Exhibit D

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LIB190076

SOIL SURVEYS GROUP INC.

103 CHURCH ST • SALINAS, CALIFORNIA 93901 • TELEPHONE (831) 757-2172

October 24, 2018
Job #7159

Emerson Development Group, Inc.
Attn: Mr. Chris Adamski
P.O. Box 5837
Carmel, CA 93921

Dear Mr. Adamski:

Submitted herewith is the report of our Geotechnical Investigation for the proposed new two story residence to be located at 2692 15th Avenue, APN 009-393-015, in Carmel, California. Two borings were drilled on August 6, 2018, for geotechnical investigation purposes. Laboratory tests were subsequently made on driven soil core samples taken from the borings to determine the near surface and subsurface soil conditions and suitability for the construction of the proposed new residence. We find that the project site is suitable for the proposed use with the recommendations made herein.

It is a pleasure working with you on this project. If you have any questions regarding our geotechnical investigation or this report, please contact us.

Very truly yours,

SOIL SURVEYS GROUP, INC.

REGISTERED PROFESSIONAL ENGINEER BELINDA A. TALUBAN No. 44217 Exp 6/30/19 CIVIL STATE OF CALIFORNIA

Belinda A. Taluban, P.E.
R.C.E. 44217

CERTIFIED ENGINEERING GEOLOGIST MICHELLE GARCIA NO. 2668 Exp 3/31/19 STATE OF CALIFORNIA

Michelle M. Garcia, C.E.G.
Engineering Geologist 2668

BAT/MMG/ke

cc. Monterey County Resource Management Agency Divisions of Planning and Building Inspection
Samuel Pitnick, Architect

TABLE OF CONTENTS

SOIL SURVEYS GROUP INC.

103 CHURCH ST • SALINAS, CALIFORNIA 93901 • TELEPHONE (831) 757-2172

GEOTECHNICAL INVESTIGATION

FOR THE PROPOSED NEW TWO STORY RESIDENCE

TO BE LOCATED AT 2692 15TH AVENUE

APN 009-393-015

CARMEL, CALIFORNIA

FOR EMERSON DEVELOPMENT GROUP, INC.

OCTOBER 24, 2018; JOB #7159

I. INTRODUCTION:

This Geotechnical Investigation was made to determine the suitability of the soils at the project site for the proposed new two story residence to be located at 2692 15th Avenue, APN 009-393-015, in Carmel, California. Two borings were drilled on August 6, 2018, for geotechnical investigative purposes. Core samples were taken from the borings for laboratory testing. The boring logs, our field observations, and field and laboratory test data were analyzed to determine the following:

1. **Suitability of the soils at the project site for the proposed new two story residence.**
2. **Unsuitable or unstable soil conditions, if any.**
3. **Foundation design criteria for the proposed two story residence.**
4. **Subsurface groundwater and soil moisture considerations.**
5. **Surface drainage considerations.**
6. **Analysis of seismic hazards and seismic design factors per the 2016 California Building Code.**

II. LABORATORY TEST DATA[1]:

Twenty moisture density tests were made from the driven core samples. Standard Penetration Tests (SPT) were performed with a Terzaghi Split Spoon sampler. Core samples in Boring 1 were also taken with a 2 ½-inch interior diameter (i.d.) Modified California Sampler driven into the soil by a 140 lb. hammer dropped a vertical distance of 30 inches at the sample location. Core samples in Boring 2 were also taken with a 2-inch interior diameter (i.d.) Modified California Sampler and driven into the soil by a 35 lb. hammer dropped a vertical distance of 30 inches at the sample location. Results of these tests are shown as follows:

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[1] Boring Logs are located in Appendix A

MOISTURE DENSITY TESTS					
Boring No.	Depth/ Ft.	Water Content %	Dry Density p.c.f.	Standard penetration Tests, Blows /foot	Pocket Penetrometer Tons S.F.
B-1	1.5-2	14.8	97.8	7(4)*	0.75
B-1	2-2.5	19.0	105.1	11(7)*	2.25
B-1	3.5-4	19.0	105.5	12	1.5
B-1	6-6.5	11.4	100.3	32	1.75
B-1	9.5-10	11.5	125.1	32	0.75
B-1	14.5-15	36.3	82.7	11	1.5
B-1	19.5-20	40.8	85.7	13	0.75
B-1	24.5-25	50.9	70.4	22	2.5
B-1	29.5-30	43.0	73.3	16	3.25
B-1	34-34.5	82.1	47.0	14	2.0
B-1	34.5-35	42.8	70.0	20	2.25
B-1	39.5-40	45.6	80.4	28	2.25
B-1	44.5-45	38.6	82.6	36	2.5
B-1	49.5-50	42.4	80.3	28	2.75
B-2	1.5-2	11.5	115.0	56(11)**+	>4.5
B-2	2-2.5	9.2	99.2	79(16)**+	>4.5
B-2	3.5-4	10.4	111.2	85(21)+	>4.5
B-2	6.5-7	29.4	88.2	56(11)**+	4.0
B-2	7-7.5	32.0	83.1	86(17)**+	3.5
B-2	8.5-9	31.3	83.5	52(13)+	1.75

*= 2.5-inch mod. Cal not SPT, ( ) = value adjusted to approximate SPT values
**= 2-inch mod. Cal not SPT, ( ) = value adjusted to approximate SPT values
+ = 35# hammer, ( ) =value adjusted to approximate SPT values

Six Sieve Analysis tests were made on driven core samples. Results of these tests are shown as follows:

A.S.T.M. D 422 SIEVE ANALYSIS TEST-Percent Passing

Boring No.	Depth/ Ft.	Sieve No. 4	Sieve No. 10	Sieve No. 20	Sieve No. 30	Sieve No. 40	Sieve No. 100	Sieve No. 200
B-1	2-2.5	100	99	94	90	85	63	50
B-1	6-6.5	92	85	54	41	32	19	14
B-1	19.5-20	100	100	100	100	100	99	81
B-1	34.5-35	100	100	97	96	95	91	87
B-2	2-2.5	100	98	85	76	68	49	41
B-2	7-7.5	100	100	100	100	100	99	96

Four plasticity index tests were performed on driven core samples. Results of these tests are as follows:

PLASTICITY INDEX TEST

Boring No.	Depth/ Feet	% Passing Sieve No. 40	% Passing Sieve No. 200	Liquid Limit	Plastic Limit	Plasticity Index
B-1	2-2.5	85	50	37	14	23
B-1	34.5-35	95	87	50	27	23
B-2	2-2.5	68	41	41	13	28
B-2	7-7.5	100	96	68	24	44

The test results for samples taken from the borings indicate that the fine fraction of the near surface and deeper subsurface silty, clayey, fine to coarse grained sands encountered in Boring 1 at 2.0 to 2.5 feet; 34.5 to 35.0 feet; and in Boring 2 at 2.0-2.5 feet; and 7.0 to 7.5 feet in depth are moderately plastic and moderately to highly expansive.

Boring 1 was located within the driveway, as shown on Figure II. The near surface soil consists of loose, silty, fine to medium grained sand to 1.5 feet in depth overlying loose to medium dense/firm to stiff, silty, clayey, fine to coarse grained sand/sandy clay to a depth of five feet. Below this depth the soil consists of dense slightly clayey, fine to coarse grained sand to a depth of 6.5 feet overlying dense, silty, fine to coarse grained sand to a depth of 13 feet in depth. Below this depth, the soil consists of medium dense/stiff, silty, fine grained sand with lenses of clay to 15 feet in depth, underlain by medium dense/stiff, clayey, silty, fine grained sand/sandy clay to a depth of 23 feet in depth. Below this depth, the soil consists of very stiff, silty, fine grained, sandy clay with peat to a depth of 25 feet, overlying medium dense/stiff to hard, silty, clayey, fine grained sand/sandy clay to the bottom of the boring at 50 feet in depth.

Boring 2 was located within the middle of the backyard, as shown on Figure II. The near surface soil consists of loose, silty, fine to medium grained sand to a depth of one foot, underlain by stiff to very stiff, silty clay with fine to coarse grained sand to a depth of 2.5 feet in depth. Below this depth, the soil consists of medium dense, silty, fine to coarse grained sand with trace clay to a depth of six feet, overlying stiff to very stiff, silty, fine grained sandy clay to a depth of eight feet underlain by medium dense/stiff, silty, sandy clay/clayey sand to the bottom of the boring at nine feet in depth.

No free groundwater was observed in the borings to a maximum explored depth of 50 feet. The actual depth to groundwater during rainy months is unknown, but it should be noted that groundwater fluctuations can occur due to variations in rainfall, temperature and other factors not evident during the time of our investigation.

III. SUITABILITY OF SITE FOR PROPOSED USE:

No unsuitable or unstable soil conditions were found at the boring location except for loose soil up to 2.5 feet in depth and moderately to highly expansive soils at footing depth. In our opinion, the site is suitable for the proposed new two-story residence with the recommendations made herein, specifically the recommendations for the recompaction of loose soil and mitigation of expansive soils.

IV. RECOMMENDED FOUNDATION DESIGN CRITERIA:

Spread footings may be used for the building foundation after the site is cleared, grubbed and the proposed building pad is graded, compacted and properly prepared. Spread footings shall be installed to a minimum depth of 18 inches for both single story and two story portions of the proposed residence. The minimum depths shall be measured from the **inside building pad soil subgrade.** Mitigation for recompaction of all loose soil conditions must be followed.

Allowable foundation pressures after recompaction of the building pad area are:

Continuous footings	**= 1500p.s.f.**
Isolated rectangular footings	**= 1800 p.s.f.**

Continuous footings shall be reinforced with four #4 steel reinforcement bars two placed near the bottom of the footing and two placed near the top of the footing. Spread footings shall also meet the minimum requirements of the 2016 California Building Code and the County of Monterey Building ordinances for width, thickness, embedment and reinforcement steel. The new two-story residence and any future building additions shall be designed in strict accordance with the requirements specified in the 2016 California Building Code, or latest approved edition, to resist seismic forces.

All concrete floor and garage slabs-on-grade shall be a minimum of five inches thick and shall be reinforced with a minimum of #3 steel reinforcement bars at 12 inches on center or #4 steel reinforcement bars placed 24 inches on center, each way and shall extend into perimeter foundation. *The reinforcement steel must be firmly held in the vertical center of the slabs during placement and finishing of concrete with pre-cast concrete dobies.* All new concrete floor slabs-on-grade shall be underlain by an approved 15 mil. vapor barrier installed over a minimum four inch thick open graded gravel capillary break with two inches of clean sand placed over the vapor barrier as recommended in Section VII-C herein. ***Concrete slabs shall have weakened plane joints a maximum of fifteen feet on center, each way. All concrete shall be properly cured with an approved curing compound or wetted burlap for a minimum of 14 days.***

Soil Surveys Group, Inc. shall inspect and approve the foundation footing excavations and the subgrade beneath concrete floor slabs for suitable soil bearing and proper penetration into competent soil. We also recommend that Soil Surveys Group, Inc. review and approve the grading, drainage and foundation plans prior to building construction.

A. Concrete Sidewalks and Outside Flatwork:

We recommend that any new on-site concrete sidewalks and outside flatwork be at least five inches thick and be placed over a compacted subgrade. All concrete flatwork should be divided into as nearly square panels as possible. Frequent joints should be installed to provide articulation to the concrete panels. Landscaping and planters adjacent to concrete flatwork should be designed in such a manner that positive drainage away from the new project buildings is achieved. It is assumed that the outside concrete flatwork will be subjected only to pedestrian traffic.

