Wetland Delineation Report
for
Meydenbauer Bay Park and Land Use Plan

Prepared for:

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ACRONYMS AND ABBREVIATIONS

-	negative
+	positive
BMC	Bellevue Municipal Code
CWA	Clean Water Act
Ecology	Washington State Department of Ecology
EUB	estuarine unconsolidated bottom
FAC	Facultative
FACU	Facultative Upland
FACW	Facultative Wetland
GIS	geographic information system
HGM	Hydrogeomorphic
LUC	City of Bellevue Land Use Code
NI	No Indicator
NL	Not Listed
NRCS	Natural Resources Conservation Service
NWS	National Weather Service
OBL	Obligate
OHWM	ordinary high water mark
PDD	palustrine drainage ditches
PEM	palustrine emergent wetlands
RD	riparian deciduous forest
SEPA	State Environmental Protection Act
UD	deciduous forest
UG	upland grass
UMDC	mixed deciduous -conifer forest
UPL	Obligate Upland
US	upland shrub
USACE	U.S. Army Corps of Engineers
USGS	U.S. Geological Survey
WAU	Wetlands Assessment Unit
WDFW	Washington State Department of Fish and Wildlife

EXECUTIVE SUMMARY

Meydenbauer Beach Park (the park) is a 2.85 acre local waterfront park on the west side of Bellevue, Washington containing a steep, forested ravine that slopes west to an armored shoreline, grass lawn near-shore area, and small sand swimming beach. The City of Bellevue (Bellevue) owns the park and has purchased additional property adjacent to the park, with the intention of implementing a master plan for a new waterfront park. Goals for the Meydenbauer Bay Park and Land Use Plan (the plan) include better utilization of the unique natural setting of the park for both people and ecological function. The wetland delineation report will inform the design and discussion of how best to integrate the goals for the future of the park and to ensure that wetland resources are included early in the design and planning process.

Based on data collected according to regulatory guidelines, three small wetlands were delineated within the park boundary. All three wetlands are within 100 feet of the Meydenbauer Bay shoreline, and in close proximity to one another. The combined wetland area is approximately 1,976 square feet, and all wetlands are dominated by herbaceous vegetation. A wetland rating was performed using the Wetland Rating System for Western Washington, Revised (Hruby 2004). Results of the rating exercise indicate that the wetlands are a mosaic, and should be considered a single Category IV wetland unit, the lowest of the four wetland categories. Wetland buffers for a Category IV wetland within a City of Bellevue developed site are 40 feet (LUC 20.25H.095). Category IV wetlands and buffers may be altered under some circumstances, when appropriate mitigation and enhancement is implemented to ensure no habitat, water quality or hydrologic function is lost. These wetlands present substantial opportunities for enhancement of habitat, water quality and hydrologic functions.

In addition to wetlands, the park and adjacent lands contain a small historic stream under the paved access road, Shorelines of the State along Meydenbauer Bay, habitat associated with species of local importance critical areas, federally threatened fish species and the park supports state protected species such as bald eagles. The piped stream, under the paved park access road (TWC 2008), currently has no protection under Bellevue critical areas codes or Washington Department of Ecology (Ecology) regulations, however redesign of this feature may require local and state permits.

Additional environmental permits that may be required for master plan implementation include:

- City of Bellevue Shoreline Substantial Development Permit
- City of Bellevue Shoreline Conditional Use Permit
- City of Bellevue Critical Areas Land Use Permit (s) for alteration of a shoreline critical area, alteration of habitat associated with species of local importance critical area, and or alteration of wetlands and wetlands buffers critical areas, including monitoring and mitigation plans.
- State Environmental Protection Act (SEPA) Checklist
- State Dept. of Fish and Wildlife Hydraulic Project Approval to restore historic stream flow
- State Dept. of Ecology Section 401 permit for projects needing fill or excavation in state waters
- National Pollution Discharge Elimination System (NPDES) Storm-water Construction and Municipal Compliance permits
- U.S. Army Corps of Engineers Section 10 compliance for work in, over or under navigable waters of the United States
- U.S. Army Corps of Engineers Section 404, Clean Water Act compliance, for projects requiring discharge of fill or dredge in Water of the United States
- U.S. Fish and Wildlife Service/ National Marine Fisheries Service Biological Assessment due to the presence of Threatened Fish Species under the Endangered Species Act. (Chinook, bull trout, and steelhead).

Primary opportunities for enhancement of the park's ecological features include reduction of invasive plant species, enhancement of native forest tree, shrub and groundcover species, reduction of impervious surfaces, and enhancement of wetlands. through stewardship of natural vegetation, topography and hydrology. Additionally, the shoreline armoring substantially limits natural vegetation, sediment and nutrient transport, and habitat for fish and other animals. Removal of the armoring and development of a vegetated shoreline with native plant species would improve the condition of fish and wildlife habitat. Finally, the piped stream under the park access road presents an opportunity to restore an historic riparian feature in the park. Day-lighting of the stream would improve riparian and aquatic habitat and provide environmental education opportunities. Wetlands, shorelines, wildlife habitat, and the historic stream are being considered throughout the design and planning process; these elements are discussed in detail in the Baseline Habitat and Vegetation Functional Analysis (EDAW 2008).

1.0 INTRODUCTION AND DESCRIPTION OF GENERAL SITE CONDITIONS

1.1 Project Description

The Meydenbauer Bay Park and Land Use Plan (the plan) is designed to incorporate scientific data, stakeholder input, and urban recreational values into an integrated and creative design for land use within and around Meydenbauer Beach Park (the park). Early planning stages of the master plan identified a broad set of goals, including the desire for ecological sustainability within the park and better stewardship of the urban waterfront. This wetland delineation report was performed to identify and characterize wetland resources within the area affected by the Meydenbauer Bay Park and Land Use Plan, and to ensure compliance with local, state and federal regulations.

Wetland data were collected on June 6, 2008, and June 27, 2008. Functions and values of the identified wetlands will be incorporated in the new design of the park. Currently, the park is primarily used as a recreational beach site, including a grass lawn and a sand beach swimming area. The wetland delineation report may help guide development of specific ecological and recreational goals, and allow for identification of wetland resources to be integrated at each level of the planning process.

1.2 Project Area

The project area is located on the central shoreline of Meydenbauer Bay, on the eastern shore of Lake Washington, between the city of Medina and the downtown core of the City of Bellevue (Bellevue), Washington. The project study area includes the current site of Meydenbauer Beach Park, all single family properties adjacent to the park west of Lake Washington Boulevard and north of 99th Avenue NE; the Bellevue Marina at Meydenbauer Bay (the marina); and properties falling north of Meydenbauer Way SE, Northwest of 101st Avenue Southeast, west of Northeast 1st Street and south of 99th Avenue northeast until it meets Lake Washington Boulevard, as depicted in Figure 1.2-1. City owned properties include the park, the marina, nine single-family homes south of the park, two duplexes, and two apartment parcels containing the Bayvue Village Apartments, and two street rights-of-way that end at the lake shore. Additionally, the project study area includes parcels not owned by the city in order to evaluate critical areas and potential corridors to connect the park, the shoreline, and uplands. Properties within the study area were evaluated for wetlands and other critical areas to ensure complete information availability at the planning and discussion stages.

Large trees and native vegetation within the study area are primarily located within the park and adjacent single family homes on the north side of the study area. Significant tree cover is present only on the north side of the project area due to the dominance of impervious surface and concentrated urban land use in the south portion of the study area.

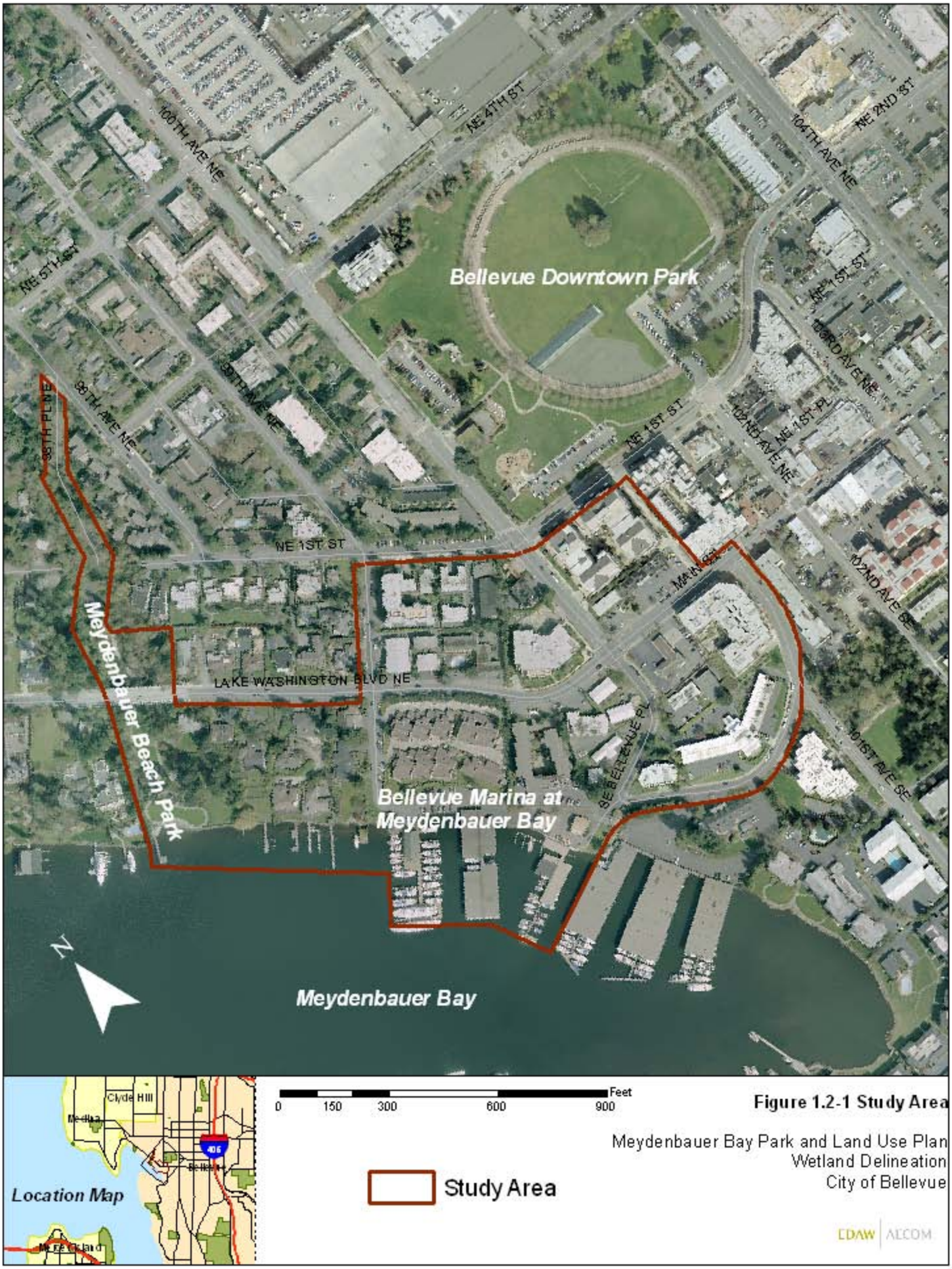

Figure 1.2-1 Study Area

Meydenbauer Bay Park and Land Use Plan
Wetland Delineation
City of Bellevue

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Figure 1.2-2 Topography

Meydenbauer Bay Park and Land Use Plan
Wetland Delineation
City of Bellevue

The study area slopes generally west toward the lake, with steeper slopes along 98th Place NE and on properties north of 99th Avenue NE. Urban land uses have altered the topography of the study area. South of the study area, at the southern portion of Meydenbauer Bay, is a wetland of over three acres adjacent to Meydenbauer Creek. Topography generally slopes west towards the bay and gently south towards the creek in the southern portion of the site. Surface water flows were likely more common historically before the installation of storm sewers to divert flows, and impervious surfaces leading to greater run-off. Portions of Meydenbauer Creek are piped, and some water inputs that would drain to the creek have been diverted directly to Meydenbauer Bay (Entranco 1998) to alleviate flooding in the creek. Topography of the study area is shown in Figure 1.2-2.

