

March 27, 2026

JN 23363

The Lamb Family
5450 East Mercer Way
Mercer Island, WA 98040

Subject: **Limited Geotechnical Engineering Study Addendum - Proposed Retaining Wall**
5450 East Mercer Way
Mercer Island, Washington

Reference: *Limited Geotechnical Engineering Study*, Geotech Consultants, Inc., November 17, 2023

Greetings: via email:

This report presents and addendum to the findings and recommendations of our original geotechnical engineering study for the new concrete retaining wall that was constructed to the east of the remodeled residence constructed at 5450 East Mercer Way. The undersigned associate visited the subject site on December 12, 2024. The purpose of this visit was to observe the excavation and bearing conditions of the new wall to the southeast of the house. The observations of this visit are summarized in the Daily Field Report for that visit (attached). The recommendations and conclusions presented in this report are professional opinions based on the visual observations made during our site visit and on previous experience with similar projects.

We were provided with plans for the proposed retaining wall that indicates that the new wall is on the order of 9 feet tall and retains the yard above the new sauna. The now existing concrete retaining wall, location is attached to this letter. We understand that the site is within mapped erosion, seismic, and potential slide critical areas by the City of Mercer Island. No steep slopes are mapped on or adjacent to the site.

If the scope of the project changes from what we have described above, we should be provided with revised plans in order to determine if modifications to the recommendations and conclusions of this report are warranted.

Mercer Island Code Concerns

In general accordance with MICC 19.13.020(F)(4), the new wall is founded on dense, glacially consolidated glacial till soils that are not subject to any instability. In that regard, the wall is designed to avoid the need for future shoreline stabilization to the extent feasible, and from a geotechnical standpoint, it appears that the erosion control structure (wall) will not result in a net loss of shoreline ecological functions. In that the yard could not be cut out and left without a retaining structure, the wall was, in a geotechnical sense, necessary [MICC 19.07.120(E)(4)(b)] as an erosion control measure where soils have been disturbed.

CRITICAL AREAS STUDY (MICC 19.07)

Seismic Hazard and Potential Landslide Hazard Areas: The entire subject site is located within a mapped Potential Landslide Hazard area and most of the subject site is located within a mapped Seismic Hazard Area. Both geologic hazard areas cover much of the general vicinity as well. As previously discussed, the core of the subject site consists of dense to very dense glacial till which has a low potential for deep-seated landslides. No recent large-scale movement has been documented in this area. The subject retaining wall was supported on conventional footings embedded into the underlying glacial till which is not liquefiable, due to its dense nature. This mitigates the Seismic Hazard.

Erosion Hazard Areas: The entire subject site also meets the City of Mercer Island's criteria for an Erosion Hazard Area. The temporary erosion control measures were needed. A wire-backed silt fence supported on metal fence posts was erected as close as possible to the planned work area, and the existing vegetation below the silt fence was left in place.

Buffers and Mitigation: Under MICC 19.07.160(C), the code-prescriptive buffer of 25 feet is indicated from all sides of a shallow landslide-hazard area. As noted above, the entire site lies within a mapped Potential Landslide Hazard Area, and the prescriptive buffer would extend far beyond the boundaries of the property and the planned development area.

We recognize that the planned retaining wall development occurred within the designated critical areas and their applicable prescriptive buffers. Following the recommendations of this report, the planned development will not adversely impact the stability of the neighboring properties, or result in a need for increased critical area buffers on those adjacent properties. The geotechnical recommendations associated with proposed foundations, excavation, and erosion control will mitigate any potential hazards to geologic critical areas on the site.

Statement of Risk: In order to satisfy the City of Mercer Island's requirements, a statement of risk is needed. As such, we make the following statement:

The design and construction practices recommended in this report for the alteration will render the development as safe as if it were not located in a geologically hazardous area and will not cause adverse geotechnical impacts to the adjacent properties

We appreciate the opportunity to be of service on this project. Please contact us if you have any questions, or if we can be of further assistance.

Respectfully submitted,

GEOTECH CONSULTANTS, INC.



