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TECHNICAL MEMORANDUM

To: Evan Maxim
Planning Manager
City of Mercer Island

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

Date: March 23, 2018

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

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

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

Item A: Geotechnical / Civil (drainage) Engineering:

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

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

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

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

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

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

Item B: Wetland / watercourse impacts:

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

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

Item E: Technical corrections:

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

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