V. LOOSE AND EXPANSIVE SOIL MITIGATIONS:

To mitigate the effects of the loose near surface and moderately to highly expansive soil conditions, the following measures are recommended:

1. Existing loose soil within the proposed new building pad and extending a minimum of five feet in all directions outside of the proposed building foundations shall be subexcavated and recompacted **as necessary** to 90 percent relative compaction at the direction of Soil Surveys Group, Inc. prior to placing additional building pad fill or finishing the building pad subgrade. Soil Surveys Group, Inc. shall determine the depth of recompaction within the building perimeter as up to 2.5 feet of loose materials were encountered in the borings. Subexcavation and recompaction should be extended under any proposed patios or other permanent flatwork.

2. Spread footings shall be constructed a minimum of 18 inches deep for both single story and two story portions of the proposed residence as measured from the lowest adjacent grade, and continuous non-retaining footings shall be reinforced with four #4 reinforcement bars, two placed near the bottom and two placed near the top of footing.

3. All new concrete floor slabs-on-grade shall be a minimum of five inches thick and shall be reinforced with a minimum of #3 steel reinforcement bars at 12 inches on center or #4 steel reinforcement bars at 24 inches on center, each way and shall be bent to extend a minimum of eight inches into the perimeter footing.

4. Roof and site rain water should be directed away from the proposed building foundations. Rainfall runoff must not be allowed to collect or flow in a downslope direction against any building foundation.

5. Soil Surveys Group, Inc. shall be retained to inspect and test the recompaction of all loose native soil and new engineered fill within the building pad perimeter and shall inspect and approve foundation footing excavations for soil bearing conditions. Soil Surveys Group, Inc. shall also inspect and approve the subgrade below concrete floor and garage slabs prior to placement of reinforcing steel and shall inspect and approve the installation of all roof and yard drainage facilities.

VI. SURFACE AND SUBSURFACE DRAINAGE AND EROSION CONSIDERATIONS:

The near surface soil at the project site has the potential to erode, especially if protective vegetation is removed. Therefore all new cut and fill slopes, as well as disturbed soil areas, must be seeded with grass or landscape plants for erosion control and to prevent sloughing soil from blocking drainage patterns at the project site. Such erosion control measures shall be taken during and at completion of grading and during building construction operations.

Concentrated storm water runoff from the project site should not be allowed to discharge uncontrolled onto sloping ground. Suitable energy dissipation systems shall be designed where rainfall runoff is concentrated, or the drainage water should be collected and piped to flat ground or discharged onto a rocked energy dissipater down slope of the existing building foundations. Rock energy dissipaters consisting of four inch to six inch diameter rock or rubble rip rap should be installed at collection pipe discharge points to reduce soil erosion. Rain gutter downspouts shall discharge onto concrete splash blocks, or shall discharge into collector pipes. The building site, any new paved areas and ground adjacent to any building shall be graded so that rainfall runoff does not become trapped or flow against any project building foundations.

The boring logs do not indicate the need for a subsurface drain system. However, the Geotechnical engineer may recommend a system of subsurface drains should wet subsurface soil conditions be encountered during site preparation or excavations for any new building foundations.

VII. RECOMMENDED SPECIFICATIONS:

A. GRADING:

The building pad, extending a minimum of five feet in each direction past new foundation footings shall be cleared and grubbed of all surface vegetation, demolition debris, and organic topsoil before recompacting the original ground, placing engineered fill or finishing the subgrade for the new building pad. On site surface or subsurface grass, roots, deleterious material, or brush (if any) within any new building pad area shall be removed. Soil Surveys Group, Inc. should determine the exact depth of subexcavation necessary after clearing and grubbing are completed as up to 2.5 feet of loose material was encountered in our borings. All subexcavated soil shall then be backfilled in eight inch loose lifts and recompacted to 90 percent relative compaction, prior to placing engineered fill or finishing subgrade of the new building pads.

Any new cut and fill slopes shall be 2:1 or flatter unless retained. The native soil is suitable to be used as engineered fill provided any organics or debris are first removed from the soil to be used as fill. Any native soil used for fill, or any imported fill soil for the new building pad shall be compacted to at least 90 percent relative compaction, and any cut portions of the new building pad, if located within both cut and fill, shall be subexcavated a minimum of two feet, backfilled in eight inch loose lifts and recompacted to a minimum of 90 percent relative compaction. Any fills placed on slope grades of 5:1 or greater shall be provided with a keyway excavated a minimum of two feet below grade, a minimum of 10 feet wide and at a 2% slope into the slope. The bottom of the keyway should be moisture conditioned, compacted (if necessary) and approved by Soil Surveys Group, Inc. prior to backfilling in eight inch loose lifts and compacting the backfill to 90 percent relative compaction. ***Grading, filling, compaction operations and foundation excavations shall be inspected and tested by Soil Surveys Group, Inc.***

B. COMPACTION:

Laboratory soils compaction test method shall be *A.S.T.M. D 1557-12.* Subgrade *in existing soil* beneath the new building pad shall be compacted to 90 percent relative compaction unless waived by the Geotechnical engineer. Subgrade soil below any new pavement shall also be compacted to 95 percent relative compaction, and aggregate base beneath new pavement shall be compacted to 95 percent relative compaction. Any imported sandy soil fill placed for the new building pad shall be compacted to a minimum of 95 percent relative compaction.

