

April 2, 2018

Evan Maxim  
Senior Planner, Development Services  
City of Mercer Island  
9611 SE 36<sup>th</sup> Street  
Mercer Island, WA 98040

VIA EMAIL

Re: RUE CAO 15-001  
Bill Summers

Dear Evan:

This responds to your email transmittal of February 2, 2018 (“February 2 Email”). In the February 2 Email, you identified four issues that remain to be addressed to complete the submittal for the RUE.

**Development Application.** You noted that it will be necessary to submit the variance fee and a development application for the variance. Once you confirm that the information set forth in the attached documents sufficiently responds to the requests set forth in your February 2 Email, we will promptly submit the variance / development application forms and related fee.

**Items A, B and E from the City’s December 26, 2017 Letter (“December 26 Letter”).** Items A, B and E are addressed in the Technical Memorandum dated March 23, 2018 from Michael A. Moody, P.E., LEED-AP of CORE Design (“Moody Memorandum”), attached as Exhibit A. The Moody Memorandum refers to the Revised Critical Areas Report prepared by Sewall Wetland Consulting, Inc. (“Sewall Report”), attached as Exhibit B, and the Healey-Jorgenson Site Plan Wetland (“Site Plan”), attached as Exhibit C. The Sewall Report addresses the items set forth in Item B to the December 26 Letter. The Site Plan responds to the Item E request identified in the December 26 Letter. Together, Exhibits A-C fully respond to Items A, B, and E from the December 26 Letter.

**Item C from the December 26 Letter.** Noise impacts from construction of the proposal are addressed in Exhibit B to our submission of January 30, 2018. MICC 8.24.020.R and Q identify the City’s noise mitigation policies. Noise impacts as identified in Exhibit B to the January 30, 2018 submission will be mitigated by these City Code mitigation provisions.

Accordingly, under WAC 197-11-660(e) and (g), since local regulations mitigate these noise impacts, the City “shall not impose additional mitigation measures.”

**Item D from the December 26 Letter.** Attached as Exhibit D is a response to the zoning variance criteria. It has been updated to include responses to the City’s recent amendment to the zoning variance criteria. As indicated above, a formal submission will be made, and fee paid, upon confirmation that you have received the material you need to make a staff recommendation on the RUE application.

After your review of this submission, and before you respond in writing, I ask that we schedule a meeting with you, Ms. Sand, and Mr. Rosenberg to discuss next steps. I am currently available to meet with you at any time on Friday, April 6th, or Tuesday, April 12th.

Sincerely,



G. Richard Hill

Enclosures

cc: Scott Greenberg  
Kari Sand  
Adam Rosenberg  
Bill Summers

# EXHIBIT A



- 14711 NE 29Th Place, Suite 101
- Bellevue, Washington 98007
- Ph 425.885.7877
- www.coredesigninc.com

## TECHNICAL MEMORANDUM

To: Evan Maxim  
Planning Manager  
City of Mercer Island

From: Michael A. Moody, P.E., LEED-AP  
Project Engineer

Date: March 23, 2018

Re: RUE CAO 15-001 (MI Treehouse Project) Supplemental Evaluation

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The purpose of this memorandum is to provide additional documentation and evaluation for the above referenced project as requested in your email dated February 2, 2018 and a letter from the City Attorney (Kari L. Sand) dated December 26, 2017 (both provided as attachments for reference).

More specifically this memo intends to provide the City with our Civil Engineering opinion and/or technical responses to Items A, B and E in the City's December 26, 2017 letter so that processing of the Reasonable Use Exemption permit may continue.

### **Item A: Geotechnical / Civil (drainage) Engineering:**

Our additional analysis of the existing condition for the Type 2 Watercourse located on-site and conveying water downstream of the project site discovered that the system currently experiences siltation throughout the year.

The proposed project will likely adversely impact siltation in the watercourse during construction without temporary erosion and sediment control measures beyond those required at minimum. The project will therefore apply additional BMPs to reduce impacts during construction including:

- Restricted construction dates (dry season construction only)
- Additional filter fabric fence (double layer)
- Restricted clearing limit footprint (clear only what is necessary for the home and driveway as discussed in the *Revised Critical Areas Report* provided under separate cover)
- Restricted construction entrance disturbance (no excavation at existing driveway, add quarry spalls per typical, maintain daily)

The proposed project is unlikely to impact siltation or flooding in the watercourse in the permanent condition. Refer to the *Revised Critical Areas Report* for more information and detail regarding permanent impacts and proposed mitigation.

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The proposed project will apply and comply with the Washington State Department of Ecology's 2014 Stormwater Management Manual for Western Washington (2014 DOE) per City of Mercer Island Stormwater Code.

In addition to the 2014 DOE Manual, the project proposes to apply downstream analysis standards and recommendations in the 2016 King County Surface Water Design Manual considered equivalent to the 2014 DOE Manual.

**Item B: Wetland / watercourse impacts:**

A Revised Critical Areas Report has been prepared and is included under separate cover (by Sewall Wetland Consulting Inc). Also included under separate cover (by Healey-Jorgensen Architects) is a Site Plan Wetland that shows the optimized site shifted to minimize critical area and critical area buffer impacts.

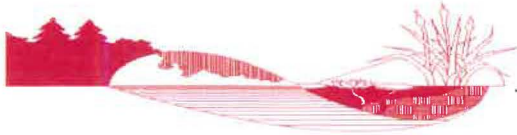
It is our professional opinion that together these supplemental documents address Item B from the City's December 2017 comment letter. Temporary and permanent critical area impacts are well documented in the revised report and clearly shown on the updated site plan. These documents also provide both narrative and graphical representation of reductions to critical area impacts as a result of the revised site plan.

**Item E: Technical corrections:**

A Revised Critical Areas Report has been prepared and is included under separate cover (by Sewall Wetland Consulting Inc). Also included under separate cover (by Healey-Jorgensen Architects) is a Site Plan Wetland that shows the optimized site shifted to minimize critical area and critical area buffer impacts.

It is our professional opinion that together these supplemental documents address Item E from the City's December 2017 comment letter. Temporary and permanent critical area impacts are well documented in the revised report and clearly shown on the updated site plan.

# EXHIBIT B



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**Sewall Wetland Consulting, Inc.**

PO Box 880  
Fall City, WA 98024

Phone: 253-859-0515

March 8, 2018

Bill Summers  
PO Box 261  
Medina, WA 98039

RE: 5637 Mercer Way – *Revised* Critical Areas Report  
SWC Job#14-206

## **1.0 INTRODUCTION**

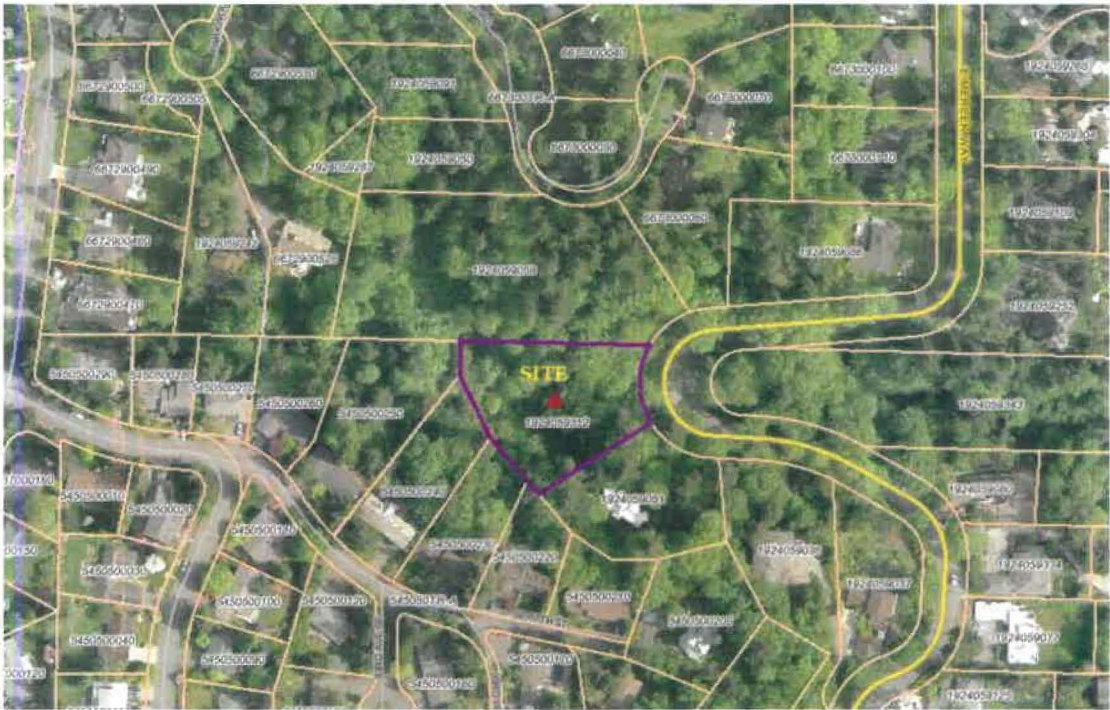
This report describes our observations of any jurisdictional wetlands, streams and buffers on or within 200' of the proposed single family home located at 5637 East Mercer Way in the City of Mercer Island, Washington (the "site").

