

December 5, 2023

Northgate Gonzalez
RE, LLC
1201 North Magnolia Avenue
Anaheim, California 92801

RE: *Paleontological Assessment for the Northgate Markets Project, Riverside County, California*

To Whom It May Concern:

ECORP Consulting, Inc. completed a thorough investigation into the potential to directly impact paleontological resources during the construction of the Northgate Markets Project at 6th and Main Street (Project). This investigation included a paleontological record search through the Western Science Center (WSC) in Hemet, California and a desktop study of the geology and paleontology of the Project Area.

The Project Area consists of approximately 4.88 acres near South Belle Avenue, between West 4th Street and West 6th Street south of California State Route 91 within the City of Corona, Riverside County, California. The Project Area is located within an unsectioned portion of Township 3 South, Range 7 West on the Corona South, California U.S. Geological Survey 7.5-minute topographic quadrangle map.

GEOLOGIC SETTING

The City of Corona lies within the northern end of the Peninsular Ranges. Geologically, the Project Area is located within the Chino and Elsinore fault zones near the northeastern edge of the Santa Ana Mountains (BFSA Environmental Services 2023). The Peninsular Ranges extend southeastward and are characterized by elongate ranges and valleys. The higher part of the province is underlain by igneous and metamorphic rocks of pre-Cenozoic age. Farther west is an irregular coastal plain on which marine and fluvial terraces are prominent (Jahn 1954; Figure 2). Here, sedimentary and volcanic rocks of late Mesozoic and Cenozoic age are present. The Project is situated on Holocene and late Pleistocene alluvial fan deposits (Gray et al. 2002) consisting mainly of unconsolidated, cobble-sized gravel.

RECORD SEARCH RESULTS

ECORP conducted a paleontological record search through the WSC in Hemet, California. The WSC does not have fossil localities in the Project Area or within a 1-mile radius of the Project Area (Stoneburg 2023). The presence of Holocene alluvial units is insignificant as any fossil material found within these units is unlikely to be fossil material due to the relatively modern associated dates of the deposits. However, if ground disturbance exceeds the Holocene alluvial deposits, the likelihood of reaching Pleistocene (approximately 2 million years ago to 11,700 years ago) alluvial sediments would increase, and there is potential within these sediments to contain fossils. The closest known fossils from surficial alluvial deposits were located from the Chase Ranch neighborhood of Corona, south of the Project Area, consisting of a large collection of over 1,000 fossil leaves from 16 species of plants and trees (BFSA Environmental

Services 2023; Smith and Associates, Inc. 2022). Gray et al (2002) mapped these fossil deposits as derived from middle to early Pleistocene-aged alluvial fan deposits. In addition, between Lincoln Avenue and Main Street, north of Highway 91, the remains of a Pleistocene deer were recovered, and an unknown locality defined as "Corona, Santa Ana River" produced fossil remains of fish, rabbit, vole, mammoth, horse, camel, and bison (BFSA Environmental Services 2023).

REGULATORY SETTING

California Environmental Quality Act of 1970 (Public Resources Code Section 21000 et seq.)

The California Environmental Quality Act (CEQA) Guidelines, Article 1, Section 15002(a)(3) states that CEQA is intended to "prevent significant, avoidable damage to the environment by requiring changes in projects through the use of alternatives or mitigation measures when the governmental agency finds the changes to be feasible." CEQA further states that public or private projects financed or approved by the State of California (State) are subject to environmental review by the State. All such projects, unless entitled to an exemption, may proceed only after this requirement has been satisfied. CEQA requires detailed studies that analyze the environmental effects of a proposed project. In the event that a project is determined to have a potential significant environmental effect, the act requires that alternative plans and mitigation measures be considered. If paleontological resources are identified as being within the Proposed Project study area, the sponsoring agency must take those resources into consideration when evaluating project effects. The level of consideration may vary with the importance of the resource.

