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July 29, 2015

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

RE: Review of 5637 Mercer Way – *Revised* Critical Areas Report

Dear Travis:

ESA reviewed the *Revised* Critical Areas Report (CAR) for the property located at 5637 East Mercer Way. This document (prepared by Sewall Wetland Consulting, Inc. (Sewall) and dated March 5, 2015) was delivered to the City on March 16, 2015 and to Environmental Science Associates (ESA) on May 19, 2015. In addition to the CAR, a Reasonable Use Exception application, State Environmental Policy Act (SEPA) Checklist, and geotechnical engineering study were submitted to the City. For this letter, our review focuses on the contents of the CAR and conditions observed during the on-site review. The site visit occurred on June 8, 2015, between ESA scientist Scott Olmsted and Sewall senior wetland ecologist, Ed Seawall.

This review is provided to ensure accuracy and compliance with Mercer Island Municipal Code (MIMC) 19.07 (Environment). A summary list of all recommendations is provided at the end of the letter.

Site Overview

The development site is located on the east side of Mercer Island within an undeveloped, vegetated ravine. The Parkwood Ridge Open Space directly abuts the parcel to the north. This City-designated open space is a 3.8-acre natural green space located mid-island and is surrounded by residential development. The CAR identifies, describes, and categorizes one wetland and stream on the 0.88-acre project site. The site slopes to the east and contains a dense shrub and emergent understory primarily composed of salmonberry, devils club, Indian plum, lady fern, horsetail, stinging nettle, sword fern, and English ivy with scattered coniferous and deciduous trees, dominated by western red cedar, Douglas fir, and red alder. A regularly used dirt trail traverses the north boundary of the site and East Mercer Way borders the eastern site boundary, which contains an approximately 6-foot high gabion wall and 5-foot diameter concrete stack pipe that collects water and discharges flow underneath East Mercer Way.

Wetland A is a slope wetland that generally occupies the central portion of the parcel, extending from the western to eastern parcel boundaries. The wetland's 50-foot buffer occupies the remainder of the site. The wetland drains to the east and is bounded to the north by sloping terrain and a dirt trail and to the south by steep slopes. The eastern portion of the wetland drains to a constructed catchment area, the same area that an on-site stream drains to, prior to flowing underneath East Mercer Way. From here, water flows to a stream that is a tributary to Lake Washington; therefore, Wetland A is likely considered a water of the U.S. and is under the jurisdiction of the U.S. Army Corps of Engineers (Corps). In the vicinity of the proposed house location, soils were saturated to the surface and the slope was densely vegetated.

The Type 2 stream identified by Sewall was observed along the northern parcel boundary. The bank full width varied from approximately 6 feet to 15 feet; however, based on channel conditions, it appears that typical wetted widths of the stream range from 1-2 feet with flow depths of less than 4 inches. During the site visit, the stream

was observed to flow subsurface for approximately 50 feet in proximity to the proposed house location. The streams headwaters are located northwest of the parcel and the stream is a tributary to Lake Washington.

Findings and Recommendations

Wetland and Stream Delineation

The CAR wetland description and rating is consistent with City code (including wetland rating forms based on Washington State Wetland Rating System for Western Washington, Washington State Department of Ecology publication 04-06-025).

During our June 8 site review, we walked the site in proximity to the proposed house location and reviewed the extent of wetland area and stream location. The wetland boundary depicted in the submitted critical areas enhancement plan, Sheet 1 of 1, appears to generally reflect field conditions; however, surveyed wetland boundary points were not identified in the field, so this determination is based on comparison with this figure. A small discrepancy was noted in the field where there appears to be a relatively small upland area measuring several hundred square feet located upslope of gabion wall on the eastern portion of the parcel. Elsewhere on the site, the wetland boundary is largely dictated by site topography. We did not review wetland boundaries at the western/northwestern portions of the property, but did conduct a quick reconnaissance of this area to determine the appropriateness of wetland enhancement actions. These areas appear to contain wetland associated plants and are dominated by native species, making enhancement of this area, aside from under-planting with native coniferous species, a mitigation action that would not provide significant functional lift.

Upland areas are characterized by Douglas fir, Indian plum, devil's club, sword fern, and English ivy, along with quarry spall fill adjacent to the existing driveway. In addition to the prevalence of upland plant species, upland areas lack wetland hydrology and were typically associated with mounded terrain.

In addition to the Type 2 stream previously identified by Sewall, an additional stream was observed south of and flowing approximately parallel to the originally identified stream. This new stream likely contains perennial flow, but does not support fish. The stream is located in a topographical depression, had a bank full width of approximately 4 feet, a wetted width of about 1-foot, and roughly 1-inch of flow. Hydrology to the stream is likely provided by outflow from Wetland A, as the channel originates in the central portion of the parcel based on topography as mapped on the critical areas enhancement plan figure, Sheet 1 of 1.

Wetland and Stream Ratings and Buffers

Sewall rated Wetland A as a Category III with 34 points total; 18 points for habitat. ESA agrees with the category designation; Category III wetland require a standard buffer width of 50 feet or 25 feet with wetland enhancement, per MIMC 19.07.80.C(1).

Based on the field visit, ESA agrees with the Type 2 watercourse typing for the previously identified stream. MIMC (19.07.070.B(1)) requires that a Type 2 watercourse has a standard buffer of 50 feet or a minimum buffer width, with enhancement, of 25 feet.

The newly identified stream meets the definition of a Type 2 watercourse and requires the same buffers as the previously identified stream.