C. CONCRETE FLOOR SLABS-ON-GRADE:

Subgrade in recompacted soil under any new concrete floor slabs-on-grade shall be brought to at least 2% over optimum moisture prior to placing native or imported sandy soil fill, prior to placing the capillary break rock and moisture proof barrier or prior to pouring concrete. We recommend that a capillary break consisting of:

- a mat of clean, open graded rock, four inches thick, shall be placed over the finished soil subgrade
- a minimum 15 mil. water-proof membrane (such as Stego, Moistop or equal) shall be placed over the open graded rock
- two inches of clean, moistened sand shall be placed between the water-proof membrane and the bottom of the concrete floor slab. The moistened sand will help protect the membrane and will assist in equalizing the concrete curing rate to minimize shrinkage cracking.

Class 2 Aggregate Base or sand should not be used as the capillary break material. Capillary break material shall comply with and be installed according to the following:

1. MATERIAL:

   The mineral aggregate for use under the floor slabs shall consist of broken stone, crushed or uncrushed gravel, quarry waste, or a combination of the above. The aggregate shall be free of adobe, vegetable matter, loam, volcanic tuff and other deleterious materials. It shall be of such quality that the absorption of water in a saturated, surface dry condition does not exceed 3% of the oven dry weight of the sample.

2. GRADING:

   The mineral aggregate shall be of such size that the percentage composition by dry weight as determined by laboratory sieves (U.S. Sieves) will conform to the following grading:

Sieve Size	Percentage Passing Sieve
⅜" to ½"	100
No. 4	0-10
No. 200	0-2

3. PLACING:

   Subgrade, upon which aggregate base, gravel or crushed rock is to be placed, shall be prepared by removing grass and roots. Where loose topsoil is present, it shall be removed and cleaned of debris and recompacted to 90 percent of maximum density.

4. THICKNESS AND STRENGTH:
   Concrete slabs should be at least five inches thick. Concrete shall be five sack minimum (5.5 sack if pumped) and shall achieve a 28 day compressive strength of at least 2500 p.s.i., or as specified by the project engineer.

5. REINFORCEMENT:
   Concrete slabs-on-grade shall be reinforced with a minimum of #3 steel reinforcement bars placed 12 inches on center, each way or #4 reinforcement bars placed 24 inches on center, each way and shall be bent to extend a minimum of eight inches into the perimeter footings.

D. UTILITY TRENCH BACKFILL:
All new on-site utility trenches shall be backfilled with a clean sand having a sand equivalent of 30 or higher. A two feet thick plug of compacted, **clayey soil backfill** or lean concrete shall be required around the pipe or conduit at places where utility trenches intersect the building perimeter. All trench backfill of imported clean sand or clean native sand shall be compacted to 95 percent relative compaction at all locations. Clean native sand shall be approved by Soil Surveys Group, Inc. prior to using for trench backfill.

VIII. GEOLOGIC AND SEISMIC CONSIDERATIONS:

Monterey County is in a seismically active area of the state of California. The following table provides a list of nearby faults that could produce an earthquake that could impact the project site.

Fault Name	Approximate Distance to Site	Orientation from Site	Data Source
Cypress (Concealed)	0.43 km	Southwest	Clark and others, 1997
Hatton Canyon (Inferred)	3.0 km	Northeast	Clark and others, 1997
San Gregorio (Sure Region)	6.5 km	Southwest	Uniform Building Code, 1997
Monterey Bay-Tularcitos	7.25 km	Northeast	Uniform Building Code, 1997
Rinconada	22.0 km	Northeast	Uniform Building Code, 1997
San Andreas Creeping Section(Pajaro)	48.0 km	Northeast	Uniform Building Code, 1997

The new two story residence and any future building additions must be designed in strict compliance with the 2016 California Building Code to help withstand such seismically generated ground accelerations for a reasonably expected duration without suffering major damage.

The following are the project site coordinates and the seismic design criteria/coefficients per the requirements of the 2016 California Building Code (CBC):

Site Class	Latitude	Longitude	S_S	S_1	F_a	F_v
D	36.5432°	-121.6491°	1.627	0.618	1.00	1.50

Frame and semi-rigid structures with proper strengthening connections and hold-down fasteners (where needed) are recommended for the new residence and any future building additions. With proper design parameters, seismic damage to the building can be mitigated for major earthquakes centered near the project area.

Surface rupture, liquefaction, lurch cracking, lateral spreading, and differential settlement are seismic hazards that must be considered at the project site. Surface rupture usually occurs along fault lines, and no known faults have been mapped through the project site. Therefore, the potential for surface rupture or lurch cracking is considered to be low.

Liquefaction and lateral spreading tend to occur in loose, fine saturated sands and in places where the liquefied soils can move toward a free face (e.g. a cliff or ravine). The deeper soils underlying the project site are typically very stiff/medium dense, sandy clay/clayey sand soils and no ground water was encountered in the boring to a maximum explored depth of 50 feet. Considering the deeper clayey soils and the absence of shallow groundwater, the potential risk for occurrence of damaging liquefaction or lateral spreading is considered to be low during a strong seismic event.

Differential compaction and settlement occur generally in loose, granular or unconsolidated semi-cohesive soils during severe ground vibration. In our opinion, the risk for soil consolidation caused differential compaction and settlement during a major seismic event is considered to be low.

IX. UNFORESEEN OR UNUSUAL CONDITIONS:

If any unforseen or unsuitable soils conditions are found during grading or construction of the new two story residence the Geotechnical engineer shall be notified immediately so that remedial action can be taken. Such unsuitable conditions could be:

1. Wet, soft or unsuitable pockets of sandy soil within the proposed residence location.
2. Soil with a high organic content at the finished subgrade of the building pads.
3. Any other unforeseen conditions that would require remedial action by the Geotechnical engineer, project engineer, architect or contractor.

X. CONCLUSIONS AND RECOMMENDATIONS:

From our field observations, analysis of the test data, and knowledge of the general area soils, the following are concluded:

1. The project soil conditions are suitable for the proposed new two story residence provided all loose near surface soil is recompacted prior to excavating for the new building foundations or finishing the subgrade of the building pad as recommended in Sections V and VII herein.

