

Stuart Silk Architects

March 7, 2019

Project Number: 1902-087

Project Address: 4150 Boulevard PI

Critical Area Determination, Critical Areas Study

We are requesting alterations to a critical area that is a geologic hazard area per MICC 19.07.060. We are proposing a watercourse buffer averaging, see attached Site Plan A-1.2.

Project Narrative

The site slopes toward the south at varying degrees from approx. 10% in the upper land to greater than 30% for the southern area. According to the geotechnical report the site has glacial outwash with lacustrine deposits, which is consistent with the perennial stream that traverses the lower portion of the site adjacent to the southern property line. The stream is a Type 2 stream according to the Stream Map prepared by Watershed dated in 2004 at the following link:

https://www.mercergov.org/files/watershedcompany_11x17.pdf . The headwaters of the stream start near Homestead Field and then migrate through the channel to Lake Washington. A Type 2 buffer according to Mercer Island City Code (MICC) 19.07.070 requires a 50-ft buffer for the perennial stream. In addition, a steep slope setback of 10-feet is required for the structure to the face of steep slope. The site was previously developed and is well maintained with vegetation and large trees. A planned residence is proposed to the site, such that the orientation impacts the 50-ft buffer. It is proposed to use buffer averaging that is currently allowed with the City. The site plan attached shows the buffer averaging proposed for which we are requesting a pre-application meeting to discuss further.

A more detailed stream delineation showing the OHWM and any associated riparian wetlands is being prepared for the formal submittal.

The proposed scope of the project is to construct a new single family residence with basement and attached on a vacant, unbuilt lot. The new residence will be excavated into the hillside, creating cuts between 6-11 feet in overall height at the project south side of the residence. The new residence will be supported as mat slab on grade with supporting spread footings per structural details, sheet S3.2. Over excavated areas shall be backfilled with lean concrete or per Geotechnical recommendations. Minor sloughing or slides shall be caught with proposed TESC measures per civil engineering TESC plan, sheet C2.1.

The Mercer Island City code reads under MICC 19.07.060 D Site Development:

D. Site Development.

1. Development Conditions. Alterations of geologic hazard areas may occur if the code official concludes that such alterations:

- a. Will not adversely impact other critical areas;*
- b. Will not adversely impact (e.g., landslides, earth movement, increase surface water flows, etc.) the subject property or adjacent properties;*
- c. Will mitigate impacts to the geologic hazard area consistent with best available science to the maximum extent reasonably possible such that the site is determined to be safe; and*
- d. Include the landscaping of all disturbed areas outside of building footprints and installation of all impervious surfaces prior to final inspection.*

The proposed scope for this project will satisfy these requirements per the Mercer Island Code. The proposed residence will not adversely impact other critical areas. The development on the site is in compliance with the required side and rear yard setbacks. These include a combined 17.6' (17'-7") side yard per MICC 19.02.020C(1)(C)(ii) and 25'-0" rear yard.

The proposed scope for the excavation at the west side of the lot will not impact the steep slope critical areas located at the west side of the lot. Please refer to the TESC PLAN, sheet C2.1, in the included plan set. This sheet illustrates the location of a proposed silt fence to catch any sediments from traveling due west towards the property line and Watercourse 2. Construction limits are clearly defined at the property line boundaries. Existing vegetation adjacent to the property will be protected. Please refer to recommendations in the attached Geotechnical Study dated June 21, 2018.

The proposed scope for this project will not adversely impact the subject properties or adjacent properties in terms of landslides, earth movement, increase to surface water flows, etc. Please refer to the attached civil engineering preliminary report, dated February 19, 2019. All minimum requirements (numbers 1 – 9) per Figure 2.4.2 of Volume 1 of the Ecology Manual shall

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be met. Flow control is not required for the project because the site discharges to Lake Washington per civil engineering report, section 1, page 1. Infiltration and Low Impact Development (LID) are not feasible because the site is mapped as an Erosion Hazard Area by Mercer Island. A silt fence is proposed at downslope limits of the construction area and existing vegetation will be protected. Care will be taken to control storm water runoff with sumps and trenches and handled with designated discharge areas. Any soils will be removed immediately from site or protected from wet weather with plastic sheeting. The geotechnical engineer will be notified by the contractor if any changes need to be made by the TESC measures to achieve the intended result.

