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

January 26, 2021
Project No. T-8257

Mr. Ken Brooks
Northbrook Construction Management
13212 – 409th Avenue SE
North Bend, Washington 98045

Subject: Geotechnical Engineering Plan Review
Mercer Island Residence
3310 – 97th Avenue SE
Mercer Island, Washington

References:

1. Geotechnical Report, Mercer Island Residence, 3310 – 97th Avenue SE, Mercer Island, Washington, Project No. T-8257, prepared by Terra Associates, Inc., dated December 16, 2019, revised January 26, 2021
2. Civil Plans, Lake House, 3310 – 97th Ave SE, Mercer Island, Washington, prepared by LPD Engineering, PLLC, dated December 17, 2020
3. Sheets S1.0 and SS3.1, Structural Plans, Lake House, 3310 – 97th Ave SE, Mercer Island, Washington, prepared by I.L Gross, dated December 18, 2020
4. Sheets A1.01, A2.01and AD2.02, Architectural Plans, Lake House, 3310 – 97th Ave SE, Mercer Island, Washington, prepared by Robert Edson Swain, dated December 18, 2020

Dear Mr. Brooks:

As requested by Robert Edson Swain, 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 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 new construction that will be placed on the southern side and under the existing residence. Based on the referenced plans, the project will construct new foundations under the existing structure to allow for the revised main residence and a new pool; decking and stairs will be constructed on the south side of the existing residence. An updated drainage system will be installed around the existing main residence. Grading to achieve the final elevations consists of minor cuts and fills.

A review of the structural design indicates the foundation for the residence was dimensioned for an allowable bearing capacity of 2,000 pounds per square foot (psf) or 3,000 psf for foundations deeper than 3 feet below grade. The structural calculations on Sheet S1.0 also indicate seismic loading was based on Site Class "D". These design parameters are consistent with the recommendations in the referenced report.

Foundation drains are shown on the civil and structural sheets. We would note, the foundation drain is depicted on top of the foundation on Sheet S3.1. We recommend the foundation drain be placed at the bottom of the foundation as shown in the geotechnical report and civil drawings.

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 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.

CAROLYN S. DECKER
STATE OF WASHINGTON
47016
REGISTERED
PROFESSIONAL ENGINEER

1-26-2021

Carolyn S. Decker, P.E.
Project Engineer