3.27.26

James H. Strange, Jr., P.E.
Associate

Attachments: **Site Plan**
Daily Field Report (DFR) December 12, 2024

JHS:kg

PROJECT INFORMATION

PROJECT CONTACT
 LAUREN GALANTE
 STUDIO TERRAIN, LLC
 18040 DES MOINES MEMORIAL DR. S.
 SEATAC, WA 98148
 206-909-2321

SITE AREA
 14,255 SF

PARCEL NUMBER
 192405-9134

JURISDICTION
 MERCER ISLAND

LEGAL DESCRIPTION
 POR GL 2 BEG AT PT ON E MGN OF E MERCER
 WAY WCH IS 2790 FT N OF & AT R/A TO S LN OF
 SEC TH S 88-33-02 E 589.75 FT TO PT APPROX 30
 FT W OF PRESENT SH LN OF LAKE & TPOB TH N
 88-33-02 W 140 FT TH S 01-26-58 W 90 FT TH S
 88-33-02 E 151 FT ML TO SH LN OF LAKE TH NLY
 ALG SH LN TO PT 2785 FT N OF S LN OF SEC TH N
 88-33-02 W TO PT S 01-26-58 W FR TPOB TH N
 01-26-58 E 5 FT TO TPOB T2ND CL SH LDS ADJ

LOT COVERAGE CALCULATIONS
 LOT AREA: 14,355 SF
 ALLOWABLE COVERAGE: 5,024 SF (35%)
 EXISTING STRUCTURE: 4,205 SF
 EXISTING DRIVEWAY: 1,840 SF
 TOTAL EXISTING LOT COVERAGE: 6,045 SF

HARDSCAPE CALCULATIONS
 LOT AREA: 14,355 SF
 ALLOWED HARDSCAPE: 1,292 SF (9%)
 EXISTING WALKWAYS: 277 SF
 EXISTING RETAINING WALLS: 89 SF
 TOTAL EXISTING HARDSCAPE: 366 SF
 PROPOSED UNCOVERED DECKS: 354 SF
 PROPOSED WALKWAYS: 404 SF
 PROPOSED STAIRS: 161 SF
 TOTAL PROPOSED HARDSCAPES: 919 SF
 TOTAL PROJECT HARDSCAPES: 1,285 SF (8.9%)

GENERAL LEGEND

- EXISTING DECIDUOUS TREE TO REMAIN
- EXISTING EVERGREEN TREE TO REMAIN
- EXISTING TREE TO BE REMOVED
- 1/4" x 4" STEEL EDGING
- LANDSCAPE EDGE - NO EDGING
- 4" SCH. 40 PVC SLEEVE
- 100.0 FS PROPOSED SPOT ELEVATION
- PROPOSED LAWN
4" DEPTH 80/20 TOPSOIL
- PROPOSED PLANTING BED
12" DEPTH 60/40 TOPSOIL
3" DEPTH DARK FINES MULCH
- LANDSCAPE BOULDER, MARENAKOS
WEATHERED GRANITE, 3-4 MAN BOULDER

LIGHTING SCHEDULE

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	QTY
	FX LUMINAIRE MO ORDER CODE: MO-RD, BRASS, (FB) FLAT BLACK, MO MOUNTING BRACKET LAMP: MO-RD-1LED, 2W / 2.4VA, 2700K, BEAMSPREAD: WIDE FLOOD	15
	FX LUMINAIRE RH ORDER CODE: RH, ALUMINUM, (BZ) BRONZE METALLIC, DIRECT MOUNT LAMP: RH-1LED, 1.9W / 2.2VA, 2700K, BEAMSPREAD: WIDE	6
	FX LUMINAIRE NP ORDER CODE: NP, ALUMINUM ALLOY, (FB) FLAT BLACK, 3-PRONG SPIKE LAMP: NP-1LED, 2W / 2.4VA, 2700K, BEAMSPREAD: NARROW FLOOD	1
	FX LUMINAIRE DM ORDER CODE: DM, COPPER AND BRASS, (FB) FLAT BLACK, 3-PRONG SPIKE LAMP: DM-1LED, 2W / 2.4VA, 2700K, BEAMSPREAD: WIDE FLOOD	9
	FX LUMINAIRE PB ORDER CODE: PB, ALUMINUM ALLOY, (FB) FLAT BLACK, 3-PRONG SPIKE LAMP: PB-1LED, 2W / 2.4VA, 2700K, BEAMSPREAD: VERY WIDE FLOOD	2
	FX LUMINAIRE SRP	29 LF

