Urban Forest Management Plan

Conducted by WCA, Inc. on behalf of the City of Monterey Park Department of Public Works

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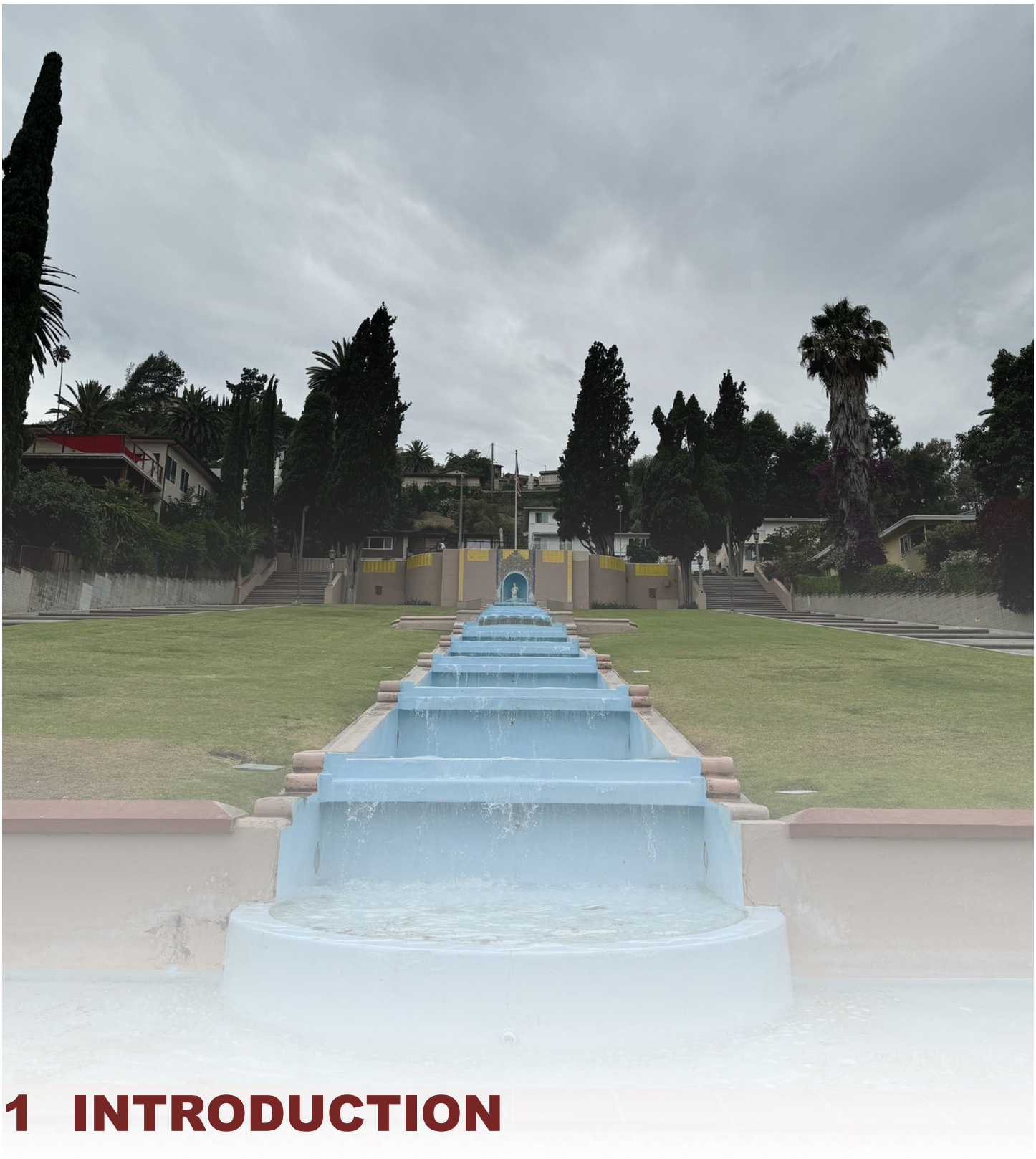

1 INTRODUCTION

INTRODUCTION

1.1 EXECUTIVE SUMMARY

The City of Monterey Park has developed this Urban Forest Master Plan to provide City officials, City staff and members of the community with guidance, practices, and standards to maintain a sustainable, healthy urban forest maximizing the benefits of trees for all who live in, work in, and visit the City. This is a living document that will be updated and adapted to reflect changes in climate, urban forest conditions, scientific research, and industry understanding and practices.

The vision, goals, and purpose of this UFMP are stated in Chapter 1, along with a current state of the City's Forest as of July 2024. Chapter 2 presents the current tree inventory as of July 2024, the species, Genera and Families most represented, and the number of vacant sites.

Distribution in Canopy Cover is the subject of Chapter 3, based on the most current imagery and data from 2022. Trends in canopy cover from 2018 to 2022 are analyzed and discussed in this section along with the basic plan to achieve an overall increase in canopy cover citywide.

Chapter 4 describes the City's Urban Forest Operations framework and details the best management practices and standards for urban forest monitoring and maintenance based on the International Society of Arboriculture (ISA) Best Management Practices and American National Standards Institute (ANSI) A300 Tree Care Standards.

Sustainability of the City of Monterey Park Urban Forest are the subject of Chapters 5 and 6. A new approved tree palette designed with species that will better tolerate the changing climate conditions, reduce the overall water demands of the urban forest, and require less frequent routine pruning and maintenance for more efficient management resource allocation are addressed in Chapter 5. This chapter also presents the planting plan to fill over one thousand, four hundred vacant sites throughout the City, best practices for installing and caring for young trees, and standards, practices, and policies for the protection of mature trees as the City of Monterey Park continues to grow and develop. The Strategic Plan in Chapter 6 focuses on a long-term replacement of high-maintenance and aging trees for more efficient resource allocation, offering a phased succession plan to reduce significant losses in canopy cover that could result from the removal of a large number of mature trees.

Finally, the focus of Chapter 7 is strengthening the partnership between City management staff and members of the community as stewards of the urban forest through public outreach and education. This section concludes with the progress and path for the City of Monterey Park to obtain recognition as a Tree City USA and links to resources for homeowners and business owners regarding the benefits and proper care of trees.

1.2 HISTORY AND BACKGROUND

The Monterey Hills, from which the City of Monterey Park derives its name, have long been a desired location for human settlement. Spanish missionaries found Gabrielino tribes living in the area, which became part of the San Gabriel Mission later being part of the Don Antonio Maria Lugo Rancho through Spanish Land Grants in the early 1800's. Richard Garvey was so taken by the natural beauty, with rolling hills of scattered oak, walnut, and willow, as he travelled through the Monterey Hills on his Army mail route, that he bought 4,000 acres and built a home in the area that is currently Garvey

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Ranch Park. More settlers followed and the hills were officially incorporated as the City of Monterey Park in 1916. Largely agricultural until World War II, pioneers like Peter Snyder, developer of Midwick View Estates with El Encanto and the Cascades as its centerpiece, and Laura Scudder, who turned homemade potato chips sold at a service station at Garvey Avenue and Atlantic Boulevard into a popular nationwide brand, paved the way for the residential, commercial, and industrial center that Monterey Park is today.

As the City continues in this new era, a diverse, healthy, well maintained urban forest will be a vital component to maintain the natural beauty that has historically made Monterey Park a desired location to live and conduct business. The benefits of trees in the urban environment include, but are not limited to:

Beautifying the landscape
Improving air quality
Releasing oxygen into the atmosphere
Absorbing carbon dioxide and other greenhouse gases
Providing sound barriers
Serving as a windbreak
Providing direct and indirect positive economic property value
Capturing storm water
Reducing soil erosion
Reducing runoff
Reducing water consumption in the landscape
Providing shade and cooling for homes and leisure
Reducing heat islands
Providing habitat for wildlife

Additionally, numerous studies have shown that trees have a positive impact on mental and physical health.

This Urban Forest Management Plan provides the Monterey Park community with information to support such an urban forest and achieve the goals and visions described below.

1.3 VISION

The City of Monterey Park's trees are recognized as integral to the quality of life for all City residents as well as for the City's urban character and natural environments. A healthy, thriving, and sustainable urban forest remains a longstanding community priority and will be thoughtfully managed in a way that maximizes the range of public benefits including a thriving ecosystem, a vibrant economy, and a livable community shared by all.

The urban forest within the City of Monterey Park is a healthy, dynamic, diverse, and cohesive ecosystem that is valued and cared for by the City and through community stewardship. This vision reflects the community's deep-rooted desire to live in a green and vibrant community. It reinforces the City's responsibility to manage the urban forest to preserve and enhance this valuable community

resource for the good of the environment, the economy, and the health and well-being of current residents and future generations.

Maintaining a healthy, sustainable urban forest requires a significant commitment of resources, and a cohesive structure to provide guidance for decision makers, City staff, and the residents of the community. It is important that the vision, policies, and ordinances develop over time into such a unified structure to support an urban forest that provides the maximum possible benefits for the community. This UFMP is one link in that structure. The management plan was with the overall vision of:

1. Optimizing urban forest management standards and practices for more efficient allocation of resources.
2. Advancing the partnership in caring for this important resource between the City's urban forest management staff and community members through public outreach and education on the benefits trees provide and proper maintenance and protection of the trees.

1.3.1 SPECIFIC CITY GOALS TO REALIZE THIS VISION

The specific goals identified by the City of Monterey Park to be addressed in this UFMP are as follows:

1. Provide continuity of species on streets, using species with similar pruning needs for more efficient grid pruning.
2. Develop an Annual Planting Program to fill existing known vacant planting sites and identify gaps in the canopy cover.
3. Obtain Tree City USA status.

1.4 PURPOSE AND SCOPE OF PLAN

This Urban Forest Management Plan (UFMP) is intended as a guide to assist City of Monterey Park decision makers and staff in the management, maintenance, and expansion of community benefits for the city-managed tree components of the urban forest. It is also a tool for educating community members about the benefits of trees and the importance of their role to help maintain a healthy, sustainable urban forest.

The UFMP is based on current scientific understandings and best management practices (BMPs) developed for tree care by the International Society of Arboriculture (ISA) and the American National Standards Institute (ANSI). The urban forest exists in a dynamic environment affected by numerous factors such as periods of climate fluctuation, drought, population growth, emerging pests and diseases, and changes in laws and regulations. ISA BMPs and ANSI Standards are periodically being adjusted and revised to address these factors and incorporate new scientific discoveries and improved industry practices. Likewise, to be effective in helping to maintain a healthy and sustainable urban forest that provides the maximum benefits to the community in the most efficient and cost-effective manner, this UFMP is intended to be a living document that will be reviewed and adjusted, as needed, to address these changes.

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1.5 CURRENT STATE OF THE URBAN FOREST

Vacant planting sites are the second-most dominant stratum in the City of Monterey Park Urban Forest, accounting for nearly sixteen percent (16%) of the identified planting locations. Figures 1.1 and 1.2 below show the percentage of sites by selected ranges of standard measures of tree size, diameter at breast height (DBH, measured at 4.5 feet above ground level) and tree height. The distribution of DBH measurements for existing trees suggests a maturing forest dominated by establishing middle-sized trees, with the most represented diameter range of seven to twelve inches (7" – 12", 35.72%), followed closely by trees in the thirteen-to-eighteen-inch (13" – 18") DBH range. As the vacant sites are planted, the percentage of trees with DBH of 0-6 inches has the potential to become the second most dominant class, with the potential to comprise nearly twenty-eight percent (28%) of the tree sites in the City. Young trees require more frequent irrigation and care for the first year to two years after installation, which may present a challenge in terms of resource allocation during this transition.

Species diversity is also a concern in the current City of Monterey Park Urban Forest. Crape myrtle (*Lagerstroemia indica*) comprises just over eighteen percent (18.07%) of the current available sites. When hybrids of the species are added to the total number, the percentage of the available sites occupied increases to just over twenty percent (20.24%). Dominance of the urban forest by a single species, or closely related species, can be a major concern in terms of potential impacts from pests and diseases. This issue is addressed further in Section 2.2.

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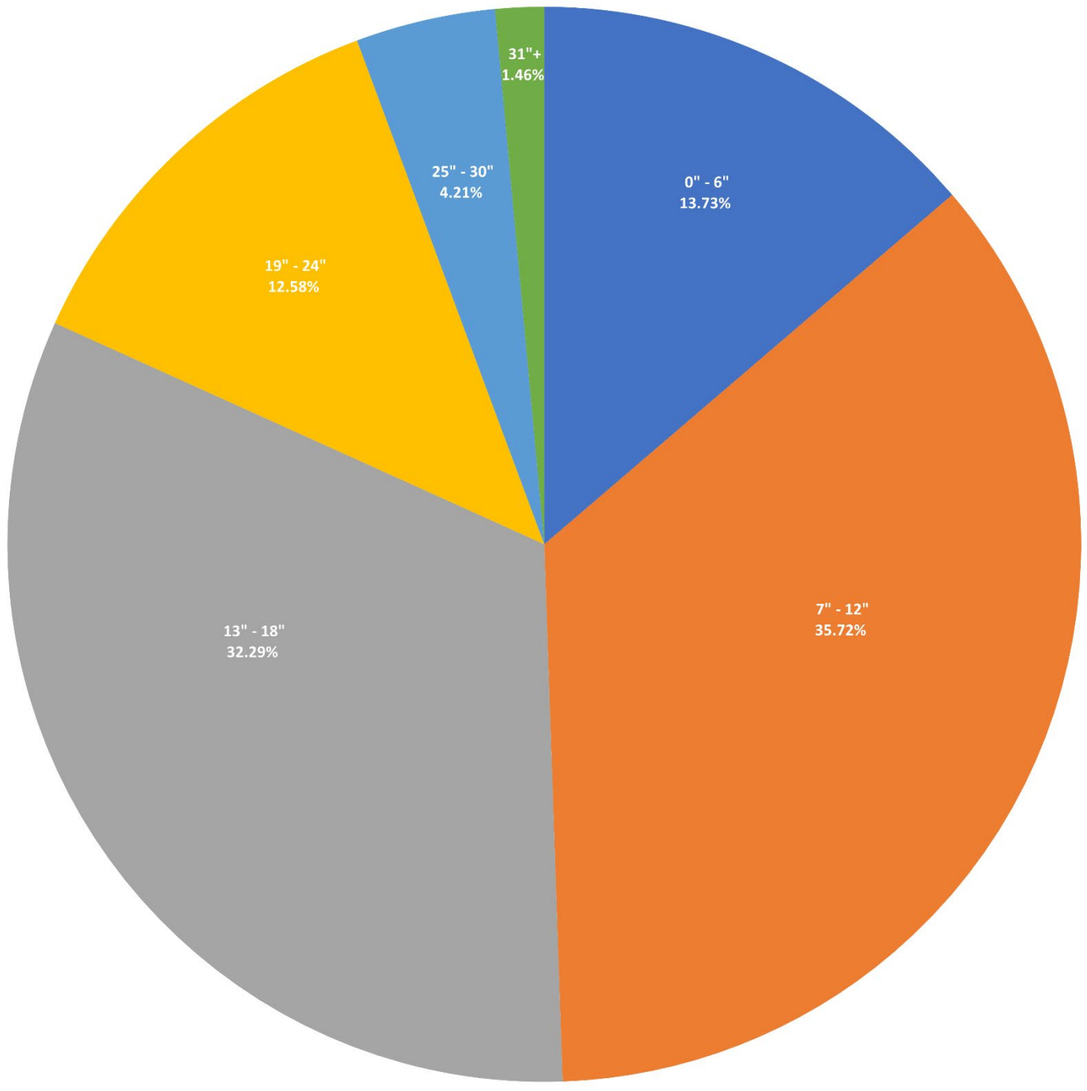

Figure 1.1: Current Distribution of Live Trees by Diameter at Breast Height (DBH in inches)

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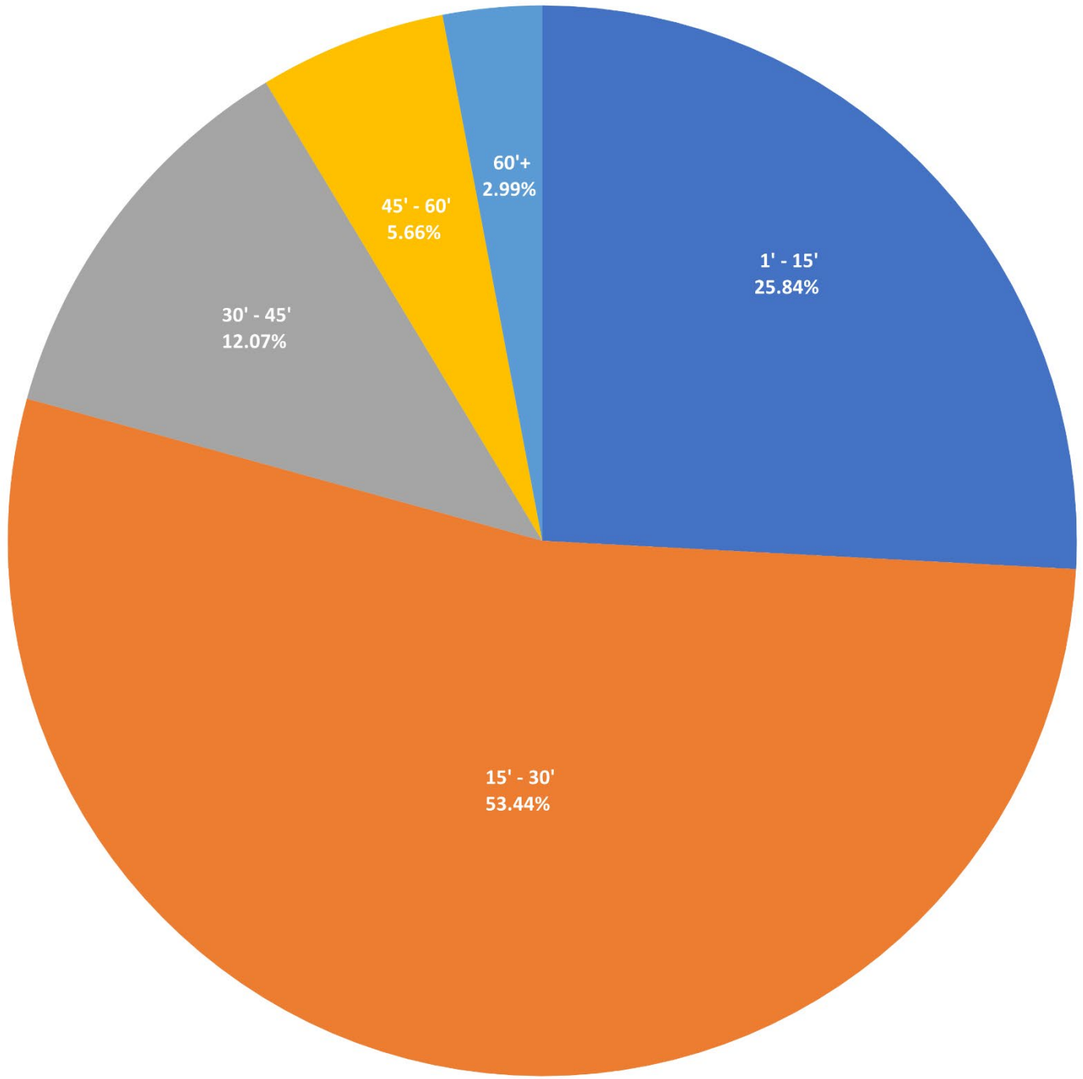


Figure 1.2: Current Distribution of Live Trees by Height Range Category (Feet)

2 INVENTORY REPORT

INVENTORY REPORT

2.1 TREE INVENTORY BACKGROUND

It is important to accurately identify the trees within an agency's urban forest. Knowing the quantities, locations, species types, and health conditions of these essential assets within the community provides the foundation for which annual work plans and budgets are based. Therefore, having an inventory is critical to the implementation of an effective tree care program.

2.2 CURRENT TREE INVENTORY

As of July 1, 2024, data in the current City Electronic Inventory Software System the City of Monterey Park inventory consisted of 8,782 available tree sites with 7,360 (83.1%) currently occupied by live trees. Examples of some of the information collected for each tree site is listed below:

- Tree Site Address
- Tree Species Identification
- Diameter Range
- Utility Presence
- Recommended Maintenance
- Removal Priority
- Height Range
- Condition
- Tree Health Concern
- Parkway Size/Type

The 10-20-30 rule is commonly applied to increase species diversity and reduce the likelihood of catastrophic loss of trees in an urban forest due to disease or pest outbreaks. This rule states that no one species should comprise more than 10 percent, no genus should comprise more than 20 percent, and no family should comprise more than 30% of the total number of trees in an urban forest inventory. This guideline is only applicable for pests and diseases that are specific to a single host species, genus, or family. It is also a compromise to accept a potentially significant loss of trees within an urban forest to prevent a catastrophic loss if a host specific pest or disease caused high mortality to that host. One species, crape myrtle (*Lagerstroemia indica*) currently occupies 18.07% of the total available tree sites in the City of Monterey Park with one thousand, six hundred one (1,601) trees. With the addition of five varieties of this species, the crape myrtle genus (*Lagerstroemia*) accounts for 20.24% of the inventory with a total of one thousand, seven hundred ninety-three (1,793) trees.

Table 2.1 lists the botanical name, common name, family, typical maximum height, typical maximum width, water use requirements, number of active trees of the species, and the percentage of the total active trees for each species in the City of Monterey Park Inventory. The top ten species by total number in the current inventory are (Figure 2.1):

1. Crape myrtle (*Lagerstroemia indica*) – 18.07% (1,601 trees)
2. Carrot wood (*Cupaniopsis anacardioides*) – 7.35% (651 trees)
3. Lemon bottlebrush (*Callistemon citrinus*) – 5.38% (651 trees)

4. Southern magnolia (*Magnolia grandiflora*) – 4.69% (415 trees)
5. Jacaranda (*Jacaranda mimosifolia*) – 3.92% (347 trees)
6. Queen palm (*Syagrus romanzoffianum*) – 3.48% (308 trees)
7. Indian laurel fig (*Ficus microcarpa* 'Nitida') – 3.19% (283 trees)
8. Glossy privet (*Ligustrum lucidum*) – 2.20% (195 trees)
9. American sweetgum (*Liquidambar stryraciflua*) – 2.16% (191 trees)
10. Evergreen pear (*Pyrus kawakamii*) – 2.02% (179 trees)

The top ten genera by total number of trees in the current inventory are (Figure 2.2):

1. Crape Myrtle (*Lagerstroemia* – 5 species) – 20.24% (1,793 trees)
2. Carrot Wood (*Cupaniopsis* – 1 species) – 7.35% (651 trees)
3. Bottlebrush (*Callistemon* - 2 species) – 5.94% (526 trees)
4. Magnolia (*Magnolia* – 2 species) – 4.76% (422 trees)
5. Jacaranda (*Jacaranda* – 2 species) – 3.94% (349 trees)
6. Queen Palm (*Syagrus* – 1 species) – 3.48% (308 trees)
7. Fig (*Ficus* – 5 species) – 3.40% (301 trees)
8. Pear (*Pyrus* – 4 species) – 3.34% (296 trees)
9. Pine (*Pinus* – 7 species) – 2.89% (256 trees)
10. Sweetgum (*Liquidambar* – 2 Species) – 2.33% (206 trees)

The top ten Families by total number of trees in the current inventory are (Figure 2.3):

1. Loosestrife Family (Lythraceae – 5 species) – 20.24% (1,793 trees)
2. Myrtle family (Myrtaceae – 19 species) – 8.35% (740 trees)
3. Soapberry Family (Sapindaceae – 6 species) – 7.74% (686 trees)
4. Palm Family (Arecaceae – 10 species) – 6.40% (567 trees)
5. Magnolia Family (Magnoliaceae – 3 species) – 5.24% (464 trees)
6. Rose Family (Rosaceae – 19 species) – 4.80% (425 trees)
7. Bignonia Family (Bignoniaceae – 6 species) – 4.76% (422 trees)
8. Olive Family (Oleaceae – 8 species) – 4.19% (371 trees)
9. Mulberry Family (Moraceae – 14 species) – 3.54% (314 trees)
10. Pine Family (Pinaceae – 10 species) – 3.09% (274 trees)

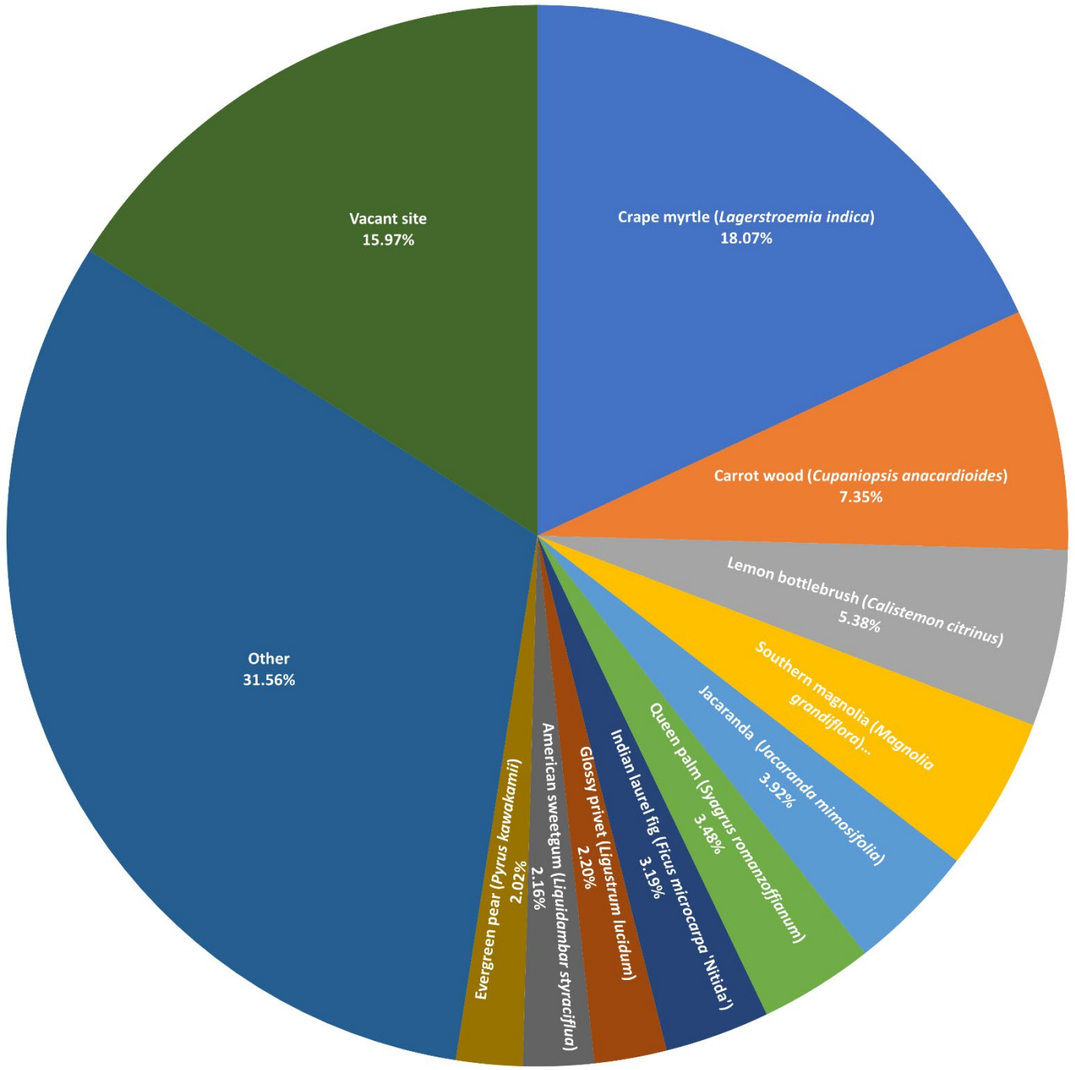


Figure 2.1: Current Species Distribution in the City of Monterey Park Urban Forest

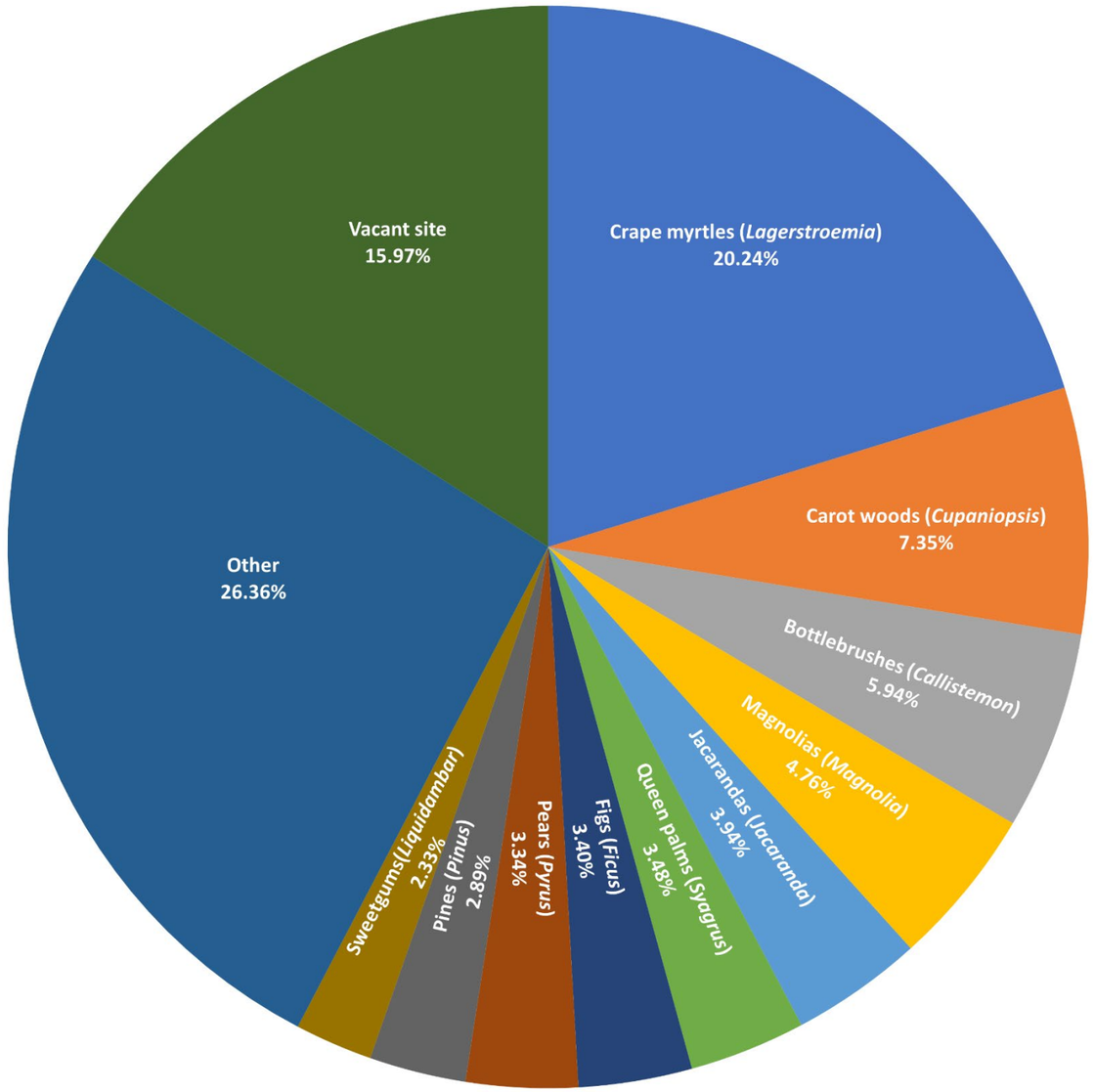


Figure 2.2: Current Genera Distribution in the City of Monterey Park Urban Forest

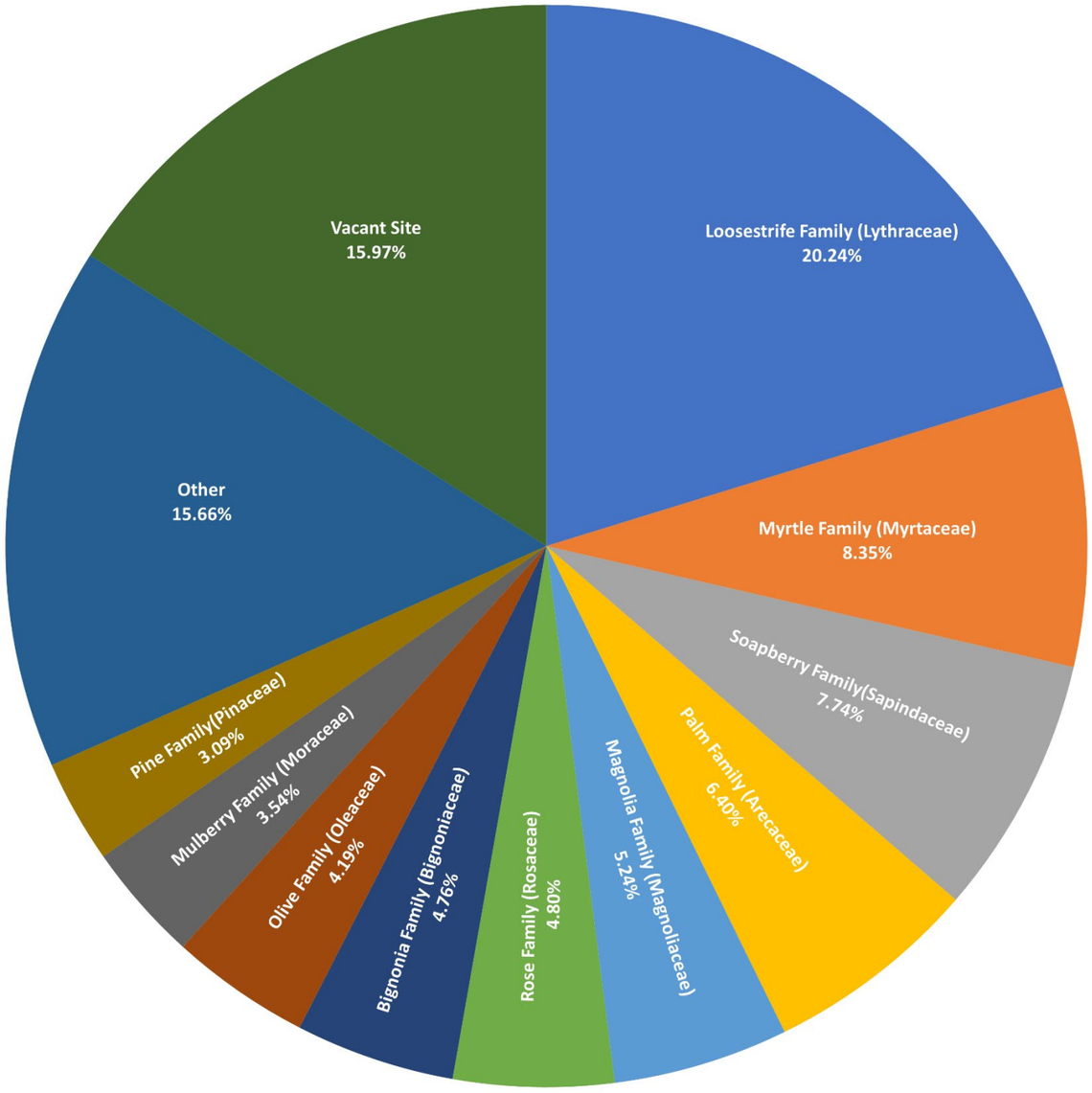


Figure 2.3: Current Family Distribution in the City of Monterey Park Urban Forest

Common Name	Botanical Name	Family	Height (ft)	Width (ft)	Water Use	Number Active	Percentage of Species in Urban Forest
Afghan pine	*Pinus eldarica*	Pinaceae	80	25	Low	3	0.03%
African sumac	*Searsia lancea*	Anacardiaceae	30	35	Very Low	1	0.01%
Aleppo pine	*Pinus halepensis*	Pinaceae	60	40	Moderate	78	0.88%
American sweetgum	*Liquidambar styraciflua*	Hamamelidaceae	80	40	Low	191	2.16%
Apricot	*Prunus armeniaca*	Rosaceae	30	20	Moderate	1	0.01%
Arizona cypress	*Hesperocyparis arizonica* var. *glabra*	Cupressaceae	50	20	Low	1	0.01%
Australian flame tree	*Brachychiton acerifolius*	Malvaceae	60	40	Moderate	1	0.01%
Australian willow	*Geijera parviflora*	Rutaceae	35	20	Moderate	79	0.89%
Autumn Gold maidenhair tree	*Ginkgo biloba* 'Autumn Gold'	Ginkgoaceae	50	35	Moderate	1	0.01%
Avocado	*Persea americana*	Lauraceae	40	35	Moderate	8	0.09%
Black alder	*Alnus glutinosa*	Betulaceae	80	30	High	1	0.01%
Black locust	*Robinia pseudoacacia*	Fabaceae	70	35	Moderate	1	0.01%
Black teatree	*Melaleuca squamophloia*	Myrtaceae	30	25	Low	1	0.01%
Bloodgood Japanese maple	*Acer palmatum* 'Bloodgood'	Sapindaceae	20	15	Moderate	1	0.01%
Blue atlas cedar	*Cedrus atlantica* 'Glauca'	Pinaceae	60	40	Low	3	0.03%
Blue gum	*Eucalyptus globulus*	Myrtaceae	165	80	Moderate	16	0.18%
Bottle tree	*Brachychiton populneus*	Malvaceae	50	30	Moderate	2	0.02%
Bradford pear	*Pyrus calleryana* 'Bradford'	Rosaceae	50	35	Moderate	1	0.01%
Brazilian pepper	*Schinus terebinthifolius*	Anacardiaceae	30	30	Low	104	1.17%
Brisbane box	*Lophostemon confertus*	Myrtaceae	50	30	Moderate	76	0.86%
Bronze loquat	*Eriobotrya deflexa*	Rosaceae	25	25	Moderate	5	0.06%
Brush cherry	*Syzygium australe*	Myrtaceae	40	20	Moderate	1	0.01%
Cajeput tree	*Melaleuca quinquenervia*	Myrtaceae	40	25	Low	26	0.29%
California fan palm	*Washingtonia filifera*	Arecaceae	70	20	Low	23	0.26%
California sycamore	*Platanus racemosa*	Platanaceae	80	50	High	34	0.38%
Camphor tree	*Cinnamomum camphora*	Lauraceae	65	60	Moderate	164	1.85%
Canary Island date palm	*Phoenix canariensis*	Arecaceae	60	40	Low	55	0.62%
Canary Island pine	*Pinus canariensis*	Pinaceae	80	35	Moderate	85	0.96%
Cape chestnut	*Calodendrum capense*	Rutaceae	40	40	Moderate	1	0.01%
Carob	*Ceratonia siliqua*	Fabaceae	40	40	Low	18	0.20%
Carolina laurel cherry	*Prunus caroliniana*	Rosaceae	30	25	Moderate	28	0.32%
Carrot wood	*Cupaniopsis anacardioides*	Sapindaceae	40	30	Moderate	651	7.35%
Chanticleer pear	*Pyrus calleryana* 'Chanticleer'	Rosaceae	35	15	Moderate	2	0.02%
Cherokee crape myrtle	*Lagerstroemia indica* 'Cherokee'	Lythraceae	15	15	Very Low	98	1.11%
Chinaberry	*Melia azedarach*	Meliaceae	50	25	Low	1	0.01%
Chinese elm	*Ulmus parvifolia*	Ulmaceae	60	70	Moderate	99	1.12%
Chinese flame tree	*Koelreuteria bipinnata*	Sapindaceae	40	30	Moderate	22	0.25%
Chinese fringe tree	*Chionanthus retusus*	Oleaceae	20	12	Moderate	33	0.37%
Chinese pistache	*Pistacia chinensis*	Anacardiaceae	35	35	Low	5	0.06%
Chitalpa	x *Chitalpa tashkentensis*	Bignoniaceae	35	30	Low	4	0.05%
Coast live oak	*Quercus agrifolia*	Fagaceae	70	70	Low	22	0.25%
Coast redwood	*Sequoia sempervirens*	Cupressaceae	250	100	High	15	0.17%
Cook pine	*Araucaria columnaris*	Araucariaceae	160	20	Moderate	4	0.05%
Crabapple	*Malus floribunda*	Rosaceae	25	30	Moderate	1	0.01%
Crape myrtle	*Lagerstroemia indica*	Lythraceae	25	25	Low	1,601	18.07%
Deodar cedar	*Cedrus deodara*	Pinaceae	60	30	Moderate	15	0.17%
Drooping she-oak	*Allocasuarina verticillata*	Casuarinaceae	35	35	Low	1	0.01%
Eastern redbud	*Cercis canadensis*	Fabaceae	35	35	Moderate	9	0.10%
Edible loquat	*Eriobotrya japonica*	Rosaceae	30	30	Moderate	20	0.23%
Evergreen pear	*Pyrus kawakamii*	Rosaceae	30	30	Moderate	179	2.02%
Fern pine	*Afrocarpus falcatus*	Podocarpaceae	65	40	Moderate	47	0.53%
Floss silk tree	*Ceiba speciosa*	Malvaceae	60	50	Low	3	0.03%
Flowering cherry	*Prunus subhirtella*	Rosaceae	25	25	Moderate	3	0.03%
Fraser photinia	*Photinia* x *fraseri*	Rosaceae	20	12	Moderate	5	0.06%
Common Name	***Botanical* Name**	**Family**	**Height (ft)**	**Width (ft)**	**Water Use**	**Number Active**	**Percentage of Species**

INVENTORY REPORT

							in Urban Forest
Fruitless olive	*Olea europaea* 'Swan Hill'	Oleaceae	30	30	Low	3	0.03%
Fuyu persimmon	*Diospyros kaki* 'Fuyu'	Ebenaceae	35	25	Moderate	1	0.01%
Glossy privet	*Ligustrum lucidum*	Oleaceae	50	30	Moderate	195	2.20%
Gold medallion tree	*Cassia leptophylla*	Fabaceae	25	30	Moderate	24	0.27%
Golden trumpet tree	*Handroanthus chrysotrichus*	Bignoniaceae	30	30	Moderate	10	0.11%
Goldenrain tree	*Koelreuteria paniculata*	Sapindaceae	35	40	Moderate	1	0.01%
Guadalupe palm	*Brahea edulis*	Arecaceae	25	15	Low	1	0.01%
Guava	*Psidium guajava*	Myrtaceae	25	25	Moderate	6	0.07%
Himalayan pittosporum	*Pittosporum floribundum*	Pittosporaceae	20	50		1	0.01%
Holly oak	*Quercus ilex*	Fagaceae	60	60	Moderate	32	0.36%
Hollywood juniper	*Juniperus chinensis* 'Torulosa'	Cupressaceae	15	10	Moderate	9	0.10%
Honey locust	*Gleditsia triacanthos*	Fabaceae	70	35	Moderate	1	0.01%
Hong Kong orchid tree	*Bauhinia* x *blakeana*	Fabaceae	40	25	Moderate	17	0.19%
Indian laurel fig	*Ficus microcarpa* 'Nitida'	Moraceae	35	40	Moderate	283	3.19%
Italian cypress	*Cupressus sempervirens*	Cupressaceae	70	20	Moderate	14	0.16%
Italian stone pine	*Pinus pinea*	Pinaceae	80	60	Moderate	29	0.33%
Jacaranda	*Jacaranda mimosifolia*	Bignoniaceae	50	30	Moderate	347	3.92%
Japanese black pine	*Pinus thunbergii*	Pinaceae	30	35	Moderate	54	0.61%
Japanese flowering cherry	*Prunus serrulata*	Rosaceae	30	30	Moderate	8	0.09%
Japanese maple	*Acer palmatum*	Sapindaceae	25	25	Moderate	2	0.02%
Japanese privet	*Ligustrum japonicum*	Oleaceae	15	8	Moderate	5	0.06%
Jerusalem thorn	*Parkinsonia aculeata*	Fabaceae	20	25	Low	37	0.42%
King palm	*Archontophoenix cunninghamiana*	Arecaceae	70	15	Moderate	26	0.29%
Kwanzan cherry	*Prunus* 'Kwanzan'	Rosaceae	30	30	Moderate	25	0.28%
Lemon bottlebrush	*Callistemon citrinus*	Myrtaceae	25	25	Low	477	5.38%
Lemon-scented gum	*Corymbia citriodora*	Myrtaceae	160	100	Low	11	0.12%
London plane	*Platanus* x *hispanica*	Platanaceae	85	70	Moderate	42	0.47%
Maidenhair tree	*Ginkgo biloba*	Ginkgoaceae	65	25	Moderate	34	0.38%
Majestic Beauty Indian hawthorn	x *Rhaphiobotrya splendens* 'Montic'	Rosaceae	25	10	Moderate	1	0.01%
Marina strawberry tree	*Arbutus* 'Marina'	Ericaceae	40	30	Moderate	12	0.14%
Mediterranean fan palm	*Chamaerops humilis*	Arecaceae	15	15	Low	2	0.02%
Mesquite	*Prosopis glandulosa*	Fabaceae	35	35	Low	7	0.08%
Mexican blue palm	*Brahea armata*	Arecaceae	50	25	Low	1	0.01%
Mexican fan palm	*Washingtonia robusta*	Arecaceae	100	10	Low	70	0.79%
Modesto ash	*Fraxinus velutina* 'Modesto'	Oleaceae	50	40	Moderate	12	0.14%
Monterey cypress	*Hesperocyparis macrocarpa*	Cupressaceae	70	70	Low	1	0.01%
Monterey pine	*Pinus radiata*	Pinaceae	100	35	Moderate	4	0.05%
Moreton bay fig	*Ficus macrophylla*	Moraceae	180	130	Moderate	2	0.02%
Mt. Fuji cherry	*Prunus* 'Shirotae'	Rosaceae	20	25	Moderate	1	0.01%
Muskogee hybrid crape myrtle	*Lagerstroemia* 'Muskogee'	Lythraceae	25	25	Moderate	5	0.06%
Natchez hybrid crape myrtle	*Lagerstroemia* 'Natchez'	Lythraceae	25	25	Moderate	15	0.17%
New Zealand Christmas tree	*Metrosideros excelsa*	Myrtaceae	35	35	Low	4	0.05%
Norfolk Island pine	*Araucaria heterophylla*	Araucariaceae	100	60	Moderate	1	0.01%
Oleander	*Nerium oleander*	Apocynaceae	20	15	Low	1	0.01%
Olive	*Olea europaea*	Oleaceae	30	30	Low	10	0.11%
Orange	*Cirus sinensis*	Rutaceae	30	25	Moderate	3	0.03%
Ornamental pear	*Pyrus calleryana*	Rosaceae	50	50	Moderate	114	1.29%
Peach	*Prunus persica*	Rosaceae	25	25	Moderate	8	0.09%
Pecan	*Carya illinoinensis*	Juglandaceae	100	70	Moderate	2	0.02%
Peppertree	*Schinus molle*	Anacardiaceae	50	40	Low	40	0.45%
Peppermint tree	*Agonis flexuosa*	Myrtaceae	35	30	Low	2	0.02%
Pink trumpet tree	*Handroanthus heptaphyllus*	Bignoniaceae	30	25	Moderate	58	0.65%
Popcorn tree	*Senna spectabilis*	Fabaceae	20	20	Low	1	0.01%
Common Name	***Botanical* Name**	**Family**	**Height (ft)**	**Width (ft)**	**Water Use**	**Number Active**	**Percentage of Species**

							in Urban Forest
Presidential Gold maidenhair tree	*Ginkgo biloba* 'Presidential Gold'	Ginkgoaceae	50	40	Moderate	1	0.01%
Purple orchid tree	*Bauhinia variegata*	Fabaceae	35	35	Moderate	14	0.16%
Purple-leaf flowering plum	*Prunus cerasifera* 'Atropurpurea'	Rosaceae	35	35	Moderate	16	0.18%
Pygmy date palm	*Phoenix roebelenii*	Arecaceae	15	7	Moderate	46	0.52%
Queen palm	*Syagrus romanzoffianum*	Arecaceae	50	30	Moderate	308	3.48%
Queensland pittosporum	*Auranticarpa rhombifolia*	Pittosporaceae	35	20	Low	19	0.21%
Queensland umbrella tree	*Heptapleurum actinophyllum*	Araliaceae	40	15	Moderate	9	0.10%
Red flowering gum	*Corymbia ficifolia*	Myrtaceae	45	60	Low	8	0.09%
River red gum	*Eucalyptus camaldulensis*	Myrtaceae	150	105	Low	28	0.32%
Red ironbark	*Eucalyptus sideroxylon*	Myrtaceae	90	60	Low	3	0.03%
Red Japanese maple	*Acer palmatum* 'Atropurpureum'	Sapindaceae	25	25	Moderate	9	0.10%
Red Push pistache	*Pistacia chinensis* 'Red Push'	Anacardiaceae	40	30	Low	4	0.05%
Round-leaved sweetgum	*Liquidambar styraciflua* 'Rotundiloba'	Hamamelidaceae	60	40	Moderate	15	0.17%
Rubber tree	*Ficus elastica*	Moraceae	45	30	High	1	0.01%
Rusty leaf fig	*Ficus rubiginosa*	Moraceae	50	60	Moderate	6	0.07%
Saucer magnolia	*Magnolia* x *soulangeana*	Magnoliaceae	25	25	Moderate	7	0.08%
Shamel ash	*Fraxinus uhdei*	Oleaceae	80	60	Moderate	105	1.19%
Silk oak	*Grevillea robusta*	Proteaceae	65	40	Low	23	0.26%
Silk tree	*Albizia julibrissin*	Fabaceae	35	20	Moderate	20	0.23%
Silver dollar gum	*Eucalyptus polyanthemos*	Myrtaceae	75	45	Low	4	0.05%
Smoke tree	*Cotinus coggygria*	Anacardiaceae	15	18	Moderate	1	0.01%
South African coral tree	*Erythrina caffra*	Fabaceae	40	60	Moderate	4	0.05%
South African wild plum	*Harpephyllum caffrum*	Anacardiaceae	50	50	Moderate	9	0.10%
Southern live oak	*Quercus virginiana*	Fagaceae	80	100	Moderate	11	0.12%
Southern magnolia	*Magnolia grandiflora*	Magnoliaceae	80	60	High	415	4.69%
Spanish dagger	*Yucca gloriosa*	Agavaceae	10	8	Low	2	0.02%
Strawberry tree	*Arbutus unedo*	Ericaceae	35	35	Moderate	3	0.03%
Sugar gum	*Eucalyptus cladocalyx*	Myrtaceae	90	75	Low	20	0.23%
Surinam cherry	*Eugenia uniflora*	Myrtaceae	25	15	High	1	0.01%
Sweetshade	*Hymenosporum flavum*	Pittosporaceae	35	20	Moderate	24	0.27%
Sydney golden wattle	*Acacia longifolia*	Fabaceae	25	15	Low	1	0.01%
Tipu	*Tipuana tipu*	Fabaceae	50	50	Moderate	8	0.09%
Torrey pine	*Pinus torreyana*	Pinaceae	50	25	Moderate	3	0.03%
Toyon	*Heteromeles arbutifolia*	Rosaceae	25	15	Low	7	0.08%
Tree of heaven	*Ailanthus altissima*	Simaroubaceae	60	60	Low	1	0.01%
True Green Chinese elm	*Ulmus parvifolia* 'True Green'	Ulmaceae	50	40	Moderate	1	0.01%
Tulip tree	*Liriodendron tulipifera*	Magnoliaceae	80	40	High	42	0.47%
Tuscarora hybrid crape myrtle	*Lagerstroemia* 'Tuscarora'	Lythraceae	25	18	Moderate	74	0.84%
Velvet ash	*Fraxinus velutina*	Oleaceae	50	40	Moderate	8	0.09%
Victorian box	*Pittosporum undulatum*	Pittosporaceae	40	40	Moderate	6	0.07%
Water gum	*Tristaniopsis laurina*	Myrtaceae	35	30	Moderate	1	0.01%
Weeping bottlebrush	*Callistemon viminalis*	Myrtaceae	20	20	Low	49	0.55%
Weeping fig	*Ficus benjamina*	Moraceae	100	60	Moderate	9	0.10%
Western catalpa	*Catalpa speciosa*	Bignoniaceae	60	40	Moderate	1	0.01%
White alder	*Alnus rhombifolia*	Betulaceae	80	50	High	18	0.20%
White ironbark	*Eucalyptus leucoxylon*	Myrtaceae	90	60	Low	6	0.07%
White jacaranda	*Jacaranda mimosifolia* 'Alba'	Bignoniaceae	50	30	Moderate	2	0.02%
White mulberry	*Morus alba*	Moraceae	50	50	Moderate	13	0.15%
Wilson holly	*Ilex* 'Wilsonii'	Aquifoliaceae	25	25	Moderate	1	0.01%
Windmill palm	*Trachycarpus fortunei*	Arecaceae	30	10	Low	35	0.40%
Xylosma	*Xylosma congesta*	Flacourtiaceae	10	15	Low	13	0.15%

Table 2.1 Current Inventory for the City of Monterey Park

INVENTORY REPORT

2.3 FAST FACTS

The fast facts below are based on the data available in the current City Electronic Inventory Software System as of July 2024.

