CRITICAL AREAS REPORT

April 20, 2021

North Grand Forest

Bainbridge Island, Washington

Prepared for

Bainbridge Island Metropolitan
Parks and Recreation District
7666 NE High School Road
Bainbridge Island, WA 98110
(206) 842-2306

Prepared by

Ecological Land Services

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(360) 578-1371 • Project Number 2248.08

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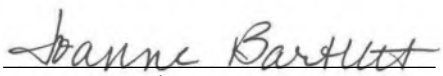
The information and data in this report were compiled and prepared under the supervision and direction of the undersigned.



Joanne Bartlett, PWS
Senior Biologist

INTRODUCTION

Ecological Land Services, Inc. (ELS) was contracted by Bainbridge Island Metropolitan Parks and Recreation District (BIMPRD) to complete a critical areas assessment for the North Grand Forest located at the corner of Miller Road and Koura Road, Kitsap County Tax Parcel Number 162502-2-001-2002, within a portion of Section 16, Township 25 North, Range 2 East of the Willamette Meridian, in Bainbridge Island, Washington (Figure 1). This report summarizes findings of the critical areas assessment according to the *Bainbridge Island Municipal Code (BIMC), Chapters 16.20.110 Fish and Wildlife Habitat Conservation Areas (FWHCA) and 16.20.140 Wetlands.*

METHODOLOGY

The critical areas assessment followed the Routine Determination Method in the Western Mountains, Valleys, and Coast Region according to the U.S. Army 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 Engineer Research and Development Center 2010).

The Routine Determination Method examines three parameters—vegetation, soils, and hydrology—to determine if wetlands exist in a given area. Hydrology is critical in determining what is wetland but is often difficult to assess because hydrologic conditions can change periodically (hourly, daily, or seasonally). Consequently, it is necessary to determine if hydrophytic vegetation and hydric soils are present, which would indicate that water is present for long enough duration to support a wetland plant community. By definition, wetlands are those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands are regulated as "Waters of the United States" by the U.S. Army Corps of Engineers (USACE), as "Waters of the State" by the Washington Department of Ecology (DOE), and locally by Bainbridge Island.

To identify the presence of critical areas, which include FWHCA and wetlands, ELS biologists collected vegetation, hydrology, and soil data at eight test plots in the North Grand Forest. A handheld Trimble Global Positioning System (GPS) was used to locate the test plots and perimeter trail on the site map (Figure 2). Data was collected on June 17, 2019 and revealed that there are no onsite wetlands because the positive indicators were not observed for all three of the wetland parameters. No indicators of other critical areas were observed on or within 300 feet of the study area.

On April 7, 2021, ELS revisited the North Grand Forest to delineate the onsite slope wetland that was identified by users of the perimeter trail. It was unintentionally overlooked during the 2019 critical area reconnaissance. To verify the wetland boundaries on the study area, ELS biologists collected data on vegetation, soils, and hydrology. The wetland boundary was delineated using consecutively numbered fluorescent flagging labeled "WETLAND DELINEATION". The wetland boundary was determined through breaks in topography, changes in vegetation, and evidence of surface hydrology. Vegetation, soil, and hydrology data was collected at Test Plots 10, 11, and 12 at the north end of the wetland to verify the delineated boundary (Appendix A). The wetland boundary and test plots were mapped using a handheld GPS unit to show the extent of the wetland and data collection on the site map (Figure 2).

STUDY AREA DESCRIPTION

The North Grand Forest is part of the BIMPRD park system, which is in the southeast corner of Miller Road and Koura Road in the Meadowmeer area of Bainbridge Island, Washington (Figure 1). The park property lies on both sides of Miller Road, but the largest portion of the park is located on the east side (Figure 2). The study area lies inside the perimeter trail, but observations were made in the forest outside the study area (Photoplates 1 and 2). The trail is part of the BIMPRD trail system that runs through other portions of the Grand Forest as well as other parks in the area. It is a dirt trail that is fairly narrow and does not appear to be as heavily used as the other Grand Forest trails (Photoplates 1 and 2). The park property overall slopes moderately down from east to west with areas of narrow depressional troughs in several locations. It is composed of upland forest with large, old growth trees with a mostly sparse high shrub layer. There are forested openings throughout where a dense high shrub layer has formed within the understory (Photoplates 1, 2, and 3). There were dense low shrub and herbaceous plant layers throughout the study area (Photoplates 2 and 3). The properties around the North Grand Forest include one of the Meadowmeer residential areas to the east, undeveloped forest currently managed by the Bainbridge Island Land Trust to the south, and well used, two lane roads to the north and west (Koura and Miller Roads, respectively).

Wetland A is a small, slope wetland that lies at the north end of the North Grand Forest and just south of the northern segment of the perimeter trail (Figure 2). The wetland outlets into a small ephemeral drainage that goes underground about 100 feet west of the wetland. The drainage continues westerly and crosses the trail before reaching the low area at Koura Road. There is a culvert under the road that provides an outlet for the drainage, however, there is rarely water flow as evidenced by the small channel and lack of water during the April 7th site visit. The wetland is a scrub/shrub community even though there are a few trees within the wetland because there is a largely open forest canopy. The wetland has a saturated only hydroperiod with occasionally flooded areas at the north end.

VEGETATION

Wetland Vegetation

Test Plot 11 was conducted within Wetland A next to one of the occasionally flooded areas. The ground was mostly bare in the test plot area but there were low percentages of lady fern (*Athyrium cyclosorum*, FAC), American speedwell (*Veronica americana*, OBL), and youth-on-age (*Tolmiea menziesii*, FAC). Elsewhere, the wetland contained varying percentages of sapling-sized western red cedar (*Thuja plicata*, FAC), salmonberry (*Rubus spectabilis*, FAC), Indian plum (Oemleria cerasiformis, FACU), and skunk cabbage (*Lysichiton americanum*, OBL). English ivy (*Hedera helix*, FACU) was dominant over the ground in the upper, eastern half of the wetland.

Upland Vegetation

Upland data was collected at Test Plots 10 and 12 on the east and west sides of Wetland A, respectively. The dominant vegetation in these areas includes bigleaf maple (*Acer macrophyllum*, FACU), western red cedar, Douglas fir (*Pseudotsuga menziesii*, FACU), evergreen huckleberry (*Vaccinium ovatum*, FACU), Oregon grape (*Mahonia nervosa*, FACU), sword fern (*Polystichum munitum*, FACU), and trailing blackberry (*Rubus ursinus*, FACU).

Data was collected on the remainder of the North Grand Forest in 2019 and mostly within the depressional troughs that form in the east-west sloping terrain. These troughs were the focus of the critical area assessment because critical areas are often found in low depressional areas. The vegetation in these areas was dominated by western red cedar and bigleaf maple within the test plot areas but there were also Douglas fir and western hemlock (*Tsuga heterophylla*, FACU) trees throughout. The shrub layer was dense where there are openings in the forest canopy and was dominated by salmonberry, ocean spray (*Holodiscus discolor*, FACU), evergreen huckleberry, red huckleberry (*Vaccinium parvifolium*, FACU), hazelnut (*Corylus cornuta*, FACU), and salal (*Gaultheria shallon*, FACU). The herbaceous layer was dominated by sword fern, trailing blackberry, vanilla leaf (*Achlys triphylla*, NL, assumed UPL), foam flower (*Tiarella trifoliata*, FAC), stinging nettle (*Urtica dioica*, FAC), fringe cup (*Tellima grandiflora*, FACU), enchanter's nightshade (*Circaea alpina*, FAC), and bracken fern (*Pteridium aquilinum*, FACU). There also were lower percentages of bleeding heart (*Dicentra formosa*, FACU), wood fern (*Dryopteris expansa*, FACW), and wild ginger (*Asarum caudatum*, FACU) present throughout the upland forest. The hydrophytic vegetation criterion was met at only one of the eight test plots conducted on the study area.

The dominant vegetation found onsite is recorded on the attached wetland determination data forms (Appendix A). The indicator status, following the common and scientific names, indicates how likely a species is to be found in wetlands. Listed from most likely to least likely to be found in wetlands, the indicator status categories are:

- **OBL** (obligate wetland) – Almost always occur in wetlands.
- **FACW** (facultative wetland) – Usually occur in wetlands, but may occur in non-wetlands.
- **FAC** (facultative) – Occur in wetlands and non-wetlands.
- **FACU** (facultative upland) – Usually occur in non-wetlands, but may occur in wetlands.
- **UPL** (obligate upland) – Almost never occur in wetlands.
- **NI** (no indicator) – Status not yet determined.

SOILS

As referenced on the U.S.D.A. Natural Resources Conservation Service (NRCS 2021) website, the soils within the study area include Harstine gravelly ashy sandy loam, 0 to 6 percent slopes (14), Harstine gravelly ashy sandy loam, 15 to 30 percent slopes (16), and Kapowsin gravelly ashy loam, 6 to 15 percent slopes (Figure 3). The soil unit just east of the study area and on the park property is Kapowsin gravelly ashy loam, 0 to 6 percent slopes (22). None of these soil units are classified as hydric (NRCS 2021). Harstine soils are moderately well drained and formed in sandy glacial drift with an influence of volcanic ash over dense glaciomarine deposits. Depth to water table in Harstine soils is more than 80 inches. Kapowsin soils are moderately well drained and formed in volcanic ash mixed with glacial drift over dense glaciomarine deposits. The depth to the water table ranges between 11 and 24 inches below the surface. Areas mapped as hydric soils do not necessarily mean that an area is or is not a wetland—hydrology, hydrophytic vegetation, and hydric soils must all be present to classify an area as a wetland.

Wetland Soils

The soil profile at Test Plot 11 consisted of gravelly sandy loam in two layers. The 10-inch surface layer had a dark brown (10YR 2/1) matrix color over a depleted (10YR 4/1) subsurface

layer that contained redoximorphic concentrations having a reddish brown (10YR 4/6) colors. The soil profile meets hydric soil A11 because the surface layer was 10 inches thick over a depleted matrix color. Organic material was visible within the surface layer, which is an additional characteristic of hydric soils meeting the A11 indicator.

Upland Soils

Test Plots 10 and 12 were conducted in the upland east and west of the wetland, respectively. The soil profile at Test Plot 10 consisted of a two-layer gravelly sandy loam profile with a 10-inch surface layer having a dark brown (10YR 2/2) matrix color. The underlying layer had a reddish brown (10YR 4/4) matrix color. The profile at Test Plot 12 consisted of a very gravelly sandy loam having a single layer with a dark brown (10YR 2/2) matrix color. The profiles revealed at Test Plots 10 and 12 have high matrix chromas and lack redoximorphic concentrations so meet none of the hydric soil indicators.

Test Plots 1 through 8 consisted of gravelly sandy loam soil profiles at seven of the eight test plots. These soil profiles generally consisted of two layers with a 2 to 7-inch surface layers that had brown (10YR 2/2) matrix chromas. The subsurface layer had red to reddish brown (7.5YR 4/6 to 10YR 4/6) matrix chromas. A three-layer profile was revealed at Test Plot 8 and consists of a 2-inch brown surface layer (10YR 2/2), a 6-inch light brown intermediate layer (10YR 3/3), and a bottom layer with a red (10YR 4/6) matrix chroma. The soil profiles revealed at the eight test plots did not meet any of the hydric soil indicators because of high matrix chromas.

HYDROLOGY

Hydrology was present in Wetland A as soil saturation to the surface and surface water to a depth of 1 inch with water flow within the internal drainage. The source of hydrology is primarily groundwater seepage emerging from the soil in the northeast corner. Water flows westerly through the wetland and enters a small ephemeral drainage channel that parallels the northern perimeter trail. Water disappears underground about 100 feet from the wetland and did not appear in any other point along the surface drainage. The drainage ends at the culvert under Koura Road along the north edge of the North Grand Forest.

Hydrology was not present during the field visit and there was no evidence of wetland hydrology. Therefore, the wetland hydrology criterion was not met for any location of the study area. In addition, no water flow or flow indicators were observed within the depressional east-west troughs where observed in the study area. Therefore, streams are not present on the North Grand Forest or within the study area.

NATIONAL WETLAND INVENTORY

The U.S. Fish and Wildlife Service (USFWS 2021), National Wetlands Inventory (NWI) map does not indicate the presence of wetlands on or within 300 feet of the property (Figure 4). NWI maps are to be used with discretion because they are intended to gather general wetland information about a regional area and therefore are limited in accuracy for smaller areas due to their large scale. A single wetland was identified and delineated at the north end, which mostly likely does not appear on the NWI because of its small size.

BAINBRIDGE ISLAND CRITICAL AREAS INVENTORY

The Bainbridge Island Critical Areas Web Application (BI 2021) maps a small wetland near the middle of the west half of the study area (Figure 5). The wetland was not observed in this area during the field reconnaissance as verified at Test Plot 4, which is located near the northern tip of the mapped wetland (Figure 2). The test plot data revealed that there were no positive indicators for any of the three wetland parameters and no wetlands in this area as mapped. Wetland A was identified at the north end of the North Grand Forest where wetlands were not map. Critical area maps are to be used with discretion because they are intended to gather general wetland information about a regional area and therefore are limited in accuracy for smaller areas due to their large scale.

