Critical Areas Report

MILL CREEK INDUSTRIAL

MILL CREEK, WA

October 10, 2024

Prepared for:

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FACET

Title-page image: Skunk cabbage within wetland onsite.

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1 Introduction

1.1 Background and Purpose

This report has been prepared to document compliance of the Mill Creek Industrial project with the requirements of the Mill Creek Municipal Code (MCMC) 18.06 Environmentally Critical Areas. The project proponent, 17200 Mill Creek, LLC, is proposing construction of a warehouse storage building, parking, and associated utilities. Buffer averaging is proposed to accommodate the development, with buffer enhancement as additional compensatory mitigation. Restoration of temporary buffer impacts is also proposed. Mitigation sequencing and proposed compensatory mitigation ensure no net loss of critical area functions.

This report references information from accompanying existing condition studies, including a wetland and stream assessment by Facet, dated July 23, 2024 (Appendix B), and a tree inventory and arborist memorandum prepared by Facet, dated October 8, 2024. Geotechnical findings related to slope stability, soil quality, and hazards are addressed separately in the project geotechnical report.

1.2 Location

The project is located west of the Bothell-Evertt Highway within the City of Mill Creek (parcel 00602000000700). It is situated within Section 07 of Township 27 North, Range 05 East of the Public Land Survey System. A vicinity and project area map are provided below in Figure 1.

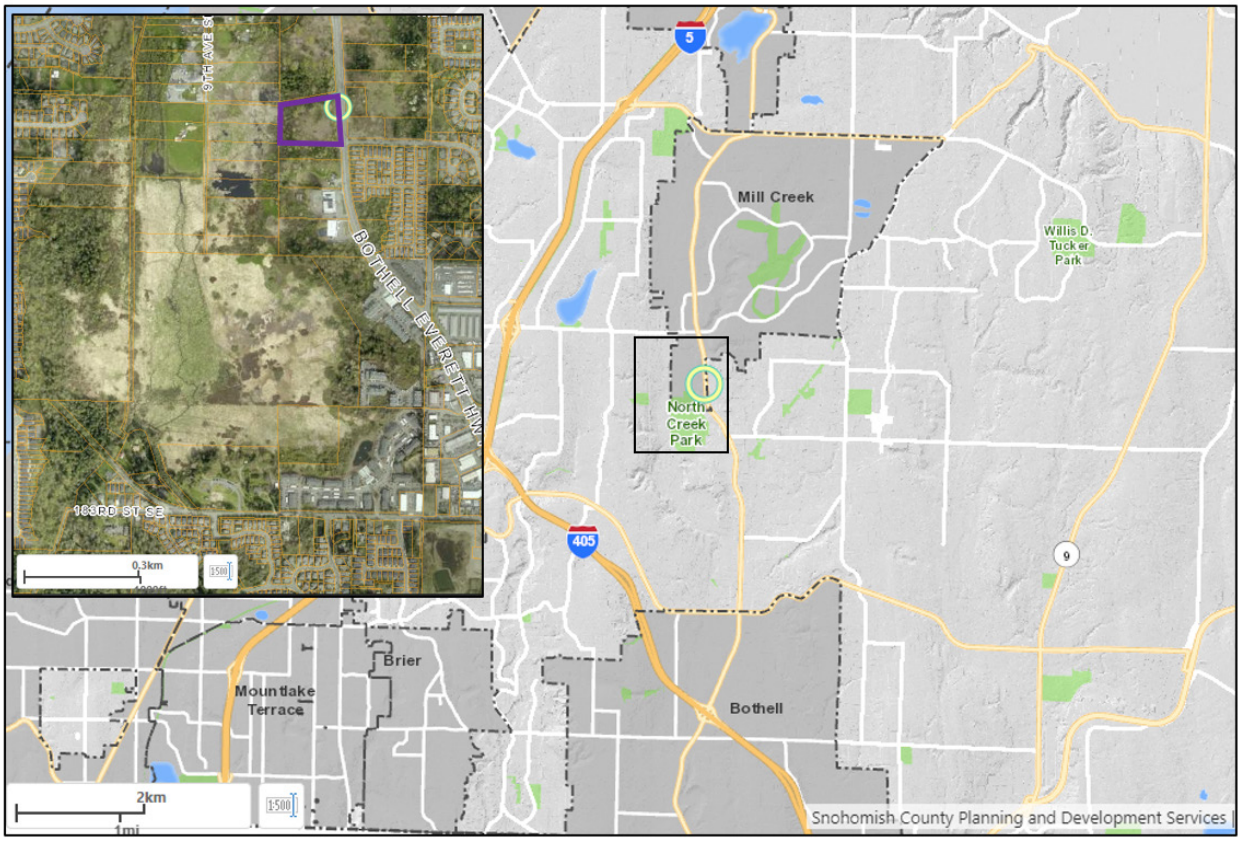

Figure 1. Vicinity and subject parcel map. Subject parcel outlined in purple.

1.3 Methods

A wetland and stream assessment conducted by Facet to document existing site conditions was completed on July 23rd, 2024 (Appendix B). Mill Creek Municipal Code (MCMC) 18.06 – Environmentally Critical Areas (current through Ordinance No. 2023-905, passed January 2, 2024) was reviewed and evaluated to provide a professional opinion on whether the project complies with applicable regulations. Critical area evaluations and mitigation design are prepared in conjunction with scientific literature regarded as best available science including but not limited to Granger et al. (2005), Hruby et al. (2009), Hruby (2012), Rentz et al. (2020), Sheldon et al. (2005), Quinn et al. (2020), the Washington State Department of Ecology et al. (2006), and the Washington State Department of Ecology et al. (2021). Publicly available databases and inventories were also reviewed as applicable.

2 Existing Conditions

2.1 Landscape Position

The Mill Creek, LCC, development is within the North Creek sub-basin of the Cedar - Sammamish Water Resource Inventory Area (WRIA 8). It is located northeast of North Creek Park, in the southern portion of Mill Creek. The site has a flat terrace that steeply slopes down to the north, south, and west.

Land use in the vicinity includes undeveloped parcels, agriculture, aquatic areas, and residential parcels. The subject property is undeveloped but has been partially cleared and used to deposit large amounts of fill soil in the past. As a result, habitat within these disturbed areas of the parcel are highly degraded. The parcel is adjacent to North Creek Park and an extensive wetland system to the southwest extending north into privately owned land.

2.2 Site Description

The undeveloped property is approximately 4.56 acres in size. The central portion of the property is a flat terrace, created from imported fill material. Steep slopes around the perimeter of the terrace are forested and lead down to a large wetland that extends through North Creek Park (Wetland A). Poor top-soil conditions were noted throughout the central terrace, with large bare patches of clay soil mixed with gravel and cobble also observed. The vegetation in the central disturbed portion of the parcel consists of thickets of invasive Himalayan blackberry (*Rubus armeniacus*) and scotch broom (*Cytisus scoparius*). Black cottonwood (*Populus balsamifera)* trees line the margins of the forested slope. The slopes are dominated by a canopy of black cottonwood and red alder (*Alnus rubra)* with osoberry (*Oemleria cerasiformis)*, salmonberry (*Rubus spectabilis*), Himalayan blackberry, and trailing blackberry (*Rubus ursinus)* in the understory.

Figure 2. View of bare patch along the northern section of the flat terrace (01/16/2024).

Figure 3. View looking north at the slopes along the margin of the flat terrace (01/16/2024).

2.3 Critical Areas

2.3.1 Wetlands

One wetland (Wetland A) is present on the subject property. Wetland A is part of a large wetland that spans North Creek Park and is approximately 200 acres in size. Only a comparably small portion of the wetland is located on the subject property. Wetland A is Category I wetland that has depressional, riverine, and slope hydrogeomorphic classifications ; it is considered depressional for wetland rating purposes. Wetland A contains palustrine emergent, scrub-shrub, and forested Cowardin vegetation classes. The onsite portion of the wetland is found at the base of the steep slopes that wrap the central terrace. Additional information is provided in the wetland delineation report (Appendix B).

The existing conditions of the project-facing buffers for Wetland A were evaluated during site visits in June 2023 and January 2024. The buffer area for Wetland A is highly degraded due to past clearing, poor soil conditions, and a high density of invasive vegetation. The southern areas of the buffer are the most intact, with a slightly higher density of native vegetation and tree cover observed. Dense invasive vegetation was also found in the southern areas.

Figure 4. View looking east at the degraded buffer area in the north central portion of site (1/16/2024).

2.3.2 Fish and Wildlife Habitat Areas

Fish and wildlife habitat conservation areas (FWHCAs) are important for maintaining populations of species and their suitable habitats within their natural geographic distribution such that the habitat available is sufficient to support viable populations over the long term and isolated subpopulations are not created. The following are designated as FWHCAs in Mill Creek.

- Streams, lakes, ponds, and other water bodies and their associated riparian habitat areas
- Non-riparian habitat areas that support or have a primary association with:
    - State or federally designated endangered, threatened, and sensitive species; or
    - State priority habitats and areas associated with state priority species; or
    - Habitats and species of local importance, including habitat corridors connecting habitat blocks and open spaces.

2.3.2.1 *Streams*

One stream, Stream A, is found within the subject property and flows west towards Wetland A through the northern portion of the site. This stream section is short (approximately 150 feet) and loses channel definition through Wetland A. Stream A has a bank full width of approximately three feet on average, is up to six inches down cut in some locations, and has dense overhanging vegetation including red alder, salmonberry, vine maple (*Acer circinatum*), and skunk cabbage *(Lysichiton americanus*). Substrate consists of sorted gravel and sand above mucky soils. Abundant woody debris is present in and around the stream.

Figure 5. View looking west at Stream A. 06/15/2023

2.3.2.2 *Priority Habitats and Species, and Federal or State Endangered, Threatened, or Sensitive Species*

The proposed development is located within the highly degraded area of the property that does not contain suitable habitat for federal or state endangered, threatened, sensitive, or candidate species that have a known presence in Snohomish County. The Washington PHS list includes a wide range of species including some habitat generalists that may use cleared degraded sites but do not have a primary association. For example, Columbia black-tailed deer and priority bat species both use forest edges for foraging and could potentially be found in very degraded habitats. Western toads are also habitat generalists during the terrestrial portion of their life cycles and can be found in forests, shrubby sites, and grasslands. Western bumblebee can also be found in any site with floral nectar and can utilize invasive plants. Though these, and other priority species, could potentially be found at the site, habitat quality is very low and does not meet the intent of the critical area definition in our opinion. No habitats considered to be of primary association with any priority species are present on the subject property.

However, Wetland A and Stream A are associated with the North Creek Wetland and are part of a relatively large habitat unit area that does contain listed species. This area, including a portion of the forest on-site, is designated as a biodiversity area by WDFW. This area includes habitat for listed salmon species that utilize Nickle Creek, which is located approximately 130 feet from the property boundary. Coho salmon are documented within Nickel Creek, and the Statewide Washington Integrated Fish Distribution list the stream as gradient accessible for Chinook, sockeye, winter steelhead, and resident coastal cutthroat. However, due to the lack of channel definition within Wetland A and lack of standing water within the onsite portion of the wetland, there is no access for these species to enter Stream A and the subject parcel. This area also supports priority habitats, such as mature forests, snag and log rich areas, riparian and instream, and potentially suitable habitat for western toad, cavity nesting ducks, PHS-listed waterfowl, PHS-listed bats including roosting concentrations, Columbia black-tailed deer, and western bumblebee.

2.3.3 Geologically Hazardous Areas

Geologically hazardous areas are regulated as critical areas by Mill Creek but are not included in the scope of this assessment, as Facet does not provide geotechnical services. These critical areas will be assessed by the project geotechnical consultant.

3 Applicable Regulations

3.1 Local Regulations

3.1.1 Wetlands

Wetlands and streams in Mill Creek are regulated according to Mill Creek Municipal Code (MCMC) 18.06 – Environmentally Critical Areas. Wetlands are classified according to the 2014 Washington State Wetland Rating System for Western Washington in which a wetland is assigned a category of one to four, and a habitat score from three through nine. Buffers in Mill Creek are determined according to the wetland category, habitat score, and intensity of the proposed land use. Mill Creek defines low impact and high impact land use as follows (MCMC 18.06.210 – *Definitions).*

"Low impact land use" *means land uses which are not likely to have a significant adverse impact to critical areas because of the intensity of the use, levels of human activity, limited use of machinery or chemicals, site design, and other factors identified in this chapter. Examples include passive open space tracts and detention/retention ponds."*

"High impact land use" *means land uses likely to have a significant adverse impact to critical areas because of the intensity of the use, levels of human activity, use of machinery or chemicals, presence of domesticated animals, or the presence of light and noise. Examples include parking lots; buildings and yard areas of residential, commercial, and business park developments; private and public streets; active use parks and recreation facilities; and other uses/activities that are likely to significantly impact critical areas."*

The proposed storage unit and parking areas fall under the definition of high impact land use. Should this project meet the minimization requirements of Table IX.2 – *Required Measure to Minimize Impacts to Wetlands*, then a 110-foot buffer is required (MCMC 18.06.930). If the applicant does not meet the minimization requirements, then a 150-foot buffer is required. The 17200 Mill Creek, LLC project has committed to adhering to the measures to minimize impacts to wetlands. This is outlined in Section 9.

3.1.1.1 *Streams*

All streams other than North Creek and Tambark Creek, have standard buffers of 75 feet, regardless of the land use or mitigation measures (MCMC 18.06.1050).

The Wetland A buffer is the most encumbering critical area buffer associated with the development.

3.1.1.2 *Buffer Averaging*

Per MCMC 18.06.930 (C), buffer averaging may only be allowed upon the demonstration that the total area contained in the buffer area after averaging is no less than that which would be contained within the standard buffer; the buffer averaging does not reduce the functions or values of the wetland; the portion of the buffer reduced through buffer averaging is less than 25 percent of the total buffer length on a project site; the wetland contains variations in sensitivity due to existing physical characteristics or the character of the buffer varies in slope, soils, or vegetation; and the buffer width shall not be reduced to less than 75 percent of the standard width, and in no case shall the reduced portion of the buffer be less than the width minimum buffer width outlined in Table IX.3 in the MCMC.

3.1.1.3 *Wetland Buffer Uses*

Most development or activities proposed in established wetland buffer areas are prohibited unless specifically allowed under MCMC 18.06.940, such as passive recreation, stormwater management facilities, or restoration activities. Because the proposed 17200 Mill Creek, LLC, development does not qualify as an allowed activity under MCMC 18.06.940, buffer averaging will is proposed for this project. See Appendix A for the buffer averaging plan.

3.1.1.4 *Protected Species and Habitats*

State and federally listed species and WDFW priority habitats and species are protected as fish and wildlife habitat conservation areas, see Section 2.3.3. Most species and habitats are regulated on a case-by-case basis since no standardized regulations exist for the myriad species which could be present in the region. For aquatic species such as fish and amphibians, the buffers around streams and wetlands are intended to be sufficient to protect the habitats of associated listed species. The project will comply with all applicable buffer regulations and, therefore, will not affect the species which occupy those habitats.

The property contains a biodiversity area which may also provide habitat for other priority species as listed in Section 2.3.3. According to MCMC 18.06.1060, buffers must be established for non-riparian habitat areas, but no standardized widths are provided. In this circumstance, the wetland buffer is believed to be sufficient to protect all the remaining habitat because it encompasses the entire biodiversity areas and extends well into the degraded terrace on the property. Additionally, portions of the wetland buffer will be enhanced to increase habitat suitability for most species onsite. WDFW does not include regulatory buffers for biodiversity areas, so this approach is more protective than state recommendations. This buffer and the quantity of retained habitat is believed to be sufficient for other PHS species which could potentially occupy the forest. There are no individually identified species that are highly

sensitive to disturbance that are believed to be present and would warrant protection greater than the buffers already established.

4 Project Approach

4.1 Project Description

17200 Mill Creek, LLC, is proposing to construct a metal framed warehouse, parking facilities, and associated utilities. Frontage improvements are proposed, including a paved access and sidewalks off Bothell-Everett Highway and landscaping. The site will be graded to prepare the site for development.

Based on geotechnical constraints identified by the project engineering team, the warehouse structure is planned as far south as possible. Buffer averaging is is proposed to accommodate the warehouse location and associated parking.

Stormwater will be routed through drainage pipes underneath the parking lot and held in a detention vault that leads to the municipal stormwater system along the Bothell-Everett Highway. One drainage pipe temporarily impacts the northeastern wetland buffer. This wetland buffer crossing will be restored following installation of the new drainage system and is necessary to connect to the municipal stormwater network. Treatment will meet the minimum requirements of the applicable stormwater manual. Another proposed underground utility line encroaches into wetland buffer south of the subject property on lot 27050700401000. This will also eventually connect to the municipal sewage system to the south and will be restored following installation.

4.2 Measures to Minimize Impacts to Wetlands

The project will minimize wetland impacts by implementing the following measures listed in Table 1, below. This ensures that the standard buffer of 110 feet for Wetland A is allowed. Activities specific to the project listed in Table IX.2 of MCMC 18.08.930 are discussed.

Table 1. Measures to Minimize Wetland Impacts

Disturbance	Activities and Uses That Cause Disturbances	Measures to Minimize Impacts
Lights	• Parking Lot • Commercial Building (warehouse)	• Direct lights away from wetland. • Use lower-intensity LED lighting. • Dim light to the lowest acceptable intensity.
Noises	• Parking lot • Noises associated with daily activity at the warehouse	• Plant a strip of dense shrub vegetation adjacent to wetland buffer. • OR construct a fence to reduce noise impacts on adjacent wetland and buffer.
Toxic Runoff	• Parking lot • Commercial Building (warehouse)	• New runoff from impervious surfaces will go through a detention vault prior to entering the City stormwater system, and meet minimum standards for the applicable stormwater manual.
Stormwater Runoff	• Parking lot • Commercial Building (warehouse)	• New runoff from impervious surfaces will go through a detention vault prior to entering the City stormwater system, and meet minimum standards for the applicable stormwater manual.
Pets and Human Disturbance	• Parking lot • Commercial Building (warehouse) • Sidewalk	• A split-rail fence and critical area signs will be installed to discourage intrusion.
Dust	• Parking lot • Sidewalk	• Routinely sweep or clean parking lots of sediments and debris.

