes	x X	No	
Are Vegetation , Soil , Hydrology , n	aturally proble	ematic?		(If pooded	explain any answe	re in Domarka	, )		
SUMMARY OF FINDINGS. Attach a site w	e e e e e e e e e e e e e e e e e e e			•					
SUMMARY OF FINDINGS - Attach a site n  Hydrophytic Vegetation Present? Yes X No	nap snowi	ng san	npling poli	nt locatio	ns, transects,	important	reatur	es, ei	ic.
11.11.0.110		I- 4I O-							
Wotland Hudralogy Propent?			ampled Area Wetland?		Yes	No X			
Remarks:	X				165	NO X			
Cloudy, 56-67 deg F, 0,3in precip.  VEGETATION  Use scientific names of plan	nis	solute Cover	Dominant Species	Indicator Status	Dominous Too	A Mindrologia and			
Tree Stratum (Plot size: 30 Ft )	70	00101	<u>opcoico</u>	Otatao	Dominance Tes				
Fraxinus latifolia		75	Υ	FACW	Number of Dom That Are OBL, F			2	(A)
		75	=Total Cover						
Shrub Stratum					Total Number of Species Across			3	(B)
Herb Stratum (Plot size: 6 Ft )					.,				(-)
Phalaris arundinacea		10	Υ	FACW	Percent of Domi			66.7%	(A/B)
Equisetum arvense		3	N	FAC	That Are OBL, F	ACW, or FAC	:		` "
		13	=Total Cover		Prevalence Inde	ex Workshee	t:		
Vine Stratum (Plot size: 30 Ft )					Total % Cov		Multip	oly by:	
Rubus armeniacus		80	Υ	FACU	OBL species	0	x 1 =	0	
Tubba dimeniada		80	=Total Cover	17.00	FACW species	85	x 2 =	170	
			_ Total Cover		FAC species	3	x 3 =	9	
					FACU species	80	x 4 =	320	
					UPL species	0	x 5 =	0	
					Column Totals:	168	(A)	499	(B)
					Column Totalo.				
					Prevalence	e Index = B/A:	=	2.97	
					Hydrophytic Veg	getation Indic	ators:		
					Rapid Test f	or Hydrophyti	c Vegeta	tion	
					X Dominance	Test > 50%			
					X Prevalence	Index < 3 N			
					Morphologic	al Adaptation			oorting
						arks or on a s	•	,	
					Problematic	Hydrophytic \	/egetatio	n (Ex	plain)
					Indicators of hy must be presen				
% Bare Ground in Herb Stratum 0					Hydrophytic Vegetation Pres		х	No	
arks: (Include photo numbers here or on a separate	sheet.)								

Depth										
	Matrix					eatures			_	
(inches)	Color (moist)	%	Color	(moist)	%	Type 1	Loc <sup>2</sup>	Texture	Rema	rks
to	I		5YF	R 4/8	30	C	M	CLAY LOAM		
0 to 10	10YR 2 / 2	100			181. — <u>2</u> 1.			CLAY LOAM	Ai - Many ro	ots
10 to 16	10YR 2 / 1	10	10Y	R 4/1	60	D	M	CLAY LOAM	Bw - Compa	acted
¹Type: C=Con	centration, D=Deplet	on, RM=Re	duced Man	ix, CS=C	overed or	Coated	Sand Grai	ns. <sup>2</sup> Location: PL=Pore Linir	ng, M=Matrix.	
Thick Dark Sandy Muci	) don (A2) (A3)		Stripp Loamy Loamy Deple Redox Deple	Redox (Steed Matrix (control of the control of the	S6) Ineral (F1) Ineral (F2) Ineral (F2) Ineral (F3) Ineral (F6) Ineral (F6) Ineral (F7)		_RA 1)	Indicators for Problematic  2 cm Muck (A10)  Red Parent Material (TF2)  Very Shallow Dark Surface  Other (Explain in Remarks)  Indicators of hydrophytic vege hydrology must be present, unless disturbed or problematic	(TF12) etation and wetlar	
	es): t 16" due to soil compa	ition and pres	ence of root	systems						
Depth (inch Remarks: Shovel refusal a	t 16" due to soil compa	ition and pres	ence of root	systems,						
Depth (inch Remarks: Shovel refusal a  HYDROLOG  Wetland Hyd Primary Indica Surface Wa High Water Saturation ( Water Mark Sediment D Drift Deposi Algal Mat o Iron Deposi Surface Soi	Y  rology Indicators: ators (minimum of or ter (A1) Table (A2) A3) s (B1) eposits (B2) ts (B3) Crust (B4) ts (B5) I Cracks (B6) //sible on Aerial Imager	e is required	d; check all		med Leave d 4B) (B11) ertebrates Sulfide Odd hizosphere of Reduced Reduction Stressed F	(B13) or (C1) es along Li I Iron (C4) n in Tilled ( Plants (D1)	ving Roots Soils (C6)	Secondary Indicators (m  Water-Stained Leave 4A, and 4B)  Drainage Patterns (E  Dry-Season Water T  Saturation Visible on  Geomorphic Position  Shallow Aquitard (D3  FAC-Neutral Test (D  Paised Ant Mounds (  Frost-Heave Hummo	es (B9) (MLRA 1, 310) (able (C2) (A Aerial Imag. (C9) (D2) (3) (D6) (LRR A)	2,
Depth (inch Remarks: Shovel refusal a  HYDROLOG  Wetland Hyd Primary Indica Surface Wa High Water Saturation ( Water Mark Sediment D Drift Deposi Algal Mat o Iron Deposi Surface Soi	Y  rology Indicators: ators (minimum of or ter (A1) Table (A2) A3) s (B1) eposits (B2) ts (B3) c Crust (B4) ts (B5) I Cracks (B6) //isible on Aerial Imager	e is required	d; check all	that apply Water-Stai 1, 2, 4A an Salt Crust ( Aquatic Inv Hydrogen S Oxidized R Presence of Recent Iron Stunted or	med Leave d 4B) (B11) ertebrates Sulfide Odd hizosphere of Reduced Reduction Stressed F	(B13) or (C1) es along Li I Iron (C4) n in Tilled ( Plants (D1)	ving Roots Soils (C6)	Water-Stained Leave 4A, and 4B)  Drainage Patterns (E Dry-Season Water T Saturation Visible on Geomorphic Position Shallow Aquitard (D3 FAC-Neutral Test (D Paised Ant Mounds (	es (B9) (MLRA 1, 310) (able (C2) (A Aerial Imag. (C9) (D2) (3) (D6) (LRR A)	2,

WETLAND DETERMIN/™ON DAT	A FORM - V	Vestern M	ountains,	∛ lleys, ar	าd Coas	t Reg	ion		
Project/Site: Boardman Creek	City/Count	y: Cl	ackamas Co	liney	Sampling	Date:	6/24/20	016	
Applicant/Owner: OLSD			State:	OR	Sampling	Point:	SP10		
Investigators: Irina Lapina Jennifer M	aze		Section, Tow	nship, Range	S 18	T 2S	R	2E	
. dform (hillslope, terrace, etc.): Floodplain	Lo	ocal Relief (co	ncave, conv	ex, none): Co	oncave		Slop	e(%) 1	% to w
Subregion (LRR): A Lat: 45	.395042	Long	: -122.6128	313	Dati	um: NA	.D83		
Soil Map Unit Name: Cove silty clay loam				NWI Classifica	tion: PE	M1C			
Are climatic / hydrologic conditions on the site typical for this tim	ne of year?	Yes X	No	(If No, expl	ain in Rer	narks)			
Are Vegetation , Soil , Hydrology , significa	ntly disturbed?	A	\re "Normal (		" present?	Yes	. X	No	
Are Vegetation, Soil, Hydrology, naturally	problematic?		(If needed	explain any an	swers in F	?emarks	: )		
			,				,		
SUMMARY OF FINDINGS - Attach a site map s Hydrophytic Vegetation Present? Yes X No	nowing san	npling poi	nt locatio	ns, transec	ts, impo	ortant	Teatu	res, et	ic.
Hydric Soil Present? Yes X No	la tha Ca	ampled Area							
Motland Hudrolomy Procents		Wetland?		Yes )	X No				
Remarks:									
Cloudy, 56-67 deg F, 0.3in precip.	Abaabaa	Daning	lu dia atau						
<b>VEGETATION</b> — Use scientific names of plants.	Absolute % Cover	Dominant Species	Indicator Status	Dominance	Test Wor	ksheet			
Tree Stratum (Plot size: 30 Ft )				Number of E			='		
Fraxinus latifolia	40	Υ	FACW	That Are OB				2	(A)
	40	=Total Cover		Total Numbe	er of Domi	nant			
Shrub Stratum				Species Acro				3	(B)
Herb Stratum (Plot size: 6 Ft )									
Phalaris arundinacea	80	Υ	FACW	Percent of De That Are OB				66.7%	(A/B)
Equisetum arvense	3	N	FAC						
	83	=Total Cover		Prevalence		rksnee			
Vine Stratum (Plot size: 30 Ft )					Cover of:	0	Multi x 1 =	iply by: 0	
Rubus armeniacus	20	Υ	FACU	OBL species				240	
	20	=Total Cover		FACW speci		120	x 2 =		
				FAC species		3	x 3 =	9	
				FACU speci	es	20	x 4 =	80	
				UPL species		0	x 5 =	0	
				Column Tota	ıls:	143	(A)	329	(B)
				Prevali	ence Inde	x = R/A:	=	2.30	
				Hydrophytic				2.00	
					est for Hyd			ation	
					,	. ,	o vogo.	G.1.011	
				X Dominar	nce Test >	50%			
				X Prevaler	ice Index	≤ 3.0			
					ogical Ada Remarks o	•	,		oorting
				Problem	atic Hydro	phytic \	/egetati	on (Ex	plain)
				Indicators of must be pre					
% Bare Ground in Herb Stratum 0				Hydroph Vegetation F		Yes	х	No	
narks: (Include photo numbers here or on a separate sheet.	)								