WASHINGTON DEPARTMENT OF FISH AND WILDLIFE PRIORITY HABITAT AND SPECIES

The Washington Department of Fish and Wildlife (WDFW) Priority Habitat and Species (PHS) website (WDFW 2021) identifies and maps priority habitat and species areas in the state of Washington. The PHS map shows no priority habitats or species on or near the North Grand Forest (Figure 6).

WASHINGTON DEPARTMENT OF NATURAL RESOURCES FPAMT

The Washington State Department of Natural Resources (WDNR 2021) Forest Practices Application Mapping Toole (FPAMT) water type mapping website does not indicate the presence of streams on or within 200 feet of the study area (Figure 6). Streams were not identified in the depressional troughs that extend down the moderate slopes because there were no indicators of water flow observed.

CONCLUSIONS

WETLAND CATEGORIZATION

Wetland A was rated according to *Washington State Wetlands Rating System for Western Washington-2014 Update* (Rating System) (Hruby 2014), and received ratings based on functions (Appendix B). This small wetland is on a slope and is composed of a single vegetation community (scrub-shrub) and meets the criteria for a Category IV system scoring a total of 14 points with 6 points for habitat functions.

CRITICAL AREA REGULATIONS

The *BIMC Chapters 16.20.110.E. 16.20.140.I* specifies buffers based on wetland category, scores for habitat functions on the rating form, and the intensity of the proposed land use in accordance with the Rating System (BIMC 2018). However, buffers for Category IV wetlands are based on the category and the intensity of the land use. For moderate intensity land uses, a 40-foot buffer is required, and a 15-foot building setback is required from the wetland buffer.

The small drainage within and exiting Wetland A was flowing during the April 7th site visit but ceased about 100 feet from the wetland. It appears to either dissipate into the ground or there is seasonal flow as there was no water present in any other segment of the drainage. It appears that there is flow after storm events but it is infrequent because of the narrow width (6 inches). Because it is ephemeral and it does not flow into a Type N or F water, it is not regulated and does not require a buffer.

CRITICAL AREAS RECONNAISSANCE

The field reconnaissance conducted in 2019 revealed that there were no other critical areas on the North Grand Forest property. The City of Bainbridge Island maps a small wetland near the middle of the study area, but this area was not observed during the field reconnaissance. One of the eight test plots was conducted near the mapped wetland and no wetland indicators or potential indicators were observed. The reconnaissance included collection of data at eight test plots to determine whether wetlands or other critical areas were present. The data was collected in low areas including depressional troughs that form through the sloping terrain. The test plot data indicates that the North Grand Forest is largely composed of upland with a small slope wetland at the north end, which was identified and delineated in April 2021. There is a small outlet from the wetland, but it is not a formal stream because it has ephemeral water flow and does not connect to other stream systems.

LIMITATIONS

ELS bases this report's determinations on standard scientific methodology and best professional judgment. In our opinion, local, state, and federal regulatory agencies should agree with our determinations. However, the information contained in this report should be considered preliminary and used at your own risk until it has been approved in writing by the appropriate regulatory agencies. ELS is not responsible for the impacts of any changes in environmental standards, practices, or regulations after the date of this report.

REFERENCES

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FIGURES & PHOTOPLATES

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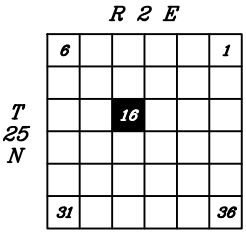
WASHINGTON

47.6633° Latitude
-122.5551° Longitude

LOCATION MAP



PROJECT VICINITY MAP

SITE

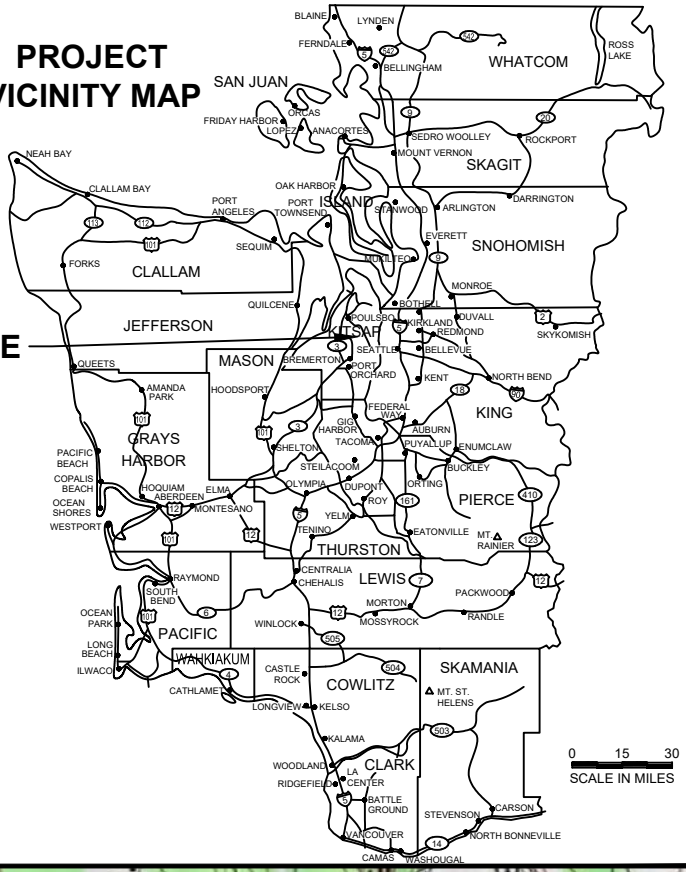


Figure 1
VICINITY MAP
North Grand Forest Wildlife Study
Bainbridge Island Metro Parks and Recreation
City of Bainbridge Island, Kitsap County, Washington
Section 16, Township 25N, Range 2E, W.M.

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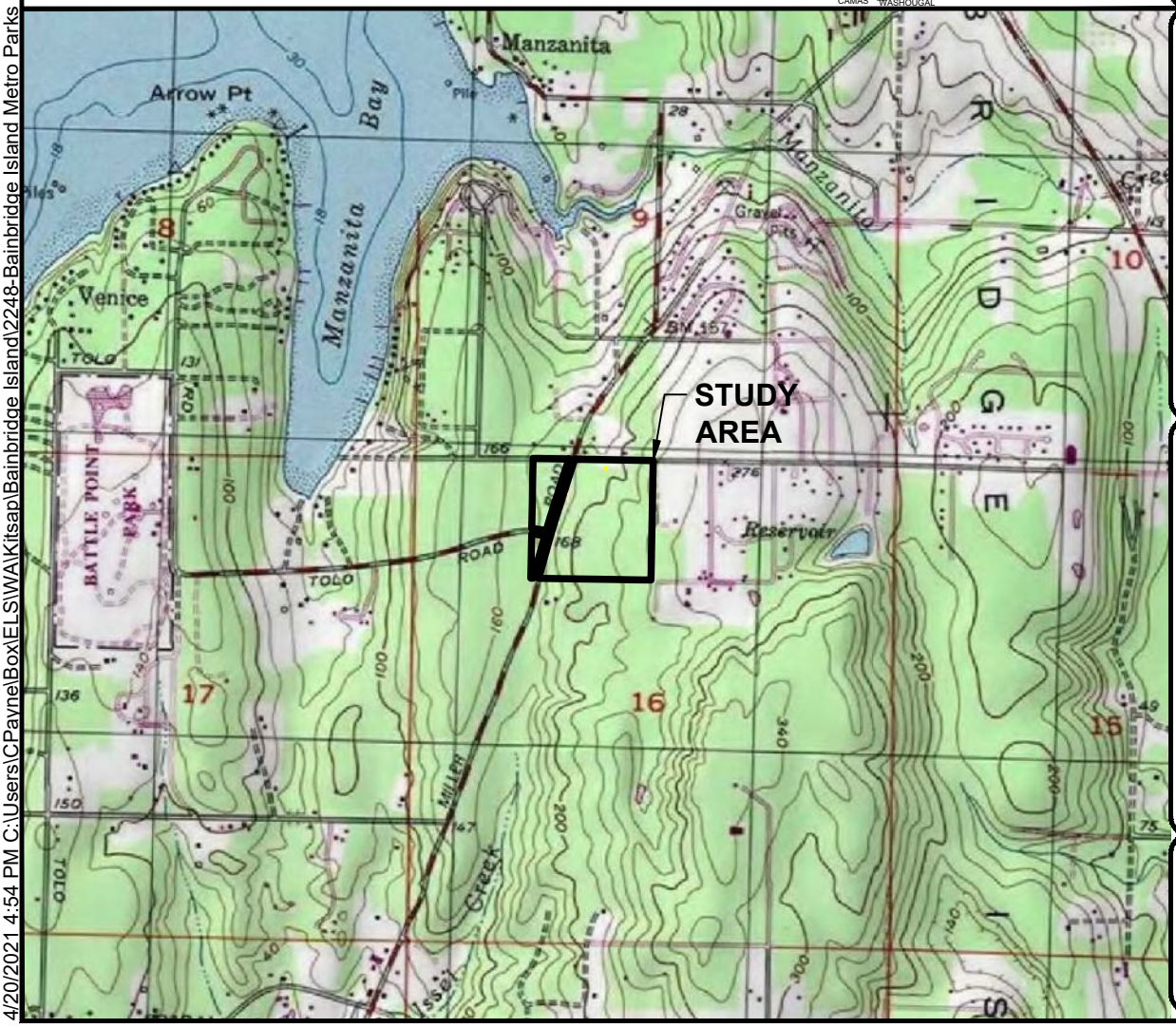
DWN: CDP
REQ. BY: JB
PRJ. MGR: JB
CHK: JLL
PROJECT NO: 2248.08



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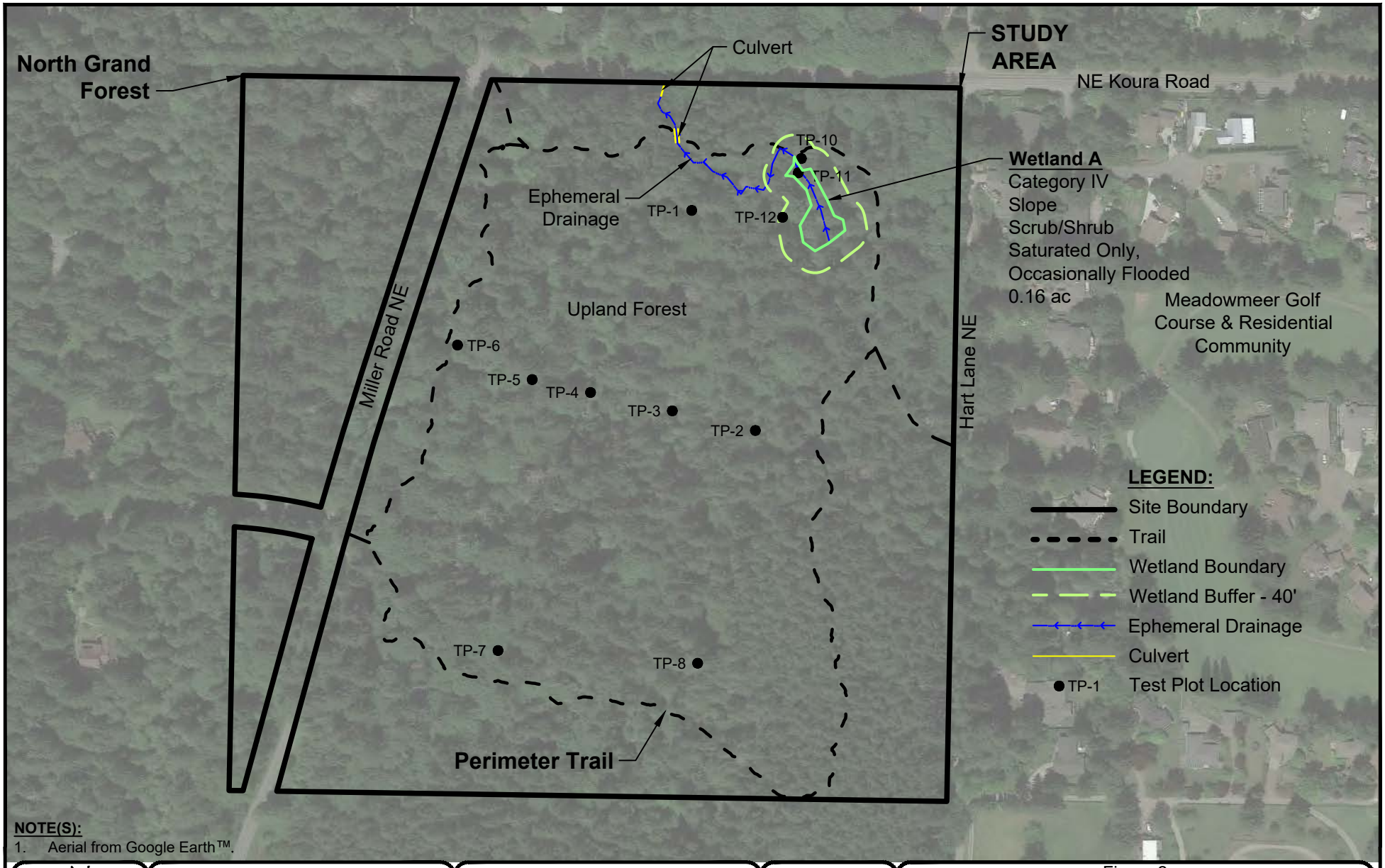

NOTE(S):

1. Aerial from Google Earth™.

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Figure 2
EXISTING CONDITIONS
North Grand Forest Wildlife Study
Bainbridge Island Metro Parks and Recreation
City of Bainbridge Island, Kitsap County, Washington
Section 16, Township 25N, Range 2E, W.M.