4.3 Buffer Averaging

The proposed buffer averaging will accommodate development by reducing 534 square feet of the Wetland A buffer along the southern and western area of the terrace. The buffer area to be reduced is currently undeveloped but is highly degraded, having poor soil quality, and a high-density of invasive vegetation cover. A wetland buffer addition larger than the area of

decreased buffer, totaling 619 square feet, is proposed along the southern and western terraced area to ensure no net loss to the wetland buffer area. The proposed buffer addition is of similar quality to the remaining buffer and the buffer area to be reduced. The buffering averaging plan improves wetland protection by increasing wetland buffer area compared to the standard buffer requirements. Additionally, enhancement will be completed along the perimeter of the wetland boundary as outlined in Section 5 below.

4.4 Permanent and Temporary Impacts

Frontage improvements will result in 646 square feet of permanent buffer impacts along the eastern parcel boundary. This area will be mitigated through wetland buffer enhancement as outlined below.

Minor grading, and construction of the drainage pipe to the north result in 3,087 square feet of onsite temporary wetland buffer impacts. The minor grading will extend into the buffer along the perimeter of the project area to support development of the proposed parking lot and warehouse. Grading in the buffer is anticipated to result in temporary impacts to existing vegetation, which is nearly entirely invasive and non-native. This also includes minor fill in the critical root zones of a few trees, though trees will be retained, and no ecological impacts are anticipated. See arborist report for additional information regarding tree impacts. Once grading is complete, these areas will be restored in place and replenished with a suitable planting substrate and revegetated with native plants to similar or better conditions than current conditions.

Another proposed underground utility line encroaches into wetland buffer south of the subject property on lot 27050700401000 temporarily impacting 2,378 square feet of offsite wetland buffer. This area will be restored in place and replenished with a suitable planting substrate and revegetated with native plants to similar or better conditions than current conditions.

5 Mitigation

Mitigation for the project includes a combination of wetland buffer enhancement and restoration in-place. The wetland buffer enhancement area is 5,090 square feet and is located around the perimeter of the wetland buffer. This area includes all areas where grading occurs in the buffer and is expanded to also compensate for all permanent impacts associated with frontage improvement and long-term temporary impacts to native forest at a ratio greater than 1:1. The mitigation ratio for enhancement to the sum of these impacts, 4,693 square feet, is approximately 1.1:1.

Enhancement includes soil amendment and planting with a native forest plant community in the perimeter around the development. This area was chosen for enhancement due to its proximity to the development area, which allows it to have the greatest effect in mitigating project impacts. These areas also have sparse native vegetation cover, with opportunity for native planting. The mitigation area will be enhanced through invasive species removal, soil amendment and decompaction, and planting native trees, shrubs and groundcover. The existing low-quality soil will be decompacted to a depth of three feet, and it will be amended with six inches of topsoil and three inches of compost, mixed to 18 inches.

All temporary impact areas will also be restored in-place to match existing conditions, totaling 2,662 square feet. Of these, 960 square feet will be restored to native forest and the remaining 1,702 square feet will be restored to lawn. The total combined planting area of enhancement and restoration is 7,752 square feet. This will increase the habitat function onsite and increase the buffer's ability to mitigate disturbance from the proposed development. See the detailed mitigation plan in Appendix A for a full list of details, objectives, and performance standards.

5.1 Mitigation Sequencing

Avoidance: No direct wetland or stream impacts are proposed. However, full avoidance of wetland buffer impacts is not feasible given the large area that Wetland A's buffer encumbers on the site and the warehouse needs to meet specific dimensions to meet the applicant's development requirements. The only impact to occur within the modified Wetland A buffer is minor grading along the periphery, and placement of a small section of a stormwater pipe, and sewer pipe, all of which will be enhanced or restored in place.

Minimization: The project has been designed to limit the construction footprint to the minimum necessary to achieve the required size objectives. The project will implement TESC measures and spill prevention measures during construction and will comply with all the minimization measures described in Table 1.

Mitigation: A buffer averaging and enhancement plan has been designed to improve buffer functions. See Appendix A for the Mitigation Plan set. A functional analysis is provided in Section 6 that demonstrates there will be no net loss of critical area function.

Monitoring: The mitigation area will be monitored according to the mitigation plan to ensure a successful establishment of the mitigation area. This includes a minimum maintenance and monitoring period of five years. See Appendix A for the Mitigation Plan set for the mitigation notes.

6 Buffer Functional Analysis

By minimizing and mitigating impacts through buffer averaging and a buffer enhancement plan, the project has been designed to result in no net loss of ecological function. This section includes a qualitative and semi-quantitative evaluation of how the project will affect several categories of critical area. A buffer functional analysis is provided to support the buffer averaging plan.

6.1.1 Wetland Buffer Functions (Indirect Effects)

Critical area buffers provide a variety of ecosystems services functions which directly and indirectly improve wetland and instream conditions, also typically categorized under the umbrella of water quality, hydrology (water quantity), and habitat functions. This analysis only considers project effects that occur in the buffer.

Water Quality

There are numerous processes facilitated by vegetated buffers that improve water quality such as shading, bioretention and bioremediation of contaminants, and infiltration of stormwater. Water temperature can be improved and reduced through the shade from large trees and shrubs, which supports a cooler microclimate. Water chemistry can also be improved through infiltration and percolation of pollution laden stormwater through soils, which promotes the settling of sediments (which may contain bonded contaminant particulates or increase downstream turbidity) and/or provide an interface for bioremediation facilitated by soil biota. Enhanced filtering and a lowering of the velocity of surface water (either concentrated or sheet flow) is also supported by areas with dense ground-level vegetation or areas with a high degree of surface roughness (such as surface roots, woody debris, thick duff layer, and micro depressions). Well established vegetation also serves to foster healthy soil conditions over time which may improve infiltration capacity in the long-term.

The mitigation plan will result in a net improvement of water quality functions since it will eventually increase the amount and structure of native trees, shrubs, and groundcover once they mature. There may be a minor short-term decrease in buffer function due to grading activities temporarily reducing existing vegetation cover f. However, once the planted vegetation establishes, water quality functions onsite will be improved. Stormwater from the development is also designed to meet applicable regulations and will be diverted into the municipal stormwater system.

Hydrology (Water Quantity)

Critical area buffers have varying capacity for hydrology benefits depending on site conditions, landscape position, and size relative to the contributing basin. The hydrology functions of

critical area buffers are similar to most other terrestrial lands but are more directly apparent due to the position adjacent to wetlands and streams. When natural buffers are compacted or converted to impervious surface, a large quantity of runoff is rapidly conveyed to streams, rather than infiltrating into soils and recharging groundwater. This can be avoided or reduced by fostering healthy buffer soils and vegetation that allow for infiltration, rainwater interception by vegetation, evapotranspiration, and reduce erosion. Rainwater interception and evapotranspiration improve with high levels of vegetative biomass, complex vertical structure (such as a multi-layered strata), and large canopy trees. Evergreen trees retain greater leaf surface area and can intercept more rainwater than deciduous trees during the wet season.

Project impacts regarding buffer hydrology are anticipated to be net positive. As noted above, the enhancement area will result in more vegetative cover and improve soil infiltration capacity compared to existing conditions.

Habitat

Critical area buffers and riparian ecosystems provide habitat for flora and fauna that contribute to biodiversity and abundance. Not only do buffers improve the quality of wetlands and streams, but they also provide a terrestrial habitat component that is necessary for the life cycle of many water-dependent and water-associated species. Ecological features which are closely linked with biodiversity and abundance include habitat structure and complexity, connectivity with other ecosystems, sources of food and water, and the presence of appropriate microclimates (Knutson and Naef 1997). Vegetated buffers contribute directly to aquatic areas by improving microclimate conditions (shading, cooling, humidity, and reducing wind speed, etc.), introduction of dead wood, allochthonous input, and providing wildlife corridors. Common habitat components that support terrestrial faunal life cycle phases include snags and logs (nesting, denning, foraging, and refugia), food resources (edible plant parts such as fruit, foliage, and roots, or abundant prey species), plant cover (refuge from weather conditions and predators), and vertical and horizontal structural complexity (niche habitat availability, interspersion, and three-dimensional space). Native plants are recognized for their benefits in supporting wildlife habitat because they have supported and coevolved with native wildlife populations. In an urban landscape, both native and introduced plant species play an ecological role as habitat, often with complex ecological interactions. Some research indicates that vegetative structure, diversity, and function is more important than nativity as an explanatory factor of biodiversity and that introduced species can provide these benefits in an urban setting (Chalker-Scott 2015). Habitats which support a diversity of flora may include lands with a diversity of hydrologic, topographic, and light conditions, and suitable soil substrate. Most biota benefit from the presence of nearby natural areas and corridors that support populations

and metapopulations of flora and fauna, facilitate wildlife movements and migration, improve gene flow, and promote local reintroductions.

The project proposes only minor changes to habitat within the critical area buffer through the removal of existing shrubby and invasive vegetation. A total of 5,090 square feet will be enhanced within the existing wetland buffer, increasing the long-term vegetation cover and habitat quality. Over time the replacement vegetation will grow until they eventually replace the existing vegetation functional benefits, and then greatly exceed them upon maturity.

6.1.2 Functional Analysis Summary

A net benefit to ecological function within the buffers is anticipated in all assessed categories including water quality, hydrology, and habitat.

7 Buffer Averaging Compliance

The proposed project will apply wetland buffer averaging in accordance with MCMC 18.06.930 (C) to avoid direct wetland buffer impacts. The MCMC requirement and the manner or location which it is fulfilled is described below, as applicable.

The director shall have the authority to "average" buffer widths on a case-by-case basis where a qualified professional demonstrates to the director's satisfaction that all the following criteria are met:

The total area contained in the buffer area after averaging is no less than that which would be contained within the standard buffer (MCMC 18.06.930(C)(1))

The proposed buffer averaging results in a net increase of 85 square feet to Wetland A buffer.

The buffer averaging does not reduce the functions or values of the wetland (MCMC 18.06.930(C)(2))

See Section 6 for a functional analysis that concludes the project will have a net improvement on ecological function within the critical area and critical area buffer. The existing condition of the entire buffer area is highly degraded and provides limited functions and wetland protection. The vegetation structure of the additional buffer area is similar to the area that is proposed to be removed. In addition, an area of 5,090 square feet will be enhanced with native vegetation. To ensure the establishment of the planted vegetation, the soil within the planting area will be amended with compost and topsoil and be decompacted. See Appendix A for details regarding the mitigation plan.

The portion of the buffer reduced through buffer averaging is less than 25 percent of the total buffer length on a project site (MCMC 18.06.930(C)(3))

The proposed buffer reduction length of 133 feet is less than 25% of total buffer length of 695 feet. See the mitigation plan (Appendix A).

The wetland contains variations in sensitivity due to existing physical characteristics or the character of the buffer varies in slope, soils, or vegetation (MCMC 18.06.930(C)(4))

Wetland A is large and heterogeneous with components of variabile sensitivity to disturbance. Vegetation in the wetland ranges in condition from highly disturbed and displaced by invasive species, to intact native forests and ecosystems. Wetland buffers are also present in varying conditions. The wetland also contains streams with ESA-listed salmonid species which require more protection than other parts of the site.

Much of the wetland buffer onsite is uniformly degraded and has poor soil conditions, bare areas, and high densities of invasive vegetation. The buffer reduction is further from Stream A, and, therefore, less susceptible to the transport of surface runoff that will reach the interior core of Wetland A. The buffer restoration plan provides an improvement in buffer protection on the project site in the southern portion of the buffer area that is being reduced.

The buffer width shall not be reduced to less than 75 percent of the standard width, and in no case shall the reduced portion of the buffer be less than the width indicated in Table IX.3. (MCMC 18.06.930(C)(5))

The buffer is not reduced to an amount less than 104 feet, 95% of the standard buffer width.

8 Conclusions

The project proponent is proposing to construct a new storage warehouse with an associated parking lot and frontage upgrades. A buffer averaging and enhancement plan is proposed to compensate for minor impacts associated with vegetation removal and grading. Based on the evaluation provided in this report, it is our opinion that the project is in compliance with the critical areas code and will result in no net loss of ecological function.

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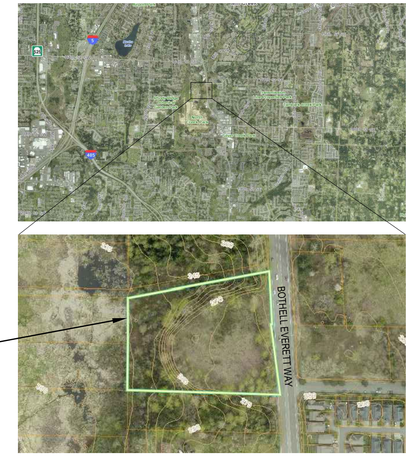
Appendix A

MITIGATION PLAN



VICINITY MAP

LEGEND

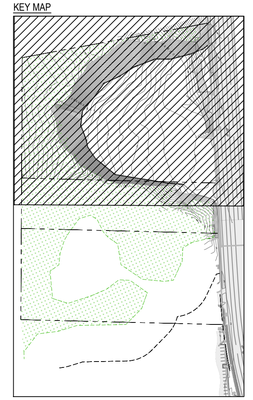
- PROPERTY BOUNDARY
- DELINEATED OHWM
- NON-DELINEATED OHWM
- DELINEATED WETLAND BOUNDARY
- NON-DELINEATED WETLAND BOUNDARY
- EXISTING TREES
- TOP OF SLOPE
- 110' WETLAND BUFFER
- 10' BUILDING SETBACK

SHEET INDEX

NOTES

1. CRITICAL AREAS DELINEATED BY DCG/WATERSHED (NOW FACET) ON JUN. 15, 2023. SURVEY DATED JUNE 15TH, 2023 AND JUNE 6TH 2024 RECEIVED FROM D.R. DOWNING LAND SURVEYING, INC.

KEY MAP



30' 15' 0 30' 60'

SCALE 1" = 30'

BASE MAP/TOPOGRAPHY PROVIDED BY OTHERS. DCG/WATERSHED CANNOT BE HELD LIABLE FOR ACCURACY. CONTRACTOR SHALL FIELD VERIFY GRADES, UTILITIES, AND ALL OTHER EXISTING FEATURES AND CONDITIONS. IF CONDITIONS ARE NOT AS SHOWN AND/OR AS EXPECTED, CONTACT DCG/WATERSHED PRIOR TO CONSTRUCTION.

NO.	DATE	BY	REVISION

FACET
750 Sixth Street South
Kirkland, WA 98033
P: 425.822.5242
F: 425.827.8136
www.facetnw.com
FEDERAL WAY | KIRKLAND | MOUNT VERNON | SEATTLE | SPOKANE | WHIDBEY ISLAND

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2 BUSINESS DAYS BEFORE YOU DIG
(UNDERGROUND UTILITY LOCATIONS ARE APPROX.)

MILL CREEK INDUSTRIAL

17200 BOTHELL-EVERETT HIGHWAY
MILLCREEK, WASHINGTON, PARCEL # 00602000000700
2305.0336.00

PERMIT PLAN

EXISTING CRITICAL AREA CONDITIONS PLAN

DATE: 10/08/2024
PLAN NUMBER: L001
SHEET 1 OF 8

PRINCIPAL: KB | PROJECT MANAGER: SP | DESIGNED BY: HC, BR | DRAWN BY: HC | CHECKED BY: AS

LEGEND

EXISTING

- PROPERTY BOUNDARY
- APPROXIMATE OHWM
- NON-DELINEATED OHWM
- DELINEATED WETLAND BOUNDARY
- NON-DELINEATED WETLAND BOUNDARY
- EXISTING TREES
- TOP OF SLOPE
- 110' WETLAND BUFFER
- 10' BUILDING SETBACK

PROPOSED

- CLEARING AND GRADING LIMITS
- AVERAGED WETLAND BUFFER
- MODIFIED 10' BUILDING SETBACK
- STANDARD WETLAND BUFFER AVERAGING, REDUCTION (534 SF)
- WETLAND BUFFER AVERAGING, ADDITION (619 SF)
- SPLIT RAIL FENCE WITH CRITICAL AREA SIGN (717 LF) SEE DETAIL BELOW (1 / L002)

NOTES

1. PROPOSED BUFFER REDUCTION LENGTH 133' IS LESS THAN 25% OF TOTAL BUFFER LENGTH 695' IN ACCORDANCE WITH MC 18.06.930(C)(3).
2. MINIMUM BUFFER WIDTH AFTER AVERAGING IS 104'.
3. GRADING IMPACTS INSIDE BUFFER AREA WILL BE ENHANCED ACCORDING TO THE MITIGATION PLAN.
4. SITE PLAN PROVIDED BY EASTSIDE CONSULTANTS ON OCT. 2ND, 2024.

1 SPLIT RAIL FENCE WITH CRITICAL AREA SIGN DETAIL

N.T.S

KEY MAP

30' 15' 0 30' 60'

SCALE 1" = 30'

NO.	DATE	BY	REVISION

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2305.0336.00

PERMIT PLAN

BUFFER AVERAGING PLAN

DATE: 10/08/2024
PLAN NUMBER:
L002
SHEET 2 OF 8

PRINCIPAL: KB
PROJECT MANAGER: SP
DESIGNED BY: HC, BR
DRAWN BY: HC
CHECKED BY: AS

LEGEND

EXISTING

- PROPERTY BOUNDARY
- APPROXIMATE OHWM
- NON-DELINEATED OHWM
- DELINEATED WETLAND BOUNDARY
- NON-DELINEATED WETLAND BOUNDARY
- EXISTING TREES
- TOP OF SLOPE

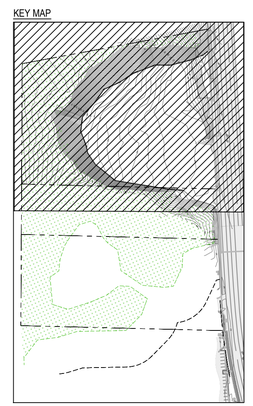
PROPOSED

- CLEARING AND GRADING LIMITS
- AVERAGED WETLAND BUFFER
- MODIFIED 10' BUILDING SETBACK
- TEMPORARY ONSITE BUFFER IMPACTS (3,087 SF)
- TEMPORARY OFFSITE BUFFER IMPACTS (2,378 SF)
- PERMANENT BUFFER IMPACTS (646 SF)

NOTES

1. SEE CRITICAL AREA REPORT FOR DETAILS OF IMPACTS.
2. TEMPORARY BUFFER IMPACTS WILL BE RESTORED IN PLACE, PERMANENT BUFFER IMPACTS WILL BE MITIGATED WITH EQUAL OR MORE PLANTING AREA ONSITE. SEE MITIGATION PLANTING DETAILS ON SHEET L005-L006.
3. TOTAL TEMPORARY BUFFER IMPACTS IS 5,465 SF.

