Sewall Wetland Consulting, Inc.
PO Box 880
Fall City, WA 98024
Phone: 253-859-0515

October 21, 2015

Travis Saunders, Senior Planner
Development Service Group
City of Mercer Island
9611 SE 36th Street
Mercer Island, WA 98040

RE: 5637 Mercer Way – Peer review response
SWC Job#14-206

Dear Travis,

This letter and attached revised Critical areas report and revised Critical Area Enhancement Plan, are in response to the July 29, 2015 ESA peer review letter regarding this project.

The ESA letter requested the following information;

Summary of Recommendations

In summary from our findings above, we have the following recommendations to ensure project consistency with the requirements of MIMC 19.07:

- If any fill material will be placed within Wetland A or if any grading occurs within the wetland, the applicant is required to obtain a permit from the Corps and Ecology.
    - As part of the reasonable use exception application, the applicant must provide the City with permit applications that were submitted to other agencies.

Response: An application was made to the Corps for will of .046ac of wetland in July of 2015. A response letter was received from the Corps in August of 2015 requesting additional information. This letter is attached within the revised Critical Areas report that is attached.

- Temporary wetland and wetland buffer impacts should be identified in the impact assessment and accounted for in the mitigation plan.

Response: The revised Critical Areas Enhancement Plan identifies areas of temporary impact with associated restoration plantings.

- The newly identified stream should be flagged and surveyed in the field and the stream boundary and associated buffers should be included on appropriate project plans and the mitigation plan.

The second stream identified during the review is now depicted on the site plan as requested.

- Stream and/or stream buffer impacts should be accounted for in the CAR and appropriate compensatory mitigation should be implemented.

No impacts to the two streams on the site are proposed. All of the buffer impacts are overlapping the wetland buffer impacts already identified.

- The critical areas enhancement plan figure, Sheet 1 of 1, should indicate the stream flows to the east.

The mitigation plan has been revised to note the stream flows to the east as requested.

- The applicant should avoid clearing, grading, filling, and foundation work within geologic hazard areas activities between October 1 and April.

The requested work timing limits will be followed as requested.

- Additional wetland mitigation, to help ensure no net loss of wetland functions, should occur offsite, but within the same drainage sub-basin as the impacted wetland.

As required by the Corps, the applicant will be purchasing credits to fully mitigate the impacts from the site from the King County Mitigation Reserves program. The site is within the service area of the program and the use of the proposed on-site mitigation and credit purchase will more than mitigate the proposed impacts.

- Fallen trees should be retained onsite and placed within the buffer of the streams.

As requested, all trees removed during the construction process of the home will be placed as habitat features within the buffer areas.

- The dirt trail on the northern parcel boundary should be surveyed and identified on appropriate project plans and the mitigation plan.

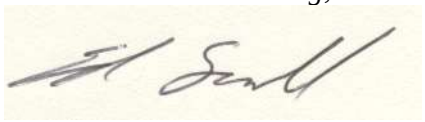
The trail has now been placed on the mitigation plan as requested.

- On page 7 of the CAR, it states the wetland was rated as a depressional wetland; this should be changed to slope, which is the wetland type actually used to rate the wetland.

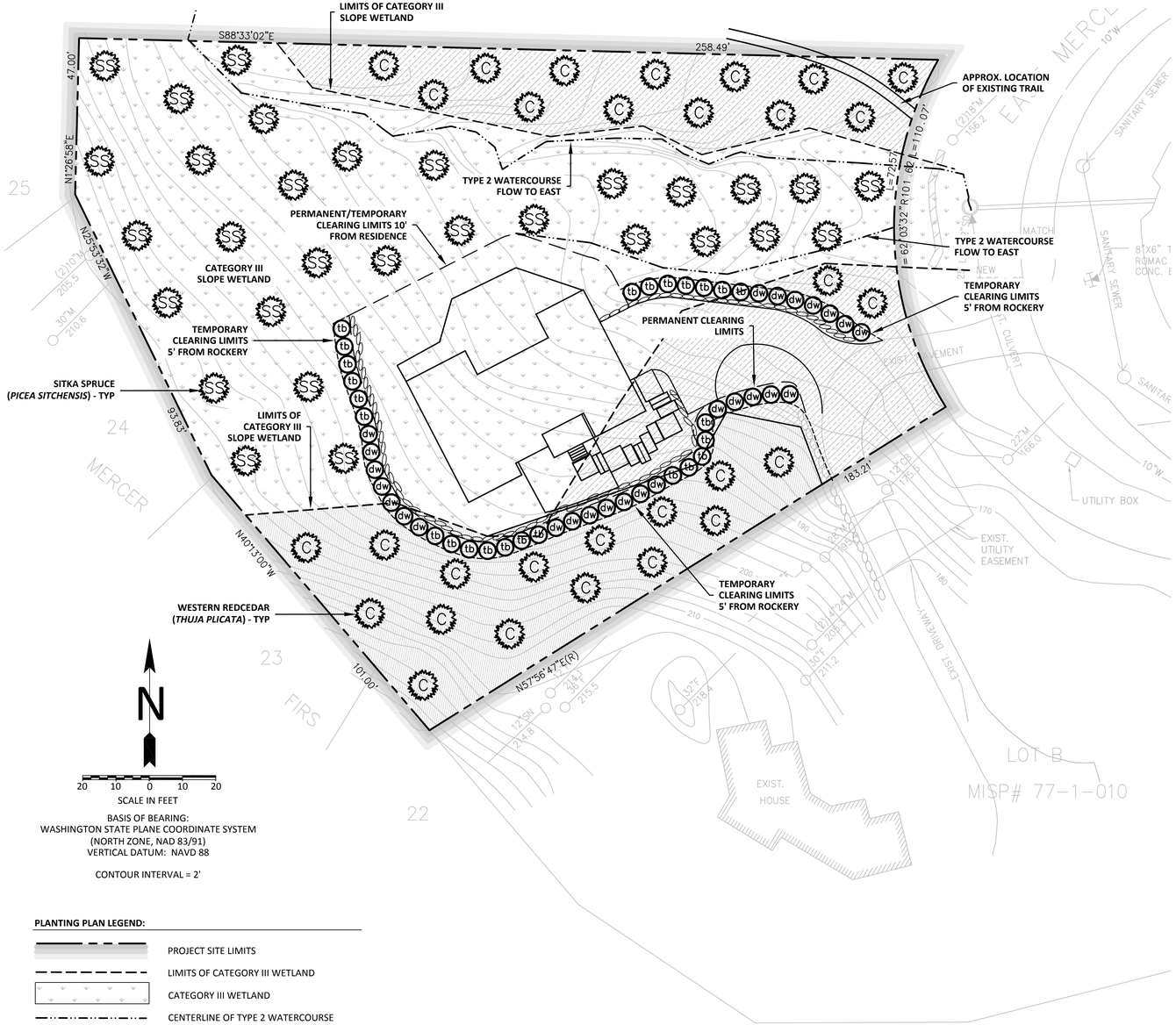
The revision has been made to the CAR as requested.