UNIQUE SPECIES

The City of Monterey Park Urban Forest consists of 161 unique species and/or varieties of trees representing 96 different Genera and 38 different Families. The species come from six continents with 44 from Asia, 36 from Australia, 31 from North America, 15 from Africa, 12 from Europe, and 11 from South America.

TREES

There are 7,359 trees in the City of Monterey Park Urban Forest, occupying 83.08% of the identified available planting sites. 3,555 trees are rated in “Good” condition (48.43%), 2,845 trees in “Fair” condition (38.75%), and 411 trees rated in “Poor” condition (5.60%).

REMOVALS

The City of Monterey Park Urban Forest Inventory has removal recommendations for a total of 3 trees a. Of the recommended removals, 2 trees were recommended for removal after inspection, and 1 tree is poorly structured.

STUMPS

A total of 82 stumps were identified in the City of Monterey Park Urban Forest Inventory. 25 stumps have a diameter of 0” - 6”, 33 stumps have a diameter of 7” - 12”, 11 have a diameter of 13” - 18”, 5 have a diameter of 19” - 24”, 5 have a diameter of 25” - 30”, and 3 stumps have a diameter of 31” or greater.

PLANTING SITES

A total of 1,417 vacant sites available for new tree planting have been identified within the City of Monterey Park Urban Forest. Vacant sites account for 19.26% of the total number of identified available planting sites.

2.4 VACANT SITES

Unlike a natural forest where tree numbers and species diversity are sustained by dispersal and germination of seeds from existing mature trees, the expansion and diversity of an urban forest relies almost entirely on the maintenance and planting efforts of urban forest managers. By identifying vacant planting sites during inventory collection and updates, the City of Monterey Park can target specific areas where planting efforts will be most effective in expanding the City's Urban Forest and increasing species diversity.

Based on the data from the City's Electronic Inventory Software System, there are currently 1,420 vacant planting sites within the City of Monterey Park's Urban Forest, roughly sixteen percent (16%) of the total available sites. The City can have a profound effect on the quality of life and human health for future generations by filling potential sites with long-lived trees over time. Urban trees act as a sink for carbon dioxide and have a net positive effect on ecosystems and public life. They influence local air temperature by reducing the heat island effect, help reduce building energy use, and increase property values.

Table 2.2 provides a breakdown of the vacant sites by Grid Pruning Districts (Section 4.4.2). A map of the vacant sites by Grid Pruning Districts, based on the July 2024 City of Monterey Park Electronic Inventory, is presented in Figure 2.4.

District	Number of Vacant Sites
1	105
2	12
3	180
4	86
5	29
6	96
7	51
8	103
9	82
10	90
11	131
12	225
13	230

Table 2.2: Vacant Sites by Zone

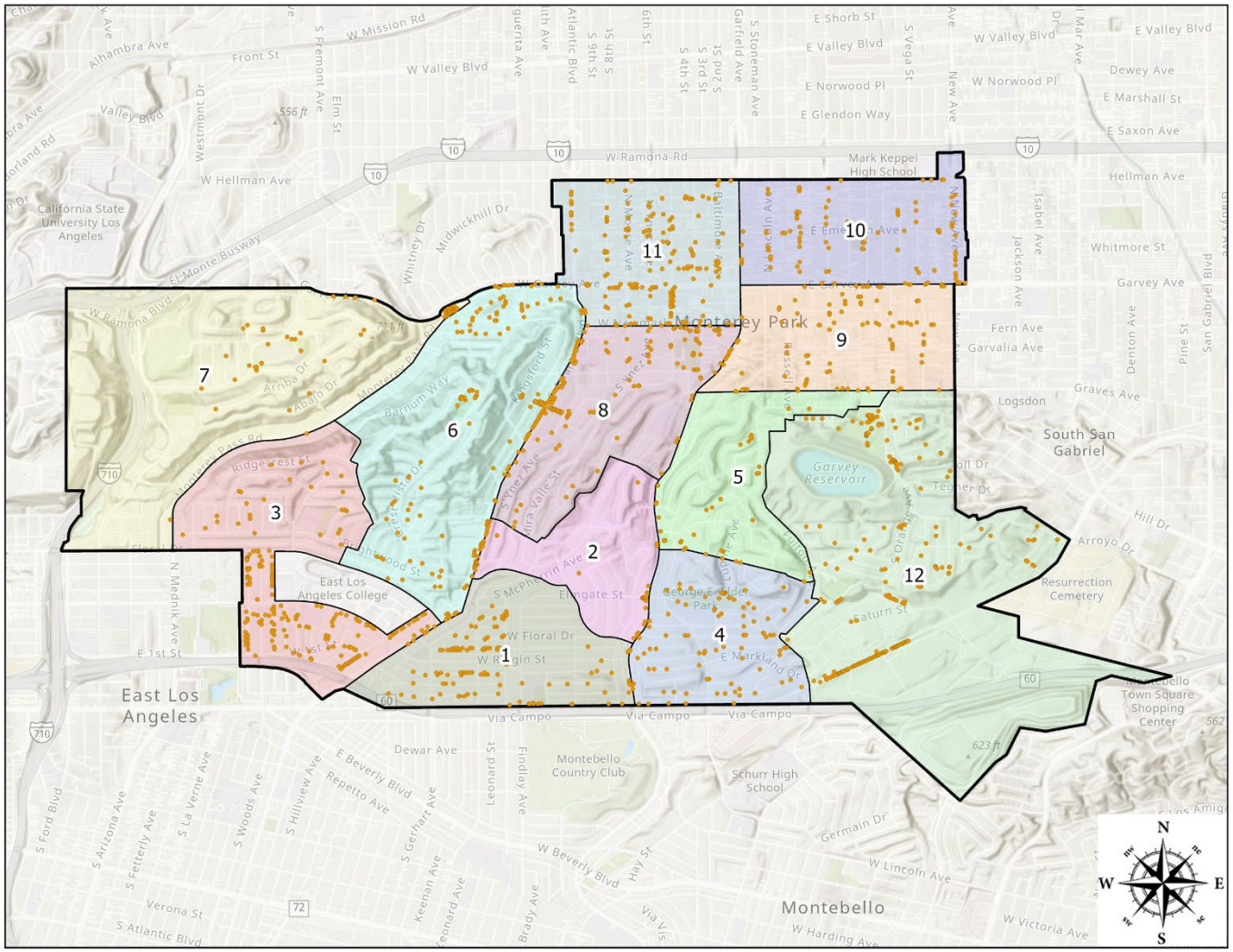
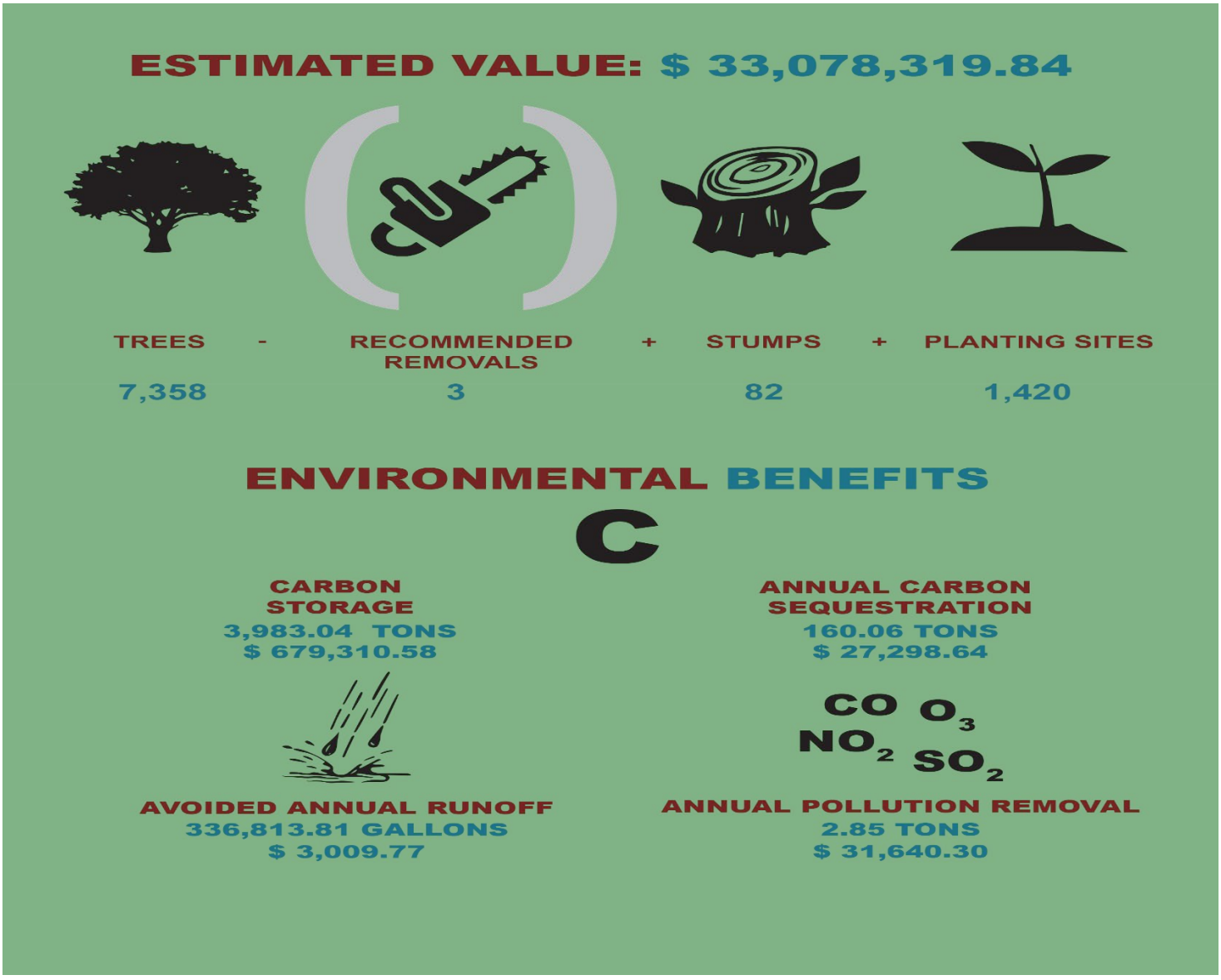
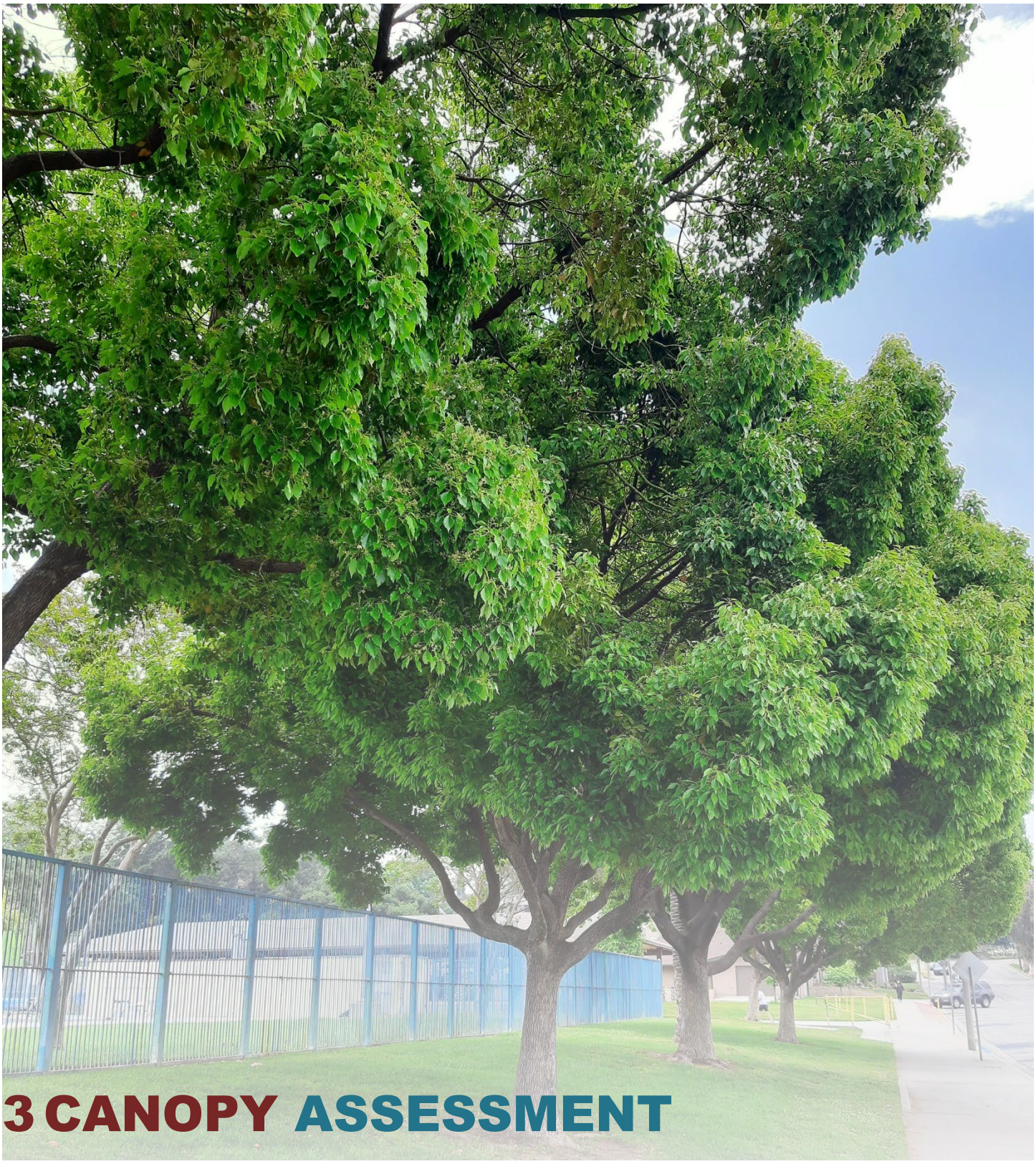


Figure 2.4: Vacant Sites by Grid Pruning District

2.5 ITREE FAST FACTS

The History and Background (Section 1.2) discusses the intrinsic value and qualitative benefits of the City of Monterey Park Urban Forest in general terms, this section provides quantitative value for the urban forest based on the number, species, size and health of the component trees. The quantitative analysis of the trees in the most current inventory in the City's Electronic Inventory System (ArborAccess, May, 2024) was performed using the United States Forest Service i-Tree Eco™ software generating the estimates for Replacement Value, Carbon Storage and Sequestration, Avoided Runoff, and Pollution Removal presented below. The complete i-Tree Eco™ report is included in Appendix F.





3 CANOPY ASSESSMENT

CANOPY ASSESSMENT

3.1 INTRODUCTION TO CANOPY COVER

The valuable benefits that the urban forest provides to the community depends on the species of trees, their age, health, and size at maturity. The amount of shade a tree can provide for the reduction of heat islands and cooling for homes and leisure is directly related to the area covered by the tree's canopy. The volume of greenhouse gases and other pollutants removed from the air through the leaves of plants, as part of the photosynthetic process, increases proportional to canopy size.

The individual canopies of the component trees combine to form the canopy cover for an urban forest. Analysis of the canopy cover allows urban forest managers to identify and prioritize planting schedules in areas with gaps in cover. The canopy cover analysis in this section identifies gaps and potential planting sites in the City of Monterey Park Urban Forest at the time of the development of this plan (July 2024). Coverage gaps and potential planting sites are addressed later in this UFMP as part of the Strategic Plan (Section 6)

3.2 METHODOLOGY

Existing multispectral aerial imagery from the United States Department of Agriculture, National Agricultural Imagery Program (NAIP) from 2022 (Figure 3.1) was used for the City of Monterey Park Urban Forest canopy cover analysis. The imagery was analyzed by West Coast Arborists, Inc. (WCA) in 2024 using a deep learning U-Net (Pixel Classification) model on 4-band 60 cm NAIP 2022 imagery. The available data was analyzed using ESRI™ ArcGIS Pro Geographic Information System (GIS) software to create the landcover maps and coverage data presented below. Land cover has been divided into the following categories:

- Canopy Cover – Tree Canopy
- Impervious – Buildings
- Impervious – Roads, Parking, Paved
- Pervious – Bare Soil
- Pervious – Grass, Shrubs, Low Vegetation
- Water

Land cover data from the 2018 US Forest Service Urban Tree Canopy analysis was used as a baseline for comparison with the 2022 data to determine the trends in canopy Cover discussed in Section 3.3.

3.3 CANOPY COVER ANALYSIS

Tree canopy cover for the City of Monterey Park was 18.69% of the total land cover based on the GIS analysis of the 2022 NAIP imagery (Figure 3.1). Street trees accounted for a large portion of the canopy cover as shown in Figure 3.2. The largest gaps in tree cover are associated with the Garvey Reservoir, the Southern California Edison Mesa Substation, and the Monterey Park Market Place. Clearance for the transmission lines leading to the Mesa Substation has also created a gap in canopy cover in the southwest portion of the city. Canopy cover is also limited in the parking lots on the west

side of the East Los Angeles College campus, the parking area south of Pine Tree Park, and at the Monterey Park Golf Club. Street tree cover is also low in the commercial/industrial area along Monterey Pass Road. In general, canopy cover is greater in residential areas than in commercial and industrial areas, as would be expected. The breakdown of canopy cover by Grid Pruning Zones is shown in Table 3.1.

Grid Pruning District	2022 Canopy Cover (Percentage of total land cover)
1	15.79%
2	27.14%
3	18.33%
4	19.64%
5	24.85%
6	26.45%
7	23.38%
8	29.12%
9	14.08%
10	12.47%
11	14.54%
12	9.50%
Total	**18.78%**

Table 3.1: Percent cover by Grid Pruning District.

CANOPY ASSESSMENT

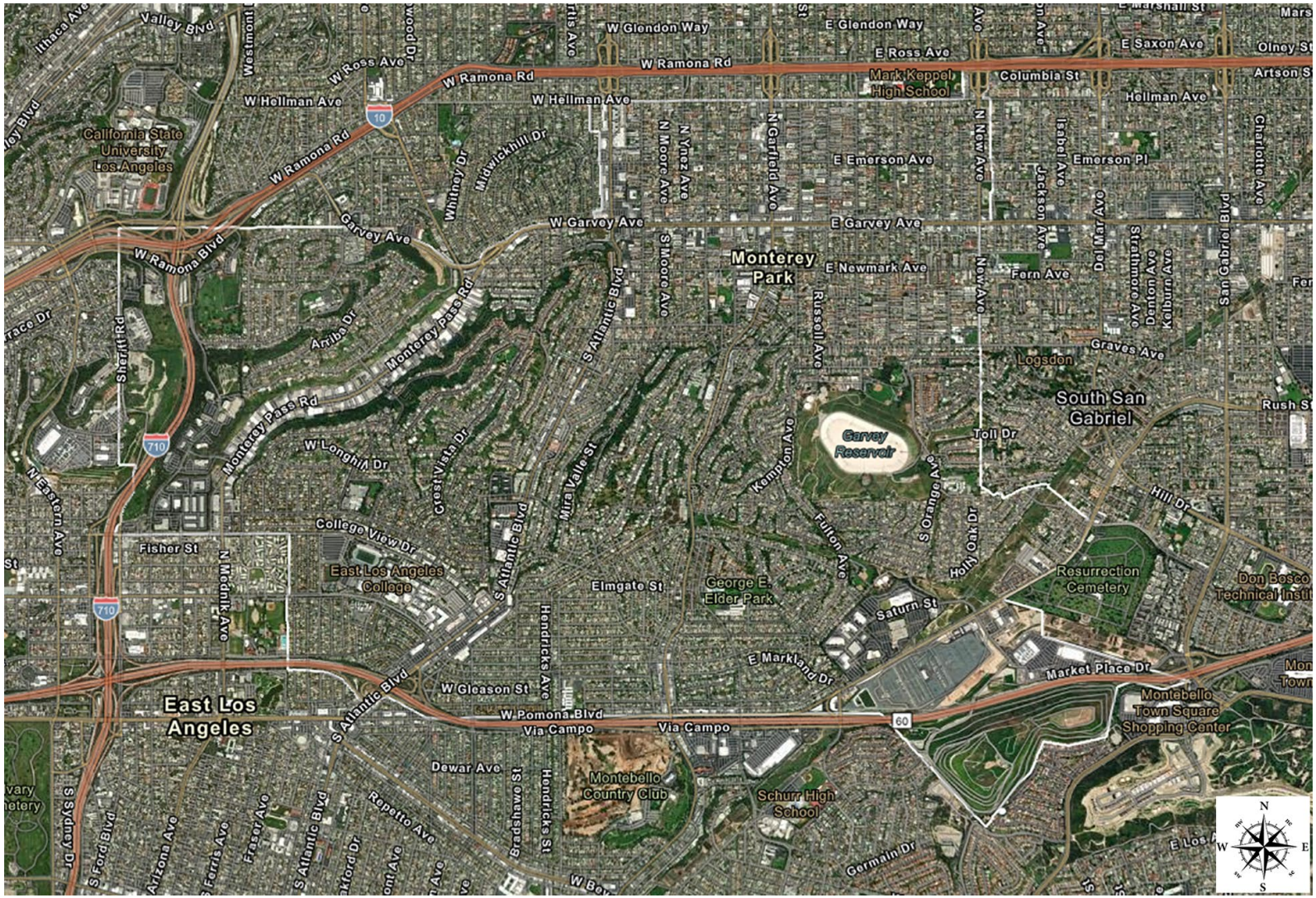


Figure 3.1: 2022 NAIP Imagery for the City of Monterey Park

CANOPY ASSESSMENT

Figure 3.2: 2022 Citywide overview of canopy cover.

CANOPY ASSESSMENT

Canopy cover in the City of Monterey Park in 2018 was 15.74% according to the US Forest Service Urban Tree Canopy Survey. The 18.78% canopy cover calculated from the 2022 NAIP data represents an overall increase in cover of 3.04% over the four-year period. The positive trend in canopy cover was above the overall average in Grid Pruning Districts 8 (8.11%), 2 (6.51%), 6 (5.39%), 3 (4.41%), 5 (4.21%), and 7 (3.87%). The increase in canopy cover was less than 1% for Grid Pruning Districts 9 (0.47%), 12 (0.26%), and 10 (0.16%). The 2018 US Forest Service Urban Tree Canopy cover by Grid Pruning District is shown in Figure 3.3. Canopy cover by Grid Pruning District from the 2022 NAIP imagery is shown in Figure 3.4, with the change in cover from 2018 to 2022 shown in Figure 3.5.The 2022 and 2018 cover data is listed in Table 3.2 along with the change in each Grid Pruning District.

Grid Pruning District	2018 Canopy Cover (Percentage of total land cover)	2022 Canopy Cover (Percentage of total land cover)	Change
1	13.95%	15.79%	1.84%
2	20.63%	27.14%	6.51%
3	13.92%	18.33%	4.41%
4	18.23%	19.64%	1.40%
5	20.64%	24.85%	4.21%
6	21.05%	26.45%	5.39%
7	19.51%	23.38%	3.87%
8	21.00%	29.12%	8.11%
9	13.61%	14.08%	0.47%
10	12.31%	12.47%	0.16%
11	11.57%	14.54%	2.98%
12	9.24%	9.50%	0.26%
Total	**15.74%**	**18.78%**	**3.04%**

Table 3.2: Change in Canopy Cover from 2018 to 2022 by Grid Pruning Zone

CANOPY ASSESSMENT

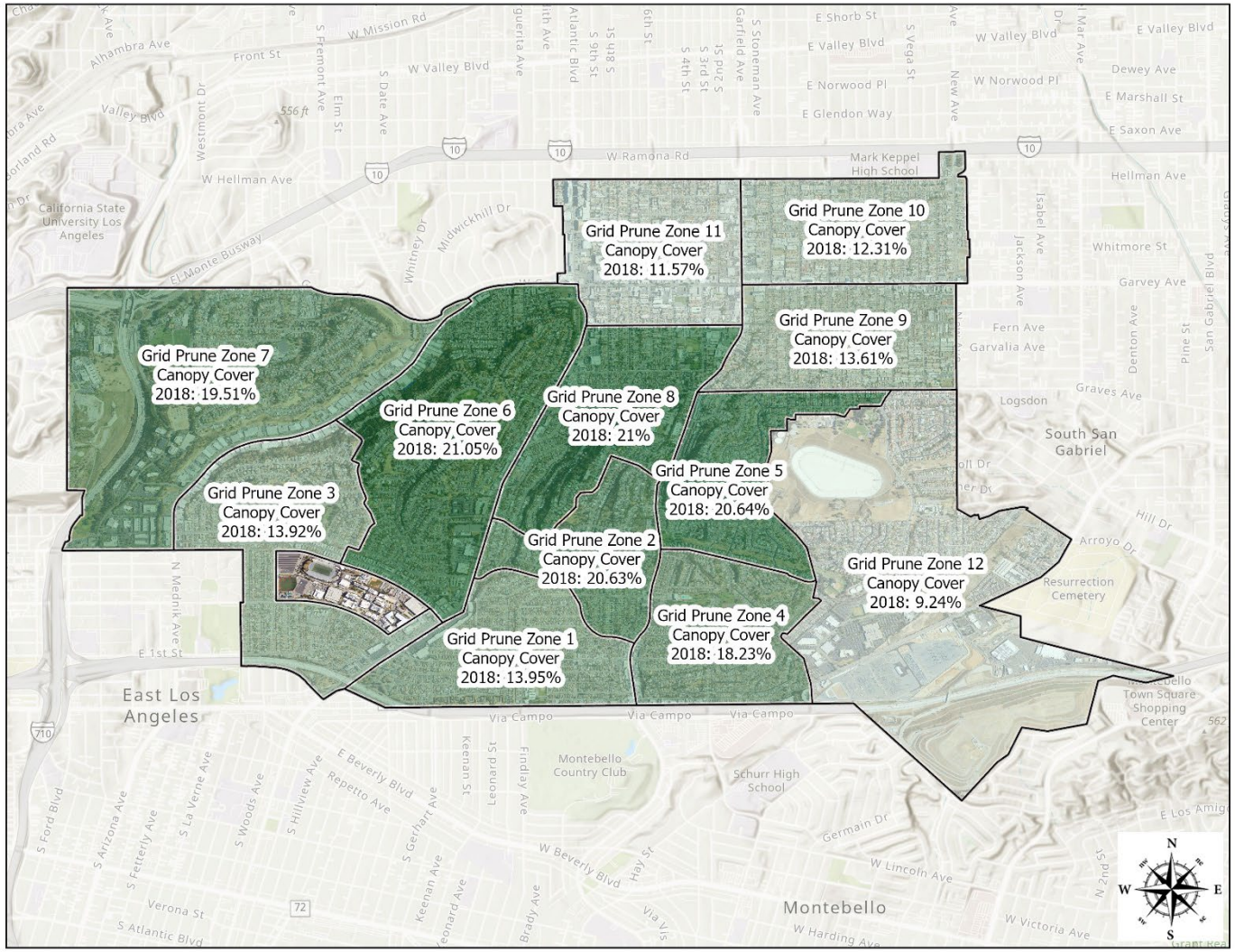


Figure 3.3: 2018 Canopy Cover by Grid Pruning Zone

CANOPY ASSESSMENT

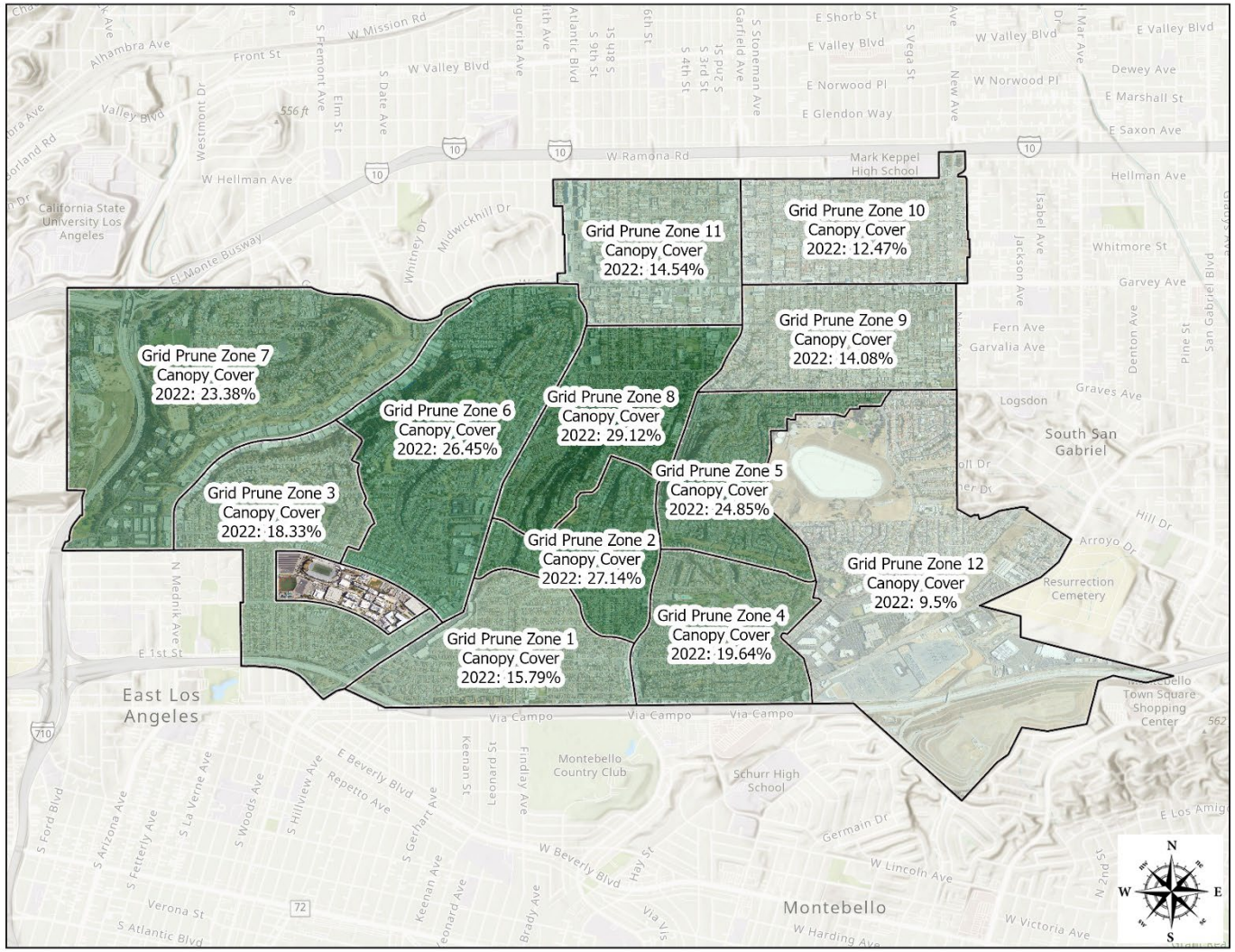


Figure 3.4: 2022 Canopy Cover by Grid Pruning Zone

CANOPY ASSESSMENT

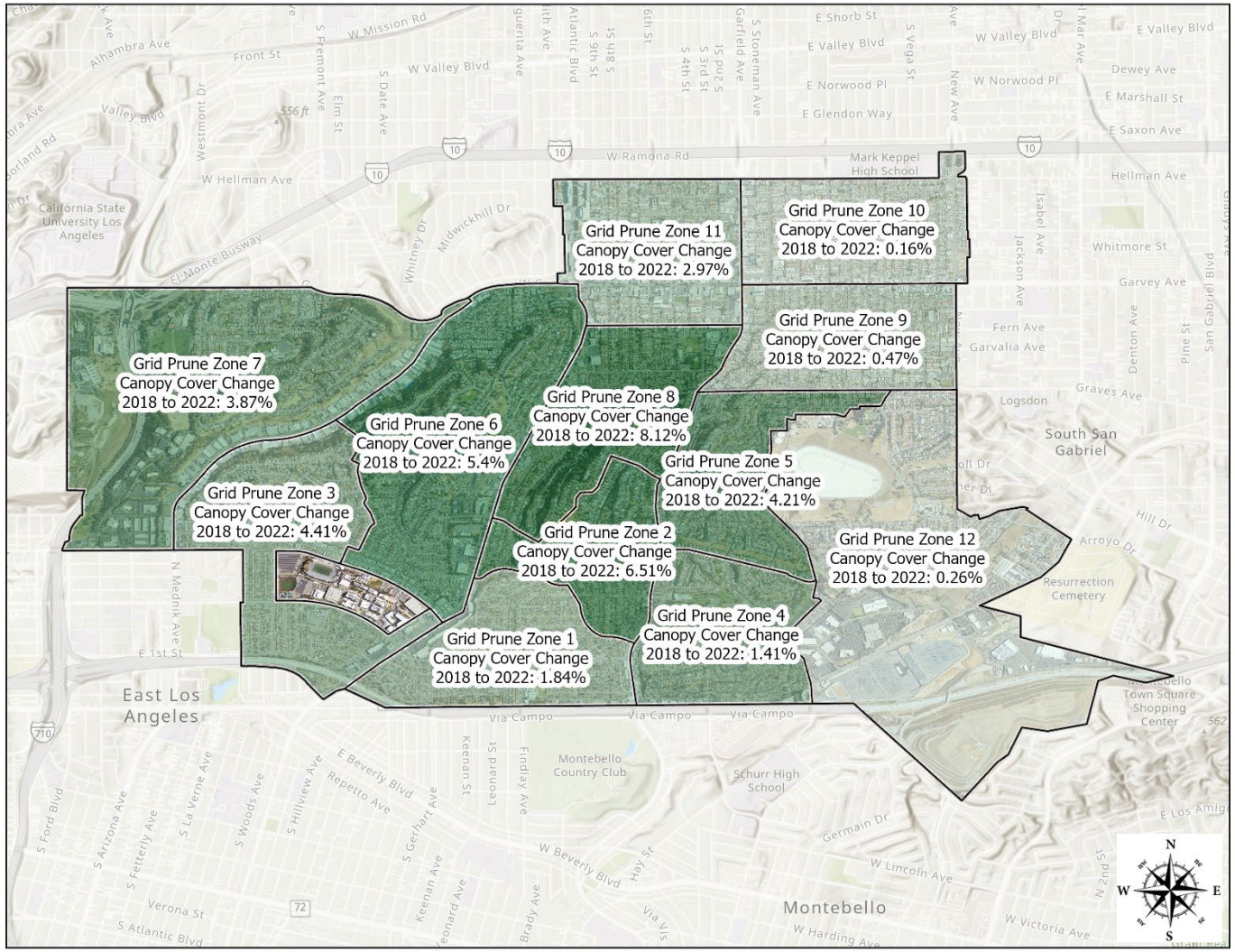


Figure 3.5: 2018 – 2022 Changes in Canopy Cover by Grid Pruning Zone

3.4 BREAKDOWN BY DISTRICT

The total 2022 canopy cover for each of the twelve (12) Grid Pruning Districts is presented in Table 3.1. Because Grid Pruning District 13 is comprised of a relatively narrow band around the three Major Arterial roads, Atlantic Avenue, Garvey Avenue, and Garfield Avenue, for the purpose of Canopy Cover analysis, the trees in this district have been considered as part of the adjacent Districts.

3.4.1 GRID PRUNING DISTRICT 1

Grid Pruning District 1 includes the trees north of California State Route 60, east of South Atlantic Boulevard, West of South Garfield Avenue, and south of Brightwood Street, South Grandridge Avenue, and West Floral Drive. Trees from Grid Pruning District 13 on the east side of South Atlantic Boulevard and the west side of South Garfield Avenue within the north to south boundaries of Grid Pruning District 1 have been included in this district for canopy cover analysis. The District is largely residential with occasional commercial centers along the main roads.

Total canopy cover for Grid Pruning District 1, based on the 2022 NAIP data, was 15.79% with much of the cover provided by the street trees in residential areas. There was a positive trend in canopy cover from 2018, with a 1.84% increase from 13.95% cover in the US Forest Service Urban Tree Canopy Survey. The one hundred five (105) identified vacant planting sites present an opportunity for continued expansion of the canopy cover in this district. The 2022 canopy cover for Grid Pruning District 1 is shown in Figure 3.6.

3.4.2 GRID PRUNING DISTRICT 2

Grid Pruning District 2 includes the trees north of Brightwood Street, South Grandridge Avenue, and West Floral Drive; east of South Atlantic Avenue, west of South Garfield Avenue, south of West El Repetto Drive up to South Bradshaw Avenue, then continuing southeast of South Bradshaw Avenue up to Roca Way. Trees from Grid Pruning District 13 on the east side of South Atlantic Boulevard and the west side of South Garfield Avenue within the boundaries of Grid Pruning District 2 have been included in this district for canopy cover analysis. District 2 is largely residential with occasional commercial centers along the main roads.

2022 canopy cover, based on NAIP imagery, was 27.14%, comprised mostly of street trees in the residential areas. The 2022 cover represents an increase of 6.51% from the 2018 US Forest Service Urban Tree Canopy Survey data which calculated canopy cover at 20.63% for Grid Pruning District 2. There are only twelve (12) identified vacant planting sites in this district. The 2022 canopy cover for Grid Pruning District 2 is shown in Figure 3.7.

3.4.3 GRID PRUNING DISTRICT 3

Grid Pruning District 3 includes the trees northwest of South Atlantic Boulevard, south of Avenida Cesar Chavez up to Bleakwood Avenue, then continuing west of Bleakwood Avenue up to West Floral Drive, following east, north of West Floral Drive to Valley Vista Drive, then continuing west of Valley Vista Drive to Brightwood Street. The boundary continues north of Brightwood Street to Rolling Hill Drive then includes the trees northwest of Rolling Hill Drive up to Highland Drive, southwest of Highland Drive to Ridgecrest Drive, south of Ridgecrest Drive to Vagabond Drive, then continuing

west of Vagabond drive to Monterey Pass Road. The District then continues on the south and east sides of Monterey Pass Road south to the City Limits, which define the remaining boundaries for District 3. Trees from Grid Pruning District 13 along the northwest side of South Atlantic Boulevard were included in this district for canopy cover analysis. The district is largely residential with the exception of commercial / industrial centers along South Atlantic Boulevard and Monterey Pass Road.

Total canopy cover for Grid Pruning District 3, based on the 2022 NAIP data, was 18.33% with much of the cover provided by the street trees in residential areas. There was a positive trend in canopy cover from 2018, with a 4.41% increase from 13.92% cover in the US Forest Service Urban Tree Canopy Survey. The one hundred eighty (180) identified vacant planting sites present an opportunity for continued expansion of the canopy cover in this district. The 2022 canopy cover for Grid Pruning District 3 is shown in Figure 3.8.

3.4.4 GRID PRUNING DISTRICT 4

Grid Pruning District 4 includes the trees north of California State Route 60, west of East Markland Boulevard up to Potrero Grande Drive, continuing on the northwest side of Potrero Grande Drive up to the east boundary of the Monterey Park Market Place. The eastern district edge follows the Market place boundary up to Fulton Ave, then includes the trees northwest of Fulton Avenue up to Heather Drive, where it veers south along Heather Drive to Clover Drive, including the trees north of Clover Drive northeast to Iris Way. The eastern boundary continues northwest along Iris Way back to Fulton Avenue, then includes the trees west of Fulton Avenue up to Coral View Street. The northern boundary includes the trees south of Coral View Street west to South Garfield Avenue. The western boundary is includes the trees east of South Garfield Avenue. Trees from Grid Pruning District 13 on the east side of Garfield Avenue with the boundaries of Grid Pruning District 4 are included in this district for the canopy cover analysis. The district is predominantly residential, with the exception of the commercial areas along South Garfield Avenue and Portero Grande Drive. Jack F. Macy Intermediate School and Elder Park are also contained in District 4.

2022 canopy cover, based on NAIP imagery, was 19.64%, comprised mostly of street trees in the residential areas. The 2022 cover represents an increase of 1.40% from the 2018 US Forest Service Urban Tree Canopy Survey data which calculated canopy cover at 18.23% for Grid Pruning District 4. There are opportunities to increase the canopy cover with eighty-six (86) identified vacant planting sites in this district. The 2022 canopy cover for Grid Pruning District 4 is shown in Figure 3.9.

3.4.5 GRID PRUNING DISTRICT 5

Grid Pruning District 5 includes the trees north of Coral View Street, east of South Garfield Avenue and south of Graves Avenue. The eastern boundary includes the trees west of South Orange Avenue, heads west along the north edge of Garvey Ranch Park, then north of Ransom Way to Russell Avenue, then follows the perimeter of the Garvey Reservoir property south to Fulton Avenue. The trees on the northeast side of Fulton Avenue are included in this district south to the intersection with Ackley Street, then only includes the trees west of Fulton Avenue until reaching the southern boundary at Coral View Street. Trees from District 13 along the east side of South Garfield Avenue are included in this district for the canopy cover analysis. The district is mostly residential with some

commercial buildings along South Garfield Avenue. Edison Trails Park and Edison Trails Hiking Path are included in this district.

Total canopy cover for Grid Pruning District 5, based on the 2022 NAIP data, was 24.85% with much of the cover provided by the street trees in residential areas. There was a positive trend in canopy cover from 2018, with a 4.21% increase from 20.64% cover in the US Forest Service Urban Tree Canopy Survey. The twenty-nine (29) identified vacant planting sites present some opportunity for continued expansion of the canopy cover in this district. The 2022 canopy cover for Grid Pruning District 5 is shown in Figure 3.10.

3.4.6 GRID PRUNING DISTRICT 6

Grid Pruning District 6 north of West Floral Drive from Valley Vista Drive to South Atlantic Boulevard. The eastern boundary includes trees west of South Atlantic Boulevard up to Garvey Avenue. The northern boundary includes trees south of Garvey Avenue and the western border includes the tree southeast of Monterey Pass Road south to Vagabond Drive. The southeast boundary mirrors District 3 with the trees to the east of the boundary included in Grid Pruning District 6. Trees from District 13 on Garvey Avenue and the west side of South Atlantic Boulevard within the boundaries of District 6 are included in the district for canopy cover analysis. Grid Pruning District 6 is predominantly residential with the exception of the commercial buildings along South Atlantic Boulevard, Garvey Avenue, and Monterey Pass Road.

2022 canopy cover, based on NAIP imagery, was 26.45%, comprised mostly of street trees in the residential areas and trees in the open spaces between Barnum Way and Monterey Pass Road and Barnum Way and Ridgecrest Street. The 2022 cover represents an increase of 5.39% from the 2018 US Forest Service Urban Tree Canopy Survey data which calculated canopy cover at 21.05% for Grid Pruning District 6. There are opportunities to increase the canopy cover with ninety-six (96) identified vacant planting sites in this district. The 2022 canopy cover for Grid Pruning District 6 is shown in Figure 3.11.

3.4.7 GRID PRUNING DISTRICT 7

Grid Pruning District 7 includes the trees northwest of Monterey Pass Road, north of Floral Drive to the intersection with Garvey Avenue. The north and west boundaries are defined by the City Limits. Trees from District 13 along Garvey Avenue within the boundaries of Grid Pruning District 7 are included in the district for canopy cover analysis. District 7 is a mix of residential, commercial and industrial land uses.

Total canopy cover for Grid Pruning District 7, based on the 2022 NAIP data, was 23.38% with much of the cover provided by the street trees in residential areas. There was a positive trend in canopy cover from 2018, with a 3.87% increase from 19.58% cover in the US Forest Service Urban Tree Canopy Survey. The fifty-one (51) identified vacant planting sites present some opportunity for continued expansion of the canopy cover in this district. The 2022 canopy cover for Grid Pruning District 7 is shown in Figure 3.12.

3.4.8 GRID PRUNING DISTRICT 8

Grid Pruning District 8 includes the trees east of South Atlantic Boulevard and west of South Garfield Avenue, south of West Newmark Avenue. The south boundary mirrors District 2, including the trees north of boundary. Trees from District 13 on the east side of South Atlantic Boulevard and the west side of South Garfield Avenue within the boundaries of Grid Pruning District 8 were included in the district for canopy cover analysis. The district is a mix of residential and commercial land uses. City Hall and Barnes Park are included in this district.

2022 canopy cover, based on NAIP imagery, was 29.12%, comprised mostly of street trees in the residential areas and trees in the open spaces between South Bradshaw Avenue and Ynez Avenue. The 2022 cover represents an increase of 8.11% from the 2018 US Forest Service Urban Tree Canopy Survey data which calculated canopy cover at 21.00% for Grid Pruning District 8. There are opportunities to increase the canopy cover with one hundred three (103) identified vacant planting sites in this district. The 2022 canopy cover for Grid Pruning District 8 is shown in Figure 3.13.

3.4.9 GRID PRUNING DISTRICT 9

Grid Pruning District 9 includes the trees east of South Garfield Avenue, north of Graves Avenue, and south of East Garvey Avenue. The eastern boundary of the District is defined by the City Limits. Trees from District 13 along the east side of South Garfield Avenue and the south side of East Garvey Avenue within the boundaries of District 9 are included in the district for canopy cover analysis. Grid Pruning District 9 is primarily residential with some commercial buildings along the main roads.

Total canopy cover for Grid Pruning District 9, based on the 2022 NAIP data, was 14.08% with much of the cover provided by the street trees in residential areas. There was a slight positive trend in canopy cover from 2018, with a 0.47% increase from 13.61% cover in the US Forest Service Urban Tree Canopy Survey. This district had a significant percentage of younger trees which will increase canopy cover as they mature. The eighty-two (82) identified vacant planting sites present further opportunity for continued expansion of the canopy cover in this district. The 2022 canopy cover for Grid Pruning District 9 is shown in Figure 3.14.

3.4.10 GRID PRUNING DISTRICT 10

Grid Pruning District 10 includes the trees north of East Garvey Avenue and east of North Garfield Avenue. The north and east boundaries of Grid Pruning District are defined by the City Limits. Trees form Grid Pruning District 13 along the east side of North Garfield Avenue, and on the north side of East Garvey Avenue with District 10 boundaries are included in the district for canopy cover analysis. District 10 is primarily residential with commercial buildings along the main roads.

2022 canopy cover, based on NAIP imagery, was 12.47%, comprised mostly of street trees in the residential areas. The 2022 cover represents an increase of 0.16% from the 2018 US Forest Service Urban Tree Canopy Survey data which calculated canopy cover at 12.31% for Grid Pruning District 10. The lower overall canopy cover and incremental increase from 2018 may be in part due to the high percentage of high density housing in the district, especially on the west side. The size of the apartment buildings and the need for parking lots to support multiple residents reduces the space available for trees on the residence that would be available with a single-family home, thus reducing

the overall canopy cover. This district is also dominated by young and maturing trees, with nearly seventy-nine percent of the trees having a DBH less than twelve inches (> 12”). Canopy cover will increase in the district as these trees grow and mature. There are also opportunities to increase the canopy cover with ninety (90) identified vacant planting sites in this district. The 2022 canopy cover for Grid Pruning District 10 is shown in Figure 3.15.

3.4.11 GRID PRUNING DISTRICT 11

Grid Pruning District 11 includes the trees east of North Atlantic Boulevard, North of West Newmark Avenue and west of North Garfield Ave. The western boundary is defined by the City Limits north of Garvey Avenue as is the entirety of the northern boundary. Trees from District 13 on the north side of Garvey Avenue and on the east side of North Atlantic Boulevard up to the intersection with Garvey Avenue with the boundaries of District 11 are included in this district for canopy cover analysis. All trees along North Atlantic Avenue, north of Garvey Avenue are also included. The district is primarily residential with commercial buildings along the main roads.

Total canopy cover for Grid Pruning District 11, based on the 2022 NAIP data, was 14.54% with much of the cover provided by the street trees in residential areas. There was a positive trend in canopy cover from 2018, with a 2.98% increase from 11.57% cover in the US Forest Service Urban Tree Canopy Survey. This district had a significant percentage (64.58%) of younger trees which will increase canopy cover as they mature. The one hundred thirty-one (131) identified vacant planting sites present further opportunity for continued expansion of the canopy cover in this district. The 2022 canopy cover for Grid Pruning District 11 is shown in Figure 3.16.

3.4.12 GRID PRUNING DISTICT 12

The northwest section of Grid Pruning District 12 mirrors the eastern boundaries of Grid Pruning District 5, including the trees to the south and east of this boundary. The southwest section of the District 12 boundary mirrors the eastern boundary of District 4, including the trees east of this line. The northeast boundary includes trees south of Graves Avenue, east of South Orange Street. The remaining boundaries for this district are delineated by the City Limits to the south and east. There are no trees from District 13 included in the canopy cover analysis for District 12. Garvey Ranch Park, Garvey Reservoir, the Southern California Edison Mesa Substation and associated transmission line Right-of-Way, The Monterey Park Market Place, and the Operating Industries, Inc. Landfill are all included in Grid Pruning District 12. The northern half of District 12 is predominantly residential, while the southern half is comprised of mostly commercial and industrial land uses.

