



J. S. Jones and Associates, Inc.

December 4, 2024

David & Robin Shipper
7649 W. Mercer Way
Mercer Island, Wa 98040

RE: Critical Area Feasibility, 7649 W. Mercer Way, Mercer Island, WA

Dear David & Robin:

The preapplication comments identified Geologic Hazard, Watercourse, and Critical Area Study as environmental issues for this project. This feasibility addresses Watercourse and Critical Areas, but not Geologic Hazards.

The City of Mercer Island Code (MIC) 19.07.180, Watercourses, provides protection for streams and pipelines. The city GIS mapping identifies a piped watercourse behind the garage and along the south property line. I could not find the inlet or outlet for this pipeline. If you know where these are please let me know. There is no buffer requirement for a piped watercourse. If the pipe shown on the GIS map is no longer functioning or does not exist, then it should not be considered for site planning purposes, however the city staff will have to agree. If this pipeline exists, your site plan does not show development over it and therefore it should not affect your project. Hardscapes and lot coverage not allowed within a watercourse. This may affect the lot coverage calculations.

The stream on the neighbor's property, above the driveway, appears to have been rocked with cobbles. It traverses the slope and is not in a natural location for a watercourse. It also does not "Y" below the neighbor's driveway. The lowest point of this stream has an 8 inch diameter ABS pipe diverting water through the box adjacent to the driveway. I unsuccessfully tried to trace water flowing in this box to the lake. I believe the pipeline in the driveway box connects to the house drainage system. The house drainage system should not be regulated as a piped watercourse. There is a clean-out on the walkway below the pool deck, and a pipe outlet on the slope roughly 15 feet above the lake.

The stream on the neighbor's property above the driveway is a Type Ns with a 60-foot buffer, see the attached code Section 19.07.180. The structure setback is a minimum of 10 feet beyond the buffer. The structure setback may be reduced to 5 feet for Type Ns watercourses. The stream buffer and structure setback should be shown on the site plan. A stream buffer reduction may be necessary for this project, and I believe it can be justified, see the attached code 19.07.180.C.5.

P O B O X 1 9 0 8
ISSAQUAH, WASHINGTON 98027
Jeff.jsjones@comcast.net

The existing garage has eaves greater than 18 inches on portions of it. Eaves 18 inches or less are not considered for the structure setback. Eaves greater than 18 inches are considered structure and the structure setback applies to them.

The area of the house drainage system pipe outlet, between the walkway and lake, is a wetland. I rated the wetland as a Category IV, which has a buffer requirement of 40 feet, according to MIC 19.07.190 see attached. The buffer width may be reduced up to 25 percent with vegetative enhancement of buffer. I do not see a structure setback for wetlands in the code. The wetland boundary will need to be surveyed and placed on the site plan with the buffer. The buffer reduction will probably be necessary to comply with the buffer requirement. The walkway is existing, but may need to be made a natural surface through the buffer.

The project does not meet any of the allowed exemptions in the Shoreline regulations. The shoreline jurisdiction extends 50 feet above the ordinary high water mark (OHWM) of Lake Sammamish. I concur with the location of the OHWM flagging along the bulkhead. Anticipate a shoreline application and review process, that may require mitigation along a portion of the shoreline but should not prevent the project.

SEPA will be required because there are critical areas, including the lake, wetlands, and a stream. The purpose of SEPA is to determine if an EIS (Environmental Impact Assessment) is required. The SEPA finding should be a Determination of Non-Significance, because an EIS is never required for residential applications.

At this point, the project appears to be feasible, however the pipeline, wetland rating, possible buffer reductions, and mitigation will need to be addressed, reviewed, and approved by the city. Once the additional information is on the site plan then we can determine if there are critical areas buffers and setbacks that cannot comply.

Environmental determinations are not final until approved by regulatory agencies and local jurisdictions. *J. S. Jones and Associates, Inc.* does not guarantee acceptance or approval by regulatory agencies and permitting jurisdictions, or that any intended use will be achieved. This document is not intended to be for submittal to any regulatory agency.

Sincerely,



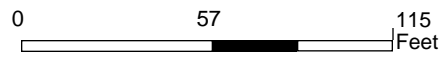
Jeffery S. Jones
Wetland Scientist

cc: Dave Buck, dave@chesmorebuck.com



Legend

- Unpiped Watercourse**
 - Type "F" = Fish
 - Type "Np" = Non-Fish
 - Type "Ns" = Non-Fish Seasonal
 - Type "Np" (Unverified)
 - Type "Ns" (Unverified)
- Piped Watercourse**
- Watercourse Buffer/Setback**
 - Type "F" = 120-Ft Buffer
 - Type "Np" = 60-Ft Buffer
 - Type "Ns" = 60-Ft Buffer
 - Type "Np" Unverified = 60-Ft Buffer
 - Type "Ns" Unverified = 60-Ft Buffer
 - Reduced buffer per CAO
 - Piped Type F/Np/Ns = 45-Ft Setback
- Address**
 - Parcels
 - Buildings
 - Docks
 - Shoreline
 - Major Roads
 - Street Centerline
 - Paved Road
 - Paved Driveway
 - Paved Parking Area
 - Parks
- March 2020**
 - Red: Band_1
 - Green: Band_2
 - Blue: Band_3



1 inch =
114.741035833333
feet



Disclaimer: These maps were developed by the City of Mercer Island and are intended to be a general purpose digital reference tool. These maps are not an accepted legal instrument for describing, establishing, recording or maintaining descriptions for property concerns or boundaries. The City makes no representation or warranty with respect to the accuracy or currency of these data sets, especially in regard to labeling of surveyed dimensions, or agreement with official sources such as records of survey, or mapped locations of features.