Public Resources Code Section 5097.5

No person shall knowingly and willfully excavate upon, or remove, destroy, injure or deface any historic or prehistoric ruins, burial grounds, archaeological or vertebrate paleontological site, including fossilized footprints, inscriptions made by human agency, or any other archaeological, paleontological, or historical feature, situated on public lands, except with the express permission of the public agency having jurisdiction over such lands. Violation of this section is a misdemeanor. As used in this section, *public lands* mean lands owned by, or under the jurisdiction of, the state, or any city, county, district, authority, or public corporation, or any agency thereof.

Professional Standards

The SVP (2010), a national scientific organization of professional vertebrate paleontologists, has established standard guidelines that outline acceptable professional practices in the conduct of paleontological resource assessments and surveys, monitoring and mitigation, data and fossil recovery, sampling procedures, specimen preparation, analysis, and curation. Most practicing professional paleontologists in the nation adhere to the SVP's assessment, mitigation, and monitoring requirements, as specifically spelled out in its standard guidelines.

City of Corona

The City of Corona's current General Plan 2020-2040 includes the following mitigation measures to identify, protect, and preserve paleontological resources during the planning and environmental review process. The following is taken from the General Plan 2020-2040:

- HR-3.1** Require appropriate treatment/preservation of archaeological collections in a culturally appropriate manner, in accordance with state and federal standards, and in consultation with interested Native American tribes that have traditional cultural affiliation with the project area and/or the resources affected by the project.
- 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-3.3** Archaeological resources found prior to or during construction shall be evaluated by a qualified archaeologist and appropriate mitigation measures applied, pursuant to § 21083.2 of CEQA, 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 appropriate CHRIS information center.
- HR-3.4** Any project that involves earth-disturbing activities in an area determined to be archaeologically or culturally sensitive shall require evaluation of the site by a qualified archaeologist. The applicant shall implement the recommendations of the archaeologist, subject to the approval of the City Planning Department.
- HR-3.5** Any project that involves earth-disturbing activities in an area determined to be archaeologically or culturally sensitive shall require consultation by the applicant with interested federally recognized American Indian Tribe(s) that have a traditional cultural affiliation with the project area and/or the resources affected by the project, for the purposes of determining resources impacts and appropriate mitigation to address such impacts. Applicant shall also arrange for monitoring of earth-disturbing activities by interested federally recognized American Indian Tribe(s) that have a traditional cultural affiliation with the project area and/or the resources affected by the project, if requested.
- 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, 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.
- HR-3.8** In the event of the discovery of a burial, human bone, or suspected human bone, all excavation or grading in the vicinity of the find shall halt immediately and the area shall be

protected and the project applicant immediately shall notify the Riverside County Coroner and comply with provisions of the Health and Safety Code § 7050.5, including PRC § 5097.98, if applicable. If the find is determined to be Native American human remains, the applicant shall consult with the Most Likely Descendent to determine appropriate treatment for such remains.

PALEONTOLOGICAL SENSITIVITY

To assess the significance of a geologic unit to contain paleontological resources (i.e., paleontological potential/sensitivity), paleontologists have adopted the standards set forth by the SVP (2010). The City of Corona has used this sensitivity in planning for future development or redevelopment where excavations are likely. The following classifications are used to indicate the potential for the presence of fossils:

- **No Sensitivity.** This refers to igneous and metamorphic rocks, which generally have no paleontological sensitivity because the ways these rocks form are not conducive to the preservation of fossils.
- **Low Sensitivity.** Some rock units are of an age to preserve fossil resources, but specimens are poorly represented in the literature and in museums, and the presence of fossils is the exception and not the rule.
- **Low-to-High Sensitivity.** Some 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.
- **High Sensitivity.** These areas refer to geologic formations that are known to preserve abundant or scientifically significant fossils, therefore giving them high sensitivity to paleontological resources.
- **Undetermined Sensitivity.** This designation refers to areas where paleontological sensitivities cannot be determined because there is little to no record in the scientific literature.