KEY MAP



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2305.0336.00

PERMIT PLAN

SITE IMPACT PLAN

DATE: 10/08/2024
PLAN NUMBER: L003
SHEET 3 OF 8

DESIGNED BY: HC, BR
DRAWN BY: HC
CHECKED BY: AS
PROJECT MANAGER: SP
PRINCIPAL: KB

MATCHLINE SEE SHEET L003

PARCEL
27050700401000

PARCEL
27050700401100

PARCEL
27050700401300

BOTHELL – EVERETT HWY SR 527

110'

PROPOSED SANITARY SEWER, REFER TO CIVIL SHEETS FOR DETAILS

SSMH
RIM 276.77
(S) IE 268.37

POWER VAULT
CV
PP

LEGEND

EXISTING

- PROPERTY BOUNDARY
- APPROXIMATE OHWM
- NON-DELINEATED OHWM
- DELINEATED WETLAND BOUNDARY
- NON-DELINEATED WETLAND BOUNDARY
- EXISTING TREES
- TOP OF SLOPE

PROPOSED

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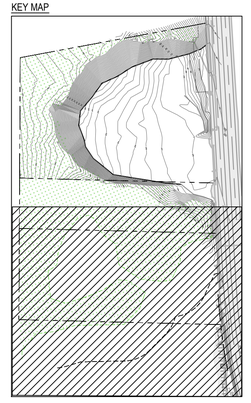
NOTES

1. SEE CRITICAL AREA REPORT FOR DETAILS OF IMPACTS.
2. TEMPORARY BUFFER IMPACTS WILL BE RESTORED IN PLACE, PERMANENT BUFFER IMPACTS WILL BE MITIGATED WITH EQUAL OR MORE PLANTING AREA ONSITE. SEE MITIGATION PLANTING DETAILS ON SHEET L005-L006.
3. TOTAL TEMPORARY BUFFER IMPACTS IS 5,465SF.

KEY MAP



30' 15' 0 30' 60'

SCALE 1" = 30'

PRINCIPAL: KB
PROJECT MANAGER: SP
DESIGNED BY: HC, BR
DRAWN BY: HC
CHECKED BY: AS

NO.	DATE	BY	REVISION

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MILL CREEK INDUSTRIAL

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2305.0336.00

PERMIT PLAN

SITE IMPACT PLAN

DATE: 10/08/2024
PLAN NUMBER: L004
SHEET 4 OF 8

LEGEND

EXISTING

- PROPERTY BOUNDARY
- APPROXIMATE OHWM
- NON-DELINEATED OHWM
- DELINEATED WETLAND BOUNDARY
- NON-DELINEATED WETLAND BOUNDARY
- EXISTING TREES
- TOP OF SLOPE

PROPOSED

- CLEARING AND GRADING LIMITS
- AVERAGED WETLAND BUFFER
- PLANTING AREA 1: WETLAND BUFFER ENHANCEMENT AREA (5,090 SF) (1 / L007) (2 / L007)
- PLANTING AREA 2: RESTORE IN-PLACE TO NATIVE FOREST (960 SF)
- PLANTING AREA 3: RESTORE IN-PLACE TO LAWN (1,702 SF) (3 / L007)

NOTES

1. SEE PLANTING AND SITE PREPARATION DETAILS ON SHEET L007.
2. NO SOIL PREPARATION NEEDED FOR NATIVE FOREST RESTORATION AREA.

PLANT SCHEDULE (PLANTING AREA 1&2)

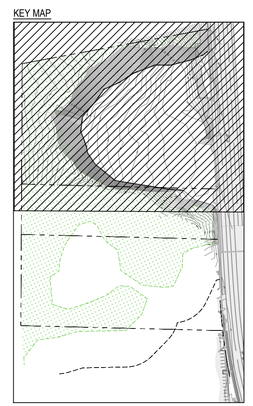
TREES	BOTANICAL / COMMON NAME	SIZE	SPACING	QTY
	ALNUS RUBRA / RED ALDER	2 GALLON	10' O.C.	24
	POPULUS TREMULOIDES / QUAKING ASPEN	2 GALLON	10' O.C.	24
	PSEUDOTSUGA MENZIESII / DOUGLAS FIR	2 GALLON	10' O.C.	24

SHRUBS	BOTANICAL / COMMON NAME	SIZE	SPACING	QTY
	ACER CIRCINATUM / VINE MAPLE	1 GALLON	6' O.C.	15
	AMELANCHIER ALNIFOLA / PACIFIC SERVICEBERRY	1 GALLON	6' O.C.	15
	CORYLUS CORNUTA / WESTERN HAZELNUT	1 GALLON	6' O.C.	15
	HOLODISCUS DISCOLOR / OCEANSPRAY	1 GALLON	6' O.C.	15
	MAHONIA AQUIFOLIUM / OREGON GRAPE	1 GALLON	6' O.C.	15
	MYRICA CALIFORNICA / PACIFIC WAX MYRTLE	1 GALLON	6' O.C.	15
	PHYSOCARPUS CAPITATUS / PACIFIC NINEBARK	1 GALLON	6' O.C.	15
	RUBUS PARVIFLORUS / THIMBLEBERRY	1 GALLON	6' O.C.	15
	SYMPHORICARPOS ALBUS / COMMON WHITE SNOWBERRY	1 GALLON	6' O.C.	15

PLANT SCHEDULE (PLANTING AREA 3)

LAWN	BOTANICAL / COMMON NAME	SIZE	APPLICATION RATE	QTY
	PROTIME PT 400 NATIVE UPLAND MIX OR SIMILAR	SEED MIX	1 LB PER 1000 SQUARE FEET OR 30-40 LBS PER ACRE	1,702 SF

KEY MAP



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2305.0336.00

PERMIT PLAN

MITIGATION PLANTING PLAN

DATE: 10/08/2024

PLAN NUMBER: L005

SHEET 5 OF 8

PRINCIPAL: KB | PROJECT MANAGER: SP | DESIGNED BY: HC, BR | DRAWN BY: HC | CHECKED BY: AS

MATCHLINE SEE SHEET L006

PARCEL
27050700401000

PARCEL
27050700401100

PARCEL
27050700401300

BOTHELL – EVERETT HWY
SR 527

110'

PROPOSED SANITARY SEWER, REFER TO CIVIL SHEETS FOR DETAILS

SSMH
RIM 276.77
(S) IE 268.37

POWER VAULT
CV
PP

SIGN

LEGEND

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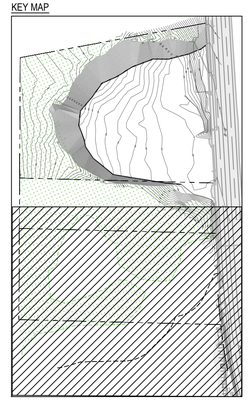
NOTES

1. SEE PLANTING AND SITE PREPARATION DETAILS ON SHEET L007.
2. NO SOIL PREPARATION NEEDED FOR NATIVE FOREST RESTORATION AREA.

KEY MAP



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PRINCIPAL: KB
PROJECT MANAGER: SP
DESIGNED BY: HC, BR
DRAWN BY: HC
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2305.0336.00

PERMIT PLAN

MITIGATION PLANTING PLAN

DATE: 10/08/2024
PLAN NUMBER:
L006
SHEET 6 OF 8

PLANT INSTALLATION SPECIFICATIONS

GENERAL NOTES

QUALITY ASSURANCE
1. PLANTS SHALL MEET OR EXCEED THE SPECIFICATIONS OF FEDERAL, STATE, AND LOCAL LAWS REQUIRING INSPECTION FOR PLANT DISEASE AND INSECT CONTROL.
2. PLANTS SHALL BE HEALTHY, VIGOROUS, AND WELL-FORMED, WITH WELL DEVELOPED, FIBROUS ROOT SYSTEMS, FREE FROM DEAD BRANCHES OR ROOTS. PLANTS SHALL BE FREE FROM DAMAGE CAUSED BY TEMPERATURE EXTREMES, LACK OR EXCESS OF MOISTURE, INSECTS, DISEASE, AND MECHANICAL INJURY. PLANTS IN LEAF SHALL BE WELL FOLIATED AND OF GOOD COLOR. PLANTS SHALL BE HABITUATED TO THE OUTDOOR ENVIRONMENTAL CONDITIONS INTO WHICH THEY WILL BE PLANTED (HARDENED-OFF).
3. TREES WITH DAMAGED, CROOKED, MULTIPLE OR BROKEN LEADERS WILL BE REJECTED. WOODY PLANTS WITH ABRASIONS OF THE BARK OR SUN SCALD WILL BE REJECTED.
4. NOMENCLATURE: PLANT NAMES SHALL CONFORM TO FLORA OF THE PACIFIC NORTHWEST BY HITCHCOCK AND CRONQUIST, UNIVERSITY OF WASHINGTON PRESS, 2018 AND/OR TO A FIELD GUIDE TO THE COMMON WETLAND PLANTS OF WESTERN WASHINGTON & NORTHWESTERN OREGON, ED. SARAH SPEAR COOKE, SEATTLE AUDUBON SOCIETY, 1997.

DEFINITIONS
1. PLANTS/PLANT MATERIALS. PLANTS AND PLANT MATERIALS SHALL INCLUDE ANY LIVE PLANT MATERIAL USED ON THE PROJECT. THIS INCLUDES BUT IS NOT LIMITED TO CONTAINER GROWN, B&B OR BAREROOT PLANTS; LIVE STAKES AND FASCINES (WATTLES); TUBERS, CORMS, BULBS, ETC.; SPRIGS, PLUGS, AND LINERS.
2. CONTAINER GROWN. CONTAINER GROWN PLANTS ARE THOSE WHOSE ROOTBALLS ARE ENCLOSED IN A POT OR BAG IN WHICH THAT PLANT GREW.

SUBSTITUTIONS
1. IT IS THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN SPECIFIED MATERIALS IN ADVANCE IF SPECIAL GROWING, MARKETING OR OTHER ARRANGEMENTS MUST BE MADE IN ORDER TO SUPPLY SPECIFIED MATERIALS.
2. SUBSTITUTION OF PLANT MATERIALS NOT ON THE PROJECT LIST WILL NOT BE PERMITTED UNLESS AUTHORIZED IN WRITING BY THE RESTORATION CONSULTANT.
3. IF PROOF IS SUBMITTED THAT ANY PLANT MATERIAL SPECIFIED IS NOT OBTAINABLE, A PROPOSAL WILL BE CONSIDERED FOR USE OF THE NEAREST EQUIVALENT SIZE OR ALTERNATIVE SPECIES, WITH CORRESPONDING ADJUSTMENT OF CONTRACT PRICE.
4. SUCH PROOF WILL BE SUBSTANTIATED AND SUBMITTED IN WRITING TO THE CONSULTANT AT LEAST 30 DAYS PRIOR TO START OF WORK UNDER THIS SECTION.

INSPECTION
1. PLANTS SHALL BE SUBJECT TO INSPECTION AND APPROVAL BY THE RESTORATION CONSULTANT FOR CONFORMANCE TO SPECIFICATIONS, EITHER AT TIME OF DELIVERY ON-SITE OR AT THE GROWER'S NURSERY. APPROVAL OF PLANT MATERIALS AT ANY TIME SHALL NOT IMPAIR THE SUBSEQUENT RIGHT OF INSPECTION AND REJECTION DURING PROGRESS OF THE WORK.
2. PLANTS INSPECTED ON SITE AND REJECTED FOR NOT MEETING SPECIFICATIONS MUST BE REMOVED IMMEDIATELY FROM SITE OR RED-TAGGED AND REMOVED AS SOON AS POSSIBLE.
3. THE RESTORATION CONSULTANT MAY ELECT TO INSPECT PLANT MATERIALS AT THE PLACE OF GROWTH. AFTER INSPECTION AND ACCEPTANCE, THE RESTORATION CONSULTANT MAY REQUIRE THE INSPECTED PLANTS BE LABELED AND RESERVED FOR PROJECT. SUBSTITUTION OF THESE PLANTS WITH OTHER INDIVIDUALS, EVEN OF THE SAME SPECIES AND SIZE, IS UNACCEPTABLE.

MEASUREMENT OF PLANTS
1. PLANTS SHALL CONFORM TO SIZES SPECIFIED UNLESS SUBSTITUTIONS ARE MADE AS OUTLINED IN THIS CONTRACT.
2. HEIGHT AND SPREAD DIMENSIONS SPECIFIED REFER TO MAIN BODY OF PLANT AND NOT BRANCH OR ROOT TIP TO TIP. PLANT DIMENSIONS SHALL BE MEASURED WHEN THEIR BRANCHES OR ROOTS ARE IN THEIR NORMAL POSITION.
3. WHERE A RANGE OF SIZE IS GIVEN, NO PLANT SHALL BE LESS THAN THE MINIMUM SIZE AND AT LEAST 50% OF THE PLANTS SHALL BE AS LARGE AS THE MEDIAN OF THE SIZE RANGE. (EXAMPLE: IF THE SIZE RANGE IS 12" TO 18", AT LEAST 50% OF PLANTS MUST BE 15" TALL.).

SUBMITTALS

PROPOSED PLANT SOURCES
1. WITHIN 45 DAYS AFTER AWARD OF THE CONTRACT, SUBMIT A COMPLETE LIST OF PLANT MATERIALS PROPOSED TO BE PROVIDED DEMONSTRATING CONFORMANCE WITH THE REQUIREMENTS SPECIFIED. INCLUDE THE NAMES AND ADDRESSES OF ALL GROWERS AND NURSERIES.

PRODUCT CERTIFICATES
1. PLANT MATERIALS LIST - SUBMIT DOCUMENTATION TO CONSULTANT AT LEAST 30 DAYS PRIOR TO START OF WORK UNDER THIS SECTION THAT PLANT MATERIALS HAVE BEEN ORDERED. ARRANGE PROCEDURE FOR INSPECTION OF PLANT MATERIAL WITH CONSULTANT AT TIME OF SUBMISSION.
2. HAVE COPIES OF VENDOR'S OR GROWERS' INVOICES OR PACKING SLIPS FOR ALL PLANTS ON SITE DURING INSTALLATION. INVOICE OR PACKING SLIP SHOULD LIST SPECIES BY SCIENTIFIC NAME, QUANTITY, AND DATE DELIVERED (AND GENETIC ORIGIN IF THAT INFORMATION WAS PREVIOUSLY REQUESTED).

DELIVERY, HANDLING, & STORAGE

NOTIFICATION
CONTRACTOR MUST NOTIFY CONSULTANT 48 HOURS OR MORE IN ADVANCE OF DELIVERIES SO THAT CONSULTANT MAY ARRANGE FOR INSPECTION.

PLANT MATERIALS
1. TRANSPORTATION - DURING SHIPPING, PLANTS SHALL BE PACKED TO PROVIDE PROTECTION AGAINST CLIMATE EXTREMES, BREAKAGE AND DRYING. PROPER VENTILATION AND PREVENTION OF DAMAGE TO BARK, BRANCHES, AND ROOT SYSTEMS MUST BE ENSURED.
2. SCHEDULING AND STORAGE - PLANTS SHALL BE DELIVERED AS CLOSE TO PLANTING AS POSSIBLE. PLANTS IN STORAGE MUST BE PROTECTED AGAINST ANY CONDITION THAT IS DETRIMENTAL TO THEIR CONTINUED HEALTH AND VIGOR.
3. HANDLING - PLANT MATERIALS SHALL NOT BE HANDLED BY THE TRUNK, LIMBS, OR FOLIAGE BUT ONLY BY THE CONTAINER, BALL, BOX, OR OTHER PROTECTIVE STRUCTURE, EXCEPT BAREROOT PLANTS SHALL BE KEPT IN BUNDLES UNTIL PLANTING AND THEN HANDLED CAREFULLY BY THE TRUNK OR STEM.
4. LABELS - PLANTS SHALL HAVE DURABLE, LEGIBLE LABELS STATING CORRECT SCIENTIFIC NAME AND SIZE. TEN PERCENT OF CONTAINER GROWN PLANTS IN INDIVIDUAL POTS SHALL BE LABELED. PLANTS SUPPLIED IN FLATS, RACKS, BOXES, BAGS, OR BUNDLES SHALL HAVE ONE LABEL PER GROUP.

WARRANTY

PLANT WARRANTY
PLANTS MUST BE GUARANTEED TO BE TRUE TO SCIENTIFIC NAME AND SPECIFIED SIZE, AND TO BE HEALTHY AND CAPABLE OF VIGOROUS GROWTH.

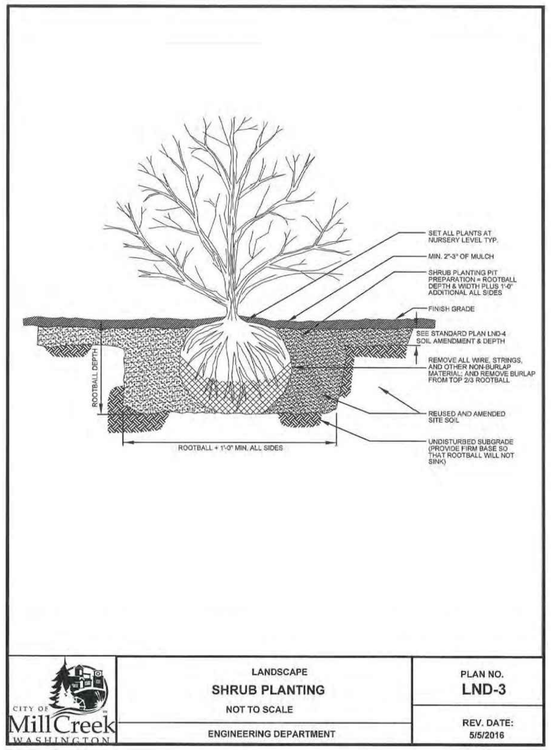
REPLACEMENT
1. PLANTS NOT FOUND MEETING ALL OF THE REQUIRED CONDITIONS AT THE CONSULTANT'S DISCRETION MUST BE REMOVED FROM SITE AND REPLACED IMMEDIATELY AT THE CONTRACTOR'S EXPENSE.
2. PLANTS NOT SURVIVING AFTER ONE YEAR TO BE REPLACED AT THE CONTRACTOR'S EXPENSE.