The climate of Western Washington, including the City of Bellevue and Meydenbauer Bay, is dominated by maritime influences, with mild temperatures and moderately high precipitation. Winter daily lows average in the mid 30s (Fahrenheit), with the coldest months from December through February. Summer average daily high temperatures are in the high 70s to low 80s in July and August. Precipitation is approximately 36 inches per year, with 2/3 of that falling between November 1 and March 15 (WRCC 2006). Meydenbauer Beach Park and the study area may have a wider temperature, humidity and precipitation range due to the lakefront location, steep topography, and western aspect.

2.0 METHODOLOGY

2.1 Determination of Potential USACE Jurisdictional Wetlands and Other Waters of the U.S.

Field wetland delineations were completed according to state and federal standard methods and procedures to objectively evaluate physical and biological features for wetlands. Wetlands are defined as "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 generally include swamps, marshes, bogs, and similar areas (EPA, 40 CFR 230.3; CE, 33 CFR 328.3)

2.1.1 Field Delineation Methods for USACE Jurisdictional Wetlands

Methods used during the wetland delineation to evaluate hydrophytic vegetation, hydric soils, and wetland hydrology criteria follow those of the U.S. Army Corps of Engineers (USACE) Wetland Delineation Manual (Environmental Laboratory 1987), the Draft Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (the Regional Supplement) (USACE 2008) and the Washington State Wetlands Identification and Delineation Manual (Ecology 1997), and are described below.

Determination of Hydrophytic Vegetation

Potential wetland sites are considered to have positive indicators of hydrophytic vegetation if greater than 50% of the dominant plant species include FAC, FAC+, FACW, or OBL species (Reed 1988). Most plant species have been given a wetland indicator status, a rating that indicates the probability that a particular plant species will occur in a wetland. Indicator status categories are defined as follows (Reed 1988):

- Obligate (OBL) – almost always occurs in wetlands (>99% probability of occurring in wetlands);
- Facultative Wetland (FACW) – usually occurs in wetlands (67-99% probability of occurrence in wetlands);
- Facultative (FAC) – equally likely to occur in wetlands or non-wetlands (34-66% of occurrence in wetlands);
- Facultative Upland (FACU) – usually occurs in non-wetlands, but occasionally occurs in wetlands (1-33% of occurrence in wetlands);
- Obligate Upland (UPL) – almost never occurs in wetlands (1% probability of occurrence in wetlands), and
- No Indicator (NI) – no status assigned because information is lacking.

A positive (+) or negative (-) sign in the regional plant indicator status list is used to define the regional frequency of occurrence in wetlands. The positive sign indicates that a facultative plant is more frequently found in wetlands (FAC+), and a negative sign

indicates that a facultative plant is less frequently found in wetlands (FAC-). However, the USACE's Interim Regional Supplement, Western Mountains, Valleys, and Coast Region, gives equal weight to all FAC designated species (USACE 2008), regardless of -/+ sign. Therefore, all species in this report listed as FAC-, FAC, and FAC+ plants are treated as FAC species. Sampling locations, also known as data points, were considered dominated by hydrophytic vegetation if the percentage of hydrophytic species was greater than 50 percent. Species observed within the study area that are not listed on the wetland indicator species list are designated as "NL." Species designated as NI (No Indicator) or NL are not considered hydrophytic.

Determination of Hydric Soils

Soil survey information was reviewed for the Meydenbauer Bay Park and Land Use Plan study area. Soils were evaluated in the field using the Munsell soil color chart, hand texturing, and an assessment of diagnostic hydric soil features (e.g., redoximorphic features, oxidized root channels, reduced matrix, etc.). In most cases, the following indicators were used to determine the presence of hydric soils in the study area:

- soil indications of saturation for extended periods of time during the growing season, such as mottles or concretions
- aquic moisture regime; and/or
- positive indicators of anaerobic activity, such as oxidized root channels or sulfidic odor.

Determination of Wetland Hydrology

Wetland hydrology is typically determined to be present if a site exhibits one or more of the following characteristics:

- landscape position and surface topography typical of wetlands (e.g., position of the site relative to an upslope water source, location within a distinct wetland drainage pattern, and concave surface topography);
- inundation or saturation for long durations (either inferred based on field indicators or observed during field surveys during the growing season); and
- residual evidence of ponding or flooding (e.g., scour marks, sediment deposits, algal matting, and drift lines).

Long duration is defined by the Natural Resources Conservation Service (NRCS) as inundation from a single event in which the inundation ranges from 7 days to 1 month. The presence of water for one week or more during the growing season typically creates anaerobic conditions in the soil, and these conditions limit the types of plants that can grow in soils that develop under oxygen depleted conditions.

As additional guidance to determine the period of inundation or saturation required to meet the wetland hydrology criteria, the 1987 USACE Wetland Delineation Manual modified their hydrological classification system for non-tidal areas based on periods of inundation or soil saturation. According to this classification system, areas that are inundated for less than 5% of the growing season are not considered wetlands. Areas

that are regularly inundated or saturated between 5% and 12.5% of the growing season may or may not be wetlands. For this wetland delineation, wetland hydrology was inferred due to saturated soils and landscape position of the site relative to an upslope water source. All data points where hydrology was inferred had positive indicators of hydrophytic vegetation and hydric soils.

2.1.2 Field Delineation Methods for Other Waters of the U.S.

Waters of the United States encountered in the study area also include the Meydenbauer Bay shoreline and a small seep water feature. The full length of the shoreline in the study area is armored, and the Ordinary High Water Mark (OHWM) was determined to be at the horizontal mid-point of the armoring. A single water feature was identified seventy-five feet northeast of the east edge of the wetlands along the property line of two single-family properties. The feature lacks a defined bed or bank and is absent any presence of an Ordinary High Water Mark (OHWM), although it flows into a small grate with a buried outflow pipe four inches under the soil surface. The feature appears to be draining upslope grass lawn areas with the water source coming from precipitation sheet flow. The grate and underground pipe were likely installed by the previous property owners to assist in moving water down slope during storm events. This feature is discussed in Section 3.3 and 3.4.2. Wetland ecologists collected the following information concerning this water feature:

- designation as an ephemeral, intermittent or perennial water feature
- dominant plant species within bed and bank and adjacent to the drainage;
- hydrological connection (direct, or indirect via another tributary) to a navigable waterway, waterbody with interstate commerce use(s), or other potential USACE-jurisdictional feature; and
- presence of adjacent jurisdictional wetlands or other sensitive resources, such as riparian habitat.

2.2 Wetland Classification

The Classification of Wetlands and Deepwater Habitats of the United States (Cowardin et. al. 1979) was used to classify and map wetland habitats in the study area. This classification system defines wetland habitats based on hydrophytic plants, hydric soils, and frequency of flooding; the document also includes classification for deepwater habitats that often do not support hydrophytic vegetation. The classification hierarchy consists of Systems, Subsystems, Classes, Subclasses, Dominance Types and various modifiers to describe more specific attributes of related hydrology, soils and vegetation. Wetland habitats in this report are mapped to the Class level of the Cowardin classification system. System is the highest level of the classification hierarchy, and is based on the water source: Marine, Estuarine, Riverine, Lacustrine and Palustrine. Of these, Palustrine and Lacustrine wetlands are present in the study area.

Palustrine System - The Palustrine System includes all nontidal wetlands dominated by trees, shrubs, persistent emergents and emergent mosses or lichens. Palustrine habitats occur in tidal areas only when water salinity is <0.5%. In the absence of vegetation cover, a palustrine habitat must meet the following four conditions: 1) area less than 20 acres, 2) active wave-formed or bedrock shoreline features lacking, 3) water depth in the deepest part of basin less than 2 m at low water, and 4), salinity due to ocean-derived salts less than 0.5 %. There are no subsystem levels within Palustrine Systems. One Palustrine Class is present in the study area: Emergent Wetland.

The Class-level characteristics of emergent Palustrine wetlands include a vegetated substrate dominated entirely by emergent herbaceous angiosperms.

Lacustrine System – The Lacustrine System includes wetlands and deepwater habitats with all of the three following characteristics: (1) situated in a topographic depression or a dammed river channel; (2) lacking trees, shrubs, persistent emergents, emergent mosses or lichens with greater than 30 percent aerial coverage; and (3) the total area exceeds 20 acres. Similar wetland and deepwater habitats totaling less than 20 acres are also included in the Lacustrine System if an active wave formed or bedrock shoreline feature makes up all or part of the boundary or if the water depth in the deepest part of the lake exceeds 6.6 feet at low water. Lacustrine waters may be tidal or nontidal, provided that ocean-derived salinity is less than 0.5 %. The boundary between wetland and deepwater habitats lies at a depth of 6.6 feet below water; however, if emergents, shrubs, or trees grow beyond this depth, their deepwater edge is the boundary. (Cowardin et al. 1979) Lacustrine limnetic habitats (L1 on NWI maps) are classified as deepwater, while Lacustrine littoral habitats
(L2 on NWI maps) are wetlands.

The upland habitats in the study area follow no published vegetation classification. Descriptions of upland habitat types are based on the dominant, tallest vegetation layer that also exceeds 10% aerial cover (e.g. herb, shrub and tree layer). Urban and residential areas are also depicted within the study area. The upland vegetation types and wetland are described in Section 3.4.1.

2.3 Review of Existing Information

The pre-field investigation consisted of a review of existing information and determination of requirements for the field survey. Prior to the initiation of the field survey, EDAW wetland specialists reviewed the following sources of information:

- U.S. Geological Survey (USGS) Mercer Island 7.5-minute topographic map;
- NRCS King County soil survey (1979);
- Aerial photography (1920's era, 1936 and 2005)
- NWI Wetlands Inventory Mapping; and
- GIS hydrography layer
- King County iMap sensitive areas and property information GIS layers

2.4 Field Investigation

EDAW wetland specialists performed the wetland delineation in late spring of 2008. The field delineation was conducted on June 6th, and additional site information was gathered on June 27th. The purpose of this investigation was to identify, delineate, and map USACE jurisdictional wetlands and waters of the United States.

2.4.1 Wetland Delineation

Initial reconnaissance was conducted throughout the study area to determine areas for focus of data collection. Suspected areas of possible wetlands were examined for positive hydrologic indicators, through examination of surface soils and dominant plants. Suspect areas were the near-shore of the lake within 50 feet of the OHWM, the break-in-slope in areas of steeper topography, and any areas with plant species known to be hydrophytic or facultative, including grass lawns and patches of Himalayan blackberry (*Rubus armeniacus*). On the date of the wetland delineation, 0.36 inches of rain was recorded (NWS 2008) and delineations were performed in wet conditions.

Due to the frequent use of the park and the location of the wetland areas within grass lawns on occupied single-family properties along the waterfront, wetland boundaries were not marked in the field. Wetland data points and wetland boundary points were collected with a Trimble GeoXH hand held unit, capable of sub-meter point location accuracy.

Soils were assessed by digging soils pits with a shovel to a depth of 20 inches or greater, and evaluated for the presence of positive hydric indicators. Vegetation was assessed through thorough plant species identification, and hydrology was evaluated based on topography, soil saturation indicators, and observation of signs of water.

Wetland delineation data forms were completed in the field to provide contrasting data, i.e. wetland data points and closely adjacent upland or non-wetland sites were sampled to provide paired data for each wetland identified. The wetland and upland data were used to compare soils, vegetation, and hydrology between wetland and upland sites and to determine wetland boundaries. The three wetland criteria were assessed using the Regional Supplement (USACE 2008.). All wetland delineation data forms completed for the study area are included in Appendix B. Digital photographs were taken of all potential jurisdictional features and at representative upland locations (Appendix C).

