

## Appendix D

August 20, 2018

Howard Industrial Partners  
155 N. Riverview Drive  
Anaheim Hills, California 92808



**SOUTHERN  
CALIFORNIA  
GEOTECHNICAL**  
*A California Corporation*

Attention: Mr. Tim Howard

Project No.: **17G104-3**

Subject: **Update of Geotechnical Report and Grading Plan Review**  
Proposed Parking Lot  
Holly Street, North of Wilson Street  
San Bernardino County, California

References: 1) Geotechnical Investigation and Liquefaction Evaluation, Proposed Milestone Ranch Warehouse, Holly Street, North of Wilson Street, San Bernardino County, California, prepared for Alere Property Group, LLC by Southern California Geotechnical, Inc. (SCG), SCG Project No. 11G184-1, dated December 5, 2011.

2) Geotechnical Investigation, Proposed Commercial/Industrial Building, Holly Street, North of Wilson Street, San Bernardino County, California, prepared by SCG, for Howard Industrial Partners, SCG project No. 17G104-1.

Gentlemen:

In accordance with the request of EPD Solutions, Inc., this letter will serve as an update to the above referenced report relative to the currently proposed development. In order to prepare this report, we have reviewed the conceptual grading plan prepared by FM Civil Engineers, Inc., and the above referenced geotechnical reports.

### **Current Site Conditions**

The subject site is located on the east side of Holly Street, approximately 560 feet north of the intersection of Holly Street and Wilson Street, in an unincorporated portion of San Bernardino County, California. The site is bounded to the north by two (2) existing commercial/industrial buildings, to the east by the Santa Ana River, to the south by an existing single-family residence, and to the west by Holly Street.

The subject site consists of several rectangular and irregular shaped parcels that total 64.8± acres in size. The majority of the site is developed as the Milestone MX Park, utilized as an off-road motorcycle race course. The Milestone MX Park features at least eight (8) off-road motorcycle race tracks located in the northern, eastern, and central portions of the site. The race tracks consist of dirt road courses with earthen berms ranging from 1 to 10± feet in height. The northwestern portion of the site is developed with at least ten (10) structures. These structures consist of single family residences, barns, stables, storage sheds, and canopies. Three (3) structures were observed in the west-central portion of the site. Two (2) of these structures are approximately 25 feet wide and 200 feet long and the other structure is approximately 50 feet

wide and 200 feet long. We assume that these structures are used for storage. The southwestern portion of the site is currently developed with several one-story single-family residences and five (5) horse corrals. These single-family residences appear to be of wood frame and stucco construction presumably supported on conventional slab-on-grade foundations. A detention basin is located in the southern area of the site. The bottom of the basin is approximately 5 to 7 feet below the surrounding grades. Ground surface cover throughout the site consists of exposed soil with several large trees in central and southwestern areas of the site.

Topographical information for the subject site was obtained from the Conceptual Grading Exhibit prepared by FM Civil Engineers, Inc., the project civil engineer. This plan indicates that site grades range from an elevation 910± feet mean sea level (msl) at the northwest property corner to an elevation of 818½± feet msl at the base of the existing detention basin located in the southern portion of the site. An existing slope is located along the western boundary of the site. The slope ranges in height from 45± to 55± feet and ascends toward Holly Street at inclinations ranging from ½h:1v (horizontal to vertical) to 1h:1v. With the exception of the western slope, the overall site grades generally slope to the south at a gradient of less than 1 to 2± percent.

### **Previous Studies**

Southern California Geotechnical, Inc. (SCG) previously conducted a geotechnical investigation and liquefaction evaluation within the overall site (Reference 1). At the time of the previous study, the proposed development for the site consisted of one (1) commercial/industrial building, 1,013,410± ft<sup>2</sup> in size. As part of this geotechnical investigation, a total of ten (10) borings were drilled to depths of 5 to 50± feet below the previous site grades. In addition to the ten borings, eight (8) test pits were excavated at the site to depths of 6 to 14± feet below site grades. Fill soils were encountered at the ground surface at most of the boring locations and all of the trench locations, extending to depths of 1 to 5½± feet. The fill soils consisted of loose to medium dense silty fine sands and fine to coarse sands with occasional fine gravel. Native alluvial soils were encountered at all of the boring and trench locations, except for two boring locations where the borings were terminated in fill soils at a depth of 5± feet. The near surface alluvial soils consisted of loose to medium dense fine to medium sands and fine to coarse sands, extending to depths of 22± feet. At greater depths, the alluvial soils consisted of dense to very dense well-graded sands with varying amounts of fine to coarse gravel extending to the maximum depth explored of 50± feet. Based on the water level measurements from the previous borings, the groundwater table was considered to have existed at a depth of 13 to 17± feet at the time of the previous subsurface exploration.