RECOMMENDATIONS

To assess the significance of a geologic unit to contain paleontological resources (i.e., paleontological potential/sensitivity), paleontologists have adopted the standards set forth by the Society of Vertebrate Paleontology (2010). Research has indicated that Pleistocene-aged alluvial fan deposits may contain fossils at depth. The City of Corona General Plan (2020-2040) and PlaceWorks (2019) has created a City-wide map presenting the levels of paleontological sensitivity assigned to the geologic formations present. Young Holocene alluvium fan deposits on the surface within the Project Area are assigned a low sensitivity criteria for producing fossils whereas the underlying alluvial fan deposits have a high paleontological sensitivity. Based on this assessment, the following paleontological mitigation measures are applicable to the Project.

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 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 searched, 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-2

High Sensitivity. Projects involving ground disturbances in previously undisturbed areas mapped as having “high” paleontological sensitivity shall be monitored by a qualified paleontological monitor on a full-time basis, under the supervision of the Qualified Paleontologist. Monitoring shall include inspection of exposed sedimentary units during active excavations within sensitive geologic sediments. The monitor shall have authority to temporarily divert activity away from exposed fossils to evaluate the significance of the find and, if the fossils are determined to be significant, professionally and efficiently recover the fossil specimens and collect associated data. The paleontological monitor shall use field data forms to record pertinent location and geologic data, measure stratigraphic sections (if applicable), and collect appropriate sediments from any fossil localities.

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-4

Low Sensitivity. Projects involving ground disturbance in previously undisturbed areas mapped as having “low” paleontological sensitivity shall incorporate worker training to make construction workers aware that, although paleontological sensitivity is low, fossils might still be encountered. The Qualified Paleontologist shall oversee the training as well as remain in call in the event fossils are found.

GEO-5

Unknown Sensitivity. Projects involving ground disturbance in previously undisturbed areas mapped as having “unknown” paleontological sensitivity shall retain a Qualified Paleontologist to conduct a field survey of the project area to determine the sensitivity of the geologic units, after which the relevant mitigation measures (GEO-1 through GEO-4) shall be applied.

GEO-6

In the event of any fossil discovery, regardless of depth of 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.

If you have any questions, please feel free to contact me via email at nkottachchi@ecorpconsulting.com.

Sincerely,



Niranjala Kottachchi Paleontological Resources Manager

REFERENCES

- BFSA Environmental Services. 2023. *Paleontological Assessment for the Ivy at Mountain Gate Project*. City of Corona, Riverside County, California. 18p.
- City of Corona. 2020. *Corona General Plan 2020–2040*.
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- Smith, B.F. and Associates, Inc. 2022. *Paleontological Resource Assessment for the Corona Magnolia Project, City of Corona, Riverside County, California*. 9p.
- Society of Vertebrate Paleontologists. 2010. *Standard Procedures for the Assessment and Mitigation of Adverse Impacts to Paleontological Resources*. 11 pp. https://vertpaleo.org/wp-content/uploads/2021/01/SVP_Impact_Mitigation_Guidelines-1.pdf.