PLANT MATERIAL

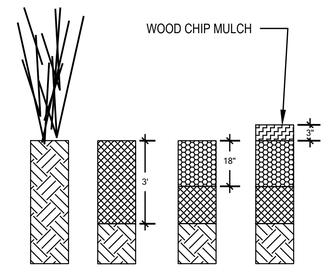
GENERAL
1. PLANTS SHALL BE NURSERY GROWN IN ACCORDANCE WITH GOOD HORTICULTURAL PRACTICES UNDER CLIMATIC CONDITIONS SIMILAR TO OR MORE SEVERE THAN THOSE OF THE PROJECT SITE.
2. PLANTS SHALL BE TRUE TO SPECIES AND VARIETY OR SUBSPECIES. NO CULTIVARS OR NAMED VARIETIES SHALL BE USED UNLESS SPECIFIED AS SUCH.

QUANTITIES
SEE PLANT LIST ON ACCOMPANYING PLANS AND PLANT SCHEDULES.

ROOT TREATMENT
1. CONTAINER GROWN PLANTS (INCLUDES PLUGS): PLANT ROOT BALLS MUST HOLD TOGETHER WHEN THE PLANT IS REMOVED FROM THE POT, EXCEPT THAT A SMALL AMOUNT OF LOOSE SOIL MAY BE ON THE TOP OF THE ROOTBALL.
2. PLANTS MUST NOT BE ROOT-BOUND; THERE MUST BE NO CIRCLING ROOTS PRESENT IN ANY PLANT INSPECTED.
3. ROOTBALLS THAT HAVE CRACKED OR BROKEN WHEN REMOVED FROM THE CONTAINER SHALL BE REJECTED.



1 SHRUB PLANTING DETAIL
N.T.S.



PLANTING AREA PREPARATION

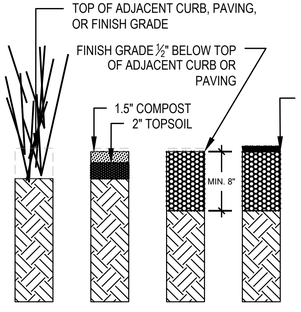
STEP 1
REMOVE UNDESIRABLE SPECIES. WORK WITHIN EXISTING ROOT ZONES SHALL BE DONE BY HAND. DECOMPACT TO A 3 FEET DEPTH.

STEP 2
INCORPORATE 3" COMPOST AND 6" STANDARD 3-WAY TOP SOIL TO 18".

STEP 3
PLACE MULCH LAYER THREE (3) INCHES DEEP AND INSTALL PLANTS. (SEE PLANTING PLAN AND DETAILS.)

NOTE: SOIL AMENDMENTS WILL BE OVERSEEN BY A RESTORATION SPECIALIST AND MAY REQUIRE MODIFICATION DEPENDING ON WHAT IS ENCOUNTERED BELOW GROUND SURFACE. IF PROPOSED AMENDMENTS ARE INADEQUATE THEN ADDITIONAL MODIFICATIONS WILL BE REQUIRED.

2 SITE PREPARATION DETAIL (PLANTING AREA 1)
N.T.S.



PLANTING AREA PREPARATION

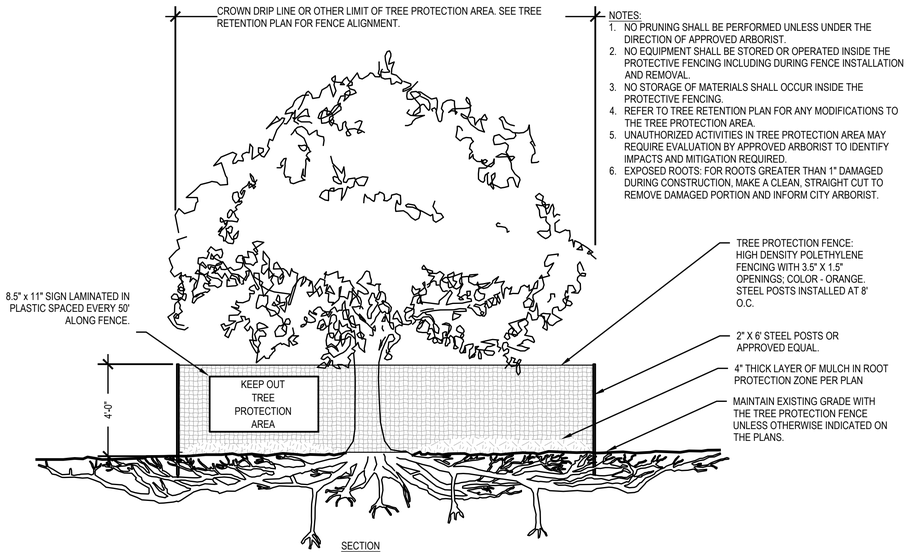
PREPARE EXISTING
REMOVE UNDESIRABLE SPECIES. ADDRESS COMPACTION: COMPACTION LEVELS SHOULD BE APPROPRIATE FOR ROOT GROWTH (75-85% PROCTOR DENSITY) OR AS OTHERWISE APPROVED BY ENGINEER. DRAINAGE RATE SHALL BE BETWEEN 1 - 5 INCHES PER HOUR OR AS OTHERWISE APPROVED BY THE ENGINEER. WORK WITHIN EXISTING ROOT ZONES SHALL BE DONE BY HAND.

STEP 1
PLACE ONE AND A HALF (1.5) INCH LAYER OF SPECIFIED IMPORT TOPSOIL. PLACE TWO (2) INCH LAYER OF FINE COMPOST.

STEP 2
INCORPORATE TO AN EIGHT (8) INCH DEPTH.

STEP 3
INSTALL LAWN SEED PER SUPPLIER RECOMMENDATIONS.

3 SITE PREPARATION DETAIL (PLANTING AREA 3)
N.T.S.



NOTES:
1. NO PRUNING SHALL BE PERFORMED UNLESS UNDER THE DIRECTION OF APPROVED ARBORIST.
2. NO EQUIPMENT SHALL BE STORED OR OPERATED INSIDE THE PROTECTIVE FENCING INCLUDING DURING FENCE INSTALLATION AND REMOVAL.
3. NO STORAGE OF MATERIALS SHALL OCCUR INSIDE THE PROTECTIVE FENCING.
4. REFER TO TREE RETENTION PLAN FOR ANY MODIFICATIONS TO THE TREE PROTECTION AREA.
5. UNAUTHORIZED ACTIVITIES IN TREE PROTECTION AREA MAY REQUIRE EVALUATION BY APPROVED ARBORIST TO IDENTIFY IMPACTS AND MITIGATION REQUIRED.
6. EXPOSED ROOTS: FOR ROOTS GREATER THAN 1" DAMAGED DURING CONSTRUCTION, MAKE A CLEAN, STRAIGHT CUT TO REMOVE DAMAGED PORTION AND INFORM CITY ARBORIST.

4 TREE PROTECTION FENCE
N.T.S.

NO.	DATE	BY	REVISION

BASE MAP/TOPOGRAPHY PROVIDED BY OTHERS. DCG/WATERSHED CANNOT BE HELD LIABLE FOR ACCURACY. CONTRACTOR SHALL FIELD VERIFY GRADES, UTILITIES, AND ALL OTHER EXISTING FEATURES AND CONDITIONS. IF CONDITIONS ARE NOT AS SHOWN AND/OR ADDITIONAL ISSUES ARE DISCOVERED, CONTACT DCG/WATERSHED PRIOR TO CONSTRUCTION.

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F: 425.827.8136
www.facetnw.com
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CALL 811
2 BUSINESS DAYS BEFORE YOU DIG
(UNDERGROUND UTILITY LOCATIONS ARE APPROX.)

MILL CREEK INDUSTRIAL
17200 BOTHELL-EVERETT HIGHWAY
MILL CREEK, WASHINGTON, PARCEL # 00602000000700
2305.0336.00

PERMIT PLAN

PLANT INSTALLATION DETAILS AND NOTES

DATE: 10/08/2024
PLAN NUMBER: L007
SHEET 7 OF 8

PRINCIPAL: KB | PROJECT MANAGER: SP | DESIGNED BY: HC, BR | DRAWN BY: HC | CHECKED BY: AS

LEGEND

EXISTING

- PROPERTY BOUNDARY
- APPROXIMATE OHWM
- NON-DELINEATED OHWM
- DELINEATED WETLAND BOUNDARY
- NON-DELINEATED WETLAND BOUNDARY
- EXISTING TREES
- TOP OF SLOPE

PROPOSED

- CLEARING AND GRADING LIMITS
- AVERAGED WETLAND BUFFER
- TREE AND WETLAND BUFFER PROTECTION FENCE (4 / L007)
- PERMANENT TREE ROOT IMPACT (863 SF)
- ADDITIONAL ROOT PROTECTION AREA (3,660 SF) (SEE NOTE 5)
- CALCULATED TREE PROTECTION ZONE (TPZ)
- TREE TO BE REMOVED (9)

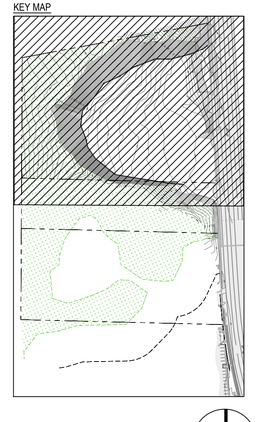
NOTES

1. SEE TREE PROTECTION FENCE DETAIL ON PAGE L007.
2. TREE PROTECTION ZONE WAS CALCULATED USING THE TRUNK DIAMETER METHOD, DESCRIBED IN TREES AND DEVELOPMENT: A TECHNICAL GUIDE TO PRESERVATION OF TREES DURING LAND DEVELOPMENT, PUBLISHED BY THE INTERNATIONAL SOCIETY OF ARBORICULTURE.
3. TREE INVENTORY COMPLETED ON JAN 11TH AND 16TH 2024 BY FACET; SEE ARBORIST REPORT FOR ADDITIONAL DETAILS.
4. REFER TO "EFFECTS OF PROPOSED DEVELOPMENT" SECTION IN ARBORIST REPORT FOR DISCUSSION OF IMPACTED TREES TO BE PRESERVED. (TREE NOTES 4621, 4686, 4687)
5. ADDITIONAL ROOT PROTECTION AREA SHOULD RECEIVE 4" OF WOODCHIP MULCH. AN AREA FREE OF WOOD CHIPS WILL BE MAINTAINED 2 INCHES FROM TREE TRUNKS

TREE REMOVAL TABLE

TAG #	TREE NAME	# STEMS	COMB DBH (IN)	HEIGHT (FT)	RADIUS (FT)	CONDITION	REMOVAL	SIGNIFICANT
4615	Populus trichocarpa (Black cottonwood)	1	18.5	85	15	Fair	Yes	Yes
4616	Populus trichocarpa (Black cottonwood)	3	21.9	45	12	Fair	Yes	Yes
4617	Populus trichocarpa (Black cottonwood)	1	11.4	80	12	Poor	Yes	Yes
4618	Alnus rubra (Red alder)	1	8.2	24	10	Fair	Yes	Yes
4619	Alnus rubra (Red alder)	1	8.7	24	12	Good	Yes	Yes
4620	Populus trichocarpa (Black cottonwood)	2	40.5	95	18	Good	Yes	Yes
4653	Populus trichocarpa (Black cottonwood)	1	17.5	90	14	Good	Yes	Yes
4654	Populus trichocarpa (Black cottonwood)	1	30.8	85	22	Good	Yes	Yes
4655	Populus trichocarpa (Black cottonwood)	1	17.8	90	20	Good	Yes	Yes

KEY MAP



30' 15' 0 30' 60'

SCALE 1" = 30'

NO.	DATE	BY	REVISION

BASE MAP/TOPOGRAPHY PROVIDED BY OTHERS. DCG/WATERSHED CANNOT BE HELD LIABLE FOR ACCURACY. CONTRACTOR SHALL FIELD VERIFY GRADES, UTILITIES, AND ALL OTHER EXISTING FEATURES AND CONDITIONS. IF CONDITIONS ARE NOT AS SHOWN AND/OR ASSUMED, CONTACT DCG/WATERSHED PRIOR TO CONSTRUCTION.

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MILL CREEK INDUSTRIAL

17200 BOTHELL-EVERETT HIGHWAY
MILLCREEK, WASHINGTON, PARCEL # 00602000000700
2305.0336.00

PERMIT PLAN

TREE REMOVAL AND PROTECTION PLAN

DATE: 10/08/2024

PLAN NUMBER: L008

SHEET 8 OF 8

PRINCIPAL: KB
PROJECT MANAGER: SP
DESIGNED BY: HC, BR
DRAWN BY: HC
CHECKED BY: AS

Appendix B

DELINEATION REPORT

FACET

July 23, 2024

17200 Mill Creek, LLC
c/o Kyle Miller
Via email: KyleMiller.GP@Outlook.com

Re: 17200 Mill Creek LLC, Wetland Delineation Report

Facet Reference Number: 2305.0336.00

Summary

This report has been prepared to present the findings of a wetland and stream delineation study for the property located at 17200 Bothell-Everett Highway in Mill Creek, Washington (parcels #00602000000700 & 27050700401000). This report is an updated version of the report provided in July 2023, with the study area expanded to include Parcel 27050700401000. In addition to the information and findings presented in this report, the following documents are enclosed:

- Site Photos
- Wetland Delineation Sketch
- Wetland Determination Data Forms
- Wetland Rating Forms and Figures

One wetland (Wetland A) encumbers the north, west, and south portions of the subject property. It is a Category I wetland with seven habitat points (Table 1). One stream (Stream A) is also present. The stream is within the wetland; the wetland buffer is the most encumbering feature.

Table 1. Summary of wetlands and required buffers.

Feature Name	Category	Habitat Score	Buffer (ft) w/o mitigation measures and high impact land use	Buffer (ft) with mitigation measures and high impact land use	Buffer (ft) with low impact land use
Wetland A	Category I	7	150	110	75
Stream A	Type F	N/A	75	75	75

Study Area

The study area is defined as parcels 00602000000700 (Northern Property) and 27050700401000 (Southern Property); the northern property was delineated in June 2023 and the southern property was delineated in June of 2024. The northern property is approximately 4.56 acres in size, and the southern property is approximately 1.63 acres (Figure 1). Adjacent public or private property within 200 feet was screened from the edge of parcel or nearest publicly accessible land; no private property was accessed without permission. It is situated within Section 07 of Township 27 North, Range 05 East.

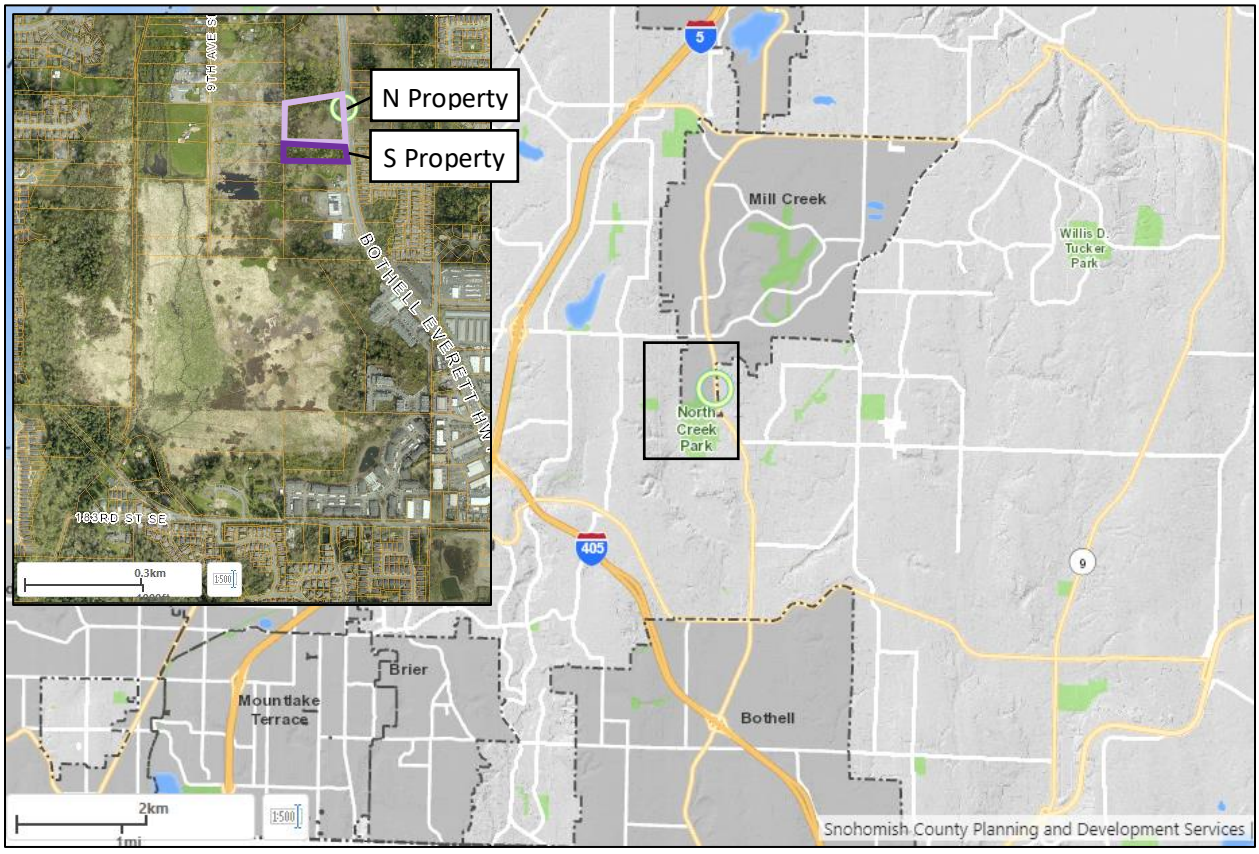

Figure 1. Study area map. Subject parcel outlined in purple.

