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# memorandum

date September 17, 2019  
to Nicole Gaudette, Senior Planner  
from Christina Hersum and Scott Olmsted, Biologists, ESA  
subject CAO19-014 – Environmental Review for Headrick Property Redevelopment

Environmental Science Associates (ESA) has prepared this memorandum on behalf of the City of Mercer Island (City) to provide environmental review for the redevelopment proposal at 8822 SE 62<sup>nd</sup> Street in Mercer Island, Washington. The project proposes to reconfigure an existing pool and patio, construct a new detached garage, and expand an existing driveway on Parcel 8650500040.

The purpose of this memo is to verify the accuracy of the findings within the Critical Areas Study (CAS) and Buffer Restoration Plan prepared by the applicant's consultant, Wetland Resources Inc. (WRI), submitted with the application for CAO19-014 and to confirm that the proposed buffer restoration measures are consistent with Mercer Island City Code (MICC) Chapter 19.07. It should be noted that this project is vested under the revised, November 2017 version of MICC 19.07, not the newly adopted 2019 critical areas regulations.

According to WRI, the parcel contains a Type 3 watercourse (Stream A), two piped watercourses, and one Category IV palustrine emergent wetland (Wetland A), all of which are located in the eastern portion of the property. The piped watercourses are connected to Stream A and are located off-site to the north and south. In addition, according to WRI, a tributary to Stream A shown on the City's GIS stream maps as extending through the northern portion the property does not exist on the property.

## **Document Review**

ESA reviewed the following submittal materials relating to the project:

- Critical Areas Study and Buffer Restoration Plan for Headrick – 8822 SE 62<sup>nd</sup> St Redevelopment (Wetland Resources, Inc., 2019);
- Project Plans for Headrick Garage and Pool Addition (Ned Nelson, 2019), and
- Muckleshoot Tribe Comment Email re: Headrick Project, CAO19-014&1905-249, NOA for Critical Area Determination;

ESA also reviewed information available in the public domain, including U.S. Fish and Wildlife Service (USFWS) National Wetland Inventory (NWI) maps, Washington Department of Fish and Wildlife (WDFW) web-mapping tools (Priority Habitats and Species [PHS] mapping and Salmonscape), King County’s GIS mapping website (iMap), and City of Mercer Island critical areas mapping.

### **Review of Site Conditions**

ESA biologist, Christina Hersum, conducted a site visit with City of Mercer Island planner, Nicole Gaudette, on September 10, 2019 accompanied by the applicant’s consultants. The visit included a visual observation of the mapped location of the tributary to Stream A as well as Stream A, the two piped watercourses, Wetland A, and current buffers.

Based upon our site visit, ESA agrees with the location of the delineated stream, wetland, and piped watercourses. ESA agrees that Stream A is a seasonal stream that originates offsite near the northeast property boundary via a 30-inch CMP culvert and enters the property from the eastern property boundary. The stream flows south along the eastern property boundary before discharging into an offsite 18-inch PVC culvert. The stream appeared to have seasonal flow with a bankfull width of 2 feet or greater. There are no records of fish use in Stream A, therefore WRI contends that this watercourse should be classified as a Type 3 stream per MICC 19.07.070. ESA does not fully agree with the Type 3, non-fish bearing stream classification of Stream A based upon observations during our site visit and the rules of WAC 222-16-031. The WAC rules state that fish use is presumed for waters with 2 feet or greater bankfull width and 16 percent or less gradient. ESA did not measure the gradient of the stream during our site visit, nor is the stream gradient provided in the CAS; therefore, more information regarding the stream gradient is needed to determine fish use and stream type classification.

The buffer for Stream A is primarily vegetated with deciduous shrubs and trees and some large conifers. ESA observed dense cover of English ivy (*Hedera helix*), Himalayan blackberry (*Rubus armeniacus*), and yellow archangel (*Lamium galeobdolon*), a noxious weed, in the buffer area.

Wetland A is a slope, palustrine emergent wetland located just offsite of the eastern property boundary and adjacent to the left bank of Stream A. Vegetation within Wetland A primarily consists of creeping buttercup (*Ranunculus repens*) and yellow archangel. ESA observed invasive species in the wetland and buffer areas, including English ivy and Himalayan blackberry. According to the applicant’s consultant, Wetland A is rated a Category IV wetland based upon its position on a slope and habitat ratings; ESA agrees with the rating of Wetland A.

ESA also agrees that the City-mapped tributary does not exist on the property based upon our site visit. The mapped location of the tributary is characterized by maintained lawn and impervious surfaces, including the residence and paved patio area. In addition, ESA did not observe a defined stream bed or bank to suggest stream presence in the mapped location of the tributary.

