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City of San Jose
Thousand Oaks Park
Tree Management Plan

Project # 3497-07

Prepared for:

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Section 1. Introduction

Thousand Oaks Park is a neighborhood park encompassing approximately 10 acres in the southern portion of the city of San Jose in Santa Clara County, California (Figure 1) within the Los Gatos U.S. Geological Survey (USGS) 7.5-minute quadrangle (Figure 2). The park is in a residential area along Thousand Oaks Drive, which divides it into eastern and western sides, at the intersection with Downswick Drive. The eastern side includes a youth playground, picnic area, turf, and oak woodland vegetation (Photo 1). The western side contains a woodland area with a recently installed decomposed-granite path and benches (Photo 2). The Guadalupe River is west of the woodland area and is separated from the park by an undeveloped parcel and a chain-link fence. The park supports numerous trees, including mature native coast live oaks (*Quercus agrifolia*) and valley oaks (*Quercus lobata*), that were left in place when the surrounding areas were converted into orchards and agricultural lands, which preceded the residential development.

Photo 1. (Left) Youth Playground and Picnic Area with Native Coast Live Oak Trees and Turf in the Background

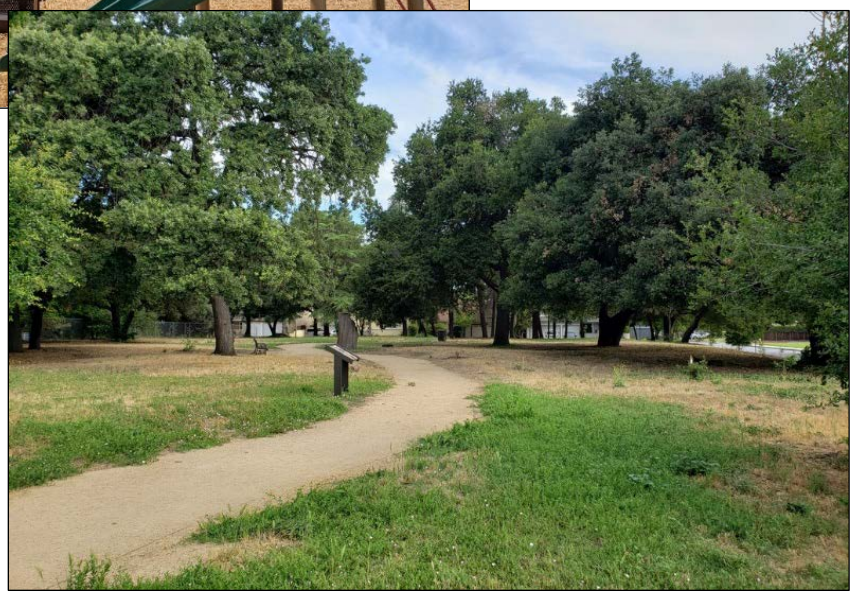

Photo 2. (Right) Woodland Area on the Western Side of the Park with a Canopy Dominated by Native Coast Live Oaks and Valley Oaks that are Interspersed with Meadow Areas

Soil type mapping conducted by the Natural Resources Conservation Service determined that the park soils are a mix of urban land and Elpaloalto series clay loam that formed in alluvium, which reflects the park's landscape position in the historical alluvial fan of the Guadalupe River (NRCS 2019). Historical mapping (circa 1850) compiled by the San Francisco Estuary Institute (SFEI) indicates that the park lands supported oak savanna habitat near the riparian corridor of the Guadalupe River (Figure 3) (SFEI 2010). Aerial imagery from 1948 for the park vicinity showed orchards, agricultural lands, and scattered oaks and woodland within the present-day park boundary; the surrounding area was almost exclusively orchards and agricultural lands (Figure 4). Some of the trees visible in the 1948 aerial imagery may still be growing in the park.

The City of San Jose (City) prepared the Thousand Oaks Park Masterplan Report (masterplan) to guide development and planning of the park (Appendix A) (Hardesty Associates 1985). The park currently includes many design features described in the masterplan (Figure 5). The tree assessment conducted for the masterplan documented 128 trees that consisted of a variety of native and non-native species. The masterplan characterized the park's oak woodland as its major feature, described the woodland as an invaluable resource, and identified the following community goals for the park:

1. Preserve the natural character of the site.
2. Protect existing trees, particularly the oaks.
3. Orient the use of the park to neighborhood residents and pedestrian access, and discourage potential over-use by large groups and people and automobiles.
4. Provide low-key and recreational uses.
5. Involve the neighborhood in the management as well as use of the park.

While these goals were set 35 years ago, they still resonate today. Community members have been instrumental in facilitating the achievement of these goals through numerous efforts and by engaging the City. For example, community members have raised awareness among City officials and the public regarding the importance of the park's oak woodland, conducted fundraising activities, and coordinated volunteers to install the path, benches, and signage in the woodland area (Figure 6). To support the community's actions, the City retained H. T. Harvey & Associates to develop this tree management plan. The goals of this plan are to provide an inventory of existing trees at the park and present management opportunities to preserve and enhance the park's natural resources (particularly the oak woodland). These opportunities were developed to enrich park user experiences and benefit native plant and wildlife species in the park and the adjacent areas.

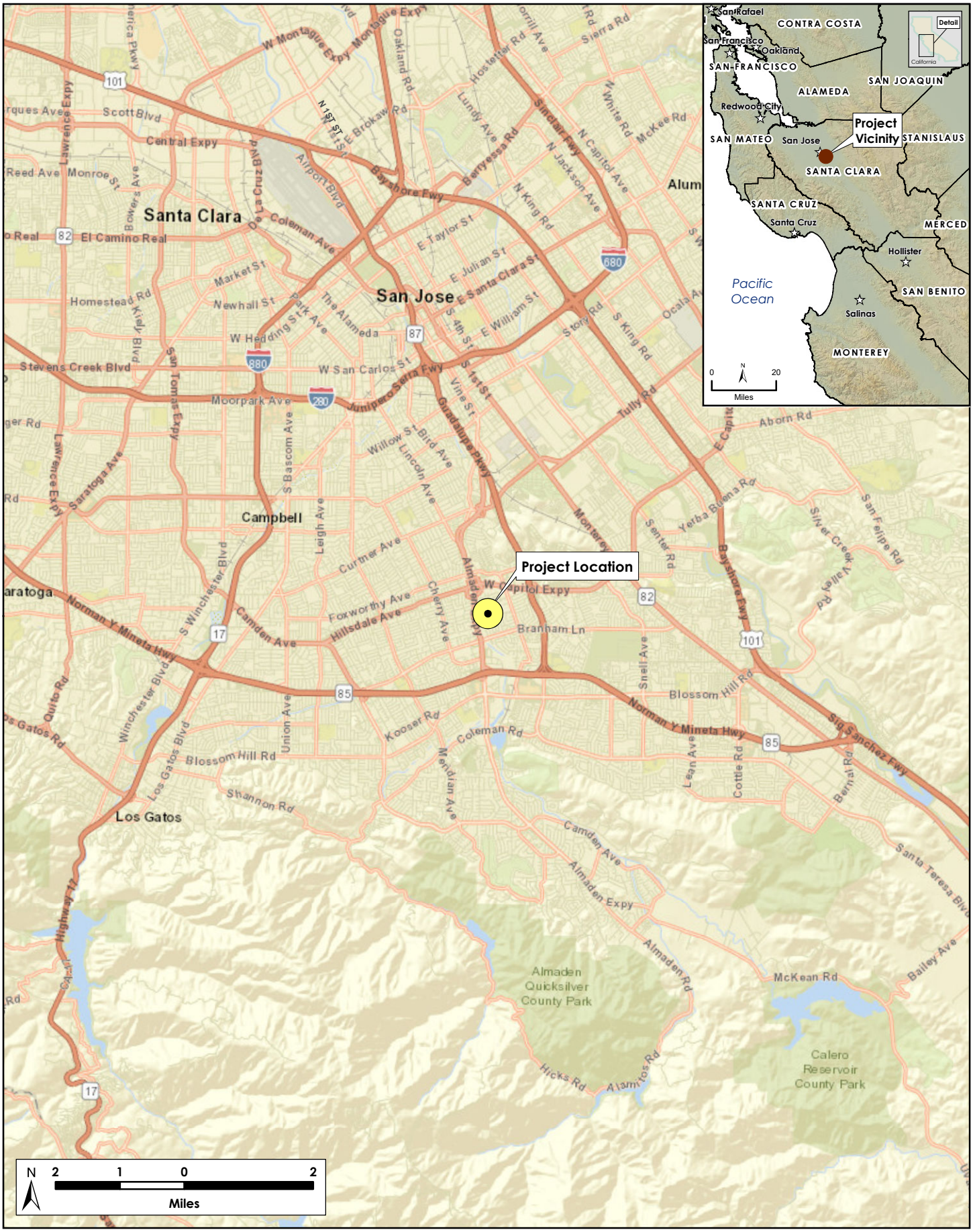

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Figure 1. Vicinity Map
Thousand Oaks Park (3497-07)
February 2020

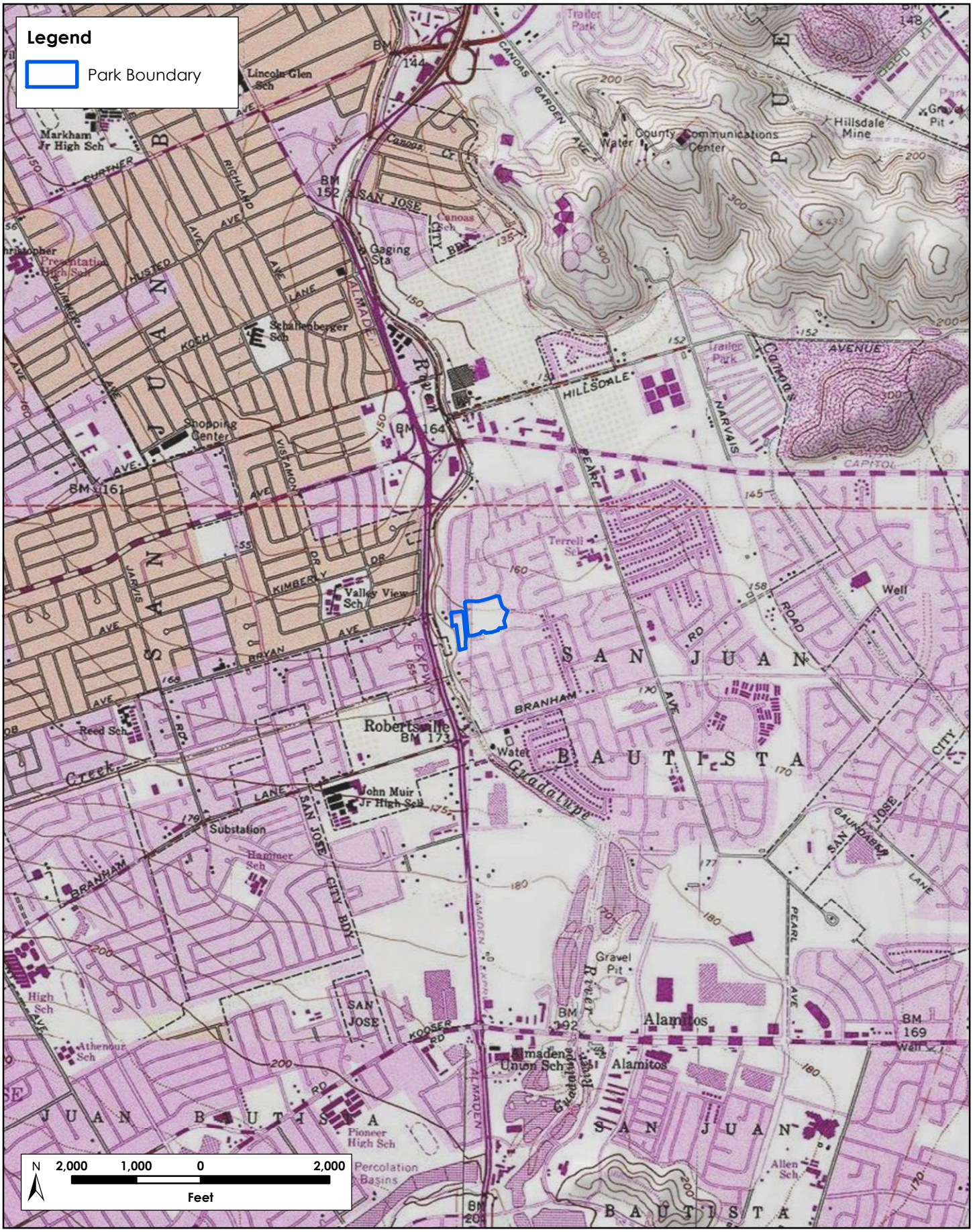

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Figure 2. USGS Topographic Map

Thousand Oaks (3497-07)
February 2020

Palo Alto
Mountain View
Los Altos
Sunnyvale
Santa Clara
Milpitas
San Jose
Campbell
Saratoga
Los Gatos
Thousand Oaks Park
Stevens Creek
Saratoga Creek
San Tomas Aquino Creek
Los Gatos Creek
Ross Creek
Guadalupe River
Coyote Creek
237
880
680
101
280
580
17
85
82
N 2 1 0 2
Miles

Legend

- Thousand Oaks Park Boundary

Historical Channels*

- Minor Tidal Channel / Flat
- Creek
- Side Channel
- Slough

Historical Habitats*

- Alkali Meadow (high concentration)
- Alkali Meadow (low concentration)
- Box Elder Grove
- Chaparral
- Coyote Riparian: Bar with Riparian Woodland
- Coyote Riparian: Island with Riparian Woodland
- Coyote Riparian: Low Flow Channel
- Deep Bay
- Floodplain Slough
- Oak Savanna / Grassland
- Oak Woodland
- Perennial Freshwater Pond
- Salt Flat / Salina
- Seasonal Lake / Pond
- Shallow Bay
- Shallow Tidal Channel
- Sycamore Grove
- Tidal Flat / Channel
- Tidal Marsh
- Tidal Marsh Panne
- Valley Freshwater Marsh
- Wet Meadow
- Wild Rose Thicket
- Willow Grove

Data Source: San Francisco Estuary Institute 2015

N:\Projects3400\3497-01\07\Reports\Fig 6 SFEI Historical Ecology.mxd

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Figure 3. Historical Ecology with Current Park Boundary
Thousand Oaks Park (3497-07)
February 2020

N:\Projects3400\3497-01\07 Reports\Fig 5 Historic Aerial.mxd

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Figure 4. 1948 Aerial Base with Current Park Boundary
Thousand Oaks Park (3497-07)
February 2020

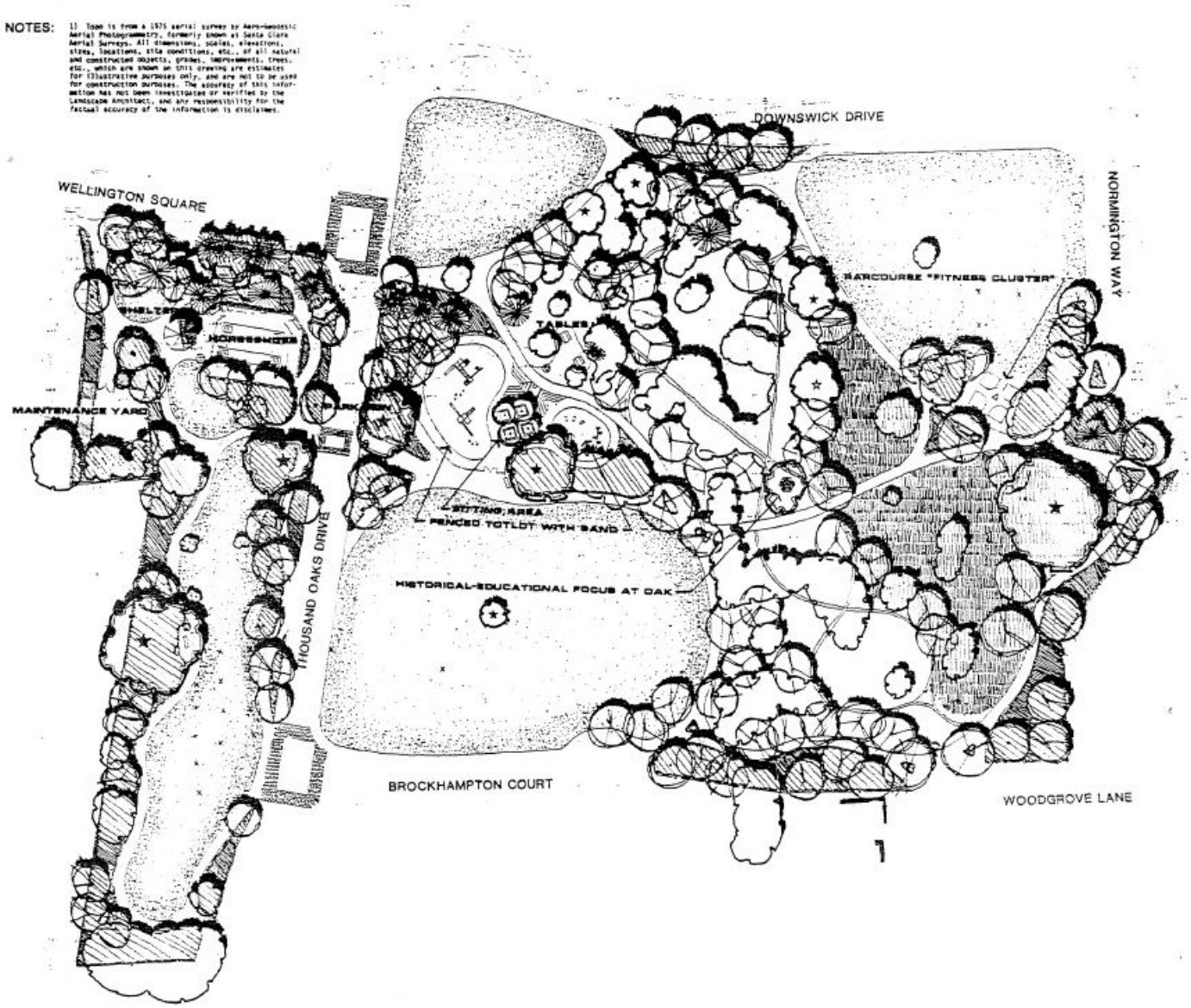

Figure 5. The 1985 Masterplan

N:\Projects\3400\3497-01\07\Reports\Fig 4 Park Overview.mxd

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Figure 6. Park Overview
Thousand Oaks Park (3497-07)
February 2020

Section 2. Existing Conditions Overview

This section summarizes the methods and results of a June 2019 tree inventory conducted by H. T. Harvey & Associates and discusses meadow plants installed by volunteers.

2.1 Tree Inventory Summary

H. T. Harvey & Associates arborist Ryan Hegstad and restoration ecologist Vicki Chang completed a tree inventory in the park on June 27 and 28, 2019. Ryan is a certified arborist (International Society of Arboriculture #WE-12542A). The methodology and results of the tree inventory are summarized below, and more detailed information is provided in Appendix B.

For the purposes of this effort, woody plants with a diameter greater than 4 inches at a height of 4.5 feet above the ground (DBH) were considered trees. Saplings that did not meet this size criterion and large woody shrubs were also recorded to provide a comprehensive inventory of woody vegetation in the park. The inventory included completing the following tasks for each tree:

- identifying the species and recording its status (e.g., native, non-native, invasive)
- placing a numbered aluminum tree tag on the main trunk
- recording the approximate location
- measuring the DBH of the trunk/s
- assigning condition scores of 0–5 for tree health and structure

Photo 3. Example of a Numbered Tree Tag Installed at the Park

Tree assessments were based on ground-level visual observations and physical measurements. We identified the tree species and native status with *The Jepson Manual*, second edition (Baldwin et al. 2012) and the California Invasive Plant Council's (Cal-IPC's) inventory of invasive plants (Table 1) (Cal-IPC 2019). They used a diameter tape to measure the DBH and a Global Positioning System (GPS) unit to record the trunk location. The condition scores for tree health and structure were qualitative (i.e., assigned based on observations). Tree health scores were assigned according to canopy attributes such as overall vigor, density, leaf size, and signs of damage from insects or disease. Structure scores were assigned based on characteristics such as the condition/form of trees and roots, branch assembly/arrangement, and signs of diminished structural integrity (e.g., cavities, dead limbs, and excessive leaning). The condition scores for tree health and structure were combined to assign an overall condition rating (good, fair, poor, and dead) to each tree.

Table 1. Tree Species Observed and Native Status

Scientific Name	Common Name	Native Status[1]	# Observed
Casuarina cunninghamiana	river she-oak	non-native	3
Cedrus deodara	deodar cedar	non-native	14
Celtis sinensis	Chinese hackberry	non-native	3
Cotoneaster lacteus	milkflower cotoneaster	moderate invasive	1
Cupropcyparis × leylandii	Leyland cypress	non-native	3
Olea europaea	olive	limited invasive	3
Eucalyptus globulus	blue gum	limited invasive	3
Juglans hindsii	northern California black walnut	native	4
Ligustrum lucidum	glossy privet	limited invasive	1
Pinus densiflora	Japanese red pine	non-native	2
Prunus cerasifera	cherry plum	limited invasive	1
Prunus ilicifolia	hollyleaf cherry	native	1
Pyracantha angustifolia	firethorn	limited invasive	2
Pyrus kawakamii	evergreen pear	non-native	3
Quercus agrifolia	coast live oak	native	155
Quercus lobata	valley oak	native	16
Quercus suber	cork oak	non-native	15
		TOTAL	**230**

[1] Invasive status is according to the California Invasive Plant Council inventory.

The surveyors recorded 230 trees in the park that represented four native species and 14 non-native species; six of these species have been rated as invasive by Cal-IPC (Appendix B). The most common trees were coast live oak and fairly common species were valley oak, cork oak (*Quercus suber*), and deodar cedar (*Cedrus deodara*). Most of the park trees (189) were rated as having good health and structure. Only 33 trees were rated as fair, six were rated as poor, and 2 were observed to be dead. The health issues typically observed for oaks were the presence of California oakworms (*Phryganidia* sp.), tussock moths (*Orgyia* sp.), and drippy nut disease (caused by *Erwinia quercina*). The structural issues consisted of damaged and downed limbs on some of the coast live oaks and valley oaks. Natural recruitment (i.e., seedlings that were not planted) of coast live oak and valley oak seedlings was observed, particularly in the park's woodland area.

There are 230 trees in the park that include four native species and 14 non-native species. Six of the non-native species are rated as invasive. Common tree species include coast live oaks, valley oaks, cork oaks, and Deodar cedars. Most park trees were rated as having good health and structure.

The description of each tree, including DBH, tree health and structural scores, tree condition rating, and native or invasive status is included in Appendix B. The approximate location of each inventoried tree and shrub is presented in Appendix B as well. The results of the tree inventory were used to develop the ecological enhancement opportunities discussed in Section 3.

Photo 4. A Coast Live Oak Tree at the Park in Fair Condition

2.2 Meadow Planting

Community volunteers recently installed native plants and cultivars of native species in an open area within the park's woodland area to create a beautiful meadow and a welcoming demonstration garden. The plantings included a range of native species and cultivars of native species and were labeled with species names. The volunteers labeled the plantings, placed a layer of woodchip mulch in the planting area, and regularly irrigated the plantings to support their establishment. The sources of the plants and whether they were grown using nursery best management practices to limit the spread of plant pathogens are unknown.

Photo 5. Meadow Planting Area Recently Installed by Park Volunteers

Photo 6. Recently Installed Native Cultivar with Label

Section 3. Ecological Enhancement Opportunities

This section describes ecological enhancement opportunities to preserve and enhance the park's natural resources, particularly the oak woodland, in a manner that is consistent with the goals in the masterplan. These opportunities are associated with oak woodland management, revegetation, riparian corridor connectivity, and wildlife habitat enhancement. The discussion of each ecological enhancement opportunity also includes the benefits to the park's existing natural resources. Many of these opportunities were presented to the Thousand Oaks Neighborhood Association on October 16, 2019 (Appendix C).

3.1 Managing for Oak Woodland

The results of the 2019 tree inventory indicated that the most common trees in the park were coast live oak, which occur with valley oak in the park's oak woodland. Oak woodland is an important land cover type in California that provides cultural and aesthetic amenities, health benefits for humans, and ecological habitat value to wildlife. Oak trees were an important food source to indigenous Californians, and early California botanists noted that valley oaks in particular had an, "unexampled park-like effect on the valley floors"; this appearance was representative of the western Santa Clara Valley at the time of European contact (SFEI 2010). Humans may be drawn to oak woodlands as a form of biophilia, which is known as the inherent human affinity for nature that contributes to fitness and psychological health. According to Rook (2013), living in proximity to natural environments has been linked to long-term health benefits, and some human illnesses in urban environments can be addressed by expanding access to green spaces and other natural areas. A study by Taylor et al. (2015) also suggested that "street trees may be a positive urban asset to decrease the risk of negative mental health outcomes," and that "the presence of urban green spaces may contribute to lower crime rates." Teitje (2011) indicated that oak woodlands are among the richest ecological habitats in California and that oak trees in the urban landscape can be especially valuable to wildlife; native oaks may serve as keystone species (i.e., a species on which other species in an ecosystem greatly depend) in landscapes that are altered by humans and urban development.

Oak trees support ecosystem functions and provide multiple benefits to wildlife. According to SFEI (2017), "Oak contribute to the support of many ecological functions and physical processes, including hydrological processes and nutrient cycling, production of biomass, uptake of carbon and nitrogen, and decomposition of leaf litter. Oak trees generate large amounts of leaf litter that increase soil organic matter under trees, creating islands of soil fertility compared to surrounding open areas (Dahlgren et al. 2003). Other functions are related to the structural and physical properties of oak trees. For example, the dense tree canopy provides cover for birds, and dead limbs are used as nest cavities and by arboreal ants. Downed branches and leaf litter act as cover for small mammals, reptiles, and amphibians. Finally, oak woodlands support a complex food web, enabling the flow of energy from primary producers to higher trophic levels. Materials generated in oak woodlands also flow across landscapes, including the movement of animals and the dispersal of seeds."

