



7/24/2025

MMC LLC

Attn: Mark Mehlhaff
2336 Alki Ave SW
Seattle, WA 98116

Subject: Critical Area Ordinance (CAO) Report
Mehlhaff Mercer Island – Critical Area Ordinance (CAO)
4854 E Mercer Way, Mercer Island, WA 98040

QG Project No.: QG25-100

Dear Client:

At your request and authorization, Quality Geo NW, PLLC (QG) has completed a preliminary critical area review at the above referenced property. Existing conditions, including site visual reconnaissance, subsurface evaluation, slope analysis, and review of existing geologic literature are included in this report. The project site consists of a presently developed residential property comprising a portion of a local slope. It is our understanding that the client proposes remodeling of an existing house to include an additional floor with an area designated by the permitting authority to be a potential critical slope and erosion area due to mapped soft soil properties.

QG understands that the permitting authority requires a geotechnical engineering consultation to confirm that site conditions are favorable, and to provide any additional and necessary recommendation regarding critical slope considerations including necessary setbacks. The following report presents the findings and conclusions of our review and addresses feasibility of proposed site development. Included are additional geotechnical recommendations for planning, design and construction, intended to reduce the inherent risks associated with development within a potentially geologically hazardous area.

A regional site and vicinity map are provided in Appendix A, and a detailed site map is presented in Appendix B. Typical slope conditions are shown schematically on the attached site slope profile in Appendix C. Exploration logs are included in Appendix D.

GEOLOGIC LITERATURE REVIEW

QG reviewed available map publications to assess known geologic conditions and hazards present at the site location. The Washington Geologic Information Portal (WGIP), maintained by the Department of Natural Resources Division of Geology and Earth Resources, provides 1:100,000-scale geologic mapping of the region. Geology of the site location and vicinity consists of Continental glacial outwash (Qgo), Fraser-age, generally described as, “a complex of poorly to moderately sorted and stratified gravel and sand with minor amounts of silt and clay. Includes kame and kame terrace deposits, ice contact deposits lacking topographic form deltaic and lacustrine deposits, glacial outwash alluvium and minor amounts of ablation till and flow till. Commonly folded and faulted due to collapse of sediment into cavities formed by melting ice.”

According to the regional-scale interactive map, the parcel is located in the vicinity of a pre-historic (>150 years) and historic (<=150 years) landslides to the west, with another landslide deposit located directly north of the parcel. Available LiDAR imagery of the site also revealed prominent historic landslide features upland of the parcel but did not reveal active or recent landslide features within the site boundaries.

The United States Department of Agriculture portal (USDA) provides a soil mapping of the region. The soils in the vicinity are mapped as Kitsap silt loam (KpB, KpD) which is formed as terraces derived from lacustrine deposits with a minor amount of volcanic ash. The soils are described as silt loam from 0 to 40 inches and stratified silt to silty clay loam from 40 to 60 inches. Depth to restrictive feature is more than 80 inches. Capacity of most limiting layer to transmit water (ksat) is listed as moderately low to moderately high (0.06 to 0.20 in/hr). Depth to water table is about 18 to 36 inches.

SITE INVESTIGATION METHODOLOGY

On 6/24/2025, a QG Staff Geologist visited the site to perform visual reconnaissance of the surface and topographic features of the subject property and its proximal slope. While on site, we conducted surface explorations for a geologic hazard assessment and construction feasibility. Approximate relevant property dimensions and slope topography were documented and mapped at representative intervals as access allowed. Soil conditions were evaluated through local exposures along the slope face. Salient slope features and existing vegetation were documented to assess general site stability as well as observe for signs of local instability of an erosional or subsurface nature currently or in the past.

FIELD WORK

Site exploration activities were performed on 6/24/2025. Exploration locations were selected by a QG Staff Geologist prior to field work to provide safest access to relevant soil conditions. The geologist directed the advancement of 2 hand auger boreholes (HA). The boreholes were advanced within the boundaries of the slope, to a refusal depth of approximately 3.0 feet below present grade (BPG) in general accordance with the specified contract depth and equipment capabilities.

During explorations QG logged and field classified each soil horizon in accordance with the Unified Soil Classification System (USCS). Representative soil samples were collected from each unit, identified according to boring location and depth, and placed in plastic bags to protect against moisture loss for future reference.

QG advanced 2 Wildcat Dynamic Cone Penetrometer (DCP) tests at representative locations within the vicinity of the proposed development and as slope conditions permitted. The penetrometer tests were terminated upon reaching the equipment's maximum practical extent. During penetrometer advancement, blow counts were recorded in 10-centimeter increments as a thirty-five-pound weight was dropped 15 inches. Blow counts were then converted to resistance (kg/cm²), standard penetration blow counts (N-values), and corresponding soil consistency, with complete results shown on the attached logs.