If you have any questions please feel free to contact me at (253) 859-0515 or at esewall@sewallwc.com.

Sincerely,
Sewall Wetland Consulting, Inc.



Ed Sewall
Senior Wetland Ecologist



BASIS OF BEARING:
WASHINGTON STATE PLANE COORDINATE SYSTEM
(NORTH ZONE, NAD 83/91)
VERTICAL DATUM: NAVD 88

CONTOUR INTERVAL = 2'

PLANTING PLAN LEGEND:

- PROJECT SITE LIMITS
- LIMITS OF CATEGORY III WETLAND
- CATEGORY III WETLAND
- CENTERLINE OF TYPE 2 WATERCOURSE
- STEEP SLOPE (INCLUDES WETLAND BUFFER)
- WETLAND/STREAM BUFFER

PLANTING PLAN NOTES:

1. BASE TOPOGRAPHIC AND SITE PLAN PROVIDED BY HEALY-JORGENSEN ARCHITECTS (2958 222ND PLACE SE - SAMMAMISH, WASHINGTON 98075; 425-454-3096). SOURCE DRAWINGS HAVE BEEN MODIFIED FOR VISUAL ENHANCEMENT.
2. PROTECT AND ACCOMMODATE EXISTING NATIVE VEGETATION WHEN INSTALLING PLANTS.
3. PLANT MATERIAL QUALITY AND LOCATIONS SHALL BE INSPECTED BY PLAN DESIGNER PRIOR TO PLANT INSTALLATION.
4. PLANT LOCATIONS SHOWN ARE APPROXIMATE. ADJUST PLANT LOCATIONS TO ACCOMMODATE SITE CONDITIONS, TO PRESERVE AND PROTECT EXISTING NATIVE VEGETATION, AND/OR PER PLAN DESIGNER AT THE TIME OF INSTALLATION.
5. SEE THIS SHEET FOR PLANT INSTALLATION DETAILS.

TREE REMOVAL NOTES:

1. ALL TREES REMOVED DURING CONSTRUCTION SHALL BE PLACED WITHIN ON-SITE BUFFER AREAS AS HABITAT FEATURES.

PLANT SCHEDULE:

	COMMON NAME	SCIENTIFIC NAME	SIZE/FORM	QUANTITY	SPACING
SS	SITKA SPRUCE	*PICEA SITCHENSIS*	2 GALLON CONTAINERIZED	30	AS SHOWN
C	WESTERN REDCEDAR	*THUJA PLICATA*	2 GALLON CONTAINERIZED	30	AS SHOWN
dw	RED-OSIER DOGWOOD	*CORNUS SERICEA*	2 GALLON CONTAINERIZED	24	AS SHOWN
tb	TWINBERRY HONEYSUCKLE	*LONICERA INVOLUCRATA*	2 GALLON CONTAINERIZED	25	AS SHOWN

TOTAL - 109

1/1 **PLANTING PLAN**

MONITORING PLAN & MAINTENANCE PLAN

ENHANCEMENT PLAN GOALS, OBJECTIVES, AND PERFORMANCE STANDARDS

ENHANCEMENT PLAN GOALS, OBJECTIVES, AND PERFORMANCE STANDARDS ARE OUTLINED IN TABLE 1-1 (BELOW). THE GOALS AND OBJECTIVES OF THIS PLAN ARE CONSIDERED ACHIEVED WHEN THE PERFORMANCE STANDARDS ARE SATISFIED.

MONITORING PLAN

AS-BUILT

FOLLOWING COMPLETION OF THE WORK SHOWN ON THIS PLAN, A QUALIFIED PROFESSIONAL SHALL PREPARE AN AS-BUILT OF THE COMPLETED WORK. THE AS-BUILT SHALL SUMMARIZE THE COMPLETED WORK AS WELL AS ANY DEVIATIONS FROM THE APPROVED VERSION OF THIS PLAN.

BASELINE MONITORING DATA SHALL BE COLLECTED AT THE TIME OF THE AS-BUILT (SEE "ANNUAL COMPLIANCE MONITORING" FOR FIELD DATA COLLECTION REQUIREMENTS). PERMANENT PHOTO POINTS SHALL BE ESTABLISHED AT THE TIME OF THE AS-BUILT TO PHOTOGRAPHICALLY DOCUMENT REPRESENTATIVE CONDITIONS WITHIN BUFFER AREAS. BASELINE MONITORING AND PHOTOGRAPHS SHALL BE SUBMITTED WITH THE AS-BUILT.

THE AS-BUILT AND BASELINE MONITORING DATA SHALL BE SUBMITTED TO THE CITY OF MERCER ISLAND NO LATER THAN 30 DAYS FROM THE DATE THAT THE WORK SHOWN ON THIS PLAN HAS BEEN COMPLETED.

ANNUAL MONITORING

FOLLOWING ACCEPTANCE OF THE AS-BUILT BY THE CITY OF MERCER ISLAND, ANNUAL COMPLIANCE MONITORING SHALL BE COMPLETED FOR A PERIOD OF FIVE (5) YEARS. ANNUAL COMPLIANCE MONITORING SHALL BE COMPLETED BY A QUALIFIED PROFESSIONAL AND SHALL COMPRISE A SITE INVESTIGATION IN AUGUST OR SEPTEMBER AND REPORTING TO THE CITY OF MERCER ISLAND BY NOVEMBER 30 OF EACH MONITORING YEAR.

MONITORING SHALL COMPRISE A QUANTITATIVE ASSESSMENT OF CONDITIONS WITHIN BUFFER AREAS FOR PURPOSES OF EVALUATING THE CURRENT YEAR'S SUCCESS STANDARDS. AT THE TIME OF EACH MONITORING, THE FOLLOWING INFORMATION SHALL BE COLLECTED WITHIN BUFFER AREAS AND ASSESSED RELATIVE TO THE SUCCESS STANDARDS ESTABLISHED FOR THE PROJECT:

- THE CONDITION OF INSTALLED PLANT STOCK INCLUDING SURVIVORSHIP, HEALTH, AND VIGOR. THE RATIONALE FOR POOR CONDITIONS, IF PRESENT, WILL BE DETERMINED.

A DIRECT COUNT INVENTORY AND ASSESSMENT OF INSTALLED PLANT STOCK SHALL BE USED TO EVALUATE PLANT STOCK CONDITIONS. IN ADDITION, PHOTOGRAPHS OF BUFFER AREAS SHALL BE TAKEN FROM THE PERMANENT PHOTO POINTS ESTABLISHED DURING THE AS-BUILT.

THE RESULTS OF EACH MONITORING ASSESSMENT SHALL BE SUMMARIZED IN A WRITTEN REPORT AND SUBMITTED TO THE CITY OF MERCER ISLAND NO LATER THAN NOVEMBER 30 OF THE RESPECTIVE MONITORING YEAR.