Methods

Field investigations for the delineation study of the northern property were conducted on June 15, 2023, by ecologists Grace Brennan and Anna Murphy. Field investigations for the delineation study of the southern property were conducted on June 6, 2024, by ecologist Grace Brennan.

The study area was evaluated for wetlands using methodology from the *Corps of Engineers Wetland Delineation Manual* (Environmental Laboratory 1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region Version 2.0* (U.S. Army Corps of Engineers 2010). The presence or absence of wetlands was determined based on an examination of vegetation, soils, and hydrology. These parameters were sampled at several locations along the wetland boundary to determine the approximate wetland edge. Wetlands were classified using the Washington State Department of Ecology's *Wetland Rating System for Western Washington:* (Hruby 2014). A previous survey included a wetland boundary (D.R. Downing Land Surveying Inc., 2023). This boundary was confirmed by Facet and minorly adjusted. A survey of adjusted flags will be conducted and included in permit drawings.

Characterization of weather conditions for precipitation in the Wetland Determination Data Forms were determined using the WETS table methodology (USDA, NRCS 2015). The "Seattle Tacoma Intl AP" station from 1991-2020 was used as a source for precipitation data (http://agacis.rcc-acis.org/). The WETS table methodology uses climate data from the three months prior to the site visit month to determine if normal conditions are present in the study area region.

The study area was evaluated for streams based on the presence or absence of an ordinary high water mark (OHWM) as defined by Section 404 of the Clean Water Act, the Washington Administrative Code (WAC) 220-660-030, and the Revised Code of Washington (RCW) 90.58.030 and guidance documents including *Determining the Ordinary High Water Mark for Shoreline Management Act Compliance in Washington State* (Anderson 2016) and *A Guide to Ordinary High Water Mark (OHWM) Delineation for Non-Perennial Streams in the Western Mountains, Valleys, and Coast Region of the United States* (Mersel and Lichvar 2014).

Public-domain information on the subject properties was reviewed for this delineation study. Resources and review findings are presented in Table 2 of the "Environmental Setting" section of this letter.

Environmental Setting

The study area is in the North Creek sub-basin of the Cedar - Sammamish watershed (WRIA 8). It is located just North of Mill Creek Park, in the southern portion of Mill Creek. The northern site has a flat terrace that steeply slopes down to the north, south, and west. The southern parcel is generally a depression that slopes slightly to the west.

The study area is approximately 6.19 acres in size and is undeveloped. The upper terrace is dominated by grasses, Himalayan blackberry (*Rubus bifrons),* and black cottonwood (*Populus balsamifera)* along the margins (Photo 1). The slope is dominated by a canopy of black cottonwood and red alder (*Alnus rubra)* with an osoberry (*Oemleria cerasiformis)*, Himalayan blackberry, salmonberry (*Rubus spectabilis*), and trailing blackberry (*Rubus ursinus)* understory (Photo 2).

Public-domain information reviewed for the site is summarized below (Table 2).Past

Table 2. Summary of online mapping and inventory resources.

Resource	Summary
USDA NRCS: Web Soil Survey	*Everett very gravelly sandy loam, 8 to 15 percent slopes. Mukilteo muck is mapped near the west parcel boundary.*
USFWS: NWI Wetland Mapper	*None mapped on-site. North Creek Wetland Complex mapped to the west. Palustrine emergent, seasonally flooded portion of North Creek Wetland Complex mapped just west of study area.*
WDFW: PHS on the Web	*North Creek Wetlands mapped as wetlands and biodiversity area. Nikel Creek mapped as coho habitat just west of study area.*
WDFW & NWIFC: Statewide Washington Integrated Fish Distribution	*WDFW & NWIFC map coho within Nickel Creek and list the stream as gradient accessible for Chinook, sockeye, winter steelhead, and resident coastal cutthroat.*
WA-DNR: Forest Practices Application Mapping Tool	*DNR maps Nickel and North Creek as Type F fish accessible streams.*
Snohomish County PDS Mapper	*Nickel Creek mapped west of subject parcel. Wetland mapped throughout study area in lower terrace of northern parcel and throughout the western and southern portions of southern parcel by Snohomish County Wetland Inventory.*
WETS Climatic Condition	*Normal.*

Findings

Wetlands

One wetland (Wetland A) was delineated and flagged in the study area. Wetland A is part of the North Creek Wetland Complex and is summarized in Table 2 below. A portion of that wetland complex is within the study area.

Table 3. Wetland A assessment summary.

WETLAND A – Assessment Summary

Location:	North Creek Park and surrounding wetland complex
WRIA / Sub-basin:	Cedar – Sammamish Watershed (WRIA 8) / North Creek Sub-basin

2014 Western WA Ecology Rating:	Category I
Buffer Width and Buffer Setback:	150 ft / 110 ft / 75 ft See *Local Regulations*
Wetland Size:	Approx. 200 Acres
Cowardin Classification(s):	Palustrine Emergent, Scrub-Shrub, and Forested
HGM Classification(s):	Depressional, Riverine, Slope
Wetland Data Sheet(s):	DP-1, DP-3
Upland Data Sheet (s):	DP-2, DP-4
Flag Color:	Pink- and black-striped
Flag Numbers:	A-1 through A-43 (northern parcel); AA-1 through AA-16 (southern parcel)

Vegetation	Tree stratum:	Red alder, black cottonwood
	Shrub stratum:	Salmonberry, vine maple (*Acer circinatum*), black twinberry (*Lonicera involucrata)*
	Herb stratum:	Skunk cabbage (*Lysichiton americanus),* lady fern (*Athyrium filix-femina)*
Soils	Soil survey:	Mukilteo muck
	Field data:	Hydrogen sulfide (A4)
Hydrology	Source:	Groundwater seeps, Stream A
	Field data:	Hydrogen sulfide odor (C1), saturation (A3)

Wetland Functions

	Improving Water Quality			Hydrologic			Habitat			
Site Potential	**H**	M	L	H	**M**	L	**H**	M	L	
Landscape Potential	**H**	M	L	**H**	M	L	H	M	**L**	
Value	**H**	M	L	**H**	M	L	**H**	M	L	**TOTAL**
Score Based on Ratings	9			8			7			24

Description and Comments

A small portion of the North Creek Wetland Complex was sampled and observed for this characterization. The wetland extends off site to the north, south, east and west. In the southern parcel, water channelizes for a brief portion through the wetland, exhibiting stream-like conditions for less than 50 feet.

Streams

One stream, Stream A, flows west towards Wetland A through the northern portion of the site (Photo 4). This stream is small and loses channel definition through Wetland A. Stream A has a bankfull width of approximately three feet on average, is up to six inches downcut in some locations, and has dense overhanging vegetation including red alder, salmonberry, vine maple, and skunk cabbage. Substrate consists of gravel and sand. Abundant woody debris is present in and around the stream.

Local Regulations

Wetlands and streams in Mill Creek are regulated according to Mill Creek Municipal Code (MCMC) 18.06 – Environmentally Critical Areas. Wetlands are rated according to the 2014 Washington State Wetland Rating System for Western Washington, in which a wetland is assigned a category of one to four, and a habitat score from three through nine. Buffers in Mill Creek are determined according to the wetland category, habitat score, and impact of the proposed land use. Mill Creek defines low impact and high impact land use as follows (MCMC 18.06.210 – *Definitions).*

"Low impact land use" *means land uses which are not likely to have a significant adverse impact to critical areas because of the intensity of the use, levels of human activity, limited use of machinery or chemicals, site design, and other factors identified in this chapter. Examples include passive open space tracts and detention/retention ponds."*

"High impact land use" *means land uses likely to have a significant adverse impact to critical areas because of the intensity of the use, levels of human activity, use of machinery or chemicals, presence of domesticated animals, or the presence of light and noise. Examples include parking lots; buildings and yard areas of residential, commercial, and business park developments; private and public streets; active use parks and recreation facilities; and other uses/activities that are likely to significantly impact critical areas."*

No land use is proposed at the time of this report. It is presumed that future improvements to the property will fall under the definition of high impact land use. Should this project meet the minimization requirements of Table IX.2 – *Required Measure to Minimize Impacts to Wetlands,*

then a 110-foot buffer is required (MCMC 18.06.930). If the applicant does not meet the minimization requirements, then a 150-foot buffer is required. Should a project propose low impact land use, a 75-foot buffer would be required.

State and Federal Regulations

Federal Agencies

Most wetlands and streams are regulated by the U.S. Army Corps of Engineers (Corps) under Section 404 of the Clean Water Act. Any proposed filling or other direct impacts to Waters of the U.S., including wetlands (except isolated wetlands), would require preconstruction notification and permit authorization from the Corps. Wetland A is not isolated. Unavoidable impacts to jurisdictional wetlands are typically required to be compensated through implementation of an approved mitigation plan. If activities requiring a Corps permit are proposed, a Joint Aquatic Resource Permit Application (JARPA) could be submitted to obtain authorization.

Federally permitted actions that could affect endangered species may also require a biological assessment study and consultation with the U.S. Fish and Wildlife Service and/or the National Marine Fisheries Service. Compliance with the Endangered Species Act must be demonstrated for activities within jurisdictional wetlands and the 100-year floodplain. Application for Corps permits may also require an individual 401 Water Quality Certification and Coastal Zone Management Consistency determination from Ecology and a cultural resource study in accordance with Section 106 of the National Historic Preservation Act.

Washington Department of Ecology (Ecology)

Like the Corps, Ecology is charged with reviewing, conditioning, and approving or denying certain federally permitted actions that result in discharges to state waters under Section 401 of the Clean Water Act. However, Ecology review under the Clean Water Act would only become necessary if a Section 404 permit from the Corps was issued. Ecology also regulates wetlands, including isolated wetlands, under the Washington Water Pollution Control Act, but only if direct wetland impacts are proposed. Therefore, authorization from Ecology would not be needed if filling activities are avoided.

A JARPA may also be submitted to Ecology to obtain a Section 401 Water Quality Certification and Coastal Zone Management Consistency Determination if filling is proposed. Ecology approvals are either issued concurrently with the Corps approval or within 90 days following the Corps approval.

In general, neither the Corps nor Ecology regulates wetland and stream buffers, unless direct impacts are proposed. When direct impacts are proposed, buffers are applied based on Corps and Ecology joint regulatory guidance.

Washington Department of Fish and Wildlife (WDFW)

Chapter 77.55 of the RCW (the Hydraulic Code) gives WDFW the authority to review, condition, and approve or deny "any construction activity that will use, divert, obstruct, or change the bed or flow of state waters." This provision includes any in-water work, the crossing or bridging of any state waters and can sometimes include stormwater discharge to state waters. WDFW will issue a Hydraulic Project Approval (HPA) if a project meets regulatory requirements.

WDFW can also restrict activities to a particular timeframe through the conditions of approval on an HPA. Work is typically restricted to late summer and early fall, however, WDFW has in the past allowed crossings that don't involve in-stream work to occur at any time during the year.

Disclaimer

The information contained in this letter is based on the application of technical guidelines currently accepted as the best available science and in conjunction with the manuals and criteria referenced above. All discussions, conclusions and recommendations reflect the best professional judgment of the author(s) and are based upon information available at the time the study was conducted. All work was completed within the constraints of budget, scope, and timing. The findings of this report are subject to verification and agreement by the appropriate local, state, and federal regulatory authorities. No other warranty, expressed or implied, is made.

Please call if you have any questions or if we can provide you with any additional information.

Sincerely,

Grace Brennan
Ecologist

References

Anderson, P.S. et al. 2016. Determining the Ordinary High Water Mark for Shoreline Management Act Compliance in Washington State. (Publication #16-06-029). Olympia, WA: Shorelands and Environmental Assistance Program, Washington Department of Ecology.

Department of Ecology (Ecology). 2018. July 2018 Modifications for Habitat Score Ranges. Modified from Wetland Guidance for CAO Updates, Western Washington Version. (Publication #16-06-001). Accessed 8/16/18: https://fortress.wa.gov/ecy/publications/parts/1606001part1.pdf.

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Environmental Laboratory. 1987. "Corps of Engineers Wetlands Delineation Manual," Technical Report Y-87-1, U.S. Army Engineer Waterways Experiment Station, Vicksburg, MS.

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U.S. Army Corps of Engineers. 2010. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0). ed. J. S. Wakely, R. W. Lichvar, and C. V. Noble. ERDC/EL TR-10-3. Vicksburg, MS: U.S. Army Engineer Research and Development Center.

U.S. Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS). 2015. National Engineering Handbook, Part 650 Engineering Field Handbook, Chapter 19 Hydrology Tools for Wetland Identification and Analysis. ed. R. A. Weber. 210-VI-NEH, Amend. 75. Washington, DC.

Site Photos

Photo 1. Flat terrace on northern property.

Photo 2. Steep slope on northern property.

Photo 3. Wetland A on northern property.

Photo 4. Stream A on northern property.

Photo 5. Wetland on southern property.

Photo 6. Steep slope on southern property.

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Mount Vernon
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Mount Vernon, WA 98273
Tel 360.899.1110

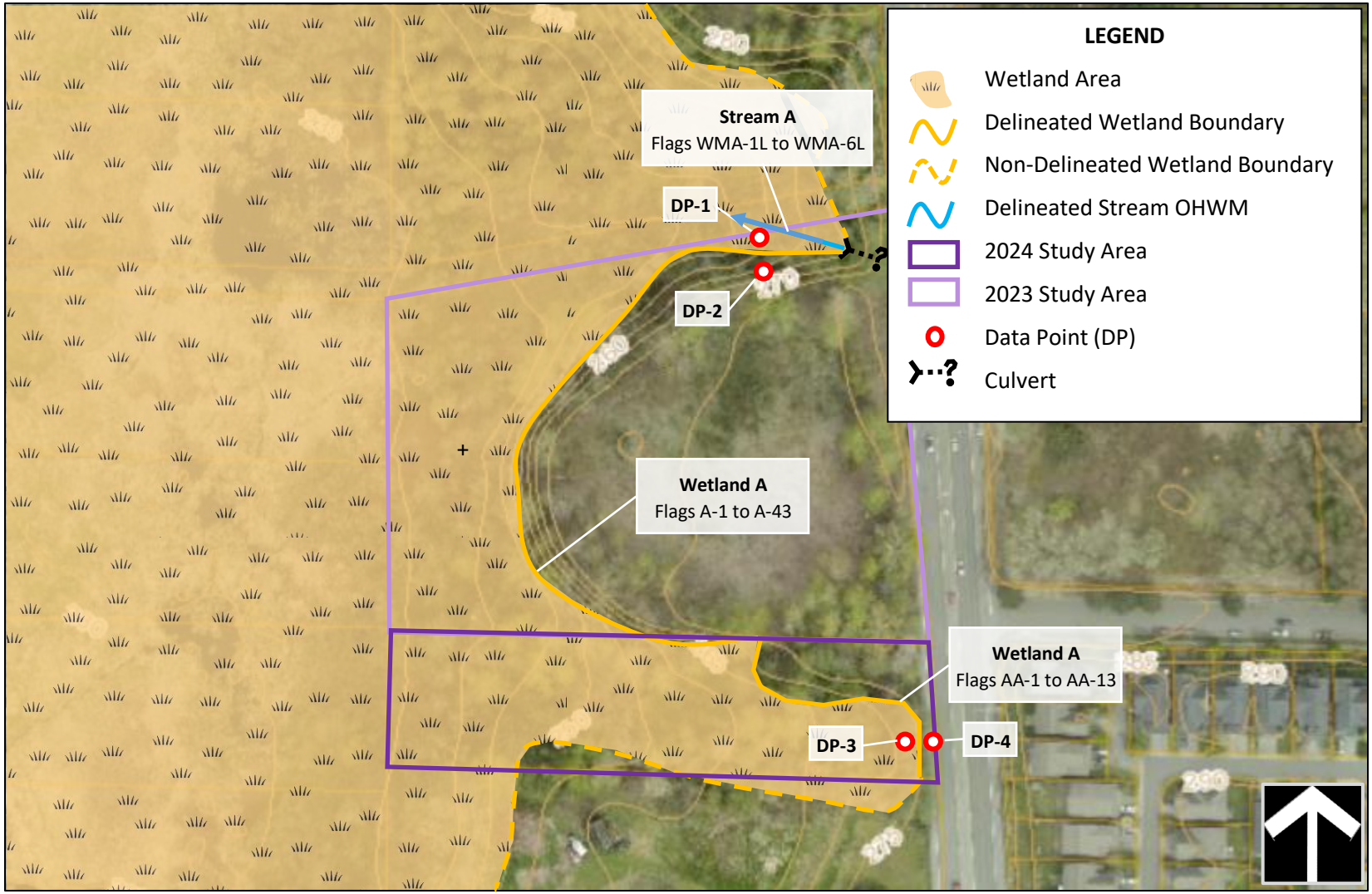
Whidbey
1796 E Main St, Ste 105
Freeland, WA 98249
Tel 360.331.4131

Federal Way
31620 23rd Ave S, Ste 307
Federal Way, WA 98003
Tel 253.237.7770

Spokane
601 Main Ave, Ste 617
Spokane, WA 99201
Tel 509.606.3600

Wetland and Stream Delineation Sketch – 17200 Mill Creek LLC Property

Site Address:	17200 Bothell Everett Highway	Jurisdiction:	Mill Creek
Parcel Number:	00602000000700 & 27050700401000	Prepared for:	N. Goyal
Site Visit Date:	June 6, 2024	Facet Ref. No.:	2305.0336.00



Note: Field sketch only. Features depicted are approximate and not to scale. Wetland boundaries are marked with pink- and black-striped flags. Stream boundaries are marked with blue- and black-striped flags. Data points are marked with yellow- and black-striped flags. All observations were made from within the study area; adjoining private properties were not entered.

DCG WATERSHED

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

DP - 1

Project/Site: 17200 Mill Creek LLC | City/County: Mill Creek / Snohomish | Sampling date: 6/15/2023

Applicant/Owner: 17200 Mill Creek LLC | State: WA | Sampling Point: DP-1

Investigator(s): G. Brennan, A. Murphy | Section, Township, Range: S07 T27N R05E

Landform (hillslope, terrace, etc): Swale | Local relief (concave, convex, none): Concave | Slope (%): -

Subregion (LRR): A | Lat: - | Long: - | Datum: -

Soil Map Unit Name: Everett very gravelly sandy loam, 8-15% slopes | NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? ☒ Yes ☐ No (If no, explain in remarks.)