SURFACE OBSERVATION

The project site is a developed residential parcel containing a local slope and is roughly rectangular in shape, sloping downward to the east. There are three retaining walls on the property, all approximately 3 feet in height. The current slope on site descends to the east at a rate of about 3H:1V before encountering the first wall and continues at 3H:1V before encountering the second wall. The slope is vegetated with a few shrubs. After the second wall is a patio before encountering the existing home. To the east of the home is flat before encountering the third retaining wall. To the north, east, south, and west are residential homes and Lake Washington is to the east.

QG performed reconnaissance to observe and document indications of surface degradation or large-scale slope instability. No obvious features were observed that would indicate an active or prior deep-seated slope failure within the proposed home area, such as headscarps or significant downslope accumulations. Topography was generally consistent across the upland site, lacking prevalent over steepened areas, channelized runout zones, or hummocky deposits. No obvious evidence of rotational or translational failures or major toppling hazards was observed on the slope in the proximity of the potential building footprint. No obvious failure features were observed on adjacent slope areas visible from the subject property during our site visit.

SUBSURFACE CONDITIONS

Hand auger borings in the parcel location reveal the soils to be a silty sand with a low amount of fine sediment. The soil is brown, moist, and contains organics (roots), few cobbles (rounded to a 4-inch diameter, light mottling in the form of nodules, and is loose to medium dense. The water table is inferred to be greater than 40 feet according to local well logs.

DISCUSSION & CRITICAL SLOPE RECOMMENDATIONS

The findings of QG's site reconnaissance at the subject site appear generally consistent with the available geologic literature and do not indicate any excessively prohibitive conditions that exist for the site. Provided that appropriate site management efforts are maintained and the recommendations included in this report are implemented into the design and construction of the project.

In consideration of the available information, and our direct observations, at this time **QG does not consider the site to be within an active landslide hazard area, or an erosional hazard area.** With this determination, our study did not involve slope stability modeling, or deep subsurface explorations directly within the site. At the time of this report, QG does not recommend any further exploration or analysis be conducted. Based on the information herein, we provide the following development and site-specific recommendations that will minimize the inherent risks of developing in a sloped area.

Setback Recommendations:

QG reviewed existing topographic data and general site observations made during our visit to infer general slope setbacks based on height and inclination of the typical slopes present on the site in proximity to the proposed structure.

Considering the existing site modifications, including the construction of landscape walls, QG does not prescribe a slope setback for the proposed deck addition. However, deck footings should be embedded below or maintain a 2H:1V setback from existing wall. The proposed new construction location appears suitable. The setback does not prohibit lightweight surface improvements such as septic, uncovered decks, patios, walkways, landscaping, pathways, etc. (if approved by the project engineer).

Seasonal Development Limitations

Mercer Island City Code (19.07.160.F.2) states land clearing, grading, filling and foundation work proposed in geologically hazardous areas between October 1st and April 1st are not permitted. A waiver to the seasonal development limitation is required for this project if site work is proposed between October 1st and April 1st.

Foundation Recommendations:

Considering the conditions of the site slopes, and shallow soil conditions, specific foundation requirements must be followed for successful construction at this location. These recommendations pertain to conventional shallow and/or isolated foundation construction. In the event that alternative foundation designs are considered, QG recommends we be contacted for geotechnical engineering consultation and analysis as appropriate to address the proposed foundation style.

For general foundation design considerations, QG recommends referring to guidelines and parameters of the International Building Code (IBC, 2021; or most current edition at the time of construction). Footings should be placed to a minimum depth of 18 inches for freeze-thaw protection, but not less than required by the setback and factor of safety criteria below.

Up to 1,500 pounds per square foot (psf) for foundations placed on **compacted** native soil or approved, granular, and compacted structural fill in accordance with the recommendations of Section 4.2. Bearing capacities, at or below 1,500 psf may eliminate the need for additional inspection requirements if approved by the county. The allowable bearing capacity may be increased by 1/3 for transient loading due to wind and seismic events.

Existing site soils may be reused as structural fill on a case-by-case basis. QG recommends that imported material be used as structural fill. Imported structural fill material should conform to the *WSDOT Standard Specifications, Section 9-03.14(1) Gravel Borrow*, or an approved alternative. For lateral and bearing support, structural fill placement below footings shall extend at minimum a distance past each edge of the base of the footing equal to the depth of structural fill placed below the footing [e.g., for a 2.0-foot wide footing, fills placed to approximately 1.5 feet below footing grade will require a minimum backfill width of 5.0 feet (1.5 feet each side plus 2.0-foot width of footing)] Fill shall be placed in maximum 12" thick, horizontal lifts, compacted to a firm and unyielding condition.

The proposed buildings may utilize either stepped or continuous footings with slab-on-grade depending on the chosen development style. For these elements, upon reaching bearing strata, we recommend benching foundation lines flat, followed by moisture conditioning of the soil, and vibratory compaction to a firm and unyielding condition. Continuous perimeter and strip foundations may be stepped as needed to accommodate variations in final subgrade level. We recommend maximum vertical steps of 18 inches with horizontal spacing of at least 5 feet be constructed unless specified otherwise by the design engineer. Structural fill may then be placed as needed to reestablish final foundation grade.