2022 canopy cover, based on NAIP imagery, was 9.50%, comprised mostly of street trees in the residential areas in the northern half of the district. The 2022 cover represents an minimal increase of 0.26% from the 2018 US Forest Service Urban Tree Canopy Survey data which calculated canopy cover at 9.24% for Grid Pruning District 12. The inclusion of Garvey Reservoir, the Edison transmission line Right-of-Way, and the Operating Industries Landfill, large areas with no tree cover, in this district accounts for the low overall canopy cover. There are opportunities to increase the canopy cover with two hundred twenty-five (225) identified vacant planting sites in this district. The 2022 canopy cover for Grid Pruning District 12 is shown in Figure 3.17.

Figure 3.6: Grid Pruning District 1 canopy cover.

Figure 3.7: Grid Pruning District 2 canopy cover.

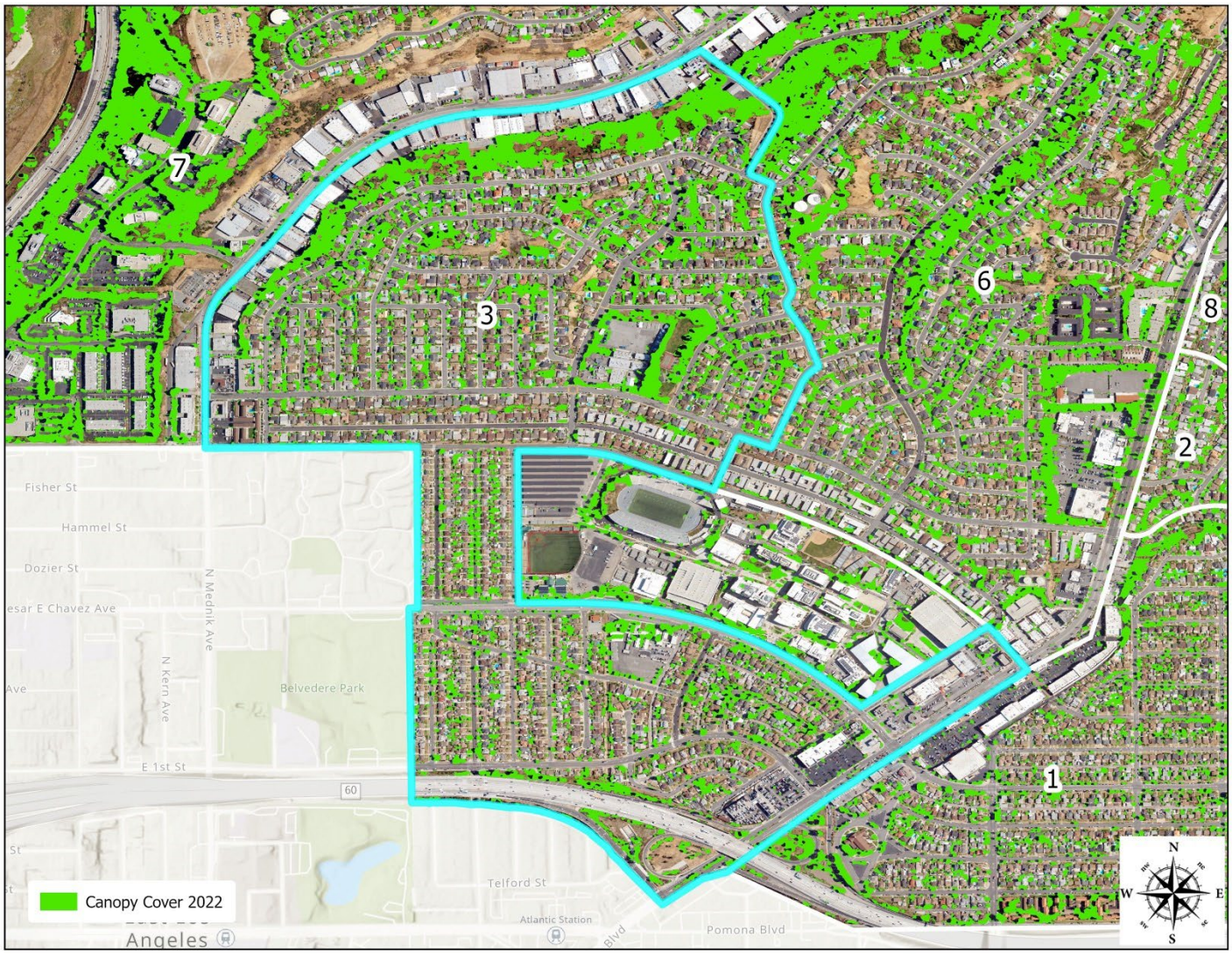


Figure 3.8: Grid Pruning District 3 canopy cover.

Figure 3.9: Grid Pruning District 4 canopy cover.

Figure 3.10: Grid Pruning District 5 canopy cover.

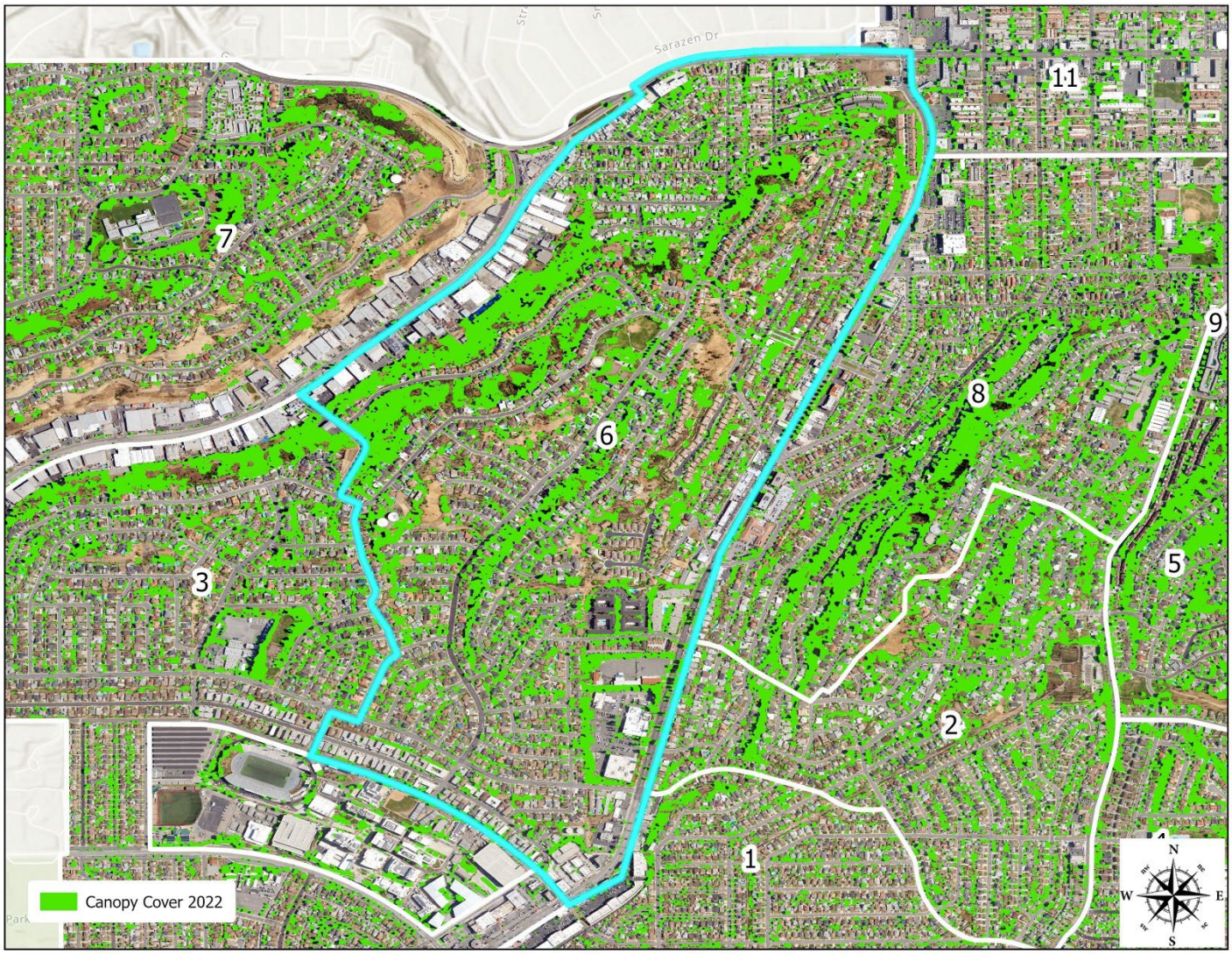


Figure 3.11: Grid Pruning District 6 canopy cover.

Figure 3.12: Grid Pruning District 7 canopy cover.

Figure 3.13: Grid Pruning District 8 canopy cover.

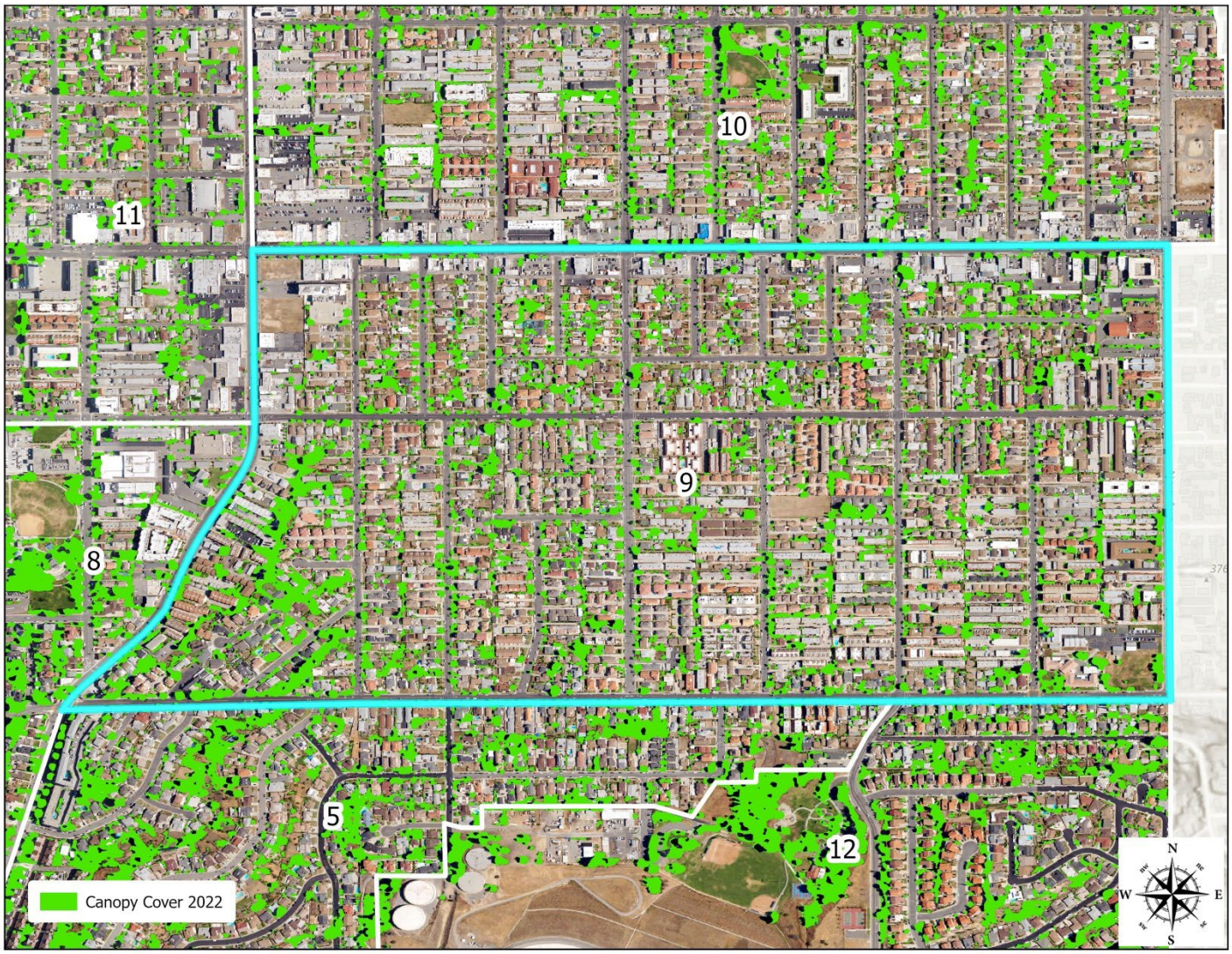


Figure 3.14: Grid Pruning District 9 canopy cover.

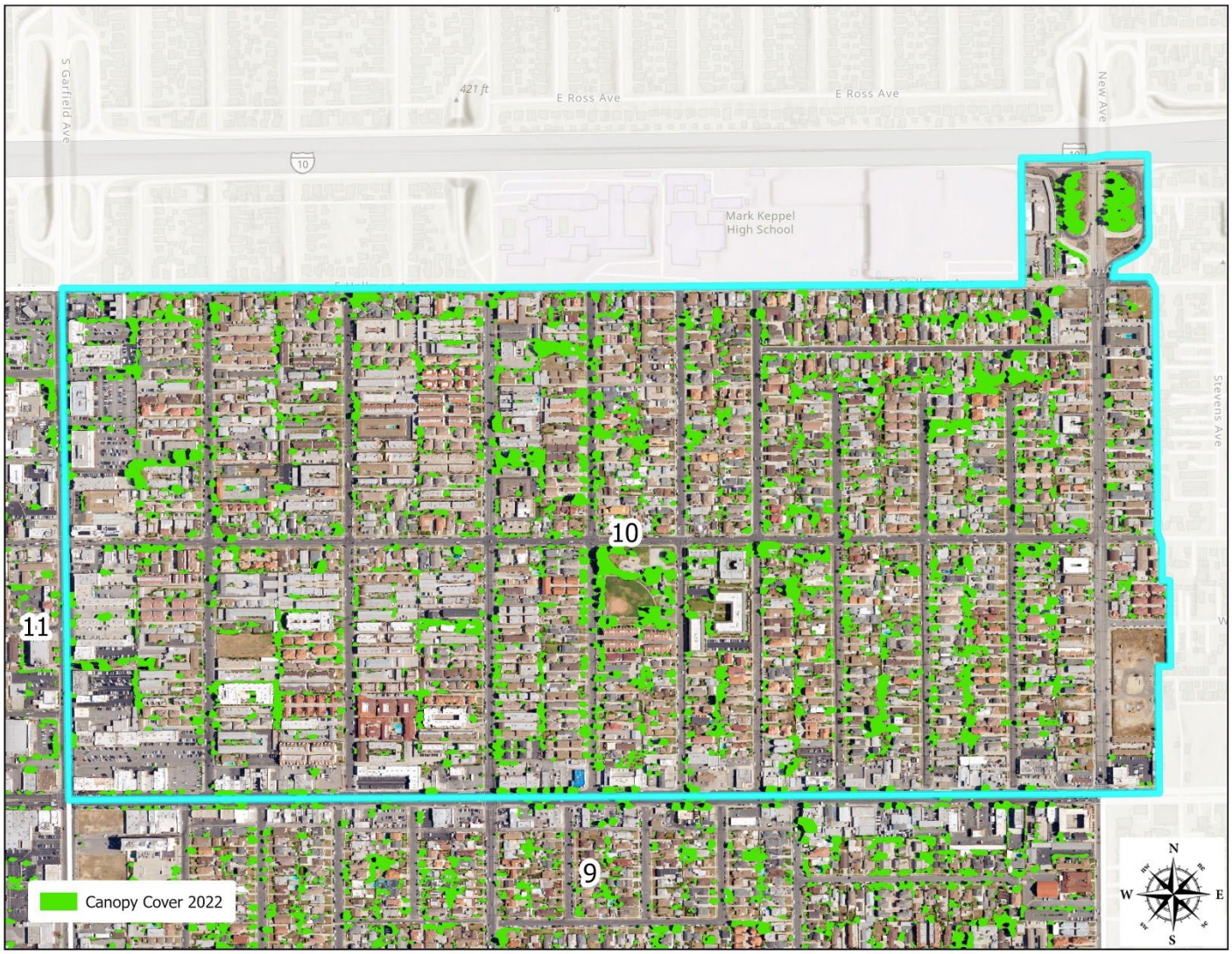


Figure 3.15: Grid Pruning District 10 canopy cover.

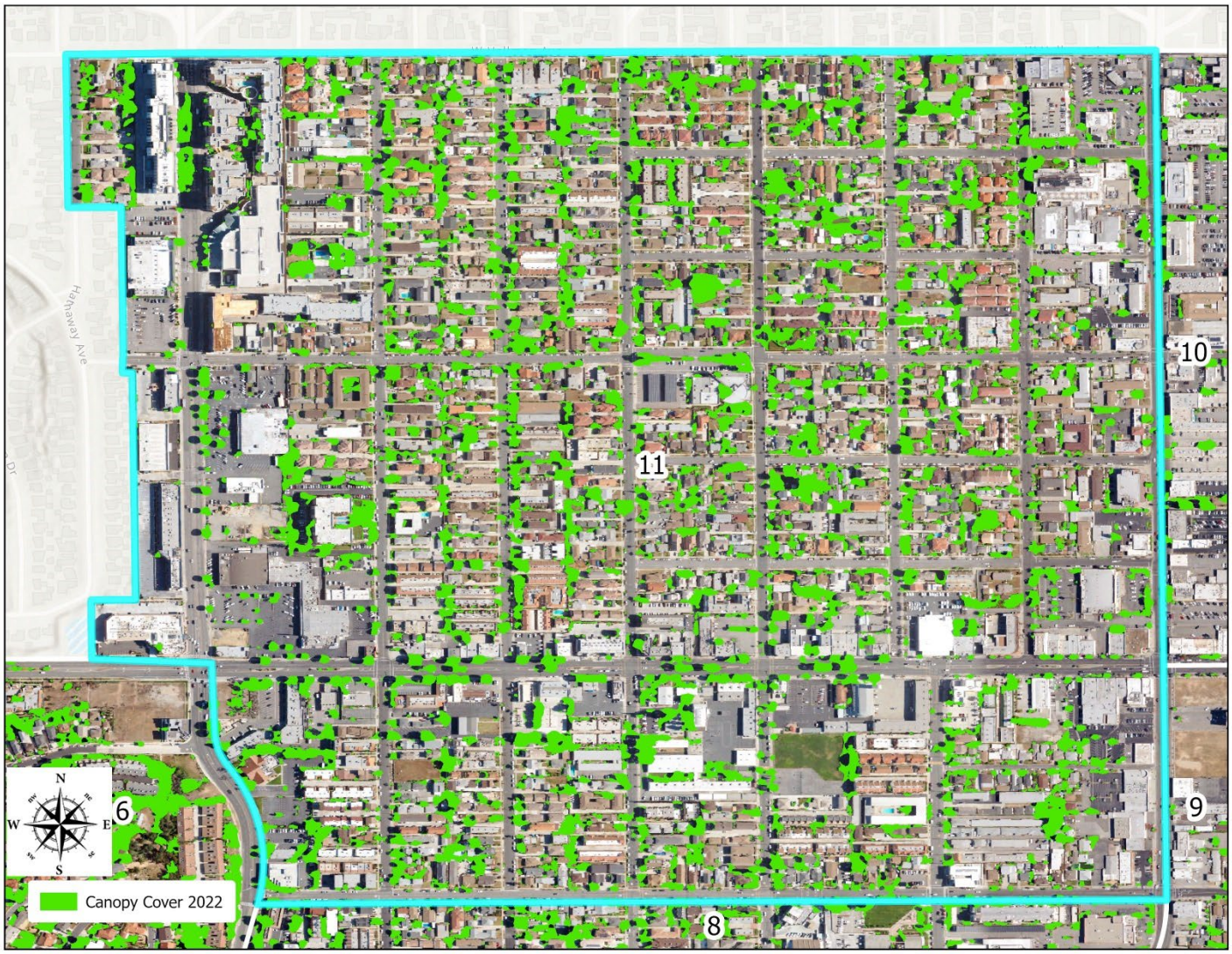


Figure 3.16: Grid Pruning District 11 canopy cover.

Figure 3.17: Grid Pruning District 12 canopy cover.

3.5 LAND COVER ASSESSMENT

The 2022 distribution of land cover classes within the City of Monterey Park is shown in Figure 3.18. Table 3.3 lists the percentage of cover for each cover class by Grid Pruning District.

Grid Pruning District	Canopy Cover – Tree Cover	Impervious		Pervious		Water	Unclassified Shadows
		Buildings	Roads, Parking, Paving	Bare Soil	Grass, Shrubs, Low Vegetation		
1	15.79%	30.39%	32.60%	4.18%	11.48%	0.20%	5.36%
2	27.14%	24.42%	25.74%	5.31%	12.51%	0.30%	4.58%
3	18.33%	26.95%	34.76%	4.86%	9.99%	0.36%	4.73%
4	19.64%	30.29%	26.75%	3.96%	14.47%	0.47%	4.40%
5	24.85%	27.46%	22.89%	6.92%	11.85%	0.47%	5.55%
6	26.45%	26.19%	26.06%	5.96%	9.50%	0.43%	5.41%
7	23.38%	14.72%	25.96%	14.87%	16.10%	0.33%	4.63%
8	29.12%	25.24%	26.85%	2.44%	8.66%	0.28%	7.42%
9	14.08%	41.31%	26.47%	4.52%	9.37%	0.12%	4.12%
10	12.47%	40.84%	29.12%	5.39%	8.12%	0.20%	3.85%
11	14.54%	34.43%	35.35%	2.96%	5.34%	0.14%	7.22%
12	9.50%	16.07%	29.72%	32.97%	9.16%	0.16%	2.41%
Total	**18.78%**	**25.29%**	**28.71%**	**11.63%**	**10.74%**	**0.28%**	**4.67%**

Table 3.3 Land Cover by Class and Grid Pruning Zone

The dominant land covers were impervious buildings, roads, parking, and paving which comprised 54.00% (Buildings: 25.29% and Roads, Parking, Paving: 28.71%) of the total land cover within the City of Monterey Park. Impervious land use classifications refer to surfaces where water cannot penetrate the soil and will instead flow off the surface during rain events, usually into storm drains. In urban settings, impervious structures are expected to dominate the land cover.

Pervious land cover classifications composed of “Bare Soil” (11.63%) and “Grass, Shrubs, and Low Vegetation” (10.74%) comprised 22.37% of the total land cover. Pervious land use classifications refer to areas where water can penetrate the soil and be absorbed, reducing runoff during rain events. Total tree canopy cover for the City of Monterey Park was 18.69% as discussed above.

Land cover classifications for each individual District are discussed below. As with canopy cover in Section 3.4, trees in Grid Pruning District 13 have been included in the appropriate adjacent district for Canopy Cover in the Land Cover analysis.

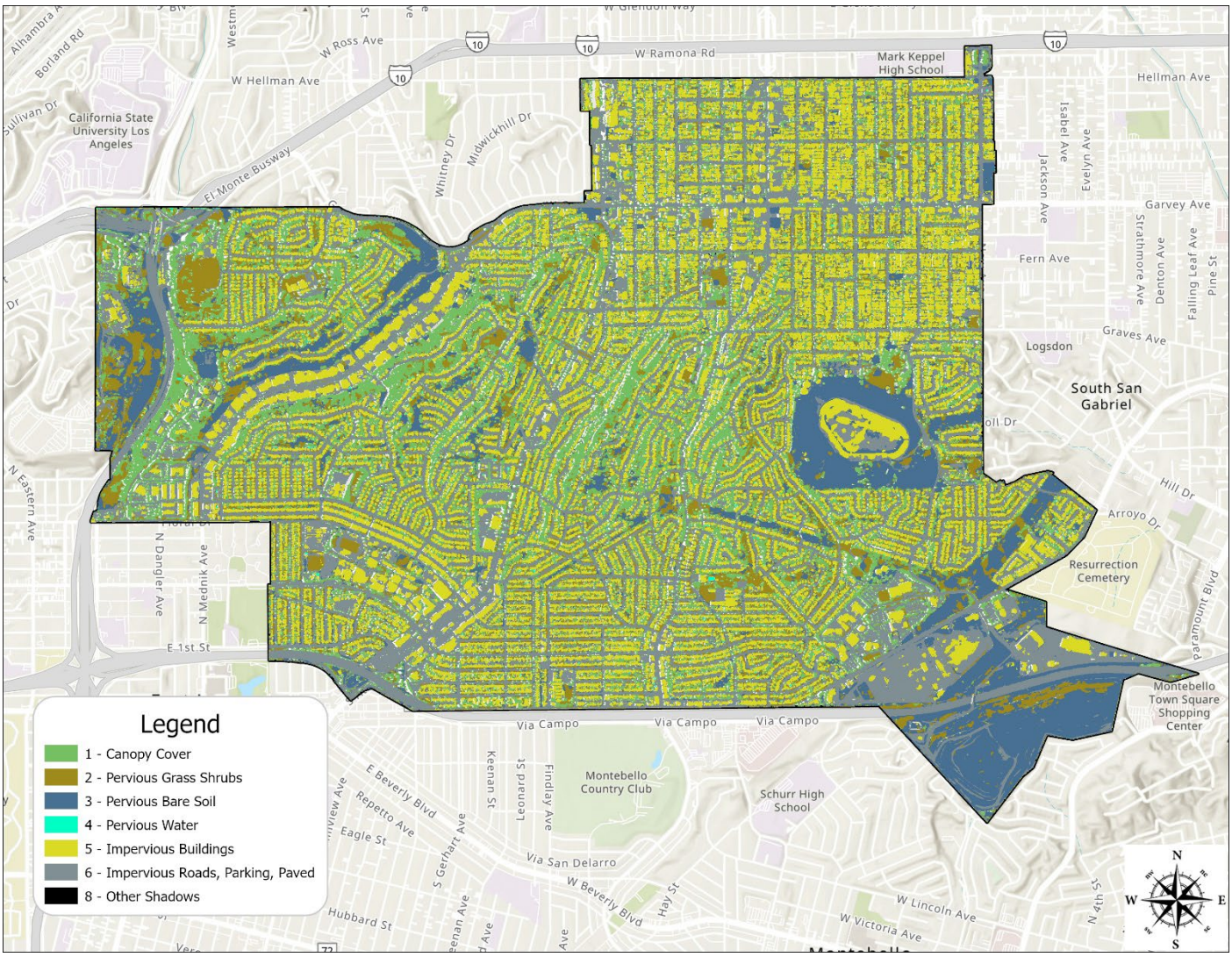


Figure 3.18: 2022 Citywide overview of land cover.

3.5.1 GRID PRUNING DISTRICT 1

The boundaries for Grid Pruning District 1 have been described in Section 3.4.1. Impervious cover classifications as determined from the 2022 NAIP imagery were 62.99% of the total cover in District 1 with Roads, Parking Lots, and Other Paved Areas accounting for 32.60% and Buildings 30.39%. Pervious cover consisted of 15.79% Canopy Cover; 11.48% Grass, Shrubs, and Low Vegetation; 4.18% Bare Soil; and Open Water 0.20% for a total of 31.65% of the total cover. The distribution of land use classifications for Grid Pruning District 1 are shown in Figure 3.19.

3.5.2 GRID PRUNING DISTRICT 2

Section 3.4.2 described the boundaries for Grid Pruning District 2. Based on the 2022 NAIP imagery, cover from Roads, Parking Lots, and Other Paved Areas comprised 25.74% and Buildings accounted for 24.42% of the total cover for a total of 50.16% impervious cover. Total pervious surface cover was 45.26% with Canopy Cover 27.14%; Grass, Shrubs, and Low Vegetation 12.51%; Bare Soil 5.31%; and Open Water 0.30%. The distribution of land use classifications for Grid Pruning District 1 are shown in Figure 3.20.

3.5.3 GRID PRUNING DISTRICT 3

The boundaries for Grid Pruning District 3 have been described in Section 3.4.3. Impervious cover classifications as determined from the 2022 NAIP imagery were 61.72% of the total cover in District 3 with Roads, Parking Lots, and Other Paved Areas accounting for 34.76% and Buildings 26.95%. Pervious cover consisted of 18.33% Canopy Cover; 9.99% Grass, Shrubs, and Low Vegetation; 4.86% Bare Soil; and Open Water 0.36% for a total of 33.55% of the total cover. The distribution of land use classifications for Grid Pruning District 3 are shown in Figure 3.21.

3.5.4 GRID PRUNING DISTRICT 4

Section 3.4.4 described the boundaries for Grid Pruning District 4. Based on the 2022 NAIP imagery, cover from Buildings comprised 30.29% and Roads, Parking Lots, and Other Paved Areas accounted for 26.75% of the total cover for a total of 57.05% impervious cover. Total pervious surface cover was 38.54% with Canopy Cover 19.64%; Grass, Shrubs, and Low Vegetation 14.47%; Bare Soil 3.96%; and Open Water 0.47%. The distribution of land use classifications for Grid Pruning District 4 are shown in Figure 3.22.

3.5.5 GRID PRUNING DISTRICT 5

The boundaries for Grid Pruning District 5 have been described in Section 3.4.5. Impervious cover classifications as determined from the 2022 NAIP imagery were 50.36% of the total cover in District 5 with Buildings accounting for 27.46% and Roads, Parking Lots, and Other Paved Areas 22.89%. Pervious cover consisted of 24.85% Canopy Cover; 11.85% Grass, Shrubs, and Low Vegetation; 6.92% Bare Soil; and Open Water 0.47% for a total of 44.09% of the total cover. The distribution of land use classifications for Grid Pruning District 5 are shown in Figure 3.23.

3.5.6 GRID PRUNING DISTRICT 6

Section 3.4.6 described the boundaries for Grid Pruning District 4. Based on the 2022 NAIP imagery, cover from Buildings comprised 26.19% and Roads, Parking Lots, and Other Paved Areas accounted

for 26.06% of the total cover for a total of 52.25% impervious cover. Total pervious surface cover was 42.34% with Canopy Cover 26.45%; Grass, Shrubs, and Low Vegetation 9.50%; Bare Soil 5.96%; and Open Water 0.43%. The distribution of land use classifications for Grid Pruning District 6 are shown in Figure 3.24.

3.5.7 GRID PRUNING DISTRICT 7

The boundaries for Grid Pruning District 7 have been described in Section 3.4.7. Impervious cover classifications as determined from the 2022 NAIP imagery were 40.68% of the total cover in District 7 with Roads, Parking Lots, and Other Paved Areas accounting for 25.96% and Buildings 14.72%. Pervious cover consisted of 23.38% Canopy Cover; 16.10% Grass, Shrubs, and Low Vegetation; 14.87% Bare Soil; and Open Water 0.33% for a total of 54.68% of the total cover. The distribution of land use classifications for Grid Pruning District 7 are shown in Figure 3.25.

3.5.8 GRID PRUNING DISTRICT 8

Section 3.4.8 described the boundaries for Grid Pruning District 8. Based on the 2022 NAIP imagery, cover from Roads, Parking Lots, and Other Paved Areas comprised 26.85% and Buildings accounted for 25.24% of the total cover for a total of 52.08% impervious cover. Total pervious surface cover was 40.50% with Canopy Cover 29.12%; Grass, Shrubs, and Low Vegetation 8.66%; Bare Soil 2.44%; and Open Water 0.28%. The distribution of land use classifications for Grid Pruning District 8 are shown in Figure 3.26.

3.5.9 GRID PRUNING DISTRICT 9

The boundaries for Grid Pruning District 9 have been described in Section 3.4.9. Impervious cover classifications as determined from the 2022 NAIP imagery were 67.78% of the total cover in District 9 with Buildings accounting for 41.31% and Roads, Parking Lots, and Other Paved Areas 26.47%. Pervious cover consisted of 14.08% Canopy Cover; 9.37% Grass, Shrubs, and Low Vegetation; 4.52% Bare Soil; and Open Water 0.12% for a total of 28.10% of the total cover. The distribution of land use classifications for Grid Pruning District 9 are shown in Figure 3.27.

3.5.10 GRID PRUNING DISTRICT 10

Section 3.4.10 described the boundaries for Grid Pruning District 10. Based on the 2022 NAIP imagery, cover from Buildings comprised 40.84% and Roads, Parking Lots, and Other Paved Areas accounted for 29.12% of the total cover for a total of 69.95% impervious cover. Total pervious surface cover was 26.18% with Canopy Cover 12.47%; Grass, Shrubs, and Low Vegetation 8.12%; Bare Soil 5.39%; and Open Water 0.20%. The distribution of land use classifications for Grid Pruning District 10 are shown in Figure 3.28.

3.5.11 GRID PRUNING DISTRICT 11

The boundaries for Grid Pruning District 11 have been described in Section 3.4.11. Impervious cover classifications as determined from the 2022 NAIP imagery were 69.78% of the total cover in District 11 with Roads, Parking Lots, and Other Paved Areas accounting for 35.35% and Buildings 34.43%. Pervious cover consisted of 14.54% Canopy Cover; 5.34% Grass, Shrubs, and Low Vegetation;

2.96% Bare Soil; and Open Water 0.14% for a total of 22.98% of the total cover. The distribution of land use classifications for Grid Pruning District 11 are shown in Figure 3.29.

3.5.12 GRID PRUNING DISTRICT 12

Section 3.4.12 described the boundaries for Grid Pruning District 12. Based on the 2022 NAIP imagery, cover from Roads, Parking Lots, and Other Paved Areas comprised 29.72% and Buildings accounted for 16.07% of the total cover for a total of 45.79% impervious cover. Total pervious surface cover was 51.78% with Canopy Cover 9.50%; Grass, Shrubs, and Low Vegetation 9.16%; Bare Soil 32.97%; and Open Water 0.16%. The large unvegetated areas around Garvey Reservoir and the Operating Industries Landfill were the major contributors to the abnormally high percentage of bare soil in this district. The distribution of land use classifications for Grid Pruning District 12 are shown in Figure 3.30.

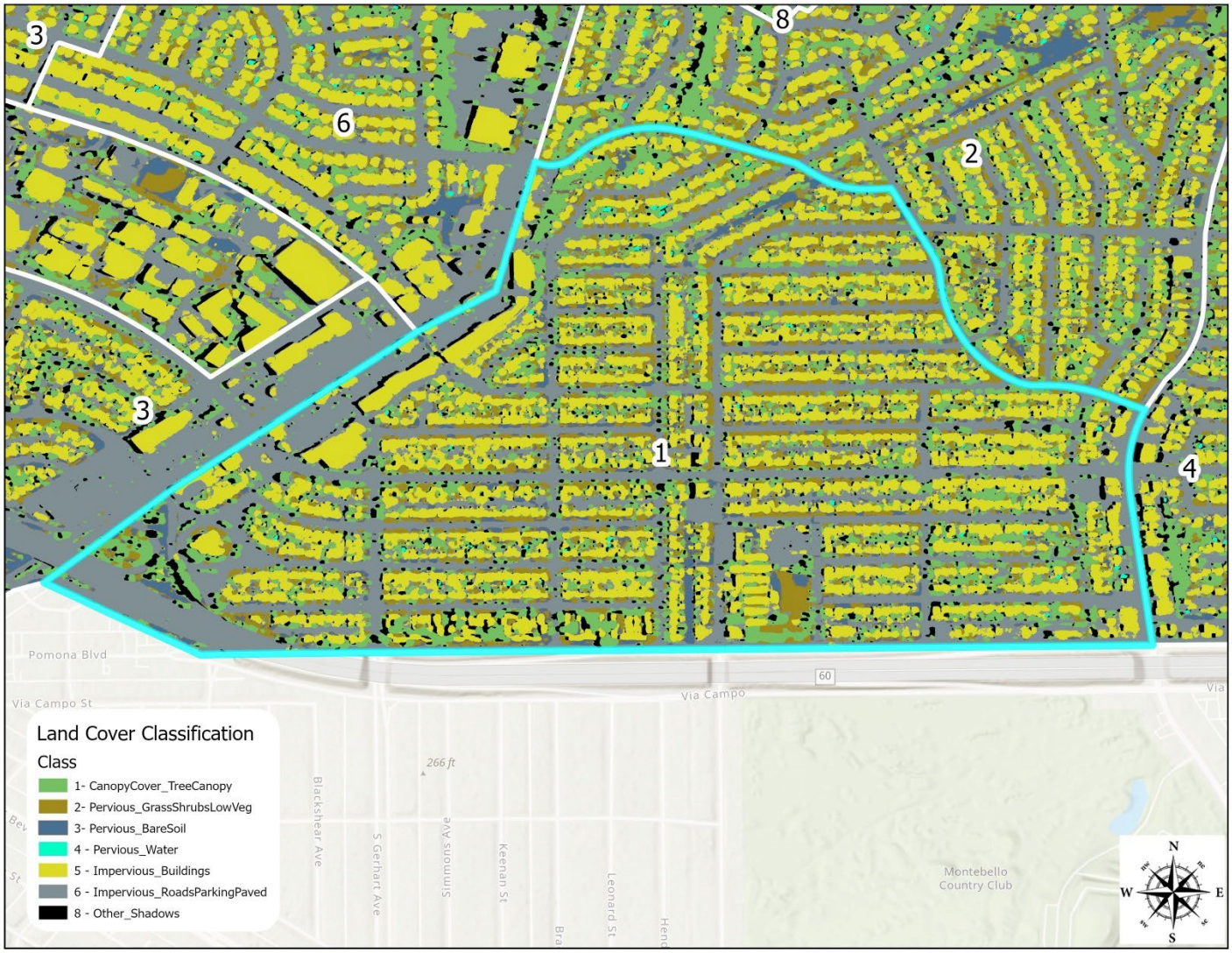


Figure 3.19: Grid Pruning District 1 land cover.

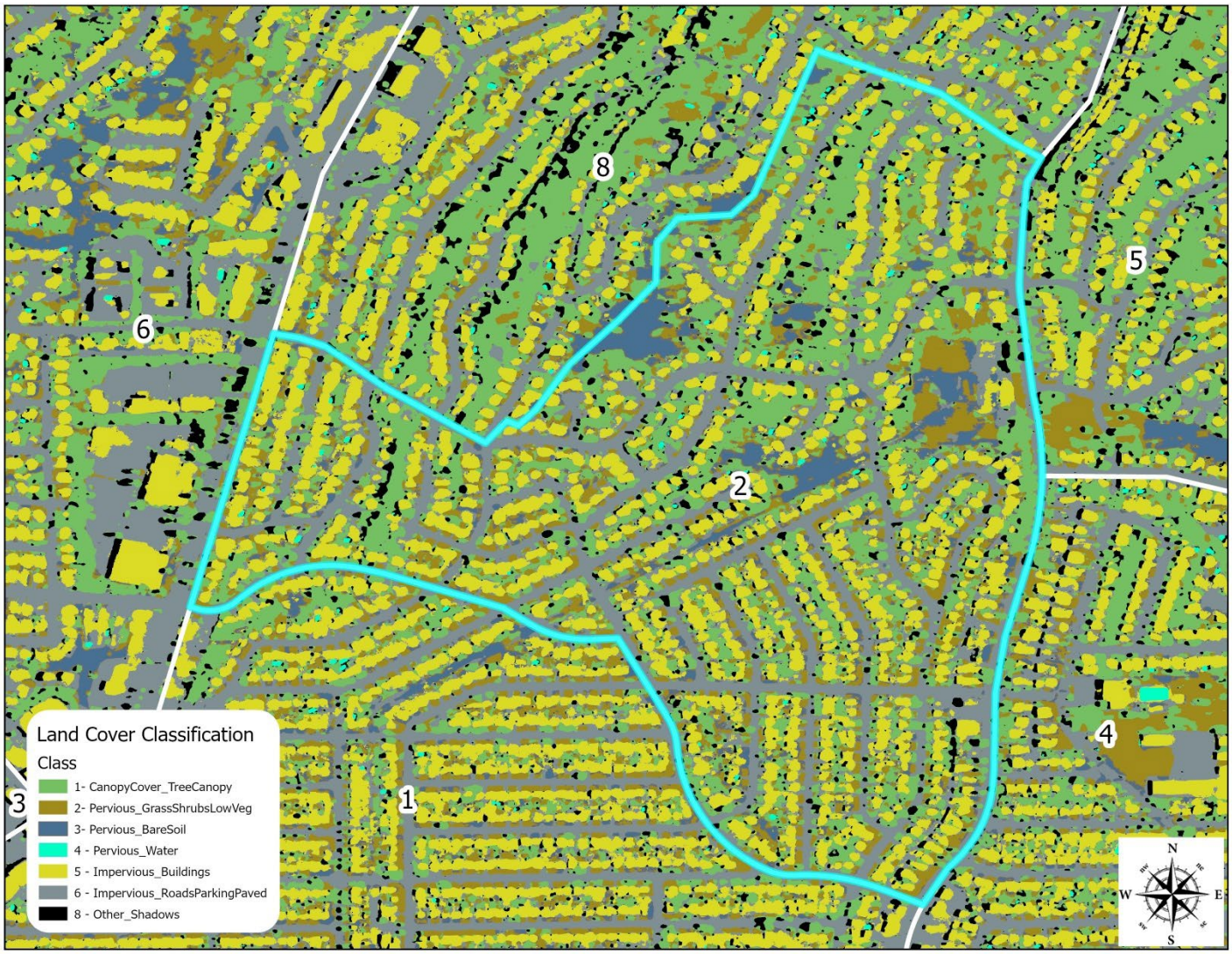


Figure 3.20: Grid Pruning District 2 land cover.

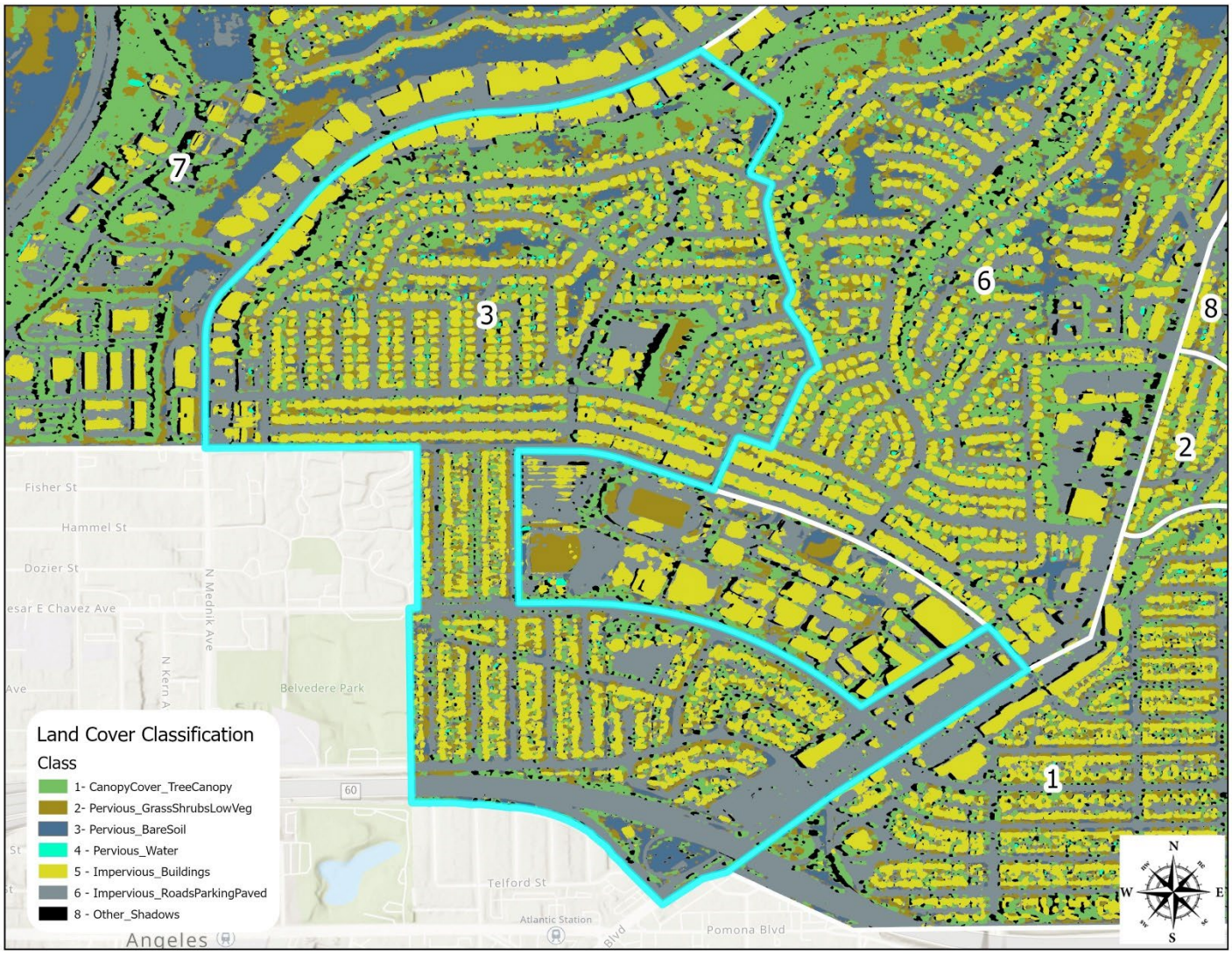


Figure 3.21: Grid Pruning District 3 land cover.

Figure 3.22: Grid Pruning District 4 land cover.

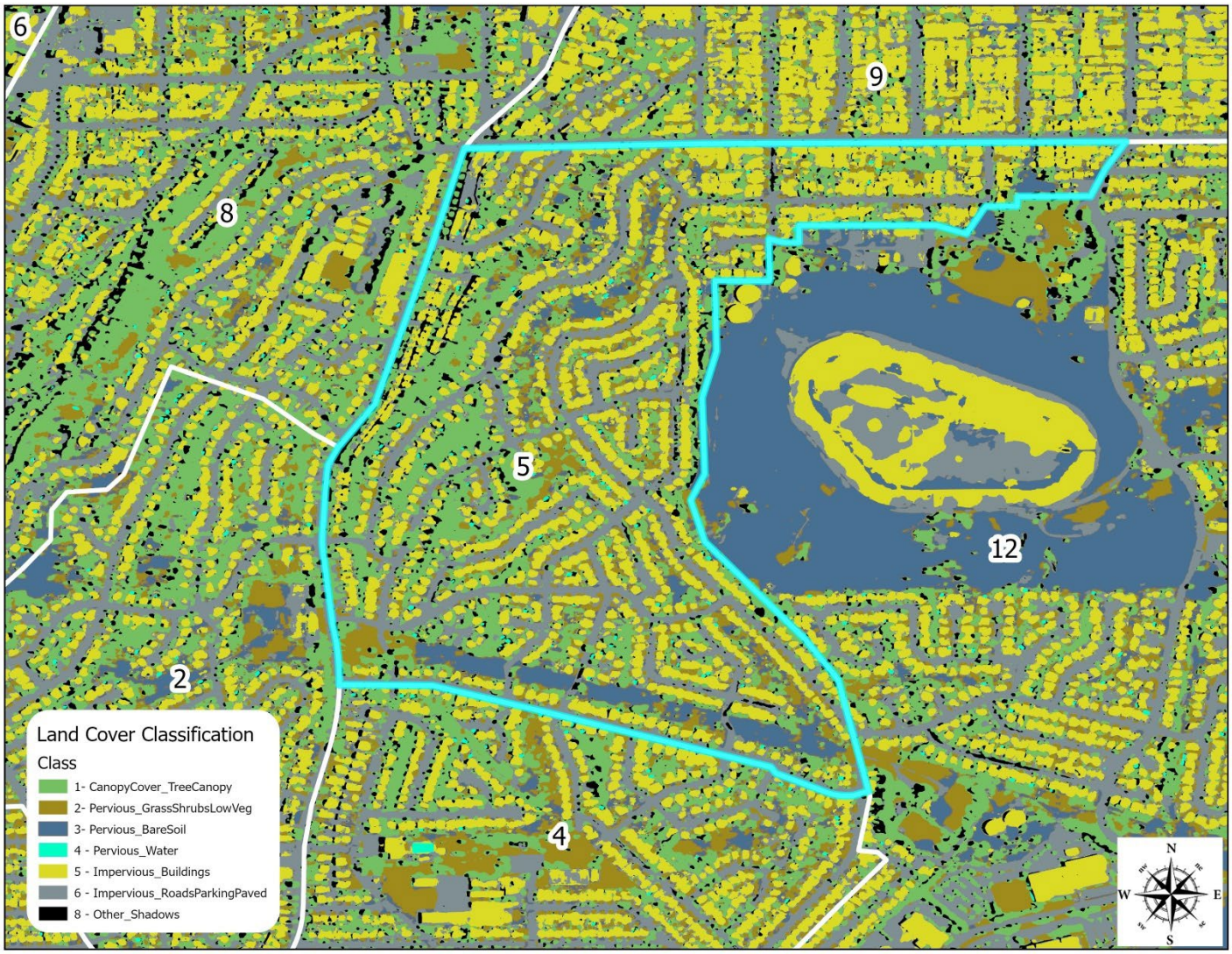


Figure 3.23: Grid Pruning District 5 land cover.

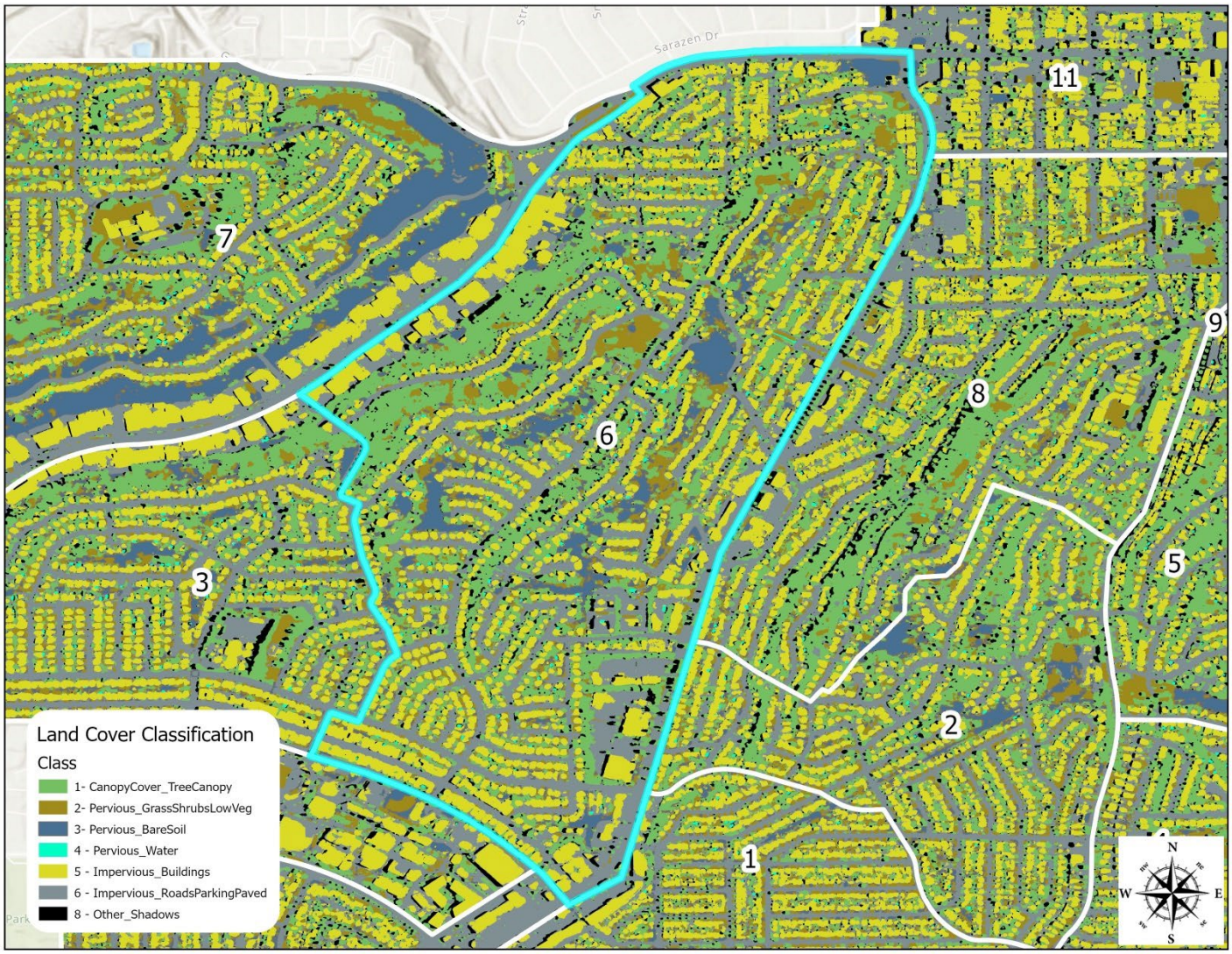


Figure 3.24: Grid Pruning District 6 land cover.

