APPENDIX D

Biological Technical Report

BIOLOGICAL TECHNICAL REPORT

Brookside Development Project



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ACRONYMS, ABBREVIATIONS, AND GLOSSARY OF TERMS

APN	Assessor's Parcel Number
BCC	Bird of Conservation Concern
BMPs	Best Management Practices
BLM	Bureau of Land Management
CAGN	California gnatcatcher
CDFW	California Department of Fish and Wildlife
CE	Candidate Endangered Species
CESA	California Endangered Species Act
CEQA	California Environmental Quality Act
City	City of Walnut
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
County	County of Los Angeles
CRPR	California Rare Plant Rank
CSS	Coastal Sage Scrub
CWA	federal Clean Water Act
e.g.	for example
EFH	Essential Fish Habitat
ESA	Federal Endangered Species Act
etc.	et cetera
FGC	Fish and Game Code
FP	Fully Protected
FSS	Forest Service Sensitive
GIS	Geographic Information System
i.e.	in other words
KBI	Kidd Biological, Inc.
MBTA	Migratory Bird Treaty Act
MCV	Manual of California Vegetation
MSL	mean sea level
NPPA	Native Plant Protection Act
NRCS	Natural Resources Conservation Service
NWI	National Wetlands Inventory
NWP	Nationwide Permit
OHWM	Ordinary High-Water Mark
OC	Orange County
O	Open space
PRD	Planned Residential Development
RAFSS	Riversidian Alluvial Fan Sage Scrub
RWQCB	Regional Water Quality Control Board
SEA	Significant Ecological Area
sp.	Species

spp.	Subspecies
SSC	Species of Special Concern
U.S.	United States
USACE	United States Army Corps of Engineers
USDA	United States Department of Agriculture
USFS	United States Forest Service
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
VCS	VCS Environmental
WL	Watch List Species
WOS	Waters of the State
WOUS	Waters of the United States

1.0 INTRODUCTION

On behalf of the City of Walnut, VCS Environmental (VCS) prepared this Biological Technical Report for the Brookside Project (Project), which incorporates the findings from the general biological survey and jurisdictional delineation conducted by VCS on September 12, 2022 and the following habitat assessments and focus surveys conducted in 2016, 2021, 2022, 2023 and 2024 by Rincon Consultants, Inc. (Rincon):

- Arborist Report; March 16, 2023 (Appendix C).
- Bat Habitat Assessment and Focused Survey; March 20, 2023 (Appendix E).
- Burrowing Owl Habitat Assessment and Focused Survey; March 20, 2023 (Appendix F).
- California Gnatcatcher Habitat Assessment; June 30, 2023 (Appendix G).
- Least Bell's Vireo Focused Survey Report; March 2023 (Appendix H).
- Southwestern Pond Turtle Habitat Assessment and Focused Survey; March 20, 2023 (Appendix I).
- Crotch's Bumblebee Survey Report; January 11, 2024 (Appendix J).

1.1 Purpose and Approach

This report provides a summary of the conditions present during the 2016, 2021, 2022, 2023 and 2024 habitat assessments and focused surveys conducted by Rincon and the September 12, 2022 VCS general biological survey and jurisdictional delineation, including an assessment of the potential presence of sensitive biological resources, and an analysis of the potential impacts to those resources with implementation of the Project. This report presents the current biological resources present within the Project site based on both database and field reviews, including habitat communities, jurisdictional waters, and the potential occurrence of listed and special status plant and wildlife species. The potential biological impacts in view of federal, state, and local laws and regulations are also identified in this report. While general biological resources are discussed, the focus of this assessment is on those resources considered to be sensitive. The report also recommends, as appropriate, Best Management Practices (BMPs), avoidance, minimization, and mitigation measures to reduce or avoid potential significant impacts.

1.2 Terms

The following terms will be used throughout this document and are defined as follows:

- Project Site: The general location of the property. The construction activities will occur only on a portion of the Project site and will not impact the entire Project site. The Project site is 25.84 acres, which includes the parcels and immediately adjacent roadway improvements.

- Impact Area: The 19.82-acre area within the Project site that is anticipated to be impacted by construction activities.

- Study Area: Includes the entire Project Site and a 500-foot buffer area around the Project site for field surveys and aerial reviews unless otherwise noted. In terms of database research, a two-mile search radius from the Project site was used unless otherwise noted. For the bat habitat assessment and focused survey, the Study Area includes the Project site as well as areas immediately adjacent to the site. For the coastal California gnatcatcher (*Polioptila californica*; CAGN) habitat assessment and the Crotch's bumblebee (*Bombus crotchii*; CBB) survey, the Study Area includes the Project site plus a 100-foot buffer. For the least bell's vireo (*Vireo bellii pusillus*; LBV) surveys and the burrowing owl (*Athene cunicularia*; BUOW) habitat assessment and focused surveys, the Study Area includes the Project site plus a 500-foot buffer. For the southwestern pond turtle (*Actinemys pallida*; SWPT) habitat assessment and focused surveys, the Study Area includes

the 0.4-mile stretch of Lemon Creek which flows through the site, a 10-foot buffer on either side of the creek, and an additional 500 feet above and below the lower and upper limits of the Project site.

1.3 Project Site Location

The Project site is located within an urbanized environment and is located on the United States Geological Survey (USGS), San Dimas, California, 7.5 Minute Quadrangle Map (USGS, 2015). The Project site is regionally accessible from State Route 60 via the South Lemon Avenue exit. The Project site can be locally accessed from North Lemon Ave and Meadow Pass Road. Regional and Aerial Maps are included as Figures 1, *Regional Map*, and 2, *Aerial Map*, respectively. The Project site consists of Assessor's Parcel Numbers (APN) 8709-093-001, 8709-093-002, 8709-093-003 and one associated address 800 Meadow Pass Road. The Project site is located within Section 6, Township 2s, Range 9W of the USGS Topographic Map (Figure 3, *USGS Topographic Map*).

1.4 Current Conditions

The Project site is bordered by La Puente Road to the south, Meadow Pass Road to the north, North Lemon Avenue to the west, and Broken Lance Road to the east within the City of Walnut, Los Angeles County. The Project site is primarily situated within a residential area of Walnut. The Project site, including offsite areas, consists of approximately 25.84 acres of land consisting of the Brookside Equestrian Center, which is no longer operational and various equestrian-related structures including three covered barns, stables, fenced corrals, maintenance storage facilities, feed sheds, and a large, covered arena. Additional structures and land uses include a trail riding network, improved and unimproved (dirt and gravel) roads, parking facilities, large, irrigated lawns, horse paddocks, and vacant undeveloped land. On-site topography consists of rolling foothills and two water bodies that converge on-site: Lemon Creek and an unnamed tributary referred to as Drainage A. The site is primarily associated with the heavily incised Lemon Creek, which flows south through the central portion of the site. The area immediately surrounding these streambeds is comprised of mixed forest with unpaved trails along either side. The majority of the Project site is located between approximately 570 and 660 feet (174-201 meters) above mean sea level and slopes to the south.

2.0 PROJECT DESCRIPTION

The Project applicant requests approval of a Tentative Tract Map to allow for the development of a 27-unit single-family detached housing project. The City's General Plan designates the Project site as Very Low Density and is Zoned as Residential Planned Development Zone (RPD). Primary access to the Project site would be from Meadow Pass Road and proposed access to the two most southerly residential homes would be from San Vicente Drive. Public streets with two proposed cul-de-sacs are included in the circulation design to avoid cut-through traffic from Meadow Pass Road to La Puente Road. The Project proposes a total of 12.2 acres of open space with recorded deed restrictions to preserve and maintain natural open space and Lemon Creek. Of the 12.2 acres, 9.5 acres of the open space would be owned by individual lot owners, but deed restricted to public trail and passive open space purposes. The existing trail that traverses the site would be located primarily within these 9.5 acres of open space, which would be improved to City trail standards and offered for dedication to the City of Walnut. The trail would be maintained and operated by the City. The portions of open space within the private lots would be subject to the public trail easement and recorded deed restriction that would prohibit lot owners from planting vegetation, installing fencing, or otherwise developing or using the restricted open space areas lying within these privately-owned lots. The 12.2 acres of open space is proposed to be maintained by a combination of some or all of a Lighting and Open Space Maintenance District (LOSMD) through a new zone funded entirely by the private property owners within the Project, the City (as to the trail only), the flood control district, or another public or quasi-public agency, and/or the Project's HOA.

Another component of the Project itself is a "Tree Preservation / Replacement Plan" to be implemented during Project development. Components of this design element include preservation through avoidance and protection, replacement of removed trees, and enhancement of species biodiversity. Pursuant to WMC Sections 6.52.290 and 6.52.330, the Project Applicant/Developer shall obtain a Tree Permit for minor encroachment of seven protected trees including three Valley oak (*Quercus lobata*) and four California black walnut (*Juglans californica*) trees, two of which are "Heritage Trees." The Applicant/Developer shall furnish all necessary information as determined by the Community Development Director together with the appropriate fee as established by Council resolution. Additionally, the Tree Preservation / Replacement Plan shall be implemented consistent with the City's Municipal Code Chapter 6.52.330 replacement requirements for tree removals. Based on the Project's Tree Replacement Summary (Section 6 of the March 16, 2023, Arborist Report, Appendix C), the Applicant/Developer shall replace the tree canopy that would be removed by construction and shall install 520 California native trees throughout the development site. The Applicant/Developer shall also implement Avoidance and Minimization Measures for Preserved Trees related to monitoring, fencing, root impacts, equipment staging, soil compaction, mechanical damage, pruning, bridging footings over roots, and horizontal directional drilling for utilities (Section 5 of the March 16, 2023, Arborist Report, Appendix C).

3.0 REGULATORY CONTEXT

The following is a list of the relevant federal, state, and local laws and regulations that apply to protecting plant communities, plants, wildlife, and water quality from impacts within the Project site.

Agency/ Organization	Laws/Regulations	Notes
Federal	Clean Water Act (CWA) Section 404	Jurisdictional Waters of the United States (WOUS) are present within the Project site and will be impacted during Project activities; therefore, a Section 404 Permit from the United States Army Corps of Engineers (USACE) will be required.
	CWA Section 401	Jurisdictional WOUS and Waters of the State (WOS) are present within the Project site and will be impacted during Project activities; therefore, a Section 401 Water Quality Certification from the Regional Water Quality Control Board (RWQCB) will be required.
	Nationwide Permit (NWP) Section 404	This Project is anticipated to qualify for NWP 29 – Residential, which has a 0.5-acre or 300-linear foot permanent impact limit. If more than 300 linear feet of jurisdictional waters need to be impacted, the Project may qualify for a waiver, subject to the USACE discretion. No waivers are available for projects that exceed the 0.5-acre limit; projects that exceed this limit would require an Individual Permit. The Project site contains WOUS. Therefore, a Section 404 permit will be required.
	CWA Section 408	No facilities subject to Section 408 occur within the Project.
	Migratory Bird Treaty Act (MBTA)	Compliance with the MBTA will be achieved with pre-construction surveys for nesting birds within 3 days prior to initiation of work.
	Endangered Species Act (ESA)	A federally listed species, least Bell's vireo (LBV), was observed within the Project site during one of the 2022 LBV focused surveys. This individual was determined to be a migrant not occupying the site. Therefore, with completion of the 2022 focused surveys showing the site as not being occupied by LBV, VCS has determined there is a low potential LBV to occupy the Project site. Impacts to migrant LBV will be avoided with a pre-construction nesting survey conducted prior to initiation of work.
State	Section 1600 of the Fish and Game Code (FGC)	Jurisdictional WOS are present within the Project site and will be impacted during Project activities; therefore, a Section 1600 Agreement through the California Department of Fish and Wildlife (CDFW) will be required.

Agency/ Organization	Laws/Regulations	Notes
	Sections 3503, 3503.5, and 3513 of the FGC	These FGC sections offer protection of nesting birds, birds-of-prey, and migratory birds. Focus surveys in 2022 were completed and determined the site is not occupied by burrowing owl. Therefore, VCS has determined there is a low potential for burrowing owl (BUOW) to occupy the site. Compliance will be maintained with a pre-construction survey for nesting birds (including burrowing owl, birds-of-prey, and migratory birds) within 3 days prior to initiation of work.
	Section 4150 of the FGC and Section 2081 and 2080.1 of the FGC	Prohibits incidental or deliberate "take" of non-game mammals and State endangered species, including bats. Focus surveys for bats were conducted and sensitive bat species were determined to day roost on the Project site. No maternity roosts were observed, but the site remains suitable and maternal bats could move into the site. Potential impacts to bats will be avoided and minimized through scheduling demolition outside of the bat maternity season, phased demolition and removal of structures and trees, a pre-construction survey conducted prior to initiation to work, and avoiding night work. Focus surveys were also conducted for LBV, discussed above, and Crotch's Bumble Bee (CBB). CBB was observed foraging onsite, however, it was concluded no suitable nest colonies were determined to be precluded based on the site conditions. Therefore, it has been determined by Rincon Consultants, Inc. that the Study Area does not contain habitat of sufficient quality to support CBB.
	Porter-Cologne Water Quality Control Act and Water Discharge Requirements (WDR)	WOS and WOUS are present within the Project site and will be impacted during Project activities; therefore, a WDR will be required, which is often issued as part of the Section 401 permit noted above.
Local	City of Walnut General Plan Environmental Resources Management Element	This element consolidates the Conservation, Recreation, Open Space, and Scenic Highway Elements and consists of the following policy statement: Protect scenic, historic, natural wildlife, archaeological and cultural resources of this area.

Agency/ Organization	Laws/Regulations	Notes
	Oak/Walnut Tree Preservation Ordinance Chapter 6.52 Article V.	Trees protected by the ordinance on any land located within the incorporated areas of the City of Walnut shall not be cut, pruned, removed, relocated, endangered or damaged except in accordance with the conditions of a valid tree permit issued by the City. Additionally, replacement trees shall be planted in accordance with the procedure established in Section 6.52.320. "Tree" means any oak tree of the genus *Quercus* and California Black Walnut. A Tree Survey and Arborist Report was conducted, and a Tree Removal Mitigation and Tree Preservation/Replacement Plan is proposed. A tree permit would be obtained per Chapter 6.52.290 and 6.52.330 of the City's Municipal code, where the applicant shall be required to furnish all necessary information as determined by the Director together with the appropriate fee as established by council resolution.

3.1 Impacts Terminology

Potential impacts to biological resources that could result from implementation of the proposed Project are discussed in each of the Vegetation, Wildlife, and Jurisdictional Waters sections presented in this report.

Biological resources may be either directly or indirectly impacted by a project. Furthermore, direct and indirect impacts may be either permanent or temporary in nature. These impact categories are defined below. These terms will be used throughout the document.

- Direct Impact: Any loss, alteration, disturbance, or destruction of biological resources that would result from project-related activities is a direct impact. Examples include vegetation clearing, encroaching into wetlands, diverting natural surface water flows, and the loss of individual species and/or their habitats. Direct impacts are long-term.
- Indirect Impact: As a result of project-related activities, biological resources may also be affected in a manner that is not direct. Examples of indirect impacts include elevated noise, light, and dust levels, increased human activity, decreased water quality, erosion created by the removal of vegetation, and the introduction of invasive plants and unnatural predators (e.g., domestic cats and dogs). These indirect impacts may be both short-term and long-term in their extent.
- Permanent Impacts: All impacts that result in the long-term or irreversible removal of biological resources are considered permanent. Examples include constructing a building or permanent road on an area containing biological resources.
- Temporary Impacts: Any impacts considered to have reversible effects on biological resources can be viewed as temporary. Examples include the generation of fugitive dust during construction, removing vegetation, and either allowing the natural vegetation to recolonize or actively revegetating the Project site.

The determination of impacts in this analysis is based on both the proposed Project development plan and the biological values of the habitat and/or sensitivity of plant and wildlife species to be affected. Any recommended mitigation measures to address impacts are discussed below.

4.0 VEGETATION

4.1 Literature Review

4.1.1 Sensitive Plant Communities

Sensitive plant communities (sensitive habitats) as defined below, are of limited distribution statewide or within a county or region and are often vulnerable to environmental effects of projects. Sensitive habitats are often threatened with local extirpation and are therefore considered as valuable biological resources. Plant communities are considered "sensitive" by the California Native Plant Society (CNPS) and CDFW if they meet any of the following criteria listed below.

- The habitat is recognized and considered sensitive by CDFW, United States Fish and Wildlife Service (USFWS), and/or special interest groups such as CNPS.
- The habitat is under the jurisdiction of the USACE pursuant to Section 404 of the CWA.
- The habitat is under the jurisdiction of the CDFW pursuant to Sections 1600 through 1612 of the FGC.
- The habitat is known or believed to be of high priority for inventory in the California Natural Diversity Database (CNDDB).
- The habitat is considered regionally rare.
- The habitat has undergone a large-scale reduction due to increased encroachment and development.
- The habitat supports special status plant and/or wildlife species (defined below).
- The habitat functions as an important corridor for wildlife movement.

The most current version of CDFW's List of California Sensitive Natural Communities indicates which natural communities are sensitive given the current state of the California classification (CDFW 2022a).

4.1.2 Special Status Plants

Species of plants are afforded "special status" by federal agencies, state agencies, and/or non-governmental organizations (e.g., USFWS, CDFW, CNPS, and United States Forest Service [USFS]) because of their recognized rarity, potential vulnerability to extinction, and local importance. These species typically have a limited geographic range and/or limited habitat and are referred to collectively as "special status" species. Plant species were considered "special status" species if they meet any of the following criteria:

- Taxa with official status under ESA, California Endangered Species Act (CESA), and/or the Native Plant Protection Act (NPPA).
- Taxa proposed for listing under ESA and/or CESA.
- Taxa identified as sensitive, unique or rare, by the USFWS, CDFW, USFS, and/or the Bureau of Land Management (BLM).
- Plants that meet the definition of rare or endangered under the California Environmental Quality Act (CEQA) §15380(b) and (d). Species that may meet the definition of rare or endangered include the following:

  - Species considered by CNPS and CDFW to be "rare, threatened or endangered in California" (California Rare Plant Rank [CRPR] 1A, 1B and 2; CNPS 2023). A majority of the CRPR 3 and CRPR 4 plant species generally do not qualify for protection under CESA and NPPA.
  - Species that may warrant consideration on the basis of local significance or recent biological information.
  - Some species included on the CNDDB Special Vascular Plants, Bryophytes, and Lichens List (CDFW 2023b).

- Considered a locally significant species, that is, a species that is not rare from a statewide perspective but is rare or uncommon in a local context such as within a county or region (CEQA §15125 (c)) or is so designated in local or regional plans, policies, or ordinances. Examples include a species at the outer limits of its known range or a species occurring on an uncommon soil type.

Available literature and databases were reviewed regarding sensitive habitats and special status plant species. Special status plant species that have the potential to occur within the immediate region of the Project site were identified. Several agencies, including the USFWS, CDFW, and CNPS publish lists of particular taxa (species and subspecies) and the associated level of protection or concern associated with each. Reviewed and consulted literature and databases focused on the Project site and included the following sources listed below:

- The CNDDB, a CDFW species account database that inventories status and locations of rare plants and wildlife in California, was used to identify any sensitive plant communities and special status plants that may exist within a two-mile radius of the Project site (CDFW 2023c) (Figure 4, *CNDDB Occurrences*).
- Online CNPS Inventory of Rare and Endangered Plants of California (CNPS 2023). A search for the United States Geological Survey (USGS) 7.5-Minute Topographic Map San Dimas Quadrangle provided information regarding the distribution and habitats of special status vascular plants in the vicinity of the Project.
- A map of USFWS critical habitat to determine species with critical habitat mapped in the general vicinity of the Project (USFWS 2023a) (Figure 5, *Critical Habitat*).
- The USFWS's Information for Planning and Consultation online tool, which identifies species and critical habitat under USFWS jurisdiction that are known or expected to be on or near the Project area (USFWS 2023b).
- Pertinent maps, scientific literature, websites, and regional flora and fauna field guides.

As noted previously, species occurrence and distribution information are often based on documented occurrences where opportunistic surveys have taken place; therefore, a lack of records does not necessarily indicate that a given species is absent from the Project site.

4.2 Field Methodology

The general biological field survey and jurisdictional delineation was conducted within the Project site September 12, 2022 by VCS biologists Wade Caffrey and Nathalie Munoz. During the biological survey, the biologists walked the entirety of the Project site, paying special attention to those areas that could host sensitive vegetation communities or had the potential to provide suitable habitat for special status plant

species. Plant species were identified using plant field and taxonomical guides, such as The Jepson Manual: Vascular Plants of California, second edition (Baldwin et al. 2012). All plant species encountered during the field survey were identified and recorded in field notes. Focus surveys were conducted throughout 2016 and 2021 by Rincon including an arborist review of the trees on the Project site and in 2022 by VCS including the biological assessment.

The vegetation communities and habitat conditions were inspected to confirm presence and habitat quality of the vegetation found onsite. Where appropriate, descriptions of vegetation communities from the Manual of California Vegetation (Sawyer et al. 2008) were also utilized. Any deviations from standard vegetation classifications were made on best professional judgment when areas did not fit into a specific habitat description provided by the Manual. Vegetation communities were mapped using field observations and utilizing aerial imagery.

4.3 Results

4.3.1 Vegetation Communities/Land Cover

The majority of the Project site consists of landscaped areas comprised of native and non-native species typical of equestrian and urbanized residential areas. The Lemon Creek drainage course supports higher value biological resources and consists of mixed riparian forest habitat, including native southern sycamore alder riparian woodland.

Vegetation/land cover mapping and acreages for each vegetation community and land type within the Project site can be found in Table 1 below. Additionally, representative photographs of the Project site are included as Appendix A and a map of the vegetation communities and land covers is included as Figure 6, *Vegetation Map*.

Table 1. Vegetation Communities/Land Cover Observed within the Project Site

Vegetation Community/Land Cover Type	Acres
Eucalyptus/Shamel Ash/Pepper Tree Groves	7.75
Ornamental	6.24
Annual Brome Grasslands & Ruderal Forbs	8.39
Disturbed/Developed	2.75
Southern Sycamore Alder Riparian Woodland	0.72
TOTAL	25.84*
**Sum is 0.01 acre larger due to rounding. 25.84 acres is the correct total.*	

The Project site consists of five vegetation communities/land cover types: Eucalyptus/Shamel Ash/Pepper tree Groves, non-native ornamental, annual brome grasslands and ruderal forbs, disturbed/developed, and southern sycamore alder riparian woodland. Lemon Creek supports higher value biological resources and consists of mixed riparian forest habitat dominated by ash, eucalyptus, and Peruvian pepper tree species. Dirt roads run through the northern boundary of the Project site. Disturbed trails run through the western side of Project site, just west and east of Lemon creek and are situated on top of the slope that descends towards the creek.

4.3.1.1 Eucalyptus/Shamel Ash/Pepper Tree Groves

A eucalyptus/shamel ash/pepper tree plant community surrounds Lemon Creek, traversing the Project site from the east continuing north to south. This plant community is multi-canopied with no single dominant

species. Co-dominant plant species observed include shamel ash (*Fraxinus uhdei*), white alder (*Alnus rhombifolia*), eucalyptus (*Eucalyptus* sp.), and Peruvian pepper tree (*Schinus molle*), within which occur occasional California walnut (*Juglans californica*), western sycamore (*Platanus racemosa*), valley oak (*Quercus lobabta*) and Mexican fan palm (*Washingtonia robusta*). Due to the presence of dense shamel ash, eucalyptus, and Peruvian pepper, there is little to no vegetation in the understory. A full list of plant species observed is attached as Appendix B. Direct impacts to this land cover are considered potentially significant in certain areas, specifically where California black walnut, western sycamore, and valley oak are present. However, with implementation of MM BIO-9, the Tree Preservation / Replacement Plan, impacts to this vegetation community, specifically the native trees are considered less than significant.

4.3.1.2 Ornamental

The ornamental plant community is located along the perimeter of the southern, northern, northwestern, and northeastern portion of the site in addition to a small patch in the mid-eastern portion of the site. It consists mostly of Jacaranda (*Jacaranda mimosifolia*), Peruvian pepper trees, Ngaio tree (*Myoporum laetum*), Afghan Pine (*Pinus brutia var. eldarica*), western sycamore, and Brush cherry (*Syzygium paniculatum*). Direct impacts to the ornamental plant community have the potential to be considered significant where native trees are impacted. However, with implementation of MM BIO-9, impacts to this vegetation community, specifically the native trees are considered less than significant.

4.3.1.3 Annual Brome Grasslands and Ruderal Forbs

Several ruderal fields are located on the eastern side of the Project site. This plant community is dominated by non-native grasses and early successional plant species. Plant species observed in this community include Bermuda grass (*Cynodon dactylon*), Italian ryegrass (*Festuca perennis*), Russian thistle (*Salsola australis*), Seaside heliotrope (*Heliotropium curassavicum*), cheeseweed (*Malva parviflora*), and panic veldtgrass (*Ehrharta erecta*). Direct impacts to this vegetation community are not significant as none of the plant species in this vegetation community are considered sensitive and removal or disturbance of this community would not have a significant effect on sensitive or special status wildlife species.

4.3.1.4 Disturbed/Developed

Small areas within the northern portion of the site can be characterized as disturbed/developed. These areas are generally in the area of the vacated former equestrian facilities. Direct impacts to this vegetation community are not significant as none of the plant species in this community are considered sensitive and removal or disturbance of this community would not have a significant effect on sensitive or special status wildlife species.

4.3.1.5 Southern Sycamore Alder Riparian Woodland

Southern sycamore alder riparian woodland community is located in the southern, northeastern, and central portion of the site along Lemon Creek. This vegetation community consists mostly of western sycamore trees and white alder. This vegetation community is not defined in the Manual of California Vegetation (Sawyer et al 2008), but accurately represents the vegetation onsite. Direct impacts to this riparian land cover are considered potentially significant. However, with implementation of MM BIO-9, the Tree Preservation / Replacement Plan, MM BIO-7, and MM BIO-8, impacts to this vegetation community and the associated jurisdictional waters, including Lemon Creek, are considered less than significant.

4.3.1.6 Special Status Vegetation Communities

There are no special status vegetation communities within the Project site.

4.3.2 City of Walnut's Oak/Walnut Tree Preservation

The City of Walnut's Preservation of Oak and Walnut Trees Chapter 6.52 Supplemental Planning Requirements Article V states trees protected by the ordinance on any land located within the incorporated areas of the City of Walnut shall not be cut, pruned, removed, relocated, endangered or damaged except in accordance with the conditions of a valid tree permit issued by the City. The ordinance also states replacement trees shall be planted in accordance with the procedure established in Section 6.52.320 of the City's Oak/Walnut Tree preservation policy.

The ordinance defines protected trees and heritage trees as follows:

- Protected Tree. Any of the following tree species measuring 6 inches or more in circumference (1.9 inches diameter at breast height-DBH) at 4.5 feet above the ground level at the base of the tree: any oak tree of the genus *Quercus* including, but not limited to, Blue Oak (*Quercus douglasii*), California Black Oak (*Quercus kelloggii*), Valley Oak (*Quercus lobata*), California-Live Oak (*Quercus agrifolia*), Canyon Oak (*Quercus chrysolepis*), Interior Live Oak (*Quercus wislizeni*), Scrub Oak (*Quercus dumosa*), and California Black Walnut (*Juglans californica*). The trees protected zone (TPZ) is defined as the dripline plus five feet, or 15 feet from the trunk, whichever is greater.
- Heritage Oak/Walnut Tree. Any oak/walnut tree measuring 40 inches or more in circumference or, in the case of a multiple trunk tree, two or more trunks measuring 30 inches or greater in circumference, measured three feet above the natural grade surrounding such tree. The Planning Commission and/or City Council may classify a tree, regardless of size, as a heritage oak/walnut tree if it is determined by a majority vote thereof that such tree has exceptional historic importance, aesthetics and/or prominence to the community.

A tree survey by arborists of Rincon was conducted on November 11 and 21, 2021 and an arborist report and Tree Removal Mitigation and Tree Preservation/Replacement Plan was prepared (Appendix C). Rincon's arborists recorded seven (three Valley oak and four California black walnut, two of which are "Heritage" trees) of the 19 protected trees observed, are within the grading limits and are subject to minor encroachment impacts and will therefore require a tree permit pursuant to chapter 6.52.290 and 6.52.330. The seven trees will be preserved with a four-foot retaining wall constructed around them and the footing of the walls will be bridged over the roots to minimize impacts. Avoidance and minimization measures for the preserved trees listed in Section 5 of the arborist report (Appendix C) will be implemented to reduce impacts to trees from proposed Project construction activities. No City protected trees or Heritage trees will be removed by the Project. However, construction activities will result in the removal of 30 non-protected native trees, 249 non-native trees, and 181 invasive trees, for a total of 460 non-protected trees that will be removed which would be considered a potentially significant impact. As illustrated in Section 6 of the arborist report (Appendix C), the proposed Project will replace the removed trees entirely with native species that will consist of 90 24-inch box trees and 430 15-gallon trees, for a total of 520 native trees that will be installed throughout the development site. With implementation of MM BIO-9, the Tree Preservation / Replacement Plan, the Project will not conflict with local ordinances or policies and impacts would be considered less than significant.

4.3.3 Additional Plant Species

A total of 74 plant species were observed within the Project site during the general biological survey and are listed in Appendix B.

4.3.3.1 Sensitive Plant Species Occurring Onsite

One sensitive plant species, California black walnut, was observed during the biological surveys conducted in 2016, 2021 and 2022.

California black walnut was observed within the Project site scattered along Lemon Creek. An arborist survey conducted by Michael Baker International on October 17, 2017 ("MBI survey"), identified 91 Black Walnut trees on the entire Project Site. Eleven of those black walnut trees fall within or are immediately adjacent to the Project's grading limits, with the canopies of four of those potentially impacted by Project construction. California black walnut is a fairly small tree, growing to about 9 meters, and can be found on hillsides and canyons of southern California. It has a CNPS rare plant rank 4.2. California black walnuts are the primary constituent of a California walnut grove, which is designated as a sensitive vegetation community (global and state rarity rank of G3 and S3.2, respectively) but is not present on the Project site. Four individual trees are present and proposed for minor encroachment impacts. With implementation of MM BIO-9, the Tree Preservation / Replacement Plan, impacts to this species would be considered less than significant.

4.3.3.2 Sensitive Plant Species with Potential to Occur

Sensitive plant species include federally or state listed threatened or endangered species and those species listed on CNPS's rare and endangered plant inventory. Species with the potential to occur onsite were analyzed based on distribution, habitat requirements, and existing site conditions, and are listed in Appendix D.

Based on the habitat found onsite and the findings from the focus surveys, which were conducted during the blooming season, no special status plant species have a "moderate" potential or higher to occur within the Project site, except for the California black walnut discussed above as occurring onsite. All other plants evaluated have a "low" potential of occurrence or are considered "absent" based on various factors (e.g., habitat suitability, elevational range, soil conditions). An assessment of sensitive plant species and their potential to occur, as well as their federal/state/local classifications, are listed in Appendix D.

4.4 Project Impacts

4.4.1 Potential Impacts to Vegetation Communities

Potential impacts to vegetation communities/land cover types due to implementation of the proposed Project within the Project site are shown below in Table 2 and depicted in Figure 6, *Vegetation Map*.

Table 2. Potential Impacts to Vegetation Communities

Vegetation Community/Land Cover Type	Acres
Annual Brome Grasslands and Ruderal Forbs	8.18
Disturbed/Developed	2.75
Eucalyptus/Shamel Ash/Pepper Tree Groves	3.01
Ornamental	5.85
Southern Sycamore Alder Riparian	0.03
TOTAL	19.82

Direct impacts to the annual brome grassland & ruderal forbs communities in the Impact Area are considered less than significant due to the preponderance of non-native vegetation which provides marginal habitat value for wildlife.

Direct impacts to Eucalyptus/Shamel Ash/Pepper tree groves, Ornamental vegetation, and Disturbed/developed vegetation/land cover types are considered less than significant because these habitats/land covers are either non-native or are common in the surrounding vicinity and do not represent CNDDB or CDFW sensitive plant communities. Direct impacts to native trees and the southern sycamore alder riparian community would be considered potentially significant. However, with implementation of MM BIO-9, the Tree Preservation / Replacement Plan for tree species protected by the City and BIO-7 and BIO-8 for the southern sycamore alder riparian community, impacts to vegetation communities would be considered less than significant.

Indirect impacts to plant communities can result in secondary consequences. Development/excavation activities within the Impact Area could result in indirect impacts to the vegetation communities surrounding the directly impacted areas. Examples of indirect temporary impacts to plant communities include the effects of fugitive dust created by construction activities and the spread of invasive species. With development, “edges” of vegetation communities may be exposed and more susceptible to invasion by invasive species (introduced by planted landscaping, seed dispersal from cars, people, and/or pets, and/or wind). Construction-related erosion, runoff, sedimentation, soil compaction, and alteration of drainage patterns that may affect plants by altering site conditions so that the location in which they are growing becomes unfavorable are prohibited by federal and state laws; compliance with the requirements under these federal and state laws will reduce the potential for significant indirect impacts to below significance.

4.4.2 Potential Impacts to Special Status Plants

Biological surveys within the Project site documented the presence of the California black walnut, which is considered a sensitive plant species. Encroachment into the canopy of four California black walnut individuals may occur with implementation of the Project and those impacts would be considered potentially significant. With the implementation of MM BIO-9, the Tree Preservation / Replacement Plan, impacts to this species would be considered less than significant. No other special status plant species were observed during the biological surveys, and none were considered to have at least a “moderate” potential to occur within the Project site.

5.0 WILDLIFE

5.1 Literature Review

Species of wildlife are afforded "special status" by federal agencies, state agencies, and/or non-governmental organizations because of their recognized rarity, potential vulnerability to extinction, and local importance. These species typically have a limited geographic range and/or limited habitat and are referred to collectively as "special status" species. Wildlife species were considered "special status" species if they meet any of the following criteria:

- Taxa with official status under ESA or CESA.
- Taxa proposed for listing under ESA and/or CESA.
- Taxa designated a species of special concern by CDFW.
- Taxa designated a state fully protected species by CDFW.
- Taxa identified as sensitive, unique, or rare, by the USFWS, CDFW, USFS, and/or BLM.
- Taxa that meet the definition of rare or endangered under the CEQA §15380(b) and (d).
- Species considered locally significant; that is, a species that is not rare from a statewide perspective but is rare or uncommon in a local context such as within a county or region (CEQA §15125 (c)) or is so designated in local or regional plans, policies, or ordinances. Examples include a species at the outer limits of its known range.

Special status wildlife species that have the potential to occur within the immediate region of the Project site were identified. Several agencies, including the USFWS and CDFW publish lists of particular taxa (species and subspecies) and the associated level of protection or concern associated with each. Reviewed and consulted literature and databases focused on the Project site and included the following sources listed below:

- The CNDDB was used to identify any special status wildlife that may exist within a two-mile radius of the Project site (CDFW 2023c) (Figure 4, *CNDDB Occurrences*). CNDDB records are generally used as a starting point when determining what special status species, if any, may occur in a particular area. However, these records may be old, lack data not yet entered, and do not represent all the special status species that could be in that particular area.
- A map of USFWS critical habitat to determine species with critical habitat mapped in the general vicinity of the Project (USFWS 2023a) (Figure 5, *Critical Habitat*).
- The USFWS's Information for Planning and Consultation online tool, which identifies species and critical habitat under USFWS jurisdiction that are known or expected to be on or near the Project area (USFWS 2023b).
- Pertinent maps, scientific literature, websites, and regional flora and fauna field guides.

The literature review provided a baseline from which to inventory the biological resources potentially occurring within the Project site, as well as the surrounding area. Although the inventory list of special status wildlife species was not exhaustive of all species that might be of concern for the Project site, it provided a wide range of species that are representative of the wildland habitats in the area. Species occurrence and distribution information is often based on documented occurrences where opportunistic

surveys have taken place; therefore, a lack of records does not necessarily indicate that a given species is absent from the Project site.

5.2 Field Methodology

The location of the Project is within the general distributional range of several special status wildlife species. The purpose of the 2022, 2023 and 2024 surveys were to note those species observed, ascertain general site conditions, identify habitat areas that could be suitable for special status wildlife species, and determine presence or absence of special status wildlife species.

All wildlife species encountered visually or audibly during the field surveys were identified and recorded in field notes. Signs of wildlife species including wildlife tracks, burrows, nests, scat and remains, were also recorded. Binoculars were used to aid in the identification of observed wildlife and in areas not accessible on foot. Wildlife field guides and photographs were used to assist with identification of wildlife species during the field survey, as necessary. A one-day survey cannot be used to conclusively determine presence or absence of a species; therefore, assessments of presence/absence and potential for occurrence were made based on presence of suitable habitat to support the species, diagnostic signs (burrows, scat, tracks, vocalizations, and nests), known records or occurrence within the area, known distribution and elevation range, and habitat utilization from the relevant literature. Habitat Assessments and focus surveys were conducted for bats, burrowing owl (*Athene cunicularia*; BUOW), California gnatcatcher (*Polioptila californica*; CAGN), least Bell's vireo (*Vireo bellii pusillus*; LBV), southwestern pond turtle (*Actinemys pallida;* SWPT), and Crotch's bumble bee (*Bombus crotchii;* CBB).

5.2.1 Bat Habitat Assessment

A habitat assessment and three focus surveys for bats were conducted by Rincon biologists Leslie Yen and Justin Purnell on July 27-29, 2022. The Project site was assessed for the potential presence of roosting special-status bats and bat maternity colonies. Three focused bat emergence and acoustic surveys were conducted. More details from the 2022 survey can be found in Appendix E, *Bat Habitat Assessment and Focused Survey* and the survey results are described in Section 5.3.1.13 below.

5.2.2 Burrowing Owl Habitat Assessment and Focused Surveys

A habitat assessment and four focus surveys for BUOW were performed by Rincon biologist Amy Leigh Trost on April 6 and 27, May 18, and June 8, 2022, by searching for potential foraging and nesting habitat in all areas of suitable habitat within the Study Area following CDFW guidelines outlined in the *Staff Report on Burrowing Owl Mitigation* (CDFG 2012). More details from the 2022 surveys can be found in Appendix F, *Burrowing Owl Habitat and Focused Survey* and the survey results are described in section 5.3.1.14 below.

5.2.3 California Gnatcatcher Habitat Assessment

The Study Area was assessed using aerial photography, CNDDB records of CAGN occurrence within a five-mile radius, and a field survey. The CAGN habitat assessment was conducted by CAGN permitted biologist Kelly Rios (TE-018909-6) on March 1, 2023. All portions of the Study Area were surveyed on foot. Wildlife, plant species, and vegetation communities present within the Study Area were noted and any observations or sign of animal species were also recorded. The Study Area included the Project site plus a 100-foot buffer to assess the likelihood of CAGN to be present. More details from the 2023 surveys can be found in Appendix G, *California Gnatcatcher Habitat Assessment* and the habitat assessment results are described in section 5.3.1.15 below.

5.2.4 Least Bell's Vireo Focused Surveys

Eight focus surveys for LBV were performed by Rincon biologist Peter Gaede in all areas of suitable habitat within the Study Area following Section IV of the USFWS Least Bell's Vireo Survey Guidelines (USFWS 2001). The surveys were conducted in 2022 at least 10 days apart on the following dates: April 4, April 22, May 15, May 30, June 11, July 5, July 16, and July 29, 2022. More details from the 2022 surveys can be found in Appendix H, *Least Bell's Vireo Focused Survey Report* and the survey results are described in Section 5.3.1.7 below.

5.2.5 Southwestern Pond Turtle Habitat Assessment and Focused Surveys

A habitat assessment and four focus surveys for SWPT were conducted by biologists Peter Gaede, Carolyn Welch, and Kyle Gern on July 5 and 25, August 12, and September 1, 2022, by systematically searching for potentially suitable habitat within the Study Area in accordance with USGS guidelines (USGS 2006). More details from the 2022 surveys can be found in Appendix I, *Southwestern Pond Turtle Habitat Assessment and Focused Survey* and the survey results are described in Section 5.3.1.16 below.

5.2.6 Crotch's Bumble Bee Habitat Assessment and Focused Surveys

Five CBB field surveys were performed between March 4, 2023, and August 24, 2023, four of which, were conducted by qualified entomologist Ken Osborne of Osborne Biological Consulting, with the other conducted by qualified biologist Kelly Rios of Rincon Consultants, Inc. More details from the 2023 surveys are found in Appendix J, *Crotch's Bumble Bee Survey Report* and the survey results are described in Section 5.3.1.8 below.

5.3 Results/Impacts

Representative photographs of the Project site are included as Appendix A. A total of 62 wildlife species or signs thereof were observed within the Project site during the 2022 biological surveys and are listed in Appendix B.

5.3.1 Sensitive Wildlife Species with Potential to Occur

Sensitive wildlife species include the following classifications: federally or state listed threatened or endangered species, California species of special concern, and fully protected and protected species (as designated by CDFW). Species with the potential to occur onsite were analyzed based on distribution, habitat requirements, and existing site conditions.

SPECIES CONFIRMED PRESENT

No special status animal species were observed within the Study Area during the 2022 general biological survey; however, eight special status animal species were observed during the 2022 and 2023 focus surveys. The eight special status animal species observed within the Study Area during the focus surveys include Cooper's hawk (*Accipiter cooperii*), yellow warbler (*Setophaga petechia*), Vaux's swift (*Chaetura vauxi*), Lawrence's goldfinch (*Spinus lawrencei*), LBV (one migrant), silver-haired bat (*Lasionycteris noctivagans*), hoary bat (*Lasiurus cinereus*), and Crotch's bumble bee (one in-transit; *Bombus crotchii* (CBB)), and are further described in this section below.

5.3.1.1 Cooper's Hawk

Cooper's hawk is a Watch List species meaning it was previously designated a "Species of Special Concern" but no longer qualifies as such. The Watch List status, in reference to this species, specifically applies to

nesting Cooper's hawk and their associated habitat. This species typically inhabits woodlands and other forested areas. They are frequently sighted in neighborhoods and fields, especially when larger trees surround the area. Cooper's hawk typically nests near water and in deciduous trees or conifers, usually 10-80 feet above the ground. The pepper tree / eucalyptus woodland and sycamore willow woodlands onsite have a high potential to support nesting and foraging Cooper's hawk. Cooper's hawks were observed in the Study Area during the 2022 BUOW and SWPT surveys and during the 2022 LBV surveys, where two recently fledged individuals and an adult individual were detected. Through incorporation of mitigation detailed in MM BIO-1, potential temporary construction impacts to this species would be less than significant. Because the Project would designate approximately 12.2 acres (predominantly along Lemon Creek) as open space, maintain existing healthy trees, and replace non-native and unhealthy trees with native trees, potential permanent impacts to this species would be less than significant.

5.3.1.2 Yellow Warbler

The yellow warbler is a CDFW designated Species of Special Concern indicating that the species has had declining population levels, limited ranges, and or continuing threats that have made them vulnerable to extinction. This species has frequent parasitism by the brown-headed cowbird (*Molothrus ater*), which has led to significant declines in its numbers. The yellow warbler typically inhabits areas that are considered open-canopy riparian woodlands. It typically nests 2-16 feet above the ground within saplings or shrubs. The willows and riparian habitat on the Project site have high potential to support breeding and foraging yellow warbler. Yellow warblers were observed during the 2022 SWPT survey and the LBV surveys, where between one and five individuals were observed within the Project site in the riparian habitat along Lemon Creek. Through incorporation of mitigation detailed in MM BIO-1, potential temporary construction impacts to this species would be less than significant. Because the Project would designate approximately 12.2 acres (predominantly along Lemon Creek) as open space, maintain existing healthy trees, and replace non-native and unhealthy trees with native trees, potential permanent impacts to this species would be less than significant.

5.3.1.3 Vaux's Swift

Vaux's swift is a USFWS designated Bird of Conservation Concern indicating that without additional conservation actions, are likely to become candidates for listing under the ESA, and a CDFW designated Species of Special Concern indicating that the species has had declining population levels, limited ranges, and or continuing threats that have made them vulnerable to extinction. This species is a summer resident of northern California and usually migrate to Mexico and Central America, but a few winter in coastal lowlands of Southern California. They prefer redwood and douglas-fir habitats and nests in hollow trees and snags, especially tall, burned-out stubs. They prefer to forage over rivers and lakes and are active during the day. The woodlands associated with Lemon Creek on the Project site have a high potential to support foraging Vaux's swift. One individual was detected within the Study Area during the 2022 LBV survey. Through incorporation of mitigation detailed in MM BIO-1, potential temporary construction impacts to this species would be less than significant. Because the Project would designate approximately 12.2 acres (predominantly along Lemon Creek) as open space, maintain existing healthy trees, and replace non-native and unhealthy trees with native trees, potential permanent impacts to this species would be less than significant.

5.3.1.4 Lawrence's Goldfinch

Lawrence's goldfinch is a USFWS designated Bird of Conservation Concern and is on the Yellow Watch List of the North American Bird Conservation Initiative. This species prefers open woodland or shrubland with water nearby. They build nests in dense foliage of trees or shrubs—preferably oak, but also cypress, cedar

or riparian thickets. The riparian habitat associated with Lemon Creek on the Project site has a high potential to support foraging/nesting Lawrence's goldfinch. One individual was observed within the Study Area during the 2022 LBV survey. Through incorporation of mitigation detailed in MM BIO-1, potential temporary construction impacts to this species would be less than significant. Because the Project would designate approximately 12.2 acres (predominantly along Lemon Creek) as open space, maintain existing healthy trees, and replace non-native and unhealthy trees with native trees, potential permanent impacts to this species would be less than significant.

5.3.1.5 Silver-haired Bat

Silver-haired bat is designated as a medium priority of concern with the Western Bat Working Group (WBWG). This species is primarily a coastal and montane forest dweller, feeding over streams, ponds and open brushy areas. They roost in hollow trees, beneath exfoliating bark, abandoned woodpecker holes, and rarely under rocks. Suitable habitat to support the species, including bushy areas, hollow trees, and exfoliating bark along Lemon Creek is present, therefore the Project site has a high potential to support the species. Silver-haired bat was detected within the Project site during the 2022 bat surveys. Through incorporation of mitigation detailed in MM BIO-2, potential temporary construction impacts to this species would be less than significant. Because the Project would designate approximately 12.2 acres (predominantly along Lemon Creek) as open space, maintain existing healthy trees, and replace non-native and unhealthy trees with native trees, potential permanent impacts to this species would be less than significant.

5.3.1.6 Hoary Bat

Hoary bat is a CDFW designated Species of Special Concern and ranked as a medium priority with the WBWG. This species typically roosts in trees in deciduous and coniferous forests and woodlands but occasionally roosts in rock crevices. Habitats suitable for bearing young include all woodlands and forests with medium to large-size trees and dense foliage. They forage in open areas, typically along riparian corridors over waters and their diet primarily consists of moths. During migration in southern California, the males are found in foothills, deserts, and mountains, and females in lowlands and coastal valleys. The dense trees along Lemon Creek and presence of suitable diet observed within the Project site have a high potential to support the species. Hoary bat was detected within the Project site during the 2022 bat surveys. Through incorporation of mitigation detailed in MM BIO-2, potential temporary construction impacts to this species would be less than significant. Because the Project would designate approximately 12.2 acres (predominantly along Lemon Creek) as open space, maintain existing healthy trees, and replace non-native and unhealthy trees with native trees, potential permanent impacts to this species would be less than significant.

5.3.1.7 Least Bell's Vireo

The eight focus surveys for LBV were performed April 10, April 22, May 15, May 30, June 11, July 5, July 16, and July 29, 2022. One LBV was detected during the April 10 survey within the Project site, however, due to the relatively narrow riparian corridor and lack of a dense shrub layer canopy, the observed LBV was determined to be a migrant rather than establishing and/or defending territory, occupying the site, or breeding. Therefore, the potential for LBV to occupy the Project site is low (Appendix H, *Least Bell's Vireo Focused Survey Report*). Through incorporation of mitigation detailed in MM BIO-5, potential temporary construction impacts to LBV would be less than significant. Because the Project would designate approximately 12.2 acres (predominantly along Lemon Creek) as open space, maintain existing healthy trees, and replace non-native and unhealthy trees with native trees, potential permanent impacts to this species would be less than significant.

5.3.1.8 Crotch's Bumble Bee

The Crotch's bumble bee (CBB) is state-listed as a candidate endangered species and is therefore granted full protection of threatened species under CESA. This species' preferred food plants generally include Antirrhinum, Phacelia, Clarkia, Dendromecon, Eschscholzia, Eriogonum, lotus, Encelia sp., milk weed, and non-native grassland. CBB generally inhabits large open undisturbed lands. By contrast, the Project site/Study Area is highly disturbed. However, green-ways and open habitats are present within one kilometer. CBB are known to nest in small mammal burrows such as those created by California ground squirrels (*Otospermophilus beecheyi*). Five CBB field surveys were performed between March 4, 2023, and August 24, 2023, four of which, were conducted by qualified entomologist Ken Osborne of Osborne Biological Consulting, with the other conducted by qualified biologist Kelly Rios of Rincon Consultants, Inc. (refer to *Appendix J*). Despite the low-quality habitat to support CBB, a single CBB was observed on the Project site on August 24, 2023, foraging in a non-native, ornamental Jacaranda (*Jacaranda mimosifolia*) that was planted on the Project site near Meadow Pass Road. However, during the initial habitat assessment, it was confirmed that the ground squirrel burrows on the Project site are occupied (by ground squirrels), which precludes CBB from establishing nest colonies. Furthermore, following the initial habitat assessment, it was assumed that the potential for CBB to occur would be unlikely because few nectar sources were observed within the Study Area at that time and because there were several areas identified on site where chipped bark and leaf litter was present (which limits potential for establishing nest colonies) and areas consisted of primarily disturbed soil, dirt pedestrian trails, and non-native weed species. The small size of the Study Area, the presence of low-quality habitat to support CBB, and the sparse distribution of open areas are not optimal conditions for CBB to establish nesting colonies. As such, the single observed CBB was probably only in-transit for foraging opportunities, and likely originated from a nest somewhere offsite (Rincon 2024). Therefore, it has been determined by Rincon Consultants, Inc. that the Study Area does not contain habitat of sufficient quality to support CBB; however, since a single observed CBB was found foraging on-site, incorporation of mitigation detailed in MM BIO-3 would be required for potential temporary construction impacts to this species to be considered less than significant. Because the Project would designate approximately 12.2 acres (predominantly along Lemon Creek) as open space, potential permanent impacts to this species would be less than significant.

SPECIES WITH POTENTIAL

Five special status animal species not observed but with at least a low to moderate or higher potential to occur within the Project site include Monarch butterfly (*Danaus plexippus*), pallid bat (*Antrozous pallidus*), western mastiff bat (*Eumops perotis californicus*), and western yellow bat (*Lasiurus xanthinus*). All other special status wildlife species analyzed exhibit a low potential to occur within the Project site (Appendix D). The sensitive species noted above with at least a low to moderate potential to occur are described in further detail below. The bat habitat assessment, BUOW, LBV, and SWPT focused surveys are also described below.

5.3.1.9 Western Yellow Bat

Western yellow bat is a CDFW designated species of special concern and ranked as a high priority with the WBWG. This species occurs in arid regions of the southwestern United States. They are typically found in riparian woodlands, oak or pinyon-juniper woodland, desert wash, palm oasis habitats, and urban or suburban areas. They roost in trees, often between palm fronds. The urban/suburban location of the Project site, the riparian habitat, and the trees, particularly the palms, within the survey area warrant a moderate potential to support the species, however, no western yellow bats were detected during the 2022 bat surveys. Through incorporation of mitigation detailed in MM BIO-2, potential temporary construction impacts to this species would be less than significant. Because the Project would designate

approximately 12.2 acres (predominantly along Lemon Creek) as open space, maintain existing healthy trees, and replace non-native and unhealthy trees with native trees, potential permanent impacts to this species would be less than significant.

5.3.1.10 Western Mastiff Bat

Western mastiff bat is a CDFW designated Species of Special Concern, a BLM Sensitive Species, and ranked as a high priority with the WBWG. This species inhabits open, semi-arid to arid habitats, including conifer and deciduous woodlands, coastal scrub, annual and perennial grasslands, palm oases, chaparral, desert scrub, and urban areas. Their suitable habitat consists of extensive open areas with abundant roost locations provided by crevices in rock outcrops and buildings. The palm trees and abandoned structures within the Project site have a moderate potential to support the species, however, no western mastiff bats were detected during the 2022 bat surveys. Through incorporation of mitigation detailed in MM BIO-2, potential temporary construction impacts to this species would be less than significant. Because the Project would designate approximately 12.2 acres (predominantly along Lemon Creek) as open space, maintain existing healthy trees, and replace non-native and unhealthy trees with native trees, potential permanent impacts to this species would be less than significant.

5.3.1.11 Pallid Bat

The pallid bat is a CDFW designated Species of Special Concern, a BLM Sensitive Species, a USFS Sensitive Species, and ranked as a high priority with the WBWG. This species is found in a variety of habitats including deserts, grasslands, shrublands, woodlands, and forests. They are most common in open, dry habitats with rocky areas for roosting. They roost in crevices of rock outcrops, caves, mine tunnels, buildings, bridges, and hollows of live and dead trees. They are very sensitive to disturbance of their roosting sites. The palm trees and abandoned structures on the Project site have a moderate potential to support the species, however, no pallid bats were detected during the 2022 bat surveys. Through incorporation of mitigation detailed in MM BIO-2, potential temporary construction impacts to this species would be less than significant. Because the Project would designate approximately 12.2 acres (predominantly along Lemon Creek) as open space, maintain existing healthy trees, and replace non-native and unhealthy trees with native trees, potential permanent impacts to this species would be less than significant.

5.3.1.12 Monarch Butterfly (California Overwintering Population)

The monarch butterfly is a USFS Sensitive Species. In 2014, monarchs were petitioned to be listed under the federal ESA. In December 2020, the U.S. Fish and Wildlife Service found that listing was warranted but precluded by other listing actions on its National Priority List. The monarch is a winter migrant along the California coast and overwinters in groves, typically close to the coast, populated by a variety of tree species, including blue gum eucalyptus (*Eucalyptus globulus*), Monterey pine (*Pinus radiata*), and Monterey cypress (*Hesperocyparis macrocarpa*). There has been no previous monarch observation recorded onsite, however, the Eucalyptus groves onsite may provide suitable habitat for the species and therefore have a low to moderate potential to occur within the Project site. The closest monarch overwintering site is recorded 4.5 miles from the Project site (Xerces 2023). Through incorporation of mitigation detailed in MM BIO-3, potential temporary construction impacts to this species would be less than significant. Because the Project would designate approximately 12.2 acres (predominantly along Lemon Creek) as open space, maintain existing healthy trees, and replace non-native and unhealthy trees with native trees, potential permanent impacts to this species would be less than significant.

5.3.1.13 Bat Habitat Assessment Results

The three focused bat emergence and acoustic surveys conducted on July 27-29, 2022, indicated bats, including hoary bat (*Lasiurus cinereus*), silver-haired bat (*Lasionycteris noctivagans*), big brown bat (*Eptesicus fuscus*), and Mexican free-tailed bat (*Tadarida brasiliensis*) are likely utilizing trees and structures in the Project site for day roosting. There were no observations of large communal roosts or maternity colonies observed within the Project site (Appendix E, *Bat Habitat Assessment and Focused Survey*). Through incorporation of mitigation detailed in BIO-2, potential temporary construction impacts to bat species would be less than significant. Because the Project would designate approximately 12.2 acres (predominantly along Lemon Creek) as open space, maintain existing healthy trees, and replace non-native and unhealthy trees with native trees, potential permanent impacts to this species would be less than significant.

ABSENT SPECIES WITH HABITAT ASSESSMENT / FOCUS SURVEYS CONDUCTED

All other special status species of wildlife analyzed exhibit a low potential to occur within the Project site (Appendix D, *Special Status Species Potential Occurrence Determination*). Additional habitat assessments/focus surveys conducted for species that were determined absent are detailed below.

5.3.1.14 Burrowing Owl Habitat Assessment and Focused Survey Results

The habitat assessment and four focus surveys for BUOW were performed on April 6 and 27, May 18, and June 8, 2022. While the surveys deviated slightly from the protocol, with the last survey not being conducted after June 15, the findings are considered accurate and indicate BUOW is not expected to occupy the site. Therefore, BUOW is considered to have a low potential to occur within the Study Area (Appendix F, *Burrowing Owl Habitat Assessment and Focused Survey*). Through incorporation of mitigation detailed in MM BIO-5 potential temporary construction impacts to BUOW with potential to colonize the site in the future would be less than significant. No permanent impacts are anticipated since the Project site is not occupied.

5.3.1.15 California Gnatcatcher Habitat Assessment Results

California gnatcatchers are obligate breeders of coastal sage scrub vegetation communities which are dominated by a variety of low shrubs (mostly 3-6 feet tall). Their range in the U.S. extends from the Mexican border into portions of Ventura and Los Angeles Counties. There is no suitable habitat for CAGN anywhere within the Study Area or surrounding habitat, primarily due to lack of coastal sage scrub habitat. Based on review of aerial imagery, the nearest open space that may contain coastal sage scrub is approximately 1 mile to the north of the Study Area. The Study Area is partially developed with vegetation communities dominated by native and ornamental trees and non-native grassland, which are not suitable for CAGN foraging or breeding (Appendix G, *California Gnatcatcher Habitat Assessment*). No temporary construction impacts or permanent impacts would occur based on the absence of suitable habitat and species. No mitigation is required.

5.3.1.16 Southwestern Pond Turtle Habitat Assessment and Focused Survey Results

The habitat assessment and four focus surveys for southwestern pond turtle (SWPT) conducted on July 5 and 25, August 12, and September 1, 2022, indicated that although suitable habitat for SWPT is present, no SWPT were observed or detected (e.g., suitable burrows) within the Study Area. Therefore, SWPT are considered absent from the Project site (Appendix I, *Southwestern Pond Turtle Habitat Assessment and Focused Survey*), however, potential remains because this species can move significant distances. Therefore, through incorporation of mitigation detailed in MM BIO-6, potential temporary construction

impacts to SWPT would be less than significant. Because the Project would designate approximately 12.2 acres (predominantly along Lemon Creek) as open space, potential permanent impacts to this species would be less than significant.

