BOARD OF
BUILDING AND SAFETY
COMMISSIONERS

VAN AMBATIELOS
PRESIDENT

E. FELICIA BRANNON
VICE PRESIDENT

JOSELYN GEAGA-ROSENTHAL
GEORGE HOVAGUIMIAN
JAVIER NUNEZ

# CITY OF LOS ANGELES
CALIFORNIA

ERIC GARCETTI
MAYOR

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

FRANK M. BUSH
GENERAL MANAGER
SUPERINTENDENT OF BUILDING

OSAMA YOUNAN, P.E.
EXECUTIVE OFFICER

## GEOLOGY AND SOILS REPORT APPROVAL LETTER

August 15, 2017

LOG # 98967
SOILS/GEOLOGY FILE - 2
LAN-Exempt

Jasmine Y. Oh
7400 Radford Avenue
North Hollywood, CA 91605

TRACT: 8829
LOT: 12
LOCATION: 4936 E. La Calandria Way

| CURRENT REFERENCE REPORT/LETTER | REPORT No. | DATE OF DOCUMENT | PREPARED BY |
|---|---|---|---|
| Geology/Soils Report | CYG-17-8281 | 07/12/2017 | C. Y. Geotech, Inc. |
| Oversized Document | " | " | " |

The Grading Division of the Department of Building and Safety has reviewed the referenced report that provides recommendations for the proposed 2-story single family residence and retaining walls up to 12 feet in height. The proposed improvements are located at the top of an approximately 110 foot high slope with gradients as steep as 1.5H:1V. The earth materials at the subsurface exploration locations consist of up to 3 feet of uncertified fill underlain by up to 4.5 feet of native soil and Monterey Formation shale and sandstone bedrock that dips 55 to 66 degrees to the north. The consultants recommend to support the proposed structures on drilled-pile foundations bearing on competent bedrock.

The site is located in a designated seismically induced landslide hazard zone as shown on the Seismic Hazard Zones map issued by the State of California. However, the proposed 2-story or less construction is currently exempt from seismic slope stability analysis per P/BC 2017-044.

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 2017 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. The entire site shall be brought up to the current Code standard (7005.9).


AN EQUAL EMPLOYMENT OPPORTUNITY - AFFIRMATIVE ACTION EMPLOYER

2. Approval shall be obtained from the Department of Public Works, Bureau of Engineering, Development Services and Permits Program for the proposed removal of support and/or retaining of slopes adjoining to public way (3307.3.2).

   201 N. Figueroa Street 3rd Floor, LA (213) 482-7045

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. The geologist and soils engineer shall review and approve the detailed plans prior to issuance of any permits. This approval shall be by signature on the plans that clearly indicates the geologist and soils engineer have reviewed the plans prepared by the design engineer; and, that the plans include the recommendations contained in their reports (7006.1).

5. All recommendations of the report that are in addition to or more restrictive than the conditions contained herein shall be incorporated into the plans.

6. A copy of the subject and appropriate referenced reports and this approval letter shall be attached to the District Office and field set of plans (7006.1). Submit one copy of the above reports to the Building Department Plan Checker prior to issuance of the permit.

7. A grading permit shall be obtained (106.1.2).

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

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

10. Prior to the issuance of any permit, an accurate volume determination shall be made and included in the final plans, with regard to the amount of earth material to be exported from the site. For grading involving import or export of more than 1000 cubic yards of earth materials within the grading hillside area, approval is required by the Board of Building and Safety. Application for approval of the haul route must be filed with the Board of Building and Safety Commission Office. Processing time for application is approximately 8 weeks to hearing plus 10-day appeal period.

11. All man-made fill shall be compacted to a minimum 90 percent of the maximum dry density of the fill material per the latest version of ASTM D 1557. Where cohesionless soil having less than 15 percent finer than 0.005 millimeters is used for fill, it shall be compacted to a minimum of 95 percent relative compaction based on maximum dry density. Placement of gravel in lieu of compacted fill is only allowed if complying with LAMC Section 91.7011.3.

12. Existing uncertified fill shall not be used for support of footings, concrete slabs or new fill (1809.2, 7011.3).

13. Drainage in conformance with the provisions of the Code shall be maintained during and subsequent to construction (7013.12).

14. 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).

    201 N. Figueroa Street 3rd Floor, LA (213) 482-7045

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

16. The applicant is advised that the approval of this report does not waive the requirements for excavations contained in the General Safety Orders of the California Department of Industrial Relations (3301.1).

17. Temporary excavations that remove lateral support to the public way, adjacent property, or adjacent structures shall be supported by shoring or constructed using ABC slot cuts, 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)

18. In the event that any excavation would remove lateral support of adjacent structures and the excavations are proposed to be constructed using slot cuts, a supplemental report shall be submitted to the Grading Division of the Department containing recommendations for surcharged ABC slot cuts.

19. 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).

20. The soils engineer shall review and approve the shoring and/or underpinning plans prior to issuance of the permit (3307.3.2).

21. 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.

22. Unsurcharged temporary excavation may be cut vertical up to 5- feet. For excavations over 5 feet, the lower 5 feet may be cut vertically and the portion of the excavation above 5 feet shall be trimmed back at a gradient not exceeding 1:1, as recommended.