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present on the site? ☒ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes	☒	No	☐	**Is the Sampled Area within a Wetland?** **Yes ☒ No ☐**
Hydric Soils Present?	Yes	☒	No	☐	
Wetland Hydrology Present?	Yes	☒	No	☐	

Remarks: **Wetland A in-pit**

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: 5-m diameter)			
1. *Alnus rubra*	5	Y	FAC
2. *Populus balsamifera*	5	Y	FACW
3.			
4.			
	10	= Total Cover	
Sapling/Shrub Stratum (Plot size: 3-m diameter)			
1. *Rubus spectabilis*	40	Y	FAC
2.			
3.			
4.			
5.			
	40	= Total Cover	
Herb Stratum (Plot size: 1-m diameter)			
1. *Impatiens capensis*	15	Y	FACW
2. *Lysichiton americanus*	2	N	OBL
3. *Athyrium filix-femina*	2	N	FAC
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	19	= Total Cover	
Woody Vine Stratum (Plot size: 3-m diameter)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum: 81

Dominance Test worksheet:

Number of Dominant Species that are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across all Strata: 4 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 100 (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 ☐

Remarks:

SOIL

Sampling Point: DP-1

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-7	10YR 2/1	100					Greasy	Silty clay loam
7-16	10GY 3/1	100					Sandy loam	w/ gravel

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Loc: 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]:

- ☐ 2cm 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** ☐

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 (**except MLRA 1, 2, 4A & 4B**) (B9)~~
- ☐ 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 & 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

Field Observations:

Surface Water Present?	Yes	☐	No	☒	Depth (in):	
Water Table Present?	Yes	☐	No	☒	Depth (in):	
Saturation Present? (includes capillary fringe)	Yes	☒	No	☐	Depth (in):	**7" BGS**

Wetland Hydrology Present? **Yes** ☒ **No** ☐

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

Remarks: BGS = Below ground surface

DCG WATERSHED

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

DP - 2

Project/Site: 17200 Mill Creek LLC | City/County: Mill Creek / Snohomish | Sampling date: 6/15/2023

Applicant/Owner: 17200 Mill Creek LLC | State: WA | Sampling Point: DP-2

Investigator(s): G. Brennan, A. Murphy | Section, Township, Range: S07 T27N R05E

Landform (hillslope, terrace, etc): Hillslope | Local relief (concave, convex, none): Convex | Slope (%): 7-10

Subregion (LRR): A | Lat: - | Long: - | Datum: -

Soil Map Unit Name: Everett very gravelly sandy loam, 8-15% slopes | NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? ☒ Yes ☐ No (If no, explain in remarks.)

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present on the site? ☒ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes	☐	No	☒	**Is the Sampled Area within a Wetland?** Yes ☐ No ☒
Hydric Soils Present?	Yes	☐	No	☒	
Wetland Hydrology Present?	Yes	☐	No	☒	

Remarks: **Wetland A out-pit**

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 5-m diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Alnus rubra*	100	Y	FAC
2. *Frangula purshiana*	5	N	FAC
3.			
4.			
	105	= Total Cover	

Sapling/Shrub Stratum (Plot size: 3-m diameter)			
1. *Rubus spectabilis*	30	Y	FAC
2. *Sambucus racemosa*	40	Y	FACU
3.			
4.			
5.			
	70	= Total Cover	

Herb Stratum (Plot size: 1-m diameter)			
1. *Impatiens capensis*	5	N	FACW
2. *Tolmiea menziesii*	5	N	FAC
3. *Rubus ursinus*	10	Y	FACU
4. *Polystichum munitum*	10	Y	FACU
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	30	= Total Cover	

Woody Vine Stratum (Plot size: 3-m diameter)		
1.		
2.		
	0	= Total Cover

% Bare Ground in Herb Stratum: 70

Dominance Test worksheet:

Number of Dominant Species that are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across all Strata: 5 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 40 (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 ☒

Remarks:

SOIL

Sampling Point: DP-2

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

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

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Loc: 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]:

- ☐ 2cm 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 ☒

Remarks: Roots restricted digging at 8" BGS

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 (**except MLRA 1, 2, 4A & 4B**) (B9)~~
- ☐ 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 & 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

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (in):

Water Table Present? Yes ☐ No ☒ Depth (in):

Saturation Present? (includes capillary fringe) Yes ☐ No ☒ Depth (in):

Wetland Hydrology Present? Yes ☐ No ☒

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

Remarks: Bone dry throughout

FACET

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

DP - 3

Project/Site: 17200 Mill Creek LLC | City/County: Mill Creek / Snohomish | Sampling date: 6/6/2024

Applicant/Owner: 17200 Mill Creek LLC | State: WA | Sampling Point: DP-3

Investigator(s): G. Brennan | Section, Township, Range: S07 T27N R05E

Landform (hillslope, terrace, etc): Flat terrace | Local relief (concave, convex, none): None | Slope (%): 0

Subregion (LRR): A | Lat: - | Long: - | Datum: -

Soil Map Unit Name: Everett very gravelly sandy loam, 8-15% slopes | NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? ☐ Yes ☒ No (If no, explain in remarks.)

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present on the site? ☒ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes	☒	No	☐	**Is the Sampled Area within a Wetland?** **Yes ☒ No ☐**
Hydric Soils Present?	Yes	☒	No	☐	
Wetland Hydrology Present?	Yes	☒	No	☐	

Remarks: **Drier than normal according to the WETS Table Methodology with data from the Everett – Snohomish County Airport** Wetland A In-Pit

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30-ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Alnus rubra*	70	Y	FAC
2.			
3.			
4.			
	70	= Total Cover	
Sapling/Shrub Stratum (Plot size: 10-ft radius)			
1. *Rubus spectabilis*	60	Y	FAC
2. *Cornus sericea*	20	Y	FACW
3.			
4.			
5.			
	80	= Total Cover	
Herb Stratum (Plot size: 3-ft radius)			
1. *Lysichiton americanus*	20	Y	OBL
2. *Maianthemum dilatatum*	45	Y	FAC
3. *Athyrium filix-femina*	5	N	FAC
4. *Equisetum telmateia*	5	N	FACW
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	75	= Total Cover	
Woody Vine Stratum (Plot size: 10-ft radius)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum: 25

Dominance Test worksheet:

Number of Dominant Species that are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across all Strata: 4 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 100 (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 ☐**

Remarks:

SOIL

Sampling Point: DP-3

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-20	10YR 2/1	100					Silt loam	Greasy, high organic matter

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Loc: 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]:

- ☐ 2cm 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** ☐

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 (**except MLRA 1, 2, 4A & 4B**) (B9)~~
- ☐ 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 & 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

Field Observations:

Surface Water Present?	Yes	☒	No	☐	Depth (in):	**¼"**
Water Table Present?	Yes	☒	No	☐	Depth (in):	**Surface**
Saturation Present? (includes capillary fringe)	Yes	☒	No	☐	Depth (in):	**Surface**

Wetland Hydrology Present? **Yes** ☒ **No** ☐

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

Remarks:

Project/Site: 17200 Mill Creek LLC | City/County: Mill Creek / Snohomish | Sampling date: 6/6/2024

Applicant/Owner: 17200 Mill Creek LLC | State: WA | Sampling Point: DP-4

Investigator(s): G. Brennan | Section, Township, Range: S07 T27N R05E

Landform (hillslope, terrace, etc): Hillslope | Local relief (concave, convex, none): None | Slope (%): 100

Subregion (LRR): A | Lat: - | Long: - | Datum: -

Soil Map Unit Name: Everett very gravelly sandy loam, 8-15% slopes | NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? ☐ Yes ☒ No (If no, explain in remarks.)

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present on the site? ☒ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes	☒	No	☐	**Is the Sampled Area within a Wetland?** **Yes** ☐ **No** ☒
Hydric Soils Present?	Yes	☐	No	☒	
Wetland Hydrology Present?	Yes	☐	No	☒	

Remarks: **Drier than normal according to the WETS Table Methodology with data from the Everett – Snohomish County Airport**
Wetland A out-pit

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30-ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Alnus rubra*	100	Y	FAC
2.			
3.			
4.			
	100	= Total Cover	
Sapling/Shrub Stratum (Plot size: 10-ft radius)			
1. *Rubus spectabilis*	80	Y	FAC
2.			
3.			
4.			
5.			
	80	= Total Cover	
Herb Stratum (Plot size: 3-ft radius)			
1. *Equisetum telmateia*	2	N	FACW
2. *Geranium robertianum*	2	N	FACU
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	4	= Total Cover	
Woody Vine Stratum (Plot size: 10-ft radius)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum: 96

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
- ☒ 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** ☐

Remarks:

SOIL

Sampling Point: DP-4

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

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

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Loc: 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]:

- ☐ 2cm 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** ☒

Remarks: Roots restricted digging at 8”

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 (**except MLRA 1, 2, 4A & 4B**) (B9)~~
- ☐ 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 & 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

Field Observations:

Surface Water Present? Yes ☒ No ☐ Depth (in): _____

Water Table Present? Yes ☒ No ☐ Depth (in): _____

Saturation Present? (includes capillary fringe) Yes ☒ No ☐ Depth (in): _____

Wetland Hydrology Present? **Yes** ☐ **No** ☒

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

Remarks:

Wetland name or number: Wetland A

RATING SUMMARY – Western Washington

Name of wetland (or ID #): Wetland A / North Creek Wetland Date of site visit: June 16, 2023

Rated by: G. Brennan, A. Murphy Trained by Ecology? ☒Y ☐N Date of training: 10/2019

HGM Class used for rating: Depressional Wetland has multiple HGM classes? ☒Y ☐N

NOTE: **Form is not complete without the figures requested** *(figures can be combined)*.
Source of base aerial photo/map: Google Earth, DOE Water Quality Atlas

OVERALL WETLAND CATEGORY: I (based on functions ☒ or special characteristics ☐)

1. Category of wetland based on FUNCTIONS

- ☒ **Category I** – Total score = 23 - 27
- ☐ **Category II** – Total score = 20 - 22
- ☐ **Category III** – Total score = 16 - 19
- ☐ **Category IV** – Total score = 9 - 15

FUNCTION	Improving Water Quality			Hydrologic			Habitat			
	Circle the appropriate ratings									
Site Potential	**H**	M	L	H	**M**	L	**H**	M	L	
Landscape Potential	**H**	M	L	**H**	M	L	H	M	**L**	
Value	**H**	M	L	**H**	M	L	**H**	M	L	TOTAL
Score Based on Ratings	9			8			7			24

Score for each function based on three ratings *(order of ratings is not important)*

9 = H,H,H
8 = H,H,M
7 = H,H,L
7 = H,M,M
6 = H,M,L
6 = M,M,M
5 = H,L,L
5 = M,M,L
4 = M,L,L
3 = L,L,L

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY
Estuarine	**I** **II**
Wetland of High Conservation Value	**I**
Bog	**I**
Mature Forest	**I**
Old Growth Forest	**I**
Coastal Lagoon	**I** **II**
Interdunal	**I** **II** **III** **IV**
None of the above	☒

Wetland name or number: Wetland A

Maps and figures required to answer questions correctly for Western Washington

Depressional Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	D 1.3, H 1.1, H 1.4	1
Hydroperiods	D 1.4, H 1.2	2
Location of outlet (*can be added to map of hydroperiods)*	D 1.1, D 4.1	2
Boundary of area within 150 ft of the wetland *(can be added to another figure)*	D 2.2, D 5.2	2
Map of the contributing basin	D 4.3, D 5.3	3
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	4
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	5
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	D 3.3	6

HGM Classification of Wetlands in Western Washington

For questions 1-7, the criteria described must apply to the entire unit being rated.

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1-7 apply, and go to Question 8.

1. Are the water levels in the entire unit usually controlled by tides except during floods?

   ☒NO – go to 2 ☐**YES** – the wetland class is **Tidal Fringe** – go to 1.1

   1.1 Is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)?

   NO – Saltwater Tidal Fringe (Estuarine) **YES – Freshwater Tidal Fringe**
   *If your wetland can be classified as a Freshwater Tidal Fringe use the forms for **Riverine** wetlands. If it is Saltwater Tidal Fringe it is an **Estuarine** wetland and is not scored. This method **cannot** be used to score functions for estuarine wetlands.*

2. The entire wetland unit is flat and precipitation is the only source (>90%) of water to it. Groundwater and surface water runoff are NOT sources of water to the unit.

   ☒NO – go to 3 ☐**YES** – The wetland class is **Flats**
   *If your wetland can be classified as a Flats wetland, use the form for **Depressional** wetlands.*

3. Does the entire wetland unit **meet all** of the following criteria?
   ☐The vegetated part of the wetland is on the shores of a body of permanent open water (without any plants on the surface at any time of the year) at least 20 ac (8 ha) in size;
   ☐At least 30% of the open water area is deeper than 6.6 ft (2 m).

   ☒NO – go to 4 ☐**YES –** The wetland class is **Lake Fringe** (Lacustrine Fringe)

4. Does the entire wetland unit **meet all** of the following criteria?
   ☐The wetland is on a slope (*slope can be very gradual*),
   ☐The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks,
   ☐The water leaves the wetland **without being impounded**.

   ☒NO – go to 5 ☐**YES –** The wetland class is **Slope**

   NOTE: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 ft deep).

5. Does the entire wetland unit **meet all** of the following criteria?
   ☐The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river,
   ☐The overbank flooding occurs at least once every 2 years.

☒NO – go to 6 ☐**YES** – The wetland class is **Riverine**

NOTE: The Riverine unit can contain depressions that are filled with water when the river is not flooding

6. Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year? *This means that any outlet, if present, is higher than the interior of the wetland.*

☒NO – go to 7 ☐**YES** – The wetland class is **Depressional**

7. Is the entire wetland unit located in a very flat area with no obvious depression and no overbank flooding? The unit does not pond surface water more than a few inches. The unit seems to be maintained by high groundwater in the area. The wetland may be ditched, but has no obvious natural outlet.

☒NO – go to 8 ☐**YES** – The wetland class is **Depressional**

8. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a Depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-7 APPLY TO DIFFERENT AREAS IN THE UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within the wetland unit being scored.

NOTE: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the HGM class listed in column 2 is less than 10% of the unit; classify the wetland using the class that represents more than 90% of the total area.

HGM classes within the wetland unit being rated	HGM class to use in rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake Fringe	Lake Fringe
Depressional + Riverine along stream within boundary of depression	Depressional
Depressional + Lake Fringe	Depressional
Riverine + Lake Fringe	Riverine
Salt Water Tidal Fringe and any other class of freshwater wetland	Treat as ESTUARINE

If you are still unable to determine which of the above criteria apply to your wetland, or if you have ***more than 2 HGM classes*** *within a wetland boundary, classify the wetland as Depressional for the rating.*

Depressional, Riverine, Slope

Wetland name or number: Wetland A

DEPRESSIONAL AND FLATS WETLANDS

Water Quality Functions - Indicators that the site functions to improve water quality

D 1.0. Does the site have the potential to improve water quality?	
D 1.1. Characteristics of surface water outflows from the wetland: ☐ Wetland is a depression or flat depression (QUESTION 7 on key) with no surface water leaving it (no outlet). points = 3 ☐ Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet. points = 2 ☒ Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing. points = 1 ☐ Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch. points = 1	1
D 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic *(use NRCS definitions).* ☒Yes = 4 ☐ No = 0	4
D 1.3. Characteristics and distribution of persistent plants (Emergent, Scrub-shrub, and/or Forested Cowardin classes): ☒ Wetland has persistent, ungrazed, plants > 95% of area points = 5 ☐ Wetland has persistent, ungrazed, plants > 1/2 of area points = 3 ☐ Wetland has persistent, ungrazed plants > 1/10 of area points = 1 ☐ Wetland has persistent, ungrazed plants < 1/10 of area points = 0	5
D 1.4. Characteristics of seasonal ponding or inundation: *This is the area that is ponded for at least 2 months. See description in manual.* ☒ Area seasonally ponded is > ½ total area of wetland points = 4 ☐ Area seasonally ponded is > ¼ total area of wetland points = 2 ☐ Area seasonally ponded is < ¼ total area of wetland points = 0	4
Total for D 1 Add the points in the boxes above	14

Rating of Site Potential If score is: ☒**12-16 = H** ☐**6-11 = M** ☐**0-5 = L** *Record the rating on the first page*

D 2.0. Does the landscape have the potential to support the water quality function of the site?	
D 2.1. Does the wetland unit receive stormwater discharges? ☒Yes = 1 ☐ No = 0	1
D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants? ☒Yes = 1 ☐ No = 0	1
D 2.3. Are there septic systems within 250 ft of the wetland? ☒Yes = 1 ☐ No = 0	1
D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions D 2.1-D 2.3? Source: Click here to enter text. ☐Yes = 1 ☒ No = 0	0
Total for D 2 Add the points in the boxes above	3

Rating of Landscape Potential If score is: ☒**3 or 4 = H** ☐**1 or 2 = M** ☐**0 = L** *Record the rating on the first page*

D 3.0. Is the water quality improvement provided by the site valuable to society?	
D 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list? ☒Yes = 1 ☐ No = 0	1
D 3.2. Is the wetland in a basin or sub-basin where an aquatic resource is on the 303(d) list? ☒Yes = 1 ☐ No = 0	1
D 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (*answer YES if there is a TMDL for the basin in which the unit is found*)? ☒Yes = 2 ☐ No = 0	2
Total for D 3 Add the points in the boxes above	4

Rating of Value If score is: ☒**2-4 = H** ☐**1 = M** ☐**0 = L** *Record the rating on the first page*

Wetland name or number: Wetland A

DEPRESSIONAL AND FLATS WETLANDS

Hydrologic Functions - Indicators that the site functions to reduce flooding and stream degradation

D 4.0. Does the site have the potential to reduce flooding and erosion?