5.3.2 Critical Habitat

The USFWS's online service for information regarding Threatened and Endangered Species Final Critical Habitat designation within California was reviewed to determine if the Project site occurs within any species designated Critical Habitat. No Critical Habitat exists within the Project site and/or Impact area. The nearest critical habitat is for CAGN, and is located approximately 0.9 miles north of the Project site, as shown in Figure 5, *Critical Habitat*.

5.3.3 Habitat Conservation Plan, Natural Community Conservation Plan, Other HCP

Review of the City of Walnut General Plan Conservation Element indicates that the Project site is not located in a Habitat Conservation Plan (HCP), Natural Community Conservation Plan, or other approved local, regional, or state HCP. The nearest such designated area is the Orange County Transportation Authority NCCP/HCP located in Orange County, approximately 5.6 miles south of the Project site (CDFW 2024g).

5.3.4 Wildlife Movement

Wildlife corridors link together areas of suitable habitat that are otherwise separated by rugged terrain, changes in vegetation, or human disturbance. The fragmentation of open space areas by urbanization creates isolated "islands" of wildlife habitat. Corridors effectively act as links between different populations of a species. An increase in a population's genetic variability is generally associated with an increase in a population's health.

Corridors mitigate the effects of habitat fragmentation by:

- Allowing wildlife to move between remaining habitats, which allows depleted populations to be replenished and promotes genetic diversity;
- Providing escape routes from fire, predators, and human disturbances, thus reducing the risk that catastrophic events (such as fires or disease) will result in population or local species extinction; and
- Serving as travel routes for individual wildlife species as they move within their home ranges in search of food, water, mates, and other needs (Fahrig and Merriam 1985, Simberloff and Cox 1987, Harris and Gallagher 1989).

Wildlife movement activities usually fall into one of three movement categories:

- Dispersal (e.g., juvenile animals from natal areas, individuals extending range distributions);
- Seasonal migration; and
- Movements related to home range activities (foraging for food or water, defending territories, searching for mates, breeding areas, or cover).

The Project site is bordered by roads and urban development to the north, south, east, and west. The Project site may serve as a function in local wildlife dispersal and foraging. Although a portion of the Project site is disturbed, it offers cover and suitable habitat for dispersing wildlife species. Lemon Creek and the

associated mixed forested vegetation, which runs through the Project site, provides a useful area for local wildlife movement. Wildlife species such as skunks, opossums, raccoons, fish, and birds may travel through the creek or site and neighboring developed areas for connectivity between larger open spaces, but the Project site does not provide connectivity between large areas of open space on a regional scale. It is likely that wildlife species would prefer to move through undisturbed habitat as opposed to the developed urban land surrounding Lemon Creek and the Project site.

The Project site may serve as a function in local wildlife dispersal and foraging; however, due to the obstruction of the surrounding roads and urban development, it is not expected that the Project site functions as a regional wildlife movement corridor. In terms of wildlife movement through Lemon Creek, such as fish, no fish were observed in Lemon Creek during the biological surveys. According to a review of the CNDDB records, no sensitive fish have been historically recorded in this area or within a two-mile radius of the Project site. In addition, the City of Walnut does not include Essential Fish Habitat (EFH) according to review of the National Oceanic and Atmospheric Administration's EFH database (NOAA 2024). With avoidance of approximately 6.02 acres of natural open space onsite, the marginal role the Project site plays in local wildlife dispersal and foraging is expected to continue and implementation of standard BMPs and requirements outlined in Section 8 would further allow for local wildlife movement. Therefore, no long-term or significant effects to wildlife movement are anticipated due to Project implementation.

5.3.5 Avian Nesting and Bat Roosts

Birds can nest in a variety of different habitats, including disturbed/developed areas, shrubs, trees, and burrows. The Project site, particularly the habitat associated with Lemon Creek, has potential to support avian foraging and various avian species and raptor nests due to the presence of shrubs and trees. Additionally, some avian species nest on the ground and there is potential for ground nesting birds to use the Project site. Therefore, there is potential for avian nesting and foraging within the Project site. Construction activities should take place outside of the nesting season or a pre-construction nesting bird survey should be performed to clear the site prior to start of work to remain in compliance with State and Federal laws. Through incorporation of MM BIO-1, potential temporary construction impacts would be less than significant for avian nesting. Potential permanent impacts to avian species would be less than significant because the Project would designate approximately 12.2 acres as open space, maintain existing healthy trees, and replace non-native and unhealthy trees with native trees.

There is also potential for bat roosting to occur within the Project site. During the 2022 focused bat survey, bats were observed foraging and day roosting in the Project site, but no maternity roosts were observed. There is potential for bat roosting to occur within the Project site primarily in the trees, man-made structures, within the culverts associated with Lemon Creek, and potential for foraging throughout the riparian habitat. Therefore, incorporation of MM BIO-1 is required and potential temporary construction impacts would be less than significant for bats. Potential permanent impacts to bat species would be less than significant because the Project would designate approximately 12.2 acres as open space, maintain existing healthy trees, and replace non-native and unhealthy trees with native trees.

6.0 JURISDICTIONAL WATERS

6.1 Literature Review

The following sources were reviewed to determine the potential presence or absence of jurisdictional streams/drainages, wetlands, lakes, and their location within the watersheds associated with the Project site, and other features that might contribute to federal or state jurisdictional authority located within watersheds associated with the Project site:

- National Wetlands Inventory (NWI) maps (USFWS 2023c) (Figure 7, *National Wetlands Inventory (NWI)*). The NWI database indicates potential wetland areas based on changes in vegetation patterns as observed from satellite imagery. This database is used as a preliminary indicator of wetland habitats because the satellite data are not precise;
- USGS National Hydrography Dataset. Provides the locations of "blue-line" streams as mapped on 7.5-Minute Topographic Map coverage;
- Aerial Imagery;
- USGS 7.5-Minute Topographic Maps; and
- Natural Resource Conservation Service (NRCS) Soil Survey (NRCS 2023) (Figure 8, *Soils Map*).

6.2 Field Methodology

During the September 2022 field survey conducted by Wade Caffrey and Nathalie Munoz, the Project site was assessed for the presence or absence of potential jurisdictional streams/drainages on the Project site by walking the area and looking for evidence of water flow or ponded water. Rincon also conducted a delineation, which was utilized by VCS in making the determinations of this report.

6.2.1 Waters of the United States

During the field survey, the Project site was assessed for jurisdictional wetland and non-wetland Waters of the United States (WOUS). To determine the presence of a wetland, three indicators are required: (1) hydrophytic vegetation, (2) hydric soils, and (3) wetland hydrology. The RWQCB has exception to this methodology in situations where a site has soils and hydrology, but no vegetation is present; these areas may be considered wetlands by the RWQCB. The methodology published in the United States Army Corps of Engineers 1987 Wetland Delineation Manual (USACE 1987) and the Arid West Supplement (USACE 2008) sets the standards for meeting each of the three indicators, which normally require that 50 percent or more dominant plant species typical of a wetland, soils exhibiting characteristics of saturation, and hydrological indicators be present. Jurisdictional non-wetland WOUS in areas that may be tributary to Traditionally Navigable Waters are typically determined through the observation of an Ordinary High Water Mark (OHWM), which is defined as the "line on the shore established by the fluctuation of water and indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas."

The 2023 Revision to Definition of Waters of the United States now defines "Waters" as those that are relatively permanent, standing, or continuously flowing bodies of water forming geographic features that are described in ordinary parlance as "streams, oceans, rivers, and lakes." From this new definition, wetlands now need a continuous surface connection to bodies that are deemed "waters of the United

States" to themselves fall under the same jurisdiction. They can no longer be separated from the jurisdictional body of water by manmade barriers, natural berms, or another physical construct. Wetlands can no longer fall under jurisdiction for being adjacent or possessing significant nexus to a "water of the United States".

Projects with impacts to Waters of the United States are regulated under Sections 401 and 404 of the Clean Water Act. Note, the RWQCB has also updated their definition of a wetland to include areas that have hydric soils and wetland hydrology but lack hydric vegetation (e.g., vernal pools). This update took effect May 28, 2020.

The following guidance documents were utilized in making this determination:

- Field Guide to OHWM Determinations in the Arid West (August 2008).
- Updated OHWM Datasheet for the Field Guide to OHWM Determinations in the Arid West (July 2010).
- Ordinary High Flows and the Stage-Discharge Relationship in the Arid West Region (2011).
- 2023 Revision to Definition of Waters of the United States.

6.2.2 Waters of the State

During the field survey, the Project site was assessed for jurisdictional Waters of the State (WOS). The CDFW and the RWQCB take jurisdiction over WOS and Riparian/Riverine resources (California Fish and Game Code §§1600 et seq.; California Code of Regulations, Title 14, §720). Section 1602 of the FGC applies to natural rivers, streams, and lakes:

> *"An entity may not substantially divert or obstruct the natural flow of, or substantially change or use any material from the bed, channel, or bank of, any river, stream, or lake, or deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream or lake."*

The Project site was assessed for jurisdictional WOS during the field survey using guidance from Section 1600 of the FGC and Brady and Vyverberg (2013), which defines a stream as "a body of water that flows perennially or episodically and that is defined by the area in which water currently flows, or has flowed, over a given course during the historic hydrologic course regime, and where the width of its course can reasonably be identified by physical or biological indicators". CDFW regulates wetland areas only to the extent that those wetlands are part of a stream, river, or lake as defined by the CDFW.

6.2.3 Mapping Techniques

Prior to the field surveys, Google Earth and the National Wetlands Inventory (NWI) Online Mapper were used to review aerials of the Project site and identify any potential jurisdictional waters of the U.S. features. Following the field surveys, ESRI ArcMap and Google Earth were used in combination with the field survey results to delineate and map relevant habitats and jurisdictional waters. The resulting Geographic Information System data was then used to quantify the extent of each feature.

6.3 Results/Impacts

6.3.1 Soils

The United States Department of Agriculture NRCS (NRCS 2022) identifies 3 soil types present within the Project site, as shown in Figure 8, *Soils Map*, and described below:

- Urban land-Sorrento-Arbolado complex (2 to 9 percent slopes): The Urban land-Sorento-Arbolado complex is a soil composed of Urban land, Sorrento, and Arbolado. Urban land is a land cover type composed of streets, parking lots, buildings, and other structures associated with urban areas. Sorrento soils are comprised of very deep, well drained soils that formed in alluvium mostly from sedimentary rocks. The 10- to 40-inch control section is loam, fine sandy loam, clay loam, sandy clay loam or silty clay loam with 18 to 35 percent clay and more than 15 percent fine sand or coarser. Few pedons have as much as 15 percent rock fragments. The upper part of the profile is slightly acid to moderately alkaline and is noncalcareous to a depth of 20 to 40 inches. Arbolado soils are comprised of very deep, well drained soils that formed in human-transported materials (HTM) that originate from alluvium derived from sedimentary sources. Arbolado soils are on graded alluvial fans and graded floodplains. These soils occur on the northern and western portion of the Project site.
- Urban land-Ballona-Typic Xerorthents, fine substratum complex (0 to 5 percent slopes): The Urban land-Ballona-Typic Xerorthents, fine substratum complex is a soil composed of Urban land, Ballona, and Typic Xerorthents. Urban land is a land cover type composed of streets, parking lots, buildings, and other structures associated with urban areas. Ballona soils consists of well drained soils that formed in alluvium from mixed sources. Ballona soils are on alluvial fans, inset fans, and floodplains. Typic Xerorthents consists of deep, somewhat excessively drained soils on cinder cones. These soils formed in material weathering from cinders. These soils occur on the southeast corner of the Project site.
- Counterfeit-Urban land complex (10 to 35 percent slopes) terraced: The Counterfeit-Urban land complex is a soil composed of Counterfeit and Urban land. The Counterfeit series consists of very deep soils that formed from human transported material (HTM) which originated from material weathered from calcareous sedimentary rocks. Counterfeit soils are on man-made terraces and risers with slopes ranging from 0 to 5 percent on treads and up to 65 percent on risers. Urban land is a land cover type composed of streets, parking lots, buildings, and other structures associated with urban areas. These soils formed in material weathering from cinders. These soils occur on the central eastern portion of the Project site.

6.3.2 National Wetland Inventory

The USFWS is the principal Federal agency that provides information to the public on the extent and status of the Nation's wetlands. The USFWS has developed a series of maps, known as the National Wetland Inventory (NWI) to show wetlands and deepwater habitat. This geospatial information is used by federal, state, and local agencies, academic institutions, and private industry for management, research, policy development, education, and planning activities. The NWI program was neither designed nor intended to produce legal or regulatory products; therefore, wetlands identified by the NWI program are not the same as wetlands defined by the USACE.

The NWI Mapper (USFWS 2023) was accessed online to review mapped wetlands within the Project site (Figure 7, *National Inventory Map (NWI)*). The NWI mapper identifies two features on the Project site, defined as follows:

- NWI Feature 1: Freshwater Forested/Shrub Wetland habitat classified as PFOA (Palustrine, Forested, and Temporarily Flooded).
- NWI Feature 2: Forested/Shrub Riparian habitat classified as Rp1FO (Riparian, Lotic, and Forested).

NWI Features 1 and 2 (Figure 7, *National Wetlands Inventory (NWI)*) are adjacent and comprise Lemon Creek and Drainage A described in this report and shown in Figure 9, *Jurisdictional Waters of the U.S. (WoUS) & State (WoS)*. The description given above for NWI Feature 1 is primarily accurate based on the field review; however, it was determined not a wetland due to a lack of wetland vegetation, except for certain portions of Lemon Creek that contained wetland vegetation. NWI Feature 2 was also considered to have a primarily accurate description per the NWI website due to the presence of flowing water and woody vegetation greater than 6 meters in height.

6.3.3 Hydrology

The Project site is located within the San Gabriel watershed and the upper San Jose Creek subwatershed. Lemon Creek begins at the south-facing hillside in Walnut Ranch Park approximately one mile north of the Project site. Flows from the south-facing hillside and runoff from residential development collect in Lemon Creek. Lemon Creek traverses through the central portion of the site in a north to south direction. Lemon Creek enters the northeastern boundary of the site as an earthen feature and flows are conveyed southwest and then south through the Project site. Vegetation associated with Lemon Creek consists of mixed native and non-native tree species, non-native grasses, and shrubs. The natural course of Lemon Creek has been altered and flows are conveyed through portions of channelization, rock rip-rap and several culverts. Within the central portion of the Project site, Lemon Creek flows adjacent to a concrete and rock outfall structure at the confluence of an unnamed drainage, Drainage A. Lemon Creek flows into a concrete box culvert along the southern boundary of the Project site and underneath La Puente Road. Lemon Creek eventually flows into San Jose Creek approximately 1.22 miles southeast of the Project site. San Jose Creek flows generally south/southwest before reaching the San Gabriel River and heading south toward the Pacific Ocean. Within the limits of the Project site, Lemon Creek is approximately 2,229 linear feet. Drainage A, an unnamed drainage, enters the Project site along the western boundary from an underground concrete storm drain. Flows from Drainage A are conveyed into a concrete and rock outfall structure at the confluence with Lemon Creek in the central portion of the Project site. Surface water was present within Drainage A during the site visit.

6.3.4 Jurisdictional Waters

A total of 0.42 acres (2,229 linear feet) of non-wetland WOUS and 0.64 acres (611 linear feet) of wetland WOUS were delineated within the Project site. A jurisdictional delineation map showing proposed jurisdictional WOUS is attached as Figure 9, prepared in accordance with the Final Map and Drawing Standards for the South Pacific Division Regulatory Program. A total of 2.81 acres (2,229 linear feet) of streambed WOS and 0.64 acres (611 linear feet) of riparian WOS were identified in the Project site, as shown in Figure 9. Note, WOS are inclusive of WOUS, not exclusive. Riparian WOS features include areas with vegetation such as California black walnut, Gooding's black willow (*Salix gooddingii*), western sycamore (*Platanus racemosa*), California bulrush (*Schoenoplectus californicus*), umbrella plant (*Cyperus involucratus*), Mexican fan palm (*Washingtonia robusta*), shamel ash (*Fraxinus uhdei*), Peruvian pepper tree (*Schinus molle*), and Valley oak (*Quercus lobata*).

The Project site contains two drainage complexes that have jurisdictional indicators including an OHWM and evidence of water flow. Details of each drainage are as follows:

- Lemon Creek was determined to consist of jurisdictional wetland and non-wetland WOUS and riparian and streambed WOS. Evidence of an OHWM was observed within Lemon Creek and included the presence of a heavily incised channel with a clearly defined bed and bank, organic debris, exposed cobbles within the creek, scour and undercut banks, surface water flow, vegetation changes, and concrete channelization. In addition, wetland features were noted onsite during the site visit. Due to the presence of hydrophytic vegetation, wetland hydrology, and aquatic invertebrates, a soil pit was dug to determine the presence of hydric soils. The presence of hydric soils was determined by the loamy gleyed matrix observed in the soil pit. The soil pit that was dug is representative for the length of Lemon Creek within the Project site. Any areas that had hydrophytic vegetation, wetland hydrology, and hydric soils were determined to be wetlands.
- Drainage A was determined to contain jurisdictional non-wetland WOUS and riparian WOS. Flows from Drainage A are conveyed into a concrete and rock outfall structure at the confluence with Lemon Creek in the central portion of the Project site. Surface water was present within Drainage A during the site visit.

Impacts to jurisdictional waters are described below in Table 3 and 4 below. With implementation of mitigation measures MM BIO-7 and BIO-8 described in Section 7.0*, Mitigation Measures*, impacts to jurisdictional waters will be reduced to less than significant.

Table 3. Permanent Impacts to Waters of the U.S. within the Project Site

Jurisdictional Waters of the U.S.	Acres	Linear Feet
Non-Wetland Waters of the U.S.	0.01	61
Wetland Waters of the U.S.	0.03	3

Table 4. Permanent Impacts to Waters of the State within the Project Site*

Jurisdictional Waters of the State	Acres	Linear Feet
Streambed Waters of the State*	0.12	61
Riparian Waters of the State*	0.03	3
*Inclusive of waters of the U.S., not additive.		

Additionally, due to the proximity of Project impacts to the remainder of Lemon Creek within the Project site, potential indirect edge effects are possible that may impact sensitive biological resources within that jurisdictional water. This includes minor temporary impacts around the immediate improvement areas required for constructing the proposed bridge footings and storm water/drainage facilities; however, the Project has been designed to reduce impacts to jurisdictional waters to the extent possible and the recommended Best Management Practices (BMPs) and standard requirements listed in Section 8.0, *BMPS and Avoidance Measure Recommendations*, will further limit indirect impacts. Such measures, and equivalent measures, are standard requirements of regulatory permits that must be obtained from the regulatory agencies as noted in MM BIO-8.

7.0 MITIGATION MEASURES

In order to facilitate the correct implementation of the mitigation efforts outlined in this section, two professional categories are referenced: qualified biologists and biological monitors. Those terms are further defined below.

- Qualified Biologist: One who has met all of the following minimum qualifications: (a) bachelor's degree in biological sciences, zoology, botany, ecology, or a closely related field; (b) at least 3 years of experience in field biology or current certification of a nationally recognized biological society; and (c) at least 1 year of field experience with biological resources found in or near the Project region.
- Biological Monitor: A biological monitor is an individual experienced with construction level biological monitoring and who is able to recognize species in the Project area and who is familiar with the habits and behavior of those species. Biological monitors shall have academic and professional experience in biological sciences and related resource management activities as it pertains to this Project.

MM BIO-1: Nesting Birds. Vegetation removal activities shall be conducted outside the nesting season (September 1 to February 14 for songbirds; September 1 to January 14 for raptors) to avoid potential impacts to nesting birds. Any construction activities that occur during the season will require that all suitable habitats be thoroughly surveyed for the presence of nesting birds by a qualified biologist within three days before commencement of vegetation clearing / ground disturbance activities depending on which season work falls within. If any active nests are detected, a buffer of 500 feet of an active threatened or endangered species or raptor nest, 300 feet of other sensitive species (non-listed), and 100 feet of most common species will be delineated, flagged, and avoided until the nesting cycle is complete.

MM BIO-2: Bat Protection. Prior to construction, all suitable areas within the Project site and an appropriate survey buffer shall be surveyed for the presence of bat roosts by a qualified biologist. Surveys are recommended as follows:

(1) An initial pre-construction survey shall be conducted in the spring prior to vegetation removal and ground disturbing activities by a qualified biologist to confirm no maternity roosts, and

(2) A pre-construction survey shall be conducted by a qualified biologist no more than two weeks prior to the initiation of vegetation removal and ground disturbing activities.

Surveys may entail direct inspection of the trees/suitable habitat or nighttime surveys. The following measures shall be implemented (as applicable) based upon the results of the surveys:

a. If active bat roosts are present, a qualified bat biologist shall determine the species of bats present and the type of roost (i.e., day roost, night roost, maternity roost). If the biologist determines that the roosting bats are not a special-status species and the roost is not being used as a maternity roost, then the bats may be evicted from the roost by a qualified biologist experienced in developing and implementing bat mitigation and exclusion plans.

b. If special-status bat species or a maternity roost of any bat species is present, but no direct removal of active roosts will occur, a qualified biologist shall determine appropriate avoidance measures, which may include implementation of a construction-free buffer around the active roost during the appropriate season.

c. If special-status bat species or a maternity roost of any bat species is present and direct removal of habitat (roost location) will occur, then a bat mitigation and exclusion plan shall be developed subject to approval by the City of Walnut. As appropriate and depending on the specific findings of the survey results, this plan shall include, for example, avoidance measures such as work timing restrictions and work zone buffers, methods for relocation and/or exclusion, creation of alternative roosts, and/or construction monitoring and reporting requirements.

d. To reduce impacts to foraging bats, all construction activity shall be limited to daylight hours. If night-time work activities must occur, night-time lighting should be restricted or avoided to avoid attracting insects and consequently bats to the site.

e. The implementation of demolition shall be planned in phases for both structures and trees on the site to reduce potential impacts by providing day roosting bats the opportunity to leave the site prior to demolition of all structures and trees on the site.

MM BIO-3: Crotch's Bumble Bee. CBB mitigation should be verified with CDFW and includes the following (*Rincon Consultants, Inc., January 11, 202*3):

a. Pre-construction surveys for CBB and nests shall be conducted within all suitable habitats within the Project site prior to initial ground-disturbing activities (e.g., grubbing/removing vegetation, excavation, grading, construction). The purpose of these surveys is to identify active nest colonies inside of permanent and temporary impact areas.

b. The pre-construction surveys shall follow the survey methodologies set out in the CDFW Survey Considerations for CESA Candidate Bumble Bee (CDFW, 2023g) or other survey methodology approved by CDFW.

c. The pre-construction surveys shall be conducted during appropriate survey periods as either described in the CDFW Survey Considerations or otherwise approved by CDFW.

d. If the pre-construction surveys identify active nest colonies inside of permanent and temporary impact areas within the Project footprint, an appropriate no disturbance buffer zone shall be established around the active nest colony to reduce the risk of disturbance or accidental take. The buffer distance shall be established by a qualified biologist and will provide no less than 50 feet of clearance around active nest entrances and the proponent/operator shall consult with a qualified biologist to discuss considerations and recommendations on the implementation of Project activities to avoid take of the CBB.

e. If a no disturbance buffer zone is both (i) appropriate per Paragraph 4a above and (ii) feasible, construction activities will not occur within that buffer zone until a

qualified biologist determines the previously active nest to no longer be active (i.e., no CBB are seen flying in or out of the nest for three consecutive days indicating the colony has completed its nesting season and the next season's queens have dispersed from the colony), after which construction activities may resume within that buffer zone.

f. If avoidance of the active nest is not feasible, the Project proponent/operator shall consult with CDFW regarding potential for Project activities to result in take of the CBB and shall comply with the avoidance, minimization, and compensatory mitigation requirements set forth in any Incidental Take Permit issued for the Project by CDFW.

MM BIO-4: Monarch Butterfly (Overwintering). To minimize the potential for loss of monarch overwintering colonies, removal of Eucalyptus trees will be conducted between April 1 – September 30 to avoid the overwintering season, if feasible. If Eucalyptus tree removal occurs outside of the overwintering season, no further mitigation will be required.

If Eucalyptus tree removal occurs within the overwintering season (October 1 – March 31), a qualified biologist will assess suitable habitat within the Project site for monarch colonies no more than 14 days prior to Eucalyptus tree removal. If the species is not observed colonizing within the site, tree removal can proceed, and no further mitigation will be required.

If monarch colonies are identified within the Project site, they will be demarcated with flagging or high-visibility construction fencing at the direction of the qualified biologist to prevent removal of the stand of trees containing the overwintering colony. Monarch overwintering colonies shall be protected throughout the duration of their presence within the site. Once the qualified biologist has determined that the species has left the site, tree removal can proceed.

MM BIO-5: Burrowing Owl. A preconstruction presence/absence survey for burrowing owl shall be conducted by a qualified biologist within 30 days prior to the commencement of ground disturbing activities including vegetation clearing, grubbing, or tree removal and if an owl or owls are detected, reported to the California Department of Fish and Wildlife (CDFW). If no burrowing owls are observed during the survey, site preparation and construction activities may begin.

If burrowing owl are determined present within 500 feet of the Project site, then avoidance or minimization measures shall be undertaken in consultation with the City and CDFW. CDFW shall be sent written notification within 48 hours of detection of burrowing owls. The qualified biologist and project applicant shall coordinate with the City and CDFW to develop a Burrowing Owl Plan, as described below, to be approved by the City and CDFW prior to commencing project activities. Additionally, the Project applicant may be required to obtain a Section 2081 Incidental Take Permit, if it is believed take will occur. The project applicant shall implement the 2081 Incidental Take Permit if required.

If applicable, the Burrowing Owl Plan shall describe proposed avoidance, relocation, monitoring, minimization, and/or mitigation actions. The Burrowing Owl Plan shall include the number and location of occupied burrow sites and details on proposed buffers if avoiding the burrowing owls or information on the adjacent or nearby suitable habitat

available to owls for relocation. If no suitable habitat is available nearby for relocation, details regarding the creation and funding of artificial burrows (numbers, location, and type of burrows) and management activities for relocated owls shall also be included in the Burrowing Owl Plan. The City shall implement the Burrowing Owl Plan following CDFW review and approval.

If burrowing owls are observed within the project site during project implementation and construction, the project applicant shall notify CDFW immediately in writing within 48 hours of detection. If required based on the nature of the observance, a Burrowing Owl Plan shall be submitted to CDFW for review and approval within two (2) weeks of detection and no project activity shall continue within 500 feet of the burrowing owls until CDFW approves the Burrowing Owl Plan. The City shall be responsible for implementing appropriate avoidance and mitigation measures, including burrow avoidance, passive or active relocation, or other appropriate mitigation measures as identified in the Burrowing Owl Plan.

A final report shall be prepared by a qualified biologist documenting the results of the burrowing owl surveys and detailing any avoidance, minimization, and mitigation measures. The final report shall be submitted to the City and CDFW within 30 days of completion of the survey and burrowing owl monitoring for mitigation monitoring compliance record keeping.

MM BIO-6: Southwestern Pond Turtle. A SWPT survey shall be conducted by a qualified southwestern pond turtle biologist within 30 days of vegetation removal or ground disturbance. A report will also be submitted to the City detailing the findings of the survey(s). If SWPT are observed, additional avoidance, exclusion, and minimization measures shall be implemented through the development and implementation of a SWPT Avoidance Plan in coordination with the City, which may include the relocation of the SWPT upstream or downstream to an area of suitable habitat, installation of exclusionary fencing, and/or construction monitoring to ensure the species is not adversely affected from Project activities.

MM BIO-7: Jurisdictional Waters. Permanent impacts to Waters of the State, Riparian/Riverine resources, and Waters of the U.S. shall be mitigated at a ratio of 3:1 through the enhancement and restoration of portions of Lemon Creek within the Project Site, or as otherwise required by the regulatory agencies (USACE, RWQCB, and CDFW) pursuant to the issuance of federal and state permits or other authorizations for impacts to these features.

If required by the regulatory agencies, enhancement shall include the one-time removal of invasive species, and restoration shall include the one-time planting of native willow (*Salix* spp.) cuttings obtained from mature individuals onsite and following standard installation procedures in replacement. Planting shall occur immediately prior to onset of the rainy season.

If required by the regulatory agencies, he Applicant shall prepare an enhancement and restoration plan, to be approved by CDFW prior to any ground disturbance within Waters of the State or Riparian/Riverine resources located on the Project Site. The Plan shall include restoration and monitoring methods, annual success criteria, contingency actions should success criteria not be met, and long term management and maintenance goals.

MM BIO-8: Jurisdictional Waters. Prior to the issuance of a grading permit, the Applicant shall provide evidence to the City all appropriate permits and other authorizations have been obtained from the RWQCB, CDFW, and USACE.

MM BIO-9: Tree Canopy. Prior to occupancy of any homes in the Project, the Applicant shall implement its Tree Preservation / Replacement Plan.

8.0 BMPS AND AVOIDANCE MEASURE RECOMMENDATIONS

Implementation of general BMPs is recommended to the extent practical. Key aspects of the BMPs are to clearly delineate the limits of disturbance, use properly maintained equipment, properly implement and monitor water quality BMPs, avoid use of chemicals near sensitive areas, develop procedures for minimizing the likelihood of spills and to control sediment, ensure worker safety, and minimize impacts to sensitive biological resources onsite including sensitive wildlife species. Standard BMPs should be implemented including compliance with the South Coast Air Quality Management District and State Water Resources Control Board Stormwater requirements for the control of fugitive dust and management of water quality. The following BMPs should be implemented:

- Work area limits should be clearly defined and visible. All construction boundaries should be marked with flagging, staking, or fencing.
- Water Pollution and erosion control measures should be developed and implemented in accordance with RWQCB requirements.
- All vehicles and equipment should be in proper working condition and checked regularly for leaks prior to use to ensure that there is no potential for fugitive emissions of motor oil, fuel, antifreeze, hydraulic fluid, grease, or other hazardous materials.
- The upstream and downstream limits of projects disturbance plus lateral limits of disturbance on either side of the stream should be clearly defined and marked in the field and reviewed by the biologist prior to initiation of work.
- When stream flows must be diverted, the diversions should be conducted using sandbags or other methods requiring minimal instream impacts. Silt fencing of other sediment trapping materials should be installed at the downstream end of construction activity to minimize the transport of sediments offsite. Settling ponds where sediment is collected should be cleaned out in a manner that prevents the sediment from reentering the stream. Care should be exercised when removing silt fences, as feasible, to prevent debris or sediment from returning to the stream.
- Equipment storage, fueling, and staging areas should be located on upland sites with minimal risks of direct drainage into riparian areas or other sensitive habitats. These designated areas should be located in such a manner as to prevent any runoff from entering sensitive habitat. Necessary precautions should be taken to prevent the release of cement or other toxic substances into surface waters. Project related spills of hazardous materials should be reported to appropriate entities including but not limited to applicable jurisdictional city, FWS, and CDFG, RWQCB and should be cleaned up immediately and contaminated soils removed to approved disposal areas.
- Erodible fill material should not be deposited into water courses. Brush, loose soils, or other similar debris material should not be stockpiled within the stream channel or on its banks.
- Projects should be designed to avoid the placement of equipment and personnel within the stream channel or on sand and gravel bars, banks, and adjacent upland habitats used by target species of concern.
- Equipment storage, fueling and staging areas should be located within upland areas with minimal risks of direct drainage into riparian areas or other sensitive habitats.

- Any litter or rubbish should be collected and disposed of in appropriate containers with lids to avoid attracting wildlife species to the Project site.
- All work should be conducted during daylight hours. If work occurs at night, any night lighting should be shielded and directed away from the riparian areas located within Lemon Creek.
- All exterior lighting should be designed so that all site and building mounted luminaries produce a maximum initial illuminance value no greater than 0.20 horizontal and vertical foot candle at the site boundary and no greater than 0.01 horizontal foot candle 15 feet beyond the Project site.
- Dust control measures, such as watering trucks, should be implemented during construction to reduce the impact of fugitive dust on the adjacent riparian habitats.
- Landscaped slopes and planters should be included to provide discontinuity of paved areas.
- Landscaped areas should include native, locally appropriate plant species.
- Efficient irrigation systems should be utilized including smart controllers, run shutoff devices, timing devices and mulch.
- Runoff from roofs and other impervious areas should be directed into landscaping areas where feasible.
- Invasive exotic plants, including pepper trees (*Schinus* genus) and fountain grasses (*Pennisetum* genus), should be restricted from use in landscape plans for this Project. No species included in the CAL-IPC inventory (Cal-IPC, 2022) should be planted within the landscaped areas of the Project.

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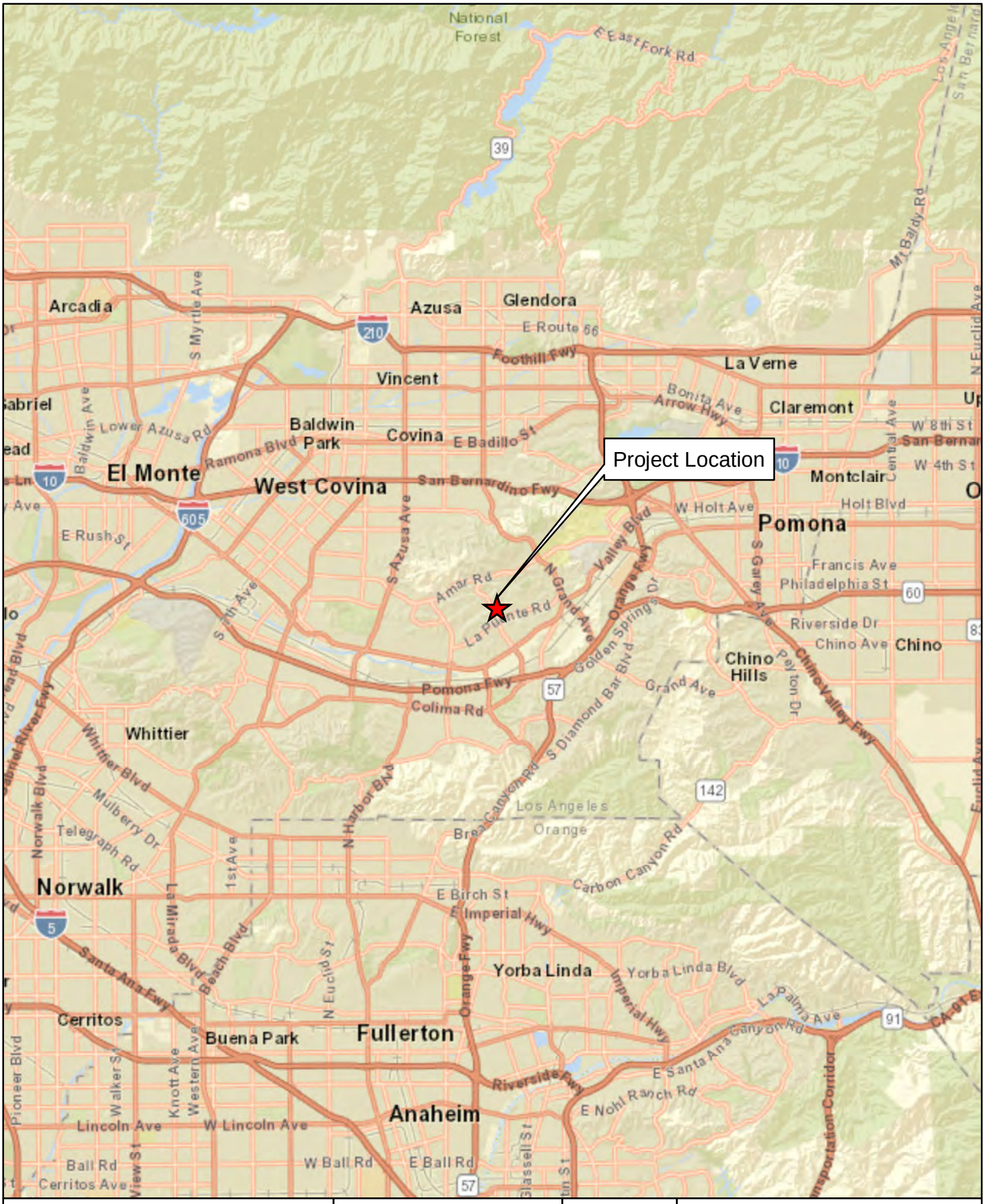
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FIGURES



Prepared By:
VCS Environmental

Map Created: August 2023
Data Sources: ESRI

Service Layer Credits: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community

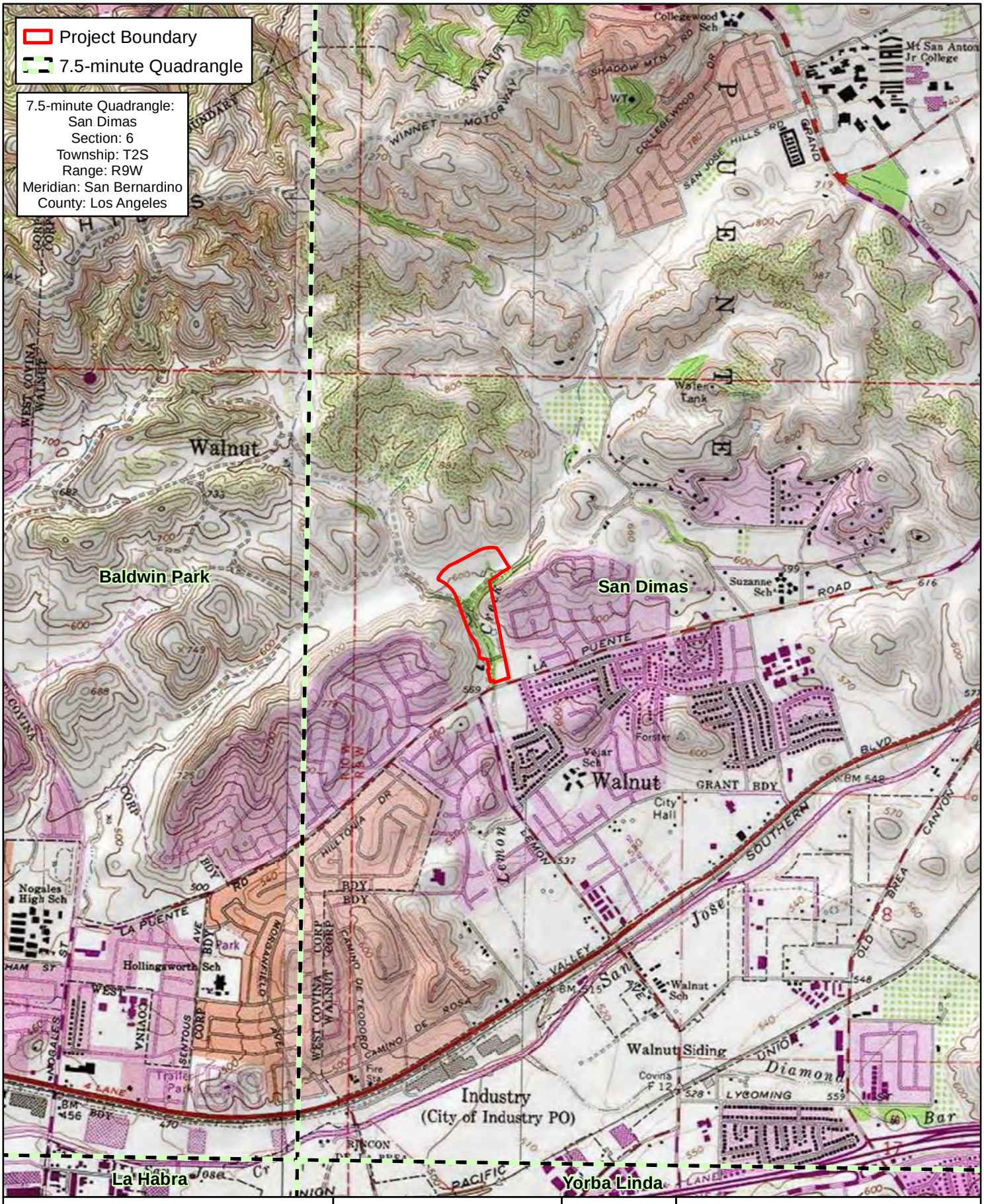
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Brookside Development

Figure 1 Regional Map


Project Boundary
N Lemon Ave
Schabarum Trl
Meadow Pass Hts
Falling Springs Rd
Rim Ridge Rd
Big Horn Ln
Iron Horse Rd
Trails End Rd
Citadel Dr
Red Cedar Dr
Burnt Tree Ln
Barnard Ave
McGill Dr
McKay Dr
Via Thomas Dr
Julliard Dr
Macalester Dr
Ferndoe St
La Puente Rd
Calle Granada
Calle Cadiz
Via Juanita Dr
Ralph St
La Bellen Dr
Eola Dr
Avenida Amadis
Avenida Alipaz
La Tortola Dr
Calle Sevilla
Calle Becerra
S Flemington Dr
N Dommer Ave
Scherer Ave
Vejar Rd
Oakwell Dr
Centinary Dr
Marwille Dr
Diehl St
Meadowpass Rd
Pierre Rd
Kelso Rd
Tennessee Trl
Champion Cir
E Monarch Ct
E Saddle Ridge Ln
N Bridle Path Ln
N Carriage Ln
N Hunters Hill Dr
E Round Hill Ln
N White Horse Cir
Palomino Cir
Colt Ln
Streamview St
Hillcrest St
Barcelona Pl
Romero Ct
Linda Ct
Creekside Dr
Pinto Cir
Packsaddle Ln
Mustang Cir
Stallion Cir
Grey Fox Rd
Vista Hermosa Dr
Calle Fortuna
Calle Lago
Jamon Ln
Camino Arroyo
Avenida Presidio
Los Pinos Dr
Los Gatos Dr
San Roque Dr
Calle Borrego
Half Moon Ln
Old Post Rd
Elkwood Rd
Big Creek Ln
Barnard Ave
Citadel Dr
Falling Springs Rd
Prydale Ln
Whitaker Ln
Fuente Dr
Barridge Ct
Curt Way
Knoll Ln
Brush Ln
Schabarum Trl
Loma Way
Prestwick Ln
Turtle Ct
Vejar Rd
Ricci Ln
Corte Cr
Ley Rd
Divot
Prepared By:
VCS Environmental
Map Created: June 2022
Data Sources: ESRI, County of Los Angeles
Service Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community
Esri, HERE, Garmin, (c) OpenStreetMap contributors
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Brookside Development Project
Figure 2
Aerial Map



Prepared By:
VCS Environmental

Map Created: August 2023
Data Sources: ESRI, County of Los Angeles

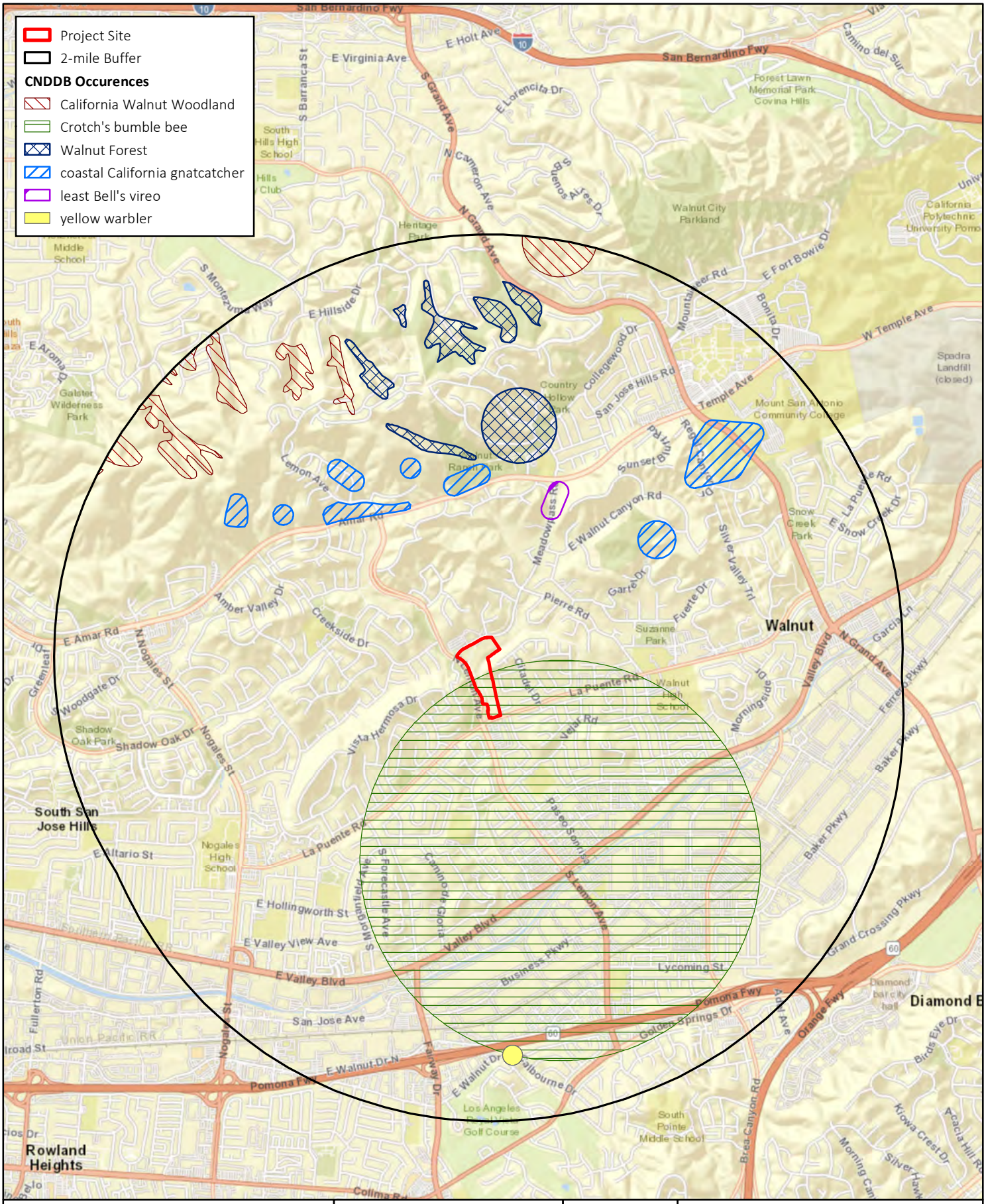
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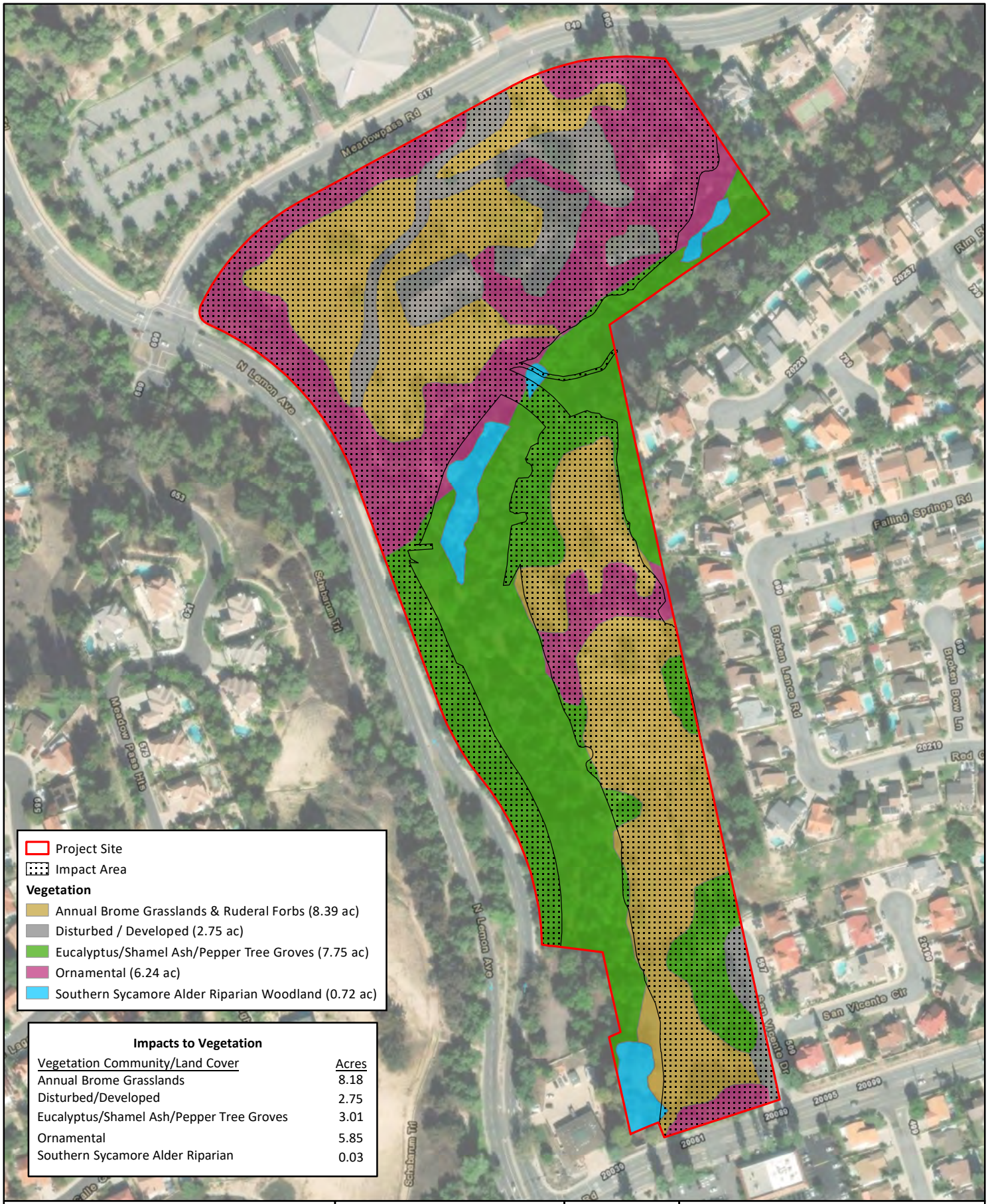
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Brookside Development

Figure 3 USGS Topographic Map


Project Site
2-mile Buffer
CNDDB Occurences
California Walnut Woodland
Crotch's bumble bee
Walnut Forest
coastal California gnatcatcher
least Bell's vireo
yellow warbler
San Bernardino Fwy
E Holt Ave
E Virginia Ave
S Barranca St
S Grand Ave
E Lorencita Dr
N Cameron Ave
N Grand Ave
S Buenos Aires Dr
South Hills High School
Hills Club
Heritage Park
Middle School
Walnut City Parkland
Forest Lawn Memorial Park Covina Hills
California Polytechnic University Pomo
S Montezuma Way
E Hillside Dr
E Aroma Dr
Galster Wilderness Park
Country Hollow Park
Collegewood Dr
San Jose Hills Rd
Mountaineer Rd
E Fort Bowie Dr
Bonita Dr
W Temple Ave
Temple Ave
Mount San Antonio Community College
Spadra Landfill (closed)
Lemon Ave
Amar Rd
Sunset Blvd
Regency Park Dr
E Walnut Canyon Rd
Meadow Glass Rd
Snow Creek Park
E Snow Creek Dr
E La Puente Rd
Silver Valley Trl
Garre Dr
Fuerte Dr
Pierre Rd
Suzanne Park
Walnut
Amber Valley Dr
Creekside Dr
E Amar Rd
N Nogales St
S Woodgate Dr
Greenleaf
Shadow Oak Park
Shadow Oak Dr
Nogales St
Vista Hermosa Dr
Citadel Dr
La Puente Rd
Walnut High School
Valley Blvd
N Grand Ave
Garcia Ln
Morningside Dr
Ferrero Pkwy
Baker Pkwy
Velar Rd
South San Jose Hills
E Altario St
Nogales High School
La Puente Rd
Paseo Sonrisa
S Lemon Ave
S Forecastle Ave
Camino de Gloria
Valley Blvd
Business Pkwy
E Hollingworth St
E Valley View Ave
E Valley Blvd
Lycoming St
Grand Crossing Pkwy
Diamond Bar City Hall
Diamond B
Pomona Fwy
Golden Springs Dr
Orange Fwy
Birds Eye Dr
Fullerton Rd
Union Pacific RR
San Jose Ave
Nogales St
E Walnut Dr N
Fairway Dr
E Walnut Dr
Calbourne Dr
Los Angeles Country Club Golf Course
South Pointe Middle School
Brea Canyon Rd
Kiowa Crest Dr
Acacia Hill Rd
Morning Canyon
Silver Hawk
Rowland Heights
Colima Rd
Prepared By:
VCS Environmental
Map Created: August 2023
Data Sources: ESRI, County of Los Angeles, CDFW
Service Layer Credits: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community
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Brookside Development
Figure 4
CNDDB Occurences


Project Site
2-mile Buffer
Critical Habitat: Coastal California gnatcatcher
Walnut
Rowland Heights
South San Jose Hills
Diamond
Prepared By:
VCS Environmental
Map Created: August 2023
Data Sources: ESRI, County of Los Angeles, USFWS
Service Layer Credits: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community
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Brookside Development
Figure 5
Critical Habitat



Impacts to Vegetation

Vegetation Community/Land Cover	Acres
Annual Brome Grasslands	8.18
Disturbed/Developed	2.75
Eucalyptus/Shamel Ash/Pepper Tree Groves	3.01
Ornamental	5.85
Southern Sycamore Alder Riparian	0.03

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VCS Environmental

Map Created: August 2023
Data Sources: ESRI, County of Los Angeles

Service Layer Credits: Esri, HERE, Garmin, (c) OpenStreetMap contributors
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Brookside Development

Figure 6 Vegetation Map



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Map Created: August 2023
Data Sources: ESRI, County of Los Angeles, USACE

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Brookside Development

Figure 7

National Wetlands Inventory (NWI)



Prepared By:
VCS Environmental

Map Created: August 2023
Data Sources: ESRI, County of Los Angeles, USDA

Service Layer Credits: Esri, HERE, Garmin, (c) OpenStreetMap contributors
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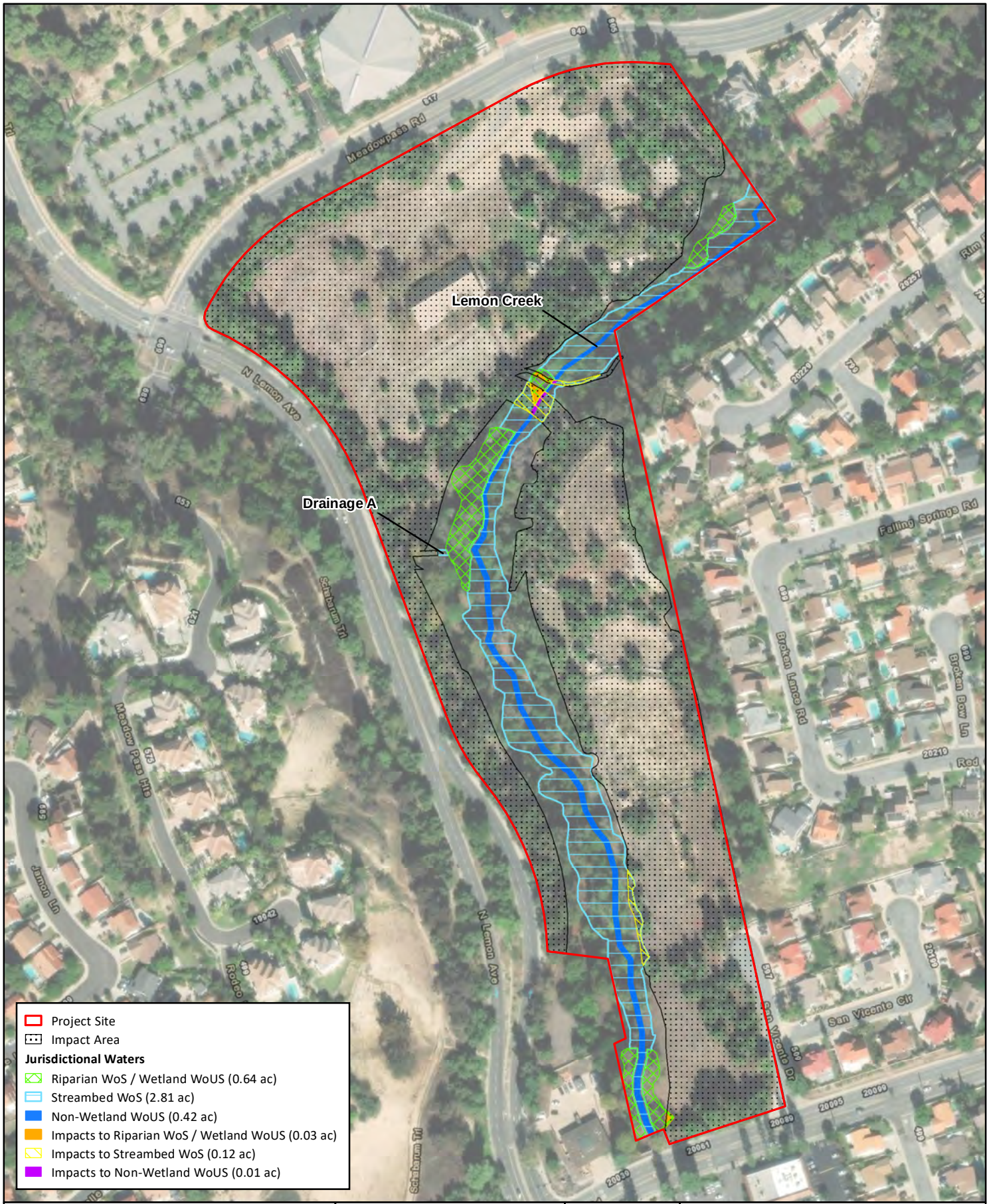
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Brookside Development

Figure 8

Soils Map



Prepared By:
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Map Created: August 2023
Data Sources: ESRI, County of Los Angeles, USACE

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Brookside Development

Jurisdictional Waters of the U.S. (WoUS) & State (WoS)

Figure 9

APPENDIX A

Site Photographs



Photo 1. View of dirt road entrance at the northern portion of the Project site. In the background on the left is the covered riding arena and to the center and right is the large main riding ring bordered by non-native ornamental trees at the northwestern portion of the site; facing southwest. Taken September 2022.