	iption: (De		depth ne	eded to documer			confirm	the absence of Indicators.)	
Depth (inches)	Cole	Matrix or (moist)	%	Color (moist)	Redox Fe		1 Loc 2	Texture	Remarks
, ,				Color (moist)	- 70	Type	LOC		
0 to 7	10YR	2/1	100	7.5/5.0/0				CLAY LOAM	Very black matrix  Very black matrix
7 to 16	10YR	2/1	93	7.5YR 3/3	7	C	M	CLAY LOAM	
Type: C=Con	centration,	D=Depletion,	, KIVI=Keal	uced Martix, CS=C	overed or C	oated	Sand Gra	ins. 2Location: PL=Pore Li	ning, ivi=iviatrix.
Thick Dark Sandy Muc Sandy Gley	1) edon (A2) c (A3) Sulfide (A4) elow Dark Su Surface (A12 ky Mineral (Seed Matrix	urface (A11) 2) 31)	d):	Sandy Redox (S Stripped Matrix Loamy Mucky M Loamy Gleyed M Depleted Matrix Redox Dark Sur Depleted Dark S Redox Depressi	(S6) fineral (F1) (e Matrix (F2) (F3) face (F6) Surface (F7)	except M	LRA 1)	Indicators for Probleman  2 cm Muck (A10)  Red Parent Material (TF2  Very Shallow Dark Surfa  Other (Explain in Remark  Indicators of hydrophytic very hydrology must be present unless disturbed or probleman)  Hydric Soil Present?	2) ce (TF12) ks) egetation and wetland
Surface Wa High Water Saturation ( Water Mark Sediment D Drift Depos Algal Mat or Iron Deposi Surface Soi	ators (minin rater (A1) Table (A2) (A3) (as (B1) Deposits (B2) (its (B3) or Crust (B4) (ts (B5) (il Cracks (B6) Visible on Ae	num of one is	17)	1, 2, 4A at Salt Crust Aquatic In Hydrogen Oxidized F Presence Recent Iro Stunted or	ined Leaves ( nd 4B)	313) (C1) along Li ron (C4) n Tilled	iving Roots Soils (C6)	Water-Stained Leady, and 4B)  □ Drainage Patterns □ Dry-Season Wate	r Table (C2) on Aerial Imag.(C9) ion (D2) (D3) (D5) ds (D6) (LRR A)
Surface Wate		Yes	N	lo X Depth	n (inches):				
Water Table F	Present?	Yes			(inches):		16		
Saturation Pro	esent?	Yes	X N	lo Depth	(inches):		10	Wetland Hydrology Prese	ent? Yes X No
(includes cap	illary fringe)								
Describe Record	ded Data (str	eam gauge, mo	onitoring wel	ll, aerial photos, prev	rious inspection	ons), if a	vailable:		
Remarks: D2 - Within flood	dplain								

WETLAND DETERMIN/ "ON DATA	A FORM -	Western M	ountains,	lleys, an	d Coast Re	gion		
Project/Site: Boardman Creek	City/Coun	ty: CI	ackamas Co	Dürny S	Sampling Date:	6/24/2	016	
Applicant/Owner: OLSD			State	OR	Sampling Point	t: SP11		
Investigators: Irina Lapina Jennifer Ma	aze	;	Section, Tow	vnship, Range	S 18 T 28	R	2E	
dform (hillslope, terrace, etc.): Terrace	L	ocal Relief (co	ncave, conv	ex, none): No	ne	Slop	oe(%)	2% to w
Subregion (LRR): A Lat: 45.3	395042	Long	-122.6128	313	Datum: 1	NAD83		
Soil Map Unit Name: Cove silty clay loam				NWI Classificat	tion: PEM1C			
Are climatic / hydrologic conditions on the site typical for this tim	e of year?	Yes X	No	(If No, expla	ain in Remarks	)		
Are Vegetation , Soil , Hydrology , significan	ntly disturbed?	· A	re "Normal (	 Circumstances"	present? Y	es X	No	
Are Vegetation, Soil, Hydrology, naturally	problematic?		(If needed.	explain any ans	wers in Remar	ks.)		
SUMMARY OF FINDINGS - Attach a site map sh	owing co	mpling poi	,	, ,		,	roc c	sto.
Hydrophytic Vegetation Present? Yes X No	lowing sai	iipiing poil	it locatio	iis, tialiseci	is, importar	it icatu	163, 6	,,,,,
Hydric Soil Present? Yes No X	Is the S	ampled Area						
Wetland Hydrology Present? Yes No X		Wetland?		Yes	No X	(		
Remarks:								
Cloudy, 56-67 deg F, 0.3in precip.								
VECETATION Lies esigntific names of plants	Absolute	Dominant	Indicator					
<b>VEGETATION</b> — Use scientific names of plants.	% Cover	Species	Status	Dominance <sup>-</sup>	Test Workshee	et:		
<u>Tree Stratum</u> (Plot size: <u>30 Ft</u> )					ominant Specie		3	<b>///\</b>
Salix X pendulina	40	Y	FAC	That Are OB	L, FACW, or FA	AC:	3	(A)
	40	=Total Cover			r of Dominant			
Shrub Stratum				Species Acro	ss all Strata:		4	(B)
Herb Stratum (Plot size: 6 Ft )				Percent of Do	ominant Specie	e		
Phalaris arundinacea	65	- <del>Y</del>	FACW		, FACW, or FA		75.0%	(A/B)
Impatiens noli-tangere  Equisetum arvense	7	Ŋ	FACW FAC	Prevalence I	ndex Workshe	et:		
Galium aparine	3	N	FACU	Total % (			tiply by:	
Rumex conglomeratus	3	N	FACW	OBL species	0	x 1 =		
Solanum dulcamara	3	N	FAC	FACW specie	<sub>2e</sub> 75	x 2 =	150	)
	84	=Total Cover		FAC species	46	x 3 =	138	3
<u>Vine Stratum</u> (Plot size: _30 Ft )				FACU species	53	x 4 =	212	)
Rubus armeniacus	50	Υ	FACU	UPL species	0	x 5 =		
	50	=Total Cover		,	474			(D)
				Column Total	s: 174	(A)	500	(B)
				Prevale	ence Index = B/	Ά=	2.87	
				Hydrophytic \	Vegetation Ind	icators:		
				Rapid Te	st for Hydrophy	tic Veget	ation	
				X Dominan	ce Test > 50%			
				X Prevalen	ce Index ≤ 3.0			
					gical Adaptatio emarks or on a			
					atic Hydrophytic		•	. ,
					hydric soil and sent, unless dis			
				Hydrophy	ytic			
% Bare Ground in Herb Stratum 0				Vegetation P		s X	No	
arks: (Include photo numbers here or on a separate sheet.)								