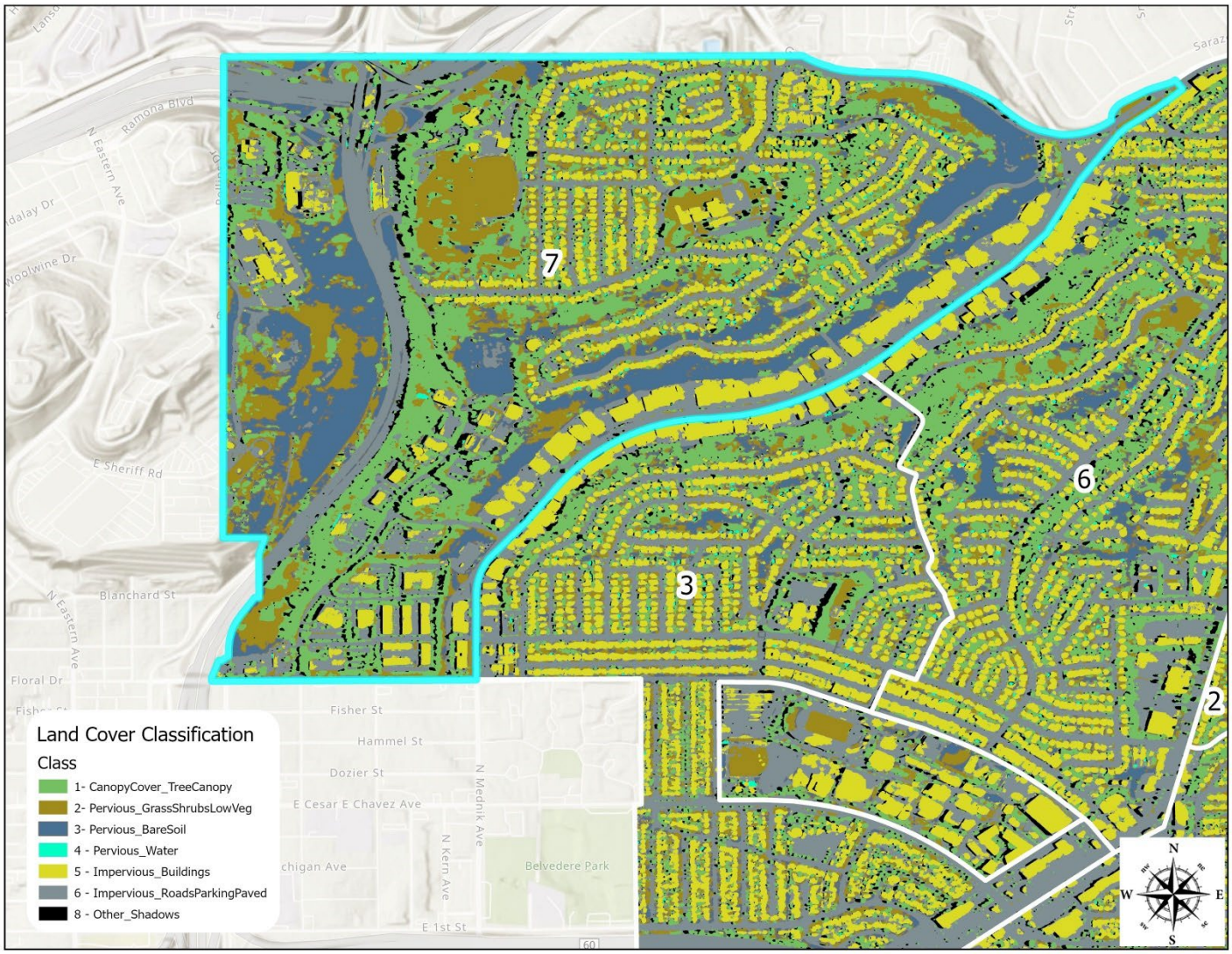


Figure 3.25: Grid Pruning District 7 land cover.

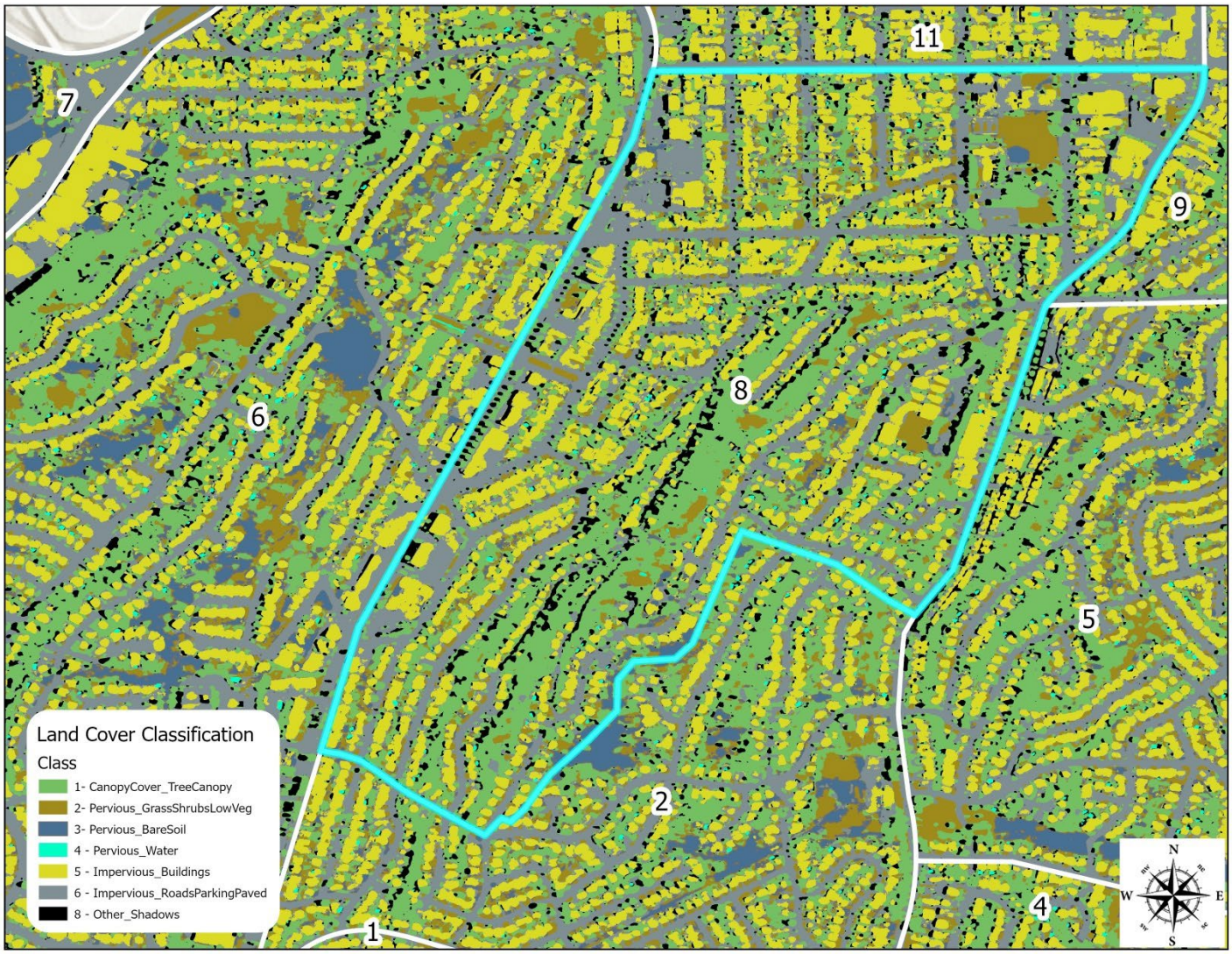


Figure 3.26: Grid Pruning District 8 land cover.

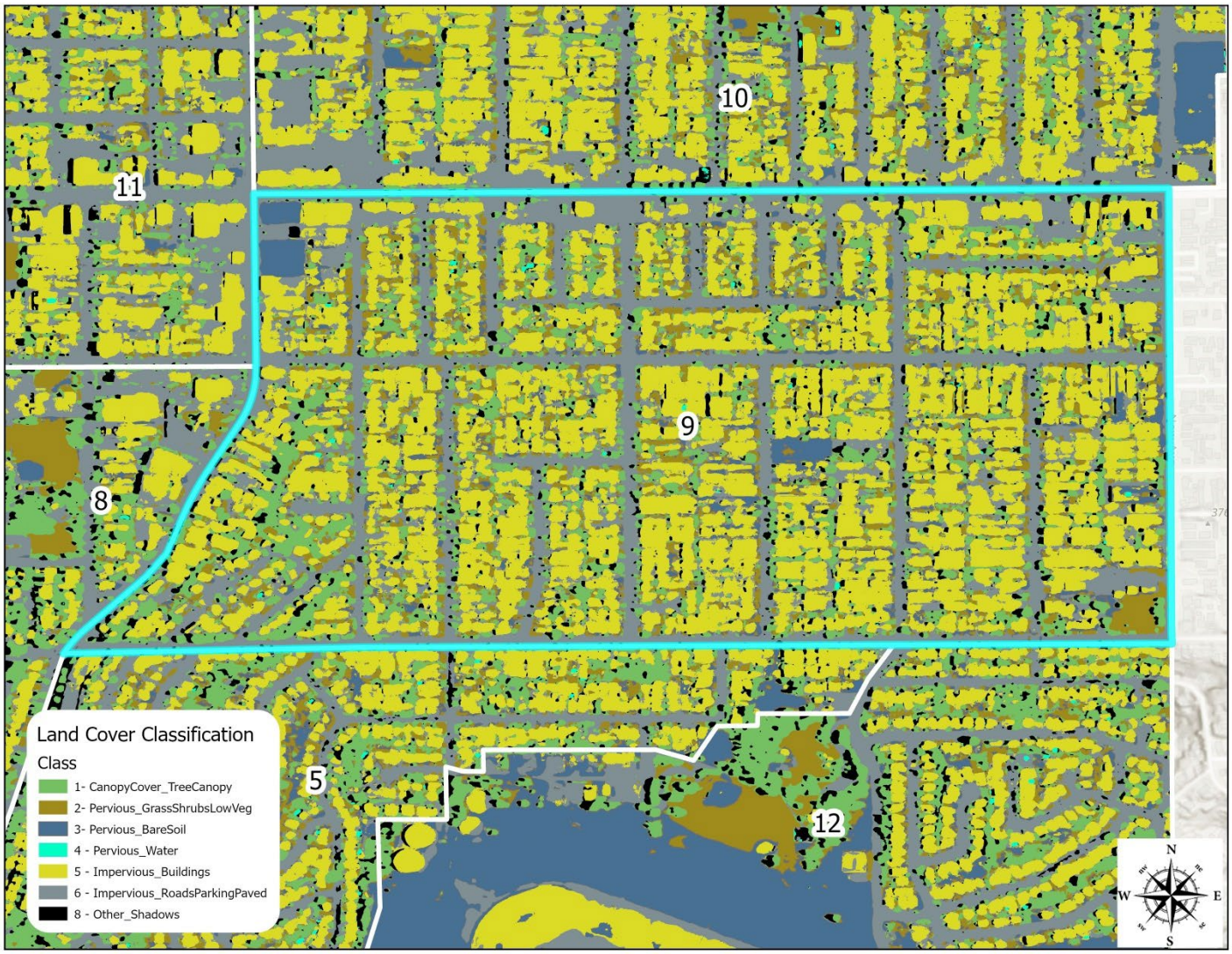


Figure 3.27: Grid Pruning District 9 land cover.

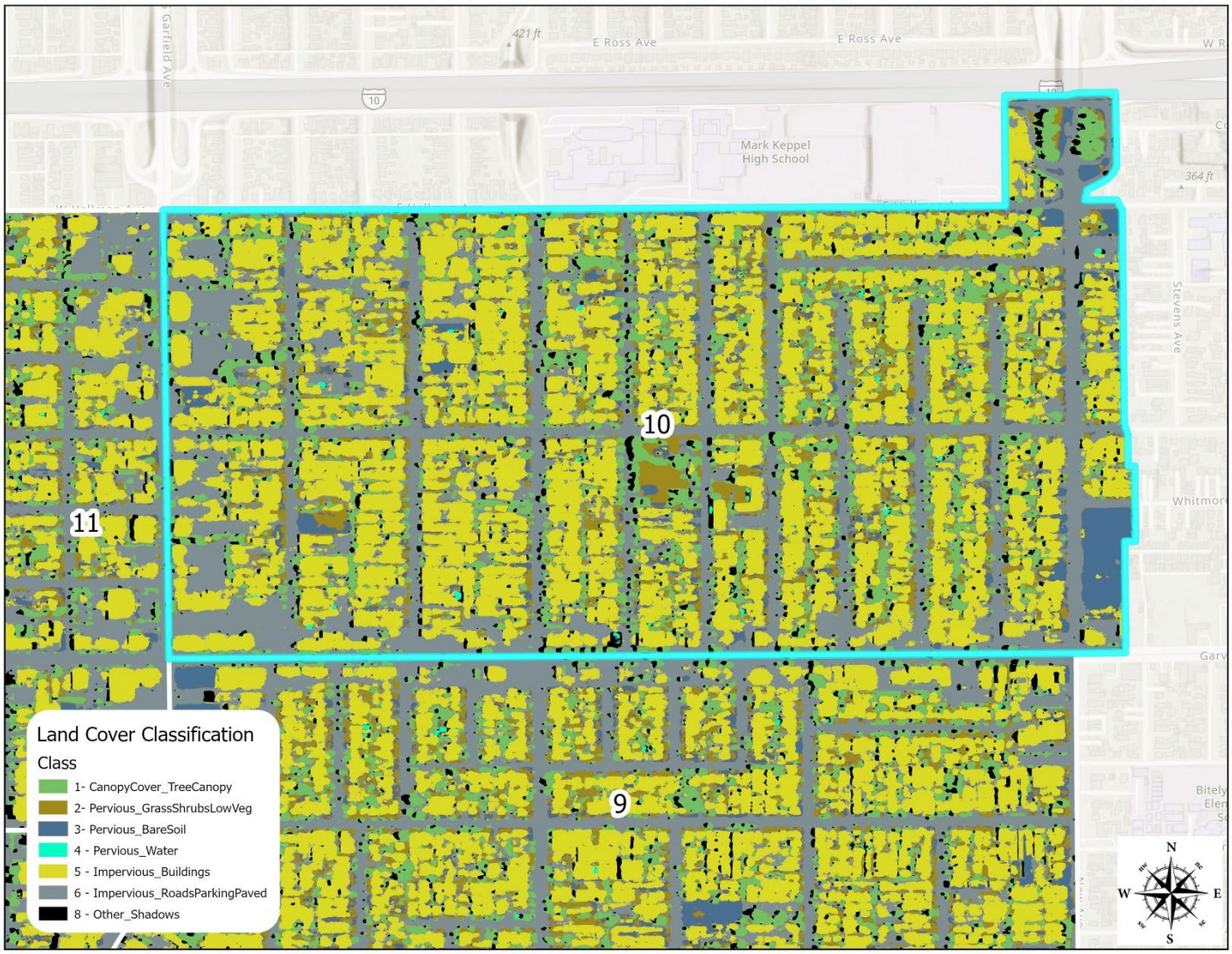


Figure 3.28: Grid Pruning District 10 land cover.

Figure 3.29: Grid Pruning District 11 land cover.

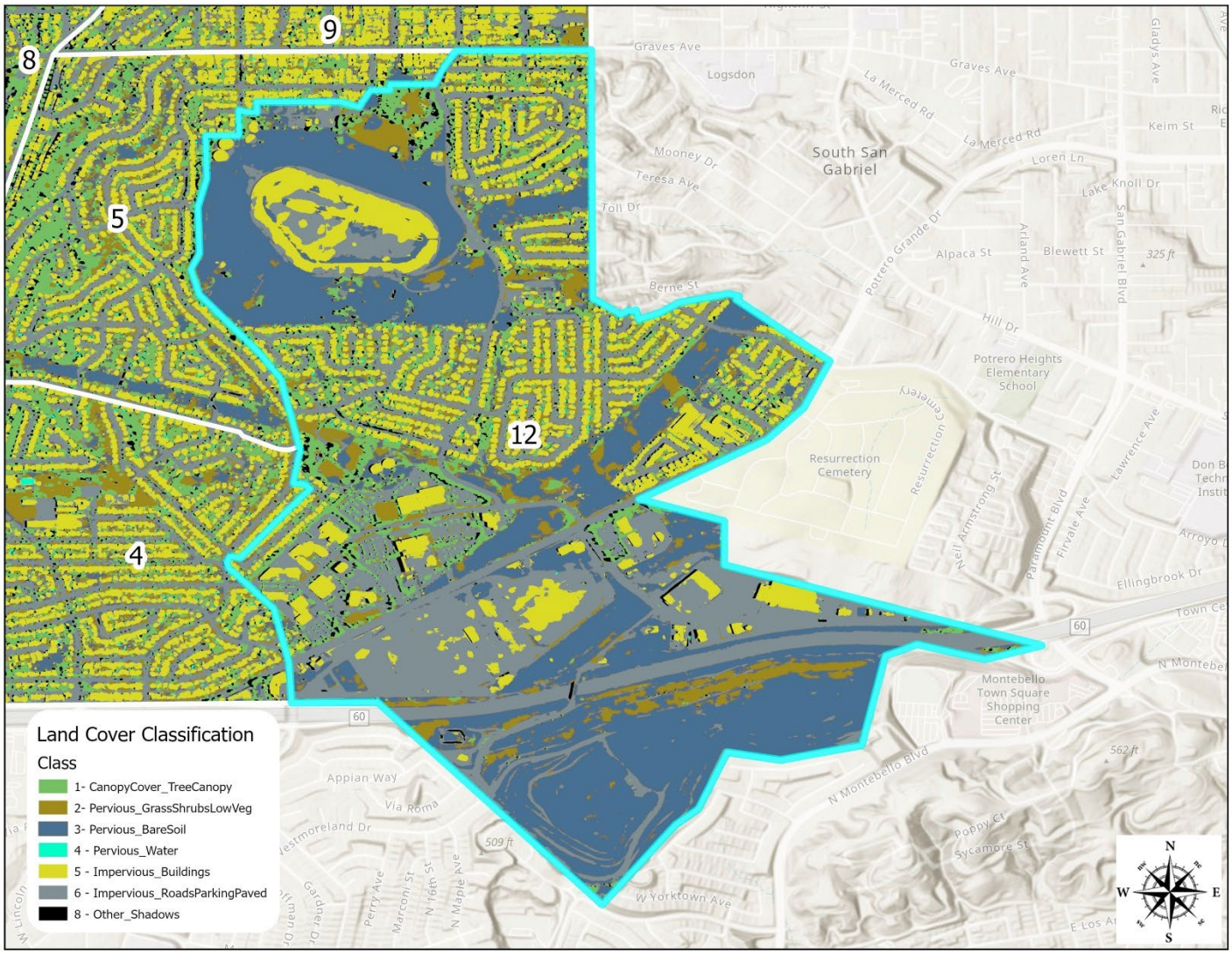


Figure 3.30: Grid Pruning District 12 land cover.

3.6 CANOPY GOALS

Increasing overall canopy cover throughout the City of Monterey Park Urban Forest is a top priority to maximize the benefits provided to the community. Street tree cover is fairly evenly distributed in residential areas throughout the City, although replacement of mature trees that had outgrown the available space or that were in declining health has created some gaps in cover for individual neighborhoods.

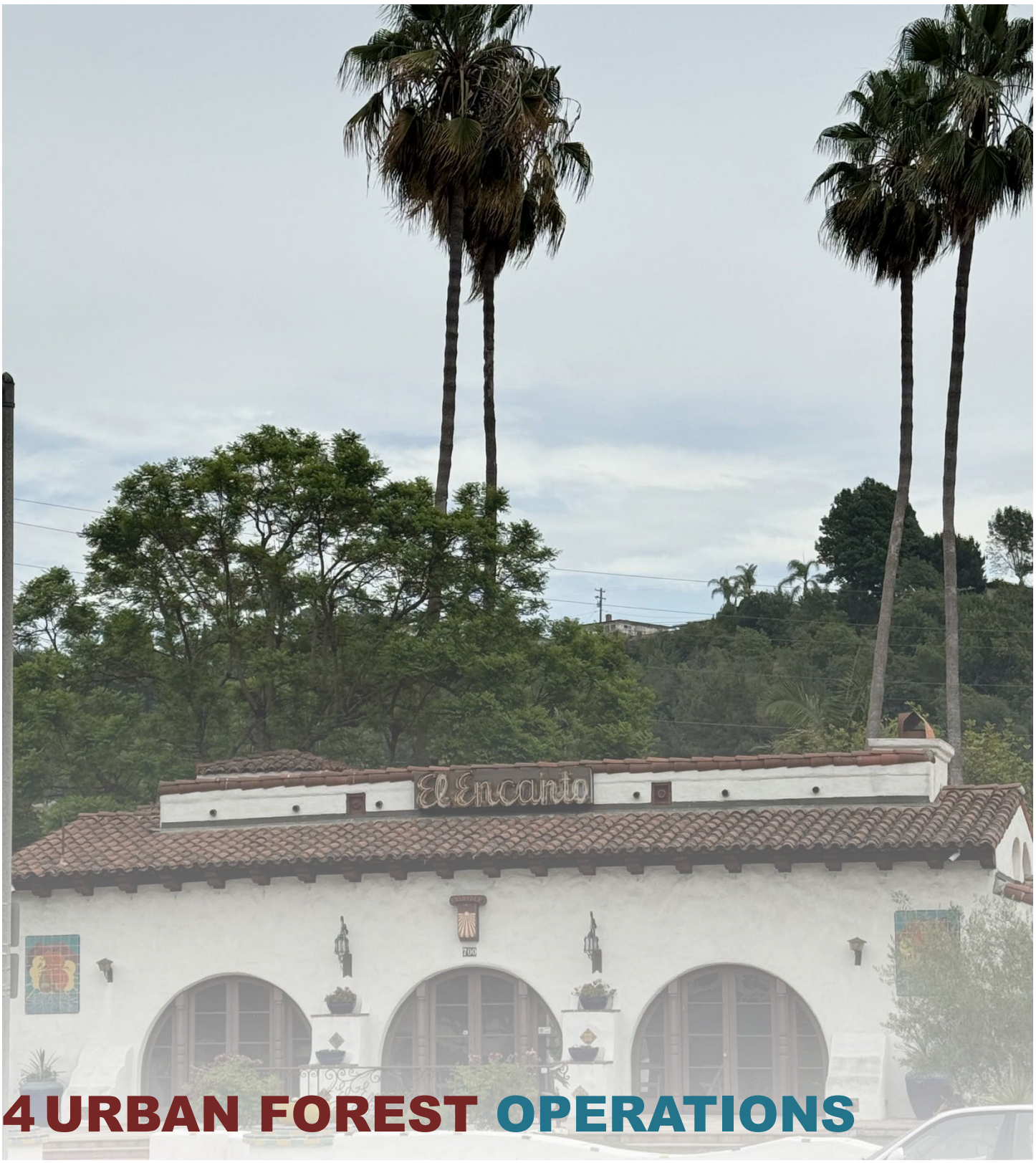
Canopy cover tends to be dynamic in the urban forest. Mature trees that are nearing the end of their lifespan, or trees impacted by pests or disease, may begin to decline and will need to be replaced.

CANOPY ASSESSMENT

Young trees take time to develop canopies of the size of the trees that they are replacing, creating temporary gaps in cover. The canopy cover in areas dominated by young trees will continue to increase as these trees mature. Additional management actions will be needed to drive substantial long-term increase in overall canopy cover including:

- Develop a plan to install trees in all identified vacant sites (Section 6). New trees will not immediately contribute a significant increase in cover, however, a substantial long-term increase in canopy cover will result from expanding the number of trees in the City of Monterey Park inventory by nearly seventeen percent (17%). The campaign to plant trees to fill the vacant sites is outlined in Section 5.5.
- Develop a succession plan that phases the replacement of maturing trees that reduces the impact to overall canopy cover while younger trees mature (Section 6).
- Install trees at school sites along the perimeter of athletic fields and in strategic interior locations where they will not be in conflict with field use activities.
- Encourage interior planting of trees in parking lots during the plan reviews.
- Select species with broader canopies and low infrastructure conflict that will provide more shade in parking lots and commercial/industrial areas. For smaller spaces, species such as Marina strawberry tree, Desert willow, and Golden trumpet tree may be appropriate (see Sections 5.2.3 and 5.2.4 for a complete list of approved species appropriate for this planting space). If four-to-seven-foot (4' – 7') planting areas are available, Red push pistache, Compton oak, or African sumac may be possibilities (see sections 5.2.5 and 5.2.6 for a complete list of approved species appropriate for this planting space). Other species can be considered from the Approved Tree Palette in Section 5.2.2.

- Plan structural pruning and, to the extent possible, maintenance pruning for mature trees to encourage broader canopy growth. Interior branch structure will need to be maintained to avoid overextended branches that will have a higher likelihood of failure and present a greater risk for property damage and injury to people in these high use areas.
- Work with industrial and commercial property owners to encourage installation of trees in areas that will not present a conflict with business operations. Green roof systems and roof top tree planters will also increase canopy cover over land cover areas dominated by buildings while increasing overall canopy cover, reducing the heat island effect, and increasing the environmental benefits for the community.



4 URBAN FOREST OPERATIONS

URBAN FOREST OPERATIONS

4.1 GOALS AND OBJECTIVES

Sustainability in an urban forest requires regular, well-planned management assistance. For the development of the cohesive guidance structure discussed earlier in the Vision Section, it is essential that the City of Monterey Park have a clear set of operations policies and procedures that will support an urban forest that can provide the maximum possible benefits for the community. This section of the UFMP evaluates current City operations practices and provides a framework for standardized, efficient operation policies in accordance with ANSI Standards and ISA Best Management Practices.

4.2 SPECIAL ZONES, HISTORICAL ZONES, GROVES

Although they may not have an official designation, large, mature trees may have historical significance, importance for the community, have unique structure, or be considered a specimen tree for a particular species. In addition to designated heritage trees, historical groves may be designated by the City of Monterey Park that require unique maintenance efforts.

4.2.1 HORIZONTAL TRUNK TREES

Root plate failures can be a serious problem in urban forest settings, especially when the failure occurs for a street tree. In most cases, trees that experience root plate failure do not survive and must be removed. For public safety, street trees and trees in heavy traffic areas that show signs of root plate failure are recommended for removal. If the failure results from a soil stability issue, the tree may fall, but a significant portion of the root system may remain intact and allow the tree to recover. In a park setting, removal of such a failure may not be required and the tree can be allowed to continue to grow with a horizontal trunk at the discretion of the Public Works Director or Public Works Manager. The tree should be inspected by an ISA Certified Arborist to verify that it does not pose further risk. Alteration of the maintenance efforts will be required for these horizontal trunk trees focused on maintaining branches growing vertically from the fallen trunk.

At the time of the development of this UFMP, there is one known horizontal trunk tree within the current City of Monterey Park Inventory. The tree is an Aleppo pine (*Pinus halepensis*) in Edison Trails Park (Tree Number: Park-33) that experienced an uplifting of the south side of the root plate during a storm event. Roots on the north, east and west sides of the tree remained intact, and the tree has reestablished upright growth from remaining branches, with typical structure for the species. The location of this horizontal growth tree is shown in Figure 4.1 with representative photos in Figure 4.2.

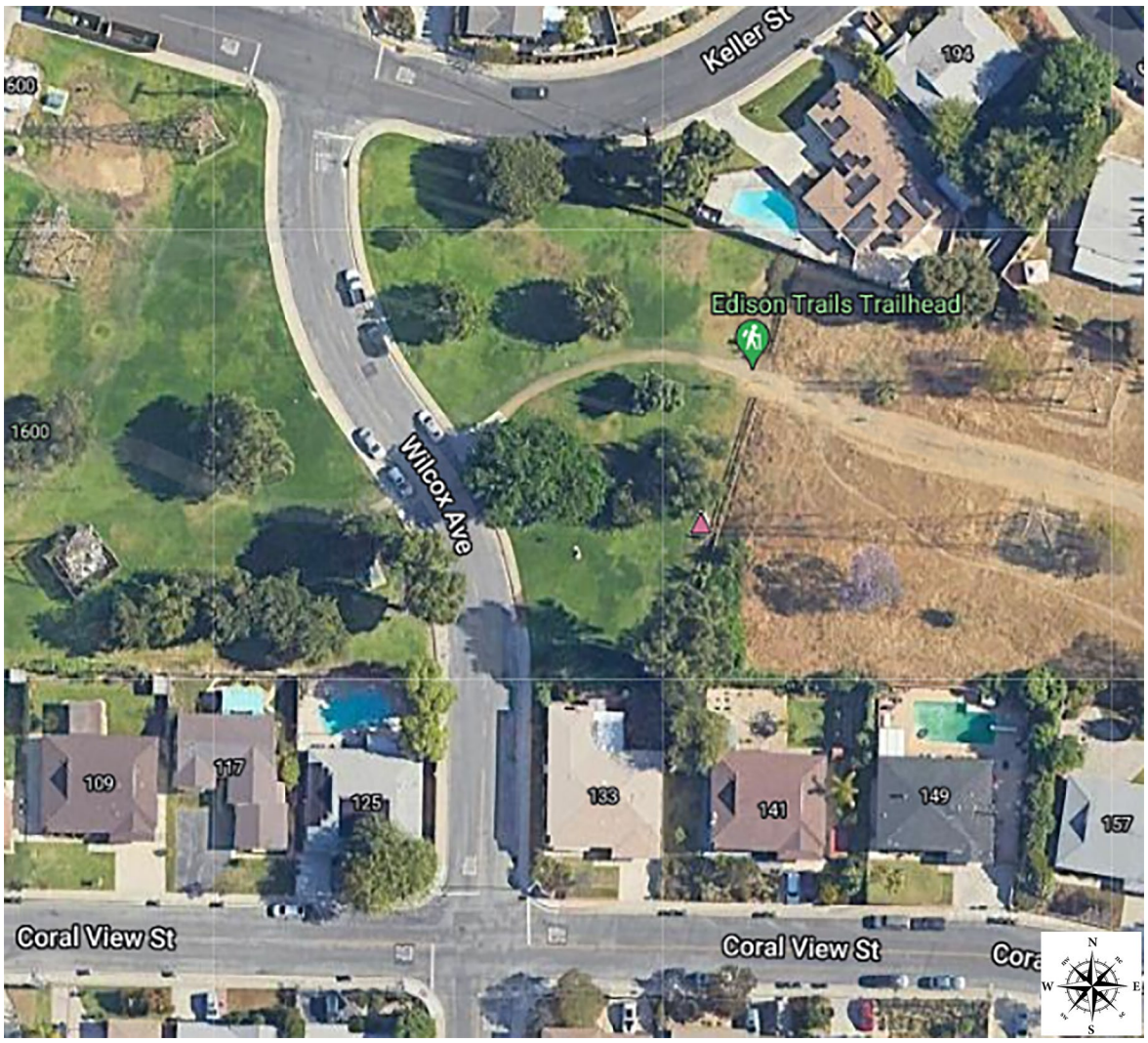


Figure 4.1: Location of the horizontal trunk Aleppo pine (*Pinus halepensis*) growing in Edison Trails Park (Tree Number: Park-33).

Figure 4.2: Representative photos of the horizontal trunk Aleppo pine (*Pinus halepensis*) growing in Edison Trails Park (Tree Number: Park-33).

4.2.2 TREES WITH UNIQUE STRUCTURES

Trees that develop with unique structure or features add to the aesthetic benefit of the City of Monterey Park Urban Forest. Trees with distinctive features can be a source of added pride for residents and encourage their support in maintaining a healthy urban forest. For trees identified with unique structure or features will be identified by the Public Works Director, Public Works Manager, or Public Works Supervisor for special maintenance practices to preserve the feature, to the extent possible. An ISA certified arborist will inspect the tree to determine if the structure or feature presents a risk to tree health or an elevated risk of failure.

Tree Park-24, a silk tree (*Albizia julibrissin*) in the Demonstration Garden area, is one tree present at the time of the drafting of this UFMP that provides an example of the unique structure / feature discussed above. Crossing scaffold branches in the lower canopy fused in the early stages of development leading to a keyhole-like structure in the upper trunk. The location of this tree is presented in Figure 4.3 with representative photos shown in Figure 4.4.

Figure 4.3: Location of the silk tree (*Albizia julibrissin*) growing in the Conservation Garden area (Tree Number: Park-24). This tree provides and example of a tree with a unique structure or feature that can be preserved with special maintenance practices.

Figure 4.4: Representative photos of the silk tree (*Albizia julibrissin*) growing in the Conservation Garden area (Tree Number: Park-24).

4.2.3 MONTEREY PARK DEMONSTRATION GARDEN

In partnership with the San Gabriel Valley Municipal Water District, the City of Monterey Park established the Demonstration Garden, in 2017, to model water-wise species selection and irrigation practices. The Garden is 1.12 acres and contains thirty-three (33) total trees representing eleven (11) species (Table 4.1, Figure 4.5). Special maintenance practices may be requested for this area at the discretion of the Public Works Director, Public Works Manager, or Public Works Supervisor.

Common Name	Botanical Name	Number of Trees
Australian willow	*Geijera parviflora*	6
Bailey acacia	*Acacia baileyana*	1
Desert willow	*Chilopsis linearis*	2
Holly oak	*Quercus ilex*	1
Italian stone pine	*Pinus pinea*	2
Jacaranda	*Jacaranda mimosifolia*	1
Japanese black pine	*Pinus thunbergii*	5
Maidenhair tree	*Ginkgo biloba*	7
Olive	*Olea europaea*	6
Red ironbark	*Eucalyptus sideroxylon*	1
Silk tree	*Albizia julibrissin*	1
Total Number of Trees		**33**

Figure 4.1: Tree species and numbers in the Monterey Park Demonstration Garden (As of August 2024).

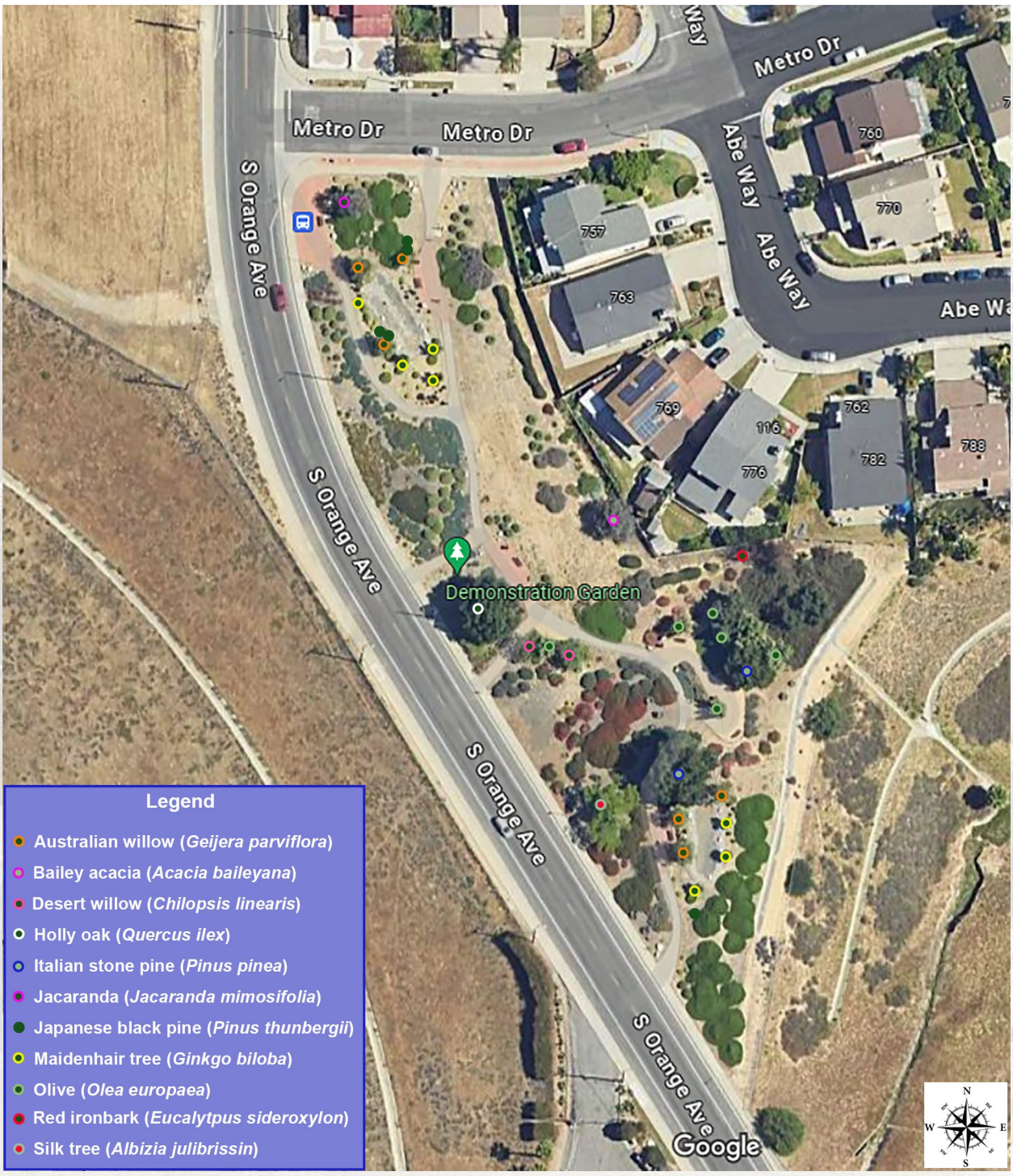


Figure 4.5: Demonstration Garden Site Map (August 2024).

4.2.4 COAST LIVE OAK GROVE AT GARVEY RANCH PARK

About midway along the eastern boundary of Garvey Ranch Park is a grove of eight (8) mature coast live oak (*Quercus agrifolia*), along with several younger trees of the same species, Southern

California black walnut (*Juglans californica*), and several other native shrubs. This grove is likely a remnant of native vegetation within the City of Monterey Park and is considered a special heritage grove. Maintenance in this grove will be limited to maintaining public and fire safety practices. The location of this grove is shown in Figure 4.6.

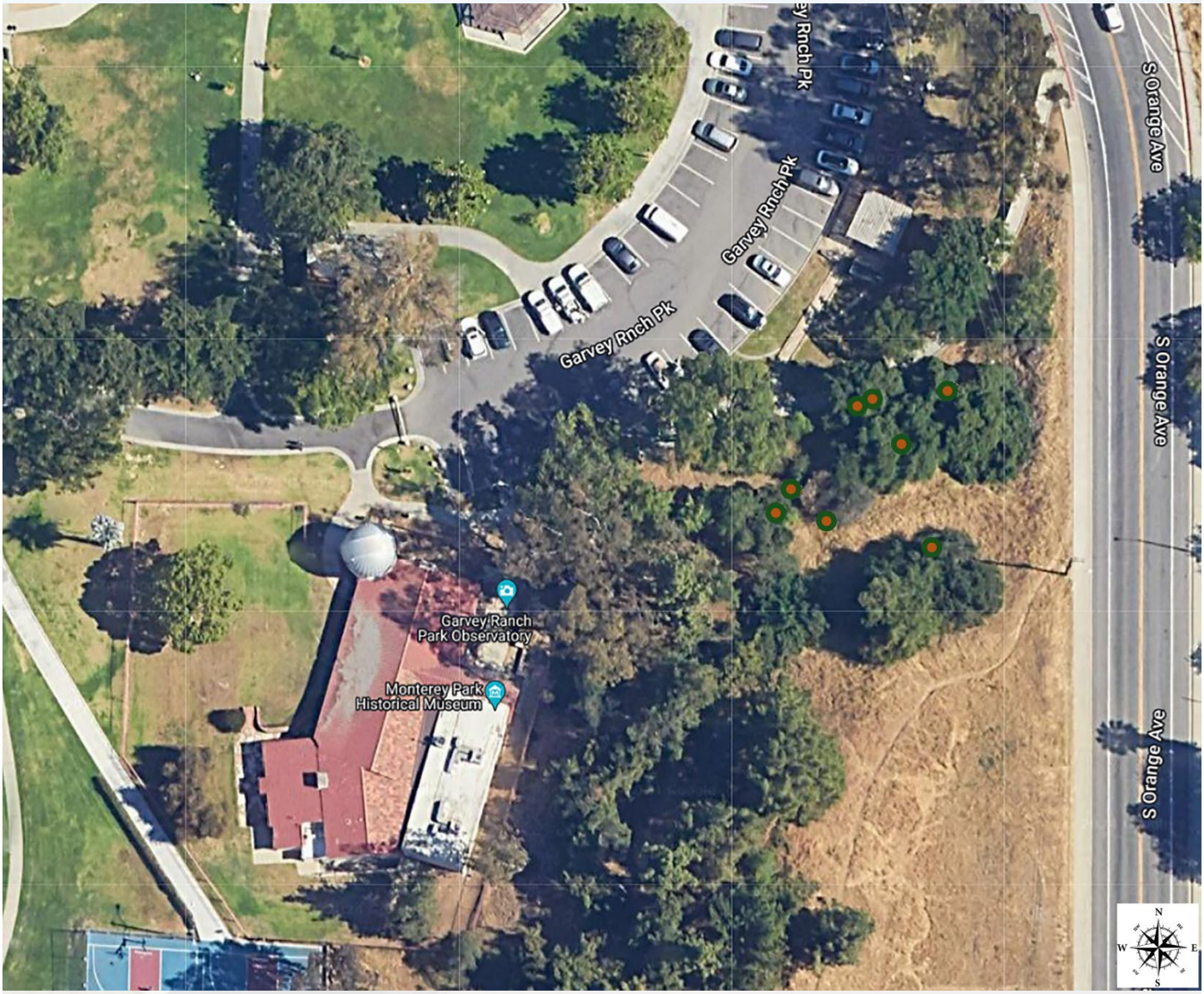


Figure 4.6: Location of the grove of coast live oak (*Quercus agrifolia*) and other native vegetation in Garvey Ranch Park.

4.3 RELEVENT CITY STAFF AND PROFESSIONAL CAPACITY

4.3.1 PUBLIC WORKS DIRECTOR

Provides administrative leadership to plan, develop, and direct the operation of the Engineering, Water Utility and Maintenance Division and to protect the structural integrity of the City's capital

improvements The Director has the fundamental responsibilities for the condition of all the city rights of way, vehicular equipment and facilities - both in service to other agencies and for the public directly. The activities are a mixture of facilities, management, and public services related to the physical environment of the city.

The Director keeps informed of developments and problems within the city administration. He confers with other departmental management on interactive policy or financial matters. He attends meetings of community organizations upon requests and maintains contact with professional practice organizations and associations. Professional involvements are primarily directed toward professional practice updating. This position is unique in that results are highly visible on a continuing basis.

4.3.2 PUBLIC WORKS MANAGER

Reporting to the Public Works Director, the Public Works Manager plans, directs, coordinates, and organizes comprehensive maintenance programs for Facilities Maintenance, Fleet Maintenance, Parks Maintenance, Street and Sewer Maintenance, and Urban Forest Maintenance.

4.3.3 PUBLIC WORKS SUPERVISOR

Reporting to the Public Works Manager, the Public Works Supervisor oversees, monitors, schedules, and organizes maintenance work performed by City Parks staff and contractors hired by the City and assigned to maintain City parks, grounds, parkways, medians, City trees, rights-of-way, greenbelts, gardens, trails, and other related areas.

4.4 MAINTENANCE PROGRAM

Where practical and financially feasible, the City of Monterey Park maintains the trees in the Urban Forest according to American National Standards Institute (ANSI) A300 standards and International Society of Arboriculture (ISA) Best Management Practices. The City of Monterey Park Tree Maintenance Program presented in this section includes tree inspections, scheduled grid pruning, out of cycle pruning, and tree removals.

4.4.1 TREE INSPECTIONS

Regular inspection of the trees in the City of Monterey Park Urban Forest is an essential component of the maintenance program. Prior to any scheduled maintenance work, each tree should be inspected for structural defects, dead or broken branches, and signs of stress, decline, pests, or disease. If any of these issues is observed, the condition will be noted in the electronic inventory for the site and the tree will be referred to the Contractor (West Coast Arborist, Inc. [WCA] at the time of approval of this UFMP) for additional inspection as needed. If the tree is scheduled for pruning or a service request has been made for pruning, the inspector will determine if pruning is required.

4.4.2 GRID PRUNING SCHEDULE

Proper pruning improves the health of a tree by removing dead, diseased, injured, broken or crowded branches and improving overall branch structure. Well-trimmed trees are less susceptible to disease and pest infestations and less likely to experience large branch failures. The required frequency of regular pruning is dependent on the growth characteristics of individual tree species. Fast growing

species such as Ficus, elms, and corals require annual pruning to prevent overextended branches that are more susceptible to failures. Senescence of lower fronds and annual fruit production for palms can necessitate an annual pruning cycle as well. An annual pruning cycle is more appropriate for trees along arterial roads (Grid Pruning District 13) due to increased rate of occupancy along these main thoroughfares. The remaining tree species require less maintenance and are in areas with lower occupancy rates which is more appropriate for the standard three-year grid pruning cycle. The three-year cycle will be as follows:

Year One: Grid Pruning Districts 1, 2, 3, 4
Year Two: Grid Pruning Districts 5, 6, 7, 8
Year Three: Grid Pruning Districts 9, 10, 11, 12

4.4.2.1 Grid Pruning District 1

The boundaries of Grid Pruning District 1 are described in Section 3.4.1. The number of each species present in Grid Pruning District 1 according to the City of Monterey Park Electronic Inventory System as of July 2024 are presented in Table 4.2. A breakdown of the trees in District 1 by diameter at breast height (DBH) measurement ranges in shown in Table 4.3 and the location of the trees and available sites is illustrated in Figure 4.7. There are a total of eight hundred thirty-four (834) identified available tree sites in Grid Pruning District 1, with seven hundred twenty-nine (729) active trees as of July 2024 (87.41% occupied). Dominant species in District 1 included carrotwood (*Cupaniopsis anacardioides*), jacaranda (*Jacaranda mimosifolia*), southern magnolia (*Magnolia grandiflora*), and American sweetgum (*Liquidambar styraciflua*) in the July 2024 inventory. These species have moderate pruning requirements. In July 2024, Grid Pruning District 1 was dominated by mature trees, with nearly eighty-five (85) percent (84.50%) of the trees with a DBH greater than thirteen inches (> 13”).