Soils, hydrology and vegetation data meeting hydrophytic wetland criteria in the study area are discussed in Section 3.0, Results.

2.4.2 Wetland Boundary Determinations, Mapping and Acreage Calculations

The wetland-upland boundary was determined based on the presence of positive indicators of all three mandatory criteria: hydrophytic vegetation, hydric soils, and wetland hydrology. Wetland boundaries were identified in the field, however due to the park and single-family waterfront homes on the site, and the potential for sensitivity to

aesthetics, wetland boundaries were delineated directly into a handheld GPS unit and digitized into a wetland map. The wetland polygons were digitized using ArcMap 7.0 software based on field mapped data points, and finalized in ArcGIS 9.2. Wetland areas were derived through a direct calculation of the geographic information system (GIS) polygon area attributes.

2.5 Wetland Rating System

The Washington State Wetland Rating System for Western Washington, revised (the Ecology rating system) (Hruby 2004) was applied as the method of functional assessment for wetlands delineated in the study area. Wetlands are rated on the basis of their functions for three ecological services: habitat function, water quality function and hydrologic function.

2.5.1 Washington State Wetland Rating System for Western Washington

The Ecology rating system is designed to differentiate between wetlands based on specific attributes such as rarity, sensitivity to disturbance, ecological function, and our ability to replace these functions and values if the wetland structure were to be altered or compromised. The system is based on the Hydrogeomorphic (HGM) classification system (as opposed to the Cowardin classification system).

Characteristics of the classification system consider the water quality functions, hydrological functions, and habitat functions of a site. The system uses a standardized form (Version 2 – Updated July 2006) and series of questions about the hydrogeomorphic class, the potential and opportunity for the wetland to improve water quality and hydrologic functions, and the habitat structure of the wetland and adjacent landscape (Hruby 2004). Each wetland site is assigned a Category (I through IV) based on the total point score it receives for the series of questions.

Category I Wetlands are those that 1) represent a unique or rare wetland type; or 2) are more sensitive to disturbance than most wetlands; or 3) are relatively undisturbed and contain ecological attributes that are impossible to replace within a human lifetime; or 4) provide a high level of functions. These include relatively undisturbed estuarine wetlands larger than one acre; Natural Heritage Wetlands (wetlands identified by scientists of the Washington Department of Natural Resources, Natural Heritage Program as high quality, relatively undisturbed wetlands, or wetlands that support State listed threatened, endangered, or sensitive plants; bogs; mature and old-growth forested wetlands over one acre in size; wetlands in coastal lagoons; and wetlands that perform many functions very well (wetlands scoring 70 points or more on the questions related to functions).

Category II Wetlands are difficult, though not impossible, to replace, and provide high levels of some or all functions. These include estuarine wetlands smaller than one acre, or those that are disturbed and larger than one acre; interdunal wetlands greater than one acre; and wetlands that are providing high levels of water quality, hydrologic and/or habitat functions (score between 51-69 points on the questions related to functions).

Category III Wetlands are wetlands that provide a moderate level of function for water quality, hydrology and/ or habitat (scores between 30-50 points). Interdunal wetlands between 0.1 and one acre in size are also Category III wetlands.

Category IV Wetlands have the lowest level of functions (scores less than 30 points) and are often heavily disturbed. These are wetlands that are potentially replaceable, and in some cases, have the potential to be enhanced. Many wetlands in urban and suburban areas fall into this category.

2.5.2 Determination of Wetland Assessment Units

For purposes of the rating system, where wetlands form large contiguous areas, Wetland Assessment Unit (WAU) boundaries may be set where natural or man-made features create an abrupt change in the volume, flow, or velocity of the water (Hruby 2004). Identified wetland features within the study area are small and relatively close in proximity, with no large scale changes in hydrology, soils, topography or man made features that warrant distinction between them. The WAU for this study is simply the wetland unit.

3.0 RESULTS

3.1 Summary of USACE Jurisdictional Features

A single 1,976 square foot potential USACE jurisdictional waters of the United States was delineated in the study area. The wetland habitat consists of a three smaller mosaic wetland units, mapped as wetland 1, wetland 2 and wetland 3. These wetland units are all of a single vegetation type, and are typical of disturbed urban wetlands in maintained lawns and of wetlands at the break in slope near a lake front. The entire wetland unit, Wetland A is an emergent wetland with both Palustrine and Lacustrine sources of hydrology, with mainly Palustrine in-flows in wetland 1, and Lacustrine in-flows in wetlands 2 and 3. Wetland A has a clear hydrologic connection to Meydenbauer Bay, a feature that the USACE regulates under Section 404 of the Clean Water Act (CWA). The Meydenbauer Bay/ Lake Washington OHWM (Shoreline of the State) was digitized along the armored edge throughout the study area, and the OHWM also is the western delineated edge of wetlands 2 and 3 within Wetland A.

Additionally, a wet slope of less than 10 square feet was identified 75 feet NE of the eastern portion of the wetland unit. This water feature lacks surface water connections to any identified wetlands or to Meydenbauer Bay, does not exhibit an OHWM, and is lacking vegetation. The drainage feature is below minimum size thresholds for wetlands regulations under the City of Bellevue Critical areas code (LUC 20. 25H.095). Upland habitats in the study area include approximately 1.2 acres of contiguous canopy urban forest, and 31.8 acres of disturbed urban residential lands, including landscaped grass lawns.

Field data were collected at eight sample point locations to describe soils, hydrology, and habitat types in the study area. The results are presented below in Sections 3.2 through 3.4. Figure 3.1-1 shows the three small wetlands that form a single mosaic wetland rating unit, Wetland A, as well as all data point locations, and illustrates the applicable buffer under Bellevue's critical areas code.

The following narrative provides a description of the soils, vegetation, and hydrology of the jurisdictional wetland identified during the field investigations and as mapped on Figure 3.1-1.

Figure 3.1-1 Wetlands

Meydenbauer Bay Park and Land Use Plan
Wetland Delineation
City of Bellevue

3.2 Wetland A

Soils

Two soil types are mapped in the study area by the Natural Resources Conservation Service (NRCS) *Soil Survey for King County* (SCS 1973). Alderwood gravelly sandy loams, 15-30% slopes, are mapped on about 13 acres of the study site, extending from the park access road at 98th Place NE west and south along the shoreline, and extending slightly into Meydenbauer Bay (SCS 1973). Arents, Alderwood material, 6-15% slopes are mapped on approximately 20 acres of the study site, primarily in the upland areas, beginning about 150 feet east of the Meydenbauer Bay shoreline.

Arents, Alderwood material, are moderately well drained Alderwood type soils that have been disturbed through agricultural or other land use practices, and have lost their natural profile and some of their distinguishing characteristics (SCS 1973). Alderwood sandy gravelly loams are moderately well drained, soils underlain by consolidated glacial till at 24 to 40 inches (SCS 1973). Neither of these soils is on the National Hydric Soils List for Washington State (NRCS 2007b). Both soil types typically can be described as brown to dark brown gravelly sandy loam. Of the eight soil pits dug over the site, five had positive indicators for hydric soils, although data points one and two met the criteria for hydric soils based on color alone. The color of surface soils may have been altered by historic or current agricultural or maintenance practices.

Hydrology

Sources of hydrology include upland sub-surface sheet flowing west toward the break-in-slope at the eastern edge of wetland 1. Soils are saturated primarily from upland flow, however winter storms and seasonal variation in Lake Washington water levels may contribute occasionally to shallow groundwater associated with the lake-fringe reaching the eastern most unit of wetland 1. Wetland 2 and wetland 3 derive hydrology primarily from the shallow water table associated with the lake-fringe of Meydenbauer Bay, however surface flow was readily observed entering from the east in areas where soils are dominated by large rock and cobble, and interstitial spaces are large enough to observe slow, thin flows. Of the eight data points taken within the study area, only three data points met the criteria for wetland hydrology. Each of the data points that met the criteria for wetland hydrology are in Wetland A.

Vegetation

Vegetation at the sample locations within the study area are dominated by highly adaptable vegetation, including several grass species common in western Washington, and other adaptable plants such as common rush (*Juncus effusus*, FACW) and creeping buttercup (*Ranunculus repens*, FACW). Only two sample locations did not meet the criteria for hydrophytic vegetation, data points one and five. Vegetation over the entire study area is simplified, due to the dominant urban and residential land uses, and maintenance of the park as a recreational waterfront with expanses of grass lawn. Wetland A has only one vegetative layer, the herbaceous layer, and is substantially simplified due to maintenance as a landscaped lawn area.

3.3 Wetland rating

Wetland A was rated a Category IV wetland with an overall score of 23 points for all functions using the Ecology rating system (Hruby 2004). EDAW ecologists gave the wetland a score of eight points for water quality functions, four points for hydrologic functions, and 11 points for habitat functions, mainly due to the wetland's location adjacent to Meydenbauer Bay.

3.3.1 Determination of HGM Classes

Two hydrogeomorphic wetland classes are present within the wetland unit, slope and lake fringe. The slope wetland class describes wetlands whose water source flows in one direction through the wetland unit and leaves the wetland without being impounded. Lake fringe wetlands describe those wetlands on the shores of a body of water greater than 20 acres in size and 6.6 feet deep (Hruby 2004). Each of the characteristics is present in Wetland A.

3.3.3 Wetland assessment units and rating

Wetland A is the only wetland assessment unit within the study area. Wetland A is a small mosaic palustrine emergent and lacustrine emergent wetland in a maintained grass lawn adjacent to the Meydenbauer Bay shoreline. The overall topography slopes (1 – 3% slopes) from east to west, becoming gentler westward toward the shoreline. Wetland A was rated using the lake-fringe HGM class in the Ecology rating form due to the dominance of the lake fringe ecology over both the site and the characteristics of the wetland. Wetland A receives its water approximately equally from the precipitation fed sheet flow from upslope, and the shallow groundwater table associated with the Meydenbauer Bay. Water typically flows east to west through the wetland, and the area contains characteristics of slope and lake-fringe HGM classes in approximately equal proportion. Since slope wetlands are common and often form a component of other wetland types, and each HGM class is approximately equally represented, Wetland A was assigned a lake-fringe HGM class for the purposes of the rating system.

Wetland A

Wetland A is an Ecology **Category IV** wetland, with an overall score of 23 points and relatively low scores for all functions, including water quality, hydrology, and habitat (Appendix E). The following is a summary of wetland functions for Wetland A.

Functions

Flood Flow Alteration – Wetland A is small and provides a relatively low level of flood flow attenuation due to low microtopography, maintained urban vegetation, and an armored shoreline, preventing hydrologic and vegetative connectivity with the shoreline. The surface water flows that reach Wetland A are small in volume, though it is providing benefits on the small scale of its size.

Sediment Removal – Wetland A provides a relatively low level of sediment removal as it receives much of its water from the shallow water table associated with the lakes, and lacks the microtopography and dense vegetation that would assist in sediment trapping.