Notes

PROJECT NOTES

PROPOSED REMODEL AND ADDITION TO EXISTING RESIDENCE

OWNERS

DAVID AND ROBIN SHIPPER
 7649 WEST MERCER WAY
 MERCER ISLAND, WA 98040

ZONING

R-15

PROPERTY TAX ACCT#

PROPERTY TAX ACCOUNT NUMBER: 778600-0070

LEGAL DESCRIPTION

LOT 7 SHUCK PARK ADD UND INT IN PRIVATE RD

SIDEYARD SETBACKS

LARGEST CIRCLE DIAMETER 109'-6 3/4"
 SETBACKS = 17% OF 109'-6 3/4" 18'-7 1/2"

LOT COVERAGE

LOT SLOPE (72'-21")/155' = .329 33% LOT SLOPE
 LOT COVERAGE ALLOWED 30%
 TOTAL LOT AREA: 16,605
 LOT COVERAGE ALLOWED 4,981.5 SQ FT

EXISTING LOT COVERAGE EXISTING LOT AREA 16,505 SQ FT
 HOUSE AND GARAGE 3249 + 853 = 4,071 SQ FT
 DRIVEWAY AND GRAVEL: 1,474 + 300 = 1,774 SQ FT
 TOTAL 5,845 SQ FT

PROPOSED LOT COVERAGE
 HOUSE AND GARAGE 4,069 SQ FT
 REPLACED DRIVEWAY 1,628 SQ FT
 TOTAL 5,697 SQ FT

NET REDUCTION IN LOT COVERAGE 148 SQ FT

HARDSCAPE MAX. ALLOWED 9% OF 16605 S.F. = 1,494 S.F.
 EXISTING HARDSCAPE AREA 3,492 SQ FT
 HARDSCAPE REMOVED 1,086 SQ FT

GROSS FLOOR AREA

ALLOWABLE GROSS FLOOR AREA 40% 6,642 S.F.
 BASEMENT 497 S.F.
 MAIN FLOOR, INCLUDING COVERED DECK 2,237 S.F.
 GARAGE 528 S.F.

PROPOSED TOTAL 3,262 S.F.

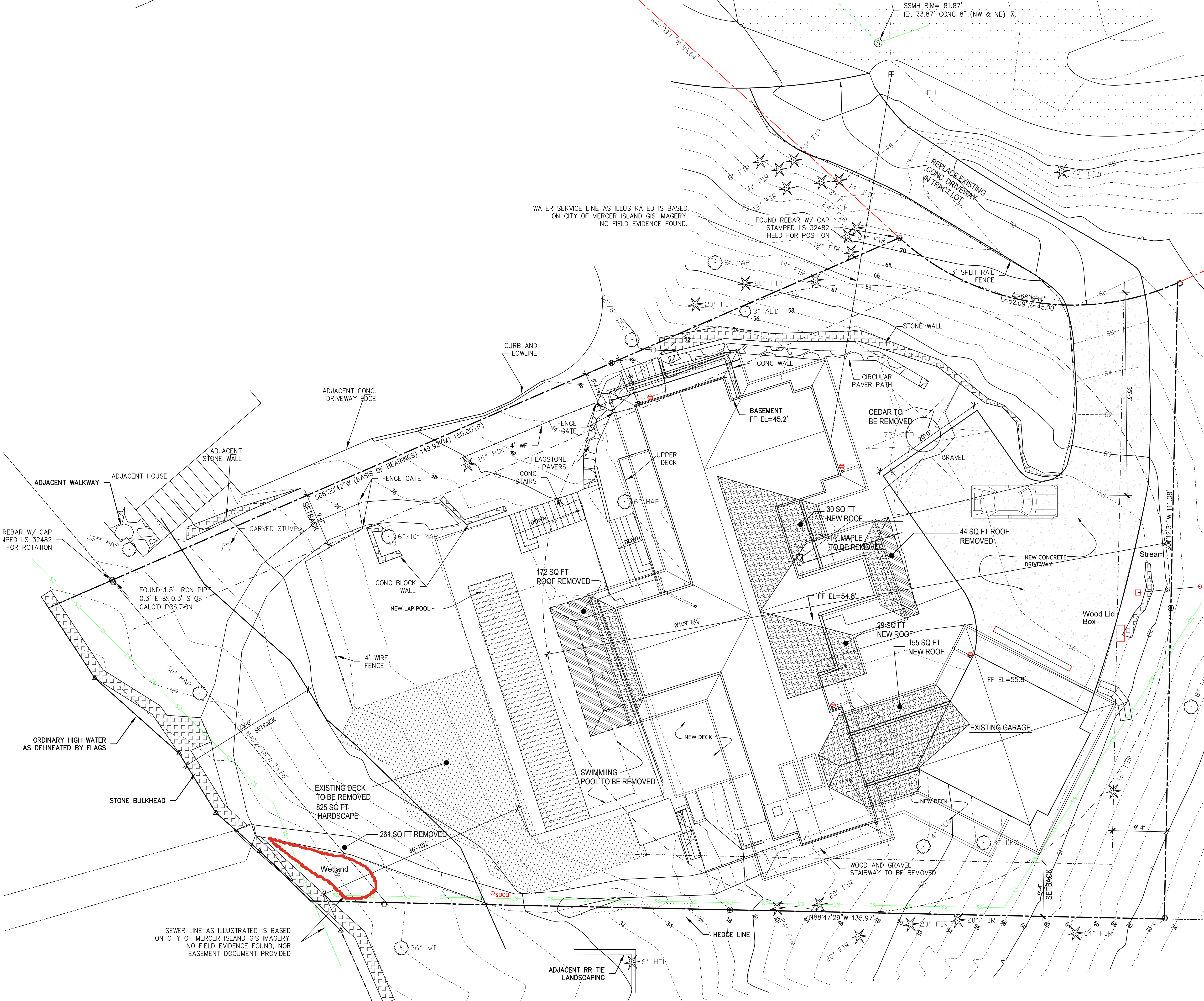
FIRE SPRINKLERS

PROVIDE A NFPA 13D FIRE SPRINKLER SYSTEM THROUGHOUT THE HOUSE. THIS SYSTEM WILL REQUIRE A SEPARATE FIRE PERMIT. SYSTEM IS TO BE FULL COVERAGE TO INCLUDE GARAGE, BATHROOMS, CLOSETS IN EXIT PATHWAYS AND STORAGE AREAS. PLANS MUST BE APPROVED BY THE FIRE MARSHAL AND CONFORM TO NFPA AND COMI STANDARDS.

NFPA 13D FIRE SPRINKLER SYSTEM TO BE INSTALLED AND MONITORED. NFPA 13DE SHALL COVER THE GARAGE AREAS.

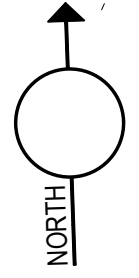
NFPA 72 - CHAPTER 29 FIRE ALARM SYSTEM SHALL BE INSTALLED PER COMI AND NFPA STANDARDS.

BOTH SYSTEMS REQUIRE SEPARATE PERMITS.