Photo 2. View of the Main barn and stables at the northern portion of the Project site; facing southeast. Taken September 2022.



Photo 3. View of disturbed slope of the driveway on the left, dirt path leading to more stables, including the main stables on the right; facing northeast. In the background are non-native ornamental trees such as pepper trees and blue jacaranda trees bordering the site. Taken September 2022.



Photo 4. View of a riding ring and stables along dirth road that leads to behind the main stables; facing south. Taken September 2022.



Photo 5. View of dirt road and small stable/shed in the northeastern portion of the Project site alongside Meadow Pass Road; facing northeast. Taken September 2022.



Photo 6. View of roof of small stable/shed in the northeastern portion of the Project site alongside Meadow Pass Road. May be suitable for bats. Taken September 2022.



Photo 7. View of outside stables in the northeast portion of the Project site that ultimately leads to the bridge over Lemon Creek just outside of the Project boundary. Taken September 2022.



Photo 8. View of drainage that goes underground dirt trail and connects to pipe in Lemon Creek at northeast boundary of Project site; facing north. Taken September 2022.



Photo 9. View of drain pipe that releases runoff from the northeastern portion of the Project site and into Lemon Creek just outside of the northeastern boundary of the Project site; facing northwest. Taken September 2022.



Photo 10. View of water flow within Lemon Creek from the dirt trail outside of the Project site south of the Creek. In the background is a slope and property boundary of the Project site; facing north. Taken September 2022.



Photo 11. View of dirt trail south of and leading towards east of Lemon Creek and into the Project site. In the background are eucalyptus, walnut, and ash trees; facing west. Taken September 2022.



Photo 12. View of Lemon Creek in the northeast portion within the Project site; facing southwest. Taken September 2022.



Photo 13. View of dirt path from the northeast portion of the Project site leading towards Lemon Creek. In the background are the barns/stalls of the equestary; facing northeast. Taken September 2022.



Photo 14. View of culvert and drainage pipe releasing water into Lemon Creek in the north central portion of the Project site; facing northeast. Taken September 2022.



Photo 15. View of culvert from below North Lemon Avenue within the midwestern portion of the Project site. Suitable for bats. The extent of sycamore trees is shown on the left; facing west. Taken September 2022.



Photo 16. View of box culvert within Lemon Creek in the midwestern portion of the Project site; facing northeast. May be suitable for bats. Taken September 2022.



Photo 17. View of dirt path west of Lemon Creek and the pepper tree/ eucalyptus woodland in the mid-southwestern portion of the Project site. Taken September 2022.



Photo 18. View of Lemon Creek at the southern end of the Project site where the creek enters a culvert below La Puente Road; facing south. Taken September 2022.



Photo 19. View of open space at southern end of the Project site. In the background pepper trees along the boundary of the site; facing northeast. Taken September 2022.



Photo 20. View of open space in the southeastern portion of the Project site; facing north. Taken September 2022.



Photo 21. View of open space in the central eastern portion of the Project site; facing southwest. In the background is the mixed forest area that follows Lemon Creek. Taken September 2022.



Photo 22. View of open space in the central eastern portion of the Project site; facing northeast. In the background is the slope down towards Lemon Creek. Taken September 2022.



Photo 23. View of large main riding ring in the northwestern portion of the Project site; facing southwest. Taken September 2022

APPENDIX B

Plant and Wildlife Species Observed within the Project Site

APPENDIX B

Plant and Wildlife Species Observed within the Project Site

Plant Species Observed within the Project Site

Scientific Name	Common Name
Anacardiaceae	**Sumac or Cashew**
*Schinus molle**	Peruvian pepper tree
*Schinus terebinthifolius**	Brazilian pepper tree
Arecaceae	**Palm Family**
*Washingtonia robusta**	Mexican Fan Palm
Asteraceae	**Sunflower Family**
*Centaurea melitensis**	Tocalote
Betulaceae	**Birch Family**
Alnus rhombifolia	White Alder
*Betula pendula**	European Birch
Bignoniaceae	**Trumpet Vine Family**
*Jacaranda mimosifolia**	Blue Jacaranda
Boraginaceae	**Forget-Me-Not Family**
Heliotropium curassavicum	Seaside Heliotrope
Brassicaceae	**Mustard Family**
*Brassica nigra**	Black Mustard
Chenopodiaceae	**Goosefoot Family**
*Salsola australis**	Russian thistle
Cyperaceae	**Sedges Family**
Cyperus involucratus	Umbrella Plant
Schoenoplectus californicus	California Bulrush
Euphorbiaceae	**Spurge Family**
*Ricinus communis**	Castor bean
Fabaceae	**Pea or Legume Family**
*Melilotus indicus**	Yellow Sweetclover
*Robinia pseudoacacia**	Black Locust

Scientific Name	Common Name
Fagaceae	**Oak or Beech Family**
Quercus agrifolia	Coast Live Oak
Quercus lobata	Valley Oak
Geraniaceae	**Cranesbill Family**
*Erodium cicutarium**	Redstem Filaree
Hamamelidaceae	**Witch-Hazel Family**
*Liquidambar styraciflua**	Sweetgum
Juglandaceae	**Walnut Family**
Juglans californica	Southern California Black Walnut
Lamiaceae	**Mint Family**
*Marrubium vulgare**	White horehound
Lauraceae	**Laurel Family**
*Cinnamomum camphora**	Camphor Tree
*Persea americana**	Avocado Tree
Lythraceae	**Pomegranate Family**
*Lagerstroemia indica**	Crape Myrtle
Malvaceae	**Mallow Family**
*Brachychiton rupestris**	Bottle Tree
*Malva parviflora**	Cheeseweed mallow
*Tilia spp**	Lime Tree
Moraceae	**Mulberry or Fig Family**
*Ficus carica**	Common fig
*Ficus macrocarpa**	Indian Laurel Fig
*Morus alba**	White Mulberry
Myrtaceae	**Myrtle Family**
*Corymbia citriodora**	Yellow Scented Gum
*Corymbia ficifolia**	Red Flowering Gum
*Eucalyptus botryoides**	Southern Mahogany
*Eucalyptus camaldulensis**	Red River Gum
*Eucalyptus cladocalyx**	Sugar Gum

Scientific Name	Common Name
*Eucalyptus polyanthemos**	Silverdollar Eucalyptus
*Eucalyptus sideroxylon**	Red Ironbark Eucalpytus
*Syzygium paniculatum**	Brush Cherry
Oleaceae	**Olive Family**
*Fraxinus uhdei**	Shamel ash
*Ligustrum lucidum**	Glossy Privet
*Olea europaea**	European Olive
Pinaceae	**Pine Family**
*Pinus brutia var. eldarica**	Afghan Pine
Pinus coulteri	Coulter Pine
*Pinus halepensis**	Aleppo Pine
*Pinus pinea**	Italian Stone Pine
Platanaceae	**Plane Tree Family**
Platanus racemosa	Western Sycamore
*Platanus x acerifolia**	Londonplane
Poaceae	**Grasses**
*Avena barbata**	Slender Wild Oat
*Bromus diandrus**	Ripgut Brome
*Bromus madritensis ssp. rubens**	Red Brome
*Cynodon dactylon**	Bermuda Grass
*Ehrharta erecta**	Panic Veldtgrass
*Festuca perennis**	Italian Ryegrass
*Stipa miliacea**	Smilo grass
Rosaceae	**Rose Family**
Heteromeles arbutifolia	Toyon
*Malus domestica**	Apple Tree
*Prunus avium**	Cherry Tree
*Prunus domestica**	Plum Tree
*Prunus persica**	Peach Tree
*Pyrus calleryana**	Callery Pear
Rutaceae	**Citrus Family**
*Citrus limon**	Lemon Tree
*Citrus x paradisi**	Grapefruit Tree

Scientific Name	Common Name
Salicaceae	**Willow Family**
Populus fremontii	Fremont Cottonwood
*Populus nigra**	Lombardy Poplar
Salix gooddingii	Goodding's Black Willow
Salix laevigata	Red Willow
*Xylosma congesta**	Shiny Xylosma
Sapindaceae	**Soapberry Family**
*Acer palmatum**	Japanese Maple
*Cupaniopsis anacardioides**	Carrotwood
*Koelreuteria bipinnata**	Chinese Flame Tree
Scrophulariaceae	**Figwort Family**
*Myoporum laetum**	Ngaio Tree
Ulmaceae	**Elm Family**
*Ulmus parvifolia**	Chinese Elm
Urticaceae	**Nettle Family**
Urtica dioica	Stinging Nettle
Vitaceae	**Grape Family**
*Parthenocissus inserta**	Woodbine

* non-native and/or invasive species.

Wildlife Species Observed/Detected within the Project Site

Scientific Name	**Common Name**
Amphibia - Amphibians	
Hylidae	**Tree Frogs**
Pseudacris hypochondriaca	Baja California Treefrog
Ranidae	**True Frogs**
*Lithobates catesbeianus**	American Bullfrog
Aves - Birds	
Accipitridae	**Hawks, Kites, and Eagles**
Accipiter cooperii	Cooper's Hawk
Buteo jamaicensis	Red-Tailed Hawk
Buteo lineatus	Red-shouldered Hawk
Aegithalidae	**Bushtits**
Psaltriparus minimus	Bushtit
Apodidae	**Swifts**
Chaetura vauxi	Vaux's Swift
Ardeidae	**Herons, Bitterns, and Allies**
Ardea alba	Great Egret
Bombycillidae	**Waxwings**
Bombycilla cedrorum	Cedar Waxwing
Cardinalidae	**Cardinals and Grosbeaks**
Pheucticus melanocephalus	Black-headed Grosbeak
Piranga ludoviciana	Western Tanager
Columbidae	**Pigeons and Doves**
Patagioenas fasciata	Band-tailed Pigeon
*Streptopelia decaocto**	Eurasian Collared-Dove
Zenaida macroura	Mourning Dove
Corvidae	**Crows, Jays, and Magpies**
Aphelocoma californica	California Scrub Jay
Corvus brachyrhynchos	American Crow
Corvus corax	Common Raven

Estriididae	**Waxbills, Munias**
Lonchura punctulata	Scaly-breasted Munia
Fringillidae	**Finches**
Haemorhous mexicanus	House Finch
*Spinus lawrencei***	Lawrence's Goldfinch
Spinus psaltria	Lesser Goldfinch
Hirundinidae	**Swallows**
Petrochelidon pyrrhonota	Cliff Swallow
Icteridae	**New World Blackbirds**
Icterus cucullatus	Hooded Oriole
*Molothrus ater**	Brown-headed Cowbird
Mimidae	**Mockingbirds and Thrashers**
Mimus polyglottos	Northern Mockingbird
Paridae	**Tits, Chickadees, and Titmice**
Baeolophus inornatus	Oak Titmouse
Parulidae	**Wood Warblers**
Cardellina pusilla	Wilson's Warbler
Oreothlypis celata	Orange-crowned Warbler
Setophaga coronata	Yellow-rumped Warbler
Setophaga nigrescens	Black-throated Gray Warbler
*Setophaga petechia***	Yellow Warbler
Passerellidae	**New World Sparrows**
Junco hyemalis	Dark-eyed Junco
Melospiza melodia	Song Sparrow
Melozone crissalis	California Towhee
Pipilo maculatus	Spotted Towhee
Spizella breweri	Brewer's Sparrow
Zonotrichia leucophrys	White-crowned Sparrow
Picidae	**Woodpeckers and Sapsuckers**
Picoides nuttallii	Nuttall's Woodpecker
Trochilidae	**Hummingbirds**
Calypte anna	Anna's Hummingbird

Selasphorus sasin	Allen's Hummingbird
Troglodytidae	**Wrens**
Thryomanes bewickii	Bewick's Wren
Turdidae	**Songbirds**
Sialia mexicana	Western Bluebird
Turdus migratorius	American Robin
Tyrannidae	**Tyrant Flycatchers**
Empidonax difficilis	Pacific-slope Flycatcher
Sayornis nigricans	Black Phoebe
Sayornis saya	Say's Phoebe
Tyrannus vociferans	Cassin's Kingbird
Viduidae	**Indigobirds**
*Vidua macroura**	Pin-tailed Whydah
Vireonidae	**Vireos**
*Vireo bellii pusillus***	Least Bell's Vireo
Vireo gilvus	Warbling Vireo
Vireo huttoni	Hutton's Vireo
Mammalia - Mammals	
Canidae	**Dogs**
Canis latrans	Coyote
Leporidae	**Hares, Rabbits**
Sylvilagus audubonii	Desert Cottontail
Molossidae	**Free-Tailed Bats**
Tadarida brasiliensis	Mexican Free-Tailed Bat
Sciuridae	**Squirrels**
Ostospermophilus beecheyi	California Ground Squirrel
Sciurus niger	Eastern Fox Squirrel
Vespertilionidae	**Vesper Bats**
Eptesicus fuscus	Big Brown Bat
Lasionycteris noctivagans	Silver-Haired Bat
Lasiurus cinereus	Hoary Bat

Reptilia - Reptiles	
Phrynosomatidae	**Lizards**
Sceloporus occidentalis	Western Fence Lizard
Teleosti – Ray-finned Fishes	
Crypinidae	**Carps, Minnows**
Pimephales promelas	Fathead Minnow
Malacostraca – Crayfish, Crabs, and Shrimp	
Cambaridae	**Crayfishes**
Procambarus clarkii	Red Swamp Crayfish

* non-native species.
** special status species

APPENDIX C

Arborist Report



The Brookside Development Project

Arborist Report

prepared for

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March 16, 2023

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Executive Summary

The proposed Brookside Residential project requests approval of a Tentative Tract Map to allow for the development of a 27-unit single-family detached housing project at 800 Meadow Pass Road located within the residential neighborhood of the City of Walnut, California.

In November 2021, Rincon Consultants conducted a tree survey of City protected and non-protected trees on the project site (non-protected trees include both natives and non-natives that are not protected by the City of Walnut). Additionally, the arborists verified tree data from a previous tree survey conducted on the property by Michael Baker International in 2016. This report summarizes the trees that were inventoried by both Rincon Consultants and Michael Baker International and identifies those trees that would be affected by the development of the proposed project.

A total of 718 non-protected trees and 19 City protected trees were surveyed collectively by Rincon Consultants and Michael Baker International. City protected trees include native oak and walnut trees protected pursuant to the City's Preservation of Oak and Walnut Trees Chapter 6.52 Supplemental Zoning Requirements. Non-protected trees include both native and non-native species that are not protected by the City.

The project will result in the removal of 460 non-protected trees (30 native species and 430 non-native species, of which 181 are considered "invasive" by California Invasive Species Council). Additionally, construction activities will encroach 126 non-protected trees (91 would incur "minor" encroachments, 29 would incur "major" encroachments, and 6 would incur "severe" encroachments), and 132 non-protected trees will be completely avoided by construction and will not be impacted by the project.

A total of 19 City protected oak and walnut trees fall within or immediately adjacent to the grading limits including 11 Southern California black walnut (*Juglans californica*) trees, one coast live oak (*Quercus agrifolia*) tree, and seven valley oak (*Quercus lobata*) trees. Seven (7) of these protected trees will experience "minor" encroachments during construction activities, and the remaining 12 protected trees will be avoided by the project.

- A minor encroachment is not expected to compromise the health or structural integrity of the tree, and/or generally would encompass less than 30 percent of the tree's canopy and roots.
- A major encroachment may result in the decline of the tree, and long-term health and survival are unknown.
- A severe encroachment may result in the significant decline, mortality, or a structurally unstable tree.

No City protected trees will be removed by the project. However, construction activities will result in the removal of 30 non-protected native trees, 249 non-native trees, and 181 invasive trees, for a total of 460 non-protected trees that will be removed. The proposed project will replace the removed trees at a greater than 1-to-1 ratio, with native species that will consist of 90, 24-inch box trees and 430 15-gallon trees, for a total of 520 native trees that will be installed throughout the development site, for a net gain of 60 trees post construction.

The existing tree canopy covers 46.4% of the project site, comprising 12 acres. It is estimated that 5.2 acres (20.1%) of tree canopy will be removed by the project and 6.8 acres (26.3%) of tree canopy will be preserved. The planting of 520 native trees is projected to result in 6.4 acres (24.7%) of tree

canopy that will be installed, resulting in a total tree canopy on the project site of 13.2 acres (51.1%). The tree canopy that will be preserved when combined with the canopy that will be installed is estimated to result in a 4.7% increase in tree canopy following project completion when compared to the existing tree canopy on the site.

1 Introduction

Rincon Consultants, Inc. (Rincon) prepared this Arborist Report for Spring Meadow Homes, LLC for the Brookside Development Project (project) proposed by CCN, located in the City of Walnut (City), California.

1.1 Scope of Work

Rincon's scope of work was to survey and assess all trees within, or immediately adjacent to, the project site. This included trees protected by the City as described in the Regulatory Context below, native trees, including any species native to California, such as, Western Sycamore (*Platanus racemosa*), Fremont cottonwood (*Populus fremontii*), Coulter pine (*Pinus coulteri*), white alder (*Alnus rhombifolia*), toyon (*Heteromeles arbutifolia*), and Goodding willow (*Salix goodingii*). Cal-IPC Invasive trees include any listed tree species identified by the Cal-IPC Inventory such as Peruvian pepper (*Schinus molle*), black locust (*Robinia pseudoacacia*), blue gum (*Eucalyptus globulus*), Brazilian pepper (*Schinus terebinthifolia*), European olive (*Olea europaea*), common fig (*Ficus carica*), Mexican fan palm (*Washingtonia robusta*), and red river gum (*Eucalyptus camaldulensis*) (Cal-IPC 2022). Other trees include tree species not falling into either category generally include non-native and non-invasive ornamental species, as well as few native species that are not protected by the City.

This report summarizes the tree data collected by Rincon, as well as tree data previously collected by Michael Baker International (MBI) and analyzes those trees that would be affected by the proposed development of the project This report represents a culmination of all tree data collected within and adjacent to the project limits and includes both protected and non-protected trees.

1.2 Regulatory Context

This report documents the results of the tree surveys and the proposed project's impacts to unprotected trees and protected trees pursuant to the City's Preservation of Oak and Walnut Trees Chapter 6.52 Supplemental Zoning Requirements. Pursuant to Article V. (Oak/Walnut Tree Preservation) of the City's Municipal Code, "protected tree" is defined as any of the following tree species measuring 6 inches or more in circumference (1.9 inches diameter at breast height-DBH) at 4.5 feet above the ground level at the base of the tree: any oak tree of the genus *Quercus* including, but not limited to, Blue Oak (*Quercus douglasii*), California Black Oak (*Quercus kelloggii*), Valley Oak (*Quercus lobata*), California-Live Oak (*Quercus agrifolia*), Canyon Oak (*Quercus chrysolepis*), Interior Live Oak (*Quercus wislizeni*), Scrub Oak (*Quercus dumosa*), and California Black Walnut (*Juglans californica*). The trees protected zone (TPZ) is defined as the dripline plus five feet, or 15 feet from the trunk, whichever is greater.

In addition, Heritage oak/walnut tree means any tree measuring 40 inches or more in circumference or, in the case of a multiple trunk tree, two or more trunks measuring 30 inches or greater in circumference, measured three feet above the natural grade surrounding such tree. The Planning Commission and/or City Council may classify a tree, regardless of size, as a heritage oak/walnut tree if it is determined by a majority vote thereof that such tree has exceptional historic importance, aesthetics and/or prominence to the community.

In accordance with this Tree Preservation Article, no person, partnership, firm, corporation, government agency, or other legal entity shall cut, prune, remove, relocate, endanger, or damage any protected tree except in accordance with the conditions of a valid tree permit issued by the City.

1.3 Project Description

Location. The project site consists of 25.8 acres located at 800 Meadow Pass Road. It is comprised of Assessor's Parcel Nos. 8709-093-001, -002, and -003 and is bordered by La Puente Road to the south, North Lemon Avenue to the west, Meadow Pass Road to the north, and homes to the east. It is in the southeast portion of the City of Walnut (City), approximately 2.3 miles northwest of the confluence of State Route 60 and State Route 57 (Figure 1). It is depicted on Township 02S, Range 09W, Section 6 of the United States Geological Survey, San Dimas California 7.5-minute quadrangle (Figure 2). The approximate center of the project site is located at latitude 34.024363 °N and longitude -117.866254°W.

Land Use Designations / Proposed Use. The project site has a General Plan designation of Very Low Density and is zoned Residential Planned Development Zone (RPD) with a designation of RPD–28,500–1.3. Pursuant to Section 6.24.030 A2 of the Walnut Municipal Code, the project proposes the development of 27 detached single-family homes under R-1 standards with a minimum lot size of 28,500 square feet. The project requires approval of a Tentative Tract Map and Site Plan/Architectural Review.

Access. All project streets will be public. The northerly 25 homes will take access from Meadow Pass Road and the two most southerly homes will take access from San Vicente Drive, with each street ending in a cul-de-sac to preclude cut-through traffic. A bridge will provide access over Lemon Creek to those homes south of Lemon Creek that will be accessed from Meadow Pass Road.

Open Space. The entirety of Lemon Creek will be preserved and included within 12.2 acres of privately owned and residentially zoned property - over 47% of the site – that will serve as permanent open space. Currently, the site contains approximately 1,876 trees. Through preservation and new plantings, the project will increase the number of trees onsite to approximately 1,936, also increasing the ratio of native to non-native/invasive trees. The developer will improve to City trail standards a public trail that will run through the open space area, passing across the project's primary road. An easement will then be granted to the City for the long-term operation and maintenance of the public trail.

As is common with existing development throughout the City's Residential Planned Development Zone, 9.5 acres of the open space area will be within privately owned residential lots. Those portions of open space, Lemon Creek, and the public trail within private lots will be subject to recorded deed restrictions prohibiting use of the restricted open space by the owners of the private lots, including planting vegetation, installing fencing, or otherwise developing or using the restricted natural open space areas. The restrictions will be enforceable by the City. The remaining 2.7 acres of the open space area will consist of internal slope areas and water quality basins that will be owned by a public agency or the Homeowners Association (HOA) and subject to similar deed restrictions.

The open space will be maintained by a combination of a Lighting and Open Space Maintenance District (LOSMD) through a new zone funded entirely by the project's homeowners (as to the natural open space only), the City (as to the trail only), the flood control district or another public or quasi-public agency (as to stormwater retention basins only), and the project's HOA.

Stormwater / Lemon Creek. Three public storm drain inlets along Meadow Pass Road at the northerly boundary of the project site currently direct offsite stormwater into and through existing public storm drain lines within the project site. That offsite stormwater then enters Lemon Creek through two existing outlets. These public storm drains, which do not capture onsite stormwater now and will not do so when the project is complete, will be realigned under the project streets. One of the existing outlets into Lemon Creek will remain in its current location, while the second will be relocated to a point below the proposed project bridge.

While onsite stormwater historically flows directly into the creek, two water quality basins have been designed to detain any increase in on-site stormwater runoff resulting from the proposed project, up to a 100-year storm event. These basins will treat on-site runoff up to the 85th percentile storm event, consistent with Los Angeles County regulations. One water quality basin will be in the northern portion of the site and will hold and gradually release project stormwater into an existing public storm drain connection which enters the property from Lemon Avenue. The second water quality basin will be in the southern portion of the site and will hold and gradually release project stormwater into a proposed outlet to Lemon Creek. These water quality basins are designed to assure that project stormwater will enter Lemon Creek onsite at a volume and flow rate no greater than presently occurs. Runoff entering Lemon Creek will then pass offsite into existing public drainage facilities located on public property adjacent to the project site at La Puente Road.

In addition, one of the four existing onsite culverts ("Culvert D," located approximately 100 linear feet upstream of La Puente Road) will be removed, restoring the native creek in this location.

1.4 Existing Conditions

The project is located at 800 Meadow Pass Road, within the residential neighborhood of the City of Walnut, California. The project site encompasses approximately 26 acres and consists of four Assessor Parcel Numbers (APN) including: APN 8709-093-003, which is approximately 10 acres, containing the large structures on the project; APN 8709-093-002, approximately 1.5 acres, containing the northwestern corner and entrance of the project site; APN 8709-093-001, approximately 12.5 acres, containing the southern portion of the site; and APN 8709-093-901, approximately 1.2 acres and lies immediately adjacent to the Los Angeles County Fire Department Station. The site was previously an equestrian center, where horses were boarded, housed, and trained. Several large structures exist on the site, including one training arena, two stables, and several horse corrals. Pedestrian and horse trails border the project boundary for public use. Lemon Creek runs through the central portion of the property, approximately 0.4-miles along the length of the project.

2 Methodology

2.1 Tree Survey Methodology

On November 9-11 and 21, 2021, International Society of Arboriculture (ISA) Certified Arborists Yuling Huo (cert # WE 11975A) and Genelle Watkins (cert # WE-12998A) surveyed for protected and non-protected trees with any portion of their TPZ in, or immediately adjacent to, the grading limits of the project site. Additionally, the arborists generally verified tree data from a previous tree survey conducted on the property by MBI in 2016. The trees that were surveyed by MBI mostly included those located within the grading limits of the project that would be removed. Data collected by MBI are included in a separate report prepared by MBI (MBI Tree Survey and Arborist Report February 2020).

Tree locations were recorded using a Geode global positioning system (GPS) device capable of submeter accuracy. Trees with existing tags from the previous survey conducted by MBI were used in the assessment. When new trees were surveyed, a unique identification number was assigned, and a corresponding metal tag was affixed on the north-side of the trunk (or the most accessible side of the trunk). An assessment of tree risk or hazardous conditions was not included as part of the survey.

Physical Characteristics

- Circumference of trunk – measured at three feet above natural grade
- Crown clearance and spread – measured in eight cardinal directions
- Height – estimated at an appropriate distance from the tree
- Structure – excessive horizontal branching, unbalanced crown, broken branches, etc.
- Overall Condition rating (See Table 1 below)

Horticultural Evaluation

- Physical evidence of disease, exfoliation, leaf scorch, exudations, etc.
- Identification of pests, twig girdlers, borers, termites, pit scale, plant parasites, etc.
- Evaluation of tree's vigor – new tip growth, good leaf color, poor leaf color, abnormal bark, deadwood, thinning of crown; and recommended mitigation measures necessary to correct any problems.

Table 1 Overall Condition Rating Criteria

Rating[1]	Structure
A	Outstanding. A healthy and vigorous tree characteristic of its species and reasonably free of any visible signs of stress, disease, or pest infestation.
B	Above Average. A healthy and vigorous tree with minor visible signs of stress, disease and/or past infestation.
C	Average. Although healthy in overall appearance, there is an abnormal amount of stress or disease and/or pest infestation.
D	Below Average/Poor. This tree is characterized by exhibiting a greater degree of stress, disease and/or pest infestation than normal and appears to be in a state of rapid decline. The degree of decline may vary greatly in signs of dieback, disease and pest infestation and appears to be in an advanced state of decline.
F	Dead. This tree exhibits no signs of life whatsoever.

[1] Overall condition rating and subsequent definitions as defined by City of Walnut Municipal Code (2022).

2.2 Tree Mapping Methods

All protected and non-protected trees surveyed by Rincon and MBI were mapped in ArcGIS and overlaid onto the current project site plan in a computer-aided design (CAD) file. The trunk location is based on the GPS waypoint location that was recorded by the arborist from one side of the tree's trunk. Dripline information collected by Rincon was based on estimated crown spread collected at eight cardinal directions, as described above. Each tree trunk location, dripline, tree protection zone, and identification number are shown in Appendix A.

Trees that were previously surveyed by MBI are included in the tree maps provided with this report. MBI did not map crown spread; therefore, MBI surveyed trees shown on the maps include the tree number, species, and trunk location. However, to assess potential encroachments on trees surveyed by MBI, Rincon manually drew the canopies of MBI surveyed trees located immediately adjacent to the grading limits using ArcGIS based on the dripline data provided in the MBI Arborist Report.

3 Tree Survey Results

A total of 737 unprotected and protected trees were surveyed. Of these, 718 are non-protected trees, and 19 are protected trees that includes 11 Southern California black walnut (*Juglans californica*) trees, one coast live oak (*Quercus agrifolia*) tree, and seven valley oak (*Quercus lobata*) trees. The overall health conditions ratings of the protected trees range from C to D (Below Average to Poor). Two of the 11 walnut trees within the proposed project site are considered "Heritage" and had an overall health condition of C (Average). The walnuts observed on site were assessed during their dormant season (Fall); therefore, the walnut trees may be in better health than indicated in this report. Tree data collected by Rincon is summarized in Appendix B—Rincon Tree Data Matrix, and tree data collected from the 2016 tree survey by MBI is provided in the MBI Arborist Report.

Total species counts of protected trees inventoried by Rincon and MBI are summarized in Table 2 below. Total species counts of non-protected native, California Invasive Species Council (Cal-IPC) listed species, and other (non-native/non-Cal-IPC) trees that do not fall in either category are summarized in Table 3 below (includes both Rincon and MBI surveyed trees).

Table 2 Protected Native Species Summary

	Coast Live Oak	Valley Oak	Southern California Black Walnut
Number of trees	1	7	11
Total			**19**

Table 3 Non-Protected Species Summary

	Native	Cal-IPC Invasive	Other
Number of trees	50	266	402
Total			**718**

3.1 Cal-IPC Invasive Trees

Invasive trees are not beneficial to the surrounding landscapes as they threaten and/or cause damage to California's natural areas. Appendix A displays all trees that fall under this category. By definition, a tree listed on the Cal-IPC Inventory is one that once introduced, they establish, reproduce, and spread, causing harm to the environment, economy, or human health. Of the 266 Cal-IPC trees surveyed, 181 of these trees will be removed by the project. Many of these trees will be removed due to grading impacts associated with the project and some of these removals will allow space for planting native trees throughout the project footprint. Table 4 lists the 181 Cal-IPC tree that will be removed for the purpose of the project; and the definitions of each of their rankings are listed below. The 181 Cal-IPC tree removals will not be discussed further in this report, nor included in the discussion of total tree impacts since the removal of these trees is considered a benefit to the project site and surrounding landscape by preventing the continued spread of these invasive species. This report will proceed to discuss project impacts to the remaining 556 native and "Other" (non-native/non-invasive ornamental) trees within the project site.

Table 4 Cal-IPC Tree Removals

Species	Cal-IPC Ranking	Removals
Cal-IPC		
Black locust (*Robinia pseudoacacia*)	Limited	209, 711, 712, 714, 715, 717, 720, 721, 767
Blue gum (*Eucalyptus globulus*)	Limited	185, 186, 187
Brazilian pepper (*Schinus terbinthifolia*)	Moderate – Alert	232, 377, 380, 381, 382, 383, 384, 385, 387, 388, 390, 391, 392, 393, 395, 399, 400, 441, 494, 798, 807, 808
Common fig (*Ficus carica*)	Moderate - Alert	419
European olive (*Olea europaea*)	Limited	224, 541
Peruvian pepper (*Schinus molle*)	Limited	53, 62, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 87, 90, 100, 101, 102, 104, 105, 106, 107, 108, 114, 115, 117, 118, 120, 121, 122, 123, 126, 127, 134, 136, 137, 138, 139, 141, 143, 144, 145, 146, 147, 148, 149, 150, 152, 155, 156, 157, 159, 165, 166, 177, 179, 180, 183, 219, 220, 221, 227, 228, 229, 230, 284, 285, 288, 289, 292, 293, 295, 296, 298, 299, 302, 303, 304, 305, 312, 313, 320, 330, 336, 339, 340, 411, 416, 418, 427, 428, 445, 446, 454, 456, 457, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 476, 478, 481, 482, 483, 484, 485, 486, 497, 523, 524, 534, 546, 590, 593, 600, 666, 677, 680, 681, 683, 718, 746, 757, 777, 787, 789, 790, 792, 806
Mexican fan palm (*Washingtonia robusta*)	Moderate - Alert	592
Red river gum (*Eucalyptus camaldulensis*)	Limited	168, 170, 171, 172, 182, 748

Cal-IPC Rankings

- Limited: These species are invasive, but their ecological impacts are minor on a statewide level or there was not enough information to justify a higher score. Their reproductive biology and other attributes result in low to moderate rates of invasiveness. Ecological amplitude and distribution are generally limited, but these species may be locally persistent and problematic.
- Moderate: These species have substantial and apparent-but generally not severe-ecological impacts on physical processes, plant and animal communities, and vegetation structure. Their reproductive biology and other attributes are conducive to moderate to high rates of dispersal, though establishment is generally dependent upon ecological disturbance. Ecological amplitude and distribution may range from limited to widespread.
- Alert: An Alert is listed on species with High or Moderate impacts that have limited distribution in California but may have the potential to spread much further.

3.2 Protected and Non-Protected Trees

The protected and non-protected (non-Cal-IPC invasive) trees are located within both the developed and landscaped areas of the project. A small semi-natural area within the project is located within, and immediately adjacent to, Lemon Creek. Observations of the existing conditions described below are important in understanding potential causes of declining tree health, structural issues, as well as estimating potential impacts from the project (i.e., where are roots more or less likely to occur and be damaged by construction).

3.2.1 Summary of Observations

Most of the protected trees are located on the northern portion of the project site next to existing horse stables. Additional protected trees are also located in the central portion of the property, along the perimeter of Lemon Creek, and along the border of the pedestrian walking trails on existing slopes of the project site. Non-protected trees are more prevalent throughout the project site, predominantly along the perimeter of the pedestrian trails, interspersed between existing structures on the site, and located along the reaches of Lemon Creek.

Trees Within Existing Developed Areas

Soil conditions in the existing developed portions of the site consist of hard, compacted soils, where it is unlikely that trees are receiving adequate nutrients and water, unless they are receiving routine maintenance. This appeared to be the case at one point in the past, due to evidence of existing drip irrigation lines, but they are not currently in use. As such, where hardscapes and buildings are present within the TPZ, the tree's roots are likely already growing in compacted soil and are consequently less abundant.

Trees Within Lemon Creek

The soil along Lemon Creek has an accumulation of natural leaf litter beneath tree canopies, which provides nutrients, reduces soil compaction, and improves moisture retention. These trees are not regularly maintained, and the understory is overgrown and dominated by non-native vegetation. Soil in this area is likely minimally compacted due to the lack of development and is conducive to normal root growth.

Trees Along Pedestrian Walking Trails

Trees lining the perimeter of the pedestrian walking trails are primarily within landscaped areas, dominated by non-native vegetation. These trees are surrounded by overgrown vegetation, and spacing is inadequate where neighboring trees are in competition with one another. Walking trails are heavily compacted likely from past routine maintenance. Compacted soil with low porosity reduces air and water availability for tree roots.

The Tree Location Map Book in Appendix A displays overall impacts to native, non-native, and the remaining Cal-IPC trees that will not be removed for the project.

4 Tree Impacts

4.1 Tree Impacts Summary

Tree location data was overlaid onto the project's grading limits. The expected project ground disturbance activities will involve demolition of the existing structures, excavation, and trenching throughout the site, as well as grading for the 27 new residential lots. Rincon conducted a conservative analysis to determine overall tree impacts from the project that will result in the removal of 279 trees, encroachment upon 133 trees, and 144 trees will be completely avoided by construction and will not be impacted by the project. A total of 19 protected oak and walnut trees fall within or immediately adjacent to the grading limits, and all will all be retained during construction activities. The 258 non-protected trees that fall within or immediately adjacent to the grading limits will all be retained during construction activities.

As defined by the City's tree ordinance, an encroachment means any intrusion into the protected zone of a tree, including but not limited to, grading, excavation, trenching, dumping of materials, animal corrals, equipment storage, building structures, paving, or other improvements. Encroachment does not include the action of a person physically entering into the tree's protected zone. Construction related encroachments were considered based on a tree's protective zone and the location of the nearest ground disturbance that would occur during construction activities (e.g., grading, excavation, and trenching). Impacts were categorized as no impact, minor encroachment, major encroachment, severe encroachment, and removal based on the criteria described below. Tree protection measures that would minimize construction impacts to the 19 protected trees are provided in Section 6.

- **No impact.** Tree would be completely avoided by construction activities and post-project conditions are not expected to negatively impact the tree.
- **Minor encroachment.** Not likely to compromise the health or structural integrity of the tree, and/or generally would encompass less than 30 percent of the tree's canopy and roots.
- **Major encroachment.** Impacts such as grading, excavation, fill, soil compaction, or substantial branch removal or trimming of branches greater than 6 inches in circumference on a mature tree may result in the decline of the tree, and long-term health and survival are unknown. Encroachment encompasses between 30 to 40 percent or more of the tree's canopy and roots. A major encroachment may also occur based on the proximity of the tree's trunk/root buttress to the disturbance. For example, excavation or trenching located within three to five times the distance of the tree's trunk diameter may result in decline or mortality even if the total encroachment of the tree's canopy and roots is less than 40 percent. This tree may not require removal if an arborist determines it was not compromised to the point that mortality could occur or would result in tree failure. Mortality or tree failure would not be imminent or probable due to loss of structural roots during construction, and the tree is expected to survive and remain structurally stable. Efforts should be made to save the tree and minimize impacts.
- **Severe encroachment.** Impacts to the tree may result in the significant decline, mortality, or a structurally unstable tree. A severe encroachment would exceed 40 percent of the tree's total canopy and/or root zone (based on the TPZ); however, the tree is not physically being removed. Efforts will be made to minimize impacts during construction, but long-term health and survival

are unknown. Trees that endure a severe encroachment should be mitigated because the tree may not survive project impacts.

- **Removal**. Complete removal of the tree due to project construction.

4.1.1 Protected Tree Impacts

As indicated above, 19 protected trees are located within the project footprint. Seven trees (three valley oak trees and three walnut trees) will receive minor impacts from the proposed project. Twelve protected trees (four valley oak trees and five walnut trees) will not be impacted by the proposed project. No protected trees will be removed or receive major impacts from the proposed project. A summary of impacts to protected trees is provided in Table 5 and Table 6 below.

Table 5 Protected Trees to be Encroached

Tree ID	Common Name	Trunk Circumference	Tree Height (feet)	Overall Condition Rating	Heritage Tree (Y/N)	Encroachment	Impact Description	Data Source
342	Valley oak	7.48	29	C	N	Minor	TPZ falls within grading limit	MBI
389	Valley oak	8.4	25	C	N	Minor	Grading to occur near TPZ	MBI
394	Valley oak	9.8	45	D	N	Minor	Grading to occur near TPZ	MBI
674	California black walnut	15.7, 18.84	25	D	N	Minor	TPZ and dripline fall within grading limit	Rincon
723*	California black walnut	50.24, 21.98, 31.4	35	D	Y	Minor	TPZ and dripline fall within grading limit	Rincon
761*	California black walnut	53.38	35	C	Y	Minor	TPZ falls within grading limit	Rincon
805	California black walnut	12.56, 6.28, 6.28	25	D	N	Minor	TPZ falls within grading limit	Rincon

* Heritage tree, defined as a protected oak/walnut tree measuring 40 in circumference for single trunk; 30 in circumference for multi-trunk

Table 6 Protected Trees with No Impact

Tree ID	Common Name	Trunk Circumference	Tree Height (feet)	Overall Condition Rating	Heritage Tree (Y/N)	Data Source
249	California black walnut	6.2	27	D	N	MBI
363	Valley oak	6.4	23	D	N	MBI
371	Valley oak	6.1	31	C	N	MBI
374	Valley oak	6.1	21	D	N	MBI
378	Valley oak	6.8	26	D	N	MBI
433	Coast live oak	6.6	17	D	N	MBI
583	California black walnut	6.28, 3.14, 6.28, 3.14, 3.14	25	C	N	Rincon
692	California black walnut	12.56	16	C	N	Rincon
696	California black walnut	9.42, 3.14, 6.28	15	D	N	Rincon
814	California black walnut	7.85, 9.42, 10.99	14	D	N	Rincon
819	California black walnut	1.57, 4.71	8	D	N	Rincon
821	California black walnut	9.42	25	D	N	Rincon

4.1.2 Non-Protected Tree Impacts

Table 7 and Table 8 summarize the impacts to the 452 non-protected trees that will be impacted or avoided by the proposed project, not including Cal-IPC trees mentioned at the beginning of this report. Table 7 details the impacts to the 50 native trees surveyed, and proposes to remove 30 native trees, five trees will receive minor impacts, and 15 trees will not be impacted. Table 8 details the impacts to the remaining 402 “Other” non-protected trees, which are those that are non-native ornamental and non-invasive trees. The project proposes to remove 249 trees, encroach 82 (52 minor, 26 major, and 4 severe), and 71 trees will not be impacted.

Additionally, Table 8 includes non-protected tree impacts to four trees (708*, 709*, 762* and 820*) lying immediately adjacent to bridge construction in the center of the project site. This bridge construction requires no grading but will require tree canopy trimming for equipment clearance and bridge installation. At this time, the extent of canopy pruning is unknown for these trees but is not expected to result in mortality. Root encroachments are also expected to be minor from grading on the adjacent section of the property (708 & 709).

Table 7 Non-Protected, Native Tree Impacts

Species	Remove	Severe Encroachment	Major Encroachment	Minor Encroachment	Avoid
Native					
Coulter pine (*Pinus coulteri*)	310				
Fremont cottonwood (*Populus fremontii*)	88, 426				
Goodding willow (*Salix goodingii*)					688, 689, 690
Toyon (*Heteromeles arbutifolia*)	684				651, 653, 656
Western sycamore (*Platanus racemosa*)	52, 77, 78, 196, 197, 198, 225, 226, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 520, 521, 522, 756			57, 222, 223	54, 56, 58, 59
White alder (*Alnus rhombifolia*)	333, 334, 335, 776			701, 726	693, 694, 695, 697, 698

Table 8 Other (Non-Protected, Non-Native Ornamental) Tree Impacts

Species	Remove	Severe Encroachment	Major Encroachment	Minor Encroachment	Avoid
Cal-IPC					
Black locust (*Robinia pseudoacacia*)			75, 708*		
Blue gum (*Eucalyptus globulus*)				110	111
Brazillian pepper (*Schinus terebinthifolia*)				235	637
Common fig (*Ficus carica*)					245, 752
European olive (*Olea europaea*)					
Mexican fan palm (*Washingtonia robusta*)				745	
Peruvian pepper (*Schinus molle*)	454	175, 181	60, 453, 599, 601, 602, 603, 605, 611, 612, 744	61, 89, 153, 176, 253, 455, 595, 596, 597, 598, 604, 609, 615, 618, 657, 663, 672, 673, 675, 676, 699, 703, 811, 812, 813, 817	33, 94, 241, 243, 244, 254, 343, 362, 366, 368, 369, 578, 582, 586, 587, 594, 607, 608, 610, 616, 617, 620, 623, 624, 625, 630, 632, 646, 652, 654, 659, 660, 664, 759
Red river gum (*Eucalyptus camaldulensis*)			704		700
Other					
Afghan pine (*Pinus brutia* var. *eldarica*)	98			644	247, 248, 250, 638, 641, 642, 649, 650
Aleppo pine (*Pinus halepensis*)	297, 803, 809, 824				242, 311, 801
Apple tree (*Malus domestica*)	208, 211, 216, 417				
Avocado tree (*Persea americana*)	205, 210		207		
Bottle tree (*Brachychiton rupestris*)	565, 566, 567, 568, 569, 754				
Brush cherry (*Syzygium paniculatum*)	500, 501, 503, 505, 506, 507, 508, 511, 512, 513, 514, 515, 516, 517, 782, 783, 785, 786, 788, 795, 797		504, 509, 510		237
Callery pear (*Pyrus calleryana*)	76, 278				379

Species	Remove	Severe Encroachment	Major Encroachment	Minor Encroachment	Avoid
Camphor tree (*Cinnamomum camphora*)	564				
Carrotwood (*Cupaniopsis anacardioides*)	442, 477, 496, 535, 685, 784			727, 799	236, 631, 647, 655, 658
Cherry tree (*Prunus avium*)	323, 324				
Chinese elm (*Ulmus parvifolia*)	99, 133, 475, 488, 542, 548		434		
Chinese flame tree (*Koelreuteria bipinnata*)	518			174	173
Crape myrtle (*Lagerstroemia indica*)	532, 536, 537, 538, 539, 560, 755				
Glossy privet (*Ligustrum lucidum*)	533, 544, 555				634, 635, 636
Grapefruit tree (*Citrus* x *paradisi*)	201, 213, 215				
Indian laurel fig (*Ficus microcarpa*)	526, 527, 528, 529		525		
Italian stone pine (*Pinus pinea*)	315				
Jacaranda (*Jacaranda mimisofolia*)	116, 119, 124, 125, 128, 129, 130, 135, 140, 142, 151, 160, 161, 162, 163, 164, 231, 233, 260, 262, 264, 265, 276, 277, 279, 280, 281, 282, 283, 286, 287, 300, 317, 326, 327, 328, 329, 331, 332, 337, 338, 341, 376, 386, 398, 404, 405, 406, 413, 436, 437, 438, 439, 440, 447, 448, 450, 451, 452, 458, 493, 530, 531, 540, 591,		238, 252, 261, 606	239, 240, 263, 449, 460, 461, 462, 614, 661, 816	246, 251, 255, 259, 301, 364, 365, 577, 581, 613, 621, 622, 626, 627, 629
Japanese maple (*Acer palmatum*)	556, 557, 559				
Lemon-scented gum (*Coymbia citriodora*)	63, 307, 308, 314, 793, 794	802	589	113, 348, 353, 588, 669, 804	347, 349, 355
Lemon tree (*Citrus limon*)	202, 713, 716, 768		722		
Lime tree (*Tilia* spp)	204, 217				
Lombardy poplar (*Populus nigra*)	79, 80				

Species	Remove	Severe Encroachment	Major Encroachment	Minor Encroachment	Avoid
Londonplane (*Platanus* x *acerifolia*)		667			
Ngaio tree (*Myoporum laetum*)	570, 571, 572, 573, 574, 791, 823, 826, 827		345, 350, 351, 352, 356, 825	344, 822	354
Pear tree (*Pyrus* spp)	200				
Peach tree (*Prunus persica*)	206, 212, 214				
Plum tree (*Prunus domestica*)	218		192		
Red flowering gum (*Corymbia ficifolia*)	91, 97				55
Red ironbark eucalyptus (*Eucalyptus sideroxylon*)	82, 83, 84, 85, 86, 95, 96, 178, 796	92, 93	679, 800	662, 665, 668, 670, 671, 738	109, 691,
Shamel ash (*Fraxinus uhdei*)	132, 158, 167, 184, 189, 191, 193, 194, 195, 199, 291, 294, 309, 316, 325, 375, 397, 407, 408, 409, 420, 422, 423, 424, 425, 432, 443, 479, 480, 487, 489, 491, 492, 502, 558, 710, 719, 724, 747, 750, 763, 764, 765, 766, 769, 770, 771, 772, 773, 774, 775, 780, 781, 810, 815, 818		74, 705, 706, 728, 729, 730, 731, 733, 737, 740, 741, 742, 743, 749, 753, 762*, 779	619, 709*, 725, 732, 734, 736, 739, 760, 778, 820*	154, 256, 257, 258, 435, 579, 580, 584, 628, 633, 639, 640, 643, 645, 648, 702, 707, 735, 758
Shiny xylosma (*Xylosma congesta*)	549, 550, 551, 552				
Silverdollar eucalyptus (*Eucalyptus polyanthemos*)	321			751	367, 575, 576, 585
Southern mahogany (*Eucalyptus botryoides*)					112, 359, 431
Sweetgum (*Liquidambar styraciflua*)	412				
Sugar gum (*Eucalyptus cladocalyx*))	169				
White mulberry (*Morus alba*)	51, 188, 190, 318, 319, 490				370

* Tree will be subject to encroachment by bridge construction.

4.2 Discussion

The Brookside Development Project aims to demolish all existing structures and some of the vegetation within the grading limit. Project activities that occur within the TPZ with the potential to impact both protected and non-protected trees include the following:

- Root severance (e.g., from grading and other ground disturbance)
- Soil compaction (e.g., from equipment and compaction from equipment staging)
- Trimming of crown or roots (e.g., for equipment clearance and staging, trenching, or for grading and excavation)
- Mechanical damage from equipment

Protected Trees

Seven protected trees (342, 389, 394, 674, 723, 761, 805) are located just within the grading limits. To preserve these trees, a four-foot retaining wall will be constructed around them and the footing for the walls will be bridged over the roots to minimize impacts to the trees. Twelve protected trees (249, 363, 371, 374, 378, 433, 583, 692, 696, 814, 819, and 821) will lie outside of the grading limit and will not be impacted by project activities.

Non-protected Trees

The project will remove 460 non-protected trees (30 native species and 430 non-native species, of which 181 are considered "invasive" by California Invasive Species Council). Construction activities will encroach 126 non-protected trees (91 would incur "minor" encroachments, 29 would incur "major" encroachments, and 6 would incur "severe" encroachments) and 132 non-protected trees are not located within the grading limit and will not be impacted by project activities.

Tree Impact Determination

The greatest concentration of active roots is typically within the tree's dripline. Most tree roots occur within 8 to 12 inches of the soil surface and rarely extend past 4 feet in depth (Sanborn 1989).

Due to the nature of excavation and trenching, the greatest concern to tree health and mortality associated with the project is root damage. Grading and trenching within the critical root zone (CRZ) of a tree increases the likelihood of tree stress, decline, and mortality. Native oak trees are generally more sensitive than other tree species and may not tolerate root or crown removal. Removal of larger roots (particularly lateral or sinker roots and roots greater than two inches in diameter) can severely impact the stability of the tree. The existing conditions should be referenced in estimating the tree's root zone and the tree's susceptibility to construction impacts.

In general, tree roots are expected to be less abundant in hardscaped areas, under roads and sidewalks, and within existing building footprints due to the compacted nature of the soil where roots may be deprived of water and oxygen. When trees are leaning, the tension and compression forces on the roots are increased; therefore, a larger CRZ will need to be protected. Similarly, trees that are on slopes are expected to have roots that extend further on the uphill side to anchor the tree. In addition, roots may be impeded or previously severed by physical barriers such as retaining walls or drainages.

5 Avoidance and Minimization Measures for Preserved Trees

The following avoidance and minimization measures should be implemented to reduce impacts to trees from proposed project construction activities.

5.1 Monitoring

No person should impact the roots or canopy of trees without oversight of an ISA Certified Arborist. The arborist should be contacted no less than 72 hours prior to anticipated work within or immediately adjacent to the dripline of a tree to ensure availability. The arborist should be present during initial ground disturbance activities that will occur within or immediately adjacent to the tree.

5.2 Fencing

A minimum 6-foot-tall chain-link fence should be placed between the construction area and the dripline, and an arborist must be present to monitor any work within the fencing of a protected tree. Fencing should be maintained in place throughout the duration of construction activities and until all equipment has been removed from the site.

5.3 Root Impacts

Cutting or disturbing a large percentage of a tree's roots increases the likelihood of the tree's failure or death. Never cut tree roots that are more than four inches in diameter, as roots that are large are usually structural. Cutting them can destroy the stability of the tree, causing it to fall over. Where grading, cut-and-fill, trenching, or any other ground disturbing activity occurs or is specifically shown on the project plans within the dripline, the activity should be done slowly to avoid ripping or tearing roots. Ripping or tearing roots can lead to rotting and decay and reduce stability and health in the tree. Hand tools or small hand-held power equipment should be used instead within the dripline of a tree. Cutting roots two inches in diameter or greater should be avoided wherever possible.

The amount of allowable root disturbance will be determined by the monitoring arborist. If the arborist determines that construction may compromise the tree's health or the structural integrity of the tree, work around that tree should be suspended until measures to minimize the impact can be determined or until a permit is received by the city if the arborist determines that the tree may not survive the impact.

Roots that are two inches or more in diameter that are encountered will be avoided until the arborist determines treatment measures. Cutting of roots will be prescribed by the arborist and should generally be done at right angles to the roots with a clean, sharp blade. New cuts should be wetted and covered with absorbent tarp or heavy cloth fabric and remain in place until the trench/excavation is backfilled with soil and immediately watered. Fabric should be removed just prior to backfilling.

5.4 Equipment Staging

Temporary equipment staging and storage will be limited to designated areas away from the trees. No washing of equipment or vehicles should occur within 50 feet of a preserved tree.

5.5 Soil Compaction

Soil compaction imposes a complex set of physical, chemical, and biological constraints on tree growth. Principal components leading to limited growth are the loss of aeration and pore space, poor gas exchange with the atmosphere, lack of available water, and mechanical impedance of root growth. Soil compaction is the largest single factor responsible for the decline of trees on construction sites. The following guidelines are recommended to protect trees from soil compaction that may occur due to project activities:

- No equipment or materials will be stored under canopies, or within the dripline of trees.
- On-site staging, storage and washing of construction materials and equipment will be limited to designated and approved areas.
- In areas where vehicles or equipment may impact tree roots, steel plates or plywood should be installed to protect the root zone as needed.

5.6 Mechanical Damage

Inadvertent damage to limbs and branches (i.e., mechanical damage) from project equipment may occur if work, including staging and access, is within the dripline. If damage occurs to limbs and branches, immediate trimming with clean and sharp pruners should be implemented based on best practices as determined by the arborist. If damage to the bark or trunk occurs, wound dressings are not recommended. Treatment of said damages may be applied in accordance with the ANSI A300, Part 5, Management of Trees and Shrubs during Site Planning, Site Development, and Construction, Section 8.3 Wound Treatment (ANSI 2012).

5.7 Pruning

Pruning/trimming of protected trees should be limited to only what is necessary for construction and conducted under the direct supervision of an ISA Certified Arborist. Climbing spurs and spikes shall not be used.

- A thorough inspection of the canopy should be conducted to determine pruning specifications.
- Within no more than one week prior to excavation, trenching, or other subsurface work that would occur within the root zone, the soil within the dripline of the tree should be deeply irrigated. This can be accomplished using a soaker hose for approximately 2 to 6 hours, depending on the volume of water and soil texture. This will allow water to be absorbed by the roots. This can be performed a few days before the root pruning is to be performed.
- In areas where grading, cut-and-fill, or trenching will take place, digging should be by hand for the first 2 to 3 feet where most roots are expected to occur.
- Any root pruning should be performed carefully. The roots should be exposed through hand digging. The roots should be cut at a 90- degree angle and cut cleanly. No roots should be torn or jagged, as this can lead to rotting and decay in the root zone and reduce stability and health

in the tree. Excessive root pruning is not recommended. If a tree is under any stress or is lacking in health and vigor, the root pruning can contribute to the quick decline of a tree.

- The contractor should lightly apply moisture to any exposed roots to keep them from drying out. Also, do not let the roots sit in a pool of water during construction. This situation can also cause rotting and decay.
- After root pruning is complete, backfill with native soil. Do not overly compact. Water every 1 to 2 feet of vertical fill to reduce air pockets.
- An ISA Certified Arborist should be on site to observe all root-pruning.

5.8 Bridging Footings Over Roots

Where structural footings are required and roots will be impacted, the footings should be bridged, and the roots protected. Cover all such roots with a layer of plastic cloth and 2-4 inches of Styrofoam matting prior to pouring the footing.

5.9 Horizontal Directional Drilling for Utilities

Where feasible, to minimize impacts to tree roots where utilities will be installed, rather than trenching through a tree's root zone and severing roots, use directional drilling practices to install utilities underneath tree roots.

6 Tree Replacement Summary

In accordance with the City's Oak/Walnut Tree Preservation Article V of the Municipal Code, replacement trees must be approved in advance by the Planning Commission and shall be trees that are native to California. Replacement trees for the protected trees that will be removed shall include the following:

1. Replacement of trees should be based on trunk diameter and not by box size alone.
2. Location of replacement trees shall consider:
    - Vegetative character of the surrounding area near the project site
    - The number of trees proposed for removal in relation to the number of existing trees on the project site.
    - Anticipated effectiveness of the replacement trees as determined by the tree report submitted by the applicant.
    - Development plans submitted by the applicant for the proposed construction/use of the project site.
    - The Commission may consider planting trees on public property (designated open space areas, public parks, etc.), in cases where conditions preclude the project site for planting the replacement trees.

In cases where project activities may cause a tree to decline or may result in mortality, that tree will be mitigated at the discretion of the Public Planning Commission. Where the long term of survival of protected trees is unknown, such as those trees that would incur "major" or "severe" encroachments, the applicant will replace the tree in accordance with the City's replacement requirements summarized above.

Based on the project's Tree Replacement Plan (Appendix C), the project will replace the tree canopy that will be removed by construction and will install 520 California native trees throughout the development site. Appendix C includes a series of exhibits that depict the existing tree canopy on the project site, the tree canopy that will be removed by the project, and the tree canopy that will be preserved. Also included is a Tree Replacement Schedule that includes an itemized breakdown of the number of trees that will be planted, including the increase in trees and canopy cover that will exist following project completion when compared to existing conditions. The specific species, sizes, quantities, and locations of the trees that will be installed are included.

No City protected trees will be removed by the project. However, construction activities will result in the removal of 30 non-protected native trees, 249 non-native trees, and 181 invasive trees, for a total of 460 non-protected trees that will be removed. As illustrated in Appendix C, the proposed project will replace the removed trees entirely with native species that will consist of 90 24-inch box trees and 430 15-gallon trees, for a total of 520 native trees that will be installed throughout the development site.

