GEO Group Northwest, Inc.
Geotechnical Engineers, Geologists,
& Environmental Scientists

September 1, 2021 G-5275

Mr. Paul Bosveld
1421 36th Avenue S
Seattle, Washington 98144
Email: paulbosveld@gmail.com

Subject: **PLAN REVIEW – MINIMUM RISK STATEMENT**
Proposed New Residence
38XX West Mercer Way
Mercer Island, Washington 98040

Ref: "Geotechnical Engineering Study, Proposed New Residence, 38XX W Mercer Way, Mercer Island, Washington 98040, G-5275, GEO Group Northwest, Inc., November 2, 2020."

"Mercer Grove Progress + Pricing Set, 38XX W Mercer Way, Mercer Island, WA 98040 Wittman – Estes Architecture + Landscape, August 6, 2021."

Dear Mr. Bosveld,

We understand that the preliminary design of the proposed residence at the above-subject property has been provided following the completion of our above-referenced geotechnical report. Prior to permit submittal, we understand that you have requested a review of the project plans to verify that they conform with the recommendations outlined in our report and the criteria outlined in 19.07.160 (Geologically Hazardous) of the Mercer Island City Code such that additional critical area studies may not be required by the City code official. A copy of the above-referenced design and structural plans were provided for our review by the project's architect. It is our understanding that the plans reviewed are the final plan set for the permit submittal.

BACKGROUND INFORMATION

Based on the plans provided, we understand that you are proposing to develop the northeast section of the 24,000 square-foot previously undeveloped property to include a new, single-family residence that will contain three floors and approximately 3,000 square feet of interior living space. The footprint of the residence is proposed to contain about 1,300 square feet of space, and the residence will also include a 670 square-foot carport adjacent to its north perimeter that will be accessible from SE 38th Street to the north. The lower floor of the residence will contain a south-facing daylight basement with just under 800 square feet of living space and foundations, and the larger main floor will contain an "overhanging," portion at its south edge as a result to minimize overall site disturbance by the project's scope. The proposed site plan of the new residence is illustrated in Plate 1 – Proposed Site Plan.

Temporary excavations for the proposed new residence's foundations are shown to be conducted at 1H:1V cuts with unsupported vertical cuts having heights no greater than 4 feet. The proposed developments were designed such that the carport would be located on relatively flat topography and the finished grade for the new residence would achieve minimal alterations to the existing contours located at the northeast section of the property. Erosion control for the project includes silt fencing along the full perimeter of the work area, with the limit of disturbance extending no further than the foundation perimeters. The excavation plans also illustrate the necessary removal of dead or diseased trees and protective fencing for retained trees throughout the property. The excavation plan for the proposed development is shown in Plate 2 – Excavation Plan.

MICC 19.07.160 – Geologically Hazardous Areas

19.07.160.A – Designation and Typing

19.07.160.A of the Mercer Island City Code (MICC) designates geologically hazardous areas as being either erosion hazard areas, landslide hazard areas, and seismic hazard areas. According to the Mercer Island Online GIS Portal, the above-subject property is mapped as being within a landslide hazard area and erosion hazard area, and containing a seismic hazard area near its east property line. The mapping of the geologically hazardous areas present at the project site is illustrated in Plate 3 – Critical Areas Mapping. During our site reconnaissance and subsurface investigation on October 16, 2020, described in more detail in our above-referenced geotechnical report, we did not encounter evidence that the project site may be susceptible to the risks associated with erosion, landslide, or seismic hazards or that the proposed scope of work for the

new residence would increase the risks of these hazards to the property or the adjacent properties.

19.07.160.B – General Review Requirements

The proposed scope of work seeks alterations within landslide and seismic hazard areas and/or buffers associated with those hazards. Our geotechnical report recommended the appropriate design and development measures to mitigate these hazards and, based on our review of the project plans and the results of our subsurface investigation, it is our opinion that the design of the new residence has sufficiently implemented our recommendations to an extent that has minimized the geologic risks associated with the property. The code official may waive the requirement for an additional critical areas study, pursuant to MICC 19.07.160.B.1, based on our opinion that the proposed developments will not increase the risk of landslide, erosion, or harm from seismic activity.

