



September 26, 2022

Mr. Greg Arms
Milestone Northwest
227 Bellevue Way Northeast, Suite 183
Bellevue, Washington 98004

**Subject: Geotechnical Report Addendum
Mercer Island 3-Lot
7621 Southwest 22nd Street
Mercer Island, Washington
RGI Project No. 2020-404-1**

References: 1. Geotechnical Engineering Report, prepared by The Riley Group, Inc. dated September 15, 2020 and updated May 4, 2022.
2. Geotechnical Engineering Report Addendum, prepared by The Riley Group, Inc. dated May 4, 2022.
3. Peer Review Comments, prepared by Michele Lorilla dated May 31, 2022

Dear Mr. Arms:

As requested, The Riley Group, Inc. (RGI) has performed a geotechnical study for the above referenced site and prepared the referenced geotechnical engineering report. RGI also reviewed the City of Mercer Island peer review comments dated May 31, 2022. The review comments are listed below followed by our responses.

Comment #1 Provide details on where this (mass wastage) was observed, potential impacts to the proposed development as well as mitigation measures to be incorporated into the final design.

Answer: The geologic map review in the referenced report found the site to be mapped as Vashon till through most of the site with Recessional outwash deposits along the eastern edge of the site. The eastern portion of the site is also secondarily mapped as mass wastage deposits. As stated in the report, the soil encountered at the site differed from what was described on the geologic map. The site soils appeared to match the descriptions for Lawton Clay. The site soils also match the descriptions for Fine-grained glacial deposits (Qpogf) which is silt and clay mapped to the northwest of the site. Both of the silt and clay deposits are glacially consolidated. The secondarily mapped mass wastage deposits are associated with the slopes descending to the stream to the east of the site. Although the stiff surface soils could be interpreted as mass wastage deposits, very stiff to hard soils were encountered at relatively shallow depths and are not considered mass wastage debris. It is unlikely mass wastage deposits on the site will have any impacts on site development.

Comment #2 Geotechnical engineer shall provide a critical area study as required by MICC19.07.110.

Answer: Review of City of Mercer Island GIS mapping indicates the site is mapped as an Erosion Hazard Area, a Seismic Hazard Area, and a Potential Slide Area. Review of section 19.07.160A of

the Mercer Island City Code (MICC) indicates that designating geologically hazardous areas is based on factors identified in the Washington Administrative Code (WAC) section 365-190-120.

Erosion Hazard Areas: Review of WAC 365-190-120 (5) indicates erosion hazard areas include areas likely to become unstable such as bluffs, steep slopes, and unconsolidated soils. Review of *Soil Survey, King County Area Washington* by the USDA Soil Conservation Service indicates the site is mapped as Kitsap silt loam, 2 to 8 percent slopes (KpB), which are described as having a slight to moderate erosion hazard potential. Because portions of the site have slope gradients in the range of 26 to 33 percent, the site should be considered an Erosion Hazard Area. RGI recommends implementing an erosion and sedimentation control plan as described in Section 5.2.1 of the referenced report.

Seismic Hazard Areas: Review of WAC 365-190-120 (7) indicates seismic hazard areas include areas subject to severe risk of damage of earthquake induced ground shaking, slope failure, settlement or subsidence, soil liquefaction, surface faulting, or tsunamis. Because the site is underlain by glacially consolidated deposits and lacks an established shallow groundwater table, RGI considers that the possibility of liquefaction during an earthquake is minimal. Because to site slopes are ten feet or less in height and underlain by cohesive glacially consolidated deposits, RGI considers that the possibility of slope failure is minimal. The site should not be considered a Seismic Hazard Area.

Potential Slide Areas: Review of WAC 365-190-120 (6) indicates landslide hazard areas include areas subject to landslides based on a combination of geologic, topographic, and hydrologic factors including areas susceptible to landslide because of any combination of bedrock, soil, slope gradient, slope aspect, structure, hydrology, or other factors including slopes steeper than 15 percent with permeable sediment over impermeable sediment and combined with groundwater seepage, areas that have shown movement or are covered in mass wastage debris during the Holocene, slopes parallel to planes of weakness, and areas with a slope of 40 percent or steeper with a vertical relief of ten or more feet. Based on observed site conditions, no factors indicative of a landslide hazard are present on the site. The site should not be considered a Landslide Hazard Area.

Comment #3 Provide a revised statement of risk that conforms to one of the statements presented in MICC 19.07.160 (B)(3).

Answer: An evaluation of subsurface conditions has revealed that the proposed development is not in a landslide or seismic hazard area. Based on the current design and our geotechnical study, in our professional opinion; the proposed development will not have a negative impact to the neighboring properties if the geotechnical recommendations in the referenced report are incorporated into the project design and construction. The risk of damage to the proposed development and from the development to adjacent properties from soil instability will be minimal.

Comment #4 This code section (MICC.09.090) cannot be met without meeting code section MICC 19.07.160. Provide proposed final grades for the proposed lots. Provide information regarding proposed building excavations, e.g., will basement levels be involved? Provide an anticipated basement level elevation or finished floor elevations for at-grade structures for the proposed lots.

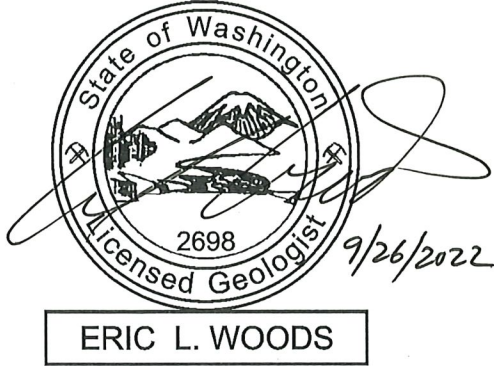
Adequate grading information should be provided for Lot 2 so that the geotechnical engineer can assess potential slope stability impacts and provide design mitigation recommendations.

Answer: Based on the current plan, the finished floor elevation will be at elevation 248.8 feet and approximately 3 feet of excavation will be needed to reach the final grade. Since the excavation is so minor, RGI doesn't believe that it will affect the slope stability.

If you have any questions or require additional information, please contact us.

Respectfully submitted,

THE RILEY GROUP, INC.



Eric L. Woods, LG
Project Geologist



Ricky R. Wang, PhD, PE
Principal Engineer