Lateral Soil & Concrete Foundation Considerations:

The results of QG’s investigation indicate shallow subsurface conditions at the proposed building area consist of sandy silt.

The finished grade is assumed to be similar to the existing grade. In general, native soils are not considered suitable for use as backfill against new in-ground structures or direct bearing. Gravel aggregate fill soils above native soils may be reused as backfill. QG understands that the building structures may likely incorporate continuous perimeter grade beams as well as isolated footings, incorporating soil amendment as determined by the structural design team. For lateral support of these structures, the following soil parameters should be considered regarding any structural fill against these features (ignoring the upper 18 inches, due to freeze/thaw softening, unless covered in concrete or asphalt).

Table 1. Lateral Earth Pressures

Soil Type	Active Pressure (PSF*H)	At-Rest Pressure (PSF*H)	Seismic Surcharge (PSF*H)	Grade Beam Lateral Equivalent Fluid Weight (PCF)	Grade Beam Coefficient of Friction
Existing Soils (SM)	45	60	8	195**	0.35*
New Structural Fill	35	55	10	200**	0.35*

* Factor of Safety: 1.5
** Factor of Safety: 2.0

All concrete foundation elements shall be placed on compacted approved structural fill soils placed in accordance with the WSDOT manual. To ensure adequate friction, no fabric shall be placed between the structural fill and native soils when placed under primary building foundations & grade beams.

The proposed buildings may utilize continuous grade beams with slab-on-grade, where appropriate, depending on the chosen development style. For continuous footing elements, upon reaching bearing strata, we recommend benching foundation lines flat.

Seismic Design Parameters And Liquefaction:

According to the Liquefaction Susceptibility layer of the Washington Geologic Information Portal the site is identified as having low to moderate susceptibility. This is generally consistent with the findings of QG’s investigation to date. Liquefaction is a phenomenon typically associated with a subsurface profile of relatively loose, cohesionless soils saturated by groundwater. Under seismic shaking the pore pressure can exceed the soil’s shear resistance and the soil ‘liquefies’, which may result in excessive differential settlements that are damaging to structures and disruptive to

exterior improvements. *The Washington Interactive Geologic Map - Seismic Site Class Map* classifies the project regional vicinity as *Site Class C to D*.

The USGS Seismic Design Map Tool was used to determine seismic design coefficients and spectral response accelerations assuming Site Soil Class CD, representing a dense or very stiff clay soil profile (upper 100 feet) as observed in soils on site. Parameters in Table 2 were calculated using 2014 USGS hazard data and ASCE 7-22 was referenced for site Peak Ground Acceleration. For ASCE 7-16, we have identified the site as Site Class D.

Table 2. Seismic Design Parameters

Seismic Design Category		D	D-Default	CD	Default
Reference		ASCE 7-16	ASCE 7-16	ASCE 7-22	ASCE 7-22
Risk Category		II	II	II	II
MCE _R ground motion (period=0.2s)	S _S	1.433	1.433	1.59	1.59
MCE _R ground motion (period=1.0s)	S ₁	0.497	0.497	0.63	0.63
Site-modified spectral acceleration value	S _{MS}	1.433	1.719	1.76	1.76
Site-modified spectral acceleration value	S _{M1}	NULL	NULL	1.07	1.3
Numeric seismic design value at 0.2s SA	S _{DS}	0.955	1.146	1.18	1.18
Numeric seismic design value at 1.0s SA	S _{D1}	NULL	NULL	0.71	0.87
Site modified peak ground acceleration	PGA _M	0.675	0.736	0.73	0.73
Long-period transition period	T _L	6	6	6	6
Shear wave velocity at 30 meters depth	V _{S30}	NULL	NULL	365	260
Site amplification factor at 0.2s	F _a	1	1.2	NULL	NULL
Site amplification factor at 1.0s	F _v	NULL	NULL	NULL	NULL

Based on the findings of this study, the site is generally considered to have a low to moderate risk of liquefaction-induced settlement.

Newly Graded Permanent Slopes & Fill Embankments:

QG recommends that new areas of permanently graded slopes in native soil be inclined no greater than 3H:1V, catching natural topography at the top and toe. We recommend that areas expected to receive imported fill be benched, placed, and compacted in accordance with WSDOT Standard Specifications: *Embankment Construction & Hillside Terraces*, sections 2-03.3(14) through 2-

03.3(14)D. Fill slopes may be inclined no greater than 2H:1V. All site slopes should be permanently stabilized from erosion.

Drainage Controls:

QG recommends proper drainage controls for stormwater runoff during and after site development to protect the site. The ground surface adjacent to structures should be sloped to drain away at a 5% minimum for 5 feet to prevent ponding of water adjacent to foundations. All concrete foundations should incorporate footing drains wrapped in a non-woven filter fabric.