De	pth		Matrix				Redox F	eatures					
	ches)	Colo	or (moist)	%	Color (	moist)	%	Туре	1 Loc <sup>2</sup>	Texture	Remark	(S	
0	to 13	10YR	2/1	100						LOAM	Soils dark		
13	to 18	10YR	2/1	90	5YR	4/6	10	С	M,PL	CLAY LOAM			
18	to 26	10YR	2/1	65	10YR	3/6	15	С	M	CLAY LOAM			
1Тур	e: C=Con	centration,	D=Depletion,	RM=Reduc	ed Martix	, CS=Co	overed or	Coated	Sand Gra	ains. 2Location: PL=Pore Lining,	M=Matrix.		
Hyd	ric Soil I	ndicators:								Indicators for Problematic Hy	dric Soils: 3	3	
	Histosol (A	1)			Sandy F	Redox (S5	5)			2 cm Muck (A10)			
	Histic Epipe	edon (A2)			Stripped	Matrix (S	S6)			, ,			
	Black Histic (A3) Loamy Mucky N					Aucky Mir	neral (F1)	(except N	ILRA 1)	Red Parent Material (TF2)	40)		
	Hydrogen Sulfide (A4)					Sleyed Ma	atrix (F2)			<ul><li>✓ Very Shallow Dark Surface (TF</li><li>✓ Other (Explain in Remarks)</li></ul>	12)		
	<del></del>					d Matrix (	F3)			Other (Explain in Remarks)			
						ark Surfa	ace (F6)			3 Indicators of hydrophytic vogototi		1	
	Sandy Muc	ky Mineral (S	51)		Deplete	d Dark Su	urface (F7)	)		Indicators of hydrophytic vegetati hydrology must be present,	on and wetland	1	
	Sandy Mucky Mineral (S1)  Depleted Dark Surface (F7)  Redox Depressions (F8)						unless disturbed or problematic.						
	Restricti	ve Layer	(if observe	d):									
	Туре:	-											
	Depth (inch	es):								Hydric Soil Present? You	es N	No _	Х
Rema	rks.									()			
Wet		lrology Ind	licators: num of one is	required; ch	neck all th	nat apply	<i>(</i> )			Secondary Indicators (minir	num of two re	eauire	ed)
	Surface Wa	. ,				ater-Stain 2, 4A and		s (B9) (ex	cept MLRA	Water-Stained Leaves (F			
		Table (A2)				ılt Crust (I				─ 4A, and 4B)			
	Saturation (					,	ertebrates	(B13)		Drainage Patterns (B10)			
	Water Mark						ulfide Odo			Dry-Season Water Table	; (C2)		
		eposits (B2)			r	-			iving Roots	Saturation Visible on Ae	rial Imag.(C9)		
	Drift Deposi	, ,			(****)		f Reduced	_	_	Geomorphic Position (D	2)		
	•	r Crust (B4)			(2.11)			, ,	Soils (C6)	Shallow Aquitard (D3)			
=	ron Deposi	` '							, ,	FAC-Neutral Test (D5)			
		il Cracks (B6)	,				Stressed F	,	) (LKK A)	Paised Ant Mounds (D6)	(LRR A)		
			rial Imagery (B		∐ Ot	her (Expla	ain in Rem	narks)		Frost-Heave Hummocks	(D7)		
	Sparsely Ve	egetated Con	cave Surface (	B8)						NF			
Fiel	d Observa	ations:											
Su	ırface Wate	r Present?	Yes	No	X	Depth	(inches):						
W	ater Table F	Present?	Yes	No	X	Depth	(inches):						
Sa	aturation Pro	esent?	Yes	No	X	Depth	(inches):			Wetland Hydrology Present?	Yes	No	X
		illary fringe)											
Desc	ribe Record	ied Data (stre	eam gauge, mo	nitoring well,	aerial phot	os, previo	ous inspec	tions), if a	available:				
Rema Nega		n to alpha. al	lpha-dipyridyl n	eagent. No dr	v season v	ater table	e present	Sample n	lot elevatio	on 2 feet higher than floodplain			

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

WETLAND DETERMINATION DATA	A FORM -	Western M	ountains	. ' ' 'levs. and (	Coast Red	noin		
Project/Site: Boardman Creek	City/Coun		lackamas Co		npling Date:	_	16	
Applicant/Owner: OLSD	·	•	State	-	npling Point:			
Investigators: Irina Lapina Jennifer Ma	70			vnship, Range S	. •	R 2	) E	
				., .				T0/ 1-
dform (hillslope, terrace, etc.): Terrace		,		/ex, none): Conca			∋(%) 2	.5% 10
Subregion (LRR): A Lat: 45.3	395324	Long	: -122.613		Datum: N	AD83		
Soil Map Unit Name: Cove silty clay loam				NWI Classification:	None			
Are climatic / hydrologic conditions on the site typical for this time	e of year?	Yes X	No	(If No, explain i	n Remarks)			
Are Vegetation , Soil , Hydrology , significan	tly disturbed?	,	Are "Normal	Circumstances" pre	esent? Ye	s X	No	
Are Vegetation, Soil, Hydrology, naturally	problematic?		(If needed,	explain any answei	rs in Remark	s.)		
SUMMARY OF FINDINGS - Attach a site map sh	owing sa	mpling poi	nt locatio	ns, transects,	importan	t featui	es, e	tc.
Hydrophytic Vegetation Present? Yes X No								
Hydric Soil Present? Yes No X		ampled Area Wetland?						
Wetland Hydrology Present? Yes No X	WILIIII	i welland?		Yes	No X			
Cloudy, 56-67 deg F, 0.3in precip.  VEGETATION  Use scientific names of plants.	Absolute	Dominant	Indicator					
	% Cover	<u>Species</u>	Status	Dominance Tes	t Workshee	t:		
Tree Stratum (Plot size: 30 Ft )				Number of Domi			2	/A\
Fraxinus latifolia	45	Υ	FACW	That Are OBL, F	ACW, or FA	C:	3	(A)
Populus balsamifera	10	N	FAC	Total Number of	Dominant			
	55	_=Total Cover		Species Across a			5	(B)
Shrub Stratum (Plot size: 30 Ft )								
Corylus cornuta	3	Υ	FACU	Percent of Domir			60.0%	(A/B)
Rosa woodsii	3	Y	FACU	That Are OBL, F	ACVV, OF FAC	J:		
Crataegus monogyna	2	N	FAC	Prevalence Inde	x Workshee	et:		
Salix scouleriana	2	N	FAC	Total % Cov	er of:	Multij	oly by:	
Spiraea douglasii	2	N	FACW	OBL species	0	x 1 =	0	
	12	=Total Cover		FACW species	125	x 2 =	250	
Herb Stratum (Plot size: 6 Ft )				FAC species	55	x 3 =	165	
Phalaris arundinacea	75	Υ	FACW	FACU species	22	x 4 =	88	
Equisetum arvense	40	Y	FAC	· ·	0	x 5 =	0	
Lapsana communis	15	N	FACU	UPL species				
Equisetum hyemale	3	N	FACW	Column Totals:	202	(A)	503	(B)
Galium aparine	1	N	FACU	Provalence	ndex = B/A	١_	2.49	
Ranunculus spp.	1	N					2.45	
Vicia americana	1	N	FAC	Hydrophytic Veg				
	136	_ =Total Cover		Rapid Test fo	or Hydrophyl	ic Vegeta	ition	
Vine Stratum				X Dominance	Test > 50%			
				X Prevalence I	ndex ≤ 3.0			
				Morphologica data in Rema				oorting
				Problematic	Hydrophytic	Vegetatio	n (Ex	plain)
				Indicators of hyd must be present				
% Bare Ground in Herb Stratum 0				Hydrophytic Vegetation Pres		X	No	

)arks: (Include photo numbers here or on a separate sheet.)

