CITY OF LOS ANGELES
CALIFORNIA

DEPARTMENT OF
BUILDING AND SAFETY
201 NORTH FIGUEROA STREET
LOS ANGELES, CA 90012

GEOLOGY AND SOILS REPORT APPROVAL LETTER

February 25, 2021

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SOILS/GEOLOGY FILE - 2

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CURRENT REFERENCE REPORT/LETTER	REPORT No.	DATE OF DOCUMENT	PREPARED BY
Geology/Soils Report	0FUR229	01/22/2021	SAS Sassan Geoscience, Inc.

The Grading Division of the Department of Building and Safety has reviewed the referenced report that provides recommendations for the proposed demolition of all existing site improvements; shoring adjacent to property lines; and, construction of a 3-level single family residence with basement, detached 2-story accessory dwelling unit, pool and retaining walls. The proposed improvement are located on and below up to approximately 80 foot high 1.5H:1V slopes. The earth materials at the subsurface exploration locations consist of up to 5 feet of uncertified fill underlain by soil, alluvium and Topanga Formation conglomeratic sandstone bedrock. The consultants recommend to support the proposed structures on conventional and/or drilled-pile foundations bearing on competent bedrock.

The referenced report is acceptable, provided the following conditions are complied with during site development:

(Note: Numbers in parenthesis ( ) refer to applicable sections of the 2020 City of LA Building Code. P/BC numbers refer the applicable Information Bulletin. Information Bulletins can be accessed on the internet at LADBS.ORG.)

1. Conformance with the Zoning Code Section 12.21 C8, which limits the heights and number of retaining walls, will be determined during structural plan check.

2. The entire site shall be made to conform to the provisions of Chapters 18 and 70 of the LABC.

3. Secure the notarized written consent from all owners upon whose property proposed grading/construction access is to extend, in the event off-site grading and/or access for

construction purposes is required (7006.6). The consent shall be included as part of the final plans.

4. All graded, brushed or bare slopes shall be planted with low-water consumption, native-type plant varieties to protect slopes against erosion (7012).

5. All new graded slopes shall be no steeper than 2H:1V (7010.2 & 7011.2).

6. Grading shall be scheduled for completion prior to the start of the rainy season, or detailed temporary erosion control plans shall be filed in a manner satisfactory to the Grading Division of the Department and the Department of Public Works, Bureau of Engineering, B-Permit Section, for any grading work in excess of 200 cubic yards (7007.1).

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7. All loose foundation excavation material shall be removed prior to commencement of framing. Slopes disturbed by construction activities shall be restored (7005.3).

8. Temporary excavations that remove lateral support to the public way, adjacent property, or adjacent structures shall be supported by shoring, as recommended. Note: Lateral support shall be considered to be removed when the excavation extends below a plane projected downward at an angle of 45 degrees from the bottom of a footing of an existing structure, from the edge of the public way or an adjacent property. (3307.3.1)

9. Prior to the issuance of any permit that authorizes an excavation where the excavation is to be of a greater depth than are the walls or foundation of any adjoining building or structure and located closer to the property line than the depth of the excavation, the owner of the subject site shall provide the Department with evidence that the adjacent property owner has been given a 30-day written notice of such intent to make an excavation (3307.1).

10. The soils engineer shall review and approve the shoring plans prior to issuance of the permit (3307.3.2).

11. Prior to the issuance of the permits, the soils engineer and/or the structural designer shall evaluate the surcharge loads used in the report calculations for the design of the retaining walls and shoring. If the surcharge loads used in the calculations do not conform to the actual surcharge loads, the soil engineer shall submit a supplementary report with revised recommendations to the Department for approval.

12. Shoring shall be designed for a minimum EFP of 49 PCF; all surcharge loads shall be included into the design, as recommended.

13. Shoring shall be designed for a maximum lateral deflection of 1 inch, provided there are no structures within a 1:1 plane projected up from the base of the excavation. Where a structure is within a 1:1 plane projected up from the base of the excavation, shoring shall be designed for a maximum lateral deflection of ½ inch, or to a lower deflection determined by the consultant that does not present any potential hazard to the adjacent structure.