Nutrient and Toxicant Removal – Wetland A is providing some nutrient and toxicant removal through the grasses and other emergent vegetation dominating the wetland unit, however it is likely not taking up the levels of nutrients toxicants that would typically be in urban and suburban run-off and sheet flows due to typical maintenance practices, including application of fertilizers and pesticides.
Erosion Control and Shoreline Stabilization – Wetland A likely has very minor effects in controlling erosion or run-off due to the lack of small depressions, woody vegetation or other features that would result in a higher residency times for peak flows and storm events.
Production of Organic Matter and its Export – Wetland A produces very little organic matter due to its maintenance as a landscaped area.
General Habitat Suitability – Wetland A provides very little habitat value. Wetland A provides no cover and very little plant diversity, and is in an exposed area with no woody debris and very little vegetation structure. No specific wildlife features are present in Wetland A.
Habitat for Aquatic Invertebrates – Wetland A provides very little high quality aquatic invertebrate habitat due to the lack of seasonal or permanent water over the area.
Habitat for Amphibians – Wetland A provides no amphibian habitat due to the lack of vegetation along the lacustrine portion of the wetland, and no seasonal or permanent water in the palustrine portion of the wetland. However, there are other wetlands within 0.5 mile that may support amphibian breeding and/or seasonal use, most notably south of the study area, near Meydenbauer Creek.
Habitat for Wetland-Associated Mammals – Wetland A provides very little habitat for wetland associated mammals due to the shoreline armoring and lack of vegetative cover along the shoreline or within the wetland.
Habitat for Wetland-Associated Birds – Wetland A provides no habitat for wetland associated birds or waterfowl, although these animals may occasionally use Meydenbauer Bay.
General Fish Habitat – Wetland A does not provide fish habitat due to lack of permanent water, although Meydenbauer Bay is home to many species of fish, including federally threatened Chinook salmon, steelhead, and bull trout.
Native Plant Richness – Wetland A provides a very low level of native plant richness. Wetland A is primarily grasses and common species, including some contains a variety of plant assemblages has a high number of native plant species. However, greater than 50% of the WAU is comprised of mowed grass fields with a large proportion of non-native grass species. The WAU includes some mature trees, but contains no bog areas.
Educational or Scientific Value – WAU 1 does not have educational or scientific value.
Uniqueness or Heritage – Wetland A does not provide uniqueness or heritage value.

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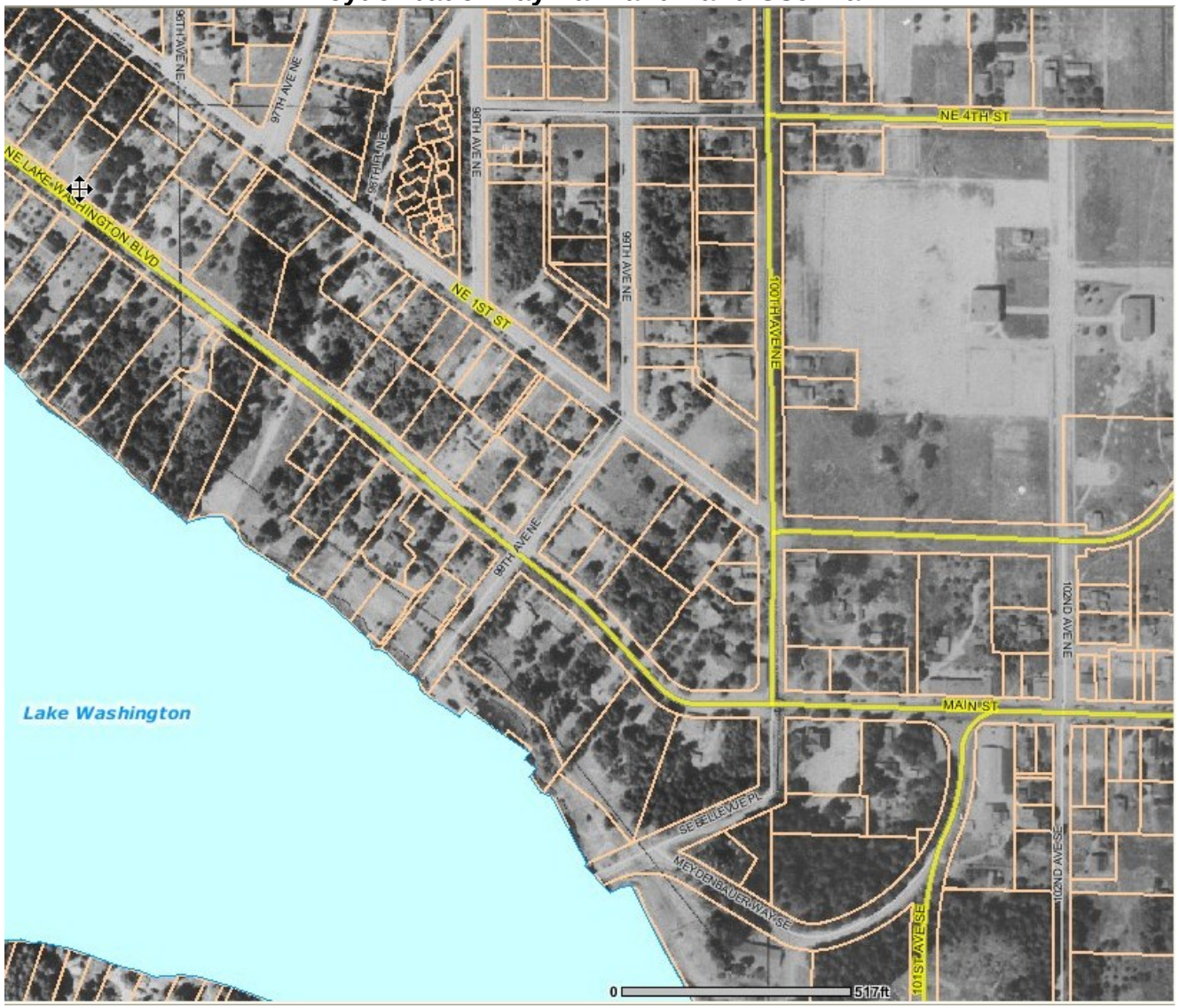
APPENDIX A

Historical Aerial Photography

Appendix A. Historical Aerial Photographs
Meydenbauer Bay Park and Land Use Plan



Meydenbauer Bay 1936, Courtesy King County GIS, with Current Parcels

Meydenbauer Bay 1936, Courtesy King County GIS, without current parcels

APPENDIX B

Wetland Determination Data Forms

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

Project/Site: Meydenbauer City/County: King Co. Sampling Date: 6-6-08

Applicant/Owner: Bellevue State: WA Sampling Point: MB1

Investigator(s): Howard, Dwyer/Kolfe Section, Township, Range: _____

Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____

Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____

Soil Map Unit Name: _____ NWI classification: _____

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 X
Hydric Soil Present?	Yes ✓	No _____	
Wetland Hydrology Present?	Yes ✓	No X	

Remarks: Fails dominance & Prevalence test for veg.

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: _____)			
>3" dbh 1. Pseudotsuga menziesii (out)			FACU
2. Acer macrophyllum (out)			FACU
3. Cotoneaster (in landscape)			
4.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
<3" dbh 1. Hydrangea (landscape)	5		
2. Rubus discolor	2	X	FACU
3. Acer macrophyllum	5	X	FACU
4.			
5.			
	12 = Total Cover		
Herb Stratum (Plot size: 20' dia)			
1. Juncus tenuis	1	X	FACW
2. Carex deweyana	1	X	FACU
3. Geranium robert	12		NL
4. Equisetum arvense	5	X	FAC
5. Polystichum munitum (some landscape)	7	X	FACU
6.			
7.			
8.			
9.			
10.			
11.			
	26 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1. Hedera helix	80		NL
2.			
	80 = Total Cover		

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 2/6 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	1	x 2 =	2
FAC species	5	x 3 =	15
FACU species	15	x 4 =	60
UPL species	0	x 5 =	0
Column Totals:	21 (A)		77 (B)

Prevalence Index = B/A = 3.67

Hydrophytic Vegetation Indicators:

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

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

Hydrophytic Vegetation Present? Yes _____ No X

Remarks: Ivy dominates steep, spotty landscape planting along trail

SOIL

Sampling Point: MB1

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0 to 4-10"	10YR 2/2	100					2" gritty + smooth	Variable depth, likely disturbed
4-10 to 20"	2.5Y 5/1	100	5YR 4/6	3-5			<1" more gritty than smooth	redox distinct patches
	some large rounded gravel (±2")						loam feel strong, finer component but fairly gritty.	

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

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

- ___ Histosol (A1) No
- ___ Histic Epipedon (A2) No
- ___ Black Histic (A3) No
- ___ Hydrogen Sulfide (A4) No
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12) No
- ___ Sandy Mucky Mineral (S1) No
- ___ Sandy Gleyed Matrix (S4) No
- ___ Sandy Redox (S5) No
- ___ Stripped Matrix (S6) No
- ___ 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)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ No _____

Remarks: Not A12 because layer above depleted matrix does not have chroma of 1 or less to a depth of at least 12 inches.

F3 - depleted matrix w/ chroma of ≤2 with min. thickness of 6" starting within 10" of soil surface.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

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

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

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

Wetland Hydrology Present? Yes _____ No NO

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

Remarks: slight concavity on lower slope, * water seeped into pit at 8 inches but did not stabilize in pit - likely subsurface flow due to recent heavy rains - after 15 minutes water filled pit to 17". * NO water table 12" or less below surface. Saturation not associated with high water table.

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

Project/Site: Meydenbauer City/County: King Sampling Date: 4-6-08

Applicant/Owner: Bellevue State: WA Sampling Point: MB2

Investigator(s): Howard, Dwyer/Kotte Section, Township, Range: _____

Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____

Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____

Soil Map Unit Name: _____ NWI classification: _____

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

Remarks: Soil in pit saturated, but likely due to recent heavy rainfall. No high water table associated with (directly below) saturation zone to 22" in depth.

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: _____)			
1. Prunus (plum ornamental)			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1. Thuja plicata	10	X	FAC
2.			
3.			
4.			
5.			
	10 = Total Cover		
Herb Stratum (Plot size: 15'x15')			
1. Juncus effusus	3		FACW
2. Carex	3		
3. Epilobium ciliatum	5		FACW
4. Equisetum arvense	15	X	FAC
5. Cornus sericea	10		FACW
6. Ranunculus repens	15	X	FACW
7.			
8.			
9.			
10.			
11.			
50%=30.5	61 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1. Hedera helix	70		NL
2.			
	70 = Total Cover		

% Bare Ground in Herb Stratum _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 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 _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

X Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Wetland Non-Vascular Plants[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes X No _____

Remarks:

SOIL

Sampling Point: MB2

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0 to 4-8"	2.5Y 3/1	100	—				1-2" gritty	
4-8-22"	2.5Y 6/1	90	10YR 5/6	10-15%	C	M	>2" gritty and smooth	

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

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

- ___ Histosol (A1) No
- ___ Histic Epipedon (A2) No
- ___ Black Histic (A3) No
- ___ Hydrogen Sulfide (A4) No
- ___ Depleted Below Dark Surface (A11) No
- ___ Thick Dark Surface (A12) No
- ___ 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)
- X 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)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ No ___

Remarks: Top horizon not redoximorphic

Not A11 because surface layer not deep enough, not A12 because surface layer value not 3/ or less.

* F3 - depleted matrix w/ chroma ≤ 2 with min thickness of 6" starting within 10" of soil surface.

Lawn covered by mats

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

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

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

Saturation Present? (includes capillary fringe) Yes ✓ No ___ Depth (inches): 0

Wetland Hydrology Present? Yes ___ No X

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

Remarks: No water in pit, soil in pit is very wet ~~* not saturated~~ - saturated possibly due to recent rain.

* Saturated, but not associated w/ high water table.

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

Project/Site: Meydenbauer City/County: King Co. Sampling Date: 6-6-08 MB3

Applicant/Owner: Bellevue State: WA Sampling Point: MB3

Investigator(s): Howard, Dieri Kotte Section, Township, Range:

Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope (%):

Subregion (LRR): Lat: Long: Datum:

Soil Map Unit Name: NWI classification:

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

Remarks: Natural seepage at toe of slope feeds highly disturbed wetland, saturated in portion of mowed lawn. Main seepage diverted in graded ditch over 9" pipe to storm water drain by ~ picnic tables on adjacent property.

VEGETATION – Use scientific names of plants.

*Nasturtium officinale

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1. Salix babylonica (out)	–		FACW
2.			
3.			
4.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size: ____)			
1. Rorippa nasturtium-aquaticum (?)	10	X	OBL
2. Ranunculus repens	15	X	FACW
3. Rumex crispus	8		FACW
4. Carex microcarpa	2		OBL
5. Lysichiton americanus (landscape)	1		OBL
6. Typha latifolia	1		OBL
7. Equisetum arvense	3		FAC
8. Holcus lanatus	3		FAC
9. Agrostis sp FAC/FACW	5		
10.			
11.			
50% = 24.5	49	= Total Cover	
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	= Total Cover		

% Bare Ground in Herb Stratum 51

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

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

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

X Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Wetland Non-Vascular Plants[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes X No ____

Remarks: ground in this area shows obvious disturbance of soils, probably from attempts to drain area. Small (2-3" wide) drainage grooves lined with gravel are present.