GRADING LEGEND

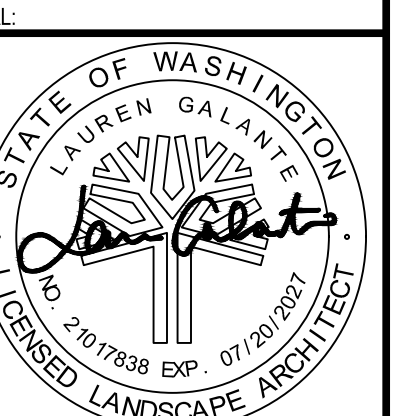
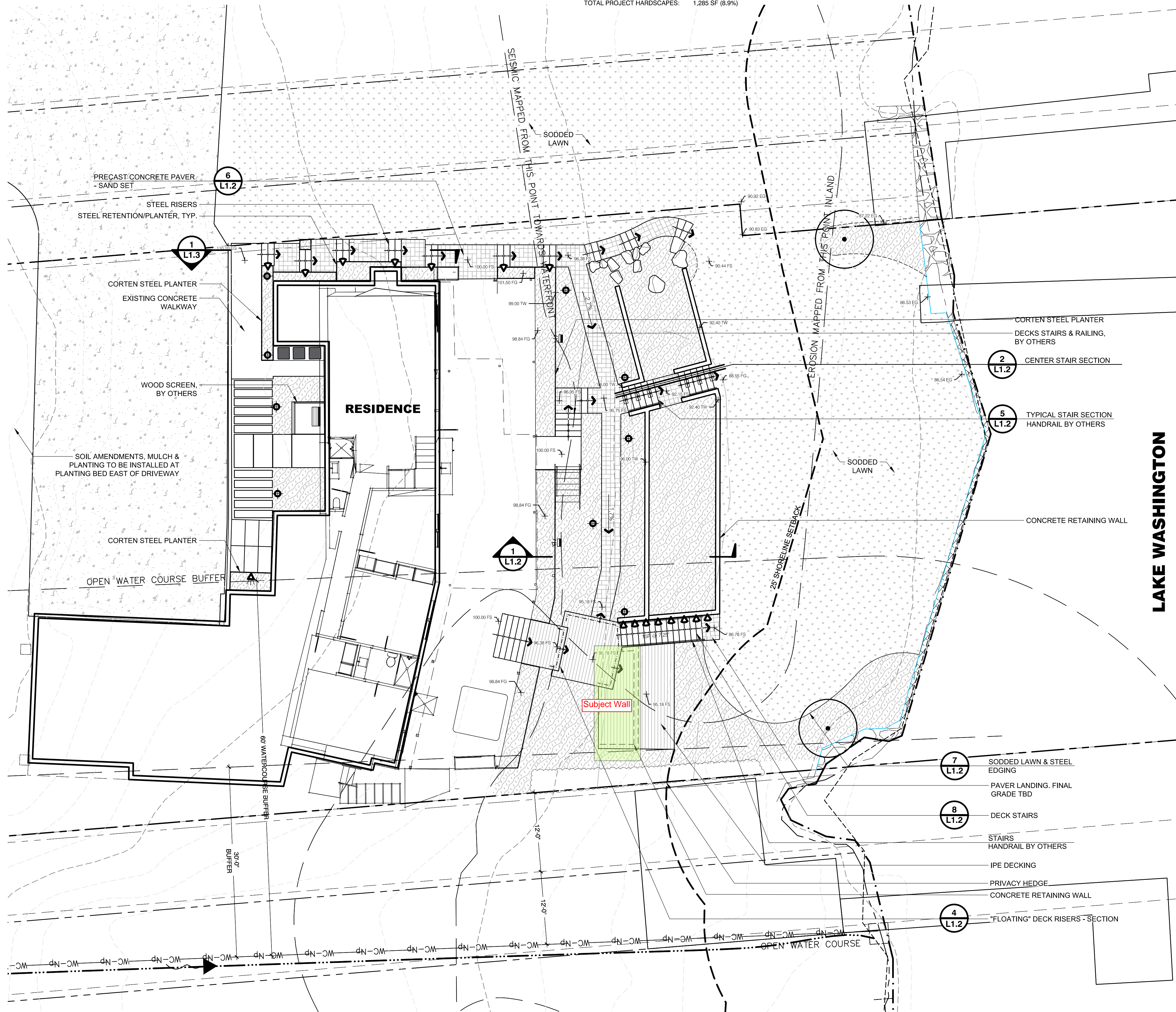
- FFE FINISHED FLOOR ELEVATION
- FS FINISHED SURFACE
- FG FINISHED GRADE
- EG EXISTING GRADE
- TW TOP OF WALL