Personal Communication

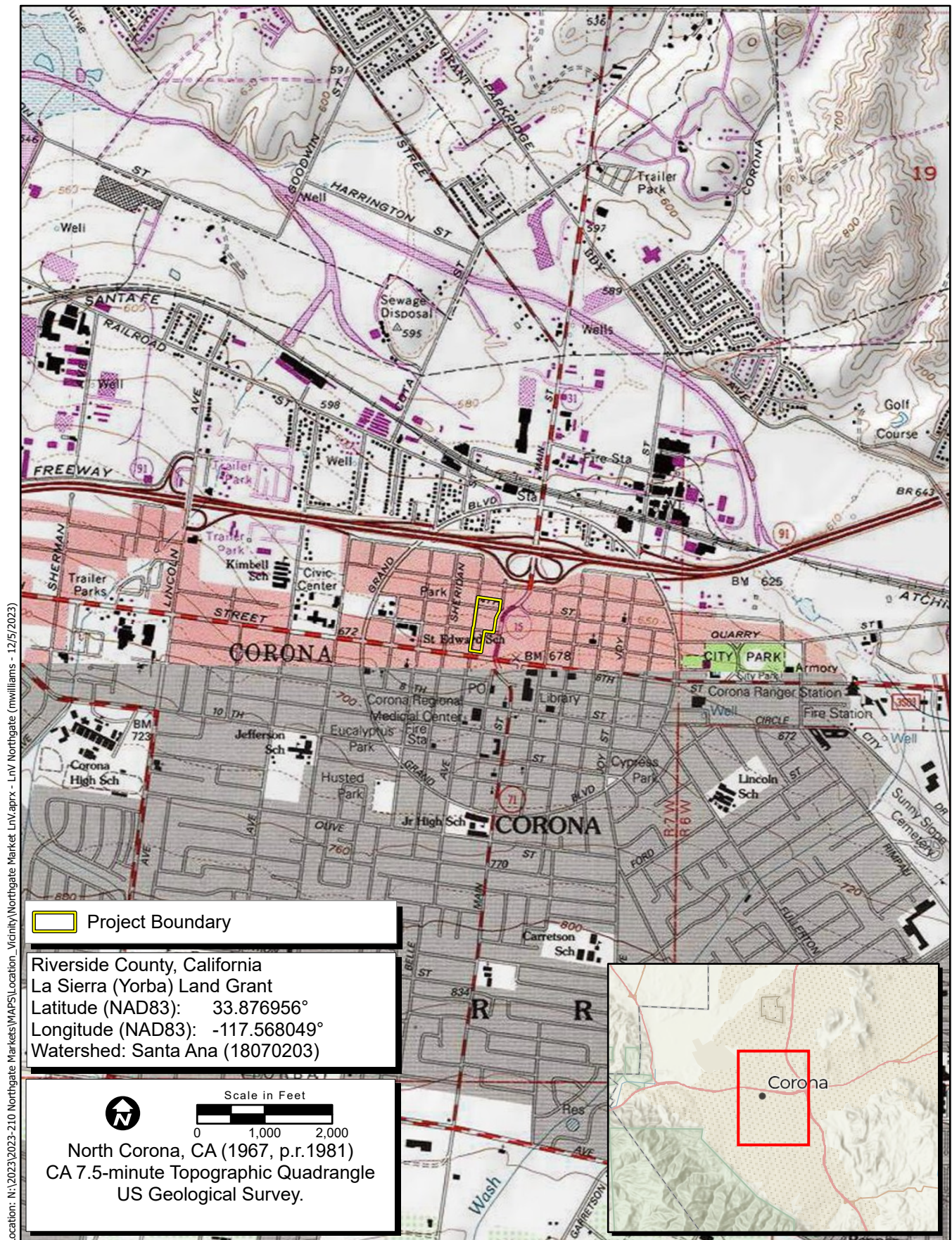
- Email from Brittney Stoneburg. February 15, 2024. Paleontological Record Search Western Science Center, Hemet, California.

LIST OF FIGURES

Figure 1. Project Location and Vicinity

Figure 2. Geologic Map

Figure 3. Paleontological Sensitivity Map



Map Date: 12/5/2023
 Sources: ESRI, USGS

Figure 1. Project Location and Vicinity



Location: N:\2023\2023-210 Northgate Markets\MAPS\Paleo\Northgate_Geology_20240226 (trotellini) - 2/26/2024)