Species	Number of Trees
American sweetgum (*Liquidambar styraciflua*)	51
Avocado (*Persea americana*)	2
Black teatree (*Melaleuca squamophloia*)	1
Brazilian pepper (*Schinus terebinthifolius*)	29
Brisbane box (*Lophostemon confertus*)	24
Cajeput tree (*Melaleuca quinquenervia*)	5
Camphor tree (*Cinnamomum camphora*)	24
Canary Island pine (*Pinus canariensis*)	8
Carolina laurel cherry (*Prunus caroliniana*)	12
Carrot wood (*Cupaniopsis anacardioides*)	177
Cherokee hybrid crape myrtle (*Lagerstroemia indica* ‘Cherokee’)	10
Chinese elm (*Ulmus parviflora*)	41
Chinese flame tree (*Koelreuteria bipinnata*)	3
Chinese pistache (*Pistacia chinensis*)	2
Crape myrtle (*Lagerstroemia indica*)	42
Edible loquat (*Eriobotrya japonica*)	4
Evergreen pear (*Pyrus kawakamii*)	14
Fern pine (*Afrocarpus falcatus*)	2
Glossy privet (*Ligustrum lucidum*)	13
Golden trumpet tree (*Handroanthus chrysotrichus*)	3

Species	Number of Trees
Goldenrain tree (*Koelreuteria paniculata*)	1
Guadalupe palm (*Brahea edulis*)	1
Guava (*Psidium guajava*)	1
Holly oak (*Quercus ilex*)	1
Indian laurel fig (*Ficus microcarpa* 'Nitida')	1
Jacaranda (*Jacaranda mimosifolia*)	95
Jerusalem thorn (*Parkinsonia aculeata*)	1
King palm (*Archontophoenix cunninghamiana*)	6
Lemon bottlebrush (*Callistemon citrinus*)	17
London plan (*Platanus* x *hispanica*)	1
Mexican fan palm (*Washingtonia robusta*)	2
Orange (*Citrus sinensis*)	1
Ornamental pear (*Pyrus calleryana*)	1
Pecan (*Carya illinoinensis*)	1
Peppertree (*Schinus molle*)	1
Pink trumpet tree (*Handroanthus heptaphyllus*)	3
Purple-leaf flowering plum (*Prunus cerasifera* 'Atropurpurea')	10
Queen palm (*Syagrus romanzoffianum*)	3
Queensland umbrella tree (*Heptapleurum actinophyllum*)	1
Red push pistache (*Pistacia chinensis* 'Red Push')	4
Round-leafed sweetgum (*Liquidambar styraciflua* 'Rotundiloba')	1
Silk oak (*Grevillea robusta*)	3
Southern magnolia (*Magnolia grandiflora*)	94
Tipu (*Tipuana tipu*)	1
Tuscarora hybrid crape myrtle (*Lagerstroemia indica* 'Tuscarora')	4
Water gum (*Tristaniopsis laurina*)	1
Weeping fig (*Ficus benjamina*)	5
White mulberry (*Morus alba*)	1
Total Number of Trees in Grid Pruning District 1	**729**

Table 4.2: July 2024 breakdown of tree species in Grid Pruning District 1

DBH Range	Number of Trees
0" – 6"	69
7" – 12"	44
13" – 18"	312
19" – 24"	274
25" – 30"	30

Table 4.3: July 2024 Diameter at Breast Height (DBH) breakdown for Grid Pruning District 1

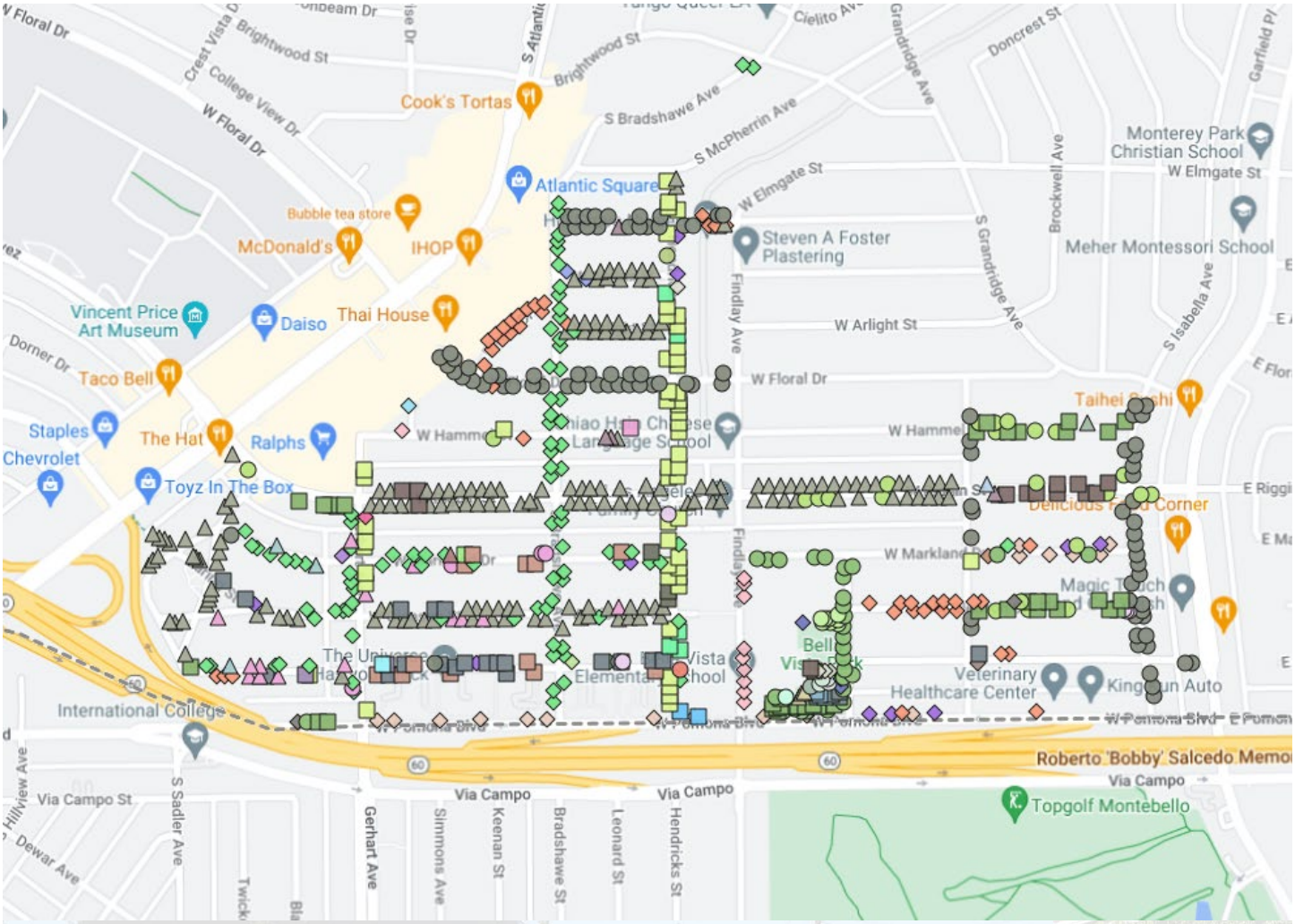


Figure 4.7: July 2024 Locations of trees in Grid Pruning District 1

4.4.2.2 Grid Pruning District 2

The boundaries of Grid Pruning District 2 are described in Section 3.4.2. There are total of fifty-seven (57) identified available tree sites in Grid Pruning District 2, with forty-four (44, 77.19%) of those sites occupied by active trees according to the July 2024 City of Monterey Park Electronic Inventory System. The number of each species present in July 2024 is shown in Table 4.4. A breakdown of DBH size classes for the District is shown in Table 4.5 and a map of the trees in the District is presented in Figure 4.8. Camphor tree (*Cinnamomum camphora*) and jacaranda (*Jacaranda mimosifolia*) were the dominant species in this District in July 2024, both of which have relatively rapid growth rates requiring moderate maintenance efforts. District 2 is dominated by mature trees, with roughly ninety-one (91) percent (91.11%) of the trees in the July 2024 inventory having a DBH greater than thirteen inches (> 13”).

Species	Number of Trees
American sweetgum (*Liquidambar styraciflua*)	2
Camphor tree (*Cinnamomum camphora*)	18
Cherokee hybrid crape myrtle (*Lagerstroemia indica* 'Cherokee')	2
Crape myrtle (*Lagerstroemia indica*)	4
Jacaranda (*Jacaranda mimosifolia*)	14
Southern magnolia (*Magnolia grandiflora*)	4
Total number of trees in Grid Pruning District 2	**44**

Table 4.4: July 2024 breakdown of tree species in Grid Pruning District 2

DBH Range	Number of Trees
0" – 6"	2
7" – 12"	2
13" – 18"	13
19" – 24"	18
25" – 30"	6
31" +	4

Table 4.5: July 2024 Diameter at Breast Height (DBH) breakdown for Grid Pruning District 2

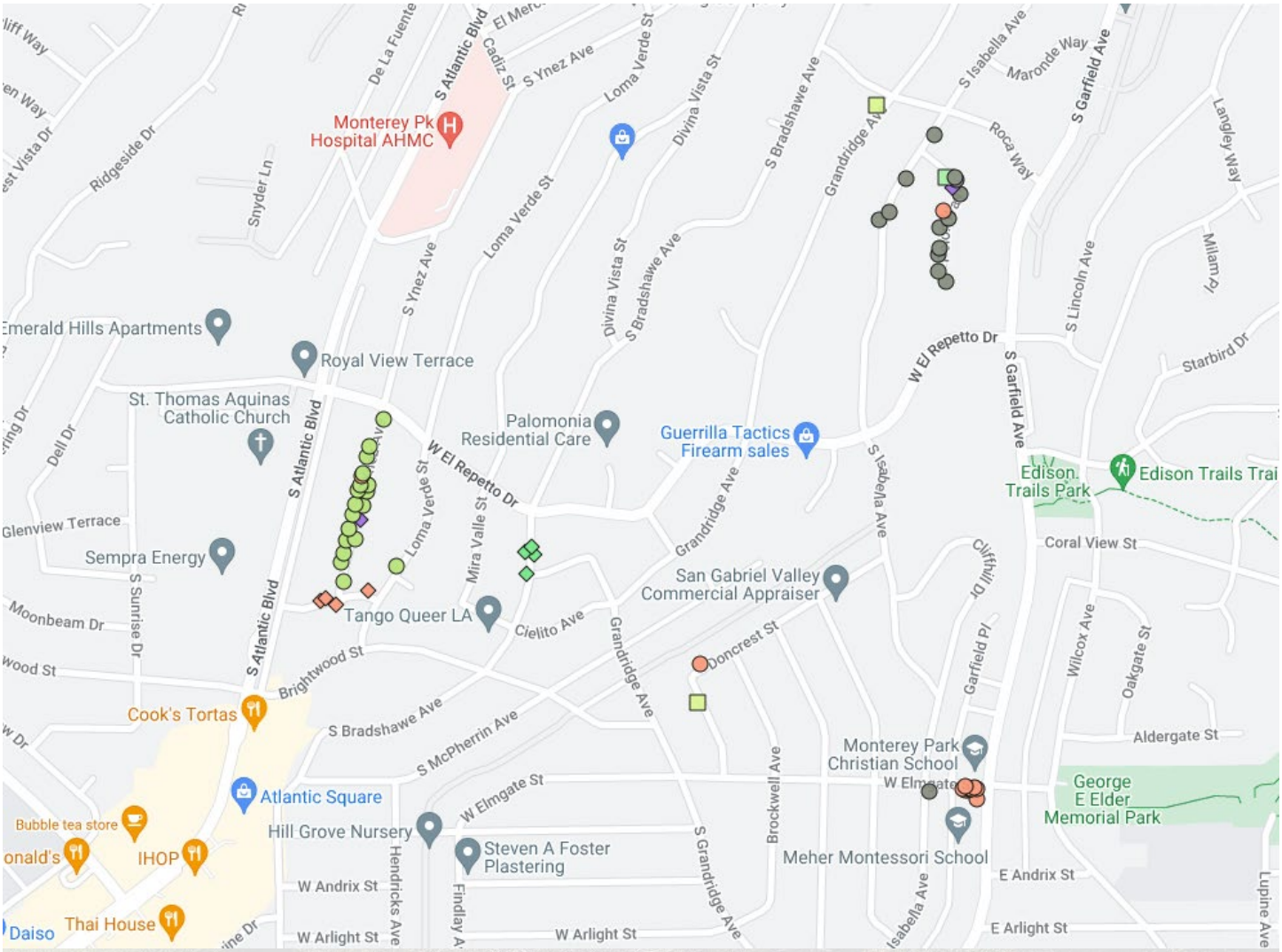


Figure 4.8: July 2024 Locations of trees in Grid Pruning District 2

4.4.2.3 Grid Pruning District 3

The boundaries of Grid Pruning District 3 are described in Section 3.4.3. The number of each species present in Grid Pruning District 3 according to the City of Monterey Park Electronic Inventory System as of July 2024 are presented in Table 4.6. A breakdown of the trees in District 3 by DBH measurement ranges in shown in Table 4.7 and the location of the trees and available sites is illustrated in Figure 4.9. There are a total of seven hundred twenty-four (724) identified available tree sites in Grid Pruning District 3, with five hundred thirty-four (534) active trees as of July 2024 (73.75% occupied). Dominant species in District 3 included crape myrtle (*Lagerstroemia indica*), southern magnolia (*Magnolia grandiflora*), Shamel ash (*Fraxinus uhdei*), Brisbane box (*Lophostemon confertus*), and American sweetgum (*Liquidambar styraciflua*) in the July 2024 inventory. These species have moderate pruning requirements. In July 2024, Grid Pruning District 3 was dominated by mature trees, with roughly eighty (80) percent (80.33%) of the trees with a DBH greater than thirteen inches (> 13”).

Species	Number of Trees
Aleppo pine (*Pinus halepensis*)	14
American sweetgum (*Liquidambar styraciflua*)	28
Australian willow (*Geijera parviflora*)	5
Autumn Gold maidenhair tree (*Ginkgo biloba* 'Autumn Gold')	1
Avocado (*Persea americana*)	2
Brazilian pepper (*Schinus terebinthifolius*)	9
Brisbane box (*Lophostemon confertus*)	30
Canary Island date palm (*Phoenix canariensis*)	2
Canary Island pine (*Pinus canariensis*)	2
Carolina laurel cherry (*Prunus caroliniana*)	3
Carrot wood (*Cupaniopsis anacardioides*)	5
Cherokee hybrid crape myrtle (*Lagerstroemia indica* 'Cherokee')	6
Chinese elm (*Ulmus parviflora*)	6
Chinese flame tree (*Koelreuteria bipinnata*)	4
Chinese pistache (*Pistacia chinensis*)	1
Coast redwood (*Sequoia sempervirens*)	1
Crape myrtle (*Lagerstroemia indica*)	126
Evergreen pear (*Pyrus kawakamii*)	23
Glossy privet (*Ligustrum lucidum*)	23
Gold medallion tree (*Cassia leptophylla*)	1
Holly oak (*Quercus ilex*)	17
Hong Kong orchid tree (*Bauhinia* x *blakeana*)	1
Jacaranda (*Jacaranda mimosifolia*)	8
King palm (*Archontophoenix cunninghamiana*)	1
Lemon bottlebrush (*Callistemon citrinus*)	6
Lemon-scented gum (*Corymbia citriodora*)	1
London plane (*Platanus* x *hispanica*)	3
Maidenhair tree (*Ginkgo biloba*)	2
Marina strawberry tree (*Arbutus* 'Marina')	1
Mexican fan palm (*Washingtonia robusta*)	2
Modesto ash (*Fraxinus velutina* 'Modesto')	2
Muskogee hybrid crape myrtle (*Lagerstroemia indica* 'Muskogee')	2
Ornamental pear (*Pyrus calleryana*)	3
Pink trumpet tree (*Handroanthus heptaphyllus*)	6
Purple-leaf flowering plum (*Prunus cerasifera* 'Atropurpurea')	1
Queen palm (*Syagrus romanzoffianum*)	8
Round-leafed sweetgum (*Liquidambar styraciflua* 'Rotundiloba')	3
Shamel ash (*Fraxinus uhdei*)	41
Silk tree (*Albizia julibrissin*)	7
Southern magnolia (*Magnolia grandiflora*)	111
Sweetshade (*Hymenosporum flavum*)	11
Toyon (*Heteromeles arbutifolia*)	1
Tuscarora hybrid crape myrtle (*Lagerstroemia indica* 'Tuscarora')	2
Unknown (*Unknown*)	1
Velvet ash (*Fraxinus velutina*)	1
Total number of trees in Grid Pruning District 3	**534**

Table 4.6: July 2024 breakdown of tree species in Grid Pruning District 3

DBH Range	Number of Trees
0” – 6”	41
7” – 12”	66
13” – 18”	274
19” – 24”	121
25” – 30”	28
31” +	14

Table 4.7: July 2024 Diameter at Breast Height (DBH) breakdown for Grid Pruning District 3

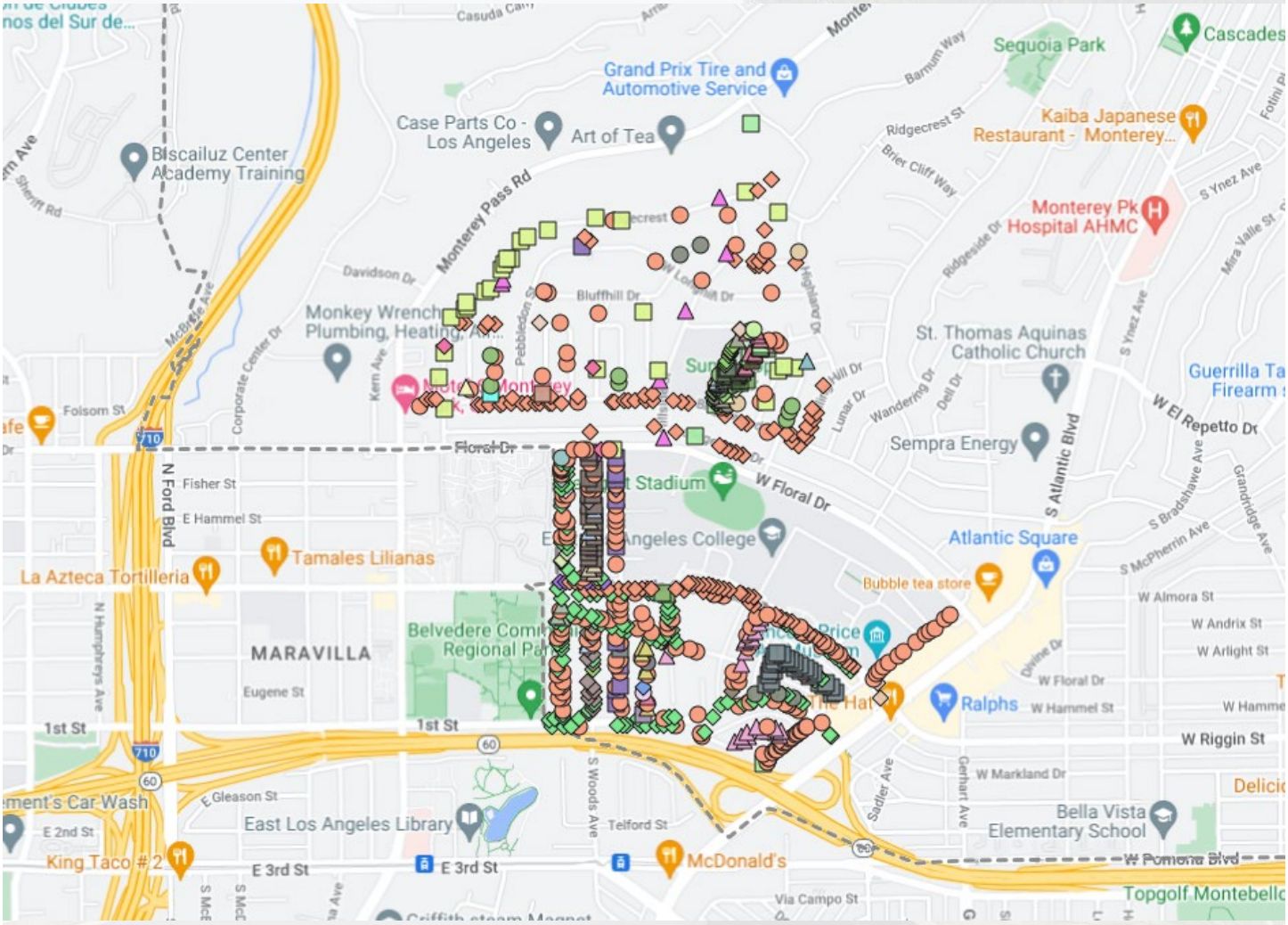


Figure 4.9: July 2024 Locations of trees in Grid Pruning District 3

4.4.2.4 Grid Pruning District 4

The boundaries of Grid Pruning District 4 are described in Section 3.4.4. There are total of eight hundred eleven (811) identified available tree sites in Grid Pruning District 4, with seven hundred eighteen (718, 88.53%) of those sites occupied by active trees according to the July 2024 City of

Monterey Park Electronic Inventory System. The number of each species present in July 2024 is shown in Table 4.8. A breakdown of DBH size classes for the District is shown in Table 4.9 and a map of the trees in the District is presented in Figure 4.10. Jacaranda (*Jacaranda mimosifolia*), carrot wood (*Cupaniopsis anacardioides*), crape myrtle (*Lagerstroemia indica*), Australian willow (*Geijera parviflora*), southern magnolia (*Magnolia grandiflora*), and camphor tree (*Cinnamomum camphora*) were the dominant species in this District in July 2024, all of which have relatively rapid growth rates requiring moderate maintenance efforts. District 4 is dominated by young and maturing trees, with roughly sixty-six (66) percent (66.48%) of the trees in the July 2024 inventory having a DBH less than twelve inches (< 12").

Species	Number of Trees
African sumac (*Searsia lancea*)	1
American sweetgum (*Liquidambar styraciflua*)	24
Australian willow (*Geijera parviflora*)	52
Black locust (*Robinia pseudoacacia*)	1
Brazilian pepper (*Schinus terebinthifolius*)	27
Brisbane box (*Lophostemon confertus*)	1
California sycamore (*Platanus racemosa*)	13
Camphor tree (*Cinnamomum camphora*)	41
Canary Island pine (*Pinus canariensis*)	3
Carob (*Ceratonia siliqua*)	14
Carrot wood (*Cupaniopsis anacardioides*)	111
Cherokee hybrid crape myrtle (*Lagerstroemia indica* 'Cherokee')	13
Chinese elm (*Ulmus parvifolia*)	9
Chinese flame tree (*Koelreuteria bipinnata*)	2
Crape myrtle (*Lagerstroemia indica*)	84
Evergreen pear (*Pyrus kawakamii*)	4
Fraser photinia (*Photinia* x *fraseri*)	1
Hollywood juniper (*Juniperus chinensis* 'Torulosa')	1
Hong Kong orchid tree (*Bauhinia* x *blakeana*)	2
Italian stone pine (*Pinus pinea*)	1
Jacaranda (*Jacaranda mimosifolia*)	132
Lemon bottlebrush (*Callistemon citrinus*)	27
Lemon-scented gum (*Corymbia citrinus*)	1
Maidenhair tree (*Ginkgo biloba*)	3
Marina strawberry tree (*Arbutus* 'Marina')	10
Mexican fan palm (*Washingtonia robusta*)	1
Modesto ash (*Fraxinus velutina* 'Modesto')	6
Mondel pine (*Pinus eldarica*)	1
Moreton Bay fig (*Ficus macrophylla*)	1
Natchez hybrid crape myrtle (*Lagerstroemia* 'Natchez')	1
New Zealand Christmas tree (*Metrosideros excelsa*)	2
Peppertree (*Schinus molle*)	16
Popcorn tree (*Senna spectablis*)	1
Purple orchid tree (*Bauhinia variegata*)	2
Queen palm (*Syagrus romanzoffianum*)	27
Red flowering gum (*Corymbia ficifolia*)	1
Shamel ash (*Fraxinus uhdei*)	2
Silk oak (*Grevillea robusta*)	6

Species	Number of Trees
South African coral tree (*Erythrina caffra*)	3
South African wild plum (*Harpephyllum caffrum*)	7
Southern magnolia (*Magnolia grandiflora*)	43
Saucer magnolia (*Magnolia* x *soulangeana*)	1
Tulip tree (*Liriodendron tulipifera*)	1
Tuscarora hybrid crape myrtle (*Lagerstroemia indica* 'Tuscarora')	1
Velvet ash (*Fraxinus velutina*)	1
Weeping fig (*Ficus benjamina*)	1
White alder (*Alnus rhombifolia*)	7
White mulberry (*Morus alba*)	3
Total number of trees in Grid Pruning District 4	**718**

Table 4.8: July 2024 breakdown of tree species in Grid Pruning District 4

DBH Range	Number of Trees
0" – 6"	166
7" – 12"	316
13" – 18"	162
19" – 24"	55
25" – 30"	21
31" +	5

Table 4.9: July 2024 Diameter at Breast Height (DBH) breakdown for Grid Pruning District 4

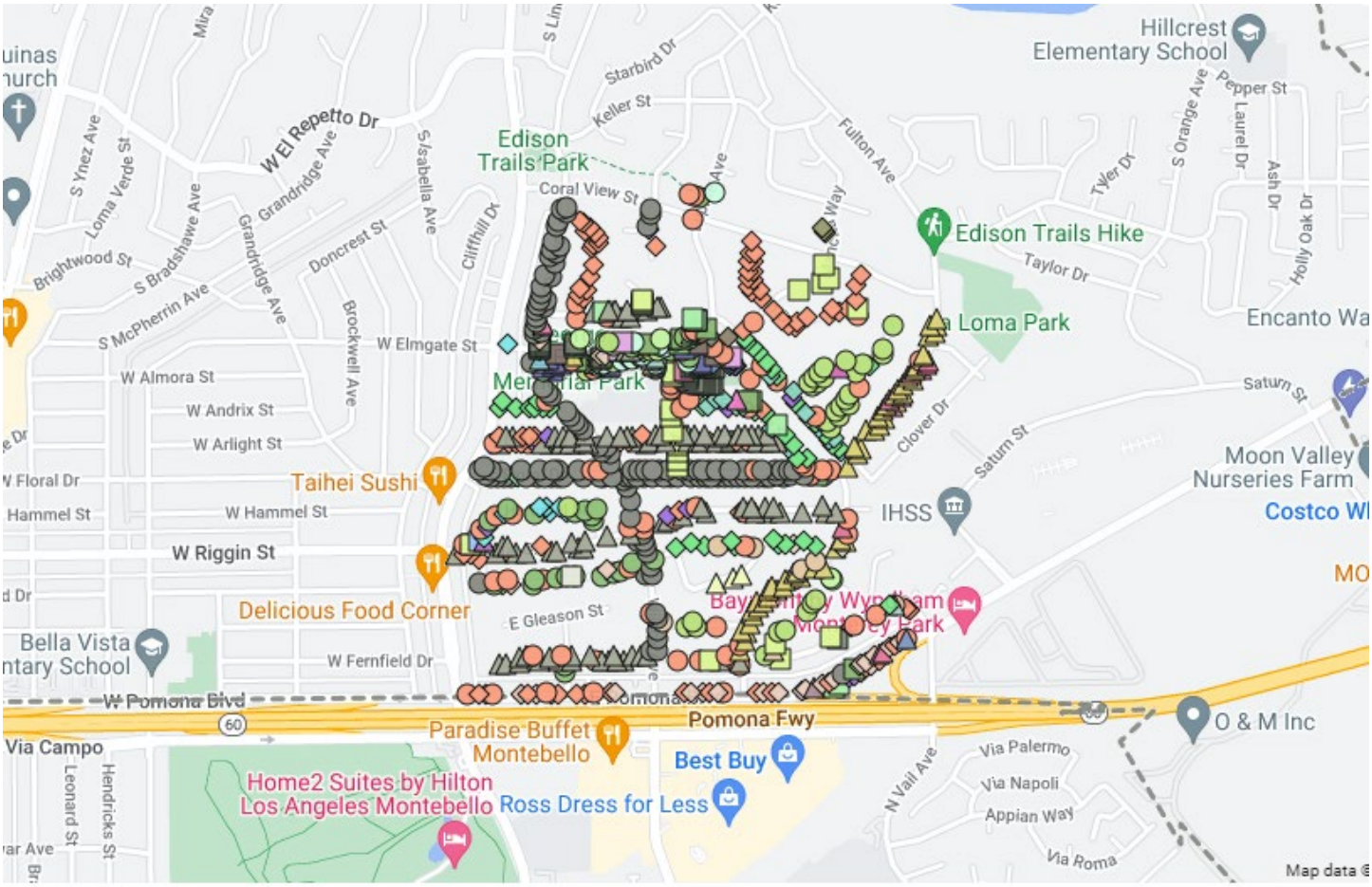


Figure 4.10: July 2024 Locations of trees in Grid Pruning District 4

4.4.2.5 Grid Pruning District 5

The boundaries of Grid Pruning District 5 are described in Section 3.4.5. The number of each species present in Grid Pruning District 5 according to the City of Monterey Park Electronic Inventory System as of July 2024 are presented in Table 4.10. A breakdown of the trees in District 5 by DBH measurement ranges in shown in Table 4.11 and the location of the trees and available sites is illustrated in Figure 4.11. There are a total of one hundred sixty-one (161) identified available tree sites in Grid Pruning District 5, with one hundred thirty-one (131) active trees as of July 2024 (81.37% occupied). Dominant species in District 5 included crape myrtle (*Lagerstroemia indica*), jacaranda (*Jacaranda mimosifolia*), carrot wood (*Cupaniopsis anacardioides*), and American sweetgum (*Liquidambar styraciflua*) in the July 2024 inventory. These species have moderate pruning requirements. In July 2024, Grid Pruning District 5 was dominated by mature trees, with nearly eighty-two (82) percent (81.82%) of the trees with a DBH greater than thirteen inches (> 13”).

Species	Number of Trees
Aleppo pine (*Pinus halepensis*)	2
American sweetgum (*Liquidambar styraciflua*)	10
Australian willow (*Geijera parviflora*)	2
Camphor tree (*Cinnamomum camphora*)	2
Carrot wood (*Cupaniopsis anacardioides*)	15
Cherokee hybrid crape myrtle (*Lagerstroemia indica* 'Cherokee')	3
Crape myrtle (*Lagerstroemia indica*)	49
Evergreen pear (*Pyrus kawakamii*)	2
Glossy privet (*Ligustrum lucidum*)	4
Honey locust (*Gleditsia triacanthos*)	1
Italian stone pine (*Pinus pinea*)	2
Jacaranda (*Jacaranda mimosifolia*)	25
Marina strawberry tree (*Arbutus* 'Marina')	1
New Zealand Christmas tree (*Metrosideros excelsa*)	2
Southern magnolia (*Magnolia grandiflora*)	2
Tuscarora hybrid crape myrtle (*Lagerstroemia indica* 'Tuscarora')	2
White alder (*Alnus rhombifolia*)	1
White mulberry (*Morus alba*)	6
Total number of trees in Grid Pruning District 5	**161**

Table 4.10: July 2024 breakdown of tree species in Grid Pruning District 5

DBH Range	Number of Trees
0" – 6"	1
7" – 12"	23
13" – 18"	81
19" – 24"	22
25" – 30"	1
31" +	4

Table 4.11: July 2024 Diameter at Breast Height (DBH) breakdown for Grid Pruning District 5

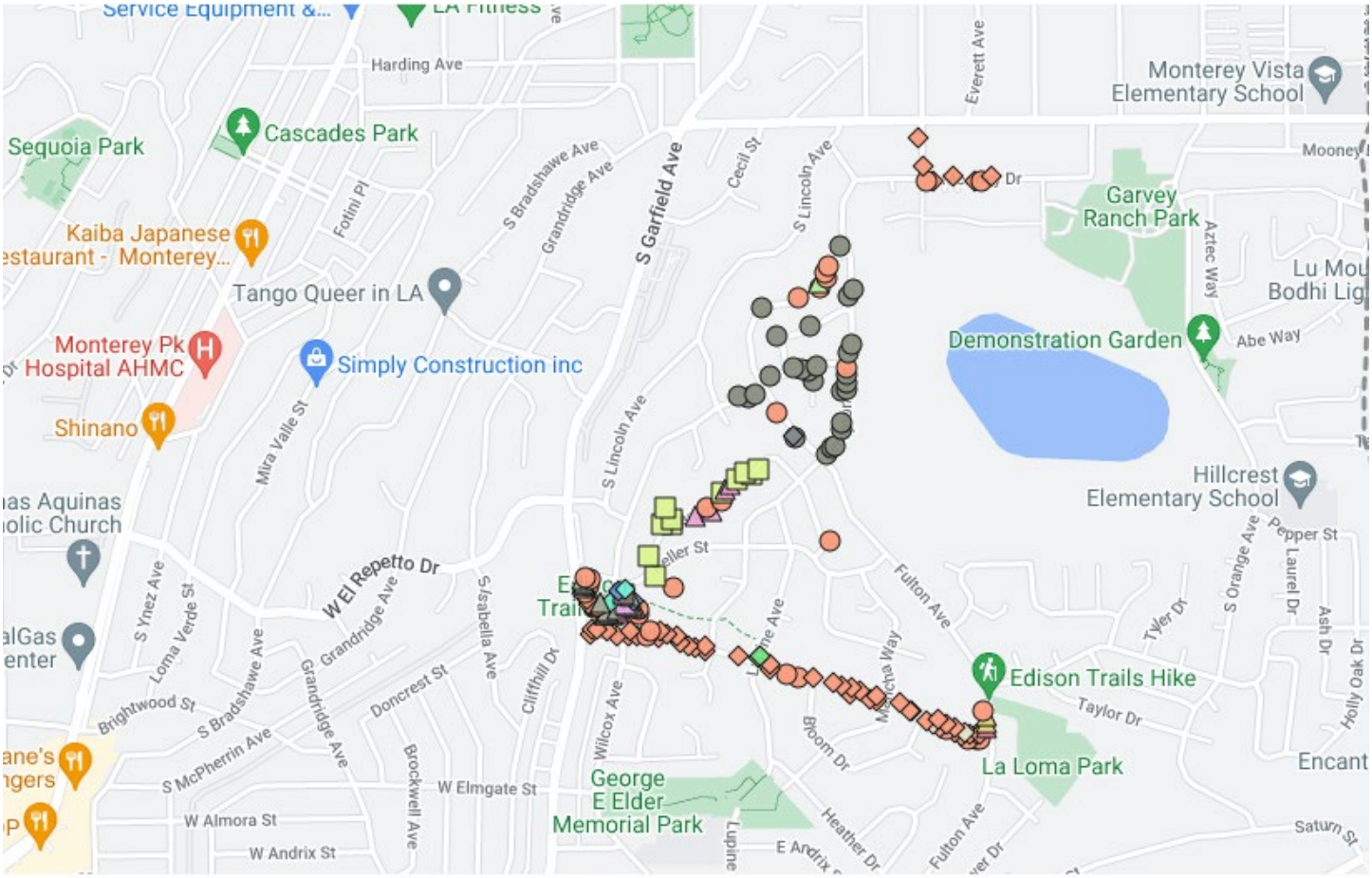


Figure 4.11: July 2024 Locations of trees in Grid Pruning District 5

4.4.2.6 Grid Pruning District 6

The boundaries of Grid Pruning District 6 are described in Section 3.4.6. There are total of six hundred fifty-three (653) identified available tree sites in Grid Pruning District 6, with five hundred fifty-seven (557, 85.29%) of those sites occupied by active trees according to the July 2024 City of Monterey Park Electronic Inventory System. The number of each species present in July 2024 is shown in Table 4.12. A breakdown of DBH size classes for the District is shown in Table 4.13 and a map of the trees in the District is presented in Figure 4.12. Crape myrtle (*Lagerstroemia indica*), weeping bottlebrush (*Callistemon viminalis*), and lemon bottlebrush (*Callistemon citrinus*) were the dominant species in this District in July 2024, all of which have relatively rapid growth rates requiring moderate maintenance efforts. District 6 is dominated by mature trees, with roughly seventy-seven (77) percent (76.84%) of the trees in the July 2024 inventory having a DBH greater than thirteen inches (> 13”).

Species	Number of Trees
American sweetgum (*Liquidambar styraciflua*)	4
Australian willow (*Geijera parviflora*)	4
Blue atlas cedar (*Cedrus atlantica* 'Glauca')	3
Brazilian pepper (*Schinus terebinthifolius*)	11
Brush cherry (*Syzygium australe*)	1
Camphor tree (*Cinnamomum camphora*)	10
Canary Island date palm (*Phoenix canariensis*)	23
Canary Island pine (*Pinus canariensis*)	7
Carrot wood (*Cupaniopsis anacardioides*)	25
Cherokee hybrid crape myrtle (*Lagerstroemia indica* 'Cherokee')	13
Chinese elm (*Ulmus parvifolia*)	12
Coast redwood (*Sequoia sempervirens*)	10
Crape myrtle (*Lagerstroemia indica*)	156
Evergreen pear (*Pyrus kawakamii*)	28
Floss silk tree (*Ceiba speciosa*)	3
Glossy privet (*Ligustrum lucidum*)	25
Hong Kong orchid tree (*Bauhinia* x *blakeana*)	6
Indian laurel fig (*Ficus microcarpa* 'Nitida')	4
Italian cypress (*Cupressus sempervirens*)	5
Jacaranda (*Jacaranda mimosifolia*)	18
Japanese black pine (*Pinus thunbergii*)	2
Jerusalem thorn (*Parkinsonia aculeata*)	1
King palm (*Archontophoenix cunninghamiana*)	3
Lemon bottlebrush (*Calistemon citrinus*)	39
Maidenhair tree (*Ginkgo biloba*)	3
Mexican fan palm (*Washingtonia robusta*)	3
Norfolk Island pine (*Araucaria heterophylla*)	1
Olive (*Olea europaea*)	1
Ornamental pear (*Pyrus calleryana*)	13
Peppertree (*Schinus molle*)	3
Pink trumpet tree (*Handroanthus heptaphyllus*)	1
Queensland pittosporum (*Auranticarpa rhombifolia*)	10
Red flowering gum (*Corymbia ficifolia*)	1
Rusty leaf fig (*Ficus rubiginosa*)	5
Saucer magnolia (*Magnolia* x *soulangeana*)	1
Shamel ash (*Fraxinus uhdei*)	7
Silk tree (*Albizia julibrissin*)	8
Smoke tree (*Cotinus coggygria*)	1
South African wild plum (*Harpephyllum caffrum*)	1
Southern magnolia (*Magnolia grandiflora*)	15
Spanish dagger (*Yucca gloriosa*)	1
Sydney golden wattle (*Acacia longifolia*)	1
Tipu (*Tipuana tipu*)	6
Tree of Heaven (*Ailanthus altissima*)	1
True Green Chinese elm (*Ulmus parvifolia* 'True Green')	1
Tuscarora hybrid crape myrtle (*Lagerstroemia indica* 'Tuscarora')	11
Weeping bottlebrush (*Callistemon viminalis*)	43
White alder (*Alnus rhombifolia*)	5
Total number of trees in Grid Pruning District 6	**557**

Table 4.12: July 2024 breakdown of tree species in Grid Pruning District 6

DBH Range	Number of Trees
0” – 6”	11
7” – 12”	118
13” – 18”	290
19” – 24”	92
25” – 30”	35
31” +	11

Table 4.13: July 2024 Diameter at Breast Height (DBH) breakdown for Grid Pruning District 6

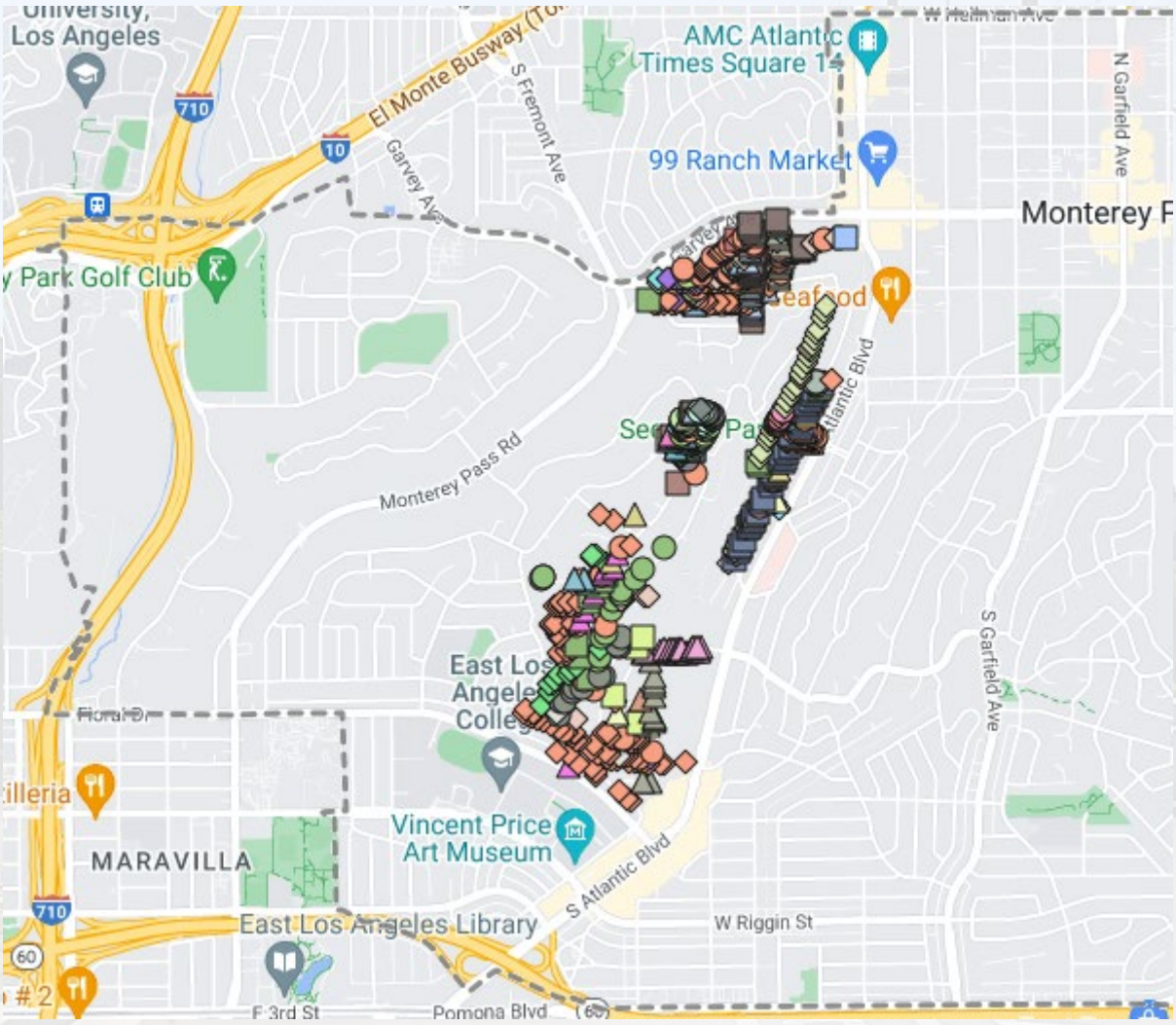


Figure 4.12: July 2024 Locations of trees in Grid Pruning District 6

4.4.2.7 Grid Pruning District 7

The boundaries of Grid Pruning District 7 are described in Section 3.4.7. The number of each species present in Grid Pruning District 7 according to the City of Monterey Park Electronic Inventory System as of July 2024 are presented in Table 4.14. A breakdown of the trees in District 7 by DBH

measurement ranges in shown in Table 4.15 and the location of the trees and available sites is illustrated in Figure 4.13. There are a total of three hundred forty-five (345) identified available tree sites in Grid Pruning District 7, with three hundred twenty-six (326) active trees as of July 2024 (94.49% occupied). Dominant species in District 7 included carrot wood (*Cupaniopsis anacardioides*), crape myrtle (*Lagerstroemia indica*), and Canary Island pine (*Pinus canariensis*) in the July 2024 inventory. These species have moderate pruning requirements. In July 2024, Grid Pruning District 7 was a nearly equal mix of young, maturing, and mature trees with nearly fifty (50) percent (49.55%) of the trees with a DBH less than twelve inches (< 12") and roughly fifty (50) percent (50.45%) of the trees with a DBH greater than thirteen inches (> 13").

Species	Number of Trees
Aleppo pine (*Pinus halepensis*)	1
American sweetgum (*Liquidambar styraciflua*)	17
Australian willow (*Geijera parviflora*)	15
Brazilian pepper (*Schinus terebinthifolius*)	2
Brisbane box (*Lophostemon confertus*)	1
Bronze loquat (*Eriobotrya deflexa*)	1
California sycamore (*Platanus racemosa*)	18
Camphor tree (*Cinnamomum camphora*)	9
Canary Island pine (*Pinus canariensis*)	34
Carolina laurel cherry (*Prunus caroliniana*)	10
Carrot wood (*Cupaniopsis anacardioides*)	62
Cherokee hybrid crape myrtle (*Lagerstroemia indica* 'Cherokee')	2
Chinese elm (*Ulmus parvifolia*)	6
Chinese flame tree (*Koelreuteria bipinnata*)	1
Coast live oak (*Quercus agrifolia*)	3
Crabapple (*Malus floribunda*)	1
Crape myrtle (*Lagerstroemia indica*)	54
Indian laurel fig (*Ficus microcarpa* 'Nitida')	1
Jacaranda (*Jacaranda mimosifolia*)	2
Japanese black pine (*Pinus thunbergii*)	15
Jerusalem thorn (*Parkinsonia aculeata*)	1
Lemon bottlebrush (*Calistemon citrinus*)	1
Lemon-scented gum (*Corymbia citriodora*)	1
Mexican fan palm (*Washingtonia robusta*)	2
Mondell pine (*Pinus eldarica*)	2
Monterey pine (*Pinus radiata*)	2
Peppertree (*Schinus molle*)	3
Queen palm (*Syagrus romanzoffianum*)	7
Saucer magnolia (*Magnolia* x *soulangeana*)	4
South African wild plum (*Harpephyllum caffrum*)	1
Southern live oak (*Quercus virginiana*)	11
Southern magnolia (*Magnolia grandiflora*)	12
Sweetshade (*Hymenosporum flavum*)	2
Toyon (*Heteromeles arbutifolia*)	4
Tulip tree (*Liriodendron tulipifera*)	4
Xylosma (*Xylosma congesta*)	12
Total number of trees in Grid Pruning District 7	**326**

Table 4.14: July 2024 breakdown of tree species in Grid Pruning District 7

DBH Range	Number of Trees
0” – 6”	29
7” – 12”	136
13” – 18”	102
19” – 24”	36
25” – 30”	27
31” +	3

Table 4.15: July 2024 Diameter at Breast Height (DBH) breakdown for Grid Pruning District 7

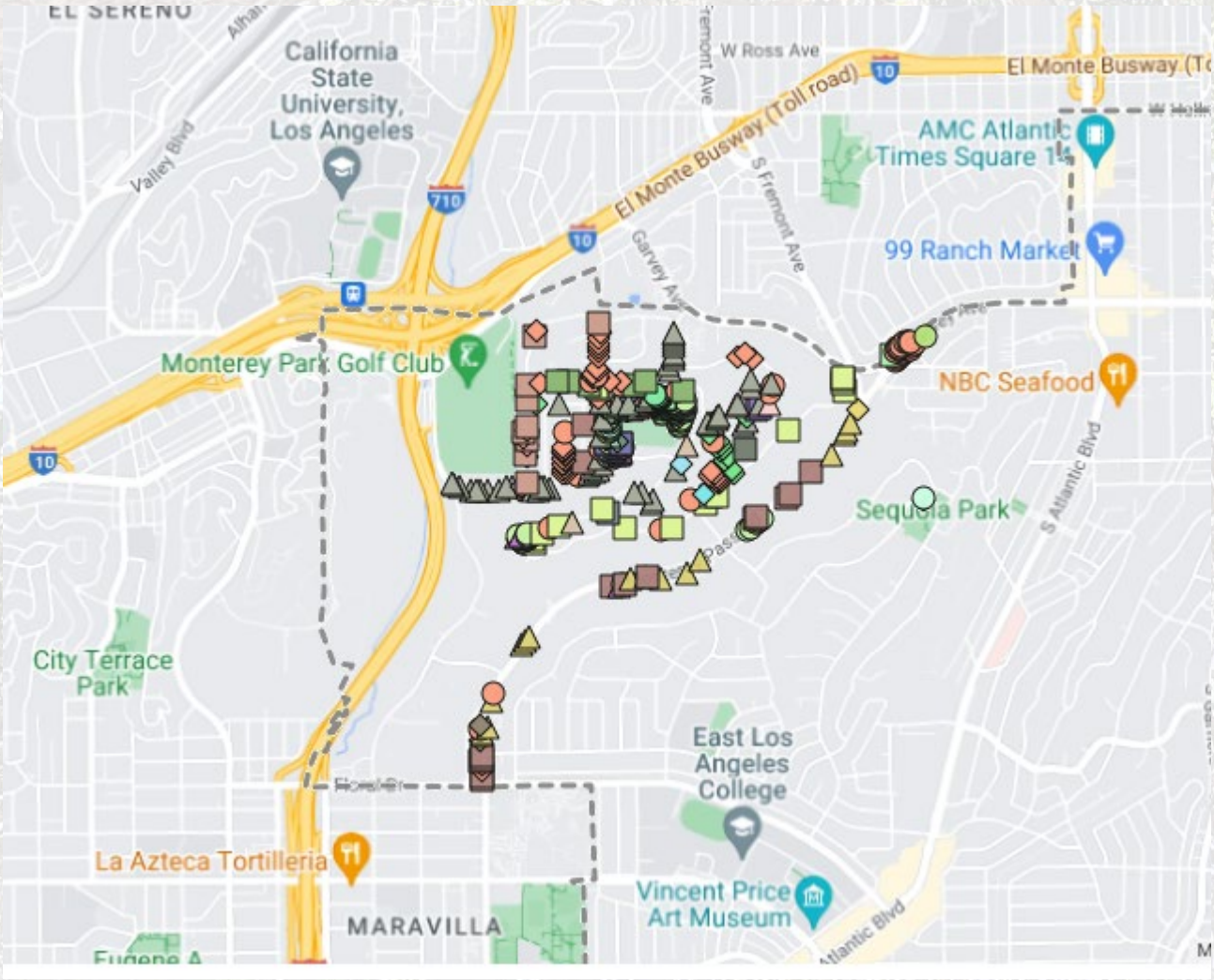


Figure 4.13: July 2024 Locations of trees in Grid Pruning District 7

4.4.2.8 Grid Pruning District 8

The boundaries of Grid Pruning District 8 are described in Section 3.4.8. There are total of eight hundred seventy-three (873) identified available tree sites in Grid Pruning District 8, with seven hundred forty-seven (747, 85.57%) of those sites occupied by active trees according to the July 2024

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City of Monterey Park Electronic Inventory System. The number of each species present in July 2024 is shown in Table 4.16. A breakdown of DBH size classes for the District is shown in Table 4.17 and a map of the trees in the District is presented in Figure 4.14. Crape myrtle (*Lagerstroemia indica*), lemon bottlebrush (*Callistemon citrinus*), southern magnolia (*Magnolia* grandiflora), and carrot wood (*Cupaniopsis anacardioides*) were the dominant species in this District in July 2024, all of which have relatively rapid growth rates requiring moderate maintenance efforts. District 8 was a nearly equal mix of young, maturing, and mature trees with nearly fifty (50) percent (49.54%) of the trees with a DBH less than twelve inches (< 12”) and roughly fifty (50) percent (50.46%) of the trees with a DBH greater than thirteen inches (> 13”).