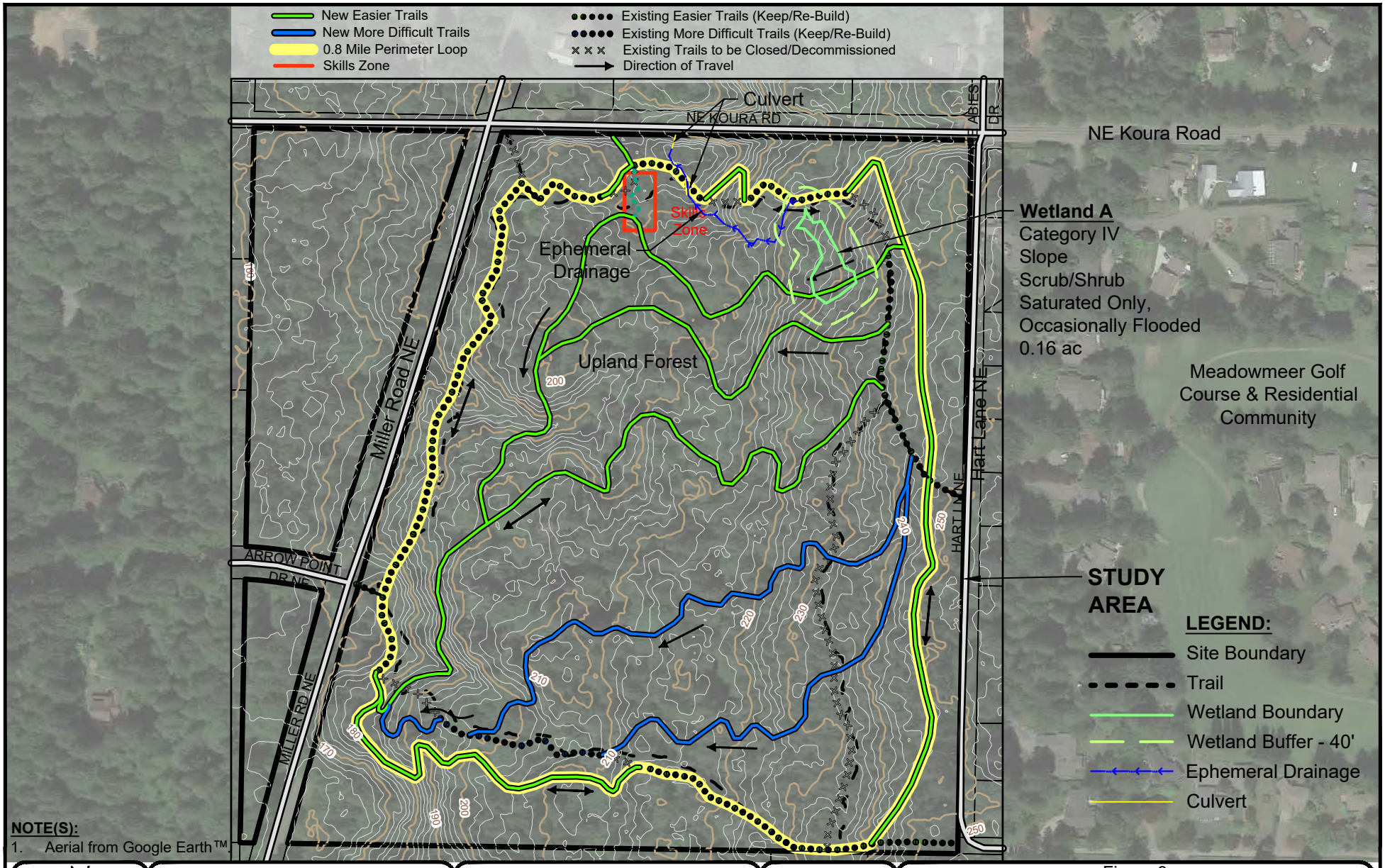

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Figure 3
PROPOSED CONDITIONS
North Grand Forest Wildlife Study
Bainbridge Island Metro Parks and Recreation
City of Bainbridge Island, Kitsap County, Washington
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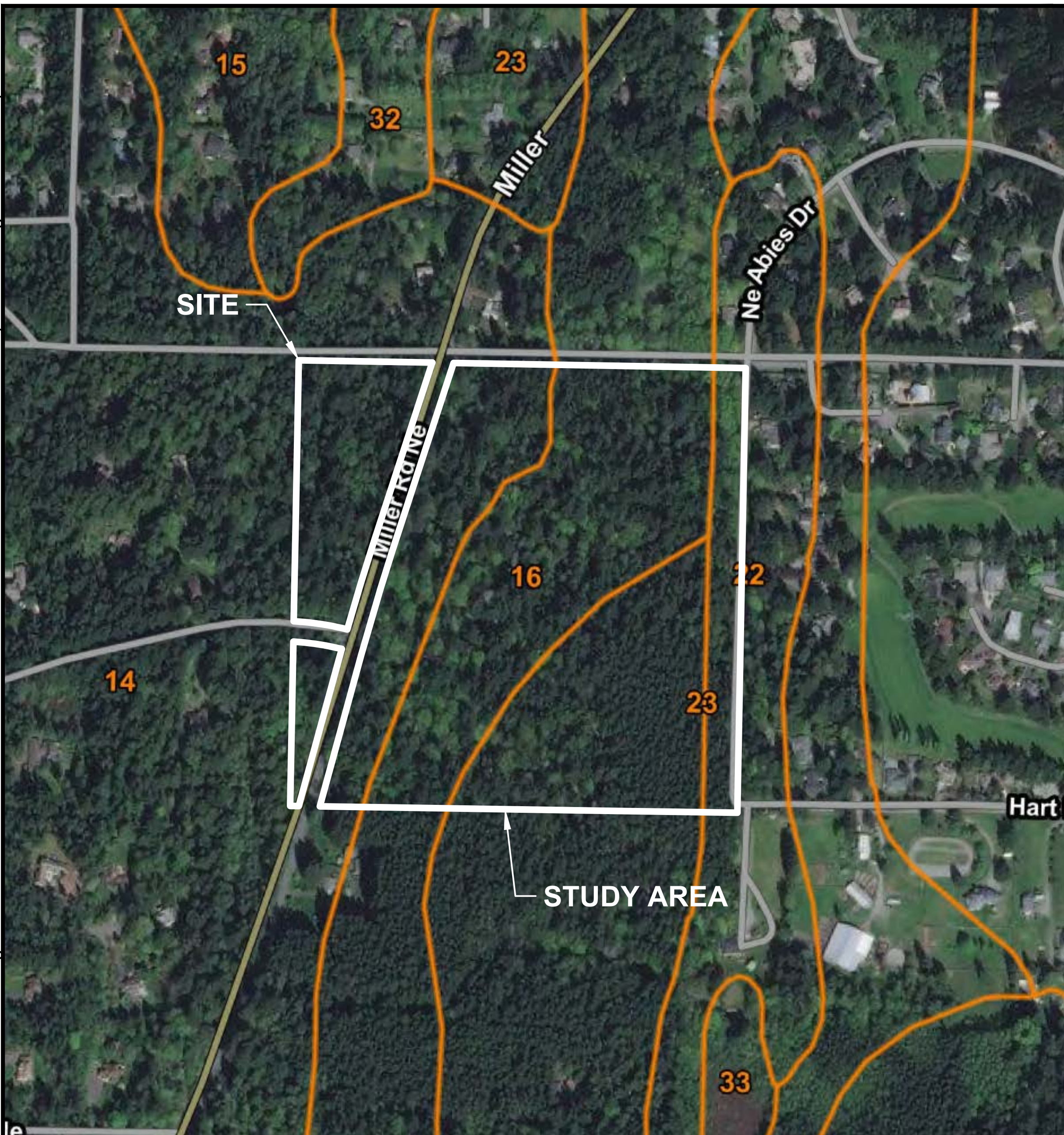

LEGEND:

14	Harstine gravelly ashy sandy loam, 0 to 6 percent slopes. Not hydric.
16	Harstine gravelly ashy sandy loam, 15 to 30 percent slopes. Not hydric.
22	Kapowsin gravelly ashy loam, 0 to 6 percent slopes. Not hydric.
23	Kapowsin gravelly ashy loam, 6 to 15 percent slopes. Not hydric.

NOTE(S):

1. Map provided on-line by NRCS at web address: *http://websoilsurvey.nrcs.usda.gov/app/*

Figure 4
NRCS SOIL SURVEY
North Grand Forest Wildlife Study
Bainbridge Island Metro Parks and Recreation
City of Bainbridge Island, Kitsap County, Washington
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No mapped wetlands indicated onsite by US Fish & Wildlife Service.

LEGEND:

Freshwater Forested/Shrub Wetland

Figure 5
USFWS NATIONAL WETLANDS INVENTORY
North Grand Forest Wildlife Study
Bainbridge Island Metro Parks and Recreation
City of Bainbridge Island, Kitsap County, Washington
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NOTE(S):

1. Map provided on-line by US Fish & Wildlife Service at web address: *http://www.fws.gov/wetlands/data/index.html*

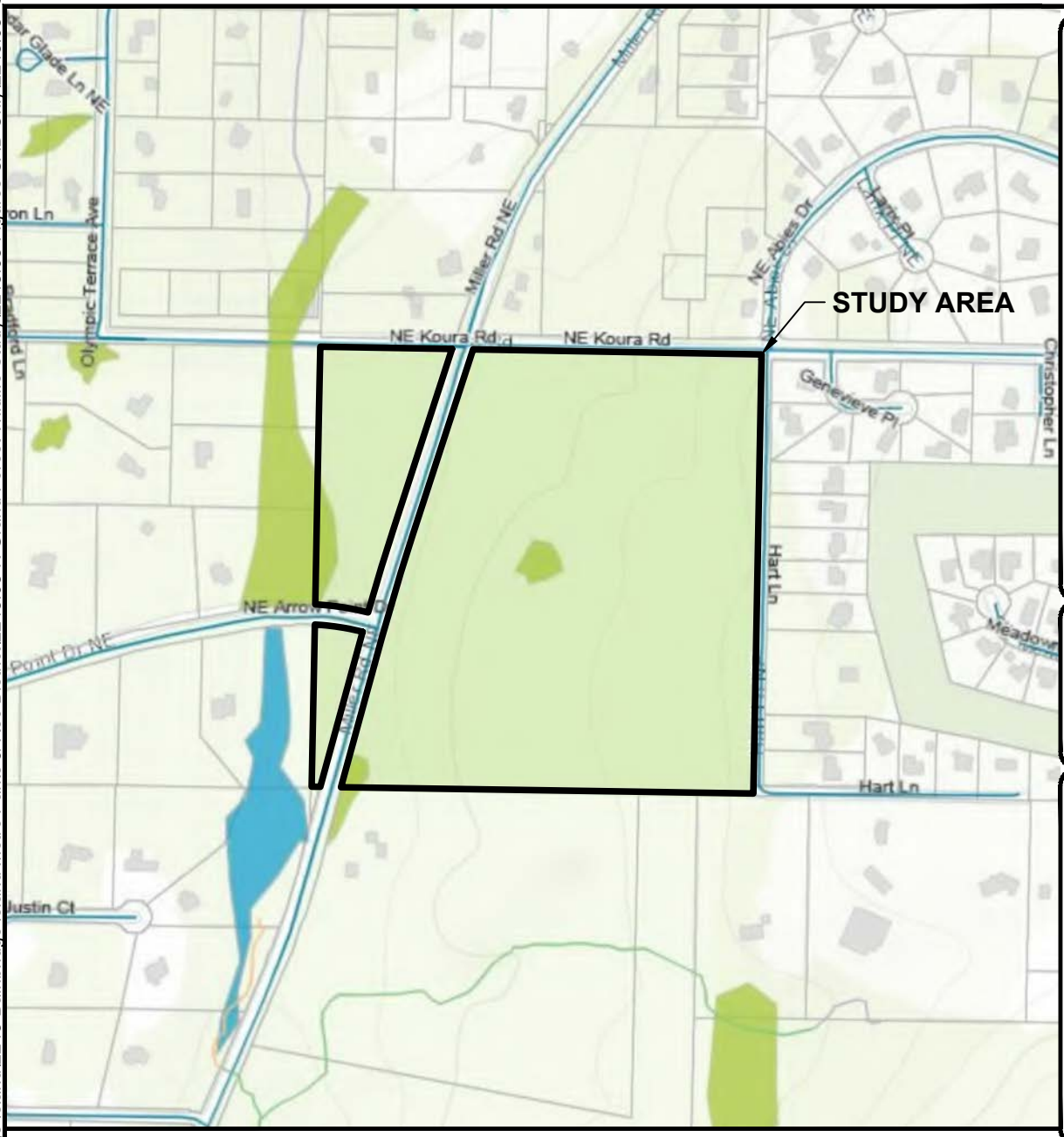

Figure 6
BAINBRIDGE ISLAND CRITICAL AREAS
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LEGEND:

Wetlands
- Delineated
- No Delineation
- Not a Wetland

Streams
- Fish
- Non-Fish
- Non-Fish Perennial
- Non-Fish Seasonal

FEMA Flood Hazard
- A = Low Flood Risk
- AE = High Flood Risk
- VE = High Flood Risk

Shoreline

Kitsap County Parcels

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NOTE(S):
1. Map provided on-line by the City of Bainbridge Island at web address: *https://cityofbi.maps.arcgis.com/home/index.html*

Figure 7
WDFW PRIORITY HABITAT AND SPECIES
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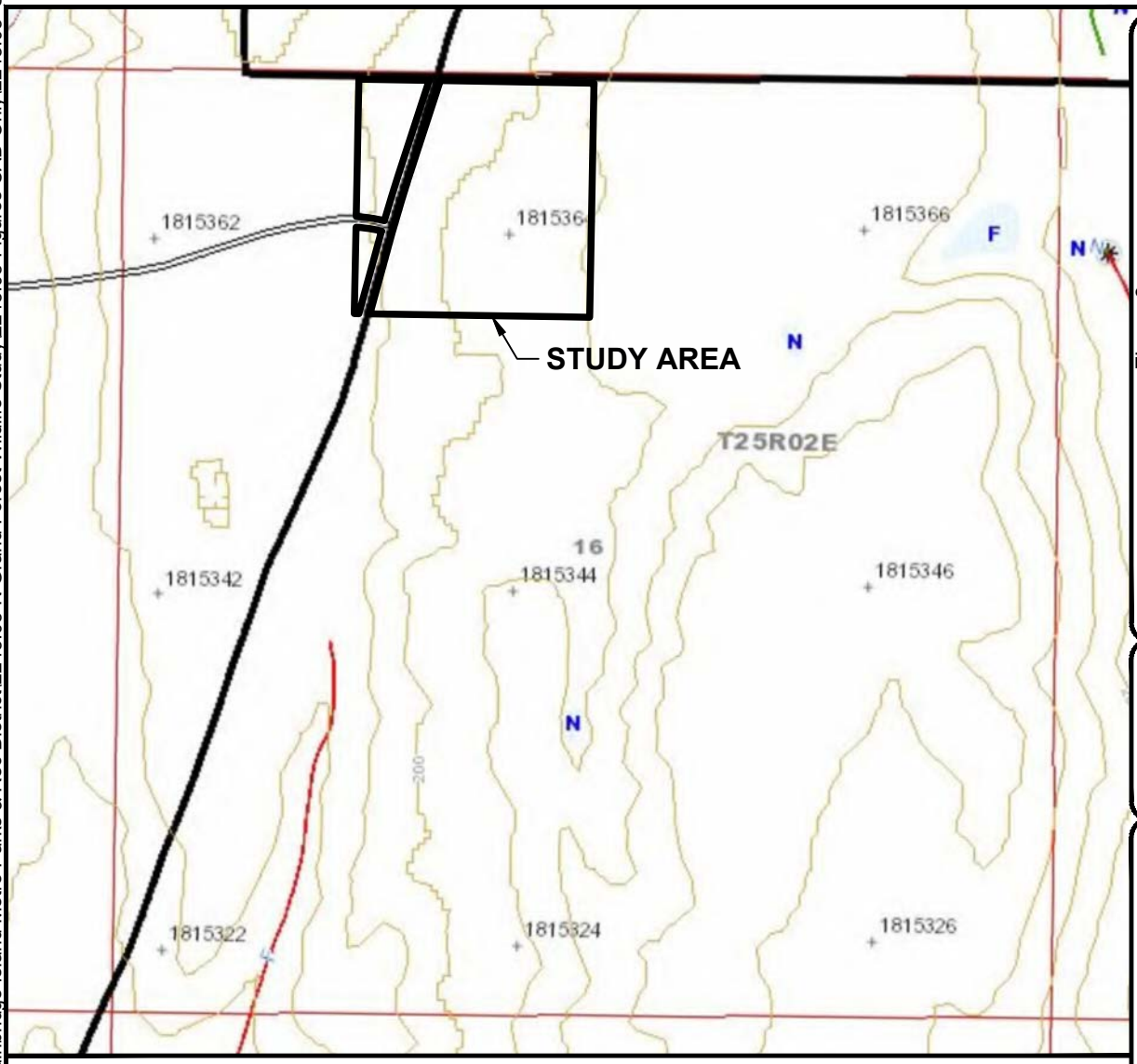
LEGEND:

Freshwater Forested/Shrub Wetland, Aquatic Habitat

NOTE: Map provided on-line by Washington State Department of Fish & Wildlife at web address: *http://apps.wdfw.wa.gov/phsontheweb/*



No mapped streams indicated onsite by the Washington State Department of Natural Resources (DNR).

County Boundary
County Boundary

Tribal Cultural Resources Contacts
Tribal Cultural Resources Contacts

Contours - 40ft. Interval
Contours - 40ft. Interval

Fire Shutdown Zones
Fire Shutdown Zones

Water Bodies
Water Bodies
- Flats/Gravel Bars
- Ice
- Man Made Features
- Open Water
- Wet Area

Streams
Streams
- Type S
- Type F
- Type N, Np, Ns
- U, unknown
- X, non-typed per WAC 222-16

WRIA
WRIA

WAU
WAU

Trails and Railroads
Trails and Railroads
- Trail
- Railroad
- Railroad Grade

Roads
Roads
- Unpaved Road/Surface Unknown
- Paved Road

Water Type Break
Water Type Break

Section Survey Lines
Section Survey Lines

Townships
Townships

NOTE: Map provided on-line by Washington State Department of Natural Resources at web address: *http://fortress.wa.gov/dnr/app1/Fpars/viewer.htm*

Figure 8
WDNR FPARS
North Grand Forest Wildlife Study
Bainbridge Island Metro Parks and Recreation
City of Bainbridge Island, Kitsap County, Washington
Section 16, Township 25N, Range 2E, W.M.

DATE: 4/20/21
DWN: CDP
REQ. BY: JB
PRJ. MGR: JB
CHK: JLL
PROJECT NO: 2248.08

1157 3rd Ave., Suite 220A
Longview, WA 98632
Phone: (360) 578-1371
Fax: (360) 414-9305
www.eco-land.com
Ecological Land Services

0 1000 2000
SCALE IN FEET

N W E S

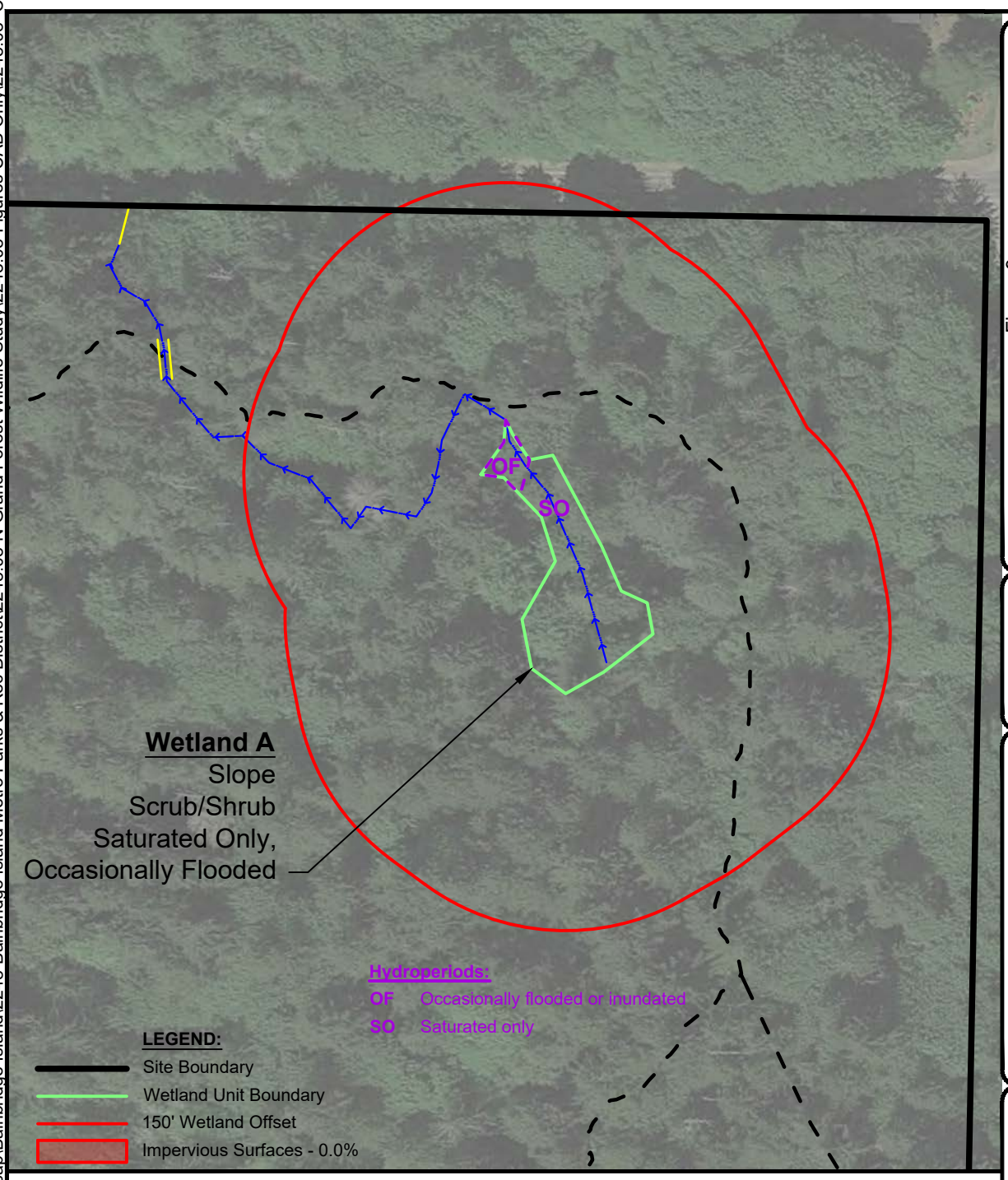


Figure 9
WETLAND RATING FORM-150 OFFSET
North Grand Forest Wildlife Study
Bainbridge Island Metro Parks and Recreation
City of Bainbridge Island, Kitsap County, Washington
Section 16, Township 25N, Range 2E, W.M.

DATE: 4/20/21
DWN: CDP
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0 100 200
SCALE IN FEET

N
W E
S

Rating Question	Description	Answer - Wetland A
S 1.3	Plant cover of trees, shrubs and herbs	Dense, woody plants cover >1/2 the area
S 2.1	Boundary of area w/in 150' of the wetland-land uses that generate pollutants	<10% of the area within 150' in land uses that generate pollutants
S 4.1	Characteristics of slowing water flow	<90% of area has dense, uncut, rigid vegetation
S 5.1	Boundary of area w/in 150' of the wetland-land uses that generate excess runoff	<25% of area within 150 feet upslope in land uses or cover that generates excess runoff
H 1.1	Cowardin Plant Classes	Forested & Forested w/3 canopy layers
H 1.2	Hydroperiods	Saturated only
H 1.4	Interspersion of habitats	No interspersion of habitats

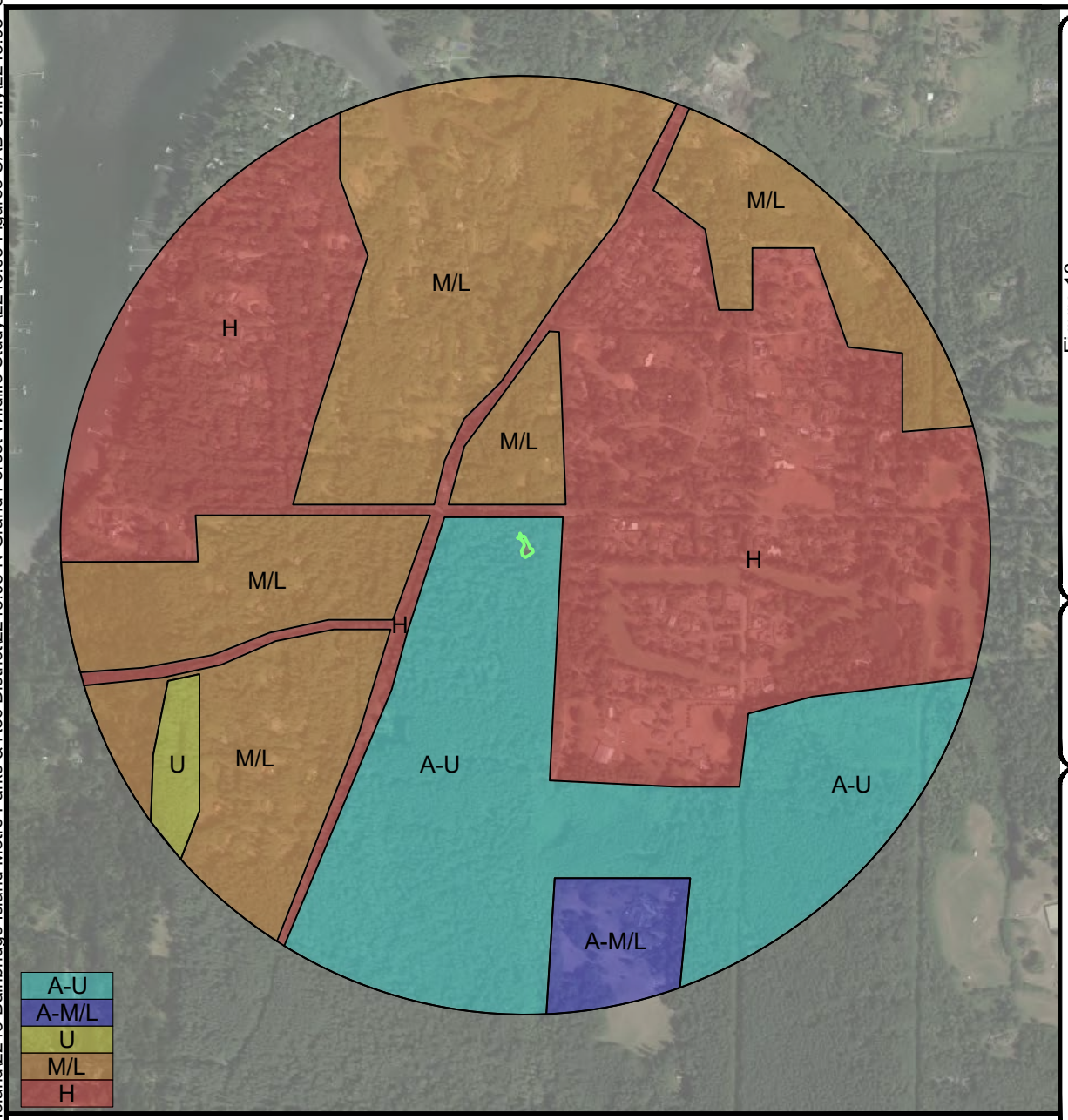

Figure 10
WETLAND RATING FORM-1 KM OFFSET
North Grand Forest Wildlife Study
Bainbridge Island Metro Parks and Recreation
City of Bainbridge Island, Kitsap County, Washington
Section 16, Township 25N, Range 2E, W.M.