MB3

SOIL

Sampling Point: ____________

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
	Gley 2.5 10G							

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

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

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- X 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)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: ______________________

Depth (inches): ______________________

Hydric Soil Present? Yes X No ____

Remarks: Soils disturbed. Smells strongly of H_2S! -A4

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- X High Water Table (A2) 16"
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) **(LRR A)**
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

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

Field Observations:

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

Water Table Present? Yes X No ____ Depth (inches): 12"

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

Wetland Hydrology Present? Yes X No ____

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

Remarks: Saturated at surface. Land managers dug ditch [illegible] to [illegible] to drain seep.

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

Project/Site: Meydenbauer City/County: King Co. Sampling Date: 6-6-08

Applicant/Owner: Bellevue State: WA Sampling Point: MB4

Investigator(s): Howard, Dinkelkotte Section, Township, Range:

Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): _____ Slope (%): _____

Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____

Soil Map Unit Name: _____ NWI classification: _____

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

Remarks: Pit located between planting + what looks like an old retaining wall ≈ 1-2 ft high old landscaping (laurels) & entry. Behind retaining wall + in front of high retaining wall is upland portion of model where house is located. Some type of old decking with a concrete structure beneath also in this area.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. Laurels (landscape trees)	Out		
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: _____)			
1. Equisetum arvense	1		FAC
2. Festuca arundinacea	5	X	FAC
3. Festuca rubra	5	X	FAC
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
Soil = 5.5	11 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1. Rubus discolor	100		NL
2.			
	100 = Total Cover		
% Bare Ground in Herb Stratum _____			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

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

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

X Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Wetland Non-Vascular Plants[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes X No _____

Remarks:

SOIL

Sampling Point: MB4

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16	10YR 3/1						eg smooth & gritty	1/2" ribbon
16-20	5Y 5/2		2.5 YR 4/6	10	C	M		<1" ribbon, grittier than smooth

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

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

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4) No
- ___ Depleted Below Dark Surface (A11) No
- ___ Thick Dark Surface (A12) No
- ___ Sandy Mucky Mineral (S1) No
- ___ Sandy Gleyed Matrix (S4) No
- ___ Sandy Redox (S5) No
- ___ Stripped Matrix (S6) No
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2) No
- ___ Depleted Matrix (F3) No
- ___ Redox Dark Surface (F6) No
- ___ Depleted Dark Surface (F7) No
- ___ Redox Depressions (F8) No

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) No
- ___ Red Parent Material (TF2) No
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks: Not A12 - because layer above depl. matrix does not have value ≤ 2.5 to at least 12".
Not A11 - because depl. matrix does not start w/in 12" of soil surface.
Not F3 - because depl. matrix doesn't start w/in 10" of soil surface.
Possibly A2 - aquic conditions present along w/ some artificial drainage

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

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

Water Table Present? Yes ✓ No _____ Depth (inches): 16-22

Saturation Present? (includes capillary fringe) Yes ✓ No _____ Depth (inches): 16-22

Wetland Hydrology Present? Yes _____ No X *

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

Remarks: Some water seeping into pit @ 16-22"
* Water table not < 12" from surface

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

Project/Site: Meadowbank Park City/County: _____ Sampling Date: MB4

Applicant/Owner: _____ State: _____ Sampling Point: _____

Investigator(s): _____ Section, Township, Range: _____

Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): _____ Slope (%): _____

Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____

Soil Map Unit Name: _____ NWI classification: _____

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: Disturbed Veg.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: _____)			
1. Equisetum arvense	61		
2. E. arundinaceae			
3. E. rubra			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	_____ = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1. Rubus discolor	10%	✓	
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum _____

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

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

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Wetland Non-Vascular Plants[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes _____ No _____

Remarks:

SOIL

Sampling Point: MB4

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16	~~5Y 5/1~~ 10YR 3/1						grit/sand	1-2" ribbon
16-22	5Y/5/1		7.5YR 4/6	10	C	M		1" ribbon - gritty than smooth

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

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

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

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ↘ No _____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

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

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

Saturation Present? (includes capillary fringe) Yes ↘ No _____ Depth (inches): 16-22

Wetland Hydrology Present? Yes ↘ No _____

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

Remarks:

Some seepage in bottom

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

Project/Site: Hayden Town Park City/County: _____ Sampling Date: 6/16/08

Applicant/Owner: _____ State: _____ Sampling Point: SP MP35

Investigator(s): _____ Section, Township, Range: _____

Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): _____ Slope (%): 25%

Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____

Soil Map Unit Name: _____ NWI classification: _____

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:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 20 r)	Absolute % Cover	Dominant Species?	Indicator Status
1. Laurel (landscape trees)	100	Y	
2. Corylus cornuta		N	FACU
3. Pseudotsuga menziesii (1)		N	FACU
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	_____ = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1. Helix hederea	100	Y	N/L
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum _____

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

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

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ 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: P. douglasii, Ilex, Helix hederea, Vinca minor, small patch of grasses on edge.

SOIL

Sampling Point: MB 5

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-20	10YR 3/1							4" ribbon

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

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

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

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

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

Remarks: Slightly more gritty than smooth

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

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

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

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

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

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

Remarks:

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

Project/Site: Meydenbauer City/County: King Co Sampling Date: 6-6-08
Applicant/Owner: Bellevue State: WA Sampling Point: WB5
Investigator(s): Howard, Duvall Kotts Section, Township, Range:
Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): convex Slope (%):
Subregion (LRR): Lat: Long: Datum:
Soil Map Unit Name: NWI classification:
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 X	**Is the Sampled Area within a Wetland?** Yes ____ No X
Hydric Soil Present?	Yes ____ No X	
Wetland Hydrology Present?	Yes ____ No X	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1. Laurels (landscape)			None
2. Cornus controta	5		FACU
3. Pseudotsuga menziesii (1)	5		FACU
4. Alder (landscape)	1		None
	11	= Total Cover	
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
		= Total Cover	
Herb Stratum (Plot size: ____)			
1. Vinca minor (landscape bed)			None
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
		= Total Cover	
Woody Vine Stratum (Plot size: ____)			
1. Hedera helix (landscape beds)			NL
2.			
		= Total Cover	

% Bare Ground in Herb Stratum ____

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

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species 0	x 1 =	
FACW species 0	x 2 =	
FAC species 0	x 3 =	
FACU species 10	x 4 =	40
UPL species	x 5 =	
Column Totals: 10 (A)		40 (B)

Prevalence Index = B/A = 40/10 = 4

Hydrophytic Vegetation Indicators:
N Dominance Test is >50%
N Prevalence Index is ≤3.0[1]
N Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
N Wetland Non-Vascular Plants[1]
N Problematic Hydrophytic Vegetation[1] (Explain)
[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ____ No X

Remarks: Soil pit located in laurel tree grove. Native veg in same geomorphic position used for veg.

SOIL

Sampling Point: MB5

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2	10YR 3/1							more gritty than smooth & ribbon

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

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

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

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks: No aquic cond or art. drainage present.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

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

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

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

Wetland Hydrology Present? Yes _____ No X

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

Remarks:

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

Project/Site: Meydenbauer Park City/County: _____ Sampling Date: MP 6

Applicant/Owner: _____ State: _____ Sampling Point: Lakeside

Investigator(s): _____ Section, Township, Range: _____

Landform (hillslope, terrace, etc.): toe of slope Local relief (concave, convex, none): _____ Slope (%): _____

Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____

Soil Map Unit Name: _____ NWI classification: _____

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: on lake edge behind riprap at toe of slope; loose rip rap base allows sediment build up and wicking lake water provides hydrology.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: _____)			
1. Scirpus microcarpus	1%		
2. Juncus effusus	1%		
3. Phalaris arundinacea	90%	↘	FACW
4. Scirpus acutus	<1%		
5. Equisetum arvense	4		
6. Convolvulus sp.	50%		
7. Honeysuckle sp.	2%		
8.			
9.			
10.			
11.			
	_____ = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1. R. discolor	1%		
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum _____

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

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

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ 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: * Hydroponic system?

SOIL

Sampling Point: MB6

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-14	7.5YR 2.5/1							1-horizon
								1-2" ribbon; more gritty than SM

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

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

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

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No _____

Remarks: buried riprap, logs

oxidized root pores; roots down to 20"

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

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

Water Table Present? Yes ↘ _____ No _____ Depth (inches): 11

Saturation Present? (includes capillary fringe) Yes ↘ _____ No _____ Depth (inches): 0

* Lake side behind riprap

Wetland Hydrology Present? Yes _____ No _____

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

Remarks: Saturated to surface!! water seeping out of logs.

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

Project/Site: Meydenbauer City/County: King Co. Sampling Date: 6-6-08
Applicant/Owner: Bellevue State: WA Sampling Point: MB6
Investigator(s): Howard, Dvorak Section, Township, Range:
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope (%):
Subregion (LRR): Lat: Long: Datum:
Soil Map Unit Name: NWI classification:
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 X	No ____	**Is the Sampled Area within a Wetland?** Yes X No ____
Hydric Soil Present?	Yes X	No ____	
Wetland Hydrology Present?	Yes X	No ____	

Remarks: Pit located between retaining wall & riprap at toe of slope on lake fringe. Lg riprap base allows sediment to build up & wicking of lake water provides hydrology.

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: ____)			
1. Salix babylonica (ont)			FACW
2.			
3.			
4.			
	____ = Total Cover		
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
	____ = Total Cover		
Herb Stratum (Plot size: ____)			
1. Phalaris arundinacea	60	Y	FACW
2. Convolvulus sp.	50		NONE
3. Lonicera sp.	3		NONE
4. Equisetum arvense	1		FAC
5. Scirpus acutus	1		OBL
6. Stuckenia (Potamogeton) pectinata	1		OBL
7. Juncus effusus	1		FACW
8.			
9.			
10.			
11.			
	____ = Total Cover		
Woody Vine Stratum (Plot size: ____)			
1. Rubus discolor (edge)	1		NL
2.			
	1 = Total Cover		

% Bare Ground in Herb Stratum ____

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

Prevalence Index worksheet:

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

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:
X Dominance Test is >50%
__ Prevalence Index is ≤3.0[1]
__ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
__ Wetland Non-Vascular Plants[1]
__ Problematic Hydrophytic Vegetation[1] (Explain)
[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No ____

Remarks: Freshwater wetland on lake fringe.

SOIL

Sampling Point: MB6

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-14	7.5YR 2.5/1							1-2" ribbon
								more gritty than smooth

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

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

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

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks: buried riprap, log
oxidized root pres; roots down to 20

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

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

Water Table Present? Yes X No _____ Depth (inches): 11

Saturation Present? (includes capillary fringe) Yes X No _____ Depth (inches): 0

Wetland Hydrology Present? Yes X No _____

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

Remarks:

- Saturated to surface
- water seeping out of bag.
- no surface water, but pit is located adjacent to lake fringe behind rip rap. water likely enters from below.

