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201 NORTH FIGUEROA STREET  
LOS ANGELES, CA 90012

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EXECUTIVE OFFICER

## GEOLOGY AND SOILS REPORT APPROVAL LETTER

December 12, 2016

LOG # 95255-01  
SOILS/GEOLOGY FILE - 2  
LIQ

OPC 8001 Beverly, LLC  
6400 S. Fiddlers Green Circle, Suite 1820  
Greenwood Village, CO 80111

TRACT: 6790  
LOT(S): 345, FR 347 (8001-8003-8005), FR 348 (8007-8009-8011), 349 (8015)  
LOCATION: 7967, 8001-8011, 8015 W. Beverly Blvd

<u>CURRENT REFERENCE REPORT/LETTER(S)</u>	<u>REPORT No.</u>	<u>DATE(S) OF DOCUMENT</u>	<u>PREPARED BY</u>
Geology/Soils Report	11143.002	11/22/2016	Leighton Consulting
<u>PREVIOUS REFERENCE REPORT/LETTER(S)</u>	<u>REPORT No.</u>	<u>DATE(S) OF DOCUMENT</u>	<u>PREPARED BY</u>
Dept. Correction Letter	95255	11/02/2016	LADBS
Geology/Soils Report	11143.002	10/06/2016	Leighton Consulting

The Grading Division of the Department of Building and Safety has reviewed the referenced reports dated November 22, 2016, and October 6, 2016, that provides recommendations for the proposed multi-level residential/ commercial, and subterranean parking structures. The western parcel ( 8001 – 8011 & 8015 W Beverly Blvd.) is proposed to consist of 5 levels of commercial/ retail / parking with 3 parking levels planned below grade (to a total of 48 below the existing ground level). The eastern parcel (7967 W. Beverly Blvd.) is proposed to consist of 5 levels of parking with 2 parking levels planned below grade, with a portion of ground level including commercial/retail space. The depth of groundwater was found to be 11 feet below the ground surface, at the time of the consultants' 2015 subsurface exploration.

The earth materials at the subsurface exploration locations consist of up to 7 feet of uncertified fill underlain by older alluvium.

The consultants recommend to support the proposed structure(s) on conventional and/or drilled-pile foundations bearing on native undisturbed soils.

The site is located in a designated liquefaction hazard zone as shown on the Seismic Hazard Zones map issued by the State of California. The Liquefaction study included as a part of the report/s demonstrates that the site does not possess a liquefaction potential. This satisfies the requirement of the 2014 Los Angeles City Building Code Section 1802.2.7.

The referenced reports dated November 22, 2016, and October 6, 2016, are acceptable, provided the following conditions are complied with during site development:

(Note: Numbers in parenthesis ( ) refer to applicable sections of the 2014 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 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)
2. All recommendations of the report(s) that are in addition to or more restrictive than the conditions contained herein shall be incorporated into the plans.
3. 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. Submit one copy of the above reports to the Building Department Plan Checker prior to issuance of the permit. (7006.1)
4. A grading permit shall be obtained for all structural fill and retaining wall backfill. (106.1.2)
5. 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 (D1556). Placement of gravel in lieu of compacted fill is allowed only if complying with Section 91.7011.3 of the Code. (7011.3)
6. Existing uncertified fill shall not be used for support of footings, concrete slabs or new fill. (1809.2, 7011.3)
7. Drainage in conformance with the provisions of the Code shall be maintained during and subsequent to construction. (7013.12)
8. 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 cu yd. (7007.1)  

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9. All loose foundation excavation material shall be removed prior to commencement of framing. Slopes disturbed by construction activities shall be restored. (7005.3)
10. The applicant is advised that the approval of this report does not waive the requirements for excavations contained in the State Construction Safety Orders enforced by the State Division of Industrial Safety. (3301.1)
11. The soils engineer shall review and approve the shoring plans prior to issuance of the permit. (3307.3.2)
12. 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.
13. Unsurcharged temporary excavations over 5 feet shall be trimmed back at a gradient not exceeding 1(H):1(V), or shored, as recommended.