**US Army Corps of Engineers** 

Depth Color (n	Matrix		Redox F	eatures			
(inches) Color (n	noist) %	Color (moist)	%	Type 1	Loc <sup>2</sup>	Texture	Remarks
0 to 16 10YR	3 / 3 100					SILT LOAM	Uniform, dry fill materia
<sup>1</sup> Type: C=Concentration, D=[	Depletion, RM=Red	uced Martix, CS=Co	overed or	Coated	Sand Grain	ns. 2Location: PL=Pore	Lining, M=Matrix.
Hydric Soil Indicators:						Indicators for Problems	atic Hydric Soils: 3
Histosol (A1)		Sandy Redox (S5	5)			2 cm Muck (A10)	
Histic Epipedon (A2)		Stripped Matrix (	S6)			Red Parent Material (TI	E2\
Black Histic (A3)		Loamy Mucky Mi	neral (F1)	(except M	_RA 1)	Very Shallow Dark Surf	,
Hydrogen Sulfide (A4)		Loamy Gleyed M	latrix (F2)			Other (Explain in Rema	
Depleted Below Dark Surfac	ce (A11)	Depleted Matrix (	(F3)			Caron (Explaint in France	
Thick Dark Surface (A12)		Redox Dark Surfa	ace (F6)			3 Indicators of hydrophytic	vegetation and wetland
Sandy Mucky Mineral (S1)		Depleted Dark Su	urface (F7)			hydrology must be preser	nt,
Sandy Gleyed Matrix (S4)		Redox Depressio	ons (F8)			unless disturbed or proble	ematic.
Restrictive Layer (if	observed):						
Туре:						Under Oall Bases 40	Van Na V
Depth (inches):						Hydric Soil Present?	Yes No X
Wetland Hydrology Indica							
Primary indicators (minimum	n of one is required;	check all that apply	y)			Secondary Indicators	s (minimum of two required)
Surface Water (A1)	n of one is required;	check all that apply Water-Stair 1, 2, 4A and	ned Leaves	s (B9) (exc	ept MLRA		s (minimum of two required) eaves (B9) (MLRA 1, 2,
Surface Water (A1) High Water Table (A2)	n of one is required;	Water-Stair	ned Leaves d 4B)	s (B9) (exc	ept MLRA	Water-Stained L 4A, and 4B)	eaves (B9) (MLRA 1, 2,
Surface Water (A1)	n of one is required;	Water-Stair 1, 2, 4A and	ned Leaves d 4B) (B11)		ept MLRA	Water-Stained L 4A, and 4B) Drainage Patterr	ns (B10)
Surface Water (A1) High Water Table (A2) Saturation (A3)	n of one is required;	Water-Stair 1, 2, 4A and Salt Crust ( Aquatic Invo	ned Leaves d 4B) (B11) ertebrates Sulfide Odo	(B13) r (C1)		Water-Stained L 4A, and 4B)  Drainage Patterr  Dry-Season Wat	ns (B10) er Table (C2)
Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1)	n of one is required;	Water-Stair 1, 2, 4A and Salt Crust ( Aquatic Inve	ned Leaves d 4B) (B11) ertebrates Sulfide Odo	(B13) r (C1)		Water-Stained L 4A, and 4B)  Drainage Patterr  Dry-Season Wat  Saturation Visible	eaves (B9) (MLRA 1, 2, as (B10) er Table (C2) e on Aerial Imag.(C9)
Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2)	n of one is required;	Water-Stair 1, 2, 4A and Salt Crust ( Aquatic Invo	ned Leaves d 4B) (B11) ertebrates Gulfide Odo hizosphere	(B13) r (C1) es along Li		Water-Stained L 4A, and 4B)  Drainage Patterr  Dry-Season Wat  Saturation Visibl  Geomorphic Pos	eaves (B9) (MLRA 1, 2, as (B10) er Table (C2) e on Aerial Imag.(C9) sition (D2)
Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3)	n of one is required;	Water-Stair 1, 2, 4A and Salt Crust ( Aquatic Inve	ned Leaves d 4B) (B11) ertebrates Sulfide Odo hizosphere	(B13) r (C1) rs along Li Iron (C4)	ving Roots (	Water-Stained L 4A, and 4B)  Drainage Patterr  Dry-Season Wat  Saturation Visibl  Geomorphic Pos  Shallow Aquitance	eaves (B9) (MLRA 1, 2, as (B10) er Table (C2) e on Aerial Imag.(C9) sition (D2)
Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4)	n of one is required;	Water-Stair 1, 2, 4A and Salt Crust ( Aquatic Inve Hydrogen S Oxidized RI	ned Leaves d 4B) (B11) ertebrates Sulfide Odo hizosphere of Reduced	(B13) r (C1) s along Li Iron (C4) in Tilled \$	ving Roots ( Soils (C6)	Water-Stained L 4A, and 4B)  Drainage Patterr  Dry-Season Wat  Saturation Visibl  Geomorphic Pos  Shallow Aquitard  FAC-Neutral Tes	eaves (B9) (MLRA 1, 2,  ins (B10)  er Table (C2)  e on Aerial Imag.(C9)  sition (D2)  I (D3)  st (D5)
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-Stair 1, 2, 4A and Salt Crust ( Aquatic Inve Hydrogen S Oxidized R! Presence o	ned Leaves d 4B) (B11) ertebrates Sulfide Odo hizosphere of Reduced n Reduction Stressed P	(B13) r (C1) rs along Li Iron (C4) n in Tilled (	ving Roots ( Soils (C6)	Water-Stained L 4A, and 4B)  Drainage Patterr  Dry-Season Wat  Saturation Visibl  Geomorphic Pos  Shallow Aquitard  FAC-Neutral Tes  Paised Ant Mour	eaves (B9) (MLRA 1, 2,  ins (B10)  er Table (C2)  e on Aerial Imag.(C9)  sition (D2)  I (D3)  ot (D5)  inds (D6) (LRR A)
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)	Imagery (B7)	Water-Stair 1, 2, 4A and Salt Crust ( Aquatic Inve Hydrogen S Oxidized RI Presence o Recent Iron Stunted or	ned Leaves d 4B) (B11) ertebrates Sulfide Odo hizosphere of Reduced n Reduction Stressed P	(B13) r (C1) rs along Li Iron (C4) n in Tilled (	ving Roots ( Soils (C6)	Water-Stained L 4A, and 4B)  Drainage Patterr  Dry-Season Wat  Saturation Visibl  Geomorphic Pos  Shallow Aquitard  FAC-Neutral Tes	eaves (B9) (MLRA 1, 2,  ins (B10)  er Table (C2)  e on Aerial Imag.(C9)  sition (D2)  I (D3)  ot (D5)  inds (D6) (LRR A)
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 I	Imagery (B7)	Water-Stair 1, 2, 4A and Salt Crust ( Aquatic Inve Hydrogen S Oxidized RI Presence o Recent Iron Stunted or	ned Leaves d 4B) (B11) ertebrates Sulfide Odo hizosphere of Reduced n Reduction Stressed P	(B13) r (C1) rs along Li Iron (C4) n in Tilled (	ving Roots ( Soils (C6)	Water-Stained L 4A, and 4B)  Drainage Patterr  Dry-Season Wat  Saturation Visibl  Geomorphic Pos  Shallow Aquitard  FAC-Neutral Tes  Paised Ant Mour	eaves (B9) (MLRA 1, 2,  ins (B10)  er Table (C2)  e on Aerial Imag.(C9)  sition (D2)  I (D3)  ot (D5)  inds (D6) (LRR A)
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 I	Imagery (B7) e Surface (B8)	Water-Stair 1, 2, 4A and Salt Crust ( Aquatic Invo Hydrogen S Oxidized RI Presence o Recent Iron Stunted or 3 Other (Expl	ned Leaves d 4B) (B11) ertebrates Sulfide Odo hizosphere of Reduced n Reduction Stressed P	(B13) r (C1) rs along Li Iron (C4) n in Tilled (	ving Roots ( Soils (C6)	Water-Stained L 4A, and 4B)  Drainage Patterr  Dry-Season Wat  Saturation Visibl  Geomorphic Pos  Shallow Aquitard  FAC-Neutral Tes  Paised Ant Mour	eaves (B9) (MLRA 1, 2,  ins (B10)  er Table (C2)  e on Aerial Imag.(C9)  sition (D2)  I (D3)  ot (D5)  inds (D6) (LRR A)
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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 In Sparsely Vegetated Concave Field Observations: Surface Water Present? Water Table Present?	Imagery (B7) e Surface (B8)  Yes Yes Yes Yes	Water-Stair 1, 2, 4A and Salt Crust ( Aquatic Inve Hydrogen S Oxidized RI Presence o Recent Iron Stunted or Other (Expl	med Leaves d 4B) (B11) ertebrates Sulfide Odo hizosphere of Reduced n Reduction Stressed P lain in Rem (inches): (inches):	(B13) r (C1) s along Li Iron (C4) in Tilled s clants (D1) arks)	ving Roots ( Soils (C6) (LRR A)	Water-Stained L 4A, and 4B)  Drainage Patterr  Dry-Season Wat  Saturation Visibl  Geomorphic Pos  Shallow Aquitarc  FAC-Neutral Tes  Paised Ant Mour  Frost-Heave Hur	eaves (B9) (MLRA 1, 2,  ins (B10)  ier Table (C2)  ie on Aerial Imag.(C9)  iition (D2)  I (D3)  ist (D5)  inds (D6) (LRR A)  immocks (D7)

WETLAND DETERMINATION DAT	A FORM - \	Western M	ountains	, ' leys, an	d Coast Re	gion		
Project/Site: Boardman Creek	City/Coun	ty: CI	ackamas Co	Durry S	Sampling Date:	6/24/2	.016	
Applicant/Owner: OLSD			State	: OR	Sampling Point	t: SP13	į	
Investigators: Irina Lapina Jennifer M	aze		Section, Tov	wnship, Range	S 18 T 2S	R	2E	
dform (hillslope, terrace, etc.): Terrace	L	ocal Relief (co	ncave, conv	vex, none): Coi	ncave	Slop	pe(%) 1	1,5% to
subregion (LRR): A Lat: 45.	393648	Long	-122,612	152	Datum: N	NAD83		
Soil Map Unit Name: Woodburn silt loam, 3 to 8 percent slo	pes			NWI Classificati	ion: PEM1C			
Are climatic / hydrologic conditions on the site typical for this tim		Yes X	No	(If No, expla	ain in Remarks)	)		
	ntly disturbed?		re "Normal	Circumstances"	ŕ	,	No	
	problematic?	·		explain any ans	•		_	
SUMMARY OF FINDINGS - Attach a site map s	howing sar	npling poi	nt locatio	ns, transect	s, importar	าt featเ	ıres, e	tc.
Hydrophytic Vegetation Present? Yes X No					•			
Hydric Soil Present? Yes No X	Is the S	ampled Area						
Wetland Hydrology Present? Yes No X	within a	Wetland?		Yes	No X	ξ		
Remarks: Cloudy, 56-67 deg F, 0.3in precip.								
VEGETATION Use scientific names of plants.	Absolute	Dominant	Indicator					
•	% Cover	<u>Species</u>	Status	Dominance 1	Test Workshee	ət:		
Tree Stratum					ominant Specie		2	(A)
Shrub Stratum (Plot size: 30 Ft )				That Are Obt	L, FACW, or FA	10:	_	(- ')
Salix scouleriana	25	Y	FAC	Total Number				
	25	=Total Cover		Species Acros	ss all Strata:		3	(B)
Herb Stratum (Plot size: 6 Ft )				Percent of Do	ominant Specie	·s		
Holcus lanatus	40	ΥΥ	FAC		., FACW, or FA		66.7%	(A/B)
Poa pratensis	10	N	FAC	Prevalence In	ndex Workshe	et:		
Ranunculus repens	7	N	FACU	Total % C	Cover of:	Mul	tiply by:	
polygonatum lapathifolium  Lolium perenne	= 5 3	N	FACO	OBL species	0	x 1 =		
Lotus corniculatus	3	N	FAC	FACW specie	. 0	x 2 =	. 0	
Rumex crispus	1	N	FAC		90	x 3 =		
Vicia americana	1	N	FAC	FAC species		x 4 =	280	
	70	=Total Cover		FACU specie	0	x 5 =		
Vine Stratum (Plot size: 30 Ft )				UPL species				
Rubus armeniacus	65	Υ	FACU	Column Totals	s: 160	(A)	550	(B)
	65	=Total Cover		Prevale	ence Index = B/	/A=	3.44	
		Total Gover		Hydrophytic V				
					st for Hydrophy		tation	
					, , ,	ruc vege	lation	
				X Dominano	ce Test > 50%			
					ce Index ≤ 3.0			
				data in Re	gical Adaptatio emarks or on a	separate	e sheet)	
					atic Hydrophytic	_	·	
					hydric soil and sent, unless dis			
% Bare Ground in Herb Stratum 0				Hydrophy Vegetation P	•	s X	No	
narks: (Include photo numbers here or on a separate sheet.)								

