Cobalt Geosciences, LLC
P.O. Box 82243
Kenmore, Washington 98028

July 14, 2022

Liang Du
liangbydu@gmail.com

RE: Geotechnical Evaluation
Proposed Addition
7545 E. Mercer Way
Mercer Island, Washington

In accordance with your authorization, Cobalt Geosciences, LLC has prepared this letter to discuss the results of our geotechnical evaluation at the referenced site.

The purpose of our evaluation was to provide recommendations for foundation design, grading, and earthwork.

Site Description

The site is located at 7545 E. Mercer Way in Mercer Island, Washington. The site consists of one irregularly shaped parcel (No. 2579500175) with a total area of about 21,143 square feet.

The northwest portion of the site is developed with a residence with daylight basement and driveway. The driveway extends to the residence along the west property line.

The remainder of the property is undeveloped and vegetated with grasses, bushes, and variable diameter trees.

Overall, the site slopes downward from northwest and north to south and southeast. The area of the upper driveway and most of the residence is nearly level to slightly sloping with magnitudes of 0 to 15 percent. There are steep slopes near the east property line, above E. Mercer Way. These slopes have magnitudes of 80 to 115 percent and relief of about 18 feet. These slopes appear to have been at least partially modified through prior grading (road creation of E. Mercer Way).

Most site areas have slope magnitudes of 30 percent or less. There are local cut slopes near the north property line extending downward to the northeast onto the adjacent parcel. These slopes are 30 to 50 percent in magnitude with relief of 5 feet or less. There are areas of standing water west of the lower portion of the driveway. There is a drainage swale/ravine extending downward to the east across the southern portion of the property. Water was not flowing in this swale during our site visit in July 2022.

According to the City of Mercer Island GIS maps, the site contains erosion, seismic, steep slope, and potential landslide hazard areas.

The site is bordered to the north and west by residential properties, to the east by E. Mercer Way, and to the south by 92nd Avenue SE.

The proposed development includes an addition over the existing garage. This work will include several new isolated or strip footings to support the second story. Site grading may include cuts and fills of 2 feet or less and foundation loads are expected to be light. We should be provided with the final plans to verify that our recommendations remain valid and do not require updating.

Area Geology

The Geologic Map of Mercer Island, indicates that the site is near the contact between Vashon Advance Outwash and Lawton Clay.

Vashon Advance Outwash typically includes fine to medium grained sand with local silt and clay interbeds. These deposits are typically dense below a weathered zone and mostly permeable. Lawton Clay includes stiff to hard silts and clays that underlie the advance outwash in some areas. Landslides are known to occur at or near the contact between these units.

The map indicates an overprint of mass wastage deposits in this area. There are landslide scarps shown on the map several hundred feet west and upslope of the site.

Soil & Groundwater Conditions

As part of our evaluation, we excavated three hand excavations within the property, where accessible.

The explorations encountered approximately 6 inches of grass and topsoil underlain by approximately 2 to 3 feet of loose to medium dense, silty-fine to medium grained sand with gravel (Weathered Advance Outwash). These materials were underlain by medium dense to dense, silty-fine to medium grained sand trace gravel (Vashon Advance Outwash?), which continued to the termination depths of the explorations.

Groundwater was not encountered in the explorations. Based on our observations, groundwater is likely present at greater depths below the area of the residence. The standing water and ravine feature in the south portion of the site are likely at or near groundwater elevations as this flow appears to be consistent with spring activity. The springs are likely further west on nearby properties or in right of way. We did not observe evidence of emergent groundwater within the property.

Water table elevations often fluctuate over time. The groundwater level will depend on a variety of factors that may include seasonal precipitation, irrigation, land use, climatic conditions and soil permeability. Water levels at the time of the field investigation may be different from those encountered during the construction phase of the project.

City of Mercer Island GIS Mapped Hazards

The City of Mercer Island GIS maps indicate that the site is within a seismic, steep slope, potential slide and erosion hazard area. These designations are likely present due to a combination of historic mass wastage in steeper slope areas within and near the site, proximity of the property to the contact between outwash and underlying silts, and presence of outwash soils (erosion and seismic hazards).

Overall, the site areas appear stable at this time with no evidence of recent or ongoing erosion, slope movements, soil creep, or landslide activity. The risk of soil movements at this site are generally low to moderate at this time with the slightly higher risks associated with the cut slope near E. Mercer Way.

The risk of seismically induced liquefaction settlement is low to very low. The subsurface soils are generally dense and not susceptible to significant liquefaction. The risk of soil erosion can be maintained at a low level with implementation of temporary erosion control systems around proposed work areas.

