CRITICAL AREAS ASSESSMENT REPORT AND MITIGATION PLAN FOR BUCKO ESTATES IN SEDRO-WOOLLEY, WASHINGTON 98284

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Introduction

Background

Essency Environmental, LLC prepared this Critical Areas Assessment and Mitigation Plan in support of a proposed residential plat, Bucko Estates, located in Section 23, Township 35N, Range 4E within the city limits of Sedro-Woolley, Washington, 98284 (Figure 1 in Appendix A). The Critical Areas Assessment included parcels P37253, P37250, P37251, P37256, and P37151 (Figure 2 in Appendix A). Parcel P37151 and all of parcel P37256, except the area of a new roadway along the western parcel boundary, are excluded from the proposed plat boundaries (see plat drawings prepared by Ravnik and Associates).

Project contacts are shown in Table 1.

Table 1. Project Contacts

Organization	Role	Representative	Title	Email\Phone
Essency Environmental, LLC	Critical Areas Assessment and Mitigation Plan	Mary Harenda	Professional Wetland Scientist, Fisheries Biologist	mharenda@cablespeed.com (425) 761-5903
Ravnik and Associates, Inc.	Civil Engineering/Planning	John Ravnik	Professional Engineer	jravnik@ravnik.net (360) 707-2048
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Sarah Bucko Laura Bucko	Owner/Applicant	Sarah Bucko	Owner	sarahbucko@gmail.com (360) 201-4775

This report revision addresses review comments from the City of Sedro-Woolley (City) and provides a revised plat design and mitigation plan based on those comments.

Qualifications

This critical areas assessment and mitigation plan was completed by Andrew Wones and Mary Harenda of Essency Environmental, LLC. Essency Environmental, LLC provides environmental consulting services and has conducted many critical areas studies in Washington State.

Andrew Wones has over 30 years of experience in marine and freshwater ecology research and environmental consulting. He has extensive experience with aquatic resources permitting, natural resource inventories, impact assessment, endangered species, mitigation planning and monitoring, and construction monitoring for environmental compliance. Mr. Wones has

contributed to numerous environmental impact statements, natural resource studies, provided compliance monitoring services, and written biological assessments for several ports, marinas, and utility agencies. He has authored natural resources technical reports and chapters for NEPA/SEPA documents evaluating a variety of projects including transportation, mining, residential, and recreational developments. Andrew is also a Certified Erosion and Sedimentation Control Lead (CESCL).

Mary Harenda is a Professional Wetland Scientist with over 30 years of diverse experience in biological sciences, project planning and design. She possesses a thorough working knowledge of local, state, and federal permitting and plan requirements, including the Washington SEPA and federal NEPA processes (BAs/BEs/EISs). Mary's extensive technical experience includes wetland inventories, delineations and functional assessments, stream assessments and evaluations, and assessments for wildlife and threatened and endangered species. Her expertise also includes construction oversight on wetland and stream mitigation projects and follow-up monitoring to meet permit requirements. She has completed long-term, multiparameter monitoring on numerous mitigation banks in Washington State. She has worked in both the public and private sectors and has experience across a broad client base including small and large development firms, private home and property owners, small and large businesses, local, state and federal governments and agencies, and public and private utilities.

Methods

This Critical Areas Assessment and Mitigation Plan was completed following guidelines in Sedro-Woolley Municipal Code (SWMC 17.65 Regulations for Critical Areas). Background research included review of the following sources:

- Skagit County iMap (Skagit County 2020)
- Skagit County Flood Map (Skagit County 2020)
- City of Sedro-Woolley online documents and maps (available at: https://www.ci.sedro-woolley.wa.us/)
- Washington State Department of Ecology 303d list, interactive map (Ecology 2020)
- Washington State Department of Fish and Wildlife (WDFW) Priority Habitats and Species database (WDFW 2020a)
- Washington State Department of Fish and Wildlife Salmonscape (WDFW 2020b)
- USFWS National Wetlands Inventory Mapper (USFWS 2020)
- USDA NRCS Web Soil Survey (NRCS 2020)
- Aerial photography of the site from Google Earth and Skagit County iMap.

Essency Environmental staff completed critical areas delineation field work on May 15, 22, 26, and 27, 2020. We walked the project parcels to assess the presence of streams or wetlands and sampled locations that appeared most likely to support wetland conditions. In addition, we evaluated areas within 200 feet of the parcel boundaries for the potential presence of critical areas using published information sources including maps and aerial images, and from what could be seen from the project parcel, public roads, and other publicly accessible areas. Wetland determinations followed US Army Corps of Engineers wetland delineation guidelines (USACE 2010). Stream ordinary high water mark delineations were completed using Washington State Department of Ecology approved methods (Ecology 2016). Wetland determination sample plots and stream ordinary high water mark locations were located using a mapping grade Juniper Systems Geode GPS and Effigis data collection and post-processing software. Sample plot and flag locations were subsequently surveyed by Metron and Associates.

Results

Sedro-Woolley Municipal Code 17.65.020 states the following shall constitute critical areas regulated by code: Wetland and Riparian Corridors, Areas with a Critical Recharging Effect on Aquifers Used for Potable Water, Fish and Wildlife Habitat Conservation Areas, Frequently Flooded Areas, and Geologically Hazardous Areas. Critical area buffers are also regulated as described in SWMC 17.65. This report describes whether any critical areas or buffers regulated by the SWMC are present on or near the subject property. Other regulatory and resource categories of interest are also discussed.

General Site and Proposed Project Description

The Critical Areas Assessment included parcels P37253, P37250, P37251, P37256, and P37151 (Figure 2 in Appendix A). Parcels P37253, P37250, and P37251 are currently zoned Residential 7, and parcels P37256 and P37151 are zoned mixed use commercial (City of Sedro-Woolley 2019). A public school bus barn facility and residential properties border the project area.

Two residences are present in the northeast portion of the proposed plat. One house is in the northeast portion of Parcel P32750 and one is in the northeast portion of P37251. Three accessory buildings are also present on the site. The northeast corner of the site is landscaped in the vicinity of the residence. The remainder of the site is primarily mown hayfields and thickets of Himalayan blackberry (*Rubus armeniacus*). One fish-bearing stream, Brickyard Creek, crosses the site, flowing from northeast to southwest. Brickyard Creek occupies the topographically lowest area on the site and is surrounded by a narrow floodplain (see Sheet 1 – Topographic Survey in Appendix A). Site topography steepens abruptly immediately adjacent to the creek, then flattens. The steepest slopes adjacent to the creek are about 20%. Over 80% of site has slopes between 1-2%. Photos of the project site are in Appendix B.

The proposed project is development of a residential plat and associated infrastructure and amenities. All of existing parcels P37253, P37250, and P37251 are included in the proposed plat boundaries. All of parcel P37151 and all of parcel P37256, except the area of a new roadway along the western parcel boundary, are excluded from the proposed plat boundaries (see plat drawings prepared by Ravnik and Associates). As allowed under City of Sedro-Woolley code, the standard riparian buffer of Brickyard Creek will be reduced on both sides of the creek from 110 feet to a minimum of 55 feet in places, and the remaining buffer outside of already developed areas will be enhanced by planting native trees and shrubs. The City is requiring a new road to be constructed along the western boundary of the plat connecting to Cook Road. A new culvert will be installed in Brickyard Creek for the new road crossing and approximately 731 sf of stream channel will be impacted. The culvert is required to meet WDFW standards. A pedestrian trail that was initially proposed through the reduced buffer area has been eliminated due to concerns about reduced buffer function and weed management in the buffer.

Shoreline Jurisdiction

The project parcels are not within Shoreline jurisdiction (City of Sedro-Woolley 2016).

Streams

Brickyard Creek flows east to west across the site (Figure 2 and Sheet 1 in Appendix A). Brickyard Creek is classified as a Type 3 stream by the City of Sedro-Wooley, and as Type F under the Washington State stream typing system (WAC 222-16-031). Under Sedro-Wooley Code, Brickyard Creek has a 110-foot standard riparian buffer (SWMC 17.65.530.B). The existing buffer is dominated by reed canarygrass (*Phalaris arundinacea*), pasture grasses and non-native blackberries. There are no trees or shrubs present within the stream buffer adjacent to the creek. There are several mature Douglas fir (*Pseudotsuga menziesii*) trees present within the buffer associated with the existing residences. Brickyard Creek has been dredged in the past to maintain flow capacity. According to information provided by Lisser and Associates, Skagit County Drainage District 14 has rights to conduct drainage maintenance in Brickyard Creek, and drainage right-of-way under Skagit County Auditor File # 267764. Channel banks are also currently mowed in concert with hay cropping on the site.

On the project site, Brickyard Creek provides salmonid migration habitat and poor quality rearing habitat. Stream substrate is dominated by sand. There is virtually no large wood or other complex habitat features, and most of the channel is of uniform depth. The lack of shading trees and shrubs on streambanks has allowed reed canarygrass to dominate the vegetation of the banks and to encroach into the channel itself. Reportedly, the section of Brickyard Creek through the project site goes dry at times.

Priority Habitats and Species (PHS)

Brickyard Creek is the only PHS feature mapped on the site (WDFW 2020a). PHS species in Brickyard Creek include rainbow trout (*Oncorhynchus mykiss*), resident cutthroat trout (*Oncorhynchus clarkii*), and coho salmon (*Oncorhynchus kisutch*). The WDFW Salmonscape interactive map shows documented occurrence of coho salmon and accessible gradient for fall Chinook salmon (*Oncorhynchus tshawytscha*), fall chum salmon (*Oncorhynchus keta*), and odd-year pink salmon (*Oncorhynchus gorbuscha*) (WDFW 2020b). Fall Chinook salmon are federally listed as threatened (64 FR 14308, 79 FR 20802) and a Candidate species for State listing (WDFW 2020a). Coho salmon area a federal "species of concern"(WDFW 2020a).

Wetlands

The National Wetland Inventory (NWI) maps Brickyard Creek as a freshwater emergent wetland, and the ditch along the south side of F&S Grade Road that discharges to Brickyard Creek as riverine wetland (USFWS 2020) (Figure 3). This ditch is also shown as an intermittent stream on Salmonscape (WDFW 2020b). Neither WDNR (2020) or USGS (2020) show this ditch as a stream. Our visual observations indicate a stream channel is not present on the south side of F&S Grade Road between Jones Road and Brickyard Creek; existing conditions are either vegetated roadside ditches or culverted sections of ditch.

The Natural Resource Conservation Service (2020) maps most of the project area Minkler silt loam. A small area along the southern edge of the site in the vicinity of sample plot P18 is shown as Field Silt Loam soil (Figure 2 and Appendix C). Neither soil series is classified as hydric.

We sampled 22 locations on the parcels that appeared most likely to support wetland conditions (Figure 2 and Appendix D). There were no indicators of wetland hydrology in any of the sample plots. Several plots exhibited relict hydric soil indicators. None of the locations sampled met criteria to be considered wetland. In addition, we evaluated areas within 200 feet of the project parcel and determined that no wetland buffers are present on the project parcels.

Areas with a Critical Recharging Effect on Aquifers Used for Potable Water

The Skagit County Aquifer Recharge Area Category 1 Areas Map (Skagit County 2010) does not show any aquifer recharge areas on or within 200 feet of the project parcels.

Fish and Wildlife Habitat Conservation Areas

Brickyard Creek and its associated riparian buffer (i.e., within 110 feet of the stream ordinary high water mark) are defined as a Fish and Wildlife Conservation Areas (HCAs) in SWMC 17.65.500. There are no other Fish and Wildlife Conservation Areas or habitats for species of local importance as defined in SWMC 17.65.500 on the project parcels.

Frequently Flooded Areas

The project is mapped as outside the 500-year floodplain (Zone X) by the Federal Emergency Management Agency (Skagit County 2017). Zone X is not regulated.

Geologically Hazardous Areas

There are no potential landslide or erosion hazard areas or steep slopes mapped by Skagit County on the project parcels (2016). A geotechnical study may be required to assess the presence of Geologically Hazardous Areas (SWMC 17.65.420) as part of the development review process. Essency Environmental is not qualified to assess Geologically Hazardous Areas.

Other

Section 17.65.070.A.4 of the SWMC states that a survey showing locations, descriptions, and species of all trees over 6 inches in diameter, as measured five feet above the base of the trunk, and shrubs over eight feet tall or six feet wide, may be required to be submitted with any development application. There are several trees present on the site that meet these minimum size criteria.

Critical Areas Impacts and Mitigation

Brickyard Creek and its associated buffer are present on the project site. Impacts to critical areas from the project and associated mitigation are described below and shown on Sheets M1-M4 in Appendix E. Proposed mitigation follows provisions outlined in SWMC 17.165.160 – *Critical area and buffer mitigation requirements – General Provisions*, including mitigation sequencing guidelines, designation of Protected Critical Areas (PCAs), and proposed mitigation maintenance and monitoring. Project components related to critical areas impacts and mitigation are described below.