Foundations shall incorporate a wraparound footing drain composed of imported clean granular drain rock. There shall be a perforated drainpipe connected around the perimeter of the footing drain (within the rock) graded to gravity drain to an outfall pipe, to allow any accumulated water to be released to an approved drainage feature or location. The outfall point must be lower in elevation than the lowest point of possible water accumulation of the structure

QG recommends all roof, footing, and wall, water sources (new or existing) be tightlined (piped) away from the upland site to an existing catch basin, stormwater system, established channel, or down the slope to be released beyond the base using appropriate energy-dissipating features at the outfall to minimize point erosion. Roof and footing drains should be tightlined separately or should be gathered in an appropriately sized catch basin structure and redistributed collectively. If storm drains are incorporated for impervious flatworks (driveways, patios, etc.), collected waters should also be discharged according to the above recommendations. All drainage tightlines should be composed of appropriately sturdy material (such as rigid PVC), sized adequately according to anticipated flow, and anchored sufficiently. QG recommends slope tightlines be inspected by the owner periodically to look for signs of damage or displacement requiring repair.

QG does not recommend dispersion or infiltration of collected stormwater on site, as increased runoff or localized stormwater inundation can negatively impact long-term erosional and global slope stability.

Erosion Controls:

Erosion is one of the most common driving forces leading to slope instability. In addition to the above commentary, the following general recommendations should be implemented in general to reduce long-term erosion potential of the slope below the project site and maintain slope stability:

- Minimize the volume and velocity of water that travels toward and down the slope face (via proper choice of site development features including stormwater controls discussed above).
- Avoid accelerating slope erosion and mass wasting due to human activity such as:
 - ✓ Adding side-cast such as dumping landscape debris or fallen trees on or above the slopes.

- ✓ Using heavy construction equipment on or near steep slopes.
- ✓ Excavating near adjacent steep slopes toe or on slope face.
- ✓ Placing excavated soil near the steep slope crest.
- Prior to construction, a silt fence and/or a continuous line of straw bales should be placed on the slopeward edge of the construction area. Heavy construction equipment, construction materials, or native and imported soils should not be placed behind the erosion control devices. Suitable temporary erosion and sediment control measures should be implemented at the construction site during and immediately after ground disturbance occurs. Temporary areas bare of vegetation should be protected from erosion via a blanket of straw or rolled erosion control product (RECP) during prolonged breaks in site work and prior to reseeding or revegetation.
- At the end of the project, all bare surfaces and areas of disturbed vegetation should be replanted and maintained until fully reestablished. Concentrated surface water should not be allowed to traverse the slope during or after the construction phase of the project. Roof downspouts and footing drains should be routed into closed separate pipes which outfall into appropriate drainages. Outlets for these pipes should be protected from erosion through the use of rip-rap (quarry spalls) or some other energy dissipating device. Similarly, concentrated drainages should be captured in closed pipe systems and routed down slope to appropriate outfalls.
- Clearing of existing vegetation outside the proposed building area on and adjacent to the existing slopes should be avoided except as approved by a qualified professional. This provides additional stability to the loose topsoil and minimizes the effects of down-slope water movement. This is excepting removal of problem, dead, or dying, trees if posing a direct hazard to site installations or adjacent roadways.
- Grading or excavation of soils during construction should be accompanied by grass reseeding and re-vegetation as the project is completed. According to “Vegetation Management: A Guide for Puget Sound Bluff Property Owners” (Manashe, 1993) the following types of vegetation provide good to excellent erosion control:

<i>Common Name</i>	<i>Botanical Name</i>	<i>Deciduous/Evergreen</i>	<i>Mature Height (ft)</i>
Bigleaf Maple	Acer macrophyllum	Deciduous	60
Douglas Fir	Pseudotsuga menziesii	Evergreen	200+
Evergreen	Vaccinium ovatum	Evergreen	To 8
Oceanspray	Holodiscus discolor	Deciduous	10+
Oregon Grape	Mahonia spp.	Evergreen	To 6
Pacific Madrone	Arbutus menziesii	Evergreen	70
Red huckleberry	Vaccinium parvifolium	Deciduous	To 12
Rose	Rose spp.	Deciduous	2-10
Salal	Gaultheria shallon	Evergreen	To 4
Salmonberry	Rubus spectabilis	Deciduous	To 12
Serviceberry	Amelanchier alnifolia	Deciduous	12+
Snowberry	Symphoricarpos albus	Deciduous	3+
Vine Maple	Acer cricinatum	Deciduous	10+
Willow	Salix spp.	Deciduous	10+

CLOSING:

We trust this letter satisfies your project needs currently and thank you for the opportunity to be of service. QG wishes you the best while completing the project.

