
September 29, 2022

JN 21061

Daniel and Susan Steinborn
2011 – 19th Avenue
Seattle, Washington 98112
via email: dsteinborn@gmail.com

Subject: **Geotechnical Review of Plans**
Proposed Steinborn Residence
8435 S.E. 47th Place
Parcel #3317500040
Mercer Island, Washington

Greetings,

As required by the City of Mercer Island, we have completed a general review of the geotechnical aspects of the plans for your new residence. For our review, we were provided with:

- Architectural drawings dated August 25, 2022; Ectypos Architecture.
- Structural drawings dated August 25, 2022; Bykonen Carter Quinn.
- Soil nail shoring drawing dated August 25, 2022; Ground Support.
- Civil plans dated July 22, 2022; WR Consulting.

The scope of the project shown on the reviewed plans is consistent with our expectations. Soil nail walls will be provided for temporary and/or permanent retention of most of the cuts for the driveway and house. A sloped cut will be used for the excavation of the eastern basement wall. During our review, we recommended that 2-inch-diameter pipe piles be used to support the small crawl space portion of the structure on the east side of the house. This small extension will be built over the backfill of the eastern basement wall, and the use of pipe piles driven into the underlying glacial till will prevent foundation settlement. The structural plans included our recommended allowable pile capacity (3 tons) as well as appropriate notes for installation and refusal rates.

On Sheet C3, the manhole located at the north end of the detention tank will be outside of the footing for the north motorcourt retaining wall. However, we recommend that the backfill around the manhole consists of lean-mix concrete having a minimum one sack (94 pounds) of cement per cubic yard. This will provide appropriate lateral support for the retaining wall's bearing zone. The catch basin/manhole to the west of the detention pipe needs to be moved further south to be outside of the footing and should be backfilled with the same lean mix concrete. We understand that the civil engineer, who is currently unavailable, will make these changes on the drawings.

Statement of Risk: In order to satisfy the City of Mercer Island's requirements, a statement of risk is needed. As such, in consideration of the above comments regarding the manholes, we make the following statement:

The design and construction practices contained in the plans for the alteration will render the development as safe as if it were not located in a geologically hazardous area and will not cause adverse geotechnical impacts to the adjacent properties

Please contact us if there are any questions regarding this letter, or if we can be of further assistance.

Respectfully submitted,

GEOTECH CONSULTANTS, INC.



9/29/2022

Marc R. McGinnis, P.E.
Principal

cc: **Ectypos Architecture** – Lucia Pirzio-Biroli
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