

# **EXHIBIT "7" - Wetland Site Assessment & Buffer Mitigation Plan**

**WETLAND SITE ASSESSMENT & BUFFER MITIGATION PLAN**

**FOR**

***CITY OF BURLINGTON***  
***EAST-WEST CONNECTOR ROAD***

Bachman Environmental Job No. 1923

July 1, 2020

For:

City of Burlington  
Attn: Brian Dempsey, P.E.  
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**BY:**



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## TABLE OF CONTENTS

1.0 INTRODUCTION.....	4
2.0 METHODOLOGY .....	4
2.1 FIELD METHODS.....	4
2.2 DOCUMENT REVIEW.....	4
2.2.1 Discussion .....	5
3.0 SETTING & SITE DESCRIPTION .....	5
4.0 WETLANDS.....	5
4.1 OVERVIEW.....	5
4.2 DELINEATION RESULTS.....	6
4.2.1 Wetland .....	6
4.2.2 Uplands .....	6
4.3 FUNCTIONS AND VALUES ASSESSMENT .....	7
5.0 PROJECT DESCRIPTION.....	7
5.1 OVERVIEW.....	7
5.2 ALTERNATIVES ANALYSIS.....	8
5.3 IMPACT ANALYSIS .....	8
5.3.1 Overview.....	8
5.3.2 Direct Impacts .....	8
5.3.3 Clearing and Grading.....	8
5.3.4 Conservation Measures .....	9
5.3.5 Noise and Lights.....	9
5.3.6 Stormwater Management Plan .....	9
5.3.7 Cumulative Impacts .....	9
5.3.8 Mitigation Approach.....	9
6.0 BUFFER ENHANCEMENT PLAN .....	10
6.1 PLANTING PLAN.....	10
6.1.1 Buffer Enhancement Planting Plan (3,600 SF).....	11
6.2 PROJECT NOTES .....	11
6.3 PROJECT GOAL, OBJECTIVE, AND PERFORMANCE STANDARDS.....	12
6.3.1 Project Goal .....	12
6.3.2 Objective.....	12
6.3.3 Performance Standards.....	12
6.4 CONTINGENCY PLAN .....	12
6.5 PROJECT MONITORING AND MAINTENANCE PROGRAM .....	12
6.5.1 Vegetation Monitoring .....	12
6.5.2 Maintenance .....	12
6.6 ESTIMATED PROJECT COST .....	12
7.0 USE OF THIS REPORT .....	13
8.0 REFERENCES.....	14

## **LIST OF ATTACHMENTS**

Wetland Delineation Map & Buffer Mitigation Plan (Sheet 1 of 1)

Right of Way Acquisition Plan (Sheet 1 of 1)

Corps of Engineers Wetland Determination Data Forms (S1-S2)

Wetland Rating Form – Wetland A

- Wetland Rating Figure 1: Vegetation & Hydroperiods
- Wetland Rating Figure 2: 1KM Polygon Around Unit
- Wetland Rating Figure 3: 303(d) Listed Waters Figure WET 1: Cowardin Plant

## **1.0 INTRODUCTION**

The City of Burlington public works department is planning a new east-west arterial road between E. Burlington Blvd. and Walnut Street. The project area occurs in parcels P24256, P24257, P105310, and P116513 in the city of Burlington, WA (within a portion of Section 11, Township 33N, Range 03E, W.M.). Supported by private businesses, this new road connection would serve as access to about 8 acres of undeveloped commercial land that can be developed for mixed uses in the future.

This report facilitates efforts to address the Burlington Environmental Regulations, BMC 14.15, to ensure that critical areas are accurately represented and that ecological impacts are avoided or minimized, as required during the permitting process.

Bachman Environmental performed field site visits on June 13, 2019 and May 29, 2020 to identify and document critical areas in the vicinity of the project area. The one critical area identified in the vicinity of the project includes a wetland associated with a pond that is locally known as Walnut Pond. The wetland is classified as a Category III wetland. According to Burlington Municipal Code (BMC) Chapter 15.15.205, Category III wetlands on lands with high-intensity use are dedicated 150-foot protective buffers.

No other critical areas were found, and no state or federally listed threatened, or endangered species are documented or known to occur in the vicinity of the property.

Through careful site design and alternatives analysis, the new roadway completely avoids direct impacts to critical areas. The road is to be constructed over existing asphalted and graveled areas that currently exist within the 150-foot wetland buffer. Anticipated impacts are therefore expected to be relatively minor. Recommended mitigation measures are proportional to the level of expected impacts, as demonstrated in the detailed impact analysis later in this report.

## **2.0 METHODOLOGY**

### **2.1 FIELD METHODS**

Wetland areas are determined using the routine determination approach described in the *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region* (Version 2.0) (U.S. Army Corps of Engineers 2010). This guidance complies with Burlington Municipal Code (BMC), Chapter 14.15.

To be considered a wetland, an area must have hydrophytic vegetation, hydric soils, and wetland hydrology. Bachman Environmental collected data on these parameters in areas representative of typical site conditions.

### **2.2 DOCUMENT REVIEW**

Before the site visit, Bachman Environmental reviewed several online public resources. The following were considered:

- National Wetland Inventory (NWI) maps of the U.S. Fish and Wildlife Service (USFWS)
- Washington Dept. of Fish & Wildlife (WDFW) Priority Habitats & Species (PHS) on the web
- Washington Dept. of Natural Resources (WDNR) Forest Practices Application Review System (FPARS) water type map.
- WDFW SalmonScape
- Soil Web on Google Earth
- Washington State Coastal Atlas

### **2.2.1 Discussion**

The NWI maps display Walnut Pond as a freshwater pond (PUBHx), and the FPARS water typing maps display it as a Type N water. No other wetlands, streams, or other habitat areas are displayed on or near the site.

According to the Web Soil Survey, soils underlying the subject property are mapped as Field silt loam, protected, and Briscot fine sandy loam. Field Silt Loam contains inclusions of Skagit and Sumas soils amounting to about 10% of the total make up of Field Silt Loam Series. Both Skagit and Sumas soils are listed as hydric soils Washington State. The Briscot fine sandy loam series is described as poorly drained soils that formed on flood plains. It is comprised of 100% of hydric soils.

## **3.0 SETTING & SITE DESCRIPTION**

The project area is relatively flat, cleared of native vegetation, and situated in an area zoned for commercial use between E. Burlington Boulevard and Walnut Street.

Abutting lands surrounding the Walnut Pond wetland consists of a variety of uses, including a parking lot and stormwater detention facility to the south, Walnut Street to the east, undeveloped grass and treed areas to the west, and mixed gravel and asphalt to the north. The City has established a walking path and some benches and tables around the pond.

Established vegetation surrounding the wetland pond consists of black cottonwoods, willows, red alder, red osier dogwood, Himalayan blackberry, and reed canary grass.

## **4.0 WETLANDS**

### **4.1 OVERVIEW**

Walnut Pond was an excavated farm pond that appears on historical aerial photos dating as far back as 1937. It is an enclosed depression and does not receive stormwater discharges. Its highly constricted pipe outlet may have become plugged but has the potential to be a source of overflow release. As the lands surrounding the pond changed from farming use to commercial/urban land, the pond retained its open water component but also became established with hydrophytic plant life along the edges and below the semi-permanent water line. As a result, wetland conditions were formed. The entire pond, including its vegetated portions, is therefore considered a depressional wetland.

The wetland receives a total score of 16 points for functions on the 2014 Wetland Rating Form. The score of 16 points equates to a Category III classification. According to BMC15.15.205, Category III wetlands on lands with high-intensity use are dedicated 150-foot protective buffers. According to the Cowardin classification system, it is classified as a Palustrine, Forested, Broad Leaf Deciduous, Permanently Flooded.

**Table 1. Wetland Summary**

Wetland	Wetland Classification				Wetland Size (acre)	Buffer Width (feet)
	Cowardin	HGM	Ecology	City of Burlington		
A	PFO1H	Depressional	III	III	1 acre	150'

## 4.2 DELINEATION RESULTS

### 4.2.1 Wetland

The dominant vegetation in the areas identified as wetlands consists of Douglas spirea (*Spirea douglasii*, FACW), black twinberry (*Lonicera involucrata*, FAC), Himalayan blackberry (*Rubus armeniacus*, FAC), cattail (*Typha latifolia*, OBL), reed canarygrass (*Phalaris arundinacea*, FACW), and creeping nightshade (*Solanum dulcamara*, FAC). Other species present include black cottonwood (*Populus balsamifera*, FAC), red-osier dogwood (*Cornus sericea*, FACW), and willow species. The dominance of vegetation rated as Facultative or wetter meets the criteria of hydrophytic vegetation.

The underlying soils are black (10YR 2/1) mucky sandy loam in the upper 2 inches and very dark brown (10YR 2/2) mucky sandy loam with approximately 20% dark yellowish-brown (10YR 3/6) redoximorphic features from 2-16+ inches below the surface. Based on these characteristics and the known underlying soil series, the soils most resemble Redox Dark Surface (F6) hydric soil indicator.