CONTINGENCY PLAN

SHOULD ANY COMPLIANCE MONITORING ASSESSMENT REVEAL THAT THE PERFORMANCE STANDARDS FOR THE RESPECTIVE YEAR ARE NOT SATISFIED, THE PERMITTEE SHALL WORK WITH THE CITY OF MERCER ISLAND TO DEVELOP A CONTINGENCY PLAN TO ADDRESS THE DEFICIENCY(IES). CONTINGENCY PLANS CAN INCLUDE, BUT ARE NOT LIMITED TO, THE FOLLOWING ACTIONS:

1. ADDITIONAL PLANT INSTALLATION;
2. EROSION CONTROL;
3. HERBIVORY PROTECTION;
4. MODIFICATION TO THE IRRIGATION REGIME; AND/OR
5. PLANT SUBSTITUTIONS OF TYPE, SIZE, QUANTITY, AND LOCATION.

SUCH CONTINGENCY PLAN SHALL BE SUBMITTED TO THE CITY OF MERCER ISLAND BY JANUARY 31 OF ANY YEAR WHEN DEFICIENCIES ARE DISCOVERED. UNLESS OTHERWISE APPROVED BY THE CITY OF MERCER ISLAND, ACTIONS SPECIFIED ON AN APPROVED CONTINGENCY PLAN MUST BE COMPLETED WITHIN 60 DAYS. IF THE FAILURE IS SUBSTANTIAL, THE CITY OF MERCER ISLAND MAY EXTEND THE COMPLIANCE MONITORING PERIOD FOR THE ENHANCEMENT WORK.

MAINTENANCE PLAN

THIS SECTION PROVIDES A GENERAL OVERVIEW OF THE MAINTENANCE PROGRAM NECESSARY TO ENSURE THE PERFORMANCE STANDARDS ESTABLISHED FOR THIS PLAN ARE SATISFIED.

GENERAL MAINTENANCE

INSTALLED PLANTS SHALL BE MAINTAINED AT REGULAR INTERVALS DURING THE MONITORING PERIOD TO PROMOTE THE SUCCESSFUL ESTABLISHMENT AND VIGOROUS GROWTH OF THE INSTALLED PLANT STOCK.

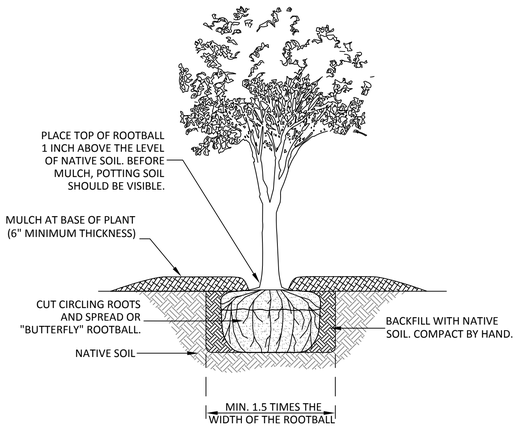
GENERAL MAINTENANCE SHALL INCLUDE:

1. RE-APPLYING BARK MULCH TO MAINTAIN A 6" MINIMUM APPLIED THICKNESS - YEAR 1 ONLY.
3. THE PRUNING OF INSTALLED PLANTS TO REMOVE DEAD WOOD AND PROMOTE VIGOROUS PLANT GROWTH AND PROPER FORM.
4. THE REPLACEMENT OF PLANTS THAT APPEAR TO BE IN DISTRESS AND/OR DISEASED.
5. THE REMOVAL OF TRASH, LITTER, AND/OR OTHER NON-DECOMPOSING DEBRIS.

GENERAL MAINTENANCE WORK SHALL OCCUR MONTHLY DURING THE GROWING SEASON AND/OR AT A FREQUENCY OTHERWISE NECESSARY TO ENSURE THE SUCCESSFUL ESTABLISHMENT AND VIGOROUS GROWTH OF THE INSTALLED PLANTS.

TABLE 1-1: GOALS, OBJECTIVES, MONITORING SCHEDULE, & PERFORMANCE STANDARDS

GOAL	OBJECTIVE	SCHEDULE	PERFORMANCE STANDARDS
TO SUCCESSFULLY ENHANCE ON-SITE WETLAND AND BUFFER AREAS USING NATIVE PLANT SPECIES.	TO INSTALL AND SUCCESSFULLY ESTABLISH 109 NATIVE PLANTS.	AUGUST OR SEPTEMBER OF YEARS 1, 2, 3, 4, & 5 FOLLOWING PLANT INITIAL INSTALLATION	• 100% SURVIVAL BY INSTALLED PLANT STOCK AFTER THE FIRST GROWING SEASON (YEAR 1). THIS STANDARD CAN BE MET THROUGH PLANT ESTABLISHMENT OR REPLANTING, AS NECESSARY, TO ACHIEVE THE REQUIRED PLANT NUMBERS. • 85% SURVIVAL BY INSTALLED PLANT STOCK AFTER THE FIFTH GROWING SEASON (YEAR 5).



2/1 **PLANT INSTALLATION DETAIL**

NOT TO SCALE

GENERAL NOTES:

1. WORK SHALL CONFORM TO ANY AND ALL APPLICABLE PERMITS AND/OR APPROVED CONSTRUCTION DRAWINGS.
2. WORK SHALL BE COMPLETED BY PERSONS EXPERIENCED IN THE ENHANCEMENT WORK SHOWN ON THESE DRAWINGS.
3. BEFORE THE START OF CONSTRUCTION, A PRE-CONSTRUCTION MEETING MUST BE HELD BETWEEN MERCER ISLAND, THE OWNER, AND THE PLAN DESIGNER.
4. A COPY OF THESE APPROVED DRAWINGS MUST BE ON THE JOB SITE WHENEVER CONSTRUCTION IS IN PROGRESS.
5. SITE CONDITIONS MAY VARY BASED ON SEASON AND/OR TIME OF YEAR. THE CONSTRUCTION CONTRACTOR SHALL ACCOMMODATE REALIZED AND ANTICIPATED SITE CONDITIONS WHEN COMPLETING THE WORK SHOWN ON THESE DRAWINGS.

Know what's **below.**
Call before you dig.

UNDERGROUND UTILITY LOCATIONS SHOWN ARE APPROXIMATE. UTILITY LOCATIONS AND CHARACTERISTICS SHOWN ON THIS DRAWING, IF ANY, ARE BASED ON THE FIELD LOCATION OF THE APPARENT SURFACE EVIDENCE OF EXISTING STRUCTURES. THE UNDERGROUND ROUTING AND CONDITION OF BURIED UTILITIES HAS NOT BEEN VERIFIED OR CONFIRMED. ADDITIONAL UTILITY LOCATION AND MAPPING MAY BE REQUIRED. FIELD LOCATE, VERIFY DEPTH OF, AND ADEQUATELY PROTECT ALL UTILITIES PRIOR TO THE START OF WORK.