The site is an irregular shaped 0.88 acre parcel (Parcel #192405-0312) consisting of an east sloping site located within the SE ¼ of Section 19 Township 24 North, Range 5 East of the W.M.

## **METHODOLOGY**

Ed Sewall of Sewall Wetland Consulting, Inc. inspected the site November 6, 2014. The site was reviewed using delineation methodology described in the *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory, 1987), and the *Western Mountains, Valleys and Coast region Supplement* (Version 2.0) dated June 24, 2010, as required by the US Army Corps of Engineers.

Wetland Ratings were determined using the *Washington State Wetlands Rating System for Western Washington* Publication #04-06-025 dated August 2004 as well as the associated rating forms revised in 2006 & 2008.



*Above and below: Vicinity map of the site.*





Soil colors were identified using the 1990 Edited and Revised Edition of the **Munsell Soil Color Charts** (Kollmorgen Instruments Corp. 1990).

The *Washington State Wetlands Identification and Delineation Manual* and the *Corps of Engineers Wetlands Delineation Manual/Regional Supplement* all require the use of the three-parameter approach in identifying and delineating wetlands. A wetland should support a predominance of hydrophytic vegetation, have hydric soils and display wetland hydrology. To be considered hydrophytic vegetation, over 50% of the dominant species in an area must have an indicator status of facultative (FAC), facultative wetland (FACW), or obligate wetland (OBL), according to the National List of Plant Species That Occur in Wetlands: Northwest (Region 9) (Reed, 1988). A hydric soil is "a soil that is saturated, flooded, or ponded long enough during the growing season to develop anaerobic conditions in the upper part". Anaerobic conditions are indicated in the field by soils with low chromas (2 or less), as determined by using the Munsell Soil Color Charts; iron oxide mottles; hydrogen sulfide odor and other indicators. Generally, wetland hydrology is defined by inundation or saturation to the surface for a consecutive period of 12.5% or greater of the growing season. Areas that contain indicators of wetland hydrology between 5%-12.5% of the growing season may or may not be wetlands depending upon other indicators. Field indicators include visual observation of soil inundation, saturation, oxidized rhizospheres, water marks on trees or other fixed objects, drift lines, etc. Under normal circumstances, indicators of all three parameters will be present in wetland areas.

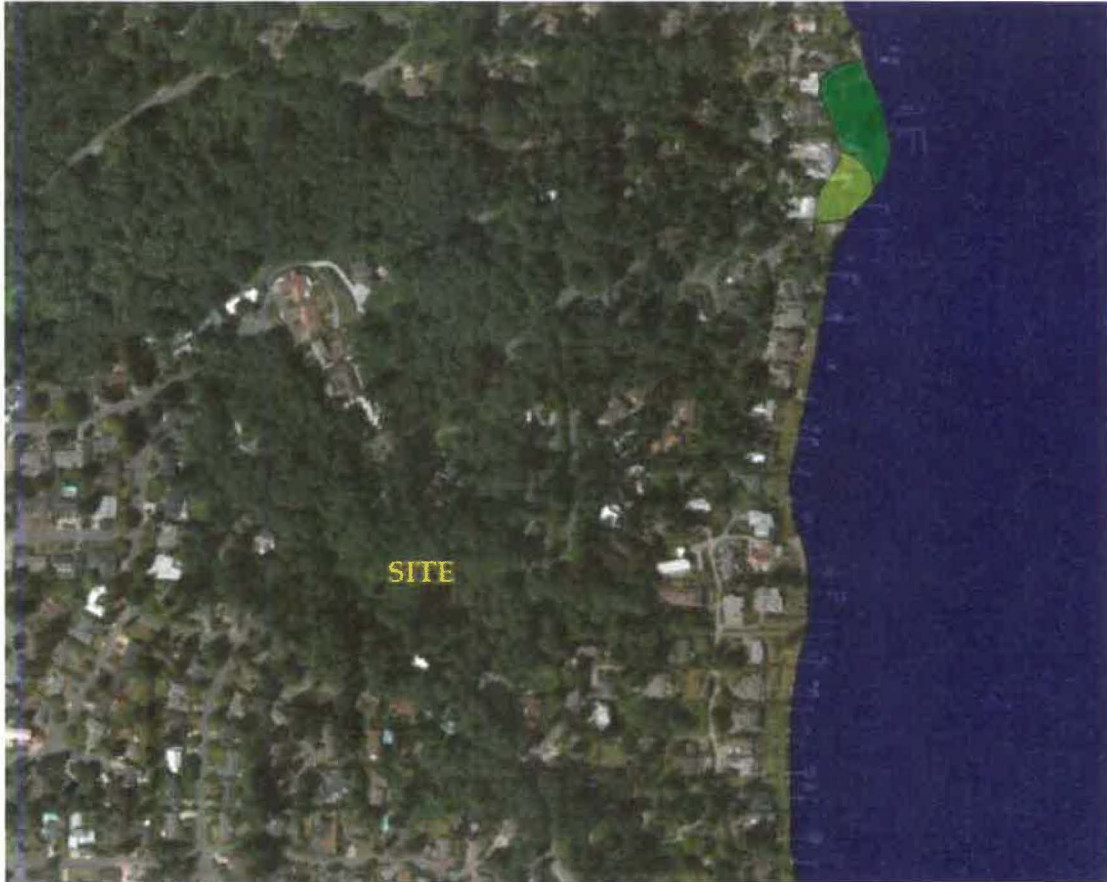
## **OBSERVATIONS**

### *Existing Site Documentation.*

Prior to visiting the site, a review of several natural resource inventory maps was conducted. Resources reviewed included the National Wetland Inventory Map and the NRCS Soil Survey online mapping and Data and the King County iMap website with wetland and stream layers activated.

### **National Wetlands Inventory (NWI)**

There are no wetlands mapped on or near the site on the NWI mapping for area of the site.



*Above: NWI Map of the study area*

### **Soil Survey**

According to data on file with the NRCS Soil Survey, the site as mapped as Kitsap silt loam 15%-30% slopes. Kitsap soils are a moderately well-drained soils formed in lacustrine deposits. Kitsap soils are not considered "hydric" soils according to the publication Hydric Soils of the United States (USDA NTCHS Pub No.1491, 1991).



*Above: NRCS Soil map of the study area.*

**City of Mercer Island Water Inventoried Watercourses**

The City of Mercer Island stream inventory shows a perennial flowing non-fish bearing stream also known as a Type 2 watercourse with a 50' buffer.



*Above: Mercer Island Stream Inventory of the site*

## **Field observations**

The site consists of a bowl shaped parcel sloping to the east with a stream and associated slope type wetlands associated with the stream. The site is generally forested, although a quarry spill driveway accesses the site off an existing paved driveway which passes through the site.

The site has steep slopes to the south as well as an undulating topography in the vicinity of the stream. The site is covered by a mix of red alder, western hemlock and some big leaf maple. Understory species include sword fern, red huckleberry, salmonberry and some stinging nettle.

Soil pits excavated in the upland portion of the site were found to have dry, gravelly loam soils with soil colors of 10YR 3/3-3/4. Soils were found to be dry within the upper 16" during our wet season observations.

