



associated  
earth sciences  
incorporated

August 6, 2019  
Project No. 180127E002

Ron Beresky  
8100 SE 48<sup>th</sup> Street  
Mercer Island, Washington 98040

Subject: Response to Geotechnical Plan Review Comments and Statement of Risk  
Segmental Block Retaining Walls  
8100 SE 48<sup>th</sup> Street  
Mercer Island, Washington  
**Permit Application No. CA018-010**

References: Geotechnical Engineering Report  
New Retaining Wall Feasibility  
8100 SE 48<sup>th</sup> Street  
Mercer Island, Washington  
Date: October 2, 2018

Revised Segmental Block Retaining Wall Design  
Beresky Residence  
8100 SE 48<sup>th</sup> Street  
Mercer Island, Washington  
Date: April 24, 2019

Dear Mr. Beresky:

As requested, this letter presents Associated Earth Sciences, Inc.'s (AESI's) response to review comments issued by the City of Mercer Island to you via email on July 26, 2019. The City's peer-review process resulted in the following three comments that have not yet been addressed:

1. "We recommend that AESI submit a statement of risk after addressing the comments in the following section. If the conclusions in the report are the same, the statement of risk should specifically state how the proposed development eliminates or mitigates the risk."
2. "The geotechnical engineer should confirm that no evidence of groundwater was observed at the site. In addition to groundwater observations made in the borings,

please verify that no evidence of springs, hydrophilic vegetation, etc., is present on the steep slope or down slope of the proposed retaining wall.”

7. “The project civil engineer should provide a Temporary Erosion and Sediment Control plan. The geotechnical report should provide recommendations for permanent erosion and sediment control measures.”

### Groundwater

Groundwater was not observed in our exploration borings completed for this project at the time of drilling in June 2018. The existing slopes are covered with dense blackberry thickets, ivy, and other invasive and native vegetation. We did not observe evidence of wet species vegetation, springs, seeps, or other expression of emergent groundwater on the slope face or at the toe of the slope during any of our site visits.

### Erosion Control

A properly developed, constructed, and maintained erosion control plan consistent with local standards and best management erosion control practices will be required for this project. The project landscape architect is currently preparing a Permanent Landscape Plan and the project civil engineer is preparing a Temporary Erosion and Sediment Control (TESC) Plan in accordance with the City of Mercer Island’s request.

It may be necessary to make field adjustments and provide additional measures to the TESC plan in order to improve its effectiveness. Ultimately, the success of the TESC plan depends on a proactive approach to project planning and contractor implementation and maintenance.

The erosion hazard of the site soils is high based on soil type and slope inclination. Maintaining cover measures atop disturbed ground provides significant reduction to the potential generation of turbid runoff and sediment transport.

To mitigate the erosion hazards and potential for off-site sediment transport, we recommend the following:

1. All TESC measures for the work area, including properly constructed silt fencing below the proposed work area, should be installed prior to any activity.
2. Sediment socks should be properly installed in any catch basins that could receive stormwater runoff from the proposed improvement area prior to any vegetation clearing or construction of the proposed improvements. These catch basins should be inspected, and sediment socks cleaned and maintained on a regular basis until permanent erosion control measures are in place and functional.

3. Only proposed staging and construction areas should include vegetation removal and only to the degree necessary to complete site improvement shown on the approved plans. We anticipate that most of the work will be completed with hand equipment and access will likely occur from the base of the slope (bottom-up construction) given the space restrictions at the top of the slope.
4. Where practical, existing paved surfaces should be used for construction access. Construction staging areas should be surfaced with rock and/or plastic sheeting to mitigate sediment track-out onto adjacent streets. Any sediment that is tracked onto adjacent streets should be promptly swept up.
5. Excavation for the terraced wall system should occur in short/small enough segments such that exposed cut slopes will be protected by proposed retaining wall facing elements by the end of each workday. Exposed cut slopes should not remain exposed and vulnerable to drying, cracking, spalling, sloughing, or wet weather.
6. *Construction shall not occur on this site during the wetter months of the year (typically October through April).* When large storm events are predicted or occur during the summer/autumn months, the work area should be temporarily stabilized and covered with plastic sheeting so that if showers occur, the work area can receive the rainfall without excessive erosion or sediment transport. Plastic sheeting should extend above the work area and should be properly secured with a rock berm, sandbags, or other means such that water cannot flow beneath the plastic. Plastic should be similarly anchored to prevent wind from exposing bare soil during storm events.
7. Under no circumstances should concentrated discharges be allowed to flow over the top of steep slopes or cuts made for new retaining walls.
8. Soils that are to be reused around the site should be stored in such a manner as to reduce erosion from the stockpile. Protective measures may include, but are not limited to, covering with plastic sheeting, the use of low stockpiles in flat areas, or the use of straw bales/silt fences around pile perimeters. Stockpiles should not be placed within 5 feet of cut slopes or the crest of the landslide hazard area.
9. Permanent cut and structural fill slopes should not exceed an inclination of 2H:1V (Horizontal:Vertical). Permanent non-structural landscape fill should not exceed a 3H:1V inclination. Please refer to the project plans for temporary and permanent cut and fill slope configurations. No deviations from these plans are allowed without express written permission of AESI, the wall designer.
10. All walls are currently designed with a permanent wall drainage system that includes wall drain-pipes that must be properly tightlined to the on-site catch basin at the location shown on the plans.

11. All disturbed areas should be revegetated with permanent landscaping approved by the project landscape engineer as soon as possible following construction. If it is outside of the growing season, the disturbed areas should be covered with mulch until permanent landscaping can be established.

Statement of Risk

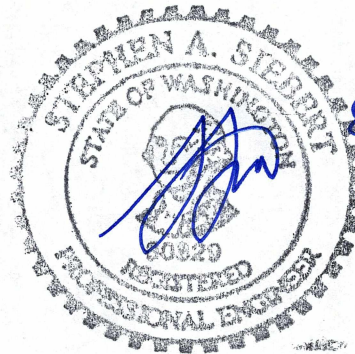
For Section 19.07.060(D.2.a) of the *Mercer Island Unified Land Development Code* (ULDC), the City of Mercer Island requires a statement of risk by the geotechnical engineer:

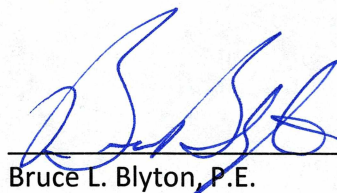
Provided the recommendations contained in this letter; our October 2, 2018 geotechnical report; and our revised segmental block retaining wall design, dated April 24, 2019, are followed, *the geologic hazard area will be modified and the development improvements have been designed so that the risk to the lot and adjacent properties are mitigated such that the site is determined to be safe.*

In our opinion, the proposed retaining wall system will effectively reduce the overall slope inclination to a more stable configuration as demonstrated with our slope stability analysis presented in our letter, dated April 24, 2019.

We appreciate the opportunity to be of continued service. If you have any questions regarding this letter or other geotechnical engineering aspects of the project, please do not hesitate to call.

Sincerely,  
**ASSOCIATED EARTH SCIENCES, INC.**  
Kirkland, Washington



  
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