- The standard riparian buffer of Brickyard Creek will be reduced on both sides of the creek from 110 feet to a minimum of 55 feet in places, and the remaining buffer will be enhanced by planting native trees and shrubs. The total riparian buffer to be decreased is 3.44 acres. The remaining total riparian buffer to be enhanced is 3.43 acres (See Appendix E).

SWMC 17.65.530.B.2 allows for reduction of the 110-foot standard stream buffer to a maximum of 50 percent or 55 feet if all listed code provisions are met, including adequate enhancement of all remaining buffer area:

2. Decreasing Buffer Widths. Decreasing standard buffers will be allowed pursuant to Section 17.65.150 only if the applicant demonstrates that all of the following criteria are met:

a. A decrease is necessary to accomplish the purposes of the proposal and no reasonable alternative is available;

b. Decreasing width will not adversely affect the fish and wildlife habitat functions and values;

c. If a portion of a buffer is to be reduced, the remaining buffer area will be enhanced, using native vegetation, artificial habitat features, vegetative screening and/or barrier fencing as appropriate to improve the functional attributes of the buffer and to provide equivalent or better protection for fish and wildlife habitat functions and values;

d. The buffer width shall not be reduced below fifty percent of the standard buffer width unless the director determines that no other reasonable alternative exists and that no net loss of HCA riparian functional values will result, based on a functional assessment provided by the applicant utilizing a methodology approved by the director.

The entirety of the 110-foot riparian buffer is currently dominated by pasture grasses and thickets of non-native blackberry. Consequently, the overall degree of buffer function is expected to increase post-enhancement plantings despite the reduction in buffer width. No net loss to stream and buffer resource function is anticipated from the proposed project. Table 2 summarizes the anticipated changes to buffer function from the proposed mitigation.

Table 2. Summary of Riparian Buffer Function

Function	Existing Buffers	Proposed Buffers	Functional Change
Vegetation Structure	Low	High	Current buffer is dominated by mown grass or blackberry. Native trees and shrubs will be planted and invasive shrubs will be controlled.
Vegetation Species Diversity	Low	Moderate	Proposed plantings will substantially increase species diversity.
Habitat Interspersion	Low	Moderate	Proposed plantings include trees and shrubs and an interspersed planting design.
Presence of Native Vegetation	Low	High	Non-native species dominate the current buffer.
Fish Habitat Protection/Sustainability	Low	Moderate	Native plantings will provide source of woody debris, increase stream shading, create instream habitat structure along the stream banks, and improve bank integrity.
Amphibian Utilization	Low	Moderate	Native trees and shrubs provide habitat for native tree frogs and salamanders.
Bird Utilization	Low	Moderate	Current buffer is dominated by mown grass or blackberry. Native trees and shrubs will increase bird habitat.
Mammalian Utilization	Low	Moderate	Native plantings will provide a vegetated corridor connecting with PCA tract along Brickyard Creek to the west.
Habitat Connectivity	Low	Moderate	Native plantings will provide a vegetated corridor connecting with PCA tract along Brickyard Creek to the west.
Water Quality Potential	Low	Moderate	Native plantings will enhance runoff filtration, provide shade to creek, and reduce streambank erosion.
Visual and Noise Buffering	Low	Moderate	Mitigation areas will provide localized visual and noise buffering.

- New water and sewer lines will be installed under Brickyard Creek either by trenching if the creek bed is dry at the time of construction or by boring/pushing under the creek. WDFW has indicated trenching is allowed as long as the creek bed is dry at the time of construction. Any disturbed areas will be restored to existing grade with a minimum of 3 feet of cover. Surface soils will be stabilized as needed and disturbed areas will be seeded with an erosion control mix.

- The City is requiring a new road to be constructed along the western boundary of the plat connecting to Cook Road. A new arch culvert, 11.25 ft wide x 65 ft long, will be installed in Brickyard Creek and approximately 731 sf of stream will be impacted. The culvert is required to meet WDFW standards. Any disturbed areas in the riparian buffer will be stabilized, seeded with an erosion control mix, and planted as shown on the mitigation plan sheets.

  An existing culvert in Brickyard Creek and gravel drive in the eastern portion of the site will remain to provide vehicle access to the south side of the creek for utility maintenance. In 2016, a culvert was removed from the creek that had washed out and was causing stream bank erosion. This culvert was located approximately 350 feet downstream of the existing culvert. Skagit County Drainage District 14 has rights to conduct drainage maintenance in Brickyard Creek, and drainage right-of-way under Skagit County Auditor File # 267764. The City also conducts routine drainage maintenance in this reach of the creek, and vegetation maintenance in the creek and along the banks and manages this section of creek to convey storm water from developed up stream portions of the watershed (Technical Memorandum dated April 14, 2021,from Lyndon Lee to John Coleman, Sedro-Woolley Planning Director). The City has indicated they would not support addition of any instream features, such as large wood, in this reach of the creek due to concerns regarding flow conveyance and drainage capacity (Personal Communication with Heike Nelson, Ravnik and Associates, per David Lee, Sedro-Wooley City Engineer).

- Section 17.65.070.A.4 of the SWMC states that a survey showing locations, descriptions, and species of all trees over 6 inches in diameter, as measured five feet above the base of the trunk, and shrubs over eight feet tall or six feet wide, may be required to be submitted with any development application. There are several trees present on the site that meet these minimum size criteria. If required, a vegetation survey will be submitted with the development application which shows surveyed locations, descriptions, and species of all trees over 6 inches in diameter and shrubs over eight feet tall or six feet wide per SWMC 17.65.070.A.4.

Mitigation Goals and Objectives

The goal of the proposed mitigation is to compensate for decreased riparian buffer width by enhancing riparian buffer function.

Objectives: Compensate for decreasing the standard riparian buffer of Brickyard Creek, a Type 3/Type F Water, by 3.43 acres, through enhancing the remaining 3.44 acres with plantings of native trees and shrubs. The mitigation plan sheets M1-M4 in Appendix E show planting areas,

and planting schedules and notes for enhancement areas. Table 2, above, summarizes the anticipated changes to buffer function from the proposed mitigation.

Protected Critical Areas Tracts, Fencing and Signage: Enhanced riparian buffer areas will be identified on the recorded plat as Protected Critical Areas (PCAs) and fenced and signed as required by SWMC 17.165.160.

Performance Standards

Mitigation Performance Standards are as follows:

1. PCA tracts were recorded on the approved plat.
2. Enhancement mitigation areas were planted as approved.
3. There will be 90% survival of installed plantings at the end of the first growing season (Year 1). Any replacement plantings shall be installed before the beginning of the second growing season (February 23rd per the Sedro-Woolley WETS tables).
4. There will be a minimum of 80% cover of native woody species (shrub and tree canopy layers considered together) at the end of the fifth growing season (Year 5) in enhancement areas. Volunteer native woody species can be included in the Year 5 cover value. At least three native tree species and three native shrub species shall each comprise at least 10% of the total year five cover value.
5. Invasive/Non-Native Species:
    a. In enhancement areas, there will be less than 10% cover of blackberry, Scotch broom, thistle, bindweed/morning glory, all invasive knotweed species, tansy ragwort, English ivy, purple loosestrife, yellow iris and other non-native, invasive, aggressive tree, shrub, viny or herbaceous species combined at the end of the first through fifth growing seasons. Reed canary grass cover shall not counted towards the 10% threshold but reed canary grass cover in monitoring plots and general observations about reed canary grass coverage on the site should be noted.
    b. In enhancement areas, any patches of Invasive/Non-Native Species as noted shall be removed using removal means appropriate for the species. A "patch" is defined as an area greater than 200 ft^2 that has more than 50% areal cover of Invasive/Non-Native Species. Reed canary grass shall not be counted towards the 50% areal cover threshold in identifying patches.

Monitoring

A field inspection will be completed soon after plantings are installed, and an as-built report will be submitted to applicable permitting agencies. Thereafter, monitoring will be conducted annually for 5 years near the end of the plant growing season.

Year 1 vegetation monitoring will include a complete plant survival count. Year 2-5 vegetation cover monitoring shall be done either via a cover estimation for discrete areas separately or by sampling a minimum of 10% of the mitigation enhancement area using sampling plots, at the discretion of the biologist doing the monitoring. Percent cover of Invasive/Non-Native Species described under Performance Standard 5a should be also be made either via visual estimation

or by plot sampling, or both. The enhancement plantings areas should be surveyed for patches of Invasive/Non-Native Species as described under Performance Standard 5b. Locations of any patches should be mapped and located for control by maintenance crews.

Monitoring will also include recommendations for management of the site to meet performance standards, and site photographs to document vegetation development.

Annual monitoring reports documenting progress of the mitigation in meeting performance standards will be submitted per the schedule provided by permitting agencies. At minimum, annual reports will include the following:

- Number of each species originally planted.
- Number of plants of each species surviving at the end of the first growing season.
- Number and species of replacement plantings (if any).
- Photos from pre-determined photopoints.
- Estimated cover of native woody species.
- Estimated cover of invasive species.
- Description of measures taken to control invasive species.
- General observations on plant survival and health and any patterns/trends noted in species survival or health.
- General observations on Invasive/Non-Native Species on the site and recommendations for management.

Maintenance and Contingency

Plant maintenance activities should include irrigation, weed and invasive/non-native species control, mulch replacement, and replanting as necessary on a schedule sufficient to achieve Performance Standards.

Contingency Actions:

- If more than 20% of plants are dead or severely stressed during any of the maintenance or monitoring inspections, additional plantings of the same or alternative native species may be added to the planting areas. Appropriate maintenance actions should be implemented to improve plant growing conditions.
- Performance Standard 4: If yearly monitoring indicates that native woody species areal cover and species composition performance standards are not on track to be met by Year 5, contingency measures such as additional plantings and improved maintenance actions shall be implemented by the permittee as recommended by the project biologist, project landscape architect, project landscape contractor and other parties knowledgeable in such areas.
- Performance Standard 5: If yearly monitoring indicates that Invasive/Non-native Species performance standards are not on track to be met by Year 5, contingency measures such as additional plantings and improved maintenance actions shall be implemented by the permittee as recommended by the project biologist, project landscape architect, project landscape contractor and other parties knowledgeable in such areas.

- If one or more performance standards have not been met at the end of the 5-year monitoring period, the permittee and/or their designee shall confer with the City on acceptable adaptive management or contingency actions which may include additional replanting and extension of the maintenance and monitoring period beyond 5 years.

Performance Bond

A mitigation performance and/or maintenance bond will be provided by the project applicant as required by the City of Sedro-Woolley Municipal Code.

Citations

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Appendix A: Figures

Figure 1. Vicinity Map.

Image Source: USGS The National Map (https://viewer.nationalmap.gov/advanced-viewer/)

Bucko Estates

Sedro-Woolley, WA.

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Figure 2. Critical Areas Existing Conditions

Bucko Estates
Parcels P37253, P37250, P37251, P37256, and P37151
Sedro-Woolley, WA

U.S. Fish and Wildlife Service

National Wetlands Inventory

May 3, 2020

Wetlands

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

Figure 3- NWI Map

REV. 00 CJT 6-11-2020

BASIS OF BEARING
EAST LINE OF SECTION 23 AS SHOWN HEREON. AND AS SHOWN ON SURVEYS BY SKAGIT SURVEYORS.

LEGEND
- RECOVERED REBAR AS NOTED (MAY 2020)
- TP TEST PIT
- MW MONITORING WELL WITH ELEVATION TO TOP OF PVC PIPE
- P SAMPLE PLOTS
- ORDINARY HIGH WATER FLAG
- WATER VALVE
- FIRE HYDRANT

VERICAL DATUM
NAVD 88 BASED ON MONUMENT GP 29020-9-AZ EL= 56.05'

METRON
and ASSOCIATES INC.
LAND SURVEYS, MAPS, AND LAND USE PLANNING
307 N. OLYMPIC AVENUE, SUITE 205
ARLINGTON, WASHINGTON 98223
(360) 435-3777 FAX (360) 435-4822

PROJECT:
PRELIMARY MAP
FOR
BUCK0
A PORTION OF NE 1/4 OF SECTION 23, TOWNSHIP 35 NORTH, RANGE 4 EAST, W.M.
CITY OF SEDRO WOOLEY
SKAGIT COUNTY, WASHINGTON

SHEET NAME:
TOPOGRAPHIC SURVEY

DRAWN BY: CJT	APPROVED BY: T.E.B. DATE:	PROJECT NO. 20034
DATE: MAY 2020	SCALE: 1" = 60'	SHEET: 1 OF 1
FIELD BOOK: 4-35	DWG FILE: 20034.DWG	

Appendix B: Site Photographs

Photo 1. From northwest corner of Parcel P37253, facing east.