The standing water appears to be consistent with spring activity (emergent groundwater) from areas further west and upslope. There are larger ravine-like topographic features that likely direct groundwater into lower elevation areas along the underlying dense soils, ultimately daylighting along this preferential pathway(s). We did not observe emergent groundwater within the property or at the base of the steep slope along E. Mercer Way.

Vegetation in slope areas with magnitudes of 30 percent or more should not be removed or altered. We understand that the project includes minor foundation excavations within the garage area and vertical construction. We do not anticipate any vegetation to be removed from slope areas.

The residence is currently set back more than 30 feet from the steeper slope areas near the east property line. These slopes have relief of about 18 feet. The project includes a second story addition over the garage. This area is at least 50 feet from steeper slopes or areas that we would consider to have some potential for soil movements. This set back is adequate and the proposed development can be completed without increasing the risk of soil movements.

It is our opinion that the proposed development will not affect slope stability or other geologic hazards on the property or adjacent areas.

Statement of Risk

Per Section 19.07.060.D.2 of the Mercer Island City Code, development within geologic hazard areas require that a Geotechnical Engineer licensed within the State of Washington provide 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; or

b. An evaluation of site specific subsurface conditions demonstrates that the proposed development is not located in a geologic hazard area; or

c. Development practices are proposed for the alteration that would render the development as safe as if it were not located in a geologic hazard area; or

d. The alteration is so minor as not to pose a threat to the public health, safety and welfare.

The project meets the criteria of d from above. The garage construction is located at least 50 feet from steep slopes and areas we would consider to have some potential for soil movements. The project includes minimal excavation work and only a few new footings. The new footings will not surcharge any slope areas or affect geologic hazards.

We recommend that temporary erosion control system be in place during construction and that all affected/graded areas are fully surfaced following construction.

Erosion Hazard

The Natural Resources Conservation Services (NRCS) maps for King County indicate that the site is underlain by Kitsap silt loam (15 to 30 percent slopes). These soils would have a moderate to severe erosion potential in a disturbed state depending on the slope magnitude.

It is our opinion that soil erosion potential at this project site can be reduced through landscaping and surface water runoff control. Typically, erosion of exposed soils will be most noticeable during periods of rainfall and may be controlled by the use of normal temporary erosion control

measures, such as silt fences, hay bales, mulching, control ditches and diversion trenches. The typical wet weather season, with regard to site grading, is from October 31st to April 1st. Erosion control measures should be in place before the onset of wet weather.

Seismic Hazard

The overall subsurface profile corresponds to a Site Class *D* as defined by Table 1613.5.2 of the International Building Code (IBC). A Site Class *D* applies to an overall profile consisting of stiff/medium dense soils within the upper 100 feet.

We referenced the U.S. Geological Survey (USGS) Earthquake Hazards Program Website to obtain values for S_S, S_1, F_a, and F_v. The USGS website includes the most updated published data on seismic conditions. The following tables provide seismic parameters from the USGS web site with referenced parameters from ASCE 7-16.

Seismic Design Parameters (ASCE 7-16)

Site Class	Spectral Acceleration at 0.2 sec. (g)	Spectral Acceleration at 1.0 sec. (g)	Site Coefficients		Design Spectral Response Parameters		Design PGA
			F_a	F_v	S_{DS}	S_{D1}	
D	1.454	0.502	1.0	Null	0.97	Null	0.622

Additional seismic considerations include liquefaction potential and amplification of ground motions by soft/loose soil deposits. The liquefaction potential is highest for loose sand with a high groundwater table. The site has a low likelihood of liquefaction. For items listed as "Null" see Section 11.4.8 of the ASCE.

Conclusions and Recommendations

General

The site is underlain by advance outwash and at depth by finer grained silts and clay associated with Lawton Clay. These soils become denser with depth below a weathered zone. The proposed footings for the second story garage addition may be supported on shallow foundation systems bearing on medium dense or firmer native soils or on structural fill placed on the native soils. Local overexcavation of loose weathered native soils may be necessary depending on the proposed elevations and locations of the new footings.

We anticipate that all stormwater is currently collected and tightlined downslope into the City infrastructure near E. Mercer Way. We recommend maintaining this system with proper connection of any new downspouts from the addition to the City stormwater system.

Site Preparation

Trees, shrubs and other vegetation should be removed prior to stripping of surficial organic-rich soil and fill. Based on observations from the site investigation program, it is anticipated that the stripping depth will be 6 to 12 inches. Deeper excavations will be necessary below foundation systems, below large trees, and in any areas underlain by undocumented fill.

The native soils consist of silty-sand with gravel and poorly graded sand with silt and gravel. Most of the native soils may be used as structural fill provided they achieve compaction requirements and are within 3 percent of the optimum moisture. Some of these soils may only be suitable for use as fill during the summer months, as they will be above the optimum moisture levels in their current state. These soils are variably moisture sensitive and may degrade during periods of wet weather and under equipment traffic.