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

Project/Site: Mercerbauer Park City/County: King Co. Sampling Date: MB7
Applicant/Owner: Bellevue State: WA Sampling Point: 6/16/08
Investigator(s): Howard, Dunckley Section, Township, Range: ____
Landform (hillslope, terrace, etc.): toe of slope Local relief (concave, convex, none): ____ Slope (%): ____
Subregion (LRR): ____ Lat: ____ Long: ____ Datum: ____
Soil Map Unit Name: ____ NWI classification: ____
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 X	No X	Is the Sampled Area within a Wetland? Yes ____ No X
Hydric Soil Present?	Yes ____	No X	
Wetland Hydrology Present?	Yes ____	No X	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
= Total Cover			
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
= Total Cover			
Herb Stratum (Plot size: ____)			
1. Trifolium pratense	2		FACU
2. Holcus lanatus	3		FAC
3. Poa annua	10		FAC
4. Poa cf. pratensis	90		FAC
5. Ranunculus repens	2		FACW
6. Trifolium cf. repens	12		FAC
7.			
8.			
9.			
10.			
11.			
= Total Cover	119		
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
= Total Cover			
% Bare Ground in Herb Stratum ____			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)
Total Number of Dominant Species Across All Strata: 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	–	x 1 = –
FACW species	2	x 2 = 4
FAC species	105	x 3 = 315
FACU species	2	x 4 = 8
UPL species	–	x 5 = –
Column Totals:	119 (A)	357 (B)

Prevalence Index = B/A = 3.0

Hydrophytic Vegetation Indicators:

✓ Dominance Test is >50%
✓ Prevalence Index is ≤3.0[1]
___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
___ 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: Mowed lawn; most species ID made from unmowed edge of lawn
Wetland veg

SOIL

Sampling Point: MB7

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-24	2.5Y 3/1							1-2" ribbon
								more sandy than smooth

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

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

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

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No _____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

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

Water Table Present? Yes ✓ No _____ Depth (inches): 24"

Saturation Present? (includes capillary fringe) Yes ✓ No _____ Depth (inches): 16"

Wetland Hydrology Present? Yes _____ No X

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

Remarks: water coming in @ 24"

* saturation zone & water table not < 12" from soil surface.

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

Project/Site: Meydenbauer City/County: King Co. Sampling Date: 6-6-08

Applicant/Owner: Bellevue State: WA Sampling Point: MB8

Investigator(s): Howard, Diver/Kotte Section, Township, Range:

Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope (%):

Subregion (LRR): Lat: Long: Datum:

Soil Map Unit Name: NWI classification:

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: Marginal wetland at best

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
	____ = Total Cover		
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
	____ = Total Cover		
Herb Stratum (Plot size: ____)			
1. Juncus ellisus	12		FACW
2. Equisetum arvense	5		FAC
3. Phalaris arundinacea	2		FACW
4. Agrostis capillaris	5		FAC
5. Medicago	10		NI
6. Plantago major	5		FAC
7. Plantago lanceolata	3		FACU
8. Veronica	7		
9. Convolvulus sp	10		
10. Geranium robertianum	15		FACU
11. Hypericum sp	12		
	81 = Total Cover		
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	____ = Total Cover		
% Bare Ground in Herb Stratum ____			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 80% (A/B)

Prevalence Index worksheet:

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

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ 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: Veg at top of riprap above OHWM

SOIL

Sampling Point: MB8

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks

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

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

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

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No _____

Remarks: No soil pit due to shallow inconsistent depth of soil above rock riprap

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

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

Water Table Present? ? Yes _____ No _____ 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: Wicking through riprap into shallow soils, upland species not receiving much of wicked water; wetland species either rooted in lower position or deeper rock systems.

APPENDIX C

Representative Photographs

Appendix C
Representative Photos: Meydenbauer Bay Park and Land Use Plan

Contiguous Canopy over 98th Place NE in Meydenbauer Beach Park

Typical grass and landscaping in park and residential areas

Residential Shoreline in Study Area

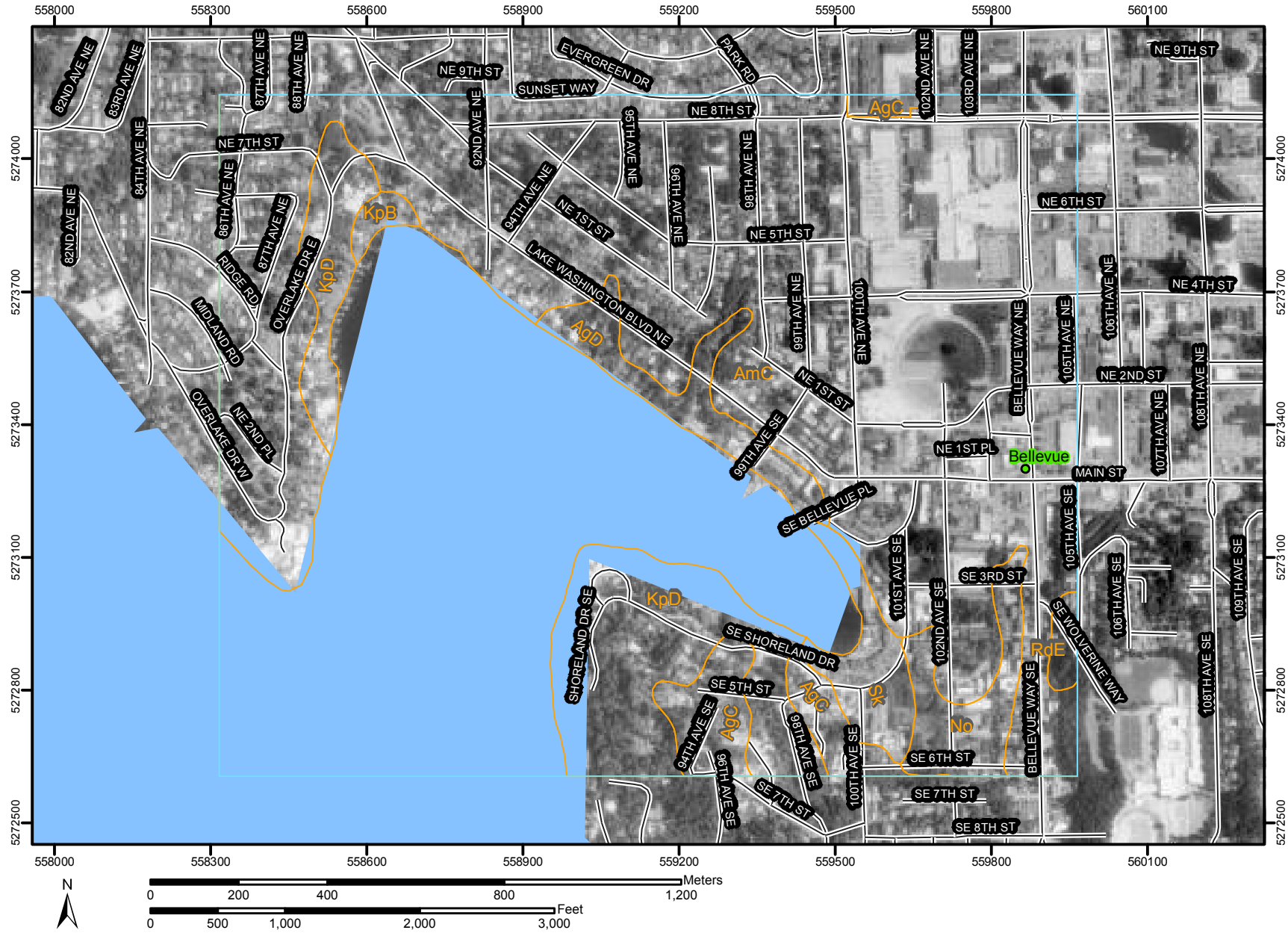
Invasive vegetation and wet lawn

Wetland A Lake Fringe

Shoreline at Street Right of Way

APPENDIX D

NRCS Soil Maps


558000
558300
558600
558900
559200
559500
559800
560100
5274000
5273700
5273400
5273100
5272800
5272500
82ND AVE NE
83RD AVE NE
84TH AVE NE
86TH AVE NE
87TH AVE NE
88TH AVE NE
92ND AVE NE
94TH AVE NE
95TH AVE NE
96TH AVE NE
98TH AVE NE
99TH AVE NE
100TH AVE NE
102ND AVE NE
103RD AVE NE
105TH AVE NE
106TH AVE NE
107TH AVE NE
108TH AVE NE
NE 9TH ST
EVERGREEN DR
PARK RD
SUNSET WAY
NE 8TH ST
NE 7TH ST
NE 6TH ST
NE 5TH ST
NE 4TH ST
NE 2ND ST
NE 1ST ST
NE 1ST PL
RIDGE RD
MIDLAND RD
OVERLAKE DR E
OVERLAKE DR W
NE 2ND PL
LAKE WASHINGTON BLVD NE
BELLEVUE WAY NE
Bellevue
MAIN ST
99TH AVE SE
SE BELLEVUE PL
101ST AVE SE
SE 3RD ST
SHORELAND DR SE
SE SHORELAND DR
102ND AVE SE
105TH AVE SE
106TH AVE SE
107TH AVE SE
108TH AVE SE
109TH AVE SE
SE WOLVERINE WAY
SE 5TH ST
94TH AVE SE
96TH AVE SE
98TH AVE SE
100TH AVE SE
BELLEVUE WAY SE
SE 6TH ST
SE 7TH ST
SE 8TH ST
KpB
KpD
AgD
AmC
AgC
RdE
Sk
No
N
Meters
0
200
400
800
1,200
Feet
0
500
1,000
2,000
3,000

MAP LEGEND

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

Soils
- Soil Map Units

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

Special Line Features
- Gully
- Short Steep Slope
- Other

Political Features

Municipalities
- Cities
- Urban Areas

Water Features
- Oceans
- Streams and Canals

Transportation
- Rails

Roads
- Interstate Highways
- US Routes
- State Highways
- Local Roads
- Other Roads

MAP INFORMATION

Original soil survey map sheets were prepared at publication scale. Viewing scale and printing scale, however, may vary from the original. Please rely on the bar scale on each map sheet for proper map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: http://websoilsurvey.nrcs.usda.gov
Coordinate System: UTM Zone 10N

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

Soil Survey Area: King County Area, Washington
Survey Area Data: Version 4, Nov 21, 2006

Date(s) aerial images were photographed: 7/10/1990; 7/18/1990

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

Map Unit Legend

King County Area, Washington (WA633)			
Map Unit Symbol	**Map Unit Name**	**Acres in AOI**	**Percent of AOI**
AgC	Alderwood gravelly sandy loam, 6 to 15 percent slopes	21.4	2.9%
AgD	Alderwood gravelly sandy loam, 15 to 30 percent slopes	17.6	2.4%
AmC	Arents, Alderwood material, 6 to 15 percent slopes	368.7	49.9%
KpB	Kitsap silt loam, 2 to 8 percent slopes	2.9	0.4%
KpD	Kitsap silt loam, 15 to 30 percent slopes	66.0	8.9%
No	Norma sandy loam	16.5	2.2%
RdE	Ragnar-Indianola association, moderately steep	3.1	0.4%
Sk	Seattle muck	14.0	1.9%
Totals for Area of Interest (AOI)		739.0	100.0%

APPENDIX E

Wetlands Assessment Rating Forms

WETLAND RATING FORM – WESTERN WASHINGTON
Version 2 - Updated June 2006 to increase accuracy and reproducibility among users

Name of wetland: Meydenbauer Bay Park and Land use Plan Wetlands
Date of site visits: June 6&27 2008
Rated by: Amberlynn Pauley Trained by Ecology? Yes X No Date of training OCT 2006

SEC: **NE31** TWNSHP**: 25N** RNGE: **5E** Is S/T/R in Appendix D? Yes___ No_**X**_

Map of wetland unit: Figure 3.1-1 Estimated size: 1,976

SUMMARY OF RATING

Category based on FUNCTIONS provided by wetland

I___ II___ III___ IV_X_

Category I = Score >=70
Category II = Score 51-69
Category III = Score 30-50
Category IV = Score < 30

Score for Water Quality Functions	8
Score for Hydrologic Functions	4
Score for Habitat Functions	11
TOTAL score for Functions	23

Category based on SPECIAL CHARACTERISTICS of wetland

I__ II__ Does not Apply X

Final Category **(choose the "highest" category from above)**

Summary of basic information about the wetland unit

Wetland Unit has Special Characteristics		**Wetland HGM Class used for Rating**	
Estuarine		**Depressional**	
Natural Heritage Wetland		**Riverine**	
Bog		**Lake-fringe**	**X**
Mature Forest		**Slope**	**X**
Old Growth Forest		**Flats**	
Coastal Lagoon		**Freshwater Tidal**	
Interdunal			
None of the above		Check if unit has multiple HGM classes present	**X**

Does the wetland unit being rated meet any of the criteria below?