Photo 2. From northwest corner of Parcel P37253, facing south.

Photo 3. Brickyard Creek from the center of the site, facing east-northeast.

Photo 4. Brickyard Creek from the center of the site, facing west.

Photo 5. From sample plot P12, facing north.

Photo 6. From sample plot P12, facing east.

Photo 7. From sample plot P12, facing west.

Photo 8. Existing building on parcel P37251 from sample plot P12, facing south.

Photo 9. From southwest corner of Parcel P37251, facing north.

Photo 10. From southwest corner of Parcel P37251, facing east.

Photo 11. From southwest corner of Parcel P37251, facing west.

Photo 12. From southwest corner of Parcel P37251, facing south.

Appendix C: Soils Report

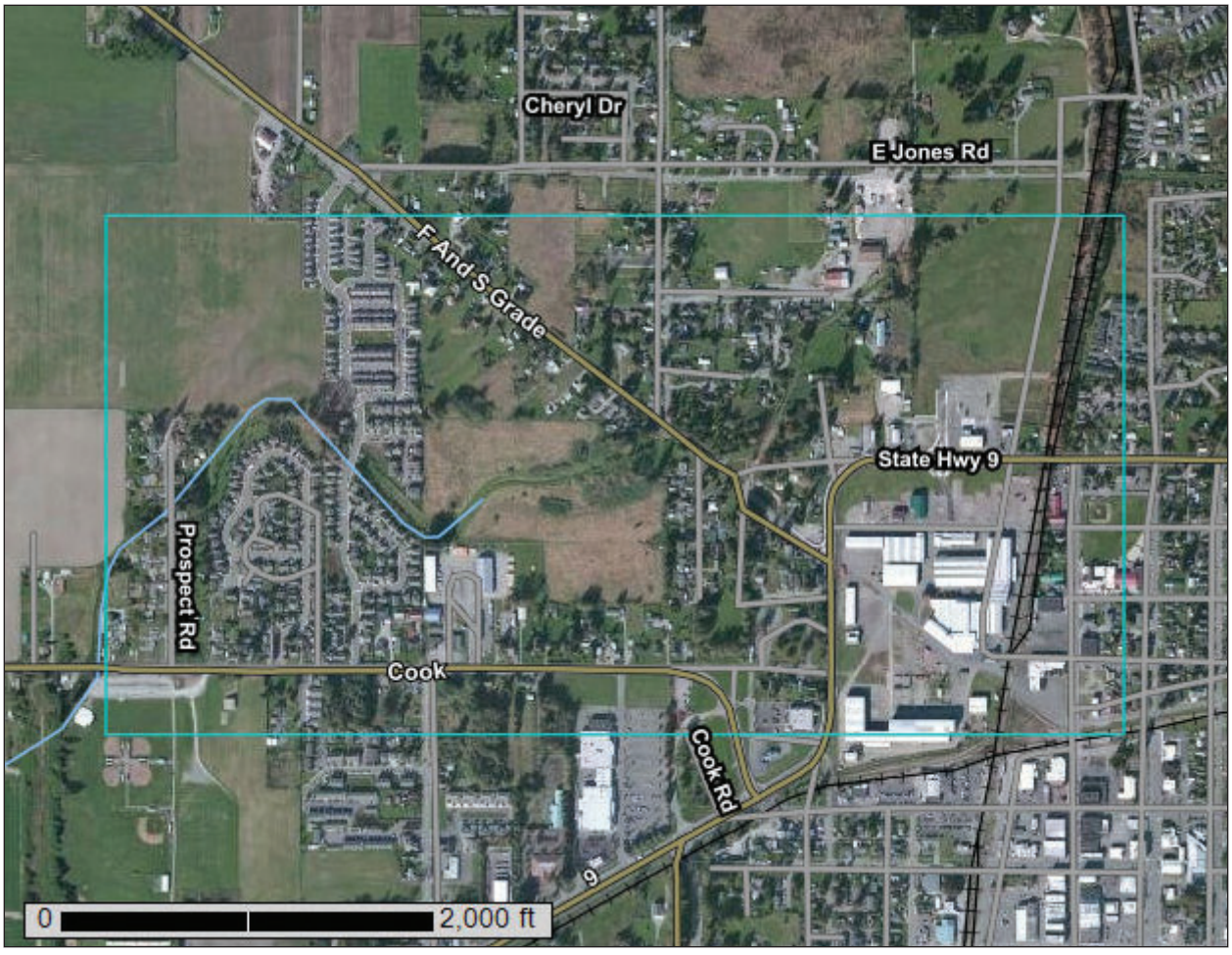
United States Department of Agriculture

NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Skagit County Area, Washington



May 3, 2020

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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Contents

How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report
Soil Map

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

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

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

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

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

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

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

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

Soil Survey Area: Skagit County Area, Washington
Survey Area Data: Version 19, Sep 16, 2019

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

Date(s) aerial images were photographed: Jul 9, 2010—Aug 28, 2011

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

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
57	Field silt loam, protected	61.2	17.7%
92	Minkler silt loam	198.7	57.4%
136	Sumas silt loam	14.3	4.1%
152	Urban land-Mt. Vernon-Field complex	72.2	20.8%
Totals for Area of Interest		**346.4**	**100.0%**

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The

delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Skagit County Area, Washington

57—Field silt loam, protected

Map Unit Setting

National map unit symbol: 2hwb
Elevation: 10 to 50 feet
Mean annual precipitation: 32 inches
Mean annual air temperature: 50 degrees F
Frost-free period: 160 to 210 days
Farmland classification: Prime farmland if protected from flooding or not frequently flooded during the growing season

Map Unit Composition

Field and similar soils: 90 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Field

Setting

Landform: Flood plains
Parent material: Alluvium and volcanic ash

Typical profile

H1 - 0 to 13 inches: silt loam
H2 - 13 to 21 inches: silt loam
H3 - 21 to 40 inches: stratified sand to loamy fine sand
H4 - 40 to 60 inches: stratified sand to very fine sandy loam

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: About 36 to 48 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: High (about 10.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2w
Hydrologic Soil Group: B
Forage suitability group: Seasonally Wet Soils (G002XN202WA)
Hydric soil rating: No

Minor Components

Skagit, undrained

Percent of map unit: 5 percent
Landform: Flood plains
Hydric soil rating: Yes

Sumas, undrained

Percent of map unit: 5 percent
Landform: Flood plains
Hydric soil rating: Yes

92—Minkler silt loam

Map Unit Setting

National map unit symbol: 2hxl
Elevation: 50 to 80 feet
Mean annual precipitation: 50 inches
Mean annual air temperature: 50 degrees F
Frost-free period: 190 days
Farmland classification: Prime farmland if drained

Map Unit Composition

Minkler and similar soils: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Minkler

Setting

Landform: Terraces
Parent material: Alluvium andglaciolacustrine deposits

Typical profile

H1 - 0 to 12 inches: medial silt loam
H2 - 12 to 15 inches: medial silt loam
H3 - 15 to 60 inches: stratified fine sand to very fine sandy loam

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: About 6 to 30 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: High (about 10.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 5w
Hydrologic Soil Group: B/D
Forage suitability group: Wet Soils (G002XN102WA)
Hydric soil rating: No

136—Sumas silt loam

Map Unit Setting

National map unit symbol: 2hsv
Elevation: 0 to 50 feet
Mean annual precipitation: 35 to 60 inches
Mean annual air temperature: 48 to 52 degrees F
Frost-free period: 150 to 210 days
Farmland classification: Prime farmland if drained

Map Unit Composition

Sumas, drained, and similar soils: 80 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Sumas, Drained

Setting

Landform: Deltas, flood plains
Parent material: Alluvium

Typical profile

H1 - 0 to 6 inches: silt loam
H2 - 6 to 16 inches: silty clay loam
H3 - 16 to 60 inches: coarse sand

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: 12 to 20 inches to strongly contrasting textural stratification
Natural drainage class: Poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: About 12 to 35 inches
Frequency of flooding: Rare
Frequency of ponding: None
Available water storage in profile: Low (about 3.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3w
Hydrologic Soil Group: C
Forage suitability group: Soils with Few Limitations (G002XN502WA)
Hydric soil rating: Yes

Minor Components

Sumas, undrained

Percent of map unit: 5 percent
Landform: Tidal flats
Hydric soil rating: Yes

Mt. vernon
Percent of map unit: 5 percent
Hydric soil rating: No

Field
Percent of map unit: 5 percent
Hydric soil rating: No

Skagit, undrained
Percent of map unit: 5 percent
Landform: Flood plains
Hydric soil rating: Yes

152—Urban land-Mt. Vernon-Field complex

Map Unit Setting
National map unit symbol: 2htf
Elevation: 10 to 50 feet
Mean annual precipitation: 32 to 40 inches
Mean annual air temperature: 50 degrees F
Frost-free period: 160 to 210 days
Farmland classification: Not prime farmland

Map Unit Composition
Urban land: 40 percent
Mt. vernon and similar soils: 30 percent
Field and similar soils: 20 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Urban Land

Typical profile
H1 - 0 to 6 inches: variable

Interpretive groups
Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8s
Hydric soil rating: No

Description of Mt. Vernon

Setting
Landform: Natural levees, flood plains
Parent material: Alluvium and volcanic ash

Typical profile
H1 - 0 to 10 inches: ashy very fine sandy loam
H2 - 10 to 29 inches: stratified ashy sand to very fine sandy loam
H3 - 29 to 60 inches: stratified fine sand to silt loam

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: About 24 to 48 inches
Frequency of flooding: Occasional
Frequency of ponding: None
Available water storage in profile: High (about 10.2 inches)

Interpretive groups

Land capability classification (irrigated): 3w
Land capability classification (nonirrigated): 3w
Hydrologic Soil Group: C
Forage suitability group: Soils with Few Limitations (G002XN502WA)
Hydric soil rating: No

Description of Field

Setting

Landform: Flood plains, natural levees
Parent material: Alluvium and volcanic ash

Typical profile

H1 - 0 to 13 inches: silt loam
H2 - 13 to 21 inches: silt loam
H3 - 21 to 40 inches: stratified sand to loamy fine sand
H4 - 40 to 60 inches: stratified sand to very fine sandy loam

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: About 24 to 60 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: High (about 10.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3w
Hydrologic Soil Group: B
Forage suitability group: Seasonally Wet Soils (G002XN202WA)
Hydric soil rating: No

Minor Components

Mt. vernon

Percent of map unit: 10 percent
Hydric soil rating: No

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Appendix D: Wetland Determination Data Forms

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

Project/Site: Bucko | City/County: Sedro-Woolley/Skagit | Sampling Date: 5/15/20
Applicant/Owner: Sarah Bucko | State: WA | Sampling Point: P1
Investigator(s): M. Harenda/A. Wones | Section, Township, Range: S23, T35N, R4E
Landform (hillslope, terrace, etc.): terrace | Local relief (concave, convex, none): none | Slope (%): 1%
Subregion (LRR): MLRA2 | Lat: 48.510876°N | Long: 122.252909°W | Datum: WGS 84
Soil Map Unit Name: Minkler silt loam | NWI classification: NA
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ___ (If no, explain in Remarks.)
Are Vegetation X , Soil ___ , or Hydrology ___ significantly disturbed? Are "Normal Circumstances" present? Yes X No ___
Are Vegetation ___ , Soil ___ , or Hydrology ___ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes	X	No	
Hydric Soil Present?	Yes		No	X
Wetland Hydrology Present?	Yes		No	X

Is the Sampled Area within a Wetland? Yes ___ No X

Remarks: Recently mown.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 20 ft dm)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Populus trichocarpa*	20	yes	FAC
2.			
3.			
4.			
50% =10% ; 20% =4%			
	20	= Total Cover	
Sapling/Shrub Stratum (Plot size: 10 ft dm)			
1. *Rubus armeniacus*	3	yes	FAC
2.			
3.			
4.			
5.			
50% =1.5% ; 20% =0.6%	3	= Total Cover	
Herb (Plot size: 6 ft dm)			
1. *Tanacetum vulgare*	3	no	FACU
2. *Agrostis sp.*	20	yes	FAC
3. *Dactylis glomerata*	67	yes	FACU
4. *Vicia sativa*	5	no	FACU
5. *Galium aparine*	3	no	FACU
6. *Cirsium arvense*	2	no	FAC
7.			
8.			
9.			
10.			
11.			
50% =50% ; 20% =20%	100	= Total Cover	
Woody Vine Stratum (Plot size:)			
1.			
2.			
		= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)
Total Number of Dominant Species Across All Strata: 4 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 75 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	
FACW species		x 2 =	
FAC species		x 3 =	
FACU species		x 4 =	
UPL species		x 5 =	
Column Totals:		(A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation
X 2 - Dominance Test is >50%
___ 3 - Prevalence Index is ≤3.0[1]
___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
___ 5 - Wetland Non-Vascular Plants[1]
___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No ___

Remarks: Vegetation recently mown.