### *Wetlands*

As previously mentioned, a slope type wetland covers most of the site outside the steep slopes. Below is a description of these wetlands;

### **Wetland A**

Wetland A consists of a forested slope type wetland that covers most of the site. This wetland was previously flagged by Wetland resources in 2004 and the delineation was found to still be accurate.

This slope-type wetland is vegetated with a mix of red alder, salmonberry, lady fern, skunk cabbage and some creeping buttercup. red-osier dogwood and lady fern.

Soil pits excavated within the wetland revealed a silt loam with a soil color of 2.5Y 2.5/1 with few, fine faint redoximorphic concentrations. Soils within the wetland were saturated at the surface during our wet season observation period.

Using the US Fish and Wildlife Wetland Classification Method (Cowardin et al. 1979), this wetland contains areas that would be classified as PFO1C.

Using the WADOE Wetland Rating system and rating the wetland as a slope wetland, this wetland scored a total of 34 points with 18 for habitat. This indicates a Category III wetland. According to City of Mercer Island Municipal Code (MIMC) Chapter 19.07.080.C.1, Category III wetlands have a 50' standard buffer.

### ***Stream A***

As previously mentioned, a small perennial stream flows easterly along the north side of the site. This stream originates in seeps from the bordering slope wetlands and flows somewhat steeply to the east where it cascades over a bank into a catch basin and then a culvert under Mercer Way. The stream flows in a 100' long culvert which is a barrier to any fish migration up through the culvert. As a result, this small channel has been mapped as the City as a Type 2 watercourse. Based upon MIMC Chapter 19.07.070.B.1, Type 2 watercourses have a 50' standard buffer.

### ***Stream B***

Stream B is a small perennial stream flows easterly along the south side of the site just north of the existing as well as proposed driveway. This stream originates in seeps from the bordering slope wetlands and flows in a small defined swale. An old pipe lays in the bed of the stream and may have been a drain or waterline, it is of unknown origin. This stream like Stream A flows to the east where it cascades over a bank into a catch basin and then a culvert under Mercer Way. The stream flows in a 100' long culvert which is a barrier to any fish migration up through the culvert. As a result, this small channel has been mapped as the City as a Type 2 watercourse. Based upon MIMC Chapter 19.07.070.B.1, Type 2 watercourses have a 50' standard buffer. This buffer is located entirely within other critical areas and buffers.

### ***Wildlife Habitat Conservation Areas***

A review of the site revealed no state or federally listed species on or near the site. A review of the Washington State Department of Fish and Wildlife Priority Mapping system was conducted for the site. This mapping identifies state listed species as well as areas considered by WDFW to be "priority habitats". The mapping of the area of the site

revealed no listed state or federal species utilizing the site. It does show an area to the north of the site as part of a “biodiversity corridor” (*purple shading*), which is a densely forested area with some steep slopes.

### **Functions and Values**

Wetland A is a forested wetland and as such provides habitat to numerous species that tolerate being within close proximity to humans. The wetland main function is as a groundwater discharge point, which allows groundwater to reach the surface and provide hydrological support to the Type 2 watercourse passing through the site.



*Above: WDFW Priority Habitat mapping of the area of the site.*

### **PROPOSED PROJECT**

The proposed project is the construction of a single family residence as current zoning allows. As previously described, the site is highly encumbered by critical areas including a stream, associated wetland, buffers and steep slopes. There is no part of the site located outside of these critical areas. As a result, in order to build a home on this site the application of MIMC Chapter 19.07.030.B “*Allowed alterations and*

*reasonable use exception*” must be utilized. As described in this section of Code;

*B. Reasonable Use Exception.*

*1. Application Process. If the application of these regulations deny reasonable use of a subject property, a property owner may apply to the hearing examiner for a reasonable use exception pursuant to permit review, public notice and appeal procedures set forth in Chapter 19.15 MICC.*

*2. Studies Required. An application for a reasonable use exception shall include a critical area study and any other related project documents, such as permit applications to other agencies, and environmental documents prepared pursuant to the State Environmental Policy Act.*

*3. Criteria. The hearing examiner will approve the application if it satisfies all of the following criteria:*

*a. The application of these regulations deny any reasonable use of the property. The hearing examiner will consider the amount and percentage of lost economic value to the property owner;*

The application of the standard regulations regarding wetlands, streams, steep slopes and buffers would not allow construction of a home on the site. The only feasible location to build a home will impact some wetland and buffer.

*b. No other reasonable use of the property has less impact on critical areas. The hearing examiner may consider alternative reasonable uses in considering the application;*

The site is zoned for a single family home use and there is no other alternative reasonable use of the site.

*c. Any alteration to critical areas is the minimum necessary to allow for reasonable use of the property;*

The following mitigation sequencing was conducted to determine the most appropriate impacts and mitigation;

This sequencing requires addressing the following criteria;

- a. Avoid any disturbances to the wetland or buffer;*

The entire site is wetland and buffer. There is no way to develop the site under any reasonable scenario without impacting both wetlands and buffers.

- b. Minimize any wetland or buffer impacts;*

In order to minimize impacts, the site plan has been designed to utilize the existing driveway access point/driveway and has pushed the reasonable size home foot print as far away from the stream as is possible. Buffer impacts have been minimized by having no lawn or landscaped areas, and having just the bare essentials, being the driveway and the home structure itself. The new site plan has moved the home location east to reduce the amount of wetland impact to 3,420 sf and buffer impact to 2,621sf. The main difference between the new plan and the old plan is the reduction in driveway buffer impacts by shifting the site to the east. Wetland Impact has been reduced by 374sf and buffer impacts by 885sf (see attached plan). There will also be 1,763sf of temporary impact to wetlands from grading during construction. This is not fill, just regrading without removing wetland characteristics except vegetation, so the area will be restored with native plants.

	Hearing examiner plan	city plan
Roof area	2150 sf	2150 sf
House footprint	1631 sf	1631 sf
Driveway	1640 sf	1560 sf
Site disturbance	6041 sf	6926 sf
Wetland disturbance by the house & drive	2537 sf	2031 sf
Wetland disturbance grading only	883 sf	1763 sf
Total wetland disturbance	3420 sf	3794 sf





c. Restore any wetlands or buffer impacted or lost temporarily; and

Temporarily impacted wetland from grading around the structure will be replanted with native vegetation.

d. Compensate for any permanent wetland or buffer impacts by one of the following methods:

i. Restoring a former wetland and provide buffers at a site once exhibiting wetland characteristics to compensate for wetlands lost;

This is not possible as there are no “former” wetlands on the site.

ii. Creating new wetlands and buffers for those lost; and

This is not possible as there is no room to create new wetlands, or buffers on the site.

iii. Enhancing wetlands that have reduced function;

The wetlands on-site are generally in good shape and cannot be functionally improved with any enhancements.

Other factors to consider in this Reasonable Use review are;

1. Although zoned to permit two single family residences, only one is proposed.
2. The square footage of the proposed residence is only 1,631 square feet (approx.), which is 37% of the 4,300 square foot average size of a new single family residence built on Mercer Island in 2013-2014.
3. The house is sited on the most level portion of the property, This is within the applicable 50 foot watercourse buffer of Stream B.
4. Excavation will be limited to the extent necessary to build the house and related driveway.
5. The property's impervious surfaces have been restricted to a total of Approximately 6,041 square feet, 10% of which are existing.
6. Only 15% of the lot will be covered, which represents less than 42% permitted by code.

In addition to the fill of wetland for the foundation, a minor amount of fill will occur from the proposed driveway. The driveway will be located over the current location of the quarry spall driveway that exists on the site, further reducing impacts.

*d. Impacts to critical areas are mitigated to the greatest extent reasonably feasible consistent with best available science;*

In order to mitigate for the minimal impacts to the sites wetlands from the project, we are proposing using credits from the King County Mitigation Reserves program.

*e. The proposal does not pose an unreasonable threat to the public health, safety, or welfare; and*

The proposed construction of a home on the site will not impact public health or safety and will utilize the latest construction techniques to minimize impacts to critical areas.

*f. The inability of the applicant to derive reasonable use of the property is not the result of actions by the applicant after the effective date of this chapter.*

The ability of the owner to derive reasonable use of the property is not the result of any action at any time by the owner, and solely the fact that the site is covered by critical areas.

