TERRA ASSOCIATES, Inc.
Consultants in Geotechnical Engineering, Geology
and
Environmental Earth Sciences

December 6, 2024
Project No. T-9103

Mr. Omar Lee
8448 North Mercer Way
Mercer Island, Washington 98040

Subject: Geotechnical Engineering Plan Review
8448 N Mercer Residence
8448 North Mercer Way
Mercer Island, Washington

References:
1. Geotechnical Investigation, Proposed Smalley Residence, 8448 N. Mercer Way, Mercer Island, Washington, Project No. T-744.1, prepared by Terra Associates, Inc., dated July 29, 1988
2. Sheets S-0.0 and S-1.0, Structural Plans, Lee Remodel, 8448 N Mercer Way, Mercer Island, Washington, prepared by Mulhern + Kulp, dated August 30, 2024
3. Sheets A1.1, Architectural Plans, Lee Remodel, 8448 N Mercer Way, Mercer Island, Washington, prepared by Architectural Innovations, PS, dated September 4, 2024

Dear Mr. Lee:

As requested, we have completed a review of construction drawings for the subject project. The purpose of our review was to verify the geotechnical engineering recommendations as outlined in the referenced report remain valid, were incorporated into preparation of the drawings and to update or supplement the recommendations as needed based on the building layout and design.

The referenced plans outline the addition that will be completed on the eastern side of the existing residence. Based on the referenced plans, the project will utilize existing foundations that are supported on piles and construct new foundation for support of the main floor and upper floor addition. Grading is expected to be minimal with cuts and fills less than four feet.

A review of the structural design indicates that post construction the existing foundations will have a total load of 15 kips. The existing piles were designed for an allowable axial capacity of 20 kips. Six new spread footings will be constructed in an area where there are no existing piles. Based on the recommendations and soil conditions noted in the referenced report, the use of spread footings is suitable provided the compressible soils are removed.

Once the excavation is completed for the spread footings, the subgrade should be observed by Terra Associates, Inc. to ensure the compressible soils have been removed and the subgrade is suitable. The spread footings have been designed for an allowable bearing capacity of 1,500 pounds per square foot (psf). The structural calculations on Sheet S-0.0 also indicate seismic loading was based on Site Class "D".

The onsite soils will be easily disturbed by normal construction activity, including foot traffic, when wet or saturated. Care should be taken not to disturb the bearing subgrade during construction. If disturbed, the affected soils must be removed and footings lowered to undisturbed subgrade, or grade restored using clean crushed rock such as railroad or shoulder ballast.

As noted, except as amended herein, all recommendations outlined in the referenced geotechnical report are applicable and continue to remain valid for project design and construction. Based on our review of the plans indicated, we conclude they were prepared in general accordance with the recommendations outlined in our report.

Minimal Risk

Per Section 19.07.160.B.3 of the City of Mercer Island Municipal Code, "An evaluation of site-specific subsurface conditions demonstrates that the proposed development is not located in a landslide hazard area or seismic hazard area." Based on the site topography and soil explorations completed for the referenced geotechnical report, the site is not within a landslide or seismic hazard area. Therefore, the proposed project can be constructed as designed without negatively impacting the project site, adjacent body of water, or adjacent properties in our opinion.

We trust the information presented is sufficient for your current needs. If you have any questions or require additional information, please call.

Sincerely yours,
TERRA ASSOCIATES, INC.

12-6-24

Carolyn S. Decker, P.E.
President