Sewall Wetland Consulting, Inc.
27641 Covington Way SW #2, Covington, WA 98042 253-859-0515 Fax 253-852-4732

CRITICAL AREA ENHANCEMENT PLAN

- MI TREEHOUSE LLC -

5637 EAST MERCER WAY
MERCER ISLAND, WASHINGTON

NO.	DATE	NOTES
1.	09/08/2015	ADDED STREAM
1.	10/21/2015	REVISED PER CITY COMMENTS

DATE: 03/04/2015
JOB NUMBER: 14-206
DESIGN BY: ES
DRAWN BY: EARC
CHECK BY: ES

Planting Plan, Notes, Details, & Monitoring Plan

SHEET: 1 OF 1

Sewall Wetland Consulting, Inc.
PO Box 880
Fall City, WA 98024
Phone: 253-859-0515

October 21, 2015

Bill Summers
PO Box 261
Medina, WA 98039

RE: 5637 Mercer Way – *Revised* Critical Areas Report
SWC Job#14-207

1.0 INTRODUCTION

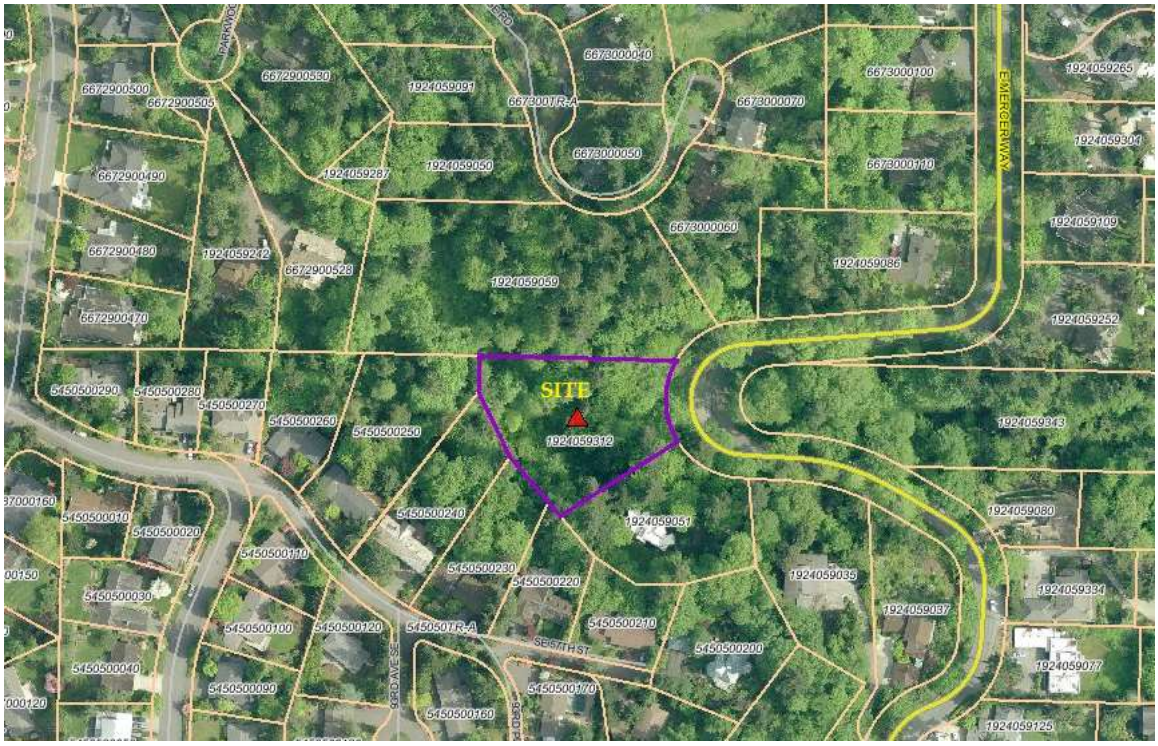
This report describes our observations of any jurisdictional wetlands, streams and buffers on or within 200' of the proposed single family home located at 5637 East Mercer Way in the City of Mercer Island, Washington (the "site").

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 spall 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.

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 and 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 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. A 5' temporary disturbance area around the structure has been identified. This area will be restored with a mix of native shrubs following construction of the home.

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

This is not possible as the construction of a home is a permanent impact.

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 proposed to be enhanced with an under planting of native conifers as well as the removal of weedy species and old trash and abandoned pipes in the wetland and stream. This will restore a conifer dominated component to this wetland and buffer area as well as remove exotic blackberry and English ivy from these critical areas. The addition of a conifer component will restore this wetland to a probable historic condition of being dominated by conifers. Currently the wetland is vegetated primarily with broadleaf species such as red alder which are early successional species. Conifers will provide denser cover and improved habitat for wildlife, as well as more shade to the site keeping surface waters cooler, which ultimately benefit fish species in the receiving water of the Type 2 watercourse. A 5' temporary disturbance area around the structure has been identified. This area will be restored with a mix of native shrubs following construction of the home. Any

trees removed during the site work will be placed within buffer areas as habitat features.

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 2,200 square feet (approx.), which is 51% of the 4,300 square foot average size of a new single family residence built on Mercer Island in 2013-2014 (See the attached single family permit summary attached hereto as Exhibit "A").

3. The house is sited on the most level portion of the property, outside of the applicable 50 foot watercourse buffer.

4. To further minimize the impact of the house's construction, it will be supported by a series of pin piles which both minimizes site disruption and interference with the property's natural drainage.

5. Excavation will be limited to the extent necessary to build the house and related driveway.

6. The property's impervious surfaces have been restricted to a total of Approximately 5,600 square feet, 10% of which are existing.

7. Only 15% of the lot will be covered, which represents less than 42% permitted by code.

In order to reduce impacts to the wetland, the home will be constructed on "pin piles" which are generally not considered a "fill" of wetlands. The home will be elevated above the wetland so no filling other than the driving of the piles through the soil will be needed for the home. 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 under planting with conifers (sitka spruce and cedar) throughout the wetland in an area equal to the area of coverage by the project within the critical areas, to enhance the plant community within this wetland as well as removal of any blackberry and English ivy in the vicinity of the home. The proposed use of pin piles is the least impactive way to construct on a site like this and leaves all but the vegetation intact within the area of the home construction, greatly reducing any loss of wetland function.

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 tpo 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.

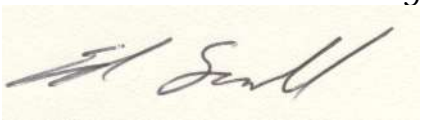
US Army Corps permit

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 .

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 spall access driveway which leads to proposed building site

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

20 15 10 0 20 40

SCALE IN FEET

SCALE 1" = 20'

BASIS OF BEARING:

WASHINGTON STATE PLANE COORDINATE SYSTEM
(NORTH ZONE, NAD 83/91)
x80.83333,sml.15,q.j;
VERTICAL DATUM: NAVD 88

CONTOUR INTERVAL = 2'

LEGAL DESCRIPTION:

PARCEL A OF GREG NEWITT SHORT PLAT MISP NO. 77-1-010, AS RECORDED UNDER RECORDING NUMBER 19710331085I, RECORDS OF KING COUNTY, STATE OF WASHINGTON.

