Earth Solutions NW LLC
Geotechnical Engineering, Construction
Observation/Testing and Environmental Services

January 12, 2021
ES-6947.04

RKK Villa Marbella, LLC
7330 West Mercer Way
Mercer Island, Washington 98040

Attention: Mr. Mason Helms

Subject: **Response to Comments**
Proposed Marbella Residence
7311 West Mercer Way
Mercer Island, Washington

Reference: Earth Solutions NW, LLC
Geotechnical Engineering Study
Project No. ES-6947.01, dated November 14, 2019

RFA Architects
Intake Package, dated September 23, 2020

Dear Mr. Helms:

At the request of RKK Villa Marbella, LLC, Earth Solutions NW, LLC (ESNW) has prepared this response to comments letter for the proposed project. City of Mercer Island comments were provided to us by email.

City Comment – Geotechnical engineer to provide recommendations for footings located on or adjacent to steep slope. Recommendations to include minimum embedment of footings with detail showing footing and slope for clarification and allowable soil bearing pressure given the presence of the steep slope.

ESNW Response – In our opinion, foundations near sloping areas should maintain a 10-foot setback from the slope face. This can be achieved by either constructing foundations 10 feet from the top of slope or advancing the foundation sufficiently to maintain a 10-foot horizontal setback between the foundation and slope face. Please see the attached Plate 1 (Foundations Adjacent To Slopes) for a depiction of these recommendations. Provided that competent native soils are encountered at subgrade elevations, the previously recommended allowable soil bearing capacity of 2,500 psf is considered suitable for design. Based on our test pit exploration, we anticipate glacial till to be prevalent throughout the area; as such, we do not anticipate adverse impacts to the slope during foundation preparation activities. ESNW should be retained at the time of construction and foundation preparation to observe field conditions and provide additional recommendations, where necessary.

City Comment – The geotechnical report does not discuss the existing conditions of the slope at the site. Was a geologic reconnaissance of the slope conducted? Geotechnical engineer to provide assessment of potential slope stability issues due to the proximity of the proposed development to the steep slope. Provide mitigation recommendations.

ESNW Response – Concurrent with our September 2019 subsurface exploration, ESNW observed the site slope. At that time, ESNW did not observe any obvious indications of near-surface instability (e.g., sloughing or exposed soils). Most of the slope was heavily vegetated, which in our opinion, is indicative of good near-surface stability. As such, it is our opinion that supplementary geotechnical provisions beyond those provided in the referenced geotechnical engineering study and this response letter are not warranted at this time.

City Comment – Geotechnical engineer to review project plans and verify that designs are in accordance with geotechnical recommendations provided in their design report. Geotechnical engineer to also provide updated risk statement in accordance with MICC 19.07.160. This can be a sperate letter after review of all plan/design changes have been made.

ESNW Response – ESNW will review the updated plans, when available, and provide the requested review letter.

City Comment – Include note indicating that no excavated soil or removed vegetation will be allowed to remain on the slope.

ESNW Response – No response required.

City Comment – Geotechnical engineer to provide specific recommendations including location, depth, and anchoring for installation of the storm and sewer utilities on the slopes. Include assessment of slope stability for these areas.

ESNW Response – The referenced plan set indicates that surface-mount anchors will be used to secure both the storm utility pipe and sanitary sewer utility pipe to the slope face. In our opinion, surface-mounting the pipes will provide the least amount of intrusion to the slope. The anchor system should consist of a clamp into which the pipe is secured. The clamp should then be secured to the slope surface by vertically driving two-inch pipe piles on either side of the of clamp. In our opinion, the pipe piles should be driven to a depth of at least five feet below the slope surface. A hand-held, pneumatic hammer will likely be required to install the pipe piles. Surface-mount anchors should be installed for every 20 linear feet of pipe alignment that is placed on the slope face. In our opinion, both the storm and sewer pipes should be aligned perpendicularly to the existing topography, to the extent feasible.

The pipes should be secured with dead-man anchors placed at the top of the slope. As the plans suggest, the proposed catch basin can serve as a dead-man anchor for the storm pipe alignment. An ecology block or another similar concrete block can be used for the sanitary sewer pipe dead-man anchor.

City Comment – Reference geotechnical engineering report and any addendums.

ESNW Response – No response required.

City Comment – Provide a note that require that footing subgrades be reviewed and approved by geotechnical engineer of record to verify suitable subgrade conditions and embedment.

ESNW Response – No response required.

We trust this letter meets your current needs. Should you have any questions regarding the content herein, or require additional information, please call.