Primary wetland hydrology indicators observed during the site visit included: Surface Water (A1) and Saturation (A3).

### 4.2.2 Uplands

Adjacent upland areas are dominated by red alder (*Alnus rubra*, FAC), bitter cherry (*Prunus emarginata*, FACU), Himalayan blackberry (*Rubus armeniacus*, FAC), bracken fern (*Pteridium aquilinum*, FACU), creeping nightshade (*Solanum dulcamara*, FAC).

The underlying soils are very dark grayish brown (10YR 3/2) silt loam from the surface to greater than 16 inches. No redox features were present in the upland soil samples. The soil profile was slightly moist but not saturated. These soil characteristics do not match any hydric soil indicators.

No primary or secondary indicators for hydrology were present within the areas mapped as non-wetland.

Based on the lack of positive indicators for all three wetland criteria, the areas mapped as uplands are not saturated or inundated long enough during the growing season to meet the definition of a wetland.

### **4.3 FUNCTIONS AND VALUES ASSESSMENT**

As reflected on the 2014 DOE Rating Forms, the on-site wetland offers moderate levels of water quality, hydrologic control, but low levels of habitat function. It was once an old farm pond that is presumed to have been constructed out of a wetland. The wetland is now surrounded by urban development. There is evidence of heavy intrusion by people as the surrounding walking path, and adjacent vegetated areas are littered with trash and debris. Plant species diversity is low, with only two types of deciduous trees (alder and cottonwood) in the canopy and mixed invasive and native understory.

Based on existing conditions, the wetland has a moderate potential to provide water quality improvements and hydrologic control functions for the subject site and the surrounding landscape. It does not receive stormwater discharges, but more than 10% of areas within 150 feet of this wetland is comprised of hard surfaces, streets, and driveways. It is moderately vegetated around the edges because more than half the pond is permanently flooded. There are 303d listed waters in the Skagit River more than a mile from the site.

On-site flood control provided by this wetland is high because it does not have an outlet, and the contributing basin is less than ten times the wetland area. The wetland has a high potential to provide hydrologic control functions in the landscape because it receives stormwater discharges, and the surrounding land uses are comprised of high intensity uses that generate excess runoff. Furthermore, flooding occurs in the Skagit River immediately downgradient of the site. These existing conditions indicate that the wetland can provide valuable hydrologic control functions.

The wetland offers habitat to ducks, passerine birds, and amphibians. Generally, though, it contains low levels of habitat diversity or interspersions, and few unique habitat features. On the landscape level, it provides low habitat function because it is isolated from other undisturbed habitats. There are no priority habitats within 100 meters of the site. Based on these existing conditions, the wetland receives a low score for habitat functions.

Overall, the functions offered by the on-site wetland are limited to water quality and hydrologic control functions. Buffer and habitat functions could be improved with vegetation enhancement and installation of a fence along the buffer boundary. Please refer to the 2014 DOE Rating Form and associated figures for a detailed demonstration of functions offered in this wetland.

## **5.0 PROJECT DESCRIPTION**

### **5.1 OVERVIEW**

The City of Burlington public works department is planning a new east-west arterial road between E Burlington Blvd. and Walnut Street. Supported by private businesses, this new road connection would serve as access to about 8 acres of undeveloped commercial land that can be developed for mixed uses.

The westerly terminus of the proposed road is at the traffic signal on Burlington Boulevard at Costco Drive, while the easterly terminus is at a proposed roundabout on Walnut Street where it intersects with E McCorquedale Rd. The project includes sidewalks and a connection point to the trail around the pond.

The road right-of-way is planned to divert around the north side of the Walnut Pond through its 150-foot buffer, resulting in a minimum buffer width of about 60 feet. The buffer area to be reduced is currently comprised of an asphalted parking lot and graveled areas, two mature Douglas fir trees, and a small patch of invasive Himalayan blackberry.

According to BMC 14.15.210.A, alterations to wetlands or buffer are allowed if a site assessment shows that alterations do not degrade the quantitative and qualitative functioning of the wetland, or any degradation can be adequately mitigated to protect the wetland function. The remainder of this report includes a detailed impact and mitigation sequencing analysis and proposed mitigation measures that demonstrate compliance with BMC 14.15.210.A and all other goals and objectives of BMC 14.15.

## **5.2 ALTERNATIVES ANALYSIS**

Alternative routes have been carefully considered. Such alternatives included the shortest distance route, where the roadway would be straight along the edges of only two properties instead of four and to avoid right-of-way acquisition. This alternative approach presented significant environmental impacts and costs associated with impacting the pond or bridging it.

Another alternative was to truncate the roadway to terminate just west of the pond. However, this approach would not achieve the overall goal to relieve traffic congestion or improve traffic safety.

The preferred alternative is to connect the new road between the existing intersection. This approach results in the least amount of environmental impact as well as the least amount of cost to design and construct.

This preferred alternative requires the right-of-way acquisition through four parcels, including P24256, P24257, P105310, and P116513. In P24257, P105310, and P116513, the proposed new right-of-way also goes through the 150-foot buffer associated with the Walnut Pond wetland.

The location of the new roadway through the buffer is unavoidable, creating the through-street and bringing the least amount of impact possible. For permanent impacts to buffer functions, mitigation measures will be implemented. This analysis is consistent with the requirements for mitigation sequencing under BMC14.15.220.

## **5.3 IMPACT ANALYSIS**

### **5.3.1 Overview**

This impact analysis focuses on impacts to critical areas, habitats, and buffers as they relate to the project. The new roadway is largely proposed over existing hard surfaces and gravel areas.

### **5.3.2 Direct Impacts**

No direct impacts to wetlands or fish and wildlife habitat conservation areas are expected from this project because the design diverts the new road to the north of the wetland.

### **5.3.3 Clearing and Grading**

The project will require the removal of two mature Douglas fir trees and a patch of Himalayan blackberry in the understory within the 150-foot wetland buffer. Otherwise, the project occurs over currently cleared and hard surfaces within the buffer.

Grading work is expected to be minimal during construction since the areas are relatively level.

#### **5.3.4 Conservation Measures**

BMP erosion control measures will be installed and inspected before commencing with the project to ensure the protection of water quality functions for the nearby wetland.

#### **5.3.5 Noise and Lights**

The noise from heavy machinery during construction will be temporary and of short duration. However, noise and lights from increasing car use will be permanent.

Heavy noise and car headlights can have detrimental effects on wildlife usage. As described in the functions and values analysis, the level of wildlife usage in the wetland is low and limited to ducks, passerine birds, and frogs. The existing wildlife species that use the pond either year-round or a portion of the year are already adapted to urban noises and human intrusions. The most potential for headlight intrusion would come from eastbound traffic and likely to be filtered out by the existing vegetation surrounding the wetland. The overall impact of noise and lights from cars is expected to be negligible.

#### **5.3.6 Stormwater Management Plan**

Stormwater runoff from new road surfaces will flow to a bioretention/water quality swale and discharge to existing storm piping on Walnut Street. It will drain to a regional detention/water quantity facility to the south behind Dick's Sporting. Treatment is designed per Ecology Manual only since the regional pond is handling detention and treatment. No discharges to the wetland pond are anticipated.

#### **5.3.7 Cumulative Impacts**

The combination of impacts described above is the cumulative impacts associated with the project. The project will increase traffic and noise and promote increased mixed development on previously disturbed lands zoned for commercial use. Although some clearing will occur, no significant vegetation is to be removed. Stormwater detention and treatment do not affect the wetland.

Based on existing and anticipated conditions, the cumulative impacts on the wetland and its buffer are minimal. This determination is based on the current conditions of the project area and conditions expected once the project is built.

#### **5.3.8 Mitigation Approach**

The plan for mitigating potential water quality and hydrologic impacts is to direct all new runoff to the regional detention facility described above. This approach entirely avoids discharges to the wetland.

For the minor vegetation clearing, including the removal of two Douglas fir trees, the degraded buffer areas between the new roadway and the wetland will be enhanced with a diversity of native species. The total area to be enhanced amount to 3,600 SF. As part of the enhancement, a total of 4 new Douglas fir trees will be planted to replace those being removed at a 2:1 replacement ratio. Recommendations for enhancement include removing invasive blackberries within the designated areas and planting a selected area (see attached plans) with native vegetation listed later in this report.

The area to be planted is between the wetland and the new roadway. Over time the new plants will grow and mature to provide valuable nesting habitat, shade, and protection for the urban wildlife that use the wetland.

In addition to vegetation enhancement, the trash and debris surrounding the wetland shall be picked up and disposed of off-site. It is recommended that the City implement a program to install up to two trash receptacles near the establish benches and to schedule trash collection in these areas.

Finally, to offset the use of the trail, the City will install signage around the wetland to increase awareness of the sensitive area.