SOIL

Sampling Point: P1

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-4	10YR 3/2	100					Fine sandy loam	
4-16	10YR 3/3	100					Fine sandy loam	

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

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

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

Indicators for Problematic Hydric Soils[3]:

- ___ 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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ____ **No** **X**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): _____

Water Table Present? Yes ___ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): _____

Wetland Hydrology Present? **Yes** ____ **No** **X**

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

Remarks: No hydrology indicators observed.

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

Project/Site: Bucko | City/County: Sedro-Woolley/Skagit | Sampling Date: 5/15/20
Applicant/Owner: Sarah Bucko | State: WA | Sampling Point: P2
Investigator(s): M. Harenda/A. Wones | Section, Township, Range: S23, T35N, R4E
Landform (hillslope, terrace, etc.): terrace | Local relief (concave, convex, none): none | Slope (%): 1%
Subregion (LRR): MLRA2 | Lat: 48.510714°N | Long: 122.252921°W | Datum: WGS 84
Soil Map Unit Name: Minkler silt loam | NWI classification: NA
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ___ (If no, explain in Remarks.)
Are Vegetation X , Soil ___ , or Hydrology ___ significantly disturbed? Are "Normal Circumstances" present? Yes X No ___
Are Vegetation ___ , Soil ___ , or Hydrology ___ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes	___	No	X
Hydric Soil Present?	Yes	___	No	X
Wetland Hydrology Present?	Yes	___	No	X

Is the Sampled Area within a Wetland? Yes ___ No X

Remarks: Recently mown.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 20 ft dm)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	= Total Cover		

Sapling/Shrub Stratum (Plot size: 10 ft dm)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		

Herb (Plot size: 6 ft dm)			
1. *Dactylis glomerata*	35	Yes	FACU
2. *Agrostis capillaris*	50	Yes	FAC
3. *Anthoxanthum odoratum*	15	No	FACU
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	100 = Total Cover		

Woody Vine Stratum (Plot size: ___)			
1.			
2.			
	= Total Cover		

% Bare Ground in Herb Stratum ___

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)
Total Number of Dominant Species Across All Strata: 2 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	
FACW species		x 2 =	
FAC species		x 3 =	
FACU species		x 4 =	
UPL species		x 5 =	
Column Totals:	(A)		(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation
___ 2 - Dominance Test is >50%
___ 3 - Prevalence Index is ≤3.0[1]
___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
___ 5 - Wetland Non-Vascular Plants[1]
___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ___ No X

Remarks: Vegetation recently mown.

SOIL

Sampling Point: P2

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-8	10YR 3/2	100					Silt loam	
8-16	10YR 3/3	100					Fine sandy loam	
16+	2.5 Y 4/2	97	7.5YR 5/6	3	C	M	Sand	

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

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

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

Indicators for Problematic Hydric Soils[3]:

- ___ 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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ____ **No** **X**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present? Yes ___ No ___ Depth (inches): _____

Water Table Present? Yes ___ No ___ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No ___ Depth (inches): _____

Wetland Hydrology Present? **Yes** ____ **No** **X**

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

Remarks:

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

Project/Site: Bucko City/County: Sedro-Woolley/Skagit Sampling Date: 05/15/20
Applicant/Owner: Sarah Bucko State: WA Sampling Point: P3
Investigator(s): M. Harenda/A. Wones Section, Township, Range: S23, T35N, R4E
Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): none Slope (%): 1%
Subregion (LRR): MLRA2 Lat: 48.510537°N Long: 122.252476° W Datum: WGS 84
Soil Map Unit Name: Minkler silt loam NWI classification: NA
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ___ (If no, explain in Remarks.)
Are Vegetation X , Soil ___ , or Hydrology ___ significantly disturbed? Are "Normal Circumstances" present? Yes X No ___
Are Vegetation ___ , Soil ___ , or Hydrology ___ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes	___	No	X
Hydric Soil Present?	Yes	___	No	X
Wetland Hydrology Present?	Yes	___	No	X

Is the Sampled Area within a Wetland? **Yes** ___ **No** X

Remarks: Recently mown. Near Geotest TP8.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 20 ft dm)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	= Total Cover		

Sapling/Shrub Stratum (Plot size: 10 ft dm)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		

Herb (Plot size: 6 ft dm)			
1. *Rumex acetosella*	15	No	FAC
2. *Agrostis capillaris*	10	No	FAC
3. *Anthoxanthum odoratum*	60	Yes	FACU
4. *Vicia sativa*	10	No	FACU
5. *Plantago lanceolata*	5	No	FACU
6.			
7.			
8.			
9.			
10.			
11.			
50% = 50 20% = 20	100	= Total Cover	

Woody Vine Stratum (Plot size: ___)			
1.			
2.			
	= Total Cover		

% Bare Ground in Herb Stratum ___

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)
Total Number of Dominant Species Across All Strata: 1 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	___	x 1 =	___
FACW species	___	x 2 =	___
FAC species	___	x 3 =	___
FACU species	___	x 4 =	___
UPL species	___	x 5 =	___
Column Totals:	___ (A)		___ (B)

Prevalence Index = B/A = ___

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation
___ 2 - Dominance Test is >50%
___ 3 - Prevalence Index is ≤3.0[1]
___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
___ 5 - Wetland Non-Vascular Plants[1]
___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** ___ **No** X

Remarks: Vegetation recently mown.

SOIL

Sampling Point: P3

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-3	10YR 3/3	100					Very fine sandy loam	
3-9	2.5Y 4/2	100					Very fine sandy loam	
9-16	2.5Y 5/2	100					Fine/very fine sand	

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

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

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

Indicators for Problematic Hydric Soils[3]:

- ___ 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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ____ **No** **X**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present? Yes ___ No ___ Depth (inches): _____

Water Table Present? Yes ___ No ___ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No ___ Depth (inches): _____

Wetland Hydrology Present? **Yes** ____ **No** **X**

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

Remarks:

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

Project/Site: Bucko City/County: Sedro-Woolley/Skagit Sampling Date: 5/15/20
Applicant/Owner: Sarah Bucko State: WA Sampling Point: P4
Investigator(s): M. Harenda/A. Wones Section, Township, Range: S23, T35N, R4E
Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): none Slope (%): 1%
Subregion (LRR): MLRA2 Lat: 48.510194°N Long: 122.251894° W Datum: WGS 84
Soil Map Unit Name: Minkler silt loam NWI classification: NA
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ___ (If no, explain in Remarks.)
Are Vegetation X , Soil ___ , or Hydrology ___ significantly disturbed? Are "Normal Circumstances" present? Yes X No ___
Are Vegetation ___ , Soil ___ , or Hydrology ___ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes	X	No	
Hydric Soil Present?	Yes		No	X
Wetland Hydrology Present?	Yes		No	X

Is the Sampled Area within a Wetland? Yes ___ No X

Remarks: Recently mown.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 20 ft dm)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	= Total Cover		

Sapling/Shrub Stratum (Plot size: 10 ft dm)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		

Herb (Plot size: 6 ft dm)			
1. *Phalaris arundinacea*	45	Yes	FACW
2. *Agrostis capillaris*	55	Yes	FAC
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	100 = Total Cover		

Woody Vine Stratum (Plot size: ___)		
1.		
2.		
	= Total Cover	

% Bare Ground in Herb Stratum ___

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)
Total Number of Dominant Species Across All Strata: 2 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	
FACW species		x 2 =	
FAC species		x 3 =	
FACU species		x 4 =	
UPL species		x 5 =	
Column Totals:	(A)		(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ 5 - Wetland Non-Vascular Plants[1]
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No ___

Remarks: Vegetation recently mown.

SOIL

Sampling Point: P4

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-8	10YR 3/2	100					Silt loam	
8-16	10YR 3/2	100					Sandy loam	

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

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

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

Indicators for Problematic Hydric Soils[3]:

- ___ 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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present? Yes ___ No ___ Depth (inches): _____

Water Table Present? Yes ___ No ___ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No ___ Depth (inches): _____

Wetland Hydrology Present? **Yes** ___ **No** **X**

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

Remarks:

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

Project/Site: Bucko City/County: Sedro-Woolley/Skagit Sampling Date: 5/15/20
Applicant/Owner: Sarah Bucko State: WA Sampling Point: P5
Investigator(s): M. Harenda/A. Wones Section, Township, Range: S23, T35N, R4E
Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): none Slope (%): 1%
Subregion (LRR): MLRA2 Lat: 48.509524°N Long: 122.252178° W Datum: WGS 84
Soil Map Unit Name: Minkler silt loam NWI classification: NA
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ___ (If no, explain in Remarks.)
Are Vegetation X , Soil ___ , or Hydrology ___ significantly disturbed? Are "Normal Circumstances" present? Yes X No ___
Are Vegetation ___ , Soil ___ , or Hydrology ___ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes	___	No	X
Hydric Soil Present?	Yes	___	No	X
Wetland Hydrology Present?	Yes	___	No	X

Is the Sampled Area within a Wetland? Yes ___ No X

Remarks: Recently mown. Along stream edge.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 20 ft dm)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	= Total Cover		

Sapling/Shrub Stratum (Plot size: 10 ft dm)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		

Herb (Plot size: 6 ft dm)			
1. *Phalaris arundinacea*	15	No	FACW
2. *Schedonorus pratensis*	50	Yes	FACU
3. *Anthoxanthum odoratum*	20	Yes	FACU
4. *Poa sp.*	10	No	FAC
5. *Vicia sativa*	4	No	FACU
6. *Galium aparine*	1	No	FACU
7.			
8.			
9.			
10.			
11.			
	100	= Total Cover	

Woody Vine Stratum (Plot size:)		
1.		
2.		
	= Total Cover	

% Bare Ground in Herb Stratum ___

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)
Total Number of Dominant Species Across All Strata: 2 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	
FACW species		x 2 =	
FAC species		x 3 =	
FACU species		x 4 =	
UPL species		x 5 =	
Column Totals:	(A)		(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation
___ 2 - Dominance Test is >50%
___ 3 - Prevalence Index is ≤3.0[1]
___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
___ 5 - Wetland Non-Vascular Plants[1]
___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ___ No X

Remarks: Vegetation recently mown.

SOIL

Sampling Point: P5

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-10	10YR 3/2	100					Silty clay loam	2" ribbon
10-16	10YR 3/2	100					Sandy clay loam	
16-18	2.5Y 3/2	100					Clayey sand	
18-20	2.5Y 3/2	100					Sandy clay loam	

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

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

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

Indicators for Problematic Hydric Soils[3]:

- ___ 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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ____ **No** **X**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present? Yes ____ No X Depth (inches): _____

Water Table Present? Yes ____ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes X No ____ Depth (inches): 16-18

Wetland Hydrology Present? **Yes** ____ **No** **X**

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

Remarks: Saturated in sand lens from 16-18" only.

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

Project/Site: Bucko | City/County: Sedro-Woolley/Skagit | Sampling Date: 5/15/20
Applicant/Owner: Sarah Bucko | State: WA | Sampling Point: P6
Investigator(s): M. Harenda/A. Wones | Section, Township, Range: S23, T35N, R4E
Landform (hillslope, terrace, etc.): terrace | Local relief (concave, convex, none): none | Slope (%): 1%
Subregion (LRR): MLRA2 | Lat: 48.509524°N | Long: 122.252178° W | Datum: WGS 84
Soil Map Unit Name: Minkler silt loam | NWI classification: NA
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ___ (If no, explain in Remarks.)
Are Vegetation X , Soil ___ , or Hydrology ___ significantly disturbed? Are "Normal Circumstances" present? Yes X No ___
Are Vegetation ___ , Soil ___ , or Hydrology ___ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes	___	No	X
Hydric Soil Present?	Yes	___	No	X
Wetland Hydrology Present?	Yes	___	No	X

Is the Sampled Area within a Wetland? Yes ___ No X

Remarks: Recently mown.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 20 ft dm)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	= Total Cover		

Sapling/Shrub Stratum (Plot size: 10 ft dm)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		

Herb (Plot size: 6 ft dm)			
1. *Plantago lanceolata*	5	No	FACU
2. *Festuca rubra*	10	No	FAC
3. *Anthoxanthum odoratum*	40	Yes	FACU
4. *Agrostis sp.*	15	No	FAC
5. *Dactylis glomerata*	30	Yes	FACU
6.			
7.			
8.			
9.			
10.			
11.			
	100	= Total Cover	

Woody Vine Stratum (Plot size: ___)			
1.			
2.			
	= Total Cover		

% Bare Ground in Herb Stratum ___

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)
Total Number of Dominant Species Across All Strata: 2 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	
FACW species		x 2 =	
FAC species		x 3 =	
FACU species		x 4 =	
UPL species		x 5 =	
Column Totals:		(A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation
___ 2 - Dominance Test is >50%
___ 3 - Prevalence Index is ≤3.0[1]
___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
___ 5 - Wetland Non-Vascular Plants[1]
___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ___ No X

Remarks: Vegetation recently mown.

