

Appendix E: Geology and Soils Supporting Information

THIS PAGE INTENTIONALLY LEFT BLANK

Ryan A. McKee, P.G. 9448
848 Via Berros Road
Arroyo Grande, CA 93420

805-888-7546
ramckee@gmail.com

May 16, 2019
Mr. Clay Laucella
Laucella Holdings, LLC

Mr. Laucella,

I am pleased to present this letter describing the soils, geologic strata, and brief history of the subject property located at 1436 State Street in San Jose, California (Site). This letter was prepared for the sole use of Laucella Holdings LLC for site presented below in Figure 1. This description is based on published geologic literature and maps, topographic maps, publicly available aerial imagery and a brief site visit.



Figure 1. 1436 State Street, San Jose, CA (site) outlined in red.

Geologic History

The site is located on the margin of the northern alluvial plain of the Santa Clara Valley and the southern end of the San Francisco bay. The San Francisco bay area is a topographic depression bound by multiple northwesterly-aligned mountain ranges within the Coast Ranges geomorphic province of California that stretches from the Oregon border nearly to Point Conception. In the San Francisco Bay area, most of the Coast Ranges have developed on a basement of tectonically mixed Cretaceous- and Jurassic-age (70- to 200-million years old) rocks of the Franciscan Complex. Locally these basement rocks are capped by younger sedimentary and volcanic rocks. Most of the Coast Ranges are covered by still younger surficial deposits that reflect geologic conditions of the last million years or so.

The broad alluvial plain of the Santa Clara Valley consists of Holocene and Pleistocene alluvial deposits (Helley and Wesling, 1989; and Helley et al., 1994) that consist of a deep section of unconsolidated and semi-consolidated stream and basin deposits that were deposited largely by ancestral Coyote Creek and Guadalupe River on top of the Franciscan Complex rocks that form the bottom of the basin. Alluvial soil thicknesses in the Santa Clara Valley range from 300 feet to over 6,500 feet (~2 km) (Rogers & Williams, 1974; and Jachens et al., 1997).

Site Geology

Surficial mapping by Helley and Wesling (1989) indicate that the site and adjacent areas are underlain by Holocene “floodbasin deposits - salt affected” (Qhbs). Floodbasin deposits are described by Helley and Wesling as “clay to very fine silty-clay deposits... contain[ing] carbonate nodules and iron-stained mottles.” These geologic units are similarly presented in mapping by Helley and others (1994) as presented in Figure 2.

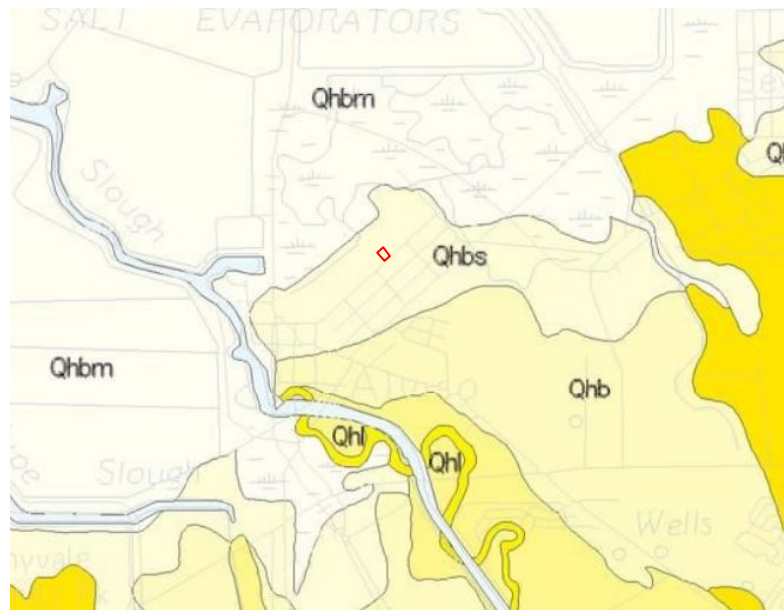


Figure 2. Site mapped as Quaternary age floodbasin deposits – salt affected (Qhbs). Approximate location of site identified with red rectangle.

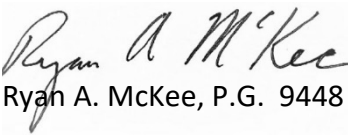
Available geologic maps do not include the fill materials placed over the natural deposits in the Alviso/northern San Jose vicinity. A review of USGS topographic maps (20 publication dates from 1897 to 2015) and publicly available aerial photographs and images (1948 to present) record a progressive placement of material to raise the project Site and vicinity grades.

Aerial imagery from 1948 record the site consisting of native marshland with drainage ditches in adjacent properties to the north and east. To the south

of the site State Street is present and appears to be un-paved, with graded lands to the south. Evidence of fill material was observed in 1956 and 1960 where the site was part of a parcel developed as a race-track. By 1968 the racetrack was nearly removed and the site appears to be developed with structures. Major site development of structures appears similar to what is observed in the 1980 aerial photograph - an approximate 100 ft by 30 ft structure in the southwest corner of the site. It is interpreted that the majority of artificial fill materials were placed on site at various times between 1948 and 1980. A comparison of topographic map elevations estimate approximately 1 to 3 feet of fill material was placed over native geologic material. A brief site reconnaissance found the site to be relatively level and similar in elevation to adjacent properties to the north, east, southeast across State Street, and westerly directions. One relatively less-developed property to the northwest lies approximately 1-2 feet lower than the site.

I appreciate the opportunity to serve you. Please feel free to contact with me any questions concerning this letter or any future endeavors with this or other properties.

Sincerely,



Ryan A. McKee, P.G. 9448

References

Helley, E.J., and Wesling, J.R., 1989, Quaternary Geologic Map of the Milpitas Quadrangle, Alameda and Santa Clara Counties, California: U.S. Geological Survey, Open File Report OF-89-671, scale 1:24,000.

Helley, E.J., Graymer, R.W., Phelps, G.A., Showalter, P.K., and Wentworth, C.M., 1994, Quaternary geology of Santa Clara Valley, Santa Clara, Alameda, and San Mateo Counties, California: a digital database: U.S. Geological Survey, Open File Report OF-94-231, scale 1:50,000.

Jachens, R.C., Sikora, R.F., Brabb, E.E., Wentworth, C.M., Brocher, T.M., Marlow, M.S., and Roberts, C.W., 1997, The basement interface: San Francisco Bay area, California, 3-D seismic velocity model: Eos, Transactions of the American Geophysical Union, v. 78, F436.

Rogers, T.H., and J.W. Williams, 1974 Potential Seismic Hazards in Santa Clara County, California, Special Report No. 107: California Division of Mines and Geology.

THIS PAGE INTENTIONALLY LEFT BLANK