Dandle	Matrix			Redox F	eatures					
Depth (inches) Color (		6 Color (n	noist)	%		Loc <sup>2</sup>	Texture	Re	emarks	
0 to 6 10YR	2 / 2 100		,		71		SILTY CLAY LOAM			
6 to 9 10YR	2 / 2 99		5/6	1			SILTY CLAY LOAM			_
9 to 18 10YR	2/2 100			<u> </u>			SILTY CLAY LOAM			
¹Type: C=Concentration, D=			CS≃Co	vered or	Coated	Sand Grai		ining, M=Matr	ix.	
								9,		
Hydric Soil Indicators:							<b>Indicators for Problemat</b>	<u>tic Hydric So</u>	oils: 3	
Histosol (A1)		Sandy Re					2 cm Muck (A10)			
Histic Epipedon (A2)		Stripped	,	,		104.4	Red Parent Material (TF2	2)		
Black Histic (A3)			•	neral (F1)	(except M	LRA 1)	Very Shallow Dark Surface	ce (TF12)		
Hydrogen Sulfide (A4)	(0.4.4)	Loamy G	•				Other (Explain in Remark	ks)		
Depleted Below Dark Surface (A12)	ice (ATT)	Depleted								
Thick Dark Surface (A12)		Redox D					<sup>3</sup> Indicators of hydrophytic venture.		etland	
Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4)				rface (F7)			hydrology must be present unless disturbed or probler			
Sandy Gleyed Matrix (54)		Redox D	epression	is (FO)			amood distance of problem			
Restrictive Layer (if	observed):									
Type:							Undete Oction	V	M -	v
Depth (inches):							Hydric Soil Present?	Yes	No	Х
Soils dry, No signs of saturation										
HYDROLOGY	ators:									
		ed; check all the	at apply	)			Secondary Indicators	(minimum of t	wo requi	red)
HYDROLOGY Wetland Hydrology Indic		Wa	ter-Stain	ed Leaves	s (B9) (exc	cept MLRA				red)
HYDROLOGY  Wetland Hydrology Indic  Primary Indicators (minimu		Wa 1, 2	iter-Stain 2, 4A and	ed Leaves (4B)	s (B9) (exc	cept MLRA	Secondary Indicators  Water-Stained Lead 4A, and 4B)			red)
HYDROLOGY  Wetland Hydrology Indic Primary Indicators (minimu  Surface Water (A1)		Wa 1, 2	iter-Stain 2, 4A and It Crust (E	ed Leaves (4B) (311)		cept MLRA	Water-Stained Lea	aves (B9) (MLR		red)
HYDROLOGY  Wetland Hydrology Indic Primary Indicators (minimu  Surface Water (A1)  High Water Table (A2)		Wa 1, 2 Sal Aqu	iter-Stain 2, 4A and It Crust (E uatic Inve	ed Leaves 4B) 311) rtebrates	(B13)	cept MLRA	Water-Stained Lea	aves (B9) (MLR		red)
Wetland Hydrology Indic Primary Indicators (minimu  Surface Water (A1)  High Water Table (A2)  Saturation (A3)		Wa 1, 2 Sal Aqu	ater-Stain 2, 4A and It Crust (E uatic Inve	ed Leaves 4B) 311) rtebrates ulfide Odo	(B13) r (C1)		Water-Stained Lea 4A, and 4B)  Drainage Patterns  Dry-Season Water  Saturation Visible	aves (B9) (MLR s (B10) r Table (C2)	A 1, 2,	red)
HYDROLOGY  Wetland Hydrology Indic Primary Indicators (minimu  Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1)  Sediment Deposits (B2)  Drift Deposits (B3)		Wa 1, 2 Sal Aqu Hyo Oxi	iter-Stain 2, 4A and It Crust (E uatic Inve drogen St idized Rh	ed Leaves 4B) 311) rtebrates ulfide Odo	(B13) r (C1) es along Li	cept MLRA	Water-Stained Lea 4A, and 4B)  Drainage Patterns  Dry-Season Water  Saturation Visible	aves (B9) (MLR s (B10) r Table (C2) on Aerial Imag.	A 1, 2,	red)
Wetland Hydrology Indic Primary Indicators (minimu Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4)		Wa 1, 2 Sal Aqu	iter-Stain 2, 4A and It Crust (E uatic Inve drogen St idized Rh	ed Leaves 4B) 311) rtebrates ulfide Odo iizosphere	(B13) r (C1) es along Li Iron (C4)	ving Roots	Water-Stained Lea 4A, and 4B)  Drainage Patterns  Dry-Season Water  Saturation Visible	aves (B9) (MLR s (B10) r Table (C2) on Aerial Imag.	A 1, 2,	red)
Wetland Hydrology Indic Primary Indicators (minimu 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)		Wa 1, 2 Sal Aqu Aqu Oxi	ater-Stain 2, 4A and It Crust (E uatic Inve drogen Su idized Rh esence of cent Iron	ed Leaves 4B) 311) Intebrates ulfide Odo izosphere Reduced Reduction	(B13) r (C1) es along Li Iron (C4) n in Tilled	ving Roots Soils (C6)	Water-Stained Lea 4A, and 4B)  Drainage Patterns  Dry-Season Water  Saturation Visible  Geomorphic Positi	aves (B9) (MLR s (B10) r Table (C2) on Aerial Imag. cion (D2) (D3)	A 1, 2,	red)
Wetland Hydrology Indic Primary Indicators (minimu  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)	m of one is requi	Wa 1, 2 Sal Aqu Hyo Oxi Pre Rec	ater-Stain 2, 4A and It Crust (E uatic Inve drogen St idized Rh esence of cent Iron inted or S	ed Leaves (4B) (311) (rtebrates (ulfide Odo (izosphere (Reduced Reduction	(B13) r (C1) ss along Li Iron (C4) n in Tilled	ving Roots Soils (C6)	Water-Stained Lea 4A, and 4B)  Drainage Patterns  Dry-Season Water  Saturation Visible  Geomorphic Posit  Shallow Aquitard (	aves (B9) (MLR s (B10) r Table (C2) on Aerial Imag. ion (D2) (D3) (D5)	A 1, 2,	red)
Wetland Hydrology Indic Primary Indicators (minimu  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 Aeria	m of one is requi	Wa 1, 2 Sal Aqu Hyo Oxi Pre Rec	ater-Stain 2, 4A and It Crust (E uatic Inve drogen St idized Rh esence of cent Iron inted or S	ed Leaves 4B) 311) Intebrates ulfide Odo izosphere Reduced Reduction	(B13) r (C1) ss along Li Iron (C4) n in Tilled	ving Roots Soils (C6)	Water-Stained Lea 4A, and 4B)  Drainage Patterns  Dry-Season Water  Saturation Visible  Geomorphic Posit  Shallow Aquitard ( FAC-Neutral Test	aves (B9) (MLR s (B10) r Table (C2) on Aerial Imag. tion (D2) (D3) (D5) ds (D6) (LRR A)	A 1, 2,	red)
Wetland Hydrology Indice Primary Indicators (minimu 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 Aeria Sparsely Vegetated Conca	m of one is requi	Wa 1, 2 Sal Aqu Hyo Oxi Pre Rec	ater-Stain 2, 4A and It Crust (E uatic Inve drogen St idized Rh esence of cent Iron inted or S	ed Leaves (4B) (311) (rtebrates (ulfide Odo (izosphere (Reduced Reduction	(B13) r (C1) ss along Li Iron (C4) n in Tilled	ving Roots Soils (C6)	Water-Stained Lea 4A, and 4B)  Drainage Patterns  Dry-Season Water  Saturation Visible  Geomorphic Posit  Shallow Aquitard ( FAC-Neutral Test  Paised Ant Mound	aves (B9) (MLR s (B10) r Table (C2) on Aerial Imag. tion (D2) (D3) (D5) ds (D6) (LRR A)	A 1, 2,	red)
Wetland Hydrology Indice Primary Indicators (minimu 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 Aeria Sparsely Vegetated Conca	m of one is requi	Wa 1, 2 Sal Aqu Aqu Oxi	ater-Stain 2, 4A and It Crust (Euatic Invedrogen St idized Rh esence of cent Iron inted or Staer (Explan	ed Leaves (4B) (311) ortebrates ulfide Odo izosphere Reduced Reduction Stressed F	(B13) r (C1) ss along Li Iron (C4) n in Tilled	ving Roots Soils (C6)	Water-Stained Lea 4A, and 4B)  Drainage Patterns  Dry-Season Water  Saturation Visible  Geomorphic Posit  Shallow Aquitard ( FAC-Neutral Test  Paised Ant Mound	aves (B9) (MLR s (B10) r Table (C2) on Aerial Imag. tion (D2) (D3) (D5) ds (D6) (LRR A)	A 1, 2,	red)
Wetland Hydrology Indice Primary Indicators (minimu 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 Aeria Sparsely Vegetated Conca Field Observations: Surface Water Present?	m of one is requi	Wa 1, 2 Sal Aqu Aqu Pre Rec Stu	ater-Stain 2, 4A and the Crust (Euatic Investingent Stain dized Rhesence of cent Iron anted or Stain (Explain Depth (	ed Leaves 4B) 311) rebrates ulfide Odo izosphere Reduced Reduction Stressed F	(B13) r (C1) ss along Li Iron (C4) n in Tilled	ving Roots Soils (C6)	Water-Stained Lea 4A, and 4B)  Drainage Patterns  Dry-Season Water  Saturation Visible  Geomorphic Posit  Shallow Aquitard ( FAC-Neutral Test  Paised Ant Mound	aves (B9) (MLR s (B10) r Table (C2) on Aerial Imag. tion (D2) (D3) (D5) ds (D6) (LRR A)	A 1, 2,	red)
Wetland Hydrology Indic Primary Indicators (minimu 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 Aeria Sparsely Vegetated Conca Field Observations: Surface Water Present? Water Table Present?	I Imagery (B7) ve Surface (B8)  Yes Yes	Wa 1, 2 Sal Aqu Hyo Oxi Pre Rec Stu Oth	ater-Stain 2, 4A and the Crust (Eustic Investigated Rh esence of cent Iron anted or Stain (Explain Depth (Depth (D	ed Leaves 4B) 311) rebrates ulfide Odo izosphere Reduced Reduction Stressed F ain in Rem inches):	(B13) r (C1) ss along Li Iron (C4) n in Tilled	ving Roots Soils (C6)	Water-Stained Lea 4A, and 4B)  Drainage Patterns  Dry-Season Water  Saturation Visible  Geomorphic Posit  Shallow Aquitard (  FAC-Neutral Test  Paised Ant Mound  Frost-Heave Humi	aves (B9) (MLR s (B10) (Table (C2) on Aerial Imag. ion (D2) (D3) (D5) ds (D6) (LRR A) mocks (D7)	A 1, 2,	
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Wetland Hydrology Indic Primary Indicators (minimu 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 Aeria Sparsely Vegetated Conca Field Observations: Surface Water Present? Water Table Present? Saturation Present? (includes capillary fringe)	I Imagery (B7) ve Surface (B8)  Yes Yes Yes	Wa 1, 2 Sal Aqu Pre Rec Stu Oth	ater-Stain 2, 4A and the Crust (Euatic Investigated Rh esence of cent Iron anted or Stain (Explain Depth (Depth (D	ed Leaves 4B) 311) retebrates alfide Odo izosphere Reduced Reduction Stressed F ain in Rem inches): inches):	(B13) r (C1) es along Li Iron (C4) h in Tilled delants (D1) harks)	ving Roots Soils (C6)	Water-Stained Lea 4A, and 4B)  Drainage Patterns  Dry-Season Water  Saturation Visible  Geomorphic Posit  Shallow Aquitard (  FAC-Neutral Test  Paised Ant Mound  Frost-Heave Humi	aves (B9) (MLR s (B10) (Table (C2) on Aerial Imag. ion (D2) (D3) (D5) ds (D6) (LRR A) mocks (D7)	A 1, 2,	
Wetland Hydrology Indice Primary Indicators (minimu 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 Aeria Sparsely Vegetated Conca Field Observations: Surface Water Present? Water Table Present? Saturation Present?	I Imagery (B7) ve Surface (B8)  Yes Yes Yes	Wa 1, 2 Sal Aqu Pre Rec Stu Oth	ater-Stain 2, 4A and the Crust (Euatic Investigated Rh esence of cent Iron anted or Stain (Explain Depth (Depth (D	ed Leaves 4B) 311) retebrates alfide Odo izosphere Reduced Reduction Stressed F ain in Rem inches): inches):	(B13) r (C1) es along Li Iron (C4) h in Tilled delants (D1) harks)	ving Roots Soils (C6)	Water-Stained Lea 4A, and 4B)  Drainage Patterns  Dry-Season Water  Saturation Visible  Geomorphic Posit  Shallow Aquitard (  FAC-Neutral Test  Paised Ant Mound  Frost-Heave Humi	aves (B9) (MLR s (B10) (Table (C2) on Aerial Imag. ion (D2) (D3) (D5) ds (D6) (LRR A) mocks (D7)	A 1, 2,	
Wetland Hydrology Indic Primary Indicators (minimu 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 Aeria Sparsely Vegetated Conca Field Observations: Surface Water Present? Water Table Present? Saturation Present? (includes capillary fringe)	I Imagery (B7) ve Surface (B8)  Yes Yes Yes	Wa 1, 2 Sal Aqu Pre Rec Stu Oth	ater-Stain 2, 4A and the Crust (Euatic Investigated Rh esence of cent Iron anted or Stain (Explain Depth (Depth (D	ed Leaves 4B) 311) retebrates alfide Odo izosphere Reduced Reduction Stressed F ain in Rem inches): inches):	(B13) r (C1) es along Li Iron (C4) h in Tilled delants (D1) harks)	ving Roots Soils (C6)	Water-Stained Lea 4A, and 4B)  Drainage Patterns  Dry-Season Water  Saturation Visible  Geomorphic Posit  Shallow Aquitard (  FAC-Neutral Test  Paised Ant Mound  Frost-Heave Humi	aves (B9) (MLR s (B10) (Table (C2) on Aerial Imag. ion (D2) (D3) (D5) ds (D6) (LRR A) mocks (D7)	A 1, 2,	