### **Stormwater**

Stormwater from the new impervious surfaces on-site will be collected in a stormwater vault under the driveway and discharged to an existing culvert along the east end of the driveway. This water will then drain through the existing roadside ditch to the stream. This should mimic existing drainage patterns on the site.

Once approval of the proposed conceptual mitigation is received, a final detailed mitigation plan will be provided to the city for review and approval.

### **US Army Corps permit**

An application for fill of .046 acres of wetlands was submitted to the US Army Corps of Engineers in July of 2015. A comment letter was received on August 18, 2015 with several requested changes. We are in the process of responding to this letter. One of the requests is that we utilize the King County Mitigation Reserve Program for mitigating the impacts. The Corps requires the use of a bank like this if it is available. As a result we will be purchasing credits from the bank to satisfy the Corps request. As a result the combination of the proposed on-site mitigation as well as purchase of credits from the King County Mitigation reserves program will fully mitigate the proposed impacts on the site.

If you have any questions in regards to this report or need additional information, please feel free to contact me at (253) 859-0515 or at [esewall@sewallwc.com](mailto:esewall@sewallwc.com) .

Sincerely,  
*Sewall Wetland Consulting, Inc.*



Ed Sewall  
Senior Wetlands Ecologist PWS #212

## **REFERENCES**

City of Mercer Island Municipal Code

Cowardin, L., V. Carter, F. Golet, and E. LaRoe. 1979. Classification of Wetlands and Deepwater Habitats of the United States. U.S. Fish and Wildlife Service, FWS/OBS-79-31, Washington, D. C.

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

Muller-Dombois, D. and H. Ellenberg. 1974. Aims and Methods of Vegetation Ecology. John Wiley & Sons, Inc. New York, New York.

Munsell Color. 1988. Munsell Soil Color Charts. Kollmorgen Instruments Corp., Baltimore, Maryland.

National Technical Committee for Hydric Soils. 1991. Hydric Soils of the United States. USDA Misc. Publ. No. 1491.

Reed, P., Jr. 1988. National List of Plant Species that Occur in Wetlands: Northwest (Region 9). 1988. U. S. Fish and Wildlife Service, Inland Freshwater Ecology Section, St. Petersburg, Florida.

Reed, P.B. Jr. 1993. 1993 Supplement to the list of plant species that occur in wetlands: Northwest (Region 9). USFWS supplement to Biol. Rpt. 88(26.9) May 1988.

USDA NRCS & National Technical Committee for Hydric Soils, September 1995. Field Indicators of Hydric Soils in the United States - Version 2.1

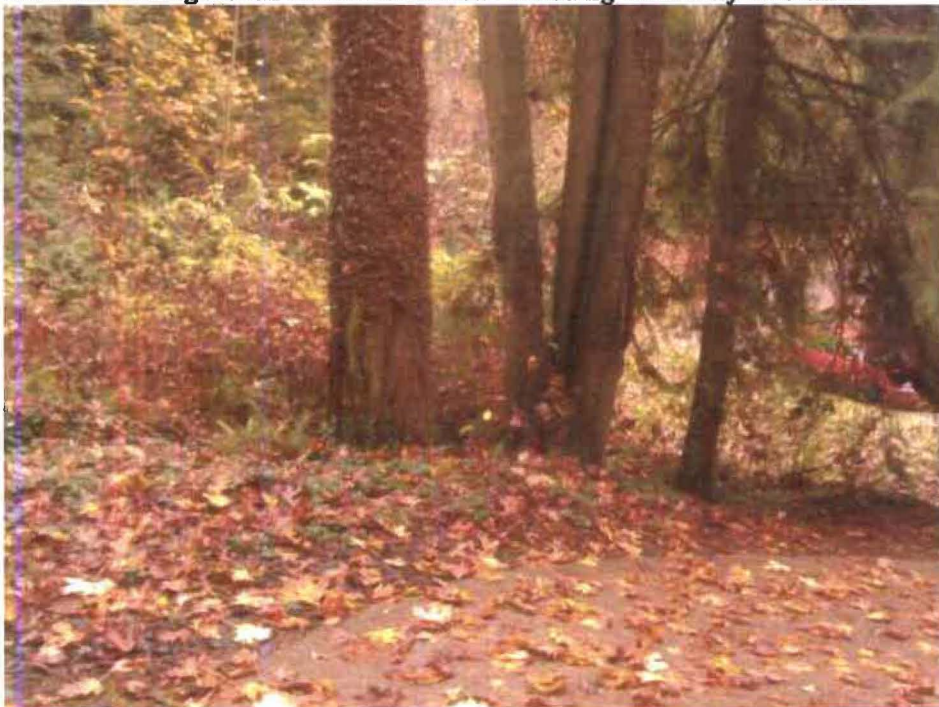
Western Mountains, Valleys and Coast Regional Supplement (Version 2.0) dated June 24, 2010. USACOE

Washington State Wetlands Rating System for Western Washington Publication #04-06-025 dated August 2004, Revised 2008.



**Above: Site as viewed from Mercer Way**

**Below: looking north across site near existing driveway entrance**





**Above: Existing quarry spill access driveway which leads to proposed building site**

Wetland name or number A

**WETLAND RATING FORM - WESTERN WASHINGTON**  
 Version 2 - Updated July 2006 to increase accuracy and reproducibility among users  
 Updated Oct 2008 with the new WDFW definitions for priority habitats

Name of wetland (if known): West A - Muck Key Date of site visit: 11-6-14

Rated by: Ed Semell Trained by Ecology? Yes  No  Date of training \_\_\_\_\_

SEC: \_\_\_\_\_ TOWNSHIP: \_\_\_\_\_ RANGE: \_\_\_\_\_ Is S/TR in Appendix D? Yes  No

Map of wetland unit: Figure \_\_\_\_\_ Estimated size 0.25 ac

**SUMMARY OF RATING**

Category based on FUNCTIONS provided by wetland

I  II  III  IV

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

Score for Water Quality Functions	<u>70</u>
Score for Hydrologic Functions	<u>6</u>
Score for Habitat Functions	<u>18</u>
<b>TOTAL score for Functions</b>	<b><u>34</u></b>

Category based on SPECIAL CHARACTERISTICS of wetland

I  II  Does not Apply

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

III

**Summary of basic information about the wetland unit**

Wetland Type	Wetland Function	Wetland Class
Estuarine	Depressional	
Natural Heritage Wetland	Riverine	
Bog	Lake-Fringe	
Mature Forest	Slaps	<input checked="" type="checkbox"/>
Old Growth Forest	Flats	
Coastal Lagoon	Freshwater Tidal	
Intertidal		
None of the above	<input checked="" type="checkbox"/> Check if unit has multiple HGM classes present	

Wetland name or number A

Does the wetland unit being rated meet any of the criteria below?  
 If you answer YES to any of the questions below you will need to protect the wetland according to the regulations regarding the special characteristics found in the wetland.

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

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

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



Wetland name or number A

### Classification of Wetland Units in Western Washington

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.

- Are the water levels in the entire unit usually controlled by tides (i.e. except during floods)?  
 NO - go to 2  YES - The wetland class is Tidal Fringe  
 If yes, is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)? YES - Freshwater Tidal Fringe NO - Saltwater Tidal Fringe (Estuarine)  
*If your wetland can be classified as a Freshwater Tidal Fringe use the form for Riverine wetlands. If it is Saltwater Tidal Fringe it is rated as an Estuarine wetland. Wetlands that were called estuarine in the first and second editions of the rating system are called Salt Water Tidal Fringe in the Hydrogeomorphic Classification. Estuarine wetlands were categorized separately in the earlier editions, and this separation is being kept in this revision. To maintain consistency between editions, the term "Estuarine" wetland is kept. Please note, however, that the characteristics that define Category I and II estuarine wetlands have changed (see p. ).*
- The entire wetland unit is flat and precipitation is the only source (>50%) 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.
- Does the entire wetland unit meet both of the following criteria?  
 The vegetated part of the wetland is on the shores of a body of permanent open water (without any vegetation on the surface) at least 20 acres (8 ha) in size;  
 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)
- 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!  
 NOTE: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions of ~~shallow hummocks~~ (depressions are usually <3 ft deep and less than 1 foot deep).  
 NO - go to 6  YES - The wetland class is Slopes

Wetland name or number A

- Does the entire wetland unit meet all of the following criteria?  
 The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river  
 The overbank flooding occurs at least once every two years.  
 NOTE: The riverine unit can contain depressions that are filled with water when the river is not flooding.  
 NO - go to 6  YES - The wetland class is Riverine
- 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
- Is the entire wetland unit located in a very flat area with no obvious depression and no overbank flooding. The unit does not pond surface water more than a few inches. The unit seems to be maintained by high groundwater in the area. The wetland may be ditched, but has no obvious natural outlet.  
 NO - go to 8  YES - The wetland class is Depressional

8. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-7 APPLY TO DIFFERENT AREAS IN THE UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within your wetland. NOTE: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the class listed in column 2 is less than 10% of the unit, classify the wetland using the class that represents more than 90% of the total area.

Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake-fringe	Lake-fringe
Depressional + Riverine along stream within boundary	Depressional
Depressional + Lake-fringe	Depressional
Salt Water Tidal Fringe and any other class of freshwater wetland	Treat as ESTUARINE under wetlands with special characteristics

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

Wetland name or number A

S	Slope Wetlands SLOPE WETLANDS (SLOPE WETLANDS) - determine the potential for sediment and erosion in surface water bodies.	(b)(1)(G) POINTS
S	S 1. Does the wetland unit have the potential to improve water quality? (see p. 64)	
S	S 1.1 Characteristics of average slope of unit: Slope is 1% or less (a 1% slope has a 1 foot vertical drop in elevation for every 100 ft horizontal distance) points = 3 Slope is 1% - 2% points = 2 Slope is 2% - 5% points = 1 Slope is greater than 5% points = 0	0
S	S 1.2 The soil 2 inches below the surface (or duff layer) is clay or organic (use NRCS definitions) YES = 3 points NO = 0 points	3
S	S 1.3 Characteristics of the vegetation in the wetland that trap sediments and pollutants: Choose the points appropriate for the description that best fits the vegetation in the wetland. Dense vegetation means you have trouble seeing the soil surface (>75% cover), and uncut means not grazed or mowed and plants are higher than 6 inches. Dense, uncut, herbaceous vegetation > 90% of the wetland area points = 5 Dense, uncut, herbaceous vegetation > 1/2 of area points = 3 Dense, woody, vegetation > 1/2 of area points = 2 Dense, uncut, herbaceous vegetation > 1/4 of area points = 1 Does not meet any of the criteria above for vegetation points = 0 Aerial photo or map with vegetation overlay	2
S	Total for S 1 Add the points in the boxes above	5
S	S 2. Does the wetland unit have the opportunity to improve water quality? Answer YES if you know or believe there are pollutants in groundwater or surface water coming into the wetland that would otherwise reduce water quality in streams, lakes or groundwater downgradient from the wetland. Note which of the following conditions provide the sources of pollutants. A unit may have pollutants coming from several sources, but any single source would qualify as opportunity. — Grazing in the wetland or within 150ft — Untreated stormwater discharges to wetland — Filled fields, logging, or orchards within 150 feet of wetland — Residential, urban areas, or golf courses are within 150 ft upslope of wetland — Other YES multiplier is 2 NO multiplier is 1	2
S	TOTAL - Water Quality Functions Multiply the score from S1 by S2 Add score to table on p. 1	10

Comments

Wetland name or number A

S	Slope Wetlands SLOPE WETLANDS (SLOPE WETLANDS) - determine the potential for sediment and erosion in surface water bodies.	(b)(1)(G) POINTS
S	S 2. Does the wetland unit have the potential to reduce flooding and stream erosion? (see p. 62)	
S	S 3.1 Characteristics of vegetation that reduce the velocity of surface flows during storms. Choose the points appropriate for the description that best fit conditions in the wetland (stems of plants should be thick enough (usually > 1/8in), or dense enough, to remain erect during surface flows) Dense, uncut, rigid vegetation covers > 90% of the area of the wetland. points = 3 Dense, uncut, rigid vegetation > 1/2 area of wetland points = 3 Dense, uncut, rigid vegetation > 1/4 area points = 1 More than 1/4 of area is grazed, mowed, filled or vegetation is not rigid points = 0	6
S	S 3.2 Characteristics of slope wetland that holds back small amounts of flood flows: The slope wetland has small surface depressions that can retain water over at least 10% of its area. YES points = 2 NO points = 0	0
S	S 4. Does the wetland have the opportunity to reduce flooding and erosion? Is the wetland in a landscape position where the reduction in water velocity it provides helps protect downstream property and aquatic resources from flooding or excessive and/or erosive flows? Note which of the following conditions apply. — Wetland has surface runoff that drains to a river or stream that has flooding problems — Other (Answer NO if the major source of water is controlled by a reservoir (e.g. wetland is a seep that is on the downstream side of a dam) YES multiplier is 2 NO multiplier is 1	1
S	TOTAL - Hydrologic Functions Multiply the score from S 3 by S 4 Add score to table on p. 1	6

Comments

Wetland name or number A

*These questions apply to wetlands of all ROW classes*

**H 1. Does the wetland unit have the potential to provide habitat for many species?**

**H 1.1. Vegetation structure (see p. 72)**  
 Check the types of vegetation classes present (as defined by Cowardin). Size threshold for each class is 1/4 acre or more than 10% of the area if unit is smaller than 2.5 acres.

- Aquatic bed
- Emergent plants
- Shrub/strub (areas where shrubs have >30% cover)
- Forested (areas where trees have >30% cover)

*If the unit has a forested class check if:*

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

Add the number of vegetation structures that qualify. If you have:

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

Map of Cowardin vegetation classes

**H 1.2. Hydroperiods (see p. 73)**  
 Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or 1/4 acre to count. (see text for descriptions of hydroperiods)

- Permanently flooded or inundated 4 or more types present points = 3
- Seasonally flooded or inundated 3 types present points = 2
- Occasionally flooded or inundated 2 types present points = 1
- Disturbed 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

Map of hydroperiods

**H 1.3. Richness of Plant Species (see p. 75)**  
 Count the number of plant species in the wetland that cover at least 1.0 ft<sup>2</sup>. (different patches of the same species can be combined to meet the size threshold)  
 You do not have to name the species.  
 Do not include *Elymus*, *Mylodon*, *reed canarygrass*, *purple loosestrife*, *Canadian Thistle*

If you counted:

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

List species below if you want to:

Figure 2

Total for page 4

Wetland name or number A

**H 1.4. Interspersion of habitats (see p. 76)**  
 Decide from the diagrams below whether interspersion between Cowardin vegetation classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflat) is high, medium, low, or none.

None = 0 points  
 Low = 1 point  
 Moderates = 2 points  
 High = 3 points [riparian braided channels]

NOTE: If you have four or more classes or three vegetation classes and open water the rating is always "high". Use map of Cowardin vegetation classes

**H 1.5. Special Habitat Features (see p. 77)**  
 Check the habitat features that are present in the wetland. The number of checks is the number of points you put into the next column.

- Large, downed, woody debris within the wetland (>4in. diameter and 6 ft long).
- Standing snags (diameter at the bottom > 4 inches) in the wetland
- Undercut banks are present for at least 6.6 ft (2m) and/or overhanging vegetation extends at least 3.3 ft (1m) over a stream (or ditch) in, or contiguous with the wetland, for at least 33 ft (10m)
- Stable steep banks of fine material that might be used by beaver or muskrat for denning (>30degree slope) OR signs of recent beaver activity are present (cut shrubs or trees that have not yet turned gray/brown)
- At least 1/4 acre of this-stemmed, persistent vegetation or woody branches are present in areas that are permanently or seasonally inundated. (structures for egg-laying by amphibians)
- Invasive plants cover less than 25% of the wetland area in each stratum of plants

NOTE: The 20% stated in early printings of the manual on page 78 is an error.

