



June 16, 2022

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Subject: Paleontological Resource Assessment for the Corona Magnolia Project, City of Corona,
Riverside County, California (APN 107-033-022)

Dear Tracy:

This paleontological resource assessment has been completed for the Corona Magnolia Project located northeast of the intersection of Magnolia and El Camino avenues (Assessor's Parcel Number [APN] 107-030-022) in the city of Corona, Riverside County, California. The project parcel is being proposed for redevelopment.

Site Location: The proposed project is located in the city of Corona, in an area southeast of the intersection of the State Route 91 and Interstate 15 freeways (Attachments 1 and 2). The 16.57-acre parcel is roughly triangular-shaped and bounded by Magnolia Avenue on the south, El Camino Avenue on the west, and the channelized Temescal Wash along the northeast side. The project is situated within an unsectioned area within Township 3 South, Range 6 West, of the San Bernardino Baseline and Meridian, on the U.S. Geological Survey 7.5-minute *Corona South, California* topographic quadrangle map (see Attachment 2).

Regulatory Setting, City of Corona: The City of Corona's current General Plan (City of Corona 2020) and Environmental Impact Report (EIR; City of Corona 2019) include the following specific measures to identify, protect, and preserve paleontological resources during the planning and environmental review process:

Goal HR-3

Recognize the importance of archaeological and paleontological resources and ensure the identification and protection of those resources within the City of Corona.

Policies ...

- HR-3.2** Require that development proposals incorporate specific measures to identify, protect, and preserve cultural resources in the planning, environmental review, and development process ...
- HR-3.6** Any project that involves earth-disturbing activities in soil or rock units known or reasonably suspected to be fossil-bearing shall require monitoring by a qualified paleontologist retained by the project applicant for the duration of excavation or trenching.
- HR-3.7** Paleontological resources found prior to or during construction shall be evaluated by a qualified paleontologist, and appropriate mitigation measures applied, pursuant to § 21083.2 of CEQA [California Environmental Quality Act], before the resumption of development activities. Any measures applied shall include the preparation of a report meeting professional standards, which shall be submitted to the Riverside County Museum of Natural History. (City of Corona 2019 2020)

Geology: Geologically, the Corona Magnolia Project is situated within Holocene- and late Pleistocene-aged sandy, young alluvial channel deposits (area colored yellow with red dots and labeled “Qya_a” on Attachment 3, after Gray [et al. 2002] and Morton and Gray [2002]). These deposits are composed of “[g]ray, unconsolidated alluvium. Found chiefly in Temescal Wash and its tributaries, where it consists of medium- to fine-grained sand in lower reaches and coarsens to gravel and cobbles up stream” (Gray et al. 2002).

Paleontological Sensitivity: Pleistocene alluvial deposits are known to yield the fossilized bones of Pleistocene mammals, such as extinct bison, camels, and giant ground sloths in western Riverside County (Jefferson 1991, 2009). The closest known fossils from alluvial deposits possibly similar to the Corona Magnolia Project are located about two miles to the northwest, consisting of the remains of a Pleistocene deer (Los Angeles County Museum of Natural History locality 1207). Approximately three miles south of the current project, in the Chase Ranch neighborhood of Corona, a large collection of over 1,000 fossil leaves from about 16 species of plants and trees was recovered from Pleistocene alluvial deposits (Fisk and Peck 2004; Jefferson 2009).

The City of Corona General Plan (City of Corona 2020 [Fig. HR-1]) and EIR (City of Corona 2019 [Table 5.7-4; Figure 5.7-6]) have assigned the Holocene- and late Pleistocene-aged channel deposits mapped at the project as having a “low-to-high” paleontological potential/sensitivity. The General Plan identifies a “low-to-high” sensitivity as where “[s]ome

sedimentary deposits are too young to preserve fossils at the surface or shallow subsurface but may preserve fossils at greater depth or overlie older units that have high paleontological sensitivity.” Based on this sensitivity assessment, the EIR presents the following paleontological resource mitigation measures that are applicable to the project (City of Corona 2019:5.7-38):