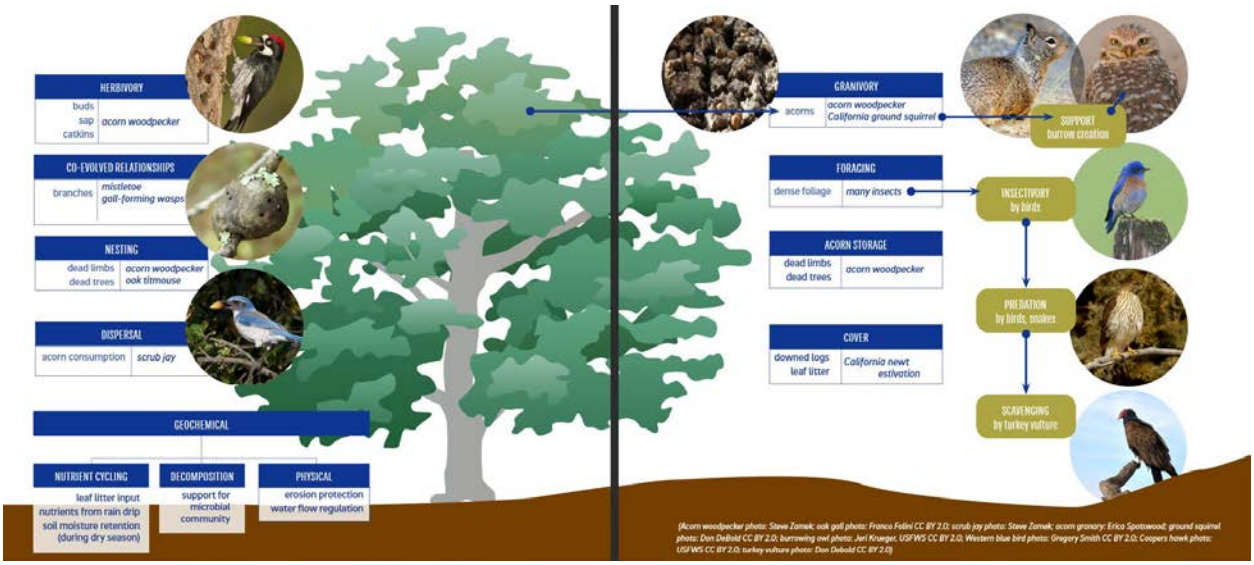


Photo 7. Example of the Ecological Functions of Oaks in California, Excerpted from Re-Oaking Silicon Valley: Building Vibrant Cities with Nature (SFEI 2017)

3.1.1 Trees

Most of the park's native trees are coast live oaks and valley oaks, and many of these trees exhibit good health and structure. The following sections discuss management opportunities to protect the existing native trees.

3.1.1.1 Irrigation

Mature native trees are generally adapted to the region's summer dry season and do not require supplemental irrigation. However, irrigation can benefit some tree species, particularly if trees have constrained soil/rooting area proportionate to their canopy which can limit access to dry season soil moisture or if surface drainage patterns have been altered by park infrastructure and soil infiltration is subsequently insufficient to recharge soil moisture. However, summer irrigation of mature native trees can indirectly cause mortality by creating favorable conditions for plant pathogens that infect oaks (discussed in Section 3.1.3). Therefore, summer irrigation of mature park trees is not recommended, particularly if trees have not previously received irrigation. Park trees that may have been receiving water from nearby irrigated turf should be gradually weaned from irrigation. Supplemental irrigation situations should be evaluated on a case-specific basis to determine whether cessation should occur to prevent tree damage.

3.1.1.2 Leaf Litter, Downed Branches, and Other Organic Matter

Leaf litter, downed branches, and other organic matter that accumulate beneath mature trees provide numerous benefits to natural resources in the park. Organic matter is particularly beneficial where soils are compacted (e.g., from social trails or regular mowing). Encouraging and maintaining a thick layer of organic matter moderates soil temperature, enhances beneficial soil microorganism activity, reduces evaporation, improves water infiltration and retention, reduces soil compaction, and can discourage further social trail use. Downed

branches are large sources of organic matter that can provide valuable wildlife habitat for reptiles and wood-nesting insects, as well as a natural aesthetic.

To the extent feasible, organic matter should be left in place in the park. Where leaf litter, downed branches, and other organic matter accumulate on hardscape such as sidewalks and paths, it can be swept or moved to nearby areas beneath desirable trees, with a preference to locations that are lacking accumulated organic matter. Where natural leaf litter does not accumulate or the soil surface is disturbed, coarse woodchip mulch can be applied to provide similar ecological benefits. Any mulch brought to the park should be free of invasive plant species material and identified as having a low risk of containing potential pathogens, and/or be composted before application. In addition, fertilizer is unlikely to be necessary at the park to improve the health of native trees, particularly if leaf litter and other organic matter is left in place. In most cases, existing soil and naturally accumulating leaf litter provides for natural nutrient cycling that is sufficient to meet the needs of oaks (Costello et al. 2011). Laboratory soils analysis should be conducted prior to considering fertilizer application to the park trees.

Photo 8. (Right) A Downed Branch from a Valley Oak Left in Place at the Park to Provide Wildlife Habitat and a Natural Aesthetic

Photo 9. (Left) A Fallen Bird Nest on Coast Live Oak Leaf Litter

3.1.1.3 Pruning

Pruning and cutting of mature trees may be necessary for safety, particularly near park infrastructure where damaged limbs could fall and pose a hazard, and in rare cases to improve tree health or protect adjacent desirable vegetation. However, inappropriate pruning can adversely affect tree health, structural stability, and form. Pruning and cutting create wounds through which insects and pathogens can enter trees. Unless diligently cleaned, pruning equipment may also transfer pathogens and/or disease between prior pruning sites. Excessive thinning, heading, and removal of lower branches can lead to deformed tree structure and can actually increase the likelihood of structural failure. Substantially reducing the amount of leaf surface area can affect the growth and development of a tree and its ability to draw moisture from its roots. According to Costello et al. (2011), pruning can change an oak tree's natural architecture, shape, foliage density, and crown distribution, which can decrease its aesthetic value and structural stability. Standing dead limbs and snags provide important wildlife habitat and are a natural component of oak woodlands. Unless they pose a safety concern, dead limbs and snags should be left standing or on trees for as long as feasible to provide habitat for invertebrates such as wood-nesting bees and beetles, or to act granaries for woodpeckers.

> Standing dead limbs and snags are a natural component of oak woodlands. They provide important wildlife habitat for invertebrates and act as woodpecker granaries.

In order to maintain the natural aesthetic of the park, pruning should only be conducted when there is a specific and clearly identified reason (i.e., routine pruning should not occur). A pruning plan is recommended to ensure that park maintenance activities create safe conditions for park users but do not result in harm to the trees. Prior to any pruning, the objectives and implementation approach for the activity should be clearly defined so that the proper pruning methods are used. Maintenance staff should tailor the pruning plan to the affected tree species, particularly for native oaks. We recommend that maintenance staff consult with a certified arborist familiar with the target tree species, when feasible, before implementing their pruning plan. Objectives for pruning may include one or more of the following:

- Improving structural stability to reduce the potential for future branch failure
- Clearing space for park users to pass beneath trees
- Providing a line of sight along park paths and adjacent roads
- Mitigating certain pest problems determined to specifically imperil trees, such as cankers
- Restoring structure following damage to trees from storms or utility work
- Improving aesthetics in high-visibility portions of the park

Pruning should follow professional standards and best management standards such as those developed by the International Society of Arboriculture, and should generally be avoided during the spring (when plants are actively growing). The use of wound treatments and climbing spikes should also be avoided.

3.1.1.4 Remove Hardscape beneath Existing Trees

Native trees can have reduced health and mortality when the soils beneath them are replaced with hardscape such as asphalt and gravel that compact soils, reduce water infiltration, and encourage runoff or ponding. Similarly, natural recruitment of native trees may be limited in areas adjacent to hardscape and compacted or actively maintained surfaces. There are opportunities in the park to pull back hardscape from beneath existing trees to protect them; it would ideally be retracted beyond the edges of their canopy driplines. For example, hardscape could be removed from beneath a valley oak (tag #3734) in the woodland area along Thousand Oaks Drive across from Brockhampton Court. The sidewalk could be pulled back into the adjacent meadow portion of the woodland area and potentially replaced with permeable pavement to protect this valley oak. There are numerous naturally recruiting oak seedlings that may be damaged during the sidewalk realignment at this location, but this effect would be relatively minor compared the benefits of protecting a large, existing tree in a high-profile location.

Pulling back hardscape from beneath existing trees would also make the hardscape areas easier to maintain by reducing the likelihood of hardscape materials being displaced by roots and of leaf litter accumulating on the surfaces. Replaced hardscape should be installed in a configuration that avoids creating new drainage patterns (e.g., runoff or ponding) around the trunks of existing trees.

Photo 10. Sidewalk along Thousand Oaks Drive beneath a Valley Oak (This Sidewalk could be Pulled Back from the Tree into the Adjacent Meadow to Protect Tree)

3.1.1.5 Remove Turf beneath Existing Trees

When soils beneath mature native trees are replaced with managed turf, the trees can have reduced health and mortality as a result of having year-round irrigation in contact with their trunks and soil compaction from turf mowing. There are opportunities in the park to pull back turf and the associated sprinkler systems from beneath existing trees; they would ideally be moved beyond the canopy driplines. For example, turf could be removed from beneath an existing coast live oak tree (tag # 3947) in the turf area at the corner of Thousand Oaks Drive and Brockhampton Court. This turf could be pulled back by simply reducing the irrigated area and allowing the excluded turf to senesce (dry out) and die. Another example of a potential turf removal area is on the edge of this turf area between a path junction near the center of the park, where sprinkler irrigation or an irrigation leak is likely reaching the base of a valley oak (tag #3946) and associated ornamental shrubs. Removing turf would not only protect existing trees, but may allow for native understory plant establishment.

Photo 12. (Left) Coast Live Oak Tree in Brockhampton Green with Turf Growing to the Trunk

Photo 11. (Right) Valley Oak Affected by Nearby Turf and Irrigation

3.1.2 Non-native and Invasive Plant Species Management

Non-native and invasive plants can reduce the ecological value of park vegetation by displacing native vegetation that provides wildlife habitat and ecosystem services. The presence of non-native and invasive species may cause the park to resemble other nearby landscaped areas and can also reduce the unique aesthetic quality of the oak woodland for park users. Cal-IPC defines non-native plants as "species introduced to California after European contact and as a direct or indirect result of human activity," (Cal-IPC 2019) and these species may still offer some value to wildlife as well as other ecosystems services like providing shade, and some non-native species can tolerate challenging growing conditions such as near hardscape and turf and can be relatively easy to maintain. Cal-IPC defines invasive plants as "plants that are not native to an environment, and once introduced, they establish, quickly reproduce and spread, and cause harm to the environment, economy, or human health" (Cal-IPC 2019). Cal-IPC provides a ranking system to define the degree with which these species displace native species and alter biological communities or ecosystem processes. Although some invasive species may still provide some value to wildlife or other ecosystem services, it is generally assumed that invasive species are detrimental to wildlands and natural resources.

Non-native and invasive plants can reduce the ecological value of park vegetation and may reduce the unique aesthetic quality of the oak woodland for park users by causing the park to resemble other nearby landscaped areas.

There is an opportunity to remove select non-native and invasive species encountered in the park. Species considered for removal should be evaluated for their effects on the park's natural resources. For example, trees with a moderate invasiveness rating such as milkflower cotoneaster (*Cotoneaster lacteus*), as well some species with a limited invasiveness rating such as firethorn (*Pyracantha angustifolia*) and glossy privet (*Ligustrum lucidum*), should be considered for removal. Olive (*Olea europaea*) and blue gum (*Eucalyptus globulus*) should be considered for removal from select locations, as they can be invasive under certain conditions and are relatively messy from a landscaping perspective. In addition, non-native trees and shrubs with a limited invasiveness rating, such as black locust (*Robinia pseudoacacia*) that occurs as seedlings, saplings, and small shrubs in the park, should be considered for removal. Black locust saplings occur beneath coast live oak trees along Thousand Oaks Drive and a large black locust occurs on the property adjacent to the western edge of the woodland area. Black locust seedlings and saplings have been observed within the park boundary near this large tree, and coordinating with the adjacent landowner prior to any black locust removal efforts is recommended to prevent future spread. We recommend that revegetation with native species occur in areas where non-native and invasive species are removed to restore wildlife value and ecosystem services and reduce the area of bare ground available for colonization by new non-native species.

Non-native and invasive herbaceous species should also be considered for control where they may compete with desirable naturally recruiting native trees, preclude the establishment of native herbaceous species, or present aesthetic concerns. However, some non-native herbaceous species, including annual grasses and forbs, provide habitat value (e.g., flowers for pollinators) and ecosystem services such as erosion control. Therefore, non-native plant species control efforts should focus on achieving measurable and attainable goals. We

recommend that herbicide not be sprayed indiscriminately along Thousand Oaks Drive because it would reduce the overall herbaceous vegetation cover and may limit oak seedling recruitment.

In addition to the removal of existing non-native and invasive vegetation, early detection of newly establishing invasive species can prevent larger maintenance efforts in the future. We recommend that the City monitor all planting efforts in the park to ensure that invasive species are not inadvertently introduced, and provide information to the surrounding homeowners about not using invasive plants for landscaping that could spread into the park.

Photo 13. (Top Left)
A Black Locust Sapling (Left) Recruiting beneath a Native Coast Live Oak along Thousand Oaks Drive

Photo 14.
(Top Right) A Black Locust Sapling in the Park's Oak Woodland that Likely Originated from the Mature Black Locust on the Adjacent Property

Photo 15. (Bottom)
A Barren Swath between the Edge of the Oak Woodland and Thousand Oaks Drive (We Suspect that Herbicide has been Routinely and Indiscriminately Sprayed along this Strip)

3.1.3 Pathogens Best Management Practices

Plant pathogens can reduce tree health and cause mortality of the native species in the park. Potential pathogens may include *Phytophthora* species and *Armillaria* fungi that that are prevalent in the region and can cause root rot and Sudden Oak Death Syndrome of the park's valley oak and coast live oak trees. Furthermore, recent studies have detected over 55 different *Phytophthora* species on plants grown in nurseries, indicating that nursery-grown plants can be a source for pathogen introduction into landscapes (Sims et al. 2019). We recommend that precautionary measures are implemented during all vegetation management and maintenance activities in the park to limit the inadvertent spread of pathogens. There are opportunities to implement best management practices such as working with park soils and vegetation only in dry conditions, removing mud and debris from tools and equipment before entering and leaving the park, sanitizing tools and equipment used in the park with a bleach and water solution, and minimizing the use of potentially contaminated materials (e.g., woodchips, mulch, and nursery-grown container plants). Mulch used in the park should be wood-based and made from bark-free wood (e.g., playground mulch) or heat-treated to reduce the risk that the mulch is contaminated with soil and diseased tree material. Any nursery-grown plant material installed at the park should be grown with best management practices to limit the spread of *Phytophthora* species and other plant pathogens, such as practices described in the *Guidelines to Minimize Phytophthora Pathogens in Restoration Nurseries* (Working Group for Phytopthoras in Native Habitats 2016). Additional guidelines and procedures to avoid contamination during activities that are similar to park management are described in the *Guidelines to Minimize Phytophthora Contamination in Restoration Projects* (Working Group for Phytophthoras in Native Habitats 2016) and *Best Management Practices for Preventing Phytophthora Introduction and Spread: Trail Work, Construction, Soil Import* (Swiecki and Bernhardt 2018).

Plant pathogens can reduce tree health and cause mortality of the native species in the park.

Implementing precautionary measures may limit the inadvertent spread of pathogens.

3.1.4 Integrated Pest Management

Pests such as insects, parasitic plants, and bacteria can negatively affect the health of trees in the park. Many pests are natural components of oak woodlands, including the California oakworm, tussock moth, oak mistletoe (*Phoradendron* sp.), drippy nut disease, and California oak gall wasp which have all been observed in the park. Concerns about pests are often raised by park users or neighbors because the condition of park vegetation (particularly the trees) may seem unkempt or messy compared to landscaping in the surrounding neighborhoods. We encourage the City to acknowledge these concerns and consider them in the context of the variable natural resource conditions in the park.

Oak moths such as the California oakworm, acorn moth, and tussock moth have been observed in the park, and their abundance varies unpredictably between years. They can affect oaks by damaging foliage and limiting acorn germination, and their activities may be perceived as messy by park users. Healthy oak trees can generally tolerate substantial leaf damage caused by these moths, and control treatments are typically not recommended

unless oak mortality and limited oak seedling recruitment are observed for multiple, consecutive years (Swain et. al. 2009). Touching oak moths (particularly tussock moths) can cause skin irritation. We recommend periodically removing their carcasses from playground equipment, benches, and picnic tables with brooms or water, and signage can be installed to notify park users of the potential irritant.

Drippy nut disease affects coast live oaks and deposits a sticky residue beneath infected trees, typically during warm summer months after acorns have developed. This disease is caused by a bacterium that infects acorns when insects penetrate the acorn shell, and its prevalence varies between years. Although drippy nut disease may damage numerous acorns and limit seedling natural recruitment, it generally does not threaten healthy trees and treatment is not recommended (McCreary 1996). However, it can be a nuisance to park users and discolor pavement. We recommend periodically cleaning affected non-porous surfaces such as playground equipment, benches, and picnic tables, and signage can be installed to notify park users of the potential nuisance.

Photo 16. Oak Moth on a Valley Oak

We also recommend that park management develop and implement an integrated pest management approach that limits the use of pesticide and herbicide treatments to targeted applications or spot treatments of known pests, or to treat occurrences of invasive species that are directly harming park users or damaging the park's native species. Some pests are considered a natural component of ecosystems; species such as oak mistletoe and California oak gall wasps have co-evolved with oaks and are beneficial to wildlife. The presence of native pests in the park also provides an opportunity to educate park users about co-evolution and how pests may benefit park wildlife and contribute to the natural character of the park.

3.2 Revegetation

The park presents numerous opportunities for revegetation, particularly to ensure the successful recruitment of native oaks. The masterplan identifies the oak woodland as the park's major feature and an invaluable resource, and community members have contributed substantial efforts to achieve the associated goals in the masterplan. Therefore, multiple revegetation opportunities have been developed for oaks and oak woodland to maintain the stand over the long-term.

"Our live oak trees are native groves. The conditions are in no essential particulars different from those of other groves elsewhere in the state, where old trees are always at some time dying and are being replaced by younger ones. There should be systematic planting of a few seedlings in order to ensure a perpetual stand. The live oaks are trees of slow growth but that is no valid objection to them; quite the contrary. We are planning not merely for today or tomorrow, but for the future." – Willis Jepson

3.2.1 Promote Natural Recruitment of Native Tree Seedlings

A diversity of native tree species, structure, and a range of tree age distribution is beneficial for wildlife use as well as aesthetic values at the park (Wilson et al. 1991, California Partners in Flight 2002, SFEI 2017). The existing native trees at the park likely established through natural regeneration, or in other words, were not planted by humans. Often, remnant stands of relatively small woodland that are separated from adjacent woodlands may not contain a sufficient number of trees and genetic diversity to generate pollen to support a healthy, regenerating woodland. However, natural recruitment of coast live oak and valley oak has been observed at the park, indicating that there is likely sufficient tree density and genetic diversity to support oak woodland regeneration. Promoting the natural recruitment of native tree seedlings will support the development of multiple age classes of native trees that are adapted to park conditions, and help maintain a native tree dominated woodland for the foreseeable future.

There is likely sufficient tree density and genetic diversity in the park to support oak woodland regeneration. Promoting native tree seedling recruitment will help maintain a native tree dominated woodland in the future.

There is an opportunity for park management to protect existing native tree seedlings (including coast live oaks and valley oaks) and create conditions favorable for their natural recruitment. Routine mowing near mature trees has the potential to damage naturally recruiting native tree seedlings. Native tree seedlings can be identified, mapped, and flagged to prevent them from being damaged during park management activities. Once native tree seedlings are located, park management should determine whether the seedlings are in a desirable location and should be protected, or be selectively culled or thinned. Seedlings can be protected from different types of damage in one of the following ways:

- They can be marked with pin flags or wooden stakes with attached flagging to prevent inadvertent damage from maintenance staff and park users.
- They may be caged with a welded wire cage that is supported by rebar stakes to discourage deer browse or human damage. The cage should be large enough to prevent direct contact between the seedling and cage components, and should be adjusted or removed as the seedling grows.

- They may be temporarily surrounded by sticks and large rocks to prevent unintentional damage from maintenance staff and park users until longer-term protection is installed.

Photo 17. Naturally Recruiting Valley Oak Seedling Marked with a Wooden Stake and Mulch

Furthermore, natural recruitment of native tree seedlings can be promoted by weeding around the base of identified seedlings, limiting invasive plant species establishment that could compete with emerging seedlings, and minimizing soil disturbance, indiscriminate mowing, weed-whacking, or the use of broadly applied herbicide around mature native trees. In addition, clean, coarse woodchip mulch can be placed around seedlings to make them more visible and control weeds. Some native shrubs can act as nurse plants that facilitate seedling establishment by sheltering young seedlings, and should be considered for planting in select areas.

3.2.2 Selective Thinning of Seedlings

Photo 18. Naturally Recruiting Oak Seedlings in High Density in the Woodland Area

Not all naturally recruiting native seedlings may be in desirable locations, either because the growing seedlings may interfere with park infrastructure or compete with existing, desirable vegetation. The natural processes that typically limit seedling establishment such as fire, deer browse, seed predation by insects and wildlife, and competition for soil moisture and light have been altered at the park by adjacent urban development. As a result, selective thinning of seedlings may be necessary to maintain the oak woodland. Criteria to consider for thinning the naturally recruiting native tree seedlings are as follows:

- Prioritize removal of invasive and non-native tree seedlings.
- Remove some native tree seedlings that are beneath the driplines of existing, healthy native trees.
- Remove native tree seedlings that are abutting or within 5 feet of park infrastructure such as paths, sidewalks, and light fixtures.
- Prioritize removing seedlings and saplings before they reach 4 inches DBH. As seedlings grow, they provide greater benefits to wildlife and contribute to the visual aesthetic at the park, so their removal is not only more difficult, but may alter the park's character.

Clusters of seedlings may be beneficial for park wildlife, although the competition between seedlings may limit their collective success. We recommend thinning clusters in locations where a mature tree is desired, such as by reducing the cluster to a handful of seedlings that are relatively widely spaced. Clusters in undesirable locations for a mature tree can be pruned or trimmed to provide value to wildlife as a thicket that provides cover before eventual removal.

3.2.3 Oak Tree Planting

The native trees in the park are generally long-lived and can be expected to persist. One process that facilitates oak persistence is advanced regeneration, which is when acorns germinate and grow slowly as persistent seedlings beneath existing mature trees that suppress their growth. When the mature overstory trees die as a result of a disturbance (e.g., structural damage or disease) the seedlings grow more rapidly to replace the canopy (Swiecki and Bernhardt 1998). Acorns are generally only viable within the first season after they drop, so these seedlings serve as the persistent seedling bank instead of the acorns serving as a seed bank. However, long intervals between pulses of seedling establishment, or management activities that result in seedling mortality, can deplete the persistent seedling bank over time. However, there is evidence of natural regeneration of native trees at the park and numerous native tree seedlings have already been identified and protected. There is an opportunity to supplement natural recruitment with oak tree replacement and planting to maintain oak woodland habitat at the park over the long-term. This effort could include the direct planting of acorns collected from the park, or growing acorns collected in the park in a nursery as container stock, using best management practices for plant pathogens. The following sections provide guidance on acorn collection, storage, and planting.

3.2.3.1 Acorn Collection

The presence of numerous naturally recruiting native oak seedlings indicates that the park supports reproductively viable coast live oaks and valley oaks. Acorns of these species are likely to be available for collection and subsequently planted directly in strategic locations within the park or grown into container plants in a nursery. Extra acorns collected from the park could be disseminated for regional planting efforts through organizations such as Our City Forest and the California Native Plant Society. We recommend the following collection process for coast live oak and valley oak acorns:

- Collect coast live oak and valley oak acorns between late summer and fall (e.g., between August and October). Observe target trees to track acorn development and begin collecting when acorns have begun to drop, and the acorns are heavy and their caps can be easily twisted off.
- Collect from many individual trees to increase the genetic diversity of the acorn collection.
- Collect during multiple events to collect acorns with a range of ripeness/maturity.
- Collect directly from trees, not the ground, to increase the likelihood that acorns are viable and not damaged by insects. Collecting directly from trees will also reduce the likelihood of spreading plant pathogens.

- Collect from the upper portions of tree canopies by placing tarps below trees, using poles to shake acorns loose, and capturing them in the tarp.
- Following collection, damaged acorns should be culled by submerging them in clean water, discarding acorns that float, and examining those that sink for evidence of insect damage or fungal infection. The remaining acorns should be allowed to dry before storage.

Photo 19. Coast Live Oak Acorns and Acorn Caps

Photo 20. A Volunteer with the City of San Jose shows California Buckeye Seeds Ready to Collect in Late October at Nearby Guadalupe Oak Grove Park

3.2.3.2 Acorn Storage

We recommend the following method for storing acorns between collection (late summer and fall) and direct planting (late fall):

- Prepare acorns for storage by removing the acorn cap and placing into a plastic bag with a straw through the closure. The plastic bag will help retain moisture and the straw will provide gas exchange to allow the acorns to respire.
- Place perlite growing medium in the plastic bags with acorns to reduce moisture content and protect any early-emerging roots.
- Place (refrigerate) acorns in cold-storage between 33°F and 40°F until planting.
- Check the bags periodically and adjust the bag openings to prevent acorns from drying out or becoming too moldy.
- Plant acorns within 10 weeks of collection.
- Keep acorns cool and moist for as long as possible between transport from cold-storage and planting.

3.2.3.3 Acorn Planting

The direct planting of acorns is a long-term process that can maintain a healthy oak woodland and minimize the risk of spreading potential pathogens. We recommend the following steps for direct planting of acorns in target planting areas:

- Clearly mark target planting locations with pin flags or flagging that corresponds to acorn type.
- Dig a 1–2-feet-diameter hole that is 1–3 feet deep. Over-excavating the planting location will loosen soils for planting.
- Refill the hole with the material that was removed.
- Create a ring of soil around the filled hole that will capture water.
- Dig a shallow, 1–2-inch-deep hole in the middle of the ring.
- Place 2–3 acorns in the hole on their sides, spaced 2-3 inches apart, and bury them 1–2 inches below the soil surface.
- Spread clean, coarse woodchip mulch within the ring of soil, up to 3 inches deep.
- Replace flagging and/or cage to mark planting location.

3.2.4 California Buckeye Planting

The California buckeye (*Aesculus californica*) is a native tree or large shrub that is a natural component of regional oak woodlands and, similar to oaks, provides ecological habitat value to wildlife, particularly for butterflies and beneficial insects. There is an opportunity to plant California buckeye trees in addition to planting oak trees to enhance oak woodland habitat quality for wildlife and aesthetic values in the park. This effort could include the direct planting of California buckeye seeds collected from within the same watershed as the park, such as at the nearby Guadalupe Oak Grove park, or growing regionally collected California buckeye seeds in a nursery as container stock, using best management practices for plant pathogens, and planting them at the park. The collection, storage, and planting process for California buckeye seeds is generally similar to that for oak acorns described above in Section 3.2.3, but the timing for collection may be different and slightly later (e.g. between September and November). The sheath of the California buckeye seed should be removed during collection. California buckeye seeds should be planted with the scar facing down. California buckeyes are recommended for planting in gaps between the canopies of mature native trees.

3.2.5 California Sycamore Planting

The California sycamore (*Platanus racemosa*) is an iconic tree species native to California that is often associated with riparian corridors and intermittent, braided streams with relatively stable groundwater levels and periodic flooding (Keeler-Wolf et al. 1996). California sycamores have substantial wildlife value when they occur in natural habitats and can provide nesting and roosting habitat for a variety of birds. There is evidence of hybridization of California sycamore with non-native London planetree (*Platanus × hispanica*), which can dilute

Photo 21. A Young California Sycamore Tree Recruiting near Adjacent Oak Woodland in Santa Clara County

native genetics and may threaten the continued existence of the California sycamore as a species (H. T. Harvey & Associates 2019). California sycamores occur along the Guadalupe River and near the park; they are likely remnants of a wider historical riparian corridor with multiple braided channels.