The proposed alterations to the landslide and seismic hazards have been designed such that they will not adversely impact other critical areas; they will not adversely impact the subject property or adjacent properties, they will mitigate impacts to the geologically hazardous areas; and they include sufficient landscaping of all disturbed areas outside of the building footprint (19.07.160.B.2).

It is our opinion that the project plans also conform to the requirements of MICC 19.07.160.B.3 such that the results of our subsurface investigation, explained in our above-referenced geotechnical report, demonstrate that the proposed development at the property has been designed such that the risk to the site and the adjacent property to the east is eliminated or mitigated such that the site is determined to be safe both during and following construction of the new residence (19.07.160.B.2.b). Provided that our recommendations regarding erosion control, temporary excavations, and other geotechnical parameters are sufficiently implemented during construction of the new residence, it is our opinion that the proposed developments at the above-subject property may be deemed safe as if it were not located in a geologically hazardous area and would not adversely impact adjacent properties (19.07.160.B.3.c).

Plan Review

We have reviewed the final set of project plans and have verified that they comply with the recommendations outlined in our referenced geotechnical report. The plans show that temporary vertical excavations for the residence basement wall foundations will have maximum heights of 4 feet while other cuts will have inclinations of 1H:1V. The residence was designed such that the proposed alterations to the existing site topography have been minimized and the potential

for increased soil movement is not anticipated. Tree protection fencing will be installed along the east property line and along the full perimeter of the disturbance area to prevent erosion from discharging to the adjacent properties. In our opinion, the project plans will not adversely impact the geologically hazardous areas located at the property or at the adjacent properties.

Statement of Minimum Risk

The following statement of risk is provided regarding the proposed alterations of the landslide and seismic hazards present at the site. It is our opinion that the project satisfies all of the conditions listed in MICC 19.07.160.B.2 and one of the conditions listed in MICC 19.07.160.B.3, stated below, such that our geotechnical statement of risk for the proposed new residence at the above-subject property may be warranted and certified by the code official;

> MICC 19.07.160.B.3.b: The landslide hazard area or seismic hazard area will be modified or the development has been designed so that the risk to the site and adjacent property is eliminated or mitigated such that the site is determined to be safe.