REFERENCES:

1. PARCEL A OF GREG NEWITT SHORT PLAT MISP NO. 77-1-010, AS RECORDED UNDER RECORDING NUMBER 19710331085I, RECORDS OF KING COUNTY, STATE OF WASHINGTON.
2. MERCER FIRS IN VOLUME 79 OF PLATS, PAGE 70, UNDER FILE NUMBER 19660421601863.
3. PARKWOOD RIDGE IN VOLUME 76 OF PLATS, PAGE 81, UNDER FILE NUMBER 19641027B04212.

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 ISSUES AFFECTING THE PROPERTY OTHER THAN THOSE SHOWN ON THIS MAP. CHS HAS WHOLLY 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 83/91) x80.83333,sml.15,q.j;3. VERTICAL DATUM: NAVD 88 DATUM.
4. 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.

2010 REGISTERED ARCHITECT
RONALD R. HEALEY STATE OF WASHINGTON
425.454.3096
HEALEY-JORGENSEN ARCHITECHTS
2958 222ND PL SE, SAMMAMISH, WA 98075

MI Treehouse, LLC,
5631 EAST MERCER WAY
MERCER ISLAND, WA.

TREE REMOVAL PLAN

SCALE: 1"=20'

DATE
00-00-00

PROJECT NO.
11-062

SHEET NO.
1

DEPARTMENT OF THE ARMY
SEATTLE DISTRICT, CORPS OF ENGINEERS
P.O. BOX 3755
SEATTLE, WASHINGTON 98124-3755

AUG 18 2015

REPLY TO
ATTENTION OF

Regulatory Branch

Mr. Ed Sewall
Sewall Wetland Consulting, Inc.
P. O. Box 880
Fall City, Washington 98024

Reference: NWS-2015-0650
Summers, Bill

Dear Mr. Sewall:

We have received your client's application for a Department of the Army (DA) permit to place fill in 0.046 of an acre of wetland at Mercer Island, Washington. We have assigned the project the Reference Number, NWS-2015-650, as listed above. Please cite the Reference Number in any correspondence with us concerning this project. I will be the project manager processing this application. I have completed my initial review of the application and it is incomplete. Additional information is required to complete the application.

Please revise the following items on the Joint Aquatic Resource Application Form (JARPA):

1. Revise the street address. The address listed in Part 5 is invalid.
2. Revise Part 7 with the area of Wetland A.
3. Revise Part 7 with the area of proposed onsite mitigation.
4. Complete Parts 9f and 9g.
5. Revise Part 11 with the correct signature and initials in Part 11a. Part 11c is only used when the Property Owner is different than the Applicant.

In order to expedite the review of the application, you should submit drawings for the project as detailed on our *Drawing Checklist*. Clean drawings facilitate the prompt evaluation of the application. The ultimate objective is a set of drawings that allows someone who is unfamiliar with the project to get a clear and accurate understanding of the project in general and the details of how Wetland A will be affected. Examples of good drawings are enclosed.

Please provide a set of revised project drawings in black and white, on 8 ½- by 11-inch sheets showing the current and proposed features, current and proposed elevations, wetland boundaries, adjacent property ownership, location of adjacent structures, etc. Drawings should be originals and not reduced copies of large-scale plans. If you must reduce large drawings, make sure that the text and labels are legible at the smaller size and that the scale is adjusted to the reduction. We recommend the use of a graphic scale on all drawings.

Sheet 1 should be a site/vicinity map, which clearly shows the project in relation to nearby roads, waterways, other landmarks, and any mitigation sites. Include the boundaries of your property and the longitude and latitude of the project site on this sheet. Sheet 2 should be a plan view that shows the existing conditions. Sheet 2 should include the area and type of wetland, as well as the length of Stream A in linear feet. Sheet 3 should show the location and dimensions of the proposed work, including labels that clearly identify each element of the proposed single-family residence. Sheet 4 should show a cross sectional or elevation view of the proposed work. This sheet should include the dimensions of the proposed work. Additional sheets should be used if needed to clarify information.

The line(s) of DA jurisdiction, including wetland boundary, ordinary high water mark, Mean High Water, and/or Mean Higher High Water, as appropriate, must be clearly and accurately drawn on all plan and section view drawings. Please specify the datum used.

All of your drawings should include a title block listing the applicant, U.S. Army Corps of Engineers (Corps) Reference Number (NWS-2015-0650), location, project purpose, project description, date, and sheet number. Please refer to our *Drawing Checklist* for examples of title blocks you may use on your drawings.

You indicate in the application that the proposed work includes the placement of fill in 0.046 of an acre of wetlands. The wetland delineation report that was submitted was incomplete. The wetland delineation report must include a map of the delineated wetlands, data sheets, description of vegetation, hydrology, and soils in wetland and upland areas, and a rationale on how the wetland boundary was determined. Please see the enclosure entitled *Components of a Complete Wetland Delineation Report* for more details.

All permit applicants are required to avoid and minimize impacts to waters of the U.S. "Mitigation" consists of actions to avoid, minimize, and compensate for impacts from the project. A compensatory wetland mitigation plan is used to compensate for the unavoidable loss of waters of the U.S. and to ensure that those losses minimize adverse effects to the aquatic environment. Pursuant to *National Condition 23 for Nationwide Permits*, you are required to submit a mitigation plan to compensate for the loss of waters of the U.S. Your project does not meet these requirements until the mitigation plan is received and approved by the Corps. Therefore, no work may be performed in the project area until you have received a final approval from our office.

The fundamental objective of compensatory mitigation is to offset environmental losses resulting from unavoidable impacts to waters of the U.S. Our regulations require us to consider the type and location of compensatory mitigation in the following order: mitigation bank credits; in-lieu fee (ILF) program credits; permittee responsible mitigation under a watershed approach; permittee responsible mitigation onsite and in-kind; and/or permittee responsible mitigation offsite and out-of-kind. In many cases, the environmentally preferable compensatory mitigation

may be through mitigation banks or ILF programs because they usually involve consolidating compensatory mitigation projects while providing financial assurances and scientific expertise to reduce temporal losses of functions and uncertainty over mitigation success.

Your project site is within the service area of the King County Mitigation Reserve Program (King County ILF) and they have available mitigation credits for purchase. We recommend you contact the ILF sponsor at (206) 477-3865 to discuss your project to see if the sponsor can service your mitigation needs. Please provide us your rationale for the type and location of compensatory mitigation based on the order of compensatory mitigation options listed above. If you believe that the King County ILF is not the environmentally preferable form of compensatory mitigation, please provide us your rationale and an alternative form of compensatory mitigation based on a watershed approach (i.e., the mitigation is in the same watershed as the impact).

If you choose to use a mitigation bank or ILF program as compensatory mitigation, please submit a Bank Use Plan or an In-Lieu Fee Use Plan. Guidance on how to prepare these documents can be found on our website under Most Requested, Mitigation Resources, Mitigation Tools.