D 4.1. Characteristics of surface water outflows from the wetland:

- ☐ Wetland is a depression or flat depression with no surface water leaving it (no outlet). points = 4
- ☐ Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet. points = 2
- ☐ Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch. points = 1
- ☒ Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing. points = 0

0

D 4.2. Depth of storage during wet periods: *Estimate the height of ponding above the bottom of the outlet. For wetlands with no outlet, measure from the surface of permanent water or if dry, the deepest part.*

- ☐ Marks of ponding are 3 ft or more above the surface or bottom of outlet. points = 7
- ☐ Marks of ponding between 2 ft to < 3 ft from surface or bottom of outlet. points = 5
- ☒ Marks are at least 0.5 ft to < 2 ft from surface or bottom of outlet. points = 3
- ☐ The wetland is a "headwater" wetland. points = 3
- ☐ Wetland is flat but has small depressions on the surface that trap water. points = 1
- ☐ Marks of ponding less than 0.5 ft (6 in). points = 0

3

D 4.3. Contribution of the wetland to storage in the watershed: *Estimate the ratio of the area of upstream basin contributing surface water to the wetland to the area of the wetland unit itself.*

- ☐ The area of the basin is less than 10 times the area of the unit. points = 5
- ☒ The area of the basin is 10 to 100 times the area of the unit. points = 3
- ☐ The area of the basin is more than 100 times the area of the unit. points = 0
- ☐ Entire wetland is in the Flats class. points = 5

3

Total for D 4 — Add the points in the boxes above: **6**

Rating of Site Potential If score is: ☐ **12-16 = H** ☒ **6-11 = M** ☐ **0-5 = L** *Record the rating on the first page*

D 5.0. Does the landscape have the potential to support hydrologic functions of the site?

D 5.1. Does the wetland receive stormwater discharges?	☒ Yes = 1 ☐ No = 0	1
D 5.2. Is >10% of the area within 150 ft of the wetland in land uses that generate excess runoff?	☒ Yes = 1 ☐ No = 0	1
D 5.3. Is more than 25% of the contributing basin of the wetland covered with intensive human land uses (residential at >1 residence/ac, urban, commercial, agriculture, etc.)?	☒ Yes = 1 ☐ No = 0	1
Total for D 5	Add the points in the boxes above	3

Rating of Landscape Potential If score is: ☒ **3 = H** ☐ **1 or 2 = M** ☐ **0 = L** *Record the rating on the first page*

D 6.0. Are the hydrologic functions provided by the site valuable to society?

D 6.1. The unit is in a landscape that has flooding problems. *Choose the description that best matches conditions around the wetland unit being rated. Do not add points. Choose the highest score if more than one condition is met.*

The wetland captures surface water that would otherwise flow down-gradient into areas where flooding has damaged human or natural resources (e.g., houses or salmon redds):

- ☒ Flooding occurs in a sub-basin that is immediately down-gradient of unit. points = 2
- ☐ Surface flooding problems are in a sub-basin farther down-gradient. points = 1

☐ Flooding from groundwater is an issue in the sub-basin. points = 1

☐ The existing or potential outflow from the wetland is so constrained by human or natural conditions that the water stored by the wetland cannot reach areas that flood.

Explain why: ___ points = 0

☐ There are no problems with flooding downstream of the wetland. points = 0

2

D 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan? ☒ Yes = 2 ☐ No = 0 — **2**

Total for D 6 — Add the points in the boxes above: **4**

Rating of Value If score is: ☒ **2-4 = H** ☐ **1 = M** ☐ **0 = L** *Record the rating on the first page*

Wetland name or number: Wetland A

These questions apply to wetlands of all HGM classes.

HABITAT FUNCTIONS - Indicators that site functions to provide important habitat

H 1.0. Does the site have the potential to provide habitat?

H 1.1. Structure of plant community: *Indicators are Cowardin classes and strata within the Forested class.* Check the Cowardin plant classes in the wetland. *Up to 10 patches may be combined for each class to meet the threshold of ¼ ac or more than 10% of the unit if it is smaller than 2.5 ac. Add the number of structures checked.*

☐ Aquatic bed
☒ Emergent
☒ Scrub-shrub (areas where shrubs have > 30% cover)
☒ Forested (areas where trees have > 30% cover)

4 structures or more: points = 4
3 structures: points = 2
2 structures: points = 1
1 structure: points = 0

If the unit has a Forested class, check if:

☒ The Forested class has 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover) that each cover 20% within the Forested polygon

4

H 1.2. Hydroperiods

Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or ¼ ac to count (*see text for descriptions of hydroperiods*).

☒ Permanently flooded or inundated
☒ Seasonally flooded or inundated
☐ Occasionally flooded or inundated
☒ Saturated only

4 or more types present: points = 3
3 types present: points = 2
2 types present: points = 1
1 type present: points = 0

☒ Permanently flowing stream or river in, or adjacent to, the wetland
☐ Seasonally flowing stream in, or adjacent to, the wetland
☐ **Lake Fringe wetland** **2 points**
☐ **Freshwater tidal wetland** **2 points**

3

H 1.3. Richness of plant species

Count the number of plant species in the wetland that cover at least 10 ft^2.

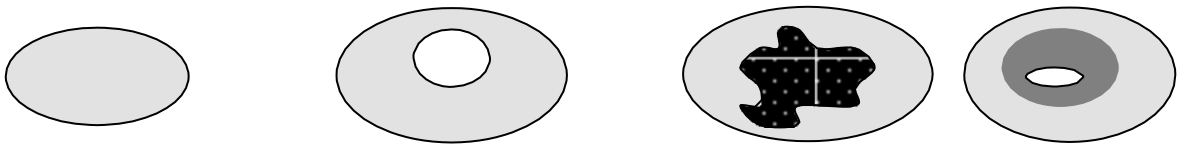
Different patches of the same species can be combined to meet the size threshold and you do not have to name the species. ***Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Canadian thistle***

If you counted:
☒ > 19 species — points = 2
☐ 5 - 19 species — points = 1
☐ < 5 species — points = 0

2

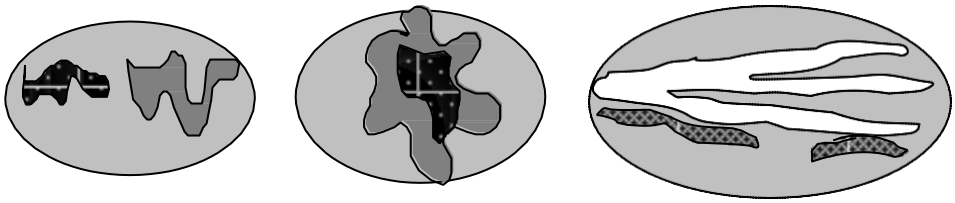
H 1.4. Interspersion of habitats

Decide from the diagrams below whether interspersion among Cowardin plants classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, moderate, low, or none. *If you have four or more plant classes or three classes and open water, the rating is always high.*



☐ **None** = 0 points ☐ **Low** = 1 point ☐ **Moderate** = 2 points

All three diagrams in this row are
☒ **HIGH** = 3 points



3

H 1.5. Special habitat features: Check the habitat features that are present in the wetland. *The number of checks is the number of points.* ☒ Large, downed, woody debris within the wetland (> 4 in diameter and 6 ft long). ☒ Standing snags (dbh > 4 in) within the wetland. ☐ Undercut banks are present for at least 6.6 ft (2 m) **AND/OR** overhanging plants extends at least 3.3 ft (1 m) over a stream (or ditch) in, or contiguous with the wetland, for at least 33 ft (10 m). ☒ Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 30 degree slope) **OR** signs of recent beaver activity are present *(cut shrubs or trees that have not yet weathered where wood is exposed).* ☒ At least ¼ ac of thin-stemmed persistent plants or woody branches are present in areas that are permanently or seasonally inundated *(structures for egg-laying by amphibians).* ☐ Invasive plants cover less than 25% of the wetland area in every stratum of plants (*see H 1.1 for list of strata*).	4
Total for H 1 Add the points in the boxes above	16

Rating of Site Potential If score is: ☒**15-18 = H** ☐**7-14 = M** ☐**0-6 = L** *Record the rating on the first page*

H 2.0. Does the landscape have the potential to support the habitat functions of the site?	
H 2.1. Accessible habitat (include *only habitat that directly abuts wetland unit*). *Calculate:* % undisturbed habitat + [(%moderate and low intensity land uses)/2] = **8% + [2.1%/2) = 9.1%** If total accessible habitat is: ☐ > 1/3 (33.3%) of 1 km Polygon points = 3 ☐ 20-33% of 1 km Polygon points = 2 ☐ 10-19% of 1 km Polygon points = 1 ☒ < 10% of 1 km Polygon points = 0	0
H 2.2. Undisturbed habitat in 1 km Polygon around the wetland. *Calculate:* % undisturbed habitat + [(%moderate and low intensity land uses)/2 **= 16.9% + (2.4%/2) = 18.1%** ☐ Undisturbed habitat > 50% of Polygon points = 3 ☐ Undisturbed habitat 10-50% and in 1-3 patches points = 2 ☒ Undisturbed habitat 10-50% and > 3 patches points = 1 ☐ Undisturbed habitat < 10% of 1 km Polygon points = 0	1
H 2.3. Land use intensity in 1 km Polygon: If ☒ > 50% of 1 km Polygon is high intensity land use points = (- 2) ☐ ≤ 50% of 1 km Polygon is high intensity points = 0	-2
Total for H 2 Add the points in the boxes above	-1

Rating of Landscape Potential If score is**:** ☐**4-6 = H** ☐**1-3 = M** ☒**< 1 = L** *Record the rating on the first page*

H 3.0. Is the habitat provided by the site valuable to society?	
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? *Choose only the highest score that applies to the wetland being rated.* Site meets ANY of the following criteria: points = 2 ☒ It has 3 or more priority habitats within 100 m (see next page) ☐ It provides habitat for Threatened or Endangered species (any plant or animal on the state or federal lists) ☐ It is mapped as a location for an individual WDFW priority species ☐ It is a Wetland of High Conservation Value as determined by the Department of Natural Resources ☐ It has been categorized as an important habitat site in a local or regional comprehensive plan, in a Shoreline Master Plan, or in a watershed plan ☐ Site has 1 or 2 priority habitats (listed on next page) within 100 m points = 1 ☐ Site does not meet any of the criteria above points = 0	2

Rating of Value If score is: ☒**2 = H** ☐ **1 = M** ☐**0 = L** *Record the rating on the first page*

WDFW Priority Habitats

Priority habitats listed by WDFW (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp. http://wdfw.wa.gov/publications/00165/wdfw00165.pdf or access the list from here: http://wdfw.wa.gov/conservation/phs/list/)

Count how many of the following priority habitats are within 330 ft (100 m) of the wetland unit: ***NOTE:*** *This question is independent of the land use between the wetland unit and the priority habitat.*

☐ **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha).

☒ **Biodiversity Areas and Corridors**: Areas of habitat that are relatively important to various species of native fish and wildlife (*full descriptions in WDFW PHS report*).

☐ **Herbaceous Balds:** Variable size patches of grass and forbs on shallow soils over bedrock.

☐ **Old-growth/Mature forests:** Old-growth west of Cascade crest – Stands of at least 2 tree species, forming a multi- layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) > 32 in (81 cm) dbh or > 200 years of age. Mature forests – Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west of the Cascade crest.

☐ **Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158 – see web link above*).

☒ **Riparian**: The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.

☐ **Westside Prairies:** Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (*full descriptions in WDFW PHS report p. 161 – see web link above*).

☒ **Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.

☐ **Nearshore**: Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. (*full descriptions of habitats and the definition of relatively undisturbed are in WDFW report – see web link on previous page).*

☐ **Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.

☐ **Cliffs:** Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.

☐ **Talus:** Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.

☒ **Snags and Logs:** Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 20 in (51 cm) in western Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.

Note: All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Wetland Type *Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.*	**Category**
SC 1.0. Estuarine wetlands Does the wetland meet the following criteria for Estuarine wetlands? ☐ The dominant water regime is tidal, ☐ Vegetated, and ☐ With a salinity greater than 0.5 ppt ☐Yes –Go to **SC 1.1** ☒No= **Not an estuarine wetland**	
SC 1.1. Is the wetland within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-30-151? ☐Yes = **Category I** ☒No - Go to **SC 1.2**	**Cat. I**
SC 1.2. Is the wetland unit at least 1 ac in size and meets at least two of the following three conditions? ☐ The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less than 10% cover of non-native plant species. (If non-native species are *Spartina*, see page 25) ☐ At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un- mowed grassland. ☐ The wetland has at least two of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands. ☐Yes = **Category I** ☒No= **Category II**	**Cat. I** **Cat. II**
SC 2.0. Wetlands of High Conservation Value (WHCV) SC 2.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High Conservation Value? ☒Yes – Go to **SC 2.2** ☐No – Go to **SC 2.3** SC 2.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value? http://www.dnr.wa.gov/NHPwetlandviewer ☐Yes = **Category I** ☒No = **Not a WHCV** SC 2.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? http://file.dnr.wa.gov/publications/amp_nh_wetlands_trs.pdf ☐Yes – **Contact WNHP/WDNR and go to SC 2.4** ☒No = **Not a WHCV** SC 2.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and listed it on their website? ☐Yes = **Category I** ☒No = **Not a WHCV**	**Cat. I**
SC 3.0. Bogs Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? *Use the key below.* ***If you answer YES you will still need to rate the wetland based on its functions.*** SC 3.1. Does an area within the wetland unit have organic soil horizons, either peats or mucks, that compose 16 in or more of the first 32 in of the soil profile? ☐Yes – Go to **SC 3.3** ☒No – Go to **SC 3.2** SC 3.2. Does an area within the wetland unit have organic soils, either peats or mucks, that are less than 16 in deep over bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? ☐Yes – Go to **SC 3.3** ☒No = **Is not a bog** SC 3.3. Does an area with peats or mucks have more than 70% cover of mosses at ground level, AND at least a 30% cover of plant species listed in Table 4? ☐Yes = **Is a Category I bog** ☒No – Go to **SC 3.4** **NOTE:** If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0 and the plant species in Table 4 are present, the wetland is a bog. SC 3.4. Is an area with peats or mucks forested (> 30% cover) with Sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the species (or combination of species) listed in Table 4 provide more than 30% of the cover under the canopy? ☐Yes = **Is a Category I bog** ☒No = **Is not a**	**Cat. I**

SC 4.0. Forested Wetlands Does the wetland have at least 1 contiguous acre of forest that meets one of these criteria for the WA Department of Fish and Wildlife's forests as priority habitats? ***If you answer YES you will still need to rate the wetland based on its functions.*** ☐ **Old-growth forests** (west of Cascade crest): Stands of at least two tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 in (81 cm) or more. ☐ **Mature forests** (west of the Cascade Crest): Stands where the largest trees are 80- 200 years old OR the species that make up the canopy have an average diameter (dbh) exceeding 21 in (53 cm). ☐ Yes **= Category I** ☒ No **= Not a forested wetland for this section**	**Cat. I**
SC 5.0. Wetlands in Coastal Lagoons Does the wetland meet all of the following criteria of a wetland in a coastal lagoon? ☐ The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks ☐ The lagoon in which the wetland is located contains ponded water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon *(needs to be measured near the bottom)* ☐ Yes – Go to **SC 5.1** ☒ No = **Not a wetland in a coastal lagoon** SC 5.1. Does the wetland meet all of the following three conditions? ☐ The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of aggressive, opportunistic plant species (see list of species on p. 100). ☐ At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un- mowed grassland. ☐ The wetland is larger than $^{1}/_{10}$ ac (4350 ft^2) ☐ Yes = **Category I** ☐ No = **Category II**	**Cat. I** **Cat. II**
SC 6.0. Interdunal Wetlands Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership or WBUO)? ***If you answer yes you will still need to rate the wetland based on its habitat functions.*** In practical terms that means the following geographic areas: ☐ Long Beach Peninsula: Lands west of SR 103 ☐ Grayland-Westport: Lands west of SR 105 ☐ Ocean Shores-Copalis: Lands west of SR 115 and SR 109 ☐ Yes – Go to **SC 6.1** ☒ No = **not an interdunal wetland for rating** SC 6.1. Is the wetland 1 ac or larger and scores an 8 or 9 for the habitat functions on the form (rates H,H,H or H,H,M for the three aspects of function)? ☐ Yes = **Category I** ☐ No – Go to **SC 6.2** SC 6.2. Is the wetland 1 ac or larger, or is it in a mosaic of wetlands that is 1 ac or larger? ☐ Yes = **Category II** ☐ No – Go to **SC 6.3** SC 6.3. Is the unit between 0.1 and 1 ac, or is it in a mosaic of wetlands that is between 0.1 and 1 ac? ☐ Yes = **Category III** ☐ No = **Category IV**	**Cat I** **Cat. II** **Cat. III** **Cat. IV**
Category of wetland based on Special Characteristics If you answered No for all types, enter "Not Applicable" on Summary Form	NA

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2014 Ecology Wetland Rating Form Figures

17200 Mill Creek LLC Property

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WETLAND A (DEPRESSIONAL/RIVERINE/SLOPE)

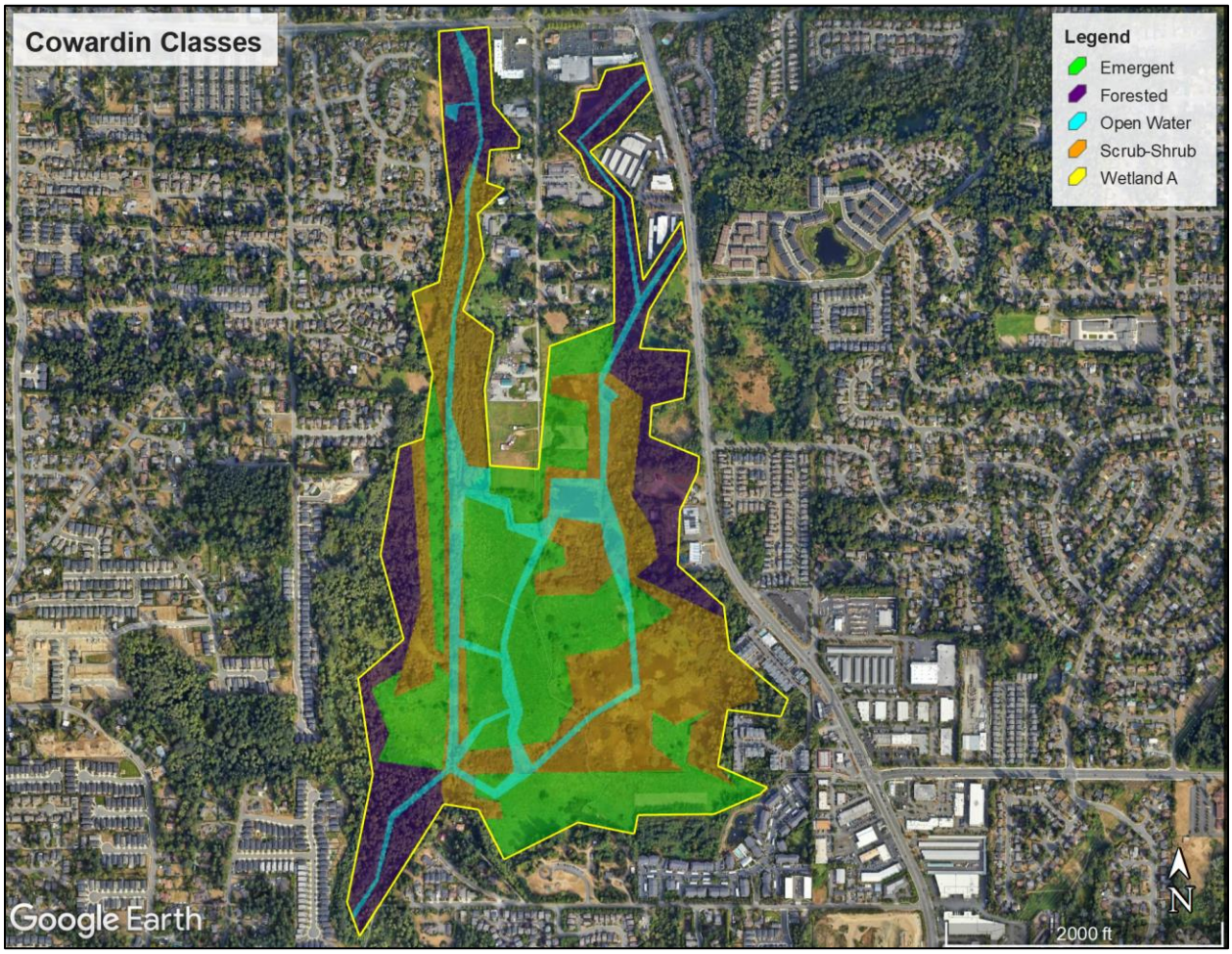

Figure 1. Cowardin plant classes – D1.3, H1.1, H1.4

Features depicted are not to scale. Sketches are based on available data and best professional judgment.