DATE: 4/20/21
DWN: CDP
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LEGEND:

- Site Boundary
- Wetland Unit Boundary
- Contributing Basin (100.0x area of wetland)

H2.1 Accessible Habitat

- A-U: A-U (22%)
- A-M/L: A-M/L (2.5%)

H2.2 Undisturbed Habitat

- U: U (1%)
- M/L: M/L (32.5%)

H2.3 Land Use Intensity

- H: H (42%)

SCALE IN FEET: 0, 1200, 2400

N, W, E, S

H 2.1. Accessible Habitat Equation

% A-U habitat **22%** + [(% A-M/L intensity land uses)/2] **1.25%** = **23.25%**

H 2.2. Total Undisturbed Habitat Equation

% A-U + % U habitat **23%** + [(% A-M/L + % M/L land uses)/2] **17.5%** = **40.5%**

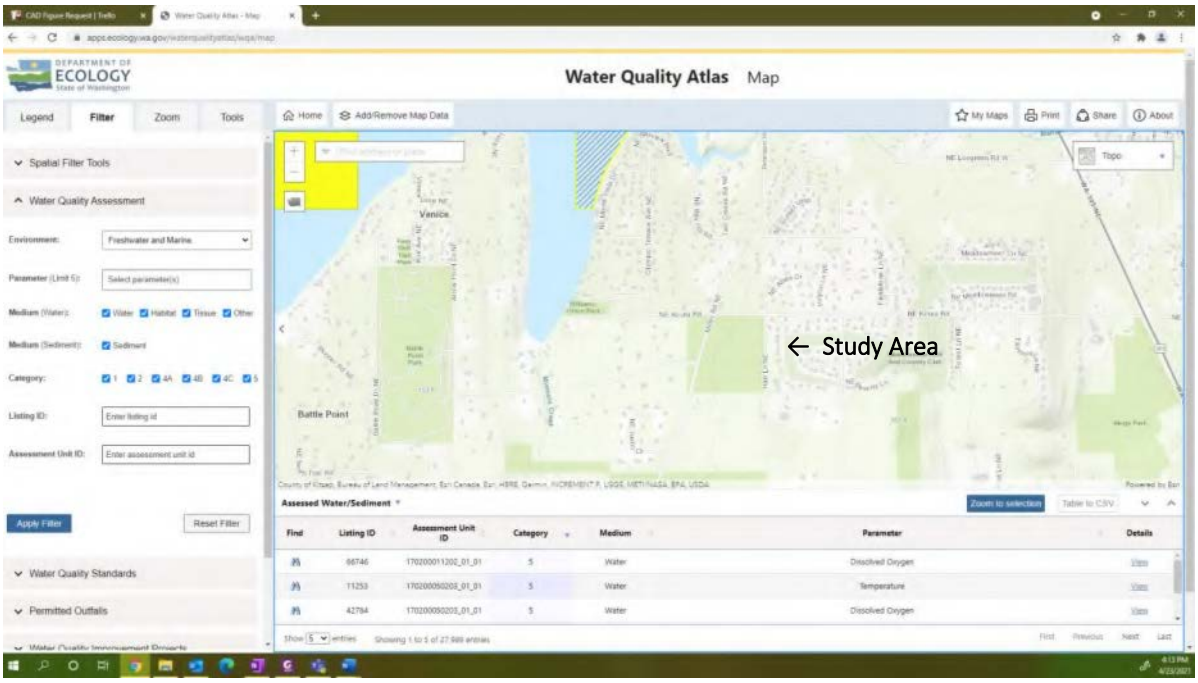

Figure 11a-303(d) Map: The wetland does not discharge into a 303(d) listed water within 1 mile.

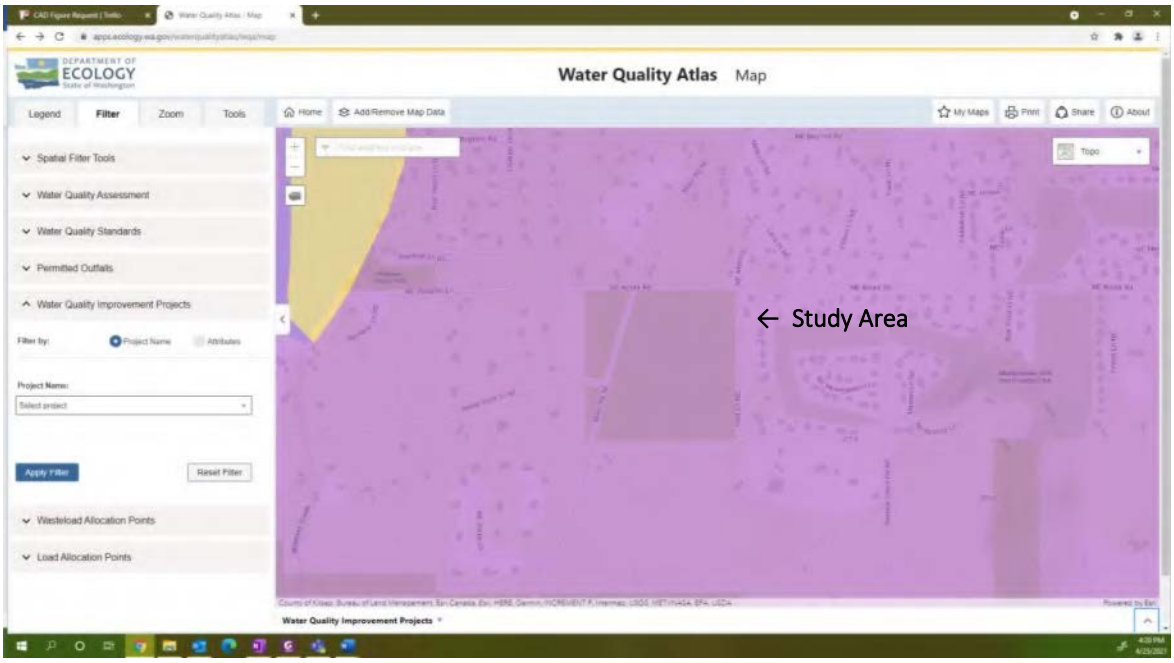

Figure 11b: TMDL for Study Area.

Ecological Land Services	1157 3rd Ave., Suite 220A Longview, WA 98632 Phone: (360) 578-1371 Fax: (360) 414-9305	DATE: 4/20/21 DWN: JB PRJ. MGR: JB PROJ. #: 2248.08	**Figure 11-Wetland Rating Form-303(d)/TMDL** North Grand Forest CAR Bainbridge Island Metro Parks and Recreation District Kitsap County, Washington

Photo 1 was taken from the northwest corner of North Grand Forest. It looks east along the northern section of the perimeter trail. This photo shows an area of dense salmonberry that does not meet the wetland criteria.

Photo 2 was taken from the same location as Photo 1. It looks southeasterly into the forested study area from the trail.

Photo 3 was taken from the same location as Photos 1 and 2. It looks into the forested study area along the north side of the park.

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DATE: 6/24/19
DWN: JB
PRJ. MGR JB
PROJ. #: 2248.07

Photoplate 1
Project Name: North Grand Forest
Client: Bainbridge Island Metro Parks and Recreation
Bainbridge Island, Washington

Photo 4 was taken from near the southwest corner of the North Grand Forest and it looks north along the western portion of the perimeter trail. The conditions in this photo are indicative of the views of the forested study area from the trail.

Photo 5 was taken from the southern portion of the perimeter trail and shows an area of the forest that lacks dense shrub cover.

Photo 6 was taken along a section of the perimeter trail on the North Grand Forest. In this photo, bigleaf maple is present in the canopy with sword fern dominating the understory.

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PROJ. #: 2248.07

Photoplate 2
Project Name: North Grand Forest
Client: Bainbridge Island Metro Parks and Recreation
Bainbridge Island, Washington

Photo 7 provides a view of the forest that lies within the interior of the park as viewed from the perimeter trail. Many areas are dominated by conifer trees with sword fern dominating the understory, so this photo is typical of the forested conditions within the study area.

Photo 8 shows the soil at one of the eight test plots conducted across the North Grand Forest. The soil was composed of gravelly sandy loam with dark brown to reddish brown chromas that met none of the hydric soil indicators.

Photo 9 shows an area of the forest where salmonberry dominates the shrub layer. Test plots were completed in some of these areas and no wetland conditions were observed. This photo is indicative of areas where the canopy is more open, and a high shrub layer has developed.

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PROJ. #: 2248.07

Photoplate 3
Project Name: North Grand Forest
Client: Bainbridge Island Metro Parks and Recreation
Bainbridge Island, Washington

Photo 10 was taken of Wetland A from the west end. The wetland is fairly indistinguishable from the upland that surrounds it but it is present in the middle right where the shrub and herbaceous vegetation is the most dense. The wetland is a mosaic so there are high upland areas within the delineated boundary.

Photo 11 was taken from the same location as Photo 10 and looks easterly across the upland toward the delineated boundary. Flags are visible on the left side and in the right background at the edge of the wetland.

Photo 12 was taken of the area where Test Plot 11 was conducted. It is located at the edge of an occasionally flooded area at the north end of Wetland A. The soil hole was dug at the edge where the orange flag is located but includes the entire bare area of the wetland.

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DWN: JB
PRJ. MGR JB
PROJ. #: 2248.07

Photoplate 4
Project Name: North Grand Forest
Client: Bainbridge Island Metro Parks and Recreation
Bainbridge Island, Washington

Photo 13 was taken of the area where Test Plot 10 was conducted. It is located on the northeast side of Wetland A and outside of flag WB A-2. This area is upland because there were no positive indicators present for any of the three wetland parameters.

Photo 14 was taken of the area where Test Plot 12 was conducted. This test plot is located southwest of Wetland A in upland outside of flag WB A-15. This area was determined to be upland because there were no positive indicators present for any of the three wetland parameters.

Photo 15 was taken from the northern segment of the perimeter trail. It looks north from the trail to document the conditions of the ephemeral drainage as it extends to Koura Road. There was no water in most of the channel because it dissipates about 100 feet west of its outlet from Wetland A.

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DATE: 4/9/21
DWN: JB
PRJ. MGR JB
PROJ. #: 2248.07

Photoplate 5
Project Name: North Grand Forest
Client: Bainbridge Island Metro Parks and Recreation
Bainbridge Island, Washington

APPENDIX A

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

Project Site: N Grand Forest City/County: Bainbridge Island/Kitsap Sampling Date: 6/17/19
Applicant/Owner: BI Metro Parks and Recreation State: WA Sampling Point: TP 1
Investigator(s): J. Bartlett, K. Lacey Section, Township, Range: S 16 T 25 N R 2 EWM
Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): concave Slope (%): 5-10
Subregion (LRR): MLRA 2 Lat: 47.6642150629864 Long: -122.55523451398 Datum: NAD83
Soil Map Unit Name: 16 Harstine gravelly ashy sandy loam, 15-30% 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? 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	☐	
Hydric Soil Present?	Yes	☐	No	☒	**Is the Sampled Area within a Wetland?** **Yes** ☐ **No** ☒
Wetland Hydrology Present?	Yes	☐	No	☒	

Remarks: The N Grand Forest is located in the southeast quadrant of Miller Road (to the west) and Koura Road (to the north). It is currenlty undeveloped and composed of upland forest with a trail around the perimeter. The property generally slopes down from east to west with topographic troughs carved into the west facing slope. Test Plot 1 is located in a low area at the north end where there was a dominance by FAC plant species.