- GEO-1 High and Low-to-High Sensitivity.** In areas designated as having “high” or “low-to-high” sensitivity for paleontological resources, the project applicant shall be required to submit a Paleontological Resources Monitoring and Mitigation Plan (PRMMP). The PRMMP shall be prepared by a Qualified Paleontologist meeting the standards of [the] Society of Vertebrate Paleontology (2010). The plan shall address specifics of monitoring and mitigation based on the project area and project’s construction plan, and shall take into account updated geologic mapping, geotechnical data, updated paleontological records searches, and changes to the regulatory framework at the time of analysis. The PRMMP shall be submitted to the City of Corona’s Community Development Department prior to approval of a grading permit ...
- GEO-3 Low-to-High Sensitivity.** Projects involving ground disturbance in previously undisturbed areas mapped with “low-to-high” paleontological sensitivity shall require monitoring if construction activity exceeds the depth of the low-sensitivity surficial sediments. The underlying sediments may have high sensitivity; therefore, work in those units shall require paleontological monitoring, as designated by the Qualified Paleontologist in the Paleontological Resources Monitoring and Mitigation Plan (PRMMP) ...
- GEO-6 All Projects.** In the event of any fossil discovery, regardless of depth or geologic formation, construction work shall halt within a 50-foot radius of the find until its significance can be determined by a Qualified Paleontologist. Significant fossils shall be recovered, prepared to the point of curation, identified by qualified experts, listed in a database to facilitate analysis, and deposited in a designated paleontological curation facility in accordance with the standards of the Society of Vertebrate Paleontology (2010). The most likely repository is the Natural History Museum of Los Angeles County (NHMLA). The repository shall be identified, and a curatorial arrangement shall be signed, prior to collection of the fossils.

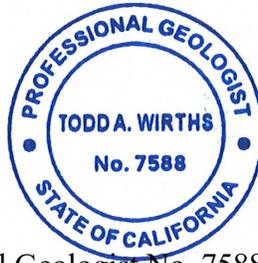
Conclusions and Recommendations: Research has revealed the presence of young alluvial channel deposits mapped at the project, which are assigned an age of Holocene and late Pleistocene. Pleistocene-aged alluvial channel deposits underlie the surficial younger, Holocene alluvial channel deposits. However, the depth of the age transition from Holocene to late Pleistocene within these deposits is unknown. City of Corona guidelines assign a “low-to-high” paleontological sensitivity to these deposits, reflecting their variation in geologic age, with the upper, Holocene portion having a low sensitivity, and the deeper, Pleistocene portion of the formation having a high sensitivity. Projects impacting formations with a high sensitivity or “low-to-high” sensitivity are subject to mitigation monitoring requirements by the City of Corona. However, City of Corona guidelines do not provide information regarding depth(s) differentiating the ages within geologic formations assigned to the “low-to-high” sensitivity rating. A depth of 10 feet is suggested here for the Holocene-Pleistocene age transition.

Based on the analysis above, a PRMMP is recommended for the project to reduce adverse impacts to paleontological resources that may be present in the alluvial channel deposits at the project to a level below significant. The PRMMP should follow the guidelines of the City of Corona, the County of Riverside, and the recommendations of the Society of Vertebrate Paleontology (2010). The PRMMP should include methods for:

- Attendance by a qualified paleontologist at the preconstruction meeting to consult with the grading and excavation contractors.
- On-site presence of a paleontological monitor to inspect for paleontological resources on a full-time basis during the excavation of previously undisturbed deposits starting at a depth of 10 feet, and on a part-time basis during the excavation of previously undisturbed deposits between depths of five and 10 feet deep.
- Salvage and recovery of paleontological resources by the qualified paleontologist or paleontological monitor.
- Preparation (repair and cleaning), sorting, and cataloguing of recovered paleontological resources.
- Donation of prepared fossils, field notes, photographs, and maps to a scientific institution with permanent paleontological collections.
- Completion of a final summary report that outlines the results of the mitigation program.

If you have any questions concerning this evaluation, please feel free to contact us at our Poway address. Thank you for the opportunity to have provided paleontological services for this project.