23. Shoring shall be designed for a minimum EFP of 30 PCF; all surcharge loads shall be included into the design, as recommended.

24. 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.

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

26. ABC slot-cut method may be used for unsurcharged temporary excavations with each slot not exceeding 8 feet in height and not exceeding 8 feet in width, as recommended. The soils engineer shall verify in the field if the existing earth materials are stable in the slot-cut excavation. Each slot shall be inspected by the soils engineer and approved in writing prior to any worker access.

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

28. 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).

29. 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).

30. 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 2014-030.

31. 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 2014-050.

32. 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.

33. The Code requires analysis for the group effects on lateral behavior where the center-to-center spacing of deep foundation elements in the direction of lateral force is less than eight times the least horizontal dimension of an element. The Code also requires analysis for the group effects on axial behavior where the center-to-center spacing of deep foundation elements is less than three times the least horizontal dimension of an element. Where this occurs for the proposed pile layout, a supplemental report shall be submitted that contains said analysis and recommendations for reduction factors as appropriate. (1810.2.5)

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

35. Slabs placed on approved compacted fill shall be at least 5 inches thick and shall be reinforced with ½-inch diameter (#4) reinforcing bars spaced a maximum of 12 inches on center each way, as recommended.

36. Concrete floor slabs placed on expansive soil shall be placed on a 4-inch fill of coarse aggregate or on a moisture barrier membrane. The slabs shall be at least 5 inches thick and shall be reinforced with ½-inch diameter (#4) reinforcing bars spaced a maximum of 12 inches on center each way, as recommended.

37. The seismic design shall be based on a Site Class C, as recommended. All other seismic design parameters shall be reviewed by LADBS building plan check.

38. Retaining walls shall be designed for the lateral earth pressures specified in the sections titled "12.5 Subterraneous Building Wall" and "12.6 Exterior Retaining Wall" starting on page 11 of the 07/12/2017 report. All surcharge loads shall be included into the design.

39. 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).

40. 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).

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

42. 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).

43. The structure shall be connected to the public sewer system per P/BC 2014-027.

44. In the event the site is too low to drain to the street, a] sump pump with either a bedrock-supported back-up dispersal wall or natural gas/propane powered generator are required and are not a part of this approval.

    Note: Approval will be considered upon submittal to the Grading Division of a Request for Modification by the applicant that includes the following: a map showing the final location of the sump pump; and, as applicable for dispersal walls, the proposed location and length of the bedrock-supported back-up dispersal wall and a professional opinion from the consultants that drainage from the dispersal wall will not contribute to any instability, erosion or nuisance conditions on the descending slope. P/BC 2017-103

45. All roof, pad and deck drainage shall be conducted to the street in an acceptable manner; water shall not be dispersed on to descending slopes without specific approval from the Grading Division and the consulting geologist and soils engineer (7013.10).

46. All concentrated drainage shall be conducted in an approved device and disposed of in a manner approved by the LADBS (7013.10).

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

48. Any recommendations prepared by the geologist and/or the soils engineer for correction of geological hazards found during grading shall be submitted to the Grading Division of the Department for approval prior to use in the field (7008.2, 7008.3).

49. The geologist and soils engineer shall inspect all excavations to determine that conditions anticipated in the report have been encountered and to provide recommendations for the correction of hazards found during grading (7008 & 1705.6).

50. All friction pile or caisson drilling and installation 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, 1704.9)

51. Prior to pouring concrete, a representative of the consulting soils engineer shall inspect and approve the footing excavations. The representative shall post a notice on the job site for the LADBS Inspector and the Contractor stating that the work inspected meets the conditions of the report. No concrete shall be poured until the LADBS Inspector has also inspected and approved the footing excavations. A written certification to this effect shall be filed with the Grading Division of the Department upon completion of the work. (108.9 & 7008.2)

52. Prior to excavation an initial inspection shall be called with the LADBS Inspector. During the initial inspection, the sequence of construction; shoring; ABC slot cuts; underpinning; pile installation; protection fences; and, dust and traffic control will be scheduled (108.9.1).

53. Installation of shoring, underpinning, slot cutting excavations and/or pile installation shall be performed under the inspection and approval of the soils engineer and deputy grading inspector (1705.6).

54. Prior to the placing of compacted fill, a representative of the soils engineer shall inspect and approve the bottom excavations. The representative shall post a notice on the job site for the LADBS Inspector and the Contractor stating that the soil inspected meets the conditions of the report. No fill shall be placed until the LADBS Inspector has also inspected and approved the bottom excavations. A written certification to this effect shall be included in the final compaction report filed with the Grading Division of the Department. All fill shall be placed under the inspection and approval of the soils engineer. A compaction report together with the approved soil report and Department approval letter shall be submitted to the Grading Division of the Department upon completion of the compaction. In addition, an Engineer's Certificate of Compliance with the legal description as indicated in the grading permit and the permit number shall be included (7011.3).

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

CASEY LEE JENSEN
Engineering Geologist Associate II

DAN L. STOICA
Geotechnical Engineer I

CLJ/DLS:clj/dls
Log No. 98967
213-482-0480

cc: C. Y. Geotech, Inc., Project Consultant
LA District Office