SEWER LINE AS ILLUSTRATED IS BASED ON CITY OF MERCER ISLAND GIS IMAGERY. NO FIELD EVIDENCE FOUND, NOR EASEMENT DOCUMENT PROVIDED

WATER SERVICE LINE AS ILLUSTRATED IS BASED ON CITY OF MERCER ISLAND GIS IMAGERY. NO FIELD EVIDENCE FOUND.



SITE PLAN

1/8" = 1'-0"

SHIPPER RESIDENCE REMODEL

7649 WEST MERCER WAY
 MERCER ISLAND, WA 98040

SITE PLAN

Sheet No. 1.0
 Project No. 2413
 Date: 11/5/2024



Wetland name or number: Lk Sam Seep 2

RATING SUMMARY - Western Washington

Name of wetland (or ID#): Lk Sam Seep 2 **Date of site visit:** 12/03/2024

Rated By: Jeffery Jones **Trained by Ecology? Yes** **No** **Date of Training:** 12/12/2014

HGM Class used for rating: Slope

Wetland has multiple HGM classes? Yes **No**

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

Source of base aerial photo/map: WATOR

OVERALL WETLAND CATEGORY: [Category IV] (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

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

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
Site Potential	M	L	L	
Landscape Potential	M	M	M	
Value	L	L	M	Total
Score Based on Ratings	5	4	5	14

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY
Estuarine	
Wetland of High Conservation Value	
Bog	
Forested	
Coastal Lagoon	
Interdunal	
None of the above	Not Applicable

Wetland name or number: Lk Sam Seep 2

Maps and figures required to answer questions correctly for Western Washington

Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	H 1.1, H 1.4	
Hydroperiods	H 1.2	
Plant cover of dense trees, shrubs, and herbaceous plants	S 1.3	
Plant cover of dense, rigid trees, shrubs, and herbaceous plants (<i>can be added to figure above</i>)	S 4.1	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	S 2.1, S 5.1	
1km Polygon: Area that extends 1km 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	

Wetland name or number: Lk Sam Seep 2

SLOPE WETLANDS**Water Quality Functions** - Indicators that the site functions to improve water quality**S 1.0 Does the site have the potential to improve water quality?****S 1.1** What are the characteristics of the average slope of the wetland?

Slope is 1% or less	points = 3	
Slope is >1%-2%	points = 2	
Slope is >2%-5%	points = 1	
Slope is greater than 5%	points = 0	Score: 0

S 1.2 What is the soil 2in below the surface or duff layer?

Mapped as true clay or organic (muck or peat)	points = 3	
Soil texture identified as clay or organic in field	points = 3	
Soil texture identified as clay or organic by laboratory test	points = 3	
None of the above	points = 0	Score: 0

S 1.3 Characteristics of the plants in the wetland that trap sediments and pollutants

Dense, uncut, herbaceous plants cover >90% of the wetland area	points = 6	
Dense, uncut, herbaceous plants cover >50% of the wetland area	points = 3	
Dense, woody, plants cover >50% of the wetland area	points = 2	
Dense, uncut, herbaceous plants cover >25% of the wetland area	points = 1	
Does not meet any of the criteria above for plants	points = 0	Score: 6

Total for S 1: **6****Rating of Site Potential**

[] 12-16 = H [X] 6-11 = M [] 0-5 = L

Record the rating on the first page

S 2.0 Does the landscape have the potential to support the water quality function of the site?**S 2.1** Is >10% of the area within 150ft on the uphill side of the wetland in land uses that generate pollutants?

Yes	points = 1	
No	points = 0	Score: 1

S 2.2 Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?

Yes	points = 1	
No	points = 0	Score: 0

S 2.3 What are the other sources of pollutants coming into the wetland?**Total for S 2:** **1****Rating of Landscape Potential**

[] 3-4 = H [X] 1-2 = M [] 0 = L

Record the rating on the first page

Wetland name or number: Lk Sam Seep 2

S 3.0 Is the water quality improvement provided by the site valuable to society?		
S 3.1 Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list?		
Yes	points = 1	
No	points = 0	Score: 0
S 3.2 Is the wetland in a basin or sub-basin where water quality is an issue?		
Yes	points = 1	
No	points = 0	Score: 0
S 3.3 Has the site been identified in a watershed or local plan as important for maintaining water quality?		
Yes	points = 2	
No	points = 0	Score: 0
Total for S 3:		0

Rating of Value

[] 2-4 = H [] 1 = M [X] 0 = L

Record the rating on the first page

<u>SLOPE WETLANDS</u>		
Hydrologic Functions - Indicators that the site functions to reduce flooding and stream degradation		
S 4.0 Does the site have the potential to reduce flooding and erosion?		
S 4.1 What are the characteristics of the plants that reduce the velocity of surface flows during storms?		
Dense, uncut, rigid plants cover >90% of the wetland area	points = 1	
All other conditions	points = 0	Score: 0
Total for S 4:		0

Rating of Site Potential

[] 1 = M [X] 0 = L

Record the rating on the first page

S 5.0 Does the landscape have the potential to support the hydrologic functions of the site?		
S 5.1 Is more than 25% of the area within 150 ft upslope of wetland in land uses or cover that generate excess surface runoff?		
Yes	points = 1	
No	points = 0	Score: 1
Total for S 5:		1

Rating of Landscape Potential

[X] 1 = M [] 0 = L

Record the rating on the first page

Wetland name or number: Lk Sam Seep 2

S 6.0 Are the hydrologic functions provided by the site valuable to society?		
S 6.1 <u>Is the wetland in a landscape that has flooding problems?</u>		
Flooding occurs in a sub-basin that is immediately down-gradient of wetland.	points = 2	
Surface flooding problems are in a sub-basin farther down-gradient.	points = 1	
There are no problems with flooding downstream of the wetland	points = 0	Score: 0
S 6.2 <u>Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan?</u>		
Yes	points = 2	
No	points = 0	Score: 0
Total for S 6:		0

Rating of Value

2-4 = H 1 = M 0 = L

Record the rating on the first page

Wetland name or number: Lk Sam Seep 2

HABITAT FUNCTIONS

These questions apply to wetlands of all HGM classes - Indicators that the site functions to provide important habitat

H 1.0 Does the wetland have the potential to provide habitat for many species?

H 1.1 What is the structure of the plant community?

Aquatic Bed		
Emergent		
Scrub-shrub		
Forested		
Multiple strata within the Forested class (canopy, sub-canopy, shrubs, herbaceous, moss/ground cover)		
4 structures or more	points = 4	
3 structures	points = 2	
2 structures	points = 1	
1 structure	points = 0	
No structures present	points = 0	Score: 0

H 1.2 What are the hydroperiods that meet the size thresholds in the wetland?