Sincerely,



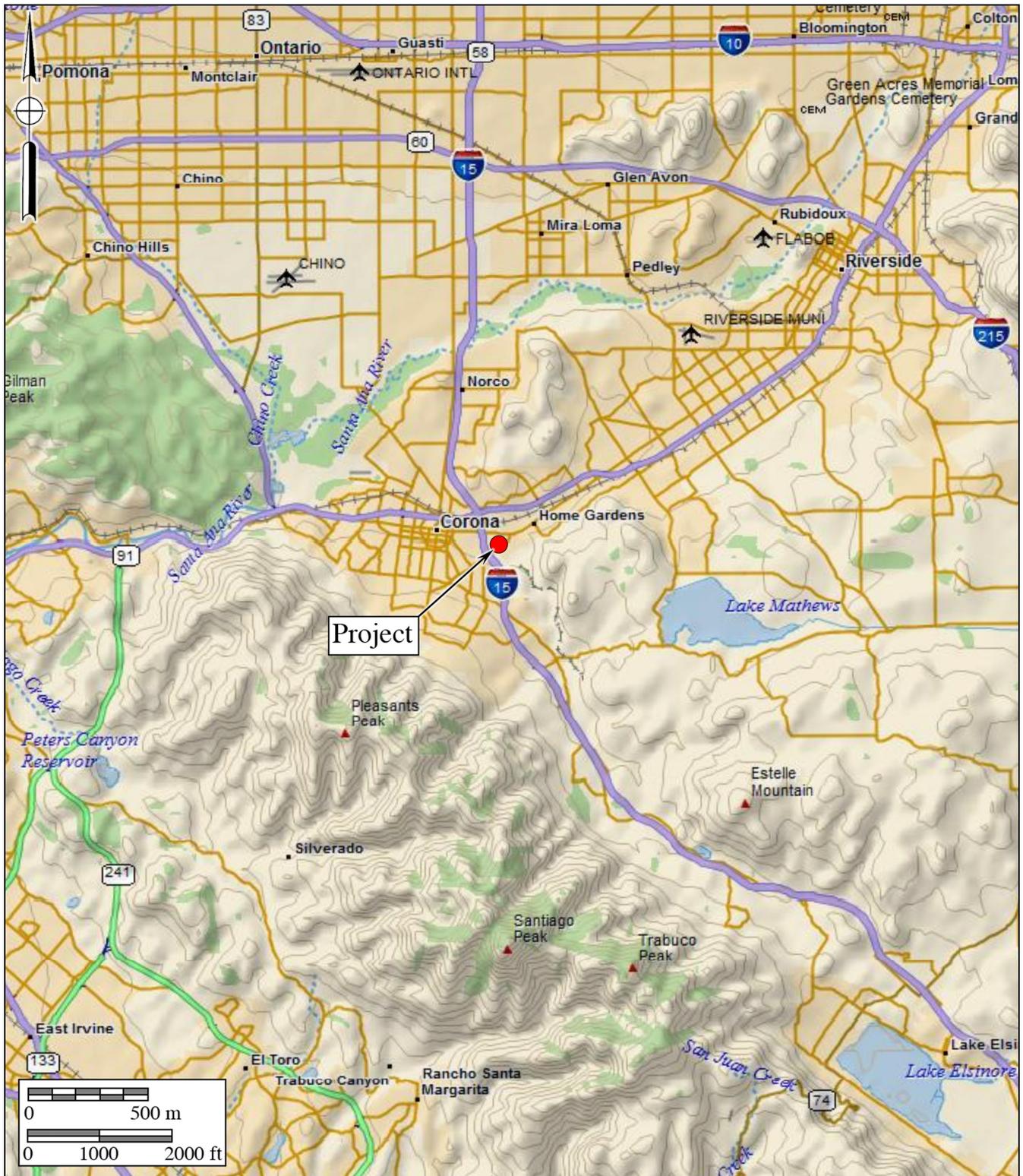
Todd Wirths, M.S., P.G.

Senior Paleontologist, California Professional Geologist No. 7588

Attachments: Index maps, geologic map

References:

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- Society of Vertebrate Paleontology. 2010. Standard procedures for the assessment and mitigation of adverse impacts to paleontological resources; by the SVP Impact Mitigation Guidelines Revision Committee. Electronic document, https://vertpaleo.org/wpcontent/uploads/2021/01/SVP_Impact_Mitigation_Guidelines-1.pdf, accessed June 10, 2022.