**H 1. TOTAL Score - potential for providing habitat**  
 Add the scores from H1.1, H1.2, H1.3, H1.4, H1.5

Figure 1

Comments

Wetland name or number A

<p><b>H 2. Does the wetland unit have the opportunity to provide habitat for many species?</b></p> <p><b>H 2.1 Buffers</b> (see p. 80)          Choose the description that best represents condition of buffer of wetland unit. The highest scoring criterion that applies to the wetland is to be used in the rating. See text for definition of "undisturbed."</p> <ul style="list-style-type: none"> <li>— 100 m (330ft) of relatively undisturbed vegetated areas, rocky areas, or open water &gt;95% of circumference. No structures are within the undisturbed part of buffer. (relatively undisturbed also means no-grazing, no landscaping, no daily human use) Points = 5</li> <li>— 100 m (330 ft) of relatively undisturbed vegetated areas, rocky areas, or open water &gt; 50% circumference. Points = 4</li> <li>— 50 m (170ft) of relatively undisturbed vegetated areas, rocky areas, or open water &gt;95% circumference. Points = 4</li> <li>— 100 m (330ft) of relatively undisturbed vegetated areas, rocky areas, or open water &gt; 25% circumference. Points = 3</li> <li>— 50 m (170ft) of relatively undisturbed vegetated areas, rocky areas, or open water &gt; 50% circumference. Points = 3</li> </ul> <p style="text-align: center;"><i>Buffer does not meet any of the criteria above</i></p> <ul style="list-style-type: none"> <li>— No paved areas (except paved trails) or buildings within 25 m (80ft) of wetland &gt; 95% circumference. Light to moderate grazing, or lawns are OK. Points = 2</li> <li>— No paved areas or buildings within 50m of wetland for &gt;50% circumference. Points = 2</li> <li>— Light to moderate grazing, or lawns are OK. Points = 2</li> <li>— Heavy grazing in buffer. Points = 1</li> <li>— Vegetated buffers are &lt;2m wide (6.6ft) for more than 95% of the circumference (e.g. filled fields, paving, basalt bedrock extend to edge of wetland) Points = 0.</li> <li>— Buffer does not meet any of the criteria above. Points = 1</li> </ul> <p style="text-align: center;"><i>Aerial photo showing buffers</i></p>		<p>Figure _____</p> <p style="text-align: center; font-size: 2em;">3</p>
<p><b>H 2.2 Corridors and Connections</b> (see p. 81)</p> <p><b>H 2.2.1</b> Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either riparian or upland) that is at least 150 ft wide, has at least 30% cover of shrubs, forest or native undisturbed prairie, that connects to estuaries, other wetlands or undisturbed uplands that are at least 250 acres in size? (dams in riparian corridors, heavily used gravel roads, paved roads, are considered breaks in the corridor).          YES = 4 points (go to H 2.3) NO = go to H 2.2.2</p> <p><b>H 2.2.2</b> Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either riparian or upland) that is at least 50ft wide, has at least 30% cover of shrubs or forest, and connects to estuaries, other wetlands or undisturbed uplands that are at least 25 acres in size? OR a Lake-fringe wetland, if it does not have an undisturbed corridor as in the question above?          YES = 2 points (go to H 2.3) NO = H 2.2.3</p> <p><b>H 2.2.3</b> Is the wetland:          within 5 mi (8km) of a brackish or salt water estuary OR          within 3 mi of a large field or pasture (&gt;40 acres) OR          within 1 mi of a lake greater than 20 acres?          YES = 1 point NO = 0 points</p>		<p style="text-align: center;">1</p>
<p style="text-align: right;">Total for page <u>4</u></p>		

Wetland name or number A

<p><b>H 2.3</b> Near or adjacent to other priority habitats listed by WDFW (see new and complete descriptions of WDFW priority habitats, and the counties in which they can be found, in the PHS report <a href="http://wdfw.wa.gov/hab/habitat.htm">http://wdfw.wa.gov/hab/habitat.htm</a>)          Which of the following priority habitats are within 330ft (100m) of the wetland unit? NOTE: the connections do not have to be relatively undisturbed.</p> <ul style="list-style-type: none"> <li>— Aspen Stands: Pure or mixed stands of aspen greater than 0.4 ha (1 acre).</li> <li>— 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 p. 152).</li> <li>— Herbaceous Balds: Variable size patches of grass and forbs on shallow soils over bedrock.</li> <li>— 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 20 trees/ha (8 trees/acre) &gt; 81 cm (32 in) dbh or &gt; 200 years of age. (Mature forests) Stands with average diameters exceeding 53 cm (21 in) dbh; crown cover may be less than 100%; 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.</li> <li>— Oregon white Oak: Woodlands 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).</li> <li>— Riparian: The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.</li> <li>— Wetland 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).</li> <li>— 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.</li> <li>— 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 reports pp. 167-169 and glossary in Appendix A).</li> <li>— 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.</li> <li>— Cliffs: Greater than 7.6 m (25 ft) high and occurring below 5000 ft.</li> <li>— Talus: Homogeneous areas of rock rubble ranging in average size 0.15 - 2.0 m (0.5 - 6.5 ft), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.</li> <li>— Snags and Logs: Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity development by wildlife. Priority snags have a diameter at breast height of &gt; 51 cm (20 in) in western Washington and are &gt; 2 m (6.5 ft) in height. Priority logs are &gt; 30 cm (12 in) in diameter at the largest end, and &gt; 6 m (20 ft) long.</li> </ul> <p>If wetland has 3 or more priority habitats = 4 points          If wetland has 2 priority habitats = 3 points          If wetland has 1 priority habitat = 1 point          No habitats = 0 points</p> <p>Note: All vegetated wetlands are by definition a priority habitat but are not included in this list. Nearshore wetlands are addressed in question H 2.4.</p>		<p style="text-align: center;">3</p>
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Wetland name or number A

<p><b>H 2.4 Wetland Landscapes</b> (choose the one description of the landscape around the wetland that best fit) (see p. 84)</p> <p>There are at least 3 other wetlands within 1/2 mile, and the connections between them are relatively undisturbed (light grazing between wetlands OK, as is lake shore with some boating, but connections should NOT be bisected by paved roads, fill, fields, or other development. points = 5</p> <p>The wetland is Lake-fringe on a lake with little disturbance and there are 3 other lake-fringe wetlands within 1/2 mile points = 5</p> <p>There are at least 3 other wetlands within 1/2 mile, BUT the connections between them are disturbed. points = 3</p> <p>The wetland is Lake-fringe on a lake with disturbance and there are 3 other lake-fringe wetland within 1/2 mile points = 3</p> <p>There is at least 1 wetland within 1/2 mile. points = 2</p> <p>There are no wetlands within 1/2 mile. points = 0</p>	<p>3</p> <p>10</p> <p>8</p> <p>18</p>
<p><b>H 2. TOTAL Score</b> - opportunity for providing habitat Add the scores from H2.1, H2.2, H2.3, H2.4</p> <p>TOTAL for H 1 from page 14</p>	<p>10</p> <p>8</p>
<p><b>Total Score for Habitat Functions</b> - add the points for H 1, H 2 and record the result on p. 1</p>	<p>18</p>

Wetland name or number A

**CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS**

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

Wetland Type	Category
<p>Check off any criteria that apply to the wetland. Circle the Category when the appropriate criteria are met.</p> <p><b>SC 1.0 Estuarine wetlands</b> (see p. 86)</p> <p>Does the wetland unit meet the following criteria for Estuarine wetlands?</p> <ul style="list-style-type: none"> <li>— The dominant water regime is tidal, <input type="checkbox"/></li> <li>— Vegetated, and <input type="checkbox"/></li> <li>— With a salinity greater than 0.5 ppt. <input checked="" type="checkbox"/></li> </ul> <p>YES = Go to SC 1.1 NO = <input checked="" type="checkbox"/></p>	
<p><b>SC 1.1</b> Is the wetland unit within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-30-151?</p> <p>YES = Category I NO go to SC 1.2</p>	<p>Cat. I</p>
<p><b>SC 1.2</b> Is the wetland unit at least 1 acre in size and meets at least two of the following three conditions? YES = Category I NO = Category II</p> <ul style="list-style-type: none"> <li>— The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less than 10% cover of non-native plant species. If the non-native <i>Spartina</i> spp. are the only species that cover more than 10% of the wetland, then the wetland should be given a dual rating (DII). The area of <i>Spartina</i> would be rated a Category II while the relatively undisturbed upper marsh with native species would be a Category I. Do not, however, exclude the area of <i>Spartina</i> in determining the size threshold of 1 acre.</li> <li>— At least 1/4 of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland.</li> <li>— The wetland has at least 2 of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands.</li> </ul>	<p>Cat. I</p> <p>Cat. II</p> <p>Dual rating</p> <p>I/II</p>