Based on anticipated conditions, the proposed mitigation measures are expected to not only replace but also improve the functions of the site through trash removal, vegetation enhancement, signage, and stormwater management plan. The proposed alterations and mitigation measures comply with BMC 14.15.210.

<b>Buffer Impact and Mitigation Table</b>	
<i>Impact</i>	<i>Mitigation</i>
Construct new roads largely over existing asphalt parking and gravel areas within a 150-foot wetland buffer.	Direct all new stormwater runoff to bioretention constructed and established bioretention facilities to ensure no discharges to the wetland and net loss of water quality or hydrologic functions.
Permanently remove two Douglas fir trees.	Plant 4 new Douglas fir trees in the buffer for a 2:1 replacement ratio. Remove invasive Himalayan blackberries & plant native shrubs in through 3,600 SF of degraded buffer adjacent to the new road.
Potential increased usage of the trail around the wetland.	Install at least four new critical area signs & establish a trash pickup program around the wetland by installing at least two new trash cans near the benches.

## **6.0 BUFFER ENHANCEMENT PLAN**

### **6.1 PLANTING PLAN**

Before plant installation, a pre-planting meeting should be on-site with the landscape contractor and the consulting biologist to review the site conditions and determine appropriate planting locations and installation details.

Site preparation will include identifying and removing trash and debris from the wetland and buffer areas as well as removing non-native species, such as Himalayan blackberry. Some light pruning of native plants may be necessary during site preparation, as new plantings are interspersed among the existing vegetation.

Plants shall be arranged in groups of two to three, similar to species, to simulate natural, asymmetric vegetation establishment patterns.

After removing invasive plants and installing native plants, a minimum of 4 inches of wood chips will be applied to the planted areas to retain soil moisture and minimize weed growth.

### 6.1.1 Buffer Enhancement Planting Plan (3,600 SF)

Type	Common Name	Scientific Name	Size	Spacing (ft)	Quantity
T	Douglas fir	<i>Pseudotsuga menziesii</i>	1-gal	10	4
S	Ocean spray	<i>Holodiscus discolor</i>	1-gal	5	28
S	Snowberry	<i>Symphoricarpos albus</i>	1-gal	5	28
S	Salal	<i>Gaultheria shallon</i>	1-gal	5	28
S	Red flowering currant	<i>Ribes sanguinum</i>	1-gal	5	28
S	Salmonberry*	<i>Rubus spectabilis</i>	1-gal	5	16
S	Red-osier dogwood*	<i>Cornus sericea</i>	1-gal	5	16
H	Sword fern	<i>Polystichum munitum</i>	4" pot	3	100

\*Plant salmonberry and red-osier dogwood along the wetland-side of the trail.

## 6.2 PROJECT NOTES

**Pre-planting meeting.** Before implementing the mitigation measures, a pre-installation meeting should be held with the landscape contractor and the consulting biologist to discuss the installation's details. At that time, the consulting biologist should also inspect the plantings to be installed and to address any foreseeable issues.

**Invasive plant removal.** Invasive species, such as Himalayan blackberry, should be cut to the ground, removed by the roots, and exported off-site before planting. Apply a minimum of 6 inches of wood chips to the entire infested area to minimize potential regrowth. Following this method, any regrowth of invasive plants can be more easily removed by hand-held tools and covered again with wood chips until the project is deemed successful.

**Timing.** Planting shall take place in the early spring or late fall. Plants should be obtained from a reputable nursery. All plant materials recommended in this plan are typically available from local and regional sources, depending on seasonal demand. Some limited species substitution may be allowed, only with the agreement of the consulting biologist or city's biologist. Care and handling of plant materials are critical to the overall success of the project.

**Arrangement.** The plants shall be arranged with the appropriate numbers, sizes, species, and distribution to achieve the required vegetation coverage. The actual placement of individual plants shall simulate natural, asymmetric vegetation patterns found on similar undisturbed sites in the area.

**Mulch.** Wood chips, or other suitable material, shall be used for mulching in the planting areas. Mulch shall be placed in a two-foot diameter around each planting at a depth of three to four inches. A four-inch diameter ring around the base of each plant shall be kept free of mulch.

**Marking.** Colored surveyors ribbon, or other approved marking device, shall be attached to each planted tree and shrub to assist in locating the plants while removing the competing non-native vegetation and assist in monitoring the plantings.

**Irrigation / Watering.** Water shall be provided during the dry season (July 1 through October 15) for the first two years after installation to ensure plant survival and establishment. Water should be applied at a rate of one inch of water per week for Years 1 and 2.

### **6.3 PROJECT GOAL, OBJECTIVE, AND PERFORMANCE STANDARDS**

#### **6.3.1 Project Goal**

The goal of the mitigation project is to enhance a total of 3,600 SF of degraded wetland buffer areas.

#### **6.3.2 Objective**

The objective is to remove invasive vegetation from the designated buffers and then plant the areas with the native plants listed in this report.

#### **6.3.3 Performance Standards**

Success will be determined if the project meets the following performance standards:

Year 1: 100% survival, less than 20% invasive vegetation cover;

Years 3-5: 80% survival & less than 20% invasive vegetation cover;

### **6.4 CONTINGENCY PLAN**

If 20 percent of the installed plants are severely stressed during any of the inspections, or it appears 20 percent may not survive, additional plantings of the same species may be added to the planting areas. Other contingency elements may include, but will not be limited to more aggressive weed control, animal control, mulching, replanting with larger plant material, species substitution, fertilization, soil amendments, or irrigation.

### **6.5 PROJECT MONITORING AND MAINTENANCE PROGRAM**

#### **6.5.1 Vegetation Monitoring**

Monitoring will be completed at baseline (time zero) and in years 1-5. All monitoring reports will be completed by qualified biologists and shall be submitted to the City.

For vegetation monitoring, transects or plots will be established. At each plot, at a minimum, record location, cover, number, and composition of plants installed as well as percent cover and composition of invasive species. Plant survival will be estimated in each planting area during each monitoring visit.

Monitoring reports will be prepared and submitted to the City in the fall of each monitoring year. The reports will summarize the overall conditions of the planting areas and discuss whether the performance standards are being met. Photos of the planting areas will also be provided. In year 5, the final monitoring report will be prepared and will determine if the mitigation plan has been successful per the established goals, objectives, and performance standards. If the mitigation plan is deemed unsuccessful, contingency actions will be utilized, or the monitoring period may be extended.

#### **6.5.2 Maintenance**

The planting areas may require periodic maintenance during the monitoring period. Maintenance may include, but will not be limited to repairing the irrigation system, removing competing grasses and invasive vegetation (by hand if necessary), replacing plant mortality, or the replacing mulch.

### **6.6 ESTIMATED PROJECT COST**

Estimated project costs include the cost of plant materials and labor to install plants as well as the

cost of semi-annual maintenance and annual monitoring for five years.

**The estimated cost of mitigation measures:**

Estimated cost for 148 one-gallon plants (\$12.00/plant) =	\$ 1,776.00
Estimated cost for 100 four-inch pots (\$5.00/plant) =	\$ 500.00
<b>Estimated Projects Cost =</b>	<b>\$2,276.00</b>

## 7.0 USE OF THIS REPORT

This report is supplied to the City of Burlington as a means of determining critical area conditions and buffer mitigation measures, as required by the City of Burlington during the permitting process.

Bachman Environmental utilized the Burlington Municipal Code Chapter 14.15 for guidance and conformed to the accepted standards and methods employed by ecologists in Western Washington. The analysis and conclusions supplied in this report are based on best professional judgment. No attempt has been made to determine hidden or concealed conditions. The laws applicable to critical areas are subject to varying interpretations and may be changed at any time by the courts or legislative bodies.