SOIL

Sampling Point: P6

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-10	10YR 3/2	100					Sandy loam	
10-16	10YR 3/2	100					Loamy very fine sand	

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

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

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

Indicators for Problematic Hydric Soils[3]:

- ___ 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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ____ **No** **X**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present? Yes ____ No **X** Depth (inches): _____

Water Table Present? Yes ____ No **X** Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ____ No **X** Depth (inches): _____

Wetland Hydrology Present? **Yes** ____ **No** **X**

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

Remarks:

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

Project/Site: Bucko | City/County: Sedro-Woolley/Skagit | Sampling Date: 5/15/20
Applicant/Owner: Sarah Bucko | State: WA | Sampling Point: P7
Investigator(s): M. Harenda/A. Wones | Section, Township, Range: S23, T35N, R4E
Landform (hillslope, terrace, etc.): terrace | Local relief (concave, convex, none): none | Slope (%): 1%
Subregion (LRR): MLRA2 | Lat: 48.510344°N | Long: 122.250809°W | Datum: WGS 84
Soil Map Unit Name: Minkler silt loam | NWI classification: NA
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ___ (If no, explain in Remarks.)
Are Vegetation X , Soil ___ , or Hydrology ___ significantly disturbed? Are "Normal Circumstances" present? Yes X No ___
Are Vegetation ___ , Soil ___ , or Hydrology ___ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes	X	No	
Hydric Soil Present?	Yes		No	X
Wetland Hydrology Present?	Yes		No	X

Is the Sampled Area within a Wetland? Yes ___ No X

Remarks: Recently mown.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 20 ft dm)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	= Total Cover		

Sapling/Shrub Stratum (Plot size: 10 ft dm)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		

Herb (Plot size: 6 ft dm)			
1. *Cirsium arvense*	10	No	FACU
2. *Agrostis sp.*	80	Yes	FAC
3. *Anthoxanthum odoratum*	10	No	FACU
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	100 = Total Cover		

Woody Vine Stratum (Plot size: ___)			
1.			
2.			
	= Total Cover		

% Bare Ground in Herb Stratum ___

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)
Total Number of Dominant Species Across All Strata: 1 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	
FACW species		x 2 =	
FAC species		x 3 =	
FACU species		x 4 =	
UPL species		x 5 =	
Column Totals:	(A)		(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation
X 2 - Dominance Test is >50%
___ 3 - Prevalence Index is ≤3.0[1]
___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
___ 5 - Wetland Non-Vascular Plants[1]
___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No ___

Remarks: Vegetation recently mown.

SOIL

Sampling Point: P7

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-16	10YR 3/2	100					Very fine sandy loam	

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

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

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

Indicators for Problematic Hydric Soils[3]:

- ___ 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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): _____

Water Table Present? Yes ___ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): _____

Wetland Hydrology Present? **Yes** ___ **No** **X**

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

Remarks:

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

Project/Site: Bucko | City/County: Sedro-Woolley/Skagit | Sampling Date: 5/15/20
Applicant/Owner: Sarah Bucko | State: WA | Sampling Point: P8
Investigator(s): M. Harenda/A. Wones | Section, Township, Range: S23, T35N, R4E
Landform (hillslope, terrace, etc.): terrace | Local relief (concave, convex, none): none | Slope (%): 1%
Subregion (LRR): MLRA2 | Lat: 48.510581°N | Long: 122.249844°W | Datum: WGS 84
Soil Map Unit Name: Minkler silt loam | NWI classification: NA
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ___ (If no, explain in Remarks.)
Are Vegetation X , Soil ___ , or Hydrology ___ significantly disturbed? Are "Normal Circumstances" present? Yes X No ___
Are Vegetation ___ , Soil ___ , or Hydrology ___ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes	X	No	
Hydric Soil Present?	Yes		No	X
Wetland Hydrology Present?	Yes		No	X

Is the Sampled Area within a Wetland? Yes ___ No X

Remarks: Recently mown.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 20 ft dm)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	= Total Cover		

Sapling/Shrub Stratum (Plot size: 10 ft dm)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		

Herb (Plot size: 6 ft dm)			
1. *Dactylis glomerata*	10	No	FACU
2. *Agrostis sp.*	90	Yes	FAC
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	100 = Total Cover		

Woody Vine Stratum (Plot size: ___)		
1.		
2.		
	= Total Cover	

% Bare Ground in Herb Stratum ___

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)
Total Number of Dominant Species Across All Strata: 1 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	
FACW species		x 2 =	
FAC species		x 3 =	
FACU species		x 4 =	
UPL species		x 5 =	
Column Totals:	(A)		(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation
X 2 - Dominance Test is >50%
___ 3 - Prevalence Index is ≤3.0[1]
___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
___ 5 - Wetland Non-Vascular Plants[1]
___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No ___

Remarks: Vegetation recently mown.

SOIL

Sampling Point: P8

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-16	10YR 3/3	100					Loamy sand	

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

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

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

Indicators for Problematic Hydric Soils[3]:

- ___ 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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): _____

Water Table Present? Yes ___ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): _____

Wetland Hydrology Present? **Yes** ___ **No** **X**

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

Remarks:

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

Project/Site: Bucko | City/County: Sedro-Woolley/Skagit | Sampling Date: 5/15/20
Applicant/Owner: Sarah Bucko | State: WA | Sampling Point: P9
Investigator(s): M. Harenda/A. Wones | Section, Township, Range: S23, T35N, R4E
Landform (hillslope, terrace, etc.): terrace | Local relief (concave, convex, none): none | Slope (%): 1%
Subregion (LRR): MLRA2 | Lat: 48.510934°N | Long: 122.251241°W | Datum: WGS 84
Soil Map Unit Name: Minkler silt loam | NWI classification: NA
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ___ (If no, explain in Remarks.)
Are Vegetation X , Soil ___ , or Hydrology ___ significantly disturbed? Are "Normal Circumstances" present? Yes X No ___
Are Vegetation ___ , Soil ___ , or Hydrology ___ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes	X	No	
Hydric Soil Present?	Yes		No	X
Wetland Hydrology Present?	Yes		No	X

Is the Sampled Area within a Wetland? Yes ___ No X

Remarks: Recently mown.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 20 ft dm)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	= Total Cover		

Sapling/Shrub Stratum (Plot size: 10 ft dm)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		

Herb (Plot size: 6 ft dm)			
1. *Cirsium arvense*	5	No	FAC
2. *Agrostis sp.*	50	Yes	FAC
3. *Ranunculus acris*	15	No	FAC
4. *Plantago lanceolata*	15	No	FACU
5. *Anthoxanthum odoratum*	15	No	FACU
6.			
7.			
8.			
9.			
10.			
11.			
	100 = Total Cover		

Woody Vine Stratum (Plot size: ___)			
1.			
2.			
	= Total Cover		

% Bare Ground in Herb Stratum ___

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)
Total Number of Dominant Species Across All Strata: 1 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	
FACW species		x 2 =	
FAC species		x 3 =	
FACU species		x 4 =	
UPL species		x 5 =	
Column Totals:	(A)		(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation
X 2 - Dominance Test is >50%
___ 3 - Prevalence Index is ≤3.0[1]
___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
___ 5 - Wetland Non-Vascular Plants[1]
___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No ___

Remarks: Vegetation recently mown.

SOIL

Sampling Point: P9

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-5	10YR 3/3	100					Very fine sandy loam	
5-16	10YR 4/3	100					Very fine sandy loam	

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

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

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

Indicators for Problematic Hydric Soils[3]:

- ___ 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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ____ **No** **X**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): _____

Water Table Present? Yes ___ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): _____

Wetland Hydrology Present? **Yes** ____ **No** **X**

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

Remarks:

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

Project/Site: Bucko | City/County: Sedro-Woolley/Skagit | Sampling Date: 5/26/20
Applicant/Owner: Sarah Bucko | State: WA | Sampling Point: P10
Investigator(s): M. Harenda/A. Wones | Section, Township, Range: S23, T35N, R4E
Landform (hillslope, terrace, etc.): terrace | Local relief (concave, convex, none): none | Slope (%): 1%
Subregion (LRR): MLRA2 | Lat: 48.510794°N | Long: 122.247888° W | Datum: WGS 84
Soil Map Unit Name: Minkler silt loam | NWI classification: NA
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ___ (If no, explain in Remarks.)
Are Vegetation X , Soil ___ , or Hydrology ___ significantly disturbed? Are "Normal Circumstances" present? Yes X No ___
Are Vegetation ___ , Soil ___ , or Hydrology ___ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes	___	No	___
Hydric Soil Present?	Yes	___	No	X
Wetland Hydrology Present?	Yes	___	No	X

Is the Sampled Area within a Wetland? Yes ___ No X

Remarks: Recently mown.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 20 ft dm)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	= Total Cover		

Sapling/Shrub Stratum (Plot size: 10 ft dm)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		

Herb (Plot size: 6 ft dm)			
1. *Lawn grass*	98	Yes	
2. *Hypochaeris radicata*	2	No	FACU
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	100 = Total Cover		

Woody Vine Stratum (Plot size: ___)		
1.		
2.		
	= Total Cover	

% Bare Ground in Herb Stratum ___

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: ___ (A)
Total Number of Dominant Species Across All Strata: ___ (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: ___ (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	___	x 1 =	___
FACW species	___	x 2 =	___
FAC species	___	x 3 =	___
FACU species	___	x 4 =	___
UPL species	___	x 5 =	___
Column Totals:	___ (A)		___ (B)

Prevalence Index = B/A = ___

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation
___ 2 - Dominance Test is >50%
___ 3 - Prevalence Index is ≤3.0[1]
___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
___ 5 - Wetland Non-Vascular Plants[1]
X Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ___ No ___

Remarks: Vegetation recently mown lawn.

SOIL

Sampling Point: P10

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-8	10YR 3/3	100					Sandy loam	
8-12	10YR 3/3	99	5YR 4/6	1	C	M	Very fine sandy loam	Relict redox
12-16	2.5Y 4/2	85	2.5YR4/6	15	C	M	Very fine sand	Relict redox

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

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

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

Indicators for Problematic Hydric Soils[3]:

- ___ 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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks: *Most redox have sharp edges rather than diffuse boundaries and are hard thick masses.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): _____

Water Table Present? Yes ___ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): _____

Wetland Hydrology Present? **Yes** ___ **No** **X**

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

Remarks:

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

Project/Site: Bucko | City/County: Sedro-Woolley/Skagit | Sampling Date: 5/26/20
Applicant/Owner: Sarah Bucko | State: WA | Sampling Point: P11
Investigator(s): M. Harenda/A. Wones | Section, Township, Range: S23, T35N, R4E
Landform (hillslope, terrace, etc.): terrace | Local relief (concave, convex, none): none | Slope (%): 1%
Subregion (LRR): MLRA2 | Lat: 48.510695°N | Long: 122.248276° W | Datum: WGS 84
Soil Map Unit Name: Minkler silt loam | NWI classification: NA
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ___ (If no, explain in Remarks.)
Are Vegetation X , Soil ___ , or Hydrology ___ significantly disturbed? Are "Normal Circumstances" present? Yes X No ___
Are Vegetation ___ , Soil ___ , or Hydrology ___ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes	___	No	X
Hydric Soil Present?	Yes	___	No	X
Wetland Hydrology Present?	Yes	___	No	X

Is the Sampled Area within a Wetland? Yes ___ No X

Remarks: Recently mown.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 20 ft dm)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Pseudotsuga menziesii*	25	Yes	FACU
2.			
3.			
4.			
50% cover=12.5%; 20% cover=5%	25	= Total Cover	
Sapling/Shrub Stratum (Plot size: 10 ft dm)			
1.			
2.			
3.			
4.			
5.			
		= Total Cover	
Herb (Plot size: 6 ft dm)			
1. *Dactylis glomerata*	90	Yes	FACU
2. *Vicia sativa*	5	No	FACU
3. *Anthoxanthum odoratum*	5	No	FACU
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	100	= Total Cover	
Woody Vine Stratum (Plot size:)			
1.			
2.			
		= Total Cover	

% Bare Ground in Herb Stratum

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)
Total Number of Dominant Species Across All Strata: 0 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	
FACW species		x 2 =	
FAC species		x 3 =	
FACU species		x 4 =	
UPL species		x 5 =	
Column Totals:		(A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation
___ 2 - Dominance Test is >50%
___ 3 - Prevalence Index is ≤3.0[1]
___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
___ 5 - Wetland Non-Vascular Plants[1]
___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ___ No X

Remarks: Vegetation recently mown.