Sincerely,

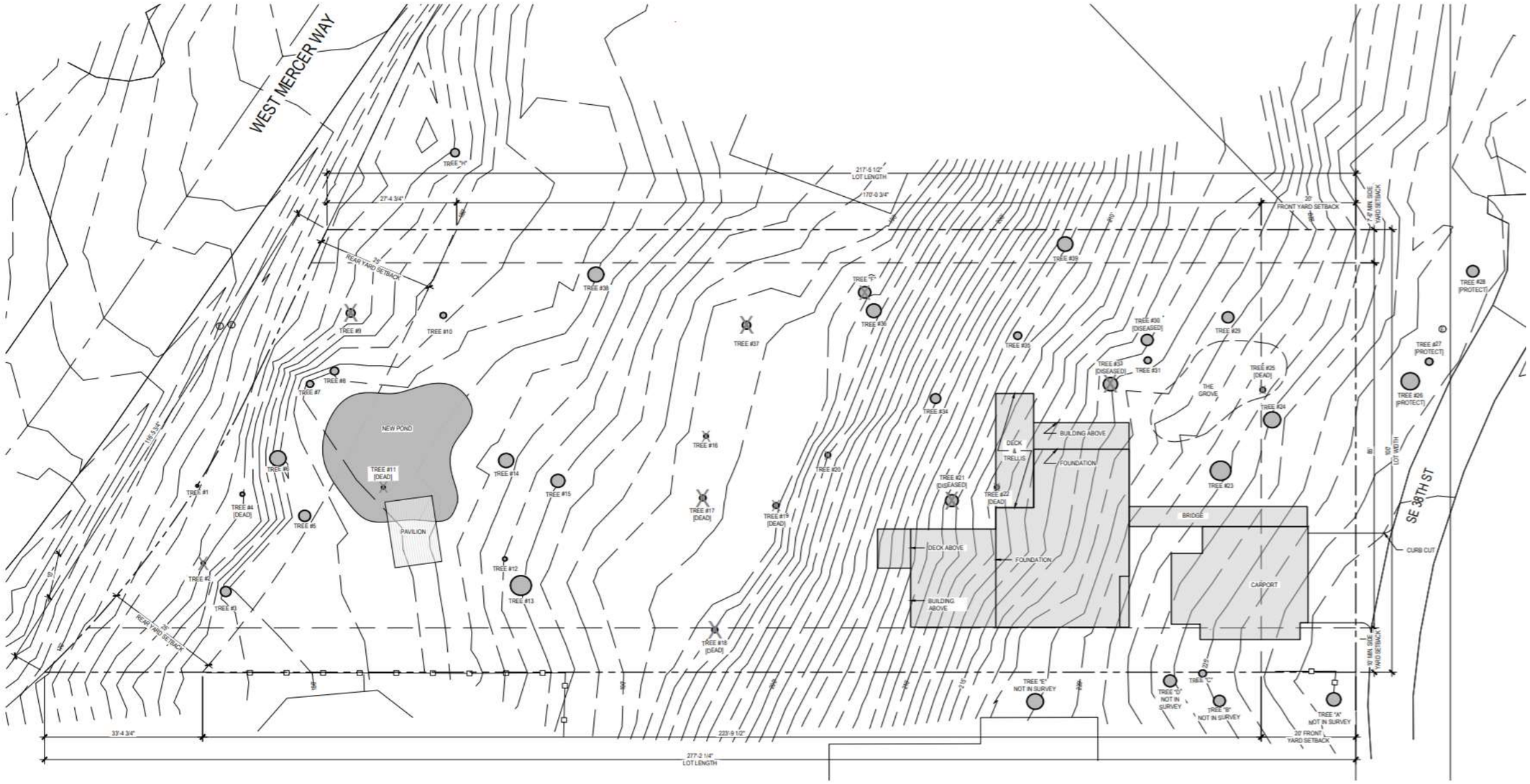
GEO GROUP NORTHWEST, INC.

Bryce Frisher, E.I.T.
Staff Geotechnical Engineer

William Chang, P.E.
Principal Engineer

Plates:

Plate 1 – Proposed Site Plan
Plate 2 – Excavation Plan
Plate 3 – Critical Areas Mapping.



1 SITE PLAN

SCALE: 3/32"=1'-0"

NORTH

Source: Mercer Grove Progress + Pricing Set, Wittman-Estes Architecture + Landscape, 8/6/2021.