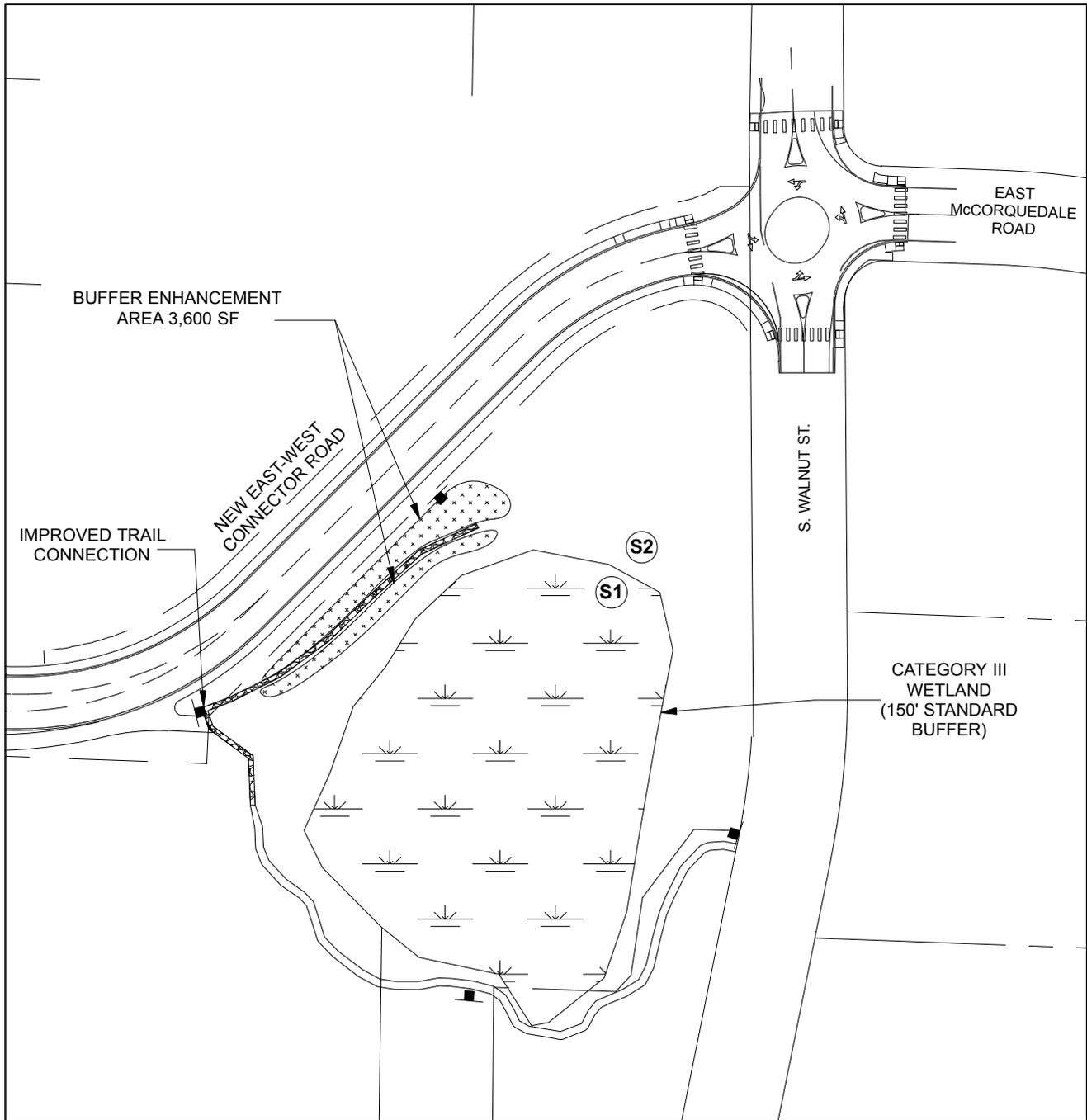
Should you have any questions or concerns relating to the findings of this report, please feel free to call at (206) 963-2909.



Andrea Bachman, PWS

## 8.0 REFERENCES

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BUFFER ENHANCEMENT AREA



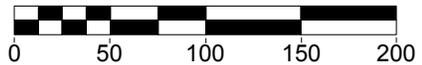
CRITICAL AREA SIGNS



WETLAND DETERMINATION DATA SITES 1-2



Scale 1" = 100'



City of Burlington  
 Attn: Brian Dempsey, P.E.  
 833 South Spruce Street  
 Burlington, WA 98233

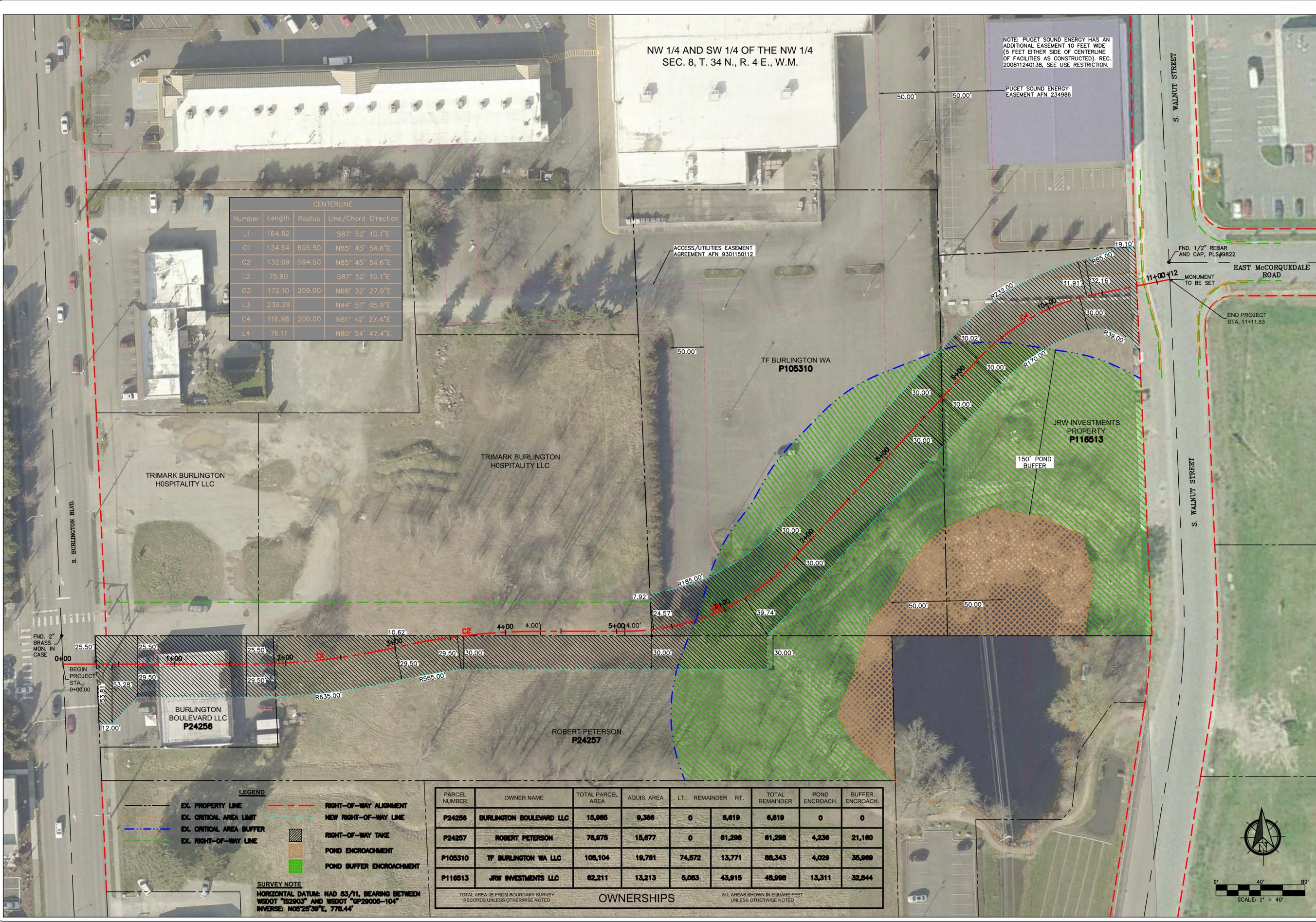
WETLAND DELINEATION MAP &  
 BUFFER MITIGATION PLAN  
**EAST-WEST CONNECTOR ROAD**  
 BURLINGTON, WA

SHEET: 1 of 1

SCALE: 1" = 100'

DATE: 6/18/20

BY: A. BACHMAN  
 PH: (206) 963-2909



CENTERLINE			
Number	Length	Radius	Line/Chord Direction
L1	164.82		S87° 52' 10.1"E
C1	134.54	605.50	N85° 45' 54.6"E
C2	132.09	594.50	N85° 45' 54.6"E
L2	75.90		S87° 52' 10.1"E
C3	172.10	209.00	N68° 32' 27.9"E
L3	239.29		N44° 57' 05.9"E
C4	116.98	200.00	N61° 42' 27.4"E
L4	76.11		N80° 54' 47.4"E

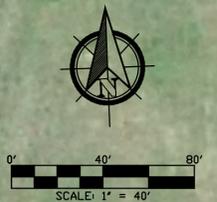
PARCEL NUMBER	OWNER NAME	TOTAL PARCEL AREA	AQUIS. AREA	LT. REMAINDER	RT.	TOTAL REMAINDER	POND ENCROACH.	BUFFER ENCROACH.
P24256	BURLINGTON BOULEVARD LLC	15,985	9,386	0	6,619	6,619	0	0
P24257	ROBERT PETERSON	76,975	15,677	0	61,298	61,298	4,236	21,160
P105310	TF BURLINGTON WA LLC	108,104	19,761	74,572	13,771	88,343	4,029	35,999
P116513	JRW INVESTMENTS LLC	62,211	13,213	5,063	43,915	48,998	13,311	32,844

**LEGEND**

--- EX. PROPERTY LINE	--- RIGHT-OF-WAY ALIGNMENT
--- EX. CRITICAL AREA LIMIT	--- NEW RIGHT-OF-WAY LINE
--- EX. CRITICAL AREA BUFFER	--- RIGHT-OF-WAY TAKE
--- EX. RIGHT-OF-WAY LINE	--- POND ENCROACHMENT
	--- POND BUFFER ENCROACHMENT

**SURVEY NOTE**  
 HORIZONTAL DATUM: NAD 83/11, BEARING BETWEEN  
 WSDOT "S2903" AND WSDOT "CP29005-104"  
 INVERSE: N05°25'39"E, 778.44'

**OWNERSHIPS**  
 TOTAL AREA IS FROM BOUNDARY SURVEY RECORDS UNLESS OTHERWISE NOTED  
 ALL AREAS SHOWN IN SQUARE FEET UNLESS OTHERWISE NOTED



NOTE: PUGET SOUND ENERGY HAS AN ADDITIONAL EASEMENT 10 FEET WIDE (5 FEET EITHER SIDE OF CENTERLINE OF FACILITIES AS CONSTRUCTED). REC. 200811240138, SEE USE RESTRICTION.