Respectfully Submitted,
Quality Geo NW, PLLC

Prepared by:

Approved by:



Corrine Arbelaez
Staff Geologist



7/24/2025

LUKE PRESTON MCCANN

Luke Preston McCann, L.E.G.
Principal Licensed Engineering Geologist

- Attachments: *Limitations*
Appendix A. Site Region and Vicinity Maps
Appendix B. Aerial Site Map
Appendix C. Site Slope Profiles
Appendix D. Exploration Logs

LIMITATIONS

Upon acceptance and use of this report, and its interpretations and recommendations, the user shall agree to indemnify and hold harmless QG, including its owners, employees and subcontractors, from any adverse effects resulting from development and occupation of the subject site. Ultimately, it is the owner's choice to develop and live in such an area of possible geohazards (which exist in perpetuity across the earth in one form or another), and therefore the future consequences, both anticipated and unknown, are solely the responsibility of the owner. By using this report for development of the subject property, the owner must accept and understand that it is not possible to fully anticipate all inherent risks of development. The recommendations provided above are intended to reduce (but may not eliminate) such risks.

This report does not represent a construction specification or engineered plan and shall not be used or referenced as such. The information included in this report should be considered supplemental to the requirements contained in the project plans & specifications and should be read in conjunction with the above referenced information. The selected recommendations presented in this report are intended to inform only the specific corresponding subjects. All other requirements of the above-mentioned items remain valid, unless otherwise specified.

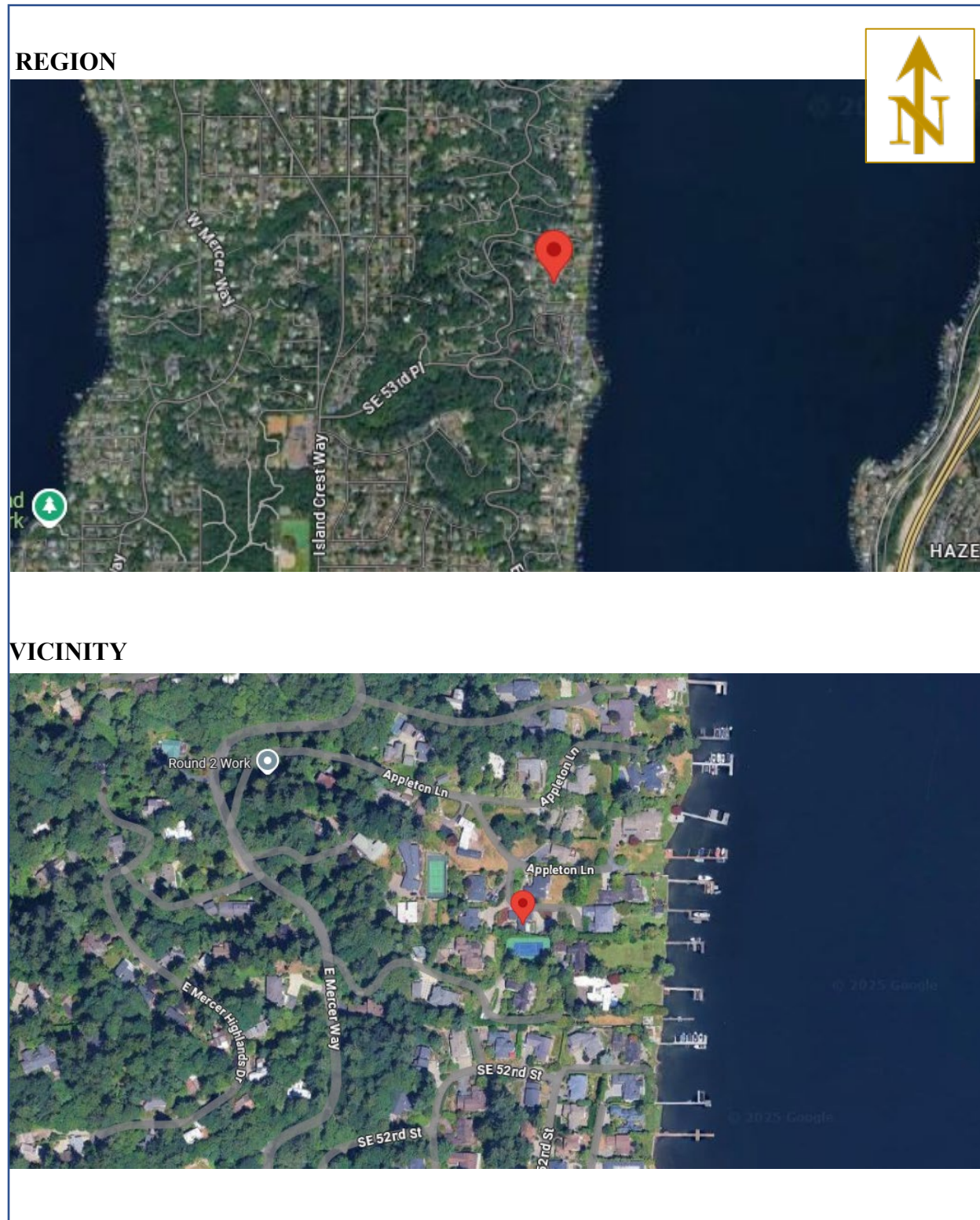
Recommendations contained in this report are based on our understanding of the proposed development and construction activities, field observations and explorations, and laboratory test results. It is possible that soil and groundwater conditions could vary and differ between or beyond the points explored. If soil or groundwater conditions are encountered during construction that differ from those described herein, or If the scope of the proposed construction changes from that described in this report, QG should be notified immediately in order to review and provide supplemental recommendations.