2. Design criteria for a spread footing foundation system for the project building is provided in Sections IV and V. Design criteria for concrete slabs-on-grade are provided in Sections IV, V and VII herein.

3. Surface storm water runoff should be carefully controlled around the proposed two-story residence to provide positive drainage away from the new and existing building foundations as discussed in Section VI herein.

4. The Geotechnical engineer should review the building and site grading plans for compliance with the recommendations herein and may provide additional specific recommendations for surface or subsurface drainage. The Geotechnical engineer shall inspect and approve all new foundation footing excavations.

5. Grading and compaction specifications and specifications for new concrete floor slabs-on-grade are provided in Section VII herein.

6. Seismic considerations are discussed, and geoseismic design coefficients are provided in Section VIII herein per the 2016 CBC. The potential for damaging earthquake related liquefaction is considered to be low at the project site.

XI. LIMITATIONS:

This report necessarily assumes that the subsurface conditions are as found in the borings. It should be recognized that the soil conditions described in this report are based on two borings and our knowledge of the general area soils. It must be understood that subsurface soil conditions can vary between borings and from site to site. If any unusual soil conditions are found during grading, installation of underground utilities or building construction, the Geotechnical engineer should be notified immediately so that remedial action can be taken (see Section IX).

This report is issued with the understanding that it is the responsibility of the Property Owners or their representative to ensure that the applicable provisions of the recommendations contained herein are incorporated into the plans and specifications and that the necessary steps are taken to see that contractors and subcontractors carry out such provisions in the field. The use of this report, its contents or any part thereof, by a party or its agents, other than the Property Owners, their engineer, architect, contractor or designated agents, is hereby disallowed unless specific permission is given to do so by Soil Surveys Group, Inc. This investigation and report were prepared with the understanding that a new two story residence will be constructed at the project site shown on the Figure II map enclosed herein. The use of this report, boring logs and laboratory test data shall be restricted to the original use for which they were prepared and publication by any method, in whole or in part, is prohibited without the written consent of Soil Surveys Group, Inc. Title to the designs remains with Soil Surveys Group, Inc. without prejudice. Visual contact with this report and drawings constitutes prima facie evidence of the acceptance of these restrictions.

Soil Surveys Group, Inc. will not take responsibility for or assume any liability for the recommendations made in this report unless Soil Surveys Group, Inc. performs the field inspections and testing mentioned herein.

The findings and recommendations of this report are considered valid at the present date. However, changes in the property conditions can occur with the passage of time on this or adjacent properties, whether due to natural processes or the works of man. Therefore, the findings of this report shall be considered valid for a period of not more than three years without being reviewed and updated by Soil Surveys Group, Inc.

BASE: U.S. Geological Survey, Monterey 7.5' Quadrangle

Carmel-By-The-Sea, CA

FIGURE I: VICINITY MAP

SCALE
1" = 2000'

Job #7159

By: **Soil Surveys Group, Inc.**
103 Church Street
Salinas, CA 93901
831-757-2172