Imported structural fill should consist of a sand and gravel mixture with a maximum grain size of 3 inches and less than 5 percent fines (material passing the U.S. Standard No. 200 Sieve). Structural fill should be placed in maximum lift thicknesses of 12 inches and should be compacted to a minimum of 95 percent of the modified proctor maximum dry density, as determined by the ASTM D 1557 test method.

Temporary Excavations

Based on our understanding of the project, we anticipate that the grading could include local cuts on the order of approximately 2 feet or less for foundation placement. Any deeper temporary excavations should be sloped no steeper than 1.5H:1V (Horizontal:Vertical) in loose native soils and fill, 1H:1V in medium dense native soils and 3/4H:1V in dense to very dense native soils. If an excavation is subject to heavy vibration or surcharge loads, we recommend that the excavations be sloped no steeper than 2H:1V, where room permits.

Temporary cuts should be in accordance with the Washington Administrative Code (WAC) Part N, Excavation, Trenching, and Shoring. Temporary slopes should be visually inspected daily by a qualified person during construction activities and the inspections should be documented in daily reports. The contractor is responsible for maintaining the stability of the temporary cut slopes and reducing slope erosion during construction.

Temporary cut slopes should be covered with visqueen to help reduce erosion during wet weather, and the slopes should be closely monitored until the permanent retaining systems or slope configurations are complete. Materials should not be stored or equipment operated within 10 feet of the top of any temporary cut slope.

Soil conditions may not be completely known from the geotechnical investigation. In the case of temporary cuts, the existing soil conditions may not be completely revealed until the excavation work exposes the soil. Typically, as excavation work progresses the maximum inclination of temporary slopes will need to be re-evaluated by the geotechnical engineer so that supplemental recommendations can be made. Soil and groundwater conditions can be highly variable. Scheduling for soil work will need to be adjustable, to deal with unanticipated conditions, so that the project can proceed and required deadlines can be met.

If any variations or undesirable conditions are encountered during construction, we should be notified so that supplemental recommendations can be made. If room constraints or groundwater conditions do not permit temporary slopes to be cut to the maximum angles allowed by the WAC, temporary shoring systems may be required. The contractor should be responsible

for developing temporary shoring systems, if needed. We recommend that Cobalt Geosciences and the project structural engineer review temporary shoring designs prior to installation, to verify the suitability of the proposed systems.

Foundation Design

The proposed additions may be supported on shallow spread footing foundation systems bearing on undisturbed medium dense or firmer native soils or on properly compacted structural fill placed on the suitable native soils. Any undocumented fill and/or loose native soils should be removed and replaced with structural fill below foundation elements. Structural fill below footings should consist of clean angular rock 5/8 to 4 inches in size. We should verify soil conditions during foundation excavation work.

For shallow foundation support, we recommend widths of at least 16 and 24 inches, respectively, for continuous wall and isolated column footings supporting the proposed structure. Provided that the footings are supported as recommended above, a net allowable bearing pressure of 2,000 pounds per square foot (psf) may be used for design.

A 1/3 increase in the above value may be used for short duration loads, such as those imposed by wind and seismic events. Structural fill placed on bearing, native subgrade should be compacted to at least 95 percent of the maximum dry density based on ASTM Test Method D1557. Footing excavations should be inspected to verify that the foundations will bear on suitable material.

Exterior footings should have a minimum depth of 18 inches below pad subgrade (soil grade) or adjacent exterior grade, whichever is lower. Interior footings should have a minimum depth of 12 inches below pad subgrade (soil grade) or adjacent exterior grade, whichever is lower.

If constructed as recommended, the total foundation settlement is not expected to exceed 1 inch. Differential settlement, along a 25-foot exterior wall footing, or between adjoining column footings, should be less than ½ inch. This translates to an angular distortion of 0.002. Most settlement is expected to occur during construction, as the loads are applied. However, additional post-construction settlement may occur if the foundation soils are flooded or saturated. All footing excavations should be observed by a qualified geotechnical consultant.

Resistance to lateral footing displacement can be determined using an allowable friction factor of 0.40 acting between the base of foundations and the supporting subgrades. Lateral resistance for footings can also be developed using an allowable equivalent fluid passive pressure of 250 pounds per cubic foot (pcf) acting against the appropriate vertical footing faces (neglect the upper 12 inches below grade in exterior areas). The frictional and passive resistance of the soil may be combined without reduction in determining the total lateral resistance.

Care should be taken to prevent wetting or drying of the bearing materials during construction. Any extremely wet or dry materials, or any loose or disturbed materials at the bottom of the footing excavations, should be removed prior to placing concrete. The potential for wetting or drying of the bearing materials can be reduced by pouring concrete as soon as possible after completing the footing excavation and evaluating the bearing surface by the geotechnical engineer or his representative.