Species	Number of Trees
American sweetgum (*Liquidambar styraciflua*)	23
Australian willow (*Geijera parviflora*)	1
Avocado (*Persea americana*)	1
Bloodgood Japanese maple (*Acer palmatum* ‘Bloodgood’)	1
Brisbane box (*Lophostemon confertus*)	14
Cajeput tree (*Melaleuca quinquenervia*)	9
California sycamore (*Platanus racemosa*)	3
Camphor tree (*Cinnamomum camphora*)	20
Canary Island date palm (*Phoenix canariensis*)	17
Carrot wood (*Cupaniopsis anacardioides*)	58
Cherokee hybrid crape myrtle (*Lagerstroemia indica* ‘Cherokee’)	3
Chinese elm (*Ulmus parvifolia*)	6
Chinese flame tree (*Koelreuteria bipinnata*)	2
Chinese fringe tree (*Chionanthus retusus*)	2
Chinese pistache (*Pistacia chinensis*)	1
Chitalpa (x *Chitalpa tashkentensis*)	2
Coast live oak (*Quercus agrifolia*)	8
Coast redwood (*Sequoia sempervirens*)	1
Crape myrtle (*Lagerstroemia indica*)	178
Deodar cedar (*Cedrus deodara*)	3
Eastern redbud (*Cercis canadensis*)	9
Edible loquat (*Eriobotrya japonica*)	7
Evergreen pear (*Pyrus kawakamii*)	25
Fern pine (*Afrocarpus falcatus*)	2
Flowering cherry (*Prunus subhirtella*)	3
Fruitless olive (*Olea europaea* ‘Swan Hill’)	2
Glossy privet (*Ligustrum lucidum*)	3
Gold medallion tree (*Cassia leptophylla*)	5
Golden trumpet tree (*Handroanthus chrysotrichus*)	1
Himalayan pittosporum (*Pittosporum floribundum*)	1
Holly oak (*Quercus ilex*)	1
Hong Kong orchid tree (*Bauhinia* x *blakeana*)	5
Indian laurel fig (*Ficus microcarpa* ‘Nitida’)	8
Italian stone pine (*Pinus pinea*)	1
Jacaranda (*Jacaranda mimosifolia*)	6
Japanese black pine (*Pinus thunbergii*)	1
Japanese flowering cherry (*Prunus serrulata*)	8
Jerusalem thorn (*Parkinsonia aculeata*)	2

Species	Number of Trees
Lemon bottlebrush (*Calistemon citrinus*)	68
Lemon-scented gum (*Corymbia citriodora*)	4
London plane (*Platanus* x *hispanica*)	23
Mexican fan palm (*Washingtonia robusta*)	10
Modesto ash (*Fraxinus velutina* 'Modesto')	3
Mt. Fuji cherry (*Prunus* 'Shirotae')	1
Muskogee hybrid crape myrtle (*Lagerstroemia indica* 'Muskogee')	1
Natchez crape myrtle (*Lagerstroemia* 'Natchez')	9
Orange (*Citrus sinensis*)	1
Ornamental pear (*Pyrus calleryana*)	20
Peppertree (*Schinus molle*)	8
Pink trumpet tree (*Handroanthus heptaphyllus*)	10
Purple orchid tree (*Bauhinia variegata*)	7
Purple-leaf flowering plum (*Prunus cerasifera* 'Atropurpurea')	2
Pygmy date palm (*Phoenix roebelenii*)	6
Queen palm (*Syagrus romanzoffianum*)	22
Red ironbark (*Eucalyptus sideroxylon*)	2
Round-leaved sweetgum (*Liquidambar styraciflua* 'Rotundiloba')	5
Southern magnolia (*Magnolia grandiflora*)	12
Strawberry tree (*Arbutus unedo*)	3
Sweetshade (*Hymenosporum flavum*)	1
Tulip tree (*Liriodendron tulipifera*)	8
Tuscarora hybrid crape myrtle (*Lagerstroemia indica* 'Tuscarora')	17
Victorian box (*Pittosporum undulatum*)	5
Weeping bottlebrush (*Callistemon viminalis*)	1
Windmill palm (*Trachycarpus fortunei*)	1
Total number of trees in Grid Pruning District 8	**747**

Table 4.16: July 2024 breakdown of tree species in Grid Pruning District 8

DBH Range	Number of Trees
0" – 6"	51
7" – 12"	330
13" – 18"	246
19" – 24"	86
25" – 30"	49
31" +	7

Table 4.17: July 2024 Diameter at Breast Height (DBH) breakdown for Grid Pruning District 8

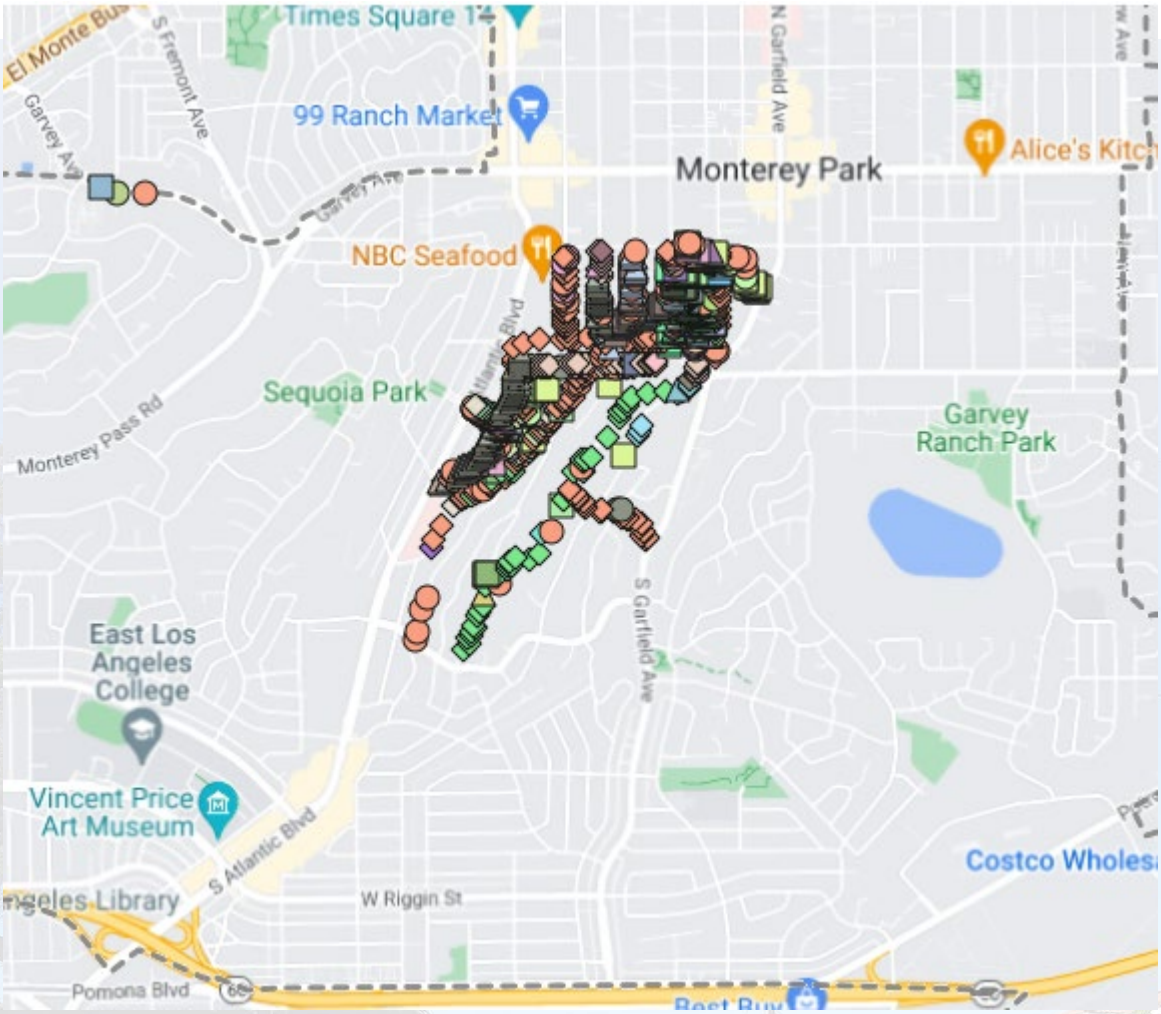


Figure 4.14: July 2024 Locations of trees in Grid Pruning District 8

4.4.2.9 Grid Pruning District 9

The boundaries of Grid Pruning District 9 are described in Section 3.4.9. The number of each species present in Grid Pruning District 9 according to the City of Monterey Park Electronic Inventory System as of July 2024 are presented in Table 4.18. A breakdown of the trees in District 9 by DBH measurement ranges in shown in Table 4.19 and the location of the trees and available sites is illustrated in Figure 4.15. There are a total of five hundred eighty-two (582) identified available tree sites in Grid Pruning District 9, with four hundred ninety-eight (498) active trees as of July 2024 (85.56% occupied). Dominant species in District 9 included crape myrtle (*Lagerstroemia indica*), carrot wood (*Cupaniopsis anacardioides*), and lemon bottlebrush (*Callistemon citrinus*) in the July 2024 inventory. These species have moderate pruning requirements. In July 2024, Grid Pruning District 9 was dominated by young and maturing trees with roughly sixty-four (64) percent (64.33%) of the trees with a DBH less than twelve inches (< 12”).

Species	Number of Trees
Aleppo pine (*Pinus halepensis*)	1
American sweetgum (*Liquidambar styraciflua*)	2
Arizona cypress (*Hesperocyparis arizonica*)	1
Brazilian pepper (*Schinus terebinthifolius*)	3
Bronze loquat (*Eriobotrya deflexa*)	4
Camphor tree (*Cinnamomum camphora*)	1
Carrot wood (*Cupaniopsis anacardioides*)	56
Cherokee hybrid crape myrtle (*Lagerstroemia indica* 'Cherokee')	16
Chinese elm (*Ulmus parvifolia*)	3
Chinese flame tree (*Koelreuteria bipinnata*)	1
Coast live oak (*Quercus agrifolia*)	1
Crape myrtle (*Lagerstroemia indica*)	235
Edible loquat (*Eriobotrya japonica*)	4
Evergreen pear (*Pyrus kawakamii*)	11
Fraser photinia (*Photinia* x *fraseri*)	3
Guava (*Psidium guajava*)	1
Holly oak (*Quercus ilex*)	2
Hollywood juniper (*Juniperus chinensis* 'Torulosa')	2
Jacaranda (*Jacaranda mimosifolia*)	6
King palm (*Archontophoenix cunninghamiana*)	10
Lemon bottlebrush (*Callistemon citrinus*)	43
Maidenhair tree (*Ginkgo biloba*)	24
Mexican fan palm (*Washingtonia robusta*)	2
Monterey pine (*Pinus radiata*)	1
Oleander (*Nerium oleander*)	1
Ornamental pear (*Pyrus calleryana*)	11
Purple orchid tree (*Bauhinia variegata*)	5
Pygmy date palm (*Phoenix roebelenii*)	2
Queen palm (*Syagrus romanzoffianum*)	5
Queensland pittosporum (*Auranticarpa rhombifolia*)	9
Saucer magnolia (*Magnolia* x *soulangeana*)	1
Shamel ash (*Fraxinus uhdei*)	1
Silk oak (*Grevillea robusta*)	1
Silver dollar gum (*Eucalyptus polyanthemos*)	1
Southern magnolia (*Magnolia grandiflora*)	6
Sweetshade (*Hymenosporum flavum*)	10
Tuscarora hybrid crape myrtle (*Lagerstroemia indica* 'Tuscarora')	10
Velvet ash (*Fraxinus velutina*)	3
Victorian box (*Pittosporum undulatum*)	1
Xylosma (*Xylosma congesta*)	1
Total number of trees in Grid Pruning District 9	**498**

Table 4.18: July 2024 breakdown of tree species in Grid Pruning District 9

DBH Range	Number of Trees
0” – 6”	16
7” – 12”	305
13” – 18”	159
19” – 24”	16
25” – 30”	2
31” +	1

Table 4.19: July 2024 Diameter at Breast Height (DBH) breakdown for Grid Pruning District 9

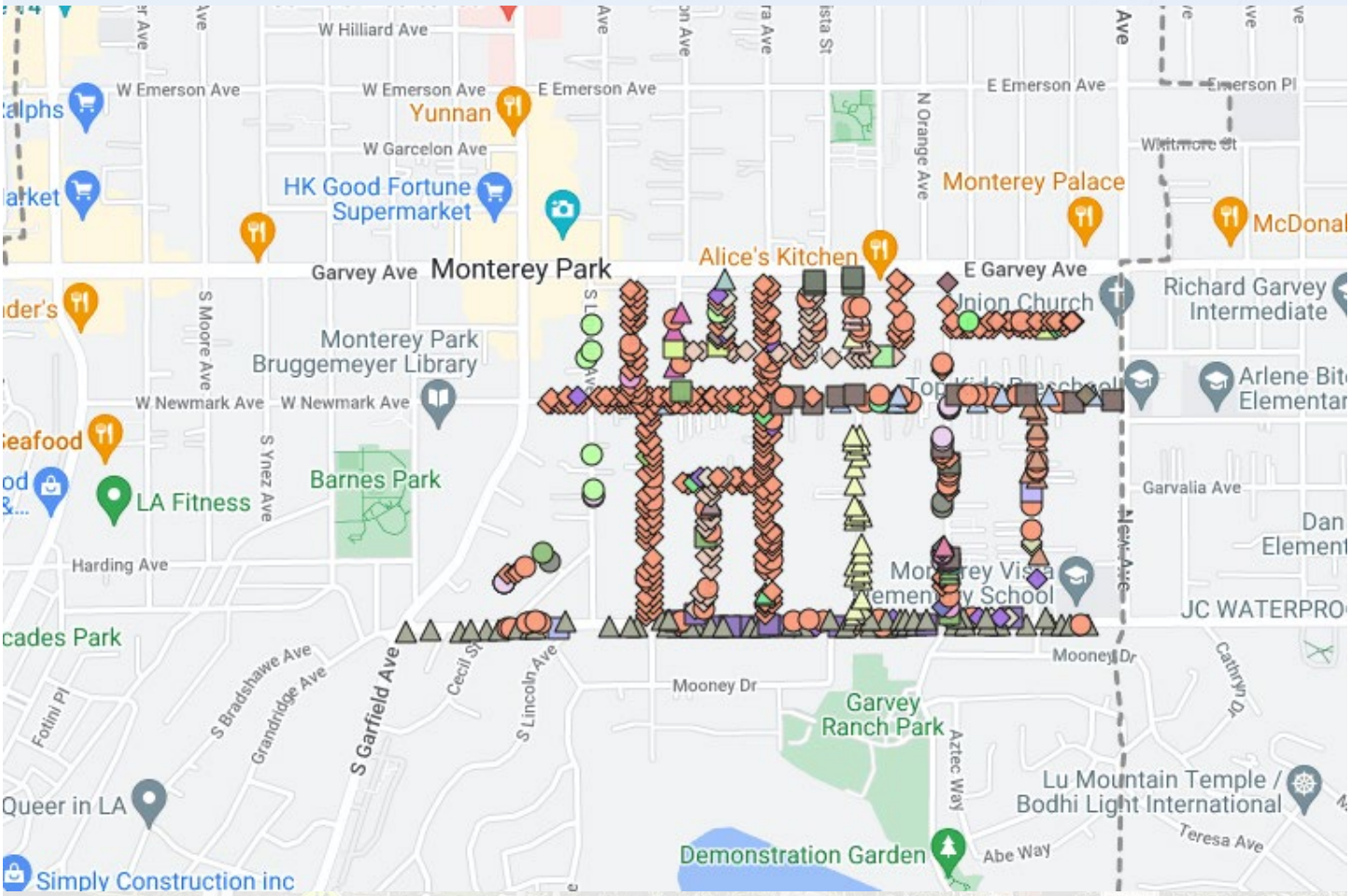


Figure 4.15: July 2024 Locations of trees in Grid Pruning District 9

4.4.2.10 Grid Pruning District 10

The boundaries of Grid Pruning District 10 are described in Section 3.4.10. There are total of six hundred twenty (620) identified available tree sites in Grid Pruning District 10, with five hundred twenty-nine (529, 85.32%) of those sites occupied by active trees according to the July 2024 City of Monterey Park Electronic Inventory System. The number of each species present in July 2024 is shown in Table 4.20. A breakdown of DBH size classes for the District is shown in Table 4.21 and a

map of the trees in the District is presented in Figure 4.16. Crape myrtle (*Lagerstroemia indica*), carrot wood (*Cupaniopsis anacardioides*), and lemon bottlebrush (*Callistemon citrinus*), were the dominant species in this District in July 2024, all of which have relatively rapid growth rates requiring moderate maintenance efforts. District 10 was dominated by young and maturing trees with nearly seventy-nine (79) percent (78.72%) of the trees with a DBH less than twelve inches (< 12").

Species	Number of Trees
American sweetgum (*Liquidambar styraciflua*)	3
Bradford pear (*Pyrus calleryana* 'Bradford')	1
Camphor tree (*Cinnamomum camphora*)	9
Canary Island date palm (*Phoenix canariensis*)	8
Carrot wood (*Cupaniopsis anacardioides*)	61
Cherokee hybrid crape myrtle (*Lagerstroemia indica* 'Cherokee')	9
Chinese elm (*Ulmus parvifolia*)	1
Chinese fringe tree (*Chionanthus retusus*)	31
Coast redwood (*Sequoia sempervirens*)	1
Crape myrtle (*Lagerstroemia indica*)	251
Deodar cedar (*Cedrus deodar*)	1
Edible loquat (*Eriobotrya japonica*)	1
Evergreen pear (*Pyrus kawakamii*)	15
Fraser photinia (*Photinia* x *fraseri*)	1
Italian stone pine (*Pinus pinea*)	8
Jacaranda (*Jacaranda mimosifolia*)	2
Lemon bottlebrush (*Callistemon citrinus*)	58
London plane (*Platanus* x *hispanica*)	1
Maidenhair tree (*Ginkgo biloba*)	1
Mexican fan palm (*Washingtonia robusta*)	3
Ornamental pear (*Pyrus calleryana*)	21
Peach (*Prunus persica*)	1
Peppermint tree (*Agonis flexuosa*)	2
Peppertree (*Schinus molle*)	1
Queen palm (*Syagrus romanzoffianum*)	6
Red flowering gum (*Corymbia ficifolia*)	4
Southern magnolia (*Magnolia grandiflora*)	17
Tuscarora hybrid crape myrtle (*Lagerstroemia indica* 'Tuscarora')	9
Weeping bottlebrush (*Callistemon viminalis*)	1
White ironbark (*Eucalyptus leucoxylon*)	1
Total number of trees in Grid Pruning District 10	**529**

Table 4.20: July 2024 breakdown of tree species in Grid Pruning District 10

DBH Range	Number of Trees
0" – 6"	265
7" – 12"	153
13" – 18"	69
19" – 24"	26
25" – 30"	11
31" +	7

Table 4.21: July 2024 Diameter at Breast Height (DBH) breakdown for Grid Pruning District 10

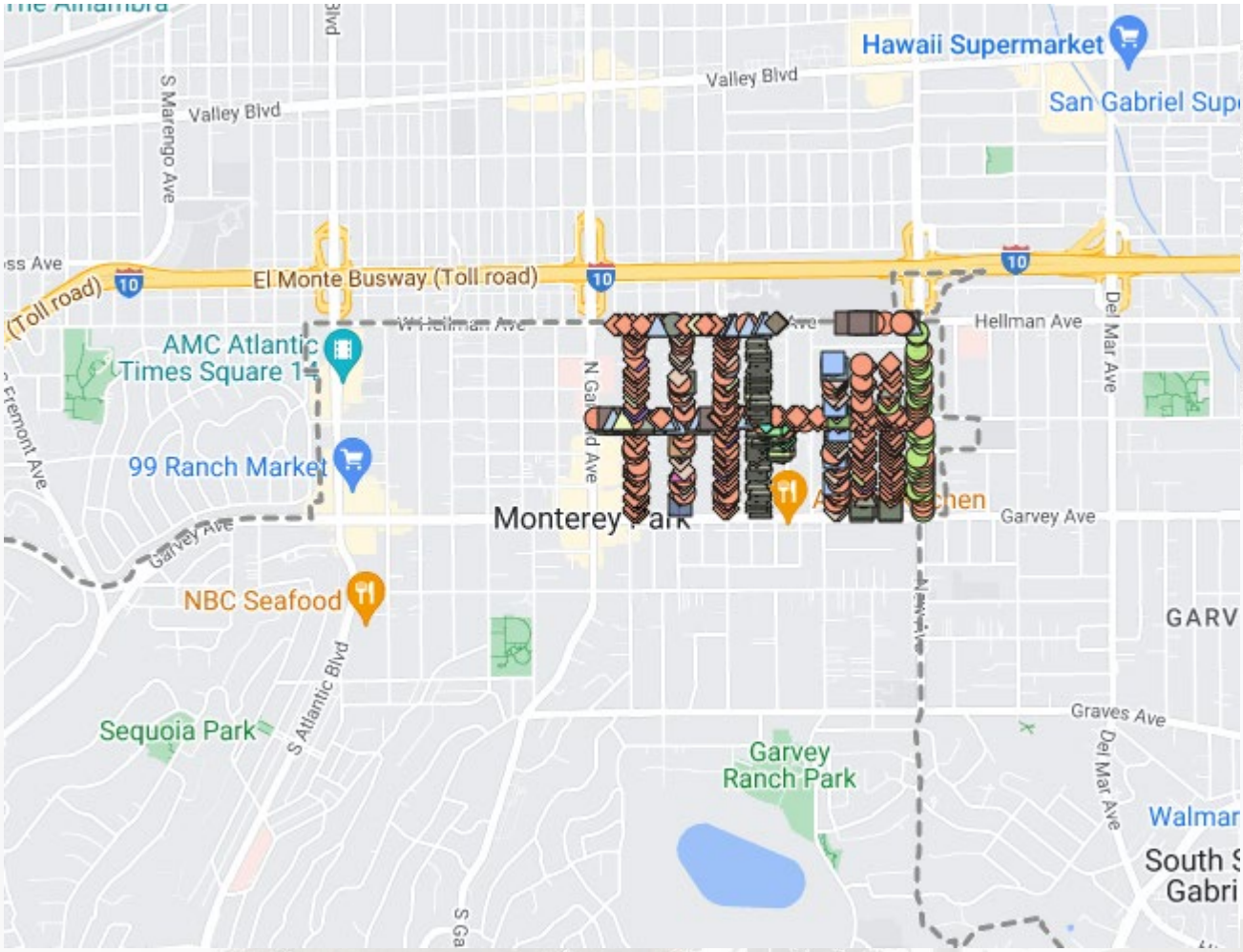


Figure 4.16: July 2024 Locations of trees in Grid Pruning District 10

4.4.2.11 Grid Pruning District 11

The boundaries of Grid Pruning District 11 are described in Section 3.4.11. The number of each species present in Grid Pruning District 11 according to the City of Monterey Park Electronic Inventory System as of July 2024 are presented in Table 4.22. A breakdown of the trees in District 11 by DBH measurement ranges in shown in Table 4.23 and the location of the trees and available sites is illustrated in Figure 4.17. There are a total of nine hundred thirty (930) identified available tree sites in Grid Pruning District 11, with seven hundred ninety-seven (797) active trees as of July 2024 (85.70% occupied). Dominant species in District 11 included lemon bottlebrush (*Callistemon citrinus*), crape myrtle (*Lagerstroemia indica*), and glossy privet (*Ligustrum lucidum*) in the July 2024 inventory. These species have moderate pruning requirements. In July 2024, Grid Pruning District 11 was dominated by young and maturing trees with nearly sixty-five (65) percent (64.58%) of the trees with a DBH less than twelve inches (< 12”).

Species	Number of Trees
Aleppo pine (*Pinus halepensis*)	1
American sweetgum (*Liquidambar styraciflua*)	1
Avocado (*Persea americana*)	1
Bottle tree (*Brachychiton populneus*)	2
Cajeput tree (*Melaleuca quinquenervia*)	11
California fan palm (*Washingtonia filifera*)	23
Camphor tree (*Cinnamomum camphora*)	9
Canary Island date palm (*Phoenix canariensis*)	4
Canary Island pine (*Pinus canariensis*)	2
Carrot wood (*Cupaniopsis anacardioides*)	8
Chanticleer pear (*Pyrus calleryana* 'Chanticleer')	2
Cherokee hybrid crape myrtle (*Lagerstroemia indica* 'Cherokee')	18
Chinaberry (*Melia azedarach*)	1
Chinese elm (*Ulmus parvifolia*)	1
Chinese flame tree (*Koelreuteria bipinnata*)	2
Coast redwood (*Sequoia sempervirens*)	2
Crape myrtle (*Lagerstroemia indica*)	169
Deodar cedar (*Cedrus deodar*)	3
Drooping she-oak (*Allocasuarina verticillata*)	1
Evergreen pear (*Pyrus kawakamii*)	39
Fern pine (*Afrocarpus falcatus*)	1
Glossy privet (*Ligustrum lucidum*)	118
Gold medallion tree (*Cassia leptophylla*)	18
Guava (*Psidium guajava*)	3
Jacaranda (*Jacaranda mimosifolia*)	1
Kwanzan cherry (*Prunus* 'Kwanzan')	1
Lemon bottlebrush (*Callistemon citrinus*)	176
London plane (*Platanus* x *hispanica*)	2
Majestic Beauty Indian hawthorn (x *Rhaphiobotrya splendens* 'Montic')	1
Mexican fan palm (*Washingtonia robusta*)	38
Muskogee hybrid crape myrtle (*Lagerstroemia indica* 'Muskogee')	2
Natchez hybrid crape myrtle (*Lagerstroemia* 'Natchez')	5
Ornamental pear (*Pyrus calleryana*)	43
Peach (*Prunus persica*)	2
Purple-leaf flowering plum (*Prunus cerasifera* 'Atropurpurea')	3
Pygmy date palm (*Phoenix roebelenii*)	30
Queen palm (*Syagrus romanzoffianum*)	2
Red Japanese maple (*Acer palmatum* 'Atropurpureum')	9
Shamel ash (*Fraxinus uhdei*)	2
Southern magnolia (*Magnolia grandiflora*)	14
Tuscarora hybrid crape myrtle (*Lagerstroemia indica* 'Tuscarora')	17
Weeping bottlebrush (*Callistemon viminalis*)	2
White ironbark (*Eucalyptus leucoxylon*)	5
White jacaranda (*Jacaranda mimosifolia* 'Alba')	2
Total number of trees in Grid Pruning District 11	**797**

Table 4.22: July 2024 breakdown of tree species in Grid Pruning District 11

DBH Range	Number of Trees
0” – 6”	118
7” – 12”	398
13” – 18”	175
19” – 24”	79
25” – 30”	22
31” +	7

Table 4.23: July 2024 Diameter at Breast Height (DBH) breakdown for Grid Pruning District 11

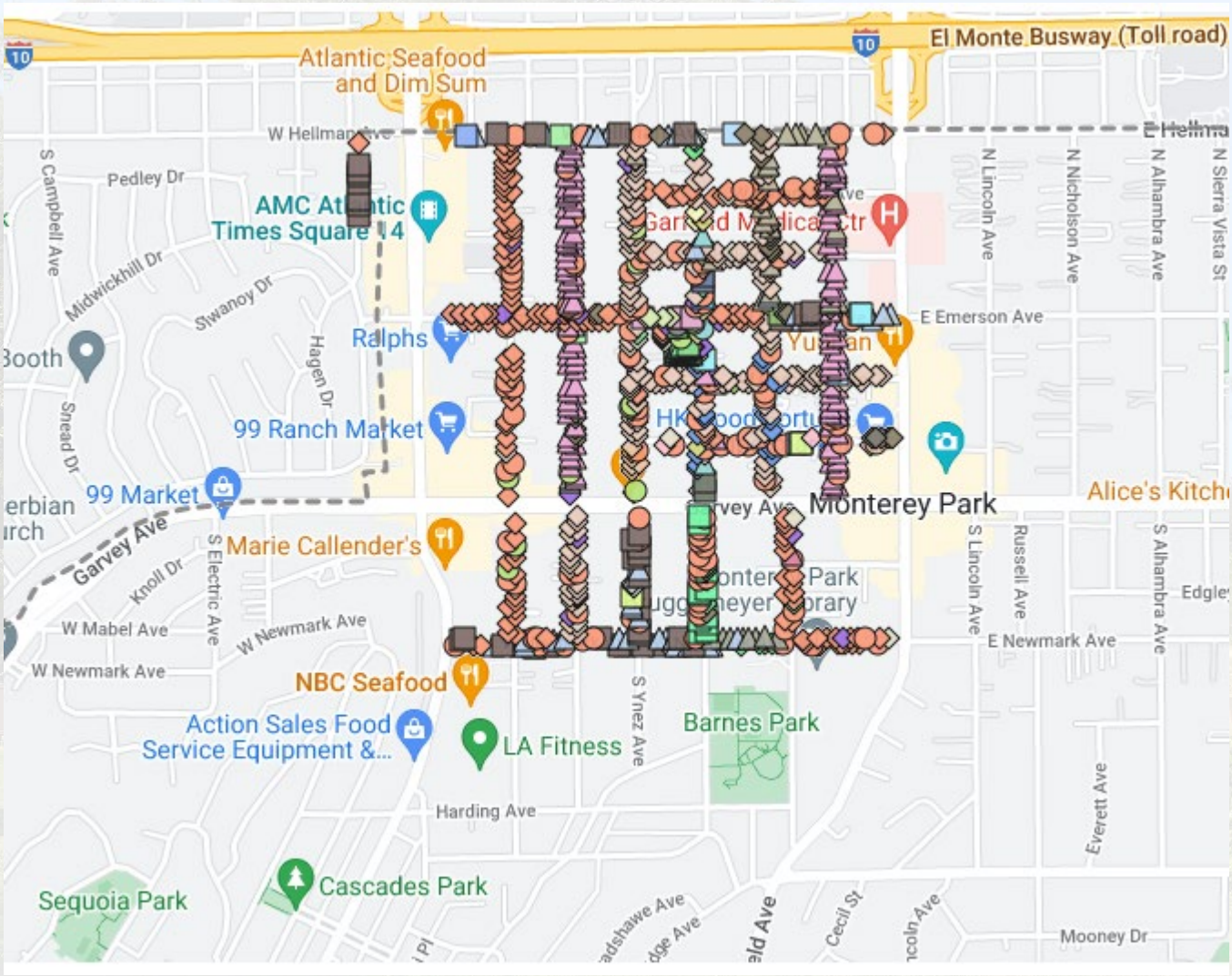


Figure 4.17: July 2024 Locations of trees in Grid Pruning District 11

4.4.2.12 Grid Pruning District 12

The boundaries of Grid Pruning District 12 are described in Section 3.4.12. There are total of one thousand, one hundred fifty-three (1,153) identified available tree sites in Grid Pruning District 12,

with nine hundred thirteen (913, 79.18%) of those sites occupied by active trees according to the July 2024 City of Monterey Park Electronic Inventory System. The number of each species present in July 2024 is shown in Table 4.24. A breakdown of DBH size classes for the District is shown in Table 4.25 and a map of the trees in the District is presented in Figure 4.18. Crape myrtle (*Lagerstroemia indica*), carrot wood (*Cupaniopsis anacardioides*), Aleppo pine (*Pinus* halepensis), and lemon bottlebrush (Callistemon citrinus), were the dominant species in this District in July 2024, all of which have relatively rapid growth rates requiring moderate maintenance efforts. District 12 was dominated by young and maturing trees with nearly sixty-one (61) percent (60.50%) of the trees with a DBH less than twelve inches (< 12").

Species	Number of Trees
Aleppo pine (*Pinus halepensis*)	59
American sweetgum (*Liquidambar styraciflua*)	1
Apricot (*Prunus armeniaca*)	1
Australian flame tree (*Brachychiton acerifolius*)	1
Avocado (*Persea americana*)	2
Black alder (*Alnus glutinosa*)	1
Blue gum (*Eucalyptus globulus*)	16
Brazilian pepper (*Schinus terebinthifolius*)	23
Brisbane box (*Lophostemon confertus*)	6
Cajeput tree (*Melaleuca quinquenervia*)	1
Camphor tree (*Cinnamomum camphora*)	21
Canary Island date palm (*Phoenix canariensis*)	1
Canary Island pine (*Pinus canariensis*)	9
Cape chestnut (*Calodendrum capense*)	1
Carob (*Ceratonia siliqua*)	3
Carolina laurel cherry (*Prunus caroliniana*)	3
Carrot wood (*Cupaniopsis anacardioides*)	73
Cherokee hybrid crape myrtle (*Lagerstroemia indica* 'Cherokee')	1
Chinese elm (*Ulmus parvifolia*)	12
Chinese flame tree (*Koelreuteria bipinnata*)	1
Chinese pistache (*Pistacia chinensis*)	1
Chitalpa (x *Chitalpa tashkentensis*)	2
Coast live oak (*Quercus agrifolia*)	10
Cook pine (*Araucaria columnaris*)	4
Crape myrtle (*Lagerstroemia indica*)	186
Deodar cedar (*Cedrus deodara*)	8
Edible loquat (*Eriobotrya japonica*)	3
Evergreen pear (*Pyrus kawakamii*)	2
Fruitless olive (*Olea europaea* 'Swan Hill')	1
Fuyu persimmon (*Diospyros kaki* 'Fuyu')	1
Glossy privet (*Ligustrum lucidum*)	9
Guava (*Psidium guajava*)	1
Holly oak (*Quercus ilex*)	11
Hollywood juniper (*Juniperus chinensis* 'Torulosa')	3
Hong Kong orchid tree (*Bauhinia* x *blakeana*)	3
Italian cypress (*Cupressus sempervirens*)	9
Italian stone pine (*Pinus pinea*)	17
Jacaranda (*Jacaranda mimosifolia*)	39

URBAN FOREST OPERATIONS

Species	Number of Trees
Japanese black pine (*Pinus thunbergii*)	36
Japanese maple (*Acer palmatum*)	2
King palm (*Archontophoenix cunninghamiana*)	6
Kwanzan cherry (*Prunus* 'Kwanzan')	24
Lemon bottlebrush (*Calistemon citrinus*)	42
London plane (*Platanus* x *hispanica*)	12
Maidenhair tree (*Ginkgo biloba*)	1
Mediterranean fan palm (*Chamaerops humilis*)	2
Mexican blue palm (*Brahea armata*)	1
Mexican fan palm (*Washingtonia robusta*)	7
Modesto ash (*Fraxinus velutina* 'Modesto')	1
Monterey cypress (*Hesperocyparis macrocarpa*)	1
Monterey pine (*Pinus radiata*)	1
Moreton Bay fig (*Ficus macrocarpa*)	1
Olive (*Olea europaea*)	9
Orange (*Citrus sinensis*)	1
Peach (*Prunus persica*)	5
Pecan (*Carya illinoinensis*)	1
Peppertree (*Schinus molle*)	6
Pink trumpet tree (*Handroanthus heptaphyllus*)	1
Pygmy date palm (*Phoenix roebelenii*)	6
Queen palm (*Syagrus romanzoffianum*)	31
Queensland umbrella tree (*Heptapleurum actinophyllum*)	8
Red flowering gum (*Corymbia ficifolia*)	2
Red ironbark (*Eucalyptus sideroxylon*)	1
River red gum (*Eucalyptus camaldulensis*)	28
Rubber tree (*Ficus elastica*)	1
Rusty leaf fig (*Ficus rubiginosa*)	1
Shamel ash (*Fraxinus uhdei*)	29
Silk oak (*Grevillea robusta*)	13
Silk tree (*Albizia julibrissin*)	5
Silver dollar gum (*Eucalyptus polyanthemos*)	3
Southern magnolia (*Magnolia grandiflora*)	31
Spanish dagger (*Yucca gloriosa*)	1
Sugar gum (*Eucalyptus cladocalyx*)	18
Surinam cherry (*Eugenia uniflora*)	1
Tipu (*Tipuana tipu*)	1
Torrey pine (*Pinus torreyana*)	3
Toyon (*Heteromeles arbutifolia*)	2
Tulip tree (*Liriodendron tulipifera*)	2
Tuscarora hybrid crape myrtle (*Lagerstroemia indica* 'Tuscarora')	1
Velvet ash (*Fraxinus velutina*)	2
Weeping bottlebrush (*Callistemon viminalis*)	2
Weeping fig (*Ficus benjamina*)	2
Western catalpa (*Catalpa speciosa*)	1
White alder (*Alnus rhombifolia*)	5
White mulberry (*Morus alba*)	3
Wilson holly (*Ilex* 'Wilsonii')	1

Species	Number of Trees
Windmill palm (*Trachycarpus fortunei*)	1
Total number of trees in Grid Pruning District 12	**913**

Table 4.24: July 2024 breakdown of tree species in Grid Pruning District 12

DBH Range	Number of Trees
0” – 6”	137
7” – 12”	425
13” – 18”	232
19” – 24”	56
25” – 30”	39
31” +	40

Table 4.25: July 2024 Diameter at Breast Height (DBH) breakdown for Grid Pruning District 12

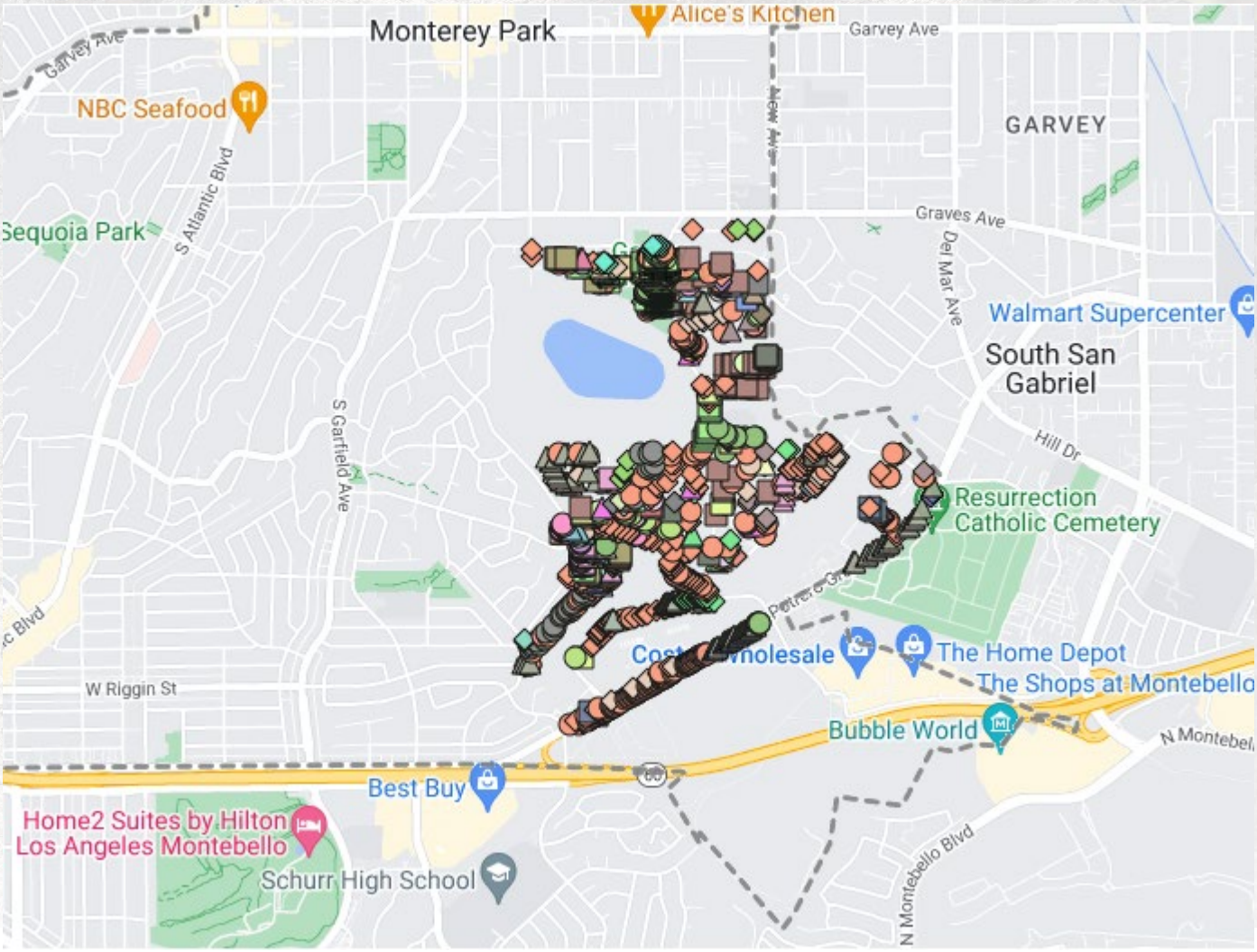


Figure 4.18: July 2024 Locations of trees in Grid Pruning District 12

4.4.2.13 Grid Pruning District 13

Grid Pruning District 13 contains the trees along the three main arterial roads within the City of Monterey Park, Garfield Avenue, Garvey Avenue, and Atlantic Boulevard. Due to the locations and the high traffic volume, the trees in the Grid Pruning District will need more frequent trimming than the previous twelve districts. The number of each species present in Grid Pruning District 13 according to the City of Monterey Park Electronic Inventory System as of July 2024 are presented in Table 4.26. A breakdown of the trees in District 13 by DBH measurement ranges in shown in Table 4.27 and the location of the trees and available sites is illustrated in Figure 4.19. There are a total of one thousand, seventy-six (1,076) identified available tree sites in Grid Pruning District 13, with eight hundred forty (840) active trees as of July 2024 (78.07% occupied). Dominant species in District 13 included Indian laurel fig (*Ficus microcarpa* 'Nitida'), queen palm (*Syagrus romanzoffianum*), and crape myrtle (*Lagerstroemia indica*) in the July 2024 inventory. Queen palm and Indian laurel fig are both high maintenance species that require annual or biannual trimming efforts for public safety, especially in high traffic areas. Crape myrtle requires moderate maintenance efforts. In July 2024, Grid Pruning District 13 was a mix of young / maturing trees and mature trees with nearly fifty-four (54) percent (53.95%) of the trees with a DBH less than twelve inches (< 12") and roughly forty-six percent of the trees with a DBH of greater than thirteen inches (> 13").

Species	Number of Trees
American sweetgum (*Liquidambar styraciflua*)	25
Canary Island pine (*Pinus canariensis*)	20
Cherokee hybrid crape myrtle (*Lagerstroemia indica* 'Cherokee')	2
Chinese elm (*Ulmus parvifolia*)	2
Chinese flame tree (*Koelreuteria bipinnata*)	6
Crape myrtle (*Lagerstroemia indica*)	67
Edible loquat (*Eriobotrya japonica*)	1
Drooping she-oak (*Allocasuarina verticillata*)	1
Evergreen pear (*Pyrus kawakamii*)	16
Fern pine (*Afrocarpus falcatus*)	42
Glossy privet (*Ligustrum lucidum*)	5
Golden trumpet tree (*Handroanthus chrysotrichus*)	6
Hollywood juniper (*Juniperus chinensis* 'Torulosa')	3
Indian laurel fig (*Ficus microcarpa* 'Nitida')	269
Jacaranda (*Jacaranda mimosifolia*)	2
Jerusalem thorn (*Parkinsonia aculeata*)	32
Lemon-scented gum (*Corymbia citriodora*)	4
Mesquite (*Prosopis glandulosa*)	7
Ornamental pear (*Pyrus calleryana*)	2
Pink trumpet tree (*Handroanthus heptaphyllus*)	37
Presidential gold maidenhair tree (*Ginkgo biloba* 'Presidential Gold™')	1
Pygmy date palm (*Phoenix roebelenii*)	2
Queen palm (*Syagrus romanzoffianum*)	197

Species	Number of Trees
Round-leaved sweetgum (*Liquidambar styraciflua* 'Rotundiloba')	6
Shamel ash (*Fraxinus uhdei*)	23
South African coral tree (*Erythrina caffra*)	1
Sugar gum (*Eucalyptus cladocalyx*)	2
Tulip tree (*Liriodendron tulipifera*)	27
Velvet ash (*Fraxinus velutina*)	1
Weeping fig (*Ficus benjamina*)	1
Windmill palm (*Trachycarpus fortunei*)	31
Total number of trees in Grid Pruning District 13	**840**

Table 4.26: July 2024 breakdown of tree species in Grid Pruning District 13

DBH Range	Number of Trees
0" – 6"	116
7" – 12"	342
13" – 18"	288
19" – 24"	55
25" – 30"	42
31" +	6

Table 4.27: July 2024 Diameter at Breast Height (DBH) breakdown for Grid Pruning District 13

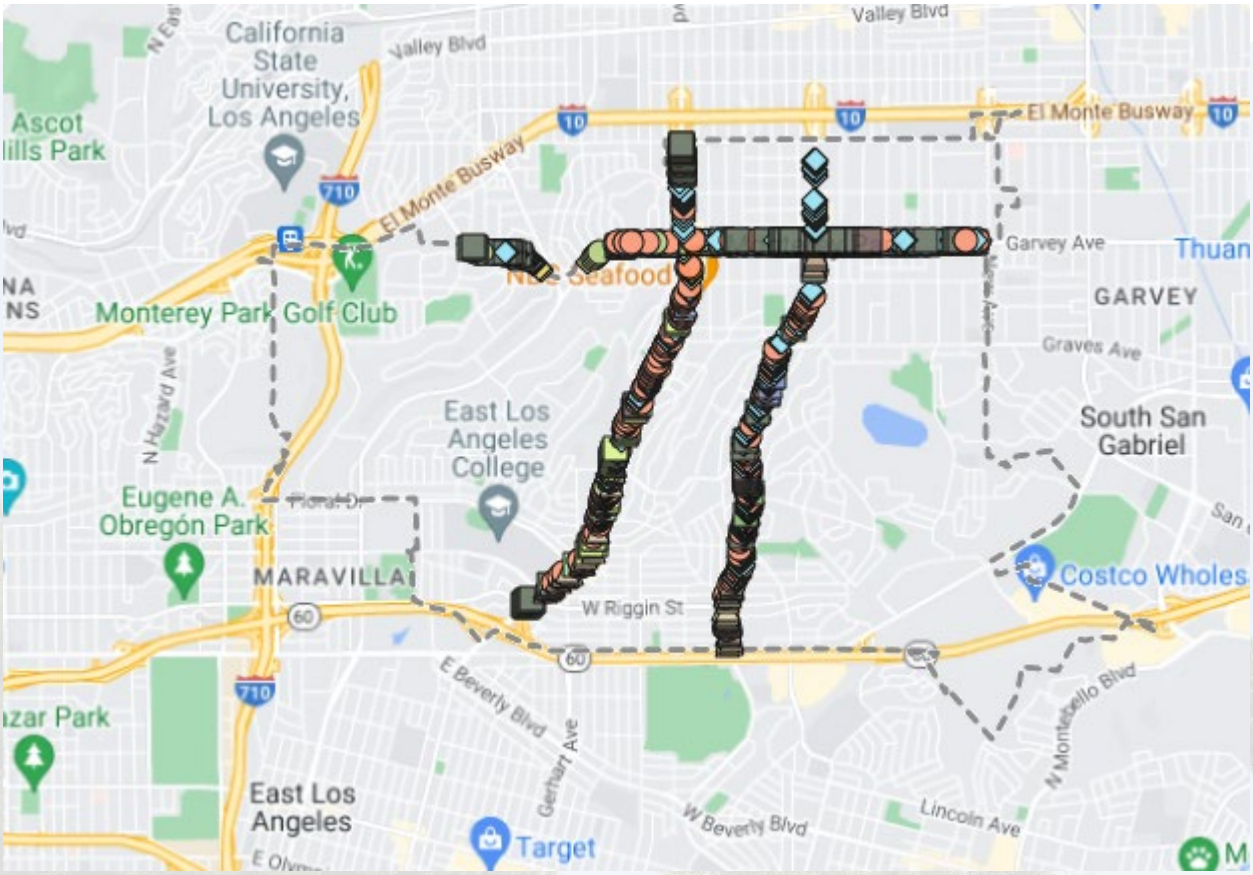


Figure 4.19: July 2024 Locations of trees in Grid Pruning District 13

4.4.3 OUT OF CYCLE PRUNING

Out of cycle pruning is typically conducted in response to resident requests or recommendations from City Staff. When an out of cycle pruning request is received, the Public Works Manager or Public Works Supervisor will inspect the tree or assign an outside ISA Certified Arborist contractor to inspect the tree to determine of the requested pruning can be completed without adversely impacted the health and structure of the tree. If after inspection it is determined that the requested pruning is necessary and will not have adverse impacts on the tree, The Public Works Manager or Public Work Supervisor shall assign the work to the appropriate crew or outside contractor. The request and notification of work completed will be logged on the tree site in the Electronic Inventory System.

4.4.4 TREE REMOVALS

The removal of dead, dying, or hazardous trees is a necessary element to maintaining a healthy and sustainable urban forest. As living organisms, trees have a finite lifespan and will eventually begin to decline and expire. Trees planted in spaces too small for the species will eventually outgrow the space and decline or damage the surrounding hardscape. Removal should be considered as the final option, once other alternatives have been ruled out, for trees in the City of Monterey Park. An ISA Certified Arborist shall inspect each tree proposed for removal and provide a written report with

recommendations to the Public Works Manager. The arborist report will be attached to the tree site in the Electronic Inventory System. Approval from the Public Works Director or Public Works Manager is required prior to any tree removal, with the exception of trees that are removed as part of an Emergency Response.

The removal will be noted in the Electronic Inventory System once work is completed. To the extent possible, the stump of removed trees and all major roots should be removed by hand or using a stump grinder. Replacement species should be selected from the Approved Tree Palette based on the size of the available space and the desired form and function for the planting site. Replacement with the same species or a species susceptible to the same disease is not recommended if the tree was removed due to a soil-borne disease. The Public Works Manager or Public Works Supervisor should consult with an ISA Certified Arborist during the tree selection process to determine the appropriate replacement species in these cases.

4.5 STANDARDS AND BEST MANAGEMENT PRACTICES

To the extent possible, all tree maintenance work within the City of Monterey Park should be conducted in accordance with the American National Standards Institute (ANSI) A300 Tree Care Standards and the International Society of Arboriculture (ISA) Best Management Practices (BMPs). The ANSI Standards and ISA BMPs are summarized throughout this UFMP and included in Appendix B for reference.

4.6 PLANT HEALTH CARE

Plant health care is an integrated process that begins with appropriate species selection based on the size and location of the planting site, selection of healthy nursery stock with good branch and root structure, proper installation practices (planting and staking), and regular, systematic maintenance (watering and structural pruning for young trees, regular pruning for established trees). Appropriately selected trees with adequate growing conditions and proper maintenance are more resilient to environmental stresses and have the necessary resources to resist or tolerate many pests and diseases without additional treatment. As essential components of any Plant Health Care (PHC) and Integrated Pest Management Program (IPM), species selection (Tree Palette), nursery stock inspection (Nursery Stock Selection), installation practices (Planting Plan), and proper maintenance (Maintenance Program) are discussed in greater detail in other sections of the UFMP. This section will focus on standards for cultural care and pest and disease susceptibility, diagnostics and standard treatment practices.

4.6.1 CULTURAL PRACTICES TO SUPPORT TREE HEALTH

Planting the right tree in the right place according to the installation standards presented in the Standards and Best Management Practices (Appendix B) section of this UFMP is the first step in the Plant Health Care Program. The establishment and long-term health of the tree will depend on good cultural practices to maintain the tree's growing environment. Cultural care includes proper water management, mulching, fertilization, pruning, and sanitation practices to establish environmental

conditions around the tree that are favorable for tree growth, while eliminating conditions that favor pests and diseases. The extent to which these practices can be implemented may be limited in the urban setting by available space, infrastructure needs, and development. There is a continuum for each of these practices where too much and not enough can lead to stress for the tree, so each process needs to be properly planned to respond to the needs of the tree to the extent possible in the urban environment. The information presented in each section below is summarized from the ISA Best Management Practices – Tree Planting and ANSI A300 Tree Care Standards Clause 10: Planting and Transplanting. Links to both included in Appendix B.

4.6.1.1 Water Management

Access to adequate available water is essential for the growth and health of all trees. The movement of water in a tree requires that the roots uptake enough water to balance that which is lost through leaf transpiration in the canopy. Insufficient soil moisture reduces the ability of roots to access and uptake water. If the roots are unable to uptake enough water to replace transpiration losses, leaves and branches may begin to wilt and die back, beginning in the upper canopy. Water stressed trees are also typically more susceptible to pests and disease as resources needed to produce defensive chemicals become limited or reallocated.