Geologic Hazard Areas

The CAR maps steep slopes along the southern parcel boundary. King County iMap indicates the parcel is mapped as erosion hazard (King County, 2015), and NW Maps indicates steeps slopes along the southern parcel boundary and landslide area over the entire parcel (NW Maps, 2015). Mercer Island code does not require buffers for geologic hazard areas (MIMC 19.07.060.B), but the applicant must submit a geotechnical report prior to altering geologic hazard areas and must satisfy certain development criteria (MIMC 19.07.060.C and D).

Proposed Development Impacts

Submitted materials include project plans and a critical areas enhancement plan for wetland impacts. The site is entirely constrained by wetlands, wetland buffers, stream, stream buffer, or geologic hazard area. The applicant proposes to develop the parcel through application of MIMC 19.07.030.B (Allowed alterations and reasonable use exception), and goes on to address this subsection of code in the CAR. The proposed development project appears to satisfy criteria listed in this code section, which allows for the alteration of Category III wetlands with associated mitigation.

Wetland

The applicant proposes to build the house on pin piles; however, the foundation of the house would rest of the soil surface and would likely be considered fill within Wetland A. Based on project plans submitted with the CAR, it appears the wetland will be filled due to construction of basement walls, basement stairs, a garage floor slab, the driveway, the front entrance to the house, and retaining walls. According to Ed Seawall in an email dated July 10, 2015, these fill activities would result in 2,000 square feet of impact. If any fill material will be placed within Wetland A, the applicant is required to obtain a permit from the Corps and Washington State Department of Ecology (Ecology). In addition, if there is any grading associated with basement excavation, the applicant would need 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 (MIMC 19.07.030.B(2)).

MIMC 19.07.080.D allows for alterations of Category III and IV wetlands of less than one acre in size if the applicant can demonstrate that the wetland will be restored, enhanced, and/or replaced with a wetland area of equivalent or greater function. If suitable onsite mitigation is not available, offsite mitigation may occur, within the same drainage sub-basin as the original wetland. This requirement likely eliminates the use of King County's In-Lieu Fee program. In addition, there is likely no potential for onsite wetland creation to mitigate for wetland impacts and wetland enhancement opportunities are limited as the site is composed of a native overstory, albeit dominated by deciduous species rather than conifers, and native understory.

As part of the mitigation sequencing process for the project, on page 10 of the CAR, the applicant indicates that it is not possible to restore any wetlands or buffers impacted or lost temporarily because construction of a home is a permanent impact. However, construction activities will temporarily impact wetlands and/or wetland buffers due to construction access and/or staging of materials. Temporary wetland and wetland buffer impacts should be identified in the impact assessment and accounted for in the mitigation plan.

Stream

The proposed house would not directly impact previously identified Type 2 stream; however, the proposed house is located within the 50-foot buffer, but outside of the 25-foot buffer if enhancement is implemented. In addition, the house would be within the 50-foot buffer (or 25-foot buffer if enhancement is implemented) of the newly identified Type 2 stream, and portions of the driveway, as currently proposed, may directly impact the stream channel. This 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. Stream and/or stream buffer impacts should be accounted for in the CAR and appropriate compensatory mitigation should be implemented.

The mitigation plan submitted as part of the CAR indicates the originally identified Type 2 stream flows to the west; however, it was observed to flows east during the field review; this should be corrected.

Geologic Hazard Area

Typically, seasonal restrictions for land clearing, grading, filling, and foundation work within geologic hazard areas are applied by local governments. Development within these critical areas is often not permitted between October 1 and April 1. The applicant should avoid such development activities during this time period.

Conceptual Mitigation Plan

The applicant proposes to plant conifers "…throughout the wetland in an area equal to the area of the 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." Planting conifers (60, 2-gallon plants) and invasive species removal will provide ecological lift primarily to habitat functions; however, development of the house will likely impact all three wetland functions, including water quantity, water quality, and habitat. MIMC 19.07.080D requires that the applicant restore, enhance, and/or replace the impacted wetland area with a wetland area of equivalent or greater function. It does not appear that the proposed mitigation will replace functions lost due to 2,000 square feet of wetland fill; therefore, additional wetland mitigation should be required. This additional mitigation, to help ensure no net loss of wetland functions, will likely need to occur offsite, due to current site conditions that provide relatively high ecological functions, but within the same drainage sub-basin as the original wetlands (MIMC 19.07.080D).

A more detailed mitigation plan is required that meets the requirements of MIMC 19.07.050.C; the applicant indicates this will be delivered to the City after approval of the conceptual plan.

Miscellaneous

- It appears several trees will require removal to facilitate construction of the house; trees should be retained onsite and placed within the buffer of the streams.
- It appears the City has an easement on the property where a public trail is located; this trail should be surveyed and identified on appropriate project plans and the mitigation plan.
- 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.

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

- Stream and/or stream buffer impacts should be accounted for in the CAR and appropriate compensatory mitigation should be implemented.
- The critical areas enhancement plan figure, Sheet 1 of 1, should indicate the stream flows to the east.
- The applicant should avoid clearing, grading, filling, and foundation work within geologic hazard areas activities between October 1 and April.
- 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.
- Fallen trees should be retained onsite and placed within the buffer of the streams.
- The dirt trail on the northern parcel boundary should be surveyed and identified on appropriate project plans and the mitigation plan.
- 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.

If you have any questions, please call me at (206) 789-9658.

Sincerely,
ESA

Scott Olmsted
Associate Scientist