Otherwise, for permittee responsible compensatory mitigation, wetland mitigation plans should be prepared in accordance with the Washington State Department of Ecology Publication #06-06-011a, *Wetland Mitigation in Washington State – Part 1: Agency Policies and Guidance* and *Part 2: Developing Mitigation Plans (Version 1)*, dated March 2006, and the Federal Compensatory Mitigation for Losses of Aquatic Resources Final Rule (33 CFR, Parts 325 and 332, April 10, 2008) which became effective June 9, 2008. The Ecology publication is available at the following website address: www.ecy.wa.gov/biblio/0606011b.html. To ensure your plans meet the guidance and the Federal Mitigation Rule, please refer to the enclosure *Appendix D - Mitigation Plan Checklist*. Also, please refer to the enclosure *Components of a Mitigation Plan per the Final Rule* for more details on the key elements of a mitigation plan as required by the Federal Mitigation Rule.

In the project vicinity, a number of fish and wildlife species have been listed as threatened or endangered under the Endangered Species Act (ESA). The Corps' Federal permit program requires that permit applications be reviewed for the potential impact on threatened and endangered species pursuant to the ESA. For the Corps to make an ESA determination of no effect, you will need to explain why you believe there is no effect. This explanation should include the following information (if applicable):

a. Distance of the proposed work to nearby streams, rivers, and other waterbodies.

b. A description of the nearby waterbodies, including such hydrological characteristics as base flow and the discharge and duration of the 2, 10, 50, and 100-year flood events, both pre-

and post-project. How would base flow be maintained, both during construction and post-project?

c. Pre- and post-project hydrographs, if available.

d. A list of the stormwater runoff, sediment, and temperature control measures that would be implemented to prevent adverse impacts to areas downstream of the project site.

e. A description of the current and proposed land use, both in and around the project area, including the amount of impervious surface area.

f. Documentation of any likely changes in water quality (e.g., nitrogen, pH, dissolved oxygen) that would be discharged from the project area.

If a determination of no effect cannot be made, a biological evaluation (BE) prepared by a qualified biologist, must be written to assess the impacts of your proposed project on listed species and their critical habitat. You will be notified as soon as possible if you are required to submit a BE. Please be advised that during the course of our review of the BE, you may receive and need to comply with periodic requests from the Corps for additional information or changes in the BE until there is sufficient information in it to be ruled on by the National Marine Fisheries Service and U.S. Fish and Wildlife Service.

For more information on the ESA, please contact:

U.S. Fish and Wildlife Service, Endangered Species Division
Telephone: (360) 753-9440
Website: www.fws.gov/wafwo/species.html

National Marine Fisheries Service, Washington Habitat Conservation Branch
Telephone: (360) 753-9530
Website: www.nwr.noaa.gov

In addition to submittal of hard copies, if available, please submit electronic versions of permit application materials, such as the JARPA, Biological Assessment/Evaluation, Wetland Delineation, Mitigation Plan, and drawings on a CD or DVD. This will facilitate our permit review process. Please do not email the electronic files as our email system cannot handle numerous large files.

In addition to a DA permit, the proposed project may require other local, State, and/or Federal authorizations. For assistance in determining other permit requirements for the proposed project, we recommend you contact the Washington State Office of Regulatory Assistance via the internet at www.ora.wa.gov.

Please submit all of the required information within 30 days of the date of this letter. After receiving this information, I may contact you to discuss specific aspects of your proposal. If you do not submit the required information or contact me within 30 days, the application will be canceled. However, cancellation of the application would not preclude you from submitting another application in the future. Items referenced in *italicized text* can be found on our webpage at www.nws.usace.army.mil, select ("Regulatory Branch, Permit Information", then "Forms").

We recommend that you do not award construction contracts until the Corps has made a permit decision. Since a DA permit is necessary for this work, do not commence construction before obtaining a valid permit. A copy of this letter will be furnished to Mr. Bill Summers at P. O. Box 261, Medina, Washington 98039. If you have any questions, please contact me at: kaitlyn.r.white@usace.army.mil or at (206) 316-3156.

Sincerely,

Kaitlyn White

Kaitlyn White, Project Manager
Regulatory Branch

Enclosures

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): Wet A - Moon Way Date of site visit: 11·6·14

Rated by Ed Sewall Trained by Ecology? Yes__No__ Date of training____

SEC: ___ TWNSHP: ___ RNGE: ___ Is S/T/R in Appendix D? Yes___ No___

Map of wetland unit: Figure ___ Estimated size .25ac

SUMMARY OF RATING

Category based on FUNCTIONS provided by wetland

I___ II___ III✓ IV___

Category I = Score >=70	Score for Water Quality Functions: 10
Category II = Score 51-69	Score for Hydrologic Functions: 6
Category III = Score 30-50	Score for Habitat Functions: 18
Category IV = Score < 30	**TOTAL score for Functions: 34**

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 Unit has Special Characteristics		Wetland HGM Class used for Rating	
Estuarine		**Depressional**	
Natural Heritage Wetland		**Riverine**	
Bog		**Lake-fringe**	
Mature Forest		**Slope**	✓
Old Growth Forest		**Flats**	
Coastal Lagoon		**Freshwater Tidal**	
Interdunal			
None of the above	✓	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.

Check List for Wetlands That May Need Additional Protection (in addition to the protection recommended for its category)	YES	NO
SP1. *Has the wetland unit been documented as a habitat for any Federally listed Threatened or Endangered animal or plant species (T/E species)?* For the purposes of this rating system, "documented" means the wetland is on the appropriate state or federal database.		✓
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).		✓
SP3. *Does the wetland unit contain individuals of Priority species listed by the WDFW for the state?*		✓
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.		✓

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.

1. Are the water levels in the entire unit usually controlled by tides (i.e. except during floods)?
NO – go to 2 **YES** – the wetland class is **Tidal Fringe**

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

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

2. The entire wetland unit is flat and precipitation is the only source (>90%) of water to it. Groundwater and surface water runoff are NOT sources of water to the unit.
NO – go to 3 **YES** – The wetland class is **Flats**

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

3. Does the entire wetland unit **meet both** of the following criteria?
___ 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)**

4. Does the entire wetland unit **meet all** of the following criteria?
✓ The wetland is on a slope (*slope can be very gradual*),
✓ The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks.
✓ The water leaves the wetland **without being impounded**?
NOTE: *Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3ft diameter and less than 1 foot deep).*
NO - go to 5 **YES** – The wetland class is **Slope**

5. Does the entire wetland unit **meet all** of the following criteria?
___ The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river
___ The overbank flooding occurs at least once every two years.
NOTE: The riverine unit can contain depressions that are filled with water when the river is not flooding.
NO - go to 6 **YES** – The wetland class is **Riverine**

6. Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year. *This means that any outlet, if present, is higher than the interior of the wetland.*
NO – go to 7 **YES** – The wetland class is **Depressional**