PUGET SOUND ENERGY EASEMENT AFN 234986

NW 1/4 AND SW 1/4 OF THE NW 1/4 SEC. 8, T. 34 N., R. 4 E., W.M.

ACCESS/UTILITIES EASEMENT AGREEMENT AFN 9301150112

TF BURLINGTON WA P105310

JRW INVESTMENTS PROPERTY P116513

150' POND BUFFER

TRIMARK BURLINGTON HOSPITALITY LLC

TRIMARK BURLINGTON HOSPITALITY LLC

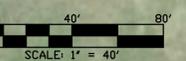
BURLINGTON BOULEVARD LLC P24256

ROBERT PETERSON P24257

FND. 1/2" REBAR AND CAP, PLS#9822

MONUMENT TO BE SET

END PROJECT STA. 11+11.83



NO.	REVISION	DATE	DESCRIPTION
6			
5			
4			
3			
2			
1			



**TUTTLE ENGINEERING AND MANAGEMENT**  
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PREPARED FOR:  
**CITY OF Burlington**  
 833 S. SPRUCE STREET, BURLINGTON, WA 98233

CITY OF BURLINGTON  
 EAST-WEST CONNECTOR ROAD  
 RIGHT-OF-WAY  
 ACQUISITION PLAN

SHEET 1 OF 1  
**RA1**

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

Project/Site: E-W Connector Road - Walnut Pond City/County: Burlington, Skagit Sampling Date: 5/29/20  
 Applicant/Owner: City of Burlington State: WA Sampling Point: S1  
 Investigator(s): A. Bachman Section, Township, Range: SEC. 8, T. 34 N., R. 4 E., W.M.  
 Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): concave Slope (%): 5  
 Subregion (LRR): LRR-A Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name: Briscot fine sandy loam NWI classification: PUBHx

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 <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks: _____	

## VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status	
<b>Tree Stratum</b> (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
	_____ = Total Cover			
<b>Sapling/Shrub Stratum</b> (Plot size: _____)				
1. <u>Spirea douglasii</u>	40	Y	FACW	
2. <u>Rubus armeniacus</u>	25	Y	FAC	
3. <u>Lonicera involucrata</u>	15	N	FACW	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
	80 = Total Cover			
<b>Herb Stratum</b> (Plot size: _____)				
1. <u>Phalaris arundinacea</u>	35	Y	FACW	
2. <u>Typha latifolia</u>	15	Y	OBL	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
	50 = Total Cover			
<b>Woody Vine Stratum</b> (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
	_____ = Total Cover			
<b>% Bare Ground in Herb Stratum</b> _____				

**Dominance Test worksheet:**  
 Number of Dominant Species That Are OBL, FACW, or FAC: 7 (A)  
 Total Number of Dominant Species Across All Strata: 7 (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 = 0  
 FACW species \_\_\_\_\_ x 2 = 0  
 FAC species \_\_\_\_\_ x 3 = 0  
 FACU species \_\_\_\_\_ x 4 = 0  
 UPL species \_\_\_\_\_ x 5 = 0  
 Column Totals: 0 (A) 0 (B)  
 Prevalence Index = B/A = 4

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

**Hydrophytic Vegetation Present?** Yes  No

Remarks: \_\_\_\_\_

**SOIL**

Sampling Point: S1

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

Depth (inches)	Matrix		Redox Features			Loc <sup>2</sup>	Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>			
0-2	10YR 2/1	100	-	-	-	-	mucky sandy lo	saturated
2-16	10YR 2/2	80	10YR 3/6	20	C	M	mucky salo	saturated

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

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

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b>
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input checked="" type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)	

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

<sup>3</sup>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:**

<b>Primary Indicators (minimum of one required; check all that apply)</b>	<b>Secondary Indicators (2 or more required)</b>
<input checked="" type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) <input type="checkbox"/> Salt Crust (B11) <input type="checkbox"/> Aquatic Invertebrates (B13) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A) <input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Raised Ant Mounds (D6) (LRR A) <input type="checkbox"/> Frost-Heave Hummocks (D7)	

**Field Observations:**

Surface Water Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Depth (inches): _____	<b>Wetland Hydrology Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Water Table Present?	Yes <input type="checkbox"/> No <input type="checkbox"/>	Depth (inches): _____	
Saturation Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Depth (inches): _____	
(includes capillary fringe)			

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

Remarks:





Wetland name or number Walnut Pond

## RATING SUMMARY – Western Washington

Name of wetland (or ID #): Walnut Pond Date of site visit: 5/29/20

Rated by A. Bachman Trained by Ecology?  Yes  No Date of training 5/2015

HGM Class used for rating DEPRESSIONAL Wetland has multiple HGM classes?  Y  N

**NOTE: Form is not complete without the figures requested (figures can be combined).**

Source of base aerial photo/map Skagit iMap

**OVERALL WETLAND CATEGORY III** (based on functions  or special characteristics )

### 1. Category of wetland based on FUNCTIONS

         Category I – Total score = 23 - 27

         Category II – Total score = 20 - 22

Category III – Total score = 16 - 19

         Category IV – Total score = 9 - 15

FUNCTION	Improving Water Quality			Hydrologic			Habitat			
<i>Circle the appropriate ratings</i>										
Site Potential	H	M	<input type="checkbox"/> L	H	<input type="checkbox"/> M	L	H	M	<input type="checkbox"/> L	
Landscape Potential	H	<input type="checkbox"/> M	L	H	<input type="checkbox"/> M	L	H	M	<input type="checkbox"/> L	
Value	<input type="checkbox"/> H	M	L	<input type="checkbox"/> H	M	L	H	M	<input type="checkbox"/> L	
<b>Score Based on Ratings</b>	<b>6</b>			<b>7</b>			<b>3</b>			<b>16</b>

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

9 = H,H,H

8 = H,H,M

7 = H,H,L

7 = H,M,M

6 = H,M,L

6 = M,M,M

5 = H,L,L

5 = M,M,L

4 = M,L,L

3 = L,L,L

### 2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY
Estuarine	I II
Wetland of High Conservation Value	I
Bog	I
Mature Forest	I
Old Growth Forest	I
Coastal Lagoon	I II
Interdunal	I II III IV
None of the above	<input checked="" type="checkbox"/>

Wetland name or number Walnut Pond

## Maps and figures required to answer questions correctly for Western Washington

### Depressional Wetlands

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

### Riverine Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	H 1.1, H 1.4	
Hydroperiods	H 1.2	
Ponded depressions	R 1.1	
Boundary of area within 150 ft of the wetland ( <i>can be added to another figure</i> )	R 2.4	
Plant cover of trees, shrubs, and herbaceous plants	R 1.2, R 4.2	
Width of unit vs. width of stream ( <i>can be added to another figure</i> )	R 4.1	
Map of the contributing basin	R 2.2, R 2.3, R 5.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	R 3.1	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	R 3.2, R 3.3	

### Lake Fringe Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	L 1.1, L 4.1, H 1.1, H 1.4	
Plant cover of trees, shrubs, and herbaceous plants	L 1.2	
Boundary of area within 150 ft of the wetland ( <i>can be added to another figure</i> )	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	L 3.1, L 3.2	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	L 3.3	

### Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	H 1.1, H 1.4	
Hydroperiods	H 1.2	
Plant cover of <b>dense</b> trees, shrubs, and herbaceous plants	S 1.3	
Plant cover of <b>dense, rigid</b> trees, shrubs, and herbaceous plants ( <i>can be added to figure above</i> )	S 4.1	
Boundary of 150 ft buffer ( <i>can be added to another figure</i> )	S 2.1, S 5.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	S 3.3	

## HGM Classification of Wetlands in Western Washington

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

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

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

**NO** – go to 2

**YES** – the wetland class is **Tidal Fringe** – go to 1.1

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

**NO** – **Saltwater Tidal Fringe (Estuarine)**

**YES** – **Freshwater Tidal Fringe**

*If your wetland can be classified as a Freshwater Tidal Fringe use the forms for **Riverine** wetlands. If it is Saltwater Tidal Fringe it is an **Estuarine** wetland and is not scored. This method **cannot** be used to score functions for estuarine wetlands.*

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

**NO** – go to 3

**YES** – The wetland class is **Flats**

*If your wetland can be classified as a Flats wetland, use the form for **Depressional** wetlands.*

3. Does the entire wetland unit **meet all** of the following criteria?

The vegetated part of the wetland is on the shores of a body of permanent open water (without any plants on the surface at any time of the year) at least 20 ac (8 ha) in size;  
At least 30% of the open water area is deeper than 6.6 ft (2 m).