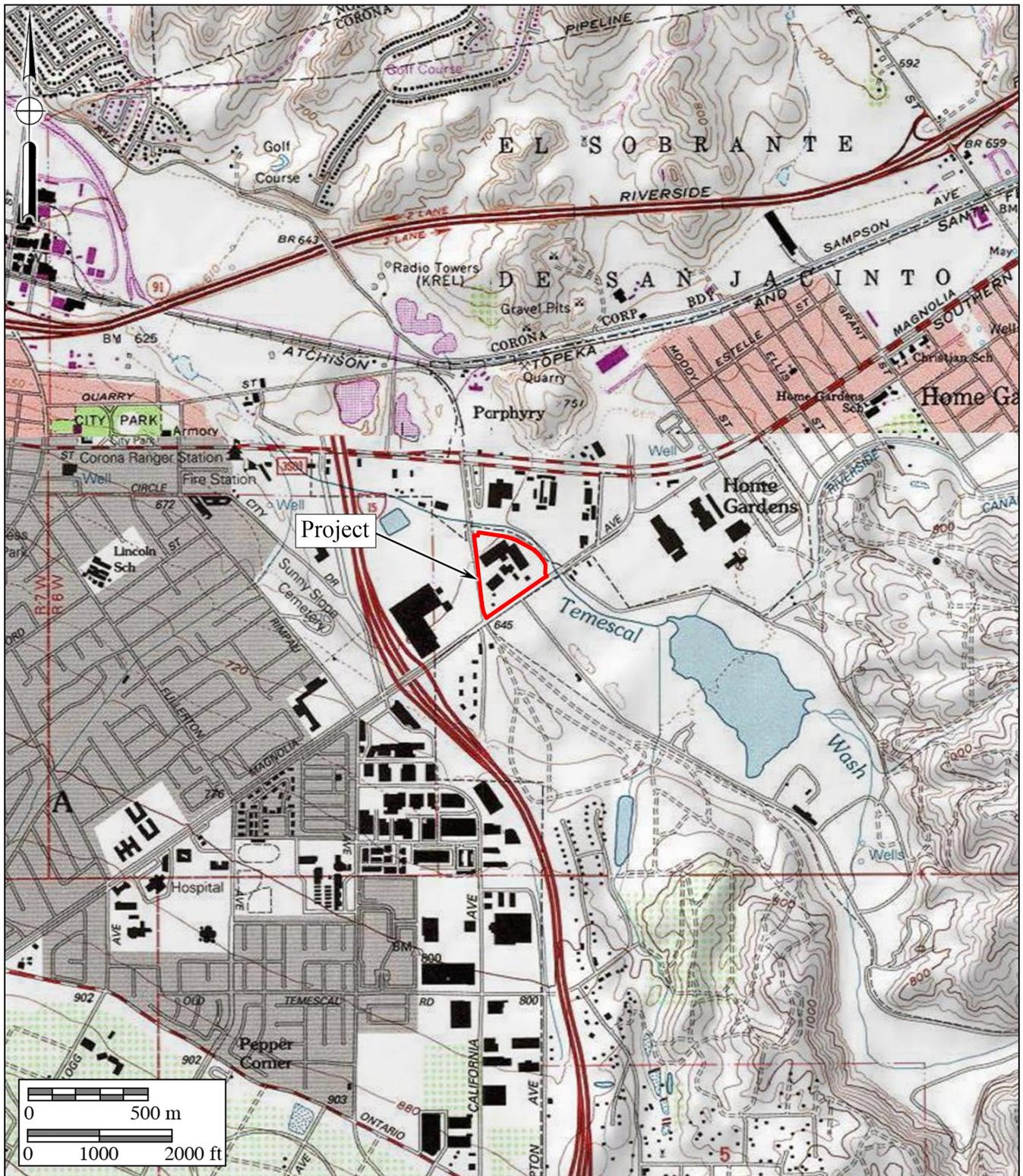
Attachment 1

General Location Map

The Corona Magnolia Project

DeLorme (1:250,000)