WETLAND DETERMINA TON DATA FORM - Western Mountai	s, Yaleys, and Coast Region
Project/Site: Boardman Creek City/County: Clackamas	County Sampling Date: 6/24/2016
Applicant/Owner: OLSD S	te: OR Sampling Point: SP14
Investigators: Irina Lapina Jennifer Maze Section,	ownship, Range S 18 T 2S R 2E
form (hillslope, terrace, etc.): Floodplain Local Relief (concave, o	nvex, none): Concave Slope(%) 2% to N
Subregion (LRR): A Lat: 45,393830 Long: -122.6	2522 Datum: NAD83
Soil Map Unit Name: Woodburn silt loam, 3 to 8 percent slopes	NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No	(If No, explain in Remarks)
, ,	Il Circumstances" present? Yes X No
And Managerian Call Hudanian materially madel and the	
(Il fleed	I, explain any answers in Remarks.)
SUMMARY OF FINDINGS - Attach a site map showing sampling point local Hydrophytic Vegetation Present? Yes X No	ons, transects, important features, etc.
11.11.0.11.0.11.0.11	
within a Wetland?	Yes No X
Remarks:	163 110 1
Cloudy, 56-67 deg F, 0,3in precip.  VECETATION Lies asigntific names of plants. Absolute Dominant Indicate	
VEGETATION — Ose scientific flames of plants. <u>% Cover Species Statu</u>	Dominance Test Worksheet:
Tree Stratum	Number of Dominant Species That Are OBL, FACW or FAC: 3 (A)
Shrub Stratum (Plot size: 30 Ft )	That Are OBL, FACW, or FAC: 3 (A)
Fraxinus latifolia 3 Y FACV	Total Number of Dominant
3 =Total Cover	Species Across all Strata: 4 (B)
Herb Stratum (Plot size: 6 Ft )	Percent of Dominant Species 75.00/ (A/D)
Holcus lanatus 75 Y FAC	That Are OBL, FACW, or FAC: 75.0% (A/B)
Lotus corniculatus 70 Y FAC	Prevalence Index Worksheet:
Vicia americana         10         N         FAC           Juncus effusus         5         N         FAC	Total % Cover of: Multiply by:
400	OBL species 0 x 1 = 0
\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	FACW species 8 x 2 = 16
(Plot Size: 30 Ft	FAC species 155 x 3 = 465
Rubus armeniacus 5 Y FACI	FACU species 5 x 4 = 20
5 =Total Cover	UPL species $0 \times 5 = 0$
	OFE species
	Column Totals: 168 (A) 501 (B)
	Prevalence Index = B/A= 2.98
	Hydrophytic Vegetation Indicators:
	Rapid Test for Hydrophytic Vegetation
	X Dominance Test > 50%
	X Prevalence Index ≤ 3.0  Morphological Adaptations (Provide supporting
	data in Remarks or on a separate sheet)
	Problematic Hydrophytic Vegetation (Explain)
	Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
% Bare Ground in Herb Stratum 0	Hydrophytic Vegetation Present? Yes X No
	100 X 110