There is an opportunity to plant California sycamores in the park's oak woodland near the Guadalupe River, where groundwater levels may be nearer to the surface than in other parts of the park further from the river. Any California sycamores that are planted in the park should be sourced from plant material that is confirmed to be from a true native tree. It may be possible to harvest cuttings from mature California sycamores in the region and have them grown by a qualified native plant nursery that is experienced with native California sycamore propagation techniques, such as Grassroots Ecology Nursery or the Watershed Nursery. California sycamore seedlings should be installed in oversized planting holes and will likely require irrigation with infrequent, deep watering for a lengthy plant establishment period until their roots can access groundwater. A planting guide for the California sycamore is available online[1] from SFEI (SFEI and H. T. Harvey & Associates 2018).

3.2.6 Other Woodland Planting

Planting native species that are typically associated with oaks in the region can further enhance wildlife habitat quality and aesthetic values in the park. Many of these species are compatible with oaks in urban environments. There is an opportunity to enhance the existing oak woodland habitat by planting woody and herbaceous species commonly found in oak woodlands. Woody species that grow as small trees or large shrubs are recommended for planting in gaps between the canopies of mature native trees. Woody and herbaceous understory species should be considered for planting beneath a small portion of the canopy of mature native trees. Note that planting directly beneath the driplines of mature trees could affect tree health if their roots are damaged or pathogens are introduced, and plantings may not perform well as a result of competition with the mature tree for light and water. All plants to be installed at the park should be grown from plant material sourced from within the same watershed as the target application area (Guadalupe River). Where local plant

We recommend that cultivars, or horticulturally cultivated varieties of native species that often feature a variety name in single quotations, not be planted in the park to protect native plant genetics and maximize wildlife habitat value of installed plants. Any planting efforts should incorporate best management practices for potential pathogens and container stock should be grown according to nursery best practices to prevent the spread of plant pathogens.

[1] Available: https://www.sfei.org/documents/sycamore-alluvial-woodland-planting-guide

material is not commercially available, plant material should be sourced from Santa Clara County or collected from locations with similar environmental conditions. Table 2 includes associate species that typically occur in the region to consider planting at the park and recommendations for where they should be planted in relation to existing oak canopy.

When choosing planting locations, it is also important to consider that small trees and large shrubs may block lines-of-sight through the park and can present a safety hazard if park managers desire open understory vegetation. In the event of a fire, small trees or shrubs may act as fuel ladders to spread it from the ground to mature oak canopies.

Table 2. Oak Associate Plant Palette

Scientific Name	Common Name	Type	Approximate on-center spacing
Target planting in canopy gaps			
Aesculus californica	California buckeye	Tree	15
Heteromeles arbutifolia	Toyon	Shrub/small tree	10
Sambucus nigra ssp. *caerulea*	Blue elderberry	Shrub/small tree	10
Target planting beneath existing canopy			
Artemisia californica	California sagebrush	Shrub	5
Artemisia douglasiana	Mugwort	Perennial herb	3
Chlorogalum pomeridianum	Soap plant	Perennial herb	3
Epilobium canum	California fuchsia	Perennial herb	5
Ribes sanguineum	Red-flowering currant	Deciduous shrub	5
Rosa californica	California rose	Deciduous shrub	5
Rubus ursinus	California blackberry	Groundcover	3
Monardella villosa	Coyote mint	Shrub	3
Salvia mellifera	Black sage	Shrub	5

Photo 23. Red-Flowering Currant (*Ribes sanguineum*)

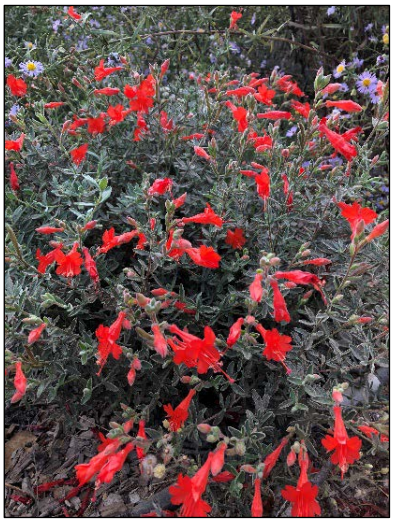


Photo 22. California Fuchia (*Epilobium canum*)

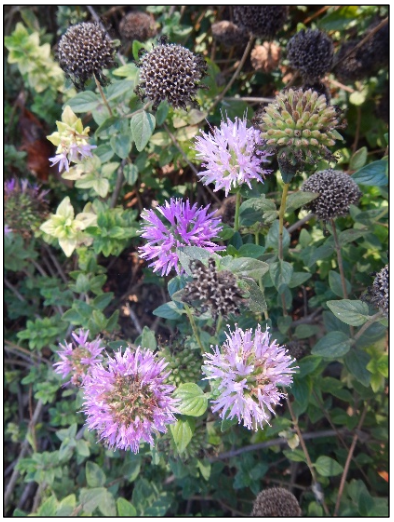


Photo 24. Coyote Mint (*Monardella villosa*)

Photo 26. California Wild Rose (*Rosa californica*)

Photo 25. Black Sage (*Salvia mellifera*)

3.2.7 Grassland Planting

Planting native herbaceous species in the open grassland areas between the oak woodland canopy can create a habitat mosaic that provides greater wildlife habitat complexity and a varying visual aesthetic at the park. Open grassland areas, also referred to as meadows, differ from managed turf in that they generally are dominated by annual plants and have a more diverse assemblage of plant species that provide higher habitat value to pollinators and other wildlife. Most of the existing open grassland areas in the park are associated with the woodland area.

There are opportunities to manage existing grassland areas as meadows and actively revegetate these areas to promote native vegetation. These efforts would complement the previous meadow planting in the park. Recommended management strategies to enhance grassland areas are:

- Reducing mowing frequency in grassland areas that are set back from park infrastructure to benefit pollinators by allowing herbaceous species to flower.
- Avoiding mowing during the nesting bird season to benefit insects and birds by providing a range of understory plant heights to support foraging.
- Focusing weed-whacking, mowing, and other vegetation removal activities (e.g., hand-pulling weeds) to target invasive or less desirable non-native species, which will reduce competition with native species.

Photo 27. Potential Grassland Planting Location in the Woodland Area

More intensive meadow revegetation could further enhance wildlife habitat values and the aesthetic character of open grassland areas. Specific locations targeted for revegetation may include highly visible and trafficked areas, as well as areas subject to recent disturbance. The existing plant composition in grassland areas being targeted for meadow revegetation should be evaluated to determine if there are any desired species or oak seedlings to protect. If a grassland area is dominated by non-native vegetation, site preparation could include mechanical cultivation or soil disking to remove the non-native vegetation and ease soil compaction. Less intensive methods to control non-native vegetation prior to meadow revegetation could include solarization or tarping in the fall and early winter to reduce germination, or repeated mowing during the late winter and spring

to exhaust the non-native seedbank. Following site preparation, revegetation can be implemented using direct seeding in the fall or small container plant installation in the winter to take advantage of winter rains. In general, direct seeding is the preferred for large-scale grassland planting, and any small container plant installation should consider best management practices for potential pathogens and container stock should be grown according to nursery best practices to prevent the spread of plant pathogens. All seed and plant material should be sourced from locally collected ecotypes and ideally be collected within the same watershed as the target application area (Guadalupe Creek). If locally collected seed is not commercially available, seed from Santa Clara County or collected from locations with similar environmental conditions should be used. Volunteers can potentially be engaged to collect local seed. Key considerations for seed application include:

- Where possible, seed application locations should be prepared by mowing or removing non-native annual vegetation prior to seed set and reducing accumulated thatch (i.e., layer of dried plant material from previous growing seasons).
- Native seed should be applied in the fall just prior to the onset of winter rains, and should be lightly raked into the soil to maximize seed-to-soil contact.
- Species should be selected for application based on their suitability for the expected soil moisture and sun exposure at each seeding location.

Table 3 lists native grassland species that typically occur in the region which should be considered for seeding and/or planting in target meadow areas at the park. This seed mix is intended to be applicable across the range of light availability conditions (i.e., full sun to partial shade) and the soil conditions (e.g., well-drained) anticipated in park grassland areas. Species from this seed mix may be appropriate for wider application across City-managed parks and natural areas.

Table 3. Grassland Native Seed Mix

Scientific Name	Common Name	Type	Application Rate (Pounds PLS[1]/Acre)
Achillea millefolium	Yarrow	Forb	0.5
Bromus carinatus	California brome	Grass	4
Chlorogalum pomeridianum	Soap plant	Forb	1
Clarkia rubicunda	Farewell to spring	Forb	1
Clarkia unguiculata	Woodland clarkia	Forb	1
Elymus glaucus	Blue wildrye	Grass	4
Eschscholzia californica	California poppy	Forb	1
Lupinus nanus	Sky lupine	Forb	1
Sisyrinchium bellum	Blue eyed grass	Forb	1
Stipa pulchra	Purple needlegrass	Grass	5

[1] PLS (pure live seed) = the proportion of total seed that is pure and viable.

Success using direct seeding may take longer to realize because seed germination may require multiple years of appropriate climatic conditions following application. Therefore, reseeding may be recommended in subsequent years.

3.2.8 Milkweed for Monarch Butterflies

Monarch butterfly (*Danaus plexippus*) populations have declined substantially in recent years as a result of breeding habitat loss. Monarch butterflies depend on milkweed (*Asclepias* sp.) plants to complete their lifecycle, and planting regionally appropriate, native milkweeds can help offset the loss of breeding habitat and support their recovery (Xerces Society 2019). The Xerces Society has launched Project Milkweed[2] to raise public awareness about the importance of milkweeds to monarch butterflies and other native pollinators, and promote their inclusion in habitat restoration efforts. Implementing such measures can connect the park to regional habitat restoration efforts. Narrow leaf milkweed is appropriate for planting in open grassland areas with full sun or in relatively sunny areas below mature tree canopies.

Photo 28. Narrow Leaf Milkweed (*Asclepia fascicularis*)

There is an opportunity to plant the region's native milkweed, narrow leaf milkweed (*Asclepias fascicularis*), in the park to attract monarch butterflies and other pollinators, provide monarch breeding habitat, and enable park users to observe monarchs.

3.2.9 Plant Establishment Period

We understand that different portions of the park are subject to different maintenance activities. There is an opportunity for the City to establish areas for revegetation and ensure that the maintenance practices in those areas are consistent with the opportunities discussed in this management plan. For example, naturally recruiting native tree seedlings may be encouraged in open portions of the woodland area, but discouraged from the edges of turf areas. We recommend that revegetation efforts include maintenance during an initial plant establishment period following planting to increase the likelihood of planting success. Volunteers can potentially be engaged to help with maintenance (e.g., weed control) during the plant establishment period, particularly if they were involved with the site preparation and planting efforts.

We recommend planting in the fall and early winter, with direct seeding of grassland species in the fall and small container plant installation after the first rains in the fall or winter. This timing is intended to use natural winter rainfall patterns to support plant establishment. However, planted and naturally recruited tree and shrub

[2] Available: https://xerces.org/milkweed/; https://xerces.org/wp-content/uploads/2019/01/19-004_Native-Milkweed-in-California_Planting-and-Establishment_XercesSociety.pdf

seedlings may benefit from irrigation during their initial years of establishment. Seedlings which are establishing in locations where a tree is desired over the long-term should be considered for supplemental irrigation. The irrigation should provide sufficient water to encourage deep root development, but be applied at a slow rate to minimize contact between the water and seedling foliage or stems. Irrigation should be conducted approximately every 2 weeks during the growing season (April–October) in the first year after planting, with a reduction in irrigation frequency to planted and naturally recruited seedlings in the second and third year after planting to wean plants from supplemental irrigation during their establishment period. Each seedling should receive between 5 and 10 gallons of water per irrigation event. Soaker hoses or drip systems can be employed to deliver water to planting basins at the base of seedlings, or watering can be done manually by making a small hole in a 5-gallon bucket, filling the bucket, and allowing it to slowly drain. Deciduous native trees such as valley oaks and California buckeye typically drop their leaves and go dormant in late summer. Irrigation should not be applied to seedlings that have shed their leaves. As described above, summer irrigation of mature park trees is not recommended and irrigation should be limited around existing trees.

Planted and naturally recruiting seedlings are especially vulnerable to competition with non-native species in the first years after planting. Successful plant establishment can be promoted by weeding around the base of seedlings, limiting invasive plant species establishment that could compete with emerging seedlings, and minimizing soil disturbance and indiscriminate mowing, weed-whacking, or broadcast herbicide use that could damage seedlings. In addition, clean, coarse woodchip mulch can be placed around seedlings to control weeds, conserve soil moisture, and make them more visible during management activities. Planted seedlings can be further protected using methods similar to those for naturally recruiting seedlings (see Section 3.2.1). Any cages used to protect seedlings during plant establishment should be removed when they become entwined with growing plants or when the plants have exceeded a browse line and are evident to those performing park maintenance.

3.3 Riparian Corridor Connectivity

The Guadalupe River is west of the park's oak woodland and is separated from the park by an undeveloped parcel and a chain-link fence. The undeveloped parcel is dominated by a stand of non-native blue gum trees and also supports some native trees associated with the river's riparian corridor. The trees that historically occurred within the present-day park area likely provided high-quality habitat for wildlife, particularly in combination with the vegetation comprising the adjacent riparian corridor. The adjacent parcel currently provides some connectivity between the park and the riparian corridor, which probably facilitates the movements of birds and insects, and also provides park users with a view of a larger natural area. However, the chain-link fence may limit movement of terrestrial wildlife and could be considered an eyesore by park

Photo 29. A Bird Nest, likely of raptor Species, in a Blue Gum Tree on the Undeveloped Parcel Adjacent to the Woodland Area

users. There is an opportunity to enhance connectivity with the Guadalupe River riparian corridor by installing interpretative signage highlighting interactions between riparian corridors and woodland habitats. Aesthetic concerns about the fence could be ameliorated by installing native vegetation to screen it from user view. Installing native vegetation such as mugwort (*Artemisia douglasiana*), wild cucumber (*Marah fabaceus*), and clematis (*Clematis lasiantha*) as screening would also provide the wildlife benefit of native species. The City could investigate whether the fence could be realigned to allow terrestrial wildlife passage between the park and the riparian corridor. The City may also consider fostering a dialogue with the parcel's owner to potentially acquire the property for direct connectivity with the riparian corridor and potential riparian habitat restoration.

3.4 Wildlife Habitat Enhancement

Oak woodlands are one of the most diverse habitats in California and oak trees have a shared evolutionary history with a large number of wildlife species that depend on oaks during their lifecycles (SFEI 2017). Urbanization has substantially altered the regional extent of oak woodlands and their connectivity with other natural communities, but the park's oak woodland and individual oak trees still provide ecological functions and represent valuable wildlife habitat. The park's existing wildlife habitat can be enhanced to achieve the park masterplan's goals and provide additional value to park users. Implementing many of the opportunities described above, such as maintaining a diverse age and size class of native trees, planting native understory vegetation, promoting native herbaceous flowering plants, leaving leaf litter and downed branches in place under trees, minimizing intervention against native pests, and protecting trees with cavities and dead limbs, will enhance wildlife habitat and protect natural resources. Wildlife habitat in the park may also be enhanced by implementing one or more of the following measures.

Photo 30. Bird-Safe Light Fixture that Points Light Downwards

- Promoting the planting of vegetation that flowers in different seasons to maximize access to floral resources for pollinators.
- Limiting maintenance activities that may disturb nesting birds during the nesting bird season (approximately February 1–August 31), particularly in woodland areas that are more likely to support nesting birds. Vegetation removal should be scheduled during the non-nesting season to the extent feasible.
- Installing covers on trash and recycling receptacles to prevent wildlife from accessing food waste and garbage. This may reduce the attraction of nuisance species such as crows (*Corvus brachyrhynchos*), gulls, skunks (*Mephitis mephitis*), rats (*Rattus* sp.), and raccoons (*Procyon lotor*).
- Minimizing nighttime lighting, shielding light fixtures, and avoiding the use of fixtures that face skyward to prevent disorientation of birds and insects.

- Maintaining mud puddles and other relatively small sources of water for birds and butterflies, particularly during the dry season, with non-chemically treated water. These water sources should be near native vegetation and be located outside areas with frequent human and domestic animal visitors.
- Encouraging the use of nest boxes designed specifically for desirable bird species. The nest boxes at nearby Guadalupe Oak Grove Park can serve as an example and potential partners for these efforts could include the Santa Clara Audubon Society, the San Francisco Bay Bird Observatory, or the Cornell Lab of Ornithology.
    - Build nest boxes of the appropriate size that have an opening conducive for use by the desired bird species; where possible, size the opening to exclude undesirable species such as European starlings (*Sturnus vulgaris*) or squirrels.
    - Place nest boxes where they may be attractive to birds and are protected from likely hazards, including access by domestic cats (*Felis catus*).
    - Clean out nest boxes after the nesting season and seal the boxes until the start of the following nesting season to limit access by rodent or insect pests.
    - Learn more from NestWatch[3].
- Encouraging neighbors to use bird-friendly window decals to reduce bird collisions.
- Educating neighbors and park users on how keeping domestic cats indoors can protect native songbirds and other wildlife.
- Emphasizing to neighbors and park users how conservation efforts aimed at protecting and increasing wildlife populations across the larger region will increase the likelihood of recognizing park wildlife.

Photo 31. An Acorn Woodpecker (*Melanerpes formicivorous*) Accessing Water from a Fountain at Nearby Guadalupe Oak Grove Park

Photo 32. An Example of a Bird Box

[3] Available: https://nestwatch.org/learn/all-about-birdhouses/

Section 4. Neighborhood and Community

This section presents opportunities to promote user access within and to the park, enhance user experience through passive and active education methods, support landscape-level efforts to enhance natural resources, engage park users and neighbors, and obtain supplemental funding. These opportunities were developed in accordance with the goals of the park's masterplan.

4.1 Flow and Circulation

The masterplan was designed to offer users a variety of walkways and includes concrete main paths and gravel or decomposed granite side paths. Seldom-used social trails are present near some path junctions and in areas of the park not managed by the City. The southeast corner of the park that connects with Woodgrove Lane and Lynfield Lane contains woodland and is not currently served by paths. There is an opportunity to improve the flow and circulation for park users by installing an earthen or decomposed granite path through the southeastern woodland area to connect this portion of the park to those streets, and also offer park users an opportunity to experience this southeastern woodland area. We recommend that any new paths stay beyond the dripline of mature trees to prevent damage to roots from soil compaction. Placing paths beyond the dripline of existing trees will also reduce maintenance efforts to clear organic matter. We recommend similar guidelines for the installation of new benches and picnic tables; they can be located in the shade to the north of existing trees, but preferably beyond the trees' driplines.

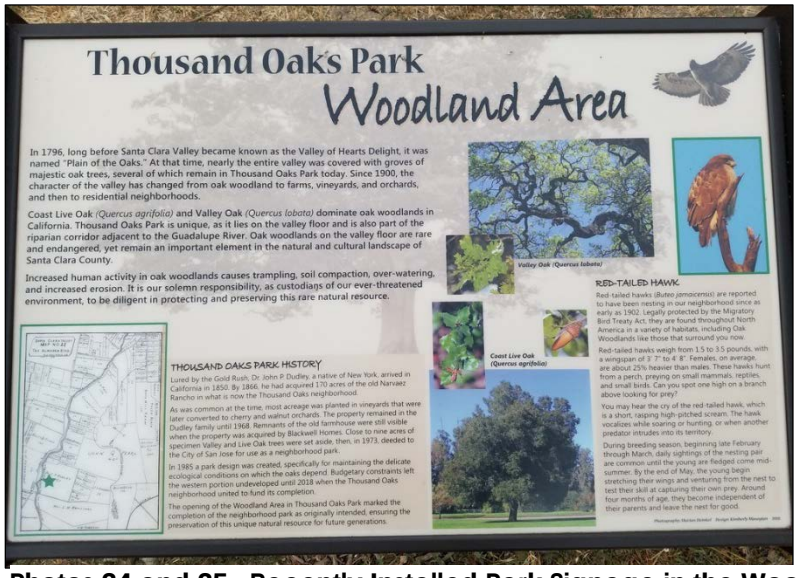
Photo 33. Potential Location to Consider Traffic Calming Measures or a Crosswalk at the Intersection of Thousand Oaks Drive and Brockhampton Court

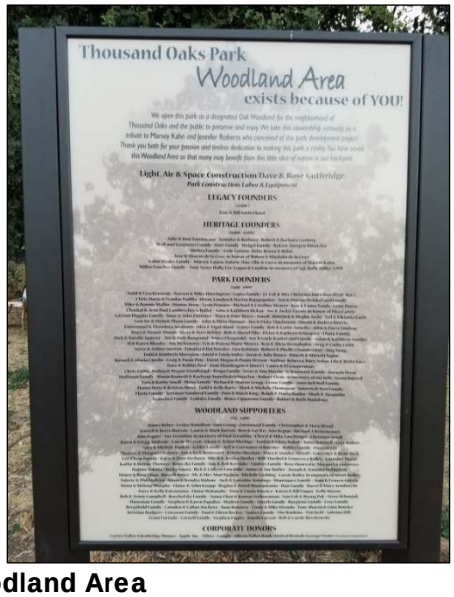
The park's masterplan also indicated that Thousand Oaks Drive, which divides the park into eastern and western sides, presents a hazard for people crossing between the two sides (Hardesty 1985). This through street also interrupts the circulation and flow for park users and may increase the risk of car strikes for wildlife crossing between the two sides of the park. We observed that crosswalks were recently installed at the intersection of Thousand Oaks Drive and Wellington Square, and across Downswick Drive to the park. There is an opportunity to explore additional traffic calming measures along Thousand Oaks Drive, which may include slow traffic signage, a crosswalk at the intersection with Brockhampton Court, and a stop sign at the corner of Brockhampton Court. Slow traffic signage and crosswalks could also be installed at the intersection of Downswick Drive and Normington Way. Implementing traffic calming measures involves extensive coordination among stakeholders (e.g., neighborhood groups, transportation agencies).

4.2 Educational Opportunities

The park's natural resources provide a variety of active and passive educational opportunities for park users. The park users' experiences could be enhanced passively by developing a cohesive interpretative program with signage and interactive exhibits, and actively by hosting ranger-led walks and volunteer naturalist programs. Neighbors, school groups, service organizations, and local nonprofits can be engaged to develop these programs and volunteer for park management and outreach activities. Volunteers can participate in the management activities recommended in this plan, especially weed control around naturally recruiting native tree seedlings, seed and acorn collection, or native species planting. A bird nesting box program would allow park users to see which birds nest in the park and provide insight into their nesting behavior. Emerging citizen science resources such as the applications iNaturalist[4] and eBird[5] can be used to track observations of plants, wildlife, and fungi at the park, and this information can be compiled to learn more about the park's natural resources. NestWatch[6] can be used to track bird species that nest in or near the park, particularly if nest boxes are installed, and the data can be used to target management actions to attract and protect desired bird species. Park managers can create dedicated places inside the park to track these observations, and can host a BioBlitz[7] event to engage park users in finding and identifying as many species as possible over a short period of time, which can then be repeated across various seasons. Park neighbors are uniquely situated to observe changes to natural resources in the park and their participation in park management should continue to be encouraged.

A cohesive interpretative program about the park's natural resources, including ranger-led walks and interactive exhibits, can enhance park users' experience.





Photos 34 and 35. Recently Installed Park Signage in the Woodland Area

[4] Available: https://www.inaturalist.org/
[5] Available: https://ebird.org/home
[6] Available: https://nestwatch.org/
[7] Available: https://www.nationalgeographic.org/projects/bioblitz/

The park's masterplan suggested additional educational opportunities, including taking cross-sections from the trunks of dead oaks in the park to create a tree-ring dating display and placing a historical marker on the oldest estimated tree in the park (Hardesty Associates 1985). The nearby Guadalupe Oak Grove Park recently was awarded a grant to install an outdoor classroom; this park features benches and turf areas that can serve as low-impact gathering spaces in lieu of a dedicated outdoor classroom area. Community members have recently installed interpretative signage in the woodland area, and there is an opportunity for placing additional signage that complements this content and matches the general aesthetic to create a cohesive interpretative experience.

Emerging citizen science resources can be used to track observations of plants, wildlife, and fungi at the park, and this information can be used to learn more about the park's natural resources.

4.3 Re-Oaking

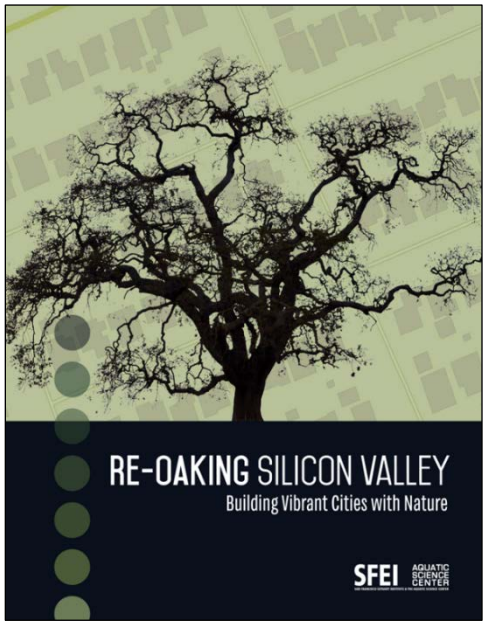


Photo 36. SFEI's *Re-Oaking Silicon Valley: Building Vibrant Cities with Nature* Report is a Valuable Tool for Expanding Re-Oaking Concepts beyond the Park

Regional biodiversity and habitat restoration initiatives have emphasized protecting and increasing the density of oaks in urban environments, also known as re-oaking. The City's management efforts to protect the oaks and natural resources at the park can support these broader initiatives. SFEI has developed a landscape resilience framework with principles designed to increase "the ability of a landscape to sustain desired ecological functions, robust native biodiversity, and critical landscape processes over time, under changing conditions, and despite multiple stressors and uncertainties." (SFEI 2015). We encourage the City to apply these principles to management of the park and the larger landscape within its jurisdiction. One product of this framework is SFEI's *Re-oaking Silicon Valley: Building Vibrant Cities with Nature* report, which outlines the benefits of re-oaking for local biodiversity and native wildlife (SFEI 2017); many elements of this tree management plan are discussed in the report, which is a valuable tool for expanding re-oaking efforts beyond the park boundaries.

The oak trees in the park represent a source of acorns for planting in the park and the adjacent neighborhood. We recommend that the City encourage park users and neighbors to collect acorns for planting in their own backyards. The City could partner with an organization such as Our City Forest or the California Native Plant Society's Santa Clara Chapter to grow acorns collected from the park into seedlings in containers, using best management practices to limit the spread of plant pathogens, and distribute them to the neighborhood. In addition, we recommend that the City explore using locally sourced oak trees when planning projects on City property and as street tree plantings in the neighborhood and beyond, in coordination with the City's Department of Transportation; Department of Planning, Building, and Code

Enforcement; and Department of Public Works. This may involve updating the City's *Tree Policy Manual and Recommended Best Practices* (City of San Jose 2013) to encourage native tree planting. Planting oak trees in the surrounding neighborhood could create an aesthetic link between the park, the neighborhood, and regional natural areas over time and ultimately improve connectivity across the urban landscape for oak-dependent wildlife.