The existing tree canopy covers 46.4% of the project site, comprising 12 acres. It is estimated that of the existing canopy, 5.2 acres (20.1%) will be removed by the project and 6.8 acres (26.3%) of tree canopy will be preserved. The planting of 520 native trees is projected to result in 6.4 acres (24.7%) of tree canopy that will be installed, resulting in a total tree canopy on the project site of 13.2 acres (51.1%). The tree canopy that will be preserved, combined with the canopy that will be installed, is

estimated to result in a 4.7% increase in tree canopy following project completion when compared to the existing tree canopy on the site.

Below is a summary of the project's Tree Replacement Schedule from Appendix C.

TREE SUMMARY			
			COUNT
EXISTING TOTAL TREES			1,876
PROPOSED TREES TO REMOVE[1]			460
	CA NATIVE[2]	HEALTHY	2
		UNHEALTHY (DISTRESSED)	28
	NON-NATIVE (EXOTIC)	HEALTHY	89
		UNHEALTHY (DISTRESSED)	160
	INVASIVE (PER CAL-IPC)	HEALTHY	73
		UNHEALTHY (DISTRESSED)	108
	TOTAL	HEALTHY	164
		UNHEALTHY (DISTRESSED)	296
REMAINING EXISTING TREES[3]			1,416
PROPOSED NEW TREES			520
INCREASE IN TREES[4]			60
PROPOSED NEW TOTAL TREES UPON COMPLETION			**1,936**

REPLACEMENT PROGRAM				
TREE TYPE	REMOVED TREE COUNT	REPLACEMENT RATIO	REPLACEMENT TREE SIZE	REPLACEMENT COUNT
CA NATIVE SPECIES	30	3:1	24" Box	90
NON-NATIVE (EXOTIC)	249	1:1	15 Gal	249
INVASIVE (PER CAL-IPC)	181	1:1	15 Gal	181
REMOVED TREES	**460**	**NEW PROPOSED TREES**		**520**

7 References

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Appendix A

Tree Location Map Book

Appendix B

Rincon Tree Data Matrix

Appendix C

Total Canopy Coverage Calculations and Replacement Tree Summary

Appendix A

Tree Location Map Book

Figure 1 Cal-IPC Tree Removals



Figure 2 Project Site Overview: Tree Locations and Impacts

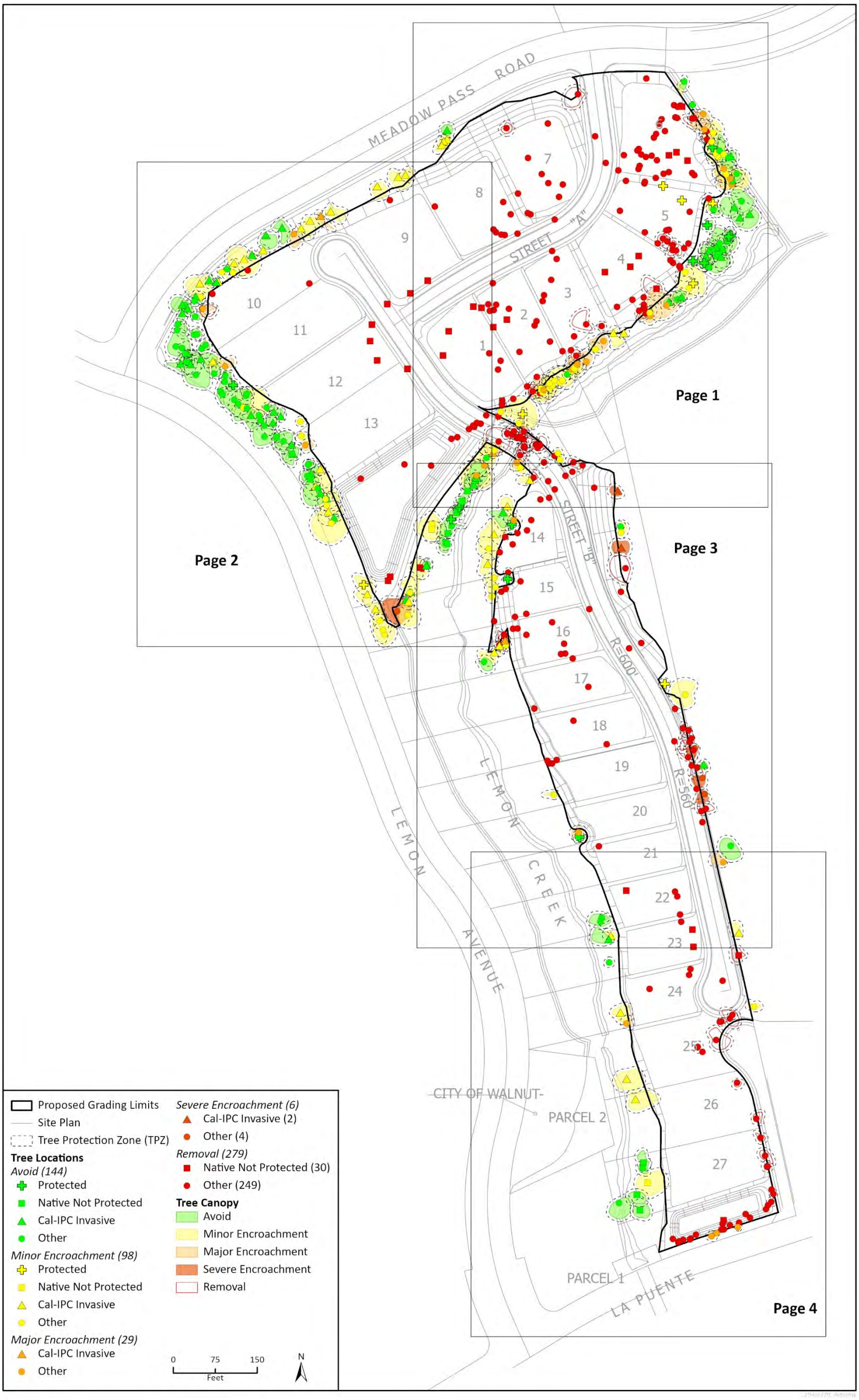


Figure 3 Tree Locations and Impacts (Page 1)

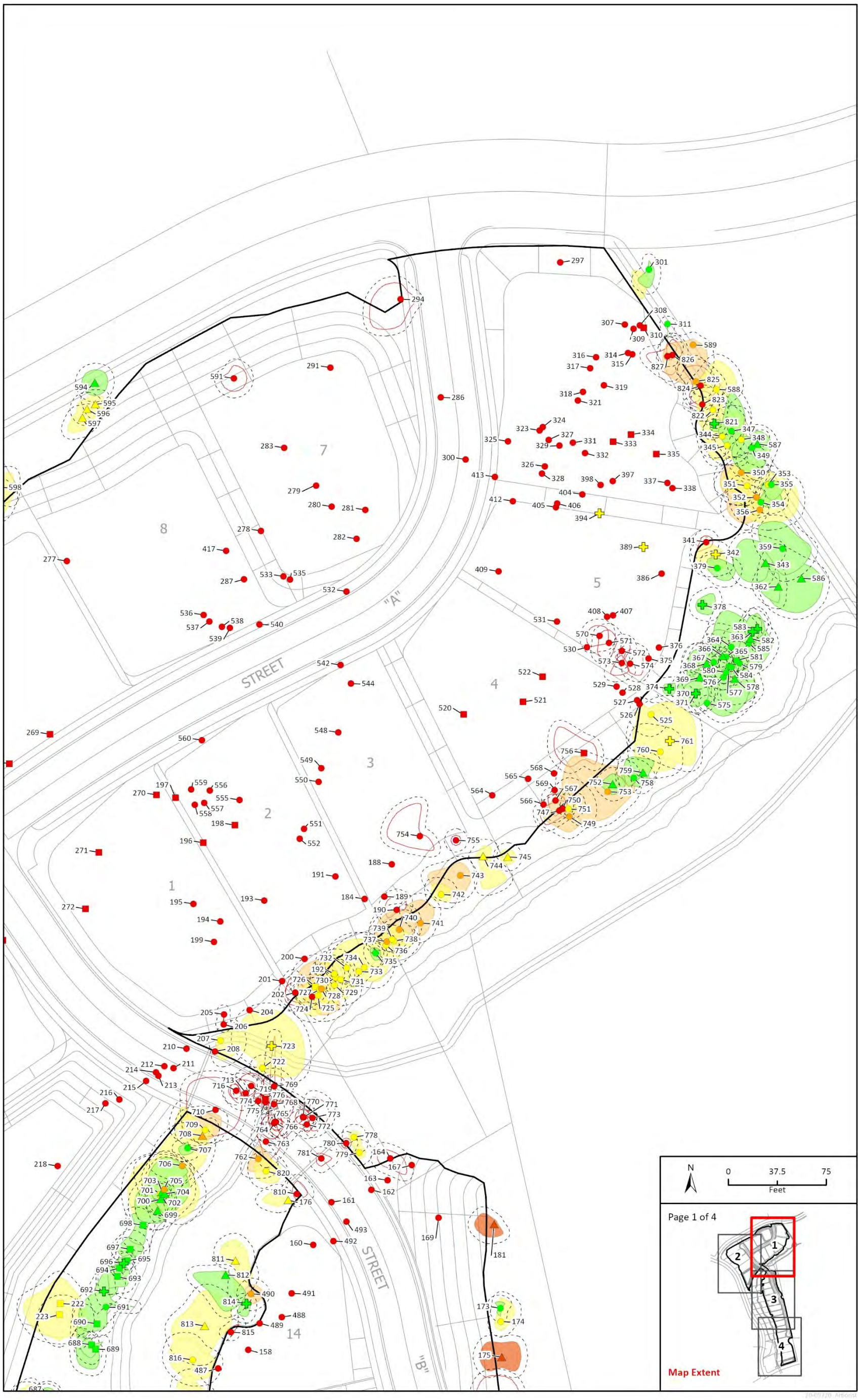


Figure 4 Tree Locations and Impacts (Page 2)

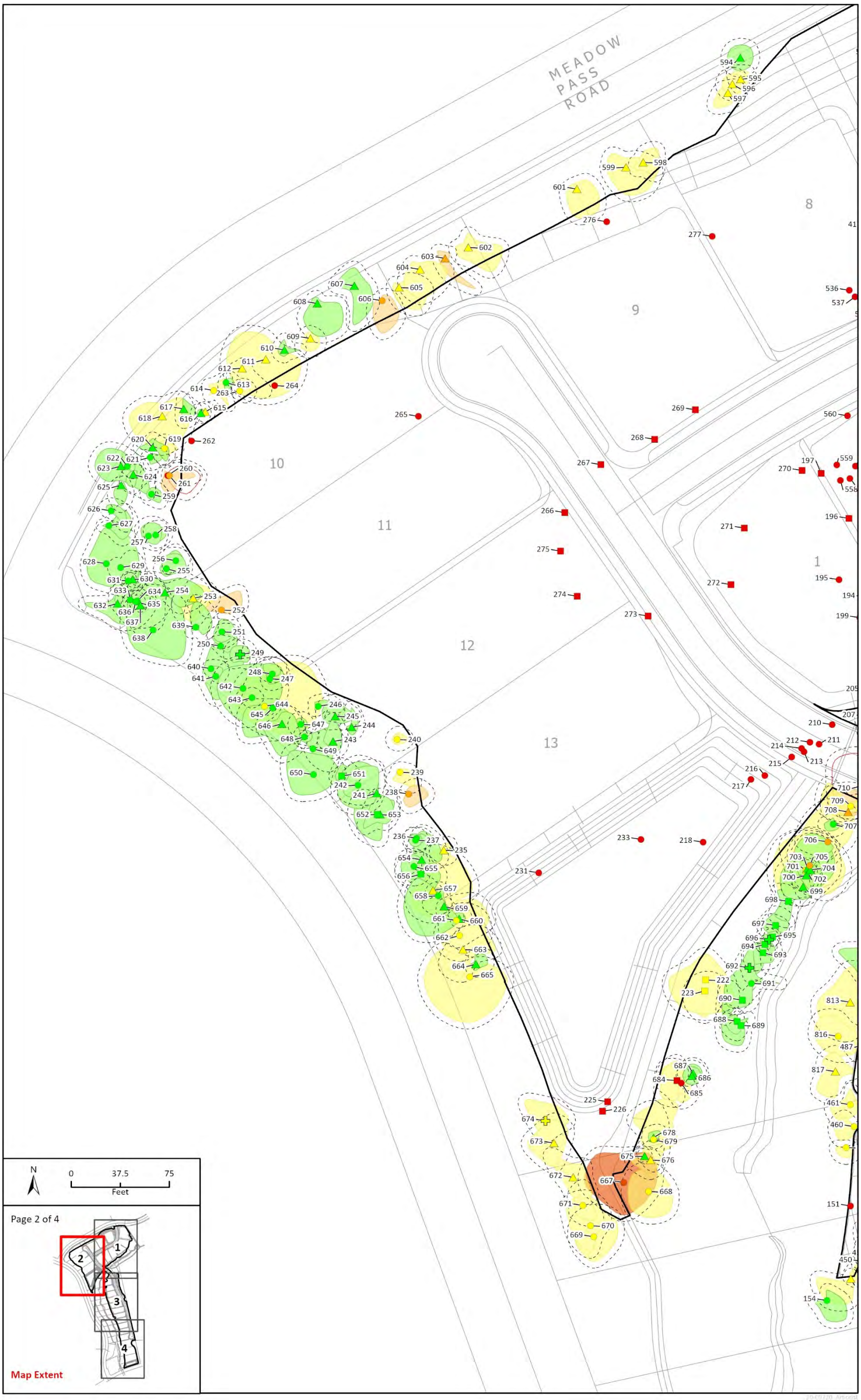


Figure 5 Tree Locations and Impacts (Page 3)

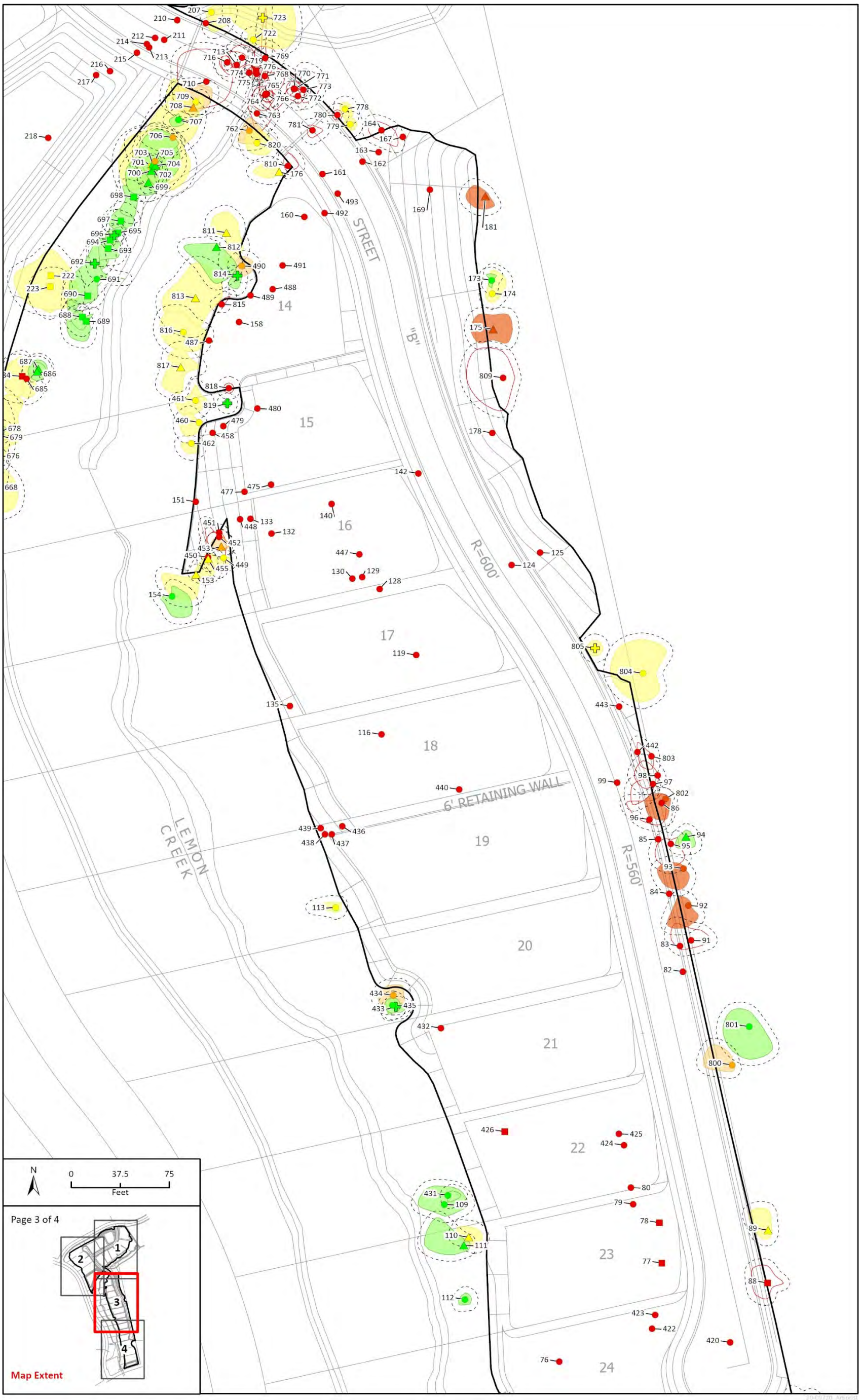
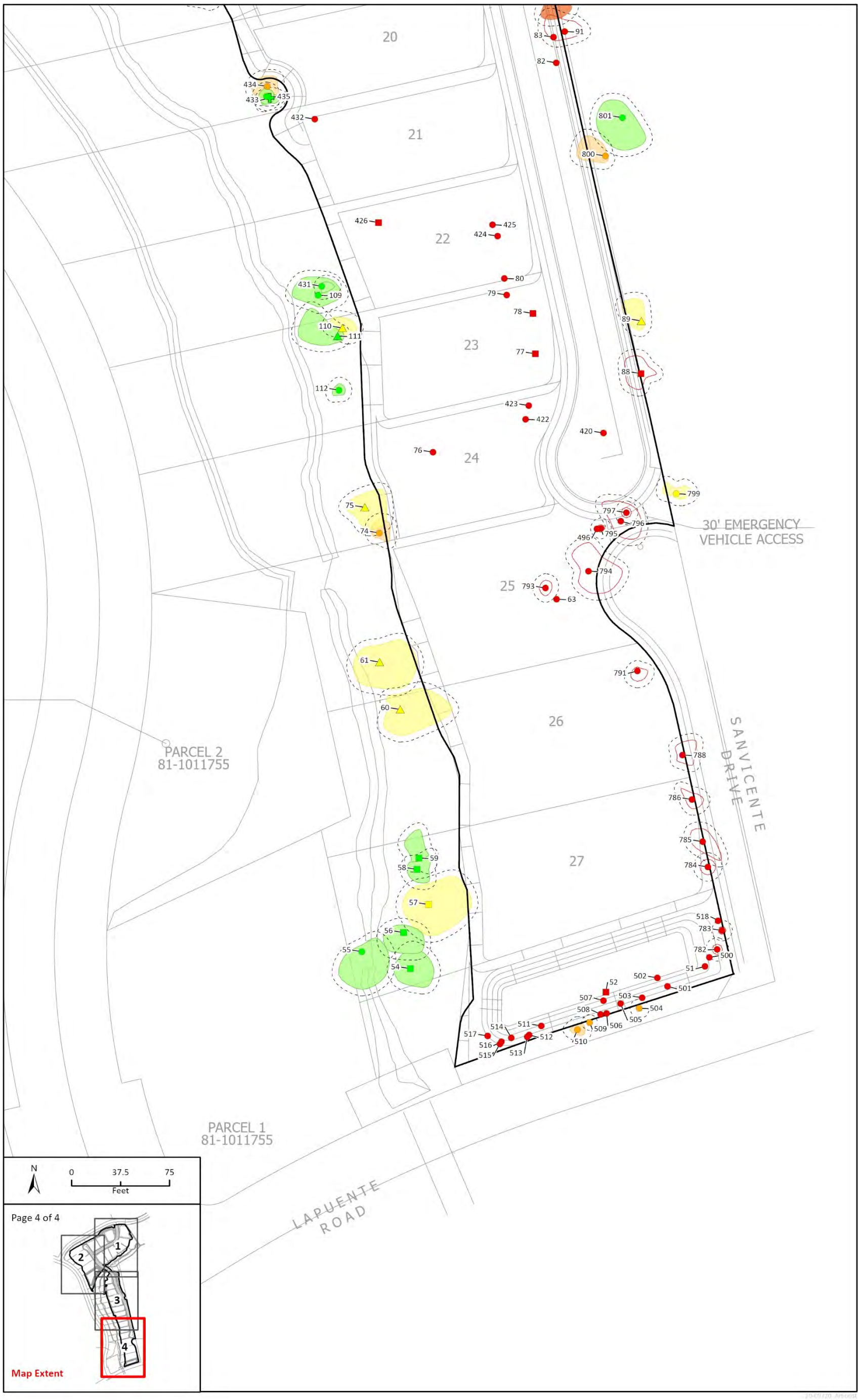


Figure 6 Tree Locations and Impacts (Page 4)



Appendix B

Rincon Tree Data Matrix

Tree Matrix

Tree ID #	Common name (Scientific name)	Tree Height (Feet)	Number of Trunks	DBH (circumference)	Heritage (Y/N)[1]	Overall Condition Rating	Physical Condition	Crown Spread (N, NE, E, S, SE, S, SW, W, NW, N)	Notes	Proposed Impacts	Impact Notes
344	Ngaio tree (*Myoporum laetum*)	20	3	18.8, 9.42, 31.4	N	C		21, 18, 7, 4, 10, 15, 15, 20		Minor Encroachment	<30% of TPZ falls within construction grading limits
345	Ngaio tree (*Myoporum laetum*)	15	2	15.7, 31.4	N	D	poor vigor	3, 3, 2, 15, 10, 15, 15, 6		Minor Encroachment	30-40% of TPZ fall within construction grading limits
350	Ngaio tree (*Myoporum laetum*)	15	1	37.68	N	C		6, 4, 10, 12, 20, 20, 15, 10		Major Encroachment	30-40% of TPZ fall within construction grading limits
351	Ngaio tree (*Myoporum laetum*)	15	1	31.4	N	C		20, 18, 6, 7, 10, 9, 20, 18		Minor Encroachment	30-40% of TPZ fall within construction grading limits
352	Ngaio tree (*Myoporum laetum*)	15	1	15.7	N	D	poor vigor	2, 3, 1, 1, 9, 5, 20, 6		Major Encroachment	30-40% of TPZ fall within construction grading limits
354	Ngaio tree (*Myoporum laetum*)	15	1	10.99	N	D	poor vigor	4, 16, 16, 5, 1, 2, 2, 1		Avoid	Tree TPZ lies outside of construction and grading
356	Ngaio tree (*Myoporum laetum*)	15	2	25.12, 12.56	N	C	unbalanced crown. severe lean	2, 2, 2, 2, 4, 15, 25, 25		Major Encroachment	30-40% of TPZ fall within construction grading limits
570	Ngaio tree (*Myoporum laetum*)	25	4	21.98, 12.56, 9.42, 6.28	N	C	dead limbs, galls throughout trunk and branching, epicormic growth at trunk base	8, 8, 7, 8, 7, 11, 10, 9		Remove	Tree TPZ falls within grading and construction and will be removed for the proposed project
571	Ngaio tree (*Myoporum laetum*)	25	2	14.13, 12.56	N	C	codominant stems, epicormic growth throughout trunk, and branches	10, 7, 6, 6, 12, 12, 8, 10		Remove	Tree TPZ falls within grading and construction and will be removed for the proposed project
572	Ngaio tree (*Myoporum laetum*)	25	4	9.42, 4.71, 6.28, 6.28	N	C	epicormic growth throughout trunk and branches, watersprouting on old cuts	8, 8, 6, 5, 9, 7, 1, 1		Remove	Tree TPZ falls within grading and construction and will be removed for the proposed project
573	Ngaio tree (*Myoporum laetum*)	25	4	10.99, 7.85, 3.14, 3.14	N	C	epicormic growth throughout trunk and branches, branch dieback on lower canopy	6, 2, 2, 8, 9, 12, 5, 5		Remove	Tree TPZ falls within grading and construction and will be removed for the proposed project
574	Ngaio tree (*Myoporum laetum*)	25	4	10.99, 14.13, 6.28, 7.85	N	C	epicormic growth throughout trunk and branches, leaning, galls throughout branches	11, 12, 10, 12, 7, 3, 2, 7		Remove	Tree TPZ falls within grading and construction and will be removed for the proposed project
575	Silver dollar eucalyptus (*Eucalyptus polyanthermos*)	20	1	28.26	N	F		1, 1, 1, 1, 1, 1, 1, 1		Avoid	Tree TPZ lies outside of construction and grading
576	Silver dollar eucalyptus (*Eucalyptus polyanthermos*)	50	2	40.82, 40.82	N	C	weak attachments, codominant stems, included bark, slight lean	6, 8, 17, 25, 30, 25, 28, 30	not tagged on steep slope	Avoid	Tree TPZ lies outside of construction and grading
577	Jacaranda (*Jacaranda mimosifolia*)	25	2	10.99, 7.85	N	D	sparse canopy, watersprouting on old cuts, codominant stems	5, 5, 5, 10, 10, 8, 8, 9		Avoid	Tree TPZ lies outside of construction and grading
578	Peruvian pepper (*Schinus molle*)	25	1	43.96	N	D	severe lean, leaning on neighboring eucalyptus, 30% canopy dieback, watersprouting from old cuts, epicormic growth on branches	1, 1, 1, 16, 15, 16, 16, 1	tree not tagged, inaccessible	Avoid	Tree TPZ lies outside of construction and grading
579	Shamel ash (*Fraxinus uhdei*)	20	2	6.28, 6.28	N	F		1, 1, 1, 1, 1, 1, 1, 1		Avoid	Tree TPZ lies outside of construction and grading
580	Shamel ash (*Fraxinus uhdei*)	15	2	6.28, 6.28	N	F		8, 2, 1, 1, 3, 5, 5, 4		Avoid	Tree TPZ lies outside of construction and grading
581	Jacaranda (*Jacaranda mimosifolia*)	25	3	3.14, 12.56, 3.14	N	D	watersprouting on old cuts, sparse canopy, slight lean	10, 10, 10, 8, 8, 9, 9, 9		Avoid	Tree TPZ lies outside of construction and grading

Tree ID #	Common name (Scientific name)	Tree Height (Feet)	Number of Trunks	DBH (circumference)	Heritage (Y/N)[1]	Overall Condition Rating	Physical Condition	Crown Spread (N, NE, E, S, SE, S, SW, W, NW, N)	Notes	Proposed Impacts	Impact Notes
582	Peruvian pepper (*Schinus molle*)	25	2	28.26, 4.71	N	D	severe lean, large diameter branch overhanging trail, 20% canopy dieback	10, 5, 5, 5, 6, 10, 28, 30		Avoid	Tree TPZ lies outside of construction and grading
583	California black walnut (*Juglans californica*)	25	5	6.28, 3.14, 6.28, 3.14, 3.14	N	C	sparse canopy, multiple trunks	12, 7, 6, 6, 7, 5, 5, 8		Avoid	Tree TPZ lies outside of construction and grading
584	Shamel ash (*Fraxinus uhdei*)	50	4	3.14, 15.7, 12.56, 14.13	N	C	severe lean, codominant stems	25, 25, 15, 27, 30, 10, 16, 10	not tagged, inaccessible	Avoid	Tree TPZ lies outside of construction and grading
585	silver dollar eucalyptus (*Eucalyptus polyanthermos*)	60	1	43.96	N	C	30% dieback in upper canopy	16, 16, 18, 18, 20, 17, 10, 10		Avoid	Tree TPZ lies outside of construction and grading
586	Peruvian pepper (*Schinus molle*)	50	1	81.64	N	C	galls throughout trunk, codominant stems, epicormic growth on trunk, dead branches on lower canopy, 20% canopy dieback	12, 12, 16, 20, 26, 29, 29, 30		Avoid	Tree TPZ lies outside of construction and grading
587	Peruvian pepper (*Schinus molle*)	20	1	21.98	N	C	epicormic growth from old cuts, and throughout trunk and branches, leaning, 20% canopy dieback	10, 10, 11, 12, 23, 16, 5, 8		Avoid	Tree TPZ lies outside of construction and grading
588	Lemon gum eucalyptus (*Corymbia citriodora*)	65	1	47.1	N	C	branch dieback in upper canopy, epicormic growth throughout trunk, watersprouting on old cuts	22, 18, 15, 10, 25, 19, 19, 15		Minor Encroachment	<30% of TPZ falls within construction grading limits
589	Lemon gum eucalyptus (*Corymbia citriodora*)	50	1	40.82	N	C	severe lean, branch dieback in upper canopy, epicormic growth throughout trunk and branches	5, 4, 8, 16, 30, 30, 20, 5		Major Encroachment	30-40% of TPZ fall within construction grading limits
590	Peruvian pepper (*Schinus molle*)	65	1	62.8	N	C	leaning, 30% branch/canopy dieback, weak attachments	20, 15, 14, 18, 20, 22, 22, 25		Remove	Tree TPZ falls within grading and construction and will be removed for the proposed project
591	Jacaranda (*Jacaranda mimosifolia*)	22	5	15.7, 15.7, 14.13, 9.42, 7.85	N	C	multiple trunks, watersprouting from old cuts, weak attachments, branch dieback	10, 10, 10, 10, 10, 10, 10, 6		Remove	Tree TPZ falls within grading and construction and will be removed for the proposed project
592	Mexican fan palm (*Washingtonia robusta*)	15	1	31.4	N	C	spotting on frond, frond chlorosis	5, 5, 5, 5, 5, 5, 5, 5		Remove	Tree TPZ falls within grading and construction and will be removed for the proposed project
593	Peruvian pepper (*Schinus molle*)	15	1	7.85	N	D	leaning, competition of resources from neighboring palm, exfoliating bark	5, 5, 5, 5, 5, 5, 5, 5		Remove	Tree TPZ falls within grading and construction and will be removed for the proposed project
594	Peruvian pepper (*Schinus molle*)	20	1	18.84	N	C	very low branches	10, 11, 10, 10, 10, 10, 10, 10		Avoid	Tree TPZ lies outside of construction and grading
595	Peruvian pepper (*Schinus molle*)	20	1	12.56	N	C	low branching	6, 8, 7, 6, 7, 5, 5, 8	very low branching	Minor Encroachment	<30% of TPZ falls within construction grading limits
596	Peruvian pepper (*Schinus molle*)	20	1	12.56	N	C	very low branching	8, 8, 8, 8, 8, 8, 8, 8		Minor Encroachment	<30% of TPZ falls within construction grading limits
597	Peruvian pepper (*Schinus molle*)	20	1	15.7	N	C	very low branching	5, 8, 10, 8, 10, 15, 8, 6	not tagged, inaccessible	Minor Encroachment	<30% of TPZ falls within construction grading limits
598	Peruvian pepper (*Schinus molle*)	20	6	9.42, 7.85, 7.85, 7.85, 14.13, 3.14, 3.14	N	C	very low branching	8, 15, 12, 14, 6, 8, 6, 4		Minor Encroachment	<30% of TPZ falls within construction grading limits
599	Peruvian pepper (*Schinus molle*)	65	5	78.5, 15.7, 15.7, 15.7, 7.85, 7.85	N	C	galls throughout trunk, epicormic growth throughout trunk and branches, slight lean	7, 11, 23, 24, 21, 15, 15, 15		Minor Encroachment	30-40% of TPZ fall within construction grading limits

Tree ID #	Common name (Scientific name)	Tree Height (Feet)	Number of Trunks	DBH (circumference)	Heritage (Y/N)[1]	Overall Condition Rating	Physical Condition	Crown Spread (N, NE, E, S, SE, S, SW, W, NW, N)	Notes	Proposed Impacts	Impact Notes
600	Peruvian pepper (*Schinus molle*)	35	1	62.8	N	C	very low branching, burrows located at base of trunk within root zone	2, 5, 15, 25, 20, 20, 5, 7		Remove	Tree TPZ falls within grading and construction and will be removed for the proposed project
601	Peruvian pepper (*Schinus molle*)	30	4	6.28, 1.57, 1.57, 37.68	N	C	severe lean, watersprouting on old cuts, unbalanced canopy, 15% branch dieback	5, 10, 15, 23, 22, 11, 8, 5		Minor Encroachment	30-40% of TPZ fall within construction grading limits
602	Peruvian pepper (*Schinus molle*)	28	6	7.85, 3.14, 12.56, 12.56, 6.28, 59.66	N	C	severe lean, weak branch attachments	11, 8, 26, 26, 10, 10, 10, 5		Minor Encroachment	30-40% of TPZ fall within construction grading limits
603	Peruvian pepper (*Schinus molle*)	25	3	12.56, 6.28, 37.68	N	C	severe lean, weak attachments	5, 6, 3, 33, 10, 5, 5, 8		Major Encroachment	30-40% of TPZ fall within construction grading limits
604	Peruvian pepper (*Schinus molle*)	24	1	34.54	N	C	severe lean, branch dieback on underside of canopy, epicormic growth on trunk	5, 9, 21, 20, 22, 17, 10, 8		Minor Encroachment	<30% of TPZ falls within construction grading limits
605	Peruvian pepper (*Schinus molle*)	35	1	43.96	N	C	codominant stems, weak attachments, leaning	3, 9, 21, 23, 12, 6, 5, 5		Minor Encroachment	30-40% of TPZ fall within construction grading limits
606	Jacaranda (*Jacaranda mimosifolia*)	30	6	18.84, 10.99, 6.28, 6.28, 1.57, 6.28	N	C	weak attachments, sparse canopy	4, 6, 9, 18, 25, 10, 5, 1		Major Encroachment	30-40% of TPZ fall within construction grading limits; bridge or footing will be constructed to preserve tree
607	Peruvian pepper (*Schinus molle*)	34	1	50.24	N	C	branch dieback, slight lean, unbalanced crown	14, 9, 12, 20, 30, 5, 15, 12		Avoid	Tree TPZ lies outside of construction and grading
608	Peruvian pepper (*Schinus molle*)	27	1	34.54	N	D	epicormic growth on trunk, 45% canopy dieback, unbalanced crown	5, 3, 17, 26, 25, 15, 5, 5		Avoid	Tree TPZ lies outside of construction and grading
609	Peruvian pepper (*Schinus molle*)	18	6	7.85, 6.28, 6.28, 3.14, 3.14, 1.57	N	D	multi trunk watersprouts from stump, poor vigor, weak attachments	5, 5, 7, 9, 10, 10, 5, 5		Minor Encroachment	<30% of TPZ falls within construction grading limits
610	Peruvian pepper (*Schinus molle*)	24	1	31.4	N	D	epicormic growth throughout trunk and branches, slight lean, canopy dieback	8, 3, 12, 4, 5, 5, 5, 5		Avoid	Tree TPZ lies outside of construction and grading
611	Peruvian pepper (*Schinus molle*)	45	1	69.08	N	C	codominant stems, included bark, weak attachment, epicormic growth on branches	18, 12, 26, 30, 30, 30, 30, 28		Minor Encroachment	30-40% of TPZ fall within construction grading limits
612	Peruvian pepper (*Schinus molle*)	22	2	25.12, 6.28	N	C	slight lean, unbalanced crown	3, 4, 3, 25, 15, 10, 5, 2		Minor Encroachment	30-40% of TPZ fall within construction grading limits
613	Jacaranda (*Jacaranda mimosifolia*)	10	1	15.7	N	D	sparse canopy, low branching, weak attachments	2, 5, 6, 5, 6, 2, 1, 1		Avoid	Tree TPZ lies outside of construction and grading
614	Jacaranda (*Jacaranda mimosifolia*)	22	1	15.7	N	D	weak attachments, low branching	5, 13, 8, 16, 2, 5, 2, 6	vines in this area strangling Jacaranda trees	Minor Encroachment	<30% of TPZ falls within construction grading limits
615	Peruvian pepper (*Schinus molle*)	11	1	9.42	N	D	weak attachments, sparse canopy,	3, 3, 3, 3, 3, 3, 3, 3		Minor Encroachment	<30% of TPZ falls within construction grading limits
616	Peruvian pepper (*Schinus molle*)	10	1	6.28	N	D	weak attachments, poor vigor	3, 3, 3, 3, 3, 3, 3, 3		Avoid	Tree TPZ lies outside of construction and grading
617	Peruvian pepper (*Schinus molle*)	20	1	31.4	N	D	severe lean, vines overtaking canopy, causing dieback	8, 6, 9, 10, 10, 2, 1, 1		Avoid	Tree TPZ lies outside of construction and grading
618	Peruvian pepper (*Schinus molle*)	25	1	50.24	N	C	exfoliating bark, leaning, 25% canopy/branch dieback,	10, 20, 21, 22, 25, 25, 25, 15		Minor Encroachment	<30% of TPZ falls within construction grading limits
619	Shamel ash (*Fraxinus uhdei*)	25	2	14.13,	N	C	epicormic growth, sparse canopy	6, 6, 10, 6, 8, 6, 2, 5		Minor Encroachment	<30% of TPZ falls within construction grading limits

Tree ID #	Common name (Scientific name)	Tree Height (Feet)	Number of Trunks	DBH (circumference)	Heritage (Y/N)[1]	Overall Condition Rating	Physical Condition	Crown Spread (N, NE, E, S, SE, S, SW, W, NW, N)	Notes	Proposed Impacts	Impact Notes
620	Peruvian pepper (*Schinus molle*)	25	1	23.55	N	C	slight lean, unbalanced crown	7, 6, 12, 15, 1, 3, 10, 5		Avoid	Tree TPZ lies outside of construction and grading
621	Jacaranda (*Jacaranda mimosifolia*)	25	1	10.99	N	D	sparse canopy, poor vigor, leaning	2, 4, 10, 6, 5, 1, 2, 2	tree is staked	Avoid	Tree TPZ lies outside of construction and grading
622	Jacaranda (*Jacaranda mimosifolia*)	20	1	9.42	N	D	sparse canopy, leaning, multiple stems	4, 5, 6, 6, 1, 1, 1, 1		Avoid	Tree TPZ lies outside of construction and grading
623	Peruvian pepper (*Schinus molle*)	45	1	65.94	N	C	giant gall on trunk, moderate lean, 25% branch dieback I upper canopy	12, 10, 16, 30, 11, 16, 20, 18		Avoid	Tree TPZ lies outside of construction and grading
624	Peruvian pepper (*Schinus molle*)	13	2	12.56, 6.28	N	D	vines strangling tree, codominant stems, poor vigor, canopy dieback	3, 4, 3, 4, 10, 8, 4, 3		Avoid	Tree TPZ lies outside of construction and grading
625	Peruvian pepper (*Schinus molle*)	16	2	9.42, 15.7	N	D	moderate lean, poor vigor, canopy dieback, vines strangling tree	1, 3, 3, 7, 16, 8, 3, 2		Avoid	Tree TPZ lies outside of construction and grading
626	Jacaranda (*Jacaranda mimosifolia*)	30	2	15.7, 21.98	N	D	codominant stems, weak attachments, watersprouting from old cuts, moderate lean	5, 6, 10, 16, 1, 1, 3, 5		Avoid	Tree TPZ lies outside of construction and grading
627	Jacaranda (*Jacaranda mimosifolia*)	24	1	10.99	N	D	vines strangling tree, sparse canopy, poor vigor, codominant stems, leaning	2, 17, 18, 15, 2, 2, 5, 2		Avoid	Tree TPZ lies outside of construction and grading
628	Shamel ash (*Fraxinus uhdei*)	45	2	50.24, 47.1	N	D	cracked trunk, sparse canopy, dieback in over 50% of canopy, weak attachments, included bark, codominant stems	28, 27, 25, 28, 17, 17, 15, 15		Avoid	Tree TPZ lies outside of construction and grading
629	Jacaranda (*Jacaranda mimosifolia*)	20	1	15.7	N	D	poor vigor, sparse canopy, branch dieback, very low branching, severe lean	1, 12, 15, 18, 5, 5, 5, 4		Avoid	Tree TPZ lies outside of construction and grading
630	Peruvian pepper (*Schinus molle*)	8	1	12.56	N	D	poor vigor, epicormic shoots throughout, severe canopy dieback	2, 2, 2, 2, 1, 1, 1, 1		Avoid	Tree TPZ lies outside of construction and grading
631	Carrotwood (*Cupaniopsis anacardioides*)	20	1	6.28	N	C		2, 2, 2, 4, 1, 1, 1, 1		Avoid	Tree TPZ lies outside of construction and grading
632	Peruvian pepper (*Schinus molle*)	25	3	43.96, 18.8, 72.22	N	D	poor vigor, epicormic growth throughout trunk and branches, severe lean	10, 5, 25, 20, 15, 12, 25, 5		Avoid	Tree TPZ lies outside of construction and grading
633	Shamel ash (*Fraxinus uhdei*)	50	1	51.81	N	B	slight lean, unbalanced crown	16, 20, 27, 22, 15, 10, 12, 12		Avoid	Tree TPZ lies outside of construction and grading
634	Glossy privet (*Ligustrum lucidum*)	14	1	6.28	N	D	poor vigor, sparse canopy, overcrowding	6, 5, 5, 2, 1, 2, 2, 12		Avoid	Tree TPZ lies outside of construction and grading
635	Glossy privet (*Ligustrum lucidum*)	15	1	6.28	N	D	low vigor, sparse canopy, overcrowded	4, 2, 2, 4, 1, 1, 1, 1		Avoid	Tree TPZ lies outside of construction and grading
636	Glossy privet (*Ligustrum lucidum*)	15	1	6.751	N	D	nearly dead, low vigor, sparse canopy, overcrowded	12, 9, 4, 1, 1, 1, 5, 5		Avoid	Tree TPZ lies outside of construction and grading
637	Brazilian pepper (*Schinus terebinthifolia*)	25	5	12.56, 18.8, 21.98, 9.42, 3.14	N	D	leaning, multiple trunks, sparse canopy, overcrowded	21, 20, 14, 18, 18, 9, 10, 10		Avoid	Tree TPZ lies outside of construction and grading
638	Afghan pine (*Pinus brutia var. eldarica*)	60	1	91.06	N	C	snapped codominant stem, slight lean, unbalanced crown	30, 28, 25, 30, 20, 20, 20, 25		Avoid	Tree TPZ lies outside of construction and grading
639	Shamel ash (*Fraxinus uhdei*)	25	2	26.69, 21.98	N	C	leaning, overcrowded	20, 15, 12, 8, 1, 5, 3, 6		Avoid	Tree TPZ lies outside of construction and grading
640	Shamel ash (*Fraxinus uhdei*)	20	1	14.13	N	C	twig dieback in 15% of canopy	2, 3, 9, 9, 1, 1, 1, 2		Avoid	Tree TPZ lies outside of construction and grading
641	Afghan pine (*Pinus brutia var. eldarica*)	55	1	69.08	N	C	kinked trunk midway, mechanical damage at trunk base	26, 28, 19, 16, 18, 10, 10, 12		Avoid	Tree TPZ lies outside of construction and grading

Tree ID #	Common name (Scientific name)	Tree Height (Feet)	Number of Trunks	DBH (circumference)	Heritage (Y/N)[1]	Overall Condition Rating	Physical Condition	Crown Spread (N, NE, E, S, SE, S, SW, W, NW, N)	Notes	Proposed Impacts	Impact Notes
642	Afghan pine (*Pinus brutia var. eldarica*)	55	1	87.92	N	C	codominant stems, included bark, weak attachments, moderate lean	18, 25, 30, 27, 25, 20, 20, 20		Avoid	Tree TPZ lies outside of construction and grading
643	Shamel ash (*Fraxinus uhdei*)	15	1	6.28	N	C	low vigor, sparse canopy	3, 3, 4, 3, 3, 3, 3, 3		Avoid	Tree TPZ lies outside of construction and grading
644	Afghan pine (*Pinus brutia var. eldarica*)	55	1	65.94	N	C	moderate lean, unbalanced crown	30, 45, 44, 32, 17, 16, 22, 25		Minor Encroachment	<30% of TPZ falls within construction grading limits
645	Shamel ash (*Fraxinus uhdei*)	15	1	15.7	N	D	sparse canopy, severe canopy dieback, overcrowded	2, 3, 8, 28, 20, 30, 20, 3		Avoid	Tree TPZ lies outside of construction and grading
646	Peruvian pepper (*Schinus molle*)	25	1	31.4	N	C	epicormic growth throughout trunk, 20% branch dieback in canopy	9, 11, 12, 20, 25, 15, 15, 5		Avoid	Tree TPZ lies outside of construction and grading
647	Carrotwood (*Cupaniopsis anacardioides*)	20	1	7.85	N	C	overcrowded, sparse canopy	5, 5, 5, 5, 5, 5, 5, 5		Avoid	Tree TPZ lies outside of construction and grading
648	Shamel ash (*Fraxinus uhdei*)	20	2	7.85, 3.14	N	C	overcrowded, sparse canopy, yellowing leaves	5, 6, 6, 5, 4, 4, 4, 4		Avoid	Tree TPZ lies outside of construction and grading
649	Afghan pine (*Pinus brutia var. eldarica*)	20	1	12.56	N	C	severe lean, overcrowded	12, 22, 16, 18, 5, 2, 2, 10		Avoid	Tree TPZ lies outside of construction and grading
650	Afghan pine (*Pinus brutia var. eldarica*)	35	1	43.96	N	C	codominant stems, 10% branch dieback in canopy	16, 18, 20, 15, 15, 20, 20, 25		Avoid	Tree TPZ lies outside of construction and grading
651	Toyon (*Heteromeles arbutifolia*)	20	6	10.99, 7.85, 4.71, 4.71, 6.28, 6.28	N	C	multiple stems	9, 8, 10, 5, 5, 5, 5, 5		Avoid	Tree TPZ lies outside of construction and grading
652	Peruvian pepper (*Schinus molle*)	28	1	72.22	N	D	severe lean, canopy dieback, unbalanced crown	10, 15, 8, 5, 20, 20, 20, 20		Avoid	Tree TPZ lies outside of construction and grading
653	Toyon (*Heteromeles arbutifolia*)	15	6	12.56, 12.56, 12.56, 12.56, 6.28, 6.28	N	C	multiple trunks	15, 15, 12, 10, 6, 15, 8, 8		Avoid	Tree TPZ lies outside of construction and grading
654	Peruvian pepper (*Schinus molle*)	15	3	12.56, 6.28, 3.14	N	C	severe lean, overcrowded, branch dieback	22, 18, 15, 5, 4, 4, 5, 9		Avoid	Tree TPZ lies outside of construction and grading
655	Carrotwood (*Cupaniopsis anacardioides*)	22	1	15.7	N	B	overcrowded, not tagged inaccessible	9, 8, 8, 10, 10, 10, 10, 10		Avoid	Tree TPZ lies outside of construction and grading
656	Toyon (*Heteromeles arbutifolia*)	25	6	3.14, 10.99, 12.56, 18.84, 12.56, 9.42	N	C	overcrowded	12, 10, 15, 15, 15, 10, 15, 15	not tagged, inaccessible	Avoid	Tree TPZ lies outside of construction and grading
657	Peruvian pepper (*Schinus molle*)	25	1	65.94	N	D	severe lean, unbalanced crown, epicormic growth through trunk and branches, giant gall at trunk base	30, 30, 30, 16, 20, 20, 16, 10		Minor Encroachment	<30% of TPZ falls within construction grading limits
658	Carrotwood (*Cupaniopsis anacardioides*)	20	1	9.42	N	D	vines strangling tree, leaf chlorosis, poor vigor	6, 6, 4, 8, 10, 10, 6, 6		Avoid	Tree TPZ lies outside of construction and grading
659	Peruvian pepper (*Schinus molle*)	17	2	40.82, 37.68	N	D	few healthy branches, dieback in over 50% of canopy, poor vigor, codominant stems	4, 2, 3, 15, 20, 30, 31, 30		Avoid	Tree TPZ lies outside of construction and grading
660	Peruvian pepper (*Schinus molle*)	25	2	6.28, 3.14	N	C	vines strangling, overcrowded, low vigor	5, 5, 5, 2, 2, 2, 2, 5		Avoid	Tree TPZ lies outside of construction and grading
661	Jacaranda (*Jacaranda mimosifolia*)	7	1	0	N	C	codominant stems, leaning, branch dieback I lower canopy	15, 22, 25, 15, 16, 12, 9, 15		Minor Encroachment	<30% of TPZ falls within construction grading limits
662	Red ironbark eucalyptus (*Eucalyptus sideroxylon*)	55	1	78.5	N	C	trunk exudation, exfoliating bark	20, 22, 20, 15, 15, 15, 15, 15		Minor Encroachment	<30% of TPZ falls within construction grading limits
663	Peruvian pepper (*Schinus molle*)	30	2	47.1, 12.56	N	C	severe lean, branch dieback in lower canopy	12, 19, 25, 10, 20, 19, 10, 8		Minor Encroachment	<30% of TPZ falls within construction grading limits

Tree ID #	Common name (Scientific name)	Tree Height (Feet)	Number of Trunks	DBH (circumference)	Heritage (Y/N)[1]	Overall Condition Rating	Physical Condition	Crown Spread (N, NE, E, S, SE, S, SW, W, NW, N)	Notes	Proposed Impacts	Impact Notes
664	Peruvian pepper (*Schinus molle*)	18	2	12.56, 7.85	N	D	canopy dieback, poor vigor, codominant stems	8, 10, 9, 4, 5, 4, 4, 2		Avoid	Tree TPZ lies outside of construction and grading
665	Red ironbark eucalyptus (*Eucalyptus sideroxylon*)	55	1	69.08	N	C	slight lean, weak attachments, epicormic growth throughout trunk and branches	10, 15, 28, 30, 35, 35, 35, 30		Minor Encroachment	<30% of TPZ falls within construction grading limits
666	Peruvian pepper (*Schinus molle*)	25	1	37.68	N	C	codominant stems, weak attachments, included bark	20, 22, 28, 20, 22, 16, 6, 6		Remove	Tree TPZ falls within grading and construction and will be removed for the proposed project
667	Londonplane tree (*Plantanus acerifolia*)	35	1	69.08	N	D	borer entry holes, slight lean, leaf chlorosis throughout canopy, weak branch attachments	22, 30, 25, 22, 25, 22, 30, 30		Remove	Tree TPZ falls within grading and construction and will be removed for the proposed project
668	Red ironbark eucalyptus (*Eucalyptus sideroxylon*)	60	1	78.5	N	B	slight lean, good vigor	18, 16, 18, 22, 20, 19, 16, 18		Minor Encroachment	<30% of TPZ falls within construction grading limits
669	Lemon gum eucalyptus (*Corymbia citriodora*)	50	1	62.8	N	C	trunk exudation, severe lean, unbalanced crown, epicormic growth throughout trunk	20, 22, 18, 16, 19, 15, 15, 18		Minor Encroachment	<30% of TPZ falls within construction grading limits
670	Red ironbark eucalyptus (*Eucalyptus sideroxylon*)	20	1	37.68	N	C	sparse canopy, vines strangling, moderate lean	22, 15, 10, 8, 20, 16, 16, 25		Minor Encroachment	<30% of TPZ falls within construction grading limits
671	Red ironbark eucalyptus (*Eucalyptus sideroxylon*)	15	1	43.96	N	D	previously cut, epicormic shoots, low vigor	15, 8, 8, 15, 10, 8, 6, 10		Minor Encroachment	<30% of TPZ falls within construction grading limits
672	Peruvian pepper (*Schinus molle*)	20	3	43.96, 12.56, 6.28	N	D	hollow at trunk base, poor vigor, watersprouting from old cuts	10, 13, 10, 20, 15, 8, 10, 25		Minor Encroachment	<30% of TPZ falls within construction grading limits
673	Peruvian pepper (*Schinus molle*)	20	1	37.68	N	D	severe canopy dieback, low vigor	18, 15, 9, 10, 18, 16, 20, 15		Minor Encroachment	<30% of TPZ falls within construction grading limits
674	California black walnut (*Juglans californica*)	25	2	15.7, 18.84	N	C	low vigor, multiple trunks, 45% dieback in canopy, leaning	14, 15, 18, 10, 12, 9, 10, 22	trees assessed during winter season; health condition attributed to seasonal change	Minor Encroachment	<30% of TPZ falls within construction grading limits; 4-ft retaining wall or bridge footing to be built to preserve tree during construction
675	Peruvian pepper (*Schinus molle*)	10	1	18.84	N	F		1, 1, 1, 1, 1, 1, 1, 1	not tagged, inaccessible	Minor Encroachment	<30% of TPZ falls within construction grading limits
676	Peruvian pepper (*Schinus molle*)	10	1	21.98	N	D	low vigor, snapped stem	10, 14, 7, 8, 10, 10, 15, 8	not tagged, inaccessible	Minor Encroachment	<30% of TPZ falls within construction grading limits
677	Peruvian pepper (*Schinus molle*)	15	1	21.98	N	C	severe lean, low vigor	5, 2, 2, 8, 12, 19, 10, 10	not tagged, inaccessible	Remove	Tree TPZ falls within grading and construction and will be removed for the proposed project
678	Peruvian pepper (*Schinus molle*)	18	1	6.28	N	C	severe lean, epicormic shoots throughout trunk	5, 7, 4, 4, 4, 4, 4, 5		Avoid	Tree TPZ falls within grading and construction and will be removed for the proposed project
679	Red ironbark eucalyptus (*Eucalyptus sideroxylon*)	20	1	31.4	N	C	moderate lean, codominant stems, weak attachments,	25, 10, 5, 5, 20, 12, 5, 22	not tagged, inaccessible	Minor Encroachment	Tree TPZ falls within grading and construction and will be removed for the proposed project
680	Peruvian pepper (*Schinus molle*)	16	1	59.66	N	D	epicormic growth throughout trunk and branches, severe lean, weak attachments	1, 1, 1, 2, 4, 22, 20, 25		Remove	Tree TPZ falls within grading and construction and will be removed for the proposed project
681	Peruvian pepper (*Schinus molle*)	25	2	12.56, 28.26	N	C	codominant stems, galls throughout trunk, epicormic shoots throughout canopy	18, 20, 10, 19, 22, 20, 10, 12	not tagged, inaccessible	Remove	Tree TPZ falls within grading and construction and will be removed for the proposed project

Tree ID #	Common name (Scientific name)	Tree Height (Feet)	Number of Trunks	DBH (circumference)	Heritage (Y/N)[1]	Overall Condition Rating	Physical Condition	Crown Spread (N, NE, E, S, SE, S, SW, W, NW, N)	Notes	Proposed Impacts	Impact Notes
683	Peruvian pepper (*Schinus molle*)	25	1	34.54	N	D	growing into fence post, severe lean, canopy dieback	1, 1, 1, 1, 1, 28, 28, 1		Remove	Tree TPZ falls within grading and construction and will be removed for the proposed project
684	Toyon (*Heteromeles arbutifolia*)	20	5	12.56, 10.99, 3.14, 7.85, 3.14	N	B		15, 5, 2, 2, 15, 17, 12, 13	crowded by carrotwood	Remove	Tree TPZ falls within grading and construction and will be removed for the proposed project
685	Carrotwood (*Cupaniopsis anacardioides*)	30	1	20.41	N	B		12, 5, 5, 12, 15, 10, 15, 18	not tagged	Remove	Tree TPZ falls within grading and construction and will be removed for the proposed project
686	Mexican fan palm (*Washingtonia robusta*)	40	1	56.52	N	C	chlorosis	7, 7, 7, 7, 7, 7, 7, 7	not tagged	Remove	Tree TPZ falls within grading and construction and will be removed for the proposed project
687	Mexican fan palm (*Washingtonia robusta*)	25	1	43.96	N	B		7, 7, 7, 4, 4, 7, 7, 7	not tagged	Remove	Tree TPZ falls within grading and construction and will be removed for the proposed project
688	Gooding willow *(Salix gooddingii)*	25	2	7.85, 3.14	N	B		5, 1, 1, 5, 10, 9, 9, 6		Minor Encroachment	<30% of TPZ falls within construction grading limits
689	Gooding willow *(Salix gooddingii)*	20	1	21.98	N	C		4, 8, 2, 4, 15, 17, 15, 16		Minor Encroachment	<30% of TPZ falls within construction grading limits
690	Gooding willow *(Salix gooddingii)*	18	2	12.56, 18.84	N	D	severe lean, poor vigor	1, 15, 1, 1, 1, 20, 15, 15		Severe Encroachment	40-50% of TPZ fall within construction grading limits
691	Red ironbark eucalyptus (*Eucalyptus sideroxylon*)	40	2	40.82, 31.4	N	D	moderate lean, unbalanced crown, codominant stems	28, 7, 22, 2, 15, 25, 20, 15		Major Encroachment	30-40% of TPZ fall within construction grading limits
692	California black walnut (*Juglans californica*)	16	1	12.56	N	C		15, 15, 10, 7, 6, 2, 2, 2		Avoid	<30% of TPZ falls within construction grading limits; 4-ft retaining wall or bridge footing to be built to preserve tree during construction
693	White alder (*Alnus rhombifolia*)	40	1	31.4	N	B		8, 10, 10, 10, 8, 12, 10, 10	not tagged, inaccessible	Minor Encroachment	<30% of TPZ falls within construction grading limits
694	White alder (*Alnus rhombifolia*)	30	1	21.98	N	D	severe canopy dieback, leaf chlorosis	8, 8, 5, 5, 2, 2, 3, 5	not tagged, inaccessible	Minor Encroachment	<30% of TPZ falls within construction grading limits
695	White alder (*Alnus rhombifolia*)	30	1	15.7	N	F		2, 2, 1, 1, 2, 1, 2, 2		Avoid	Tree TPZ lies outside of construction and grading
696	California black walnut (*Juglans californica*)	15	3	9.42, 3.14, 6.28	N	C	poor vigor, multiple stems; trees assessed outside growing season, attributed to seasonal change	15, 15, 3, 1, 6, 7, 6, 3		Avoid	<30% of TPZ falls within construction grading limits
697	White alder (*Alnus rhombifolia*)	35	1	34.54	N	C	branch dieback, codominant stems	10, 10, 10, 8, 4, 8, 10, 8	not tagged, inaccessible	Minor Encroachment	<30% of TPZ falls within construction grading limits
698	White alder (*Alnus rhombifolia*)	40	1	34.54	N	D	epicormic growth throughout, severe canopy dieback	7, 2, 4, 4, 15, 15, 6, 12	not tagged, inaccessible	Minor Encroachment	<30% of TPZ falls within construction grading limits
699	Peruvian pepper (*Schinus molle*)	15	3	3.14, 3.14, 7.85	N	D	multiple stems	4, 1, 1, 2, 10, 10, 12, 12	not tagged, inaccessible	Minor Encroachment	<30% of TPZ falls within construction grading limits
700	River red gum (*Eucalyptus camaldulensis*)	18	2	3.14, 7.85	N	C		7, 5, 3, 1, 8, 8, 6, 6		Avoid	Tree TPZ lies outside of construction and grading
701	White alder (*Alnus rhombifolia*)	55	1	43.96	N	C		28, 28, 30, 25, 15, 25, 25, 28	not tagged, inaccessible	Minor Encroachment	30-40% of TPZ fall within construction grading limits

