CITY OF LOS ANGELES
CALIFORNIA

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

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EXECUTIVE OFFICER

GEOLOGY AND SOILS REPORT APPROVAL LETTER

January 18, 2018

LOG # 97204-01
SOILS/GEOLOGY FILE - 2
LAN

A and T Development LLC
23622 Calabasas Road, #100
Calabasas, CA 91302

PROPOSED LEGAL: PS-1437 (Private Street)
CURRENT LEGAL: NE ¼ SEC 7 T1S R14W Arbs. 22, 23, 24 and 27
LOCATION: 1830 N. Blue Heights Drive (aka 1820, 1849 and 1850 N. Blue Heights Drive)

CURRENT REFERENCE REPORT/LETTER	REPORT No.	DATE OF DOCUMENT	PREPARED BY
Revised Geologic Maps	GH17563-G	01/12/2018	Grover Hollingsworth
Oversized Documents	``	``	``
Addendum Report	``	10/23/2017	``
Oversized Documents	``	``	``
Response Report	``	07/18/2017	``
Oversized Documents	``	``	``

PREVIOUS REFERENCE REPORT/LETTER(S)	REPORT No.	DATE OF DOCUMENT	PREPARED BY
Dept. Correction Letter	97204	05/18/2017	LADBS
Geology/Soils Report	GH17563-G	04/20/2017	Grover Hollingsworth
Dept. Approval Letter	94559-01	12/14/2016	LADBS
Response Report	GH17563-G	11/15/2016	Grover Hollingsworth
Geology/Soils Report	``	08/04/2016	``

The Grading Division of the Department of Building and Safety has reviewed the current reference report that provides recommendations for the proposed private street improvements (road widening), retaining walls and soil nail walls for Private Street Map No. 1437 (PS-1437) to support access to a 4+ story single family residence (1830 N. Blue Heights Drive) with ramp/parking structural decks, bowling alley, garage, pool, decks, retaining walls, etc. The proposed private street improvements include fill removal and recompaction grading; slope trimming/scaling to prepare the surface for soil nail walls; retaining walls and slough/impact walls with 5 foot of freeboard. The subject private street is located on several lots with easements that grant access to the subject and adjacent sites that extends from Sunset Plaza Drive to the subject lots.

The earth materials at the subsurface exploration locations consist of up to 23 feet of uncertified fill underlain by up to 5 feet of natural residual soil and granite bedrock. The consultants recommend to support the proposed structures on conventional and/or drilled-pile foundations bearing on competent bedrock.

The referenced reports are 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, the owner shall record a notarized affidavit with the Los Angeles County Registrar-Recorder/County Clerk regarding the soil nail wall to be located as shown on Geologic Map 1 and Geologic Map 2, of the 01/12/2018 report. The soil nail length is also summarized on page 2 of 10/23/2017 report. The owner shall acknowledge the restricted excavation areas and agree that any utility/line excavation shall have a minimum setback of 5 feet measured horizontally from the vertical projection of the soil nails end.

2. Prior to recordation of the map and issuance of any permits, secure the necessary approval from the Subdivision Section of the Department of City Planning for the proposed private street.

3. Prior to recordation of the private street map, a bond shall be posted for the proposed grading and construction.

4. 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.

5. 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).

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

7. 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.

8. A grading permit shall be obtained for all structural fill and retaining wall backfill (106.1.2).

9. 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.

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

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

12. 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

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

14. 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).

15. Excavations shall not remove lateral support from a public way, adjacent property or an existing structure. 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)

16. A supplemental report shall be submitted to the Grading Division of the Department containing recommendations for shoring, underpinning, and sequence of construction in the event that any excavation would remove lateral support to the public way, adjacent property, or adjacent structures (3307.3). A plot plan and cross-section(s) showing the construction type, number of stories, and location of the structures adjacent to the excavation shall be part of the excavation plans (7006.2).

17. 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).

18. 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.

19. Unsurcharged temporary excavations over exposing fill or soil shall be trimmed back at a gradient not exceeding 1:1, as recommended.

20. Unsurcharged temporary excavation may be cut vertical up to 12 feet in competent favorably oriented bedrock as determined by the project geologist. For excavations over 12 feet in competent favorably oriented bedrock, the lower 12 feet may be cut vertically and the portion of the excavation above 12 feet shall be trimmed back at a gradient not exceeding 1:1, as recommended.

21. The proposed soil nail wall shall be capable to support the full lateral pressure (EFP) of 40 pcf for a conventional cantilever retaining wall design, as recommended on page 25 of the 04/20/2017 report.