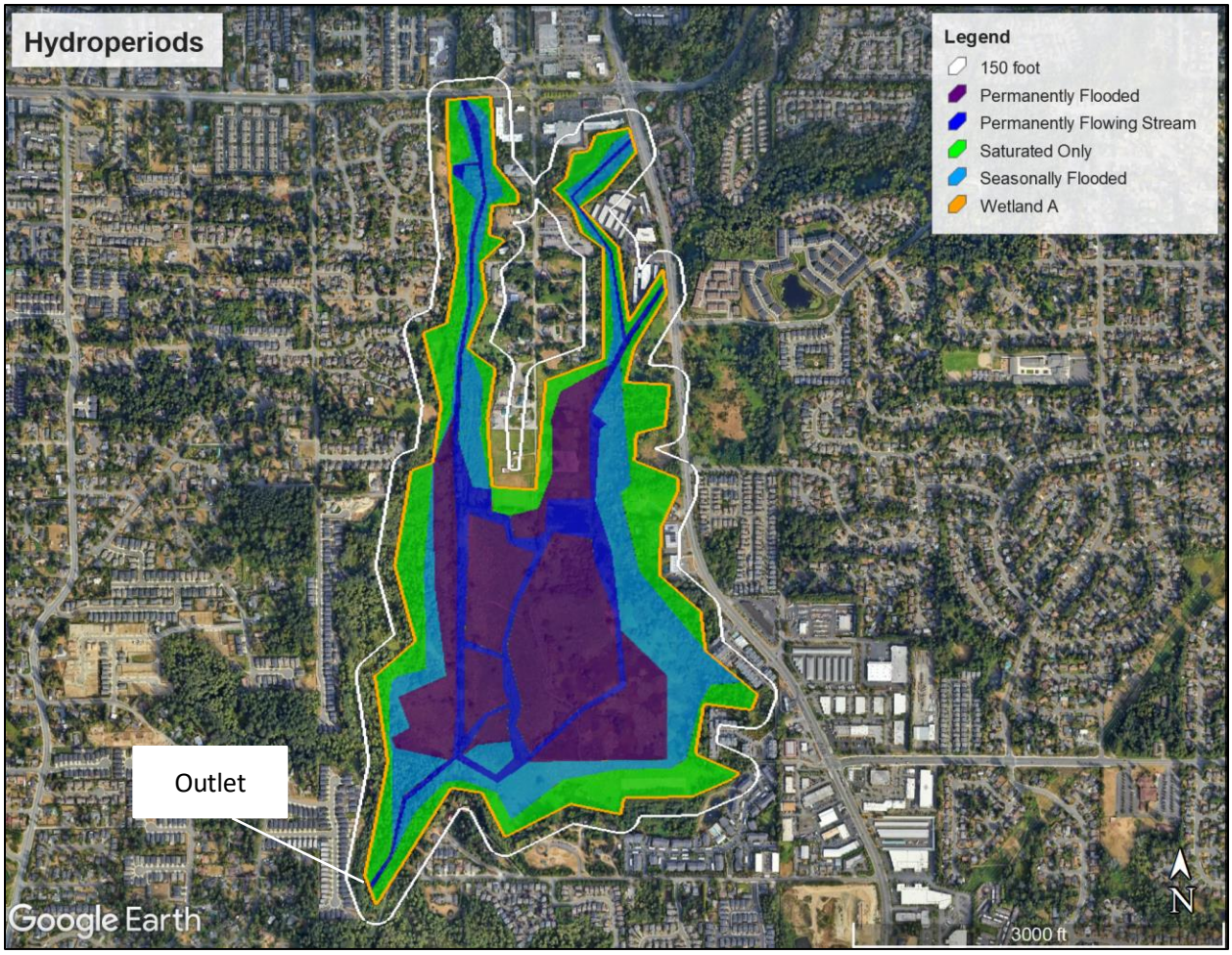

Figure 2. Hydroperiods, outlet(s), and 150-ft area – D1.1, D1.4, H1.2, D2.2, D5.2

Features depicted are not to scale. Sketches are based on available data and best professional judgment.

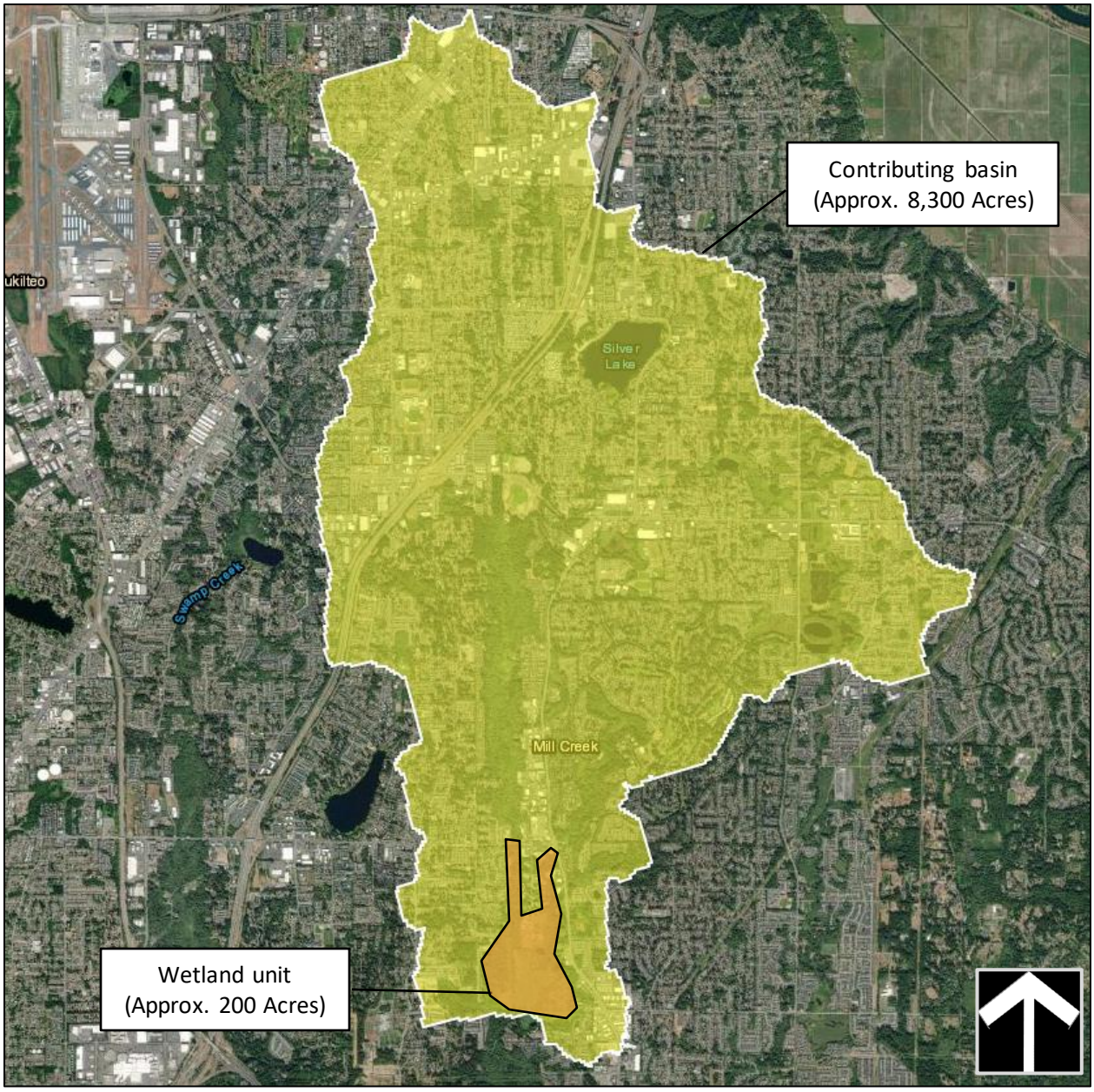

Figure 3. Map of the contributing basin – D4.3, D5.3

Features depicted are not to scale. Sketches are based on available data and best professional judgment.

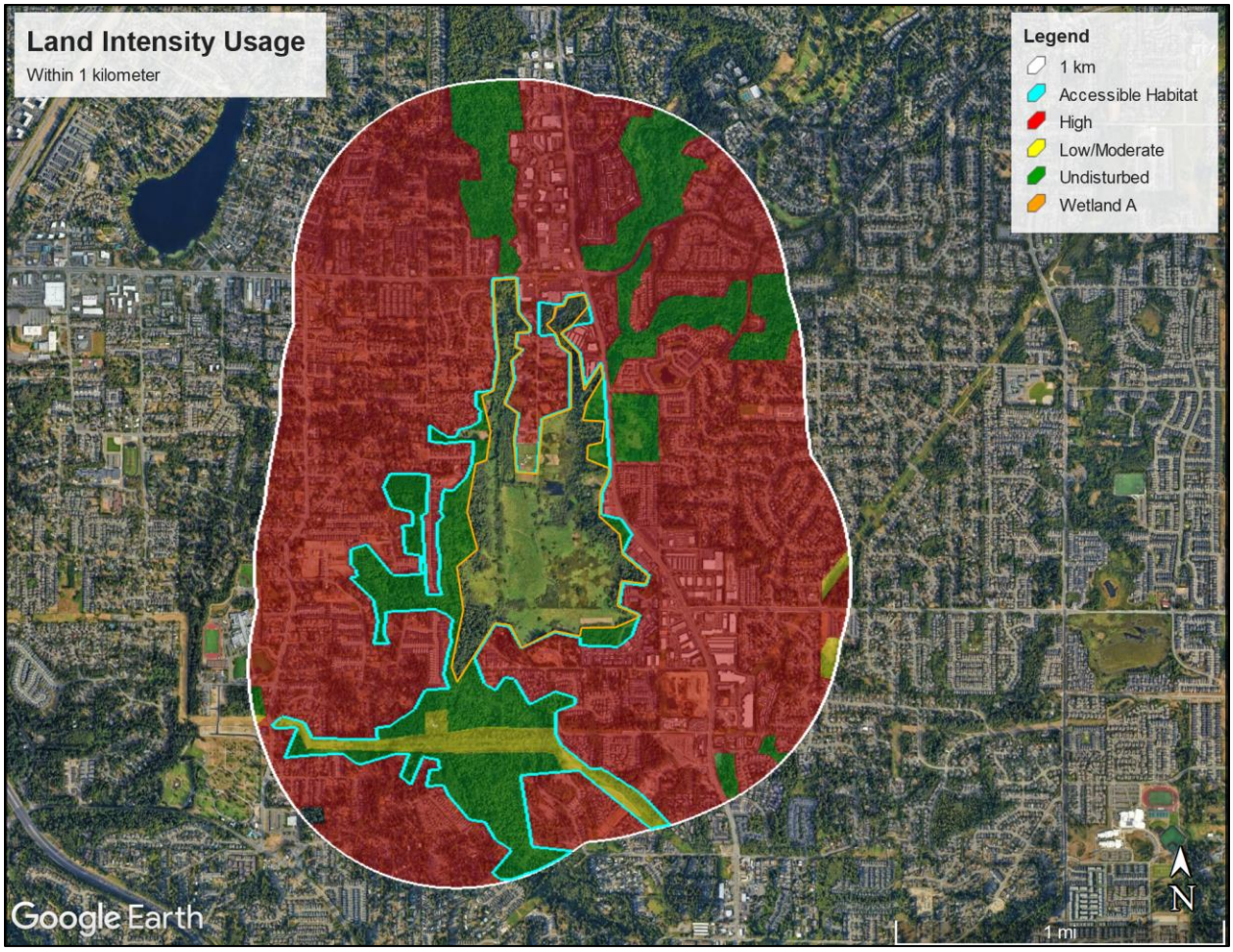

Figure 4. Undisturbed habitat and moderate-low intensity land uses within 1 km from wetland edge including polygon for accessible habitat – H2.1, H2.2, H2.3

Features depicted are not to scale. Sketches are based on available data and best professional judgment.

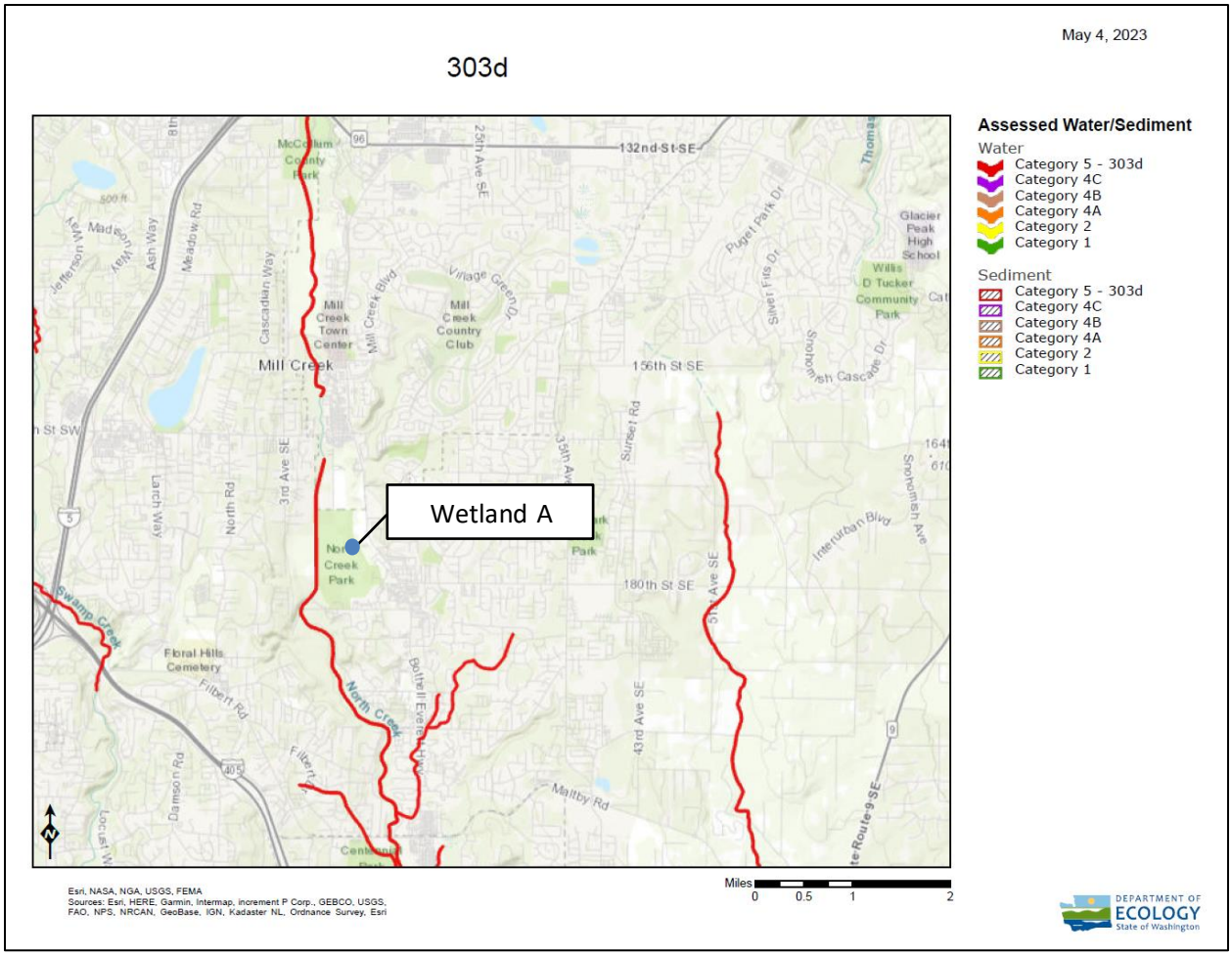

Figure 5. Screen-capture of 303(d) listed waters in basin – D3.1, D3.2

Features depicted are not to scale. Sketches are based on available data and best professional judgment.

Figure 6. Screen-capture of TMDL map for sub-basin in which unit is found – D3.3

Features depicted are not to scale. Sketches are based on available data and best professional judgment.