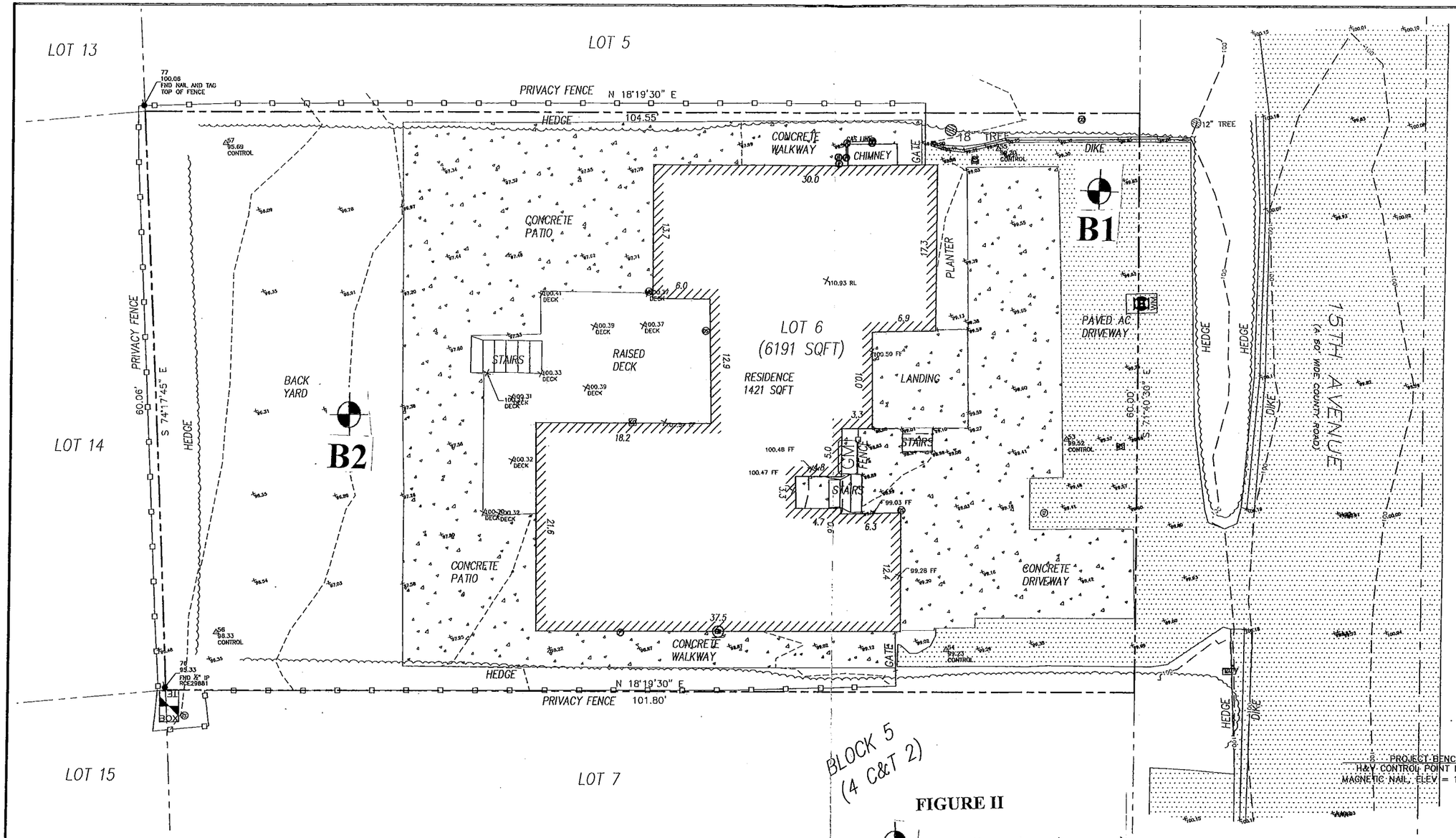

FIGURE II

Boring Locations (approx.)

By: Soil Surveys Group, Inc.
103 Church Street
Salinas, CA 93901
ph. 831-757-2172
fax 831-755-7330
email: info@soilsurveys.net

BASE: 2692 15th Ave, in Carmel-by-the-Sea, California
APN: 009-393-015
Site Plan from Landset Engineers - Job # 7159

GENERAL NOTES:

1) ELEVATIONS ARE BASED ON AN ASSUMED DATUM. PROJECT BENCHMARK IS SURVEY H&V CONTROL POINT #50, A MAGNETIC NAIL LOCATED IN THE NORTHERLY EDGE OF 15TH AVENUE OPPOSITE THE NORTHEASTERLY PROPERTY CORNER, ELEVATION = 100.00' AS SHOWN.

2) NOT ALL UNDERGROUND UTILITIES WERE LOCATED. ONLY VISIBLE FIXTURES ABOVE AND FLUSH WITH THE SURFACE ARE SHOWN. SUB-SURFACE UTILITY LINES DRAWN MAY NOT BE COMPLETE AND SHOULD BE VERIFIED BY FIELD RECONNAISSANCE. UNDERGROUND UTILITY LOCATIONS CAN BE OBTAINED FROM THE APPROPRIATE UTILITY COMPANIES, PUBLIC AGENCIES, OWNER'S AS-BUILT DRAWINGS, ETC., AND SHOULD BE THOROUGHLY COMPILED AND DEEMED COMPLETE WITHIN THE PROJECT AREA PRIOR TO ANY SITE DEVELOPMENT DESIGN AND/OR CONSTRUCTION.

3) TREE TYPES ARE INDICATED WHEN KNOWN. TREE DIAMETERS ARE LABELED IN INCHES AS MEASURED AT 3' ABOVE THE GROUND. SYMBOL IS APPROXIMATE CENTER OF TREE. TREES SMALLER THAN 6" ARE NOT SHOWN.

4) THIS MAP PORTRAYS THE SITE AT THE TIME OF THE SURVEY (5/9/18) AND DOES NOT SHOW SOILS OR GEOLOGY INFORMATION, UNDERGROUND CONDITIONS, EASEMENTS, ZONING OR REGULATORY INFORMATION OR ANY OTHER ITEMS NOT SPECIFICALLY REQUESTED BY THE PROPERTY OWNER AND/OR THEIR REPRESENTATIVES.

5) THIS MAP DOES NOT REPRESENT A BOUNDARY SURVEY. PROPERTY LINES SHOWN HEREON WERE COMPILED FROM RECORD INFORMATION AND FROM FIELD TIES TO EXISTING BOUNDARY MONUMENTATION. THE LOCATION OF THESE LINES IS SUBJECT TO CHANGE, PENDING THE RESULTS OF A COMPLETE BOUNDARY SURVEY.

6) BUILDING CORNERS SHOWN WERE LOCATED AT THE OUTERMOST FACE OF TRIM. DIMENSIONS SHOWN REPRESENT THE BUILDING AT GROUND LEVEL. SQUARE FOOTAGE WAS CALCULATED USING THE OUTERMOST BUILDING FOOTPRINT AS MEASURED. BUILDING OVERHANG(S) ARE NOT SHOWN.

LEGEND:

- ROADWAY CENTERLINE
- PROPERTY BOUNDARY LINE
- ADJACENT PROPERTY BOUNDARY LINE
- MAJOR CONTOUR LINE (5' INTERVAL)
- MINOR CONTOUR LINE (1' INTERVAL)
- FENCE (TYPE AS MARKED)
- ASPHALT CONRETE SURFACE
- PORTLAND CEMENT CONCRETE SURFACE
- STONE SURFACE
- WOOD SURFACE
- SPOT ELEVATION
- FLOWLINE
- SURVEY H&V CONTROL POINT
- FF, RL — FINISH FLOOR, RIDGELINE
- TREE (TYPE AND SIZE AS MARKED) CENTER OF SYMBOL IS APPROX. CENTER OF TREE
- CLEANOUT
- CONDUIT
- DOWNSPOUT
- TELEPHONE SERVICE
- PIPE
- HOSEBIB
- IRRIGATION BOX
- UNKNOWN UTILITY
- WATER SERVICE
- TELEPHONE BOX
- MAILBOX
- GM — GAS METER
- WATER METER

CONTACT INFORMATION:

PRIMARY:
EMERSON DEVELOPMENT GROUP, INC.
24576 PORTOLA AVENUE
CARMEL, CA 93923

SITE LOCATION:
2692 15TH AVENUE
CARMEL, CA 93923

No.	DATE	BY	REVISION
	05/15/18	JK	RELEASED TO CLIENT

APPROVED BY:
GUY R. GIRAUDO
EXP. 12-31-19
No. 8703
P.L.S. No. 8703

LANDSET ENGINEERS, INC.
3534 Del Rey Manor Canyon Road
Salinas, California 93908
Office (831) 443-6970 Fax (831) 443-3801
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TOPOGRAPHIC MAP

OF

LOT 6 OF BLOCK 5, AS SHOWN IN VOLUME 4
OF CITIES & TOWNS AT PAGE 2
CARMEL, MONTEREY COUNTY, CALIFORNIA

FOR

EMERSON DEVELOPMENT GROUP, INC.