Many of the wildlife enhancement opportunities described in sections above are particularly beneficial if applied across the broader neighborhood surrounding the park. Management of the park to promote natural resources can be used to educate park users and neighbors regarding how conservation efforts aimed at preserving oak woodland and enhancing wildlife habitat across the larger region will increase the likelihood of wildlife using the park. Neighbors can participate in re-oaking on their properties by planting native vegetation, selecting native plants with a range of flowering times to benefit pollinators, using bird-friendly window decals, shielding and minimizing nighttime lighting, and keeping domestic cats indoors.

4.4 Additional Funding Opportunities

Additional funding and grant opportunities are available to potentially support park management to protect natural resources. We recommend that park managers consider the Beautify SJ[8] grant program, the Santa Clara Valley Open Space Authority's Measure Q Open Space Grant Program[9], and the Santa Clara Valley Water District's D3 Grants and Partnerships to Restore Wildlife Habitat and Access Trails and Open Space[10] programs.

[8] Available: https://www.beautifysj.org/
[9] Available: https://www.openspaceauthority.org/community/urban-grant-programs.html#MQUOS
[10] Available: https://www.valleywater.org/grants

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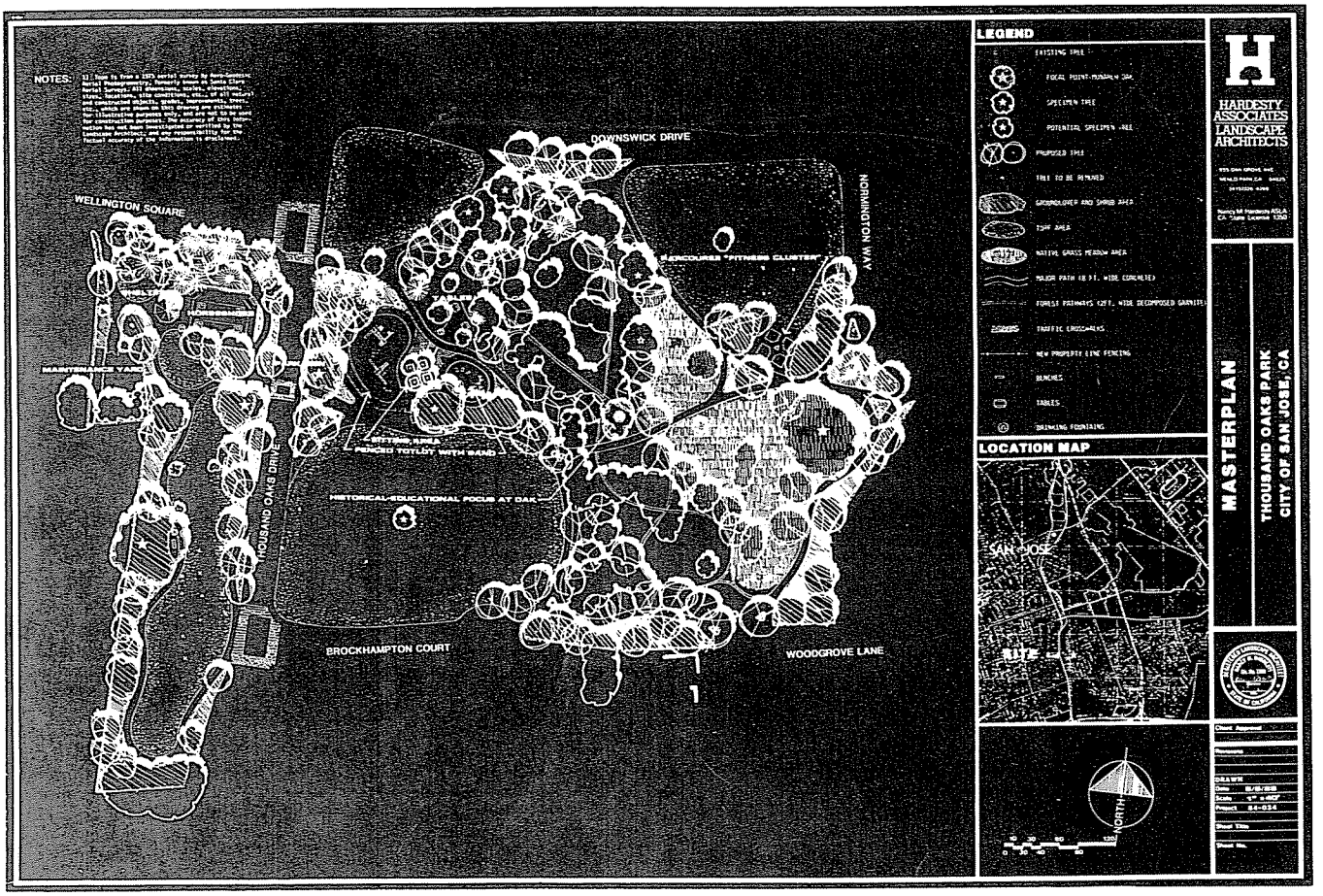
Appendix A. Thousand Oaks Park Masterplan Report



MASTERPLAN REPORT

THOUSAND OAKS PARK

CITY OF SAN JOSE

CALIFORNIA

PREPARED BY

HARDESTY ASSOCIATES, INC.

855 OAK GROVE AVE. MENLO PARK CALIFORNIA

August ,1985

City Council
City of San Jose
801 North First Street
San Jose, CA 95110

Council Members:

We are pleased to submit the following masterplan report for the proposed development of Thousand Oaks Park.

The accompanying report, plans, tree assessment, and cost estimates are the result of an evolutionary planning process which included a series of neighborhood meetings to establish a program, design review conferences with the community, administrators and city staff. The 8.6 acre park site is dominated by approximately 158 trees, which were first preserved by early landowners when all other nearby land was being cleared for agriculture. This early concern, followed by city concern to preserve the space, has given this park site its very unique character. Now, the design team and the community have worked together to further perpetuate and revegetate this wonderful oak woodland.

Involvement in this Masterplan Process has been both interesting and gratifying to us. We wish to express our appreciation to the people of the neighborhood, San Jose City Landscape Architect Bob Robertson, and the San Jose Parks and Recreation Department for their enthusiastic participation and collaboration in the planning process.

We look forward to assisting you in subsequent phases of the park development. The large degree of interest and co-operation that the community has shown in Thousand Oaks Park, in our experience, will be directly reflected in the long-term use, appreciation and maintenance of the park.

Sincerely,

HARDESTY ASSOCIATES

Nancy M. Hardesty, ASLA
President, Landscape Architect, Calif. Registration #1350

NH:cy

ACKNOWLEDGEMENTS

CITY OF SAN JOSE

City Council

Thomas McEnery	Mayor	
Susan Hammer	Vice Mayor	District 3
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Judy Stabile	Councilwoman	District 2
Shirley Lewis	Councilwoman	District 4
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Iola Williams	Councilwoman	District 7
Patricia Sausedo	Councilwoman	District 8
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John G. Popovich	Acting Director of Parks & Rec.
D. Kent Dewell	Director of Public Works
Larry E. Benson	Principal Civil Engineer
Robert M. Robertson	Senior Landscape Architect
Richard O. Reed	Deputy Director of Parks & Rec.

CONSULTANT

Hardesty Associates

Nancy M. Hardesty	Principal
Gary Mason	Project Manager
Edward Starkie	
Carol Yeager	

MASTERPLAN REPORT

THOUSAND OAKS PARK

CITY OF SAN JOSE, CALIFORNIA

JUNE 1985

PREPARED BY:

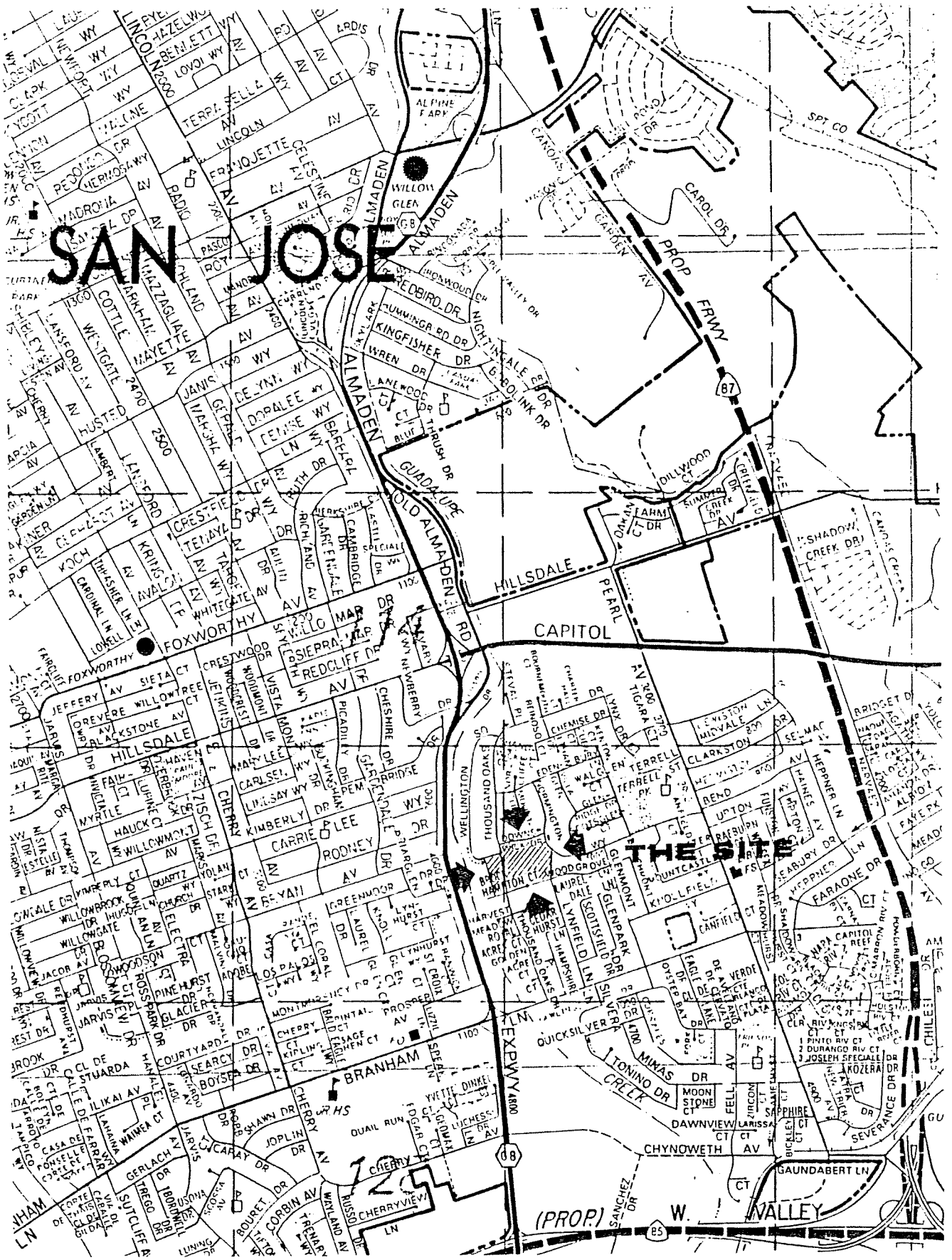
HARDESTY ASSOCIATES
LANDSCAPE ARCHITECTS
855 Oak Grove Ave., Suite 205, Menlo Park, CA 94025

INDEX

Hardesty Associates Landscape Architects 855 Oak Grove Avenue Menlo Park, CA 94025 415/326-4268

LOCATION MAP

FIGURE 1



THOUSAND OAKS PARK MASTERPLAN REPORT

Hardesty Associates Landscape Architects 855 Oak Grove Avenue Menlo Park, CA 94025 415/326-4268

INTRODUCTION

This report details the first stage in the planning of Thousand Oaks Park. Hardesty Associates, in concert with the City of San Jose and with the people of the Thousand Oaks Neighborhood, has assembled a masterplan for Thousand Oaks Park. This masterplan process started with a careful analysis of the park's most important feature--the oaks. The oaks are a valuable resource, and the masterplan park design integrates Hardesty Associates' knowledge of oak preservation into an exciting and unique neighborhood park.

HISTORY AND SITE DESCRIPTION

Four hundred years ago the oldest oaks on this site were just seedlings. The site was probably dominated by large valley oaks, and the grassland maintained by the Indian population. With the advent of white settlers the character of this area changed from oak savannah to farms and orchards, and the valley oaks began to be replaced by open fields. On this site the valley oaks were slowly replaced by quicker growing live oaks, so that from the turn of the century until the present all of the new trees have been live oaks and the last great valley oaks are in decline.

In 1972 Blackwell homes set aside this 8.6 acre site because of its specimen trees, and the City of San Jose later purchased the site for use as a neighborhood park. In 1984 the City chose Hardesty Associates, an environmentally oriented landscape architecture firm, to help make this site a park. Thousand Oaks Park is made up of two parcels separated by Thousand Oaks Drive. The larger parcel of 6.6 acres is more or less square, bounded by Downswick Drive to the north, Normington Way and two residences to the east, Brockhampton Court, Woodgrove Land and two residences to the south, and Thousand Oaks Drive to the west. The smaller parcel of two acres is a linear strip lying between Thousand Oaks Drive and the San Jose Water Works Pumping Station on the Guadalupe River.

The major feature of this relatively flat site is the presence of a well developed oak woodland. There are over a hundred trees of various types (all of which are detailed in the Tree Assessment.) All of the site is now untended grassland which is traversed by paths used by neighborhood residents. Surrounding the site is a well maintained neighborhood whose residents enjoy, and wish to preserve, the natural character of the oaks and grass. One of the only site problems is the separation of the two parcels by Thousand Oaks Drive, a through street with traffic speeds

which could present a hazard for people crossing between the parcels. Such a problem is minor, however, in comparison to the value of this unspoiled oak forest as a focus of activity for the neighborhood.

PLANNING PROCESS

Ever since the first survey of residents in 1975, the City of San Jose has included the neighborhood in the planning process of Thousand Oaks Park. Prior to the involvement of Hardesty Associates, the community goals were defined in citizen meetings and by the Citizens Advisory Council:

1. Preserve the natural character of the site.
2. Protect existing trees, particularly the oaks.
3. Orient the use of the park to neighborhood residents and pedestrian access, and discourage potential over-use by large groups of people and automobiles.
4. Provide low-key park and recreational uses.
5. Involve the neighborhood in the management as well as use of the park.

Hardesty Associates' involvement started with a neighborhood meeting at which the interests expressed above were re-iterated. After a site analysis, including tree assessment, a preliminary plan was prepared and presented to the public for review at the second meeting (refer to the appendix for a detailed description of tree inventory and assessment work.) Incorporating the changes suggested from the second public meeting, a new preliminary plan was prepared, and after review by the city staff was presented at the third public meeting where it was approved unanimously. It was through this collaborative effort by the residents of the Thousand Oaks neighborhood, by the staff from the Division of Architectural Engineering and the Parks and Recreation Department, and by Hardesty Associates that the present design for the Masterplan was reached.

THE DESIGN

The masterplan design incorporates the ideas of increased use for passive recreation and preservation of the natural quality associated with the meadow and oak woodland. This concept allows a variety of experiences, from turf areas and tot-lots to a meadow walk that leads through the woods, to a shelter and associated horseshoe area. Traffic will be slowed on Thousand Oaks Drive by new stop signs and crosswalks. The entrances have been emphasized with accent

plantings, and benches have been planned around the park's path system to offer seating for older users as they walk through. Most importantly this design relies on maintaining and augmenting the oak forest, and the design reflects this with a minimum of paving under the oaks and a minimum of turf or planting which would upset the delicate ecology on which these trees depend. Thus the essential quality of this park relies on a balance of the natural quality with improved accessibility for many types of recreation.

PARK FACILITIES

Park Path System

The path system in Thousand Oaks Park has been designed to offer the greatest variety of experience, while retaining presently used paths and preserving environmental integrity. Two kinds of paths, therefore, are proposed. The main paths are of concrete for durability, and will be eight feet wide to accommodate maintenance and security vehicles. The secondary paths will be of gravel to make a surface which will allow water to penetrate through, and will be only two feet wide. These are small paths which will wind through the oak forest and allow use of the area without the environmental damage caused by compaction and over-use.

Forest and Meadow

This is the heart of the park. It was felt that preservation and education were values to be encouraged, so this area will be developed in a way that retains the natural feeling of Thousand Oaks Park and makes the forest and meadow accessible for enjoyment and education. The planting scheme reflects this goal by planting of new oaks, and planting of meadow as a transition between turf and forest. A natural low grassland mix with wildflowers will be used to help form a habitat for animals, as well as for its beauty, and the maintenance will only require mowing twice a year.

Turf Area

Large turf areas have been provided for recreational use. The turf replaces areas of annual grasses, and allows year round use for many activities. It also provides a pleasant visual transition from the street to the oak forest, a transition which matches the context of the well-kept neighborhood.

Children's Play Areas/Parent Seating Areas

The play areas in Thousand Oaks Park, designed for two age groups (ages one to four and four to eight), are enclosed with a low fence and separated by adult seating areas from which parents may relax and watch their children at play. The play areas are of sand and contain graduated-challenge play structures for older children, and bucket swings and spring toys for tots. The entire area has a surrounding concrete path, allowing small children to ride tricycles inside the fenced area, without pedestrian conflicts or accidents with older children on bicycles. The play area is buffered from the street by plantings and is situated to offer both sun and shade.

Park Shelter and Horseshoes

The park shelter and horseshoes have been provided for predominant use by seniors at the request of the community. This will be a pleasant area with both sun and shade, and with benches for watching horseshoe players. Additionally, the shelter and horseshoes have been placed on the smaller parcel of parkland, across the street from play areas and Par Course Activities. This was done to lower potential conflict between the different styles of use, allowing a more contemplative, relaxed feeling at the horseshoes, while providing a viewing point into the larger part of the park.

Par Course Fitness Center

The par course fitness cluster answers the needs of those who wish to use the beauty of the park as a backdrop for fitness activities. Because of the variety offered by the park path system, the exercise at the fitness cluster can be easily combined with a personally determined running or walking regimen.

Night Lighting

Lighting will be installed at critical locations for safety and convenience. The placement of lighting has been carefully considered so that it does not cause a conflict with residents, but does give users a feeling of security.

Picnicking

Picnicking can take place informally anywhere in the park (as there are a number of convenient comfortable places), but is not an activity that has been encouraged through the addition of large numbers of tables and barbecue grills. There are, however, a few tables near the children's play area for the convenience of families using that amenity.

Educational Node

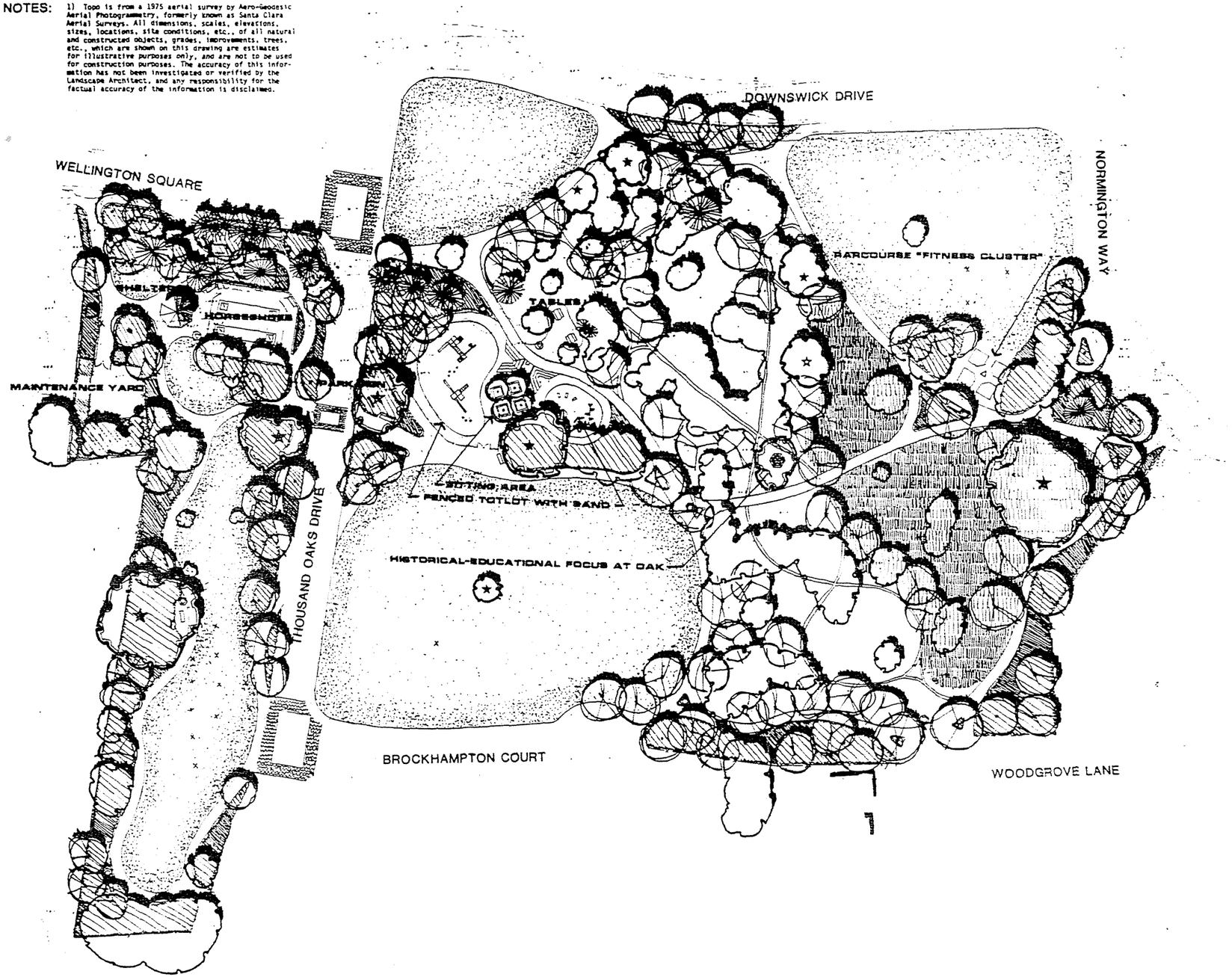
This is an opportunity for community involvement in making Thousand Oaks Park a place where historical and natural concerns are articulated and demonstrated for park users. Some suggestions have included: use of the dead valley oak at Normington Way to show tree-ring dating of the oaks; a historical plaque on the central oldest live oak (see Tree Assessment).

In Conclusion

All over California the oak woodland/grassland habitat is disappearing through encroachment of development and destructive uses such as grazing on open land. In recognition of this, the design of this masterplan seeks to unify the aspirations of the community surrounding Thousand Oaks Park with the environmental requirements for maintaining and enhancing the beauty of its existing oaks. The existing oaks are an invaluable resource, and the people of the Thousand Oaks neighborhood and the City of San Jose are to be commended for their interest in, and support for, sensitive design. This masterplan shows that environmental and human needs can be harmonized in creating an exciting public park. Development of Thousand Oaks Park not only provides immediate benefits for the neighborhood, but preserves a unique natural resource for many future generations.

FIGURE 2

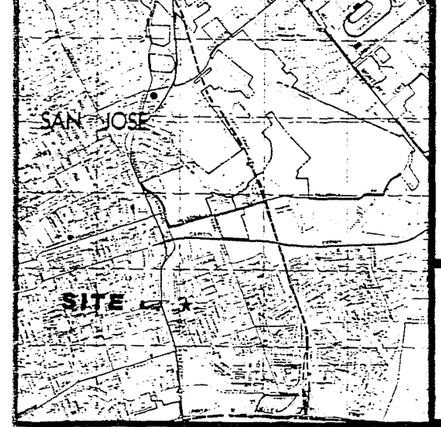
NOTES: 1) Topo is from a 1975 aerial survey by Aero-Geodesic Aerial Photogrammetry, formerly known as Santa Clara Aerial Surveys. All dimensions, scales, elevations, sizes, locations, site conditions, etc., of all natural and constructed objects, grades, improvements, trees, etc., which are shown on this drawing are estimates for illustrative purposes only, and are not to be used for construction purposes. The accuracy of this information has not been investigated or verified by the Landscape Architect, and any responsibility for the factual accuracy of the information is disclaimed.



LEGEND

- EXISTING TREE
- FOCAL POINT-MONARCH OAK
- SPECIMEN TREE
- POTENTIAL SPECIMEN TREE
- PROPOSED TREE
- TREE TO BE REMOVED
- GROUNDCOVER AND SHRUB AREA
- TURF AREA
- NATIVE GRASS MEADOW AREA
- MAJOR PATH (8 FT. WIDE CONCRETE)
- FOREST PATHWAYS (2FT. WIDE DECOMPOSED GRANITE)
- TRAFFIC CROSSWALKS
- NEW PROPERTY LINE FENCING
- BENCHES
- TABLES
- DRINKING FOUNDAINS

LOCATION MAP



H
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MASTERPLAN

THOUSAND OAKS PARK
CITY OF SAN JOSE, CA

REGISTERED LANDSCAPE ARCHITECT NANCY M. HARDESTY Lic. No. 1350 STATE OF CALIFORNIA

Client Approval

Revisions

DRAWN
Date 6/5/85
Scale 1" = 40'
Project 84-034

Sheet Title

Sheet No.

NORTH

10 30 60 120
0 20 40 80

COST ESTIMATE

Site Work:	
Tree Revitalization Work, including pruning, removal, pestwork and fertilizing	$40,000
Clear and Grub, 8.8 acres	$10,000
Rough Grading	$ 5,000
Drainage	$45,000
Electrical	$50,000
Irrigation	$100,000
Fencing	$27,000
Concrete Sidewalks	$50,000
Pathways and Park Paving	$95,000
Site Walls and Wood Headers	$8,000
Traffice Controls and Streetwork:	$40,000
Park Amenities	
Play Equipment with Sand	$75,000
Sitting Area at Play Area	$15,000
Parcourse Cluster	$20,000
Horseshoe Area	$10,000
Educational Node Area	$ 5,000
Open Air Shelter	$25,000
Site Furniture, including benches, tables, signs, drinking fountains, trash receptacles and bike racks	$25,000
Landscaping:	
Soil Preparation	$45,000
Seeded Lawn	$10,000
Meadow	$ 4,000
Trees	$12,000
Shrubs and Groundcover	$44,000
Mulching at forest and shrub area	$20,000
CONSTRUCTION TOTAL:	$740,000
10% Contingency	$74,000
20% Engineering/Inspection	$148,000
TOTAL	$962,000

APPENDIX

TREE INVENTORY
EXISTING TREES AT THOUSAND OAKS PARK

This inventory delineates the species, age, size and vigor of all the trees in THOUSAND OAKS PARK. The trees are listed by common name with the botanical name in parentheses, followed by a short explanation of each spcies. The tables group each tree species by age group and there is a photo/picture of a representative tree next to each table. Height and spread are approximate measurements in feet, and trunk size is the diameter at breast height in inches. Vigor refers to how actively the tree is growing; trees with poor vigor are likely to be in decline, and may require removal, while trees with moderate growth may be trees that have achieved an age and size beyond the rapid growth of youth. Those trees which are of special interest because of age and size have been designated Specimen Trees and marked with a star on both the chart and the map.