Similarly, excessive soil moisture is problematic for the health of trees. Like all living cells, root cells require oxygen to function and remain alive. Roots access both water and air stored in the pore spaces between soil particles. As soil becomes oversaturated, the pore spaces become filled by the excess water, displacing air. Without the necessary air, root function is reduced and eventually the roots begin to die. The resulting reduction in root system function and volume reduces water uptake and can lead to similar symptoms as those expected in water stressed trees.

Trees established in the landscape will have developed root systems connected to adequate water sources and should only require supplemental water during long periods of drought for non-irrigated sites, or if there are long-term changes to the frequency or duration of watering cycles for irrigated sites.

Supplemental water is required for young, newly planted trees until they become established, usually one to two years after installation. If an irrigation system is to be used to provide supplemental water, the new trees should be on a dedicated valve and program, separate from adjacent lawn or shrub systems. Soil moisture should be tested periodically using a soil probe to make sure the soil is being kept moist, but not oversaturated and the program should be adjusted accordingly.

Sites without automatic irrigation will require hand watering of newly planted trees. A watering schedule will need to be developed and the responsible party clearly defined for all new tree plantings. To avoid overwatering, samples of the soil should be taken with a soil probe prior to hand watering, with supplemental water provided only as required to maintain adequate soil moisture. Water should be even distributed throughout the watering basing established at installation (see Standards and Best Management Practices). Any disturbance to the berm or basin will need to be repaired at the time of watering, or prior to watering at the next scheduled visit.

The frequency of visits will be based on the specific needs of the species based on the water usage provided in the species profile (Tree Palette). Table 4.28 provides a general schedule based on time of year and species water usage. A general guidance for the volume of water to be provided at each visit is ten (10) gallons of water for every one (1) caliper inch of the trunk.

Water Usage	June - October	November - May
Very Low	1x per week	1x per week (0 – 3 months after installation) Every other week (3 months + after installation)
Low	2x per week (0 – 3 months after installation) 1x per week (3 months + after installation)	1x per week
Moderate	2x per week	2x per week

Table 4.28: General Watering Schedule Based on Water Usage

4.6.1.2 Mulching

There are many benefits of mulch application for trees in the urban forest. Mulches help:

- Maintain soil moisture;
- Manage weed growth;
- Moderate soil temperature changes;
- Reduce soil compaction and erosion;
- Increase soil organic matter which stimulates microbial activity, soil aggregation, and nutrient availability.

Like all the cultural practices in this section, these benefits may not be realized if mulch is not applied in the proper manner. In fact, improper mulch application can be more harmful to the health of the tree than not applying mulch at all.

Figure 4.20 illustrates proper mulching technique and some potential consequences of improper mulching. In general, mulch:

- Should cover as much of the root zone as possible.
    - For newly planted trees, 1.5 to 3 inches DBH, mulch should be applied over an area with a minimum 3-foot radius.
    - For larger trees, it is ideal to apply mulch from near the trunk to the dripline, however, the minimum radius of the mulched area should be three times the DBH.
    - Applied in a continuous bed around multiple trees.
- Should not be in contact with the trunk of the tree. The area six to eight inches (6” – 8”) from the base of the trunk should be left clear of mulch when practical.
- Should be tapered in depth from a thin layer near the trunk to a maximum depth of two inches (2”) near the edge of the mulched area.

More detailed information can be found in Appendix B in the Mulching Section of the ISA *Soil Management for Urban Trees BMP*.

Figure 4.20: Proper Mulching Practices

4.6.1.3 Fertilization

Fertilizers should only be applied to trees when a nutrient deficiency is identified through lab analysis of soil and tissue samples. Some pests and diseases can cause very similar symptoms to those typically associated with nutrient deficiencies, so samples should always be taken to confirm the deficiency before a fertilizer is applied. For new tree plantings, adding organic amendments to the top

six inches of backfill soil will improve soil structure while promoting beneficial soil microbe development, and healthy root growth for the tree.

If specific nutrient deficiencies are identified in soil or tissue samples, a Certified Arborist or Pest Control Advisor can provide an appropriate fertilizer treatment plan. Further information regarding tree nutrient requirements and fertilizer application can be found in Appendix B in the ISA *Tree and Shrub Fertilization BMP*.

4.6.1.4 Pruning

Pruning of mature trees is discussed in Section 4.4 as part of the Maintenance Program. Where practical pruning should be conducted according to ANSI A300 Standards and ISA Best Management Practices (Appendix B). Some general acceptable pruning guidelines include:

- Define the objectives of the pruning;
- Remove only the amount of material necessary to meet the objectives;
- To the extent possible avoid cuts to large branches (branches with a diameter of four inches [4”] or greater) that will create a large wound. Large wounds are more susceptible to pests, disease, and decay;
- Avoid poor pruning practices such as flush cuts; topping, lion-tailing, excessive thinning, excessive raising, or excessive reduction;
- Make cuts back to branch unions with the remaining branch at least one-third the diameter of the branch to be removed, do not leave stubs;
- Use the three cut method (Figure 4.21) to preserve the branch collar and avoid bark tearing to the trunk or remaining branch;
- Sanitize pruning equipment with an alcohol or bleach solution before moving to a different tree, or making a cut on the same tree if disease or pest infestation is suspected on the previously cut branch.

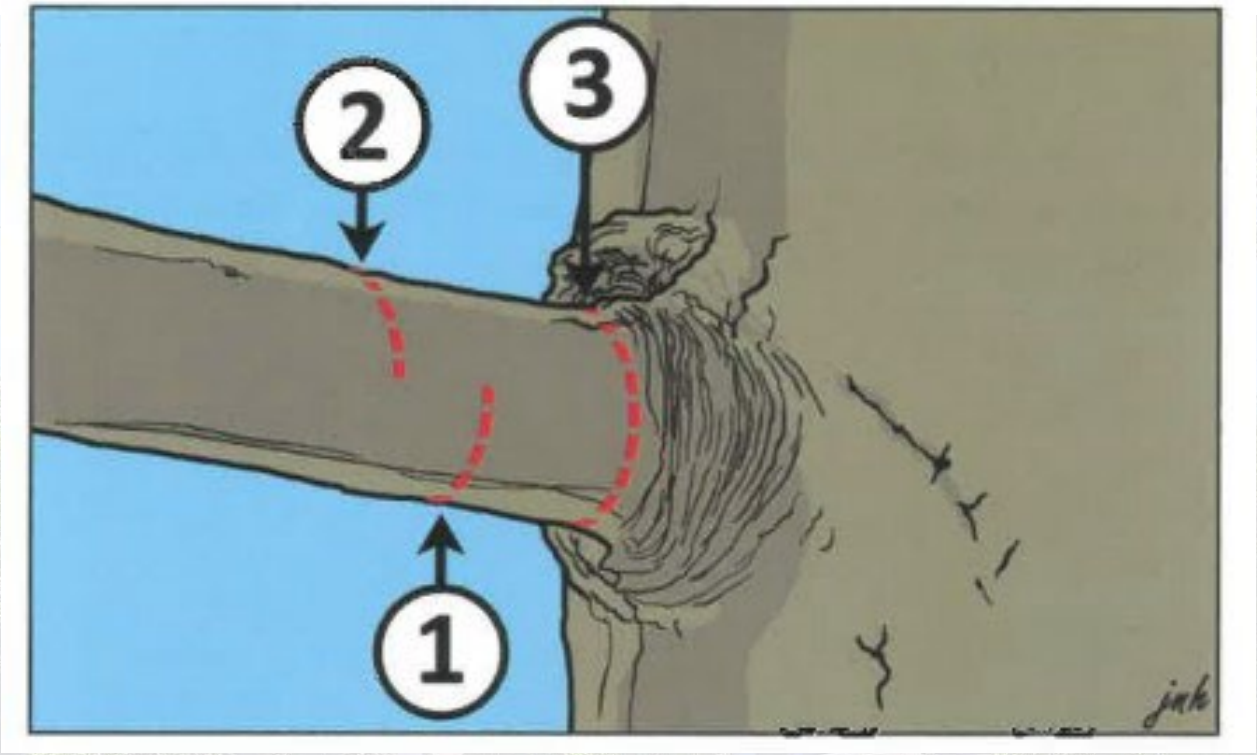


Figure 4.21: The Three Cut Method

(Graphic courtesy of the ISA Pruning Best Management Practices, Third Edition. Cut 1 is an undercut made one to two feet from the parent branch or trunk, Cut 2 is a top cut slightly further out on the branch than Cut 1 (directly above when using a chain saw), and Cut 3 is the final cut made just outside the branch collar.)

Structural pruning of young trees promotes healthy branch architecture, reduces the need for excessive trimming, and reduces the number of large branch cuts as the tree matures. Figure 4.22 details the objectives of a structural pruning plan for young trees.

Figure 4.22: Structural Pruning Objectives for Young Trees

4.6.1.5 Sanitation

Sanitation practices refer to removal of broken, dead, diseased or pest infested branches from a tree. Broken and dead branches can serve as sites for pest infestation or pathogen entry sites into the tree. Removing branches infected by a pathogenic disease or infested with a bark or stem boring pest can help to slow or even eliminate the spread of the pest or disease to other parts of the tree. It is an important part of this process to remove pest infested or diseased branches, twigs and foliage from the site and dispose of these parts according to recommended protocols. An ISA Certified Arborist, Pest Control Advisor, County Agricultural Commissioner, or the local office of the University of California Cooperative Extension Division of Agriculture and Natural Resources (UCANR) can provide recommended disposal protocols.

4.6.2 INTEGRATED PEST MANAGEMENT

The cultural practices above are an integral part of plant health care and the first step in an Integrated Pest Management (IPM) Program. IPM is a combination of multiple practices for the prevention and control of pests and disease. Proper cultural practices are focused on reducing abiotic (non-living) factors that can impact the health of a tree. Healthy trees are better able to tolerate and resist pests and are less susceptible to pathogenic disease. In addition to the cultural practice standards, The City of Monterey Park IPM Program includes regular urban forest monitoring, biological control practices, tracking of emerging pests and diseases, and chemical control when necessary. This UFMP discussed the general framework of the IPM Program. Specific pest and disease issues will apply this

framework in consultation with a licensed California Department of Pesticide Regulation Agricultural Pest Control Adviser (Pest Control Adviser).

4.6.2.1 Urban Forest Monitoring

Regular monitoring of the urban forest trees for early signs of abiotic stress, pests, and disease is an important part of the City of Monterey Park IPM Program. The number of treatment options for most pests and diseases is greater, and usually more effective when detected in the early stages. As part of the Maintenance Program (Section 4.4) trees scheduled for pruning will be inspected by the contractor/WCA prior to being assigned to the City crew or contractor. The crew will also inspect the tree before starting work and continue to look for signs of pests or disease as the work progresses.

In addition to the maintenance monitoring and specific inspection requests submitted through the Department of Public Works, an ISA Certified Arborist contractor should conduct quarterly windshield surveys of the entire urban forest to locate trees with obvious signs of stress, pests or disease signs and symptoms. Trees identified with any signs or symptoms of stress, pests or disease will be noted in The City's Electronic Inventory System for follow up inspections to identify the cause and determine the appropriate treatment plan.

4.6.2.2 Pest/Disease Identification

Proper identification of the abiotic factor, pest, or disease that is causing the observed symptoms is a key part of the City of Monterey Park IPM Program. When no direct signs of known pests or disease are observed at the time of inspection, the inspector will photograph the symptoms and signs and collect samples for submittal to a qualified laboratory for identification.

4.6.2.3 Common Pests and Diseases

Table 4.29 shows some common pests and diseases associated with Genera or specific species present in the current City of Monterey Park urban forest inventory or in the approved plant palette. This is not an all-inclusive list of potential pests and cannot account for future emerging pest issues. Further information on these pest and diseases is provided in Appendix D.

Common Name	Botanical Name	Common Pest Associates	Common Disease Associates
Crape myrtle	*Lagerstroemia indica*	Crape myrtle aphid, Glassy-winged sharpshooter	Powdery mildew, Sooty mold
Carrot wood	*Cupaniopsis anacardioides*	Invasive shot hole borer	Verticillium,
Lemon bottlebrush	*Callistemon citrinus*	Dictyospermum scale	Chlorosis
Southern magnolia	*Magnolia grandiflora*	Invasive shot hole borer, Aphids, California red scale, Greedy scale, Oleander scale, Cottony cushion scale, Tuliptree scale, Omnivorous looper, Gill's mealybug, Obscure mealybug, Greenhouse thrips, Spider mites	Armillaria, Verticillium, Bacterial blight, Bacterial leaf scorch, Nectaria canker, Crown gall, Phyllosticta leaf spot, Powdery mildew, Bacterial slime flux
Jacaranda	*Jacaranda mimosifolia*	Bean aphid, Invasive shot hole borer	Phytophthora, Oleander leaf scorch

Common Name	Botanical Name	Common Pest Associates	Common Disease Associates
Queen palm	*Syagrus romanzoffianum*	Palm aphid, Boisduval scale, California red scale, Greedy scale, Oleander scale, Black scale, Brown soft scale, Hemispherical scale, Banana moth, Palm leaf skeletonizer, Greenhouse thrips, Giant white fly, Giant palm borer, Coconut mealybug, Gill's mealybug, Ground mealybug, Longtailed mealybug, Obscure mealybug, Pink hibiscus mealybug, vine mealybug, Eriophyid mites, Spider mites	Butt rot, Armillaria, Diamond scale, Fusarium wilt, Pink rot, Sudden crown drop
Indian laurel fig	*Ficus microcarpa* 'Nitida'	Dictyospermum scale, Black scale, Green shield scale, Ficus gall wasp, Citrus mealybug, Coconut mealybug, Longtailed mealybug, Pink hibiscus mealybug, Vine mealybug, Cuban laurel thrips, Citrus whitefly, Greenhouse whitefly, Silverleaf whitefly	Armillaria, Ficus branch canker
Glossy privet	*Ligustrum lucidum*	Aphids, California red scale, San Jose scale, Pit-making pittosporum scale, Black scale, Black vine weevil, Ash borer, Privet rust mite, Privet bud mite, Privet mite, Leaf miner	Armillaria, Dematophora root rot, Phytophthora, Anthracnose, Sooty mold
American sweetgum	*Liquidambar styraciflua*	Invasive shot hole borer, Black vine weevil, Aphids, Fall webworm, Fruittree leafroller, Tussock moth, Redhumped caterpillar, Calico scale, Giant whitefly	Armillaria, Anthracnose, Bacterial leaf scorch, Botryosphaeria canker, Foamy canker, Leaf spot disease, Chlorosis, Sooty mold
Evergreen pear	*Pyrus kawakamii*	Aphids, Whitefly, Carpenterworm	Bacterial blight, Bacterial canker, Entomosporium leaf spot, Fire blight, Sooty mold
Camphor tree	*Cinnamomum camphora*	California laurel aphid	Anthracnose, Armillaria, Phytophthora, Verticillium
Ornamental pear	*Pyrus calleryana*	Aphids, Whitefly, Carpenterworm	Bacterial blight, Bacterial canker, Entomosporium leaf spot, Fire blight, Sooty mold
Shamel ash	*Fraxinus uhdei*	Ash leaf curl aphid, Oystershell scale, walnut scale, frosted scale, Carpenterworm, Ash borer, Redbelted clearwing, Ash moth, Fall webworm, Fruitree leafroller, Omnivorous leafroller, Glassy-winged sharpshooter, Ash psyllid, Pear sawfly, Buffalo treehopper, Arizonica ash tingid, Ash plant bugs, Boxelder bug, Lace bugs, Ash whitefly, Citrus whitefly	Anthracnose, Ash dieback, Bacterial leaf scorch, Nectaria canker, Leaf spot diseases, Powdery mildew, Fusarium, Verticillium, Sooty mold

Common Name	Botanical Name	Common Pest Associates	Common Disease Associates
Brazilian pepper	*Schinus terebinthifolius*	Greedy scale, Oleander scale, Barnacle scale, Black scale, Green shield scale, Hemispherical scale, Wax scales, Omnivorous looper, Citrus thrips	Armillaria, Verticillium
Chinese elm	*Ulmus parvifolia*	Elm leaf aphid, Citricola scale, Frosted scale, European elm bark beetle	Chinese elm anthracnose, Nectaria canker, Dutch elm disease, Foamy canker, Powdery mildew, Bacterial slime flux, Armillaria, Verticillium
Cherokee hybrid crape myrtle	*Lagerstroemia indica* 'Cherokee'	Crape myrtle aphid, Glassy-winged sharpshooter	Powdery mildew (Resistant), Sooty mold
Canary Island pine	*Pinus canariensis*	Pine bark adelgid, Aphids, Red turpentine beetle, Ips engraver beetles, Redhaired pine bark beetle, Spider mites	Armillaria, Phytophthora, Sooty mold, Pine pitch canker, Botrytis blight
Australian willow	*Geijera parviflora*	Chinese wax scale	Collar rot, Root rot, Crown rot
Aleppo pine	*Pinus halepensis*	Pine bark adelgid, Aphids, Red turpentine beetle, Ips engraver beetles, Redhaired pine bark beetle, Spider mites	Armillaria, Phytophthora, Sooty mold, Botrytis blight, Ghost canker
Brisbane box	*Lophostemon confertus*	Scales	Phytophthora
Tuscarora hybrid crape myrtle	*Lagerstroemia indica* 'Tuscarora'	Crape myrtle aphid, Glassy-winged sharpshooter	Powdery mildew (Resistant), Sooty mold
Mexican fan palm	*Washingtonia robusta*	Palm aphid, Biosduval scale, California red scale, Greedy scale, Oleander scale,Black scale, Brown soft scale, Hemispherical scale, Banana moth, Eriophyid mites, Palm leaf skeletonizer, Giant palm borer, Coconut mealybug, Gill's mealybug, Ground mealybug, Longtailed mealybug, Obscure mealybug, Pink hibiscus mealybug, Vine mealy bug, Spider mites, Greenhouse thrips, Giant whitefly	Diamond scale, Fusarium wilt, Pink rot, Sudden crown drop
Pink trumpet tree	*Handroanthus heptaphyllus*		
Canary Island date palm	*Phoenix canariensis*	South American palm weevil, Palm aphid, Biosduval scale, California red scale, Greedy scale, Oleander scale,Black scale, Brown soft scale, Hemispherical scale, Banana moth, Eriophyid mites, Palm leaf skeletonizer, Giant palm borer, Coconut mealybug, Gill's mealybug, Ground mealybug, Longtailed mealybug, Obscure mealybug, Pink hibiscus mealybug, Vine mealy bug, Spider mites, Greenhouse thrips, Giant whitefly	Diamond scale, Fusarium wilt, Pink rot, Sudden crown drop

Common Name	Botanical Name	Common Pest Associates	Common Disease Associates
Japanese black pine	*Pinus thunbergii*	Pine bark adelgid, Aphids, Red turpentine beetle, Ips engraver beetles, Redhaired pine bark beetle, Spider mites	Armillaria, Phytophthora, Sooty mold, Botrytis blight, Ghost canker

Table 4.29: Selected Pest and Diseases Associated with Tree Species Currently in the Urban Forest Inventory or Approved Plant Palette

4.6.2.4 Cultural and Biological Pest Control

Most pathogenic fungi and bacteria tend to thrive in moist, cool conditions. Over irrigated soils can provide a favorable environment for pathogens that cause root rot. Excessive moisture at the base of a tree due to a buried root flare or an irrigation head directed at the trunk can promote conditions favorable to many vascular and rot diseases. Dense foliage growth provides shelter for insect pests and reduces air flow which can lead to increased moisture retention in the inner canopy and create favorable conditions for casual agents of branch and leaf diseases. Flushes of new growth resulting from unnecessary or inappropriately timed fertilizer application can attract and promote population growth for many insect pests. Eliminating favorable environmental conditions for the growth, reproduction and spread can maintain many pests and diseases at tolerable levels in the urban forest.

In addition to cultural controls, some insects can be effective in the control of pest populations as natural predators and parasitoids. Examples of natural predators and parasitoids are provided in Appendix D. There are three biological control implementation approaches: conservation, augmentation, and introduction. The conservation approach focuses on maintaining an environment that promotes existing beneficial insects. Avoidance of broad-spectrum pesticides in favor of products that kill only targeted pest and timing applications to reduce the impacts to beneficial insects is an important aspect to natural enemy conservation. Augmentation involves the release of native and naturalized beneficial insects to supplement existing populations. Many common natural predators are commercially available for purchase as part of an augmentation program. The introduction approach is a highly regulated process of releasing non-native predatory species, and it is usually reserved for introduced pest species that lack native or naturalized predators. Before a non-native predator can be considered for release, it undergoes years of testing under government agency supervision to ensure the potential predator will not have adverse impacts on the native ecosystem.

The cultural practices described in Section 4.6.1 are a key component of the City of Monterey Park IPM Program. In addition, the Program will promote conservation of beneficial insects by reducing the use of broad-spectrum pesticides and timing pesticide applications to reduce impacts to these species to the extent feasible. Augmentation of existing beneficial insect populations will be considered on a case-by-case basis in consultation with a licensed Pest Control Advisor. The introduction approach is beyond the scope of the City of Monterey Park, although the City may consider participation in introduction programs conducted by the Los Angeles County Agricultural Commissioner (County Agricultural Commissioner), UCANR, or other agencies as available.

4.6.2.5 Emerging Pests and Diseases

The introduction of new non-native pests and diseases is an on-going, dynamic process that requires urban forest managers to keep up to date on the most current information. Staff participation in continuing education opportunities, seminars and conferences through the ISA and other arboriculture and landscape industry-related professional organizations is an important component of the IPM Program. Partnerships and consultation with the County Agricultural Commissioner's Office, UCANR, and private consultants will also be part of tracking emerging pests and diseases.

4.6.2.6 Chemical Control

The goal of the City of Monterey Park IPM Program is to reduce the use of pesticides, especially broad-spectrum pesticides, to control pests and diseases within the urban forest to the extent possible by selecting the appropriate species for the planting site (Tree Palette, Section 5.2), following the proper BMPs and Standards for installation (Planting Plan, Section 5.5), adhering to the Maintenance Program (Section 4.4) and applying the above mentioned monitoring, cultural and biological control practices. Under this program, chemical control is the last option when control of a pest or disease cannot be achieved by other methods. Before initiating chemical control, the Public Works Manager will consult with a licensed Pest Control Advisor to develop a treatment plan and obtain a written Pesticide Recommendation.

4.7 RISK ASSESSMENT

Despite proper management to maintain a healthy urban forest that maximizes the benefits to the community, there are risks to persons and property associated with trees. Trees are living organisms and the potential for failure, either in entirety or in part, cannot always be predicted. The goal for urban forest managers is to find a balance where the benefits provided are greater than the risks associated with the trees.

The ISA has developed the Tree Risk Assessment Qualification (TRAQ) to train arborists to evaluate this risk to the greatest extent possible. Risk assessment ratings can assist the Public Works Manager or Public Works Supervisor in prioritizing maintenance needs and scheduling.

TRAQ designates three levels for conducting risk assessments based on the level of detail required.

Level 1 Limited Visual Assessment: a tree or tree population is observed from one perspective to identify obvious defects or conditions with increased likelihood of failure near specified targets. Level 1 Risk Assessments can also be conducted from a slow-moving vehicle or aerially using an unmanned aerial vehicle (drone).

Level 2 Basic Assessment: a 360° ground based visual inspection of the subject tree(s) and the surrounding site. The visible buttress roots, trunk and branches are inspected for defects and each defect is evaluated for likelihood of failure. The likelihood of failure is combined according to a matrix with the likelihood of the failed part contacting each of the identified targets to determine an overall likelihood a particular target will be struck. Occupancy rate and distance of the target from the tree are factored into this determination. The likelihood of failure

and impact are combined in a separate matrix with the consequences of impact on the target to assign a risk rating for the tree or tree part.

Level 3 Advanced Assessment: advanced assessment to obtain more detailed information about specific tree parts, defects, targets, or site conditions during or after a Level 2 Basic Assessment using specialized equipment, analysis, and/or expertise.

To assess the risk presented by trees in the City of Monterey Park Urban Forest as a whole, a Level 1 Limited Visual Assessment could be performed simultaneously with the quarterly windshield surveys described in Section 4.6.2.1, provided the inspector is TRAQ qualified. Trees identified with obvious defects, or for which inspection requests have been submitted to an outside Contractor (WCA at the time of the development of this UFMP) may require Level 2 Basic Assessment and/or Level 3 Advanced Assessment conducted by a TRAQ qualified arborist.

4.8 URBAN FOREST BIOMASS RECYCLING AND REPURPOSING

To maximize the environmental benefits provided, all biomass in the urban forest should be repurposed to the highest possible use in accordance with current State of California Standards. Biomass from tree maintenance activities in the City of Monterey Park will either be chipped on-site or at a collection facility to be recycled as organic mulch or repurposed as part of the Urban Wood Policy, depending on the size and diameter of the material. Vegetative biomass and woody material less than nine inches (9“) in diameter shall be chipped on-site or transported to a green material processing center to be chipped and recycled as mulch or composted. The minimum size and diameter of woody material that can be repurposed under the Urban Wood Policy can vary by tree species, extent of wood decay and other factors. Woody material that cannot be repurposed due to any of these factors shall be chipped on-site or transported to a processing center for chipping and recycling.

The objective of the Urban Wood Policy is to maximize sequestered carbon and utilize removed trees in the most efficient method possible. This effort utilizes trees removed from urban environments and considers their highest potential environmental value. Environmental benefits are realized by diverting wood that would otherwise populate landfills and rescue greenhouse gas emissions that are released through traditional disposal processes. Co-benefits include sourcing local raw materials for construction, maximizing benefit from trees being removed, and displaying urban wood products in the community, all of which tells the unique story of the city in which the trees grew and matured.

Conditioned upon availability of funding, the City of Monterey Park may promote sustainability through urban forest operations in the following ways:

4.8.1 TREE RECYCLING PLAN

Trees that are removed may be repurposed for their highest use. This includes, but is not limited to, being milled into lumber, left in public spaces as natural architecture (including wildlife habitat), or crafted into useable products such as benches, picnic tables, new non-structural construction

elements, and other wood crafts and projects. The selection criteria for urban wood shall be made at the discretion of the Public Works Manager in consultation with an urban wood repurposing facility. Suggested resources for wood processing can be found at www.urbansalvagedwoods.com and www.urbanwoodnetwork.org.

4.8.2 SPECIES REPLACEMENT PLAN

Tree replacement criteria should include a consideration for end of life uses, including lumber. For City trees that are removed with the potential for urban wood, a replacement tree from the Approved Tree Palette in this UFMP will be considered for replanting. The size of the available planting space for the replacement species, presence of overhead utility lines, and the desired resident benefits for the location should be considered in the species selection process.

4.8.3 URBAN WOOD PUBLIC CONSTRUCTION PROJECTS

Urban wood should be considered in all city projects. It is suggested that urban wood utilization be approved by the City of Monterey Park Community Development Department, if applicable. When approval is required, all project scope details shall be in accordance with all municipal construction and / or building code standards. Use of the certification standards as set by the Urban, Salvaged, or Reclaimed Woods Network and endorsed by the Urban Wood Network is recommended to ensure quality. (https://urbansalvagedwoods.com/standards-for-certification-and-chain-of-custody- for-urban-salvaged-and-reclaimed-woods/).

4.9 EMERGENCY OPERATIONS

Regularly scheduled maintenance, inspection, structural pruning, and plant health care will significantly reduce the frequency of tree failure, but they cannot eliminate failures entirely. Branches, trunks, or entire trees may still fail due to storm events, mechanical damage, or other unpredicted environmental factors. As living organisms, trees may fail without warning or discernable cause. These unexpected failures can damage structures, disrupt traffic patterns, and potentially cause injuries. They constitute an emergency that must be addressed as soon as possible. The remainder of this section describes the procedures of the City of Monterey Park Tree Emergency Operations Plan.

4.9.1 INCIDENT REPORTING

Tree related incidents that occur outside of standard business hours for the City of Monterey Park Department of Public Works, Monday – Thursday, 6:30 a.m. – 5:00 p.m., can be reported by City residents through the After Hours Emergency Line (626) 573-1311 or 911 if the incident results in injury or immediate safety concerns that require police or fire department response.

4.9.2 STORM EVENTS

When weather forecasts predict a significant storm or Santa Ana Wind, City of Monterey Park Public Works Staff and the City's Tree Maintenance Contractor access the potential for branch and tree failures that may result. For storms that present a higher risk of such failures, additional response City or Contractor staff may be assigned to respond to emergency calls and patrol areas with higher

probability for failures based on tree species and potential targets that could be impacted after normal Public Works operating hours.

4.9.3 INCIDENT RESPONSE

For calls received during normal Public Works working hours, the Public Works Manager or Supervisor will contact the appropriate City staff or outside contractor to inspect the incident site and assess the response needed. If immediate response is required, the Manager or Supervisor will mobilize the appropriate City staff or outside contractors if needed.

For calls received after normal Public Works hours, the After Hours Emergency Line Staff will contact the Public Works Manager or Public Work Supervisor to mobilize the appropriate City staff or outside contractor to inspect the access the incident site and assess the response needed. If immediate response is required, the Manager or Supervisor will mobilize the appropriate City staff or outside contractors if needed.

4.9.4 EMERGENCY RESPONSE BY OUTSIDE CONTRACTORS

Requests for emergency tree response by an outside contractor require approval by a Department of Public Works Manager or Supervisor. Once approved, the contractor will be contacted according to established procedures and mobilized to the emergency location. As the current Tree Emergency response contractor for the City of Monterey Park, the West Coast Arborist (WCA) emergency response procedure is outlined as an example below. The contact information and contractor procedures will need to be periodically updated as contact personnel change or the City selects a new emergency services contractor.

4.9.4.1 West Coast Arborist Emergency Tree Services Contact Procedure

For emergency services calls in the City of Monterey Park during WCA standard business hours (7:00 a.m. to 4:00 p.m. Monday through Friday, not including holidays) contact:

West Coast Arborist Anaheim Corporate Office – (714) 991-1900;

Area Manager Gonzalo Regaldo – (626) 255-7618;

Supervisor Jose Delreal – (714) 231-3342; or

Customer Service Representative Daizy Castro – (714) 404-5125

For emergency service calls outside of standard working hours, the WCA on-call manager can be contacted through the Limb Down line, (866) LIMB.DOWN [(866) 546-2369]. Once the on-call manager has been contacted, site details and additional information can be sent via email to LIMBDOWN@WCAINC.COM.

WCA emergency response crews will be on-site within two hours of the receipt of the call request.

4.9.5 DEBRIS MANAGEMENT

Foliage and woody debris resulting from the emergency response shall be taken to a green waste facility approved by the Department of Public Works. The responding City or contractor crew is

responsible for removal of the debris prior to leaving the worksite. Larger woody debris, such as trunks and large branches may be transported to an urban wood recycling location as described in the previous section.

4.10 WILDLIFE PROTECTION

The many benefits to the community provided by the trees in the City of Monterey Park have been presented throughout this UFMP. In addition to the benefits for people, the urban forest also provides habitat for a great number of wildlife species. Trees can serve as valuable sites for roosting, foraging, shelter, and nesting, attracting many wildlife species that would otherwise not be found in urban environments. Interactions with many of these wildlife species, such as resident and migrating birds, add to the beauty and quality of life for the residents of the community.

The City of Monterey Park is aware that many of the tree maintenance activities included in the UFMP may impact and/or cause harm to wildlife and that measures to protect wildlife are a key component to the Urban Forest Operations Plan. In addition to the community benefits they provide; Federal and State of California laws require measures to protect wildlife in the urban forest including:

- Federal Migratory Bird Treaty Act (MBTA)
- Federal Endangered Species Act (ESA)
- Federal Bald and Golden Eagle Protection Act (BGEPA)
- California Endangered Species Act (CESA)
- California Fish and Game Code Sections 1600-1617

The degree to which tree maintenance activities impact wildlife will vary based on the time of year and the habitat value associated with the species of tree(s) where maintenance work will be performed. Wildlife can nest at any time during the year and in any tree regardless of habitat value, however, the likelihood of activity is much higher during the breeding season for the wildlife species in trees with higher habitat value. Table 4.30 provides the breeding periods for selected groups of birds as a general guideline.

To assist urban forest managers in deciding the level of protection measures required, the ISA Tree Care for Wildlife Best Management Practices (Appendix B) suggests three categories determined by the breeding season for the species, or group of species of concern and the habitat value provided by the tree(s) that require maintenance activities. The three categories are defined according to the matrix in Figure 4.23.

To protect wildlife during tree maintenance activities, The City of Monterey Park will implement the following measures for all City Maintenance Crews and Tree Maintenance Contractors:

- For Work to be performed in Category 1 Wildlife Protection Areas:
    - Crews will be trained by a Wildlife Trained Arborist or Wildlife Biologist to conduct pre-work inspections for signs of nesting wildlife. The training can be site specific or general wildlife awareness training for city-wide work.

  - Trained crews will conduct a pre-work survey for wildlife prior to beginning work.
  - Inspections will be documented on a form approved by Public Works Director or Public Works Manager.
- For Work to be performed in Category 2 Wildlife Protection Areas:
  - Pre-work inspection will be conducted by a Wildlife Trained Arborist.
  - Inspections will be documented on a form approved by the Public Works Director or Public Works Manager.
- For Work to be performed in Category 3 Wildlife Protection Areas:
  - Pre-work inspection will be conducted by a Wildlife Biologist or Wildlife Trained Arborist specifically trained by a Wildlife Biologist for High Habitat Value areas in the City of Monterey Park.
  - Inspections will be documented on a form approved by Public Works Director or Public Works Manager.
- If signs of wildlife nesting activity are observed:
  - The scheduled work will be delayed until the nesting activity has concluded, and the young have left the nest as determined by a Wildlife Trained Arborist or Wildlife Biologist.
  - An appropriate buffer, according to Table 4.30 or at the direction of a Wildlife Biologist, will be established around the nest. Maintenance work will be delayed for any scheduled trees that fall within the buffer area or would require crews or equipment to enter the buffer area to conduct the scheduled work.
  - Signs will be posted on the nesting tree and any additional tree in the buffer area to provide public notice of the delay in work.
  - A note will be attached in the City's electronic inventory system to the nesting tree site and any tree sites within the buffer zone detailing the wildlife nesting and the delay in the maintenance work.
  - The Public Works Manager will be notified of the delayed work.

Bird Group	Typical Breeding Season	Egg Incubation Period (Days)	Duration of Period from Hatching to Young Leaving the Nest	Minimum Buffer Radius for Low Habitat Value Trees (feet)	Minimum Buffer Radius for High Habitat Value Trees (feet)
Herons and Egrets	January – August	19 – 27	21 – 81 days	200	300
Birds of Prey (Hawks, Vultures, Falcons)	February - August	25 – 36	4 – 7 weeks	300	500
Doves	February - November	14 – 20	13 – 30 days	100	300
Owls	January – July	26 – 35	28 – 60 days	300	500
Hummingbirds	December - July	13 – 18	20 – 23 days	100	300
Songbirds (eg. Finches, kingbirds, mockingbirds)	February - August	11 – 17	9 – 25 days	100	300
Crows, Ravens, Jays	February - August	15 – 21	Jays: 18 days Crows: 35 days Ravens: 5 – 6 weeks	100	300

Table 4.30: Breeding Season, Incubation Period, Fledging Duration, and Buffer Requirements for Selected Groups of Birds

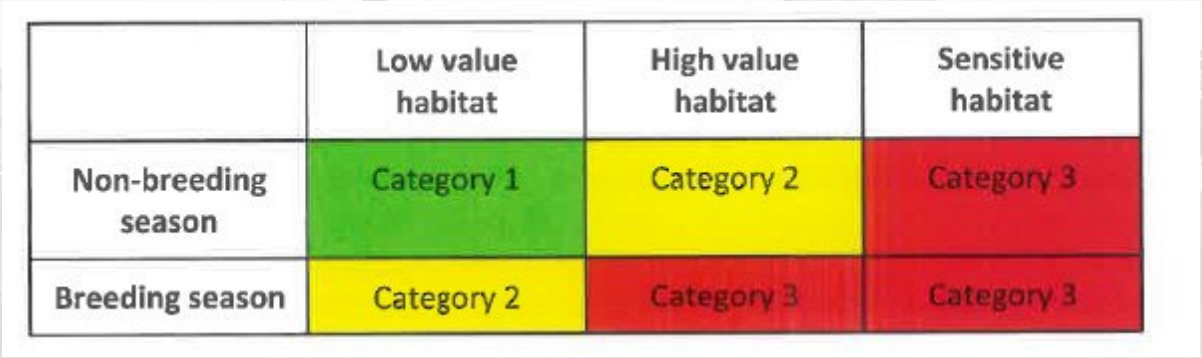
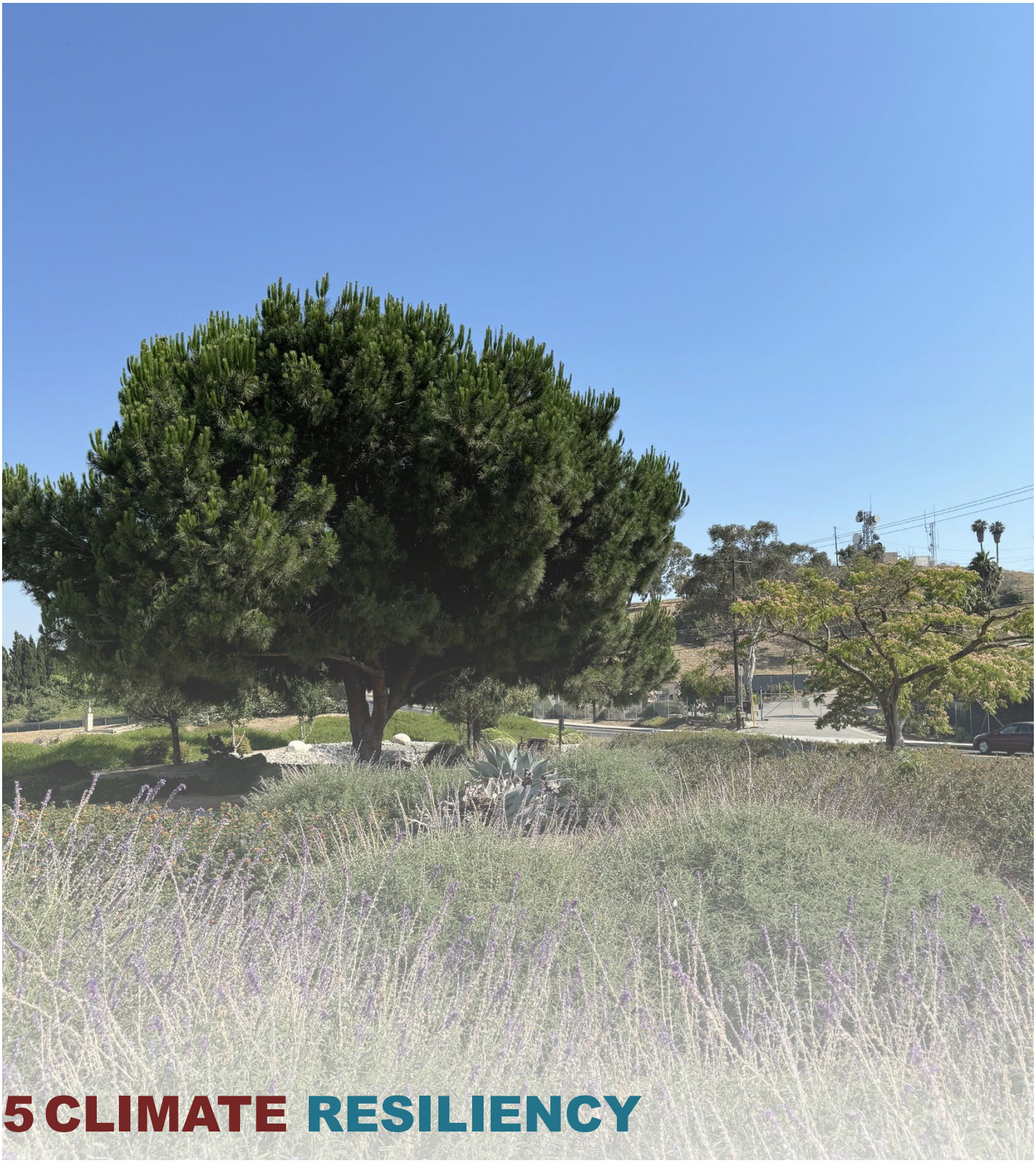


Figure 4.23: Wildlife Protection Categories
(From the ISA *Tree Care for Wildlife Best Management Practices*)



5 CLIMATE RESILIENCY

CLIMATE RESILIENCY

5.1 SUSTAINABILITY

The urban environment presents many challenges for the growth and development of trees. The area needed for root expansion, to provide structural support and access to adequate water and nutrients for tree growth and development, is often limited by the building, hardscape, and infrastructure footprints necessary to support the community. The expansion of a tree's canopy to gather more light and support growth, often conflicts with overhead utilities, buildings, and traffic signs. Increased temperature due to reflected heat from structures and hardscape increases evapotranspiration, taxing tree root systems to uptake more water to compensate.

These obstacles become more daunting as the Southern California trends towards hotter, drier weather as part of global climate change. Climate prediction models, such as The Climate Explorer, project an increase in average daily temperatures of one to three degrees Fahrenheit (1° – 3°F) from 2020 to 2030 and additional one to two degrees Fahrenheit (1° – 2°F) increase by 2040. The temperature change is likely to be accompanied by more unpredictable annual precipitation with longer periods of drought in between extreme storm events. Many common Southern California street tree species will struggle to adapt to the changing climate patterns, either succumbing directly to drought stress or to associated increases in pest and disease susceptibility.

Overcoming these obstacles requires a commitment of resources to the cultural and maintenance practices discussed in the previous section and proper planning to install the appropriate species for the site from high quality nursery stock, according to ISA BMPs and ANSI Standards. For the urban forest to be sustainable, available resources must be allocated efficiently to deliver the maximum possible benefits to the community. The information offered in this section is based on the most current scientific research, industry practices, ISA Best Management Practices, and ANSI Standards at the time of the drafting of the UFMP and is intended to provide the City of Monterey Park Tree Management personnel guidance for more effective species selection, installation procedures, and protection of mature trees on the pathway to a sustainable urban forest.

5.2 TREE PALETTE

Installing the wrong tree species for the site can lead to increased maintenance efforts and cost, increased water usage, damage to infrastructure, conflicts with overhead utilities, lighting, traffic signs and signals, and may even result in the death of the tree. The need to conserve water resources, due to changes in climate and sustained drought, must also be a major consideration in species selection as the City of Monterey Park looks to replace removed trees or fill vacant sites to expand the Urban Forest. Tables 5.1 – 5.6 below list the appropriate tree species based on the size of the planting area, proximity to overhead utility lines, and water usage. Trees currently in the City of Monterey Park Urban Forest inventory are indicated with an asterisk (*). Trees that are native to Southern California are marked with a double dagger symbol (‡). A profile is provided for all species not currently included in the inventory.

5.2.1 PLANT CHARACTERISTICS USED

5.2.1.1 Foliage Type

This characteristic describes the persistence of leaves on trees of a given species. The three categories for foliage type are evergreen, deciduous and partly deciduous.

Evergreen – Trees that do not lose all their leaves or needles at any one time. These trees will drop older leaves at specific times or throughout the year depending on the species. Evergreen trees remain green throughout the winter.

Deciduous – Trees that lose their leaves completely and enter a period of dormancy in a given season. Most species are fall or winter deciduous and will become dormant during the colder periods of the year; however, there are a handful of drought deciduous species that will enter dormancy during the summer when temperatures are higher and water is less available.

Partly Deciduous – Trees that lose most of their leaves during the dormancy period, while still retaining some living foliage at lower densities.

Some tree species can adapt foliage type depending on climate and local weather patterns. For example, if the winter temperatures in a given area are mild and rarely below freezing, a species that is normally deciduous may adopt a partly deciduous foliage type in that area. Species that demonstrate this adaptive characteristic are indicated in the tables below with a range for the foliage type.

5.2.1.2 Maximum Height and Width

The numbers for maximum height and width presented in the tables and species profiles that follow represent the observed values, in feet, for trees of each species from the available literature. Environmental factors such as availability of growing space, light, and water may limit growth preventing individual trees from reaching these dimensions.

5.2.1.3 Water Usage

The water usage rating given for each tree species in the tables and species profiles below is based on the Water Use Classification of Landscape Species (WUCOLS) values. WUCOLS rates the water usage by species according to four categories, Very Low, Low, Moderate, High. For species that have not been evaluated as part of WUCOLS, water usage rates were based on the values presented in the SelecTree databases using the same scale values.

Very Low – Once established, species with a Very Low rating do not require irrigation water to supplement normal precipitation, except in years with below average rainfall.

Low – Once established, species with a Low rating require only minimal irrigation water during the summer months.

Moderate – Once established, species with a Moderate rating require irrigation water to remain healthy, especially during the summer and during long periods without precipitation.

High – Species with a High rating require regular irrigation to remain healthy, especially during the summer.

5.2.2 APPROVED TREE PALETTE

The list of tree species approved for new and replacement installations in areas managed by the City of Monterey Park is listed in Table 5.1. The common name, botanical name, minimum planter size, potential to damage hardscape, potential conflicts with overhead utility lines, foliage type, maximum height and width, and water requirements are listed for each approved species. The overall list is broken down further by minimum planter space and compatibility with overhead utility lines in Tables 5.2 – 5.6.

The availability of nursery stock for these species for emergency and other small quantity replacements may vary based on industry trends, leading to overrepresentation of more commonly available species in the Urban Forest inventory. This issue is addressed through contract grows of underrepresented species as part of the Succession Plan presented in the Strategic Plan Section.