14. A shoring monitoring program shall be implemented to the satisfaction of the soils engineer.

15. All foundations shall derive entire support from competent bedrock, as recommended and approved by the geologist and soils engineer by inspection.

16. Foundations adjacent to a descending slope steeper than 3:1 (horizontal to vertical) in gradient shall be a minimum distance of one-third the vertical height of the slope but need not exceed 40 feet measured horizontally from the footing bottom to the face of the slope (1808.7.2); for pools the foundation setback shall be one-sixth the slope height to a maximum of 20 feet (1808.7.3).

17. Buildings adjacent to ascending slopes steeper than 3H:1V in gradient shall be setback from the toe of the slope a level distance measured perpendicular to slope contours equal to one-half the vertical height of the slope, but need not exceed 15 feet (1808.7.1); for pools the setback shall be one-fourth the vertical height of the slope, but need not exceed 7.5 feet (1808.7.3).

18. Pile caisson and/or isolated foundation ties are required by LAMC Sections 91.1809.13 and/or 91.1810.3.13. Exceptions and modification to this requirement are provided in Information Bulletin P/BC 2020-030.

19. Pile and/or caisson shafts shall be designed for a lateral load of 1000 pounds per linear foot of shaft exposed to fill, soil and weathered bedrock per P/BC 2020-050.

20. The design passive pressure shall be neglected for a portion of the pile with a horizontal setback distance less than five feet from fill, soil or weathered bedrock.

21. When water is present in drilled pile holes, the concrete shall be tremied from the bottom up to ensure minimum segregation of the mix and negligible turbulence of the water (1808.8.3).

22. Existing uncertified fill shall not be used for lateral support of deep foundations (1810.2.1).

23. Slabs on uncertified fill shall be designed as a structural slab (7011.3).

24. Slabs placed on approved compacted fill shall be at least 4 inches thick, as recommended, and shall be reinforced with ½-inch diameter (#4) reinforcing bars spaced a maximum of 16 inches on center each way.

25. Retaining walls shall be designed for the lateral earth pressures specified on page 19 of the 01/22/2021 report. Note: Where two separate stacked retaining walls (the upper wall surcharges the lower wall) are proposed, the lower of the 2 walls shall be designed for the combined height of the 2 walls. All surcharge loads shall be included into the design.

26. The rear yard retaining walls shall be provided with a minimum freeboard of 12 inches, as recommended.

27. The recommended equivalent fluid pressure (EFP) for the proposed retaining wall shall apply from the top of the freeboard to the bottom of the wall footing.

28. All retaining walls shall be provided with a standard surface backdrain system and all drainage shall be conducted in a non-erosive device to the street in an acceptable manner (7013.11).

29. With the exception of retaining walls designed for hydrostatic pressure, all retaining walls shall be provided with a subdrain system to prevent possible hydrostatic pressure behind the wall. Prior to issuance of any permit, the retaining wall subdrain system recommended in the soils report shall be incorporated into the foundation plan which shall be reviewed and approved by the soils engineer of record (1805.4).

30. Installation of the subdrain system shall be inspected and approved by the soils engineer of record and the City grading/building inspector (108.9).

31. Basement walls and floors shall be waterproofed/damp-proofed with an LA City approved "Below-grade" waterproofing/damp-proofing material with a research report number (104.2.6).

32. Prefabricated drainage composites (Miradrain, Geotextiles) may be only used in addition to traditionally accepted methods of draining retained earth.

33. The pool shall be designed in accordance with Information Bulletin P/BC 2017-014.

34. The proposed swimming pool shall be designed for a freestanding condition.

35. The structures shall be connected to the public sewer system per P/BC 2020-027.

36. Sprinkler plans for irrigation shall be submitted and approved by the Mechanical Plan Check Section (7012.3.1).

37. All friction pile or caisson drilling and excavations shall be performed under the inspection and approval of the geologist and soils engineer. The geologist shall indicate the distance that friction piles or caissons penetrate into competent bedrock in a written field memorandum. (1803.5.5, 1705.1.2)

38. Installation of shoring and/or pile excavations shall be performed under the inspection and approval of the soils engineer and deputy grading inspector (1705.6, 1705.8).

39. No footing/slab shall be poured until the compaction report is submitted and approved by the Grading Division of the Department.

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