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
50% = _____, 20% = _____		= Total Cover	
Sapling/Shrub Stratum (Plot size: 20' diameter)			
1. *Rubus spectabilis*	20	yes	FAC
2.			
3.			
4.			
5.			
50% = 10, 20% = 4	20	= Total Cover	
Herb Stratum (Plot size: 10' diameter)			
1. *Urtica dioica*	35	yes	FAC
2. *Polystichum munitum*	15	yes	FACU
3. *Tellima grandiflora*	10	no	FACU
4. *Geranium robertianum*	10	no	FACU
5. *Galium aparine*	5	no	FACU
6. *Dryopteris expansa*	5	no	FACU
7.			
8.			
9.			
10.			
11.			
50% = 40, 20% = 16	80	= Total Cover	
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
50% = _____, 20% = _____		= Total Cover	

% Bare Ground in Herb Stratum 20

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC:	2	(A)
Total Number of Dominant Species Across All Strata:	3	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	67	(A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x1 =	
FACW species		x2 =	
FAC species		x3 =	
FACU species		x4 =	
UPL species		x5 =	
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: The hydrophytic vegetation criterion is met because there is greater than 50% dominance by FAC plant species.

Project Site: N Grand Forest

SOIL

Sampling Point: TP 1

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-7	10YR 2/2	100					gr sa lo	
7-16	10YR 4/3	90	10YR 4/6	10	C	M	gr sa lo	
								gr - gravelly
								sa - sandy
								lo - loam

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

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

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

Indicators for Problematic Hydric Soils[3]:

- ☐ 2 cm Muck (A10)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soils Present? **Yes** ☐ **No** ☒

Remarks: The soil profile meets none of the hydric soil indicators because of the high matrix chroma in the subsurface soil layer.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present?	Yes	☐	No	☒	Depth (inches):	
Water Table Present?	Yes	☐	No	☒	Depth (inches):	
Saturation Present? (includes capillary fringe)	Yes	☐	No	☒	Depth (inches):	

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

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

Remarks: Hydrology was not present in this area and there was no evidence of wetland hydrology.

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

Project Site: N Grand Forest City/County: Bainbridge Island/Kitsap Sampling Date: 6/17/19
Applicant/Owner: BI Metro Parks and Recreation State: WA Sampling Point: TP 2
Investigator(s): J. Bartlett, K. Lacey Section, Township, Range: S 16 T 25 N R 2 EWM
Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): concave Slope (%): 5-10
Subregion (LRR): MLRA 2 Lat: 47.6631147627373 Long: -122.55472372856 Datum: NAD83
Soil Map Unit Name: 16 Harstine gravelly ashy sandy loam, 15-30% 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? 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	☒	
Hydric Soil Present?	Yes	☐	No	☒	**Is the Sampled Area within a Wetland?** **Yes** ☐ **No** ☒
Wetland Hydrology Present?	Yes	☐	No	☒	

Remarks: The N Grand Forest is located in the southeast quadrant of Miller Road (to the west) and Koura Road (to the north). It is currenlty undeveloped and composed of upland forest with a trail around the perimeter. The property generally slopes down from east to west with topographic troughs carved into the west facing slope. Test Plot 2 is located near the top of a westerly sloping trough. This trough was examined for presence of wetland or stream conditions from this location down to the bottom, which can be observed from the western portion of the perimeter trail.

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Thuja plicata*	15	yes	FAC
2.			
3.			
4.			
50% = 7.5, 20% = 3	15	= Total Cover	
Sapling/Shrub Stratum (Plot size: 20' diameter)			
1. *Vaccinium ovatum*	15	yes	FACU
2.			
3.			
4.			
5.			
50% = 7.5, 20% = 3	15	= Total Cover	
Herb Stratum (Plot size: 10' diameter)			
1. *Polystichum munitum*	35	yes	FACU
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
50% = 17.5, 20% = 7	35	= Total Cover	
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
50% = _____, 20% = _____		= Total Cover	

% Bare Ground in Herb Stratum 65

Dominance Test Worksheet:

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

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x1 =	
FACW species		x2 =	
FAC species		x3 =	
FACU species		x4 =	
UPL species		x5 =	
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: The hydrophytic vegetation criterion is not met because there is less than 50% dominance by FAC plant species.

Project Site: N Grand Forest

SOIL

Sampling Point: TP 2

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2	10YR 2/2	100					gr sa lo	
2-16	10YR 4/6	100					gr sa lo	
								gr - gravelly
								sa - sandy
								lo - loam

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

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

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

Indicators for Problematic Hydric Soils[3]:

- ☐ 2 cm Muck (A10)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soils Present? **Yes** ☐ **No** ☒

Remarks: The soil profile meets none of the hydric soil indicators because of the high matrix chroma in the subsurface soil layer.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

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

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

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

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

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

Remarks: Hydrology was not present in this area and there was no evidence of wetland hydrology.

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

Project Site: N Grand Forest City/County: Bainbridge Island/Kitsap Sampling Date: 6/17/19
Applicant/Owner: BI Metro Parks and Recreation State: WA Sampling Point: TP 3
Investigator(s): J. Bartlett, K. Lacey Section, Township, Range: S 16 T 25 N R 2 EWM
Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): concave Slope (%): 5-10
Subregion (LRR): MLRA 2 Lat: 47.6632041746173 Long: -122.55534573261 Datum: NAD83
Soil Map Unit Name: 16 Harstine gravelly ashy sandy loam, 15-30% 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? 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 Soil Present?	Yes ☐	No ☒		
Wetland Hydrology Present?	Yes ☐	No ☒		

Remarks: The N Grand Forest is located in the southeast quadrant of Miller Road (to the west) and Koura Road (to the north). It is currenlty undeveloped and composed of upland forest with a trail around the perimeter. The property generally slopes down from east to west with topographic troughs carved into the west facing slope. Test Plot 3 is located about midway down the westerly sloping trough and below Test Plot 2. This area contains dominance by FAC plant species so was examined for presence of wetland or stream conditions.

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
50% = _____, 20% = _____		= Total Cover	
Sapling/Shrub Stratum (Plot size: 20' diameter)			
1. *Rubus spectabilis*	25	yes	FAC
2. *Vaccinium parvifolium*	15	yes	FACU
3.			
4.			
5.			
50% = 20, 20% = 8	40	= Total Cover	
Herb Stratum (Plot size: 10' diameter)			
1. *Polystichum munitum*	50	yes	FACU
2. *Rubus spectabilis*	20	yes	FAC
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
50% = 35, 20% = 14	70	= Total Cover	
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
50% = _____, 20% = _____		= Total Cover	
% Bare Ground in Herb Stratum 30			

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC:	2	(A)
Total Number of Dominant Species Across All Strata:	4	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	50	(A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x1 =	
FACW species		x2 =	
FAC species	45	x3 =	135
FACU species	65	x4 =	260
UPL species		x5 =	
Column Totals:	110 (A)		395 (B)

Prevalence Index = B/A = 3.6

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: The hydrophytic vegetation criterion is not met because the dominance by FAC species is not greater than 50% and the prevalence index is greater than 3.0.

Project Site: N Grand Forest

SOIL

Sampling Point: TP 3

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2	10YR 2/2	100					gr sa lo	
2-16	10YR 4/6	100					gr sa lo	
								gr - gravelly
								sa - sandy
								lo - loam

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

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

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

Indicators for Problematic Hydric Soils[3]:

- ☐ 2 cm Muck (A10)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soils Present? **Yes** ☐ **No** ☒

Remarks: The soil profile meets none of the hydric soil indicators because of the high matrix chroma in the subsurface soil layer.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present?	Yes	☐	No	☒	Depth (inches):	
Water Table Present?	Yes	☐	No	☒	Depth (inches):	
Saturation Present? (includes capillary fringe)	Yes	☐	No	☒	Depth (inches):	

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

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

Remarks: Hydrology was not present in this area and there was no evidence of wetland hydrology.

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

Project Site: N Grand Forest City/County: Bainbridge Island/Kitsap Sampling Date: 6/17/19
Applicant/Owner: BI Metro Parks and Recreation State: WA Sampling Point: TP 4
Investigator(s): J. Bartlett, K. Lacey Section, Township, Range: S 16 T 25 N R 2 EWM
Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): concave Slope (%): 5-10
Subregion (LRR): MLRA 2 Lat: 47.6632870753412 Long: -122.55595780541 Datum: NAD83
Soil Map Unit Name: 14 Harstine gravelly ashy sandy loam,0-6% 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? 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 Soil Present?	Yes ☐	No ☒		
Wetland Hydrology Present?	Yes ☐	No ☒		

Remarks: The N Grand Forest is located in the southeast quadrant of Miller Road (to the west) and Koura Road (to the north). It is currenlty undeveloped and composed of upland forest with a trail around the perimeter. The property generally slopes down from east to west with topographic troughs carved into the west facing slope. Test Plot 4 is located near the lower end of the westerly sloping trough, which is where it curves to the south. This area was dominated by ferns with salmonberry dominant in the shrub layer.

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
50% = ____, 20% = ____		= Total Cover	
Sapling/Shrub Stratum (Plot size: 20' diameter)			
1. *Rubus spectabilis*	25	yes	FAC
2.			
3.			
4.			
5.			
50% = 12.5, 20% = 5	25	= Total Cover	
Herb Stratum (Plot size: 10' diameter)			
1. *Polystichum munitum*	35	yes	FACU
2. *Pteridium aquilinum*	30	yes	FACU
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
50% = 32.5, 20% = 13	65	= Total Cover	
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
50% = ____, 20% = ____		= Total Cover	

% Bare Ground in Herb Stratum 35

Dominance Test Worksheet:

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

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x1 =	
FACW species		x2 =	
FAC species		x3 =	
FACU species		x4 =	
UPL species		x5 =	
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: The hydrophytic vegetation criterion is not met because there is less than 50% dominance by FAC plant species.

Project Site: N Grand Forest

SOIL

Sampling Point: TP 4

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR 2/2	100					gr sa lo	
4-16	10YR 3/6	100					gr sa lo	
								gr - gravelly
								sa - sandy
								lo - loam

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

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

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

Indicators for Problematic Hydric Soils[3]:

- ☐ 2 cm Muck (A10)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soils Present? **Yes** ☐ **No** ☒

Remarks: The soil profile meets none of the hydric soil indicators because of the high matrix chroma in the subsurface soil layer.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present?	Yes	☐	No	☒	Depth (inches):	
Water Table Present?	Yes	☐	No	☒	Depth (inches):	
Saturation Present? (includes capillary fringe)	Yes	☐	No	☒	Depth (inches):	

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

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

Remarks: Hydrology was not present in this area and there was no evidence of wetland hydrology.

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

Project Site: N Grand Forest City/County: Bainbridge Island/Kitsap Sampling Date: 6/17/19
Applicant/Owner: BI Metro Parks and Recreation State: WA Sampling Point: TP 5
Investigator(s): J. Bartlett, K. Lacey Section, Township, Range: S 16 T 25 N R 2 EWM
Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): concave Slope (%): 5-10
Subregion (LRR): MLRA 2 Lat: 47.663345569966 Long: -122.55639480136 Datum: NAD83
Soil Map Unit Name: 14 Harstine gravelly ashy sandy loam,0-6% 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? 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 Soil Present?	Yes ☐	No ☒		
Wetland Hydrology Present?	Yes ☐	No ☒		

Remarks: The N Grand Forest is located in the southeast quadrant of Miller Road (to the west) and Koura Road (to the north). It is currenlty undeveloped and composed of upland forest with a trail around the perimeter. The property generally slopes down from east to west with topographic troughs carved into the west facing slope. Test Plot 5 is located near the start of the north to south running trough. This area is dominated by herbaceous plants and sword ferns.

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
50% = ____, 20% = ____		= Total Cover	
Sapling/Shrub Stratum (Plot size: 20' diameter)			
1.			
2.			
3.			
4.			
5.			
50% = ____, 20% = ____		= Total Cover	
Herb Stratum (Plot size: 10' diameter)			
1. *Polystichum munitum*	30	yes	FACU
2. *Achyls triphylla*	30	yes	NL (UPL)
3. *Dicentra formosa*	10	no	FACU
4. *Tiarella trifoliata*	10	no	FAC
5. *Pteridium aquilinum*	5	no	FACU
6.			
7.			
8.			
9.			
10.			
11.			
50% = 42.5, 20% = 17	85	= Total Cover	
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
50% = ____, 20% = ____		= Total Cover	

% Bare Ground in Herb Stratum 15

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x1 =	
FACW species		x2 =	
FAC species		x3 =	
FACU species		x4 =	
UPL species		x5 =	
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: The hydrophytic vegetation criterion is not met because there is less than 50% dominance/coverage by FAC plant species.

Project Site: N Grand Forest

SOIL

Sampling Point: TP 5

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2	10YR 2/2	100					gr sa lo	
2-16	10YR 3/6	100					gr sa lo	
								gr - gravelly
								sa - sandy
								lo - loam

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

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

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

Indicators for Problematic Hydric Soils[3]:

- ☐ 2 cm Muck (A10)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soils Present? **Yes** ☐ **No** ☒

Remarks: The soil profile meets none of the hydric soil indicators because of the high matrix chroma in the subsurface soil layer.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present?	Yes	☐	No	☒	Depth (inches):	
Water Table Present?	Yes	☐	No	☒	Depth (inches):	
Saturation Present? (includes capillary fringe)	Yes	☐	No	☒	Depth (inches):	

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

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

Remarks: Hydrology was not present in this area and there was no evidence of wetland hydrology.