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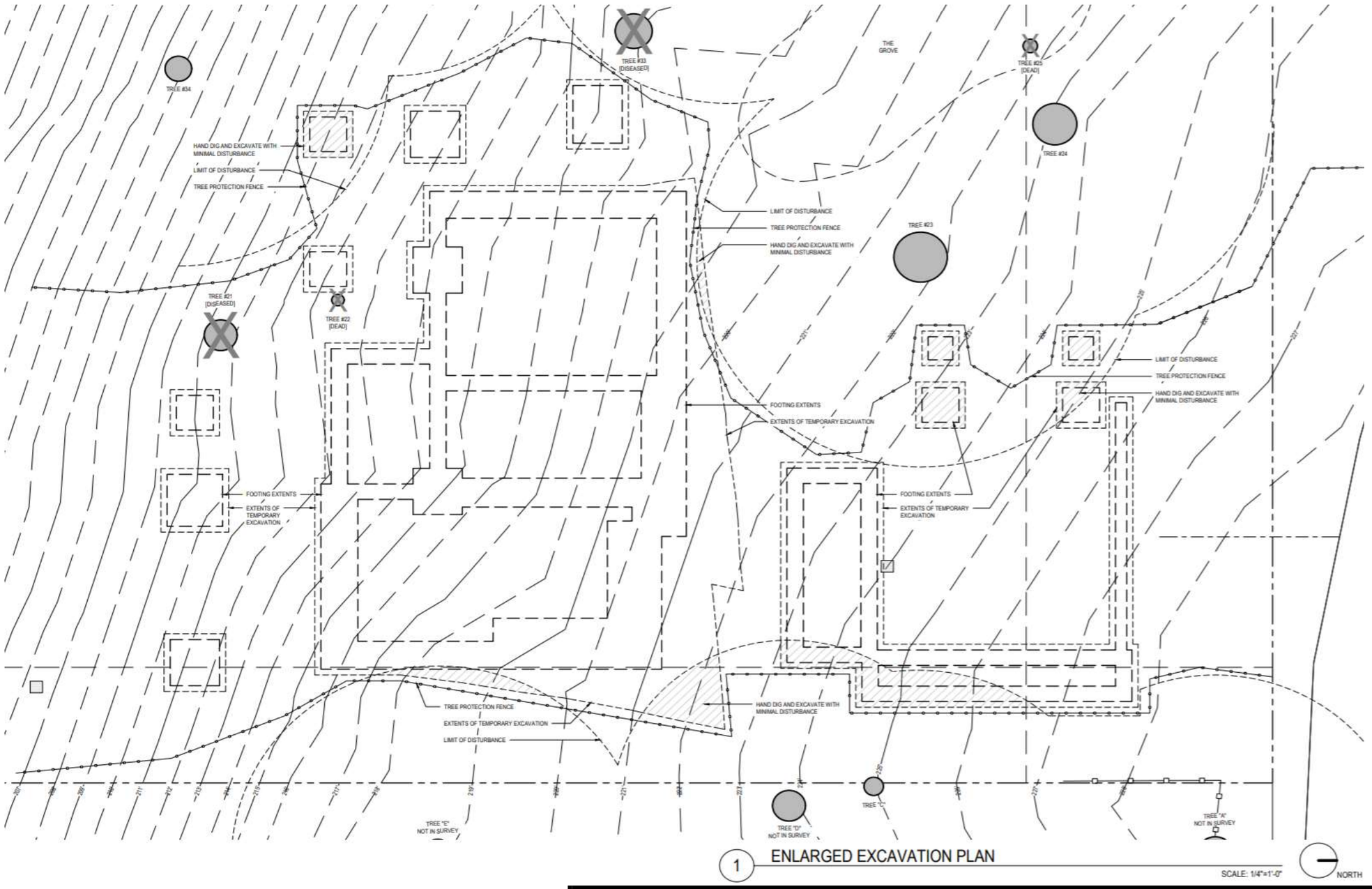
PROPOSED SITE PLAN

PROPOSED NEW RESIDENCE
38XX W MERCER WAY
MERCER ISLAND, WASHINGTON

SCALE	AS SHOWN	DRAWN BY	BF	CHECKED BY	WC	DATE	8/31/2021	PROJECT NO.	G-5275	PLATE	1



1 ENLARGED EXCAVATION PLAN

SCALE: 1/4"=1'-0"

NORTH

Source: Mercer Grove Progress + Pricing Set, Wittman-Estes Architecture + Landscape, 8/6/2021.