If you answer YES to any of the questions below you will need to protect the wetland according to the regulations regarding the special characteristics found in the wetland.

Check List for Wetlands That May Need Additional Protection (in addition to the protection recommended for its category)	YES	NO
SP1. *Has the wetland unit been documented as a habitat for any Federally listed Threatened or Endangered **animal or plant** species (T/E species)?* For the purposes of this rating system, "documented" means the wetland is on the appropriate state or federal database.		**X**
SP2. *Has the wetland unit been documented as habitat for any State listed Threatened or Endangered **animal** species?* For the purposes of this rating system, "documented" means the wetland is on the appropriate state database. Note: Wetlands with State listed plant species are categorized as Category I Natural Heritage Wetlands (see p. 19 of data form).		**X**
SP3. *Does the wetland unit contain individuals of Priority species listed by the WDFW for the state?*		**X**
SP4. *Does the wetland unit have a local significance in addition to its functions*? For example, the wetland has been identified in the Shoreline Master Program, the Critical Areas Ordinance, or in a local management plan as having special significance.		**X**

To complete the next part of the data sheet you will need to determine the Hydrogeomorphic Class of the wetland being rated.

The hydrogeomorphic classification groups wetlands into those that function in similar ways. This simplifies the questions needed to answer how well the wetland functions. The Hydrogeomorphic Class of a wetland can be determined using the key below. See p. 24 for more detailed instructions on classifying wetlands.

Classification of Wetland Units in Western Washington

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

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

If yes, is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)? **YES – Freshwater Tidal Fringe NO – Saltwater Tidal Fringe (Estuarine)**

*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 rated as an **Estuarine** wetland.* Wetlands that were called estuarine in the first and second editions of the rating system are called Salt Water Tidal Fringe in the Hydrogeomorphic Classification. Estuarine wetlands were categorized separately in the earlier editions, and this separation is being kept in this revision. To maintain consistency between editions, the term "Estuarine" wetland is kept. Please note, however, that the characteristics that define Category I and II estuarine wetlands have changed (see p.).

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 both** of the following criteria?

X___The vegetated part of the wetland is on the shores of a body of permanent open water (without any vegetation on the surface) at least 20 acres (8 ha) in size;

X___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**?

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 <3ft diameter and less than 1 foot deep).*

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

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 two years.

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

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

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 your wetland. 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 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	Depressional
Depressional + Lake-fringe	Depressional
Salt Water Tidal Fringe and any other class of freshwater wetland	Treat as ESTUARINE under wetlands with special characteristics

If you are unable still 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.

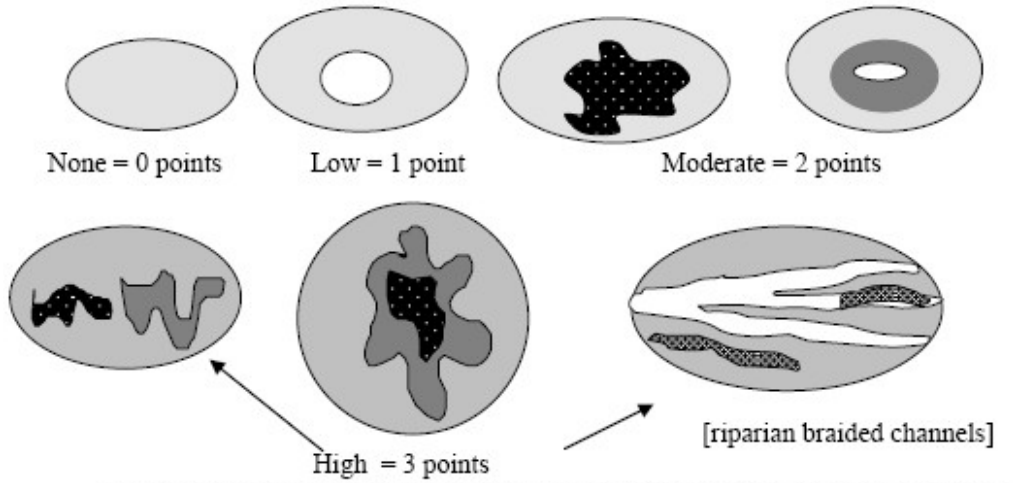
	Lake-fringe Wetlands WATER QUALITY FUNCTIONS - Indicators that the wetland unit functions to improve water quality	**Points** (only 1 score per box)
L	**L 1. Does the wetland unit have the <u>potential</u> to improve water quality?**	***(see p.59)***
L	L 1.1 Average width of vegetation along the lakeshore *(use polygons of Cowardin classes)*: Vegetation is more than 33ft (10m) wide points = 6 Vegetation is more than 16 (5m) wide and <33ft points = 3 Vegetation is more than 6ft (2m) wide and <16 ft points = 1 Vegetation is less than 6 ft wide points = 0 Map of Cowardin classes with widths marked	**Figure 3-1.1** **0**
L	L 1.2 Characteristics of the vegetation in the wetland: *choose the appropriate description that results in the highest points, and do not include any open water in your estimate of coverage. The herbaceous plants can be either the dominant form or as an understory in a shrub or forest community. These are not Cowardin classes. Area of Cover is total cover in the unit, but it can be in patches. NOTE: Herbaceous does not include aquatic bed.* Cover of herbaceous plants is >90% of the vegetated area points = 6 Cover of herbaceous plants is >2/3 of the vegetated area points = 4 Cover of herbaceous plants is >1/3 of the vegetated area points = 3 Other vegetation that is not aquatic bed or herbaceous covers > 2/3 unit points = 3 Other vegetation that is not aquatic bed in > 1/3 vegetated area points = 1 Aquatic bed vegetation and open water cover > 2/3 of the unit points = 0 Map with polygons of different vegetation types	**Figure A** **4**
L	*Add the points in the boxes above*	4
L	**L 2. Does the wetland have the <u>opportunity</u> to improve water quality?** Answer YES if you know or believe there are pollutants in the lake water, or polluted surface water flowing through the unit to the lake. *Note which of the following conditions provide the sources of pollutants. A unit may have pollutants coming from several sources, but any single source would qualify as opportunity.* _____Wetland is along the shores of a lake or reservoir that does not meet water quality standards _____Grazing in the wetland or within 150ft X____Polluted water discharges to wetland along upland edge _____Tilled fields or orchards within 150 feet of wetland X____Residential or urban areas are within 150 ft of wetland X___Parks with grassy areas that are maintained, ball fields, golf courses (all within 150 ft. of lake shore) X____Power boats with gasoline or diesel engines use the lake — Other_____ **YES** multiplier is **2** **NO** multiplier is **1**	***(see p.61)*** multiplier **2**
L	**<u>TOTAL</u> - Water Quality Functions** Multiply the score from L1 by L2 ***Add score to table on p. 1***	**8**

	Lake-fringe Wetlands HYDROLOGIC FUNCTIONS - Indicators that the wetland unit functions to reduce shoreline erosion	**Points** (only 1 score per box)
L	**L 3. Does the wetland unit have the <u>potential</u> to reduce shoreline erosion?**	***(see p.62)***
L	L 3 Distance along shore and average width of Cowardin classes along the lakeshore (**do not** include aquatic bed): *(choose the highest scoring description that matches conditions in the wetland)* > ¾ of distance is shrubs or forest at least 33 ft (10m) wide points = 6 > ¾ of distance is shrubs or forest at least 6 ft. (2 m) wide points = 4 > ¼ distance is shrubs or forest at least 33 ft (10m) wide points = 4 X Vegetation is at least 6 ft (2m) wide (any type except aquatic bed) points = 2 Vegetation is less than 6 ft (2m) wide (any type except aquatic bed) points = 0 Aerial photo or map with Cowardin vegetation classes	**Figure 3-1.1** **2**
L	*Record the points from the box above*	2
L	**L 4. Does the wetland unit have the <u>opportunity</u> to reduce erosion?** Are there features along the shore that will be impacted if the shoreline erodes? *Note which of the following conditions apply.* _X___There are human structures and activities along the upland edge of the wetland (buildings, fields) that can be damaged by erosion. ____There are undisturbed natural resources along the upland edge of the wetland (e.g. mature forests other wetlands) than can be damaged by shoreline erosion Other_____ **YES** multiplier is **2** **NO** multiplier is **1**	***(see p.63)*** multiplier **___2__**
L	**TOTAL - Hydrologic Functions** Multiply the score from L 3 by L 4 ***Add score to table on p. 1***	**4**

Comments: Three small wetlands rated as a Mosaic; wetlands are within 100 feet of one another and are each smaller than an acre. Wetlands may be enclosed in a polygon that contains >50% of its area in wetland. (p.19 of WWA Wetland Rating System)

These questions apply to wetlands of all HGM classes. HABITAT FUNCTIONS - Indicators that unit functions to provide important habitat	**Points** (only 1 score per box)
H 1. Does the wetland unit have the <u>potential</u> to provide habitat for many species?	
H 1.1 <u>Vegetation structure</u> ***(see p. 72)*** *Check the types of vegetation classes present (as defined by Cowardin)- Size threshold for each class is ¼ acre or more than 10% of the area if unit is smaller than 2.5 acres.* __Aquatic bed X_Emergent plants ___Scrub/shrub (areas where shrubs have >30% cover) ___Forested (areas where trees have >30% cover) *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 *Add the number of vegetation structures that qualify. If you have:* 4 structures or more points = 4 3 structures points = 2 2 structures points = 1 1 structure points = 0	**Figure 3-1.1** **0**
H 1.2. <u>Hydroperiods</u> ***(see p. 73)*** *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 acre 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 point = 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 X____ ***Lake-fringe wetland* = 2 points** ____***Freshwater tidal wetland* = 2 points** Map of hydroperiods	**3**
H 1.3. <u>Richness of Plant Species</u> ***(see p. 75)*** 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)* *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 *List species below if you want to:* 5 - 19 species points = 1 < 5 species points = 0	**0**

Total for page: **3**

H 1.4. Interspersion of habitats ***(see p. 76)*** Decide from the diagrams below whether interspersion between Cowardin vegetation classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, medium, low, or none.  NOTE: If you have four or more classes or three vegetation classes and open water the rating is always "high". Use map of Cowardin vegetation classes	**0**
H 1.5. Special Habitat Features: ***(see p. 77)*** *Check the habitat features that are present in the wetland. The number of checks is the number of points you put into the next column.* ____Large, downed, woody debris within the wetland (>4in. diameter and 6 ft long). ____Standing snags (diameter at the bottom > 4 inches) in the wetland ____Undercut banks are present for at least 6.6 ft (2m) and/or overhanging vegetation extends at least 3.3 ft (1m) over a stream (or ditch) in, or contiguous with the unit, for at least 33 ft (10m) ____Stable steep banks of fine material that might be used by beaver or muskrat for denning (>30degree slope) OR signs of recent beaver activity are present *(cut shrubs or trees that have not yet turned grey/brown)* ____At least ¼ acre of thin-stemmed persistent vegetation 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 each stratum of plants *NOTE: The* 20% *stated in early printings of the manual on page 78 is an error.*	**0**
H 1. TOTAL Score - potential for providing habitat *Add the scores from H1.1, H1.2, H1.3, H1.4, H1.5*	**0**

Comments

Grassy wetlands in park, few or no habitat features WITHIN wetland.

