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SOILS REPORT APPROVAL LETTER

November 27, 2017

LOG # 100703
SOILS/GEOLOGY FILE - 2

DMH Investment Group, Inc.
c/o Davood Haddadi
8237 Roxbury Road
Los Angeles, CA 90069

TRACT: 2140
LOT(S): FR 45 (arb. 2), FR 46, FR 47 & FR 48
LOCATION: 3216 W. 8th Street

<u>CURRENT REFERENCE</u> <u>REPORT/LETTER(S)</u>	<u>REPORT</u> <u>No.</u>	<u>DATE(S) OF</u> <u>DOCUMENT</u>	<u>PREPARED BY</u>
Soils Report	1586-S	10/23/2017	Pacific Geotech, Inc.

The Grading Division of the Department of Building and Safety has reviewed the referenced report that provides recommendations for the proposed mixed use building, 6-stories in height over 3 to 4-levels of subterranean parking garage, as shown on Plates 3 & 4 in the referenced report. The basement floor will be approximately 40 feet below grade according to the consultants.

Five borings to depths of 50 feet were performed. The earth materials at the subsurface exploration locations consist of alluvium underlain by sandstone bedrock that was encountered at a depth of 39 feet. Groundwater was not encountered to the maximum depths explored, and historically highest groundwater is at about 20 feet below the surface per the consultants. The site is relatively level.

The consultants recommend to support the proposed structure(s) on conventional foundations bearing in competent bedrock. An underdrain system is recommended by the consultants to be installed below the subterranean level slab (see pg. 6 of the referenced report).

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

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2. Approval shall be obtained from the utility company with regard to proposed construction within or adjacent to the utility easement along the eastern property line. (7006.6)
3. In the event tie-back anchors are utilized for shoring purposes, then provide a notarized letter from all adjoining property owners allowing tie-back anchors on their property. (7006.6)
4. The soils engineer shall review and approve the detailed plans prior to issuance of any permit. This approval shall be by signature on the plans that clearly indicates the soils engineer has reviewed the plans prepared by the design engineer and that the plans included the recommendations contained in the soils report. (7006.1)
5. 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.
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. Submit one copy of the above reports to the Building Department Plan Checker prior to issuance of the permit. (7006.1)
7. A grading permit shall be obtained for all structural fill and retaining wall backfill. (106.1.2)
8. 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)
9. Existing uncertified fill, if any, shall not be used for support of footings, concrete slabs or new fill. (1809.2, 7011.3)
10. Drainage in conformance with the provisions of the Code shall be maintained during and subsequent to construction. (7013.12)
11. 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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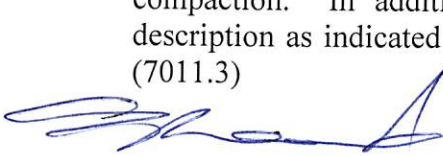
12. All loose foundation excavation material shall be removed prior to commencement of framing. (7005.3)

13. 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)
14. 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)
15. Prior to the issuance of any permit which 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)
16. The soils engineer shall review and approve the shoring plans prior to issuance of the permit. (3307.3.2)
17. 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.
18. Shoring shall be designed for the lateral earth pressures specified in the section titled "Shoring" starting on page 10, and Plates 6 & 7, of the 10/23/2017 report; all surcharge loads shall be included into the design.
19. 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.
20. A shoring monitoring program shall be implemented to the satisfaction of the soils engineer.
21. All foundations shall derive entire support from competent bedrock, as recommended and approved by the soils engineer by inspection.
22. Slabs shall be at least 4 inches thick and shall be reinforced with ½-inch diameter (#4) reinforcing bars spaced maximum of 12 inches on center each way, as recommended.
23. An underdrain system shall be installed below the subterranean level slab, as recommended on page 6 of the 10/23/2017 report.
24. 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.

25. Retaining walls shall be designed for the lateral earth pressures specified in the section titled "Basement/Retaining Wall" starting on page 7 of the 10/23/2017 report. All surcharge loads shall be included into the design.
26. Retaining walls higher than 6 feet shall be designed for lateral earth pressure due to earthquake motions as specified on page 8 of the 10/23/2017 report (1803.5.12).

Note: Lateral earth pressure due to earthquake motions shall be in addition to static lateral earth pressures and other surcharge pressures.
27. Basement walls and other walls in which horizontal movement is restricted at the top shall be designed for at-rest pressure as specified on page 7 of the 10/23/2017 report (1610.1). All surcharge loads shall be included into the design.
28. 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)
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 soil 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 L.A. 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. 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)
34. The structure shall be connected to the public sewer system. (P/BC 2014-027)
35. All site water including roof and pad drainage shall be conducted in non-erosive devices to the street or other approved location in a manner that is acceptable to the LADBS & the Department of Public Works. (7013.10)
36. An on-site storm water infiltration system at the subject site shall not be implemented, as recommended.
37. All concentrated drainage shall be conducted in an approved device and disposed of in a manner approved by the LADBS. (7013.10)

38. The 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)
39. 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)
40. Prior to excavation, an initial inspection shall be called with LADBS Inspector at which time sequence of construction, shoring, protection fences and dust and traffic control will be scheduled. (108.9.1)
41. Installation of shoring shall be performed under the inspection and approval of the soils engineer and deputy grading inspector. (1705.6)
42. The installation and testing of tie-back anchors shall comply with the recommendations included in the report or the standard sheets titled "Requirement for Tie-back Earth Anchors", whatever is more restrictive. (Research Report #23835)
43. 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)



GLEN RAAD
Geotechnical Engineer I

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cc: Sean Yoon, Applicant
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LA District Office