Wetland name or number A

<p><b>SC 2.0 Natural Heritage Wetlands (see p. 87)</b>  Natural Heritage wetlands have been identified by the Washington Natural Heritage Program/DNR as either high quality undisturbed wetlands or wetlands that support state Threatened, Endangered, or Sensitive plant species.</p> <p>SC 2.1 Is the wetland unit being rated in a Section/Township/Range that contains a Natural Heritage wetland? <i>(This question is used to screen out most sites before you need to contact WNH/DNR)</i>  S/TR information from Appendix D ___ or accessed from WNH/DNR web site ___</p> <p>YES ___ - contact WNH/DNR (see p. 79) and go to SC 2.2    NO <input checked="" type="checkbox"/></p> <p>SC 2.2 Has DNR identified the wetland as a high quality undisturbed wetland or as or as a site with state threatened or endangered plant species?  YES = Category I    NO ___ not a Heritage Wetland</p>	<p>Cat. I</p>
<p><b>SC 3.0 Bogs (see p. 87)</b>  Does the wetland unit (or any part of the unit) meet both the criteria for soils and vegetation in bogs? Use the key below to identify if the wetland is a bog. If you answer yes you will still need to rate the wetland based on its functions.</p> <p>1. Does the unit have organic soil horizons (i.e. layers of organic soil), either peats or mucks, that compose 16 inches or more of the first 32 inches of the soil profile? (See Appendix B for a field key to identify organic soils)? Yes - go to Q. 3  No - go to Q. 2</p> <p>2. Does the unit have organic soils, either peats or mucks that are less than 16 inches deep over bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on a lake pond?  Yes - go to Q. 3    No - Is not a bog for purpose of rating</p> <p>3. Does the unit have more than 70% cover of mosses at ground level, AND other plants, if present, consist of the "bog" species listed in Table 3 as a significant component of the vegetation (more than 30% of the total shrub and herbaceous cover consists of species in Table 3)?  Yes - Is a bog for purpose of rating    No - go to Q. 4  NOTE: If you are uncertain about the extent of mosses in the understory you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16" deep. If the pH is less than 5.0 and the "bog" plant species in Table 3 are present, the wetland is a bog.</p> <p>1. Is the unit forested (&gt; 30% cover) with sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Englemann's spruce, or western white pine, WITH any of the species (or combination of species) on the bog species plant list in Table 3 as a significant component of the ground cover (&gt; 30% coverage of the total shrub/herbaceous cover)?  YES = Category I    No ___ is not a bog for purpose of rating</p>	<p>Cat. I</p>

Wetland name or number A

<p><b>SC 4.0 Forested Wetlands (see p. 90)</b>  Does the wetland unit have at least 1 acre of forest that meet one of these criteria for the Department of Fish and Wildlife's forests as priority habitats? If you answer yes you will still need to rate the wetland based on its functions.</p> <p>--- Old-growth forests: (west of Cascade crest) Stands of at least two tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/acre (20 trees/hectare) that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 inches (81 cm) or more.</p> <p>NOTE: The criterion for dbh is based on measurements for upland forests. Two-hundred year old trees in wetlands will often have a smaller dbh because their growth rates are often slower. The DFW criterion is and "OR" so old-growth forests do not necessarily have to have trees of this diameter.</p> <p>--- Mature forests: (west of the Cascade Crest) Stands where the largest trees are 80 - 200 years old OR have average diameters (dbh) exceeding 21 inches (53cm); crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth.</p> <p>YES = Category I    NO ___ not a forested wetland with special characteristics</p>	<p>Cat. I</p>
<p><b>SC 5.0 Wetlands in Coastal Lagoons (see p. 91)</b>  Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?</p> <p>--- The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from marine waters by sandbanks, gravel banks, shingles, or, less frequently, rocks</p> <p>--- The lagoon in which the wetland is located contains surface water that is saline or brackish (&gt; 0.5 ppt) during most of the year in at least a portion of the lagoon (needs to be measured near the bottom)</p> <p>YES = Go to SC 5.1    NO ___ not a wetland in a coastal lagoon</p> <p><b>SC 5.1 Does the wetland meets all of the following three conditions?</b></p> <p>--- The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of invasive plant species (see list of invasive species on p. 74).</p> <p>--- At least 1/4 of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland.</p> <p>--- The wetland is larger than 1/10 acre (4350 square feet)</p> <p>YES = Category I    NO = Category II</p>	<p>Cat. I</p> <p>Cat. II</p>

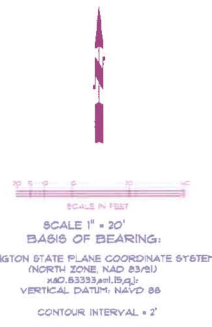
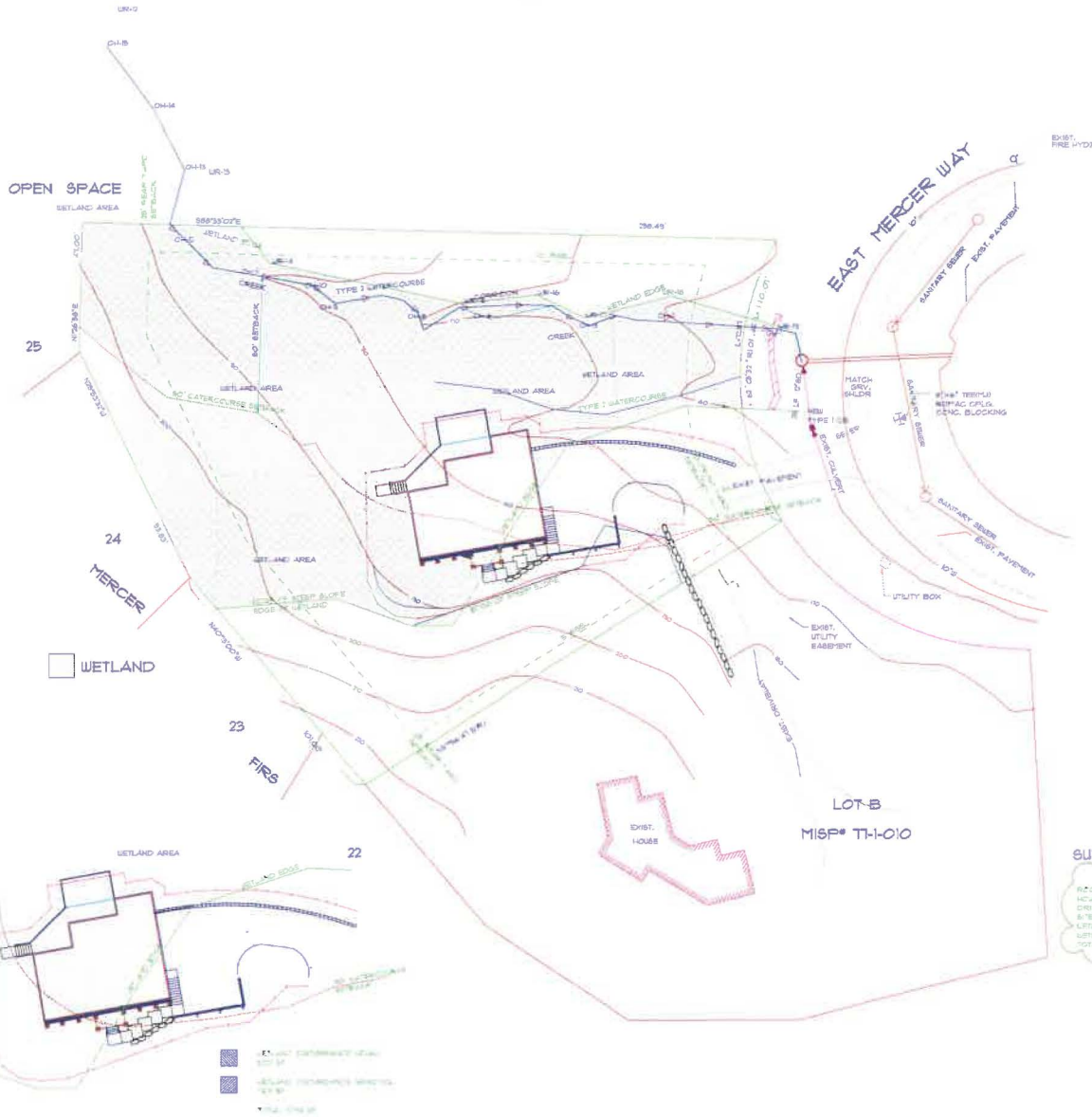
Wetland name or number A