H 2. Does the wetland unit have the opportunity to provide habitat for many species?	
H 2.1 Buffers ***(see p. 80)*** *Choose the description that best represents condition of buffer of wetland unit. The highest scoring criterion that applies to the wetland is to be used in the rating. See text for definition of "undisturbed."* ↓ 100 m (330ft) of relatively undisturbed vegetated areas, rocky areas, or open water >95% of circumference. No structures are within the undisturbed part of buffer**.** (relatively undisturbed also means no-grazing, no landscaping, no daily human use) **Points = 5** ↓ 100 m (330 ft) of relatively undisturbed vegetated areas, rocky areas, or open water > 50% circumference. **Points = 4** ↓ 50 m (170ft) of relatively undisturbed vegetated areas, rocky areas, or open water >95% circumference. **Points = 4** ↓ 100 m (330ft) of relatively undisturbed vegetated areas, rocky areas, or open water > 25% circumference, . **Points = 3** ↓ 50 m (170ft) of relatively undisturbed vegetated areas, rocky areas, or open water for > 50% circumference. **Points = 3** **If buffer does not meet any of the criteria above** ↓ No paved areas (except paved trails) or buildings within 25 m (80ft) of wetland > 95% circumference. Light to moderate grazing, or lawns are OK. **Points = 2** ↓ No paved areas or buildings within 50m of wetland for >50% circumference. Light to moderate grazing, or lawns are OK. **Points = 2** ↓ Heavy grazing in buffer. **Points = 1** ↓ Vegetated buffers are <2m wide (6.6ft) for more than 95% of the circumference (e.g. tilled fields, paving, basalt bedrock extend to edge of wetland **Points = 0**. ↓ **Buffer does not meet any of the criteria above.** **Points = 1**	**Figure 3-1.1** **1**
H 2.2 Corridors and Connections ***(see p. 81)*** H 2.2.1 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either riparian or upland) that is at least 150 ft wide, has at least 30% cover of shrubs, forest or native undisturbed prairie, that connects to estuaries, other wetlands or undisturbed uplands that are at least 250 acres in size? (*dams in riparian corridors, heavily used gravel roads, paved roads, are considered breaks in the corridor*). YES = **4 points** (*go to H 2.3*) NO = go to H 2.2.2 H 2.2.2 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either riparian or upland) that is at least 50ft wide, has at least 30% cover of shrubs or forest, and connects to estuaries, other wetlands or undisturbed uplands that are at least 25 acres in size? **OR** a **Lake-fringe** wetland, if it does not have an undisturbed corridor as in the question above? YES = **2 points** (*go to H 2.3*) NO = H 2.2.3 H 2.2.3 Is the wetland: within 5 mi (8km) of a brackish or salt water estuary OR within 3 mi of a large field or pasture (>40 acres) OR **X within 1 mi of a lake greater than 20 acres?** YES = ~~**1 point**~~ NO = **0 points**	**1**

Total for page: **2**

H 2.3 Near or adjacent to other priority habitats listed by WDFW ***(see p. 82)*** Which of the following priority habitats are within 330ft (100m) of the wetland unit? *NOTE: the connections do not have to be relatively undisturbed.* *These are DFW definitions. Check with your local DFW biologist if there are any questions.* _X___**Riparian**: The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other. _____**Aspen Stands:** Pure or mixed stands of aspen greater than 0.8 ha (2 acres) _____**Cliffs:** Greater than 7.6 m (25 ft) high and occurring below 5000 ft. _____**Old-growth 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 20 trees/ha (8 trees/acre) > 81 cm (32 in) dbh or > 200 years of age. _____**Mature forests:** Stands with average diameters exceeding 53 cm (21 in) dbh; crown cover may be less that 100%; crown cover may be less that 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. _____**Prairies:** Relatively undisturbed areas (as indicated by dominance of native plants) where grasses and/or forbs form the natural climax plant community. _____**Talus:** Homogenous areas of rock rubble ranging in average size 0.15 - 2.0 m (0.5 - 6.5 ft), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs. _____**Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages _____**Oregon white Oak:** Woodlands Stands of pure oak or oak/conifer associations where canopy coverage of the oak component of the stand is 25%. _X___**Urban Natural Open Space**: A priority species resides within or is adjacent to the open space and uses it for breeding and/or regular feeding; and/or the open space functions as a corridor connecting other *priority habitats*, especially those that would otherwise be isolated; and/or the open space is an isolated remnant of natural habitat larger than 4 ha (10 acres) and is surrounded by urban development. _____**Estuary/Estuary-like:** Deepwater tidal habitats and adjacent tidal wetlands, usually semi-enclosed by land but with open, partly obstructed or sporadic access to the open ocean, and in which ocean water is at least occasionally diluted by freshwater runoff from the land. The salinity may be periodically increased above that of the open ocean by evaporation. Along some low-energy coastlines there is appreciable dilution of sea water. Estuarine habitat extends upstream and landward to where ocean-derived salts measure less than 0.5ppt. during the period of average annual low flow. Includes both estuaries and lagoons. _____**Marine/Estuarine Shorelines**: Shorelines include the intertidal and subtidal zones of beaches, and may also include the backshore and adjacent components of the terrestrial landscape (e.g., cliffs, snags, mature trees, dunes, meadows) that are important to shoreline associated fish and wildlife and that contribute to shoreline function (e.g., sand/rock/log recruitment, nutrient contribution, erosion control). If wetland has **3 or more** priority habitats **= 4 points** If wetland has **2** priority habitats = **3 points** If wetland has **1** priority habitat **= 1 point** No habitats = 0 points *Note: All vegetated wetlands are by definition a priority habitat but are not included in this list. Nearby wetlands are addressed in question H 2.4)*	**3**

H 2.4 Wetland Landscape *(choose the **one** description of the landscape around the wetland that best fits*) ***(see p. 84)*** There are at least 3 other wetlands within ½ mile, and the connections between them are relatively undisturbed (light grazing between wetlands OK, as is lake shore with some boating, but connections should NOT be bisected by paved roads, fill, fields, or other development. points = 5 The wetland is Lake-fringe on a lake with little disturbance and there are 3 other lake-fringe wetlands within ½ mile points = 5 There are at least 3 other wetlands within ½ mile, BUT the connections between them are disturbed points = 3 X The wetland is Lake-fringe on a lake **with** disturbance and there are 3 other lake-fringe wetland within ½ mile points = 3 There is at least 1 wetland within ½ mile. points = 2 There are no wetlands within ½ mile. points = 0	**3**
H 2. TOTAL Score - opportunity for providing habitat *Add the scores from H2.1,H2.2, H2.3, H2.4*	**8**
TOTAL for H 1 from page 14	**3**
Total Score for Habitat Functions – add the points for H 1, H 2 and record the result on p. 1	**11**

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Please determine if the wetland meets the attributes described below and circle the appropriate answers and Category.

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 *(see p. 86)*	NO
Does the wetland unit meet the following criteria for Estuarine wetlands? ↓1 The dominant water regime is tidal, ↓2 Vegetated, and ↓3 With a salinity greater than 0.5 ppt. YES = Go to SC 1.1 NO X	N/A
SC 1.1 Is the wetland unit 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 X	**NO** N/A
SC 1.2 Is the wetland unit at least 1 acre in size and meets at least two of the following three conditions? YES = Category I NO = Category II ↓1 The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less than 10% cover of non-native plant species. If the non-native *Spartina* spp. are the only species that cover more than 10% of the wetland, then the wetland should be given a dual rating (I/II). The area of Spartina would be rated a Category II while the relatively undisturbed upper marsh with native species would be a Category I. Do not, however, exclude the area of Spartina in determining the size threshold of 1 acre. ↓2 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. ↓3 The wetland has at least 2 of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands.	NO N/A

SC 2.0 Natural Heritage Wetlands ***(see p. 87)*** Natural Heritage wetlands have been identified by the Washington Natural Heritage Program/DNR as either high quality undisturbed wetlands or wetlands that support state Threatened, Endangered, or Sensitive plant species. SC 2.1 Is the wetland unit being rated in a Section/Township/Range that contains a Natural Heritage wetland? *(this question is used to screen out most sites before you need to contact WNHP/DNR)* S/T/R information from Appendix D ___ or accessed from WNHP/DNR web site ___ YES____ – contact WNHP/DNR (see p. 79) and go to SC 3.2 NO __X_ SC 2.2 Has DNR identified the wetland as a high quality undisturbed wetland or as or as a site with state threatened or endangered plant species? YES = Category I NO X	**N/A**
SC 3.0 Bogs ***(see p. 87)*** Does the wetland unit (**or any part of the unit**) meet both the criteria for soils and vegetation in bogs? *Use the key below to identify if the wetland is a bog.* ***If you answer yes you will still need to rate the wetland based on its functions.*** 1. Does the unit have organic soil horizons (i.e. layers of organic soil), either peats or mucks, that compose 16 inches or more of the first 32 inches of the soil profile? (See Appendix B for a field key to identify organic soils)? Yes - go to Q. 3 No - go to Q. 2 2. Does the unit have organic soils, either peats or mucks that are less than 16 inches deep over bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on a lake or pond? Yes - go to Q. 3 No - Is not a bog for purpose of rating 3. Does the unit have more than 70% cover of mosses at ground level, AND other plants, if present, consist of the "bog" species listed in Table 3 as a significant component of the vegetation (more than 30% of the total shrub and herbaceous cover consists of species in Table 3)? Yes – Is a bog for purpose of rating No - go to Q. 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" deep. If the pH is less than 5.0 and the "bog" plant species in Table 3 are present, the wetland is a bog. *1.* Is the unit forested (> 30% cover) with sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Englemann's spruce, or western white pine, WITH any of the species (or combination of species) on the bog species plant list in Table 3 as a significant component of the ground cover *(> 30% coverage of the total shrub/herbaceous cover)?* 2. YES = Category I No___ Is not a bog for purpose of rating	NOT A BOG N/A

SC 4.0 Forested Wetlands ***(see p. 90)*** Does the wetland unit have at least 1 acre of forest that meet one of these criteria for the 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.* ↓1 **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/acre (20 trees/hectare) that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 inches (81 cm) or more. NOTE: The criterion for dbh is based on measurements for upland forests. Two-hundred year old trees in wetlands will often have a smaller dbh because their growth rates are often slower. The DFW criterion is and "OR" so old-growth forests do not necessarily have to have trees of this diameter. ↓2 **Mature forests**: (west of the Cascade Crest) Stands where the largest trees are 80 – 200 years old OR have average diameters (dbh) exceeding 21 inches (53cm); crown cover may be less that 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth. YES = Category I NO _X__	**N/A**
SC 5.0 Wetlands in Coastal Lagoons ***(see p. 91)*** Does the wetland meet all of the following criteria of a wetland in a coastal lagoon? ↓1 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 ↓2 The lagoon in which the wetland is located contains surface water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon *(needs to be measured near the bottom)* YES = Go to SC 5.1 NO___ not a wetland in a coastal lagoon SC 5.1 Does the wetland meets all of the following three conditions? ↓4 The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of invasive plant species (see list of invasive species on p. 74). ↓5 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. ↓6 The wetland is larger than 1/10 acre (4350 square feet) YES = Category I NO = Category II	**N/A**

SC 6.0 Interdunal Wetlands ***(see p. 93)*** Is the wetland unit west of the 1889 line (also called the Western Boundary of Upland Ownership or WBUO)? YES - go to SC 6.1 NO __ not an interdunal wetland for rating ***If you answer yes you will still need to rate the wetland based on its functions.*** In practical terms that means the following geographic areas: 1 Long Beach Peninsula- lands west of SR 103 2 Grayland-Westport- lands west of SR 105 3 Ocean Shores-Copalis- lands west of SR 115 and SR 109 SC 6.1 Is the wetland one acre or larger, or is it in a mosaic of wetlands that is once acre or larger? YES = Category II NO – go to SC 6.2 SC 6.2 Is the unit between 0.1 and 1 acre, or is it in a mosaic of wetlands that is between 0.1 and 1 acre? YES = Category III NO- Not an Interdunal wetland	NOT AN INTERDUNAL WETLAND
Category of wetland based on Special Characteristics *Choose the "highest" rating if wetland falls into several categories, and record on p. 1.* If you answered NO for all types enter "Not Applicable" on p.1	**N/A**