

September 20, 2024
File No. 20-174.300

Jason Brothers, Inc.
c/o Mr. Brad Sturman
9 – 103rd Avenue NE, Suite 203
Bellevue, WA 98004

**Subject: Geotechnical Plan Review, Statement of Minimum Risks, and Seasonal Development Limitation Waiver
Proposed SFR
4006 E Mercer Way, Mercer Island, WA**

Dear Mr. Sturman,

As requested, PanGEO conducted a geotechnical plan review to provide a statement of minimum risks and supporting information to assist you to apply for a seasonal development limitation waiver.

FOUNDATION DESIGN

We understand that the project design has been changed back to a new SFR. Based on the current plans, all footings will be supported by pin piles as recommended in our geotechnical report.

GEOTECHNICAL PLAN REVIEW

We reviewed the geotechnical engineering aspects of the current plans for the above-referenced project. Our review includes the following:

- Architectural plan Sheets A1.0 through A4.2 last revised September 20, 2024 by Sturman Architects,
- Civil Plan Sheets C-1 through C-3 last revised on September 11, 2024 by Nick Bossoff Engineering, Inc.; and

- Structural plan sheets S1.1 through S4.6 dated September 18, 2024 by SSF Structural Engineering.

In general, it is our opinion that the plans reviewed had incorporated all substantial geotechnical recommendations presented in our geotechnical report dated July 7, 2020.

STATEMENT OF MINIMUM RISKS

We understand that the site is mapped as a geologic hazard area. Per Mercer Island City Code Section 19.07.160.B.2, development within geologic hazard areas and critical slopes may occur if the geotechnical engineer provides a statement of risk with supporting documentation indicating that one of the following conditions can be met:

- a. The geologic hazard area will be modified, or the development has been designed so that the risk to the lot and adjacent property is eliminated or mitigated such that the site is determined to be safe;
- b. Construction practices are proposed for the alteration that would render the development as safe as if it were not located in a geologic hazard area;
- c. The alteration is so minor as not to pose a threat to the public health, safety, and welfare;
- d. An evaluation of site-specific subsurface conditions demonstrates that the proposed development is not located in a geologic hazard area.

Based on our additional analyses and our review of the current plans, it is our opinion that Criterion (b) can be met, provided that the project is properly constructed per the approved plans. We recommend that best management practices be implemented during construction, including the proper use of silt fence, minimize earthwork activities during periods heavy precipitations, minimized exposed areas in wet season, etc. Permanent erosion control measures including landscape and hardscape installations will effectively mitigate the risk of erosion in the long term.

SEASONAL DEVELOPMENT LIMITATION WAIVER

As requested, PanGEO prepared this letter to assist you to apply for a seasonal development limitation waiver such that earthwork and foundation construction of the

proposed single-family residence can be conducted in the wet season (October 1 through April 1).

Based on the schedule provided to us, it is anticipated that earthwork activities in the wet season at the site will mainly include the following:

Week 1: Pre-con meeting with the city; tree protection installed; silt fence installed; tree removal.

Week 2: Tree removal, corners staked.

Week 3: Begin excavation.

Week 4: Continue excavation.

Week 5: Start foundation work -footings.

Week 6: Continue foundation work -walls.

Week 7: Finish foundation work -walls; under-floor plumbing.

Week 8: Concrete slabs; waterproof foundation; footing drains; downspout drains.

Week 9: Sewer and water connections

We understand that the planned excavations will be sloped and benched. Based on review of the excavation plans, the soil conditions at the site, the construction schedule, and anticipated earthwork activities, in our opinion, the proposed site grading may be accomplished during wet season without adversely affecting the site stability at the subject and surrounding properties. In our opinion, the potential for erosion at the site can be adequately mitigated by employing best management practices (BMPs). During construction, erosion control should include measures for reducing concentrated surface runoff and for reducing the potential of off-site sediment transport by protecting disturbed or exposed surfaces. As a minimum, the following temporary erosion and sediment control measures for the wet season construction should be implemented:

- Where practical, maintain vegetation buffers around construction areas;
- Site stripping, excavation and subgrade preparation should be followed promptly by the placement and compaction of clean structural fill or CDF;

- The size and type of construction equipment used may have to be limited to prevent soil disturbance;
- The ground surface within the construction area should be graded to prevent surface water run-off of away from the site and the ponding of water;
- Double geotextile silt fences should be installed downslope sides (i.e. east side of the east house between the lake and the house) to control erosion and the movement of soil;
- Strew bales may need to be placed between the silt fences to retain the fines;
- Adequately cover soil stockpiles and temporary cut slopes with plastic sheeting;
- Hydroseed or place straw in areas where grading is completed;
- Construct shallow, upgrade perimeter ditches or low earthen berms to divert water away from the top of slopes;
- Phased/stage excavations/construction should be implemented, such as basement and site walls, so that the amount of exposed soil and exposure time is minimized;
- No off-site soil tracking and run-off should occur at any time; and
- Structural fill should consist of less than 7% fines.

The erosion control measures at the site during the wet season should also follow applicable state and city regulations. In addition, PanGEO should conduct site visits to monitor the site stability and erosion control measures during wet season grading, and provide other recommendations for erosion control or site stabilization measures as needed throughout the wet season. In summary, provided that above recommendations are followed, it is our opinion that earthwork for the above project can be accomplished in the wet season and we recommend that a seasonal development limitation waiver be granted between February 15 and April 30, 2022.

The stability of the site slopes and temporary excavations should be closely monitored during construction. In the event that signs of slope instability for the site and temporary excavations are observed, measures such as buttressing the slopes, backfilling the excavations, and installing temporary shoring, etc. should be immediately implemented to repair/maintain the slope stability. PanGEO should be notified immediately if such signs are observed during construction.

We trust that the information presented herein meets your need at this time. Please call if you have any questions.

Sincerely,



9/20/2024

Michael H. Xue, P.E.
Principal Geotechnical Engineer