SOIL

Sampling Point: P11

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-5	10YR 2/2	100					Loam	
5-15	10YR 3/2	100					Sandy loam	

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

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

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

Indicators for Problematic Hydric Soils[3]:

- ___ 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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): _____

Water Table Present? Yes ___ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): _____

Wetland Hydrology Present? **Yes** ___ **No** **X**

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

Remarks: Very dry.

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

Project/Site: Bucko | City/County: Sedro-Woolley/Skagit | Sampling Date: 5/26/20
Applicant/Owner: Sarah Bucko | State: WA | Sampling Point: P12
Investigator(s): M. Harenda/A. Wones | Section, Township, Range: S23, T35N, R4E
Landform (hillslope, terrace, etc.): terrace | Local relief (concave, convex, none): none | Slope (%): 1%
Subregion (LRR): MLRA2 | Lat: 48.510369°N | Long: 122.247660°W | Datum: WGS 84
Soil Map Unit Name: Minkler silt loam | NWI classification: NA
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ___ (If no, explain in Remarks.)
Are Vegetation ___ , Soil ___ , or Hydrology ___ significantly disturbed? Are "Normal Circumstances" present? Yes X No ___
Are Vegetation ___ , Soil ___ , or Hydrology ___ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes	___	No	X
Hydric Soil Present?	Yes	___	No	X
Wetland Hydrology Present?	Yes	___	No	X

Is the Sampled Area within a Wetland? Yes ___ No X

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 20 ft dm)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	= Total Cover		

Sapling/Shrub Stratum (Plot size: 10 ft dm)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		

Herb (Plot size: 6 ft dm)			
1. *Dactylis glomerata*	80	Yes	FACU
2. *Trifolium pratense*	6	No	FACU
3. *Rumex obtusifolius*	2	No	FAC
4. *Schedonorus pratensis*	2	No	FACU
5. *Agrostis capillaris*	6	No	FAC
6. *Holcus lanatus*	2	No	FAC
7. *Phalaris arundinacea*	2	No	FACW
8.			
9.			
10.			
11.			
	100 = Total Cover		

Woody Vine Stratum (Plot size:)		
1.		
2.		
	= Total Cover	

% Bare Ground in Herb Stratum

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)
Total Number of Dominant Species Across All Strata: 1 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	
FACW species		x 2 =	
FAC species		x 3 =	
FACU species		x 4 =	
UPL species		x 5 =	
Column Totals:	(A)		(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation
___ 2 - Dominance Test is >50%
___ 3 - Prevalence Index is ≤3.0[1]
___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
___ 5 - Wetland Non-Vascular Plants[1]
___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ___ No X

Remarks:

SOIL

Sampling Point: P12

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-7	10YR 3/2	100					Sandy loam	
7-15	2.5Y 5/2	85	7.5 YR 4/6	15	C	M	Sand	Relict redox

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

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

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

Indicators for Problematic Hydric Soils[3]:

- ___ 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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ____ **No** **X**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present? Yes ____ No X Depth (inches): _____

Water Table Present? Yes ____ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ____ No X Depth (inches): _____

Wetland Hydrology Present? **Yes** ____ **No** **X**

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

Remarks: Very dry.

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

Project/Site: Bucko | City/County: Sedro-Woolley/Skagit | Sampling Date: 5/26/20
Applicant/Owner: Sarah Bucko | State: WA | Sampling Point: P13
Investigator(s): M. Harenda/A. Wones | Section, Township, Range: S23, T35N, R4E
Landform (hillslope, terrace, etc.): terrace | Local relief (concave, convex, none): none | Slope (%): 1%
Subregion (LRR): MLRA2 | Lat: 48.509994°N | Long: 122.250613°W | Datum: WGS 84
Soil Map Unit Name: Minkler silt loam | NWI classification: NA
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ___ (If no, explain in Remarks.)
Are Vegetation X , Soil ___ , or Hydrology ___ significantly disturbed? Are "Normal Circumstances" present? Yes X No ___
Are Vegetation ___ , Soil ___ , or Hydrology ___ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes	X	No	
Hydric Soil Present?	Yes		No	X
Wetland Hydrology Present?	Yes		No	X

Is the Sampled Area within a Wetland? **Yes** ___ **No** **X**

Remarks: Recently mown.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 20 ft dm)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	= Total Cover		

Sapling/Shrub Stratum (Plot size: 10 ft dm)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		

Herb (Plot size: 6 ft dm)			
1. *Phalaris arundinacea*	100	Yes	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	100 = Total Cover		

Woody Vine Stratum (Plot size:)			
1.			
2.			
	= Total Cover		

% Bare Ground in Herb Stratum ___

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)
Total Number of Dominant Species Across All Strata: 1 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	
FACW species		x 2 =	
FAC species		x 3 =	
FACU species		x 4 =	
UPL species		x 5 =	
Column Totals:	(A)		(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ 5 - Wetland Non-Vascular Plants[1]
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** **X** **No** ___

Remarks:

SOIL

Sampling Point: P13

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-16	10YR 3/2	100					Loam	

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

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

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

Indicators for Problematic Hydric Soils[3]:

- ___ 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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): _____

Water Table Present? Yes ___ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): _____

Wetland Hydrology Present? **Yes** ___ **No** **X**

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

Remarks: Very dry.

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

Project/Site: Bucko | City/County: Sedro-Woolley/Skagit | Sampling Date: 5/26/20
Applicant/Owner: Sarah Bucko | State: WA | Sampling Point: P14
Investigator(s): M. Harenda/A. Wones | Section, Township, Range: S23, T35N, R4E
Landform (hillslope, terrace, etc.): terrace | Local relief (concave, convex, none): none | Slope (%): 1%
Subregion (LRR): MLRA2 | Lat: 48.509994°N | Long: 122.250613°W | Datum: WGS 84
Soil Map Unit Name: Minkler silt loam | NWI classification: NA
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ___ (If no, explain in Remarks.)
Are Vegetation X , Soil ___ , or Hydrology ___ significantly disturbed? Are "Normal Circumstances" present? Yes X No ___
Are Vegetation ___ , Soil ___ , or Hydrology ___ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes	X	No	
Hydric Soil Present?	Yes		No	X
Wetland Hydrology Present?	Yes		No	X

Is the Sampled Area within a Wetland? **Yes** ___ **No** **X**

Remarks: Recently mown.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 20 ft dm)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	= Total Cover		

Sapling/Shrub Stratum (Plot size: 10 ft dm)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		

Herb (Plot size: 6 ft dm)			
1. *Phalaris arundinacea*	100	Yes	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	100 = Total Cover		

Woody Vine Stratum (Plot size:)			
1.			
2.			
	= Total Cover		

% Bare Ground in Herb Stratum ___

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)
Total Number of Dominant Species Across All Strata: 1 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	
FACW species		x 2 =	
FAC species		x 3 =	
FACU species		x 4 =	
UPL species		x 5 =	
Column Totals:	(A)		(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ 5 - Wetland Non-Vascular Plants[1]
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** **X** **No** ___

Remarks:

SOIL

Sampling Point: P14

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-16	10YR 3/2	100					Loam	

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

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

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

Indicators for Problematic Hydric Soils[3]:

- ___ 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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): _____

Water Table Present? Yes ___ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): _____

Wetland Hydrology Present? **Yes** ___ **No** **X**

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

Remarks: Very dry.

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

Project/Site: Bucko | City/County: Sedro-Woolley/Skagit | Sampling Date: 5/26/20
Applicant/Owner: Sarah Bucko | State: WA | Sampling Point: P15
Investigator(s): M. Harenda/A. Wones | Section, Township, Range: S23, T35N, R4E
Landform (hillslope, terrace, etc.): terrace | Local relief (concave, convex, none): none | Slope (%): 1%
Subregion (LRR): MLRA2 | Lat: 48.508558°N | Long: 122.248434°W | Datum: WGS 84
Soil Map Unit Name: Minkler silt loam | NWI classification: NA
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ___ (If no, explain in Remarks.)
Are Vegetation X , Soil ___ , or Hydrology ___ significantly disturbed? Are "Normal Circumstances" present? Yes X No ___
Are Vegetation ___ , Soil ___ , or Hydrology ___ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes	X	No	
Hydric Soil Present?	Yes		No	X
Wetland Hydrology Present?	Yes		No	X

Is the Sampled Area within a Wetland? **Yes** ___ **No** **X**

Remarks: Recently mown.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 20 ft dm)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	= Total Cover		

Sapling/Shrub Stratum (Plot size: 10 ft dm)			
1. *Rubus armeniacus*	3	Yes	FAC
2.			
3.			
4.			
5.			
	= Total Cover		

Herb (Plot size: 6 ft dm)			
1. *Anthoxanthum odoratum*	39	Yes	FACU
2. *Ranunculus acris*	20	Yes	FAC
3. *Agrostis capillaris*	60	Yes	FAC
4. *Cirsium arvense*	1	No	FAC
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	100 = Total Cover		

Woody Vine Stratum (Plot size: ___)			
1.			
2.			
	= Total Cover		

% Bare Ground in Herb Stratum ___

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)
Total Number of Dominant Species Across All Strata: 4 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 75 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	
FACW species		x 2 =	
FAC species		x 3 =	
FACU species		x 4 =	
UPL species		x 5 =	
Column Totals:		(A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ 5 - Wetland Non-Vascular Plants[1]
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** **X** **No** ___

Remarks:

SOIL

Sampling Point: P15

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-10.5	10YR 3/2	100					Ashy loam	
10.5-16	2.5Y 4/3	95	10YR 5/6	5	C	M	Fine sand	

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

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

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

Indicators for Problematic Hydric Soils[3]:

- ___ 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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): _____

Water Table Present? Yes ___ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): _____

Wetland Hydrology Present? **Yes** ___ **No** **X**

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

Remarks:

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

Project/Site: Bucko | City/County: Sedro-Woolley/Skagit | Sampling Date: 5/27/20
Applicant/Owner: Sarah Bucko | State: WA | Sampling Point: P16
Investigator(s): M. Harenda/A. Wones | Section, Township, Range: S23, T35N, R4E
Landform (hillslope, terrace, etc.): terrace | Local relief (concave, convex, none): none | Slope (%): 1%
Subregion (LRR): MLRA2 | Lat: 48.508822°N | Long: 122.248950°W | Datum: WGS 84
Soil Map Unit Name: Minkler silt loam | NWI classification: NA
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ___ (If no, explain in Remarks.)
Are Vegetation X , Soil ___ , or Hydrology ___ significantly disturbed? Are "Normal Circumstances" present? Yes X No ___
Are Vegetation ___ , Soil ___ , or Hydrology ___ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes	X	No	
Hydric Soil Present?	Yes		No	X
Wetland Hydrology Present?	Yes		No	X

Is the Sampled Area within a Wetland? Yes ___ No X

Remarks: Recently mown.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 20 ft dm)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	= Total Cover		

Sapling/Shrub Stratum (Plot size: 10 ft dm)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		

Herb (Plot size: 6 ft dm)			
1. *Anthoxanthum odoratum*	50	Yes	FACU
2. *Ranunculus acris*	3	No	FAC
3. *Ranunculus repens*	2	No	FAC
4. *Cirsium arvense*	3	No	FAC
5. *Plantago lanceolata*	2	No	FACU
6. *Schedonorus arundinaceus*	15	No	FAC
7. *Poa pratensis*	20	Yes	FAC
8.			
9.			
10.			
11.			
	100	= Total Cover	

Woody Vine Stratum (Plot size: ___)			
1.			
2.			
	= Total Cover		

% Bare Ground in Herb Stratum ___

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)
Total Number of Dominant Species Across All Strata: 2 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 50 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	
FACW species		x 2 =	
FAC species		x 3 =	
FACU species		x 4 =	
UPL species		x 5 =	
Column Totals:		(A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ 5 - Wetland Non-Vascular Plants[1]
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No ___

Remarks:

SOIL

Sampling Point: P16

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-11	10YR 4/2	100					Ashy loam	
11-17	2.5Y 4/3	97	10YR5/6	1-3	C	M	Ashy loam	

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

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

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

Indicators for Problematic Hydric Soils[3]:

- ___ 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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): _____

Water Table Present? Yes ___ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): _____

Wetland Hydrology Present? **Yes** ___ **No** **X**

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

Remarks:

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

Project/Site: Bucko | City/County: Sedro-Woolley/Skagit | Sampling Date: 05/27/20
Applicant/Owner: Sarah Bucko | State: WA | Sampling Point: P18
Investigator(s): M. Harenda/A. Wones | Section, Township, Range: S23, T35N, R4E
Landform (hillslope, terrace, etc.): terrace | Local relief (concave, convex, none): none | Slope (%): 1%
Subregion (LRR): MLRA2 | Lat: 48.508442°N | Long: 122.249966°W | Datum: WGS 84
Soil Map Unit Name: Field silt loam | NWI classification: NA
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ___ (If no, explain in Remarks.)
Are Vegetation X , Soil ___ , or Hydrology ___ significantly disturbed? Are "Normal Circumstances" present? Yes X No ___
Are Vegetation ___ , Soil ___ , or Hydrology ___ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes	X	No	
Hydric Soil Present?	Yes		No	X
Wetland Hydrology Present?	Yes		No	X

Is the Sampled Area within a Wetland? Yes ___ No X

Remarks: Recently mown.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 20 ft dm)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	= Total Cover		

Sapling/Shrub Stratum (Plot size: 10 ft dm)			
1. *Rubus armeniacus*	20	Yes	FAC
2.			
3.			
4.			
5.			
50% of TC=10%; 20% of TC=4%	20	= Total Cover	

Herb (Plot size: 6 ft dm)			
1. *Poa pratensis*	90	Yes	FAC
2. *Vicia sativa*	2	No	FACU
3. *Ranunculus repens*	3	No	FAC
4. *Schedonorus pratensis*	5	No	FACU
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	100	= Total Cover	

Woody Vine Stratum (Plot size: ___)		
1.		
2.		
	= Total Cover	

% Bare Ground in Herb Stratum ___

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)
Total Number of Dominant Species Across All Strata: 1 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	
FACW species		x 2 =	
FAC species		x 3 =	
FACU species		x 4 =	
UPL species		x 5 =	
Column Totals:		(A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ 5 - Wetland Non-Vascular Plants[1]
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No ___

Remarks:

SOIL

Sampling Point: P18

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-11	10YR 3/2	100					Loam	
11-16	10YR 5/3	100					Ashy loam	

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

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

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

Indicators for Problematic Hydric Soils[3]:

- ___ 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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): _____

Water Table Present? Yes ___ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): _____

Wetland Hydrology Present? **Yes** ___ **No** **X**

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

Remarks:

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

Project/Site: Bucko | City/County: Sedro-Woolley/Skagit | Sampling Date: 5/27/20
Applicant/Owner: Sarah Bucko | State: WA | Sampling Point: P19
Investigator(s): M. Harenda/A. Wones | Section, Township, Range: S23, T35N, R4E
Landform (hillslope, terrace, etc.): terrace | Local relief (concave, convex, none): none | Slope (%): 1%
Subregion (LRR): MLRA2 | Lat: 48.509596°N | Long: 122.251064°W | Datum: WGS 84
Soil Map Unit Name: Minkler silt loam | NWI classification: NA
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ___ (If no, explain in Remarks.)
Are Vegetation ___ , Soil ___ , or Hydrology ___ significantly disturbed? Are "Normal Circumstances" present? Yes X No ___
Are Vegetation ___ , Soil ___ , or Hydrology ___ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes	___	No	X
Hydric Soil Present?	Yes	___	No	X
Wetland Hydrology Present?	Yes	___	No	X

Is the Sampled Area within a Wetland? **Yes** ___ **No** **X**

Remarks: Recently mown.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 20 ft dm)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	= Total Cover		

Sapling/Shrub Stratum (Plot size: 10 ft dm)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		

Herb (Plot size: 6 ft dm)			
1. *Poa pratensis*	5	No	FAC
2. *Anthoxanthum odoratum*	90	Yes	FACU
3. *Equisetum arvense*	5	No	FAC
4. *Plantago lanceolata*	trace	No	FACU
5. *Lactuca serriola*	trace	No	FACU
6.			
7.			
8.			
9.			
10.			
11.			
	100 = Total Cover		

Woody Vine Stratum (Plot size: ___)		
1.		
2.		
	= Total Cover	

% Bare Ground in Herb Stratum ___

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)
Total Number of Dominant Species Across All Strata: 1 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	___	x 1 =	___
FACW species	___	x 2 =	___
FAC species	___	x 3 =	___
FACU species	___	x 4 =	___
UPL species	___	x 5 =	___
Column Totals:	___ (A)		___ (B)

Prevalence Index = B/A = ___

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation
___ 2 - Dominance Test is >50%
___ 3 - Prevalence Index is ≤3.0[1]
___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
___ 5 - Wetland Non-Vascular Plants[1]
___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** ___ **No** **X**

Remarks:

SOIL

Sampling Point: P19

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-14	10YR 3/3	100					Sandy loam	
14-16	10YR 4/2	98	7.5YR 5/6	2	C	M	Fine sand	Faint redox

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

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

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

Indicators for Problematic Hydric Soils[3]:

- ___ 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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): _____

Water Table Present? Yes ___ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): _____

Wetland Hydrology Present? **Yes** ___ **No** **X**

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

Remarks:

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

Project/Site: Bucko City/County: Sedro-Woolley/Skagit Sampling Date: 5/27/20
Applicant/Owner: Sarah Bucko State: WA Sampling Point: P20
Investigator(s): M. Harenda/A. Wones Section, Township, Range: S23, T35N, R4E
Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): none Slope (%): 1%
Subregion (LRR): MLRA2 Lat: 48.509870°N Long: 122.249614°W Datum: WGS 84
Soil Map Unit Name: Minkler silt loam NWI classification: NA
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ___ (If no, explain in Remarks.)
Are Vegetation ___ , Soil ___ , or Hydrology ___ significantly disturbed? Are "Normal Circumstances" present? Yes X No ___
Are Vegetation ___ , Soil ___ , or Hydrology ___ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes ___	No X	**Is the Sampled Area within a Wetland?**	**Yes ___ No X**
Hydric Soil Present?	Yes ___	No X		
Wetland Hydrology Present?	Yes ___	No X		

Remarks: Recently mown.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 20 ft dm)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	= Total Cover		

Sapling/Shrub Stratum (Plot size: 10 ft dm)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		

Herb (Plot size: 6 ft dm)			
1. *Dactylis glomerata*	40	Yes	FACU
2. *Anthoxanthum odoratum*	40	Yes	FACU
3. *Ranunculus repens*	20	Yes	FAC
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	100 = Total Cover		

Woody Vine Stratum (Plot size: ___)			
1.			
2.			
	= Total Cover		

% Bare Ground in Herb Stratum ___

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)
Total Number of Dominant Species Across All Strata: 3 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 33 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	
FACW species		x 2 =	
FAC species		x 3 =	
FACU species		x 4 =	
UPL species		x 5 =	
Column Totals:	(A)		(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation
___ 2 - Dominance Test is >50%
___ 3 - Prevalence Index is ≤3.0[1]
___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
___ 5 - Wetland Non-Vascular Plants[1]
___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ___ No X

Remarks:

SOIL

Sampling Point: P20

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-16	10YR 3/3	100					Sandy loam	

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

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

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

Indicators for Problematic Hydric Soils[3]:

- ___ 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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): _____

Water Table Present? Yes ___ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): _____

Wetland Hydrology Present? **Yes** ___ **No** **X**

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

Remarks:

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

Project/Site: Bucko | City/County: Sedro-Woolley/Skagit | Sampling Date: 5/27/20
Applicant/Owner: Sarah Bucko | State: WA | Sampling Point: P21
Investigator(s): M. Harenda/A. Wones | Section, Township, Range: S23, T35N, R4E
Landform (hillslope, terrace, etc.): terrace | Local relief (concave, convex, none): none | Slope (%): 1%
Subregion (LRR): MLRA2 | Lat: 48.509752°N | Long: 122.248265°W | Datum: WGS 84
Soil Map Unit Name: Minkler silt loam | NWI classification: NA
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ___ (If no, explain in Remarks.)
Are Vegetation ___ , Soil ___ , or Hydrology ___ significantly disturbed? Are "Normal Circumstances" present? Yes X No ___
Are Vegetation ___ , Soil ___ , or Hydrology ___ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes	X	No	
Hydric Soil Present?	Yes		No	X
Wetland Hydrology Present?	Yes		No	X

Is the Sampled Area within a Wetland? **Yes** ___ **No** **X**

Remarks: Recently mown.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 20 ft dm)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	= Total Cover		

Sapling/Shrub Stratum (Plot size: 10 ft dm)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		

Herb (Plot size: 6 ft dm)			
1. *Poa pratensis*	30	Yes	FAC
2. *Anthoxanthum odoratum*	70	Yes	FACU
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	100 = Total Cover		

Woody Vine Stratum (Plot size: ___)			
1.			
2.			
	= Total Cover		

% Bare Ground in Herb Stratum ___

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)
Total Number of Dominant Species Across All Strata: 2 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 50 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	
FACW species		x 2 =	
FAC species		x 3 =	
FACU species		x 4 =	
UPL species		x 5 =	
Column Totals:	(A)		(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ 5 - Wetland Non-Vascular Plants[1]
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** **X** **No** ___

Remarks:

SOIL

Sampling Point: P21

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-14	10YR 3/3	100					Loamy sand	
14-16	10YR 4/2	100					Sand	

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

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

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

Indicators for Problematic Hydric Soils[3]:

- ___ 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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): _____

Water Table Present? Yes ___ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): _____

Wetland Hydrology Present? **Yes** ___ **No** **X**

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

Remarks:

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

Project/Site: Bucko | City/County: Sedro-Woolley/Skagit | Sampling Date: 5/27/20
Applicant/Owner: Sarah Bucko | State: WA | Sampling Point: P22
Investigator(s): M. Harenda/A. Wones | Section, Township, Range: S23, T35N, R4E
Landform (hillslope, terrace, etc.): terrace | Local relief (concave, convex, none): none | Slope (%): 1%
Subregion (LRR): MLRA2 | Lat: 48.509015°N | Long: 122.247817°W | Datum: WGS 84
Soil Map Unit Name: Minkler silt loam | NWI classification: NA
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ___ (If no, explain in Remarks.)
Are Vegetation ___ , Soil ___ , or Hydrology ___ significantly disturbed? Are "Normal Circumstances" present? Yes X No ___
Are Vegetation ___ , Soil ___ , or Hydrology ___ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes	___	No	X
Hydric Soil Present?	Yes	___	No	X
Wetland Hydrology Present?	Yes	___	No	X

Is the Sampled Area within a Wetland? Yes ___ No X

Remarks: Recently mown.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 20 ft dm)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	= Total Cover		

Sapling/Shrub Stratum (Plot size: 10 ft dm)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		

Herb (Plot size: 6 ft dm)			
1. *Juncus effusus*	5	No	FACW
2. *Anthoxanthum odoratum*	30	Yes	FACU
3. *Festuca rubra*	25	Yes	FAC
4. *Ranunculus repens*	15	No	FAC
5. *Taraxacum officinale*	5	No	FACU
6. *Dactylis glomerata*	20	Yes	FACU
7.			
8.			
9.			
10.			
11.			
	100 = Total Cover		

Woody Vine Stratum (Plot size: ___)		
1.		
2.		
	= Total Cover	

% Bare Ground in Herb Stratum ___

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)
Total Number of Dominant Species Across All Strata: 3 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 33 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	
FACW species		x 2 =	
FAC species		x 3 =	
FACU species		x 4 =	
UPL species		x 5 =	
Column Totals:	(A)		(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation
___ 2 - Dominance Test is >50%
___ 3 - Prevalence Index is ≤3.0[1]
___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
___ 5 - Wetland Non-Vascular Plants[1]
___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ___ No X

Remarks:

SOIL

Sampling Point: P22

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-9.5	10YR 2/2	100					Sandy loam	
9.5-14	2.5Y 4/3	97	10YR 5/6	3	C	M	Ashy sandy loam	

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

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

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

Indicators for Problematic Hydric Soils[3]:

- ___ 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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ____ **No** **X**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present? Yes ____ No **X** Depth (inches): _____

Water Table Present? Yes ____ No **X** Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ____ No **X** Depth (inches): _____

Wetland Hydrology Present? **Yes** ____ **No** **X**

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

Remarks:

Appendix E: Critical Areas Impacts and Mitigation Plan

BASEMAP PLAN BY: RAVNIK & ASSOCIATES

Scale: 1"=100'

REFER TO ROAD CROSS-SECTION A-A "ONSITE STANDARD ROADWAY"

EXISTING CULVERT & GRAVEL DRIVEWAY TO REMAIN FOR UTILITY MAINTENANCE ACCESS.

