



G₃SoilWorks

GEOLOGY · GEOTECH · GROUNDWATER

GNAP Development LLC
18201 Von Karman Avenue, Suite 1170
Irvine, California 92612

May 25, 2021
Project No. 1-1200

Attention: Mr. Blair Dahl

Subject: Geologic / Geotechnical Due Diligence
1201-1223 State College Boulevard
Fullerton, California

References: See attached List of Selected References

Dear Mr. Dahl:

Pursuant to your request and authorization, G3SoilWorks, Inc. has performed a geologic / geotechnical due diligence investigation for the subject site, located at 1201-1223 State College Boulevard, in Fullerton, California (see Site Location Map, Figure 1). This property is identified as Assessor's Parcel No. 073-120-27, Legal Description POR. SE ¼, SEC. 35, T3S, R10W. This property is being evaluated for acquisition by GNAP Development, LLC and will be annexed and made part of the Fullerton GLC project addressed in Reference No. 1.

A summary of our findings and due diligence assessment for this property, from a geologic and engineering standpoint, and preliminary design considerations for the proposed site development are presented herein.

SCOPE OF WORK

The scope of our services for this due diligence evaluation included the following:

- Site reconnaissance (including photo and written documentation) from a geologic / geotechnical perspective;
- Desktop review of published reports, maps, and other documents relative to site surface / subsurface conditions and related geologic hazards, etc.;
- Preliminary identification of the potential for liquefaction, landsliding, lateral spreading, active faulting, seismic shaking potential, expansive soils and settlement / consolidation expressions based on the desktop study and field observations made during our site visit;
- Summary of any related distress or expressions indicative of potential settlement / consolidation of existing construction based on our field observations;

- Limited discussion of foundation type, expansion soils, and other design related aspects; and
- Preparation of this memorandum presenting preliminary findings and geotechnical design considerations for moving forward with this project.

The scope of our services specifically does not include investigation and/or evaluation of any hazardous materials or associated constraints that may be present on or under the site.

SITE LOCATION AND PROJECT DESCRIPTION

The subject site is located at 1201-1223 State College Boulevard, in Fullerton, California and covers approximately 1.27 acres in area. This property is currently occupied by a multi-tenant industrial building covering 24,600 square feet.

This property is located adjacent to and is planned to be an extension off the southeasterly extent of the Fullerton GLC site development addressed in the referenced report. Specifics / details regarding the tentatively proposed construction for this site are currently unknown. However, for the purposes of this due diligence study, it is assumed that construction similar to that planned for the Fullerton GLC project is tentatively being considered.

Based on an exterior walk-thru of the site by a representative of our office on May 24, 2021, the following conditions were noted:

- The site is occupied by an existing multi-tenant building which consists of single-story, concrete-panel construction, oriented in an east-west direction across the property.
- An asphalt paved drive and associated parking along the south side of the existing commercial building, with asphalt-paved delivery drive along the north side. A concrete-paved parking area is located on the westerly end of the building.
- The exterior of this building appeared acceptable for its age and did not display any apparent visual signs of distress indicative of unsuitable soils, settlement or expansive soils;
- The existing asphaltic concrete (AC) and Portland cement concrete (PCC) pavements on-site appeared to be intact and no visually apparent signs of distress were noted that would be suggestive of ground settlement or expansive soils phenomena.
- An existing power line alignment is located along the northern property line common with the current Fullerton GLC development site.

GEOLOGY

General

The geology of the adjacent Fullerton GLC site and vicinity were previously summarized in the referenced Fullerton GLC Investigation report (Reference No. 1). As the subject site is located directly adjacent and southeasterly of the Fullerton GLC site, the regional / local geologic conditions and potential seismic hazards presented in Reference No. 1 are also considered applicable for the subject site.