Permanently flooded or inundated		
Seasonally flooded or inundated		
Occasionally flooded or inundated		
Saturated only		
Permanently flowing stream or river in, or adjacent to, the wetland		
Seasonally flowing stream in, or adjacent to, the wetland		
Lake Fringe wetland		
Freshwater Tidal wetland		
4 or more types present	points = 3	
3 types present or Lake Fringe / Freshwater Tidal Fringe	points = 2	
2 types present	points = 1	
1 type present	points = 0	
None present	points = 0	Score: 0

H 1.3 What is the richness of the plant species in the wetland?

>19 species	points = 2	
5-19 species	points = 1	
<5 species	points = 0	Score: 0

Wetland name or number: Lk Sam Seep 2

H 1.4 <u>What is the interspersion of habitats?</u>	
High	points = 3
Moderate	points = 2
Low	points = 1
None	points = 0
Score: 0	
H 1.5 <u>What are the special habitat features in the wetland?</u>	
Large, downed, woody debris within the wetland (>4in diameter and 6ft long).	
Standing snags (dbh >4in) within the wetland	
Undercut banks are present for at least 6.6ft (2m) and/or overhanging plants extend at least 3.3ft (1m) over open water or a stream (or ditch) in, or contiguous with the wetland, for at least 33ft (10m)	
Stable steep banks of fine material that might be used by beaver or muskrat for denning (>30 degree slope) OR signs of recent beaver activity are present (cut shrubs or trees that have not yet weathered where wood is exposed)	
At least 0.25ac of thin-stemmed persistent plants or woody branches are present in areas that are permanently or seasonally inundated (structures for egg-laying by amphibians)	
Invasive plants cover less than 25% of the wetland area in every stratum of plants (see H 1.1 for list of strata)	
6 habitats selected	points = 6
5 habitats selected	points = 5
4 habitats selected	points = 4
3 habitats selected	points = 3
2 habitats selected	points = 2
1 habitat selected	points = 1
No habitats selected	points = 0
Score: 1	
Total for H 1:	
1	

Rating of Site Potential

[] 15-18 = H [] 7-14 = M [X] 0-6 = L

Record the rating on the first page

H 2.0 Does the landscape have the potential to support habitat functions of the site?

H 2.1 <u>What is the percentage of accessible habitat within 1km of the wetland?</u>	
>33% of 1km Polygon	points = 3
20-33% of 1km Polygon	points = 2
10-19% of 1km Polygon	points = 1
<10% of 1km Polygon	points = 0
Score: 0	
H 2.2 <u>What is the percentage of total habitat in a 1km polygon around the wetland?</u>	
Total habitat is >50% of the Polygon	points = 3
Total habitat is 10-50% of the Polygon and in 1-3 patches	points = 2
Total habitat is 10-50% of the Polygon and in >3 patches	points = 1
Total habitat is <10% of the Polygon	points = 0
Score: 1	

Wetland name or number: Lk Sam Seep 2

H 2.3 <u>What is the land use intensity in the 1km polygon?</u>		
50% of the Polygon is high intensity land use	points = -2	
<50% of the Polygon is high intensity land use	points = 0	Score: 0
Total for H 2:		1

Rating of Landscape Potential 4-6 = H 1-3 = M 0 = L *Record the rating on the first page*

H 3.0 Is the habitat provided by the site valuable to society?

H 3.1 <u>Does the site provide habitat for species valued in laws, regulations, or policies?</u>		
<ul style="list-style-type: none"> Aspen Stands Biodiversity Areas and Corridors Herbaceous Balds Old-growth/Mature Forests Oregon White Oak Riparian Westside Prarie Fresh Deepwater Instream Nearshore (Coastal, Open Coast, Puget Sound) Caves Cliffs Snags and Logs Talus 		
The following criteria automatically score 2 points:		
<ul style="list-style-type: none"> The wetland provides habitat for Threatened or Endangered species The wetland is mapped as a location for an individual WDFW priority species The wetland is a Wetland of High Conservation Value The wetland has been categorized as an important habitat site in a local plan 		
The wetland has 3 or more WDFW priority habitats within 100m, or meets the criteria for societal value	points = 2	
The site has 1 or 2 WDFW priority habitats within 100m	points = 1	
The site does not meet any of the criteria for societal value	points = 0	Score: 1
Total for H 3:		1

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

Wetland name or number: Lk Sam Seep 2

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

SC 1.0 Estuarine Wetlands

SC 1.1 Does the wetland meet all of the following criteria for Estuarine wetlands?

The dominant water regime is tidal

The wetland is vegetated

The water salinity is greater than 0.5 ppt

Yes - Go to SC 1.2

No - Not an Estuarine Wetland

**Result: Not an
Estuarine Wetland**

SC 1.2 Is the wetland within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-30-151?

Yes - Category I Estuarine Wetland

No - Go to SC 1.3

Result:

SC 1.3 Is the wetland unit at least 1ac in size and meets at least two of the following three conditions?

The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 10% cover of non-native plant species.

At least 75% of the landward edge of the wetland has a 100ft buffer of shrub, forest, or un-grazed or un-mowed grassland

The wetland has at least two of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands.

Yes - Category I Estuarine Wetland

No - Category II Estuarine Wetland

Result:

SC 2.0 Wetlands of High Conservation Value

SC 2.1 Does the wetland overlap with any known or historical rare plant or rare & high-quality ecosystem polygons on the WNHP Data Explorer?

Yes - Category I Wetland of High Conservation Value

No - Go to SC 2.2

Result: Go to SC 2.2

SC 2.2 Does the wetland have a rare plant species, rare plant community, or high-quality common plant community that may qualify the site as a WHCV?

Yes - Category I Wetland of High Conservation Value

No - Not a Wetland of High Conservation Value

**Result: Not a Wetland
of High Conservation
Value**

Wetland name or number: Lk Sam Seep 2

SC 3.0 Bogs

SC 3.1 Does an area within the wetland unit have organic soil horizons, either peats or mucks, that compose 16in or more of the first 32in of the soil profile?

Yes - Go to SC 3.3

No - Go to SC 3.2

Result: Go to SC 3.2

SC 3.2 Does an area within the wetland unit have organic soils, either peats or mucks, that are less than 16 in deep over bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond?