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702	Shamel ash (*Fraxinus uhdei*)	55	1	43.96	N	C		25, 25, 20, 15, 20, 25, 20, 15	not tagged, inaccessible	Major Encroachment	30-40% of TPZ fall within construction grading limits
703	Peruvian pepper (*Schinus molle*)	8	3	3.14, 3.14, 7.85	N	D		3, 3, 1, 1, 1, 1, 10, 3		Minor Encroachment	<30% of TPZ falls within construction grading limits
704	River red gum (*Eucalyptus camaldulensis*)	25	1	31.4	N	D	poor vigor	28, 25, 2, 6, 15, 10, 10, 18	not tagged, inaccessible	Major Encroachment	30-40% of TPZ fall within construction grading limits
705	Shamel ash (*Fraxinus uhdei*)	55	1	28.26	N	B		22, 22, 5, 5, 15, 15, 15, 25		Major Encroachment	30-40% of TPZ fall within construction grading limits
706	Shamel ash (*Fraxinus uhdei*)	50	3	28.26, 31.4, 31.4	N	C	multiple trunks, weak attachments	28, 28, 15, 10, 15, 10, 20, 22	not tagged, inaccessible	Major Encroachment	30-40% of TPZ fall within construction grading limits
707	Shamel ash (*Fraxinus uhdei*)	15	2	9.42, 3.14	N	D		5, 2, 5, 5, 5, 7, 7, 4		Avoid	Tree lies outside of construction and grading
708	Black locust (*Robinia pseudoacacia*)	30	1	17.27	N	C		18, 20, 10, 5, 6, 7, 15, 20		Major Encroachment	30-40% of TPZ fall within construction grading limits
709	Shamel ash (*Fraxinus uhdei*)	25	2	47.1, 3.14	N	C		3, 6, 6, 6, 6, 10, 22, 25		Major Encroachment	30-40% of TPZ fall within construction grading limits
710	Shamel ash (*Fraxinus uhdei*)	50	2	65.94, 15.7	N	B		25, 25, 20, 20, 20, 25, 22, 28	not tagged, inaccessible	Remove	Tree TPZ falls within grading and construction and will be removed for the proposed project
711	Black locust (*Robinia pseudoacacia*)	45	1	37.68	N	C	codominant stems	20, 18, 10, 6, 18, 15, 18, 18		Remove	Tree TPZ falls within grading and construction and will be removed for the proposed project
712	Black locust (*Robinia pseudoacacia*)	12	1	6.28	N	C		10, 8, 2, 1, 2, 11, 15, 15	not tagged, inaccessible	Remove	Tree TPZ falls within grading and construction and will be removed for the proposed project
713	lemon tree *(Citrus limon)*	12	3	6.28, 7.85, 7.85	N	B		10, 10, 6, 3, 8, 10, 12, 13		Remove	Tree TPZ falls within grading and construction and will be removed for the proposed project
714	Black locust (*Robinia pseudoacacia*)	50	1	31.4	N	C	epicormic shoots throughout	6, 6, 5, 6, 4, 8, 25, 22		Remove	Tree TPZ falls within grading and construction and will be removed for the proposed project
715	Black locust (*Robinia pseudoacacia*)	45	1	29.83	N	B		15, 22, 18, 8, 12, 10, 10, 15		Remove	Tree TPZ falls within grading and construction and will be removed for the proposed project
716	lemon tree *(Citrus limon)*	10	3	7.85, 4.71, 3.14	N	B		5, 5, 5, 5, 6, 6, 6, 6		Remove	Tree TPZ falls within grading and construction and will be removed for the proposed project
717	Black locust (*Robinia pseudoacacia*)	50	1	36.11	N	C	codominant stems	15, 15, 16, 15, 20, 20, 10, 10		Remove	Tree TPZ falls within grading and construction and will be removed for the proposed project
718	Peruvian pepper (*Schinus molle*)	18	4	20.41, 7.85, 10.99, 6.28	N	D	poor vigor	10, 13, 10, 5, 4, 18, 20, 15		Remove	Tree TPZ falls within grading and construction and will be removed for the proposed project
719	Shamel ash (*Fraxinus uhdei*)	30	1	18.84	N	B		10, 10, 10, 10, 10, 10, 10, 10		Remove	Tree TPZ falls within grading and construction and will be removed for the proposed project

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720	Black locust (*Robinia pseudoacacia*)	35	1	40.82	N	C	codominant stems, moderate lean	5, 28, 15, 12, 12, 1, 2, 4		Remove	Tree TPZ falls within grading and construction and will be removed for the proposed project
721	Black locust (*Robinia pseudoacacia*)	40	1	37.68	N	C		25, 26, 25, 10, 8, 18, 20, 20		Remove	Tree TPZ falls within grading and construction and will be removed for the proposed project
722	lemon tree *(Citrus limon)*	8	3	7.85, 4.71, 3.14	N	B		5, 5, 5, 5, 5, 5, 5, 5		Minor Encroachment	30-40% of TPZ fall within construction grading limits
723	California black walnut (*Juglans californica*)	35	3	50.24, 21.98, 31.4	Y	C	codominant stems, leaning, leaf chlorosis throughout canopy, branch dieback, epicormic growth on trunk; trees assessed outside growing season, attributed to seasonal change	28, 25, 25, 30, 22, 16, 25, 30		Minor Encroachment	<30% of TPZ falls within construction grading limits
724	Shamel ash (*Fraxinus uhdei*)	25	1	18.84	N	C		1, 1, 1, 1, 2, 6, 20, 22		Remove	Tree TPZ falls within grading and construction and will be removed for the proposed project
725	Shamel ash (*Fraxinus uhdei*)	45	1	29.83	N	B		8, 6, 5, 9, 15, 18, 18, 12		Minor Encroachment	<30% of TPZ falls within construction grading limits
726	White alder (*Alnus rhombifolia*)	45	1	34.54	N	B		5, 5, 3, 5, 8, 8, 8, 6	not tagged, inaccessible	Minor	Tree TPZ falls within grading and construction and will be removed for the proposed project
727	Carrotwood (*Cupaniopsis anacardioides*)	18	2	9.42, 9.42	N	C	overcrowded	6, 5, 6, 6, 10, 12, 15, 6		Minor Encroachment	<30% of TPZ falls within construction grading limits
728	Shamel ash (*Fraxinus uhdei*)	30	1	25.12	N	C		22, 18, 10, 20, 20, 15, 18, 22		Minor Encroachment	Tree TPZ falls within grading and construction and will be removed for the proposed project
729	Shamel ash (*Fraxinus uhdei*)	45	2	50.24, 37.68	N	B		18, 10, 8, 8, 15, 15, 13, 18		Minor Encroachment	30-40% of TPZ fall within construction grading limits
730	Shamel ash (*Fraxinus uhdei*)	45	1	31.4	N	C		10, 10, 10, 10, 10, 8, 15, 12		Minor Encroachment	30-40% of TPZ fall within construction grading limits
731	Shamel ash (*Fraxinus uhdei*)	45	1	45.53	N	C	codominant stems, branch dieback	18, 10, 10, 15, 15, 8, 6, 20		Minor Encroachment	30-40% of TPZ fall within construction grading limits
732	Shamel ash (*Fraxinus uhdei*)	30	1	48.67	N	D	poor vigor, mechanical damage to trunk	6, 4, 8, 5, 5, 3, 6, 6		Minor Encroachment	<30% of TPZ falls within construction grading limits
733	Shamel ash (*Fraxinus uhdei*)	20	1	25.12	N	F		25, 20, 6, 4, 6, 8, 20, 25		Minor Encroachment	30-40% of TPZ fall within construction grading limits
734	Shamel ash (*Fraxinus uhdei*)	50	1	51.81	N	B		22, 20, 18, 15, 10, 12, 25,		Minor Encroachment	<30% of TPZ falls within construction grading limits
735	Shamel ash (*Fraxinus uhdei*)	18	1	7.85	N	C		4, 4, 4, 5, 6, 4, 4, 5		Avoid	Tree lies outside of construction and grading
736	Shamel ash (*Fraxinus uhdei*)	18	1	9.42	N	C		4, 4, 5, 8, 9, 6, 10, 10		Minor Encroachment	<30% of TPZ falls within construction grading limits
737	Shamel ash (*Fraxinus uhdei*)	25	1	17.27	N	C		18, 25, 10, 4, 2, 3, 10, 12		Major Encroachment	Tree TPZ falls within grading and construction and will be removed for the proposed project
738	Red ironbark eucalyptus (*Eucalyptus sideroxylon*)	40	2	43.96, 43.96	N	C	codominant stems	12, 12, 15, 12, 15, 10, 12, 10		Minor Encroachment	<30% of TPZ falls within construction grading limits

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739	Shamel ash (*Fraxinus uhdei*)	12	1	7.85	N	C		6, 6, 3, 2, 2, 2, 3, 4		Minor Encroachment	<30% of TPZ falls within construction grading limits
740	Shamel ash (*Fraxinus uhdei*)	15	1	12.56	N	C		15, 15, 12, 10, 13, 15, 18, 16	not tagged, inaccessible	Major Encroachment	Tree TPZ falls within grading and construction and will be removed for the proposed project
741	Shamel ash (*Fraxinus uhdei*)	20	1	15.7	N	C		18, 15, 8, 8, 10, 3, 4, 16		Major Encroachment	30-40% of TPZ fall within construction grading limits
742	Shamel ash (*Fraxinus uhdei*)	15	1	10.99	N	C		8, 8, 8, 8, 5, 7, 7, 10		Major Encroachment	30-40% of TPZ fall within construction grading limits
743	Shamel ash (*Fraxinus uhdei*)	25	2	31.4, 10.99	N	C	codominant stems, weak attachments	10, 8, 8, 10, 15, 20, 25, 10		Major Encroachment	30-40% of TPZ fall within construction grading limits
744	Peruvian pepper (*Schinus molle*)	16	1	31.4	N	D	severe lean, poor vigor	8, 9, 5, 25, 25, 5, 6, 5		Major Encroachment	30-40% of TPZ fall within construction grading limits
745	Mexican fan palm (*Washingtonia robusta*)	20	1	75.36	N	B		6, 6, 6, 6, 6, 6, 6, 6		Minor Encroachment	<30% of TPZ falls within construction grading limits
746	Peruvian pepper (*Schinus molle*)	35	1	103.62	N	D	included bark, cavity midway up trunk, weak attachments	35, 25, 25, 20, 22, 20, 30, 32		Remove	Tree TPZ falls within grading and construction and will be removed for the proposed project
747	Shamel ash (*Fraxinus uhdei*)	15	2	7.85, 4.71	N	D	low vigor, sparse canopy	8, 8, 5, 5, 6, 15, 15, 8	not tagged, inaccessible	Remove	Tree TPZ falls within grading and construction and will be removed for the proposed project
748	River red gum (*Eucalyptus camaldulensis*)	40	1	43.96	N	C		25, 15, 2, 2, 6, 28, 25, 30	not tagged, inaccessible	Remove	Tree TPZ falls within grading and construction and will be removed for the proposed project
749	Shamel ash (*Fraxinus uhdei*)	25	1	28.26	N	D		25, 20, 15, 10, 12, 12, 20, 18	not tagged, inaccessible	Major Encroachment	Tree TPZ falls within grading and construction and will be removed for the proposed project
750	Shamel ash (*Fraxinus uhdei*)	12	2	12.56, 3.14	N	D	poor vigor, sparse canopy	9, 5, 5, 3, 2, 8, 10, 15		Remove	Tree TPZ falls within grading and construction and will be removed for the proposed project
751	Silver dollar eucalyptus (*Eucalyptus polyanthermos*)	15	1	17.27	N	D	severe canopy dieabck	8, 10, 7, 3, 1, 2, 2, 2	not tagged, inaccessible	Minor Encroachment	<30% of TPZ falls within construction grading limits
752	Common fig (*Ficus carica*)	10	3	4.71, 3.14, 3.14	N	C		8, 8, 10, 8, 8, 7, 9, 7		Avoid	Tree TPZ lies outside of construction and grading
753	Shamel ash (*Fraxinus uhdei*)	45	4	28.26, 65.94, 59.66, 62.8	N	C	multiple trunks	20, 25, 20, 15, 20, 30, 35, 38	not tagged, inaccessible	Major Encroachment	30-40% of TPZ fall within construction grading limits
754	Bottle tree *(Brachychiton rupestris)*	25	2	26.69, 29.83	N	C	codominant stems	25, 2, 5, 15, 10, 12, 25, 25		Remove	Tree TPZ falls within grading and construction and will be removed for the proposed project
755	Crepe myrtle (*Lagerstroemia*)	20	1	7.85	N	D	poor vigor	4, 4, 4, 4, 4, 4, 4, 4		Remove	Tree TPZ falls within grading and construction and will be removed for the proposed project
756	Western sycamore (*Platanus racemosa*)	28	1	0	N	D	cankers throughout trunk, poor vigor, leaf chlorosis	10, 10, 10, 12, 5, 15, 22, 28		Remove	Tree TPZ falls within grading and construction and will be removed for the proposed project

Tree ID #	Common name (Scientific name)	Tree Height (Feet)	Number of Trunks	DBH (circumference)	Heritage (Y/N)[1]	Overall Condition Rating	Physical Condition	Crown Spread (N, NE, E, S, SE, S, SW, W, NW, N)	Notes	Proposed Impacts	Impact Notes
757	Peruvian pepper (*Schinus molle*)	22	2	12.56, 15.7	N	D	codominant stems	15, 10, 15, 10, 12, 12, 16, 15		Remove	Tree TPZ falls within grading and construction and will be removed for the proposed project
758	Shamel ash (*Fraxinus uhdei*)	20	1	12.56	N	B		10, 10, 12, 10, 6, 6, 9, 11	not tagged, inaccessible	Avoid	Tree TPZ lies outside of construction and grading
759	Peruvian pepper (*Schinus molle*)	25	1	43.96	N	D	poor vigor	11, 12, 5, 5, 3, 15, 15, 16	not tagged, inaccessible	Avoid	Tree TPZ lies outside of construction and grading
760	Shamel ash (*Fraxinus uhdei*)	30	3	34.54, 7.85, 12.56	N	C	multiple stems	15, 15, 12, 16, 15, 20, 20, 22		Minor Encroachment	<30% of TPZ falls within construction grading limits
761	California black walnut (*Juglans californica*)	35	1	53.38	Y	C	codominant stems	30, 25, 20, 25, 15, 15, 28, 30	not tagged, inaccessible	Minor Encroachment	<30% of TPZ falls within construction grading limits
762	Shamel ash (*Fraxinus uhdei*)	35	1	26.69	N	C		10, 8, 10, 12, 10, 12, 6, 6		Major Encroachment	30-40% of TPZ fall within construction grading limits
763	Shamel ash (*Fraxinus uhdei*)	35	1	34.54	N	C		10, 8, 12, 12, 15, 5, 5, 9		Remove	Tree TPZ falls within grading and construction and will be removed for the proposed project
764	Shamel ash (*Fraxinus uhdei*)	16	3	6.28, 6.28, 4.71	N	D	poor vigor, multiple trunks	6, 5, 8, 8, 12, 12, 10, 8		Remove	Tree TPZ falls within grading and construction and will be removed for the proposed project
765	Shamel ash (*Fraxinus uhdei*)	25	2	6.28, 4.71	N	C		5, 5, 4, 6, 7, 5, 5,		Remove	Tree TPZ falls within grading and construction and will be removed for the proposed project
766	Shamel ash (*Fraxinus uhdei*)	17	1	15.7	N	C		66, 6, 6, 7, 6, 5, 5, 7		Remove	Tree TPZ falls within grading and construction and will be removed for the proposed project
767	Black locust (*Robinia pseudoacacia*)	15	1	9.42	N	D	severe lean	1, 22, 1, 2, 2, 2, 1, 1		Remove	Tree TPZ falls within grading and construction and will be removed for the proposed project
768	lemon tree (*Citrus limon*)	15	2	6.28, 4.71	N	C		4, 4, 15, 15, 4, 1, 1, 2		Remove	Tree TPZ falls within grading and construction and will be removed for the proposed project
769	Shamel ash (*Fraxinus uhdei*)	25	2	9.42, 14.13	N	C	codominant stems	9, 9, 10, 8, 9, 7, 8, 10		Remove	Tree TPZ falls within grading and construction and will be removed for the proposed project
770	Shamel ash (*Fraxinus uhdei*)	20	1	20.41	N	C		6, 6, 6, 6, 6, 6, 6, 6		Remove	Tree TPZ falls within grading and construction and will be removed for the proposed project
771	Shamel ash (*Fraxinus uhdei*)	20	1	23.55	N	D	poor vigor	8, 5, 5, 2, 2, 22, 22, 22		Remove	Tree TPZ falls within grading and construction and will be removed for the proposed project
772	Shamel ash (*Fraxinus uhdei*)	20	3	10.99, 17.27, 28.26	N	D	poor vigor	6, 6, 5, 5, 6, 5, 10, 9		Remove	Tree TPZ falls within grading and construction and will be removed for the proposed project
773	Shamel ash (*Fraxinus uhdei*)	25	1	43.96	N	C	unbalanced crown	16, 15, 12, 10, 10, 4, 4, 4		Remove	Tree TPZ falls within grading and construction and will be removed for the proposed project

Tree ID #	Common name (Scientific name)	Tree Height (Feet)	Number of Trunks	DBH (circumference)	Heritage (Y/N)[1]	Overall Condition Rating	Physical Condition	Crown Spread (N, NE, E, S, SE, S, SW, W, NW, N)	Notes	Proposed Impacts	Impact Notes
774	Shamel ash (*Fraxinus uhdei*)	40	1	43.96	N	D		6, 6, 6, 6, 6, 6, 6, 6	not tagged, inaccessible	Remove	Tree TPZ falls within grading and construction and will be removed for the proposed project
775	Shamel ash (*Fraxinus uhdei*)	25	1	9.42	N	C		6, 6, 3, 3, 4, 4, 3, 6		Remove	Tree TPZ falls within grading and construction and will be removed for the proposed project
776	White alder (*Alnus rhombifolia*)	25	1	34.54	N	F		2, 2, 2, 2, 2, 2, 2, 5		Remove	Tree TPZ falls within grading and construction and will be removed for the proposed project
777	Peruvian pepper (*Schinus molle*)	28	1	62.8	N	D	severe canopy dieback and lean	19, 18, 22, 15, 10, 5, 18, 20		Remove	Tree TPZ falls within grading and construction and will be removed for the proposed project
778	Shamel ash (*Fraxinus uhdei*)	20	1	18.84	N	D		5, 5, 5, 8, 8, 4, 4, 5		Minor Encroachment	<30% of TPZ falls within construction grading limits
779	Shamel ash (*Fraxinus uhdei*)	20	1	15.7	N	C		5, 5, 5, 5, 5, 5, 5, 5	not tagged, inaccessible	Major Encroachment	30-40% of TPZ fall within construction grading limits
780	Shamel ash (*Fraxinus uhdei*)	20	1	12.56	N	D		4, 4, 4, 4, 4, 4, 4, 4		Remove	Tree TPZ falls within grading and construction and will be removed for the proposed project
781	Shamel ash (*Fraxinus uhdei*)	15	1	9.42	N	D		4, 4, 8, 5, 6, 5, 4, 5	not tagged, inaccessible	Remove	Tree TPZ falls within grading and construction and will be removed for the proposed project
782	Brush cherry (*Syzygium paniculatum*)	17	1	12.56	N	C		4, 4, 4, 4, 4, 4, 4, 4		Remove	Tree TPZ falls within grading and construction and will be removed for the proposed project
783	Brush cherry (*Syzygium paniculatum*)	10	2	3.14, 4.71	N	D	strangled by vines	3, 3, 3, 3, 3, 3, 3, 3		Remove	Tree TPZ falls within grading and construction and will be removed for the proposed project
784	Carrotwood (*Cupaniopsis anacardioides*)	12	1	7.85	N	D	poor vigor	6, 6, 6, 6, 6, 6, 6, 6		Remove	Tree TPZ falls within grading and construction and will be removed for the proposed project
785	Brush cherry (*Syzygium paniculatum*)	25	1	28.26	N	C	leaning	10, 10, 20, 8, 7, 9, 12		Remove	Tree TPZ falls within grading and construction and will be removed for the proposed project
786	Brush cherry (*Syzygium paniculatum*)	25	3	9.42, 10.99, 21.98	N	C	multiple trunks	5, 6, 9, 8, 7, 5, 5, 12		Remove	Tree TPZ falls within grading and construction and will be removed for the proposed project
787	Peruvian pepper (*Schinus molle*)	12	2	7.85, 6.28	N	C		7, 7, 7, 8, 5, 5, 7, 7		Remove	Tree TPZ falls within grading and construction and will be removed for the proposed project
788	Brush cherry (*Syzygium paniculatum*)	25	2	28.26, 17.27	N	C	codominant stems	10, 15, 9, 11, 6, 6, 4, 8		Remove	Tree TPZ falls within grading and construction and will be removed for the proposed project
789	Peruvian pepper (*Schinus molle*)	10	2	9.42, 14.13	N	D		6, 6, 3, 10, 12, 10, 11, 10		Remove	Tree TPZ falls within grading and construction and will be removed for the proposed project

Tree ID #	Common name (Scientific name)	Tree Height (Feet)	Number of Trunks	DBH (circumference)	Heritage (Y/N)[1]	Overall Condition Rating	Physical Condition	Crown Spread (N, NE, E, S, SE, S, SW, W, NW, N)	Notes	Proposed Impacts	Impact Notes
790	Peruvian pepper (*Schinus molle*)	15	4	6.28, 6.28, 6.28, 15.7	N	C		5, 5, 5, 7, 7, 5, 5, 5		Remove	Tree TPZ falls within grading and construction and will be removed for the proposed project
791	Ngaio tree (*Myoporum laetum*)	25	4	9.42, 9.42, 14.13, 17.27	N	C		3, 3, 8, 8, 8, 7, 4, 3		Remove	Tree TPZ falls within grading and construction and will be removed for the proposed project
792	Peruvian pepper (*Schinus molle*)	35	3	50.24, 14.13, 37.68	N	C		12, 18, 15, 10, 25, 22, 10, 20		Remove	Tree TPZ falls within grading and construction and will be removed for the proposed project
793	Lemon gum eucalyptus (*Corymbia citriodora*)	20	3	6.28, 7.85, 9.42	N	D	poor vigor, epicormic shoots	6, 6, 5, 5, 6, 5, 5, 5		Remove	Tree TPZ falls within grading and construction and will be removed for the proposed project
794	Lemon gum eucalyptus (*Corymbia citriodora*)	55	1	75.36	N	B		22, 15, 26, 22, 16, 11, 6, 18		Remove	Tree TPZ falls within grading and construction and will be removed for the proposed project
795	Brush cherry (*Syzygium paniculatum*)	10	2	17.27, 10.99	N	D		3, 3, 3, 3, 3, 3, 3, 3		Remove	Tree TPZ falls within grading and construction and will be removed for the proposed project
796	Red ironbark eucalyptus (*Eucalyptus sideroxylon*)	40	1	59.66	N	C		15, 15, 16, 18, 12, 8, 8, 20	not tagged, inaccessible	Remove	Tree TPZ falls within grading and construction and will be removed for the proposed project
797	Brush cherry (*Syzygium paniculatum*)	16	2	6.28, 10.99	N	D	codominant stems	4, 4, 4, 4, 4, 4, 4, 4		Remove	Tree TPZ falls within grading and construction and will be removed for the proposed project
798	Brazilian pepper (*Schinus terebinthifolia*)	10	1	12.56	N	D		4, 4, 4, 4, 4, 4, 4, 4		Remove	Tree TPZ falls within grading and construction and will be removed for the proposed project
799	Carrotwood (*Cupaniopsis anacardioides*)	20	2	15.7, 14.13	N	D	codominant stems	4, 9, 12, 6, 4, 3, 10, 12		Minor Encroachment	<30% of TPZ falls within construction grading limits
800	Red ironbark eucalyptus (*Eucalyptus sideroxylon*)	40	1	61.23	N	C	unbalanced crown. severe lean	6, 1, 1, 3, 5, 7, 22, 22		Major Encroachment	30-40% of TPZ fall within construction grading limits
801	Aleppo pine (*Pinus halepensis*)	40	1	78.5	N	C	moderate lean	12, 8, 10, 25, 25, 22, 20, 18		Avoid	Tree lies outside of construction and grading
802	Lemon gum eucalyptus (*Corymbia citriodora*)	45	1	65.94	N	C	canopy dieback	3, 2, 4, 5, 16, 18, 15, 6		Severe Encroachment	40-50% of TPZ fall within construction grading limits
803	Aleppo pine (*Pinus halepensis*)	25	1	28.26	N	D	severe lean	2, 2, 1, 2, 10, 11, 10, 15		Remove	Tree TPZ falls within grading and construction and will be removed for the proposed project
804	Lemon gum eucalyptus (*Corymbia citriodora*)	50	1	78.5	N	C	canopy dieback	26, 25, 10, 18, 22, 22, 25, 27		Minor Encroachment	<30% of TPZ falls within construction grading limits
805	California black walnut (*Juglans californica*)	25	3	12.56, 6.28, 6.28	N	C	leaf chlorosis	6, 6, 6, 6, 6, 6, 6, 6	trees assessed during winter season; health condition attributed to seasonal change	Minor Encroachment	<30% of TPZ falls within construction grading limits; 4-ft retaining wall or bridge footing to be built to preserve tree during construction

Tree ID #	Common name (Scientific name)	Tree Height (Feet)	Number of Trunks	DBH (circumference)	Heritage (Y/N)[1]	Overall Condition Rating	Physical Condition	Crown Spread (N, NE, E, S, SE, S, SW, W, NW, N)	Notes	Proposed Impacts	Impact Notes
806	Peruvian pepper (*Schinus molle*)	25	4	18.84, 28.26, 28.26, 25.12	N	C	multiple trunks	10, 8, 6, 15, 15, 22, 25, 15		Remove	Tree TPZ falls within grading and construction and will be removed for the proposed project
807	Brazilian pepper (*Schinus terebinthifolia*)	25	5	9.42, 12.56, 9.42, 6.28, 6.28	N	C		5, 5, 8, 8, 10, 12, 14, 14		Remove	Tree TPZ falls within grading and construction and will be removed for the proposed project
808	Brazilian pepper (*Schinus terebinthifolia*)	25	5	12.56, 15.7, 9.42, 9.42, 6.28	N	C		10, 5, 8, 8, 10, 20, 22, 20	not tagged, inaccessible	Remove	Tree TPZ falls within grading and construction and will be removed for the proposed project
809	Aleppo pine (*Pinus halepensis*)	30	1	62.8	N	C	moderate lean	20, 10, 9, 10, 25, 25, 28, 30		Remove	Tree TPZ falls within grading and construction and will be removed for the proposed project
810	Shamel ash (*Fraxinus uhdei*)	20	2	14.13, 21.98	N	D	dead stem. sparse canopy, codominant stems	10, 8, 8, 5, 5, 3, 3, 5		Remove	Tree TPZ falls within grading and construction and will be removed for the proposed project
811	Peruvian pepper (*Schinus molle*)	30	1	81.64	N	D	codominant stems. canopy dieback	16, 12, 10, 18, 25, 3, 10, 15		Minor Encroachment	<30% of TPZ falls within construction grading limits
812	Peruvian pepper (*Schinus molle*)	30	2	69.08, 31.4	N	D	codominant stems. weak attachments and leaning	3, 3, 4, 22, 28, 18, 25, 4		Minor Encroachment	<30% of TPZ falls within construction grading limits
813	Peruvian pepper (*Schinus molle*)	40	1	100.48	N	D	poor vigor	27, 25, 20, 15, 25, 27, 25, 18		Minor Encroachment	<30% of TPZ falls within construction grading limits
814	California black walnut (*Juglans californica*)	14	3	7.85, 9.42, 10.99	N	C	trees assessed outside of growing season; seemingly low vigor attributed to seasonal change	3, 3, 3, 4, 10, 10, 4, 4		Avoid	Tree TPZ lies outside of construction and grading
815	Shamel ash (*Fraxinus uhdei*)	14	1	7.85	N	C		3, 9, 2, 2, 1, 2, 4, 2		Remove	Tree TPZ falls within grading and construction and will be removed for the proposed project
816	Jacaranda (*Jacaranda mimosifolia*)	32	2	28.26, 31.4	N	C	codominant stems. weak attachments	15, 10, 18, 18, 15, 15, 18, 20		Minor Encroachment	<30% of TPZ falls within construction grading limits
817	Peruvian pepper (*Schinus molle*)	35	1	78.5	N	C	codominant stems. weak attachments	15, 10, 15, 6, 20, 20, 10, 13		Minor Encroachment	<30% of TPZ falls within construction grading limits
818	Shamel ash (*Fraxinus uhdei*)	12	1	14.13	N	D	poor vigor	4, 4, 4, 4, 4, 4, 4, 4		Remove	Tree TPZ falls within grading and construction and will be removed for the proposed project
819	California black walnut (*Juglans californica*)	8	2	1.57, 4.71	N	C	trees assessed outside of growing season; seemingly low vigor attributed to seasonal change	3, 3, 3, 3, 3, 3, 3, 3		Avoid	Tree TPZ lies outside of construction and grading
820	Shamel ash (*Fraxinus uhdei*)	35	1	31.4	N	C		10, 10, 12, 12, 9, 9, 9, 11		Minor Encroachment	<30% of TPZ falls within construction grading limits
821	California black walnut (*Juglans californica*)	25	1	9.42	N	C	trees assessed outside of growing season; seemingly low vigor attributed to seasonal change	2, 5, 5, 7, 6, 5, 1, 2		Avoid	Tree TPZ lies outside of construction and grading
822	Ngaio tree (*Myoporum laetum*)	30	4	12.56, 9.42, 3.14, 21.98	N	C		12, 10, 6, 9, 18, 15, 12, 15		Minor Encroachment	<30% of TPZ falls within construction grading limits
823	Ngaio tree (*Myoporum laetum*)	20	5	6.28, 6.28, 6.28, 7.85, 9.42	N	D	poor vigor	10, 10, 8, 9, 8, 4, 10, 4		Remove	Tree TPZ falls within grading and construction and will be removed for the proposed project

Tree ID #	Common name (Scientific name)	Tree Height (Feet)	Number of Trunks	DBH (circumference)	Heritage (Y/N)[1]	Overall Condition Rating	Physical Condition	Crown Spread (N, NE, E, S, SE, S, SW, W, NW, N)	Notes	Proposed Impacts	Impact Notes
824	Aleppo pine (*Pinus halepensis*)	30	1	56.52	N	C	severe lean	15, 12, 15, 12, 15, 12, 6, 18		Remove	Tree TPZ falls within grading and construction and will be removed for the proposed project
825	Ngaio tree (*Myoporum laetum*)	15	2	14.13, 10.99	N	C		15, 10, 10, 10, 4, 3, 3, 15		Major Encroachment	30-40% of TPZ fall within construction grading limits
826	Ngaio tree (*Myoporum laetum*)	15	4	25.12, 28.26, 6.28, 6.28	N	D	poor vigor	12, 9, 7, 8, 15, 15, 20, 7		Remove	Tree TPZ falls within grading and construction and will be removed for the proposed project
827	Ngaio tree (*Myoporum laetum*)	15	2	21.98, 4.71	N	D	poor vigor	10, 10, 4, 4, 3, 3, 3, 2		Remove	Tree TPZ falls within grading and construction and will be removed for the proposed project

[1]For protected trees only: 40 in circumference for single trunk; 30 in circumference for multi-trunk

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Source: Google Earth Pro June 2022 Aerial

Project Site

BROOKSIDE | WALNUT, CA

N

0 60 120 240

1”=60’ Scale

February 08, 2022

PLACEWORKS

MEADOW PASS ROAD

LEMON AVENUE

SAN VICENTE DRIVE

LA PUENTE ROAD

Legend

Symbol	Description	Acres	Percent Site Coverage
	Existing Tree Canopy	12.0	46.4%
Project Site		25.84 acres	

Canopy Coverage - Existing

BROOKSIDE | WALNUT, CA

N

0 60 120 240

1”=60’ Scale

February 08, 2022

PLACEWORKS

MEADOW PASS ROAD

LEMON AVENUE

SAN VICENTE DRIVE

LA PUENTE ROAD

Legend

Symbol	Description	Acres	Percent Site Coverage
	Existing Tree Canopy	12.0	46.4%
	Removed Tree Canopy	5.2	20.1%
	Remaining Tree Canopy	6.8	26.3%
Project Site		25.84 acres	

Canopy Coverage - Existing

BROOKSIDE | WALNUT, CA

N

0 60 120 240

1”=60’ Scale

February 08, 2022

PLACEWORKS

Tree Replacement Schedule

TREE SUMMARY		
		COUNT
EXISTING TOTAL TREES		1,876
PROPOSED TREES TO REMOVE[1]		460
CA NATIVE[2]	HEALTHY	2
	UNHEALTHY (DISTRESSED)	28
NON-NATIVE (EXOTIC)	HEALTHY	89
	UNHEALTHY (DISTRESSED)	160
INVASIVE (PER CAL-IPC)	HEALTHY	73
	UNHEALTHY (DISTRESSED)	108
TOTAL	HEALTHY	164
	UNHEALTHY (DISTRESSED)	296
REMAINING EXISTING TREES[3]		1,416
PROPOSED NEW TREES		520
INCREASE IN TREES[4]		60
PROPOSED NEW TOTAL TREES UPON COMPLETION		**1,936**

REPLACEMENT PROGRAM				
TREE TYPE	REMOVED TREE COUNT	REPLACEMENT RATIO	REPLACEMENT TREE SIZE	REPLACEMENT COUNT
CA NATIVE SPECIES	30	3:1	24" Box	90
NON-NATIVE (EXOTIC)	249	1:1	15 Gal	249
INVASIVE (PER CAL-IPC)	181	1:1	15 Gal	181
REMOVED TREES	**460**	**NEW PROPOSED TREES**		**520**

TREE REPLACEMENT LEGEND			
REPLACEMENT TREE TYPE[5]	SIZE	SYMBOL	COUNT
CA NATIVE	24" Box		100
	15 Gal		420
PROPOSED NEW TREES			**520**

- New Trees planted within Grading Limits: 509
- New Trees planted outside Grading Limits: 11

LIMITS OF GRADING

NOTES:

1. All proposed trees to be physically removed are either located within the grading limit, or over half of their dripline and root zone fall within the grading limit.
2. Does not include protected Oak and Walnut Trees (under the City of Walnut municipal)
3. The 1,416 existing trees that will remain in place are shown in their current locations represented in the aerial image.
4. The total increase does not reflect additional trees that will be planted by homeowners within the individual lots.
5. All replacement trees shall be California Natives not currently on the California Invasive Plant Council Watch or Invasive Species Lists and selected from City Parkway Approval List or LOSMD and Median Approval List and be planted and maintained in accordance with applicable city standards.
6. All protected trees within limits of grading will remain in place.
7. HOA maintained landscape areas and trees to be replaced/planted prior to first building permit.
8. Individual private property landscape areas to be planted prior to certificate of occupancy.

Tree Replacement Plan

BROOKSIDE | WALNUT, CA

N

0 60 120 240

1"=60' Scale

February 08, 2022

PLACEWORKS

MEADOW PASS ROAD

LEMON AVENUE

SAN VICENTE DRIVE

LA PUENTE ROAD

Legend

Symbol	Description	Acres	Percent Site Coverage
	Remaining Tree Canopy	6.8	26.3%
	Replacement Tree Canopy	6.4	24.7%
	Total Tree Canopy	13.2	51.1%
Proposed project total tree canopy coverage at maturity will be an increase of 1.2 acres			

Project Site	25.84 acres

Canopy Coverage - Proposed

BROOKSIDE | WALNUT, CA

N

0 60 120 240

1”=60’ Scale

February 08, 2022

PLACEWORKS

LANDSCAPE DESIGNATION

	Parkway
	Front Yard
	Slopes
	Rear Yard

TREE TYPE LEGEND

TREE LOCATION	SYMBOL	SIZE	COUNT	TREE SPECIES
Parkway		24" BOX	100	• White Alder • California Box Elder • Red Alder • Madrone • California Sycamore • Big Leaf Maple
Side Yard		15 GAL	138	• Foothill Ash • Western Redbud • Holly Leaf Cherry • Blue Elderberry • California Bay Laurel
Slopes / Rear Yard		15 GAL	262	• White Alder • Foothill Ash • Red Alder • Big Leaf Maple • Madrone • Coulter Pine • Holly Leaf Cherry • California Sycamore • Western Redbud • California box Elder • Freemont Cottonwood • Blue Elderberry • California Bay Laurel • Toyon
Accent		15 GAL	20	• California Sycamore • Western Redbud • Toyon • Madrone
PROPOSED NEW TREES			**538**	

Conceptual Landscape Plan

BROOKSIDE | WALNUT, CA

N

0 60 120 240

1"=60' Scale

February 08, 2022

PLACEWORKS

APPENDIX D

Special Status Species
Potential Occurrence Determination

Appendix D
The Brookside Development Project
Special Status Species Potential Occurrence Determination

This table summarizes conclusions from analysis and field surveys regarding the potential occurrence of special status species within the Survey Area of the Brookside Development Project. During the field surveys, the potential for special status species to occur within the Survey Area was assessed based on the following criteria:

- Present: observed on the site during the field surveys, or recorded on-site by other qualified biologists.
- High potential to occur: observed in similar habitat in the region by a qualified biologist, or habitat on the site is a type often utilized by the species and the site is within the known distribution and elevation range of the species.
- Moderate potential to occur: reported sightings in surrounding region, or the site is within the known distribution and elevation range of the species and habitat on the site is a type occasionally used by the species.
- Low potential to occur: the site is within the known distribution and elevation range of the species but habitat on the site is rarely used by the species, or there are no known recorded occurrences of the species within or adjacent to the site.
- Absent: a focused study failed to detect the species or no suitable habitat is present.
- Unknown: the species' distributional/elevation range and habitat are poorly known.

Even with field surveys, biologists assess the *probability* of occurrence rather than make a definitive conclusion about species' presence or absence. Failure to detect the presence of the species is not definitive, and may be due to variable effects associated with fire, rainfall patterns, and/or season.

Special Status Plants: Potential to Occur within the Survey Area

Scientific Name	*Common Name*	*Status*	*General Habitat Description* *Blooming period: months in parenthesis are uncommon*	*Potential for Occurrence within the Survey Area*
PLANTS				
Androsace elongata ssp. acuta	California androsace	CRPR: 4.2, G5?, S3S4	Annual herb found in coastal sage scrub, foothill woodlands, meadows and seeps, pinyon and juniper woodland, and chaparral communities Elevation: < 1200 m Blooming period: February - April	Low, Project site does not have coastal sage scrub, foothill woodlands, meadows and seeps, pinyon and juniper woodland or chaparral communities.
Asplenium vespertinum	western spleenwort	CRPR: 4.2,	Moist, shady, rocky places, such as the shadows beneath cliff overhangs/ base of overhanging boulders. Habitats include chaparral, cismontane woodland, and coastal scrub. Elevation: 200 (180 as per ICPN) - 1000 meters (Jepson Manual) Blooming period: February - June	Low, Project site is below the elevation range of this plant species.
Calochortus catalinae	Catalina mariposa lily	CRPR: 4.2	The bulb is endemic to Southern California. It is native along the coastline in grasslands and open chaparral and woodlands habitats, especially on the Channel Islands and in the Santa Monica Mountains. Elevation: 15 – 700 meters (CNPS); < 700 (Jepson eFlora) Blooming period: (Feb)March – June (CNPS); Mar – May (Jepson eFlora)	Low, Project site does not contain native grasslands or open chaparral habitat and is outside its usual distribution.
Calochortus plummerae	Plummer's mariposa-lily	CRPR: 4.2	Perennial bulbiferous herb endemic to California. Habitat includes granitic, rocky soils within chaparral, cismontane woodland, coastal scrub, lower montane coniferous forest, and valley and foothill grassland. Threatened by development, fire suppression, foot traffic, mining, powerline construction, and recreational activities. Less common at higher elevations. Elevation: < 1700 meters Blooming period: May - July	Low, Project site does not contain granitic, rocky soils or chaparral, cismontane woodland, coastal scrub, lower montane coniferous forest, or valley and foothill grassland.
Calochortus simulans	San Luis Obispo mariposa lily	CRPR: 1B.3, G2, S2	A perennial herb endemic to California that is found in woodland foothills, chaparral, and valley grassland habitat Elevation: 1065 – 1150 m Blooming period: April - June	Low, Project site is below the elevation range of this plant species.
Calochortus weedii var. intermedius	Intermediate Mariposa-lily	CRPR: 1B.2, FSS	Dry, rocky, open slopes within chaparral, sage scrub, or grasslands.	Low, Project site is not dry due to Lemon creek around the

Scientific Name	*Common Name*	*Status*	*General Habitat Description* *Blooming period: months in parenthesis are uncommon*	*Potential for Occurrence within the Survey Area*
			Elevation: 105 – 855 meters (CNPS); < 680 meters (Jepson eFlora) Blooming period: May – July (CNPS); June – July (Jepson eFlora)	rocky slopes of the mixed forest.
Centromadia parryi ssp. australis	Southern Tarplant	CRPR: 1B.1,	Found in vernally wet areas such as edges of marshes and vernal pools, grasslands, vernal pools, coastal scrub, at edges of roads and trails, and in other areas of compacted, poorly drained, or alkaline soils where competition from other plants is limited, often due to disturbance. In California, known only from Santa Barbara, Ventura, Los Angeles, Orange and San Diego Counties. Also occurs in Mexico. Elevation: 0 – 480 meters (CNPS); < 200 meters (Jepson eFlora) Blooming period: May – November (CNPS); June – Oct (Jepson eFlora)	Low, Project site contains Lemon Creek, creating a wet area and also has compacted and disturbed areas due to equestrian use, but soils are well-drained and competition from non-native species is present.
Dudleya multicaulis	many-stemmed dudleya	CRPR: 1B.2, BLMS, FSS	Many-stemmed dudleya is often associated with clay soils in barrens, rocky places, and ridgelines as well as thinly vegetated openings in chaparral, coastal sage scrub, and southern needlegrass grasslands on clay soils. Elevation: 15 – 790 meters (CNPS); < 600 meters (Jepson eFlora) Blooming period: April - July (CNPS); May – Jun (Jepson eFlora)	Low, Project site does not contain clay soils or thinly vegetated openings in preferred habitat on clay soils.
Horkelia cuneata var. puberula	mesa horkelia	CRPR: 1B.1, FSS	Perennial herb native and endemic to California. Occurs in sandy or gravelly habitat within chaparral, cismontane woodland and coastal scrub. Distributed along the central to south coast of California, found in San Luis Obispo, Riverside, Santa Barbara, and Los Angeles counties. It once flourished in San Bernardino, San Diego, and Ventura counties as well, but has become locally extinct in these areas. Elevation: 70 - 870 meters Blooming period: February - July(Sep)	Low, part of Project site does have gravelly habitat but is disturbed in these areas and does not consist of chaparral, cismontane woodland or coastal scrub habitat.
Juglans californica var *californica*	California black walnut / Southern California black walnut	CRPR: 4.2	Perennial deciduous tree endemic to California. Habitat includes alluvial substrates, chaparral, cismontane woodland, coastal scrub, and riparian woodland. Threatened by urbanization, grazing, non-native plants, and possibly by lack of natural reproduction. Elevation: 30 - 900 meters	Present, found in portions along Lemon Creek in the Project site.

Scientific Name	*Common Name*	*Status*	*General Habitat Description* *Blooming period: months in parenthesis are uncommon*	*Potential for Occurrence within the Survey Area*
			Blooming period: March - August (CNPS); Mar – May (Jepson eFlora)	
Lepidium virginicum var. robinsonii	Robinson's peppergrass	CRPR: 4.3	Annual herb occurring in dry sandy or thin soils in coastal sage scrub and chaparral. Elevation: 1 – 885 meters (CNPS); < 2800 m (Jepson eFlora) Blooming period: January – July (CNPS); Mar – Jun (Jepson eFlora)	Low, Project does not contain coastal sage scrub or chaparral habitat.
Phacelia stellaris	Brand's phacelia (Brand's star phacelia)	CRPR: 1B.1	Coastal dunes, coastal scrub. Elevation: < 400 meters Blooming period: March – June (CNPS); Mar-May (Jepson eFlora)	Low, Project site does not contain coastal dunes or coastal scrub habitat.
Pseudognaphalium leucocephalum	white rabbit tobacco	CRPR: 2B.2	Sandy or gravelly benches, dry stream bottoms, and canyon bottoms. Elevation: < 500 meters Blooming period: (July) August – November (December)	Low, Project site does not have sandy or gravelly benches or dry stream bottoms and canyon bottoms.
Quercus engelmannii	Engelmann oak	CRPR: 4.2	Native to the foothills from eastern Los Angeles County south to eastern San Diego County. Found in pure stands and with coast live oak. Often found in chaparral, cismontane woodland, riparian woodland, and valley and foothill grassland. Elevation: < 1300 meters Blooming period: March – June (CNPS); April – May (Jepson eFlora)	Absent, this species was not observed during any of the biological surveys or arborist survey.
Sagittaria sanfordii	Sanford's arrowhead	CRPR: 1B.2, G3, S3, BLMS	Perennial herb native to California that occurs in wetlands, freshwater marshes, and riparian habitats. Elevation: < 300m Blooming period: May - October	Low, Project site contains riparian habitat, however, many occurrences previously noted in southern California have been extirpated as the plant's aquatic habitat has been mostly lost.
Senecio aphanactis	Chaparral ragwort (rayless ragwort)	CRPR: 2B.2	Alkaline flats and dry, open rocky areas of coastal bluff scrub and coastal sage scrub. Known from Central Western California and South Coast to Baja California. Elevation: 15 - 800 meters (CNPS); 10 – 550 m (Jepson eFlora) Blooming period: January – April (May) (CNPS); Feb – May (Jepson eFlora)	Low, Project site does not contain coastal bluff scrub or coastal sage scrub habitat.
Symphyotrichum	San Bernardino	CRPR: 1B.2, BLMS,	Endemic to Southern California, where it is known only from	Low, Project site is disturbed and

Scientific Name	*Common Name*	*Status*	*General Habitat Description* *Blooming period: months in parenthesis are uncommon*	*Potential for Occurrence within the Survey Area*
defoliatum	aster	FSS	the San Bernardino and San Gabriel Mountains of the Transverse Ranges, and part of the Peninsular Ranges to the south. It grows in grassland and meadow habitat, often near springs, and in disturbed areas. Elevation: < 2050 meters Blooming period: May (July) – October (January) (CNPS); Jul – Nov (Jepson eFlora)	is within its distribution however it was not observed during the biological survey.
ANIMALS				
Invertebrates / Insects				
Bombus crotchii	Crotch bumble bee	SCE	Uncommon species of coastal California east towards the Sierras; select food plan genera include *Antirrhinum, Phacelia, Clarkia, Dendromecon, Eschscholzia, Eriogonum*. Also like lotus, *Encelia* sp., milk weed, and non-native grassland. Don't prefer dense non-native vegetation. Nest in the ground but are not limited by compact soils unless no rodent burrows or crevices are present. Highly impacted by urbanization; unlikely to be found in fragmented habitats and more likely to be found in large undisturbed areas or sites with direct connections to large undisturbed areas.	Low to moderate, Project site is fragmented from large undisturbed areas. Lemon Creek in Project site consists of dense non-native vegetation and does not contain the listed select food plant genera. However, CA ground squirrel burrows and non-native grasslands are present.
Danaus plexippus	Monarch butterfly – CA overwintering population	IUCN: EN, FCE, FSS	Winter migrant along CA coast. Known to roost in eucalyptus trees. Usually encountered in lowland areas. Obligate milkweed host plant (primarily *Asclepias* spp.) during larval stage. Nectar and milkweed resources are often associated with riparian corridors. Overwinter in groves along the coast of California and Baja California, typically close to the coast, populated by a variety of tree species, including blue gum eucalyptus (*Eucalyptus globulus*), Monterey pine (*Pinus radiata*), and Monterey cypress (*Hesperocyparis macrocarpa*).	Low to moderate. No milkweed found on site, however, site contains a riparian corridor and eucalyptus trees.
Birds				
Accipiter cooperii	Cooper's hawk	WL, IUCN:LC	Forest and woodland birds. These lanky hawks are a regular sight in parks, quiet neighborhoods, over fields, at backyard feeders, and even along busy streets if there are trees around.	Present, observed during the various focus surveys and the Project site contains suitable habitat.
Athene cunicularia	burrowing owl	SSC, BCC, BLMS, IUCN:LC	Open, dry annual or perennial grasslands, deserts and scrublands characterized by low-growing vegetation.	Low, although suitable habitat is present within the Project site,

Scientific Name	*Common Name*	*Status*	*General Habitat Description* *Blooming period: months in parenthesis are uncommon*	*Potential for Occurrence within the Survey Area*
			Subterranean nester, dependent upon burrowing mammals, most notably, the California ground squirrel.	no BUOW or signs of were observed within the study area during the focus surveys.
Chaetura vauxi	Vaux's swift	SSC, BCC	A summer resident of northern California. Prefers redwood and Douglas-fir habitats and nests in hollow trees and snags, especially tall, burned-out stubs. Prefers to forage over rivers and lakes. Active during the day. Usually migrate to Mexico and Central America but a few winter in coastal lowlands of southern California.	Present, detected during LBV focus surveys
Polioptila californica californica	coastal California gnatcatcher	FT, SSC	Obligate, permanent resident of coastal sage scrub below 835 meters in Southern California. Low, coastal sage scrub in arid washes, on mesas & slopes. Not all areas classified as coastal sage scrub are occupied.	Low, critical habitat and CNDDB occurrences are about one mile north of the Project site, however, the Project site lacks suitable habitat like coastal sage scrub. In addition, CAGN was not detected in any of the surveys conducted for the Project.
*Setophaga petechia (*previously *Dendroica petechia)*	yellow warbler	SSC, BCC	Found in thickets and other disturbed or regrowing habitats, particularly along streams and wetlands. Nests in the vertical fork of a bush or small tree such as willow.	Present, Lemon Creek traverses through Project site and is bordered by thickets and portions of willow trees.
Spinus lawrencei	Lawrence's goldfinch	BCC, IUCN:LC, NABCI: YWL	Open woodland or shrubland with water nearby. Builds nests in dense foliage of tree or shrubs- preferably oak, but also cypress, cedar or riparian thicket.	Present, detected during LBV focus survey.
Vireo bellii pusillus	least Bell's vireo	FE, SE, IUCN:NT	Summer resident of Southern California in low riparian, in vicinity of water or in dry river bottoms; below 2000 ft. Nests placed along margins of bushes or on twigs projecting into pathways, usually willow, baccharis or, mesquite.	Low, although LBV was observed within the Project site during one of the 2022 LBV focused surveys, it was determined to be a migrant not occupying the site. Following completion of the 2022 focused surveys, the site was determined to not be occupied by LBV. Additionally, there is low potential for nesting due to the lack of dense shrub

Scientific Name	*Common Name*	*Status*	*General Habitat Description* *Blooming period: months in parenthesis are uncommon*	*Potential for Occurrence within the Survey Area*
				layer canopy and narrow riparian corridor. Impacts to migrant LBV will be avoided with the implementation of MM BIO-6.
Reptiles				
Actinemys marmorata pallida	southwestern pond turtle	BLMS	A thoroughly aquatic turtle of ponds, marshes, rivers, streams & irrigation ditches, usually with aquatic vegetation, below 2000 meters in elevation. Need basking sites and suitable (sandy banks or grassy open fields) upland habitat up to 0.5 km from water for egg-laying.	Absent, the natural course of Lemon Creek within the Project site contains potentially suitable aquatic habitat, but none were observed during the focus surveys.
Mammals				
Antrozous pallidus	pallid bat	SSC, BLMS, FSS, IUCN:LC WBWG (H)	Occurs in deserts, grasslands, shrublands, woodlands and forests but is most common in open, dry habitats. Commonly roost in rock crevices, caves, and mine tunnels but also roost in the attics of houses, under the eaves of barns, in hollow trees. Roosts must protect bats from high temperatures. This species is very sensitive to disturbance of roosting sites.	Moderate, suitable habitat present to support species including palm trees and abandoned structures on the Project site.
Eumops perotis californicus	western mastiff bat	SSC, BLMS, WBWG (H)	Open, semi-arid to arid habitats, including conifer and deciduous woodlands, coastal scrub, annual and perennial grasslands, palm oases, chaparral, desert scrub, and urban. Suitable habitat consists of extensive open areas with abundant roost locations provided by crevices in rock outcrops and buildings.	Moderate, suitable habitat present to support species including palm trees and abandoned structures on the Project site
Lasionycteris noctivagans	Silver-haired bat	G3G4/S3S4 WBWG: (M)	Primarily a coastal and montane forest dweller, feeding over streams, ponds and open brushy areas. Roosts in hollow trees, beneath exfoliating bark, abandoned woodpecker holes, and rarely under rocks.	Detected on site, suitable habitat preset to support species including bushy areas, hollow trees, and exfoliating bark along Lemon Creek.
Lasiurus cinereus	hoary bat	IUCN: LC WBWG (M)	Habitats suitable for bearing young include all woodlands and forests with medium to large-size trees and dense foliage. Typically roosts in trees in deciduous and coniferous forests and woodlands but occasionally roosts in rocks crevices.	Detected on site, Suitable habitat present to support species including dense trees along Lemon Creek. Project site

Scientific Name	*Common Name*	*Status*	*General Habitat Description* *Blooming period: months in parenthesis are uncommon*	*Potential for Occurrence within the Survey Area*
			Forages in open areas, typically along riparian corridors over waters. Diet primarily consists of moths. During migration in southern California, males are found in foothills, deserts and mountains; females in lowlands and coastal valleys.	contains diet for species.
Lasiurus xanthinus	western yellow bat	SSC, IUCN: LC WBWG (M)	Year-round resident of southern CA, found below 2000 ft in or near foothill or desert riparian habitats. Roosts in trees, including palm trees, in and near palm oases and riparian habitats.	Moderate, Project site is in urban/suburban area. Suitable habitat present to support species including trees within Project site.
Nyctinomops femorosaccus	pocketed free-tailed bat	SSC, IUCN:LC WBWG (M)	Year-round resident of southern CA. Habitats used include pinyon-juniper woodlands, desert scrub, desert succulent shrub, desert riparian, desert wash, alkali desert scrub, Joshua tree, and palm oasis. Roosts in rock crevices, caverns, or buildings.	Absent, Project site does not contain desert wash, desert riparian, or desert scrub habitat. Lacking rocky areas with high cliffs.
Nyctinomops macrotis	big free-tailed bat	SCC, IUCN: LC WBWG (MH)	This species roosts in buildings, caves, and occasionally in holes in trees. They also roost in crevices in high cliffs or rock outcrops.	Absent, Project site does not contain high cliffs or rocky outcrops that will not provide suitable roosting habitat.

Legend

Federal Endangered Species Act (ESA) Listing Codes: federal listing is pursuant to the Federal Endangered Species Act of 1973, as amended (ESA).
FE = federally listed as endangered: any species, subspecies, or variety of plant or animal that is in danger of extinction throughout all or a significant portion of their range.
FT = federally listed as threatened: any species, subspecies, or variety of plant or animal that is considered likely to become endangered throughout all or a significant portion of its range within the foreseeable future.
FCE = federal candidate endangered.
FD = federally delisted species.

California Endangered Species Act (CESA) Listing Codes: state listing is pursuant to § 1904 (Native Plant Protection Act of 1977) and §2074.2 and §2075.5 (California Endangered Species Act of 1984) of the Fish and Game Code, relating to listing of Endangered, Threatened and Rare species of plants and animals.
SE = state listed as endangered: any species, subspecies, or variety of plant or animal that are in serious danger of becoming extinct throughout all, or a significant portion, of their range.
ST = state listed as threatened: any species, subspecies, or variety of plant or animal that, although not presently threatened with extinction, is likely to become an endangered species in the foreseeable future.
SCE = state listed as candidate endangered.

SD = state delisted species

California Department of Fish and Wildlife (CDFW):
SSC = species of special concern: status applies to animals which 1) are declining at a rate that could result in listing, or 2) historically occurred in low numbers and known threats to their persistence currently exist. The CDFW has designated certain vertebrate species as "species of special concern" because declining population levels, limited ranges, and/or continuing threats have made them vulnerable to extinction.
FP = Fully protected: animal species may not be taken or possessed at any time and no licenses or permits may be issued for their take except for collecting these species for necessary scientific research and relocation of the bird species for the protection of livestock.
WL = watch list: these birds have been designated as "Taxa to Watch" in the *California Bird Species of Special Concern report* (Shuford and Gardali 2008). The report defines "Taxa to Watch" as those that are not on the current special concern list that (1) formerly were on the 1978 (Remsen 1978) or 1992 (CDFG 1992) special concern lists and are not currently listed as state threatened and endangered; (2) have been removed (delisted) from either the state or federal threatened and endangered lists (and remain on neither), or (3) are currently designated as "fully protected" in California.