Sincerely,

EARTH SOLUTIONS NW, LLC

01/12/2021

Chase G. Halsen

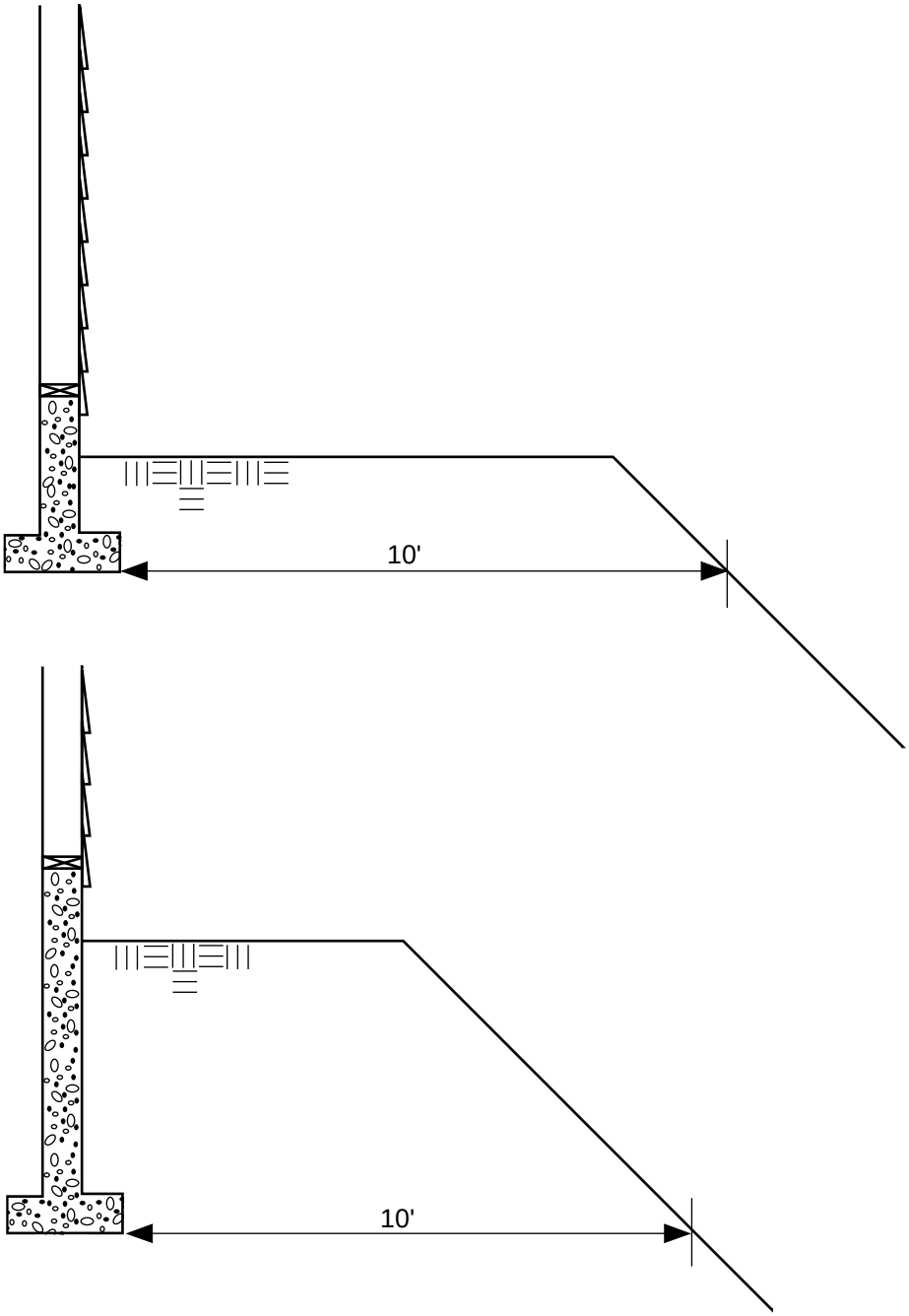
Chase G. Halsen, L.G.
Project Geologist

01/12/2021

Keven D. Hoffmann, P.E.
Senior Project Manager

Attachment: Plate 1 – Foundations Adjacent To Slopes

cc: RFA Architects
Attention: Mr. Richard Fisher (Email only)



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Foundations Adjacent To Slopes
Marbella Residence
Mercer Island, Washington

Drwn. MRS	Date 01/11/2021	Proj. No. 6947.04
Checked CGH	Date Jan. 2021	Plate 1