The tree ages given here are "best guess" professional estimates. The estimates were not based on core samples as it was felt that core sampling might damage the trees.

BIG LEAF MAPLE (ACER MACROPHYLLUM)

A spreading, massive tree native near streams from Alaska to California.

No.	Age	Height	Spread	Trunk	Vigor
13	40-50	40	30-40	24	Poor

BEEFWOOD (CASUARINA EQUISETIFOLIA)

An upright, evergreen tree with needle shaped leaves native to Australia.

No.	Age	Height	Spread	Trunk	Vigor
3A	20-30	35	10	8-16	Mod.
3B	20-30	25	6-8	6	Mod.

DEODAR CEDAR (CEDRUS DEODARA)

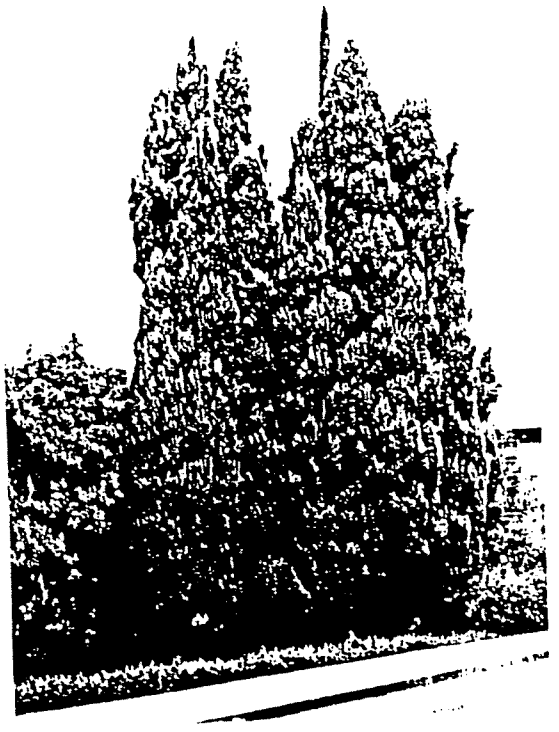
An upright to spreading evergreen tree with short needles in clusters, native of middle east, Asia and the mountains of north Africa.

No.	Age	Height	Spread	Trunk	Vigor
70	-	-	-	-	Dead
71	25	15	8	6	Mod-Poor
73	25	30	15	13	Mod-Poor
114	25-30	30	15	12	Mod
116	30-35	40	15	12	Good
117	25-30	30	12	8, 10	Good
118	35	40+	20	14	Good
122	25-30	30	15	12	Good
126	30	35	15	10-12	Mod-Poor
127	30	35	15	10-12	Mod-Good

LEYLAND FALSE CYPRESS (CUPRESSOCYPARIS LEYLANDII)

Hybrid between Chamaecyparis nootkatensis and Cupressocyparis macrocarpa. Can become floppy and unsightly in only ten years of growth. A poor plant choice except for a temporary screen.

No.	Age	Height	Spread	Trunk	Vigor
78AB	15	15	12	8-10	Poor
111AB	20+	35	15	10, 12	Poor
125	20	30	15	10	Poor



ITALIAN CYPRESS (CUPRESSUS SEMPERVIRENS STRICTA)

The columnar cypress of Italian and Greek hillsides and villas.

No.	Age	Height	Spread	Trunk	Vigor
68AB	50+	20-25	7, 5	N/A	Mod
60	50+	20	6 - 8	NA	Mod

BLUE GUM (EUCALYPTUS GLOBULUS)

An upright evergreen tree with bluish, sickle-shaped leaves and shredding, exfoliating bark, native to Australia but widely planted in California agricultural landscape around 1900 and since.

No.	Age	Height	Spread	Trunk	Vigor
91ABC	75	60+	35	12-24	Mod-Good

BLACK WALNUT (JUGLANS HINDSII)

This deciduous tree is native to California and its chief use has been as grafting stock for the more commercial English Walnut.

No.	Age	Height	Spread	Trunk	Vigor
86	80	50	40-50	30	Mod-Good

WALNUT (JUGLANS REGIA)

Spreading deciduous tree, usually grafted onto the rootstock of Juglan hindsii, a native variety of black walnut.

No.	Age	Height	Spread	Trunk	Vigor
82		15	10	12	Mod.
83		20	15	15	Mod.
93A-J		15-20	15-20	10-12	Poor
96		15	15	4	Good
99A-C		15	15	10	Poor

APPLE (MALUS SPP.)

A low spreading fruit tree.

No.	Age	Height	Spread	Trunk	Vigor
108B	50	10-12	15	6	Mod-poor

OLIVE (OLEA EUROPAEA)

Spreading evergreen tree native to the Mediterranean; known for its fruit.

No.	Age	Height	Spread	Trunk	Vigor
7	50-100	15-20	15	10, 10	

JAPANESE RED PINE (PINUS DENSIFLORA)

An upright to spreading tree with needle shaped leaves, native to Japan, valued for its form which can be contorted and quite picturesque.

No.	Age	Height	Spread	Trunk	Vigor
36	50-100	30	40-50	24	Mod
45	50-100	50-60	35-40	24	Good

PLUM (PRUNUS CERASIFERA)

A fruit tree belonging to the rose family.

No.	Age	Height	Spread	Trunk	Vigor
108A	20	15	15	NA	Good

ALMOND (PRUNUS DULCIS)

Spreading deciduous tree, valued for its fruit.

0-50 YRS

No.	Age	Height	Spread	Trunk	Vigor
105	25-50	18	18	6	Good
124	25+	15-18	15	6	2 Dead 1 Poor

50-100 YRS

No.	Age	Height	Spread	Trunk	Vigor
6A-C	50-100	15-20	15-20	10-18	Poor
74	75-100	15	20	18	Mod-Poor

LIVE OAK (QUERCUS AGRIFOLIA)

An evergreen round-headed tree to 60 feet, native to this area.

0-50 YRS.

No.	Age	Height	Spread	Trunk	Vigor
2B	15-20	10-12	12	6	Good
5	30-40	20-25	20	10-12	Good
10	20	10-12	10-12	4	Mod.
19	30-40	20-25	20-30	12	Good
34	30-50	20	12-15	10-12	Good
41A	25-50	25	15-20	12	Mod-Good
50	30-50	15	10	9	Poor
51	30	15	15	9	Mod-Poor
59	30	15	15	9, 7	Good
61	50	15-20	15	10, 12	Mod
62	30+	15	20	9, 6	Mod-Poor
65	30	15	12	8	Good
66	50	25-30	15	12	Good
69	45	18	15	10-12	Good
85B,D	20	15	8-10	4, 5	Mod-Good
87	20	15	10	4	Mod
88	35	20	10-12	8	Good
103	25	15	8	6	Good
104A	15	12	8	4	Good
107	30-50	18	15	8, 8, 9	Good
112AB	20	12	8	4	Good
113A-C	20-50	12-18	6-12	4-8	Good
115	20	10	8	6	Good
119	15-20	14	8	4	Mod
121	30+	15	15	8	Good
123	15	12	10	3	Good

50-100 YRS.

No.	Age	Height	Spread	Trunk	Vigor
4A-D	50-100	35-50	35-45	20-30	Mod
8	100	30-40	20-30	15-20	Mod
12A-C	75+	25-35	40	12,20	Mod

LIVE OAK (CONT.)

14AB	50-100	35	60-70	15,24	Good
15	75-100	30-35	35	24	Good
17A-C	100	45	35	24-40	Good
20	50-75	35	20	12-15	Good
27AB	75	20-30	20-30	10-12	Mod-Good
35	50+	20-30	30	16	Good
39	75	30-35	25-30	18	Mod
42	50-100	35	25-30	12-16	Good
43	75	35	25-30	18+	Good
44	50-75	30-35	25	12	Good
46	50+	25+	25	18	Good
47	50-75	50	20	14	Good
48	50+	25	20	16	Mod
49	50	20-25	20	12	Mod-Good
54	75	35	20	12	Mod
58	50+	25-30	20	12-14	Mod
63	50-75	20	15	14	Mod
64A-C	30-75	30	20	7-18	Mod
67	50	25	15	10-12	Mod
81	75	30	20-25	15	Good
89A	100	40	25	18	Mod
89B	80	35	20	14	Mod
106	75+	35	30	15	Mod-Good

100-200 YRS.

No.	Age	Height	Spread	Trunk	Vigor
9	150	40	30-40	24-30	Mod
11AB	100+	30-40	20-30	18,24	Mod-Good
16	200	40-50	40-50	20-30	Mod
18	150	50-60	40-50	30-36	Good
21	150+	40-50	30-40	15-24	Mod
22	150	40-50	40-50	12,12	Mod
24	100+	40-50	40-50	30	Mod
25A-D	75-150	30-40	30-40	15-30	Mod-Good

LIVE OAK (CONT.)

26	100+	40	30-40	24	Mod-Good
28	100+	20	25-35	24+	Mod
29	100+	35	25-35	24+	Mod
30	150	40	40	30-36	Poor
32	100+	50-60	40	24	Mod-Good
33	100+	50	30-40	30	Mod
37	100+	40	25	24	Poor-Mod
40	100+	40	50	24	Good
41B	150	40	30-40	24	Mod
55	150+	30-40	50	18	Good
56	100+	35-40	30	18	Mod
57	150+	35-40	40	30	Good
84	100+	25	25	16	Mod
109	150	40	30	30	Mod-Good
110	150	40	40	24-30	Good

200-400 YRS.

No.	Age	Height	Spread	Trunk	Vigor
☆23	400+	30±	40+	48	Poor
☆31	20	40	40-45	48	Good
☆38	200+	40	60	36+	Mod
☆100	200+	40	40	30,30	Mod

VALLEY OAK (QUERCUS LOBATA)

A rounded, spreading, deciduous tree to 90 feet; native to this area.

0-50 YRS.

No.	Age	Height	Spread	Trunk	Vigor
85AC	20	20	15	6, 3, 3	Mod

50-100 YRS.

No.	Age	Height	Spread	Trunk	Vigor
53	50+	30-40	25-30	12	Mod

100-200 YRS.

No.	Age	Height	Spread	Trunk	Vigor
101	100+	35	35	16	Mod

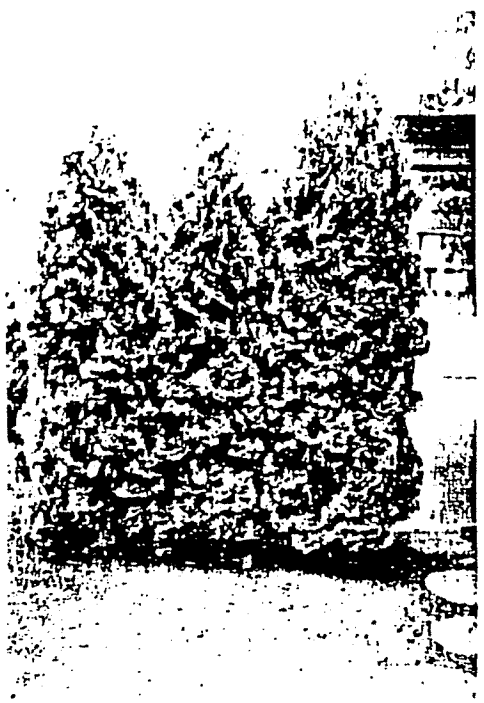
200-400 YRS.

No.	Age	Height	Spread	Trunk	Vigor
1	300+	50-60	35-60	50-60	Dead
☆2A	2-300+	50-60	50-75	50-60	Mod
☆80	300+	50-60	40	50-60	Mod-Poor
☆94	200+	50	60	48	Mod

LOCUST (ROBINIA PSEUDOACACIA)

A deciduous spreading tree with such invasive roots, and with such a capacity to reseed, that it is banned as a planting in many localities even though flowers and foliage make it an attractive tree.

No.	Age	Height	Spread	Trunk	Vigor
79	10	15-18	18	NA	Good
102	10	15-18	18	NA	Good
120AB	10	15-18	18	NA	Good



AMERICAN ARBORVITAE (THUJA OCCIDENTALIS)

An evergreen shrub to small tree of fastigiate form, native to the eastern United States.

No.	Age	Height	Spread	Trunk	Vigor
52	35+	15	8-10	NA	Mod

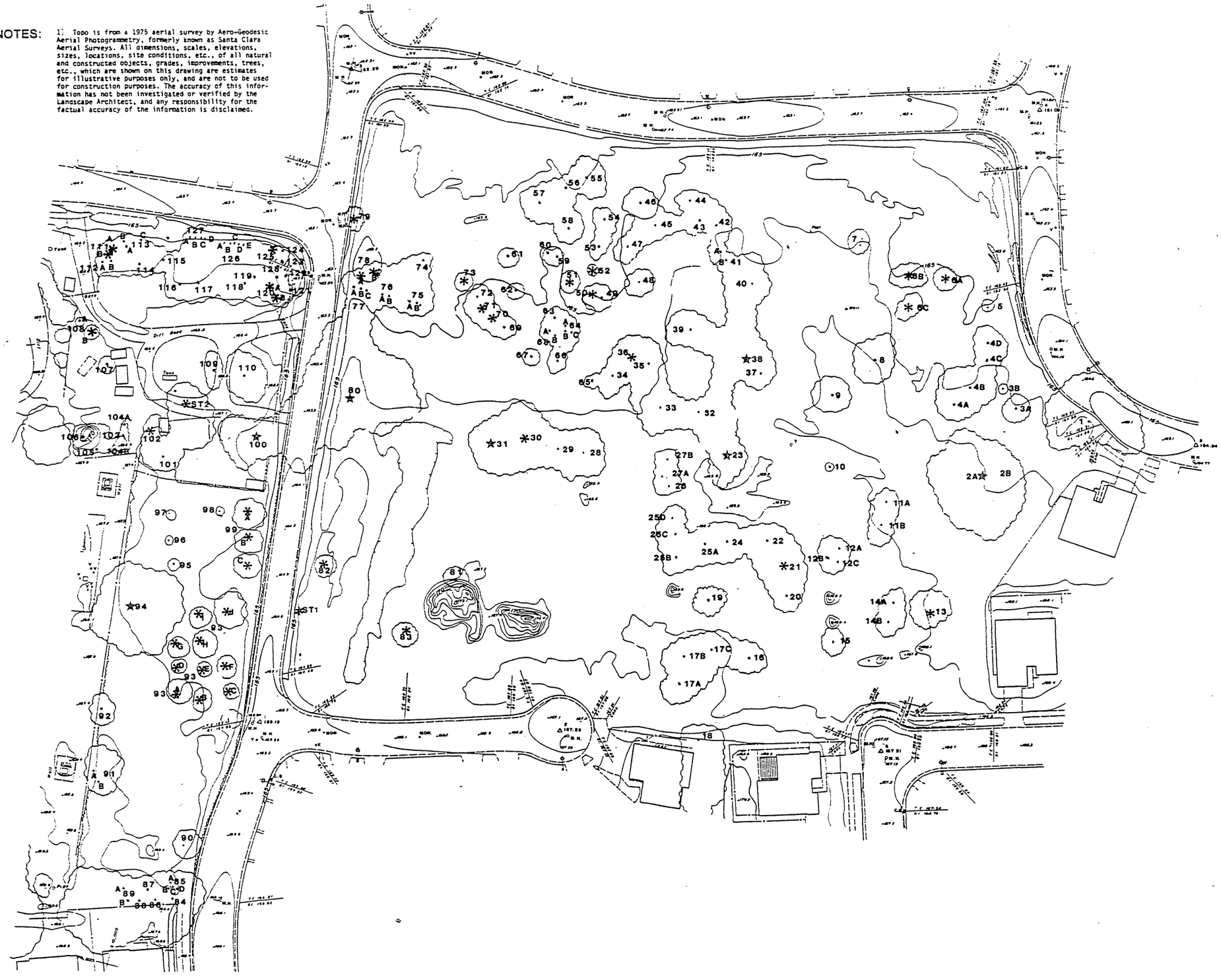
WESTERN RED CEDAR (THUJA PLICATA)

An upright pyramidal evergreen tree native to California and the Pacific Northwest.

No.	Age	Height	Spread	Trunk	Vigor
128		15	8	4	Poor

NOTES:

1) Topo is from a 1975 aerial survey by Aero-Geodesic Aerial Photogrammetry, formerly known as Santa Clara Aerial Surveys. All dimensions, scales, elevations, sizes, locations, site conditions, etc., of all natural and constructed objects, grades, improvements, trees, etc., which are shown on this drawing are estimates for illustrative purposes only, and are not to be used for construction purposes. The accuracy of this information has not been investigated or verified by the Landscape Architect, and any responsibility for the factual accuracy of the information is disclaimed.



HARDESTY ASSOCIATES LANDSCAPE ARCHITECTS

855 OAK GROVE AVE
MENLO PARK, CA 94025
(415)326-4268

Nancy M. Hardesty ASLA
CA State License 1350

TREE ASSESSMENT PLAN

THOUSAND OAKS PARK
CITY OF SAN JOSE, CA

REGISTERED LANDSCAPE ARCHITECT
NANCY M. HARDESTY
Lic. No. 1350
STATE OF CALIFORNIA

Client Approval

Revisions

DRAWN
Date 3-6-85
Scale 1" = 40
Project 84-034

Sheet Title

Sheet No.

FIGURE 3

PROBLEMS REQUIRING MAINTENANCE	TREE NO. 1	2A	2B	3A	3B	4 A-D	5	6 A-C	7	8	9	10	11 A B	12 A-C	13	14	15	16	17 A-C	18	19	20	21	22	23	24	25 A-D	26
MOTHS						●				●			●	●			●	●	●				●			●	●	
OAK ROOT FUNGUS OR OTHER DISEASES										●																		
BARKBORERS																								●				
TERMITES										●																		
TIP DIEBACK			●			●	●							●							●	●				●	●	
LEANING										●													●					
WEAK CROTCHES										●		●		●		●								●	●			
EXTERNAL DAMAGE					●	●				●			●					●					●		●	●		●
FILL ON CROWN				●														●	●	●	●	●	●	●		●		
NO SIGNIFICANT PROBLEMS		●									●																	

RECOMMENDED SHORT TERM MAINTENANCE	1	2A	2B	3A	3B	4 A-D	5	6 A-C	7	8	9	10	11 A B	12 A-C	13	14	15	16	17 A-C	18	19	20	21	22	23	24	25 A-D	26
CONSTRUCTION BARRIER RECOMMENDED							●		●			●	●	●														
*POOR HEALTH--REMOVAL SUGGESTED	●							●							●								●					
PRUNING-- TIP		●				●															●			●		●		
LIGHTEN CANOPY 1/4 - 1/3						●				●	●						●	●						●				●
LIMB & DEADWOOD	●					●				●								●						●	●	●		●
CLEARANCE				●		●			●				●				●			●								
CABLING																								●				
REMOVE FILL				●														●	●	●	●	●		●		●	●	
PESTWORK--SEE NOTE*						●				●			●	●			●	●	●				●			●	●	

*ANY USE OF PESTICIDES, HERBICIDES, OR PROCEDURES OTHER THAN THOSE RECOMMENDED FOR SHORT TERM SHOULD BE CONSIDERED AS PART OF A LONG TERM INTEGRATED MANAGEMENT PLAN.

PROBLEMS REQUIRING MAINTENANCE	TREE NO. 27 A	27 B	28	29	30	31	32	33	34	35	36	37	38	39	40	41 A	41 B	42	43	44	45	46	47	48	49	50	51	52	53
MOTHS			●		●	●	●	●				●	●	●	●			●	●			●	●		●	●			●
OAK ROOT FUNGUS OR OTHER DISEASES																													
BARKBORERS																													
TERMITES																													
TIP DIEBACK			●									●					●												
LEANING			●	●				●			●																		
WEAK CROTCHES						●	●	●					●											●					
EXTERNAL DAMAGE					●	●	●		●					●	●		●							●	●	●	●		
FILL ON CROWN	●		●	●		●	●	●	●					●	●		●	●	●	●	●	●		●	●	●	●		●
NO SIGNIFICANT PROBLEMS										●						●												●	

RECOMMENDED SHORT TERM MAINTENANCE	27 A	27 B	28	29	30	31	32	33	34	35	36	37	38	39	40	41 A	41 B	42	43	44	45	46	47	48	49	50	51	52	53
CONSTRUCTION BARRIER RECOMMENDED																●													
*POOR HEALTH--REMOVAL SUGGESTED					●						●														●	●	●		
PRUNING--																													
TIP										●		●		●			●												●
LIGHTEN CANOPY 1/4 - 1/3			●			●							●		●			●	●	●				●	●				
LIMB & DEADWOOD												●		●			●				●			●					●
CLEARANCE	●																							●					
CABLING						●							●																
REMOVE FILL	●		●	●		●	●	●	●					●	●		●	●	●	●	●	●	●	●	●				●
PESTWORK--SEE NOTE*			●			●	●	●				●	●	●	●			●	●			●	●		●				●

*ANY USE OF PESTICIDES, HERBICIDES, OR PROCEDURES OTHER THAN THOSE RECOMMENDED FOR SHORT TERM SHOULD BE CONSIDERED AS PART OF A LONG TERM INTEGRATED MANAGEMENT PLAN.

PROBLEMS REQUIRING MAINTENANCE	TREE NO. 54	55	56	57	58	59	60	61	62	63	64 A-C	65	66	67	68 AB	69	70	71	72	73	74	75 AB	76 AB	77 A-C	78 AB	79	80	81
MOTHS		●	●	●	●	●		●	●	●	●	●	●	●	●	●												●
OAK ROOT FUNGUS OR OTHER DISEASE																												
BARKBORERS																												
TERMITES																												
TIP DIEBACK									●					●														
LEANING																●												
WEAK CROTCHES									●																			
EXTERNAL DAMAGE		●	●							●		●						●		●				●			●	●
FILL ON CROWN	●	●	●	●	●			●	●	●	●	●	●	●	●	●		●		●	●						●	●
NO SIGNIFICANT PROBLEMS							●												●			●	●			●		
RECOMMENDED SHORT TERM MAINTENANCE																												
CONSTRUCTION BARRIER RECOMMENDED																												
*POOR HEALTH--REMOVAL SUGGESTED																	●	●		●				●	●			
PRUNING--																												
TIP	●						●		●					●	●													
LIGHTEN CANOPY 1/4 - 1/3			●	●					●	●			●	●								●						●
LIMB & DEADWOOD		●			●			●	●							●			●				●	●	●			
CLEARANCE										●			●	●														●
CABLING																												
REMOVE FILL	●	●	●	●	●			●	●	●	●	●	●	●	●	●											●	●
PESTWORK--SEE NOTE*		●	●	●	●	●		●		●	●	●	●	●	●	●												●

*ANY USE OF PESTICIDES, HERBICIDES, OR PROCEDURES OTHER THAN THOSE RECOMMENDED FOR SHORT TERM SHOULD BE CONSIDERED AS PART OF A LONG TERM INTEGRATED MANAGEMENT PLAN.

PROBLEMS REQUIRING MAINTENANCE	TREE NO. 82	83	84	85 A,C	85 B,D	86	87	88	89 A	89 B	90	91	92	93 A-J	94	95	96	97	98	99 A-C	100	101	102	103	104 A	104 B	105	106
MOTHS																											
OAK ROOT FUNGUS OR OTHER DISEASES																											
BARKBORERS																											
TERMITES																											
TIP DIEBACK																											
LEANING			●																								
WEAK CROTCHES				●								●															
EXTERNAL DAMAGE																					●						
FILL ON CROWN																											
NO SIGNIFICANT PROBLEMS					●	●	●	●	●	●	●				●	●	●	●	●			●	●	●	●	●	●	●

RECOMMENDED SHORT TERM MAINTENANCE	82	83	84	85 A,C	85 B,D	86	87	88	89 A	89 B	90	91	92	93 A-J	94	95	96	97	98	99 A-C	100	101	102	103	104 A	104 B	105	106
CONSTRUCTION BARRIER RECOMMENDED																											
*POOR HEALTH--REMOVAL SUGGESTED	●	●												●						●			●					
PRUNING--																											
TIP																											
LIGHTEN CANOPY 1/4 - 1/3			●																		●						●
LIMB & DEADWOOD				●	●	●			●	●	●	●					●		●	●		●	●			●	●	
CLEARANCE						●	●		●		●						●	●	●	●					●	●	●	●
CABLING																											
REMOVE FILL																											
PESTWORK--SEE NOTE*																											

*ANY USE OF PESTICIDES, HERBICIDES, OR PROCEDURES OTHER THAN THOSE RECOMMENDED FOR SHORT TERM SHOULD BE CONSIDERED AS PART OF A LONG TERM INTEGRATED MANAGEMENT PLAN.

PROBLEMS REQUIRING MAINTENANCE

RECOMMENDED SHORT TERM MAINTENANCE

	TREE NO. 107	108 A	108 B	109	110	111 AB	112 AB	113 A-C	114	115	116	117	118	119	120 AB	121	122	123	124	125	126	127	128	ST1	ST2
MOTHS					●																				
OAK ROOT FUNGUS OR OTHER DISEASES				●																					
BARKBORERS																									
TERMITES																									
TIP DIEBACK																									
LEANING																●							●		
WEAK CROTCHES																									
EXTERNAL DAMAGE			●																●				●		
FILL ON CROWN				●	●			●	●	●	●	●	●	●			●						●		
NO SIGNIFICANT PROBLEMS	●	●					●	●							●			●			●	●			
CONSTRUCTION BARRIER RECOMMENDED																									
*POOR HEALTH--REMOVAL SUGGESTED			●			●									●					●			●	●	●	●
PRUNING-- TIP																		●							
LIGHTEN CANOPY 1/4 - 1/3				●																					
LIMB & DEADWOOD		●		●	●								●								●	●			
CLEARANCE	●	●					●	◐		●									●						
CABLING																●									
REMOVE FILL				●	●			●	●	●	●	●	●	●			●								
PESTWORK--SEE NOTE*				●	●																				

*ANY USE OF PESTICIDES, HERBICIDES, OR PROCEDURES OTHER THAN THOSE RECOMMENDED FOR SHORT TERM SHOULD BE CONSIDERED AS PART OF A LONG TERM INTEGRATED MANAGEMENT PLAN.

Appendix B. Thousand Oaks Park Tree Inventory

H. T. HARVEY & ASSOCIATES
Ecological Consultants

Memorandum

Project No. 3497-07

August 27, 2019

To: Robert Tidmore and Robin Spear (City of San José)

From: Will Spangler (H. T. Harvey & Associates)

CC: Joe Howard and Ryan Hegstad (H. T. Harvey & Associates)

Subject: **Thousand Oaks Park Tree Inventory**

The following memorandum presents the results of a tree inventory of Thousand Oaks Park prepared for the City of San José. This tree inventory is an excerpt from the Thousand Oaks Park Tree Management Plan, currently in preparation by H. T. Harvey & Associates.

