



May 21, 2019
ES-4316.03

Earth Solutions NW LLC

Geotechnical Engineering, Construction
Observation/Testing and Environmental Services

Ms. Jennifer Brenes
2675 – 74th Avenue Southeast
Mercer Island, Washington 98040

Subject: Plan Review
Single-Family Residential Improvements
2675 – 74th Avenue Southeast
Mercer Island, Washington

Reference: Mercer Island City Code (MICC) Chapters 19.07 and 19.16

Living Shelter Architects, PLLC
C.A.D. Application Narrative, dated April 20, 2019
Architectural Plans, dated May 10, 2019

Swenson Say Faget
Structural Plans, dated May 8, 2019

Earth Solutions NW, LLC
Geotechnical Consulting Services Letter
Project No. ES-4316, dated March 17, 2016

Dear Ms. Brenes:

As requested by Living Shelter Architects, PLLC (LSA), Earth Solutions NW, LLC (ESNW) has prepared this plan review letter for the subject project. The pertinent documents for this plan review were the referenced C.A.D. narrative, architectural plans, and structural plans. Our review of each proposed improvement and/or activity, as well as appropriate geotechnical recommendations (as necessary), are provided in this letter.

Proposed Improvements

Based on our review, multiple improvements are proposed to the property. Each improvement is outlined below, along with our pertinent geotechnical recommendations and/or opinions.

Reconstruct Garage, Entry, and Living Space

We understand the existing carport and entry area southeast of the residence will be removed, and a new two-car garage and entry area will be constructed. A living space will be constructed above the new garage.

Based on our review, the proposed improvements are feasible from a geotechnical standpoint. The plans have incorporated the recommendations provided in the referenced geotechnical consulting services letter (letter). ESNW should be contacted to observe earthwork and grading activities for the garage and entry area during construction.

North Slope Rockeries

We understand two rockeries were installed in the north slope area without a permit. It is noted ESNW was not aware of the rockeries until after construction was completed. Remedial activities will include removing the lower rockery (roughly 70 lineal feet) and attempting to permit construction of the existing upper rockery (roughly 40 to 45 lineal feet).

Based on our review, the proposed remedial activities are feasible from a geotechnical standpoint. ESNW observed the completed rockery installations in July 2018 as part of prior consulting services. Based on our field observations, the rockeries did not involve grade cuts or fills, did not alter the slope (as an "alteration" is defined in MICC 19.16.010), and are not expected to adversely impact the slope. ESNW should be contacted to observe removal of the lower rockery prior to commencement of deconstruction.

Reduce Deck Areas and Install CIP Retaining Walls

We understand both the existing decks and several gravel areas will be removed, and a new "reduced section" of deck space will be constructed around the western, northern, and eastern sides of the residence. Cast-in-place (CIP) retaining walls will be installed to create level grades (for lawn space) where the existing decks are proposed to be removed.

Based on our review, the proposed improvements and/or remedial activities are feasible from a geotechnical standpoint. The plans have incorporated appropriate design parameters and recommendations, as provided in the letter. ESNW should be contacted to observe removal of existing deck areas and subsequent construction of new deck areas. While ESNW is not directly involved in CIP wall design, we recommend ESNW be contacted to observe earthwork activities relating to CIP wall construction given the sensitive nature of the site.

Repair North Residence Wing

We understand support of the north residence wing will be improved by installing pin piles. To support deck space on the north residence wing, the existing cantilevered beams will be replaced by posts and footings.

Based on our review, the proposed structural improvements are feasible from a geotechnical standpoint. The referenced structural plans have incorporated appropriate design parameters and recommendations, as provided in the letter. ESNW should be contacted to observe pin-pile installation on a full-time basis to confirm construction conditions are as anticipated in the letter, specifically to confirm appropriate bearing conditions and pile refusal criteria are met during construction.

We trust this letter meets your current needs. Please call if you have questions about this letter or if you need additional information.

Sincerely,

EARTH SOLUTIONS NW, LLC



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

cc: Living Shelter Architects, PLLC
Attention: Mr. Roy McGarrah (Email only)