Based on review of Reference No. 1, the pertinent site geologic conditions and potential geologic hazards are summarized below:

- The site is located approximately 2.1 miles northwest of the modern Santa Ana River channel and underlain by Quaternary young alluvial-fan deposits (Qyf) of Holocene to late Pleistocene age.
- The site is not underlain by any known active faults (i.e., Holocene faults that have ruptured in last 11,000 years and are likely to rupture in the future per the Alquist-Priolo Earthquake Fault Zoning Act). According to the California Geological Survey's Earthquake Hazards Zone Application ("EQ Zapp") website / database, the nearest zoned "active" faults include the Whittier Fault Zone (5.7 miles northeast of the project site) and Newport-Inglewood Fault Zone (13.5 miles southwest of the project site). As shown on Figure 7 (attached), other nearby Quaternary and Late Quaternary faults include the El Modeno and Peralta Hills faults approximately 2.4-3.3 miles southeasterly of the site – which are considered inactive and/or potentially active (having ruptured within the last 700,000 years), respectively.
- Active faults do not appear to be present across the subject property. The site is not located in an Earthquake Fault Zone of Required Investigations and the nearest zoned active fault is located approximately 5.7 miles northeast of the project site. Risk of onsite ground rupture on a known active fault is considered nil.
- According to the California Geological Survey's Earthquake Hazards Zone Application (EQ Zapp; <https://maps.conservation.ca.gov/cgs/EQZApp/app/>) the project site is not located within a liquefaction hazards zone of required investigations and, as reported in Reference No. 1, the potential for soil liquefaction and associated risks are therefore considered very low to nil – however, the site may be susceptible to dry sand settlement during a major seismic event due to the potential presence of shallow, relatively loose alluvial soils.
- The project site is not located within an Earthquake-Induced Landslide Hazards Zone of Required Investigations according to the California Geological Survey's Earthquake Hazards Zone Application (EQ Zapp; <https://maps.conservation.ca.gov/cgs/EQZApp/app/>);

- Topographic and regional maps indicate that the subject site is more than 14.1 miles inland from the coast / Pacific Ocean, at an elevation approximately 181-189± feet above sea level, and is not located in an area of known tsunami hazards. Based on the above, risk of tsunami from the known sources occurring throughout the Pacific Ocean / Pacific Rim is considered nil. The site is also not near any significant pools, lakes, reservoirs, or similar. The potential risk of seiche-related effects from existing water bodies is considered very low to nil.

For a more detailed discussion regarding the above, reference should be made to the Geotechnical Investigation Report (Reference No. 1) for the Fullerton GLC Project site.

GEOTECHNICAL CONSIDERATIONS / PRELIMINARY RECOMMENDATIONS

The proposed development for this site is currently unknown, although it has been assumed that development will include concrete tilt-up industrial buildings similar to that planned for the Fullerton GLC or improvement for additional trailer parking. Based on our due diligence findings and our knowledge of the site conditions encountered and reported for the Fullerton GLC project (Reference No. 1), it is our opinion that the tentatively proposed development is feasible from a geologic / geotechnical standpoint, provided that the geotechnical considerations provided herein are accounted for in design and construction. It is our opinion that the subsurface conditions underlying this site are likely similar to those encountered at the Fullerton GLC site (Reference No. 1). However, if new building structures are considered further evaluation including subsurface exploration, laboratory testing, and related geotechnical engineering analyses should be performed to verify the applicability of the recommendations previously provided for the Fullerton GLC development and/or enable our office to develop site-specific recommendations, as appropriate, for use in design and construction of the proposed development.

Presented below is a generalized summary of preliminary geotechnical recommendations for consideration on this site.

Site Grading

- Prior to site grading, the demolition and removal of existing structures and appurtenant construction should include existing foundations and utilities;
- Site grading should include the full depth removal of any existing substructures / fill soils and replacement with approved engineered compacted fill;
- Removal / recompaction of near surface native soils should be expected to provide more uniform and acceptable support for foundations supporting proposed structures and ancillary construction.
- Temporary excavations four (4) feet or deeper will require temporary slopes and or shoring. Where proximal or along property lines, temporary excavations may require the use of slot-cut grading and/or temporary shoring to protect off-site properties / development.