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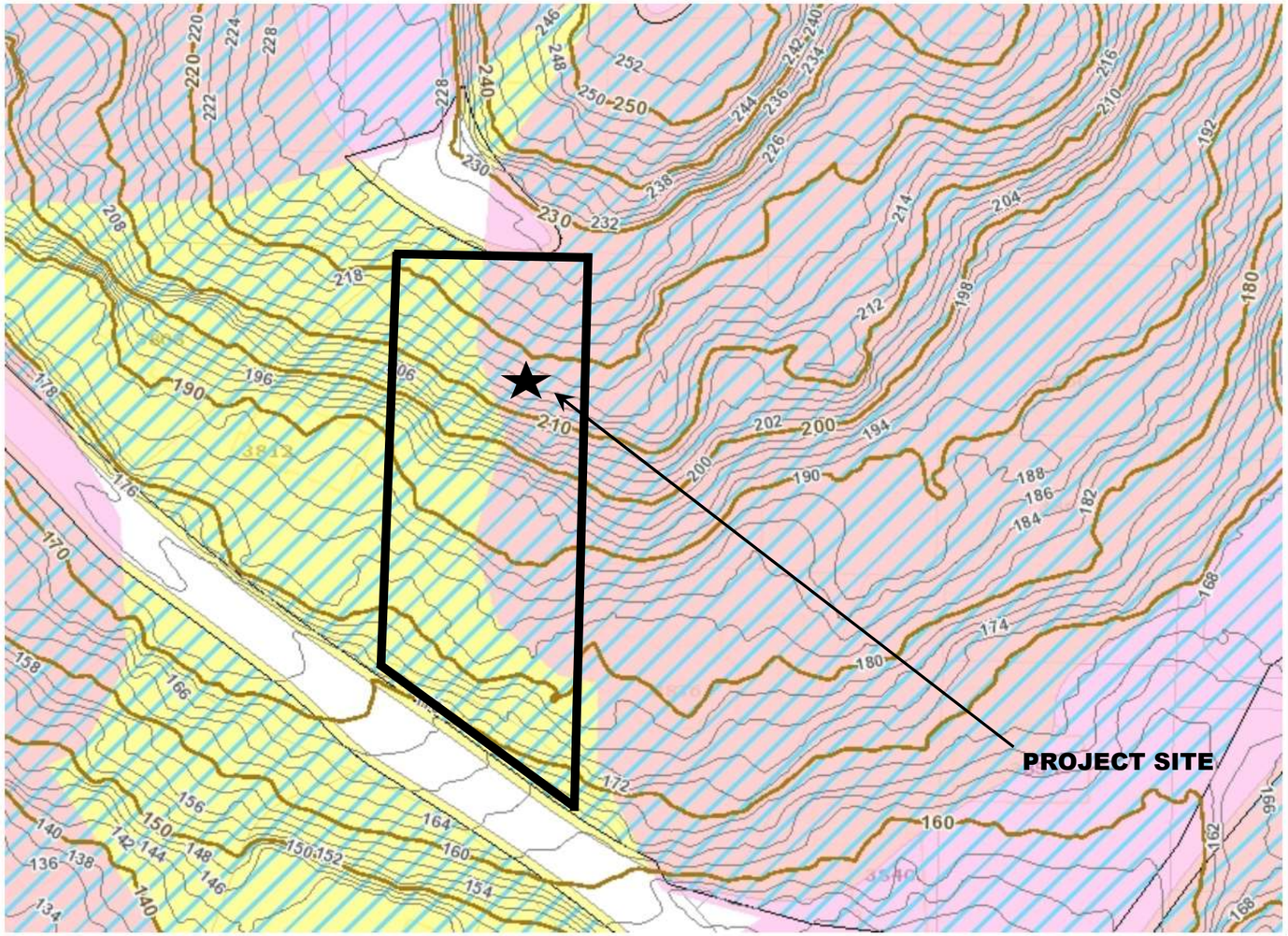
EXCAVATION PLAN

PROPOSED NEW RESIDENCE
38XX W MERCER WAY
MERCER ISLAND, WASHINGTON

SCALE	AS SHOWN	DRAWN BY	BF	CHECKED BY	WC	DATE	8/31/2021	PROJECT NO.	G-5275	PLATE	2

City of Mercer Island



Legend

- 10ft Lidar Contours (2016)
- 2ft Lidar Contours (2016)
- Potential Slide
- Seismic
- Erosion
- Address
- Building
- Property Line
- Docks

0 78 157 Feet

1 inch = 156.992463833333 feet

Map Printed: November 3, 2020

Disclaimer: These maps were developed by the City of Mercer Island and are intended to be a general purpose digital reference tool. These maps are not an accepted legal instrument for describing, establishing, recording or maintaining descriptions for property concerns or boundaries. The City makes no representation or warranty with respect to the accuracy or currency of these data sets, especially in regard to labeling of surveyed dimensions, or agreement with official sources such as records of survey, or mapped locations of features.

Notes

Source: City of Mercer Island GIS Portal

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CRITICAL AREAS MAPPING

PROPOSED NEW RESIDENCE
38XX W MERCER WAY
MERCER ISLAND, WASHINGTON

SCALE	AS SHOWN	DRAWN BY	BF	CHECKED BY	WC	DATE	11/3/2020	PROJECT NO.	G-5275	PLATE	3