United States Fish and Wildlife Service (USFWS):
BCC = USFWS bird of conservation concern: listed in the USFWS'S 2008 *Birds of Conservation Concern* report. The report identifies species, subspecies, and populations of all migratory non-game birds that, without additional conservation actions, are likely to become candidates for listing under the ESA. While all of the bird species included in the report are priorities for conservation action, the list makes no finding with regard to whether they warrant consideration for ESA listing.

United States Forest Service (USFS):
FSS = Forest Service sensitive: those plant and animal species identified by a Regional Forester that are not listed or proposed for listing under the ESA and for which population viability is a concern, as evidenced by: (a) significant current or predicted downward trends in population numbers or density or (b) significant current or predicted downward trends in habitat capability that would reduce a species' existing distribution."

United States Bureau of Land Management (BLM):
BLMS = BLM sensitive: those plant and animal species on BLM administered lands and that are (1) under status review by the USFWS/NMFS; or (2) whose numbers are declining so rapidly that federal listing may become necessary, or (3) with typically small and widely dispersed populations; or (4) those inhabiting ecological refugia or other specialized or unique habitats. BLM policy is to provide the same level of protection as USFWS candidate species.

California Rare Plant Ranks (Formerly known as CNPS Lists): the CNPS is a statewide, non-profit organization that maintains, with CDFG, an Inventory of Rare and Endangered Plants of California. In the spring of 2011, CNPS and CDFG officially changed the name "CNPS List" or "CNPS Ranks" to "California Rare Plant Rank" (or CRPR). This was done to reduce confusion over the fact that CNPS and CDFG jointly manage the Rare Plant Status Review Groups and the rank assignments are the product of a collaborative effort and not solely a CNPS assignment.

CRPR: 1A - California Rare Plant Rank of 1A: Plants presumed extirpated in California and either rare or extinct elsewhere. Plants with a California Rare Plant Rank of 1A are presumed extirpated or extinct because they have not been seen or collected in the wild in California for many years. All of the plants constituting California Rare Plant Rank 1A meet the definitions of the California Endangered Species Act of the California Fish and Game Code, and are eligible for state listing. Should these taxa be rediscovered, and impacts proposed to individuals or their habitat, they must be analyzed during preparation of environmental documents relating to CEQA, or those considered to be functionally equivalent to CEQA, as they meet the definition of Rare or Endangered under CEQA Guidelines §15125 (c) and/or §15380.

CRPR: 1B - California Rare Plant Rank 1B: Plants Rare, Threatened, or Endangered in California and Elsewhere. All of the plants constituting California Rare Plant Rank 1B meet the definitions of Sec. 1901, Chapter 10 (Native Plant Protection Act) or Secs. 2062 and 2067 (California Endangered Species Act) of the California Department of Fish and Game Code, and are eligible for state listing. It is mandatory that they be fully considered during preparation of environmental documents relating to CEQA.

CRPR: 2A - California Rare Plant Rank 2A: Plants presumed extirpated in California but common elsewhere. Plants with a California Rare Plant Rank of 2A are presumed extirpated because they have not been observed or documented in California for many years. This list only includes plants that are presumed extirpated in California, but more common elsewhere in their range. All of the plants constituting California Rare Plant Rank 2A meet the definitions of the California Endangered Species Act of the California Fish and Game Code, and are eligible for state listing. Should these species be rediscovered, any impacts proposed to individuals or their habitat must be analyzed during preparation of environmental documents relating to CEQA, or those considered to be functionally equivalent to CEQA, as they meet the definition of Rare or Endangered under CEQA Guidelines §15125 (c) and/or §15380.

CRPR: 2B - California Rare Plant Rank 2B: Plants rare, threatened, or endangered in California but more common elsewhere. All of the plants constituting California Rare Plant Rank 2 meet the definitions of Sec. 1901, Chapter 10 (Native Plant Protection Act) or Secs. 2062 and 2067 (California Endangered Species Act) of the California Department of Fish and Game Code, and are eligible for state listing. It is mandatory that they be fully considered during preparation of environmental documents relating to CEQA.

CRPR: 3 – California Rare Plant Rank 3: Review List: Plants about which more information is needed. Plants with a California Rare Plant Rank of 3 are united by one common theme – there is a lack of necessary information to assign them to one of the other ranks or to reject them. Nearly all of the plants constituting California Rare Plant Rank 3 are taxonomically problematic. Many of the plants constituting California Rare Plant Rank 3 meet the definitions of the California Endangered Species Act of the California Fish and Game Code, and are eligible for state listing. Impacts to these species or their habitat should be analyzed during preparation of environmental documents relating to CEQA, or those considered to be functionally equivalent to CEQA, as they may meet the definition of Rare or Endangered under CEQA Guidelines §15125 (c) and/or §15380.

CRPR: 4 - California Rare Plant Rank 4: Plants of Limited Distribution - A Watch List. Very few of the plants constituting California Rare Plant Rank 4 meet the definitions of Sec. 1901, Chapter 10 (Native Plant Protection Act) or Secs. 2062 and 2067 (California Endangered Species Act) of the California Department of Fish and Game Code, and few, if any, are eligible for state listing. Nevertheless, many of them are significant locally, and CNPS and CDFG strongly recommend that California Rare Plant Rank 4 plants be evaluated for consideration during preparation of environmental documents relating to CEQA.

California Native Plant Society (CNPS) Threat Ranks: The CNPS Threat Rank is an extension added onto the California Rare Plant Rank (CRPR) and designates the level of endangerment by a 1 to 3 ranking with 1 being the most endangered and 3 being the least endangered. A Threat Rank is present for all California Rare Plant Rank 1B's, 2's, 4's, and the majority of California Rare Plant Rank 3's. California Rare Plant Rank 4 plants are seldom assigned a Threat Rank of 0.1, as they generally have large enough populations to not have significant threats to their continued existence in California; however, certain conditions exist to make the plant a species of concern and hence be assigned a California Rare Plant Rank. In addition, all California Rare Plant Rank 1A (presumed extinct in California), and some California Rare Plant Rank 3 (need more information) plants, which lack threat information, do not have a Threat Rank extension.

0.1 = seriously endangered in California (over 80% of occurrences threatened / high degree and immediacy of threat)

0.2 = fairly endangered in California (20-80% occurrences threatened / moderate degree and immediacy of threat)
0.3 = not very threatened in California (less than 20% of occurrences threatened / low degree and immediacy of threat or no current threats known)

Western Riverside Multiple Species Habitat Conservation Plan (MSHCP): Planning species covered by the MSHCP. Additional surveys for Narrow Endemic Plant Species and Criteria Area Species to determine presence/absence may be required.
PS = planning species
NEPSSA # = Narrow Endemic Plant Species Survey Area (with survey area number noted).
CASSA # = Criteria Area Species Survey Area (with survey area number noted).

Group 1 = Species that have wide distribution throughout the Plan Area within suitable habitat. Take coverage is warranted based upon regional or landscape level considerations, such as healthy population levels, widespread distribution throughout the MSHCP Plan Area, and life history characteristics that respond to habitat-scale conservation and management actions.
Group 2 = Species that are relatively well-distributed throughout the MSCHP Plan Area. Take coverage is warranted based on regional or landscape level considerations with the addition of site-specific conservation and management requirements that are clearly identified in the MSHCP for species that are generally well-distributed, but that have Core Areas that require Conservation.
Group 3 = Species that have narrow habitat requirements and limited distribution within the Plan Area. Take coverage is warranted based upon site specific considerations and the identification of specific conservation and management conditions for species within a narrowly defined Habitat or limited geographic area within the MSHCP Plan Area.

Western Bat Working Group (WBWG): The WBWG is composed of agencies, organizations, and individuals interested in bat research, management, and conservation from the 13 western states and provinces. The goals are (1) to facilitate communication among interested parties and reduce risks of species decline or extinction; (2) to provide a mechanism by which current information on bat ecology, distribution, and research techniques can be readily accessed; and (3) to develop a forum to discuss conservation strategies, provide technical assistance, and encourage education programs. Species are ranked as High, Medium, or Low Priority in each of 10 regions in western North America. Because California includes multiple regions where a species may have different WBWG Priority ranks, the CNNDB includes categories for Medium-High, and Low-Medium Priority.
WBWG-H= Hight Priority
WBWG-M= Medium Priority
WBWG-L= Low Priority

American Fisheries Society: Listing of imperiled freshwater and diadromous fishes of North America prepared by the American Fisheries Society's Endangered Species Committee.
AFS-E= Endangered
AFS-TH= Threatened
AFS-V= Vulnerable

The International Union for Conservation of Nature (IUCN): The IUCN assesses, on a global scale, the conservation status of species, subspecies, varieties and even selected subpopulations in order to highlight taxa threatened with extinction, and therefore promote their conservation. Detailed information on the IUCN and the Red

List is available at: http://www.iucnredlist.org
IUCN-CR = Critically endangered
IUCN-EN = Endangered
IUCN-NT = Near threatened
IUCN-VU = Vulnerable
IUCN-LC = Least concern
IUCN-DD = Data deficient
IUCN-CD = Conservation dependent

NatureServe Element Ranking: This ranking system's units of conservation may include non-taxonomic biological entities such as populations or ecological communities, thus, NatureServe refers to the targets of biological conservation as "elements" rather than taxa. The three main categories that are taken into consideration when assigning an element rank are rarity, threats, and trends.

The global rank (G-rank) is a reflection of the overall status of an element throughout its global range:
GX: Presumed Extinct – Not located despite intensive searches and virtually no likelihood of rediscovery.
GH: Possibly Extinct – Known from only historical occurrences but still some hope of rediscovery. Examples of evidence include (1) that a species has not been documented in approximately 20-40 years despite some searching and/or some evidence of significant habitat loss or degradation; (2) that a species has been searched for unsuccessfully, but not thoroughly enough to presume that it is extinct throughout its range.
G1: Critically Imperiled – At very high risk of extinction due to very restricted range, very few populations or occurrences, very steep declines, very severe threats, or other factors.
G2: Imperiled – At high risk of extinction due to restricted range, few populations or occurrences, steep declines, severe threats, or other factors.
G3: Vulnerable – At moderate risk of extinction due to a fairly restricted range, relatively few populations or occurrences, recent and widespread declines, threats, or other factors.
G4: Apparently Secure – At fairly low risk of extinction due to an extensive range and/or many populations or occurrences, but with possible cause for some concern as a result of local recent declines, threats, or other factors.
G5: Secure – At very low risk of extinction due to a very extensive range, abundant populations or occurrences, and little to no concern from declines or threats.
GNR: Unranked – Global rank not yet assessed.

The state rank (S-rank) refers to the imperilment status only within California's state boundaries:
SX: Presumed Extirpated – Species is believed to be extirpated from the state. Not located despite intensive searches of historical sites and other appropriate habitat, and virtually no likelihood that it will be rediscovered
SH: Possibly Extirpated – Known from only historical records but still some hope of rediscovery. There is evidence that the species may no longer be present in the state, but not enough to state this with certainty. Examples of such evidence include (1) that a species has not been documented in approximately 20-40 years despite some searching and/or some evidence of significant habitat loss or degradation; (2) that a species has been searched for unsuccessfully, but not thoroughly enough to presume that it is no longer present in the jurisdiction.
S1: Critically Imperiled – At very high risk of extirpation in the state due to very restricted range, very few populations or occurrences, very steep declines, severe threats, or other factors.
S2: Imperiled – At high risk of extirpation in the state due to restricted range, few populations or occurrences, steep declines, severe threats, or other factors.

S3: Vulnerable – At moderate risk of extirpation in the state due to a fairly restricted range, relatively few populations or occurrences, recent and widespread declines, threats, or other factors. S4: Apparently Secure – At a fairly low risk of extirpation in the state due to an extensive range and/or many populations or occurrences, but with possible cause for some concern as a result of local recent declines, threats, or other factors.

Sources:

- Calflora website - search for plants (Calflora 2016 - 2020).
- CNPS Inventory of Rare and Endangered Plants (CNPS 2020).
- The Jepson Manual: *Vascular Plants of California,* second edition (Baldwin *et al.* 2012).
- RareFind, CDFW, California Natural Diversity Database (CNDDB) (CDFW 2020).
- State and Federally Listed Endangered, Threatened, and Rare Plants of California (CDFW 2020).
- State and Federally Listed Endangered and Threatened Animals of California (CDFW, August 2019).
- Special Animals List (CDFW 2019)
- Western Riverside County Multiple Species Habitat Conservation Plan (County of Riverside 2003)
- Sensitive List (BLM)
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APPENDIX E

Bat Habitat Assessment and Focused Survey

Rincon Consultants, Inc.

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March 20, 2023
Project No: 20-09720

Jack Su
Spring Meadow Homes, LLC and
Meadow Pass Estates, LLC
18217 Gale, Suite A
City of Industry, California 91789

Subject: Bat Habitat Assessment and Focused Survey Results for the Brookside Residential Development Project, City of Walnut, Los Angeles County, California

Dear Mr. Su:

This report documents the findings of a bat habitat assessment, focused emergence survey, and focused acoustic survey conducted for the Brookside Residential Development Project (project) and describes the potential for bats to roost or otherwise occur at the project site.

Project Location and Description

Location. The project site consists of 25.8 acres located at 800 Meadow Pass Road. It is comprised of Assessor's Parcel Nos. 8709-093-001, -002, and -003 and is bordered by La Puente Road to the south, North Lemon Avenue to the west, Meadow Pass Road to the north, and homes to the east. It is in the southeast portion of the City of Walnut (City), approximately 2.3 miles northwest of the confluence of State Route 60 and State Route 57 (Figure 1). It is depicted on Township 02S, Range 09W, Section 6 of the United States Geological Survey, San Dimas California 7.5-minute quadrangle (Figure 2). The approximate center of the project site is located at latitude 34.024363 °N and longitude -117.866254°W.

Land Use Designations / Proposed Use. The project site has a General Plan designation of Very Low Density and is zoned Residential Planned Development Zone (RPD) with a designation of RPD–28,500–1.3. Pursuant to Section 6.24.030 A2 of the Walnut Municipal Code, the project proposes the development of 27 detached single-family homes under R-1 standards with a minimum lot size of 28,500 square feet. The project requires approval of a Tentative Tract Map and Site Plan/Architectural Review.

Access. All project streets will be public. The northerly 25 homes will take access from Meadow Pass Road and the two most southerly homes will take access from San Vicente Drive, with each street ending in a cul-de-sac to preclude cut-through traffic. A bridge will provide access over Lemon Creek to those homes south of Lemon Creek that will be accessed from Meadow Pass Road.

Open Space. The entirety of Lemon Creek will be preserved and included within 12.2 acres of privately owned and residentially zoned property - over 47% of the site – that will serve as permanent open space. Currently, the site contains approximately 1,876 trees. Through preservation and new plantings, the project will increase the number of trees onsite to approximately 1,936, also increasing the ratio of native

to non-native/invasive trees. The developer will improve to City trail standards a public trail that will run through the open space area, passing across the project's primary road. An easement will then be granted to the City for the long-term operation and maintenance of the public trail.

As is common with existing development throughout the City's Residential Planned Development Zone, 9.5 acres of the open space area will be within privately owned residential lots. Those portions of open space, Lemon Creek, and the public trail within private lots will be subject to recorded deed restrictions prohibiting use of the restricted open space by the owners of the private lots, including planting vegetation, installing fencing, or otherwise developing or using the restricted natural open space areas. The restrictions will be enforceable by the City. The remaining 2.7 acres of the open space area will consist of internal slope areas and water quality basins that will be owned by a public agency or the Homeowners Association (HOA) and subject to similar deed restrictions.

The open space will be maintained by a combination of a Lighting and Open Space Maintenance District (LOSMD) through a new zone funded entirely by the project's homeowners (as to the natural open space only), the City (as to the trail only), the flood control district or another public or quasi-public agency (as to stormwater retention basins only), and the project's HOA.

Stormwater / Lemon Creek. Three public storm drain inlets along Meadow Pass Road at the northerly boundary of the project site currently direct offsite stormwater into and through existing public storm drain lines within the project site. That offsite stormwater then enters Lemon Creek through two existing outlets. These public storm drains, which do not capture onsite stormwater now and will not do so when the project is complete, will be realigned under the project streets. One of the existing outlets into Lemon Creek will remain in its current location, while the second will be relocated to a point below the proposed project bridge.
While onsite stormwater historically flows directly into the creek, two water quality basins have been designed to detain any increase in on-site stormwater runoff resulting from the proposed project, up to a 100-year storm event. These basins will treat on-site runoff up to the 85th percentile storm event, consistent with Los Angeles County regulations. One water quality basin will be in the northern portion of the site and will hold and gradually release project stormwater into an existing public storm drain connection which enters the property from Lemon Avenue. The second water quality basin will be in the southern portion of the site and will hold and gradually release project stormwater into a proposed outlet to Lemon Creek. These water quality basins are designed to assure that project stormwater will enter Lemon Creek onsite at a volume and flow rate no greater than presently occurs. Runoff entering Lemon Creek will then pass offsite into existing public drainage facilities located on public property adjacent to the project site at La Puente Road.

In addition, one of the four existing onsite culverts ("Culvert D," located approximately 100 linear feet upstream of La Puente Road) will be removed, restoring the native creek in this location.

Literature Review

The literature review included information on regionally occurring federal and state listed bat species as well as other special status bat species from the following sources:

- California Department of Fish and Wildlife (CDFW) California Natural Diversity Database (CNDDB) of state and federally listed and other special-status species documented within five miles of the project site (CDFW 2022b)

- Bat Conservation International (2019)
- Western Bat Working Group (2017)

Methodology

Regulated or sensitive bats that are studied and analyzed herein include special-status species as well as maternity roosts (regardless of status). Regulatory authority over bat species is shared by federal, state, and/or local authorities depending on species status.

For the purposes of this report, special-status bat species include:

- Species listed as threatened or endangered under the federal Endangered Species Act (FESA); species that are under review may be included if there is a reasonable expectation of listing within the life of the project
- Species listed as candidate, threatened, or endangered under the California Endangered Species Act (CESA)
- Species designated as Fully Protected, Species of Special Concern, or Watch List by the CDFW

The project site was assessed for the potential presence of roosting special-status bats and bat maternity colonies. The bat habitat assessment and focused bat survey was conducted by Rincon biologists Leslie Yen and Justin Purnell on July 27-29, 2022 (Table 1). The daytime habitat assessment survey was conducted on July 27, 2022, from 1700 to 1930 hours immediately preceding the first evening bat survey which was conducted between 1930 and 2230 hours (sunset at 1956 hours). The daytime habitat assessment survey consisted of visual inspections of the barns, stables, bridges, culverts, foliage, trees, and ground surfaces within the project boundaries as well as areas immediately adjacent to the site. All accessible surfaces on the exterior and interior of buildings and supporting structures were visually inspected, as feasible. Entrances to inaccessible structures, such as attics and eaves, were inspected for sign of bats (e.g., urine staining, scat or guano accumulations) with the aid of binoculars. During all observation periods, the biologists scanned suitable habitat areas for emerging bats. Insect activity levels (high, medium, low) were also noted for each survey period as prey availability along with seasonal differences in weather conditions would indicate the likelihood for bat activity. Levels of medium and high insect activity, along with warmer temperatures would increase the chances of bats emerging from their roosts. In addition to recording all visual observations, a Petterson D240x ultrasound detector, auto recording device, and a Wildlife Acoustics EchoMeter were used to detect inaudible ultrasonic calls of active bats within the area. To increase the airspace around the detectors, the detector microphones were placed on extension poles approximately 15 vertical feet above the ground and pointed toward potential roost locations. Acoustic recordings were subsequently downloaded to a computer and analyzed in Sonobat 3.2.1. LED flashlights and 10x42 binoculars were used during the inspections. All observations of bats and/or bat signs were recorded.

Table 1 Survey Dates and Site Conditions

Survey Number	Date	Time (24 hr)	Surveyor(s)	Air Temp (°F)	Wind Speed (mph)	Relative Humidity	Insect Activity
Habitat Assessment, Focused Bat Emergence	July 27, 2022	1700 – 2230	Leslie Yen; Justin Purnell	67 – 79	1-9	35-70%	Medium-High

and Acoustic Survey 1							
Focused Bat Emergence and Acoustic Survey 2	July 28, 2022	1930 – 0030	Leslie Yen; Justin Purnell	67 – 81	0-1	31-74%	Medium
Focused Bat Emergence and Acoustic Survey 3	July 29, 2022	1930 – 2230	Leslie Yen; Justin Purnell	69 – 76	1-3	31-74%	Low-Medium

Existing Site Conditions

Topography

Elevations within the project site range from approximately 570 and 635 feet above mean sea level (amsl). Lemon Creek flows northeast to southwest in the northeastern portion of the project site, and north to south through the central and southern portions of the project site.

Vegetation

Vegetation communities were documented as part of other surveys conducted by Rincon. Vegetation mapping (Attachment 1, Figure 3) is based on defined alliances in *A Manual of California Vegetation, Second Edition* (MCV2; Sawyer et al. 2009).

Eucalyptus – Shamel Ash Groves

Eucalyptus – shamel ash groves (*Eucalyptus* spp. – *Fraxinus udhei* Provisional Woodland Semi-Natural Alliance) exists in the central portion of the project site and is associated with Lemon Creek. It is characterized as heavily dominated by non-native tree species such as eucalyptus (*Eucalyptus* spp.) and shamel ash (*Fraxinus udhei*) in the tree layer, and a sparse herbaceous layer.

Within the project site, the eucalyptus – shamel ash groves are heavily dominated by red ironbark eucalyptus (*Eucalyptus sideroxylon*), yellow scented gum (*Corymbia citriodora*), and shamel ash in the tree layer, with black locust (*Robinia pseudoacacia*), Peruvian pepper tree (*Schinus molle*), western sycamore (*Platanus racemosa*), Mexican fan palm (*Washingtonia robusta*), white alder (*Alnus rhombifolia*), and red willow (*Salix laevigata*) present as subdominant species. Occasional southern California black walnut (*Juglans californica*) trees are also present in this vegetation community. Vegetative cover in the understory is extremely low and consists of non-native grasses such as Bermuda grass (*Cynodon dactylon*), smilo grass (*Stipa miliacea*), red brome (*Bromus madritensis* ssp. *rubens*), ripgut brome (*Bromus diandrus*), shrubs such as castor bean (*Ricinus communis*), and herbaceous plants such as umbrella plant (*Cyperus involucratus*), and woodbine (*Parthenocissus inserta*). Some native riparian plant species such as California bulrush (*Schoenoplectus californicus*) and stinging nettle (*Urtica dioica*) are also present within the areas of high-water availability associated with Lemon Creek.

The exfoliating bark and crevices that can be formed by the twisting trunks of these tree species create suitable roosting habitat for tree dwelling bat species. This vegetation community is also adjacent to open fields which is suitable foraging habitat.

Ornamental

The ornamental land cover type does not occur naturally and includes trees and understory plants that are grown and planted for decorative purposes. It is typically located adjacent to developed areas.

The northwestern portion of the project site is associated with the previously developed and abandoned equestrian center (Attachment 1, Figure 3). Within the project site, species commonly associated with this land cover type include blue jacaranda (*Jacaranda mimosifolia*), Peruvian pepper, cherry blossom (*Prunus* spp.), European olive (*Olea europaea*), common fig (*Ficus carica*), European birch (*Betula pendula*), and Chinese elm (*Ulmus parvifolia*).

This land cover type contains broad-leafed tree species and some exfoliating bark species that could potentially be roosting habitat for tree-roosting bats. This vegetation community is also adjacent to open fields which is suitable foraging habitat for bats.

Pepper Tree Groves

Within the project site, Pepper tree groves (*Schinus molle* Forest and Woodland Semi-Natural Alliance) is dominated by Peruvian pepper tree in the tree layer, with other non-native trees such as Brazilian pepper tree (*Schinus terebinthifolius*) and shamel ash present as subdominant species. The herbaceous layer is sparse, and primarily consists of weedy non-native species such as smilo grass, ripgut brome, white horehound (*Marrubium vulgare*), and black mustard (*Brassica nigra*). This vegetation community is found within the western portion of the project site to the west of Lemon Creek, where it appears to have been originally planted as ornamental trees and then spread throughout the area through natural recruitment.

This vegetation community contains suitable roosting within the crevices of the branches and trunks. This vegetation community is also adjacent to suitable open field foraging habitat.

Wild Oats and Annual Brome Grasslands

Wild oats and annual brome grasslands (*Avena* spp. - *Bromus* spp. Herbaceous Semi-Natural Alliance) occur in the northern and southeastern portions of the project site. This semi-natural alliance is characterized by having a dense herbaceous layer that is dominated by wild oats (*Avena* spp.) and/or brome grasses (*Bromus* spp.). It is common in upland hillsides and rangelands and typically has a low diversity of native species.

Within the project site, this vegetation community is dominated by slender wild oat (*Avena barbata*), ripgut brome, and smilo grass in the herbaceous layer, with black mustard, redstem filaree (*Erodium cicutarium*), annual yellow sweetclover (*Melilotus indicus*), tocalote (*Centaurea melitensis*), and Russian thistle (*Salsola tragus*) present as subdominant species. Sparsely scattered Peruvian pepper trees are present in the tree layer.

This vegetation community does not contain suitable habitat for roosting bats but does contain suitable foraging habitat.

Developed

Developed areas consist of abandoned buildings, paved areas, and unpaved dirt roads within the project site. A few ornamental trees are present adjacent to abandoned buildings in the northern portion of the

project site (Attachment 2 Photograph 1); otherwise, vegetation cover is generally lacking within the developed areas.

Developed areas occur in the northern portion of the project site, as well as along the western and southeastern borders (Attachment 1, Figure 3). Developed areas contains suitable habitat for roosting bats where structures provide openings suitable for bats to enter. This includes open pipes, culverts, bridges, crawl spaces, and attics. As compared to structures without openings suitable for bats to enter, these structures have the highest likelihood of supporting large maternal and roosting colonies.

Summary of Findings

Special-status bat species and their potential to occur on site are summarized below (Table 2). Emergence surveys of the structures and vegetation communities indicated that bat occupancy at the project site was likely, although only in small numbers, and were not indicative of maternal colonies. Insect activity was consistently moderate throughout all three survey nights and tended to increase later into the evenings. This indicates that bats should be active on the project site, if present, and unlikely to be in torpor (i.e., a state of physical or mental inactivity). Bats may enter torpor to save energy during a cold day, or they can remain in torpor for up to a month while hibernating over winter. Bat activity followed a similar pattern during all survey nights and was highest within the developed areas of the site adjacent to buildings and within the surrounding grasslands. It was lowest within the eucalyptus and shamel ash groves along the riparian corridor of Lemon Creek. This was likely due to the closed canopy of the trees as well as the narrow potential bat flight paths.

Suitable roosting habitat was determined to be present on-site in structures, eucalyptus tree bark, pepper tree trunks, and broad-leafed trees. The developed portions of the project site (Attachment 2 Photographs 1, 2, 4, and 6) had the highest amounts of bat activity of any of the survey areas. The bat activity consisted mainly of Mexican free-tailed bats (*Tadarida brasiliensis*), which commonly roost in man-made structures. The presence of guano (Attachment 2, Photograph 3) around the barns and stables, and the acoustic data, suggests that the structures are being used as day roosting sites by a small number of individuals. Guano observed was in low quantities and did not indicate a large roosting or maternal colony.

The riparian corridor may also contain small day roosts. However, the presence of guano could not be confirmed due to the extensive leaf-litter present, and the canopy density in certain portions may have prevented visual detection of roosting individuals. The riparian corridor provides access to water and roosting habitat for tree-roosting bats within the canopies of the broad-leafed trees, and branches or trunks of most tree species. Trees with exfoliating bark such as eucalyptus and fan palm provide more roosting habitat within their extensive loose, hanging bark.

Table 2 Special-Status Bat Species Potential to Occur

Scientific Name **Common Name**	**Status**	**Habitat Requirements**	**Potential to Occur in Project Site**	**Habitat Suitability**
Antrozous pallidus pallid bat	None/None G4/S3 SSC	Found in a variety of habitats including deserts, grasslands, shrublands, woodlands, and forests. Most common in open, dry habitats with rocky areas for roosting. Roosts in crevices of rock outcrops, caves, mine tunnels, buildings, bridges, and hollows of live and dead trees which must protect bats from high temperatures. Very sensitive to disturbance of roosting sites.	Moderate potential	Suitable habitat present to support species including palm trees and abandoned structures on project site.
Eumops perotis californicus western mastiff bat	None/None G4G5T4/S3S4 SSC	Occurs in open, semi-arid to arid habitats, including coniferous and deciduous woodlands, coastal scrub, grasslands, and chaparral. Roosts in crevices in cliff faces and caves, and buildings. Roosts typically occur high above ground.	Moderate potential	Suitable habitat present to support species including palm trees and abandoned structures on project site.
Lasiurus cinereus hoary bat	None/None G3G4/S4	Typically roosts in trees in deciduous and coniferous forests and woodlands but occasionally roosts in rocks crevices. Forages in open areas, typically along riparian corridors or over water. Diet primarily consists of moths.	Detected on site	Suitable habitat present to support species including dense trees along Lemon Creek. Project site contains diet for species.
Lasionycteris noctivagans	None/None G3G4/S3S4 WBWG: M	Primarily a coastal and montane forest dweller, feeding over streams, ponds and open brushy areas. Roosts in hollow trees, beneath exfoliating bark, abandoned woodpecker holes, and rarely under rocks.	Detected on site	Suitable habitat present to support species including bushy areas, hollow trees, exfoliating bark along Lemon Creek.
Lasiurus xanthinus western yellow bat	None/None G4G5/S3 SSC WBWG: M	Occurs in arid regions of the southwestern United States. Typically found in riparian woodlands, oak or pinyon-juniper woodland, desert wash, palm oasis habitats, and urban or suburban areas. Roosts in trees, often between palm fronds.	Moderate potential	Project site is in urban/suburban area. Suitable habitat present to support species including trees within project site.
Nyctinomops femorosaccus pocketed free-tailed bat	None/None G5/S3 SSC	Variety of arid areas in Southern California; pine-juniper woodlands, desert scrub, palm oasis, desert wash, desert riparian, etc. Rocky areas with high cliffs.	No potential	Project site does not contain desert wash, desert riparian, or desert scrub habitat. Lacking rocky areas with high cliffs.
Nyctinomops macrotis big free-tailed bat	None/None G5/S3 SSC	Low-lying arid areas in Southern California. Need high cliffs or rocky outcrops for roosting sites. Feeds principally on large moths.	No potential	Project site does not contain high cliffs or rocky outcrops that will not provide suitable roosting habitat.

Status (Federal/State)
SSC = CDFW Species of Special Concern

Other Statuses
G1 or S1 Critically Imperiled Globally or Subnationally (state)

Western Bat Working Group (WBWG):
M = Medium designation indicates a level of concern that should warrant closer evaluation.

The broad-leafed and exfoliating bark tree species along this riparian corridor are likely to be occupied by individuals of tree-roosting bats, as both hoary (*Lasiurus cinereus*) and silver-haired bats

(*Lasionycteris noctivagans*) were detected (Table 3) during all three survey nights. All recording locations and bat observations are shown in Attachment 1, Figure 4. The culverts and drainage pipes along the creek also provide potential bat roosting habitat.

Lemon Creek provides suitable foraging habitat (Attachment 2 Photographs 5 and 8) as this water source promotes and concentrates insect prey species. Two big brown bats (*Eptesicus fuscus*) were observed entering and exiting a large drainpipe (Attachment 2 Photograph 7) during the survey.

Table 3 Bat Species Detected

Scientific Name	Common Name	Status
Lasiurus cinereus	hoary bat	SSC; WBWG: M
Lasionycteris noctivagans	silver-haired bat	WBWG: M
Eptesicus fuscus	big brown bat	WBWG: L
Tadarida brasiliensis	Mexican free-tailed bat	WBWG: L

Status: Federal/State

SSC = CDFW Species of Special Concern

Western Bat Working Group (WBWG):

M = Medium designation indicates a level of concern that should warrant closer evaluation.

L = Low designation indicates that while there may be localized concerns, the overall status of the species is believed to be secure.

For more information on WBWG see Appendix A.

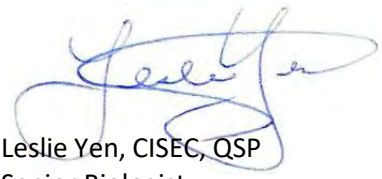
Conclusions

Potential suitable bat roosting sites were observed during the focused habitat survey. Three focused bat emergence and acoustic surveys were conducted that indicated bats, including hoary bat, silver-haired bat, big brown bat, and Mexican free-tailed bat are likely utilizing trees and structures throughout the project site for day roosting. No indications of large communal roosts or maternity colonies were observed within the project site at this time.

Although no maternity roosts were observed during this survey, the presence of suitable roosting habitat could allow for bats to move into the site at any time. Even though no maternity roosts were observed, proposed project activities could have an impact to bats that may be utilizing trees and structures for day roosting. However, project minimization and avoidance measures would mitigate these potential impacts. These measures could include scheduling demolition activities to avoid the bat maternity season (April through August), which would avoid the take of any maternity roosts. Phased demolition plans for both structures and trees would also provide day roosting bats the opportunity to leave the site prior to demolition of all structures and trees on the site, which would also reduce impacts and potential for bat injuries or mortalities. To reduce impacts to foraging bats, night-time lighting that could attract insects, which would lead to an increase in the number of foraging bats attracted to the site, could be restricted or avoided. Avoiding night-time work activities would also limit impacts to foraging bats.

Please let us know if you have any questions.

Sincerely,
Rincon Consultants, Inc.



Leslie Yen, CISEC, QSP
Senior Biologist



Greg Ainsworth
Director of Natural Resources

Attachments

Attachment 1 Figures

Attachment 2 Site Photographs

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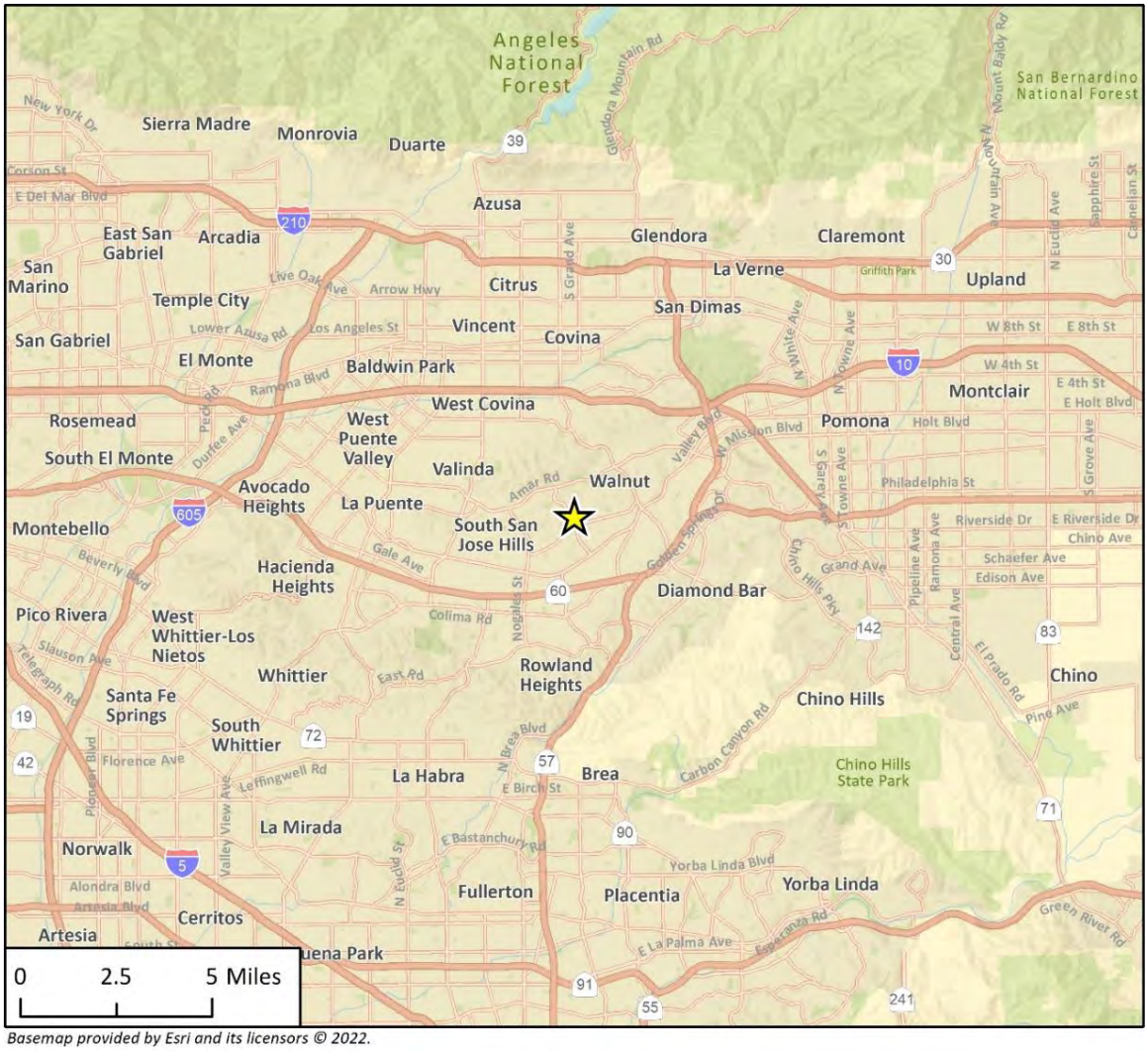
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Attachment 1

Figures

Figure 1 Regional Location



Basemap provided by Esri and its licensors © 2022.

Project Location

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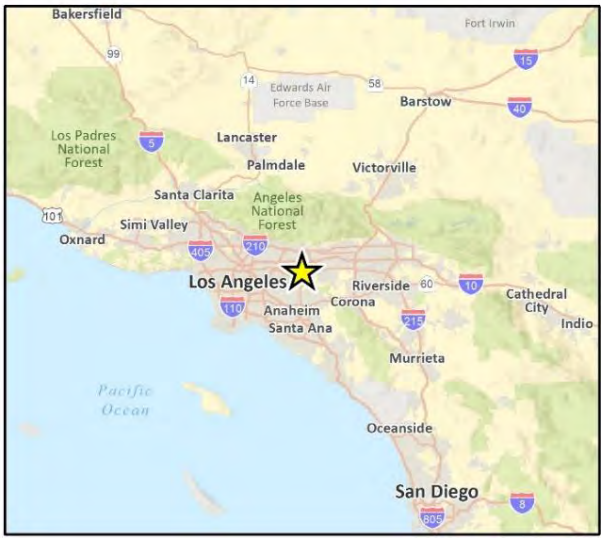


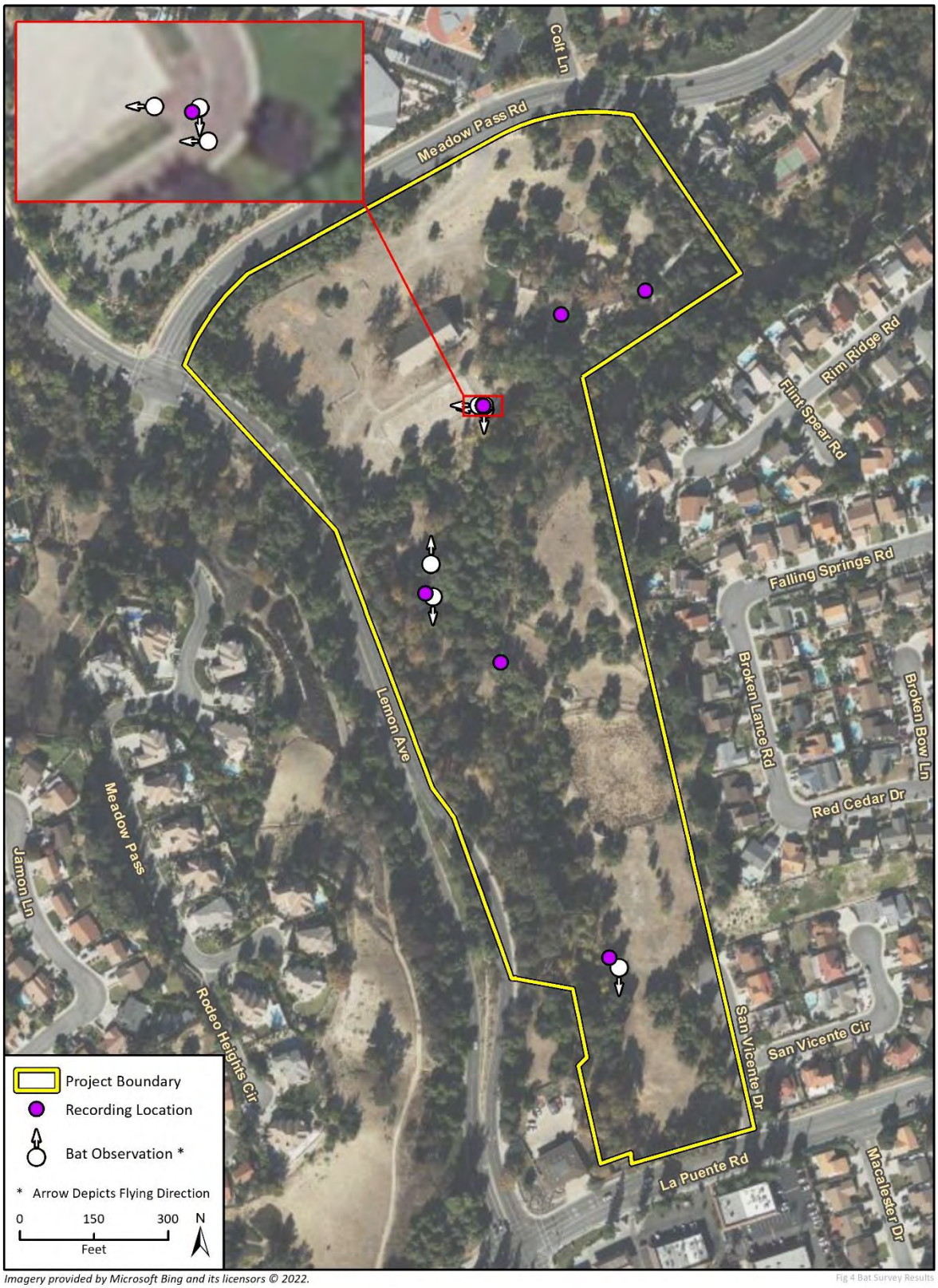
Figure 2 Project Boundary



Figure 3 Vegetation Communities



Figure 4 Recording Locations and Observations



Attachment 2

Site Photographs



Photograph 1. Multiple structures on site with suitable roosting habitat in roof, open stables, attics, gaps in siding, facing east.



Photograph 2. Gazebo on site with suitable roosting habitat, facing northeast.



Photograph 3. Guano and staining inside floors of stables within main carriage house.



Photograph 4. Livestock structure with potential roosting habitat, facing north.



Photograph 5. Lemon Creek riparian corridor with fan palms and broad-leafed trees, facing north.



Photograph 6. Culvert within Lemon Creek with broad-leafed trees, facing north.



Photograph 7. Large drainage pipe on west side of survey area along Lemon Creek, facing west.



Photograph 8. Eucalyptus trees along the Lemon Creek riparian corridor, facing east.

APPENDIX F

Burrowing Owl Habitat Assessment
and Focused Survey

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March 20, 2023
Project No: 20-09720

Jack Su
Spring Meadow Homes, LLC and
Meadow Pass Estates, LLC
18217 Gale, Suite A
City of Industry, California 91789

Subject: Burrowing Owl Habitat Assessment and Focused Survey Results for the Brookside Residential Development Project, City of Walnut, Los Angeles County, California

Dear Mr. Su:

This report documents the findings of a western burrowing owl (*Athene cunicularia)* habitat assessment, focused burrow survey, and focused owl survey conducted for the Brookside Residential Development Project. The purpose of this habitat assessment and focused surveys was to identify and document suitable habitat for, and the presence/absence of, western burrowing owls.

Project Location and Description

Location. The project site consists of 25.8 acres located at 800 Meadow Pass Road. It is comprised of Assessor's Parcel Nos. 8709-093-001, -002, and -003 and is bordered by La Puente Road to the south, North Lemon Avenue to the west, Meadow Pass Road to the north, and homes to the east. It is in the southeast portion of the City of Walnut (City), approximately 2.3 miles northwest of the confluence of State Route 60 and State Route 57 (Figure 1). It is depicted on Township 02S, Range 09W, Section 6 of the United States Geological Survey, San Dimas California 7.5-minute quadrangle (Figure 2). The approximate center of the project site is located at latitude 34.024363 °N and longitude -117.866254°W.

Land Use Designations / Proposed Use. The project site has a General Plan designation of Very Low Density and is zoned Residential Planned Development Zone (RPD) with a designation of RPD–28,500–1.3. Pursuant to Section 6.24.030 A2 of the Walnut Municipal Code, the project proposes the development of 27 detached single-family homes under R-1 standards with a minimum lot size of 28,500 square feet. The project requires approval of a Tentative Tract Map and Site Plan/Architectural Review.

Access. All project streets will be public. The northerly 25 homes will take access from Meadow Pass Road and the two most southerly homes will take access from San Vicente Drive, with each street ending in a cul-de-sac to preclude cut-through traffic. A bridge will provide access over Lemon Creek to those homes south of Lemon Creek that will be accessed from Meadow Pass Road.

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will run through the open space area, passing across the project's primary road. An easement will then be granted to the City for the long-term operation and maintenance of the public trail.

As is common with existing development throughout the City's Residential Planned Development Zone, 9.5 acres of the open space area will be within privately owned residential lots. Those portions of open space, Lemon Creek, and the public trail within private lots will be subject to recorded deed restrictions prohibiting use of the restricted open space by the owners of the private lots, including planting vegetation, installing fencing, or otherwise developing or using the restricted natural open space areas. The restrictions will be enforceable by the City. The remaining 2.7 acres of the open space area will consist of internal slope areas and water quality basins that will be owned by a public agency or the Homeowners Association (HOA) and subject to similar deed restrictions.

The open space will be maintained by a combination of a Lighting and Open Space Maintenance District (LOSMD) through a new zone funded entirely by the project's homeowners (as to the natural open space only), the City (as to the trail only), the flood control district or another public or quasi-public agency (as to stormwater retention basins only), and the project's HOA.

Stormwater / Lemon Creek. Three public storm drain inlets along Meadow Pass Road at the northerly boundary of the project site currently direct offsite stormwater into and through existing public storm drain lines within the project site. That offsite stormwater then enters Lemon Creek through two existing outlets. These public storm drains, which do not capture onsite stormwater now and will not do so when the project is complete, will be realigned under the project streets. One of the existing outlets into Lemon Creek will remain in its current location, while the second will be relocated to a point below the proposed project bridge.

While onsite stormwater historically flows directly into the creek, two water quality basins have been designed to detain any increase in on-site stormwater runoff resulting from the proposed project, up to a 100-year storm event. These basins will treat on-site runoff up to the 85th percentile storm event, consistent with Los Angeles County regulations. One water quality basin will be in the northern portion of the site and will hold and gradually release project stormwater into an existing public storm drain connection which enters the property from Lemon Avenue. The second water quality basin will be in the southern portion of the site and will hold and gradually release project stormwater into a proposed outlet to Lemon Creek. These water quality basins are designed to assure that project stormwater will enter Lemon Creek onsite at a volume and flow rate no greater than presently occurs. Runoff entering Lemon Creek will then pass offsite into existing public drainage facilities located on public property adjacent to the project site at La Puente Road.

In addition, one of the four existing onsite culverts ("Culvert D," located approximately 100 linear feet upstream of La Puente Road) will be removed, restoring the native creek in this location.

Burrowing Owl Natural History

Western burrowing owl is a California Department of Fish and Wildlife (CDFW) species of special concern (CDFW 2022). Primarily restricted to the western United States and Mexico, its habitat includes dry, open, short-grass areas often associated with burrowing mammals, such as California ground squirrel (*Otospermophilus beecheyi*).

The burrowing owl is crepuscular and perches during daylight at the entrance to its burrow or on low posts. Nesting typically occurs from March through August. Burrowing owls form a pair-bond for more than one year and exhibit high site fidelity, reusing the same burrow year after year. The female remains

inside the burrow during most of the egg laying and incubation periods and is fed by the male through the brooding period. Western burrowing owls are opportunistic feeders, consuming a diet that includes arthropods, small mammals, birds, and occasionally amphibians and reptiles (Shuford and Gardali 2008). Typical burrowing owl sign includes, but is not limited to, feathers, white-wash, and pellets.

The western burrowing owl was once abundant and widely distributed in coastal southern California, but it has declined in Southern California. Urbanization has greatly reduced the amount of suitable habitat for this species. Other contributions to the decline of burrowing owls include the poisoning of squirrels and prairie dogs (which can be part of the burrowing owl's diet) and collisions with automobiles (Shuford and Gardali 2008).

Methodology

The habitat assessment, focused burrow survey, and focused breeding season owl surveys were performed by systematically searching for potential foraging and nesting habitat within the study area which included the project site, plus a 150-meter buffer (where access was available). The surveys were conducted according to California Department of Fish and Wildlife (CDFW) guidelines outlined in the *Staff Report on Burrowing Owl Mitigation* (CDFG 2012). The surveys were conducted by Rincon biologist Amy Leigh Trost, who has experience with and knowledge of burrowing owl life history and sign. The project site was assessed on foot by the biologist, walking transects spaced approximately 10 meters apart in suitable habitat, and were appropriately adjusted, to allow for 100 percent visual coverage of the ground surface. Due to offsite constraints (i.e., developed private property and fenced-off areas), the majority of the 150-meter buffer was inaccessible on foot; therefore, the biologist visually inspected offsite suitable habitat areas with binoculars.

Suitable habitat was identified by the presence of low vegetation cover, presence of potentially suitable small mammal burrows, and perch sites. Suitable nesting and foraging habitat for burrowing owl was mapped and is depicted in Figure 3.

Survey dates and conditions are reflected in Table 1 below.

Table 1 Survey Dates and Site Conditions

Survey Number	Date	Time (24 hr)	Surveyor	Air Temp (°F)	Wind Speed (mph)	Precipitation
Habitat Assessment, Focused Burrow Survey, Protocol Survey 1	April 6, 2022	0700 – 0940	Amy Leigh Trost	56 – 70	0-3	No
Protocol Survey 2	April 27, 2022	0715 – 0915	Amy Leigh Trost	56 – 58	0 – 3	No
Protocol Survey 3	May 18, 2022	0600 – 0745	Amy Leigh Trost	57	0 – 1	No
Protocol Survey 4	June 8, 2022	0615 – 0715	Amy Leigh Trost	62	0 – 1	No

Existing Site Conditions

Topography

Elevations within the project site range between approximately 570 and 635 feet above mean sea level (amsl). Lemon Creek flows northeast to southwest in the northeastern portion of the project site, and north to south through the central and southern portions of the project site.

Soils

The Natural Resources Conservation Service (NRCS) Web Soil Survey (United States Department of Agriculture [USDA] NRCS 2022a) delineates three soil map units within the project site.

Urban Land – Sorrento – Arbolado Complex, 2 to 9 Percent Slopes

The northern, western, and southern portions of the project site consist of Urban Land – Sorrento – Arbolado Complex, 2 to 9 Percent Slopes. These soils consist of well-drained soils on fan aprons at elevations of 160 to 1,390 feet amsl. The depth to water table is typically more than 80 inches. The soil profile is typically clay loam from zero to three inches, loam from three to 17 inches, clay loam from 17 to 71 inches, and loam from 71 to 79 inches below the soil surface. This soil is considered hydric by the USDA NRCS (USDA NRCS 2022b).

Counterfeit-Urban Land Complex, 10 to 35 Percent Slopes, Terraced

The central-eastern portion of the project site consists of Counterfeit-Urban Land Complex, 10 to 35 Percent Slopes, Terraced. These soils consist of somewhat poorly drained soils on hillslopes at elevations between 160 and 1,330 feet amsl. The depth to water table is typically more than 80 inches. The soil profile is typically clay loam from zero to five inches, clay from five to 37 inches, clay loam from 37 to 57 inches, and sandy loam from 57 to 79 inches below the soil surface. This soil is considered hydric by the USDA NRCS (USDA NRCS 2022b).

Urban Land-Ballona-Typic Xerorthents, Fine Substratum Complex, 0 to 5 Percent Slopes

A small area in the southeastern portion of the project site consists of Urban Land-Ballona-Typic Xerorthents, Fine Substratum Complex, 0 to 5 Percent Slopes. These soils consist of well-drained soils on terraces and alluvial fans at elevations between 10 and 630 feet amsl. The depth to water table is typically more than 80 inches. The soil profile is typically loam from zero to 18 inches, clay loam from 18 to 31 inches, and clay from 31 to 79 inches below the soil surface. This soil is considered hydric by the USDA NRCS (USDA NRCS 2022b).

Vegetation

Eucalyptus – Shamel Ash Groves

Eucalyptus – shamel ash groves (*Eucalyptus* spp. – *Fraxinus udhei* Provisional Woodland Semi-Natural Alliance) exists in the central portion of the project site and is associated with Lemon Creek. While this provisional association is not defined in *A Manual of California Vegetation, Second Edition* (MCV2;

Sawyer et al. 2009), it closely resembles the eucalyptus – tree of heaven – black locust groves (*Eucalyptus* spp. – *Ailanthus altissima – Robinia pseudoacacia* Woodland Semi-Natural Alliance), as it is characterized as heavily dominated by non-native tree species such as eucalyptus (*Eucalyptus* spp.) and shamel ash (*Fraxinus udhei*) in the tree layer, and a sparse herbaceous layer. This provisional association is proposed to represent the vegetation composition present within the project site most accurately.

Within the project site, the eucalyptus – shamel ash groves are heavily dominated by red ironbark eucalyptus (*Eucalyptus sideroxylon*), yellow scented gum (*Corymbia citriodora*), and shamel ash in the tree layer, with black locust (*Robinia pseudoacacia*), Peruvian pepper tree (*Schinus molle*), western sycamore (*Platanus racemosa*), Mexican fan palm (*Washingtonia robusta*), white alder (*Alnus rhombifolia*), and red willow (*Salix laevigata*) present as subdominant species. Occasional southern California black walnut (*Juglans californica*) trees are also present in this vegetation community. Vegetative cover in the understory is extremely low and consists of non-native grasses such as Bermuda grass (*Cynodon dactylon*), smilo grass (*Stipa miliacea*), red brome (*Bromus madritensis* ssp. *rubens*), ripgut brome (*Bromus diandrus*), shrubs such as castor bean (*Ricinus communis*), and herbaceous plants such as umbrella plant (*Cyperus involucratus*), and woodbine (*Parthenocissus inserta*). Some native riparian plant species such as California bulrush (*Schoenoplectus californicus*) and stinging nettle (*Urtica dioica*) are also present within the areas of high-water availability associated with Lemon Creek.

This vegetation community does not contain suitable habitat for burrowing owl.

Ornamental

The ornamental land cover type does not occur naturally and includes plants that are grown and planted for decorative purposes. It is typically located adjacent to developed areas and does not conform to a defined alliance in the MCV2 (Sawyer et al. 2009).

This land cover type is present in the northwestern portion of the project site and is associated with the previously developed and abandoned equestrian center (Figure 4). Within the project site, species commonly associated with this land cover type include blue jacaranda (*Jacaranda mimosifolia*), Peruvian pepper, cherry blossom (*Prunus* spp.), European olive (*Olea europaea*), common fig (*Ficus carica*), European birch (*Betula pendula*), and Chinese elm (*Ulmus parvifolia*).

This land cover type contains potentially suitable habitat for burrowing owl, particularly in open areas surrounding ornamental trees where California ground squirrels were observed.

Pepper Tree Groves

Pepper tree groves (*Schinus molle* Forest and Woodland Semi-Natural Alliance) are typically found in coastal canyons, washes, slopes, riparian areas, and roadsides. Peruvian pepper trees may be found planted as trees, groves, and windbreaks, as well as in settings where they have become naturalized on uplands or bottomlands and adjacent to stream courses, lakes, or levees from 600 to 985 feet amsl. Peruvian pepper trees contribute more than 80% relative cover within the tree layer.

Within the project site, this alliance is dominated by Peruvian pepper tree in the tree layer, with other non-native trees such as Brazilian pepper tree (*Schinus terebinthifolius*) and shamel ash present as subdominant species. The herbaceous layer is sparse, and primarily consists of weedy non-native species such as smilo grass, ripgut brome, white horehound (*Marrubium vulgare*), and black mustard (*Brassica nigra*). This vegetation community is found within the western portion of the project site to

the west of Lemon Creek, where it appears to have been originally planted as ornamental trees and then spread throughout the area through natural recruitment.

This vegetation community does not contain suitable habitat for burrowing owl.

Wild Oats and Annual Brome Grasslands

Wild oats and annual brome grasslands (*Avena* spp. - *Bromus* spp. Herbaceous Semi-Natural Alliance occur in the northern and southeastern portions of the project site. This semi-natural alliance is characterized by having a dense herbaceous layer that is dominated by wild oats (*Avena* spp.) and/or brome grasses (*Bromus* spp.). It is common in upland hillsides and rangelands and typically has a low diversity of native species.

Within the project site, this vegetation community is dominated by slender wild oat (*Avena barbata*), ripgut brome, and smilo grass in the herbaceous layer, with black mustard, redstem filaree (*Erodium cicutarium*), annual yellow sweetclover (*Melilotus indicus*), tocalote (*Centaurea melitensis*), and Russian thistle (*Salsola tragus*) present as subdominant species. Sparsely scattered Peruvian pepper trees are present in the tree layer.