7. Is the entire wetland unit located in a very flat area with no obvious depression and no overbank flooding. The unit does not pond surface water more than a few inches. The unit seems to be maintained by high groundwater in the area. The wetland may be ditched, but has no obvious natural outlet.
NO – go to 8 **YES** – The wetland class is **Depressional**

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

HGM Classes within the wetland unit being rated	*HGM Class to Use in Rating*
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake-fringe	Lake-fringe
Depressional + Riverine along stream within boundary	Depressional
Depressional + Lake-fringe	Depressional
Salt Water Tidal Fringe and any other class of freshwater wetland	Treat as ESTUARINE under wetlands with special characteristics

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

Wetland name or number A

	Slope Wetlands WATER QUALITY FUNCTIONS - Indicators that the wetland unit functions to improve water quality	Points (only whole numbers below)
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 is1% 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 = 6 Dense, uncut, herbaceous vegetation > 1/2 of area points = 3 Dense, woody, vegetation > ½ 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 polygons	Figure ___ 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 — Tilled 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	*(see p.67)* multiplier 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

	Slope Wetlands HYDROLOGIC FUNCTIONS - Indicators that the wetland unit functions to reduce flooding and stream erosion	Points (only whole numbers below)
	S 3. Does the wetland unit have the potential to reduce flooding and stream erosion?	*(see p.68)*
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 = 6 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, tilled 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	*Add the points in the boxes above*	6
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	*(see p. 70)* multiplier 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 HGM classes. Points (only one score per box)

HABITAT FUNCTIONS - Indicators that unit functions to provide important habitat

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

H 1.1 Vegetation structure *(see p. 72)* — Figure ___

Check the types of vegetation classes present (as defined by Cowardin)- Size threshold for each class is ¼ acre or more than 10% of the area if unit is smaller than 2.5 acres.

- ___ Aquatic bed
- ___ Emergent plants
- ✓ Scrub/shrub (areas where shrubs have >30% cover)
- ✓ Forested (areas where trees have >30% cover)

If the unit has a forested class check if:

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

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

Map of Cowardin vegetation classes	4 structures or more	points = 4
	3 structures	points = 2
	2 structures	points = 1
	1 structure	points = 0

2

H 1.2. Hydroperiods *(see p. 73)* — Figure ___

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

___ Permanently flooded or inundated	4 or more types present	points = 3
___ Seasonally flooded or inundated	3 types present	points = 2
___ Occasionally flooded or inundated	2 types present	point = 1
✓ Saturated only	1 type present	points = 0

- ✓ Permanently flowing stream or river in, or adjacent to, the wetland
- ✓ Seasonally flowing stream in, or adjacent to, the wetland
- ___ ***Lake-fringe wetland* = 2 points**
- ___ ***Freshwater tidal wetland* = 2 points**

Map of hydroperiods

1

H 1.3. Richness of Plant Species *(see p. 75)*

Count the number of plant species in the wetland that cover at least 10 ft^2. *(different patches of the same species can be combined to meet the size threshold)*

You do not have to name the species.

Do not include Eurasian Milfoil, reed canarygrass, purple loosestrife, Canadian Thistle

If you counted:	> 19 species	points = 2
List species below if you want to:	5 - 19 species	points = 1
	< 5 species	points = 0

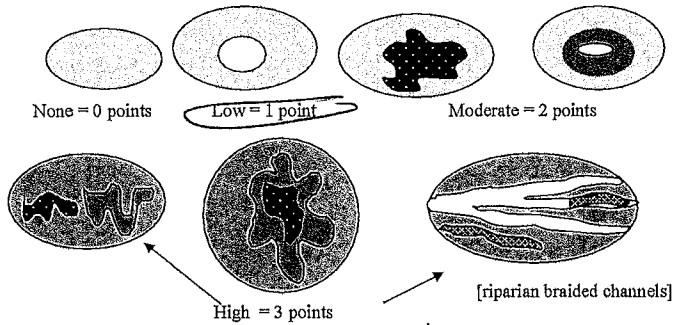
1

Total for page 4

Wetland name or number A

H 1.4. Interspersion of habitats *(see p. 76)* — Figure ___

Decide from the diagrams below whether interspersion between Cowardin vegetation classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, medium, low, or none.



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

1

H 1.5. Special Habitat Features: *(see p. 77)*

Check the habitat features that are present in the wetland. The number of checks is the number of points you put into the next column.

- ✓ Large, downed, woody debris within the wetland (>4in. diameter and 6 ft long).
- ✓ Standing snags (diameter at the bottom > 4 inches) in the wetland
- ___ Undercut banks are present for at least 6.6 ft (2m) and/or overhanging vegetation extends at least 3.3 ft (1m) over a stream (or ditch) in, or contiguous with the unit, for at least 33 ft (10m)
- ___ Stable steep banks of fine material that might be used by beaver or muskrat for denning (>30degree slope) OR signs of recent beaver activity are present *(cut shrubs or trees that have not yet turned grey/brown)*
- ___ At least ¼ acre of thin-stemmed persistent vegetation or woody branches are present in areas that are permanently or seasonally inundated. *(structures for egg-laying by amphibians)*
- ✓ Invasive plants cover less than 25% of the wetland area in each stratum of plants

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

3

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

6

Comments

Wetland name or number A

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

Total for page 4

Wetland name or number A

H 2.3 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 http://wdfw.wa.gov/hab/phslist.htm)* Which of the following priority habitats are within 330ft (100m) of the wetland unit? *NOTE: the connections do not have to be relatively undisturbed.* ___ **Aspen Stands:** Pure or mixed stands of aspen greater than 0.4 ha (1 acre). ___ **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).* ___ **Herbaceous Balds:** Variable size patches of grass and forbs on shallow soils over bedrock. ___ **Old-growth/Mature forests:** (Old-growth west of Cascade crest) Stands of at least 2 tree species, forming a multi-layered canopy with occasional small openings; with at least 20 trees/ha (8 trees/acre) > 81 cm (32 in) dbh or > 200 years of age. (Mature forests) Stands with average diameters exceeding 53 cm (21 in) dbh; crown cover may be less that 100%; crown cover may be less that 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80 - 200 years old west of the Cascade crest. ___ **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).* ✓ **Riparian:** The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other. ___ **Westside Prairies:** Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie *(full descriptions in WDFW PHS report p. 161).* ___ **Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources. ___ **Nearshore:** Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. *(full descriptions of habitats and the definition of relatively undisturbed are in WDFW report: pp. 167-169 and glossary in Appendix A).* ___ **Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human. ___ **Cliffs:** Greater than 7.6 m (25 ft) high and occurring below 5000 ft. ___ **Talus:** Homogenous areas of rock rubble ranging in average size 0.15 - 2.0 m (0.5 - 6.5 ft), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs. ✓ **Snags and Logs:** Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 51 cm (20 in) in western Washington and are > 2 m (6.5 ft) in height. Priority logs are > 30 cm (12 in) in diameter at the largest end, and > 6 m (20 ft) long. If wetland has **3 or more** priority habitats = **4 points** If wetland has **2** priority habitats = **3 points** If wetland has **1** priority habitat = **1 point** No habitats = 0 points *Note: All vegetated wetlands are by definition a priority habitat but are not included in this list. Nearby wetlands are addressed in question H 2.4)*	3