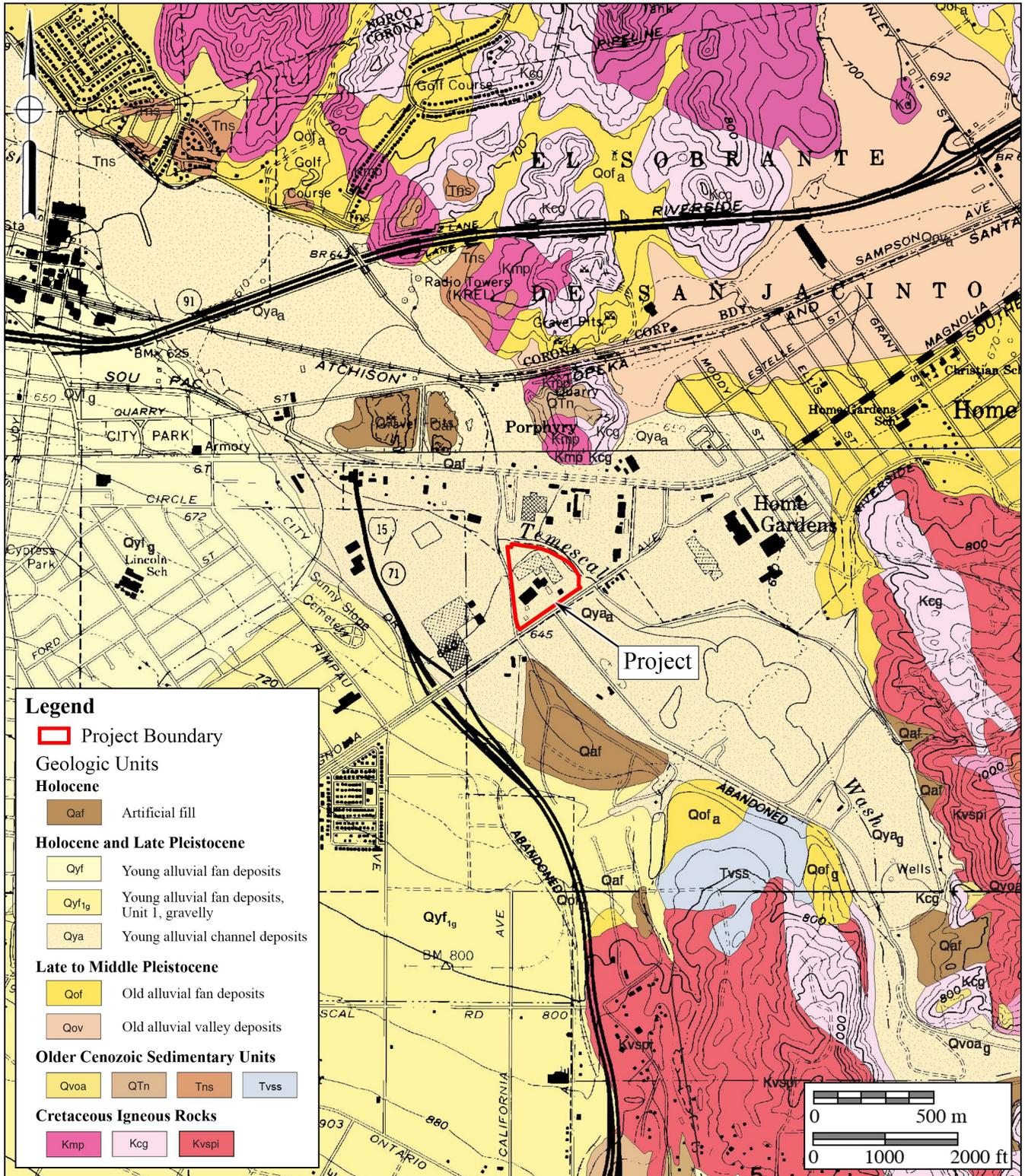
Attachment 2

Project Location Map

The Corona Magnolia Project

USGS Corona North and Corona South Quadrangles (7.5-minute series)





Attachment 3 Geologic Map

The Corona Magnolia Project

Geology after Morton and Gray (2002) and Gray et al. (2002)