Field Inventory of Existing Trees

Methods

H. T. Harvey & Associates arborist Ryan Hegstad and restoration ecologist Vicki Chang performed a field inventory of existing trees at the park on June 27 and 28, 2019. Ryan is an International Society of Arboriculture (ISA) Certified Arborist (WE-12542A). Although a typical tree inventory only considers woody plants with greater than 4 inches diameter at breast height (DBH) to be trees, additional small trees and woody shrubs were included to provide a detailed inventory of park vegetation. The following tasks were conducted during the inventory:

- Identifying each tree to species, including native and invasive status
- Tagging each tree with a numerically coded, aluminum tree tag
- Recording the approximate location of each tree using Geographic Positioning Systems (GPS)
- Measuring the tree trunk diameter at 54 inches above grade (DBH)
- Evaluating tree health and structural condition using a scale of 0 to 5, as shown in Table 1

Table 1. Tree Health and Structural Condition Evaluation Criteria

Condition Score	Tree Health	Tree Structure
5	A healthy, vigorous tree with a well-balanced crown. No apparent pest problems or signs and symptoms of disease. Normal to exceeding shoot length on new growth. Leaf size and color normal. Exceptional life expectancy for the species.	Root plate undisturbed and clear of any obstructions. Root flare has normal development. Trunk is sound and solid. No visible trunk defects or cavities. Branch spacing / structure and attachments are free of any defects.
4	Tree with slight decline in vigor. Imperfect canopy density in few parts of the tree, 10% or less, lacking natural symmetry. Less than half-normal growth rate and minor deficiency in leaf development. Few pest issues or damage, controllable. Normal branch and stem development with healthy growth. Small amount of twig dieback. Typical life expectancy for the species.	Root plate appears normal; only minor damage may be found. Possible signs of root dysfunction around trunk flare. Minor trunk defects from previous injury, with good closure; less than 25% of bark section missing. Good branch habit, minor dieback with some signs of previous pruning. Co-dominant stem formation may be present. Minor corrections required.
3	Tree with moderate vigor. Crown decline and dieback up to 30% of the canopy. Overall poor symmetry. Leaf color somewhat chlorotic with smaller leaves. Shoot extensions indicate some stunting and stressed growing conditions. Obvious signs of pest problems contributing to lesser condition. Some decay areas found in main stem and branches. Below average life expectancy.	Root plate reveals previous damage or disturbance and dysfunctional roots may be visible around main stem. Evidence of trunk damage or cavities with decay or defects present. Less than 30% of bark sections missing on trunk. Co-dominant stems are present. Branching habit and attachments indicate poor pruning or damage, which requires moderate corrections.
2	Tree in decline. Epicormic growth. Lacking full crown, more than 50% decline and dieback, especially affecting larger branches. Stunting obvious with little evidence of growth on smaller stems. Leaf size and color reveal overall stress in the plant. Insect or disease infestation may be severe. Overmature. Life expectancy is low.	Root plate disturbance and defects indicate major damage with girdling roots around the trunk flare. Trunk reveals more than 50% of bark section missing. Branch structure has poor attachments, with several structurally important dead or broken branches. Canopy reveals signs of severe damage or topping, with major corrective actions required. Extensive decay or hollow.
1	Tree in severe decline. Crown has very little vigor and/or has a disease or insect problem that is ultimately fatal and, if not corrected, may threaten other nearby trees.	Root plate has major structural problems that present an unacceptable risk. Tree is in severe decline, with dieback of scaffold branches and/or trunk.
0	Dead	Dead

Tree assessments were based on ground-level visual observations and physical measurements. The tree species and native status was determined in accordance with the Jepson Manual, second edition (Baldwin et al. 2012) and invasive status was determined by the California Invasive Plant Council (Cal-IPC 2019). A diameter tape

was used to measure DBH. Evaluations of tree health considered crown indicators such as vigor, density, leaf size, quality, and stem shoot extensions (Table 1). Evaluations of tree structural condition considered root condition/form, trunk condition/form, and branch assembly and arrangement as well as visible indicators of diminished structural integrity including cavities, dead limbs, and excessive leaning (Table 1).

An advanced assessment to quantify interior wood structure, root condition, and upper canopy condition was not performed as part of this assessment. Therefore, tasks performed did not include an excavation of the root zones of the trees, drilling for decay detection, collecting soil samples for laboratory testing, sending animal or vegetative material for laboratory testing, climbing the trees for an aerial inspection, a tree risk assessment, or a valuation. These tasks are not typically included in a standard arborist report.

A tree condition rating was then applied to each tree as the sum of the condition scores for tree health and structural, as follows:

- Dead – score 0; not living
- Poor – sum of scores between 1 and 4
- Fair – sum of scores between 5 and 6
- Good – sum of scores between 7 and 10

Results

A summary of the number of trees and shrubs observed by species and their native or invasive status is provided in Table 2.

Table 2. Number of Trees by Species

Scientific Name	Common Name	Native Status	Total
Casuarina cunninghamiana	river sheoak	non-native	3
Cedrus deodara	deodar cedar	non-native	14
Celtis sinensis	Chinese hackberry	non-native	3
Cotoneaster lacteus	milkflower cotoneaster	moderate invasive	1
Cupropcyparis x leylandii	Leyland cypress	non-native	3
Olea europaea	olive	limited invasive	3
Eucalyptus globulus	blue gum	limited invasive	3
Juglans hindsii	northern California black walnut	native	4
Ligustrum lucidum	glossy privet	limited invasive	1
Pinus densiflora	Japanese red pine	non-native	2
Prunus cerasifera	cherry plum	limited invasive	1
Prunus ilicifolia	hollyleaf cherry	native	1
Pyracantha angustifolia	firethorn	limited invasive	2
Pyrus kawakamii	evergreen pear	non-native	3

Scientific Name	Common Name	Native Status	Total
Quercus agrifolia	coast live oak	native	155
Quercus lobata	valley oak	native	16
Quercus suber	cork oak	non-native	15
Total			**230**

The description of each tree, including DBH, tree health and structural scores, tree condition rating, and native or invasive status is included in Appendix A. The approximate location of each inventoried tree and shrub is presented in Figure 1.

N:\Projects3400\3497-01\07\Reports\Fig 3 Tree Locations.mxd

H. T. HARVEY & ASSOCIATES
Ecological Consultants

Figure 1. Approximate Tree Locations
Thousand Oaks Park (3497-07)
August 2019

Appendix A. Thousand Oaks Park Tree Inventory (Performed June 27 and 28, 2019)

Tree Tag	Scientific Name	Common Name	Native Status	DBH (Inches)	Health Score	Structure Score	Tree Condition Rating
3614	*Olea europaea*	olive	limited invasive	6, 5, 4, 4, 3, 3	5	4	Good
3718	*Quercus agrifolia*	coast live oak	native	33	5	3	Good
3719	*Quercus agrifolia*	coast live oak	native	5, 4, 4, 2	4	4	Good
3720	*Juglans hindsii*	northern California black walnut	native	44	5	3	Good
3721	*Quercus agrifolia*	coast live oak	native	17	4	3	Good
3722	*Quercus agrifolia*	coast live oak	native	31	3	3	Fair
3724	*Juglans hindsii*	northern California black walnut	native	2, 2, 2, 2, 2	5	3	Good
3725	*Juglans hindsii*	northern California black walnut	native	7	3	4	Good
3726	*Quercus agrifolia*	coast live oak	native	4, 3	4	4	Good
3727	*Quercus agrifolia*	coast live oak	native	4, 3, 3	4	4	Good
3728	*Quercus agrifolia*	coast live oak	native	8, 5, 5	5	4	Good
3729	*Eucalyptus globulus*	blue gum	limited invasive	65, 15	4	4	Good
3730	*Eucalyptus globulus*	blue gum	limited invasive	26	4	2	Fair

3731	*Eucalyptus globulus*	blue gum	limited invasive	31	3	3	Fair
3732	*Prunus ilicifolia*	hollyleaf cherry	native	2, 2, 2, 2	5	4	Good
3733	*Prunus cerasifera*	cherry plum	limited invasive	4, 3, 3, 3	4	3	Good
3733	*Quercus agrifolia*	coast live oak	native	5	4	4	Good
3734	*Quercus lobata*	valley oak	native	18	5	4	Good
3735	*Quercus agrifolia*	coast live oak	native	6	5	5	Good
3736	*Quercus agrifolia*	coast live oak	native	8, 6, 3, 2	5	4	Good
3737	*Quercus lobata*	valley oak	native	47	4	5	Good
3738	*Quercus agrifolia*	coast live oak	native	4, 2, 2	4	4	Good
3739	*Quercus agrifolia*	coast live oak	native	4	4	4	Good
3740	*Quercus agrifolia*	coast live oak	native	5	4	4	Good
3741	*Quercus agrifolia*	coast live oak	native	5, 4	4	4	Good
3742	*Quercus agrifolia*	coast live oak	native	5, 5	4	4	Good
3743	*Quercus agrifolia*	coast live oak	native	6, 5, 2	4	3	Good
3744	*Quercus agrifolia*	coast live oak	native	7, 7, 5, 4, 4	4	4	Good
3745	*Quercus agrifolia*	coast live oak	native	5, 5, 4	4	4	Good
3746	*Quercus agrifolia*	coast live oak	native	6, 6, 6, 5, 5	4	3	Good
3747	*Olea europaea*	olive	limited invasive	6, 4, 4, 4	4	3	Good

3748	*Quercus agrifolia*	coast live oak	native	5, 3, 3	4	4	Good
3749	*Quercus agrifolia*	coast live oak	native	7	4	3	Good
3750	*Quercus agrifolia*	coast live oak	native	6	4	4	Good
3751	*Quercus lobata*	valley oak	native	28	4	5	Good
3752	*Quercus agrifolia*	coast live oak	native	17	4	3	Good
3753	*Quercus agrifolia*	coast live oak	native	27	4	5	Good
3754	*Quercus agrifolia*	coast live oak	native	23	4	4	Good
3755	*Quercus agrifolia*	coast live oak	native	16	4	4	Good
3756	*Quercus agrifolia*	coast live oak	native	17, 15, 14	4	3	Good
3757	*Quercus agrifolia*	coast live oak	native	3	5	4	Good
3758	*Quercus agrifolia*	coast live oak	native	18, 16	4	3	Good
3759	*Cupropcyparis × leylandii*	Leyland cypress	non-native	12	1	1	Poor
3760	*Quercus agrifolia*	coast live oak	native	15	4	4	Good
3761	*Quercus agrifolia*	coast live oak	native	18	4	4	Good
3762	*Quercus agrifolia*	coast live oak	native	23	4	5	Good
3763	*Quercus agrifolia*	coast live oak	native	7, 5	4	3	Good
3764	*Cedrus deodara*	deodar cedar	non-native	16	4	3	Good
3765	*Cedrus deodara*	deodar cedar	non-native	17	4	5	Good
3766	*Quercus agrifolia*	coast live oak	native	9	4	3	Good
3767	*Quercus agrifolia*	coast live oak	native	16	4	4	Good

3768	*Cedrus deodara*	deodar cedar	non-native	19	4	3	Good
3769	*Cedrus deodara*	deodar cedar	non-native	15	2	4	Fair
3770	*Cedrus deodara*	deodar cedar	non-native	16	2	4	Fair
3770	*Cedrus deodara*	deodar cedar	non-native	21	4	4	Good
3771	*Cedrus deodara*	deodar cedar	non-native	13	1	2	Poor
3773	*Cedrus deodara*	deodar cedar	non-native	16	3	4	Good
3774	*Cedrus deodara*	deodar cedar	non-native	8	4	3	Good
3775	*Cedrus deodara*	deodar cedar	non-native	13	4	4	Good
3776	*Cupropcyparis × leylandii*	Leyland cypress	non-native	13	2	1	Poor
3777	*Cedrus deodara*	deodar cedar	non-native	11	2	3	Fair
3778	*Cedrus deodara*	deodar cedar	non-native	14	1	3	Poor
3779	*Quercus agrifolia*	coast live oak	native	24	4	3	Good
3780	*Cupropcyparis × leylandii*	Leyland cypress	non-native	5	4	1	Fair
3781	*Quercus agrifolia*	coast live oak	native	22	4	2	Fair
3782	*Cedrus deodara*	deodar cedar	non-native	20	4	3	Good
3783	*Cedrus deodara*	deodar cedar	non-native	6, 5, 3	0	0	Dead
3784	*Quercus agrifolia*	coast live oak	native	31, 29	4	3	Good
3785	*Quercus agrifolia*	coast live oak	native	35	4	4	Good
3786	*Quercus agrifolia*	coast live oak	native	53	3	2	Fair

3787	*Quercus agrifolia*	coast live oak	native	42	5	4	Good
3788	*Quercus agrifolia*	coast live oak	native	21	4	4	Good
3789	*Quercus agrifolia*	coast live oak	native	40	5	4	Good
3790	*Quercus lobata*	valley oak	native	7	0	0	Dead
3791	*Quercus lobata*	valley oak	native	15	4	4	Good
3792	*Quercus lobata*	valley oak	native	12	4	3	Good
3793	*Quercus agrifolia*	coast live oak	native	7	5	4	Good
3794	*Quercus agrifolia*	coast live oak	native	20	4	3	Good
3795	*Quercus lobata*	valley oak	native	8	3	3	Fair
3796	*Quercus lobata*	valley oak	native	12	4	4	Good
3797	*Quercus agrifolia*	coast live oak	native	7	3	4	Good
3798	*Quercus agrifolia*	coast live oak	native	4	3	4	Good
3799	*Quercus agrifolia*	coast live oak	native	18	3	3	Fair
3800	*Quercus agrifolia*	coast live oak	native	7	3	3	Fair
3801	*Quercus agrifolia*	coast live oak	native	11	4	4	Good
3802	*Quercus agrifolia*	coast live oak	native	11	4	4	Good
3803	*Quercus lobata*	valley oak	native	9	3	4	Good
3804	*Quercus agrifolia*	coast live oak	native	8	4	4	Good
3805	*Quercus lobata*	valley oak	native	6	3	4	Good
3806	*Quercus agrifolia*	coast live oak	native	8	3	4	Good

3807	*Quercus agrifolia*	coast live oak	native	18	4	3	Good
3808	*Quercus agrifolia*	coast live oak	native	9	5	4	Good
3809	*Quercus lobata*	valley oak	native	11	4	3	Good
3810	*Quercus lobata*	valley oak	native	8	4	3	Good
3811	*Quercus agrifolia*	coast live oak	native	25	4	4	Good
3812	*Quercus agrifolia*	coast live oak	native	11	4	4	Good
3813	*Quercus lobata*	valley oak	native	17	4	4	Good
3815	*Quercus agrifolia*	coast live oak	native	6	4	4	Good
3816	*Quercus agrifolia*	coast live oak	native	7	4	3	Good
3817	*Quercus agrifolia*	coast live oak	native	12	4	4	Good
3818	*Quercus agrifolia*	coast live oak	native	5	5	4	Good
3819	*Ligustrum lucidum*	glossy privet	limited invasive	5, 3, 3, 3, 2, 2	5	4	Good
3820	*Quercus agrifolia*	coast live oak	native	4	3	4	Good
3821	*Quercus agrifolia*	coast live oak	native	8	3	3	Fair
3822	*Quercus agrifolia*	coast live oak	native	6	3	3	Fair
3823	*Quercus agrifolia*	coast live oak	native	5	5	4	Good
3824	*Pinus densiflora*	Japanese red pine	non-native	28	4	4	Good
3825	*Quercus agrifolia*	coast live oak	native	30	4	4	Good
3826	*Quercus agrifolia*	coast live oak	native	28	4	3	Good
3827	*Quercus agrifolia*	coast live oak	native	30	4	4	Good

3828	*Quercus agrifolia*	coast live oak	native	26	4	4	Good
3829	*Quercus agrifolia*	coast live oak	native	23	4	3	Good
3830	*Quercus agrifolia*	coast live oak	native	19	4	5	Good
3831	*Quercus lobata*	valley oak	native	21	4	4	Good
3832	*Quercus agrifolia*	coast live oak	native	15	4	3	Good
3833	*Quercus agrifolia*	coast live oak	native	19	2	2	Poor
3834	*Quercus agrifolia*	coast live oak	native	27	3	4	Good
3835	*Quercus agrifolia*	coast live oak	native	16	3	3	Fair
3836	*Quercus agrifolia*	coast live oak	native	20	3	4	Good
3837	*Quercus agrifolia*	coast live oak	native	30	4	5	Good
3838	*Pyrus kawakamii*	evergreen pear	non-native	7	4	3	Good
3839	*Pyrus kawakamii*	evergreen pear	non-native	6	1	2	Poor
3840	*Pyrus kawakamii*	evergreen pear	non-native	7	2	3	Fair
3841	*Quercus agrifolia*	coast live oak	native	53	5	4	Good
3842	*Quercus agrifolia*	coast live oak	native	29	4	3	Good
3843	*Quercus agrifolia*	coast live oak	native	35	4	4	Good
3844	*Quercus agrifolia*	coast live oak	native	13	4	4	Good
3845	*Quercus agrifolia*	coast live oak	native	18	4	5	Good
3846	*Quercus agrifolia*	coast live oak	native	29	4	3	Good
3847	*Quercus agrifolia*	coast live oak	native	22	4	4	Good

3848	*Quercus agrifolia*	coast live oak	native	24	4	4	Good
3849	*Pinus densiflora*	Japanese red pine	non-native	33	3	2	Fair
3850	*Quercus agrifolia*	coast live oak	native	20	3	2	Fair
3851	*Quercus agrifolia*	coast live oak	native	25	3	4	Good
3852	*Quercus agrifolia*	coast live oak	native	19	4	2	Fair
3853	*Quercus agrifolia*	coast live oak	native	33	4	4	Good
3854	*Quercus agrifolia*	coast live oak	native	24	4	3	Good
3855	*Quercus agrifolia*	coast live oak	native	32	4	5	Good
3856	*Quercus agrifolia*	coast live oak	native	22	4	4	Good
3857	*Quercus agrifolia*	coast live oak	native	36	4	4	Good
3858	*Olea europaea*	olive	limited invasive	13, 10	4	3	Good
3859	*Quercus suber*	cork oak	non-native	8	3	2	Fair
3860	*Quercus agrifolia*	coast live oak	native	9	4	4	Good
3861	*Quercus suber*	cork oak	non-native	10	4	3	Good
3862	*Quercus agrifolia*	coast live oak	native	32	3	3	Fair
3863	*Quercus agrifolia*	coast live oak	native	32	4	4	Good
3864	*Quercus agrifolia*	coast live oak	native	39	5	4	Good
3865	*Quercus agrifolia*	coast live oak	native	31	5	5	Good
3866	*Quercus agrifolia*	coast live oak	native	14	4	3	Good
3867	*Quercus agrifolia*	coast live oak	native	19	4	4	Good

3868	*Quercus agrifolia*	coast live oak	native	33	4	5	Good
3869	*Quercus agrifolia*	coast live oak	native	17	4	4	Good
3870	*Quercus suber*	cork oak	non-native	10	4	4	Good
3871	*Quercus suber*	cork oak	non-native	11	4	3	Good
3872	*Quercus suber*	cork oak	non-native	6	3	4	Good
3873	*Quercus agrifolia*	coast live oak	native	30	4	5	Good
3874	*Quercus agrifolia*	coast live oak	native	40	3	3	Fair
3875	*Quercus suber*	cork oak	non-native	6	4	4	Good
3876	*Quercus suber*	cork oak	non-native	6	5	4	Good
3877	*Quercus agrifolia*	coast live oak	native	7	4	5	Good
3878	*Quercus suber*	cork oak	non-native	11	4	3	Good
3879	*Cotoneaster lacteus*	milkflower cotoneaster	moderate invasive	4, 3, 3	5	3	Good
3880	*Pyracantha angustifolia*	firethorn	limited invasive	3, 3, 2	3	3	Fair
3881	*Pyracantha angustifolia*	firethorn	limited invasive	3, 3	4	4	Good
3882	*Quercus agrifolia*	coast live oak	native	3	4	4	Good
3883	*Quercus agrifolia*	coast live oak	native	4, 3	4	3	Good
3884	*Quercus agrifolia*	coast live oak	native	33	5	5	Good
3885	*Quercus agrifolia*	coast live oak	native	35	5	4	Good

3886	*Quercus agrifolia*	coast live oak	native	20	4	4	Good
3887	*Casuarina cunninghamiana*	river sheoak	non-native	14	5	4	Good
3888	*Casuarina cunninghamiana*	river sheoak	non-native	18	4	3	Good
3889	*Casuarina cunninghamiana*	river sheoak	non-native	10	4	3	Good
3890	*Quercus agrifolia*	coast live oak	native	25	5	4	Good
3891	*Quercus agrifolia*	coast live oak	native	32	4	4	Good
3892	*Quercus agrifolia*	coast live oak	native	16	3	4	Good
3893	*Quercus agrifolia*	coast live oak	native	15	4	4	Good
3894	*Quercus agrifolia*	coast live oak	native	12	4	5	Good
3895	*Quercus lobata*	valley oak	native	52	4	4	Good
3896	*Quercus suber*	cork oak	non-native	9	4	4	Good
3897	*Quercus agrifolia*	coast live oak	native	9	4	4	Good
3898	*Quercus agrifolia*	coast live oak	native	31	4	4	Good
3899	*Quercus agrifolia*	coast live oak	native	15	4	3	Good
3900	*Quercus agrifolia*	coast live oak	native	8	4	4	Good
3901	*Quercus agrifolia*	coast live oak	native	27	5	4	Good
3902	*Quercus agrifolia*	coast live oak	native	25	4	3	Good
3903	*Quercus agrifolia*	coast live oak	native	27	4	4	Good

3904	*Quercus agrifolia*	coast live oak	native	7	4	4	Good
3905	*Quercus agrifolia*	coast live oak	native	13	4	4	Good
3906	*Quercus agrifolia*	coast live oak	native	11	4	5	Good
3907	*Quercus agrifolia*	coast live oak	native	13	3	4	Good
3908	*Quercus agrifolia*	coast live oak	native	16	4	5	Good
3909	*Quercus suber*	cork oak	non-native	14	4	4	Good
3910	*Quercus agrifolia*	coast live oak	native	15	3	3	Fair
3911	*Quercus agrifolia*	coast live oak	native	14	4	3	Good
3912	*Celtis sinensis*	Chinese hackberry	non-native	12	3	4	Good
3913	*Celtis sinensis*	Chinese hackberry	non-native	16	4	3	Good
3914	*Quercus suber*	cork oak	non-native	11	3	4	Good
3915	*Celtis sinensis*	Chinese hackberry	non-native	18	4	3	Good
3916	*Quercus agrifolia*	coast live oak	native	20	3	2	Fair
3917	*Quercus agrifolia*	coast live oak	native	12	4	4	Good
3918	*Quercus agrifolia*	coast live oak	native	33	4	3	Good
3919	*Quercus agrifolia*	coast live oak	native	45	3	4	Good
3920	*Quercus agrifolia*	coast live oak	native	9	4	3	Good
3921	*Quercus suber*	cork oak	non-native	10	4	3	Good
3922	*Juglans hindsii*	Northern California black walnut	native	32	3	3	Fair
3923	*Quercus agrifolia*	coast live oak	native	34	4	4	Good

3923	*Quercus suber*	cork oak	non-native	11	4	3	Good
3924	*Quercus agrifolia*	coast live oak	native	11	4	5	Good
3925	*Quercus agrifolia*	coast live oak	native	10	3	3	Fair
3926	*Quercus agrifolia*	coast live oak	native	34	4	4	Good
3927	*Quercus agrifolia*	coast live oak	native	15	4	4	Good
3928	*Quercus agrifolia*	coast live oak	native	39	4	4	Good
3929	*Quercus agrifolia*	coast live oak	native	35	4	4	Good
3930	*Quercus agrifolia*	coast live oak	native	24	4	4	Good
3931	*Quercus agrifolia*	coast live oak	native	44	3	3	Fair
3932	*Quercus agrifolia*	coast live oak	native	19	4	4	Good
3934	*Quercus agrifolia*	coast live oak	native	18	3	2	Fair
3935	*Quercus agrifolia*	coast live oak	native	23	4	4	Good
3936	*Quercus agrifolia*	coast live oak	native	31	4	4	Good
3937	*Quercus agrifolia*	coast live oak	native	17	4	4	Good
3938	*Quercus agrifolia*	coast live oak	native	8	3	3	Fair
3939	*Quercus agrifolia*	coast live oak	native	36	4	3	Good
3940	*Quercus suber*	cork oak	non-native	7	4	3	Good
3941	*Quercus agrifolia*	coast live oak	native	34	4	4	Good
3942	*Quercus agrifolia*	coast live oak	native	14	3	2	Fair
3943	*Quercus agrifolia*	coast live oak	native	23	3	5	Good

3944	*Quercus suber*	cork oak	non-native	8	4	2	Fair
3945	*Quercus agrifolia*	coast live oak	native	32	3	4	Good
3946	*Quercus lobata*	valley oak	native	19	4	3	Good
3947	*Quercus agrifolia*	coast live oak	native	43	3	3	Fair