Slab-on-Grade

If new or replaced slab on grade is proposed, the following recommendations may apply:

We recommend that the upper 12 inches of the existing native soils within slab areas be re-compacted to at least 95 percent of the modified proctor (ASTM D1557 Test Method).

Often, a vapor barrier is considered below concrete slab areas. However, the usage of a vapor barrier could result in curling of the concrete slab at joints. Floor covers sensitive to moisture typically requires the usage of a vapor barrier. A materials or structural engineer should be consulted regarding the detailing of the vapor barrier below concrete slabs. Exterior slabs typically do not utilize vapor barriers.

The American Concrete Institutes ACI 360R-06 Design of Slabs on Grade and ACI 302.1R-04 Guide for Concrete Floor and Slab Construction are recommended references for vapor barrier selection and floor slab detailing.

Slabs on grade may be designed using a coefficient of subgrade reaction of 180 pounds per cubic inch (pci) assuming the slab-on-grade base course is underlain by structural fill placed and compacted as outlined above. A 4- to 6-inch-thick capillary break layer should be placed over the prepared subgrade. This material should consist of pea gravel or 5/8 inch clean angular rock.

A perimeter drainage system is recommended unless interior slab areas are elevated a minimum of 12 inches above adjacent exterior grades. If installed, a perimeter drainage system should consist of a 4-inch diameter perforated drain pipe surrounded by a minimum 6 inches of drain rock wrapped in a non-woven geosynthetic filter fabric to reduce migration of soil particles into the drainage system. The perimeter drainage system should discharge by gravity flow to a suitable stormwater system.

Exterior grades surrounding buildings should be sloped at a minimum of one percent to facilitate surface water flow away from the building and preferably with a relatively impermeable surface cover immediately adjacent to the building.

Erosion and Sediment Control

Erosion and sediment control (ESC) is used to reduce the transportation of eroded sediment to wetlands, streams, lakes, drainage systems, and adjacent properties. Erosion and sediment control measures should be implemented, and these measures should be in general accordance with local regulations. At a minimum, the following basic recommendations should be incorporated into the design of the erosion and sediment control features for the site:

- Schedule the soil, foundation, utility, and other work requiring excavation or the disturbance of the site soils, to take place during the dry season (generally May through September). However, provided precautions are taken using Best Management Practices (BMP's), grading activities can be completed during the wet season (generally October through April).
- All site work should be completed and stabilized as quickly as possible.
- Additional perimeter erosion and sediment control features may be required to reduce the possibility of sediment entering the surface water. This may include additional silt fences, silt fences with a higher Apparent Opening Size (AOS), construction of a berm, or other filtration systems.

- Any runoff generated by dewatering discharge should be treated through construction of a sediment trap if there is sufficient space. If space is limited other filtration methods will need to be incorporated.

CONSTRUCTION FIELD REVIEWS

Cobalt Geosciences should be retained to provide part time field review during construction in order to verify that the soil conditions encountered are consistent with our design assumptions and that the intent of our recommendations is being met. This will require field and engineering review to:

- Monitor and test structural fill placement and soil compaction
- Observe bearing capacity at foundation locations
- Observe slab-on-grade preparation

Geotechnical design services should also be anticipated during the subsequent final design phase to support the structural design and address specific issues arising during this phase. Field and engineering review services will also be required during the construction phase in order to provide a Final Letter for the project.

CLOSURE

This report was prepared for the exclusive use of Liang Du and her appointed consultants. Any use of this report or the material contained herein by third parties, or for other than the intended purpose, should first be approved in writing by Cobalt Geosciences, LLC.

The recommendations contained in this report are based on assumed continuity of soils with those of our test holes and assumed structural loads. Cobalt Geosciences should be provided with final architectural and civil drawings when they become available in order that we may review our design recommendations and advise of any revisions, if necessary.

Use of this report is subject to the Statement of General Conditions provided in Appendix A. It is the responsibility of Liang Du who is identified as "the Client" within the Statement of General Conditions, and its agents to review the conditions and to notify Cobalt Geosciences should any of these not be satisfied.

Sincerely,

Cobalt Geosciences, LLC

7/14/2022
Phil Haberman, PE, LG, LEG
Principal

Statement of General Conditions

USE OF THIS REPORT: This report has been prepared for the sole benefit of the Client or its agent and may not be used by any third party without the express written consent of Cobalt Geosciences and the Client. Any use which a third party makes of this report is the responsibility of such third party.