Wet Weather Conditions' states a site visit from the geotechnical special inspector shall occur during each day of active grading and in the event of significant rainfall which might compromise stabilization measures between November 1 and March 31.

On Sheet SH1 of the general shoring notes, under section '12. Shoring Monitoring:' states that a systematic program of monitoring shall be conducted during the project execution to determine the effect of construction on adjacent facilities and structures in order to protect them from damage. Section '14. Wet Weather Conditions' states a site visit from the geotechnical special inspector shall occur during each day of active grading and in the event of significant rainfall which might compromise stabilization measures between November 1 and March 31.

Please refer to civil sheet Grading and Drainage Plan and Details, C3.1 for proposed systems for collecting water and discharge. 6" and 4" area drains in addition to footing and roof drains shall be provided per C3.1. A drain mat is proposed to collect and drain water from the face of the foundation wall into the new storm water system.

Existing vegetation will remain on the hillside above the area of excavation. Sheet C2.1 illustrates the limits of construction on the hillside. One 11" deciduous existing tree located due south of the property line will remain on the hillside and will be protected. Other vegetation on the west and south steep slope areas shall remain without disturbance.

Care has been taken for existing vegetation and trees to remain to be protected during construction. The TESC plan clearly defines areas to not be disturbed during construction. Impervious surface has been limited per code to under 35% of the net lot area, with up to 9% of net lot area for additional hardscape.

Per the city code of Mercer Island MICC 19.07.060:

2. Statement of Risk. Alteration within geologic hazard areas may occur if the development conditions listed above are satisfied and the geotechnical professional provides a statement of risk with supporting documentation indicating that one of the following conditions can be met:

- a. The geologic hazard area will be modified, or the development has been designed so that the risk to the lot and adjacent property is eliminated or mitigated such that the site is determined to be safe;*
- b. Construction practices are proposed for the alteration that would render the development as safe as if it were not located in a geologic hazard area;*
- c. The alteration is so minor as not to pose a threat to the public health, safety and welfare; or*
- d. An evaluation of site specific subsurface conditions demonstrates that the proposed development is not located in a geologic hazard area.*

The proposed project will meet the condition that “a. The geologic hazard area will be modified, or the development has been designed so that the risk to the lot and adjacent property is eliminated or mitigated such that the site is determined to be safe;”. Kyle R. Campbell, in his plan review letter dated _____, 2019 states:

“FINAL REVIEW LETTER LANGUAGE GOES HERE. . .”

Per the city code of Mercer Island MICC 19.07.060:

4. Seasonal Limitations. Land clearing, grading, filling, and foundation work within geologic hazard areas are not permitted between October 1 and April 1. The code official may grant a waiver to this seasonal development limitation if the applicant provides a geotechnical report of the site and the proposed construction activities that concludes erosion and sedimentation impacts can be effectively controlled on-site consistent with adopted storm water standards and the proposed construction work will not subject people or property, including areas off-

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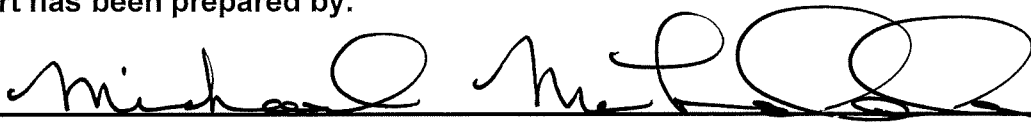
site, to an increased risk of the hazard. As a condition of the waiver, the code official may require erosion control measures, restoration plans, and/or an indemnification/release agreement. Peer review of the geotechnical report may be required in accordance with subsection C of this section. If site activities result in erosion impacts or threaten water quality standards, the city may suspend further work on the site and/or require remedial action. (Ord. 05C-12 § 5).

Excavation and construction of the shoring wall should be done during the drier season and avoided between October 1 and April 1. When the shoring wall is installed, additional excavation may occur during the wet season if a grading extension is obtained with the possibility of additional erosion control measures being required. Upon completion of the project, exposed soils in the work area will be protected by a landscape plan that will permanently stabilize disturbed portions of the slope and the site against surficial erosion.

Included submittals:

Geotechnical Engineering Study. See attached.
Plan set. See attached.

This report has been prepared by:

A handwritten signature in black ink, appearing to read "Michael McFadden", written over a horizontal line.

Michael McFadden, Stuart Silk Architects