The findings of this study are limited by the level of scope applied. We have prepared this report in substantial accordance with the generally accepted geotechnical engineering practice as it exists in the subject region. No warranty, expressed or implied, is made. The recommendations provided in this report assume that an adequate program of tests and observations will be conducted by a WABO approved special inspection firm during the construction phase in order to evaluate compliance with our recommendations.

This report may be used only by the Client and their design consultants and only for the purposes stated within a reasonable time from its issuance, but in no event later than 18 months from the date of the report. It is the Client's responsibility to ensure that the Designer, Contractor, Subcontractors, etc. are made aware of this report in its entirety. Note that if another firm assumes Geotechnical Engineer of Record responsibilities, they need to review this report and either concur with the findings, conclusions, and recommendations or provide alternate findings, conclusions and recommendation.

Land or facility use, on- and off-site conditions, regulations, or other factors may change over time, and additional work may be required. Based on the intended use of the report, QG may recommend that additional work be performed and that an updated report be issued. Non-compliance with any of these requirements by the Client or anyone else will release QG from any liability resulting from the use of this report. The Client, the design consultants, and any unauthorized party, agree to defend, indemnify, and hold harmless QG from any claim or liability associated with such unauthorized use or non-compliance. We recommend that QG be given the opportunity to review the final project plans and specifications to evaluate if our recommendations have been properly interpreted. We assume no responsibility for misinterpretation of our recommendations.