<p><b>SC 6.0 Interdunal Wetlands (see p. 93)</b>          Is the wetland unit west of the 1889 line (also called the Western Boundary of Upland Ownership or WBUO)?          YES - go to SC 6.1      NO - not an interdunal wetland for rating  <i>If you answer yes you will still need to rate the wetland based on its functions.</i>          In practical terms that means the following geographic areas:          • Long Beach Peninsula- lands west of SR 103          • Grayland-Westport- lands west of SR 105          • Ocean Shores-Copalis- lands west of SR 115 and SR 109          SC 6.1 Is the wetland one acre or larger, or is it in a mosaic of wetlands that is one acre or larger?          YES = Category II      NO - go to SC 6.2          SC 6.2 Is the unit between 0.1 and 1 acre, or is it in a mosaic of wetlands that is between 0.1 and 1 acre?          YES = Category III</p>	<p>Cat. II</p>
<p>Category of wetland based on Special Circumstances          Check the "highest" category that applies to the wetland and indicate in #.          If you answer NO to the all three, enter "Not Applicable" on p. 11</p>	<p>Cat. III</p> <p>NA</p>

# EXHIBIT C



A PORTION OF GOVERNMENT LOT 3, OF SECTION 19, TOWNSHIP 24 NORTH, RANGE 5 EAST, W.M., KING COUNTY, WASHINGTON



**LEGAL DESCRIPTION:**  
 PARCEL A OF GR86 NEBET SHORT PLAT M8P NO. T1-010, AS RECORDED UNDER RECORDING NUMBER P170330481, RECORDS OF KING COUNTY, STATE OF WASHINGTON.

- REFERENCES:**
1. PARCEL A OF GR86 NEBET SHORT PLAT M8P NO. T1-010, AS RECORDED UNDER RECORDING NUMBER P170330481, RECORDS OF KING COUNTY, STATE OF WASHINGTON.
  2. MERCER FIRS IN VOLUME 79 OF PLATS, PAGE 70, UNDER FILE NUMBER 18460301063.
  3. PARKWOOD RIDGE IN VOLUME 79 OF PLATS, PAGE 8, UNDER FILE NUMBER 18410786420.

**NOTES:**

1. LEGAL DESCRIPTION, EASEMENTS, COVENANTS, CONDITIONS AND RESTRICTIONS WERE PROVIDED BY CLIENT. IT SHOULD BE NOTED THAT IN PREPARING THIS SURVEY MAP, CHS ENGINEERS, LLC HAS NOT CONDUCTED AN INDEPENDENT TITLE SEARCH NOR IS CHS AWARE OF ANY TITLE MATTERS AFFECTING THE PROPERTY OTHER THAN THOSE SHOWN ON THIS MAP. CHS HAS EXPLICITLY RELIED ON THE ABOVE REFERENCED TITLE REPORT TO PREPARE THIS SURVEY AND THEREFORE QUALIFIES THE MAP'S ACCURACY AND COMPLETENESS TO THAT EXTENT.
2. BASIS OF BEARING: WASHINGTON STATE PLANE COORDINATE SYSTEM (NORTH ZONE, NAD 83/11) NAD 83/11 (NAD 83/11) VERTICAL DATUM: NAVD 88 DATUM.
3. UTILITIES OTHER THAN THOSE SHOWN MAY EXIST ON THE SITE. UNDERGROUND UTILITY LOCATIONS SHOWN HEREON ARE TAKEN FROM A COMPILATION OF PUBLIC RECORDS AND VISIBLE FIELD EVIDENCE. WE ASSUME NO LIABILITY FOR THE ACCURACY OF THE PUBLIC RECORDS. UNDERGROUND UTILITY LOCATIONS ARE ONLY APPROXIMATE. UNDERGROUND CONNECTIONS ARE SHOWN AS STRAIGHT LINES BETWEEN VISIBLE SURFACE LOCATIONS BUT MAY CONTAIN BENDS OR CURVES NOT SHOWN. FIELD VERIFICATION IS NECESSARY PRIOR TO OR DURING ANY CONSTRUCTION.

**SUMMARY**

WETLAND DISTURBANCE BY HOUSE	207 SF	TREES TO REMAIN
WETLAND DISTURBANCE GRADING	278 SF	
<b>TOTAL</b>	<b>485 SF</b>	TREES TO BE REMOVED 13 TOTAL
WETLAND DISTURBANCE BY DRIVEWAY	540 SF	
WETLAND DISTURBANCE BY HOUSE	275 SF	SILTATION FENCE CLEARING LIMITS
<b>TOTAL</b>	<b>793 SF</b>	

# EXHIBIT D

## RESPONSES TO CRITERIA FOR APPROVAL OF ZONING REQUEST

A variance is being requested from the following code section: MICC 19.02.020.H(1)

A. Unnecessary hardship.

The site is located on East Mercer Way, at SE 56<sup>th</sup> Street. See Survey in RUE CAO 15-001 project file.

There is an existing access-utility easement at the southwest corner of the property that provides access and utilities to the property as well as to the property directly south, 5645 East Mercer Way. There is a driveway in the easement paved with asphaltic paving, approximately 600 square feet in area that connects the street to the residence to the south.

The site contains a small perennial stream, Stream "A", that flows easterly. This small channel has been mapped by the City as a Type 2 watercourse.

The site contains two steep slope areas, one at the northwest corner and one along the south property line.

Other portions of the site have been classified as a Type 3 wetland.

In this light, City staff has determined that to develop the site, it is appropriate for the owner to apply for a Reasonable Use Exception ("RUE") pursuant to MICC 19.07.030.B((3)). The owner has done so. The owner's RUE application has been given the project identification RUE CAO 15-001. Pertinent documents are available in the City files.

One of the requirements of the RUE provisions of the Code is that the applicant demonstrate that alteration of critical areas, in order to allow a reasonable use for a single-family home, will "be the minimum necessary to allow for a reasonable use of the property."

The owner has provided two site plans that will allow for a reasonable use of the property. One site plan places the proposed residence five feet distant from the existing access-utility easement on the site, as required by MICC 19.02.020.H(1). However, in order to "minimize" impacts on the Type 3 wetland on the property, City staff has suggested that the owner request a variance to allow the proposed residence to be placed closer than five feet from the existing access-utility easement. The owner has agreed to

do so. The second site plan, therefore, places the proposed residence at a distance that is approximately 18 inches from the easement.

The granting of the variance is necessary to prevent creating an unnecessary hardship, in that City staff has determined that in order to construct a single-family home on the property it is necessary to minimize alteration of the critical area. Staff has determined that relocating the proposed single-family home closer than five feet to the utility easement will contribute to minimizing alteration of the critical area.

B. Minimum necessary to afford relief:

The granting of the variance is what City staff has determined is appropriate as the minimum which will allow construction of a single-family home while minimizing alteration of the critical area.

C. No use variance is being requested.

D. Special circumstances:

See response to Criterion A.

E. Not materially detrimental to public welfare or injurious to property or improvements in the area:

The proposed 3-foot variance from the 5-foot easement buffer requirement will be imperceptible to any of the neighboring homes. The homeowner to the south of the site, the beneficiary of the access easement, has no objection to the granting of the variance.

F. Will not alter character of neighborhood nor impair use or development of adjacent property:

See response to Criterion E.

G. Explain how the variance is consistent with the policies and provisions of the Comprehensive Plan and the Development Code:

By allowing the application of the reasonable use exception in the Land Use Code to minimize the impact on the wetland located on the site, the granting of the variance will further Comprehensive Plan Policies that encourage the protection of environmentally sensitive areas and lands. Land Use Issues (1) and (4); Land Use Policies 15.2 and 18.

By the granting of the variance, the Land Use Code reasonable use exception criteria that require minimizing the alteration of critical areas when allowing a reasonable use exception will be furthered. MICC 19.07.030.B(3).

H. Hardship is not self-created:

The hardship is due to the critical areas located on the property. The property owner had no role in the creation of those critical areas.

- I. Institutions: Not applicable.