14. Temporary shoring shall be designed for the lateral earth pressure of 35 pcf for cantilevered shoring as specified on page 3 of the November 22, 2016, referenced report; all surcharge loads shall be included into the design. Total lateral load on shoring piles shall be determined by multiplying the recommended EFP by the pile spacing.
15. A shoring monitoring program shall be implemented to the satisfaction of the soils engineer.
16. All foundations shall derive entire support from competent alluvium, as recommended and approved by the geologist and soils engineer by inspection.
17. Foundations adjacent to a descending slope steeper than 3:1 (H:V) 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)
18. Buildings adjacent to ascending slopes steeper than 3:1 (H:V) in gradient shall be set back from the toe of the slope a level distance equal to one-half the vertical height of the slope, but need not exceed 15 feet (1808.7.1)
19. Footings supported on approved compacted fill or expansive soil shall be reinforced with a minimum of four (4) ½-inch diameter (#4) deformed reinforcing bars. Two (2) bars shall be placed near the bottom and two (2) bars placed near the top.
20. The foundation/slab design shall satisfy all requirements of the Information Bulletin P/BC 2014-116 "Foundation Design for Expansive Soils" (1803.5.3). Note: Soils with an Expansion Index greater than 20 are considered to be expansive, in accordance with Section 1803.5.3 of the 2014 LABC.
21. Pile caisson and/or isolated foundation ties are required by Code Sections 1809.13 and/or 1810.3.13. Exceptions and modification to this requirement are provided in Information Bulletin P/BC 2014-030.
22. When water over 3 inches in depth is present in drilled pile holes, a concrete mix with a strength of 1000 p.s.i. over the design p.s.i. shall be tremied from the bottom up; an admixture that reduces the problem of segregation of paste/aggregates and dilution of paste shall be included. (1808.8.3)
23. Mat foundations shall be utilized as recommended on page 20 of the October 6, 2016, referenced report.
24. Slab on uncertified fill shall be designed as a structural slab. (7011.3)
25. Slabs placed on approved compacted fill shall be at least 5 inches thick and shall be reinforced with 3/8-inch diameter (#3) reinforcing bars spaced maximum of 24 inches on center each way. Vapor barriers shall be utilized as recommended.
26. The seismic design shall be based on a Site Class D as recommended. All other seismic design parameters shall be reviewed by LADBS building plan check.
27. Prior to issuance of a permit involving de-watering, clearance shall be obtained from the Department of Public Works and from the California Regional Water Quality Control Board.

28. The area shall be de-watered under the direction of the consultants prior to beginning the excavation. Note, that a permit from the State of California Regional Water Quality Control Board and Department of Public Works shall be obtained to discharge the water into a storm drain.

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29. Retaining walls up to 12 feet in height and with a level backfill shall be designed for a minimum EFP as specified on page 23 of the October 6, 2016, referenced report. All surcharge loads shall be incorporated into the design.
30. All retaining walls shall be provided with a standard surface backdrain system and all drainage shall be conducted to the street in an acceptable manner and in a non-erosive device. (7013.11)
31. This letter approves exclusively the option in which the structure is designed to withstand hydrostatic pressures, as a measure to control groundwater under permanent conditions.
32. The proposed subterranean structure shall be supported on a mat foundation designed to resist uplift hydrostatic pressures that would develop due to the historic high groundwater level at a depth of 10 feet below the existing ground surface.
33. The below-grade building walls shall be designed to resist the hydrostatic pressure that would develop if the groundwater level rose to the historic high groundwater level of 10 feet below the existing ground surface, as recommended. For that portion of the retaining walls above the historically-high groundwater level, a subdrain system may be installed. If the subdrain system is not installed above the historically-high groundwater level, then the walls shall be designed for the full hydrostatic pressure from top to bottom.
34. Installation of the subdrain system shall be inspected and approved by the soils engineer of record and the City grading/building inspector. (108.9)
35. Basement walls and floors shall be waterproofed/damp-proofed with an L.A. City approved "Below-grade" waterproofing/damp-proofing material with a research report number. (104.2.6)
36. Prefabricated drainage composites (Miradrain) (Geotextiles) may be only used in addition to traditionally accepted methods of draining retained earth.
37. Where the ground water table is lowered and maintained at an elevation not less than 6 inches below the bottom of the lowest floor, or where hydrostatic pressures will not occur, the floor and basement walls shall be damp-proofed. Where a hydrostatic pressure condition exists, and the design does not include a ground-water control system, basement walls and floors shall be waterproofed. (1803.5.4, 1805.1.3, 1805.2, 1805.3)
38. All roof and pad 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)
39. All concentrated drainage shall be conducted in an approved device and disposed of in a manner approved by the LADBS. (7013.10)
40. 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 utilization in the field. (7008.2, 7008.3)

41. 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)
42. 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 alluvium in a written field memorandum. (1803.5.5, 1704.9)
43. Prior to the pouring of concrete, a representative of the consulting soils engineer shall inspect and approve the footing excavations. He/She shall post a notice on the job site for the LADBS Building Inspector and the Contractor stating that the work so inspected meets the conditions of the report, but that no concrete shall be poured until the City Building 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)
44. Prior to excavation, an initial inspection shall be called with LADBS Inspector at which time sequence of construction, shoring, pile installation, protection fences and dust and traffic control will be scheduled. (108.9.1)
45. Installation of shoring and/or pile installation shall be performed under the inspection and approval of the soils engineer and deputy grading inspector. (1705.6)
46. Prior to the placing of compacted fill, a representative of the soils engineer shall inspect and approve the bottom excavations. He/She shall post a notice on the job site for the City Grading Inspector and the Contractor stating that the soil inspected meets the conditions of the report, but that no fill shall be placed until the LADBS Grading 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)
47. No slab shall be poured until the compaction report is submitted and approved by the Grading Division of the Department.



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