### **Review of Muckleshoot Tribe Comment Email**

ESA reviewed the Muckleshoot Tribe’s comment email regarding the proposed project and the need for additional Stream A data to make a more complete stream type determination per WAC 222-16-031. The comment email finds the CAS determination of Stream A as a seasonal, non-fish bearing stream (Type 3 per MICC 19.07.070) incomplete because it is based on mapping applications and WAC 222-16-030, which is currently not in effect. Instead, the comment email points to the interim rule, WAC 222-16-031, for stream type determinations with potential fish use. According to WAC 222-16-031(3)(b)(i), fish use is presumed for waters that have the following characteristics:

- A. *Stream segments having a defined channel of 2 feet or greater within the bankfull width in Western Washington; or 3 feet or greater in width in Eastern Washington; and having a gradient of 16 percent or less.*
- B. *Stream segments having a defined channel of 2 feet or greater within the bankfull width in Western Washington; or 3 feet or greater within the bankfull width in Eastern Washington, and having a gradient greater than 16 percent and less than or equal to 20 percent, and having greater than 50 acres in contributing basin size in Western Washington or greater than 175 acres contributing basin size in Eastern Washington, based on hydrographic boundaries.*

The comment email states that the bankfull width of Stream A appears to be 2 feet or greater, but that the CAS does not provide a gradient for the stream and therefore needs to be measured to determine fish use and stream type. ESA agrees that more information regarding the stream gradient is needed to make a more complete determination of fish use in Stream A according to the interim rule WAC 22-16-031.

### **Review of CAS and Buffer Restoration Plan**

ESA reviewed the CAS and applicant's proposed approach to restore the buffers of Stream A and Wetland A. According to the MICC 19.07, Stream A and Wetland A are each provided a standard buffer of 35 feet as a Type 3 stream and Category IV wetland. The piped watercourses are provided a standard buffer of 25 feet. The standard buffers of Stream A and Wetland A extend beyond the standard buffers for the piped watercourses. Based on the CAS, 207 square feet of an existing pool and patio are currently located within the 35-foot buffer. The applicant proposes to remove the non-conforming pool and patio area and to restore the 207 square foot area with native plant species. The buffer restoration plan also includes goals and performance standards, which would be achieved through five years of maintenance and monitoring.

According to the Project Plans, the applicant also proposes to construct stormwater drainage infrastructure through the southern portion of the 35-foot buffer, connecting to the culvert outlet of Stream A. The CAS does not include the proposed stormwater infrastructure presented in the Project Plans, nor does it address permanent and temporary impacts to the buffer or Stream A resulting from proposed stormwater infrastructure construction or mitigation for these impacts. Based on these findings, we find that the CAS and Buffer Restoration Plan are not fully in compliance with the code requirements for critical area study content per MICC 19.07.050.

According to Performance Standard 1b1 of the Buffer Restoration Plan, installed and native volunteer species shall achieve 50 percent aerial cover by Year 5. ESA finds that 50 percent aerial cover is a low requirement for Year 5 aerial cover performance standards, and recommends an increase to 70 percent. To help achieve 70 percent aerial cover by Year 5, ESA recommends the following based on the proposed plantings and quantities: increase the density of proposed plantings (e.g. use 4-foot spacing for shrubs and 2-foot spacing for groundcovers); and/or install additional salmonberry plantings rather than strawberry groundcover plantings.

### **Review of Project Plans**

According to the Project Plans, most of the proposed development will occur outside of the standard buffers for Stream A and Wetland A; however, it appears that some stormwater drainage infrastructure will be constructed through the southern portion of the buffer, connecting to the culvert outlet of Stream A. While the construction of stormwater infrastructure within a critical area is not explicitly stated as an allowed alteration per MICC 19.07.030, we believe impacts from the proposed stormwater infrastructure will be generally small and temporary within the buffer, but any direct impacts to Stream A should be avoided.

## **Conclusion and Recommendations**

ESA recommends the following revisions to meet City code requirements:

- Provide more information regarding the stream gradient and potential for fish use to determine the stream type per the interim rule, WAC 222-016-031.
- Revise the CAS and Buffer Restoration Plan to include impacts and mitigation for proposed stormwater infrastructure within Stream A and the 35-foot buffer.
- Revise Performance Standard 1b1 of the Buffer Restoration Plan to require 70 percent aerial cover at Year 5, including suggestions for planting species and spacing to achieve that standard.
- Consider revising the Project Plans to avoid direct impacts to Stream A from stormwater infrastructure construction.

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