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EXECUTIVE OFFICER

SOILS REPORT APPROVAL LETTER

February 17, 2017

LOG # 96868
SOILS/GEOLOGY FILE - 2
LIQ

5297 Marina Island, LLC.
5300 Beethoven St., 3rd Floor
Los Angeles, CA 90066

TRACT: TR1100 // RECORD OF SURVEY (RS 55-41) // RANCHO LA
BALLONA (D C C 965 C F 16 MAP 5762)
LOT(S): FR 1 (arb 1&2) // arb 4 // FRJACINTO TALAMANTES 17 ACRES (arb
301 & 432)
LOCATION: 5000 S BEETHOVEN ST.

<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	BG 22590	02/10/2017	Byer Geotechnical, Inc.
Oversized Doc(s).	"	"	"

The Grading Division of the Department of Building and Safety has reviewed the referenced report that provides recommendations for the proposed five-story residential building over a subterranean parking level and a swimming pool. According to the referenced report, the finished grade of the subterranean parking level is planned at elevation +9.0 feet above mean sea level. The historical-high groundwater level is at elevation +7.0 feet above mean sea level. The current groundwater varies from -2.8 feet to -0.5 feet above mean sea level. Retaining walls up to 12-feet high are planned to support the excavation for the subterranean parking level.

The earth materials at the subsurface exploration locations consist of up to 16 feet of uncertified fill underlain by clay, sandy clay, silty sand, sandy silt, and gravelly sand.

The consultants recommend to support the proposed residential structure on conventional foundations bearing on native undisturbed soils. The swimming pool will be supported on properly placed fill.

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 demonstrates that the site soils are subject to liquefaction. The earthquake induced total and differential settlements are calculated to be 0.53 and 0.27 inches, respectively. However, these

settlement magnitudes are considered by the Department to be within acceptable levels. The requirements of the 2017 City of Los Angeles Building Code have been satisfied.

The referenced report stated that “access to the site will be provided via a future vehicle bridge to be built over Centinela Creek from the terminus of Beethoven Street”. However, no recommendations were provided for the proposed bridge, therefore, the proposed bridge is not part of this approval.

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. Prior to the issuance of any permit, a supplemental report containing geotechnical recommendations for the access bridge shall be submitted to the Grading Division of the Department of Building and Safety for review and approval.
2. Prior to recordation of the map and issuance of any permits, secure necessary approval from the Department of City Planning for the proposed residential development.

200 N. Spring Street, Room # 763

(213) 978-1362.

3. Prior to recordation of the map and issuance of any permits, secure necessary approval from the LA County Flood Control District and any other relevant agencies for constructions adjacent to Centinela Creek and Ballona Creek.
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 his report. (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. 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 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. 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)
12. Temporary excavations that remove lateral support to the public way, adjacent property, or adjacent structures shall be supported by shoring. 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)
13. 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)
14. The soils engineer shall review and approve the shoring plans prior to issuance of the permit. (3307.3.2)
15. Prior to the issuance of the permits, the soils engineer and the structural designer shall evaluate all applicable surcharge loads for the design of the retaining walls and shoring.
16. Unsurcharged temporary excavations over 5 feet exposing alluvium shall be trimmed back at a gradient not exceeding 1:1, as recommended. Temporary excavations in fill shall be trimmed back at a gradient not exceeding 1:1.
17. Shoring shall be designed for a minimum EFP of 30 PCF; all surcharge loads shall be included into the design, as recommended.
18. 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.
19. A shoring monitoring program shall be implemented to the satisfaction of the soils engineer.
20. Foundations for the proposed residential structure shall derive entire support from native undisturbed soils, as recommended and approved by the geologist and soils engineer by inspection. The proposed swimming pool shall be supported on properly placed fill.
21. 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.
22. The foundation/slab design shall satisfy all requirements of the Information Bulletin P/BC 2014-116 "Foundation Design for Expansive Soils" (1803.5.3).

23. Slabs placed on approved compacted fill shall be at least 3½ inches thick and shall be reinforced with ½-inch diameter (#4) reinforcing bars spaced maximum of 16 inches on center each way.
24. Concrete floor slabs placed on expansive soil shall be placed on a 4-inch fill of coarse aggregate or on a moisture barrier membrane.
25. 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.
26. Retaining walls shall be designed for the lateral earth pressures specified in the section titled "Retaining Walls" starting on page 20 of the referenced report. All surcharge loads shall be included into the design.
27. 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)
28. 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)
29. Installation of the subdrain system shall be inspected and approved by the soils engineer of record and the City grading/building inspector. (108.9)
30. 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)
31. Prefabricated drainage composites (Miradrain) (Geotextiles) may be only used in addition to traditionally accepted methods of draining retained earth.
32. The pool shall be designed for expansive soil conditions in accordance with Information Bulletin P/BC 2014-014.
33. The proposed swimming pool shall be designed for a freestanding condition. (1808.7.3)
34. Pool deck drainage shall be collected and conducted to an approved location via a non-erosive device. (7013.10)
35. The structure shall be connected to the public sewer system. (P/BC 2014-027)
36. 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)
37. An on-site storm water infiltration system at the subject site shall not be implemented, as recommended.

38. All concentrated drainage shall be conducted in an approved device and disposed of in a manner approved by the LADBS. (7013.10)
39. 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)
40. 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)
41. Prior to excavation, an initial inspection shall be called with LADBS Inspector at which time sequence of construction, [shoring, ABC slot cuts, underpinning, pile installation,] protection fences and dust and traffic control will be scheduled. (108.9.1)
42. 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)
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)
44. 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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Geotechnical Engineer I

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Log No. 96868

213-482-0480

cc: Byer Geotechnical, Inc., Project Consultant
WL District Office