Wetland name or number A

H 2.4 Wetland Landscape *(choose the **one** description of the landscape around the wetland that best fits)* ***(see p. 84)***	7
There are at least 3 other wetlands within ½ mile, and the connections between them are relatively undisturbed (light grazing between wetlands OK, as is lake shore with some boating, but connections should NOT be bisected by paved roads, fill, fields, or other development. points = 5	
The wetland is Lake-fringe on a lake with little disturbance and there are 3 other lake-fringe wetlands within ½ mile points = 5	
There are at least 3 other wetlands within ½ mile, BUT the connections between them are disturbed points = 3	
The wetland is Lake-fringe on a lake **with** disturbance and there are 3 other lake-fringe wetland within ½ mile points = 3	
There is at least 1 wetland within ½ mile. points = 2	
There are no wetlands within ½ mile. points = 0	3
H 2. TOTAL Score - opportunity for providing habitat *Add the scores from H2.1,H2.2, H2.3, H2.4*	10
TOTAL for H 1 from page 14	8
Total Score for Habitat Functions – add the points for H 1, H 2 and record the result on p. 1	18

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 *Check off any criteria that apply to the wetland. Circle the Category when the appropriate criteria are met.*	**Category**
SC 1.0 Estuarine wetlands ***(see p. 86)*** Does the wetland unit meet the following criteria for Estuarine wetlands? — The dominant water regime is tidal, — Vegetated, and — With a salinity greater than 0.5 ppt. YES = Go to SC 1.1 NO ✓	
SC 1.1 Is the wetland unit within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-30-151? YES = Category I NO go to SC 1.2	**Cat. I**
SC 1.2 Is the wetland unit at least 1 acre in size and meets at least two of the following three conditions? YES = Category I NO = Category II — The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less than 10% cover of non-native plant species. If the non-native *Spartina* spp. are the only species that cover more than 10% of the wetland, then the wetland should be given a dual rating (I/II). The area of Spartina would be rated a Category II while the relatively undisturbed upper marsh with native species would be a Category I. Do not, however, exclude the area of Spartina in determining the size threshold of 1 acre. — At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland. — The wetland has at least 2 of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands.	**Cat. I** **Cat. II** **Dual rating I/II**

Wetland name or number A

SC 2.0 Natural Heritage Wetlands *(see p. 87)* — **Cat. I**

Natural Heritage wetlands have been identified by the Washington Natural Heritage Program/DNR as either high quality undisturbed wetlands or wetlands that support state Threatened, Endangered, or Sensitive plant species.

SC 2.1 Is the wetland unit being rated in a Section/Township/Range that contains a Natural Heritage wetland? *(this question is used to screen out most sites before you need to contact WNHP/DNR)*

S/T/R information from Appendix D ___ or accessed from WNHP/DNR web site ___

YES____ – contact WNHP/DNR (see p. 79) and go to SC 2.2 NO ✓

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

SC 3.0 Bogs *(see p. 87)*

Does the wetland unit (**or any part of the unit**) meet both the criteria for soils and vegetation in bogs? *Use the key below to identify if the wetland is a bog. If you answer yes you will still need to rate the wetland based on its functions.*

1. Does the unit have organic soil horizons (i.e. layers of organic soil), either peats or mucks, that compose 16 inches or more of the first 32 inches of the soil profile? (See Appendix B ~~for a field key to~~ identify organic soils)? Yes - go to Q. 3 No - go to Q. 2
2. Does the unit have organic soils, either peats or mucks that are less than 16 inches deep over bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on a lake or pond?

   Yes - go to Q. 3 No - Is not a bog for purpose of rating
3. Does the unit have more than 70% cover of mosses at ground level, AND other plants, if present, consist of the "bog" species listed in Table 3 as a significant component of the vegetation (more than 30% of the total shrub and herbaceous cover consists of species in Table 3)?

   Yes – Is a bog for purpose of rating No - go to Q. 4

   NOTE: If you are uncertain about the extent of mosses in the understory you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16" deep. If the pH is less than 5.0 and the "bog" plant species in Table 3 are present, the wetland is a bog.

1. Is the unit forested (> 30% cover) with sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Englemann's spruce, or western white pine, WITH any of the species (or combination of species) on the bog species plant list in Table 3 as a significant component of the ground cover *(> 30% coverage of the total shrub/herbaceous cover)?*

2. YES = Category I No___ Is not a bog for purpose of rating — **Cat. I**

Wetland name or number A

SC 4.0 Forested Wetlands *(see p. 90)*

Does the wetland unit have at least 1 acre of forest that meet one of these criteria for the Department of Fish and Wildlife's forests as priority habitats? *If you answer yes you will still need to rate the wetland based on its functions.*

— **Old-growth forests**: (west of Cascade crest) Stands of at least two tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/acre (20 trees/hectare) that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 inches (81 cm) or more.

NOTE: The criterion for dbh is based on measurements for upland forests. Two-hundred year old trees in wetlands will often have a smaller dbh because their growth rates are often slower. The DFW criterion is and "OR" so old-growth forests do not necessarily have to have trees of this diameter.

— **Mature forests**: (west of the Cascade Crest) Stands where the largest trees are 80 – 200 years old OR have average diameters (dbh) exceeding 21 inches (53cm); crown cover may be less that 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth.

YES = Category I NO ___not a forested wetland with special characteristics — **Cat. I**

SC 5.0 Wetlands in Coastal Lagoons *(see p. 91)*

Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?

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

— The lagoon in which the wetland is located contains surface water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon *(needs to be measured near the bottom)*

YES = Go to SC 5.1 NO___ not a wetland in a coastal lagoon

SC 5.1 Does the wetland meets all of the following three conditions?

— 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).

— At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland. — **Cat. I**

— The wetland is larger than 1/10 acre (4350 square feet)

YES = Category I NO = Category II — **Cat. II**

Wetland name or number A

SC 6.0 Interdunal Wetlands *(see p. 93)* Is the wetland unit west of the 1889 line (also called the Western Boundary of Upland Ownership or WBUO)? YES - go to SC 6.1 NO __ not an interdunal wetland for rating ***If you answer yes you will still need to rate the wetland based on its functions.*** In practical terms that means the following geographic areas: • 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 once acre or larger? YES = Category II NO – go to SC 6.2 SC 6.2 Is the unit between 0.1 and 1 acre, or is it in a mosaic of wetlands that is between 0.1 and 1 acre? YES = Category III	**Cat. II** **Cat. III**
Category of wetland based on Special Characteristics *Choose the "highest" rating if wetland falls into several categories, and record on p. 1.* If you answered NO for all types enter "Not Applicable" on p.1	NA