Yes - Go to SC 3.3

No - Not a Bog Wetland

**Result: Not a Bog
Wetland**

SC 3.3 Does an area with peats or mucks have more than 70% cover of mosses at ground level, AND at least 30% cover of plant species listed in the table provided in the instructions?

Yes - Category I Bog Wetland

No - Go to SC 3.4

Result:

SC 3.4 Is an area with peats or mucks forested (>30% cover) with Sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann Spruce, or western white pine AND any of the species (or combinations of species) listed in the table found in the instructions provide more than 30% of the cover under the canopy?

Yes - Category I Bog Wetland

No - Not a Bog Wetland

Result:

SC 4.0 Forested Wetlands

SC 4.1 Does the wetland have at least 1 contiguous acre of forest that meets one of the following criteria?

Old-growth forests

Mature forests

Yes - Category I Forested Wetland

No - Not a Forested Wetland

**Result: Not a Forested
Wetland**

Wetland name or number: Lk Sam Seep 2

SC 5.0 Wetlands in Coastal Lagoons

SC 5.1 Coastal Lagoons: Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?

The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from marine waters by sandbanks, gravel banks, shingle, or rocks

The depression in which the wetland is located contains ponded water that is saline or brackish (>0.5 ppt) during most of the year in at least a portion of the open water area (measured near the bottom)

The lagoon retains some of its surface water at low tide during spring tides

Yes - Go to SC 5.2

No - Not a Coastal Lagoon Wetland

Result: Not a Coastal Lagoon Wetland

SC 5.2 Does the wetland meet all of the following three conditions?

The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of aggressive, opportunistic plant species (see list of species).

At least 75% of the landward edge of the wetland has a 100ft buffer of shrub, forest, or un-grazed or un-mowed grassland.

the wetland is larger than 0.10ac (4350 sqft)

Yes - Category I Coastal Lagoon

No - Category II Coastal Lagoon

Result:

SC 6.0 Interdunal Wetlands

SC 6.1 Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership WBUO)?

Yes - Go to SC 6.2

No - Not an Interdunal Wetland

Result: Not an Interdunal Wetland

SC 6.2 Is the wetland 1ac or larger in size, or a mosaic that is 1ac or larger in size?

Wetland is larger than 1ac in size - Go to SC 6.3

Wetland is a mosaic larger than 1ac is size - Category II Interdunal Wetland

No - Go to SC 6.4

Result:

SC 6.3 Does the wetland score 8 or 9 points for the habitat functions?

Yes - Category I Interdunal Wetland

No - Category II Interdunal Wetland

Result:

SC 6.4 Is the wetland unit between 0.1ac and 1ac, or in a mosaic of wetlands that is between 0.1ac and 1ac in size?

Yes - Category III Interdunal Wetland

No - Category IV Interdunal Wetland

Result:

Wetland name or number: Lk Sam Seep 2

Category of wetland based on Special Characteristics

If you answered No for all types, enter "Not Applicable" on Summary Form

**Final Category: Not
Applicable**

19.07.180 - Watercourses.

- A. *Designation and typing.* Watercourses shall be classified by the following types:
1. Type S (there are no known Type S watercourses on Mercer Island);
 2. Type F;
 3. Type Np;
 4. Type Ns; and
 5. Piped.
- B. *General review requirements.*
1. Development within watercourses and/or associated buffers is prohibited unless one of the following conditions applies:
 - a. The proposed activity is specifically exempt pursuant to section [19.07.120](#);
 - b. A critical area review 1 application is reviewed and approved for one of the modifications in section [19.07.130](#); or
 - c. The proposed activity is permitted under subsection D of this section, development standards—additional criteria for specific activities.
- C. *Development standards—Buffers.*
1. The following minimum buffers shall be established from the ordinary high water mark or from the top of the bank if the ordinary high water mark cannot be identified:

Watercourse Type	Standard Buffer
F	120 feet
Np	60 feet
Ns	60 feet
Piped	No buffer

2. Neither lot coverage nor hardscape shall be permitted within a watercourse or watercourse buffer except as specifically provided in this chapter.
3. Any watercourse adjoined by a riparian wetland or other contiguous critical area shall have the buffer required for the stream type involved or the buffer that applies to the wetland

or other critical area, whichever is greater.

4. *Buffer averaging.* Buffer width averaging shall be allowed provided the following requirements are met:
 - a. The applicant has demonstrated how impacts will be minimized and that avoidance has been addressed consistent with section 19.07.100, mitigation sequencing;
 - b. The applicant has demonstrated how all proposed impacts have been mitigated consistent with subsection E of this section, mitigation requirements, and will not result in a loss of ecological function;
 - c. The proposed buffer width is not less than 75 percent of the standard buffer width at any point; and
 - d. The total area of the buffer is equal to the area required without averaging.

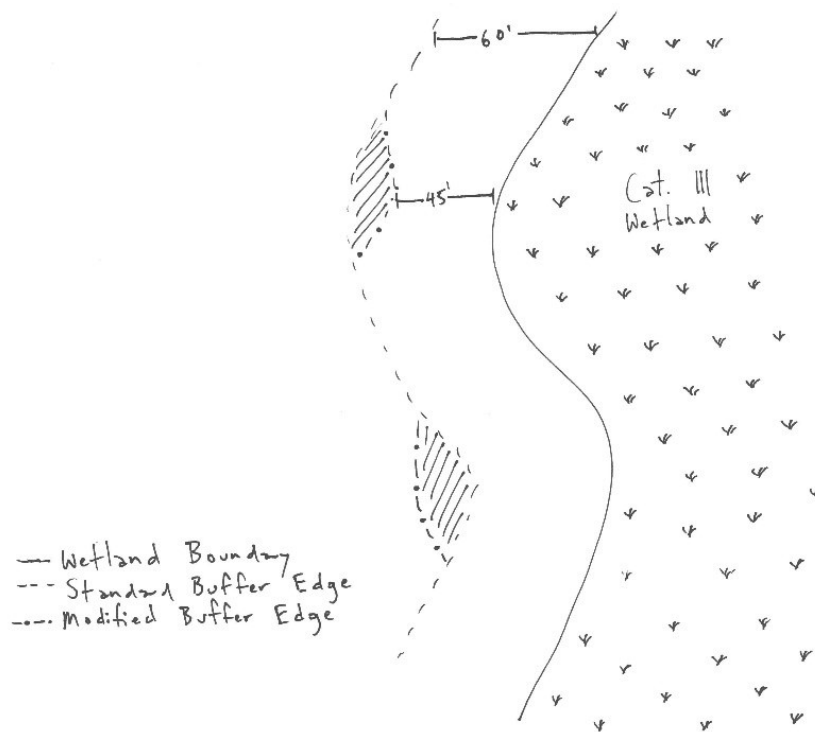


Figure 1: Example of Buffer Averaging

5. *Buffer reduction.* Buffer width reduction shall be allowed provided the following requirements are met:
 - a. The applicant has demonstrated that buffer averaging would not feasibly allow development;
 - b. The applicant has demonstrated how impacts will be minimized and that avoidance has been addressed consistent with section 19.07.100, mitigation sequencing;
 - c. The applicant has demonstrated how all proposed impacts have been mitigated consistent with subsection E of this section and will not result in a loss of ecological

function;