Appendix A. Site Region & Vicinity



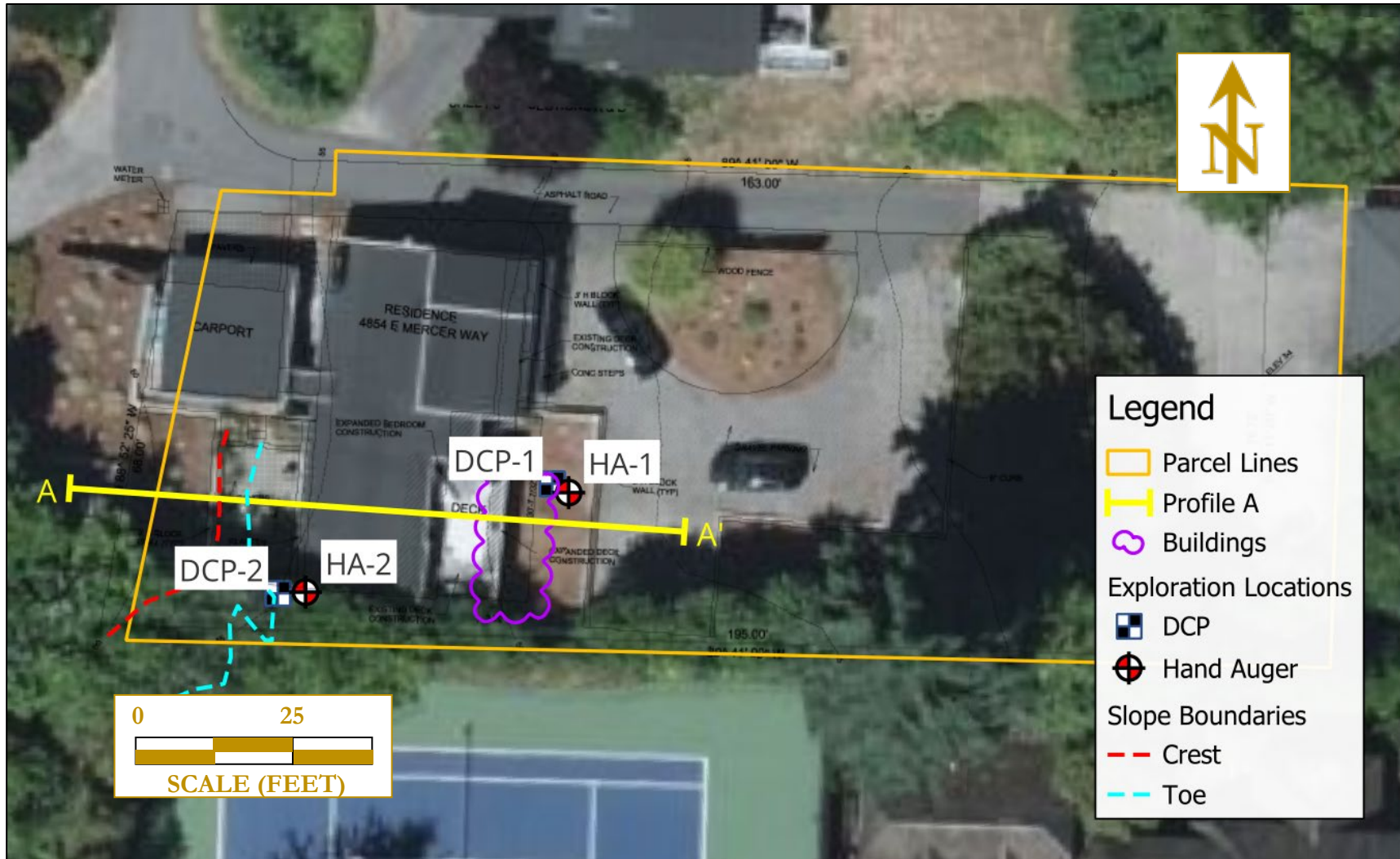
**Quality Geo,
PLLC**

Site Region
Mehlhoff Mercer Island CAO

Source: Google Imagery, 2025
Scale & Locations are approx.
Not for Construction

Figure 1

Appendix B. Aerial Site Map



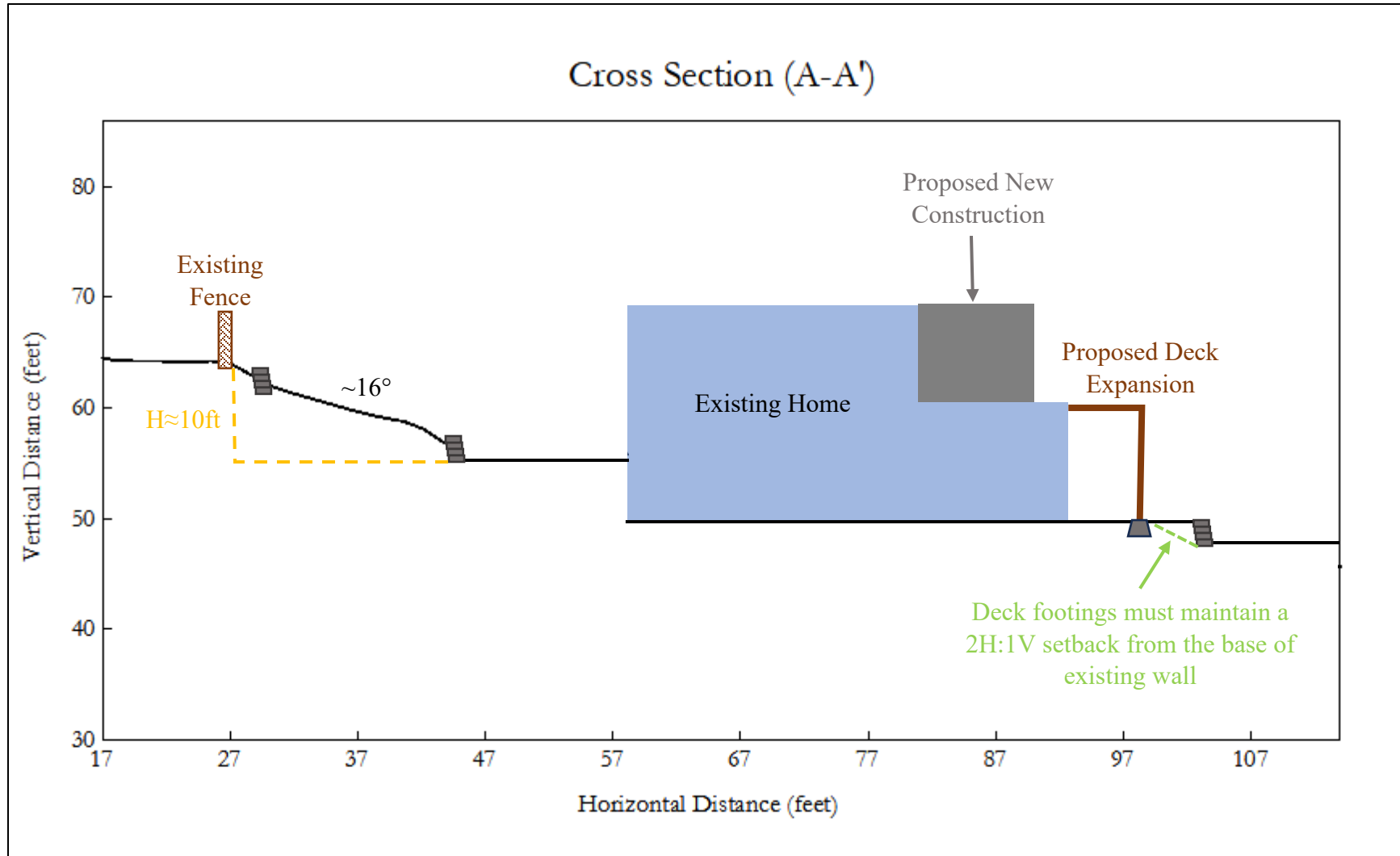
Quality Geo NW,
PLLC

Site Map
4563 33rd Ave S CAO

Source: King Co. GIS, 2025
Scale & Locations are approx.
Not for Construction

Figure 2

Appendix C. Slope Profiles



Quality Geo
NW, PLLC

Slope Profile A – A'
Mehlhoff Mercer Island CAO

Source: WA LIDAR & Hand Measurements
Scale & Locations are approx.
Not for Construction