SCG performed as second geotechnical investigation for the site (Reference 2). The subsurface exploration conducted for this project consisted of two (2) borings (identified as Boring Nos. B-11 and B-12) advanced to depths of 50± feet below the existing site grades. All of the borings were logged during drilling by a member of our staff. In addition to the two borings, four (4) cone penetration test (CPT) soundings were performed at the site. Native alluvium was encountered at the ground surface at both of these boring locations. The alluvium generally consists of loose to very dense fine sands, fine to coarse sands, silty fine sands, and fine sandy silts with varying fine to coarse gravel content, extending to the maximum depth explored of 50± feet. One of the borings encountered very stiff layers of silty clay and fine sandy clay between depths of 31 and 42± feet. Free water was encountered during drilling within both of the borings. The static

groundwater table is considered to have existed at a depth of 9 and 10± feet below existing site grades.

### **Grading Plan Review**

The conceptual grading plans for this project was prepared by FM Civil Engineers, Inc. The grading plans consist of two (2) sheets, titled "Holly Street Conceptual Exhibit, County of San Bernardino," dated July 10, 2018.

The overall site will be utilized for automobile parking. General site fills of up to 10± feet will be required in order to establish the new site grades within the automobile parking area. The existing western slope will be reconfigured in order to develop an access road extending downward from Holly Street into the new parking area. Additional fill slopes along the northern and eastern boundaries of the site will be required in order to establish the new site grades.

Comments generated during our review of these plans are presented below:

- The grading recommendations for new pavement areas presented in the referenced geotechnical reports remain valid for the currently proposed development. Recommendations for general site fills are further provided in the ***Grading Guide Specifications***, included in the referenced reports.
- New fill slopes will be required along the northern and eastern boundaries of the site. In addition, fill-over-cut slopes will be utilized in western slope reconfiguration area. The existing fill slope to be reconfigured will extend up to 50± feet in height and will possess a maximum inclination of 2h:1v (horizontal to vertical). It is expected that the new fill slopes will possess adequate factors of safety for gross stability, since they will be comprised of engineered fill soils. It is recommended that these fill slopes be constructed with a keyway, at least 3 feet deep. The base of the keyway should slope at least 1 foot downward into the slope. The recommended width of the keyway is to be based on the equipment used at the time of grading. Typically, the recommended width of the keyway is based on 1.5 times the width of typical grading equipment. Following completion of the keyway cut, the subgrade soils should be evaluated by the geotechnical engineer to verify that the keyway is founded into competent native materials. The resulting subgrade soils should then be scarified to a depth of 10 to 12 inches, moisture conditioned to 0 to 4 percent above optimum moisture content and recompacted. The resulting keyway should then be backfilled with compacted structural fill. In general, the new fill slopes should be constructed in accordance with the ***Grading Guide Specifications***, included with the referenced SCG report.
- New cut slopes will also be utilized in order to establish the proposed site grades. Cuts ranging from 10 to 30± feet will be required in order to establish the new slope inclination of 2h:1v. The new slope configurations are expected to possess adequate safety factors for surficial and gross stability. However, it is recommended that the cut-slopes be evaluated at the time of grading by a representative of this company. If the proposed cuts expose loose, cohesionless sands, then a stability fill may be required at the base of the new cut slope excavations. Additional recommendations regarding the construction of a

stability fill are included with the **Grading Guide Specifications**, included in the referenced report.

Subject to the comments presented above, the referenced plans are considered to have been prepared in accordance with the referenced geotechnical reports. It should be noted that our review was limited to the geotechnical aspects of the project, and no representations as to the suitability of the civil design are intended.

The development which was proposed at the time of the referenced geotechnical reports was a new commercial/industrial building, surrounded by new asphaltic concrete and/or Portland cement concrete pavements. However, the currently proposed development will include a new automobile parking lot. Although the new construction will not include a new building, the referenced geotechnical investigations are considered applicable to the currently proposed development. The remedial grading and construction recommendations presented in the referenced report remain valid for the proposed development. No new subsurface exploration is considered warranted.

### **Geotechnical Report Update**

This letter may serve as an update to the original geotechnical report. Provided that the updated recommendations contained within this letter are implemented, the previous geotechnical reports are considered valid for the currently proposed improvements.

### **Closure**

We sincerely appreciate the opportunity to be of continued service on this project. We look forward to providing additional consulting services during the course of the project. If we may be of further assistance in any manner, please contact our office.

Respectfully Submitted,

SOUTHERN CALIFORNIA GEOTECHNICAL, INC.



Pablo Montes Jr.  
Staff Engineer



Robert G. Trazo, GE 2655  
Principal Engineer



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