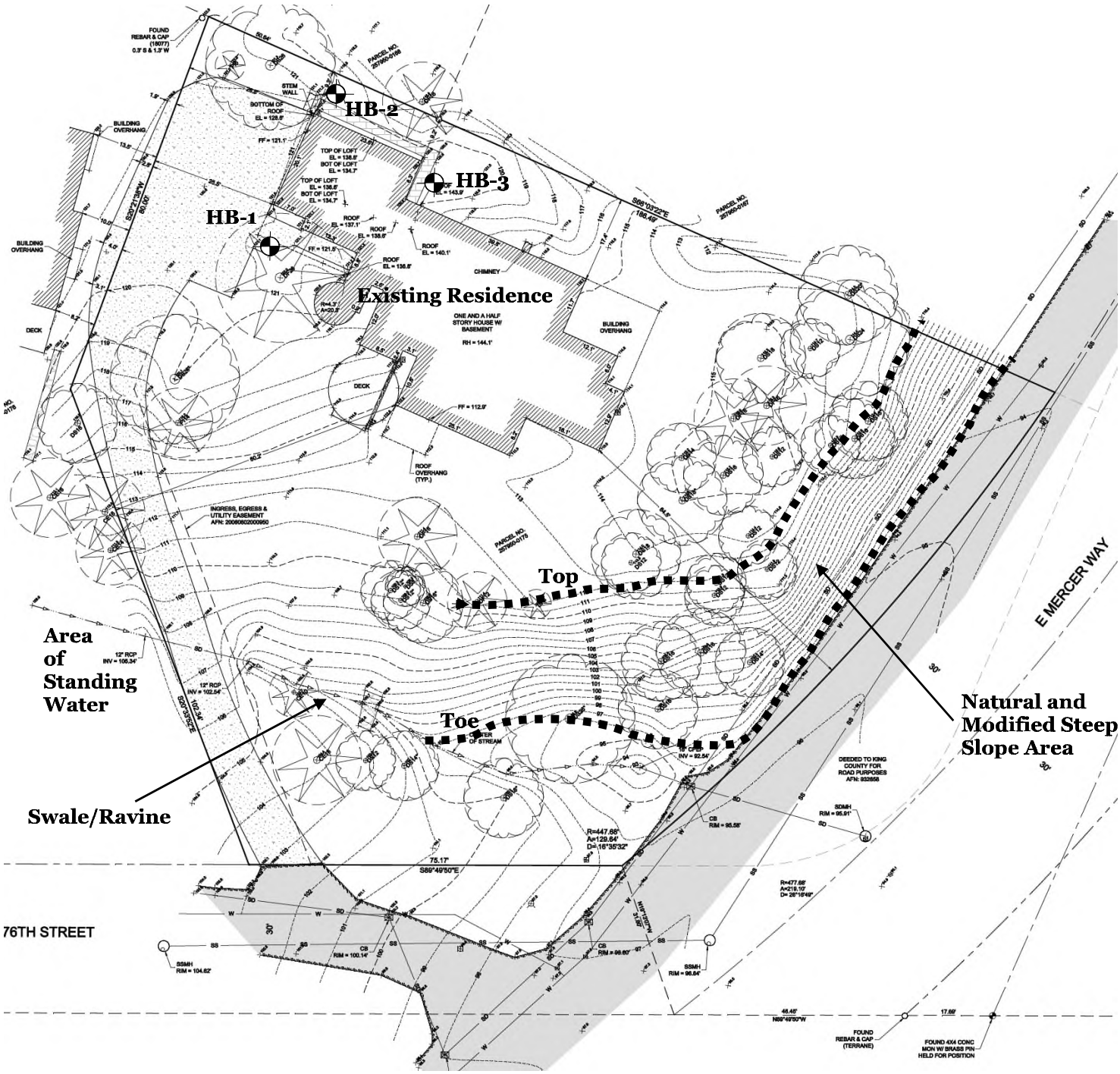
BASIS OF THE REPORT: The information, opinions, and/or recommendations made in this report are in accordance with Cobalt Geosciences present understanding of the site specific project as described by the Client. The applicability of these is restricted to the site conditions encountered at the time of the investigation or study. If the proposed site specific project differs or is modified from what is described in this report or if the site conditions are altered, this report is no longer valid unless Cobalt Geosciences is requested by the Client to review and revise the report to reflect the differing or modified project specifics and/or the altered site conditions.

STANDARD OF CARE: Preparation of this report, and all associated work, was carried out in accordance with the normally accepted standard of care in the state of execution for the specific professional service provided to the Client. No other warranty is made.

INTERPRETATION OF SITE CONDITIONS: Soil, rock, or other material descriptions, and statements regarding their condition, made in this report are based on site conditions encountered by Cobalt Geosciences at the time of the work and at the specific testing and/or sampling locations. Classifications and statements of condition have been made in accordance with normally accepted practices which are judgmental in nature; no specific description should be considered exact, but rather reflective of the anticipated material behavior. Extrapolation of in situ conditions can only be made to some limited extent beyond the sampling or test points. The extent depends on variability of the soil, rock and groundwater conditions as influenced by geological processes, construction activity, and site use.