Appendix C. Presentation to the Thousand Oaks Neighborhood Association

Thousand Oaks Park
Tree Management Plan

Will Spangler, Senior Ecologist
16 October 2019

H. T. HARVEY & ASSOCIATES
Ecological Consultants

The Importance of Oaks

Historical Context

Inventory of Existing Conditions

Tree Management Plan

Q&A

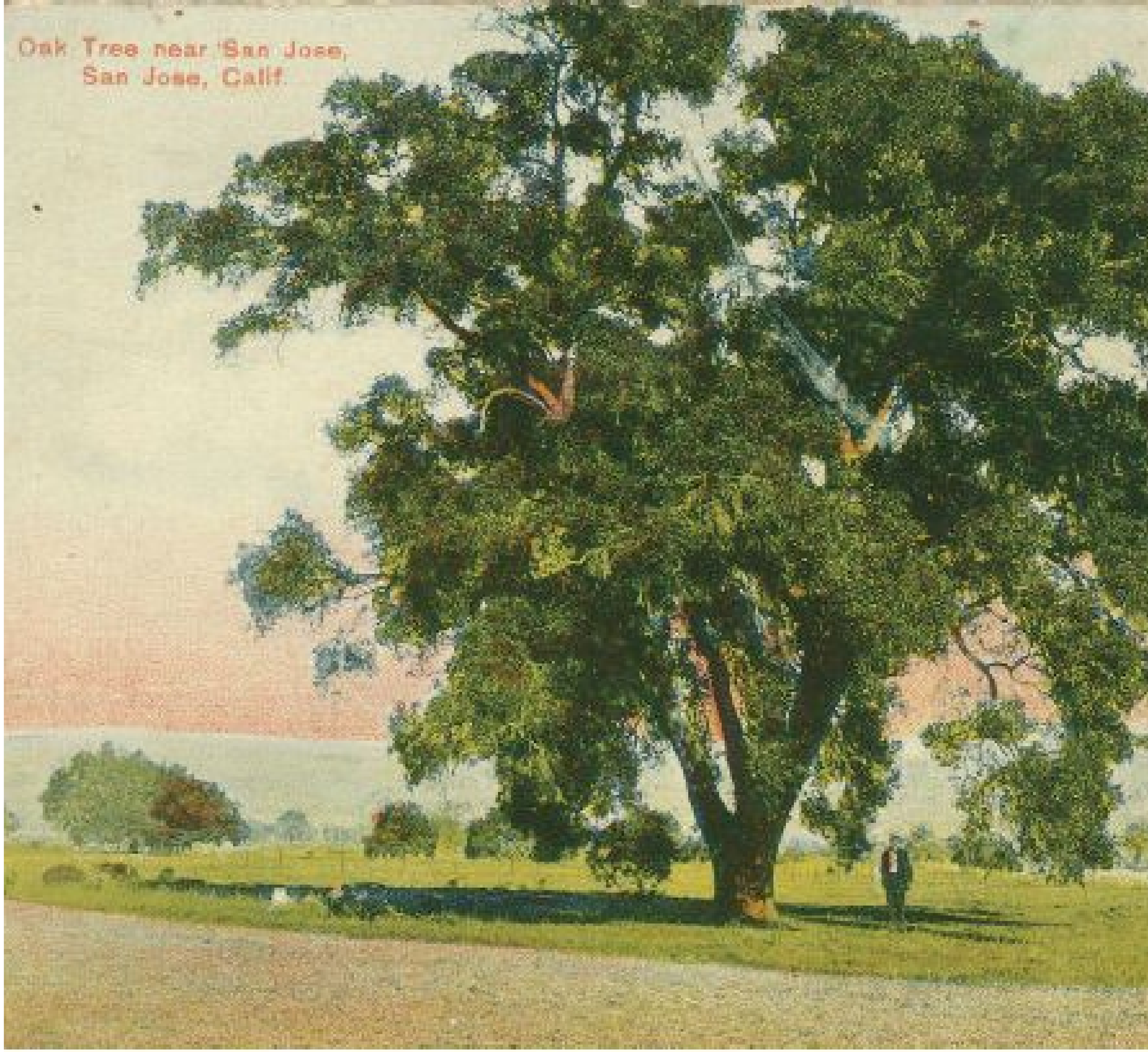
Discussion

Priorities for east side park improvements with remaining funding

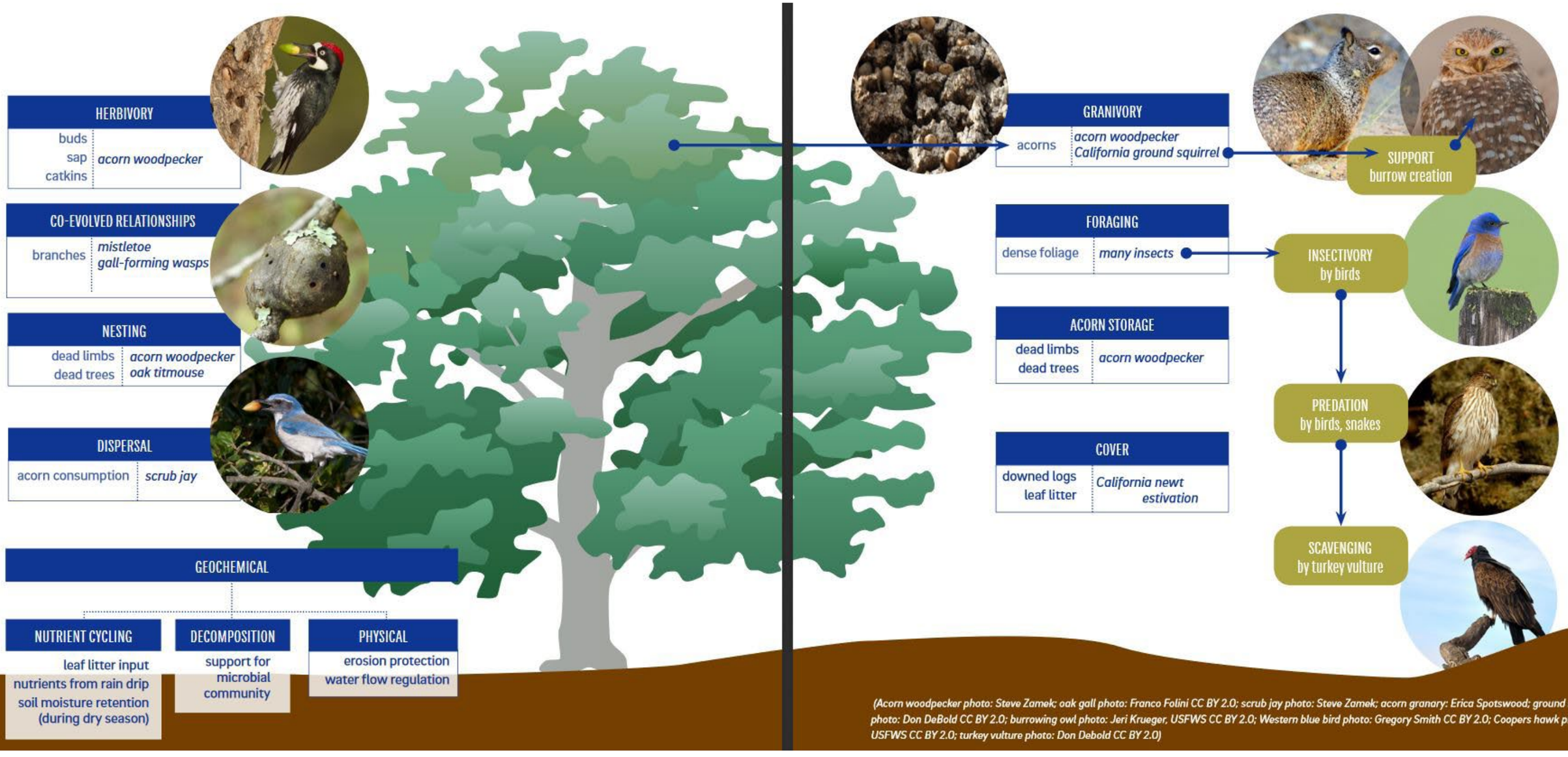
The Importance of Oaks

“Although but slightly appreciated by Californians no other tree [than the valley oak] is so characteristic of the lower altitudes, none other speaks so much for the fertility of the soil, and none other approaches it in its unexampled park-like effect on the valley floors”

– Willis Jepson



The Ecological Importance of Oaks



(Acorn woodpecker photo: Steve Zamek; oak gall photo: Franco Folini CC BY 2.0; scrub jay photo: Steve Zamek; acorn granary: Erica Spotswood; ground squirrel photo: Don DeBold CC BY 2.0; burrowing owl photo: Jeri Krueger, USFWS CC BY 2.0; Western blue bird photo: Gregory Smith CC BY 2.0; Coopers hawk photo: USFWS CC BY 2.0; turkey vulture photo: Don Debold CC BY 2.0)

Re-oaking Silicon Valley, Building Vibrant Cities with Nature.
San Francisco Estuary Institute, 2017.

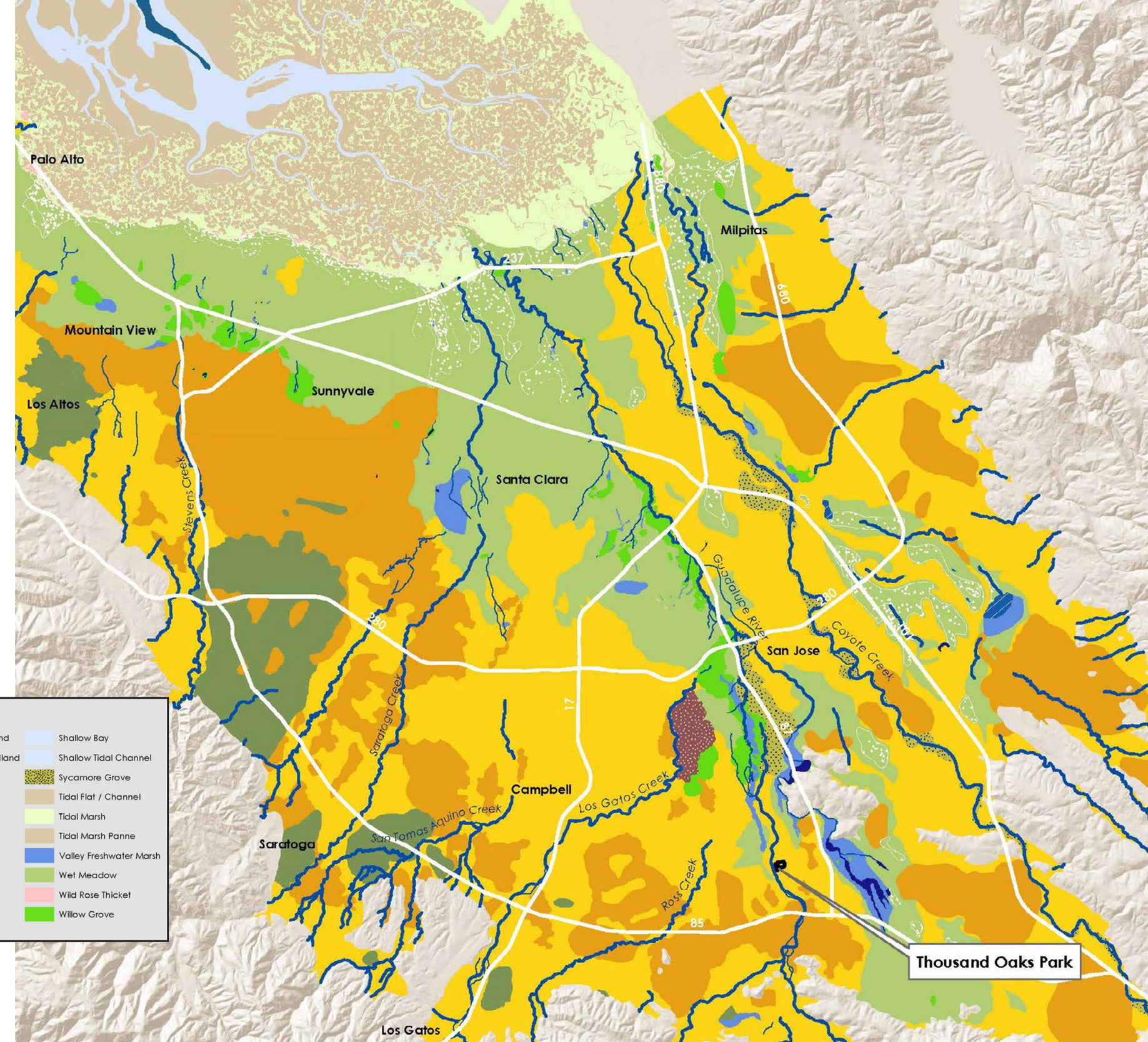
“Researchers say there’s growing evidence that nature has a powerful effect on us, improving both our physical and psychological health.”

“Green spaces might deter and lower crime rates…”

“Growing evidence suggests an association between access to urban greenspace and mental health and wellbeing….

Historical Context

Historical Vegetation and Drainage Patterns of Western Santa Clara Valley.
San Francisco Estuary Institute, 2010.




3885
Pearl Ave
Almaden Expwy
Guadalupe River
Base Layer Credits: Historicalaerials.com Thousand Oaks 1948

OFFICE OF COUNTY ASSESSOR — SANTA CLARA COUNTY, CALIFORNIA

BOOK 459 PAGE 13

THOUSAND OAKS DR.

DOWNSWICK DR.

1.86 AC NET

CITY OF SAN JOSE

24

28

PTN. LOT 1

7.03 AC. NET

R.O.S. 281-M-1

BROCKHAMPTON CT.

THOUSAND OAKS DR.

LYNFIELD LANE

WOODGROVE LANE

TRACT Nº 5198
THOUSAND OAKS --- UN. Nº 2

GLENRIDGE DRIVE

GLENMOOR ESTATES
UNIT Nº 5···TRACT Nº 4316

NORMINGTON WAY

GLENMONT DR.

UNIT Nº 2
TR. Nº 4313

UNIT Nº 1
TR. Nº 4312

GLENMOOR ESTATES
UN. Nº 6-TRACT Nº 4317

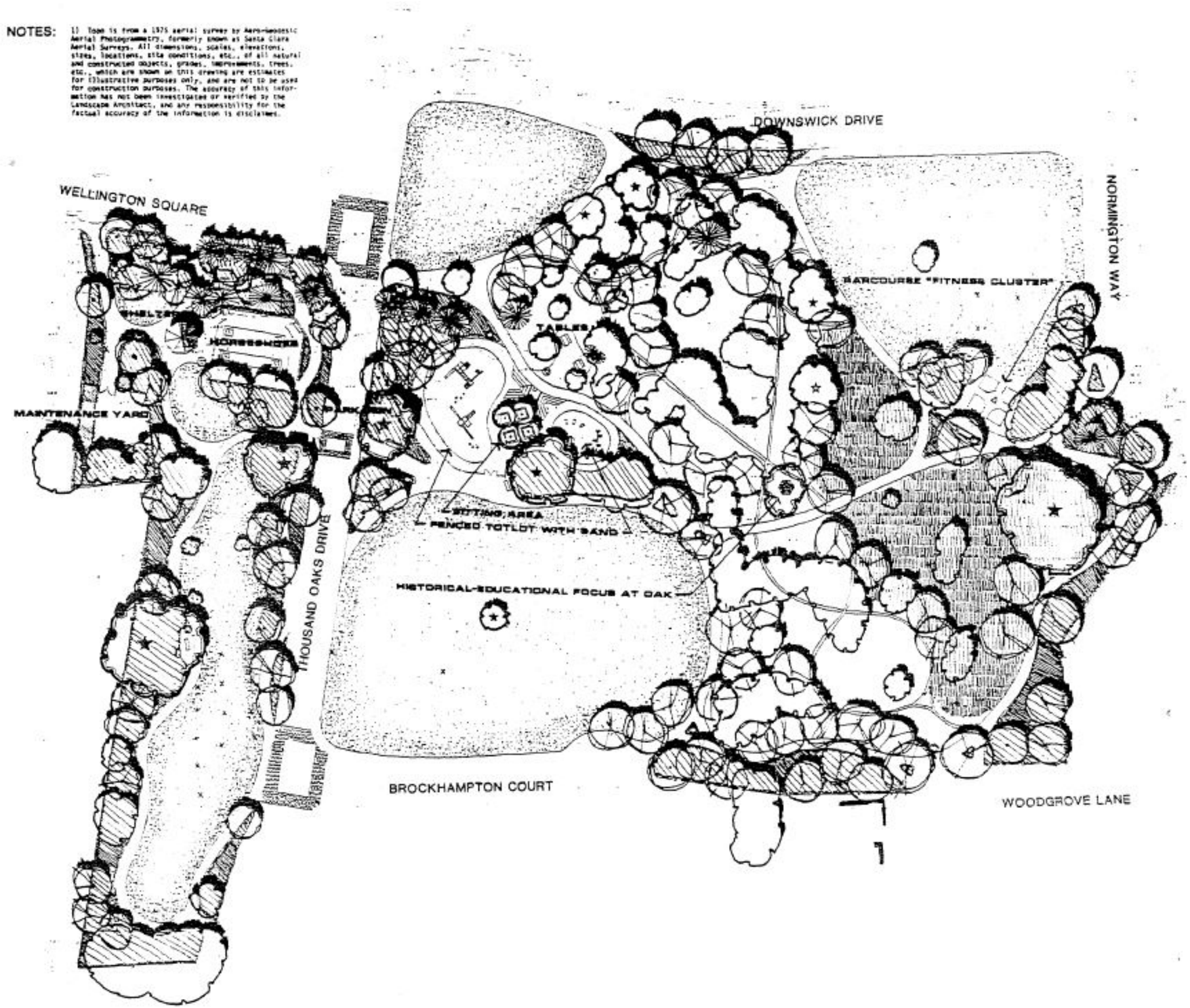
1" = 100'

TRA DET. MAP 117

LAWRENCE E. STONE – ASSESSOR
Cadastral map for assessment purposes only.
Compiled under R. & T. Code, Sec. 327.
Effective Roll Year 2017–2018

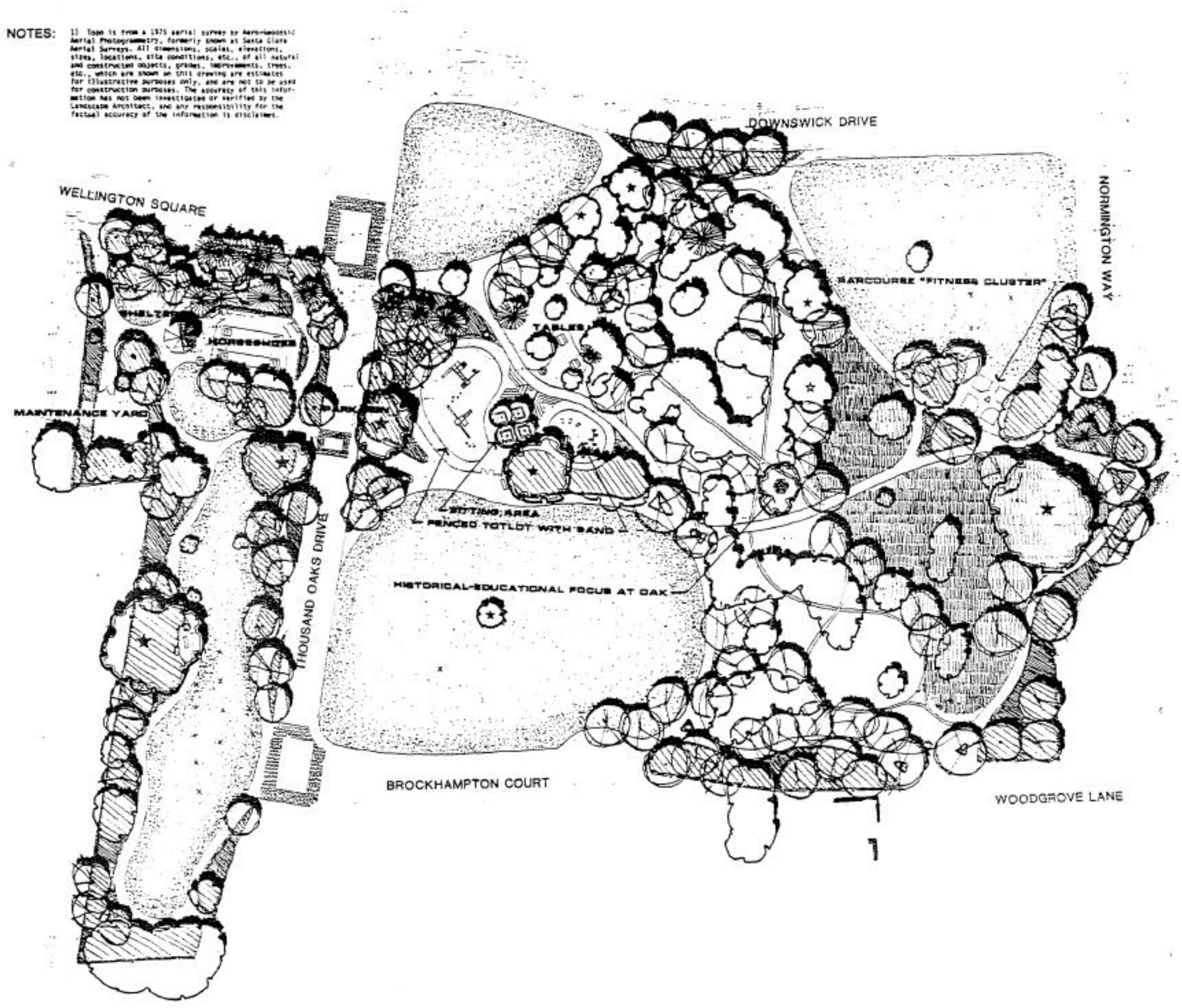

Canoas
Sch
CITY
BDY
Gaging
Sta
Presentation
High Sch
HUSTED
PLUMMER
AVE
LANE
ALMADEN
Schallenberger
Sch
KOCH
Shopping
Center
VISTAMONT
BM 164
BM 161
150
152
151
HILLSDALE
Trailer
Park
NARVAIS
Canoas
AVENUE
CAPITOL
300
200
PEARL
145
Terrell
Sch
160
158
KIMBERLY
DR
Valley View
Sch
BRYAN
EXPWY
ROAD
RD
Well
SAN JUAN
BAUTISTA
BRANHAM
170
168
Robertsville
BM 173
Water
Reed Sch
Creek
John Muir
Jr High Sch

The **1985 Masterplan** identified existing oak woodland as the park's major feature and an invaluable resource. It documented **128 trees** of varying species**.**



The 1985 Masterplan also identified **community goals**:

- Preserve the natural character of the site.
- Protect existing trees, particularly the oaks.
- Orient the use of the park to neighborhood residents and pedestrian access, and discourage potential over-use by large groups and people and automobiles.
- Provide low-key and recreational uses.
- Involve the neighborhood in the management as well as use of the park.



Recently, **the community came together** in support of Thousand Oaks Park, raising awareness and funding to make improvements, including:

- Installation of **trails, benches, and signage**
- Protection of naturally recruiting **oak seedlings**
- Installation of a **meadow area** with ornamental and native plants

Inventory of Existing Conditions

The City of San Jose hired H. T. Harvey & Associates to **inventory trees** at Thousand Oaks Park and to develop a **Tree Management Plan.**

Tree Inventory

230 trees were recorded in the park

- **Typical oak issues** were observed, including downed limbs, tussock moths, oak moths, and drippy nut disease
- **Natural recruitment** of native coast live oak and valley oak was observed, mostly in the woodland area
- **Non-native and invasive plants** were observed
- Generally, a majority of trees had good health and structure scores, **indicating a healthy woodland**

Tree Management Plan

The goal of the Tree Management Plan is to **present management opportunities to protect and enhance natural resources,** particularly the oaks, in the park and the adjacent neighborhood.