Map Date: 2/26/2024

Sources: ESRI, Maxar 2023, CA Dept. of Conservation

Figure 2. Geologic Map

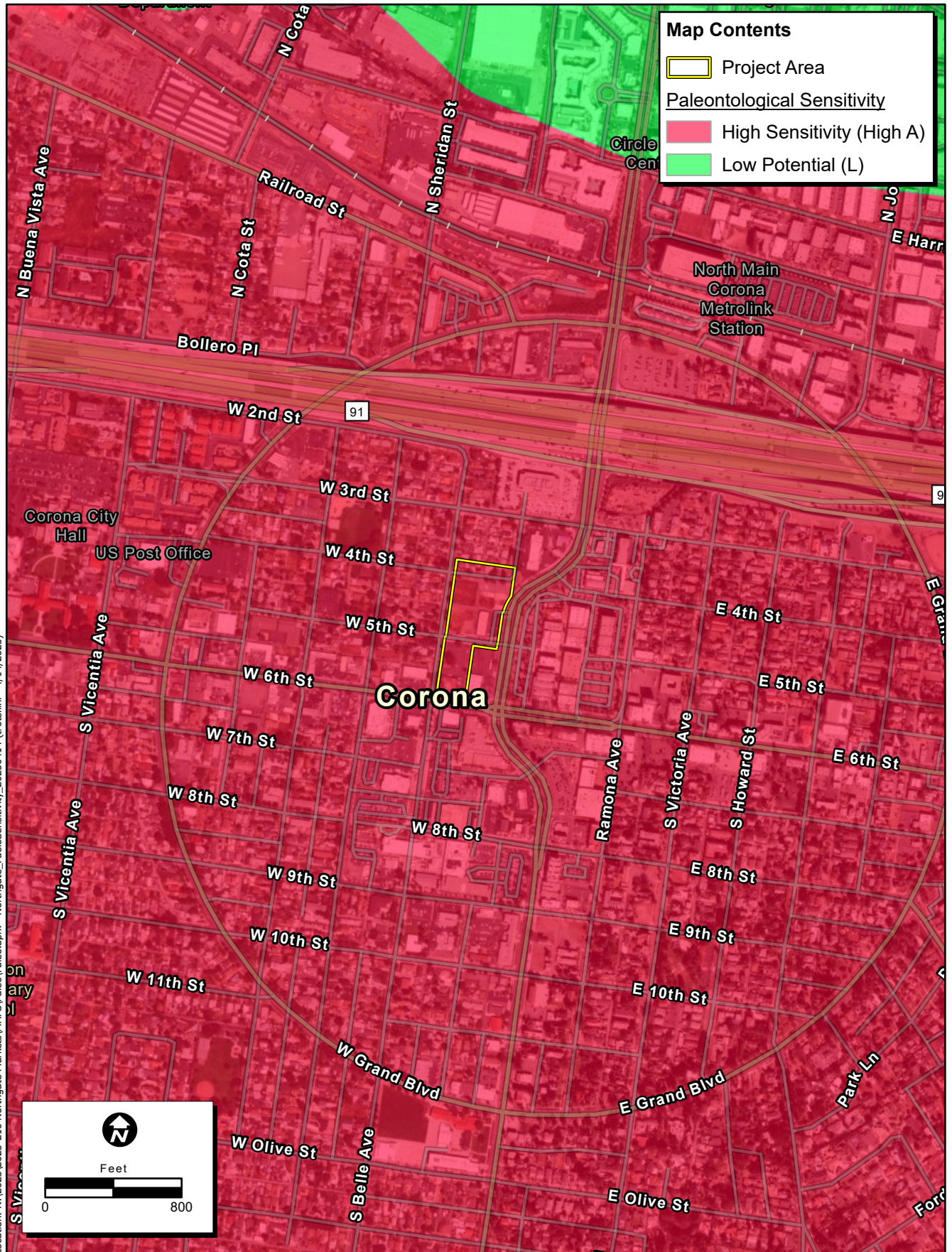


Figure 3. Paleontological Sensitivity