This vegetation community contains suitable habitat for burrowing owl throughout the project site.

Developed

Developed areas consist of abandoned buildings, paved areas, and unpaved dirt roads within the project site. A few ornamental trees are present within this land cover type adjacent to abandoned buildings in the northern portion of the project site (Appendix B, Photograph 16).

Developed areas occur in the northern portion of the project site, as well as along the western and southeastern borders (Figure 4). These areas are largely unvegetated; therefore, native or non-native plant species are not associated with this land cover type.

This land cover type potentially contains suitable habitat for burrowing owl where structures provide openings suitable for burrows. This includes open pipes four inches or greater, culverts, and crawl spaces.

Summary of Findings

The study area was assessed for potential for western burrowing owl to occur. Suitable habitat was determined to be present. Therefore, a focused burrow survey and focused burrowing owl surveys were conducted.

As described in Table 1, the habitat assessment, focused burrow survey, and first protocol survey were conducted on April 6, 2022. Suitable habitat was determined to be present on-site, in wild oats and annual brome grasslands as well as ornamental vegetation, and potentially suitable California ground squirrel burrows were observed; therefore, a focused breeding season owl survey was conducted that day and three subsequent surveys were conducted in accordance with CDFW burrowing owl survey protocol. Potentially suitable burrows and burrow complexes were observed and mapped and are shown on Figure 3. During the initial survey on April 6, 2022, the biologist observed a tree trimming crew on the property trimming and clearing trees on the eastern slope, outside of the project boundaries. During the final survey on June 8, 2022, the biologist arrived on site to find that grading and

disking for fire suppression had occurred since the previous survey. People and dogs were observed on each survey within the project site. No western burrowing owls or burrowing owl sign indicating owl activity were observed within the survey area at any time during the habitat assessment and focused surveys. Suitable habitat and existing land cover types observed during the surveys are shown in Figures 3 and 4, respectively. Overall wildlife activity was moderate during the surveys and many common species expected to occur within a residential or urbanized region were observed (Table 2). Burrowing owl were not observed and are not expected to occupy the project site. The closest documented occurrences are located approximately 16 miles from the project site, the project site is frequently and highly disturbed at times, and no burrowing owl sign, either recent or historic, was observed at any of the California ground squirrel burrows throughout the project site.

Table 2 Wildlife Species Observed

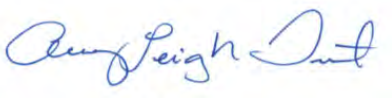
Scientific Name	Common Name
Birds	
Accipiter cooperii	Cooper's hawk
Buteo lineatus	red-shouldered hawk
Calypte anna	Anna's hummingbird
Corvus brachyrhynchos	American crow
Corvus corax	common raven
Haemorhous mexicanus	house finch
Junco hyemalis	dark-eyed junco
Melospiza melodia	song sparrow
Melozone crissalis	California towhee
Mimus polyglottos	northern mockingbird
Psaltriparus minimus	bushtit
Sayornis nigricans	black phoebe
Selasphorus sasin	Allen's hummingbird
Sialia mexicana	western bluebird
Spinus psaltria	lesser goldfinch
Streptopelia decaocto	Eurasian collared-dove
Zenaida macroura	mourning dove
Zonotrichia leucophrys	white-crowned sparrow
Mammals	
Otospermophilus beecheyi	California ground squirrel
Sylvilagus audubonii	desert cottontail

Conclusion

The non-developed portions of the study area have been disturbed by grading, equestrian use, and recent weed abatement/fire fuel modification activities. Potentially suitable California ground squirrel burrows and burrow complexes were observed during the focused burrow survey. Therefore, four

focused burrowing owl surveys were conducted in accordance with CDFW guidelines. No burrowing owls or sign were observed within the study area and they are not expected to occupy the project site. The project site is frequently and highly disturbed at times, and no burrowing owl sign, either recent or historic, was observed at any of the California ground squirrel burrows throughout the project site.

Sincerely,
Rincon Consultants, Inc.



Amy Leigh Trost
Biologist



Greg Ainsworth
Director of Natural Resources

Attachments

Attachment 1 Figures
Attachment 2 Representative Photographs

References

California Department of Fish and Game (CDFG). 2012. Staff Report on Burrowing Owl Mitigation. State of California, Natural Resources Agency. March 7, 2012.

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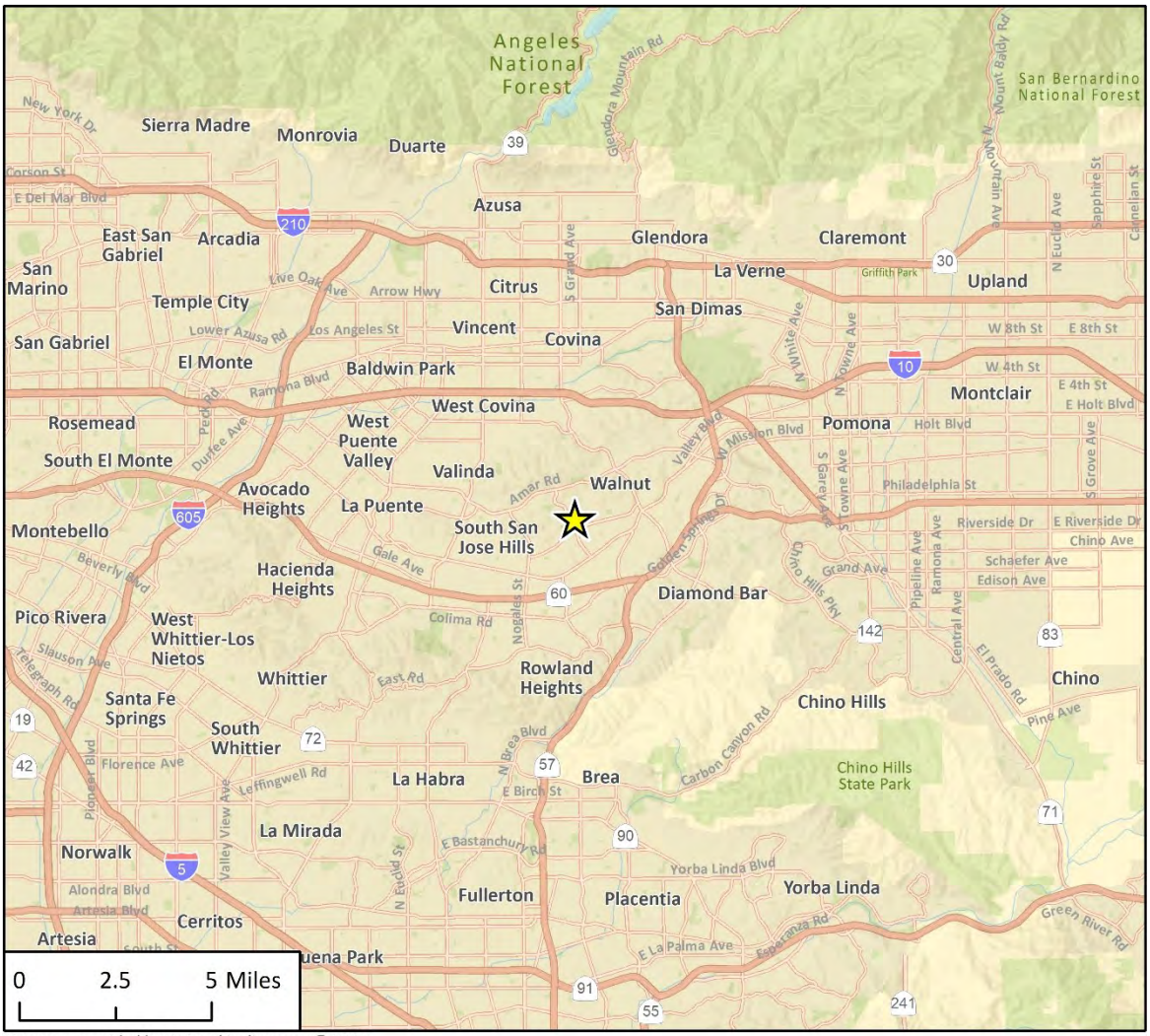
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Attachment 1

Figures

Figure 1 Regional Location



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Project Location

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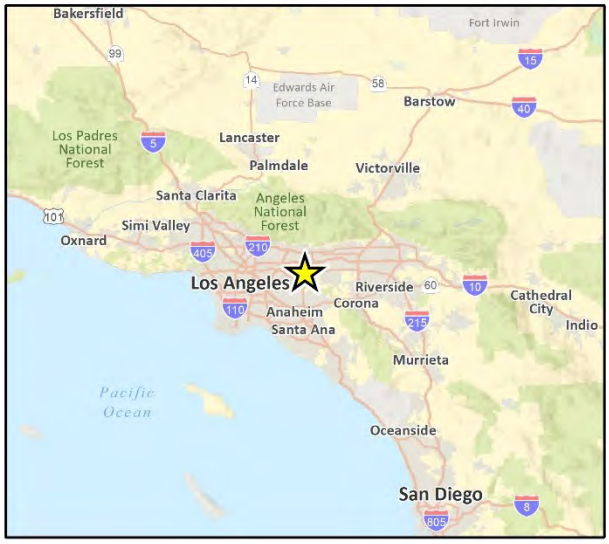


Figure 2 Project Boundary



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Fig 2 Project Boundary

Figure 3 Burrowing Owl Habitat and Potential Burrows



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Figure 4 Vegetation Communities



Attachment 2

Representative Photographs



Photograph 1. View of suitable burrowing owl habitat in the northern portion of the site, facing west.



Photograph 2. View of suitable wild oats and annual brome grasslands as well as ornamental areas in the northern portion of the site, facing south.



Photograph 3. View of suitable burrowing owl habitat in the southern portion of the site, facing south.



Photograph 4. California ground squirrel burrows potentially suitable for burrowing owl.

APPENDIX G

California Gnatcatcher Habitat Assessment

Rincon Consultants, Inc.

250 East 1st Street, Suite 1400
Los Angeles, California 90012

788 4842

info@rinconconsultants.com
www.rinconconsultants.com

June 30, 2023
Project No: 20-09720

Jack Su
Spring Meadow Homes, LLC and Meadow Pass Estates, LLC
18217 Gale, Suite A
City of Industry, California 91789

Subject: California Gnatcatcher Habitat Assessment for the Brookside Project, City of Walnut, California

Dear Mr. Su:

Rincon Consultants, Inc. (Rincon) is pleased to submit the results of a California gnatcatcher (CAGN; *Polioptila californica californica*) habitat assessment conducted for the Brookside Project (Project) located in the City of Walnut, Los Angeles County, California. This habitat assessment focused on identifying potentially suitable habitat for CAGN in response to comments received from the California Department of Fish and Wildlife (CDFW) on December 9, 2022.

Project Location and Description

Location

The project site consists of 25.8 acres located at 800 Meadow Pass Road. It is comprised of Assessor's Parcel Nos. 8709-093-001, -002, and -003 and is bordered by La Puente Road to the south, North Lemon Avenue to the west, Meadow Pass Road to the north, and homes to the east. It is in the southeast portion of the City of Walnut (City), approximately 2.3 miles northwest of the confluence of State Route 60 and State Route 57 (Figure 1). It is depicted on Township 02S, Range 09W, Section 6 of the United States Geological Survey, San Dimas California 7.5-minute quadrangle (Figure 2). The approximate center of the project site is located at latitude 34.024363 °N and longitude -117.866254°W.

Land Use Designations / Proposed Use

The project site has a General Plan designation of Very Low Density and is zoned Residential Planned Development Zone (RPD) with a designation of RPD–28,500–1.3. Pursuant to Section 6.24.030 A2 of the Walnut Municipal Code, the project proposes the development of 27 detached single-family homes under R-1 standards with a minimum lot size of 28,500 square feet. The project requires approval of a Tentative Tract Map and Site Plan/Architectural Review.

Access

All project streets will be public. The northerly 25 homes will take access from Meadow Pass Road and the two most southerly homes will take access from San Vicente Drive, with each street ending in a cul-de-sac to preclude cut-through traffic. A bridge will provide access over Lemon Creek to those homes south of Lemon Creek that will be accessed from Meadow Pass Road.

Open Space

The entirety of Lemon Creek will be preserved and included within 12.2 acres of privately owned and residentially zoned property - over 47 percent of the site – that will serve as permanent open space. Currently, the site contains approximately 1,876 trees. Through preservation and new plantings, the project will increase the number of trees onsite to approximately 1,936, also increasing the ratio of native to non-native/invasive trees. The developer will make improvements to City trail standards a public trail that will run through the open space area, passing across the project's primary road. An easement will then be granted to the City for the long-term operation and maintenance of the public trail.

As is common with existing development throughout the City's Residential Planned Development Zone, 9.5 acres of the open space area will be within privately owned residential lots. Those portions of open space, Lemon Creek, and the public trail within private lots will be subject to recorded deed restrictions prohibiting use of the restricted open space by the owners of the private lots, including planting vegetation, installing fencing, or otherwise developing or using the restricted natural open space areas. The restrictions will be enforceable by the City. The remaining 2.7 acres of the open space area will consist of internal slope areas and water quality basins that will be owned by a public agency or the Homeowners Association (HOA) and subject to similar deed restrictions.

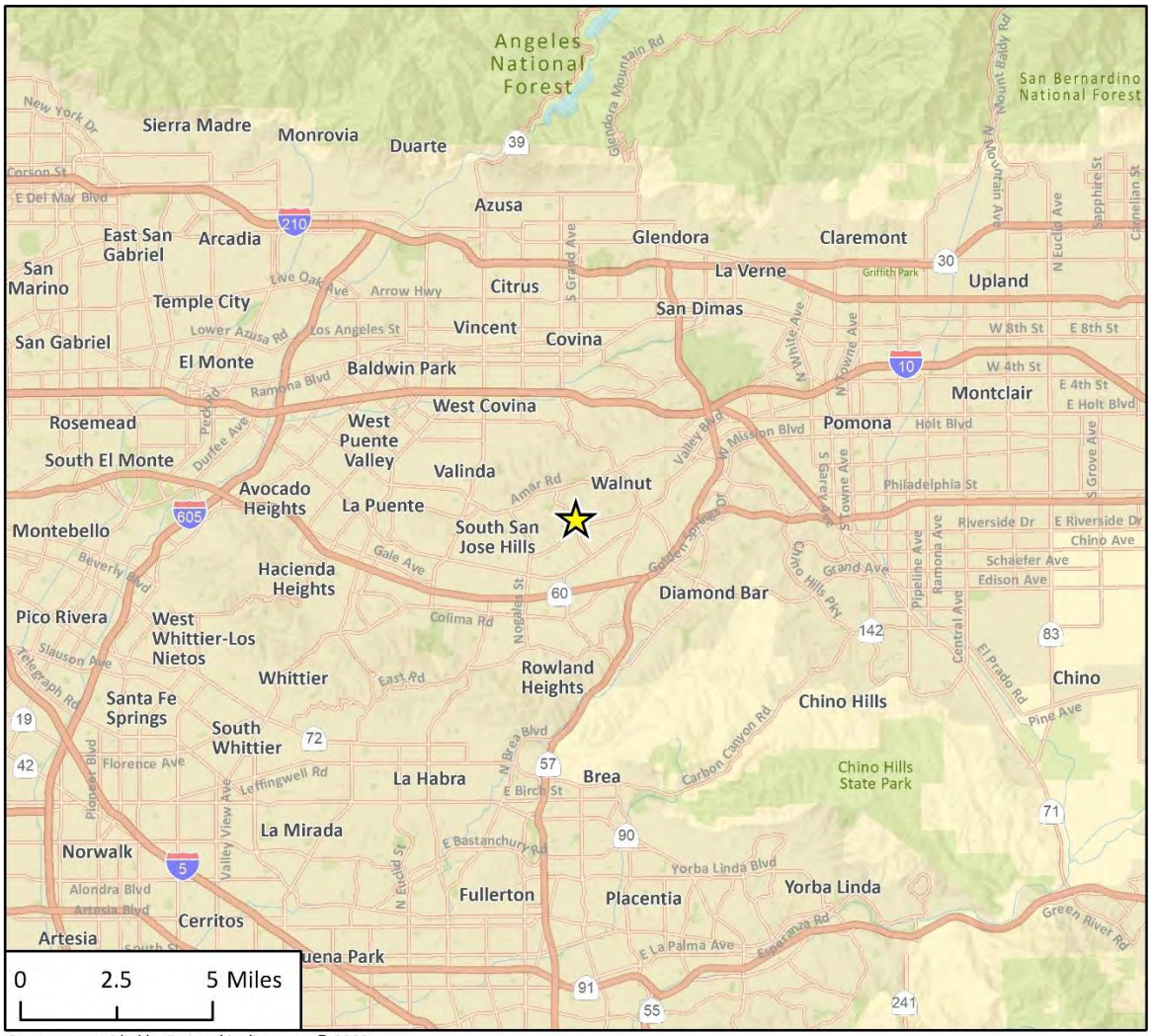
The open space will be maintained by a combination of a Lighting and Open Space Maintenance District (LOSMD) through a new zone funded entirely by the project's homeowners (as to the natural open space only), the City (as to the trail only), the flood control district or another public or quasi-public agency (as to stormwater retention basins only), and the project's HOA.

Stormwater / Lemon Creek

Three public storm drain inlets along Meadow Pass Road at the northerly boundary of the project site currently direct offsite stormwater into and through existing public storm drain lines within the project site. That offsite stormwater then enters Lemon Creek through two existing outlets. These public storm drains, which do not capture onsite stormwater now and will not do so when the project is complete, will be realigned under the project streets. One of the existing outlets into Lemon Creek will remain in its current location, while the second will be relocated to a point below the proposed project bridge.
While onsite stormwater historically flows directly into the creek, two water quality basins have been designed to detain any increase in on-site stormwater runoff resulting from the proposed project, up to a 100-year storm event. These basins will treat on-site runoff up to the 85th percentile storm event, consistent with Los Angeles County regulations. One water quality basin will be in the northern portion of the site and will hold and gradually release project stormwater into an existing public storm drain connection which enters the property from Lemon Avenue. The second water quality basin will be in the southern portion of the site and will hold and gradually release project stormwater into a proposed outlet to Lemon Creek. These water quality basins are designed to assure that project stormwater will enter Lemon Creek onsite at a volume and flow rate no greater than presently occurs. Runoff entering Lemon Creek will then pass offsite into existing public drainage facilities located on public property adjacent to the project site at La Puente Road.

In addition, one of the four existing onsite culverts ("Culvert D," located approximately 100 linear feet upstream of La Puente Road) will be removed, restoring the native creek in this location.

Figure 1: Regional Location



Basemap provided by Esri and its licensors © 2022.

Project Location

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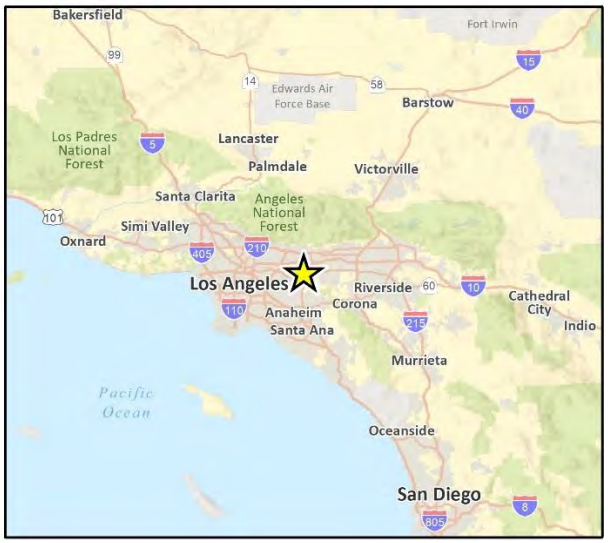


Figure 2: Project Boundary



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Fig 2 Project Boundary

Methodology

The entire project site depicted in Figure 2 was assessed (also referred to herein as "Study Area"). Prior to performing the habitat assessments, recent aerial photography of the site (Google Earth 2023) was reviewed. Additionally, the California Natural Diversity Database (CNDDB) (CDFW 2023) searched for records of CAGN within a five-mile radius of the Study Area.

Timing and conditions of the field survey are presented in Table 1, below. The CAGN habitat assessment was conducted by CAGN permitted biologist Kelly Rios (TE-018909-6). All portions of the Study Area were surveyed on foot. Wildlife, plant species, and vegetation communities present within the Study Area were noted and any observations or sign of animal species were also recorded. The Study Area included the project site plus a 100-foot buffer to assess the likelihood of CAGN to be present.

Table 1: Field Survey Conditions

Surveyor	Date	Time	Weather
Kelly Rios	March 1, 2023	1000 - 1330	52°F, 1-5 miles per hour (mph) winds, and 100 percent clouds.

Species Profile and Habitat Requirements

California gnatcatcher is a federally threatened species and CDFW-designated Species of Special Concern that is an obligate, permanent resident of coastal sage scrub habitats in southern California. Its range extends from Ventura County south to northwest Baja California, Mexico (Atwood et al. 1999). It is strongly associated with coastal sage scrub habitat below 820 feet in coastal areas and between 820 and 1,640 feet in inland areas; however, not all types of coastal sage scrub communities are used or preferred (Atwood and Bolsinger 1992). This species appears to be most abundant in areas dominated by California sagebrush (*Artemisia californica*) and California buckwheat (*Eriogonum fasciculatum*). The breeding season extends from late February through August with peak nesting in mid-March to mid-May (USFWS 2010). The nearest designated critical habitat for the species is located approximately 1 mile north of the project site (USFWS 2023). The nearest CNDDB occurrence was recorded in 2017 approximately 1 mile north of the project site (CDFW 2023; occurrence no. 1029).

Existing Conditions

The elevation of the Study Area ranges between approximately 555 - 640 feet above mean sea level. Five vegetation communities: Eucalyptus-Shamel ash groves, ornamental, pepper tree groves, and wild oats and annual brome grasslands are present in the Study Area, including areas that have been previously developed. Google Earth imagery indicates that undeveloped lands were considerably more extensive over recent decades, with the Study Area connected with nearly 40 square kilometers of open space (mainly the San Jose Hills) as late as 1985. Urban development has progressed through the decades such that remaining CAGN habitat within and around the San Jose Hills are highly fragmented and reduced in size. Most of the developed landcover occurs in the northern portion of the Project site and consists of old structures, stables, and equestrian facilities (Figure 3). The surrounding land use consists of St. Lorenzo Catholic church to the north, residential communities to the east and west, and

commercial development to the south of the Project site. Representative site photographs are included as Attachment 1.

The vegetation communities in the Study Area are not considered suitable habitat for CAGN (Attachment 1; Photographs 1-4). CAGN habitat generally includes coastal sage scrub vegetation, containing native plant species such as coyote bush (*Baccharis pilularis*), California buckwheat (*Eriogonum fasciculatum*), prickly pear (*Opuntia littoralis*), California sagebrush (*Artemisia californica*) and sticky monkey flower (*Mimulus aurantiacus*), all of which are absent within the Study Area. Representative photographs of the reference site are provided in Attachment 1, Photographs 5-7.

Figure 3: Vegetation Communities and Land Cover Types

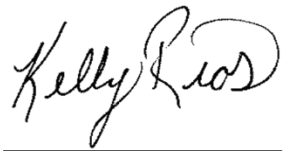


Conclusions

California gnatcatchers are obligate breeders of coastal sage scrub vegetation communities which are dominated by a variety of low shrubs (mostly 3-6 feet tall). Their range in the U.S. extends from the Mexican border into portions of Ventura and Los Angeles Counties. There is no suitable habitat for CAGN anywhere within the Study Area or surrounding habitat, primarily due to lack of coastal sage scrub habitat. Based on review of aerial imagery, the nearest open space that may contain coastal sage scrub is approximately 1 mile to the north of the Study Area. The Study Area is partially developed with vegetation communities dominated by native and ornamental trees and non-native grassland which are not suitable for CAGN foraging or breeding.

Thank you for the opportunity to work with you on this Project. Please contact Greg Ainsworth at 805-465-9091 or by email gainsworth@rinconconsultants.com if you have questions concerning the contents of this report.

Sincerely,
Rincon Consultants, Inc.



Kelly Rios
Permitted Biologist
TE-018909-6



Greg Ainsworth
Director of Natural Resources

Attachments

Attachment 1 Representative Photographs

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Attachment 1

Representative Photographs



Photograph 1. Study Area: From the southeast corner, facing north to Pepper Tree Grove vegetation community.



Photograph 2. Study Area: From the northern portion of the Project site, facing south.



Photograph 3. Study Area: From the center portion of the site, facing south towards developed land use.



Photograph 4. Study Area: From the southern central portion of the Project site, facing south.



Photograph 5. CAGN reference site: south side of Amar Road, facing north to CSS vegetation community.



Photograph 6. CAGN reference site: CSS vegetation community facing north.



Photograph 7. CAGN reference site: from trail, facing southwest.



Photograph 8. Lemon Creek, flowing into drainage in the center of the Study Area, facing north.



Photograph 9. Central portion of Study Area, disturbed non-native grassland, facing southwest.



Photograph 10. Northeast portion of the Study Area, facing north.



Photograph 11. Eucalyptus-Shamel Ash grove from the trail, facing north.



Photograph 12. Center of the Study Area, highly developed and disturbed, facing southwest.

APPENDIX H

Least Bell's Vireo Focused Survey Report



Brookside Project
800 Meadow Pass Road, Walnut, California

Least Bell's Vireo Focused Survey Report

prepared for

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March 2023

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Appendix A Avian Species Observed/Detected within the Survey Area
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1 Introduction

Rincon Consultants, Inc. (Rincon) herein presents the results of focused surveys for the federally and state endangered least Bell's vireo (*Vireo bellii pusillus*; LBVI). The surveys were conducted on behalf of Spring Meadow Homes, LLC and Meadow Pass Estates, LLC for the Brookside Project, City of Walnut, California (City).

1.1 Project Location and Description

Location. The project site consists of 25.8 acres located at 800 Meadow Pass Road. It is comprised of Assessor's Parcel Nos. 8709-093-001, -002, and -003 and is bordered by La Puente Road to the south, North Lemon Avenue to the west, Meadow Pass Road to the north, and homes to the east. It is in the southeast portion of the City of Walnut (City), approximately 2.3 miles northwest of the confluence of State Route 60 and State Route 57 (Figure 1). It is depicted on Township 02S, Range 09W, Section 6 of the United States Geological Survey, San Dimas California 7.5-minute quadrangle (Figure 2). The approximate center of the project site is located at latitude 34.024363 °N and longitude -117.866254°W.

Land Use Designations / Proposed Use. The project site has a General Plan designation of Very Low Density and is zoned Residential Planned Development Zone (RPD) with a designation of RPD–28,500–1.3. Pursuant to Section 6.24.030 A2 of the Walnut Municipal Code, the project proposes the development of 27 detached single-family homes under R-1 standards with a minimum lot size of 28,500 square feet. The project requires approval of a Tentative Tract Map and Site Plan/Architectural Review.

Access. All project streets will be public. The northerly 25 homes will take access from Meadow Pass Road and the two most southerly homes will take access from San Vicente Drive, with each street ending in a cul-de-sac to preclude cut-through traffic. A bridge will provide access over Lemon Creek to those homes south of Lemon Creek that will be accessed from Meadow Pass Road.

Open Space. The entirety of Lemon Creek will be preserved and included within 12.2 acres of privately owned and residentially zoned property - over 47% of the site – that will serve as permanent open space. Currently, the site contains approximately 1,876 trees. Through preservation and new plantings, the project will increase the number of trees onsite to approximately 1,936, also increasing the ratio of native to non-native/invasive trees. The developer will improve to City trail standards a public trail that will run through the open space area, passing across the project's primary road. An easement will then be granted to the City for the long-term operation and maintenance of the public trail.

As is common with existing development throughout the City's Residential Planned Development Zone, 9.5 acres of the open space area will be within privately owned residential lots. Those portions of open space, Lemon Creek, and the public trail within private lots will be subject to recorded deed restrictions prohibiting use of the restricted open space by the owners of the private lots, including planting vegetation, installing fencing, or otherwise developing or using the restricted natural open space areas. The restrictions will be enforceable by the City. The remaining 2.7 acres of the open space area will consist of internal slope areas and water quality basins that will be owned by a public agency or the Homeowners Association (HOA) and subject to similar deed restrictions.

The open space will be maintained by a combination of a Lighting and Open Space Maintenance District (LOSMD) through a new zone funded entirely by the project's homeowners (as to the natural open space only), the City (as to the trail only), the flood control district or another public or quasi-public agency (as to stormwater retention basins only), and the project's HOA.

Stormwater / Lemon Creek. Three public storm drain inlets along Meadow Pass Road at the northerly boundary of the project site currently direct offsite stormwater into and through existing public storm drain lines within the project site. That offsite stormwater then enters Lemon Creek through two existing outlets. These public storm drains, which do not capture onsite stormwater now and will not do so when the project is complete, will be realigned under the project streets. One of the existing outlets into Lemon Creek will remain in its current location, while the second will be relocated to a point below the proposed project bridge.

While onsite stormwater historically flows directly into the creek, two water quality basins have been designed to detain any increase in on-site stormwater runoff resulting from the proposed project, up to a 100-year storm event. These basins will treat on-site runoff up to the 85th percentile storm event, consistent with Los Angeles County regulations. One water quality basin will be in the northern portion of the site and will hold and gradually release project stormwater into an existing public storm drain connection which enters the property from Lemon Avenue. The second water quality basin will be in the southern portion of the site and will hold and gradually release project stormwater into a proposed outlet to Lemon Creek. These water quality basins are designed to assure that project stormwater will enter Lemon Creek onsite at a volume and flow rate no greater than presently occurs. Runoff entering Lemon Creek will then pass offsite into existing public drainage facilities located on public property adjacent to the project site at La Puente Road. In addition, one of the four existing onsite culverts ("Culvert D," located approximately 100 linear feet upstream of La Puente Road) will be removed, restoring the native creek in this location.

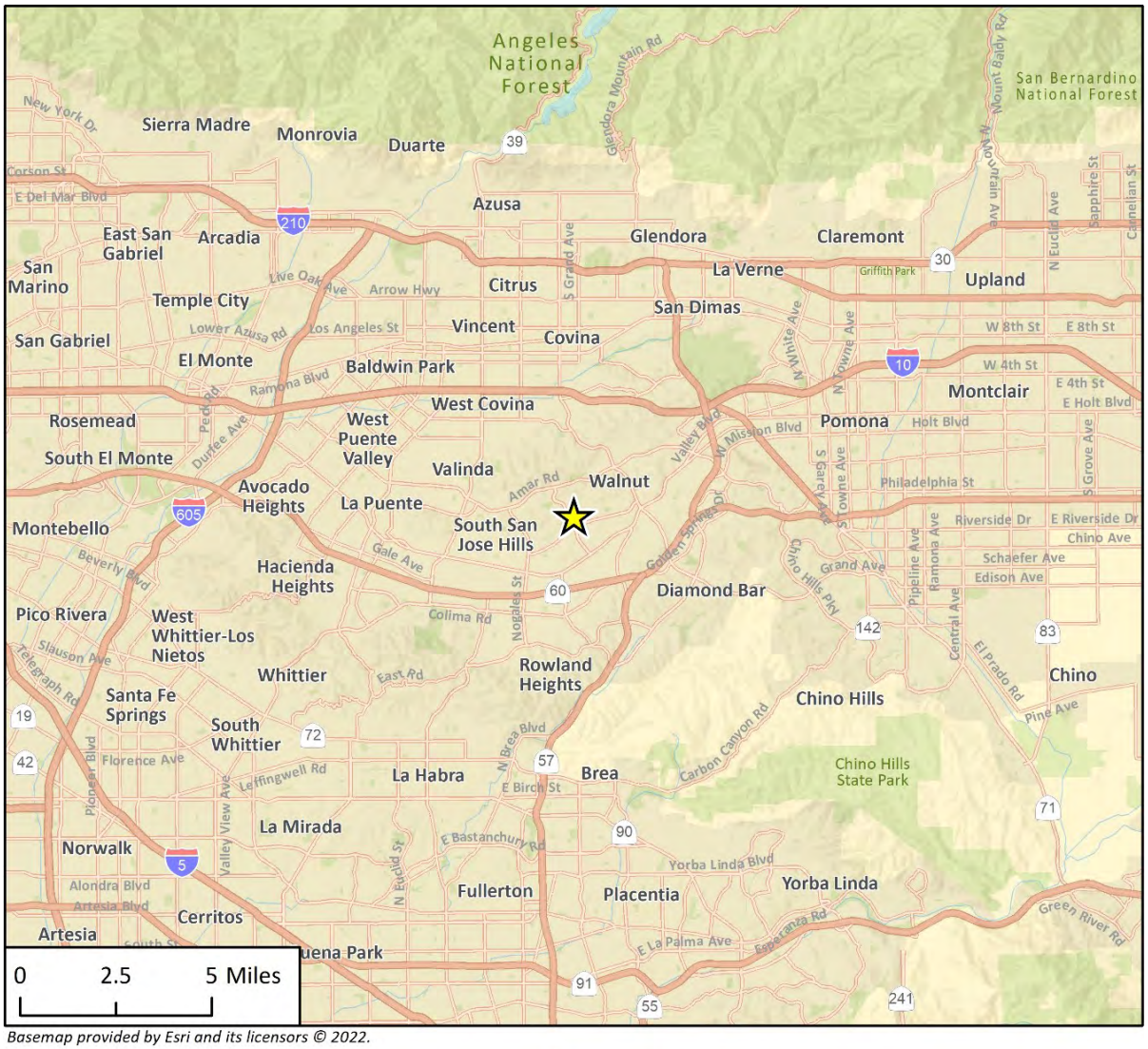
2 Environmental Setting

The project site is located within the following Assessor's Parcel Numbers: 8709-093-001, -002, and -003, and is depicted on Township 02S, Range 09W, Section 6 of the United States Geological Survey, San Dimas California 7.5-minute quadrangle (Figure 1). The approximate center of the project is located at latitude 34.024363 °N and longitude -117.866254°W. The site does not occur in federally designated Critical Habitat for LBVI.

The elevations within the survey area range between 570 and 635 feet above mean sea level and consists of abandoned buildings associated with the previous land ownership (equestrian center), dirt roads, ornamental vegetation, and riparian vegetation associated with Lemon Creek. Lemon Creek flows northeast to southwest in the northeastern portion of the survey area, and north to south through the central and southern portions. Continuous, low-flowing water was observed along the creek during the survey area throughout the survey period. Within the project boundary, there are numerous walking trails, with minimal human traffic observed. Several culverted crossings exist where these walking trails intersect with Lemon Creek. The survey area is surrounded to the north, east, and west by residential development, and to the south by commercial and residential development.

The riparian corridor of Lemon Creek, which ranges from approximately 25 to 50 feet wide (top of bank) within the survey area supports riparian vegetation in the form of eucalyptus (*Eucalyptus* spp.) and shamel ash (*Fraxinus udhei)* groves with a sparse herbaceous understory, as well as a mix of native and non-native tree and herbaceous species. Native tree species observed along Lemon Creek riparian area include black locust (*Robinia pseudoacacia*), western sycamore (*Platanus racemosa*), alder (*Alnus rhombifolia*), red willow (*Salix laevigata*), arroyo willow (*Salix lasiolepis*), and California black walnut (*Juglans californica*). In addition to eucalyptus and shamel ash, non-native tree species observed included Peruvian pepper tree (*Schinus molle*), Mexican fan palm (*Washingtonia robusta*), jacaranda (*Jacaranda mimosifolia*), common fig (*Ficus carica*), European birch (*Betula pendula*), and Chinese elm (*Ulmus parvifolia*). The sparse vegetative understory consists of shrubs such as castor bean (*Ricinus communis*), toyon (*Heteromeles arbutifolia*), bougainvillea (*Bougainvillea glabra*), tree tobacco (*Nicotiana glauca*), and low growing herbaceous plants such as umbrella plant (*Cyperus involucratus*), stinging nettle (*Urtica dioica*), and woodbine (*Parthenocissus inserta*). A variety of non-native grasses are also present.

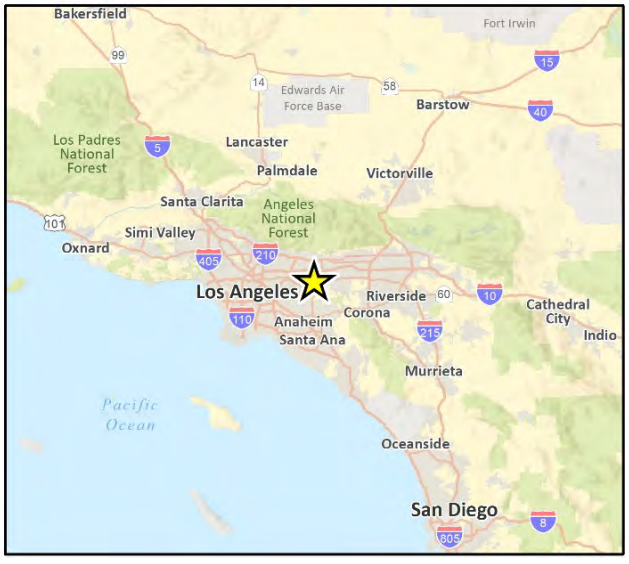
Figure 1 Regional Location



Basemap provided by Esri and its licensors © 2022.

★ Project Location

N



3 Methodology

All focused surveys for LBVI were conducted by Rincon biologist Peter Gaede, who has extensive experience performing surveys for this species in California. Surveys were conducted pursuant to Section IV of the USFWS *Least Bell's Vireo Survey Guidelines*, issued January 19, 2001 (USFWS 2001).

Prior to conducting the biological survey, high-quality aerial imagery was used to visually examine the survey area. A review of special-status species and sensitive natural communities potentially occurring in the survey area was made using the California Natural Diversity Database (CNDDB) (CDFW 2020). eBird, an online database of bird observations providing real-time data about bird distribution and abundance was also consulted.

Eight surveys were performed at least ten days apart between April 10 and July 31 (refer to Table 1 in Section 5 for details). The surveys occurred between 0800 and 1100 hours each day in all portions of suitable riparian habitat within the proposed project site, plus a 500-foot buffer (survey area; Figure 2). Surveys were not conducted during inclement weather conditions (e.g., excessive or abnormal heat, wind, rain, or fog).

The surveyor walked systematically through suitable habitat within the survey area, stopping at approximately 50- to 100-foot intervals to listen for LBVI songs and calls, and visually scanned habitat for LBVI with the aid of binoculars (10x40 magnification). Inaccessible areas (i.e., fenced and private property) were surveyed with the aid of binoculars and listening for LBVI songs and calls. If vireos were observed, age, sex, breeding status, and behavioral characteristics were recorded, if possible. In addition, the surveyor identified all species observed and determined if such observations included any "special-status species". Special-status species include species with designations as Species of Special Concern (SSC) or Watch List (WL) by the California Department of Fish and Wildlife (CDFW) or as Fully Protected under Section 3511 of the California Fish and Game Code (CFGC), or additional federal protections including Threatened, Endangered, Proposed, or Candidate status under the federal or state Endangered Species Act. In addition, nearly all bird species observed are protected under the Migratory Bird Treaty Act (MBTA) and Sections 3503, 3503.5, and 3513 of the CFGC.

Figure 2 **Least Bell's Vireo** Survey Area



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4 Species Background

Bell's vireos (*Vireo bellii)* are small, olive-gray, migratory songbirds in the family Vireonidea. They measure about 4.5-5 inches and have short, rounded wings and short straight bills, with a light white ring around their eyes. Their feathers are mostly gray above and pale below to blend into the environment. The subspecies *pusillus* (LBVI), is endemic to California and Baja California, and was listed by the U.S. Fish and Wildlife Service as an endangered subspecies in 1986 (USFWS 1989).

LBVI are largely associated with early successional (five to 10 years old) riparian scrub and woodlands with a developed canopy layer and dense shrubs at three to six feet. Preferred habitat is typically dominated by species such as willows (*Salix* spp.), mulefat (*Baccharis* spp.), and Fremont cottonwood (*Populus fremontii*). The most critical structural component of nesting habitat in California is a dense shrub layer two to 10 feet above ground. LBVI requires structurally diverse canopy for foraging, with a preference for heights between 10 and 20 feet (USFWS 1989, Kus 1998, USFWS 1998). LBVI primarily eat insects and spiders (Durst 2004), often foraging on willows within riparian habitat.

In the winter, LBVI is not limited to willow-dominated riparian areas and will occupy a variety of habitats, including mesquite scrub within arroyos, palm groves, and hedgerows bordering agricultural and residential areas. Males arrive mid to late-March to establish and defend breeding territories through the nesting season (April through July), and most mating pairs are monogamous. LBVI exhibit high breeding site fidelity (USFWS 1989) as well as strong territoriality protecting nesting sites and food resources (Brown 1993). Males aggressively defend territories from neighboring birds by intensive singing or physical contact (Barlow 1962). In California, reported territory sizes of LBVI were 0.2 to 1.6 hectare (0.5 to 4.0 acre) (Gray and Greaves 1984).

Open-cup nests are built in dense shrubs along the edge of riparian habitat. Nests are typically placed on slender willow branches, shrubs, mesquite or small trees approximately two to three feet above ground (Sieburth 2015). Both adults incubate for 14 days and feed chicks. Clutch size is three to five eggs and pairs often produce two broods (USFWS 1989). Young fledge in 10–12 days but are tended by both adults for up to 40 days. The birds may be present on breeding grounds until late September, and occasionally through October and November, and overwinter in southern Baja California.

LBVI was historically widespread in lowland riparian habitat and low elevation river valleys of California, and was described by Willet as "common in summer in willow thickets from coast to foothills in California (1933)." Loss of riparian habitat combined with brown-headed cowbird nest parasitism in the latter half of the 20th century led to a dramatic decline in LBVI numbers to about 300 pairs by the early 1980s. Since their federal listing in 1986, the population in the United States has increased 10-fold, with the greatest increase in San Diego and Riverside Counties (USFWS 2006). However, despite increases in population size, the LBVI still occupies a very small fraction of its former range (USFWS 2001). The species' breeding distribution is currently restricted to Kern, San Diego, San Bernardino, Riverside, Ventura, Los Angeles, Santa Barbara, and Imperial Counties, with breeding populations concentrated in San Diego, Santa Barbara, and Riverside Counties (USFWS 2006).

The most significant threats to LBVI in southern California have been identified as habitat degradation and nest parasitism by brown-headed cowbirds (USFWS 1998). Habitat degradation has occurred through the introduction or expansion of nonnative invasive plants, watercourse

development projects, such as for flood control or water impoundments (dams), and changes in hydrology from urbanization. Over 95 percent of historic riparian habitat has been lost throughout the central valley of California. At one time, this region may have accounted for 60 to 80 percent of LBVI populations in California (USFWS, 1986). The negative impact of brown-headed cowbirds' brood parasitism is the most chronic and limiting threat to LBVI populations after habitat loss (Stephenson and Calcarone 1999). Development activities that result in habitat fragmentation (e.g., urbanization) can cause habitat loss but also create an increased habitat edge that allows brown-headed cowbirds easier access to LBVI nest locations (Howell et al 2010). Several conservation measures have been outlined for the continued protection of LBVI and their riparian habitats. The most critical measure to protect LBVI remains to effectively protect riparian habitat from degradation due to overgrazing, recreational use, channelization, and development.

Within the survey area, LBVI is most likely to occur as a migrant, transient or post-breeding visitor, with moderate potential for breeding within the creek corridor. Potentially suitable foraging habitat exists and the existing vegetative conditions along Lemon Creek provide a suitable migration corridor through the survey area. Given the proximity of birds reported to the north of the project site, LBVI could also use the area to forage after breeding, especially with juvenile birds. However, nesting habitat for LBVI was marginal within the survey area, due to a lack of extensive dense shrub understory (e.g., mulefat and/or southern willow scrub), which LBVI typically prefer for nesting (Kus 2002).

The CDFW CNDDB documents one occurrence outside of but within one mile of the project area. This 2007 record, just less than one mile to the northeast of the project site, is located adjacent to Lemon Creek near the detention basin south of Amar Road. Unlike the project site, this location contains dense vegetative understory that is suitable for breeding and foraging LBVI. A second CNDDB record of a pair and an unsuccessful nesting attempt in 2008 was made from Diamond Bar Creek located approximately 2.5 miles south of the project site.

There is one previous eBird record of LBVI from within the survey area. This observation of a single bird heard singing was made near the Equestrian Center at the northwest portion of the project site on April 16, 2014 (eBird 2022; checklist #S17918537). This observation was made during the spring migration window for this species in atypical breeding habitat (i.e., relatively open canopied riparian corridor with mature trees and minimal understory vegetation).

5 Survey Results and Discussion

Survey dates, times, and weather conditions are listed in Table 1 below.

Table 1 **Least Bell's Vireo** Survey Conditions and Results

Date	Surveyor(s)	Beginning Conditions	Ending Conditions	LBVI Observed
4/10/2022	Peter Gaede	07:00 A.M., 60°F, winds 0 mph, 100% cc*	11:00 A.M., 67°F, winds 0 mph, 100% cc	**Yes**
4/22/2022	Peter Gaede	07:00 A.M., 55°F, winds 0 mph, 50% cc	11:00 A.M., 60°F, winds 0-5 mph, 50% cc	No
5/15/2022	Peter Gaede	07:20 A.M., 63°F, winds 0 mph, clear	10:30 A.M., 81°F, winds 5 mph, clear	No
5/30/2022	Peter Gaede	07:15 A.M., 55°F, winds 0-2 mph, 100% cc	10:30 A.M., 79°F, winds 0-2 mph, 50% cc	No
6/11/2022	Peter Gaede	07:00 A.M., 64°F, winds 0-2 mph, 60% cc	10:10 A.M., 80°F, winds 5 mph, clear	No
7/5/2022	Peter Gaede	07:00 A.M., 65°F, winds 0 mph, 50% cc	10:25 A.M., 75°F, winds 5 mph, clear	No
7/16/2022	Peter Gaede	07:30 A.M., 65°F, winds 0 mph, clear	10:30 A.M., 74°F, winds 0 mph, clear	No
7/29/2022	Peter Gaede	07:15 A.M., 63°F, winds 5 mph, 40% cc	10:40 A.M., 80°F, winds 5 mph, clear	No

*cc: cloud cover

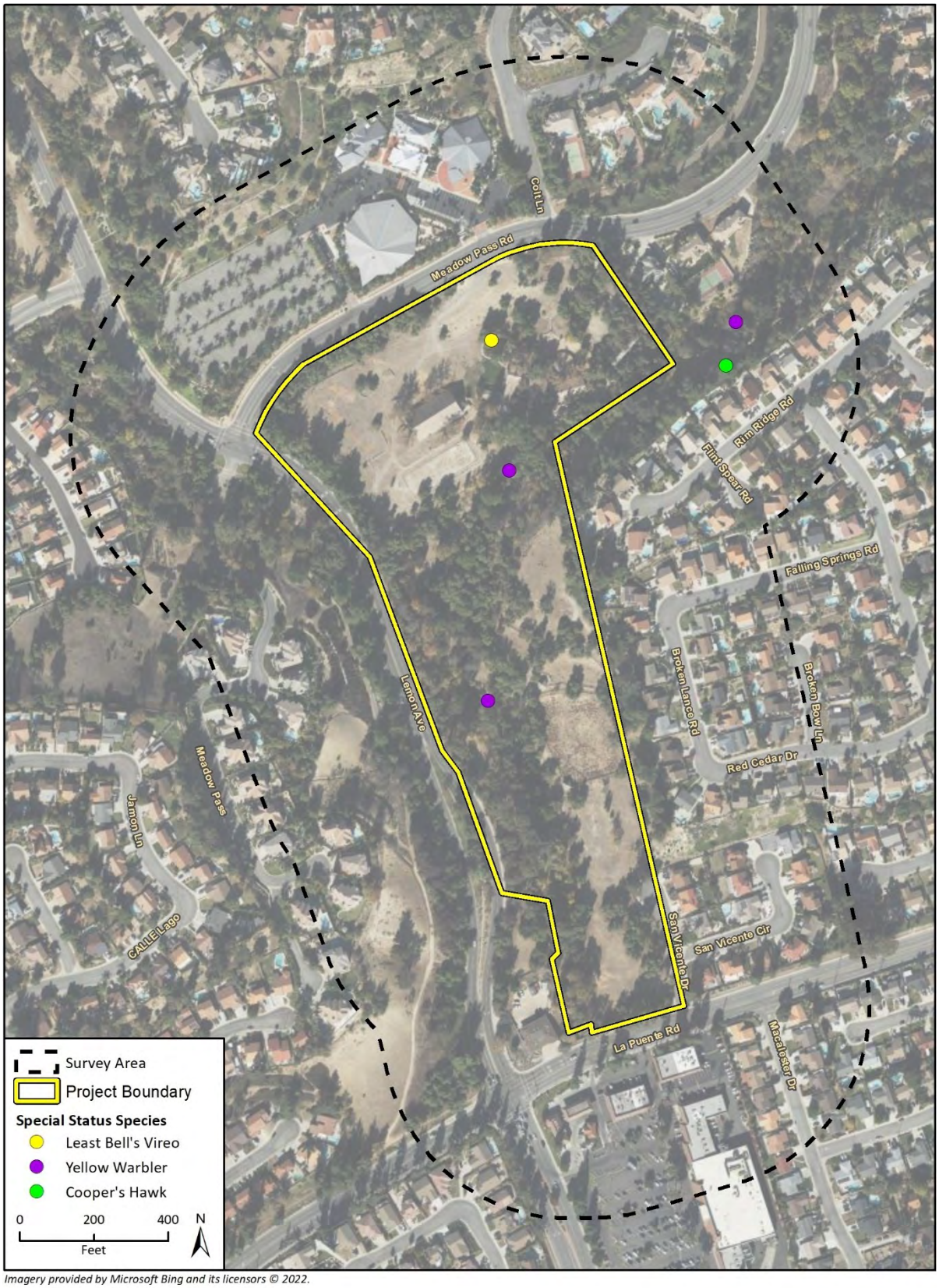
One least Bell's vireo was observed during the first survey on April 10, 2022. The LBVI was observed singing near the Equestrian Center buildings approximately 200 feet west of Meadow Pass Road at 0730 hours in atypical nesting habitat (Figure 3). It was observed and heard singing approximately 20 feet high in a Peruvian pepper tree for 5 minutes. The bird was not heard or seen after 0735 hours. No other LBVI detections were made on any of the subsequent visits during the protocol survey period through July 29.

Overall avian activity and diversity was generally moderate to high during the surveys and common avian species expected to occur in riparian habitat were observed. Avian spring migrants (using the area only temporarily during the spring migration period) were observed in April and May, and included species such as warbling vireo (*Vireo gilvus)*, yellow-rumped warbler (*Setophaga coronata)*, Wilson's warbler (*Cardellina pusilla)*, western tanager (*Piranga ludoviciana)*, and black-headed grosbeak (*Pheucticus melanocephalus)*. Species confirmed to have bred within the survey area included Anna's hummingbird (*Calypte anna)*, western bluebird (*Sialia mexicana*), common raven (*Corvus corax)*, pacific-slope flycatcher (*Empidonax difficilis)*, bushtit (*Psaltriparus minimus)*, and house finch (*Haemorhous mexicanus)*. Between one and five yellow warblers (*Setophaga petechia*), a CDFW Species of Special Concern (nesting), were observed within the study area in riparian habitat along Lemon Creek on each of the eight surveys. Although no nesting behavior was observed for this species, suitable breeding and foraging habitat exists for the yellow warbler. Two recently fledged Cooper's hawks (*Accipiter cooperii)*, a CDFW Watch List species (nesting), were observed on the July 5 survey. Both juvenile birds were calling frequently, initially found perched in a canary island pine tree (*Pinus canariensis*). Both birds were capable of short flights and were

presumed to have fledged from a nest somewhere just outside the project site. In addition, a calling adult Cooper's hawk was heard on May 30 during the fourth survey. No other state or federally threatened, endangered or SSC species were observed in the survey area during these surveys. Appendix A provides a complete list of avian species detected or observed in the survey area during the surveys.

The brown-headed cowbird (*Molothrus ater*), a nest parasite of LBVI and other avian species, was observed on three of the eight surveys. Copulation was observed on April 22 during the second survey, one male was observed on May 15 during the third survey, and a calling individual was heard on July 29 during the eighth survey.

Figure 3 Locations of Special-Status Avian Species



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6 Conclusion

One least Bell's vireo was detected during the surveys on April 10, 2022. The riparian habitat along Lemon Creek within the survey area supports a number of migrant passerines that are present during the spring migration period, and the LBVI found on April 10 was determined to be a bird traveling through the area, and not establishing and/or defending a territory or breeding.

In general, the study area supports marginal nesting/breeding habitat for LBVI. A dense shrub layer canopy (within one meter of the ground) preferred by LBVI is generally lacking.. The riparian corridor is also relatively narrow along Lemon Creek within the project site. Because of these existing habitat conditions, LBVI observed within the project area would likely be transitory in nature as they move to and from other areas during migration and/or during post-breeding dispersal, and the potential for LBVI to nest within the project site is low.

7 Certification

I hereby certify that the statements furnished above and in the attached exhibits present data and information required for this biological evaluation, and that the facts, statements, and information presented are true and correct to the best of my knowledge and belief.

Signed: _____ Date: 10/21/2022

Peter Gaede
Avian Biologist

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Appendix A

Avian Species Observed/Detected in the Survey Area

Avian Species Observed/Detected in the Survey Area

Scientific Name	Common Name
Accipitridae	**Hawks, Kites, and Eagles**
Buteo jamaicensis	red-tailed hawk
Accipiter cooperii	Cooper's hawk*
	Red-shouldered hawk
Aegithalidae	**Bushtit**
Psaltriparus minimus	bushtit
Apodidae	**Swifts**
Chaetura vauxi	Vaux's Swift
Ardeidae	**Herons, Bitterns, and Allies**
Ardea alba	Great Egret
Bombycillidae	**Waxwings**
Bombycilla cedrorum	Cedar Waxwing
Cardinalidae	cardinal-grosbeaks
Pheucticus melanocephalus	black-headed grosbeak
Piranga ludoviciana	western tanager
Columbidae	**Pigeons & Doves**
Patagioenas fasciata	band-tailed pigeon
Streptopelia decaocto	Eurasian collared-dove
Zenaida macroura	mourning dove
Corvidae	**Crows, Jays, and Magpies**
Aphelocoma californica	California scrub-jay
Corvus brachyrhynchos	American crow
Corvus corax	common raven
Estrildidae	**Waxbills**
Lonchura punctulata	scaly-breasted munia
Fringillidae	**Finches**
Spinus lawrencei	Lawrence's goldfinch
Spinus psaltria	lesser goldfinch
Haemorhous mexicanus	house finch
Hirundinidae	**Swallows**
Petrochelidon pyrrhonota	cliff swallow
Icteridae	**New World Blackbirds**
Icterus cucullatus	hooded oriole
Molothrus ater	brown-headed cowbird
Mimidae	**Mockingbirds and Thrashers**
Mimus polyglottos	northern mockingbird
Parulidae	**Wood Warblers**
Cardellina pusilla	Wilson's warbler
Leiothlypis celata	orange-crowned warbler
Setophaga coronata	yellow-rumped warbler
Setophaga petechia	yellow warbler*

Scientific Name	Common Name
Picidae	**Woodpeckers and Sapsuckers**
Picoides nuttallii	Nuttall's woodpecker
Passerellidae	**New World Sparrow**
Junco hyemalis	dark-eyed junco
Melospiza melodia	song sparrow
Melozone crissalis	California towhee
Pipilo maculatus	spotted towhee
Trochilidae	**Hummingbirds**
Calypte anna	Anna's hummingbird
Selasphorus sasin	Allen's hummingbird
Troglodytidae	**Wrens**
Thryomanes bewickii	Bewick's wren
Turdidae	**Songbirds**
Sialia mexicana	western Bluebird
Turdus migratorius	American robin
Tyrannidae	**Tyrant Flycatchers**
Empidonax difficilis	pacific-slope flycatcher
Sayornis nigricans semiatra	black phoebe
Sayornis saya	Say's phoebe
Tyrannus vociferans	Cassin's kingbird
Vireonidae	**Vireos**
Vireo gilvus	warbling vireo
Vireo bellii pusillus	least Bell's vireo**
Vireo huttoni	Hutton's vireo

*CDFW Species of Special Concern (nesting)

**CDFW Threatened

Appendix B

Photos



Photo 1. April 22, 2022. Trees, groomed areas, and walking trail adjacent Lemon Creek. Aspect: southwest.



Photo 2. April 22, 2022. Mixed native/non-native plant and tree composition along the riparian corridor of Lemon Creek. Dense, low-growing herbaceous understory is present in some areas, such as can be seen in this photo, but is mostly absent within the study area. Aspect: north.



Photo 3. April 22, 2022. Dense, low-growing herbaceous understory is present in some areas, such as can be seen in this photo, but is mostly absent within the study area. Aspect: northwest.



Photo 4. April 22, 2022. Walking trail along Lemon Creek. The trees along the creek provide a multi-layered canopy, but understory is mostly lacking. Aspect: west.



Photo 5. April 10, 2022. Mature California pepper tree near the Equestrian Center where the least Bell's vireo was observed and heard singing from on the first survey. Aspect: north.



Photo 6. July 5, 2022. Culvert and unnamed side channel that empties into Lemon Creek. Aspect west.



Photo 7. April 22, 2022. Previously disturbed areas adjacent Lemon Creek at the southeast corner of the survey area. Aspect: north.



Photo 8. July 29, 2022. Walking trail along Lemon Creek. The trees along the creek provide a multi-layered canopy, but understory is mostly lacking. Aspect: north.

