



March 23, 2023  
ES-8380.01

## Earth Solutions NW LLC

Geotechnical Engineering, Construction  
Observation/Testing and Environmental Services

JayMarc Custom Homes, LLC  
7525 Southeast 24<sup>th</sup> Street, Suite 520  
Mercer Island, Washington 98040

Attention: Mr. Gary Upper

**Subject: Plan Review and Minimum Risk Statement  
4740 West Mercer Way  
Mercer Island, Washington**

Reference: Earth Solutions NW, LLC  
Geotechnical Engineering Study  
ES-8380, dated April 4, 2022

JayMarc Custom Homes, LLC  
Site Plan and Topographic Survey  
Spring Residence  
4740 West Mercer Way  
Dated January 11, 2023

Dear Mr. Upper:

In accordance with your request, Earth Solutions NW, LLC (ESNW) has prepared this letter providing a plan review and minimum risk statement as required by the City of Mercer Island.

The subject project will include construction of a new residential structure at the above-mentioned addresses in Mercer Island, Washington. We have reviewed the referenced plans for the project in comparison to the recommendations described in the referenced report providing our recommendations and observations of the site soil conditions. Upon our review of the referenced plans, the proposed residence will not be adding surcharge loads to the slopes under concern. The subject structure will be sited outside of the 1H1:V (Horizontal:Vertical) zone of influence on the subject slopes which are designated as steep slopes and landslide hazards by the City of Mercer Island.

Based on our review, Landslide hazard area are defined by the City of Mercer Island code as:

*LANDSLIDE HAZARD AREAS (WAC 365-190-080 4d and MICC 19.16.010) Landslide hazard areas include areas potentially subject to landslides based on a combination of geologic, topographic, and hydrologic factors. They include areas susceptible because of any combination of bedrock, soil, slope (gradient), slope aspect, structure, hydrology, or other factors.*

*Areas susceptible to landsliding on Mercer Island include:*

- i. Areas of historic failure or that have been documented on published maps.*
- ii. Slopes steeper than 15%, intersecting a geologic contact of relatively permeable deposits over relatively impermeable deposits, and with springs or groundwater seepage.*
- iii. Areas that have shown movement during the Holocene epoch (last 10,000 years) or which are covered by Holocene-age mass wasting deposits.*
- iv. Slopes parallel or sub-parallel to planes of weakness (such as bedding planes, joint systems, and fault planes) in subsurface materials.*
- v. Slopes having gradients steeper than 80% subject to rockfall during seismic shaking; See slope classification below.*
- vi. Areas potentially unstable as a result of rapid stream incision, stream bank erosion, and undercutting by wave action.*
- vii. Areas that show evidence of, or are at risk from snow avalanche; None identified on Mercer Island.*
- viii. Areas located in a canyon or on an active alluvial fan, presently or potentially subject to inundation by debris flows or catastrophic flooding.*
- ix. Any area with a slope of 40% or steeper and with a vertical relief of ten or more feet except where composed of consolidated rock.*

The sloped regions are on the order of less than ten feet in vertical relief based on our review, and do not meet the criteria described in the municipal code with exception of the slope within the northeastern portion of the site which ascends approximately 20 feet to the east, and off-property. This slope will not be disturbed, and being at the toe-of-slope with a rockery at the base, there will be no increase in the loading on this slope resulting from the planned re-development. The site is underlain by firm native soil which is homogeneous in nature, where there is a lack of coarse-grained soil overlying firm silt or bedrock. In our opinion, the landslide risk on the site is low due to the stable nature of the slopes on the subject site, and the relatively dense nature of the soil underlying the project area.

The slope on the north and east sides of the site ascends from the building area towards the neighboring properties. The slope located on the southern side of the site descends six feet towards the road, and the proposed residence will be sited slightly under ten feet from the top-of-slope. As such, there will be no increase in loading on both the northerly and southerly slopes. Chapter 19.07.160B. of the Mercer Island municipal code states:

3. *Alteration of landslide hazard areas, seismic hazard areas and associated buffers may occur if the conditions listed in subsection (B)(2) of this section are satisfied and the geotechnical professional provides a statement of risk matching one of the following:*
  - a. *An evaluation of site-specific subsurface conditions demonstrates that the proposed development is not located in a landslide hazard area or seismic hazard area;*
  - b. *The landslide hazard area or seismic hazard area will be modified or the development has been designed so that the risk to the site and adjacent property is eliminated or mitigated such that the site is determined to be safe;*
  - c. *Construction practices are proposed for the alteration that would render the development as safe as if it were not located in a geologically hazardous area and do not adversely impact adjacent properties; or*
  - d. *The development is so minor as not to pose a threat to the public health, safety and welfare.*

Based on our review, the slopes on the subject site do not meet the definition of a geologically hazardous area, and in our opinion, the planned redevelopment will not increase the risk of landslide, erosion, or harm from seismic activity. Additionally, the landslide hazard area or seismic hazard area will be modified or the development has been designed so that the risk to the site and adjacent property is eliminated or mitigated such that the site is determined to be safe.

Based on our review, the referenced site plan conforms to the recommendations of the analysis and report.

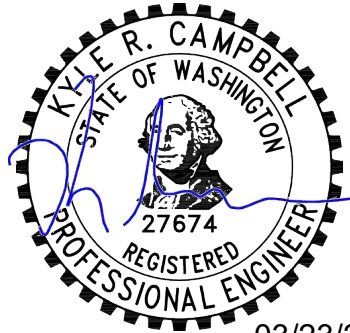
We trust this letter meets your current needs. If you have any questions, or if additional information is required, please call.

Sincerely,

**EARTH SOLUTIONS NW, LLC**



Stephen H. Avril  
Project Manager



03/23/2023

Kyle R. Campbell, P.E.  
Senior Principal Engineer