- For soil conditions similar to that reported in Reference No. 1, potential soil shrinkage on the order of 15 percent may occur during removal / recompaction earthwork operations.

Foundations

- It is anticipated that construction similar to that planned for the Fullerton GLC development can be supported on shallow conventional footings with floor slab-on-grade. For preliminary planning purposes, footings may be designed based on an allowable bearing pressure of 2,500 pounds per square foot (psf) when embedded at least 2 feet below lowest adjacent finish grade.
- The potential for total and differential settlements under static plus seismic conditions should be accounted for and incorporated in the design of new construction. Based on Reference Nos. 1 and 2, total and differential settlements on the order of 3 inches and 1-inch in 50 feet, respectively, may be assumed for preliminary design purposes.
- The seismic design parameters provided in the referenced geotechnical report may be considered in the design of proposed structures / improvements, as appropriate.

Hardscape/ Pavements

- The recommendations presented in Reference No. 1 for pavement and hardscape construction may be considered for assumed similar loads / traffic loading conditions.

Soil Expansion and Corrosion

- For soil conditions similar to that encountered at the Fullerton GLC site, the site soils are expected to exhibit low soil expansion potential.
- The site soils should conservatively be considered highly corrosive to both concrete and buried metals. Concrete in contact with site soils should therefore conservatively be designed considering 4,500 psi concrete mix, water:cement ratio of 0.45, and Type V Portland cement.

LIMITATIONS

This report has been prepared for the exclusive use of GNAP Development, LLC and their design consultants relative to their preliminary due diligence assessment of the subject property. This report is not intended for other parties, and it may not contain sufficient information for other purposes.

The findings contained in this report are based upon our evaluation and interpretation of the information obtained from references and experience in the area only. The opinions and considerations provided were based on the assumption that the geotechnical conditions, which exist across the site, are similar to those described in referenced materials and internal proprietary information. The conditions and characteristics of the sub-surface materials may therefore be different and no representations are made as to their quality and engineering properties.

This report and its recommendations are predicated on the notion that we will be retained to perform the subsequent investigation / design / field observations / testing. If not, this report and its recommendations are null and void and any new consultant would need to do their own studies and develop their own recommendations.

The findings and considerations presented herein were developed in accordance with currently accepted professional engineering principles and practice in the field of engineering geology and geotechnical engineering and reflect our best professional judgment. We make no other warranty, either express or implied.

We trust that the information contained in this report is adequate for your needs at this time. Should you have any questions or need additional information, please contact the undersigned.

Respectfully submitted,

G3SoilWorks, Inc.

By: 
Daniel J. Morikawa, P.E., G.E.
Director of Engineering
RGE 2726



By: 
Erik C. Haaker, P.G., C.E.G.
Project Engineering Geologist
PG 9409, CEG 2708