**NO** – go to 4

**YES** – The wetland class is **Lake Fringe** (Lacustrine Fringe)

4. Does the entire wetland unit **meet all** of the following criteria?

The wetland is on a slope (*slope can be very gradual*),  
The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks,  
The water leaves the wetland **without being impounded**.

**NO** – go to 5

**YES** – The wetland class is **Slope**

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

5. Does the entire wetland unit **meet all** of the following criteria?

The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river,  
The overbank flooding occurs at least once every 2 years.

Wetland name or number Walnut Pond

**NO** – go to 6

**YES** – The wetland class is **Riverine**

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

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

NO – go to 7

**YES** – The wetland class is **Depressional**

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

NO – go to 8

**YES** – The wetland class is **Depressional**

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

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

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

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

Wetland name or number Walnut Pond

**DEPRESSIONAL AND FLATS WETLANDS**  
**Water Quality Functions** - Indicators that the site functions to improve water quality

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

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

<b>D 2.0. Does the landscape have the potential to support the water quality function of the site?</b>		
D 2.1. Does the wetland unit receive stormwater discharges?	Yes = 1 No = 0	<b>0</b>
D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants?	Yes = 1 No = 0	<b>1</b>
D 2.3. Are there septic systems within 250 ft of the wetland?	Yes = 1 No = 0	<b>0</b>
D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions D 2.1-D 2.3? Source _____	Yes = 1 No = 0	<b>0</b>
<b>Total for D 2</b>		<b>1</b>

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

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

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

**DEPRESSIONAL AND FLATS WETLANDS**

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

<b>D 4.0. Does the site have the potential to reduce flooding and erosion?</b>		
<b>D 4.1. Characteristics of surface water outflows from the wetland:</b>		
<input type="checkbox"/> Wetland is a depression or flat depression with no surface water leaving it (no outlet)	points = 4	<b>2</b>
<input checked="" type="checkbox"/> Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet	points = 2	
<input type="checkbox"/> Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch	points = 1	
<input type="checkbox"/> Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing	points = 0	
<b>D 4.2. Depth of storage during wet periods: Estimate the height of ponding above the bottom of the outlet. For wetlands with no outlet, measure from the surface of permanent water or if dry, the deepest part.</b>		
<input type="checkbox"/> Marks of ponding are 3 ft or more above the surface or bottom of outlet	points = 7	<b>3</b>
<input type="checkbox"/> Marks of ponding between 2 ft to < 3 ft from surface or bottom of outlet	points = 5	
<input checked="" type="checkbox"/> Marks are at least 0.5 ft to < 2 ft from surface or bottom of outlet	points = 3	
<input type="checkbox"/> The wetland is a "headwater" wetland	points = 3	
<input type="checkbox"/> Wetland is flat but has small depressions on the surface that trap water	points = 1	
<input type="checkbox"/> Marks of ponding less than 0.5 ft (6 in)	points = 0	
<b>D 4.3. Contribution of the wetland to storage in the watershed: Estimate the ratio of the area of upstream basin contributing surface water to the wetland to the area of the wetland unit itself.</b>		
<input checked="" type="checkbox"/> The area of the basin is less than 10 times the area of the unit	points = 5	<b>5</b>
<input type="checkbox"/> The area of the basin is 10 to 100 times the area of the unit	points = 3	
<input type="checkbox"/> The area of the basin is more than 100 times the area of the unit	points = 0	
<input type="checkbox"/> Entire wetland is in the Flats class	points = 5	
<b>Total for D 4</b>	<b>Add the points in the boxes above</b>	<b>10</b>

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

<b>D 5.0. Does the landscape have the potential to support hydrologic functions of the site?</b>		
<b>D 5.1. Does the wetland receive stormwater discharges?</b>	Yes = 1 <input type="checkbox"/> No = <input type="checkbox"/>	<b>0</b>
<b>D 5.2. Is &gt;10% of the area within 150 ft of the wetland in land uses that generate excess runoff?</b>	<input type="checkbox"/> Yes = 1 <input type="checkbox"/> No = 0	<b>1</b>
<b>D 5.3. Is more than 25% of the contributing basin of the wetland covered with intensive human land uses (residential at &gt;1 residence/ac, urban, commercial, agriculture, etc.)?</b>	<input type="checkbox"/> Yes = 1 <input type="checkbox"/> No = 0	<b>1</b>
<b>Total for D 5</b>	<b>Add the points in the boxes above</b>	<b>2</b>

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

<b>D 6.0. Are the hydrologic functions provided by the site valuable to society?</b>		
<b>D 6.1. The unit is in a landscape that has flooding problems. Choose the description that best matches conditions around the wetland unit being rated. Do not add points. Choose the highest score if more than one condition is met.</b> The wetland captures surface water that would otherwise flow down-gradient into areas where flooding has damaged human or natural resources (e.g., houses or salmon redds):		
<input checked="" type="checkbox"/> • Flooding occurs in a sub-basin that is immediately down-gradient of unit.	points = 2	<b>2</b>
<input type="checkbox"/> • Surface flooding problems are in a sub-basin farther down-gradient.	points = 1	
<input type="checkbox"/> Flooding from groundwater is an issue in the sub-basin.	points = 1	
<input type="checkbox"/> The existing or potential outflow from the wetland is so constrained by human or natural conditions that the water stored by the wetland cannot reach areas that flood. Explain why _____	points = 0	
<input type="checkbox"/> There are no problems with flooding downstream of the wetland.	points = 0	
<b>D 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan?</b>		
	Yes = 2 <input type="checkbox"/> No = <input type="checkbox"/>	<b>0</b>
<b>Total for D 6</b>	<b>Add the points in the boxes above</b>	<b>2</b>

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

**These questions apply to wetlands of all HGM classes.**

**HABITAT FUNCTIONS** - Indicators that site functions to provide important habitat

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

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

- Aquatic bed 4 structures or more: points = 4
  - Emergent **3 structures: points = 2**
  - Scrub-shrub (areas where shrubs have > 30% cover) 2 structures: points = 1
  - Forested (areas where trees have > 30% cover) 1 structure: points = 0
- If the unit has a Forested class, check if:*
- The Forested class has 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover) that each cover 20% within the Forested polygon

**2**

H 1.2. Hydroperiods

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

- Permanently flooded or inundated 4 or more types present: points = 3
- Seasonally flooded or inundated 3 types present: points = 2
- Occasionally flooded or inundated **2 types present: points = 1**
- Saturated only 1 type present: points = 0
- Permanently flowing stream or river in, or adjacent to, the wetland
- Seasonally flowing stream in, or adjacent to, the wetland
- Lake Fringe wetland** **2 points**
- Freshwater tidal wetland** **2 points**

**1**

H 1.3. Richness of plant species

Count the number of plant species in the wetland that cover at least 10 ft<sup>2</sup>.

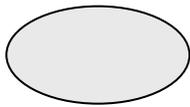
*Different patches of the same species can be combined to meet the size threshold and you do not have to name the species. Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Canadian thistle*

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

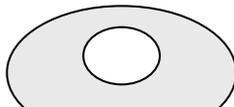
**1**

H 1.4. Interspersion of habitats

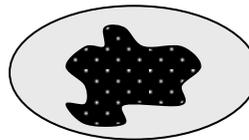
Decide from the diagrams below whether interspersion among Cowardin plants classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, moderate, low, or none. *If you have four or more plant classes or three classes and open water, the rating is always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



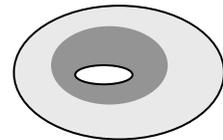
**None = 0 points**



**Low = 1 point**

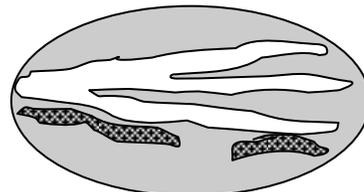
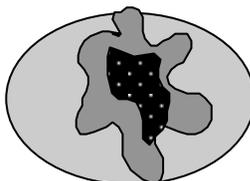
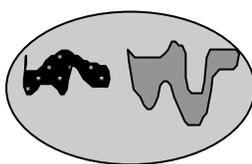