VARYING OR UNEXPECTED CONDITIONS: Should any site or subsurface conditions be encountered that are different from those described in this report or encountered at the test locations, Cobalt Geosciences must be notified immediately to assess if the varying or unexpected conditions are substantial and if reassessments of the report conclusions or recommendations are required. Cobalt Geosciences will not be responsible to any party for damages incurred as a result of failing to notify Cobalt Geosciences that differing site or sub-surface conditions are present upon becoming aware of such conditions.

PLANNING, DESIGN, OR CONSTRUCTION: Development or design plans and specifications should be reviewed by Cobalt Geosciences, sufficiently ahead of initiating the next project stage (property acquisition, tender, construction, etc), to confirm that this report completely addresses the elaborated project specifics and that the contents of this report have been properly interpreted. Specialty quality assurance services (field observations and testing) during construction are a necessary part of the evaluation of sub-subsurface conditions and site preparation works. Site work relating to the recommendations included in this report should only be carried out in the presence of a qualified geotechnical engineer; Cobalt Geosciences cannot be responsible for site work carried out without being present.



Note: Dashed lines delineate top and toe of steep slope area with the higher erosion and landslide potential.

Provided topographic survey

HB-1
Approximate Hand Boring Location

Not to Scale

N

COBALT GEOSCIENCES

Proposed Addition
7545 E. Mercer Way
Mercer Island, Washington

SITE MAP FIGURE 1

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Unified Soil Classification System (USCS)

MAJOR DIVISIONS			SYMBOL	TYPICAL DESCRIPTION
COARSE GRAINED SOILS (more than 50% retained on No. 200 sieve)	Gravels (more than 50% of coarse fraction retained on No. 4 sieve)	Clean Gravels (less than 5% fines)	GW	Well-graded gravels, gravels, gravel-sand mixtures, little or no fines
			GP	Poorly graded gravels, gravel-sand mixtures, little or no fines
		Gravels with Fines (more than 12% fines)	GM	Silty gravels, gravel-sand-silt mixtures
			GC	Clayey gravels, gravel-sand-clay mixtures
	Sands (50% or more of coarse fraction passes the No. 4 sieve)	Clean Sands (less than 5% fines)	SW	Well-graded sands, gravelly sands, little or no fines
			SP	Poorly graded sand, gravelly sands, little or no fines
		Sands with Fines (more than 12% fines)	SM	Silty sands, sand-silt mixtures
			SC	Clayey sands, sand-clay mixtures
FINE GRAINED SOILS (50% or more passes the No. 200 sieve)	Silts and Clays (liquid limit less than 50)	Inorganic	ML	Inorganic silts of low to medium plasticity, sandy silts, gravelly silts, or clayey silts with slight plasticity
			CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays silty clays, lean clays
		Organic	OL	Organic silts and organic silty clays of low plasticity
	Silts and Clays (liquid limit 50 or more)	Inorganic	MH	Inorganic silts, micaceous or diatomaceous fine sands or silty soils, elastic silt
			CH	Inorganic clays of medium to high plasticity, sandy fat clay, or gravelly fat clay
		Organic	OH	Organic clays of medium to high plasticity, organic silts
HIGHLY ORGANIC SOILS	Primarily organic matter, dark in color, and organic odor		PT	Peat, humus, swamp soils with high organic content (ASTM D4427)

Classification of Soil Constituents

MAJOR constituents compose more than 50 percent, by weight, of the soil. Major constituents are capitalized (i.e., SAND).

Minor constituents compose 12 to 50 percent of the soil and precede the major constituents (i.e., silty SAND). Minor constituents preceded by "slightly" compose 5 to 12 percent of the soil (i.e., slightly silty SAND).

Trace constituents compose 0 to 5 percent of the soil (i.e., slightly silty SAND, trace gravel).

Grain Size Definitions

Description	Sieve Number and/or Size
Fines	<#200 (0.08 mm)
Sand	
-Fine	#200 to #40 (0.08 to 0.4 mm)
-Medium	#40 to #10 (0.4 to 2 mm)
-Coarse	#10 to #4 (2 to 5 mm)
Gravel	
-Fine	#4 to 3/4 inch (5 to 19 mm)
-Coarse	3/4 to 3 inches (19 to 76 mm)
Cobbles	3 to 12 inches (75 to 305 mm)
Boulders	>12 inches (305 mm)

Relative Density (Coarse Grained Soils)

N, SPT, Blows/FT	Relative Density
0 - 4	Very loose
4 - 10	Loose
10 - 30	Medium dense
30 - 50	Dense
Over 50	Very dense