Sampling Point: SP14

Profile Description: (Desc		depth need	led to document				he absence of Indicators.)					
DepthColor	Matrix Redox Features Color (moist) % Color (moist) % Type 1					To there						
		%					Texture	Remarks				
0 to 12 10YR 12 to 16 10YR	4/1	95	5YR 4/6	5		M,PL	CLAY LOAM  CLAY LOAM	Depleted, light grey				
Type: C=Concentration, D	=Depletion,	RIVI=Reduct	ed Ivianix, CS=Co	overed or	Coated	Sand Grai	ns, 4Location: PL=Pore Lining	g, w=watrix				
Type: C=Concentration, D=Depletion, RM=Reduced Martix, CS=Covered or Coated Sand Grains  Hydric Soil Indicators:  Histosol (A1) Sandy Redox (S5) Stripped Matrix (S6) Black Histic (A3) Loamy Mucky Mineral (F1) (except MLRA 1) Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Depleted Below Dark Surface (A11) Depleted Matrix (F3) Redox Dark Surface (F6) Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) Redox Depressions (F8)  Restrictive Layer (if observed): Type:							Indicators for Problematic Hydric Soils:  2 cm Muck (A10) Red Parent Material (TF2) Very Shallow Dark Surface (TF12) Other (Explain in Remarks)  3 Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.					
Depth (inches):			Hydric Soil Present?	Yes No X								
Remarks:							V = = =					
Wetland Hydrology Indi Primary Indicators (minim		required; ch	neck all that apply	,	; (B9) (ex	cept MI RA	Secondary Indicators (mi					
High Water Table (A2)			1, 2, 4A and		, (50) (6x	oopt will v	Water-Stained Leaves 4A, and 4B)	s (B9) (MLRA 1, 2,				
Saturation (A3)			Salt Crust (	B11)				10)				
Water Marks (B1)			Aquatic Inve	ertebrates (	(B13)		Drusesson Water Table (C2)					
Sediment Deposits (B2)			Hydrogen S	ulfide Odo	r (C1)		Dry-Season Water Table (C2)					
Drift Deposits (B3)			Oxidized RI	hizosphere	s along L	iving Roots	(C3) Saturation Visible on Aerial Imag (C9)					
Algal Mat or Crust (B4)			Presence o	f Reduced	Iron (C4)	1	Geomorphic Position (D2)					
Iron Deposits (B5)								Shallow Aquitard (D3)				
Surface Soil Cracks (B6)			Stunted or	Stressed P	lants (D1	) (LRR A)	FAC-Neutral Test (D5)					
	al Imagery (B	7)				,	Paised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)					
	Inundation Visible on Aerial Imagery (B7)  Other (Explain in Remarks)  Sparsely Vegetated Concave Surface (B8)							CKS (D7)				
Field Observations:		•										
Surface Water Present?	Yes	No	X Depth	(inches):								
Water Table Present?	Yes			(inches):								
Saturation Present?	Yes			(inches):			Wetland Hydrology Present?	Yes No X				
(includes capillary fringe)			= - ,	,-								
Describe Recorded Data (stream	am gauge, mo	onitoring well, a	aerial photos, previ	ous inspect	tions), if a	available:						
Remarks: D2 - adjacent to floodplain												

Project/Site: Boardman Creek City/County: Clackamas Country: Sampling Date: 6/24/2016  Applicant/Owner: OLSD State: OR Sampling Point: SP15  Investigators: Irina Lapina Jennifer Maze Section, Township, Range S 18 T 2S R 2E  dform (hillslope, terrace, etc.): Slope Local Relief (concave, convex, none): Concave Slope(%) 3 to E  oubregion (LRR): A Lat: 45.393875 Long: -122.612440 Datum: NAD83  Soil Map Unit Name: Woodburn silt loam, 3 to 8 percent slopes NWI Classification: None  Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If No, explain in Remarks)  Are Vegetation , Soil , Hydrology , significantly disturbed? Are "Normal Circumstances" present? Yes X No	WETLAND [									
Investigators: Irina Lapina  Jennifer Maze  Section, Township, Range S 18 T 2S R 2E  dform (hillslope, terrace, etc.): Slope  Local Relief (concave, convex, none): Concave  Slope(%) 3 to E  Loubregion (LRR): A Lat: 45.393875  Soil Map Unit Name: Woodburn silt loam, 3 to 8 percent slopes  Are climatic / hydrologic conditions on the site typical for this time of year?  Yes X No (If No, explain in Remarks)	Project/Site: Boardman Creek		City/Count	ty: CI	ackamas Co	our, S	Sampling Date:	6/24/20	16	
dform (hillslope, terrace, etc.): Slope Local Relief (concave, convex, none): Concave Slope(%) 3 to E Cubregion (LRR): A Lat: 45.393875 Long: -122.612440 Datum: NAD83  Soil Map Unit Name: Woodburn silt loam, 3 to 8 percent slopes NWI Classification: None  Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If No, explain in Remarks)	Applicant/Owner: OLSD				State: OR Sampling Point: SP15					
Soil Map Unit Name: Woodburn silt loam, 3 to 8 percent slopes  Are climatic / hydrologic conditions on the site typical for this time of year?  Yes X No (If No, explain in Remarks)	Investigators: Irina Lapina	Jennifer M	aze		Section, Tov	vnship, Range	S 18 T 2S	R:	2E	
Soil Map Unit Name: Woodburn silt loam, 3 to 8 percent slopes NWI Classification: None  Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If No, explain in Remarks)	dform (hillslope, terrace, etc.):	Slope	L	ocal Relief (co	oncave, conv	/ex, none): Cor	ncave	Slop	e(%) 3	to E
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If No, explain in Remarks)	oubregion (LRR): A	Lat: 45.	393875	Long	: -122.6124	440	Datum: NA	D83		
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If No, explain in Remarks)	Soil Map Unit Name: Woodbur	rn silt loam, 3 to 8 percent slo	pes			NWI Classificati	on: None			
	Are climatic / hydrologic conditions	s on the site typical for this tim	ne of year?	Yes X	No	(If No, expla	in in Remarks)			
, , , , , , , , , , , , , , , , , , , ,			-	A	Are "Normal	Circumstances"	present? Yes	Х	No	
Are Vegetation , Soil , Hydrology , naturally problematic? (If needed, explain any answers in Remarks.)			•					`		
(il frieddol, explain any answers in Nemarks.)			•	2014 • 2012 CONTROL •					459-556	
SUMMARY OF FINDINGS - Attach a site map showing sampling point locations, transects, important features, etc.			howing sar	npling poi	nt locatio	ns, transect	s, important	teatu	res, et	.c.
Hydrophytic Vegetation Present? Yes X No										
within a Wetland?			Is the Sampled Area within a Wetland?			Voc. No.				
Wetland Hydrology Present? Yes X No Yes No		Yes X No				162	NO			
VEGETATION— Use scientific names of plants.  Absolute Dominant Indicator  Of Carry Description			Absolute	Dominant	Indicator					
<u>% Cover Species Status</u> Dominance Test Worksheet:		·	% Cover	Species	Status	Dominance T	est Worksheet:			
Tree Stratum (Plot size: 30 Ft )  Fraxinus latifolia	(11000)	ze: <u>30 Ft</u> )	5	Y	FACW			Ī.	2	(A)
5 =Total Cover Total Number of Dominant			5	=Total Cover		Total Number	of Dominant			
	Shrub Stratum								2	(B)
Herb Stratum (Plot size: 10 Ft )	Herb Stratum (Plot size	ze: 10 Ft )								
Scirpus microcarpus  85 Y  OBL  Percent of Dominant Species 100.0% (A/ That Are OBL, FACW, or FAC:	Scirpus microcarpus		85	Υ	OBL				100.0%	(A/B
Phalaris arundinacea 5 N FACW	Phalaris arundinacea		5	N	FACW					
Juncus effusus 2 N FACW Prevalence Index Worksheet:	Juncus effusus									
Lotus corniculatus 2 N FAC Total % Cover of: Multiply by:	Lotus corniculatus			N	FAC					
94 =Total Cover OBL species 85 x 1 = 85			94	=Total Cover		OBL species				
Vine Stratum FACW species 12 x 2 = 24	Vine Stratum					FACW specie	3			
FAC species 2 x 3 = 6						FAC species				
FACU species 0 x 4 = 0						FACU specie	3			
UPL species 0 x 5 = 0						UPL species	0	x 5 =	0	
Column Totals: 99 (A) 115 (B						Column Totals	s: 99	(A)	115	(B)
Prevalence Index = B/A= 1.16						Prevale	nce Index = B/A:	-	1.16	
Hydrophytic Vegetation Indicators:						Hydrophytic V	egetation Indic	ators:		
X Rapid Test for Hydrophytic Vegetation						X Rapid Tes	st for Hydrophytic	: Vegeta	ation	
X Dominance Test > 50%						X Dominand	ce Test > 50%			
X Prevalence Index ≤ 3.0						X Prevalenc	ce Index ≤ 3.0			
Morphological Adaptations (Provide supportin data in Remarks or on a separate sheet)										orting
Problematic Hydrophytic Vegetation (Explain						Problema	tic Hydrophytic \	egetati	on (Exp	plain)
Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.										
Hydrophytic % Bare Ground in Herb Stratum 0 Vegetation Present? Yes X No	% Bare Ground in Herb Stratum	0						х	No	
narks: (Include photo numbers here or on a separate sheet.)	narks: (Include photo numbers	here or on a separate sheet.)	)							