SCALE: 1"=5'
DATE: MAY 2018
JOB NO. 1813-01

SHEET 1
OF 1 SHEETS

APPENDIX A
BORING LOGS

PRIMARY DIVISIONS			GROUP SYMBOL	SECONDARY DIVISIONS
COARSE GRAINED SOILS (MORE THAN HALF OF MATERIAL IS LARGER THAN NO. 200 SIEVE SIZE)	GRAVELS (MORE THAN HALF OF COARSE FRACTION IS LARGER THAN NO. 4 SIEVE)	CLEAN GRAVELS (LESS THAN 5% FINES)	GW	Well graded gravels, gravel-sand mixtures, little or no fines.
			GP	Poorly graded gravels or gravel-sand mixtures, little or no fines.
		GRAVEL WITH FINES	GM	Silty gravels, gravel-sand-silt mixtures, non-plastic fines
			GC	Clayey gravels, gravel-sand-clay mixtures, plastic fines.
	SANDS (MORE THAN HALF OF COARSE FRACTION IS SMALLER THAN NO. 4 SIEVE)	CLEAN SANDS (LESS THAN 5% FINES)	SW	Well graded sands, gravelly sands, little or no fines.
			SP	Poorly graded sands or gravelly sands, little or no fines.
		SANDS WITH FINES	SM	Silty sands, sand-silt mixtures, non-plastic fines.
			SC	Clayey sands, sand-clay mixtures, plastic fines.
FINE GRAINED SOILS (MORE THAN HALF OF MATERIAL IS SMALLER THAN NO. 200 SIEVE SIZE)	SILTS AND CLAYS LIQUID LIMIT IS LESS THAN 50%		ML	Inorganic silts and very fine sands, rock flour, silty or clayey fine sands or clayey silts with slight plasticity.
			CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays.
			OL	Organic silts and organic silty clays of low plasticity.
	SILTS AND CLAYS LIQUID LIMIT IS GREATER THAN 50%		MH	Inorganic silts, micaceous or diatomaceous fine sandy or silty soils, elastic silts
			CH	Inorganic clays of high plasticity, fat clays.
			OH	Organic clays of medium to high plasticity, organic silts.
HIGHLY ORGANIC SOILS			Pt	Peat and other highly organic soils.

GRAIN SIZES

U.S STANDARD SERIES SIEVE — CLEAR SQUARE SIEVE OPENINGS

200	40	10	4	3/4"	3"	12"

SILTS AND CLAYS	SAND			GRAVEL		COBBLES	BOULDERS
	FINE	MEDIUM	COARSE	FINE	COARSE		

RELATIVE DENSITY

SANDS AND GRAVELS	BLOWS/FT*
VERY LOOSE	0 - 4
LOOSE	4-10
MEDIUM DENSE	10 - 30
DENSE	30 - 50
VERY DENSE	OVER 50

CONSISTENCY

SILTS AND CLAYS	STRENGTH**	BLOWS/FT*
VERY SOFT	0 - 1/4	0 - 2
SOFT	1/4 - 1/2	2 - 4
FIRM	1/2 - 1	4 - 8
STIFF	1 - 2	8 - 16
VERY STIFF	2 - 4	16 - 32
HARD	OVER 4	OVER 32

*Number of blows of 140 pound hammer falling 30 inches to drive a 2 inch O.D. (1 3/8 inch I.D) split spoon (ASTM D-1586)

* *Unconfined compressive strength in tons/ft^2 as determined by laboratory testing or approximated by the standard penetration test (ASTM D-1586), pocket penetrometer, torvane, or visual observation

FIGURE NO. KEY TO LOGS

EXPLORATION DRILL LOG

HOLE NO. B-1

PROJECT 2692 15th Avenue, Carmel-By-The-Sea Job #7159 DATE 8.6.18 LOGGED BY JG

DRILL RIG EGI B-53 HOLE DIA. 8" SAMPLER Terzaghi Split Spoon (SPT) + 2.5" CAL

GROUNDWATER DEPTH: INITIAL --- FINAL --- HOLE ELEV. ---

DESCRIPTION	SOIL TYPE	DEPTH	SAMPLE	BLOWS PER FOOT	DRY DENSITY (pcf)	WATER CONTENT %	LIQUID LIMIT	PLASTIC LIMIT	POCKET PEN. (tsf)
2" Asphaltic concrete/2" Aggregate baserock/	AC/GP								
Reddish-yellowish-brown, silty, fine to medium	SM	1							
grained SAND; moist, loose			2.5" CAL						
Reddish-yellowish-tan, silty, clayey, fine to coarse	SC/CL	2	XXX	7(4)	97.8	14.8			0.75
grained SAND/sandy CLAY; moist, loose to			XXX	11(7)	105.1	19.0	37	14	2.25
medium dense/firm to stiff		3	SPT						
		4	XXX	12	105.5	19.0			1.5
		5							
Light grey, light reddish-yellowish-tan, slightly	SC/SM		SPT						
clayey, fine to coarse grained SAND; moist, dense		6							
			XXX	32	100.3	11.4			1.75
Light reddish-gray, brown, tan, silty SAND; moist,	SM	7							
dense									
		8							
Reddish-brown, light grey, white, silty, fine to	SM/SP	9	SPT						
coarse grained, micaceous, decomposed granitic									
SAND with scattered fine to medium subangular		10	XXX	32	125.1	11.5			0.75
gravels and occasional coarse subangular/fractured									
sandstone gravels; moist, dense		11							
		12							
Pouched water from 12.5' to 13'	▼	13							
Reddish-yellowish-tan, light grey, silty, fine grained,	SM/ML	14	SPT						
micaceous SAND with thin lenses of dark grey clay/									
sandy SILT; moist, medium dense/stiff		15	XXX	11	82.7	36.3			1.5
		16							
		17							
		18							
Dark grey, clayey, silty, fine grained, micaceous	SC/CL	19	SPT						
SAND/sandy CLAY; moist, medium dense/stiff									
		20	XXX	13	85.7	40.8			0.75