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

Project Site: N Grand Forest City/County: Bainbridge Island/Kitsap Sampling Date: 6/17/19
Applicant/Owner: BI Metro Parks and Recreation State: WA Sampling Point: TP 6
Investigator(s): J. Bartlett, K. Lacey Section, Township, Range: S 16 T 25 N R 2 EWM
Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): concave Slope (%): 5-10
Subregion (LRR): MLRA 2 Lat: 47.6635110249199 Long: -122.55695696315 Datum: NAD83
Soil Map Unit Name: 14 Harstine gravelly ashy sandy loam,0-6% 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? 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 Soil Present?	Yes ☐	No ☒		
Wetland Hydrology Present?	Yes ☐	No ☒		

Remarks: The N Grand Forest is located in the southeast quadrant of Miller Road (to the west) and Koura Road (to the north). It is currenlty undeveloped and composed of upland forest with a trail around the perimeter. The property generally slopes down from east to west with topographic troughs carved into the west facing slope. Test Plot 6 is located at the end of the trough in which Test Plots 2-5 were conducted. It is located just upslope of the western trail.

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
50% = , 20% =		= Total Cover	
Sapling/Shrub Stratum (Plot size: 20' diameter)			
1. *Corylus cornuta*	25	yes	FACU
2. *Vaccinium ovatum*	10	yes	FACU
3.			
4.			
5.			
50% = 17.5, 20% = 7	35	= Total Cover	
Herb Stratum (Plot size: 10' diameter)			
1. *Polystichum munitum*	20	yes	FACU
2. *Achyls triphylla*	10	yes	NL (UPL)
3. *Rubus ursinus*	10	yes	FACU
4. *Dryoptis expansa*	5	no	FACW
5. *Asarum caudatum*	5	no	FACU
6.			
7.			
8.			
9.			
10.			
11.			
50% = 25, 20% = 10	50	= Total Cover	
Woody Vine Stratum (Plot size: 10' diameter)			
1. *Hedera helix*	5	yes	FACU
2.			
50% = 2.5, 20% = 1	5	= Total Cover	

% Bare Ground in Herb Stratum 50

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC:	0	(A)
Total Number of Dominant Species Across All Strata:	5	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	0	(A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x1 =	
FACW species		x2 =	
FAC species		x3 =	
FACU species		x4 =	
UPL species		x5 =	
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: The hydrophytic vegetation criterion is not met because there is less than 50% dominance/coverage by FACW plant species.

Project Site: N Grand Forest

SOIL

Sampling Point: TP 6

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR 2/2	100					gr sa lo	
4-16	10YR 4/6	100					gr sa lo	
								gr - gravelly
								sa - sandy
								lo - loam

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

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

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

Indicators for Problematic Hydric Soils[3]:

- ☐ 2 cm Muck (A10)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soils Present? **Yes** ☐ **No** ☒

Remarks: The soil profile meets none of the hydric soil indicators because of the high matrix chroma in the subsurface soil layer.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

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

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

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

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

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

Remarks: Hydrology was not present in this area and there was no evidence of wetland hydrology.

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

Project Site: N Grand Forest City/County: Bainbridge Island/Kitsap Sampling Date: 6/17/19
Applicant/Owner: BI Metro Parks and Recreation State: WA Sampling Point: TP 7
Investigator(s): J. Bartlett, K. Lacey Section, Township, Range: S 16 T 25 N R 2 EWM
Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): concave Slope (%): 5-10
Subregion (LRR): MLRA 2 Lat: 47.6619779264137 Long: -122.55660405285 Datum: NAD83
Soil Map Unit Name: 14 Harstine gravelly ashy sandy loam,0-6% 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? 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	☒	
Hydric Soil Present?	Yes	☐	No	☒	**Is the Sampled Area within a Wetland?** **Yes** ☐ **No** ☒
Wetland Hydrology Present?	Yes	☐	No	☒	

Remarks: The N Grand Forest is located in the southeast quadrant of Miller Road (to the west) and Koura Road (to the north). It is currenlty undeveloped and composed of upland forest with a trail around the perimeter. The property generally slopes down from east to west with topographic troughs carved into the west facing slope. Test Plot 7 is located near the southwest corner of the N Grand Forest. It is upslope of the trail and is generally low in elevation.

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Acer macrophyllum*	15	yes	FACU
2.			
3.			
4.			
50% = 7.5, 20% = 3	15	= Total Cover	
Sapling/Shrub Stratum (Plot size: 20' diameter)			
1. *Gaultheria shallon*	5	yes	FACU
2.			
3.			
4.			
5.			
50% = 2.5, 20% = 1	5	= Total Cover	
Herb Stratum (Plot size: 10' diameter)			
1. *Circaea alpina*	50	yes	FAC
2. *Polystichum munitum*	20	yes	FACU
3. *Rubus ursinus*	10	no	FACU
4. *Achyls triphylla*	5	no	NL (UPL)
5. *Claytonia sibirica*	5	no	FAC
6.			
7.			
8.			
9.			
10.			
11.			
50% = 45, 20% = 18	90	= Total Cover	
Woody Vine Stratum (Plot size: 10' diameter)			
1.			
2.			
50% = _____, 20% = _____		= Total Cover	
% Bare Ground in Herb Stratum 10			

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC:	1	(A)
Total Number of Dominant Species Across All Strata:	4	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	25	(A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x1 =	
FACW species		x2 =	
FAC species		x3 =	
FACU species		x4 =	
UPL species		x5 =	
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: The hydrophytic vegetation criterion is not met because there is less than 50% dominance/coverage by FAC plant species.

Project Site: N Grand Forest

SOIL

Sampling Point: TP 7

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR 2/2	100					gr sa lo	
4-16	7.5YR 4/6	100					gr sa lo	
								gr - gravelly
								sa - sandy
								lo - loam

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

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

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

Indicators for Problematic Hydric Soils[3]:

- ☐ 2 cm Muck (A10)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soils Present? **Yes** ☐ **No** ☒

Remarks: The soil profile meets none of the hydric soil indicators because of the high matrix chroma in the subsurface soil layer.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

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

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

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

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

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

Remarks: Hydrology was not present in this area and there was no evidence of wetland hydrology.

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

Project Site: N Grand Forest City/County: Bainbridge Island/Kitsap Sampling Date: 6/17/19
Applicant/Owner: BI Metro Parks and Recreation State: WA Sampling Point: TP 8
Investigator(s): J. Bartlett, K. Lacey Section, Township, Range: S 16 T 25 N R 2 EWM
Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): concave Slope (%): 5-10
Subregion (LRR): MLRA 2 Lat: 47.6619367317552 Long: -122.55511501705 Datum: NAD83
Soil Map Unit Name: 23 Kapowsin gravelly ashy loam, 6-15% 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? 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 Soil Present?	Yes ☐	No ☒			
Wetland Hydrology Present?	Yes ☐	No ☒			

Remarks: The N Grand Forest is located in the southeast quadrant of Miller Road (to the west) and Koura Road (to the north). It is currenlty undeveloped and composed of upland forest with a trail around the perimeter. The property generally slopes down from east to west with topographic troughs carved into the west facing slope. Test Plot 8 is located near the southeast corner of the study area.

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
50% = ____, 20% = ____		= Total Cover	
Sapling/Shrub Stratum (Plot size: 20' diameter)			
1. *Gaultheria shallon*	25	yes	FACU
2. *Vaccinium ovatum*	20	yes	FACU
3.			
4.			
5.			
50% = 22.5, 20% = 9	45	= Total Cover	
Herb Stratum (Plot size: 10' diameter)			
1. *Polystichum munitum*	20	yes	FACU
2. *Dryopteris expansa*	5	no	FACW
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
50% = 12.5, 20% = 5	25	= Total Cover	
Woody Vine Stratum (Plot size: 10' diameter)			
1.			
2.			
50% = ___, 20% = ____		= Total Cover	
% Bare Ground in Herb Stratum 75			

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)
Total Number of Dominant Species Across All Strata: 3 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x1 =	
FACW species		x2 =	
FAC species		x3 =	
FACU species		x4 =	
UPL species		x5 =	
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: The hydrophytic vegetation criterion is not met because there is less than 50% dominance/coverage by FACW plant species.

Project Site: N Grand Forest

SOIL

Sampling Point: TP 8

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2	10YR 2/2	100					gr sa lo	
2-8	10YR 3/3	100					gr sa lo	
8-16	10YR 4/6	100					gr sa lo	
								gr - gravelly
								sa - sandy
								lo - loam

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

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

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

Indicators for Problematic Hydric Soils[3]:

- ☐ 2 cm Muck (A10)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soils Present? **Yes** ☐ **No** ☒

Remarks: The soil profile meets none of the hydric soil indicators because of the high matrix chroma in the subsurface soil layer.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present?	Yes	☐	No	☒	Depth (inches):	
Water Table Present?	Yes	☐	No	☒	Depth (inches):	
Saturation Present? (includes capillary fringe)	Yes	☐	No	☒	Depth (inches):	

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

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

Remarks: Hydrology was not present in this area and there was no evidence of wetland hydrology.

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

Project Site: N Grand Forest City/County: Bainbridge Island/Kitsap Sampling Date: 4/7/21
Applicant/Owner: BI Metro Parks and Recreation State: WA Sampling Point: TP 10
Investigator(s): J. Bartlett, K. Lacey Section, Township, Range: S 16 T 25 N R 2 EWM
Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): concave Slope (%): 5-10
Subregion (LRR): MLRA 2 Lat: 47.664460 Long: -122.554352 Datum: NAD83
Soil Map Unit Name: 16 Harstine gravelly ashy sandy loam, 15-30% 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? 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 Soil Present?	Yes ☐	No ☒		
Wetland Hydrology Present?	Yes ☐	No ☒		

Remarks: The N Grand Forest is located in the southeast quadrant of Miller Road (to the west) and Koura Road (to the north). It is currenlty undeveloped and composed of upland forest with a trail around the perimeter. The property generally slopes down from east to west with topographic troughs carved into the west facing slope. Test Plot 10 is located in the upland northeast of Wetland A.

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Acer macrophyllum*	20	yes	FACU
2. *Thuja plicata*	10	yes	FAC
3.			
4.			
50% = 15, 20% = 6	30	= Total Cover	
Sapling/Shrub Stratum (Plot size: 20' diameter)			
1.			
2.			
3.			
4.			
5.			
50% = , 20% =		= Total Cover	
Herb Stratum (Plot size: 10' diameter)			
1. *Polystichum munitum*	50	yes	FACU
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
50% = 25, 20% = 10	50	= Total Cover	
Woody Vine Stratum (Plot size: 10' diameter)			
1.			
2.			
50% = , 20% =		= Total Cover	

% Bare Ground in Herb Stratum 75

Dominance Test Worksheet:

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

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x1 =	
FACW species		x2 =	
FAC species		x3 =	
FACU species		x4 =	
UPL species		x5 =	
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: The hydrophytic vegetation criterion is not met because there is less than 50% dominance by FAC plant species.

Project Site: N Grand Forest

SOIL

Sampling Point: TP 10

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

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

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

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

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

Indicators for Problematic Hydric Soils[3]:

- ☐ 2 cm Muck (A10)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soils Present? **Yes** ☐ **No** ☒

Remarks: The soil profile meets none of the hydric soil indicators because of the high matrix chroma in the subsurface soil layer.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present?	Yes	☐	No	☒	Depth (inches):	
Water Table Present?	Yes	☐	No	☒	Depth (inches):	
Saturation Present? (includes capillary fringe)	Yes	☐	No	☒	Depth (inches):	

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

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

Remarks: Hydrology was not present in this area and there was no evidence of wetland hydrology.

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

Project Site: N Grand Forest City/County: Bainbridge Island/Kitsap Sampling Date: 4/7/21
Applicant/Owner: BI Metro Parks and Recreation State: WA Sampling Point: TP 11
Investigator(s): J. Bartlett, K. Lacey Section, Township, Range: S 16 T 25 N R 2 EWM
Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): concave Slope (%): 5-10
Subregion (LRR): MLRA 2 Lat: 47.664433 Long: -122.554457 Datum: NAD83
Soil Map Unit Name: 16 Harstine gravelly ashy sandy loam, 15-30% 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? 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	☐	
Hydric Soil Present?	Yes	☒	No	☐	**Is the Sampled Area within a Wetland?** **Yes** ☒ **No** ☐
Wetland Hydrology Present?	Yes	☒	No	☐	

Remarks: The N Grand Forest is located in the southeast quadrant of Miller Road (to the west) and Koura Road (to the north). It is currenlty undeveloped and composed of upland forest with a trail around the perimeter. The property generally slopes down from east to west with topographic troughs carved into the west facing slope. Test Plot 11 is located at an occasionally flooded portion of Wetland A where there is very sparse vegetation.