Sampling Point: SP15

Depth Matrix Redox Features													
(inches) Color (moist)		%	% Color (moist) % Type 1				1 Loc 2		Texture	Remarks			
0 to 12	10YR	2/2	100						CLAY	LOAM		9	
12 to 16	10YR	4 / 1	95	_	5YR 4/6	5	D	M	CLAY	LOAM			
¹Type: C=Cor	ncentration, D=D	epletion,	RM=Re	duce	d Martix, CS=Co	vered or	Coated	Sand Gra	ins.	2Location: PL=Pore Lining	, M=Matrix.		
Hydric Soil I	Indicators:								In	dicators for Problematic F	Hydric Soils: 3		
Histosol (A	.1)				Sandy Redox (S5	5)			_	2 cm Muck (A10)			
Histic Epip	edon (A2)				Stripped Matrix (S	66)				Red Parent Material (TF2)			
Black Histi	c (A3)				Loamy Mucky Mir	neral (F1) (	except M	ILRA 1)		☐ Very Shallow Dark Surface (T	E12\		
✓ Hydrogen \$	Sulfide (A4)				Loamy Gleyed Ma	atrix (F2)				Other (Explain in Remarks)	1 12)		
Depleted B	selow Dark Surface	e (A11)			Depleted Matrix (					_ other (Explain in Remarks)			
Thick Dark	Surface (A12)				Redox Dark Surfa	ace (F6)			3	<sup>3</sup> Indicators of hydrophytic vegetation and wetland			
Sandy Mud	cky Mineral (S1)				Depleted Dark Su	ırface (F7)				hydrology must be present,			
Sandy Gle	yed Matrix (S4)				Redox Depressio	ns (F8)				unless disturbed or problematic			
Restrict	ive Layer (if c	bserve	d):										
Type:									Ulcod	-i- C-il B+2	V V N		
Depth (inch	nes):								нуа	ric Soil Present?	Yes X No	,	
Primary India	drology Indicate ators (minimum		s require	d; che			(PO) (av	acoma SAL DA		Secondary Indicators (mir		quired)	
Surface Water	ater (A1) r Table (A2)				Water-Stain 1, 2, 4A and	d 4B)	s (Ba) (ex	cept wilka		Water-Stained Leaves 4A, and 4B)	(B9) (MLRA 1, 2,		
✓ Saturation	(A3)				Salt Crust (I					Drainage Patterns (B1	0)		
Water Mar	ks (B1)				Aquatic Inve					Dry-Season Water Table (C2)			
Sediment [	Deposits (B2)				Hydrogen S					Saturation Visible on Aerial Imag.(C9)			
Drift Depos	sits (B3)				Oxidized R	· .		-	(C3)	(C3) Geomorphic Position (D2)			
Algal Mat o	or Crust (B4)				Presence of					Shallow Aquitard (D3)			
Iron Depos	Iron Deposits (B5)									FAC-Neutral Test (D5)			
Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A)									Paised Ant Mounds (D6) (LRR A)				
Inundation Visible on Aerial Imagery (B7)  Other (Explain in Remarks)								Frost-Heave Hummocks (D7)					
Sparsely V	egetated Concave	Surface (	B8)										
Field Observ	ations:												
Surface Water	er Present?	Yes		No	X Depth	(inches):							
Water Table		Yes	X	No	Depth	(inches):		16		4			
Saturation Pr	resent?	Yes	X	No	Depth	(inches):		0	VVe	etland Hydrology Present?	Yes X	No	
(includes capillary fringe)  Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:													
Remarks:													

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

## Appendix C. Ground Level Photographs

Photo 1. Looking north from Sample Plot 1 (PP1, Figure 5B)



Photo 2. Soil profile for Sample Plot 1 (SP1, Figure 5B)



Photo 3. Looking southeast towards SE Jennings Avenue (upstream) at Boardman Creek (PP2, Figure 5B)



Photo 4. Looking northwest (downstream) at Boardman Creek (PP3, Figure 5B)





Photo 5. Looking east from Sample Plot 2 (PP4, Figure 5B)



Photo 6. Iron deposits on surface water at Sample Plot 2 (SP2, Figure 5B)

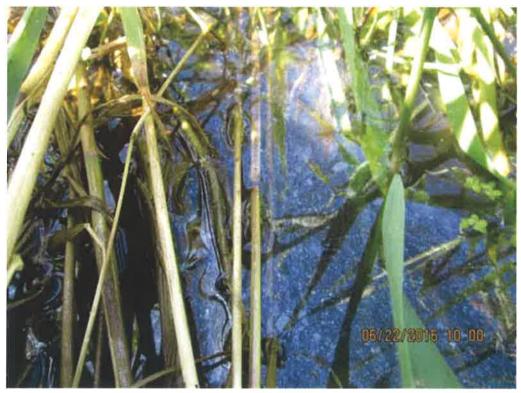


Photo 7. Water table at surface of soil pit, Sample Plot 2 (SP2, Figure 5B)



Photo 8. Looking southeast from Sample Plot 3 (SP3, Figure 5E)



Photo 9. Looking northwest from Sample Plot 3 (SP3, Figure 5E)



Photo 10. Water table at surface of soil pit Sample Plot 3 (SP3, Figure 5C)



Photo 11. Looking northwest at stormwater drainage ditch east of SE Lucas Court (PP7, Figure 5C)



Photo 12. Looking south from Sample Plot 4 (SP4, Figure 5C)





Photo 13. Water table in soil pit at Sample Plot 4 (SP4, Figure 5C)



Photo 14. Looking southwest from Sample Plot 5 (PP9, Figure 5D)



Photo 15. Soil profile for Sample Plot 5 (SP5, Figure 5D)



Photo 16. Look east from Sample Plot 6 (PP10, Figure 5D)







Photo 18. Excavated soil profile for Sample Plot 7 (SP7, Figure 4D)



Photo 19. Looking north toward SE Cook Street at ponded area (PP11, Figure 5B)



Photo 20. Looking northwest from Sample Plot 8 (PP12, Figure 5C)



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Photo 21. Looking west from Sample plot 9 (PP13, Figure 5C)



Photo 22. Looking northeast from Sample Plot 9 (PP14, Figure 5C)



Photo 23. Soil profile for Sample Plot 9 (SP9, Figure 5C)



Photo 24. Looking southwest from Sample Plot 10 (PP15, Figure 5C)



Photo 25. Soil profile for Sample Plot 10 (SP10, Figure 5C)



Photo 26. Looking upstream of stormwater drainage occurring along southern boundary of SE Briar Court development (PP16. Figure 5C)



Photo 27. Looking southwest from Sample Plot 11 (PP17, Figure 5C)



Photo 28. Soil profile for Sample Plot 11 (SP11, Figure 5C)



Photo 29. Looking northwest at ponded water (PP18, Figure 5C)



Photo 30. Looking southwest from Sample Plot 12 (PP19, Figure 5C)



Photo 31. Soil profile for Sample Plot 12 (SP12, Figure 5C)



Photo 32. Looking west from Sample Plot 12 (PP20, Figure 5C)



Photo 33. Looking north at wetland boundary (PP21, Figure 5C)



Photo 34. Test pit at PP21 to confirm wetland boundary (PP21, Figure 5C)



Photo 35. Test pit soil profile (P21, Figure 5C)



Photo 36. Looking north at Boardman Creek wetland area (P22, Figure 5B)





Photo 37. Looking north from Sample Plot 13 (PP25, Figure 5E)



Photo 38. Looking west from Sample Plot 13 (PP26, Figure 5E)



Photo 39. Soil profile for Sample Plot 13 (SP13, Figure 5E)



Photo 40. Looking north near Sample Plot 14 (PP27, Figure 5E)



Photo 41. Looking north near Sample Plot 14 (PP28, Figure 5E)



Photo 42. Soil profile for Sample Plot 14 (SP14, Figure 5E)



Photo 43. Looking north from Sample Plot 15 (PP23, Figure 5E)



Photo 44. Looking southwest from Sample Plot 15 (PP24, Figure 5E)



## Photo 45. Soil profile for Sample Plot 15 (SP15, Figure 5C)