- d. The proposed buffer width is not less than 75 percent of the standard buffer width at any point; and
 - e. The proposed buffer reduction is not proposed in conjunction with buffer averaging.
6. *Piped watercourse setbacks.*
- a. The intent of applying setbacks to piped watercourses is to preserve the opportunity to daylight watercourses that were previously piped, to provide incentives to property owners to daylight and enhance previously piped watercourses, and to allow flexibility for development where daylighting piped watercourses is demonstrated to be infeasible.
 - b. Setbacks shall be established 45 feet from the centerline of piped watercourses.
 - c. Piped watercourses setback widths shall be reduced to a 15-foot buffer when the portion of the piped watercourse on the applicant's property is daylighted and where the watercourse has been restored to an open channel, provided a restoration plan demonstrates:
 - i. The watercourse channel will be stable and is not expected to cause safety risks or environmental damage; and
 - ii. No additional impact nor encumbrance by watercourse buffer or critical area setback is added to properties neighboring the applicant(s) property.
 - d. Piped watercourse setback widths shall be reduced to: (i) ten feet on lots with a lot width of 50 feet or more, and (ii) five feet on lots with a width of less than 50 feet, when daylighting is determined by qualified professional(s) to result in one or more of the following outcomes:
 - i. Increased risk of landslide or other potential hazard that cannot be mitigated;
 - ii. Increased risk of environmental damage (e.g., erosion, diminished water quality) that cannot be mitigated;
 - iii. The inability of a legally established existing lot to meet the vehicular access requirements of this title; or
 - iv. The inability of a legally established existing lot to meet the building pad standards in section 19.09.090.
7. Buildings and other structures shall be set back a minimum of ten feet from the edges of a watercourse buffer. The distance may be reduced to five feet if:
- a. The watercourse is Type Ns;
 - b. The buffer does not contain habitat for WDFW priority species;

- c. A split-rail fence is installed along the perimeter of the buffer; and
- d. Survey markers are installed along the perimeter of the buffer to establish its field location.

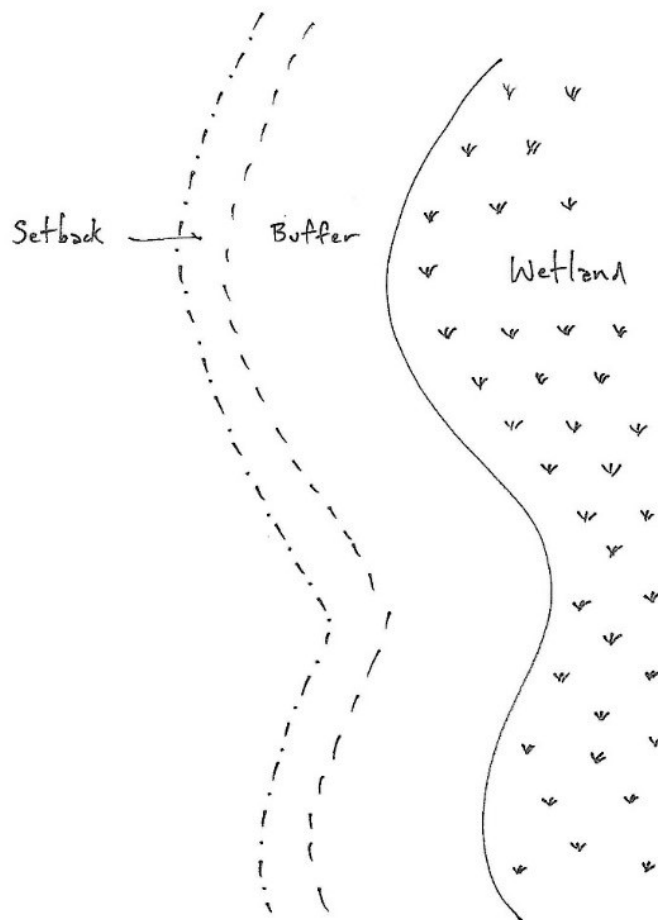


Figure 2: Example of Critical Area Setback

8. The following may be allowed in the critical area setback, provided no structures nor building overhangs may be closer than five feet from the edge of a watercourse buffer:
 - a. Landscaping;
 - b. Uncovered decks less than 30 inches above existing or finished grade, whichever is lower;
 - c. Building overhangs if such overhangs do not extend more than 18 inches into the setback area;
 - d. Hardscape and driveways; provided, that such improvements may be subject to requirements in [chapter 15.09](#), storm water master program;
 - e. Split-rail fences;
 - f. Trails, consistent with the requirements of this chapter; and
 - g. Subgrade components of foundations; provided, that any temporary impacts to

building setbacks shall be restored to their previous condition or better.

D. *Development standards—Additional criteria for specific activities.*

1. New watercourse crossings, such as bridges and culverts, may be permitted provided the standards in WAC 220-660-190 have been demonstrated to be met.
2. The construction of trails within watercourse buffers is allowed, subject to the following:
 - a. Trail surfaces shall be constructed of pervious materials and may not be wider than five feet;
 - b. Trails shall be located to minimize the need for tree removal; and
 - c. Trails shall be located only in the outer 25 percent of the buffer area.
3. The trail width shall be added to the buffer width applied to the watercourse (e.g., if a trail is three feet wide, the watercourse buffer for the portion of the watercourse where the trail is located shall be expanded by three feet); except that the trail width shall not be added to the buffer width when trails are being created for public access and contained within a public access easement or right-of-way.