Consistency (Fine Grained Soils)

N, SPT, Blows/FT	Relative Consistency
Under 2	Very soft
2 - 4	Soft
4 - 8	Medium stiff
8 - 15	Stiff
15 - 30	Very stiff
Over 30	Hard

Moisture Content Definitions

Dry	Absence of moisture, dusty, dry to the touch
Moist	Damp but no visible water
Wet	Visible free water, from below water table

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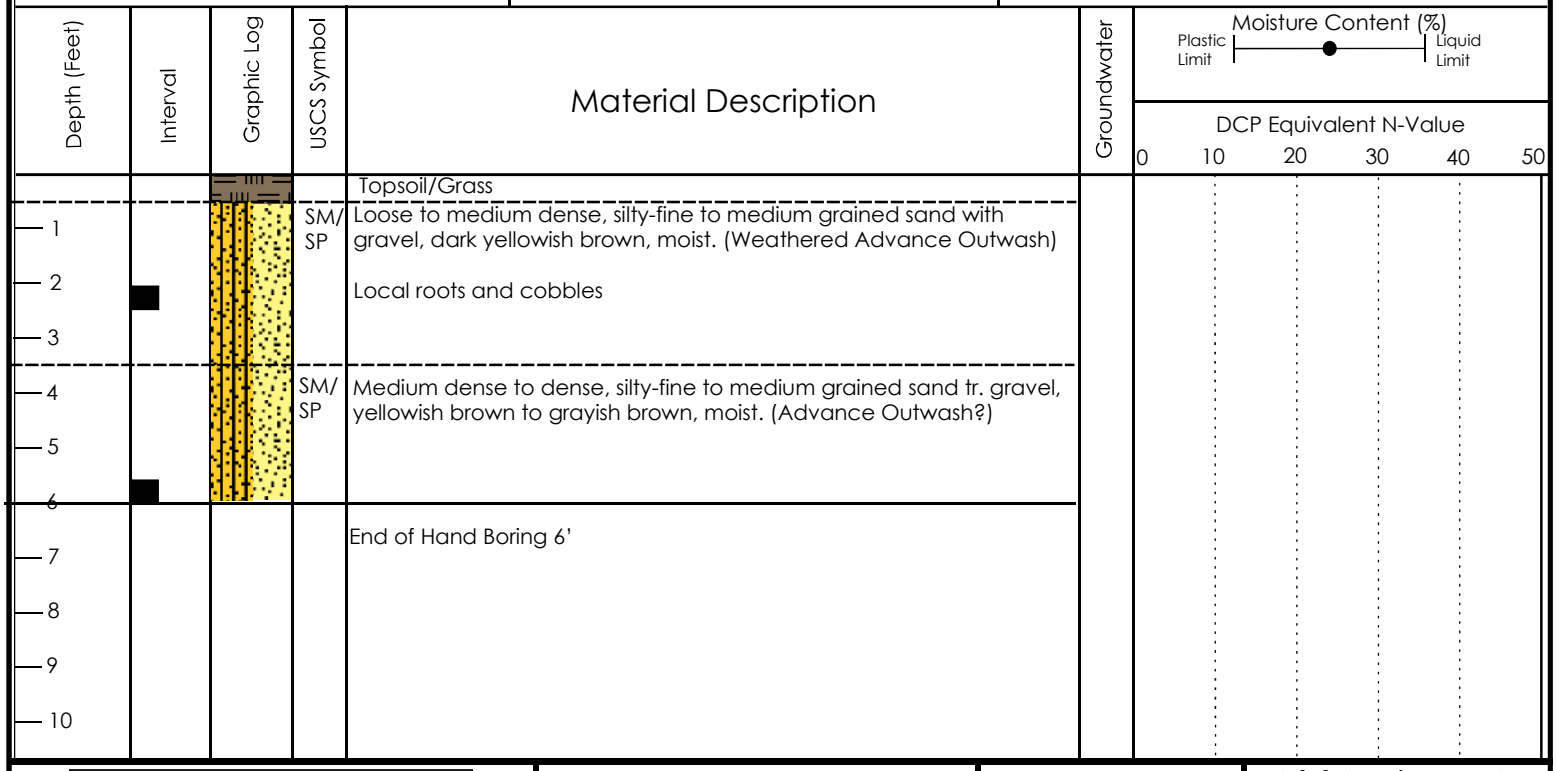
Soil Classification Chart

Figure C1

Hand Boring HB-1

Date: July 2022	Depth: 6'	Groundwater: None
Contractor:	Elevation:	Logged By: PH Checked By: SC