THURMOND AVE

BUCKO AVENUE

THURMOND COURT

BRICKYARD CREEK TYPE 3

RIPARIAN STREAM BUFFER

PCA TRACT 2 (~166,999 SF)

PCA TRACT 1 (~14,046 SF)

11'3" X 65' ARCH CULVERT = 731 SF CREEK IMPACT

OPEN SPACE 1 TRACT 2824 SF

OPEN SPACE 2 TRACT 6624 SF

OPEN SPACE 3 TRACT 11,498 SF PARK

DUPLEX LOT 24 9787 SF

DUPLEX LOT 23 9583 SF

DUPLEX LOT 56 9005 SF

DUPLEX LOT 62 11,822 SF

TRACT K 8534 SF

POTENTIAL PUSH/BORE UNDER CRITICAL AREA*

REFER TO LANDSCAPE PLANS PREPARED BY ECCOS SYSTEMS FOR OPEN SPACE

NOTES:

1. BRICKYARD CREEK ORDINARY HIGH WATER MARK.
2. 110-FT STANDARD RIPARIAN BUFFER OF BRICKYARD CREEK.
3. REDUCED BUFFER ON EACH SIDE OF BRICKYARD CREEK (CORRESPONDS TO PCA BOUNDARIES). SEE SHEET M2 FOR ENHANCEMENT PLANTING AREAS.
4. INSTALL WATER AND SEWER LINES UNDER CREEK VIA EITHER TRENCHING (IF CREEK IS DRY AS APPROVED BY WDFW) OR PUSHING & BORING UNDER CREEK. RESTORE TO EXISTING GRADE W/ MIN 3' COVER. STABILIZE SURFACE SOILS AS NEEDED & SEED W/ EROSION CONTROL MIX.
5. INSTALL CULVERT IN BRICKYARD CREEK. SEE ENGINEERING PLANS FOR DETAILS.

TOTAL AREA OF RIPARIAN BUFFER REDUCTION (BETWEEN STANDARD BUFFER AND PCA BOUNDARY INC ROAD IMPACTS = **3.43 ACRES**

TOTAL AREA OF BUFFER ENHANCEMENT = **3.44 ACRES**

Date: Rev 7/7/2021

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Carnation, WA 98014
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SHEET M1 - CRITICAL AREAS IMPACTS AND MITIGATION PLAN

Bucko Estates
Sedro-Woolley, WA

Sheet: M1

BASEMAP PLAN BY: RAVNIK & ASSOCIATES

Scale: 1"=100'

REFER TO ROAD CROSS-SECTION A-A "ONSITE STANDARD ROADWAY"

EXISTING CULVERT & GRAVEL DRIVEWAY TO REMAIN FOR UTILITY MAINTENANCE ACCESS.

PLANTING AREA LABEL. SEE SHEETS M3 & M4 FOR PLANTING DETAILS.

NOTES:

1. BRICKYARD CREEK ORDINARY HIGH WATER MARK.
2. 110-FT STANDARD RIPARIAN BUFFER OF BRICKYARD CREEK.
3. ENHANCED REDUCED BUFFER ON EACH SIDE OF BRICKYARD CREEK.
4. INSTALL WATER AND SEWER LINES UNDER CREEK VIA EITHER TRENCHING (IF CREEK IS DRY AS APPROVED BY WDFW) OR PUSHING/BORING UNDER CREEK. RESTORE TO EXISTING GRADE W/ MIN 3' COVER. STABILIZE SURFACE SOILS AS NEEDED & SEED W/ EROSION CONTROL MIX.
5. INSTALL 11'3" X6 5' CULVERT IN BRICKYARD CREEK (~731 SF IMPACT AREA.) SEE ENGINEERING PLANS FOR DETAILS.

TOTAL AREA OF RIPARIAN BUFFER REDUCTION (BETWEEN STANDARD BUFFER AND PCA BOUNDARY INC ROAD IMPACTS = **3.43 ACRES**
TOTAL AREA OF BUFFER ENHANCEMENT = **3.44 ACRES**

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SHEET M2 - MITIGATION PLANTING AREAS

Bucko Estates
Sedro-Woolley, WA

Sheet: M2

				PLANT QUANTITIES					
				PLANTING AREAS (See locations on Sheet M2)					
COMMON NAME	**SCIENTIFIC NAME**	**STOCK TYPE**	**SPACING***	**AREA A - 8,743 SF**	**AREA B - 37,076 SF**	**AREA C - 34,674 SF**	**AREA D - 65,840 SF**	**AREA E - 3,473 SF**	**TOTALS**
TREES/LARGE SHRUBS									
Douglas fir	*Pseudotsuga menziesii*	2-gal container or min 18" bareroot	Min 10' o.c	10	70	60	80	5	225
Western red cedar	*Thuja plicata*	2-gal container or min 18" bareroot	Min 10' o.c	20	90	80	140	10	340
Sitka spruce	*Picea sitchensis*	2-gal container or min 18" bareroot	Min 10' o.c	10	60	50	100	10	230
Oregon ash#	*Fraxinus latifolia*	1-gal container or min 12" bareroot	Min 10' o.c	10	60	50	100	10	230
Pacific willow#	*Salix lasiandra*	Min 18" bareroot or 36" live stake	Min 10' o.c	25	100	50	250	10	435
Grand fir	*Abies grandis*	2-gal container or min 18" bareroot	Min 10' o.c	5	50	40	50	5	150
Vine maple	*Acer circinatum*	1-gal container or min 12" bareroot	Min 10' o.c	10	40	30	50	5	135
SHRUBS									
Redtwig dogwood#	*Cornus sericea*	1-gal container or min 12" bareroot	See Sheet M4	20	80	50	130	10	290
Sitka willow#	*Salix sitchensis*	Min 18" bareroot or 36" live stake	See Sheet M4	20	80	50	130	10	290
Nootka rose	*Rosa nutkana*	1-gal container or min 12" bareroot	See Sheet M4	30	110	150	270	10	570
Snowberry	*Symphoricarpos albus*	1-gal container or min 12" bareroot	See Sheet M4	40	110	150	270	10	580
Red flowering currant	*Ribes sanguineum*	1-gal container or min 12" bareroot	See Sheet M4	20	120	150	270	10	570
Twinberry	*Lonicera involucrata*	1-gal container or min 12" bareroot	See Sheet M4	10	120	150	270	10	560
			TOTALS	230	1090	1060	2110	115	4605

NOTES:

TARGET PLANTING SURVIVAL DENSITIES ARE 400 TREES/ACRE AND 600 SHRUBS/ACRE. PLANT QUANTITIES IN EACH PLANTING AREA WERE INFLUENCED BY LOCAL SITE CONDITIONS INCLUDING TOPOGRAPHY, PROXIMITY TO BRICKYARD CREEK, ASPECT, AND SOIL CONDITIONS.

#OREGON ASH, WILLOW, AND DOGWOOD SPECIES SHOULD BE PLANTED WITHIN 0-20' HORIZONTAL DISTANCE FROM EDGE OF BRICKYARD CREEK.

* SEE PLANT SPACING TYPICAL AND NOTES ON SHEET M4.

Date: 7/7/2021

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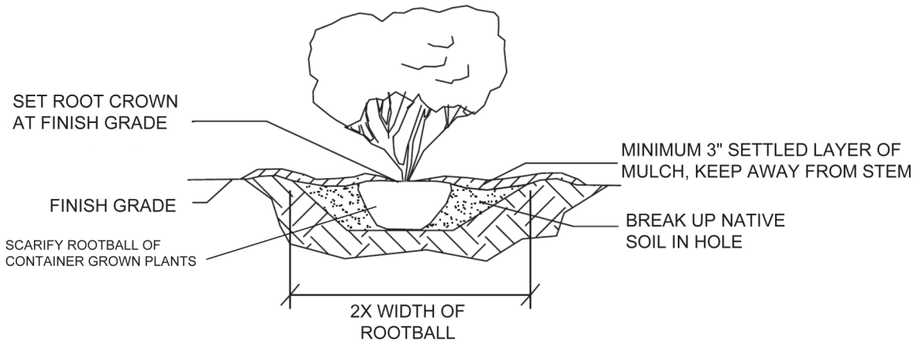
SHEET M3 – PLANT SCHEDULE

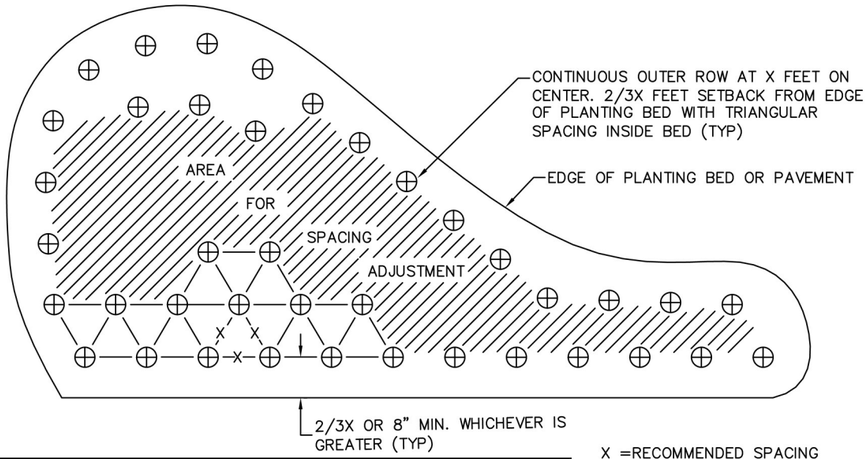
Bucko Estates
Sedro-Woolley, WA

Sheet: M3



TYP. TREE/SHRUB PLANTING: INDIVIDUAL PLANTING HOLE

NOT TO SCALE



NOTES ON PLANT SPACING: PLANTS CAN BE PLANTED IN IRREGULAR/ CLUMPED PATTERN TO MIMIC NATURAL CONDITIONS.
MIN SPACING BETWEEN TREES;/LARGE SHRUBS = 10' O.C.
OVERALL AVERAGE SPACING FOR SHRUBS IS 6.5' O.C TO ANY OTHER PLANT.

Planting Pattern

SCALE: Not to Scale

MITIGATION AND PLANTING NOTES

1. ALL WORK SHALL BE PERFORMED BY PERSONS FAMILIAR WITH THIS KIND OF WORK AND UNDER THE DIRECTION OF A QUALIFIED SUPERVISOR.
2. PLANT SIZING AND QUALITY STANDARDS SHALL CONFORM TO THE CURRENT EDITION OF THE AMERICAN STANDARD FOR NURSERY STOCK, PUBLISHED BY THE AMERICAN NURSERY AND LANDSCAPE ASSOCIATON.
3. ALL PLANT MATERIAL SHALL BE NURSERY STOCK AND LOCALLY GROWN OR REGIONALLY ACCLIMATIZED TO THE PACIFIC NORTHWEST. PLANT MATERIAL SHALL EXHIBIT NORMAL HABITS OF GROWTH FOR THE SPECIES, SHALL HAVE BUDS INTACT AND SHALL BE FREE OF DISEASE, INSECTS, SCARS, BRUISES, BREAKS, AND WEED AND SEED ROOTS.
4. MITIGATION ENHANCEMENT AREAS SHOULD BE PLANTED AS SHOWN PER SHEET M2 AND THE PLANT SCHEDULE ON SHEET M3. REFER TO CONSTRUCTION PLANS PREPARED BY RAVNIK AND ASSOCIATES FOR LOT AND TRACT DIMENSIONS AND MEASUREMENT REFERENCES. SPECIES SUBSTITUTIONS SUBJECT TO APPROVAL BY THE PROJECT BIOLOGIST.
5. GRUB BLACKBERRY AND REED CANARY GRASS THICKETS PRIOR TO PLANTING. MOW REST OF ENHANCEMENT PLANTING AREA PRIOR TO PLANTING. DECOMPACT SURFACE SOILS AS NEEDED PRIOR TO PLANTING.
6. FOR CONTAINER PLANTS, SCORE FOUR SIDES OF ROOTBALL PRIOR TO PLANTING. BUTTERFLY ROOTBALL IF ROOT CIRCLING IS EVIDENT.

MAINTENANCE, CONTINGENCY AND MONITORING NOTES

1. SEE MITIGATION PLAN REPORT PREPARED BY ESSENCY ENVIRONMENTAL FOR INFORMATION ON PERFORMANCE STANDARDS, MONITORING REQUIREMENTS AND DETAILS, AND FINANCIAL
2. GUARANTEE REQUIREMENTS FOR MITIGATION.
3. PLANT MAINTENANCE ACTIVITIES SHOULD INCLUDE IRRIGATION, WEED AND INVASIVE/NON-NATIVE SPECIES CONTROL, MULCH REPLACEMENT, AND REPLANTING AS NECESSARY ON A SCHEDULE SUFFICIENT TO ACHIEVE PERFORMANCE STANDARDS.
4. CONTINGENCY ACTIONS: SEE MITIGATION PLAN REPORT PREPARED BY ESSENCY ENVIRONMENTAL FOR INFORMATION ON CONTINGENCY MEASURES AND ACTIONS.

Date: Rev 7/7/21

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SHEET M4 – PLANTING AND MITIGATION NOTES

Bucko Estates
Sedro-Woolley, WA

Sheet: M4