Attachments: List of Selected References
Figure 1 – Site Location Map

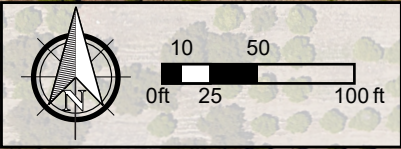
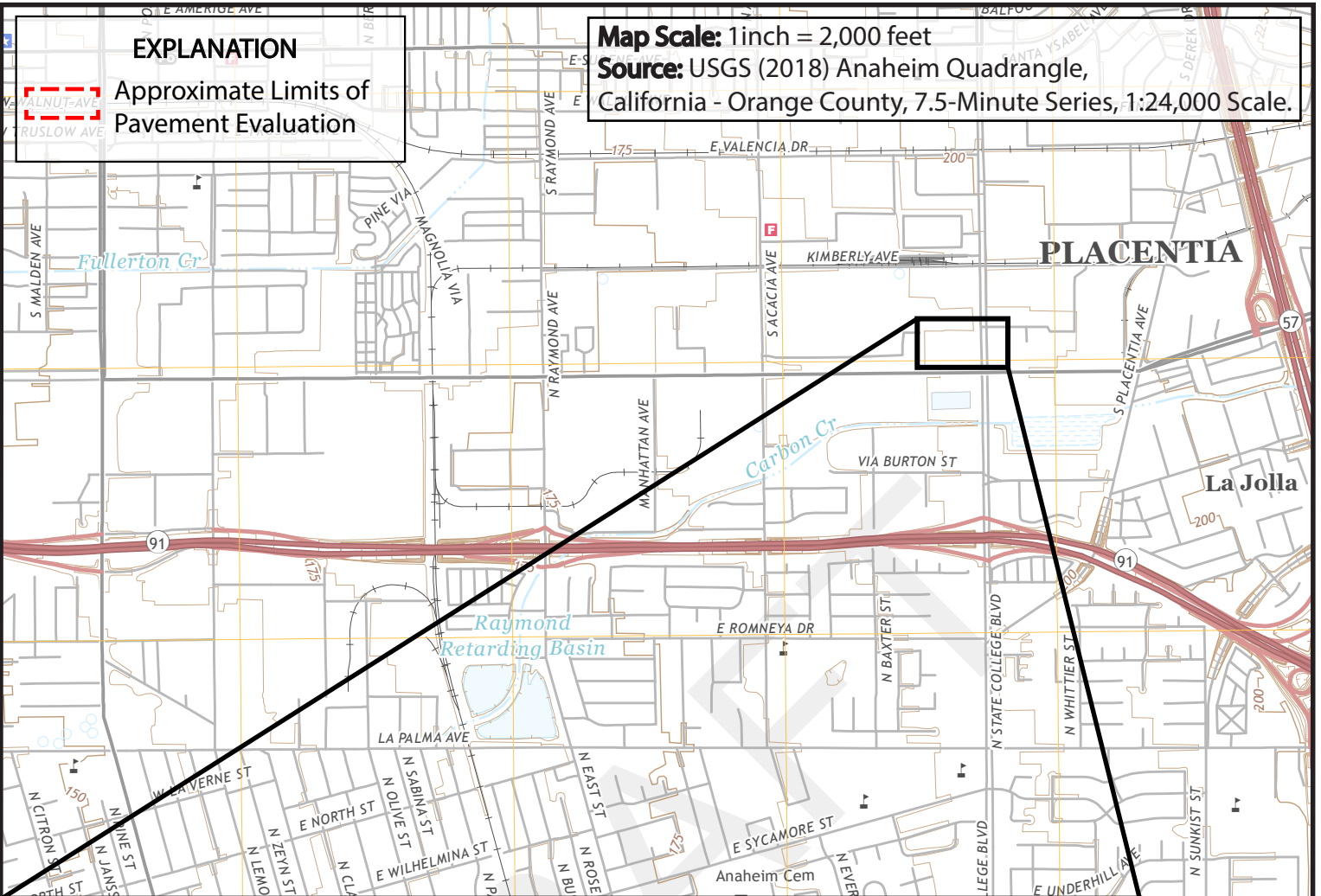
LIST OF SELECTED REFERENCES

- 1) G3SoilWorks, Inc., Geotechnical Investigation, Proposed Goodman Logistics Center, 2001 East Orangethorpe Avenue, Fullerton, California, dated December 30, 2020, Project No. 1-1171.
- 2) G3SoilWorks, Inc. Response to Geotechnical Review Comments, Proposed Commercial / Industrial Development, 2001 East Orangethorpe avenue, Fullerton, California, dated April 13, 2021, Project No. 1-1171.