**Moderate = 2 points**



**1**

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



Wetland name or number Walnut Pond

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

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

<p>H 2.0. Does the landscape have the potential to support the habitat functions of the site?</p>		
<p>H 2.1. Accessible habitat (include <i>only habitat that directly abuts wetland unit</i>).</p> <p>Calculate: % undisturbed habitat <u>0</u> + [(% moderate and low intensity land uses)/2] <u>1</u> = <u>1</u> %</p> <p>If total accessible habitat is:</p> <p><input type="checkbox"/> &gt; 1/3 (33.3%) of 1 km Polygon points = 3</p> <p><input type="checkbox"/> 20-33% of 1 km Polygon points = 2</p> <p><input type="checkbox"/> 10-19% of 1 km Polygon points = 1</p> <p><input checked="" type="checkbox"/> &lt; 10% of 1 km Polygon points = 0</p>		<b>0</b>
<p>H 2.2. Undisturbed habitat in 1 km Polygon around the wetland.</p> <p>Calculate: % undisturbed habitat <u>0</u> + [(% moderate and low intensity land uses)/2] <u>5</u> = <u>5</u> %</p> <p><input type="checkbox"/> Undisturbed habitat &gt; 50% of Polygon points = 3</p> <p><input type="checkbox"/> Undisturbed habitat 10-50% and in 1-3 patches points = 2</p> <p><input type="checkbox"/> Undisturbed habitat 10-50% and &gt; 3 patches points = 1</p> <p><input checked="" type="checkbox"/> Undisturbed habitat &lt; 10% of 1 km Polygon points = 0</p>		<b>0</b>
<p>H 2.3. Land use intensity in 1 km Polygon: If</p> <p><input checked="" type="checkbox"/> &gt; 50% of 1 km Polygon is high intensity land use points = (- 2)</p> <p><input type="checkbox"/> ≤ 50% of 1 km Polygon is high intensity points = 0</p>		<b>-2</b>
Total for H 2	Add the points in the boxes above	<b>-2</b>

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

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

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

## WDFW Priority Habitats

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

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

- Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha).
- Biodiversity Areas and Corridors:** Areas of habitat that are relatively important to various species of native fish and wildlife (*full descriptions in WDFW PHS report*).
- Herbaceous Balds:** Variable size patches of grass and forbs on shallow soils over bedrock.
- Old-growth/Mature forests:** Old-growth west of Cascade crest – Stands of at least 2 tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) > 32 in (81 cm) dbh or > 200 years of age. Mature forests – Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west of the Cascade crest.
- Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158 – see web link above*).
- Riparian:** The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.
- Westside Prairies:** Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (*full descriptions in WDFW PHS report p. 161 – see web link above*).
- Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.
- Nearshore:** Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. (*full descriptions of habitats and the definition of relatively undisturbed are in WDFW report – see web link on previous page*).
- Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.
- Cliffs:** Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.
- Talus:** Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.
- Snags and Logs:** Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 20 in (51 cm) in western Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.

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

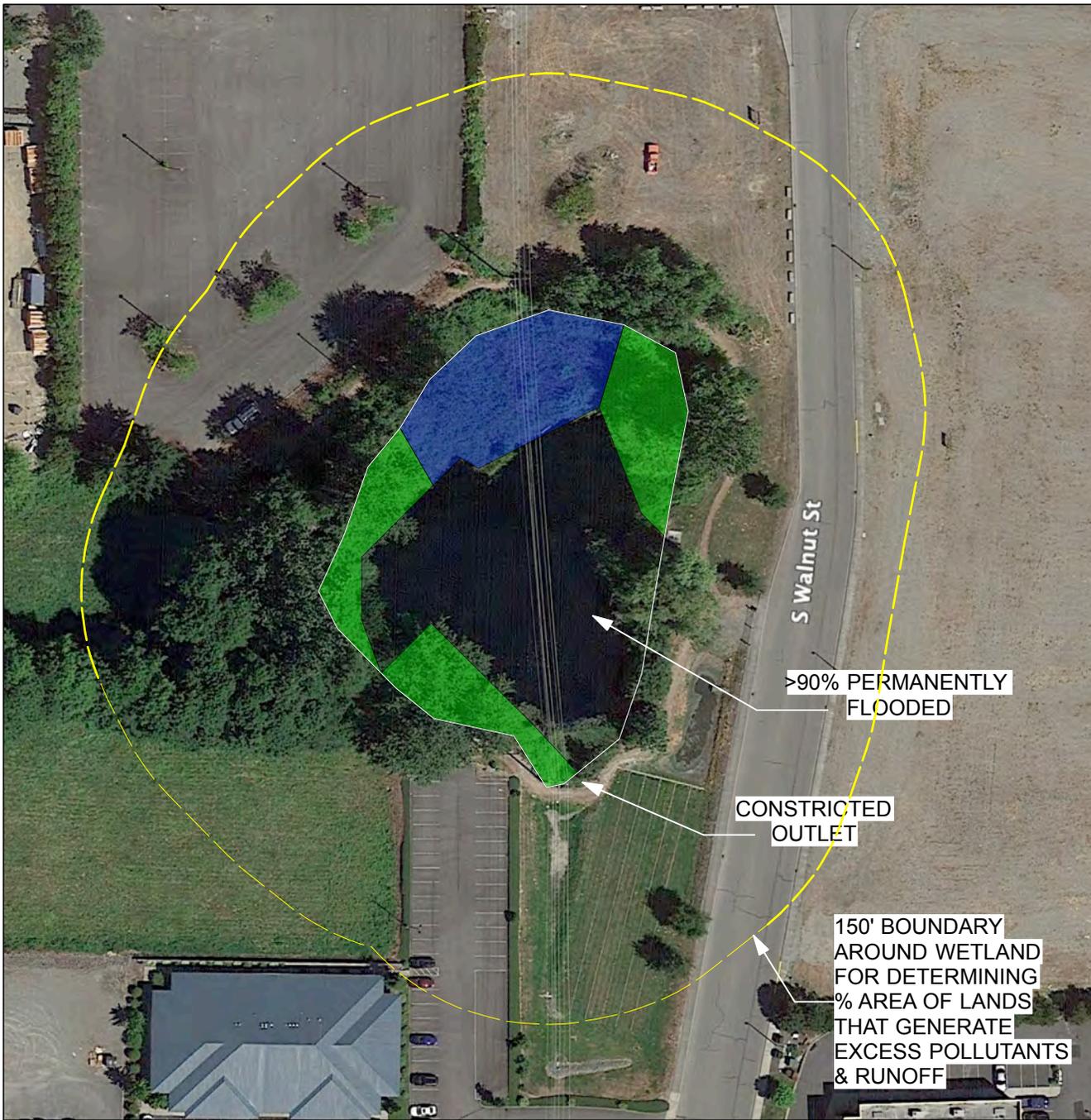
**CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS**

Wetland Type	Category
<p><i>Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.</i></p>	
<p><b>SC 1.0. Estuarine wetlands</b>                      Does the wetland meet the following criteria for Estuarine wetlands?  <input type="checkbox"/> The dominant water regime is tidal,  <input type="checkbox"/> Vegetated, and  <input type="checkbox"/> With a salinity greater than 0.5 ppt                      Yes –Go to <b>SC 1.1</b>      <b>No= Not an estuarine wetland</b></p>	
<p>SC 1.1. Is the wetland within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-30-151?                      Yes = <b>Category I</b>      No - Go to <b>SC 1.2</b></p>	<p><b>Cat. I</b></p>
<p>SC 1.2. Is the wetland unit at least 1 ac in size and meets at least two of the following three conditions?  <input type="checkbox"/> The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less than 10% cover of non-native plant species. (If non-native species are <i>Spartina</i>, see page 25)  <input type="checkbox"/> At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or unmowed grassland.  <input type="checkbox"/> The wetland has at least two of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands.                      Yes = <b>Category I</b>      No = <b>Category II</b></p>	<p><b>Cat. I</b>          <b>Cat. II</b></p>
<p><b>SC 2.0. Wetlands of High Conservation Value (WHCV)</b>                      SC 2.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High Conservation Value?                      Yes – Go to <b>SC 2.2</b>      <b>No – Go to SC 2.3</b>                      SC 2.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value?                      Yes = <b>Category I</b>      <b>No = Not a WHCV</b>                      SC 2.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland?  <a href="http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf">http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf</a>                      Yes – <b>Contact WNHP/WDNR and go to SC 2.4</b>      No = <b>Not a WHCV</b>                      SC 2.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and listed it on their website?                      Yes = <b>Category I</b>      No = <b>Not a WHCV</b></p>	<p><b>Cat. I</b></p>
<p><b>SC 3.0. Bogs</b>                      Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? <i>Use the key below. If you answer YES you will still need to rate the wetland based on its functions.</i>                      SC 3.1. Does an area within the wetland unit have organic soil horizons, either peats or mucks, that compose 16 in or more of the first 32 in of the soil profile?                      Yes – Go to <b>SC 3.3</b>      <b>No – Go to SC 3.2</b>                      SC 3.2. Does an area within the wetland unit have organic soils, either peats or mucks, that are less than 16 in deep over bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond?                      Yes – Go to <b>SC 3.3</b>      <b>No = Is not a bog</b>                      SC 3.3. Does an area with peats or mucks have more than 70% cover of mosses at ground level, AND at least a 30% cover of plant species listed in Table 4?                      Yes = <b>Is a Category I bog</b>      No – Go to <b>SC 3.4</b>  <b>NOTE:</b> If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0 and the plant species in Table 4 are present, the wetland is a bog.                      SC 3.4. Is an area with peats or mucks forested (&gt; 30% cover) with Sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the species (or combination of species) listed in Table 4 provide more than 30% of the cover under the canopy?                      Yes = <b>Is a Category I bog</b>      No = <b>Is not a bog</b></p>	<p><b>Cat. I</b></p>