Figure 3

Appendix D. Exploration Logs



Hand Auger Log HA-1

PROJECT NUMBER QG25-100		FIELD WORK DATE 6/24/2025		BORING LOCATION Eastern portion of parcel	
PROJECT NAME Mehlhoff Mercer Island CAO		DRILLING METHOD Hand Auger Boring		SURFACE ELEVATION Existing	
PROJECT LOCATION Mercer Island, WA				LOGGED BY CA	
COMMENTS					
Depth (ft)	Samples	Is Analysed?	Graphic Log	USCS	Material Description
0.5				SM	SILTY SAND Brown, moist, few organics (roots), light mottling (nodules), few cobbles (rounded to 4-inch diameter), loose to medium dense VISUAL CLASSIFICATION: Gravel = 10%; Sand = 75%; Fines = 15%
1	HA-1 at 12 in	N			
2.5	HA-1 at 29 in	N			
3					Terminated Due to Practical Equipment Refusal No Groundwater Encountered



Hand Auger Log HA-2

PROJECT NUMBER QG25-100	FIELD WORK DATE 6/24/2025	BORING LOCATION Western portion of parcel
PROJECT NAME Mehlhoff Mercer Island CAO	DRILLING METHOD Hand Auger Boring	SURFACE ELEVATION Existing
PROJECT LOCATION Mercer Island, WA		LOGGED BY CA

COMMENTS

Depth (ft)	Samples	Is Analysed?	Graphic Log	USCS	Material Description
0.5				SM	SILTY SAND Brown, moist, few organics (roots), no mottling, few cobbles (rounded to 4-inch diameter), loose to medium dense VISUAL CLASSIFICATION: Gravel = 10%; Sand = 75%; Fines = 15%
1					
1.5					
2					
2.5					Terminated Due to Practical Equipment Refusal No Groundwater Encountered

WILDCAT DYNAMIC CONE LOG

Quality Geo NW, PLLC
Geotechnical Consultants
Lacey, WA

PROJECT NUMBER: QG25-100
DATE STARTED: 06-24-2025
DATE COMPLETED: 06-24-2025

HOLE #: DCP-1
CREW: CA
PROJECT: Mehlhoff Mercer Island CAO
ADDRESS: 4854 E Mercer Way, Mercer Island, WA
LOCATION: Eastern portion of parcel

SURFACE ELEVATION: Existing
WATER ON COMPLETION: No
HAMMER WEIGHT: 35 lbs.
CONE AREA: 10 sq. cm

DEPTH	BLOWS PER 10 cm	RESISTANCE Kg/cm ²	GRAPH OF CONE RESISTANCE				N'	TESTED CONSISTENCY	
			0	50	100	150		NON-COHESIVE	COHESIVE
-	2	8.9	**				2	VERY LOOSE	SOFT
-	4	17.8	*****				5	LOOSE	MEDIUM STIFF
- 1 ft	4	17.8	*****				5	LOOSE	MEDIUM STIFF
-	5	22.2	*****				6	LOOSE	MEDIUM STIFF
-	5	22.2	*****				6	LOOSE	MEDIUM STIFF
- 2 ft	5	22.2	*****				6	LOOSE	MEDIUM STIFF
-	9	40.0	*****				11	MEDIUM DENSE	STIFF
-	6	26.6	*****				7	LOOSE	MEDIUM STIFF
- 3 ft	7	31.1	*****				8	LOOSE	MEDIUM STIFF
- 1 m	9	40.0	*****				11	MEDIUM DENSE	STIFF
-	7	27.0	*****				7	LOOSE	MEDIUM STIFF
- 4 ft	5	19.3	*****				5	LOOSE	MEDIUM STIFF
-	6	23.2	*****				6	LOOSE	MEDIUM STIFF
-	10	38.6	*****				11	MEDIUM DENSE	STIFF
- 5 ft	14	54.0	*****				15	MEDIUM DENSE	STIFF
-	20	77.2	*****				22	MEDIUM DENSE	VERY STIFF
-	26	100.4	*****				25+	MEDIUM DENSE	VERY STIFF
- 6 ft	41	158.3	*****				25+	DENSE	HARD
-	36	139.0	*****				25+	DENSE	HARD
- 2 m	47	181.4	*****				25+	VERY DENSE	HARD
- 7 ft	45	153.9	*****				25+	DENSE	HARD
-	50	171.0	*****				25+	DENSE	HARD
-									
- 8 ft									
-									
- 9 ft									
-									
- 3 m 10 ft									
-									
-									
- 11 ft									
-									
- 12 ft									
-									
- 4 m 13 ft									