Ecological Enhancement Opportunities

Managing for Oak Woodland

Revegetation

Riparian Corridor Connectivity

Wildlife Habitat Enhancement

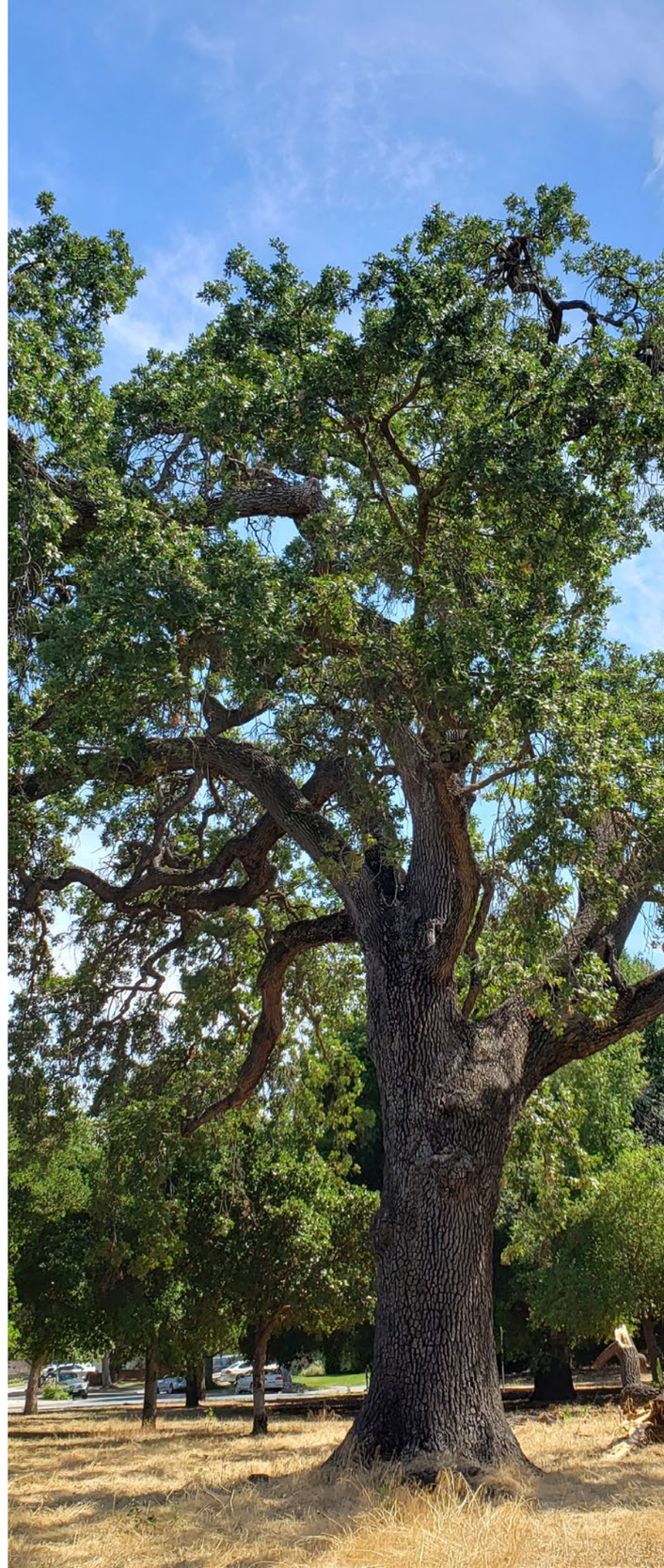
Neighborhood and Community

Educational Opportunities

Flow and Circulation

What You Can Do in Your Yard

Additional Funding Opportunities



Ecological Enhancement Opportunities: Managing for Oak Woodland

Limit summer irrigation to existing mature native oaks

Leave organic matter in place, including leaf litter and downed branches

Prune only for specific and clearly identified reasons, avoid routine pruning

Remove hardscape beneath existing trees

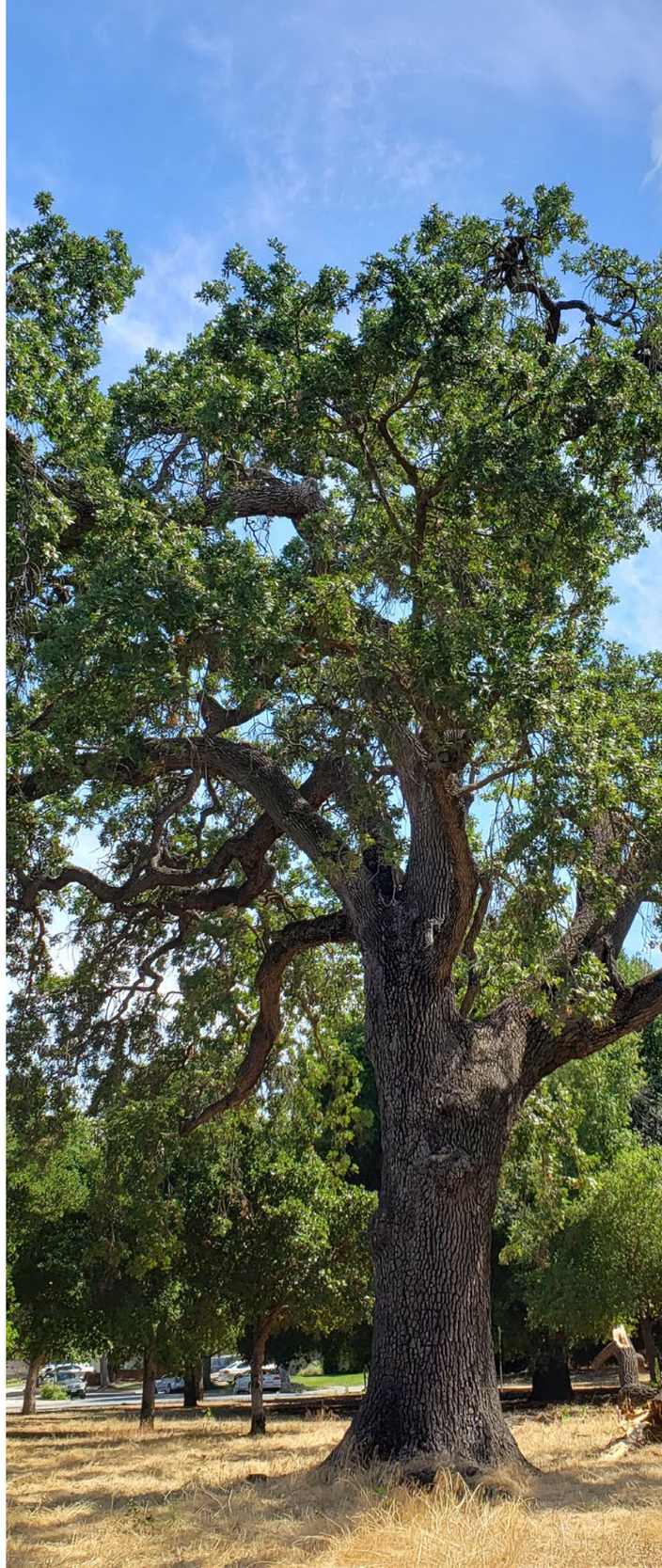
Remove turf beneath existing trees

Consider targeted removal of non-native and invasive plant species

Implement best management practices for pathogen prevention

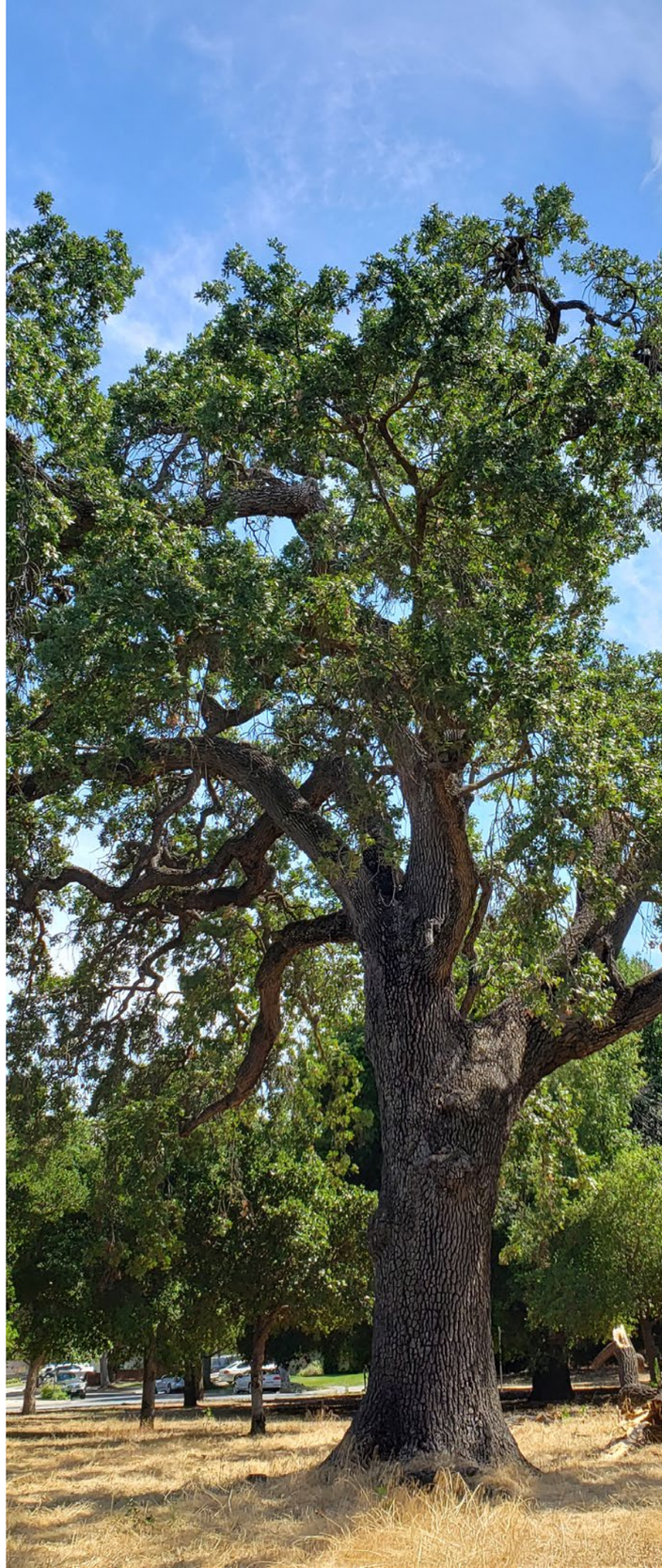
- Carefully select nursery stock that is grown to minimize pathogens

Minimize the use of pesticides by utilizing integrated pest management



Ecological Enhancement Opportunities: Revegetation

- Protect naturally recruiting seedlings
- Selectively thin seedlings
- Designate revegetation areas in which to:
  - Plant native acorns in targeted locations
  - Plant native oak woodland understory species
  - Plant native meadow species
  - Plant milkweed for monarch butterflies
- Maintain seedlings and new plantings during a plant establishment period



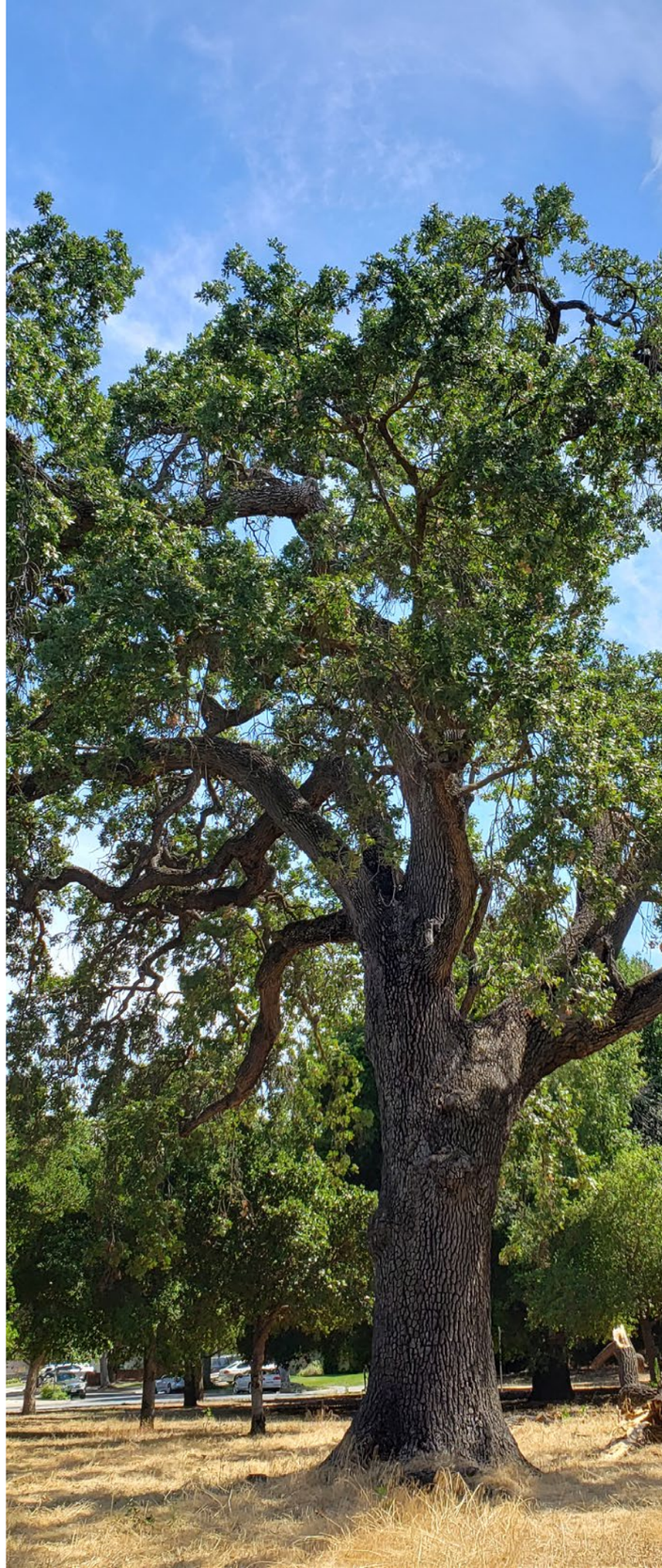
Ecological Enhancement Opportunities: Riparian Corridor Connectivity

Install interpretive signage highlighting interactions between riparian corridors and woodland habitats

Screen the chain link fence with native vegetation

Explore possible realignment of the chain link fence to allow for wildlife passage

Foster a dialogue with the owner of the parcel between the park and the Guadalupe River with the potential goal of acquiring the parcel to expand the park



Ecological Enhancement Opportunities: Wildlife Habitat Enhancement

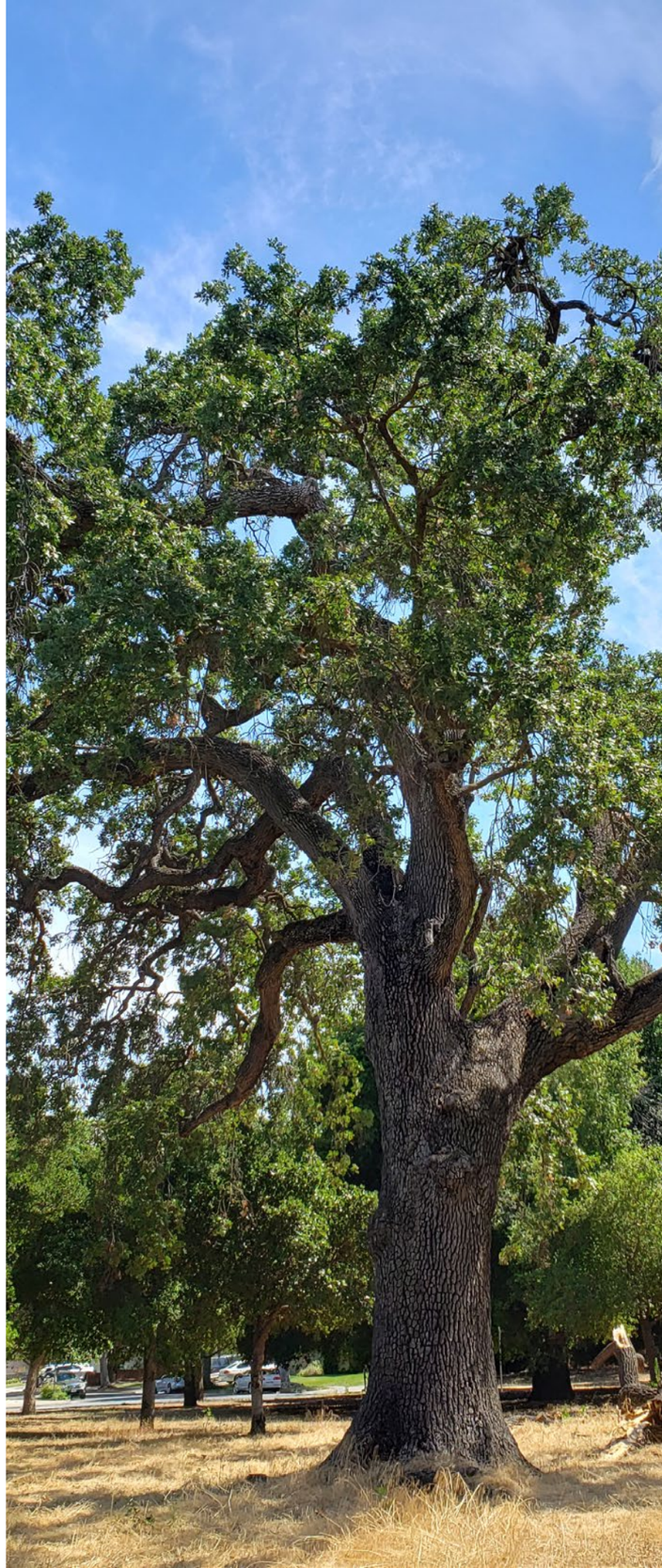
Promote vegetation that flowers in different seasons to maximize access to floral resources for pollinators

Limit maintenance activities that may disturb nesting birds during the nesting bird season

Install covers over trash and recycling receptacles to prevent wildlife from access food waste and garbage in the park

Consider maintaining mud puddles and other water sources for birds and butterflies, particularly during the dry season.

Encourage the use of nest boxes designed for specific bird species desired at the park.

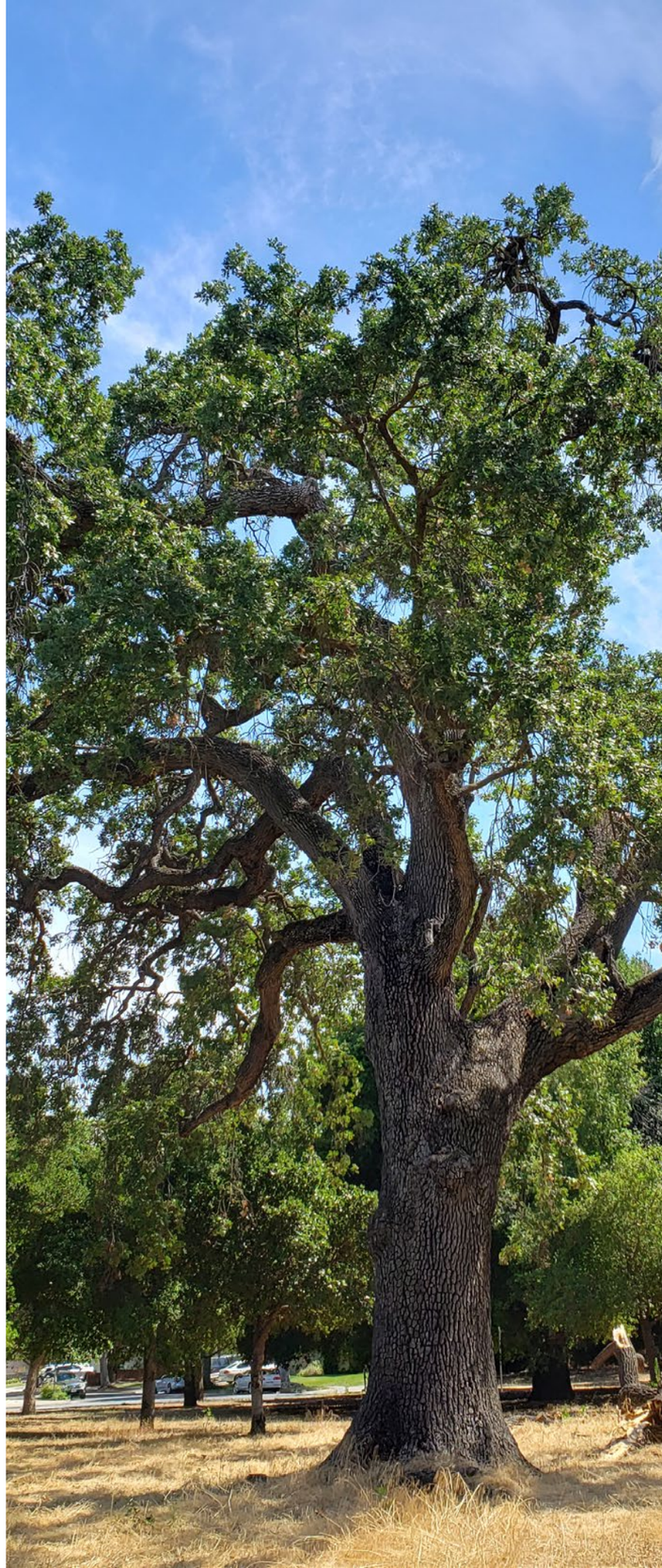


“Our live oak trees are native groves. The conditions are in no essential particulars different from those of other groves elsewhere in the state, where old trees are always at some time dying and are being replaced by younger ones. There should be systematic planting of a few seedlings in order to ensure a perpetual stand. The live oaks are trees of slow growth but that is no valid objection to them; quite the contrary. We are planning not merely for today or tomorrow, but for the future.”

- Willis Jepson

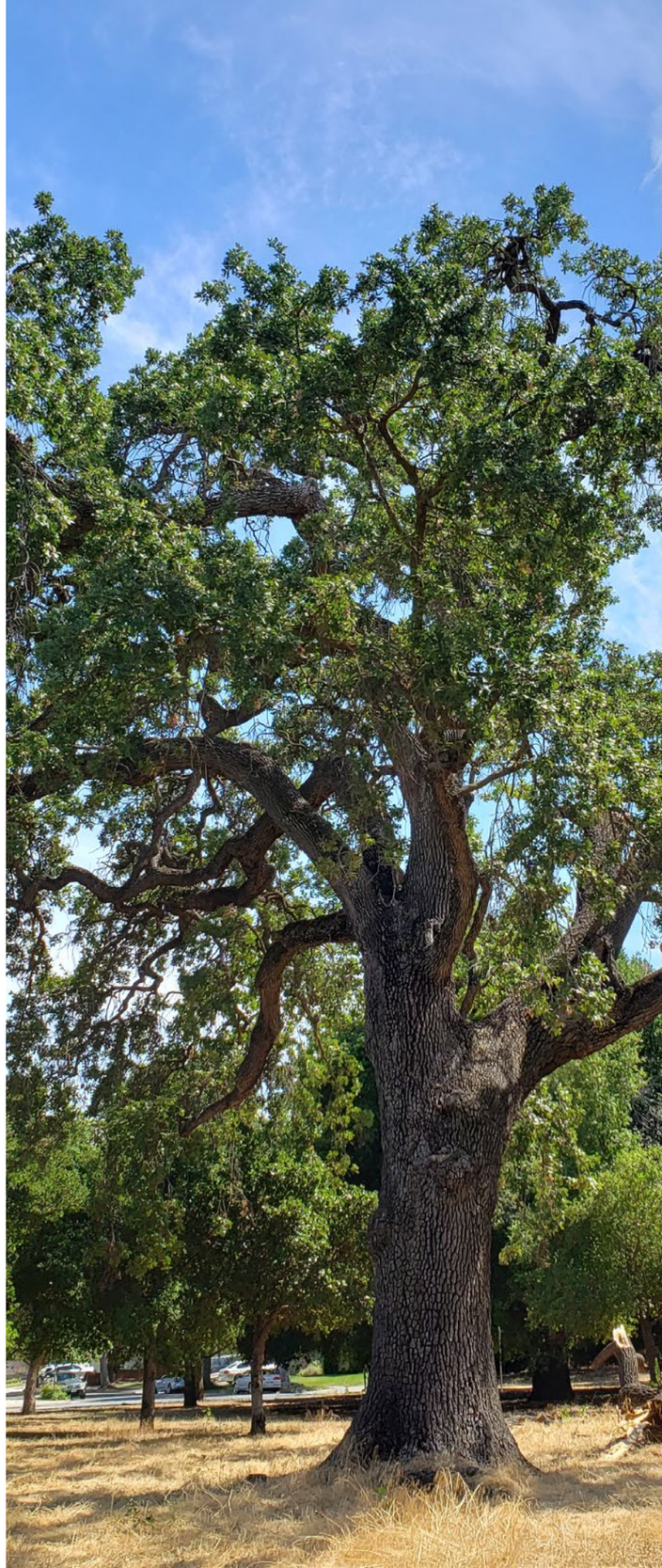
Neighborhood and Community: Educational Opportunities

- Develop a cohesive interpretive program with signage and interactive exhibits
- Host ranger-led walks and volunteer naturalist programs
- Engage with volunteers to implement management activities
- Use emerging citizen science resources like iNaturalist and eBird
    - Host a BioBlitz event
    - Create dedicated places inside the park to track observations of plants, wildlife, and fungi



Neighborhood and Community: Flow and Circulation

- Improve circulation be installing a informal path to connect the southeast corner of the park to Woodgrove and Lynfield Lanes
    - Route paths and trails outside the dripline of mature trees
- Explore traffic calming measures along Thousand Oaks Drive to facilitate connectivity between the park's two parcels
    - Traffic signage
    - Crosswalks
- Consider signage and crosswalks at and across Downswick Drive and Normington Way



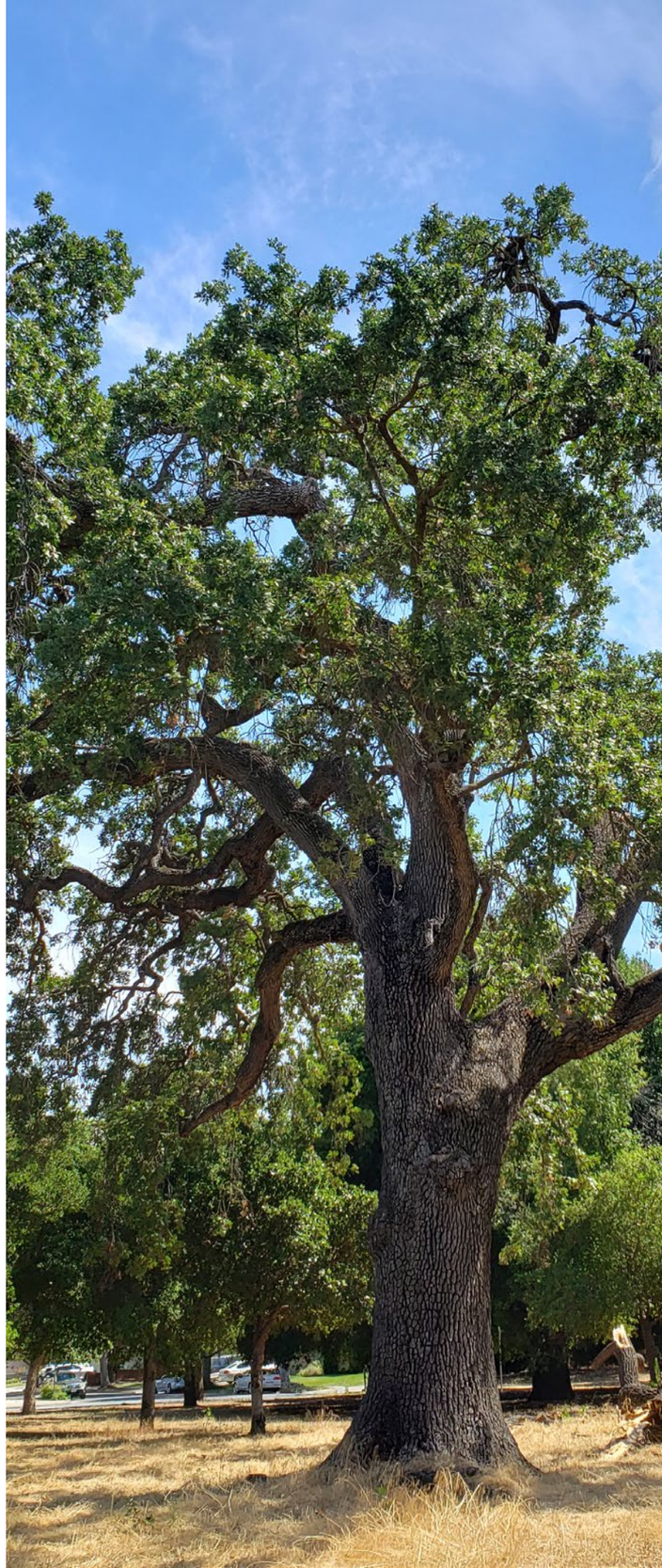
Neighborhood and Community: What You Can Do in Your Yard

Plant native oaks to create a network of trees that supports local biodiversity and native wildlife, including a suite of native oak-associate birds

Plant narrow leaf milkweed to support monarch butterflies that depend on this plant

Incorporate bird-friendly window designs to reduce bird collisions

Learn about how keeping domestic cats indoors can protect birds and other wildlife



Neighborhood and Community: Additional Funding Opportunities

Beautify SJ Grant

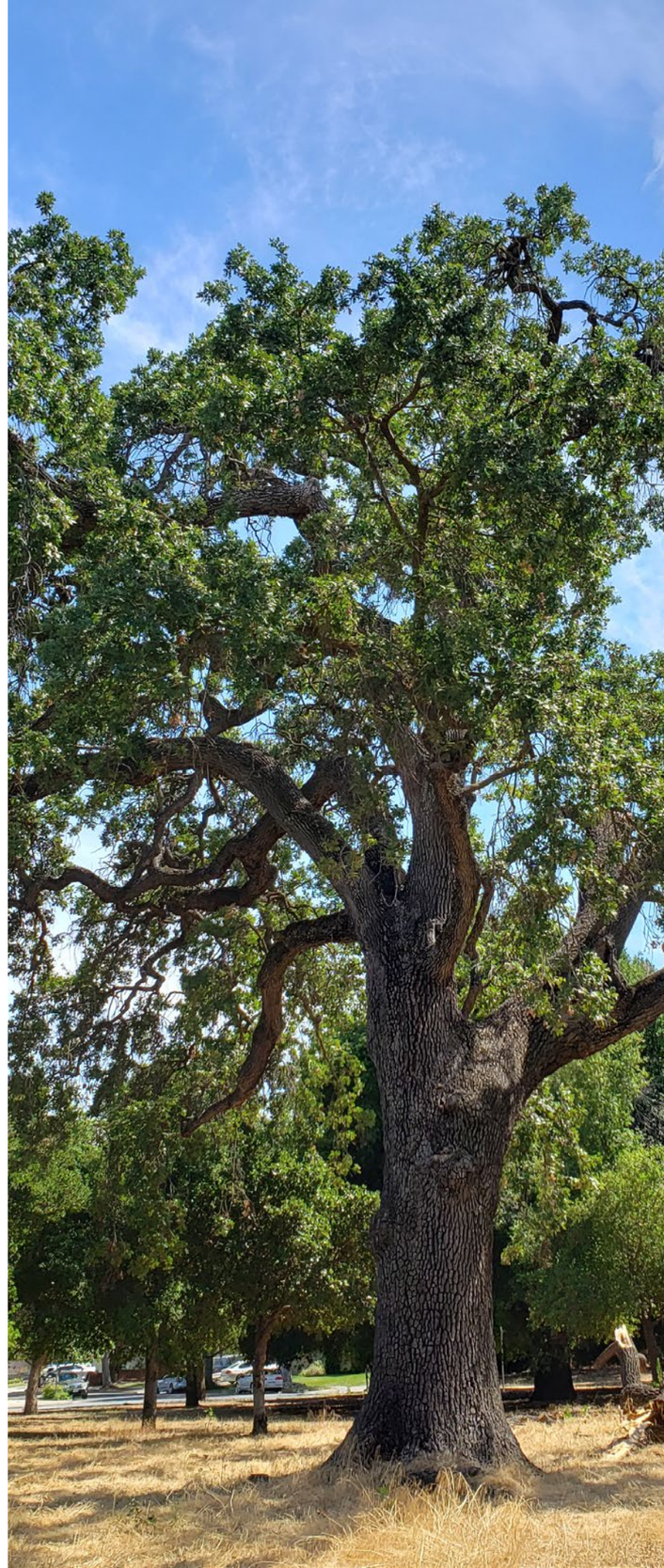
Santa Clara Valley Open Space Authority

Measure Q Open Space Grant

Santa Clara Valley Water District:

D3 Grants and Partnerships to Restore Wildlife Habitat

D3 Grants and Partnerships to Access Trails and Open Space



Questions and Discussion