22. The sequence of construction recommended on page 30 of the 04/20/2017 report shall be noted on the plans and reviewed and approved by the soils engineer.

23. Verification nails shall be installed and tested prior to installation of any production nails.

24. Soil nail spacing shall be limited to a maximum of 10 feet center to center, as recommended.

25. Soil-nail anchors shall be a minimum of 1-inches in diameter and varies from 14 to 26 feet in total length, as recommended.

26. All soil nails shall derive their entire support from the bedrock, as recommended.

27. Grout mix and installation procedures for production nails shall be identical to those of test nails.

28. Shotcrete shall be in accord with Information Bulletin P/BC 2014-051 and LABC Section 1910.

29. Soil nail design shall use a maximum ultimate bond stress of 5,000 PSF and 6,500 PSF for static and seismic conditions, respectively, as recommended, or the lowest value from the testing.

30. Prior to the grouting of soil-nails, a representative of the soils engineer shall inspect and approve the nail excavations. Inspection shall include logging of the diameter, depth, location, and condition of each drilled hole. Prior to grouting the Soil Engineer shall post a notice on the job site for the City Building Inspector and the Contractor stating that the work so inspected meets the conditions of the report. No concrete or grout shall be placed until the Department of Building & Safety Inspector also has inspected and approved the nail excavation and installation. A written certification by the Soils Engineer that the work so inspected meets the conditions of the report shall be filed with the Department upon completion of the work.

31. Production nails shall be fully encapsulated using a double grouted corrugated plastic sheath approved by the soils engineer and accepted by the Department.

32. Nail corrosion protection shall be provided and approved by a licensed corrosion engineer.

33. Geocomposite drainage material shall consist of 2-foot wide strips of Miradrain 6000 between nails to the full height of the wall, and comply with drawing.

34. Nail testing shall as a minimum satisfy Section 8 of the draft document "Recommended Guidelines for Permanent Soil Nails," dated 8/23/2000 by the California Soil Nail Committee, and "Soil Nail Walls - Reference Manual", Publication No. FHWA-NHI-14-007, dated February, 2015 by U.S. Department of Transportation, Federal Highway Administration.

    No less than 5 percent of the production soil-nails installed shall be proof tested to a test load of 150% of the calculated design capacity to verify bond stress. The wall and nail design shall accommodate such testing. At least 2 verification nails shall be installed and tested to verify the installation methods, soil conditions, etc. Test nails shall have both bonded and un-bonded portions. The nails used for the verification tests shall be sacrificial and not be incorporated into the production piles.

35. No soil nail testing shall be performed until the concrete and grout have achieved a 3-day cure time or minimum 1,000 psi compressive strength.

36. The soil engineer shall inspect and approve the testing of all test soil nails. The soil engineer shall keep a record of all test loads and anchor movements and certify to their accuracy. This record shall be kept on the job site and be available for inspection by the Building Inspector.

37. A registered deputy grading inspector approved by and responsible to the project soils engineer shall be required to provide inspection for any proposed soil-nailing[, shoring, or drilling and installation of deep foundations]. Unloading, handling, and storage of the soil nails shall be performed under the inspection of the deputy grading inspector.

38. The maximum acceptable deflections of the bar end during each type of soil nail testing shall be tabulated and presented on the plans.

39. Wall performance shall be monitored as recommended. Instrument readings shall be taken on 6-month intervals for the first two years.

40. An "As-Built" plan approved and signed by the soils engineer shall be submitted to the Department of Building and Safety upon completion of wall construction.

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

42. 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). Where the slope is steeper than 1:1, the required setback shall be measured from an imaginary plane 45 degrees to the horizontal, projected upward from the toe of the slope.

43. 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). Where the slope is steeper than 1:1, the toe of the slope shall be assumed to be at the intersection of a horizontal plane drawn from the top of the foundation and a plane drawn tangent to the slope at an angle of 45 degrees to the horizontal.

44. 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.

45. 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.

46. 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.

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

48. 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.

49. Retaining walls shall be designed for the lateral earth pressures specified in the section titled "Retaining Walls" starting on page 22 of the 04/20/2017 report. All surcharge loads shall be included into the design.

50. 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).

51. 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).

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

53. All drainage shall be conducted to a public 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).

54. An on-site storm water infiltration system at the subject site shall not be implemented, as recommended.

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

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

57. 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).

58. 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).

59. 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)

60. 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)

61. Prior to excavation an initial inspection shall be called with the LADBS Inspector. During the initial inspection, the sequence of construction; pile installation; soil nail installation; protection fences; and, dust and traffic control will be scheduled (108.9.1).

62. Installation of soil nail installation, 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).

63. 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).

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