E. *Mitigation requirements.* Mitigation measures shall achieve equivalent or greater ecological function including, but not limited to:

1. Habitat complexity, connectivity, and other biological functions;
2. Seasonal hydrological dynamics, water storage capacity and water quality; and
3. Geomorphic and habitat processes and functions.

(Ord. 19C-05 § 1 (Exh. A))

19.07.190 - Wetlands.

- A. *Designation and typing.* Wetlands shall be identified and their boundaries delineated in accordance with the approved federal delineation manual and applicable regional supplements described in WAC 173-22-035. Wetlands shall be rated according to the Washington State Rating System for Western Washington: 2014 Update (Hruby, 2014), or most current update.
- B. *General review requirements.*
1. In addition to the critical area study requirements listed in section 19.07.110, critical area study, critical area studies on wetlands shall also include:
 - a. Wetland rating forms and datasheets;
 - b. Discussion of landscape setting;
 - c. A functional analysis of the project demonstrating that there will be no loss of ecological function; and
 - d. A mitigation plan.
 2. Wetland delineations are valid for five years.
 3. Wetlands must be delineated and rated by a qualified professional.
- C. *Development standards—Buffers.*
1. The following minimum buffers shall be established from the wetland boundary:

Wetland Category	Standard Buffer	
	With 3—5 habitat points	With 6—7 habitat points
Category I	75 feet	110 feet
Category II	75 feet	110 feet
Category III	60 feet	110 feet
Category IV	40 feet	

2. Where a legally established and constructed street transects a wetland buffer, the department may approve a modification of the standard buffer width to the edge of the

street if the isolated part of the buffer does not provide additional protection of the wetland and provides insignificant biological, geological or hydrological buffer functions relating to the wetland.

3. *Prohibited activities.* The following uses are prohibited within any wetland or associated buffer: removal, excavation, grading, or dredging of material; draining flooding or disturbing the wetland, water level or water table; construction, reconstruction, demolition, or expansion of any structure.
4. Neither lot coverage nor hardscape shall be permitted within a wetland or wetland buffer except as specifically provided in this chapter.
5. *Buffer averaging.* Buffer width averaging shall be allowed provided the following requirements are met:
 - a. The applicant has demonstrated how impacts have been avoided consistent with section 19.07.100, mitigation sequencing;
 - b. The applicant has demonstrated how all proposed impacts have been mitigated consistent with subsection E of this section and will not result in a loss of ecological function;
 - c. The proposed buffer width is not less than 75 percent of the standard buffer width at any point; and
 - d. The total area of the buffer is equal to the area required without averaging.
6. *Buffer reduction.* Buffer width reduction shall be allowed provided the following requirements are met:
 - a. The applicant has demonstrated that buffer averaging would not feasibly allow development;
 - b. The applicant has demonstrated how impacts will be minimized and that avoidance has been addressed consistent with section 19.07.100, mitigation sequencing;
 - c. The applicant has demonstrated how all proposed impacts have been mitigated consistent with subsection E of this section and will not result in a loss of ecological function;
 - d. The proposed buffer width is not less than 75 percent of the standard buffer width at any point; and
 - e. The proposed buffer reduction is not proposed in conjunction with buffer averaging.
7. Buildings and other structures shall be set back a minimum of ten feet from the edges of a wetland buffer. The distance may be reduced to five feet if:
 - a. The wetland is:

- i. Hydrologically isolated;
 - ii. Category III or IV;
 - iii. Less than 1,000 square feet;
 - iv. In an area that is not associated with riparian areas or buffers;
 - v. Not part of a wetland mosaic; and
 - vi. Does not contain habitat for WDFW priority species;
 - b. A split-rail fence is installed along the perimeter of the buffer; and
 - c. Survey markers are installed along the perimeter of the buffer to establish its field location.
8. The following may be allowed in the critical area setback, provided no structures nor building overhangs may be closer than five feet from the edge of a wetland buffer:
 - a. Landscaping;
 - b. Uncovered decks less than 30 inches above existing or finished grade, whichever is lower;
 - c. Building overhangs if such overhangs do not extend more than 18 inches into the setback area;
 - d. Hardscape and driveways; provided, that such improvements may be subject to requirements in [chapter 15.09](#), storm water management program;
 - e. Split-rail fences;
 - f. Trails, consistent with the requirements of this chapter; and
 - g. Subgrade components of foundations; provided, that any temporary impacts to building setbacks shall be restored to their previous condition or better.

D. *Development standards—additional criteria for specific activities.*

1. Alterations to wetlands are allowed when the applicant has demonstrated how mitigation sequencing has been applied pursuant to section [19.07.100](#), mitigation sequencing, and when the applicant has demonstrated that the wetland is:
 - a. All isolated Category IV wetlands less than 4,000 square feet that:
 - i. Are not associated with riparian areas or their buffers;
 - ii. Are not associated with shorelines of the state or their associated buffers;
 - iii. Are not part of a wetland mosaic;
 - iv. Do not score five or more points for habitat function based on the 2014 update to the Washington State Wetland Rating System for Western Washington: 2014 Update (Ecology Publication No. 14-06-029, or as revised and approved by Ecology);

- v. Do not contain a priority habitat or a priority area for a priority species identified by the Washington Department of Fish and Wildlife, do not contain federally listed species or their critical habitat, or species of local importance identified in section 19.07.170.
 - b. Wetlands less than 1,000 square feet that meet the above criteria and do not contain federally listed species or their critical habitat are exempt from the buffer provisions contained in this chapter.
2. The construction of trails within wetland buffers is allowed subject to the following requirements:
- a. Trail surfaces shall be constructed of pervious materials and may not be wider than five feet;
 - b. Trails shall be located to minimize the need for tree removal; and
 - c. Trails shall be located only in the outer 25 percent of the buffer area.
 - d. The trail width shall be added to the buffer width applied to the wetland (e.g., if a trail is three feet wide, the wetland buffer for the portion of the wetland where the trail is located shall be expanded by three feet); except that the trail width shall not be added to the buffer width when trails are being created for public access and contained within a public access easement or right-of-way.
3. Development proposals shall incorporate the following measures unless the applicant can demonstrate that they would result in no net environmental benefit or that they are not applicable:

Disturbance	Required Measures to Minimize Impacts
Lights	Direct lights away from wetland
Noise	<p>Locate activity that generates noise away from wetland</p> <p>If warranted, enhance existing buffer with native vegetation plantings adjacent to noise source</p> <p>For activities that generate relatively continuous, potentially disruptive noise, such as certain heavy industry or mining, establish an additional 10-foot heavily vegetated buffer strip immediately adjacent to the outer wetland buffer</p>