APPENDIX I

Southwestern Pond Turtle
Habitat Assessment and Focused Survey

Rincon Consultants,

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March 20, 2023
Project No: 20-09720

Jack Su
Spring Meadow Homes, LLC and
Meadow Pass Estates, LLC
18217 Gale, Suite A
City of Industry, California 91789

Subject: Southwestern Pond Turtle Habitat Assessment and Focused Survey Results for the Brookside Residential Development Project, City of Walnut, Los Angeles County, California

Dear Mr. Su:

This report documents the findings of a southwestern pond turtle (*Actinemys pallida*) habitat assessment and focused surveys at the Brookside Residential Development Project. The purpose of the habitat assessment and focused surveys were to identify and document suitable habitat for, and the presence/absence of, southwestern pond turtles.

Project Location and Description

Location. The project site consists of 25.8 acres located at 800 Meadow Pass Road. It is comprised of Assessor's Parcel Nos. 8709-093-001, -002, and -003 and is bordered by La Puente Road to the south, North Lemon Avenue to the west, Meadow Pass Road to the north, and homes to the east. It is in the southeast portion of the City of Walnut (City), approximately 2.3 miles northwest of the confluence of State Route 60 and State Route 57 (Figure 1). It is depicted on Township 02S, Range 09W, Section 6 of the United States Geological Survey, San Dimas California 7.5-minute quadrangle (Figure 2). The approximate center of the project site is located at latitude 34.024363 °N and longitude -117.866254°W.

Land Use Designations / Proposed Use. The project site has a General Plan designation of Very Low Density and is zoned Residential Planned Development Zone (RPD) with a designation of RPD–28,500–1.3. Pursuant to Section 6.24.030 A2 of the Walnut Municipal Code, the project proposes the development of 27 detached single-family homes under R-1 standards with a minimum lot size of 28,500 square feet. The project requires approval of a Tentative Tract Map and Site Plan/Architectural Review.

Access. All project streets will be public. The northerly 25 homes will take access from Meadow Pass Road and the two most southerly homes will take access from San Vicente Drive, with each street ending in a cul-de-sac to preclude cut-through traffic. A bridge will provide access over Lemon Creek to those homes south of Lemon Creek that will be accessed from Meadow Pass Road.

Open Space. The entirety of Lemon Creek will be preserved and included within 12.2 acres of privately owned and residentially zoned property - over 47% of the site – that will serve as permanent open space. Currently, the site contains approximately 1,876 trees. Through preservation and new plantings, the project will increase the number of trees onsite to approximately 1,936, also increasing the ratio of

native to non-native/invasive trees. The developer will improve to City trail standards a public trail that will run through the open space area, passing across the project's primary road. An easement will then be granted to the City for the long-term operation and maintenance of the public trail.

As is common with existing development throughout the City's Residential Planned Development Zone, 9.5 acres of the open space area will be within privately owned residential lots. Those portions of open space, Lemon Creek, and the public trail within private lots will be subject to recorded deed restrictions prohibiting use of the restricted open space by the owners of the private lots, including planting vegetation, installing fencing, or otherwise developing or using the restricted natural open space areas. The restrictions will be enforceable by the City. The remaining 2.7 acres of the open space area will consist of internal slope areas and water quality basins that will be owned by a public agency or the Homeowners Association (HOA) and subject to similar deed restrictions.

The open space will be maintained by a combination of a Lighting and Open Space Maintenance District (LOSMD) through a new zone funded entirely by the project's homeowners (as to the natural open space only), the City (as to the trail only), the flood control district or another public or quasi-public agency (as to stormwater retention basins only), and the project's HOA.

Stormwater / Lemon Creek. Three public storm drain inlets along Meadow Pass Road at the northerly boundary of the project site currently direct offsite stormwater into and through existing public storm drain lines within the project site. That offsite stormwater then enters Lemon Creek through two existing outlets. These public storm drains, which do not capture onsite stormwater now and will not do so when the project is complete, will be realigned under the project streets. One of the existing outlets into Lemon Creek will remain in its current location, while the second will be relocated to a point below the proposed project bridge.

While onsite stormwater historically flows directly into the creek, two water quality basins have been designed to detain any increase in on-site stormwater runoff resulting from the proposed project, up to a 100-year storm event. These basins will treat on-site runoff up to the 85th percentile storm event, consistent with Los Angeles County regulations. One water quality basin will be in the northern portion of the site and will hold and gradually release project stormwater into an existing public storm drain connection which enters the property from Lemon Avenue. The second water quality basin will be in the southern portion of the site and will hold and gradually release project stormwater into a proposed outlet to Lemon Creek. These water quality basins are designed to assure that project stormwater will enter Lemon Creek onsite at a volume and flow rate no greater than presently occurs. Runoff entering Lemon Creek will then pass offsite into existing public drainage facilities located on public property adjacent to the project site at La Puente Road.

In addition, one of the four existing onsite culverts ("Culvert D," located approximately 100 linear feet upstream of La Puente Road) will be removed, restoring the native creek in this location.

Southwestern Pond Turtle Natural History

Southwestern pond turtle (SWPT) is a California Department of Fish and Wildlife (CDFW) species of special concern (CDFW 2022b). Until recently, Northwestern pond turtle (NWPT) and the SWPT were considered a single polytypic species and were collectively referred to as the western pond turtle, *A. marmorata*. In 2014, , Spinks et al. 2014, revised the taxonomy of western pond turtles to recognize two distinct species: NWPT and SWPT (Manzo et al. 2021). The SWPT is an aquatic turtle that occurs in ponds, marshes, rivers, streams and irrigation ditches that typically support aquatic vegetation. It

requires downed logs, rocks, mats of vegetation, or exposed banks for basking. SWPT's lay their eggs in nests that are dug along the banks of streams or other uplands in sandy, friable soils. Those that reside in creeks, are also known to over-winter in upland habitats, or during the dry season when waterways are dry. Upland movements can be quite extensive, and individuals have been recorded nesting or overwintering hundreds of meters from aquatic habitats. The typical nesting season is usually from April through August; however, variation exists depending upon geographic location.

Survey Methodology

One habitat assessment and four focused surveys were performed by systematically searching for potentially suitable habitat within the Survey Area. The Survey Area included the 0.4-mile stretch of Lemon Creek which flows through the site, a 10-foot buffer on either side of the creek, and an additional 500 feet above and below the lower and upper limits of the development (where access was permitted). Prior to the surveys, the California Natural Diversity Database (CNDDB) was reviewed for occurrence records of SWPT within five miles of the Survey Area (CDFW 2022a). The surveys were conducted using a modified approach, but in accordance with the accepted U.S. Geological Survey (USGS) Western Pond Turtle (*Emys marmorata*) Visual Survey Protocol for the Southcoast Ecoregion (USGS 2006). The surveys were conducted in 2022 during the breeding season (May through September) when pond turtles have not yet left the water to aestivate or overwinter in the uplands. The surveys were conducted by Rincon biologist Peter Gaede, who has experience with and knowledge of SWPT life history and signs of SWPT presence. Additionally, Rincon biologists Kyle Gern and Carolyn Welch assisted Peter Gaede during field surveys.

A thorough habitat assessment was performed, and qualitative data were collected to categorize the vegetation and habitat types present and the suitability of the habitat to support SWPT's. Following the habitat assessment, presence/absence surveys were conducted in all areas of suitable habitat within the Survey Area, including the terrestrial habitat adjacent to the creek, the deeper pools present along the riparian corridor, and slow-moving water with basking areas such as rocks, downed logs, and emergent vegetation. Rincon biologists used binoculars to search potentially suitable habitat along the extent of the Lemon creek corridor where basking was mostly likely to occur (e.g. exposed logs and rocks and on the creek bank immediately adjacent to the creek). Deeper pools (plunge pools) were observed for extended periods for sign of pond turtle activity, such as foraging and swimming. The visual inspection consisted of observing the extent of Lemon Creek and adjacent vegetation along the portion of the creek that runs through the Survey Area. The creek was broken down into 250-meter segments, and the initial visual inspection was conducted during daylight hours. Subsequent surveys included a combination of AM and PM surveys to encompass a range of pond turtle activity periods and ambient conditions. In addition to the species data collected on site, the abiotic conditions during the surveys were also recorded, including information on weather, such as wind speed, and air/water temperature. No trapping was conducted.

Survey dates and weather conditions are reflected in Table 1 below.

Table 1 Survey Dates and Site Conditions

Survey Number	Date	Time (24 hr)	Surveyor(s)	Air Temp (°F)	Wind Speed (mph)	Water Temp (°F)

Habitat Assessment, Focused Survey 1	July 5, 2022	0900 – 1200	Peter Gaede, Carolyn Welch	65 – 75	0 – 1	67.0
Focused Survey 2	July 25, 2022	1530 – 1830	Peter Gaede	80 – 92	4 – 5	68.0
Focused Survey 3	August 12, 2022	0845– 1020	Peter Gaede, Kyle Gern	75 – 86	4 – 5	69.5
Focused Survey 4	September 1, 2022	1630 – 1900	Peter Gaede, Kyle Gern	91 – 100	0 – 5	67.6

Existing Site Conditions

Topography

Elevations within the project site range between approximately 570 and 635 feet above mean sea level (amsl). Lemon Creek flows northeast to southwest in the northeastern portion of the project site, and north to south through the central and southern portions of the project site. The slope of the survey area ranged between two percent and 50 percent, with the lowest slope occurring within the stream channel of Lemon Creek, and the highest slope occurring along the banks of the stream channel.

Hydrology and Aquatic Habitat

Lemon Creek is a perennial stream, and flows continuously through the survey area as a low flow channel. The natural course of Lemon Creek has been altered and flows are conveyed through portions of channelization, rock riprap, and several culverts. The banks along the majority of the creek are heavily incised, and relatively steep-sloped. Within the project site there are several plunge pools within the creek, at a depth of approximately 10 to 24 inches. The water was clear with little to no turbidity observed during the surveys. Aquatic refuge habitat is present, and includes woody debris, rocks, logs and bank undercuts. The aquatic substrate consists primarily of silt rocks, leaf litter and fallen logs.

Soils

The Natural Resources Conservation Service (NRCS) Web Soil Survey (United States Department of Agriculture [USDA] NRCS 2022a) delineates three soil map units within the project site.

Urban Land – Sorrento – Arbolado Complex, 2 to 9 Percent Slopes

The northern, western, and southern portions of the project site consist of Urban Land – Sorrento – Arbolado Complex, 2 to 9 Percent Slopes. These soils consist of well-drained soils on fan aprons at elevations of 160 to 1,390 feet amsl. The depth to water table is typically more than 80 inches. The soil profile is typically clay loam from zero to three inches, loam from three to 17 inches, clay loam from 17 to 71 inches, and loam from 71 to 79 inches below the soil surface. This soil is considered hydric by the USDA NRCS (USDA NRCS 2022b).

Counterfeit-Urban Land Complex, 10 to 35 Percent Slopes, Terraced

The central-eastern portion of the project site consists of Counterfeit-Urban Land Complex, 10 to 35 Percent Slopes, Terraced. These soils consist of somewhat poorly drained soils on hillslopes at elevations between 160 and 1,330 feet amsl. The depth to water table is typically more than 80 inches. The soil

profile is typically clay loam from zero to five inches, clay from five to 37 inches, clay loam from 37 to 57 inches, and sandy loam from 57 to 79 inches below the soil surface. This soil is considered hydric by the USDA NRCS (USDA NRCS 2022b).

Urban Land-Ballona-Typic Xerorthents, Fine Substratum Complex, 0 to 5 Percent Slopes

A small area in the southeastern portion of the project site consists of Urban Land-Ballona-Typic Xerorthents, Fine Substratum Complex, 0 to 5 Percent Slopes. These soils consist of well-drained soils on terraces and alluvial fans at elevations between 10 and 630 feet amsl. The depth to water table is typically more than 80 inches. The soil profile is typically loam from zero to 18 inches, clay loam from 18 to 31 inches, and clay from 31 to 79 inches below the soil surface. This soil is considered hydric by the USDA NRCS (USDA NRCS 2022b).

Vegetation

Eucalyptus – Shamel Ash Groves

Eucalyptus – shamel ash groves (*Eucalyptus* spp. – *Fraxinus udhei* Provisional Woodland Semi-Natural Alliance) exists in the central portion of the project site and is associated with Lemon Creek. While this provisional association is not defined in *A Manual of California Vegetation, Second Edition* (MCV2; Sawyer et al. 2009), it closely resembles the eucalyptus – tree of heaven – black locust groves (*Eucalyptus* spp. – *Ailanthus altissima – Robinia pseudoacacia* Woodland Semi-Natural Alliance), as it is characterized as heavily dominated by non-native tree species such as eucalyptus (*Eucalyptus* spp.) and shamel ash (*Fraxinus udhei*) in the tree layer, and a sparse herbaceous layer. This provisional association is proposed to represent the vegetation composition present within the project site most accurately.

Within the project site, the eucalyptus – shamel ash groves are heavily dominated by red ironbark eucalyptus (*Eucalyptus sideroxylon*), yellow scented gum (*Corymbia citriodora*), and shamel ash in the tree layer, with black locust (*Robinia pseudoacacia*), Peruvian pepper tree (*Schinus molle*), western sycamore (*Platanus racemosa*), Mexican fan palm (*Washingtonia robusta*), white alder (*Alnus rhombifolia*), and red willow (*Salix laevigata*) present as subdominant species. Occasional southern California black walnut (*Juglans californica*) trees are also present in this vegetation community. Vegetative cover in the understory is extremely low and consists of non-native grasses such as Bermuda grass (*Cynodon dactylon*), smilo grass (*Stipa miliacea*), red brome (*Bromus madritensis* ssp. *rubens*), ripgut brome (*Bromus diandrus*), shrubs such as castor bean (*Ricinus communis*), and herbaceous plants such as umbrella plant (*Cyperus involucratus*), and woodbine (*Parthenocissus inserta*). Some native riparian plant species such as California bulrush (*Schoenoplectus californicus*) and stinging nettle (*Urtica dioica*) are also present within the areas of high-water availability associated with Lemon Creek.

This vegetation community contains suitable habitat for SWPT, as it is generally associated with the riparian corridor of Lemon Creek within the Survey Area, however, other habitat elements including steep banks and culverts diminish habitat suitability for SWPT in the Survey Area.

Ornamental

The ornamental land cover type does not occur naturally and includes plants that are grown and planted for decorative purposes. It is typically located adjacent to developed areas and does not conform to a defined alliance in the MCV2 (Sawyer et al. 2009).

This land cover type is present in the northwestern portion of the project site and is associated with the previously developed and abandoned equestrian center (Attachment 1, Figure 3). Within the project site, species commonly associated with this land cover type include blue jacaranda (*Jacaranda mimosifolia*), Peruvian pepper, cherry blossom (*Prunus* spp.), European olive (*Olea europaea*), common fig (*Ficus carica*), European birch (*Betula pendula*), and Chinese elm (*Ulmus parvifolia*).

This land cover type does not generally contain suitable habitat for SWPT.

Pepper Tree Groves

Pepper tree groves (*Schinus molle* Forest and Woodland Semi-Natural Alliance) are typically found in coastal canyons, washes, slopes, riparian areas, and roadsides. Peruvian pepper trees may be found planted as trees, groves, and windbreaks, as well as in settings where they have become naturalized on uplands or bottomlands and adjacent to stream courses, lakes, or levees from 600 to 985 feet amsl. Peruvian pepper trees contribute more than 80% relative cover within the tree layer.

Within the project site, this alliance is dominated by Peruvian pepper tree in the tree layer, with other non-native trees such as Brazilian pepper tree (*Schinus terebinthifolius*) and shamel ash present as subdominant species. The herbaceous layer is sparse, and primarily consists of weedy non-native species such as smilo grass, ripgut brome, white horehound (*Marrubium vulgare*), and black mustard (*Brassica nigra*). This vegetation community is found within the western portion of the project site to the west of Lemon Creek, where it appears to have been originally planted as ornamental trees and then spread throughout the area through natural recruitment.

This land cover type does not generally contain suitable habitat for SWPT.

Wild Oats and Annual Brome Grasslands

Wild oats and annual brome grasslands (*Avena* spp. - *Bromus* spp. Herbaceous Semi-Natural Alliance occur in the northern and southeastern portions of the project site. This semi-natural alliance is characterized by having a dense herbaceous layer that is dominated by wild oats (*Avena* spp.) and/or brome grasses (*Bromus* spp.). It is common in upland hillsides and rangelands and typically has a low diversity of native species.

Within the project site, this vegetation community is dominated by slender wild oat (*Avena barbata*), ripgut brome, and smilo grass in the herbaceous layer, with black mustard, redstem filaree (*Erodium cicutarium*), annual yellow sweetclover (*Melilotus indicus*), tocalote (*Centaurea melitensis*), and Russian thistle (*Salsola tragus*) present as subdominant species. Sparsely scattered Peruvian pepper trees are present in the tree layer.

This land cover type does not generally contain suitable habitat for SWPT.

Developed

Developed areas consist of abandoned buildings, paved areas, and unpaved dirt roads within the project site. A few ornamental trees are present within this land cover type adjacent to abandoned buildings in the northern portion of the project site.

Developed areas occur in the northern portion of the project site, as well as along the western and southeastern borders (Attachment 1, Figure 3). These areas are largely unvegetated; therefore, native or non-native plant species are not associated with this land cover type.

This land cover type does not contain suitable habitat for SWPT.

Summary of Findings

The Survey Area was assessed for suitable habitat and the potential presence of SWPT. Suitable habitat was determined to be present; therefore, four focused SWPT surveys were conducted in the Survey Area.

As indicated in Table 1, the habitat assessment and first focused survey were conducted on July 5, 2022. Suitable habitat was determined to be present within the Survey Area in the eucalyptus – shamel ash groves vegetation community. This vegetation community is generally associated with the riparian corridor of Lemon Creek which flows through the project site. During focused surveys, Lemon Creek contained flowing water, pools up to two feet deep, and tree branches, some gently sloped banks, and concrete banks for basking. However, the majority of Lemon Creek within the project site consists of steeply cut banks, steep slopes, and limited potential for SWPT migration or dispersal outside of the wetted portion of the creek. The area of most suitable habitat occurs at the confluence between Lemon Creek and an unnamed tributary to Lemon Creek in the central portion of the Survey Area, just south of the abandoned equestrian center.

Two amphibian species were detected along Lemon Creek within the Survey Area, the Baja California treefrog (*Pseudacris hypochondriaca*) and the American bullfrog (*Lithobates catesbeianus*). During all focused surveys, people and dogs were observed within the Survey Area on established trails adjacent to Lemon Creek. No SWPT's or signs of SWPT presence were observed within the Survey Area at any time during the habitat assessment and focused surveys. Many common species expected to occur within a residential or urbanized region were observed (see Table 2). Non-native aquatic species found during the survey included red swamp crayfish (*Procambarus clarkii*) and American bullfrog. Over 100 juvenile crayfish were observed along the creek on the September 1, 2022 survey, confirming breeding and highlighting the prolific nature of the species. One native aquatic vertebrate species was observed, the Baja California treefrog (Attachment 2, Photograph 7), within a small wetland area located towards the middle of the Survey Area at the confluence of an unnamed drainage and Lemon Creek. The habitat in this area is dominated by emergent hydrophytic vegetation such as umbrella plant (*Cyperus alternifolius*) and common knotweed (*Persicaria lapathifolia*).

Table 2 Wildlife Species Observed

Scientific Name	Common Name
Birds	
Accipiter cooperii	Cooper's hawk

Baeolophus inornatus	oak titmouse
Buteo lineatus	red-shouldered hawk
Calypte anna	Anna's hummingbird
Corvus brachyrhynchos	American crow
Corvus corax	common raven
Empidonax difficilis	pacific-sloped flycatcher
Haemorhous mexicanus	house finch
Icterus cucullatus	hooded oriole
Lonchura punctulata	scaly-breasted munia
Melospiza melodia	song sparrow
Melozone crissalis	California towhee
Mimus polyglottos	northern mockingbird
Picoides nuttallii	Nuttall's woodpecker
Pipilo maculatus	spotted towhee
Psaltriparus minimus	bushtit
Sayornis nigricans	black phoebe
Sayornis nigricans	black phoebe
Selasphorus sasin	Allen's hummingbird
Setophaga nigrescens	black-throated gray warbler
Setophaga petechia	yellow warbler
Sialia mexicana	western bluebird
Spinus psaltria	lesser goldfinch
Thryomanes bewickii)	Bewick's wren
Tyrannus vociferans	Cassin's kingbird
Vermivora celata	orange-crowned warbler
Vidua macroura	pin-tailed whydah
Vireo huttoni	Hutton's vireo
Zenaida macroura	mourning dove
Mammals	
Canis latrans	coyote
Otospermophilus beecheyi	California ground squirrel
Sciurus niger	Eastern fox squirrel
Sylvilagus audubonii	desert cottontail
Amphibians[1]	
Lithobates catesbeianus	American bullfrog
Pseudacris hypochondriaca	Baja California treefrog
Reptiles[1]	
Sceloporus occidentalis	Western fence lizard
Fish	
Pimephales promelas	fathead minnow

[1] Stebbins and McGinnis 2012

Conclusion

A majority of the upland portion of the Survey Area has either been developed, or disturbed by grading, equestrian use, and human recreation. Although the natural course of Lemon Creek within the Survey Area has been altered and flows are conveyed through portions of channelization, rock riprap, and several culverts, potentially suitable aquatic and riparian habitat for SWPT is present. However, no SWPTs were observed or otherwise detected (e.g., suitable burrows) within the Survey Area during four focused SWPT surveys that were conducted in accordance with USGS guidelines (USGS 2006). Moreover, there are no historic CNDDB occurrences of SWPT within the Survey Area (CDFW 2022a). Additionally, the closest documented occurrence of SWPT is located approximately five miles southeast of the Survey Area within Arnold Reservoir, which is not hydrologically connected to Lemon Creek. The upland areas surrounding Lemon Creek within the Survey Area are mostly disturbed and would likely limit SWPT migration or dispersal onto upland areas. Additionally, predation of potential SWPT hatchlings by non-native species including American bullfrog is a high-ranking threat (Manzo et al. 2021) and could prevent SWPT from sustaining within the portion of the creek that traverses the Survey Area. A previous arroyo chub (*Gila orcutti*) presence/absence survey conducted along Lemon Creek with a seine net on November 27, 2018, which included an opportunistic survey for SWPT, also did not detect SWPT (Rincon 2018).

Sincerely,
Rincon Consultants, Inc.

Malek Al-Marayati
Wetland Scientist/Project Manager

Greg Ainsworth
Director of Natural Resources

Attachments

Attachment 1 Figures

Attachment 2 Representative Photographs

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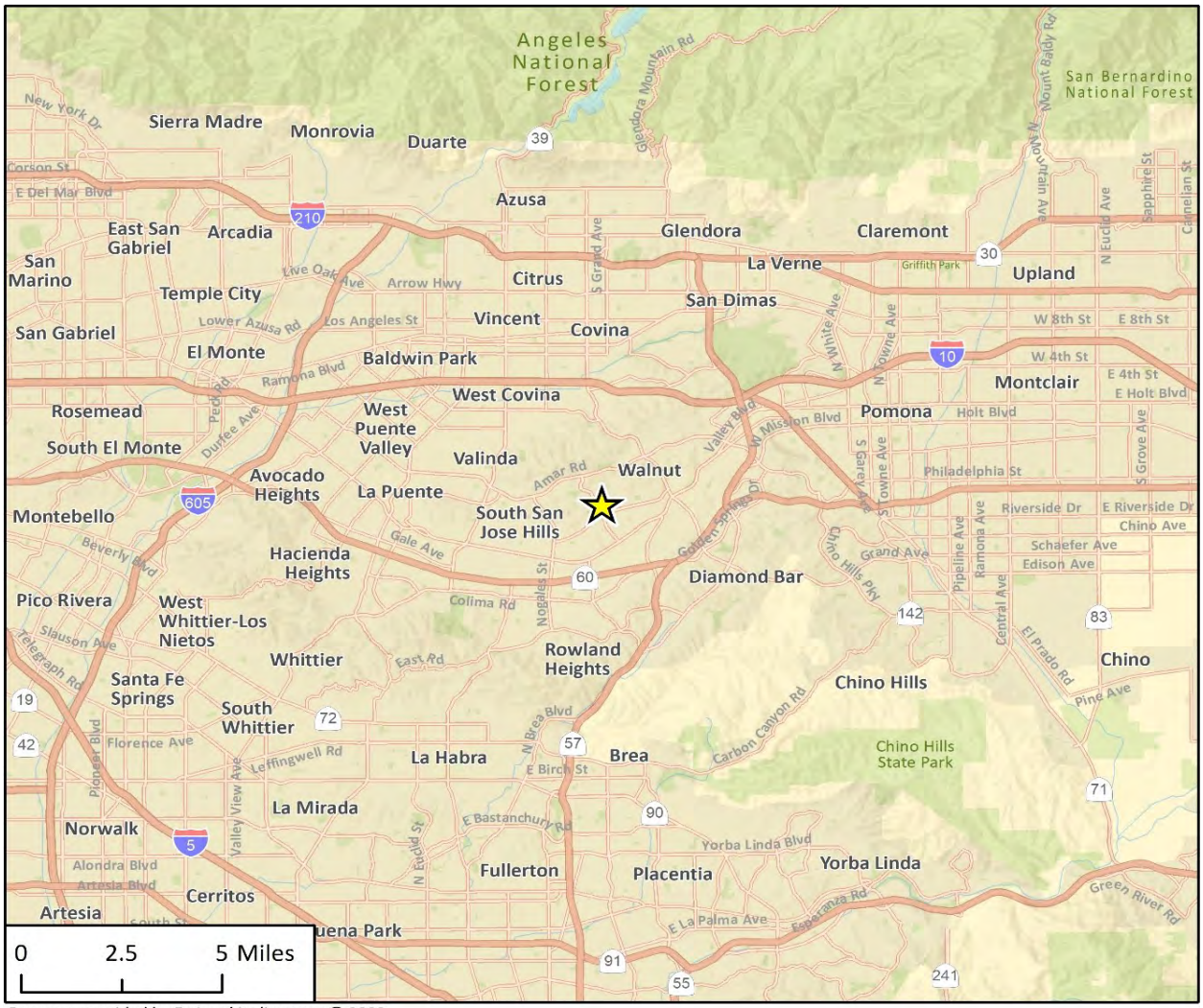
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Attachment 1

Figures

Figure 1 Regional Location



Basemap provided by Esri and its licensors © 2022.

Project Location

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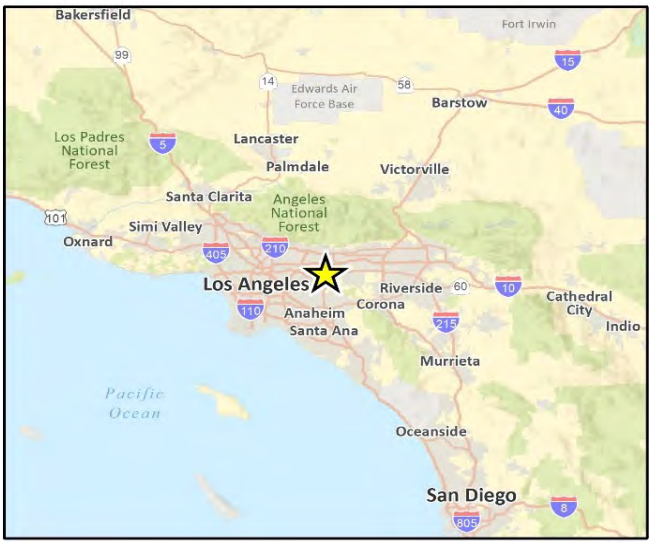


Figure 2 Survey Area



Figure 3 Vegetation Communities



Imagery provided by Microsoft Bing and its licensors © 2022.

Fig X Vegetation Communities

Attachment 2

Representative Photographs



Photograph 1. View of Lemon Creek at the southern edge of the Survey Area, facing southwest (July 5, 2022).



Photograph 2. View of concrete culvert of Lemon Creek underneath unpaved access road in the southern portion of the project site, facing north (July 5, 2022).



Photograph 3. View of Lemon Creek and associated riparian vegetation in the central portion of the Survey Area, facing northwest (July 5, 2022).



Photograph 4. View of downed logs along Lemon Creek in the central portion of the Survey Area, facing north (July 5, 2022).



Photograph 5. View of steep bank of Lemon Creek in the central portion of the Survey Area, facing northeast (July 5, 2022).



Photograph 6. View of concrete bank along Lemon Creek in the northern portion of the Survey Area, facing northwest (July 5, 2022).



Photograph 7. View of Baja California treefrog in the central portion of the survey area, facing northeast (August 12, 2022).

APPENDIX J

Crotch's Bumble Bee Survey Report

Rincon Consultants, Inc.
250 East 1st Street, Suite 1400
Los Angeles, California 90012
213-788-4842

January 11, 2024
Project No: 20-09720

Jack Su
Spring Meadow Homes, LLC and Meadow Pass Estates, LLC
18217 Gale, Suite A
City of Industry, California 91789

Subject: Crotch's Bumblebee Survey Report for the Brookside Residential Project, City of Walnut, California

Dear Mr. Su:

Rincon Consultants, Inc. (Rincon) is pleased to submit the results of Crotch's Bumblebee (CBB; *Bombus crotchii*) surveys conducted for the Brookside Residential Project (Project) located in the City of Walnut, Los Angeles County, California. The information provided in the report is based on an initial habitat assessment performed by Rincon on December 9, 2022, four focused CBB surveys conducted in July and August 2023 in accordance with the California Department of Fish and Wildlife (CDFW) *Survey Considerations for California Endangered Species Act (CESA) Candidate Bumble Bee Species* (CDFW, June 6, 2023), and a Crotch's Bumblebee Survey Report prepared by Osborne Biological Consulting (August 26, 2023).

Project Location and Description

Location

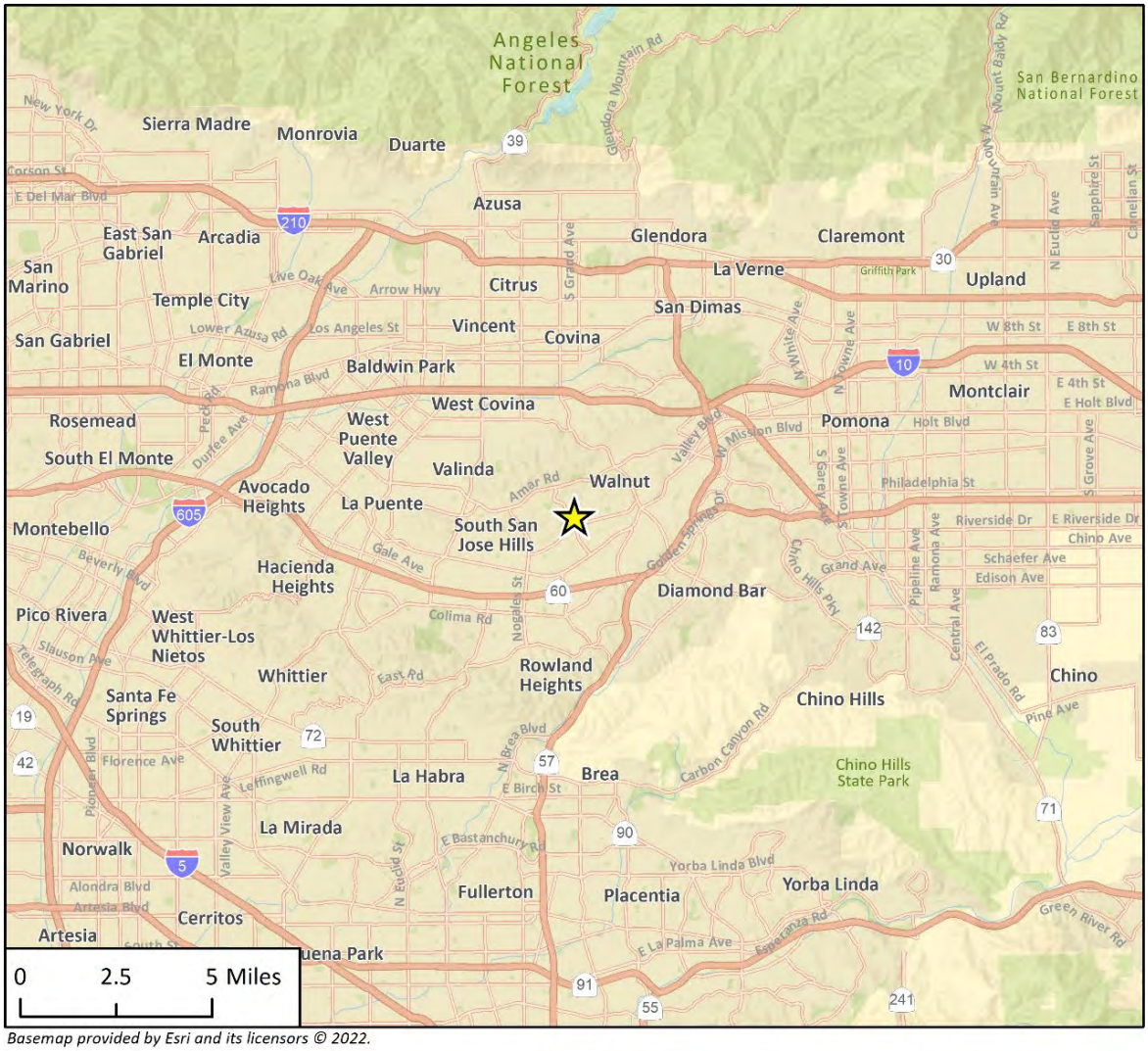
The project site consists of 25.8 acres located at 800 Meadow Pass Road. It is comprised of Assessor's Parcel Nos. 8709-093-001, -002, and -003 and is bordered by La Puente Road to the south, North Lemon Avenue to the west, Meadow Pass Road to the north, and homes to the east. It is in the southeast portion of the City of Walnut (City), approximately 2.3 miles northwest of the confluence of State Route 60 and State Route 57 (Figure 1). It is depicted on Township 02S, Range 09W, Section 6 of the United States Geological Survey, San Dimas California 7.5-minute quadrangle. The approximate center of the project site is located at latitude 34.024363 °N and longitude -117.866254°W.

Land Use Designations/Proposed Use

The project site has a General Plan designation of Very Low Density and is zoned Residential Planned Development Zone (RPD) with a designation of RPD–28,500–1.3. Pursuant to Section 6.24.030 A2 of the Walnut Municipal Code, the project proposes the development of 27 detached single-family homes under R-1 standards with a minimum lot size of 28,500 square feet. The project requires approval of a Tentative Tract Map and Site Plan/Architectural Review.

All project streets will be public. The northerly 25 homes will take access from Meadow Pass Road and the two most southerly homes will take access from San Vicente Drive, with each street ending in a cul-de-sac to preclude cut-through traffic. A bridge will provide access over Lemon Creek to those homes south of Lemon Creek that will be accessed from Meadow Pass Road (Figure 2).

Figure 1 Regional Location



Basemap provided by Esri and its licensors © 2022.

Project Location

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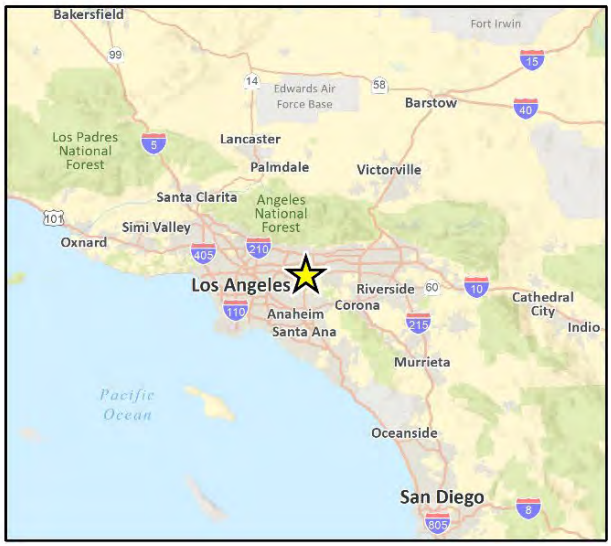


Figure 2 Project Location



Access

All project streets will be public. The northerly 25 homes will take access from Meadow Pass Road and the two most southerly homes will take access from San Vicente Drive, with each street ending in a cul-de-sac to preclude cut-through traffic. A bridge will provide access over Lemon Creek to those homes south of Lemon Creek that will be accessed from Meadow Pass Road.

Open Space

The entirety of Lemon Creek will be preserved and included within 12.2 acres of privately owned and residentially zoned property - over 47 percent of the site – that will serve as permanent open space. Currently, the site contains approximately 1,876 trees, including both native and non-native species. The project proposes to remove 460 trees, none of which are among the oak and walnut trees protected by the City's municipal code. The trees to be removed consist of 249 non-native trees, 181 invasive trees, and 30 native trees. These 460 trees will be replaced with a total of 520 native trees. As a result, through preservation and new plantings, the project will increase the number of trees on site to approximately 1,936, also increasing the ratio of native to non-native/invasive trees. The developer will make improvements to City trail standards a public trail that will run through the open space area, passing across the project's primary road. An easement will then be granted to the City for the long-term operation and maintenance of the public trail.

As is common with existing development throughout the City's Residential Planned Development Zone, 9.5 acres of the open space area will be within privately owned residential lots. Those portions of open space, Lemon Creek, and the public trail within private lots will be subject to recorded deed restrictions prohibiting use of the restricted open space by the owners of the private lots, including planting vegetation, installing fencing, or otherwise developing or using the restricted natural open space areas. The restrictions will be enforceable by the City. The remaining 2.7 acres of the open space area will consist of internal slope areas and water quality basins that will be owned by a public agency or the Homeowners Association (HOA) and subject to similar deed restrictions.

The open space will be maintained by a combination of a Lighting and Open Space Maintenance District (LOSMD) through a new zone funded entirely by the project's homeowners (as to the natural open space only), the City (as to the trail only), the flood control district or another public or quasi-public agency (as to stormwater retention basins only), and the project's HOA.

Stormwater/Lemon Creek

Three public storm drain inlets along Meadow Pass Road at the northerly boundary of the project site currently direct offsite stormwater into and through existing public storm drain lines within the project site. That offsite stormwater then enters Lemon Creek through two existing outlets. These public storm drains, which do not capture on site stormwater now and will not do so when the project is complete, will be realigned under the project streets. One of the existing outlets into Lemon Creek will remain in its current location, while the second will be relocated to a point below the proposed project bridge.

While on site stormwater historically flows directly into the creek, two water quality basins have been designed to detain any increase in on-site stormwater runoff resulting from the proposed project, up to a 100-year storm event. These basins will treat on-site runoff up to the 85th percentile storm event, consistent with Los Angeles County regulations. One water quality basin will be in the northern portion of the site and will hold and gradually release project stormwater into an existing public storm drain connection which enters the property from Lemon Avenue. The second water quality basin will be in the southern portion of the site and will hold and gradually release project stormwater into a proposed outlet to Lemon Creek. These water quality basins are designed to assure that project stormwater will

enter Lemon Creek on site at a volume and flow rate no greater than presently occurs. Runoff entering Lemon Creek will then pass offsite into existing public drainage facilities located on public property adjacent to the project site at La Puente Road. In addition, one of the four existing on site culverts ("Culvert D," located approximately 100 linear feet upstream of La Puente Road) will be removed, restoring the native creek in this location.

Methodology

Five Crotch's Bumblebee field surveys were performed between March 4, 2023, and August 24, 2023, four of which, were conducted by qualified entomologist Ken Osborne of Osborne Biological Consulting, with the other conducted by qualified biologist Kelly Rios of Rincon Consultants, Inc. The entire project site as depicted in Figure 2 was assessed (also referred to herein as "Study Area"). The timing and conditions of the surveys are presented in Table 1 below.

Prior to the initial assessment, recent aerial photography of the site (Google Earth 2023) was reviewed, and the California Natural Diversity Database (CNDDB) (CDFW 2023) was searched for records of CBB within a five-mile radius of the Study Area.

On June 6, 2023, CDFW released its *Survey Considerations for California Endangered Species Act (CESA) Candidate Bumble Bee Species* (the "Survey Considerations"). Two of the surveys occurred before the release of the Survey Considerations. Consistent with the Survey Considerations, the final three surveys coincided with the CBB Colony Active Period (April-August) when floral resources are present to increase probability of detection.

All portions of the Study Area were surveyed on foot. Wildlife, plant species, and vegetation communities present within the Study Area were noted and any observations or sign of CBB were also recorded. The biologists surveyed the Study Area plus a 100-foot buffer to assess the likelihood of CBB to be present.

Table 1 Field Survey Conditions

Surveyor	Date	Time	Weather
Ken Osborne	March 4, 2023	1130 - 1230	50°F, 5-10 mph winds, and 100 percent clouds.
Kelly Rios	May 23, 2023	0830-1230	66°F, 1-2 mph winds, and 100 percent clouds
Ken Osborne	July 31, 2023	0720 - 0920	74-80°F, 0-5 mph winds, and 10 percent clouds.
Ken Osborne	August 10, 2023	1110 – 1127	71-74F, 0-5 mph winds, and 100 percent clouds.
Ken Osborne	August 24, 2023	1005 - 1230	74-85°F, 0-5 mph winds, and clear skies.

Species Profile and Habitat Requirements

Crotch's Bumblebee is a candidate species for state listing under the California Endangered Species Act that occurs throughout Coastal California east to the Sierra Cascade crest and south into Mexico, with limited occurrences in western Nevada. It has a medium tongue length, and its food plant genera include *Antirrhinum*, *Phacelia, Clarkia, Dendromecon, Eschscholzia*, and *Eriogonum*. Crotch's Bumblebee inhabits open lands with areas of larger acreages being of greater amenability for the bees. The nearest CNDDB occurrence was recorded in 1911 approximately 1 mile north of the project site (CDFW 2023; occurrence no. 161). There are no recent records of CBB in the vicinity of the Study Area. A more detailed discussion of the species profile and habitat requirements is included in the Crotch's Bumblebee Survey Report (Osborne Biological Consulting, August 26, 2023).

Existing Conditions

The elevation of the Study Area ranges between approximately 555 - 640 feet above mean sea level. Five vegetation communities: Eucalyptus-Shamel ash groves, ornamental, pepper tree groves, and wild oats and annual brome grasslands are present in the Study Area, including areas that have been previously developed. Google Earth imagery indicates that undeveloped lands were considerably more extensive over recent decades, with the Study Area connected with nearly 40 square kilometers of open space (mainly the San Jose Hills) as late as 1985. Urban development has progressed through the decades such that remaining CBB habitat within and around the San Jose Hills are highly fragmented and reduced in size. Most of the developed landcover occurs in the northern portion of the Project site and consists of old structures, stables, and equestrian facilities (Figure 3). The surrounding land use consists of St. Lorenzo Catholic church to the north, residential communities to the east and west, and commercial development to the south of the Project site. Representative site photographs are included as Attachment 1.

The Study Area is situated within a matrix of residential neighborhoods with a loose network of greenways and a patchy distribution of undeveloped lands. The Study Area includes open fields interrupted by belts of tree lines and the riparian corridor associated with Lemon Creek. Animal burrows created by gophers and ground squirrels are abundant on the site which represent potential nesting locations for bumblebees. Plant species representing potential nectar resources for CBB are also present on the site, and include deerweed (*Acmispon glabor*), lupine (*Lupinus* sp.), and thistles (*Cirisium* sp). Additional nectar resources are adjacent to the site on cut slopes around residential developments, such as iceplant (*Carpobrotus* sp.). As discussed in more detail below, the existing conditions within the Study Area and nearby surroundings provide only low-quality habitat to support CBB.

Figure 3 Vegetation Communities and Land Cover Types



Results

As indicated above under Existing Conditions, the Study Area is situated within a matrix of residential neighborhoods with a loose network of green-ways and a patchy distribution of undeveloped lands. The Study Area includes open fields interrupted by belts of tree lines and the riparian corridor associated with Lemon Creek. Animal burrows created by gophers and ground squirrels are abundant on the site which represent potential nesting locations for bumblebees. Plant species representing potential nectar resources for CBB are also present on the site, and include deerweed, lupine, and thistles. Additional nectar resources are adjacent to the site on cut slopes around residential developments, such as iceplant. Based on the overall conditions of the Study Area (i.e., disturbed and fragmented from undeveloped areas), the existing conditions and nearby surroundings provide only low-quality habitat to support CBB.

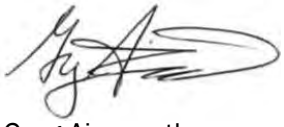
Despite the low-quality habitat to support CBB, a single CBB was observed on the site on August 24, 2023, foraging in a non-native, ornamental Jacaranda (*Jacaranda mimosifolia*) that was planted on the project site near Meadow Pass Road. Five other non-protected bumblebees were observed foraging on the site during the surveys (for more information, see the Crotch's Bumblebee Survey Report; Osborne Biological Consulting, August 26, 2023). All the observations were of bumblebees foraging in non-native vegetation. Osborne concluded that potential nectar and pollen resources (species of flowers likely to be used by bumblebees) were found to be in low abundance as compared with many other sites that have been surveyed for CBB. The species of plants that the CBB was observed foraging on were limited to non-native species, including the exotic and invasive Bristly oxtongue (*Picris echioides)* weed and planted Jacaranda trees. Other potential nectar sources observed on the project site include the exotic and invasive common thistle (*Cirisium vulgare*) (a single individual observed in bloom) and great march evening primrose (*Oenothera elata*) (a native species with several individuals along the drainage). Over the course of the surveys, no bumblebees were observed to be nesting within the Study Area.

Conclusions

Crotch's bumblebee generally inhabits large open undisturbed lands. By contrast, the project site/Study Area is highly disturbed. However, green-ways and open habitats are present within one kilometer. CBB are known to nest in small mammal burrows such as those created by California ground squirrels (*Otospermophilus beecheyi*). However, during the initial habitat assessment, it was confirmed that the ground squirrel burrows on the project site are occupied (by ground squirrels), which precludes CBB from establishing nest colonies. Furthermore, following the initial habitat assessment, it was assumed that the potential for CBB to occur would be unlikely because no nectar sources were observed within the Study Area at that time and because there were several areas identified on site where chipped bark and leaf litter was present (which limits potential for establishing nest colonies) and areas consisted of primarily disturbed soil, dirt pedestrian trails, and non-native weed species. The small size of the Study Area, the presence only of low-quality habitat to support CBB , and the sparse distribution of open areas are not optimal conditions for CBB to establish nesting colonies. As such, the single observed CBB was probably only in-transit for foraging opportunities, and likely originated from a nest somewhere offsite. Therefore, it has been determined that the Study Area does not contain habitat of sufficient quality to support CBB.

Thank you for the opportunity to provide you with information on Crotch's bumblebee based on focused surveys conducted in 2023. Please contact Greg Ainsworth at 805-465-9091 or by email gainsworth@rinconconsultants.com if you have questions concerning the contents of this report.

Sincerely,
Rincon Consultants, Inc.



Greg Ainsworth
Director of Natural Resources

Attachments

Attachment 1 Representative Photographs

Attachment 2 Crotch's Bumblebee Survey Report (Osborne Biological Consulting, August 26, 2023)

References

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United States Geological Survey (USGS).1997. San Dimas, California 7.5-minute USGS Quadrangle Map.

Attachment 1

Representative Photographs



Photograph 1. Study Area: From the southeast corner, facing north to Pepper Tree Grove vegetation community.



Photograph 2. Study Area: From the northern portion of the Project site, facing south.



Photograph 3. Study Area: From the center portion of the site, facing south towards developed land use.



Photograph 4. Study Area: From the southern central portion of the Project site, facing south.



Photograph 5. Lemon Creek, flowing into drainage in the center of the Study Area, facing north.



Photograph 6. Central portion of Study Area, disturbed non-native grassland, facing southwest.



Photograph 7. Northeast portion of the Study Area, facing north.



Photograph 8. Eucalyptus-Shamel Ash grove from the trail, facing north.



Photograph 9. Center of the Study Area, highly developed and disturbed, facing southwest.

Attachment 2

Crotch's Bumblebee Survey Report (Osborne Biological Consulting, August 26, 2023)

Ken H. Osborne
Osborne Biological Consulting
6675 Avenue Juan Diaz
Riverside, CA 92509

August 15, 2023

Attn: Mr. Greg Ainsworth
Director of Natural Resources and Urban Forestry
Rincon Consultants, Inc.
180 N. Ashwood Avenue
Ventura, CA 93003

RE: Abbreviated Survey for Crotch's Bumblebee on the approximately 27-acre Brookside Project site, Walnut, CA.

To Whom It May Concern:

Rincon Consultants, Inc., has requested an abbreviated survey for Crotch's Bumblebee (*Bombus crotchii,* CBB) a Candidate for listing as California State endangered status, on the approximately 27-acre Brookside Project site located northeast of the intersection of La Puente Road and North Lemon Avenue and southeast of the intersection of N. Lemon Ave. with Meadow Pass Rd., Walnut, CA.

Populations of a number of bumble bee species (Figure 2) have been in sharp decline in the United States over the last decade. Crotch's bumblebee (CBB) is generally distributed through wildlands and rural areas in low to middle elevations of California. Bumble bees nest in cavities in the soil or wood and the adults (queens, workers, and males), active in the daytime, all visit nectar and pollen resources across a diverse range of plant species including those among Asclepiadaceae, Asteraceae, Bignoniaceae, Boraginaceae, Ericaceae, Fabaceae, Hydrophyllaceae, Lamiaceae, Plumbaginaceae, Polygonaceae, Solanaceae.

Summary Conclusions: The project site supports at least four species of bumblebees, demonstrating potential for CBB. The limited scope of this survey effort, conducted so late in the CBB flight season, renders these results as regards CBB as inconclusive. A series of surveys conducted through the months of April, May, June, and July, following CDFW recommended protocol or a similar protocol to the one I have previously proposed, would be necessary to make a defensible determination of CBB presence or absence on the project site.

Qualifications: I am an entomologist with over 55 years' experience in California (BS, MS, degrees in entomology). Through decades of collecting, rearing, captive propagation, and biological consulting focusing on issues ranging from sensitive species to comprehensive inventories, I have intimate familiarity with our California fauna. I additionally possess USFWS 10(a) permitting covering all federally listed insect species of southern California. With the growing specter of state endangered listing for Crotch's bumblebee over the previous few years, I have sharpened my focus on the *Bombus* species of southern California, developing and delivering bumblebee identification workshop training programs that have been delivered now to over forty biologists, formulating survey protocols for CBB

on a series of large projects, ultimately this year with myself and these trained biologists successfully documenting CBB and many other bumblebee species in the course of several focused CBB studies.

Methods: Although the necessity of intended survey protocols were quickly obviated by field results obtained for this study, since CBB methods are only recently considered with the new status of CBB, an account is provided here. The survey protocol initiated here was developed using published survey methods for California bumble bees, generalized bumble bee life history, published papers specific to Crotch's bumble bee life history and behavior, the California Department of Fish and Wildlife (CDFW) petition to list Crotch's bumble bee, fundamentally influenced by my over 55 years entomological experience in southern California. This is specifically over 25 years of experience in biological consulting for all federal listed insect species in southern California with particular consideration of methods used in survey of federal endangered Quino Checkerspot Butterfly (which I helped develop, USFWS 1999) and the survey protocols used for federal endangered Delhi Sands Flower-loving fly (USFWS 1996).

In order to have a competent survey with valid results, the survey for CBB would ideally use at least five site visits (a survey effort covering approximately ten to fifteen acres per hour), at intervals of approximately two weeks, during a survey period extending April through August in order to coincide with availability of nectar resources and CBB biology. This survey effort did not commence until the end of July, and was discontinued after two site visits when it became clear that negative results would be inconclusive. Surveys would be undertaken between the hours shortly after sunrise and sunset when CBB and other *Bombus* species are active. Survey would be undertaken with ambient air temperatures between 60 and 90 degrees Fahrenheit (F) (Couvillion et al. 2010) and only be when appropriate environmental conditions are met. Overcast conditions are acceptable with temperatures not less than 65 degrees or sustained wind speeds over 8 mph. Surveys would not be conducted in fog or times of low visibility or precipitation heavier than a drizzling rain (Corbet et al. 1993; Uthoff and Ruxton 2022).

The survey approach for CBB essentially takes a two pronged approach: Firstly, discrete patches of appropriate nectar/pollen resources (if they exist on the survey site) are specifically surveyed for bumblebees that may visit these resources; and secondly, wandering (or regular – depending on site conditions and circumstances) are used to perform a more general survey effort, especially where nectar/pollen resources are lacking, with the goal of either observing bumblebees in passing and the prospect of encountering bumblebee nest sites associated with small mammal burrows or other appropriate soil cavities. These tasks are undertaken such as to cover approximately ten acres per hour (a rate that has long been commensurate with survey rates used for survey of federal listed insect species in southern California, including Quino Checkerspot butterfly, Palos Verdes Blue butterfly, El Segundo Blue butterfly, and Delhi Sands Flower-loving fly. The overall objective is to employ methods and survey rates that have such a high potential for detection (if the species is present) that negative survey results are defensible and valid. The protocols I have promoted to biologists do not involve capture, netting, or collecting of the bees such as used by netting, chilling and photographing the bees before releasing (Xerces Society 2023) but simply use a carful approach (so as not to alarm the bumblebees) and photography of the bees *in situ*. Biologists are trained to identify our southern California species on sight (there are several species - as well as their sexually dimorphic characters to consider) and further identify individuals as documented with the field photographs. California Fish and Wildlife has more recently provided their Survey Considerations for CESA Candidate Bumble Bees (2023).

Another aspect associated with methods concerns the interpretation of results. As a general rule, for the several projects in which I have been involved, we consider an area of one half kilometer radius around each CBB finding to constitute occupied habitat (and this is likely an underestimate by an order of magnitude). Where several observations are made with a general distribution over and/or around the study area, all portions of suitable habitat on the project area are deemed occupied or subject to use by CBB. Areas that are paved, developed, or maintained with intense agricultural or exotic landscaping use are deemed as habitats not suitable for CBB (although some exotic nectar resources may be of use to CBB on margins of native habitats).

I visited the project site on the mornings of July 31 and August 10, 2023. On both mornings temperatures were between 70 and 80º *F*. Potential nectar and pollen resources were limited, but included a few potentially attractive locations. Survey efforts focused on the limited areas of available nectar and pollen resources. Table 1 provides the conditions and times for the survey effort.

Table 1. Dates, times and conditions for CBB survey efforts.

Date	Hours	Weather Conditions
7/31/2023	0720-0920	10% clouds or haze, calm, 74-80° *F*.
8/10/2023	1110-1127	100% overcast, calm, 71-74° *F*.

Results and Discussion: Potential nectar and pollen resources (species of flowers likely to be used by bmublebees) were found to be in low abundance as compared with many other sites I have surveyed for CBB. Species appeared to be limited to *Picris echioides* (Bristly ox-tongue, with a large stand near the drainage on a central portion of the site and scattered plants at the base of irrigated slopes along the eastern margin of the site, Figure 2), *Cirisium vulgare* (common thistle, a single individual in bloom), *Oenothera elata* (Great marsh evening primrose, with several individuals along the drainage), and Jacaranda trees (*Jacaranda mimosifolia*, several trees distributed across northern portions of the site).

Bumblebees were observed on the site during the course of both visits (Figures 3 through 6). Four species of bumblebees were found. *Bombus crotchii* was not observed on the site. *Jacaranda* was found to be particularly attractive for *Bombus* during the second site visit. Other insects superficially resembling bumblebees were also observed, including *Xylocopa* (carpenter bees) and *Cotinus* (Green June beetle). Data associated with the *Bombus* observations are presented with Table 2 (below).

Conclusions:

The project site supports at least four species of bumblebees. This finding substantiates my earlier (Osborne 2023) conclusion of potential suitability of the project site for CBB. The limited scope of this survey effort, conducted so late in the CBB flight season, renders these results inconclusive as regards CBB. A series of surveys conducted through the months of April, May, June, and July, following CDFW recommended protocol or a similar protocol to the one I have previously proposed, may be necessary to make a defensible determination of CBB presence or absence on the project site.

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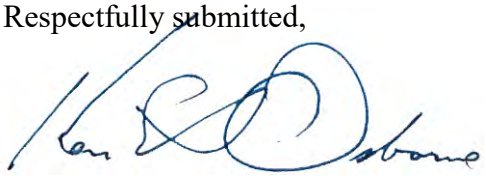
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Respectfully submitted,



Ken H. Osborne



Figure 1. Satellite image of project site (outlined in blue) and vicinity from Google Earth.



Figure 2. Photograph (July 31, 2023) of large patch of *Picris echioides* (yellow flowers) along a woodland path on a northern central portion of the project site (view looking east).



Figure 3. Photograph (July 31, 2023) of the male *Bombus melanopygus* observed on *Picris* (same location as Figure 1 above).



Figure 4. Photograph (August 10, 2023) of *Bombus vosnesenskii* (arrow) at *Jacaranda*. In addition to the thin yellow abdominal band (seen in this inset) the observation of yellow hairs on its head allowed this species determination.



Figure 5. Photograph (August 10, 2023) of *Bombus sonorous* on the ground, northern portion of the project site.



Figure 6. Photograph of a worker *Bombus sonorous visiting* Jacaranda on the northern portion of the project site.

Table 1. Dates and locations of Bumblebees on the survey

Date	Time	Species	Latitude	Longitude	Notes
7/31/2023	824	*B. californicus*	34.02190	-117.86440	at *Picris*, observed
7/31/2023	908	*B. melanopygus*	34.02420	-117.86650	(male) at *Picris,* photographed
8/10/2023	1108	*B. sonorus*	34.02631	-117.86656	(worker) at *Jacaranda*, photographed
8/10/2023	1124	*B. sonorus*	34.02471	-117.86675	(worker) at *Jacaranda*, photographed
8/10/2023	1339	*B. sonorus*	34.02601	-117.86644	(worker) landed on ground, photographed
8/10/2023	1143	*B. sonorus*	34.02597	-117.86440	(worker) at *Jacaranda*, photographed
8/10/2023	1153	*B. vosnesenskii*	34.02597	-117.86440	(worker) at *Jacaranda*, photographed
8/10/2023	1200	*B. sonorus*	34.02607	-117.86440	(worker) at *Jacaranda*, photographed