Wetland name or number Walnut Pond

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Scale 1" = 100'



- FORESTED
- SCRUB-SHRUB
- 150' BOUNDARY



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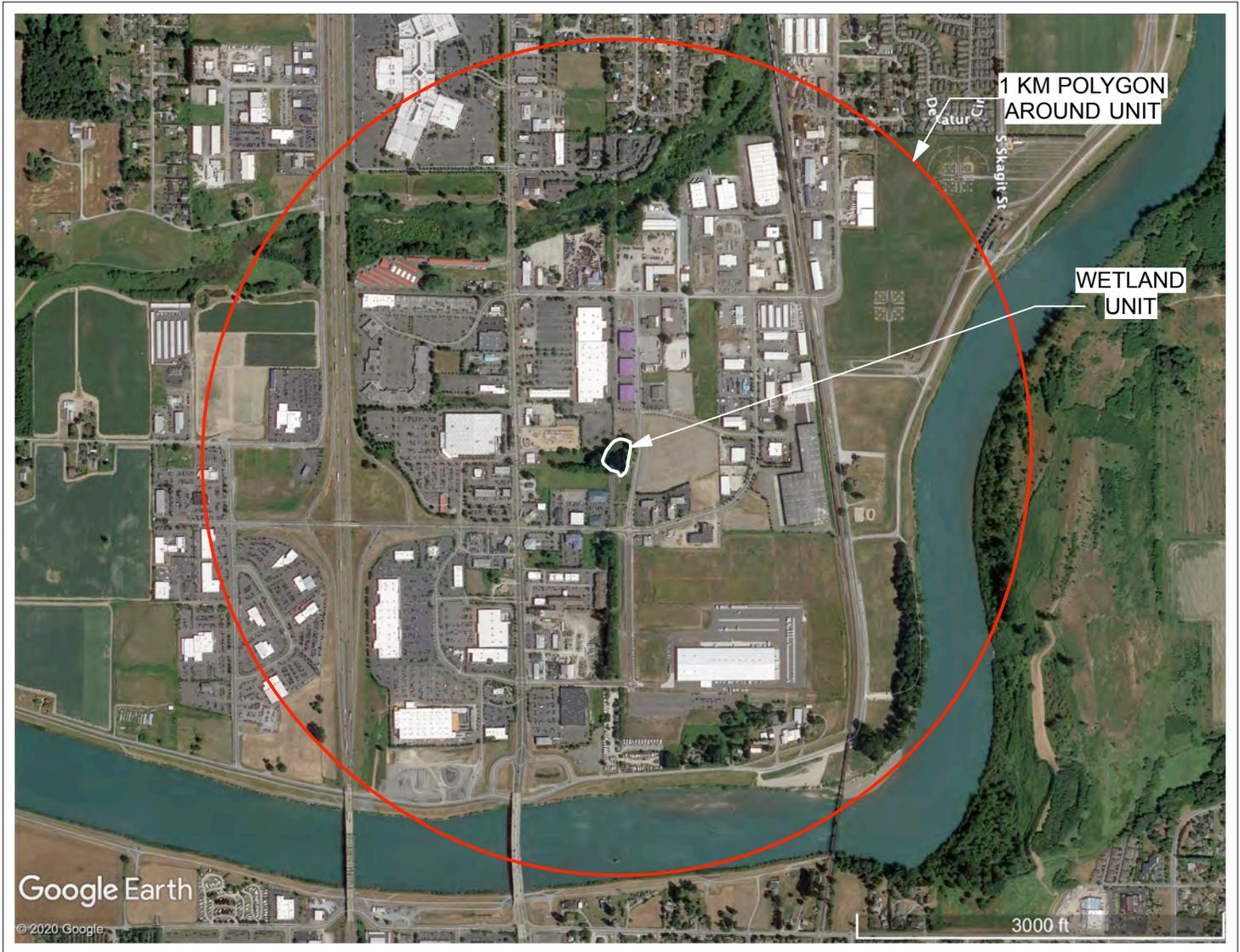
PO Box 471 Anacortes, WA 98221  
Ph. 206.963.2909 andrea@bachmanenvironmental.com

**WETLAND RATING FIGURE 1  
VEGETATION & HYDROPERIODS  
WALNUT POND  
CITY OF BURLINGTON, WA**

**FIGURE 1**

**DATE: 5/29/20**

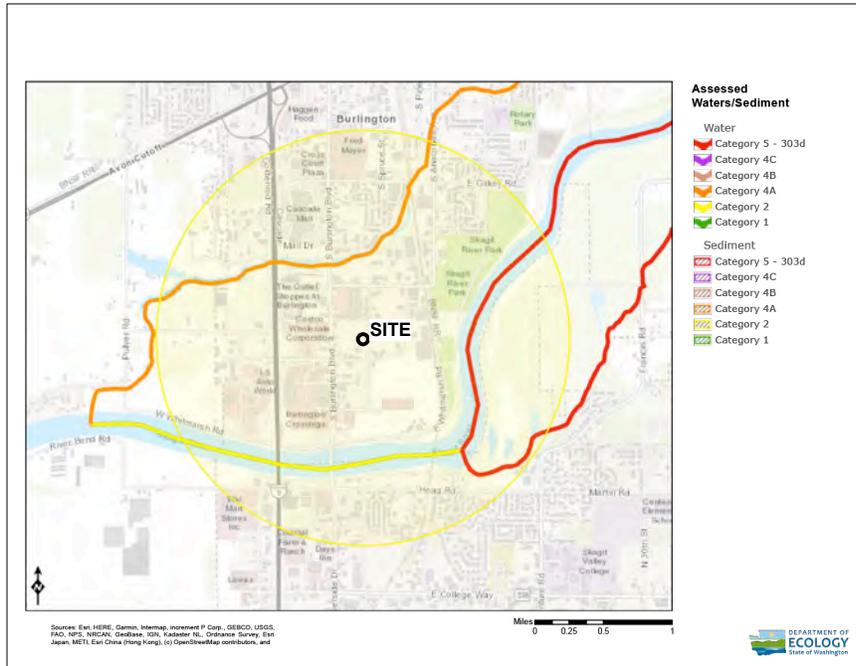
**JOB NO: 1923**




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 Ph. 206.963.2909 andrea@bachmanenvironmental.com

**WETLAND RATING FIGURE 2**  
**1KM POLYGON AROUND**  
**WALNUT POND WETLAND UNIT**  
 CITY OF BURLINGTON, WA

**FIGURE 2**  
**DATE: 5/29/20**  
**JOB NO: 1923**



DEPARTMENT OF ECOLOGY Skagit County  
State of Washington

Ecology homepage > Water & Shorelines > Water Improvement > Total Maximum Daily Load process > Directory of projects > Skagit County

### Water quality improvement projects

Select the waterbody or pollutant name to find more information about the specific project.

Waterbody Name(s)	Pollutant(s)	Status	Project Lead(s)
<a href="#">Campbell Lake</a>	Total Phosphorus	EPA approved	<a href="#">Tricia Shoblom</a> 425-649-7288
<a href="#">Erie Lake</a>	Total Phosphorus	EPA approved	<a href="#">Tricia Shoblom</a> 425-649-7288
<a href="#">Padilla Bay</a>	Fecal Coliform	Under development	<a href="#">Scott Bohling</a> 425-649-4424
<a href="#">Samish Watershed</a>	Fecal Coliform	EPA approved and Has an implementation plan	<a href="#">Scott Bohling</a> 425-649-4424
<a href="#">Skagit Basin</a>	Fecal Coliform	EPA approved and Has an implementation plan	<a href="#">Scott Bohling</a> 425-649-4424
<a href="#">Skagit Basin</a>	Temperature	EPA approved	<a href="#">Scott Bohling</a> 425-649-4424
<a href="#">Stillaquamish River</a>	<a href="#">Arsenic</a> <a href="#">Dissolved Oxygen</a> <a href="#">Fecal Coliform</a> <a href="#">Mercury</a> <a href="#">pH</a> <a href="#">Temperature</a>	EPA approved and Has an implementation plan	<a href="#">Ralph Syrcicek</a> 425-649-7165

To request ADA accommodation, call Ecology at 360-407-7668, 711 (relay service), or 877-833-6341 (TTY). More about our [accessibility services](#).

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**WETLAND RATING FIGURE 3  
303(d) LISTED WATERS  
WALNUT POND  
CITY OF BURLINGTON, WA**

**FIGURE 3  
DATE: 5/29/20  
JOB NO: 1923**