DEPTH 50'

SOIL SURVEYS GROUP, INC.

EXPLORATION DRILL LOG

HOLE NO. B-1 CONTINUED

DESCRIPTION	SOIL TYPE	DEPTH	SAMPLE	BLOWS PER FOOT	DRY DENSITY (pcf)	WATER CONTENT %	LIQUID LIMIT	PLASTIC LIMIT	POCKET PEN. (tsf)
Dark grey, clayey, silty, fine grained, micaceous	SC/CL	21							
SAND/sandy CLAY; moist, medium dense/stiff									
		22							
		23							
Dark grey, silty, fine grained, micaceous sandy	CL	24	SPT						
CLAY with peat; moist, very stiff									
		25	XXX	22	70.4	50.9			2.5
		26							
		27							
		28							
Dark grey, silty, clayey, fine grained, micaceous	SC/CL/ML	29	SPT						
SAND/sandy CLAY; moist, medium dense/stiff to									
very stiff		30	XXX	16	73.3	43.0			3.25
		31							
		32							
		33							
Dark grey, silty, fine grained, micaceous sandy	CL/SC	34	SPT						
CLAY with peat/clayey SAND; moist, stiff to very			XXX	14	47.0	82.1			2.0
stiff/medium dense		35	XXX	20	70.0	42.8	50	27	2.25
		36							
		37							
		38							
Dark grey, silty, fine grained, micaceous sandy	CL/SC	39	SPT						
CLAY with peat/clayey SAND; moist, very stiff/									
medium dense		40	XXX	28	80.4	45.6			2.25
		41							
Same	CL/SC	42							

DEPTH 50' Job #7159 SOIL SURVEYS GROUP, INC.

EXPLORATION DRILL LOG

HOLE NO. B-1 CONTINUED

DESCRIPTION	SOIL TYPE	DEPTH	SAMPLE	BLOWS PER FOOT	DRY DENSITY (pcf)	WATER CONTENT %	LIQUID LIMIT	PLASTIC LIMIT	POCKET PEN. (tsf)
		43							
Dark grey, silty, fine grained, micaceous sandy	CL/SC	44	SPT						
CLAY/clayey SAND; moist, hard/dense									
		45	XXX	36	82.6	38.6			2.5
		46							
		47							
		48							
Dark grey, silty, fine grained, micaceous sandy	CL/SC	49	SPT						
CLAY with peat/clayey SAND; moist, very stiff/									
medium dense. Bottom of the boring at 50'	CL/SC	50	XXX	28	80.3	42.4			2.75
		51							
		52							
		53							
		54							
		55							
		56							
		57							
		58							
		59							
		60							
		61							
		62							
		63							
		64							

DEPTH 50' Job #7159 SOIL SURVEYS GROUP, INC.

EXPLORATION DRILL LOG

HOLE NO. B-2

PROJECT 2692 15th Avenue, Carmel-By-The-Sea Job #7159 DATE 8.6.18 LOGGED BY JG

DRILL RIG Hand Auger HOLE DIA. 4" SAMPLER Terzaghi Split Spoon (SPT) + 2" CAL

GROUNDWATER DEPTH: INITIAL --- FINAL --- HOLE ELEV. ---

DESCRIPTION	SOIL TYPE	DEPTH	SAMPLE	BLOWS PER FOOT	DRY DENSITY (pcf)	WATER CONTENT %	LIQUID LIMIT	PLASTIC LIMIT	POCKET PEN. (tsf)
Grass/Dark tan, silty, fine to medium grained	SM								
SAND; slightly moist, loose		1							
Olive-grey, mottled, silty CLAY with fine to coarse	CL		2" CAL						
grained sand and organics; moist, stiff to very stiff		2	XXX	56(11)	115.0	11.5			>4.5
			XXX	79(16)	99.2	9.2	41	13	>4.5
Light grey, dark tan, silty, fine to coarse grained,	SM	3	SPT						
micaceous SAND with trace clay; moist, medium									
dense		4	XXX	85(21)	111.2	10.4			>4.5
Reddish-yellowish-tan, light tan, dark grey, clayey,	SM								
silty, fine to coarse grained, micaceous, decomposed		5							
granitic SAND with scattered gravels; moist,									
medium dense		6							
Light grey, olive-tan, silty, CLAY: moist, stiff to	CL		2" CAL						
very stiff		7	XXX	56(11)	88.2	29.4			4.0
			XXX	86(17)	83.1	32.0	68	24	3.5
		8	SPT						
Light grey, silty, fine grained, micaceous, sandy	CL/SC								
CLAY/clayey SAND; moist, stiff/medium dense	CL/SC	9	XXX	52(13)	83.5	31.3			1.75
Bottom of the boring at 9'									
		10							
		11							
		12							
		13							
		14							
		15							
		16							
		17							
		18							
		19							
		20							

DEPTH 9'

SOIL SURVEYS GROUP, INC.