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Hand Boring Logs

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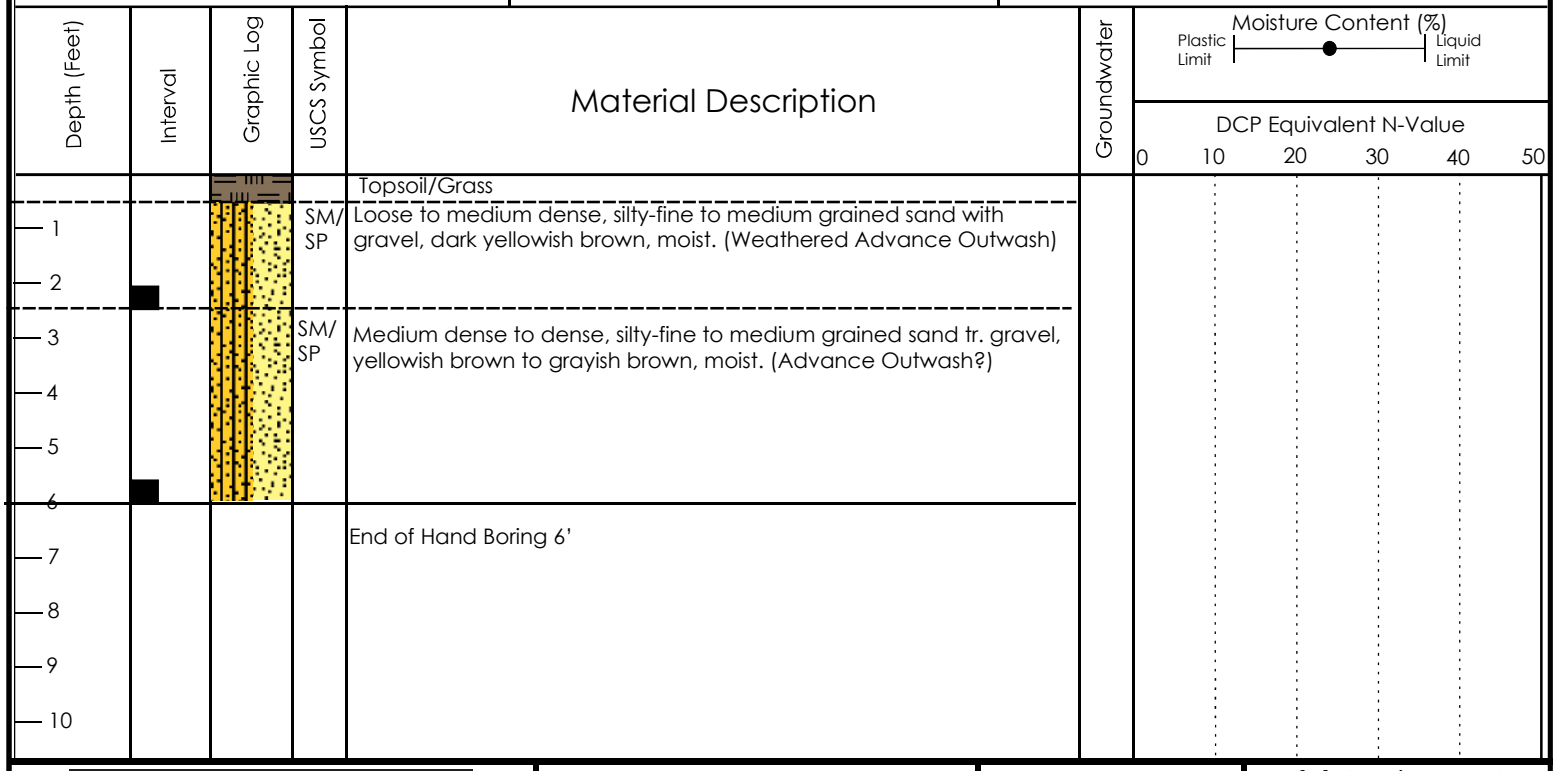
Hand Boring HB-2

Date: July 2022	Depth: 6'	Groundwater: None
Contractor:	Elevation:	Logged By: PH Checked By: SC



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Hand Boring HB-3

Date: July 2022	Depth: 6'	Groundwater: None
Contractor:	Elevation:	Logged By: PH Checked By: SC

Depth (Feet)	Interval	Graphic Log	USCS Symbol	Material Description	Groundwater
				Topsoil/Grass	
1			SM/SP	Loose to medium dense, silty-fine to medium grained sand with gravel, dark yellowish brown, moist. (Weathered Advance Outwash)	
2					
3					
4			SM/SP	Medium dense to dense, silty-fine to medium grained sand tr. gravel, yellowish brown to grayish brown, moist. (Advance Outwash?)	
5					
6					
7				End of Hand Boring 6'	
8					
9					
10					

Moisture Content (%)
Plastic Limit — Liquid Limit

DCP Equivalent N-Value
0 10 20 30 40 50

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