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
50% = , 20% =		= Total Cover	
Sapling/Shrub Stratum (Plot size: 20' diameter)			
1.			
2.			
3.			
4.			
5.			
50% = , 20% =		= Total Cover	
Herb Stratum (Plot size: 10' diameter)			
1. *Athyrium cyclosorum*	5	yes	FAC
2. *Veronica americana*	5	yes	OBL
3. *Tolmiea menzeisii*	5	yes	FAC
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
50% = 7.5, 20% = 3	15	= Total Cover	
Woody Vine Stratum (Plot size: 10' diameter)			
1.			
2.			
50% = , 20% =		= Total Cover	

% Bare Ground in Herb Stratum 85

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC:	3	(A)
Total Number of Dominant Species Across All Strata:	3	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	100	(A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x1 =	
FACW species		x2 =	
FAC species		x3 =	
FACU species		x4 =	
UPL species		x5 =	
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: The hydrophytic vegetation criterion is met in this area because there is greater than 50% dominance by FAC and OBL species.

Project Site: N Grand Forest

SOIL

Sampling Point: TP 11

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10	10YR 2/1	100					gr sa lo	
10-16	10YR 4/1	95	10YR 4/6	5	C	M	gr sa lo	
								gr - gravelly
								sa - sandy
								lo - loam

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

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

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

Indicators for Problematic Hydric Soils[3]:

- ☐ 2 cm Muck (A10)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soils Present? **Yes** ☒ **No** ☐

Remarks: The soil profile meets hydric soil indicator A11 because there is a dark surface layer below which is a depleted matrix. Organic material was visible within the surface layer.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present?	Yes	☒	No	☐	Depth (inches):	1
Water Table Present?	Yes	☐	No	☒	Depth (inches):	
Saturation Present? (includes capillary fringe)	Yes	☒	No	☐	Depth (inches):	surface

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

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

Remarks: Surface water was present to a depth of 1 inch and the soil was saturated to the surface. There was no shallow water table in this location.

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

Project Site: N Grand Forest City/County: Bainbridge Island/Kitsap Sampling Date: 4/7/21
Applicant/Owner: BI Metro Parks and Recreation State: WA Sampling Point: TP 12
Investigator(s): J. Bartlett, K. Lacey Section, Township, Range: S 16 T 25 N R 2 EWM
Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): concave Slope (%): 5-10
Subregion (LRR): MLRA 2 Lat: 47.664431 Long: -122.554542 Datum: NAD83
Soil Map Unit Name: 16 Harstine gravelly ashy sandy loam, 15-30% 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? 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 Soil Present?	Yes ☐	No ☒		
Wetland Hydrology Present?	Yes ☐	No ☒		

Remarks: The N Grand Forest is located in the southeast quadrant of Miller Road (to the west) and Koura Road (to the north). It is currenlty undeveloped and composed of upland forest with a trail around the perimeter. The property generally slopes down from east to west with topographic troughs carved into the west facing slope. Test Plot 12 is located in the upland southwest of Wetland A.

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Pseudotsuga menzeisii*	10	yes	FACU
2.			
3.			
4.			
50% = 5, 20% = 2	10	= Total Cover	
Sapling/Shrub Stratum (Plot size: 20' diameter)			
1. *Vaccinium ovatum*	20	yes	FACU
2. *Mahonia nervosa*	10	yes	FACU
3.			
4.			
5.			
50% = 15, 20% = 6	30	= Total Cover	
Herb Stratum (Plot size: 10' diameter)			
1. *Polystichum munitum*	35	yes	FACU
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
50% = 25, 20% = 10	50	= Total Cover	
Woody Vine Stratum (Plot size: 10' diameter)			
1.			
2.			
50% = ___, 20% = ___		= Total Cover	
% Bare Ground in Herb Stratum 65			

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x1 =	
FACW species		x2 =	
FAC species		x3 =	
FACU species		x4 =	
UPL species		x5 =	
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: The hydrophytic vegetation criterion is not met because there is less than 50% dominance by FAC. FACW, or OBL plant species.

Project Site: N Grand Forest

SOIL

Sampling Point: TP 11

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16	10YR 2/2	100					gr sa lo	very gravelly/rocky
								gr - gravelly
								sa - sandy
								lo - loam

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

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

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

Indicators for Problematic Hydric Soils[3]:

- ☐ 2 cm Muck (A10)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soils Present? **Yes** ☐ **No** ☒

Remarks: The soil profile meets none of the hydric soil indicators because the matrix chroma is not depleted and there are no redoximorphic concentrations.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present?	Yes	☐	No	☒	Depth (inches):	
Water Table Present?	Yes	☐	No	☒	Depth (inches):	
Saturation Present? (includes capillary fringe)	Yes	☐	No	☒	Depth (inches):	

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

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

Remarks: Hydrology was not present in this area and there was no evidence of wetland hydrology.

APPENDIX B

Wetland name or number: A

RATING SUMMARY – Western Washington

Name of wetland (or ID #): Wetland A Date of site visit: 4/7/21

Rated by: J. Bartlett Trained by Ecology? X Yes ___No Date of training: 11/2014

HGM Class used for rating: Slope Wetland has multiple HGM classes? __Y X N

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

OVERALL WETLAND CATEGORY IV (based on functions X 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

X **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	**5**	**3**	**6**	**14**

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**
Bog33	**I**
Mature Forest	**I**
Old Growth Forest	**I**
Coastal Lagoon	**I II**
Interdunal	**I II III IV**
None of the above	**X**

Wetland name or number: 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	
Hydroperiods	D 1.4, H 1.2	
Location of outlet (*can be added to map of hydroperiods)*	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland *(can be added to another figure)*	D 2.2, D 5.2	
Map of the contributing basin	D 4.3, D 5.3	
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	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	D 3.3	

Riverine Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	H 1.1, H 1.4	
Hydroperiods	H 1.2	
Ponded depressions	R 1.1	
Boundary of area within 150 ft of the wetland *(can be added to another figure)*	R 2.4	
Plant cover of trees, shrubs, and herbaceous plants	R 1.2, R 4.2	
Width of unit vs. width of stream *(can be added to another figure)*	R 4.1	
Map of the contributing basin	R 2.2, R 2.3, R 5.2	
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	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	R 3.1	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	R 3.2, R 3.3	

Lake Fringe Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	L 1.1, L 4.1, H 1.1, H 1.4	
Plant cover of trees, shrubs, and herbaceous plants	L 1.2	
Boundary of area within 150 ft of the wetland *(can be added to another figure)*	L 2.2	
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	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	L 3.1, L 3.2	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	L 3.3	

Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	H 1.1, H 1.4	**9**
Hydroperiods	H 1.2	**9**
Plant cover of **dense** trees, shrubs, and herbaceous plants	S 1.3	**9**
Plant cover of **dense, rigid** trees, shrubs, and herbaceous plants (*can be added to figure above)*	S 4.1	**9**
Boundary of 150 ft buffer (can be added to another figure)	S 2.1, S 5.1	**9**
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	**10**
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	**11**
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	S 3.3	**11**

Wetland name or number: A

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?
   _X_ The wetland is on a slope (*slope can be very gradual*),
   _X_ 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,
   _X_ 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.

Wetland name or number: A

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.*

Wetland name or number: A

SLOPE WETLANDS

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

S 1.0. Does the site have the potential to improve water quality?	
S 1.1. Characteristics of the average slope of the wetland: *(a 1% slope has a 1 ft vertical drop in elevation for every 100 ft of horizontal distance*) Slope is 1% or less points = 3 Slope is > 1%-2% points = 2 Slope is > 2%-5% points = 1 Slope is greater than 5% points = 0	**2**
S 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic *(use NRCS definitions)*: Yes = 3 No = 0	**0**
S 1.3. Characteristics of the plants in the wetland that trap sediments and pollutants: Choose the points appropriate for the description that best fits the plants in the wetland. *Dense means you have trouble seeing the soil surface (>75% cover), and uncut means not grazed or mowed and plants are higher than 6 in.* Dense, uncut, herbaceous plants > 90% of the wetland area points = 6 Dense, uncut, herbaceous plants > ½ of area points = 3 Dense, woody, plants > ½ of area points = 2 Dense, uncut, herbaceous plants > ¼ of area points = 1 Does not meet any of the criteria above for plants points = 0	**1**
Total for S 1 Add the points in the boxes above	**3**

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

S 2.0. Does the landscape have the potential to support the water quality function of the site?	
S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants? Yes = 1 No = 0	**0**
S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1? Other sources Yes = 1 No = 0	**0**
Total for S 2 Add the points in the boxes above	**0**

Rating of Landscape Potential If score is: ___**1-2 = M** **X** **0 = L** *Record the rating on the first page*

S 3.0. Is the water quality improvement provided by the site valuable to society?	
S 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	**0**
S 3.2. Is the wetland in a basin or sub-basin where water quality is an issue? *At least one aquatic resource in the basin is on the 303(d) list*. Yes = 1 No = 0	**0**
S 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 unit is found.* Yes = 2 No = 0	**2**
Total for S 3 Add the points in the boxes above	**2**

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

Wetland name or number: A

SLOPE WETLANDS

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

S 4.0. Does the site have the potential to reduce flooding and stream erosion?	
S 4.1. Characteristics of plants that reduce the velocity of surface flows during storms: Choose the points appropriate for the description that best fits conditions in the wetland. *Stems of plants should be thick enough (usually > 1/8 in), or dense enough, to remain erect during surface flows.* Dense, uncut, **rigid** plants cover > 90% of the area of the wetland points = 1 All other conditions points = 0	**0**

Rating of Site Potential If score is: ___**1 = M** ___**0 = L** *Record the rating on the first page*

S 5.0. Does the landscape have the potential to support the hydrologic functions of the site?	
S 5.1. Is more than 25% of the area within 150 ft upslope of wetland in land uses or cover that generate excess surface runoff? Yes = 1 No = 0	**0**

Rating of Landscape Potential If score is: ___**1 = M** ___**0 = L** *Record the rating on the first page*

S 6.0. Are the hydrologic functions provided by the site valuable to society?	
S 6.1. Distance to the nearest areas downstream that have flooding problems: The sub-basin immediately down-gradient of site has flooding problems that result in damage to human or natural resources (e.g., houses or salmon redds) points = 2 Surface flooding problems are in a sub-basin farther down-gradient points = 1 No flooding problems anywhere downstream points = 0	**0**
S 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	**0**
Total for S 6 Add the points in the boxes above	**0**

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

NOTES and FIELD OBSERVATIONS:

Wetland name or number: 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	4 structures or more: points = 4
____Emergent	3 structures: points = 2
__X__Scrub-shrub (areas where shrubs have > 30% cover)	2 structures: points = 1
____Forested (areas where trees have > 30% cover)	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

0

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	4 or more types present: points = 3
____Seasonally flooded or inundated	3 types present: points = 2
__X__Occasionally flooded or inundated	2 types present: points = 1
__X__Saturated only	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**

1

H 1.3. Richness of plant species

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

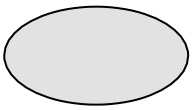
Different patches of the same species can be combined to meet the size threshold and you do not have to name the species. ***Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Canadian thistle***

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

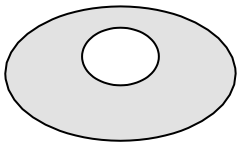
1

H 1.4. Interspersion of habitats

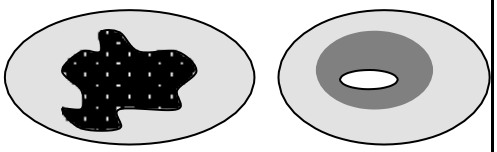
Decide from the diagrams below whether interspersion among Cowardin plants classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, moderate, low, or none. *If you have four or more plant classes or three classes and open water, the rating is always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



None = 0 points

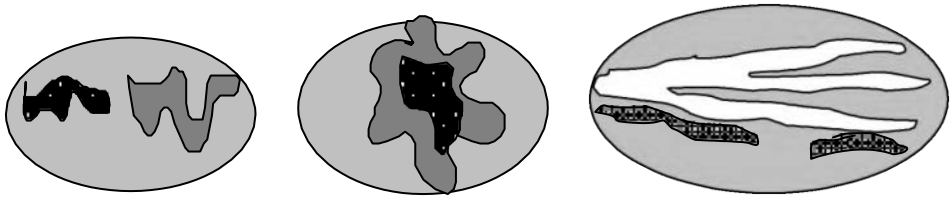


Low = 1 point



Moderate = 2 points

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



0

Wetland name or number: A

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.* __X__ Large, downed, woody debris within the wetland (> 4 in diameter and 6 ft long). __X__ 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*)	**2**
Total for H 1 Add the points in the boxes above	**4**

Rating of Site Potential If score is: ___ **15-18 = H** ___ **7-14 = M** __X__ **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 22 **+** [(% moderate and low intensity land uses)/2] 1.25 **= 23.25**% 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	**2**
H 2.2. Undisturbed habitat in 1 km Polygon around the wetland. *Calculate:* % undisturbed habitat 23 **+** [(% moderate and low intensity land uses)/2] 17.5 **= 40.5**% 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	**2**
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	**0**
Total for H 2 Add the points in the boxes above	**4**

Rating of Landscape Potential If score is: **X** **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

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

Wetland name or number: A

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.

— X **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.

— X **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.

Wetland name or number: A

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? 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://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.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 bog**	**Cat. I**

Wetland name or number: A

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**	**Cat. I**
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. 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**	**Cat I**
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**	**Cat. II**
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**	**Cat. III**
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. IV**
Category of wetland based on Special Characteristics If you answered No for all types, enter "Not Applicable" on Summary Form	

Wetland name or number: A

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