GRADING NOTES

1. ALL HARDSCAPES TO HAVE 2% POSITIVE DRAINAGE UNLESS OTHERWISE SPECIFIED.
2. ALL HARDSCAPE LAYOUT & GRADES TO BE VERIFIED IN FIELD WITH LANDSCAPE ARCHITECT.

SHEET INDEX

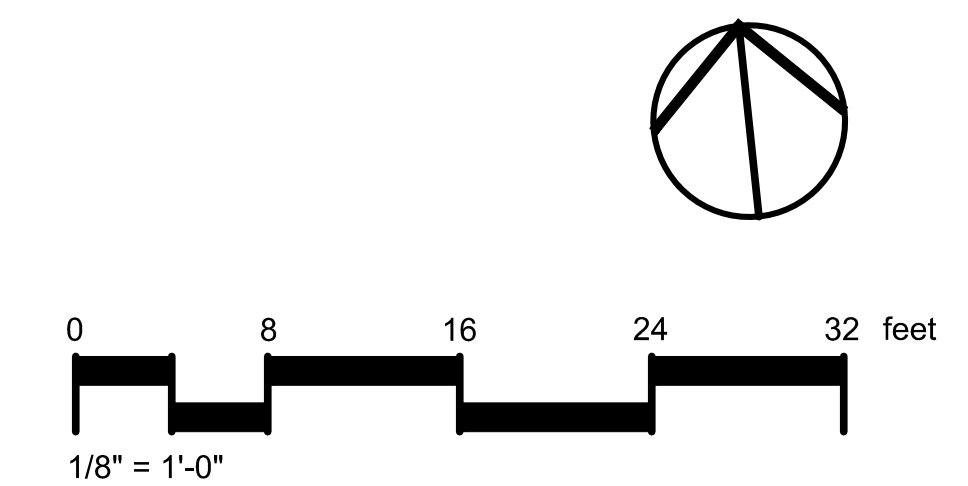
SHEET	DESCRIPTION
L1.1	SITE & LAYOUT PLAN
L1.1a	DIMENSION PLAN
L1.2	SITE DETAILS
L1.3	SITE DETAILS
L2.1	PLANTING PLAN
L2.2	PLANT SCHEDULE



NO.	DESCRIPTION	DATE
	PERMIT SET	02.04.23

1/8" = 1'-0"

L1.1





**GEOTECH
CONSULTANTS, INC.**


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Seattle, WA 98102

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DAILY FIELD REPORT

TRAVEL/PREP TIME		JOB NUMBER	
1 hr. (incl report)		23363	
TIME ON SITE		DATE	
		12/12/24	
TIME OFF SITE		DAY OF WEEK	
		Thu	
HOURS CHARGED		WEATHER	
2		OC	
SITE LOCATION		CLIENT/OWNER	
5450 East Mercer Way, Mercer Island, Washington		Lamb	
GENERAL CONTRACTOR	CONTRACTOR SUPERINTENDENT	MILES	PERMIT NUMBER
Dyna Contracting	Zack	20	
Grading CONTRACTOR	SUPERINTENDENT	VISITORS	PAGE OF
Terrain			1 of 1

Onsite to observe the footing subgrades for the new retaining wall southeast of the house. The excavation is exposing medium-dense to dense glacial till in the foundation areas of the excavation. Subgrades are acceptable for 2,000 psf allowable bearing capacity, but any loosened/disturbed soils should be removed from the formed footing areas prior to concrete placement.

COPY TO	SIGNATURE
	 James H. Strange, Jr. P.E.