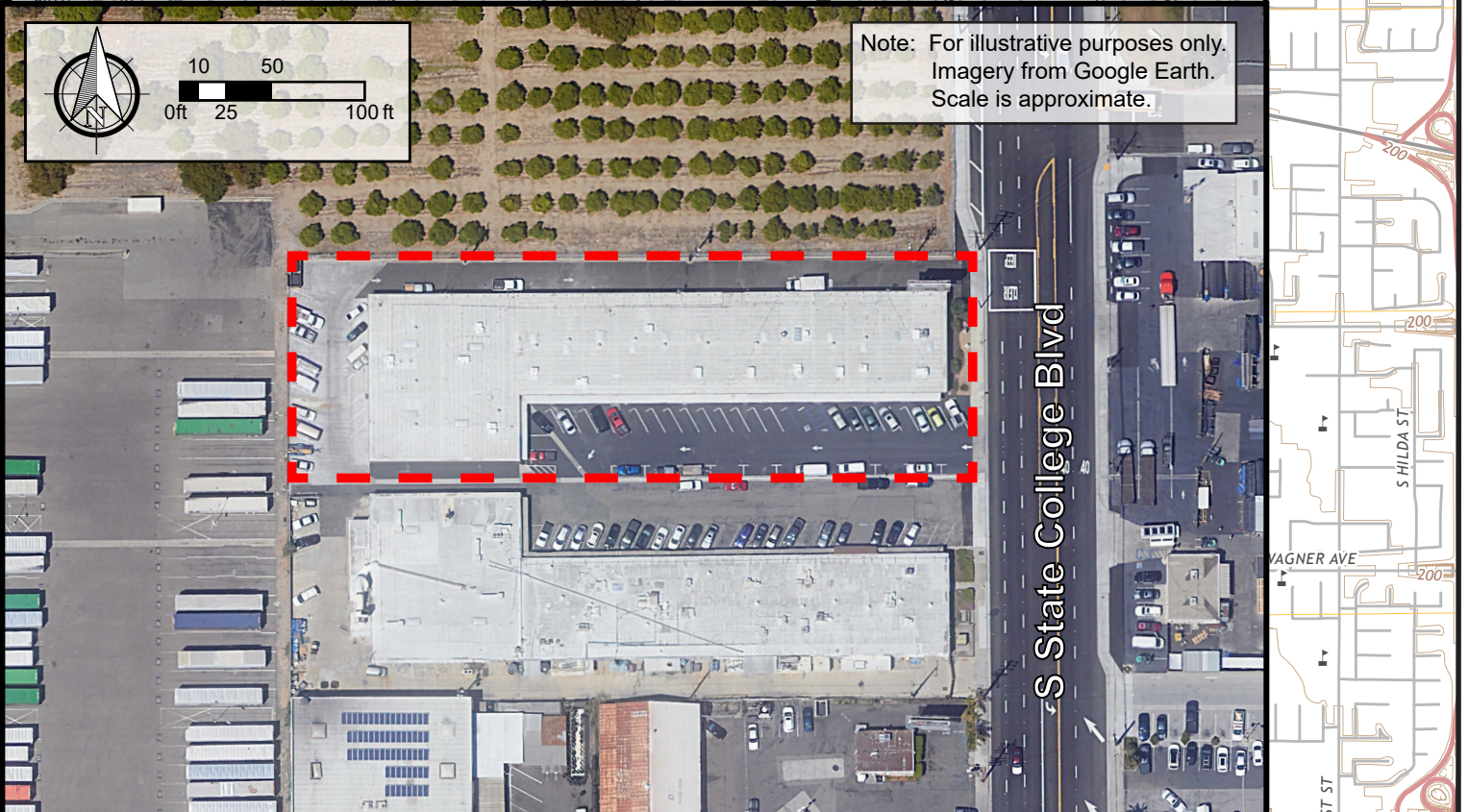
EXPLANATION

Approximate Limits of Pavement Evaluation

Map Scale: 1 inch = 2,000 feet
Source: USGS (2018) Anaheim Quadrangle, California - Orange County, 7.5-Minute Series, 1:24,000 Scale.



Note: For illustrative purposes only. Imagery from Google Earth. Scale is approximate.



Site Location Map

Project No. 1-1200 May 2021

1201-1223 South State College Boulevard

Fullerton, CA

Figure 1



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