Toxic runoff	Route all new, untreated runoff away from wetland while ensuring wetland is not dewatered Establish covenants requiring the use of integrated pest management techniques to limit the use of pesticides within 150 feet of wetland
Storm water runoff	Retrofit storm water detention and treatment for roads and existing adjacent development Prevent channelized flow from lawns that directly enters the buffer Use low impact development techniques
Changes in water regime	Infiltrate or treat, detain, and disperse into buffer new runoff from impervious surfaces and new lawns
Pets and human disturbance	Protect wetlands and associated buffers with conservation or native growth protection easements
Dust	Use best management practices to control dust
Disruption of corridors or connections	Maintain connections to off-site areas that are undisturbed Restore corridors or connections to off-site habitats by replanting

E. *Mitigation requirements.* When mitigation for wetland and/or wetland buffer impacts is required, mitigation shall meet the requirements listed below:

- 1.

Compensatory mitigation for alterations to wetlands shall be used only for impacts that cannot be avoided or minimized and shall achieve equivalent or greater biologic functions compared to predevelopment conditions. Compensatory mitigation plans shall be consistent with Wetland Mitigation in Washington State — Part 2: Developing Mitigation Plans — Version 1, (Ecology Publication No. 06-06-011b, Olympia, WA, March 2006, as revised), and Selecting Wetland Mitigation Sites Using a Watershed Approach (Western Washington) (Publication No. 09-06-32, Olympia, WA, December 2009, as revised).

2. Mitigation for alterations to wetland(s) and/or wetland buffer(s) shall achieve equivalent or greater ecological function.
3. *No net loss.* Wetland mitigation actions shall not result in a net loss of wetland area.
4. Mitigation actions shall be in-kind and conducted within the same sub-basin and on the same site as the alteration except when the following apply:
 - a. There are no reasonable on-site opportunities for mitigation or on-site opportunities do not have a high likelihood of success due to adjacent land uses;
 - b. On-site buffers or connectivity is inadequate;
 - c. Off-site mitigation has a greater likelihood of providing equal or improved wetland functions than the impacted wetland; and
 - d. Off-site locations have been identified and evaluated in the following order of preference:
 - i. Within the same drainage sub-basin;
 - ii. Within the city limits;
 - iii. Within the Mercer Island service area for an approved mitigation bank program site within the WRIA 8 in accordance with the requirements in subsection (E)(6) of this section.
 - e. Where feasible, off-site mitigation projects shall be completed prior to activities that will disturb wetlands. In all other cases, mitigation shall be completed immediately following site disturbance and prior to use or occupancy of the activity or development. Construction of mitigation projects shall be timed to reduce impacts to existing wildlife and flora.
5. *Mitigation ratios.*
 - a. The following ratios shall apply to required wetland mitigation. The first number specifies the acreage of replacement wetlands and the second specifies the acreage of wetlands altered.
 - b. *Permanent wetland mitigation.* The following ratios of area of mitigation to area of

alteration apply to mitigation measures for permanent alterations:

Wetland Category	Creation	1:1 Wetland reestablishment or wetland creation (R/C) and wetland enhancement (E)
Category I	4:1	1:1 R/C and 12:1 E
Category II	3:1	1:1 R/C and 8:1 E
Category III	2:1	1:1 R/C and 4:1 E
Category IV	1.5:1	1:1 R/C and 2:1 E

- c. *Temporary wetland mitigation.* The following ratios of area of mitigation to area of alteration apply to mitigation measures for temporary alterations where wetlands will not be impacted by permanent fill material:

Wetland Category	Creation	Enhancement
Category I	1.5:1	3:1
Category II	0.75:1	1.5:1
Category III	0.5:1	1:1
Category IV	Not applicable	Not applicable

- d. *Wetland buffer replacement ratio.* Altered wetland buffer area shall be replaced at a minimum ratio of one-to-one; provided, that the replacement ratio may be increased if needed to replace lost functions and values.
- e. *Increased mitigation ratio.* The code official may increase the ratios under the following circumstances:

- i. Uncertainty exists as to the probable success of the proposed restoration or creation; or
 - ii. A significant period of time will elapse between impact and replication of wetland functions; or
 - iii. Proposed mitigation will result in a lower category wetland or reduced functions relative to the wetland being impacted; or
 - iv. The impact was an unauthorized impact.
- f. *Decreased mitigation ratio.* The code official may decrease these ratios under the following circumstances:
- i. Documentation by a qualified professional demonstrates that the proposed mitigation actions have a very high likelihood of success. This documentation should specifically identify how the proposed mitigation actions are similar to other known mitigation projects with similar site-specific conditions and circumstances that have been shown to be successful; or
 - ii. Documentation by a qualified professional demonstrates that the proposed mitigation actions will provide functions and values that are significantly greater than the wetland being impacted; or
 - iii. The proposed mitigation actions are conducted in advance of the impact and have been shown to be successful over the course of at least one full year.

6. *Wetland banking.*

- a. Credits from a wetland mitigation bank may be approved for use as compensation for unavoidable impacts to wetlands when:
 - i. The criteria in subsection (E)(4) of this section are demonstrated to have been met;
 - ii. The bank is certified under WAC Chapter 173-700;
 - iii. A qualified professional has demonstrated that the wetland mitigation bank provides appropriate compensation for the authorized impacts;
 - iv. The proposed use of credits is consistent with the terms and conditions of the bank's certification; and
 - v. The compensatory mitigation agreement occurs in advance of authorized impacts.
- b. Replacement ratios for projects using bank credits shall be consistent with replacement ratios specified in the bank's certification.
- c. Credits from a certified wetland mitigation bank may be used to compensate for impacts located within the service area specified in the bank's certification. In some cases, bank service areas may include portions of more than one adjacent drainage

basin for specific wetland functions.

7. *Preference of mitigation actions.* Compensatory wetland mitigation shall occur in the following order of preference:
 - a. Restoration;
 - b. Creation;
 - c. Enhancement;
 - d. Preservation.
8. *Site protection.* As a condition of any permit or land use approval, the code official may require permanent fencing and signage to be installed around the wetland or buffer. Fencing installed as part of a proposed activity or as required in this subsection shall be designed to not interfere with species migration, including fish runs, and shall be constructed in a manner that minimizes impacts to the wetland and associated habitat.

(Ord. 19C-05 § 1 (Exh. A))