Common Name	Botanical Name	Min. Planter Size (Width in Feet)	Potential Hardscape Damage	Overhead Utility Line Compatible	Foliage Type	Max Height (Feet)	Max Width (Feet)	Water Usage
Afghan pine*	*Pinus eldarica*	> 7	Moderate	No	Evergreen	80	25	Low
African sumac*	*Searsia lancea*	4 – 7	Low	No	Evergreen	30	35	Very Low
Aleppo pine*	*Pinus halepensis*	> 7	Moderate	No	Evergreen	60	40	Moderate
Australian flame tree*	*Brachychiton acerifolius*	> 7	Moderate	No	Partly Deciduous	60	40	Moderate
Australian willow*	*Geijera parviflora*	4 – 7	Low	No	Evergreen	35	20	Moderate
Autumn Gold maidenhair tree*	*Ginkgo biloba* 'Autumn Gold'	> 7	Moderate	No	Deciduous	50	35	Moderate
Beefwood / She-oak	*Casuarina cunninghamiana*	> 7	Low	No	Evergreen	70	30	Low
Blue atlas cedar*	*Cedrus atlantica* 'Glauca'	> 7	Moderate	No	Evergreen	60	40	Low
Bottle tree*	*Brachychiton populneus*	> 7	Moderate	No	Evergreen	50	30	Moderate
Brisbane box*	*Lophostemon confertus*	4 – 7	Moderate	No	Evergreen	50	30	Moderate
Cajeput tree*	*Melaleuca quinquenervia*	4 – 7	Low	No	Evergreen	40	25	Low
California buckeye‡	*Aesculus californica*	4 – 7	Low	Yes	Deciduous	25	30	Low
Camphor tree*	*Cinnamomum camphora*	> 7	High	No	Evergreen	65	60	Moderate
Carolina laurel cherry*	*Prunus caroliniana*	4 – 7	Low	No	Evergreen	30	25	Moderate
Catalina cherry‡	*Prunus ilicifolia* ssp. *lyonii*	4 – 7	Low	No	Evergreen	35	30	Low
Catalina ironwood‡	*Lyonothamnus floribundus* ssp. *aspleniifolius*	4 – 7	Moderate	No	Evergreen	40	20	Low
Cherokee crape myrtle*	*Lagerstroemia indica* 'Cherokee'	2 – 4	Low	Yes	Deciduous	15	15	Very Low
Chinaberry*	*Melia azedarach*	> 7	Moderate	No	Deciduous	50	25	Low
Chinese fringe tree*	*Chionanthus retusus*	2 – 4	Low	Yes	Deciduous	20	12	Moderate
Chinese pistache*	*Pistacia chinensis*	4 – 7	Low	No	Deciduous	35	35	Low

CLIMATE RESILIENCY

Common Name	Botanical Name	Min. Planter Size (Width in Feet)	Potential Hardscape Damage	Overhead Utility Line Compatible	Foliage Type	Max Height (Feet)	Max Width (Feet)	Water Usage
Chisos oak	*Quercus canbyi*	> 7	Low	No	Partly Deciduous – Evergreen	50	50	Low
Chitalpa*	x *Chitalpa tashkentensis*	4 – 7	Low	No	Deciduous	35	30	Low
Coast banksia	*Banksia integrifolia*	> 7	Moderate	No	Evergreen	60	30	Very Low
Coast live oak*‡	*Quercus agrifolia*	> 7	High	No	Evergreen	70	70	Low
Compton oak	*Quercus* x *comptoniae*	4 – 7	Low	No	Deciduous	60	40	Moderate
Cook pine*	*Araucaria columnaris*	> 7	Moderate	No	Evergreen	160	20	Moderate
Crimson melaleuca	*Melaleuca elliptica*	2 – 4	Low	Yes	Evergreen	10	10	Moderate
Desert ironwood‡	*Olneya tesota*	4 – 7	Low	No	Evergreen	30	30	Low
Desert Museum palo verde	*Parkinsonia* x 'Desert Museum'	2 – 4	Low	Yes	Deciduous	20	25	Very Low
Desert willow‡	*Chilopsis linearis*	2 – 4	Low	No	Deciduous	30	20	Very Low
Drooping she-oak*	*Allocasuarina verticillata*	4 – 7	Moderate	No	Evergreen	35	35	Low
Eastern redbud*	*Cercis canadensis*	4 – 7	Low	No	Deciduous	35	35	Moderate
Edible loquat*	*Eriobotrya japonica*	4 – 7	Low	No	Evergreen	30	30	Moderate
Empress tree	*Paulownia tomentosa*	> 7	High	No	Deciduous	50	50	Moderate
Engelmann oak‡	*Quercus engelmannii*	> 7	Moderate	No	Partly Deciduous	65	120	Very Low
Feather bush	*Lysiloma watsonii*	2 – 4	Low	Yes	Partly Deciduous – Evergreen	15	15	Low
Fern pine*	*Afrocarpus falcatus*	> 7	Low	No	Evergreen	65	35	Moderate
Flaxleaf paperbark	*Melaleuca linariifolia*	4 – 7	Low	No	Evergreen	30	25	Low
Floss silk tree*	*Ceiba speciosa*	> 7	Moderate	No	Partly Deciduous	60	50	Low
Fraser photinia*	*Photinia* x *fraseri*	2 – 4	Low	Yes	Evergreen	20	12	Moderate
Fruitless olive*	*Olea europaea*	4 – 7	Moderate	No	Evergreen	30	30	Low
Ghost gum	*Corymbia aparrerinja*	4 - 7	Moderate	No	Evergreen	50	35	Very Low
Glossy privet*	*Ligustrum lucidum*	> 7	Moderate	No	Evergreen	50	50	Moderate
Gold medallion tree*	*Cassia leptophylla*	4 – 7	Low	Yes	Partly Deciduous – Evergreen	25	30	Moderate
Golden trumpet tree*	*Handroanthus chrysotrichus*	2 – 4	Moderate	No	Deciduous	30	30	Moderate
Guadalupe palm*	*Brahea edulis*	4 – 7	Low	Yes	Evergreen	25	15	Low
Holly oak*	*Quercus ilex*	> 7	Low	No	Evergreen	60	60	Moderate
Hollywood juniper*	*Juniperus chinensis* 'Torulosa'	2 – 4	Low	Yes	Evergreen	15	10	Moderate
Honey locust*	*Gleditsia triacanthos*	> 7	Moderate	No	Deciduous	70	35	Moderate
Hong Kong orchid tree*	*Bauhina* x *blakeana*	4 – 7	Low	No	Partly Deciduous	40	25	Moderate
Island oak‡	*Quercus tomentella*	> 7	Moderate	No	Evergreen	50	40	Low
Italian cypress*	*Cupressus sempervirens*	> 7	Moderate	No	Evergreen	70	20	Moderate
Jacaranda*	*Jacaranda mimosifolia*	4 – 7	Moderate	No	Partly Deciduous	50	30	Moderate
Japanese black pine*	*Pinus thunbergii*	4 – 7	Moderate	No	Evergreen	30	35	Moderate
Japanese privet*	*Ligustrum japonicum*	2 – 4	Low	No	Evergreen	15	8	Moderate
Jerusalem thorn*	*Parkinsonia aculeata*	2 – 4	Low	Yes	Deciduous	20	25	Low
Lemonade berry‡	*Rhus integrifolia*	2 – 4	Low	Yes	Evergreen	20	15	Low

CLIMATE RESILIENCY

Common Name	Botanical Name	Min. Planter Size (Width in Feet)	Potential Hardscape Damage	Overhead Utility Line Compatible	Foliage Type	Max Height (Feet)	Max Width (Feet)	Water Usage
Lemon-scented gum*	*Corymbia citriodora*	> 7	Moderate	No	Evergreen	160	100	Low
Littleleaf palo verde‡	*Parkinsonia microphylla*	2 – 4	Low	Yes	Deciduous	20	20	Low
Maidenhair tree*	*Ginkgo biloba*	> 7	Moderate	No	Deciduous	65	25	Moderate
Majestic Beauty Indian hawthorn*	x *Rhaphiobotrya splendens* 'Montic'	4 – 7	Low	Yes	Evergreen	25	10	Moderate
Marina strawberry tree*	*Arbutus* 'Marina'	2 – 4	Low	No	Evergreen	40	30	Moderate
Mediterranean fan palm*	*Chamaerops humilis*	2 – 4	Low	Yes	Evergreen	15	15	Low
Mesquite*‡	*Prosopis glandulosa*	4 – 7	Low	No	Deciduous	35	35	Low
Mexican blue palm*	*Brahea armata*	4 – 7	Low	No	Evergreen	50	25	Low
Modesto ash*	*Fraxinus velutina* 'Modesto'	> 7	High	No	Deciduous	50	40	Moderate
Monterey pine*	*Pinus radiata*	> 7	Moderate	No	Evergreen	100	35	Moderate
Mulga	*Acacia aneura*	2 – 4	Low	Yes	Evergreen	20	20	Very Low
Muskogee hybrid crape myrtle*	*Lagerstroemia* 'Muskogee'	4 – 7	Low	Yes	Deciduous	25	25	Moderate
Natchez crape myrtle*	*Lagerstroemia* 'Natchez'	4 – 7	Low	Yes	Deciduous	25	25	Moderate
Netleaf oak	*Quercus rugosa*	> 7	Moderate	No	Evergreen	60	40	Moderate
New Zealand Christmas tree*	*Metrosideros excelsa*	4 – 7	Moderate	No	Evergreen	35	35	Low
Norfolk Island pine*	*Araucaria heterophylla*	> 7	Moderate	No	Evergreen	100	60	Moderate
Olive*	*Olea europaea*	4 – 7	Moderate	No	Evergreen	30	30	Low
Orange gum	*Eucalyptus prava*	2 – 4	Moderate	No	Evergreen	30	30	Low
Peppermint tree*	*Agonis flexuosa*	4 – 7	Moderate	No	Evergreen	35	30	Low
Pineapple guava	*Acca sellowiana*	4 – 7	Low	Yes	Evergreen	25	25	Low
Pink melaleuca	*Melaleuca nesophila*	4 – 7	Low	No	Evergreen	30	30	Low
Pink trumpet tree*	*Handroanthus heptaphyllus*	4 – 7	Low	No	Partly Deciduous	30	25	Moderate
Popcorn tree*	*Senna spectabilis*	2 – 4	Low	Yes	Evergreen	20	20	Low
Purple orchid tree*	*Bauhinia variegata*	4 – 7	Low	No	Partly Deciduous	35	35	Moderate
Purple-leaf acacia	*Acacia baileyana* 'Purpurea'	4 – 7	Moderate	Yes	Evergreen	30	30	Very Low
Purple-leaf flowering plum*	*Prunus cerasifera* 'Atropurpurea'	4 – 7	Low	No	Deciduous	35	35	Moderate
Purpureus smoke tree	*Cotinus coggygria* 'Purpureus'	2 – 4	Low	Yes	Deciduous	15	15	Low
Pygmy date palm*	*Phoenix roebelenii*	2 – 4	Low	Yes	Evergreen	15	7	Moderate
Queensland lacebark	*Brachychiton discolor*	> 7	Moderate	No	Partly Deciduous	65	30	Moderate
Queensland pittosporum*	*Auranticarpa rhombifolia*	4 – 7	Low	No	Evergreen	35	20	Low
Red flowering gum*	*Corymbia ficifolia*	4 – 7	Moderate	No	Evergreen	45	60	Low
Red flowering ironbark	*Eucalyptus sideroxylon* var. *rosea*	4 – 7	High	No	Evergreen	90	60	Low
Red ironbark*	*Eucalyptus sideroxylon*	> 7	High	No	Evergreen	90	60	Low
Red Push pistache*	*Pistacia* x 'Red Push'	4 – 7	Low	No	Deciduous	40	40	Moderate
Red-cap gum	*Eucalyptus erythrocorys*	4 – 7	Low	No	Evergreen	30	25	Low
River wattle	*Acacia cognata*	4 – 7	Low	Yes	Evergreen	25	25	Moderate
Rose gum	*Angophora costata*	> 7	Moderate	No	Evergreen	65	50	Low

Common Name	Botanical Name	Min. Planter Size (Width in Feet)	Potential Hardscape Damage	Overhead Utility Line Compatible	Foliage Type	Max Height (Feet)	Max Width (Feet)	Water Usage
Round-leafed moort	*Eucalyptus platypus*	4 – 7	Low	No	Evergreen	35	35	Very Low
Round-leafed snow gum	*Eucalyptus perriniana*	4 – 7	Moderate	No	Evergreen	30	25	Moderate
Shamel ash*	*Fraxinus uhdei*	> 7	High	No	Partly Deciduous – Evergreen	80	60	Moderate
Shoestring acacia	*Acacia stenophylla*	4 – 7	Low	Yes	Evergreen	30	20	Very Low
Silk oak*	*Grevillea robusta*	> 7	Moderate	No	Evergreen	65	40	Low
Silk tree*	*Albizia julibrissin*	4 – 7	Moderate	No	Partly Deciduous	35	20	Moderate
Silver dollar gum*	*Eucalyptus polyanthemos*	> 7	Moderate	No	Evergreen	75	45	Low
Silverleaf oak	*Quercus hypoleucoides*	> 7	Moderate	No	Evergreen	80	30	Low
Singleleaf pinyon pine‡	*Pinus monophylla*	4 – 7	Low	No	Evergreen	30	20	Low
Smoke tree*	*Cotinus coggygria*	2 – 4	Low	Yes	Deciduous	15	18	Low
Smooth Arizona cypress	*Hesperocyparis arizonica* var. *glabra*	> 7	Moderate	No	Evergreen	50	20	Low
Soapbark tree	*Quillaja saponaria*	4 – 7	Low	No	Evergreen	45	25	Low
South African wild plum*	*Harpephyllum caffrum*	4 – 7	High	No	Evergreen	50	50	Moderate
Southern live oak*	*Quercus virginiana*	> 7	Moderate	No	Partly Deciduous – Evergreen	80	100	Moderate
Strawberry tree*	*Arbutus unedo*	4 – 7	Low	No	Evergreen	35	35	Moderate
Sugar gum*	*Eucalyptus cladocalyx*	> 7	Moderate	No	Evergreen	90	75	Low
Sweet hakea	*Hakea drupacea*	2 – 4	Low	Yes	Evergreen	20	20	Moderate
Sweetshade*	*Hymenosporum flavum*	4 – 7	Low	No	Evergreen	35	20	Moderate
Sydney golden wattle*	*Acacia longifolia*	4 – 7	High	Yes	Evergreen	25	15	Low
Taiwan cherry	*Prunus campanulata*	4 – 7	Low	Yes	Deciduous	25	25	Moderate
Texas ebony	*Ebenopsis ebano*	2 – 4	High	No	Evergreen	40	40	Low
Texas olive	*Cordia boissieri*	2 – 4	Low	No	Evergreen	20	15	Low
Tipu*	*Tipuana tipu*	> 7	Moderate	No	Deciduous – Partly Deciduous	50	50	Moderate
Torrey pine*‡	*Pinus torreyana*	> 7	Moderate	No	Evergreen	50	25	Moderate
Toyon*‡	*Heteromeles arbutifolia*	4 – 7	Low	Yes	Evergreen	25	15	Low
Tuscarora hybrid crape myrtle*	*Lagerstroemia* 'Tuscarora'	4 – 7	Low	Yes	Deciduous	25	18	Moderate
Velvet ash*	*Fraxinus velutina*	> 7	High	No	Deciduous	50	40	Moderate
Victorian box*	*Pittosporum undulatum*	4 – 7	Low	No	Evergreen	40	40	Moderate
Weeping acacia	*Acacia pendula*	2 – 4	Moderate	No	Evergreen	30	20	Moderate
Western redbud‡	*Cercis occidentalis*	2 – 4	Low	Yes	Deciduous	20	20	Moderate
White ironbark*	*Eucalyptus leucoxylon*	> 7	Moderate	No	Evergreen	90	60	Low
White jacaranda*	*Jacaranda mimosifolia* 'Alba'	> 7	Moderate	No	Partly Deciduous	50	30	Moderate
Wilson holly*	*Ilex* 'Wilsonii'	4 – 7	Low	Yes	Evergreen	25	25	Moderate
Windmill palm*	*Trachycarpus fortunei*	2 – 4	Low	No	Evergreen	30	10	Low

Table 5.1 – Approved Tree Species Palette.

5.2.3 PLANTING SPACE AVAILABLE 2 – 4 FEET WIDE WITH NO OVERHEAD UTILITIES

The following species (Table 5.2) are recommended for parkways, medians, or other City maintained planting areas where the width of the smallest dimension is between two (2) and four (4) feet and no overhead utility lines are present.

Common Name	Botanical Name	Foliage Type	Maximum Height (ft)	Maximum Width (ft)	Water Usage
Desert willow‡	*Chilopsis linearis*	Deciduous	30	20	Very Low
Golden trumpet tree*	*Handroanthus chrysotrichus*	Deciduous	30	30	Moderate
Japanese privet*	*Ligustrum japonicum*	Evergreen	15	8	Moderate
Marina strawberry tree*	*Arbutus* 'Marina'	Evergreen	40	30	Moderate
Orange gum	*Eucalyptus prava*	Evergreen	30	30	Low
Texas ebony	*Ebenopsis ebano*	Evergreen	40	40	Low
Texas olive	*Cordia boissieri*	Evergreen	20	15	Low
Weeping acacia	*Acacia pendula*	Evergreen	30	20	Moderate
Windmill palm*	*Trachycarpus fortunei*	Evergreen	30	10	Low

Table 5.2 – Species Appropriate for 2 – 4-Foot-Wide Planting Areas with No Overhead Utility Lines Present.

5.2.4 PLANTING SPACE AVAILABLE 2 – 4 FEET WIDE WITH OVERHEAD UTILITIES

The following species (Table 5.3) are recommended for parkways, medians, or other City maintained planting areas where the width of the smallest dimension is between two (2) and four (4) feet and overhead utility lines are present. These species can also be planted in areas without overhead utility lines.

Common Name	Botanical Name	Foliage Type	Maximum Height (ft)	Maximum Width (ft)	Water Usage
Cherokee crape myrtle*	*Lagerstroemia indica* 'Chorokee'	Deciduous	15	15	Very Low
Chinese fringe tree*	*Chionanthus retusus*	Deciduous	20	12	Moderate
Crimson melaleuca	*Melaleuca elliptica*	Evergreen	10	10	Moderate
Desert Museum palo verde	*Parkinsonia* x 'Desert Museum'	Deciduous	20	25	Very Low
Feather bush	*Lysiloma watsonii*	Partly Deciduous – Evergreen	15	15	Low
Fraser photinia*	*Photinia* x *fraseri*	Evergreen	20	12	Moderate
Hollywood juniper*	*Juniperus chinensis* 'Torulosa'	Evergreen	15	10	Moderate
Jerusalem thorn*	*Parkinsonia aculeata*	Deciduous	20	25	Low
Lemonade berry‡	*Rhus integrifolia*	Evergreen	20	15	Low
Littleleaf palo verde‡	*Parkinsonia microphylla*	Deciduous	20	20	Low
Mediterranean fan palm*	*Chamaerops humilis*	Evergreen	15	15	Low
Mulga	*Acacia aneura*	Evergreen	20	20	Very Low
Popcorn tree*	*Senna spectabilis*	Evergreen	20	20	Low
Purpureus smoke tree	*Cotinus coggygria* 'Purpureus'	Deciduous	15	15	Low
Pygmy date palm*	*Phoenix roebelenii*	Evergreen	15	7	Low
Smoke tree*	*Cotinus coggygria*	Deciduous	15	18	Low

Common Name	Botanical Name	Foliage Type	Maximum Height (ft)	Maximum Width (ft)	Water Usage
Sweet hakea	*Hakea drupacea*	Evergreen	20	20	Moderate
Western redbud‡	*Cercis occidentalis*	Deciduous	20	20	Moderate

Table 5.3 – Species Appropriate for 2 – 4-Foot-Wide Planting Areas with Overhead Utility Lines Present.

5.2.5 PLANTING SPACE AVAILABLE 4 – 7 FEET WIDE WITH NO OVERHEAD UTILITIES

The following species (Table 5.4) are recommended for parkways, medians, or other City maintained planting areas where the width of the smallest dimension is at least four (4) feet and no overhead utility lines are present. Species marked with + have a high potential for root damage to hardscape and should be avoided in smaller planters adjacent to sidewalks and roadways.

Common Name	Botanical Name	Foliage Type	Maximum Height (ft)	Maximum Width (ft)	Water Usage
African sumac*	*Searsia lancea*	Evergreen	30	35	Very Low
Australian willow*	*Geijera parviflora*	Evergreen	35	20	Moderate
Brisbane box*	*Lophostemon confertus*	Evergreen	50	20	Moderate
Cajeput tree*	*Melaleuca quinquenervia*	Evergreen	40	25	Low
Carolina laurel cherry*	*Prunus caroliniana*	Evergreen	30	25	Moderate
Catalina cherry‡	*Prunus ilicifolia* ssp. *lyonii*	Evergreen	35	30	Low
Catalina ironwood‡	*Lyonothamnus floribundus* ssp. *aspleniifolius*	Evergreen	40	20	Low
Chinese pistache*	*Pistacia chinensis*	Deciduous	35	35	Low
Chitalpa*	x *Chitalpa tashkentensis*	Deciduous	35	30	Low
Compton oak	*Quercus* x *comptoniae*	Deciduous	60	40	Moderate
Desert ironwood‡	*Olneya tesota*	Evergreen	30	30	Low
Drooping she-oak*	*Allocasuarina verticillata*	Evergreen	35	35	Moderate
Eastern redbud*	*Cercis canadensis*	Deciduous	35	35	Moderate
Edible loquat*	*Eriobotrya japonica*	Evergreen	30	30	Moderate
Flaxleaf paperbark	*Melaleuca linariifolia*	Evergreen	30	25	Low
Fruitless olive*	*Olea europaea* 'Swan Hill'	Evergreen	30	30	Low
Ghost gum	*Corymbia aparrerinja*	Evergreen	50	35	Very Low
Hong Kong orchid tree*	*Bauhinia* x *blakeana*	Partly Deciduous	40	25	Moderate
Jacaranda*	*Jacaranda mimosifolia*	Partly Deciduous	50	30	Moderate
Japanese black pine*	*Pinus thunbergii*	Evergreen	30	35	Moderate
Mesquite*‡	*Prosopis glandulosa*	Deciduous	35	35	Low
Mexican blue palm*	*Brahea armata*	Evergreen	50	25	Low
New Zealand Christmas tree*	*Metrosideros excelsa*	Evergreen	35	35	Low
Olive*	*Olea europaea*	Evergreen	30	30	Low
Peppermint tree*	*Agonis flexuosa*	Evergreen	35	30	Low
Pink melaleuca	*Melaleuca nesophila*	Evergreen	30	30	Low
Pink trumpet tree*	*Handroanthus heptaphyllus*	Partly Deciduous	30	25	Moderate
Purple orchid tree*	*Bauhinia variegata*	Partly Deciduous	35	35	Moderate
Purple-leaf flowering plum*	*Prunus cerasifera* 'Atropurpurea'	Deciduous	35	35	Moderate

Common Name	Botanical Name	Foliage Type	Maximum Height (ft)	Maximum Width (ft)	Water Usage
Queensland pittosporum*	*Auranticarpa rhombifolia*	Evergreen	35	20	Low
Red flowering gum*	*Corymbia ficifolia*	Evergreen	45	60	Low
Red flowering ironbark	*Eucalyptus sideroxylon* var. *rosea*	Evergreen	90	60	Low
Red Push pistache*	*Pistacia* x 'Red Push'	Deciduous	40	40	Moderate
Red-cap gum	*Eucalyptus erythrocorys*	Evergreen	30	25	Low
Round-leafed moort	*Eucalyptus platypus*	Evergreen	35	35	Very Low
Round-leafed snow gum	*Eucalyptus perriniana*	Evergreen	30	25	Moderate
Silk tree*	*Albizia julibrissin*	Partly Deciduous	35	20	Moderate
Singleleaf pinyon pine‡	*Pinus monophylla*	Evergreen	30	20	Moderate
Soapbark tree	*Quillaja saponaria*	Evergreen	45	25	Low
South African wild plum*	*Harpephyllum caffrum*	Evergreen	50	50	Moderate
Strawberry tree*	*Arbutus unedo*	Evergreen	35	35	Moderate
Sweetshade*	*Hymenosporum flavum*	Evergreen	35	20	Moderate
Victorian box*	*Pittosporum undulatum*	Evergreen	40	40	Moderate

Table 5.4 – Species Appropriate for 4 – 7-Foot-Wide Planting Areas with No Overhead Utility Lines Present.

5.2.6 PLANTING SPACE AVAILABLE 4 – 7 FEET WIDE WITH OVERHEAD UTILITIES

The following species (Table 5.5) are recommended for parkways, medians, or other City maintained planting areas where the width of the smallest dimension is at least four (4) feet and overhead utility lines are present. These species can also be planted in spaces with a width of at least four (4) feet with no overhead utility lines present.

Common Name	Botanical Name	Foliage Type	Maximum Height (ft)	Maximum Width (ft)	Water Usage
California buckeye‡	*Aesculus californica*	Deciduous	25	30	Low
Gold medallion tree*	*Cassia leptophylla*	Partly Deciduous – Evergreen	25	30	Moderate
Guadalupe palm*	*Brahea edulis*	Evergreen	25	15	Low
Majestic Beauty Indian hawthorn*	x *Rhaphiobotrya splendens* 'Montic'	Evergreen	25	10	Moderate
Muskogee hybrid crape myrtle*	*Lagerstroemia* 'Muskogee'	Deciduous	25	25	Moderate
Natchez crape myrtle*	*Lagerstroemia* 'Natchez'	Deciduous	25	25	Moderate
Pineapple guava	*Acca sellowiana*	Evergreen	25	25	Low
Purple-leaf acacia	*Acacia baileyana* 'Purpurea'	Evergreen	30	30	Very Low
River wattle	*Acacia cognata*	Evergreen	25	25	Moderate
Shoestring acacia	*Acacia stenophylla*	Evergreen	30	20	Very Low
Sydney golden wattle*	*Acacia longifolia*	Evergreen	25	15	Low
Taiwan cherry	*Prunus campanulata*	Deciduous	25	25	Moderate
Toyon*‡	*Heteromeles arbutifolia*	Evergreen	25	15	Low
Tuscarora hybrid crape myrtle*	*Lagerstroemia* 'Tuscarora'	Deciduous	25	18	Moderate
Wilson holly*	*Ilex* 'Wilsonii'	Evergreen	25	25	Moderate

Table 5.5 – Species Appropriate for 4 – 7-Foot-Wide Planting Areas with Overhead Utility Lines Present.

5.2.7 PLANTING SPACE AVAILABLE GREATER THAN 7 FEET WIDE

The following species (Table 5.6) require planters where the width of the smallest dimension is greater than seven (7) feet. These are larger trees that are better suited for parks and large medians. None of the species in this list are appropriate for planting in areas with overhead utility lines. Species marked with + have a high potential for root damage to hardscape and should be avoided in smaller planters adjacent to sidewalks and roadways.

Common Name	Botanical Name	Foliage Type	Maximum Height (ft)	Maximum Width (ft)	Water Usage
Afghan pine*	*Pinus eldarica*	Evergreen	80	25	Low
Aleppo pine*	*Pinus halepensis*	Evergreen	60	40	Moderate
Australian flame tree*	*Brachychiton acerifolius*	Partly Deciduous	60	40	Moderate
Autumn Gold maidenhair tree*	*Ginkgo biloba* 'Autumn Gold'	Deciduous	50	35	Moderate
Beefwood / She-oak	*Casuarina cunninghamiana*	Evergreen	70	30	Low
Blue atlas cedar*	*Cedrus atlantica* 'Glauca'	Evergreen	60	40	Low
Bottle tree*	*Brachychiton populneus*	Evergreen	50	30	Moderate
Camphor tree*	*Cinnamomum camphora*	Evergreen	65	60	Moderate
Chinaberry*	*Melia azedarach*	Deciduous	50	25	Low
Chisos oak	*Quercus canbyi*	Partly Deciduous – Evergreen	50	50	Low
Coast banksia	*Banksia integrifolia*	Evergreen	60	30	Very Low
Coast live oak*‡	*Quercus agrifolia*	Evergreen	70	70	Low
Cook pine*	*Araucaria columnaris*	Evergreen	160	20	Moderate
Empress tree	*Paulownia tomentosa*	Deciduous	50	50	Moderate
Engelmann oak‡	*Quercus engelmannii*	Deciduous – Partly Deciduous	65	120	Very Low
Fern pine*	*Afrocarpus falcatus*	Evergreen	65	35	Moderate
Floss silk tree*	*Ceiba speciosa*	Partly Deciduous	60	50	Low
Glossy privet*	*Ligustrum lucidum*	Evergreen	50	50	Moderate
Holly oak*	*Quercus ilex*	Evergreen	60	60	Moderate
Honey locust*	*Gleditsia triacanthos*	Deciduous	70	35	Moderate
Island oak‡	*Quercus tomentella*	Evergreen	50	40	Low
Italian cypress*	*Cupressus sempervirens*	Evergreen	70	20	Moderate
Lemon-scented gum*	*Corymbia citriodora*	Evergreen	160	100	Low
Maidenhair tree*	*Ginkgo biloba*	Deciduous	65	25	Moderate
Modesto ash*	*Fraxinus velutina* 'Modesto'	Deciduous	50	40	Moderate
Monterey pine*	*Pinus radiata*	Evergreen	100	35	Moderate
Netleaf oak	*Quercus rugosa*	Evergreen	60	40	Moderate
Norfolk Island pine*	*Araucaria heterophylla*	Evergreen	100	60	Moderate
Queensland lacebark	*Brachychiton discolor*	Partly Deciduous	65	30	Moderate
Red ironbark*	*Eucalyptus sideroxylon*	Evergreen	90	60	Low
Rose gum	*Angophora costata*	Evergreen	65	50	Low
Shamel ash*	*Fraxinus uhdei*	Partly Deciduous – Evergreen	80	60	Moderate
Silk oak*	*Grevillea robusta*	Evergreen	65	40	Low

Common Name	Botanical Name	Foliage Type	Maximum Height (ft)	Maximum Width (ft)	Water Usage
Silver dollar gum*	*Eucalyptus polyanthemos*	Evergreen	75	45	Low
Silverleaf oak	*Quercus hypoleucoides*	Evergreen	80	30	Low
Smooth Arizona cypress	*Hesperocyparis arizonica* var. *glabra*	Evergreen	50	20	Low
Southern live oak*	*Quercus virginiana*	Partly Deciduous – Evergreen	80	100	Moderate
Sugar gum*	*Eucalyptus cladocalyx*	Evergreen	90	75	Low
Tipu*	*Tipuana tipu*	Deciduous – Partly Deciduous	50	50	Moderate
Torrey pine*‡	*Pinus torreyana*	Evergreen	50	25	Moderate
Velvet ash*	*Fraxinus velutina*	Deciduous	50	40	Moderate
White ironbark*	*Eucalyptus leucoxylon*	Evergreen	90	60	Low
White jacaranda*	*Jacaranda mimosifolia* 'Alba'	Partly Deciduous	50	30	Moderate

Table 5.6 – Species Appropriate for Planting Areas 7-Foot-Wide or Greater

5.2.8 SPECIES PROFILES

Photos for each species are courtesy of West Coast Arborist except where otherwise noted.

5.2.8.1 2 – 4 Foot Planter Width without Overhead Utility Lines

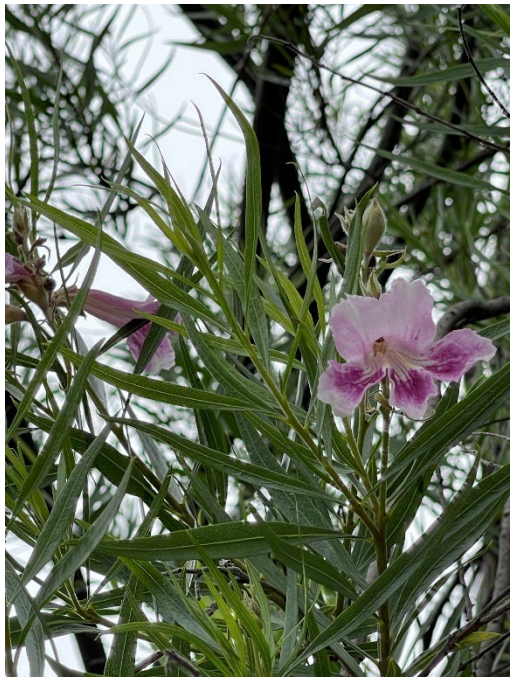
Desert willow‡ (*Chilopsis linearis*) **Bignonia Family (Bignoniaceae)**

Shape: Rounded | Foliage: Deciduous | Water Requirements: Very Low

Maximum Height: 30 feet | Maximum Width: 20 feet | Average Annual Growth Rate: ≈ 24 – 36 inches

Flowers: Spring, Summer | Potential to cause Infrastructure Damage: Low

Soil pH: 7.0 – 8.2 | Salt Tolerance: High



CLIMATE RESILIENCY

Golden trumpet tree* (*Handroanthus chrysotrichus*) **Bignonia Family (Bignoniaceae)**

Shape: Rounded or Vase | Foliage: Deciduous | Water Requirements: Moderate

Maximum Height: 30 feet | Maximum Width: 30 feet | Average Annual Growth Rate: ≈ 36 inches

Flowers: Spring | Potential to cause Infrastructure Damage: Moderate

Soil pH: 6.1 – 7.5 | Salt Tolerance: High

CLIMATE RESILIENCY

Japanese Privet* (*Ligustrum japonicum*) **Olive Family (*Oleaceae*)**

Shape: Rounded

Foliage: Evergreen

Water Requirements: Moderate

Maximum Height: 15 feet

Maximum Width: 8 feet

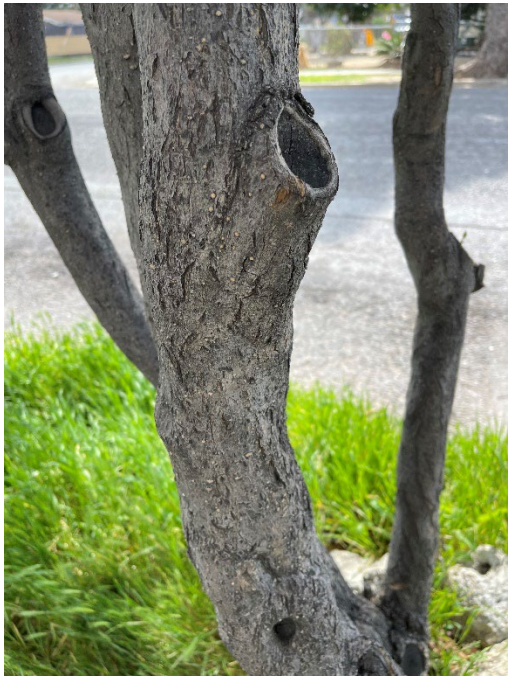
Average Annual Growth Rate: ≈ 24 inches

Flowers: Spring, Summer

Potential to cause Infrastructure Damage: Low

Soil pH: 5.3 – 8.2

Salt Tolerance: Moderate



CLIMATE RESILIENCY

Marina strawberry tree* (*Arbutus* 'Marina') **Heath Family (Ericaceae)**

Shape: Rounded or Vase

Foliage: Evergreen

Water Requirements: Low

Maximum Height: 40 feet

Maximum Width: 30 feet

Average Annual Growth Rate: ≈ 12 – 24 inches

Flowers: Year Round

Potential to cause Infrastructure Damage: Low

Soil pH: 5.3 – 7.5

Salt Tolerance: High

CLIMATE RESILIENCY

Orange gum (*Eucalyptus prava*) **Myrtle Family (*Myrtaceae*)**

Shape: Rounded | Foliage: Evergreen | Water Requirements: Low

Maximum Height: 30 feet | Maximum Width: 30 feet | Average Annual Growth Rate: ≈ 36 inches

Flowers: Summer | Potential to cause Infrastructure Damage: Moderate

Soil pH: 5.3 – 7.5 | Salt Tolerance: High

CLIMATE RESILIENCY

Texas ebony (*Ebenopsis ebano*) **Pea Family (Fabaceae)**

Shape: Rounded | Foliage: Evergreen | Water Requirements: Low

Maximum Height: 40 feet | Maximum Width: 40 feet | Average Annual Growth Rate: ≈ 12 – 36 inches

Flowers: Summer | Potential to cause Infrastructure Damage: High

Soil pH: 6.0 – 7.5 | Salt Tolerance: Moderate

Photos from Selectree

CLIMATE RESILIENCY

Texas olive (*Cordia boissieri*) **Borage Family (Boraginaceae)**

Shape: Rounded | Foliage: Evergreen | Water Requirements: Low

Maximum Height: 20 feet | Maximum Width: 15 feet | Average Annual Growth Rate: ≈ 24 inches

Flowers: Spring, Summer | Potential to cause Infrastructure Damage: Low

Soil pH: 6.1 – 8.2 | Salt Tolerance: Moderate

CLIMATE RESILIENCY

Weeping Acacia (*Acacia pendula*) **Pea Family (Fabaceae)**

Shape: Rounded / Weeping Foliage: Evergreen Water Requirements: Moderate

Maximum Height: 30 feet Maximum Width: 20 feet Average Annual Growth Rate: ≈ 24 inches

Flowers: Fall, Winter, Summer Potential to cause Infrastructure Damage: Moderate

Soil pH: 6.1 – 8.2 Salt Tolerance: Moderate

CLIMATE RESILIENCY

Windmill palm* (*Trachycarpus fortunei*) **Palm Family (Arecaceae)**

Shape: Palm

Foliage: Evergreen

Water Requirements: Moderate

Maximum Height: 30 feet

Maximum Width: 10 feet

Average Annual Growth Rate: ≈ 24 – 36 inches

Flowers: Spring

Potential to cause Infrastructure Damage: Low

Soil pH: 6.1 – 8.2

Salt Tolerance: Moderate

CLIMATE RESILIENCY

5.2.8.2 2 – 4 Foot Planter Width with Overhead Utility Lines

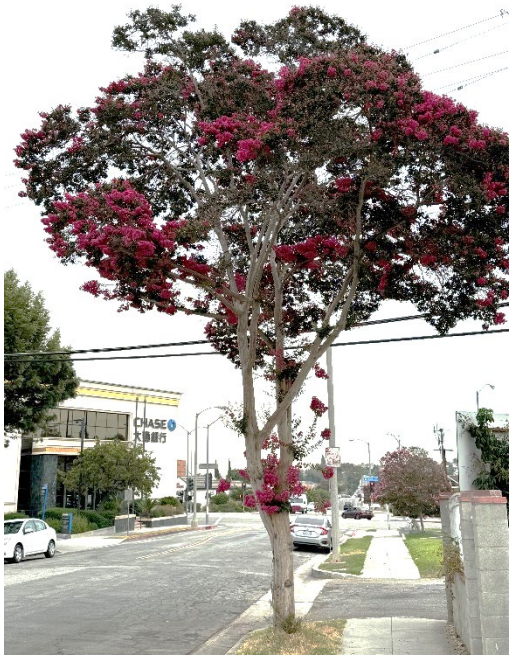
Cherokee crape myrtle* (*Lagerstroemia indica* 'Cherokee') **Loosestrife Family (Lythraceae)**

Shape: Rounded or Vase | Foliage: Deciduous | Water Requirements: Very Low

Maximum Height: 15 feet | Maximum Width: 15 feet | Average Annual Growth Rate: ≈ 24 inches

Flowers: Summer | Potential to cause Infrastructure Damage: Low

Soil pH: 5.3 – 8.2 | Salt Tolerance: Moderate



CLIMATE RESILIENCY

Chinese Fringe tree* (*Chionanthus retusus*) **Olive Family (Oleaceae)**

Shape: Rounded | Foliage: Deciduous | Water Requirements: Moderate

Maximum Height: 20 feet | Maximum Width: 12 feet | Average Annual Growth Rate: ≈ 24 inches

Flowers: Summer | Potential to cause Infrastructure Damage: Low

Soil pH: 5.3 – 7.5 | Salt Tolerance: Moderate

CLIMATE RESILIENCY

Crimson Melaleuca (*Melaleuca elliptica*) **Myrtle Family (Myrtaceae)**

Shape: Rounded Foliage: Evergreen Water Requirements: Moderate

Maximum Height: 10 feet Maximum Width: 10 feet Average Annual Growth Rate: ≈ 36 inches

Flowers: Fall, Spring, Summer Potential to cause Infrastructure Damage: Low

Soil pH: 6.1 – 8.2 Salt Tolerance: High

CLIMATE RESILIENCY

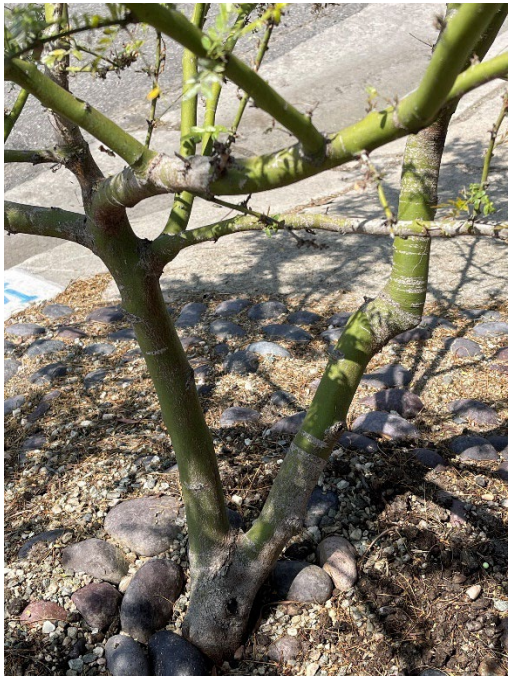
Desert Museum palo verde (*Parkinsonia* x 'Desert Museum') **Pea Family (Fabaceae)**

Shape: Rounded or Vase | Foliage: Deciduous | Water Requirements: Very Low

Maximum Height: 20 feet | Maximum Width: 25 feet | Average Annual Growth Rate: ≈ 24 – 36 inches

Flowers: Spring, Summer | Potential to cause Infrastructure Damage: Low

Soil pH: 7.0 – 8.2 | Salt Tolerance: High



CLIMATE RESILIENCY

Feather bush (*Lysiloma watsonii*) **Pea Family (Fabaceae)**

Shape: Rounded or Vase Foliage: Partly Deciduous- Evergreen Water Requirements: Low

Maximum Height: 15 feet Maximum Width: 15 feet Average Annual Growth Rate: ≈ 24 inches

Flowers: Spring Potential to cause Infrastructure Damage: Low

Soil pH: 6.1 – 8.2 Salt Tolerance: Moderate

Photos from SelecTree

CLIMATE RESILIENCY

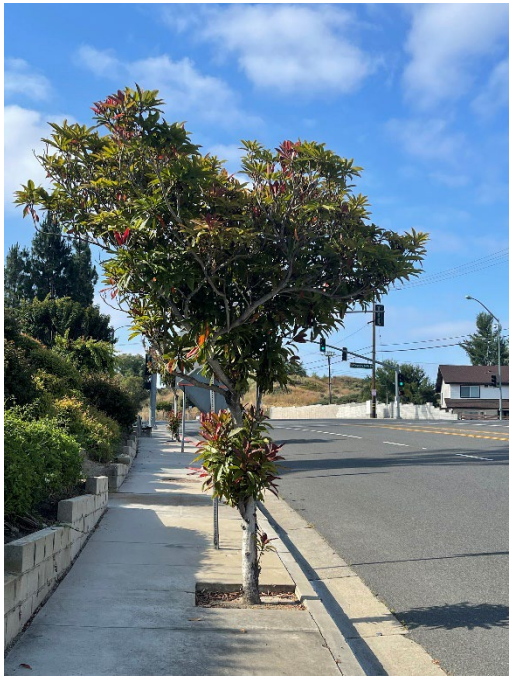
Fraser Photinia* (*Photinia* x *fraseri*) **Rose Family (Rosaceae)**

Shape: Rounded | Foliage: Evergreen | Water Requirements: Moderate

Maximum Height: 20 feet | Maximum Width: 12 feet | Average Annual Growth Rate: ≈ 24 – 36 inches

Flowers: Spring | Potential to cause Infrastructure Damage: Low

Soil pH: 5.3 – 8.2 | Salt Tolerance: Moderate



Hollywood juniper* (*Juniperus chinensis* 'Torulosa') **Cypress Family (Cupressaceae)**

CLIMATE RESILIENCY

Shape: Vase | Foliage: Evergreen | Water Requirements: Moderate

Maximum Height: 15 feet | Maximum Width: 10 feet | Average Annual Growth Rate: ≈ 24 inches

Flowers: Spring | Potential to cause Infrastructure Damage: Low

Soil pH: 5.3 – 8.2 | Salt Tolerance: Moderate

CLIMATE RESILIENCY

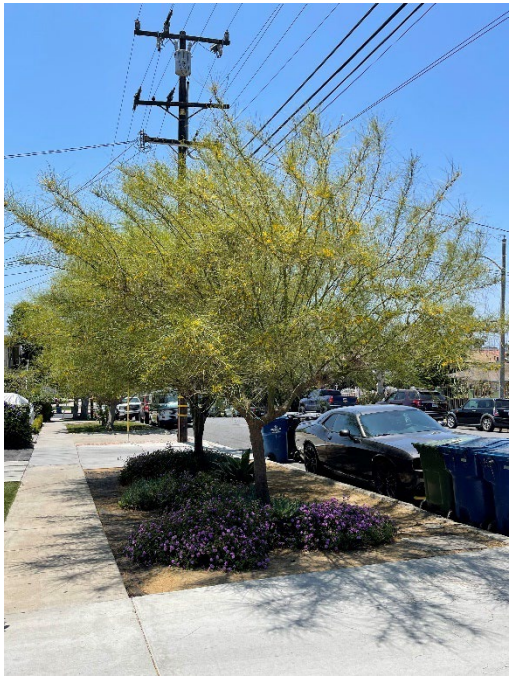
Jerusalem thorn* (*Parkinsonia aculeata*) **Pea Family (Fabaceae)**

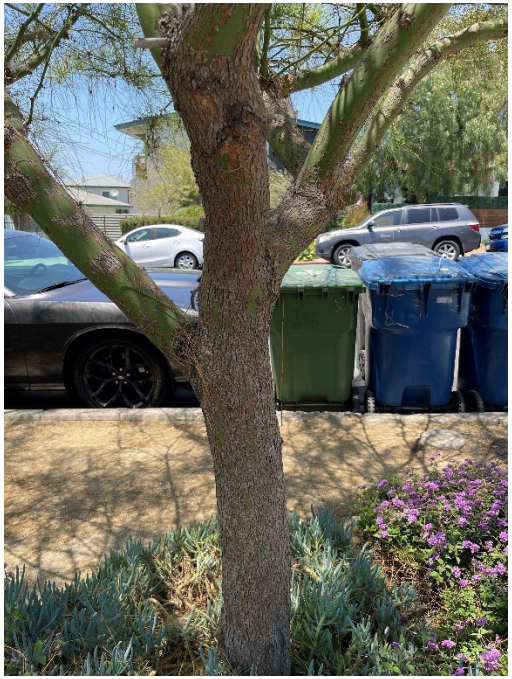
Shape: Rounded or Vase | Foliage: Deciduous | Water Requirements: Low

Maximum Height: 20 feet | Maximum Width: 25 feet | Average Annual Growth Rate: ≈ 24 – 36 inches

Flowers: Spring, Summer | Potential to cause Infrastructure Damage: Low

Soil pH: 7.0 – 8.2 | Salt Tolerance: High





CLIMATE RESILIENCY

Lemonade berry‡ (*Rhus integrifolia*) **Rose Family (Rosaceae)**

Shape: Rounded Foliage: Evergreen Water Requirements: Low

Maximum Height: 20 feet Maximum Width: 15 feet Average Annual Growth Rate: ≈ 12 – 36 inches

Flowers: Winter, Spring Potential to cause Infrastructure Damage: Low

Soil pH: 6.1 – 7.5 Salt Tolerance: High

CLIMATE RESILIENCY

Littleleaf palo verde‡ (*Parkinsonia microphylla*) **Pea Family (Fabaceae)**

Shape: Rounded Foliage: Deciduous Water Requirements: Low

Maximum Height: 20 feet Maximum Width: 20 feet Average Annual Growth Rate: ≈ 36 inches

Flowers: Spring Potential to cause Infrastructure Damage: Low

Soil pH: 7.0 – 8.2 Salt Tolerance: Low

CLIMATE RESILIENCY

Mediterranean fan palm* (*Chamaerops humilis*) **Palm Family (Arecaceae)**

Shape: Palm | Foliage: Evergreen | Water Requirements: Low

Maximum Height: 15 feet | Maximum Width: 15 feet | Average Annual Growth Rate: ≈ 12 inches

Flowers: Summer | Potential to cause Infrastructure Damage: Low

Soil pH: 6.1 – 8.2 | Salt Tolerance: High

CLIMATE RESILIENCY

Mulga (*Acacia aneura*) **Pea Family (Fabaceae)**

Shape: Rounded

Foliage: Evergreen

Water Requirements: Very Low

Maximum Height: 20 feet

Maximum Width: 20 feet

Average Annual Growth Rate: ≈ 24 inches

Flowers: Spring

Potential to cause Infrastructure Damage: Low

Soil pH: 6.1 – 8.2

Salt Tolerance: Moderate

CLIMATE RESILIENCY

Popcorn tree* (*Senna spectabilis*) **Pea Family (Fabaceae)**

Shape: Rounded / Vase

Foliage: Evergreen

Water Requirements: Low

Maximum Height: 20 feet

Maximum Width: 20 feet

Average Annual Growth Rate: ≈ 24 – 36 inches

Flowers: Fall, Summer

Potential to cause Infrastructure Damage: Low

Soil pH: 6.1 – 7.5

Salt Tolerance: Low

CLIMATE RESILIENCY

Purpureus smoke tree (*Cotinus coggygria* 'Purpureus') **Sumac Family (Anacardiaceae)**

Shape: Rounded Foliage: Deciduous Water Requirements: Low

Maximum Height: 15 feet Maximum Width: 15 feet Average Annual Growth Rate: ≈ 12 – 24 inches

Flowers: Spring, Summer Potential to cause Infrastructure Damage: Low

Soil pH: 5.3 – 8.2 Salt Tolerance: Moderate

CLIMATE RESILIENCY

Pygmy date palm* (*Phoenix roebelenii*) **Palm Family (Arecaceae)**

Shape: Palm | Foliage: Evergreen | Water Requirements: Moderate

Maximum Height: 15 feet | Maximum Width: 7 feet | Average Annual Growth Rate: ≈ 12 – 24 inches

Flowers: Spring | Potential to cause Infrastructure Damage: Low

Soil pH: 6.0 – 6.9 | Salt Tolerance: Low

CLIMATE RESILIENCY

Smoke tree* (*Cotinus coggygria*) **Sumac Family (Anacardiaceae)**

Shape: Rounded | Foliage: Deciduous | Water Requirements: Low

Maximum Height: 15 feet | Maximum Width: 18 feet | Average Annual Growth Rate: ≈ 24 inches

Flowers: Spring | Potential to cause Infrastructure Damage: Low

Soil pH: 5.3 – 8.2 | Salt Tolerance: Moderate

CLIMATE RESILIENCY

Sweet Hakea (*Hakea drupacea*) **Protea Family (Proteaceae)**

Shape: Rounded | Foliage: Evergreen | Water Requirements: Very Low

Maximum Height: 20 feet | Maximum Width: 20 feet | Average Annual Growth Rate: ≈ 36 inches

Flowers: Fall, Winter | Potential to cause Infrastructure Damage: Low

Soil pH: 6.1 – 8.2 | Salt Tolerance: High

Photos from SelecTree

CLIMATE RESILIENCY

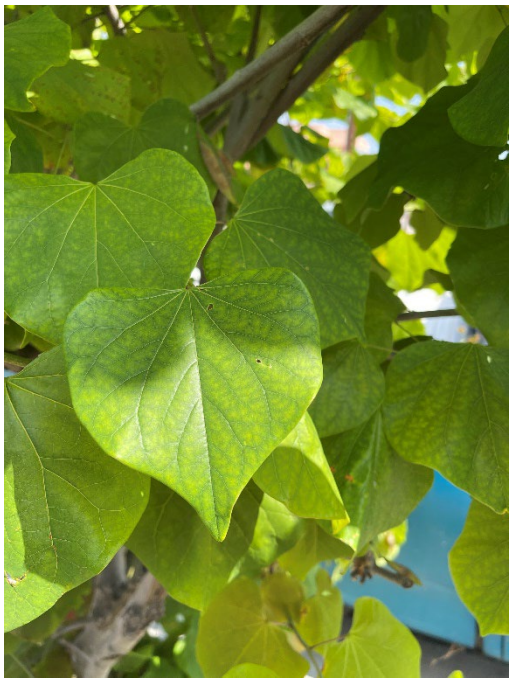
Western redbud‡ (*Cercis occidentalis*) **Pea Family (Fabaceae)**

Shape: Rounded | Foliage: Deciduous | Water Requirements: Moderate

Maximum Height: 20 feet | Maximum Width: 20 feet | Average Annual Growth Rate: ≈ 24 – 36 inches

Flowers: Spring | Potential to cause Infrastructure Damage: Low

Soil pH: 5.3 – 8.2 | Salt Tolerance: Moderate



CLIMATE RESILIENCY

5.2.8.3 4 – 7 Foot Planter Width without Overhead Utility Lines

African sumac* (*Searsia lancea*) **Sumac Family (Anacardiaceae)**

Shape: Rounded | Foliage: Evergreen | Water Requirements: Very Low

Maximum Height: 30 feet | Maximum Width: 35 feet | Average Annual Growth Rate: ≈ 24 inches

Flowers: Summer | Potential to cause Infrastructure Damage: Low

Soil pH: 6.1 – 8.2 | Salt Tolerance: Moderate

CLIMATE RESILIENCY

Australian willow* (*Geijera parviflora*) **Rue Family (Rutaceae)**

Shape: Rounded | Foliage: Evergreen | Water Requirements: Moderate

Maximum Height: 30 feet | Maximum Width: 35 feet | Average Annual Growth Rate: ≈ 24 inches

Flowers: Fall, Spring | Potential to cause Infrastructure Damage: Low

Soil pH: 5.3 – 7.5 | Salt Tolerance: Moderate

CLIMATE RESILIENCY

Brisbane box* (*Lophostemon confertus*) **Myrtle Family (Myrtaceae)**

Shape: Rounded | Foliage: Evergreen | Water Requirements: Moderate

Maximum Height: 50 feet | Maximum Width: 30 feet | Average Annual Growth Rate: ≈ 24 – 36 inches

Flowers: Summer | Potential to cause Infrastructure Damage: Moderate

Soil pH: 6.1 – 8.2 | Salt Tolerance: Moderate

CLIMATE RESILIENCY

Cajeput tree* (*Melaleuca quinquenervia*) **Myrtle Family (Myrtaceae)**

Shape: Rounded | Foliage: Evergreen | Water Requirements: Low

Maximum Height: 40 feet | Maximum Width: 25 feet | Average Annual Growth Rate: ≈ 24 inches

Flowers: Fall, Summer | Potential to cause Infrastructure Damage: Low

Soil pH: 6.1 – 7.5 | Salt Tolerance: High

CLIMATE RESILIENCY

Carolina laurel cherry* (*Prunus caroliniana*) **Rose Family (Rosaceae)**

Shape: Conical or Rounded Foliage: Evergreen Water Requirements: Moderate

Maximum Height: 30 feet Maximum Width: 25 feet Average Annual Growth Rate: ≈ 36 inches

Flowers: Fall, Summer Potential to cause Infrastructure Damage: Low

Soil pH: 5.3 – 7.5 Salt Tolerance: Moderate

CLIMATE RESILIENCY

Catalina cherry‡ (*Prunus ilicifolia* ssp. *lyonii*) **Rose Family (Rosaceae)**

Shape: Rounded Foliage: Evergreen Water Requirements: Low

Maximum Height: 35 feet Maximum Width: 30 feet Average Annual Growth Rate: ≈ 24 inches

Flowers: Spring Potential to cause Infrastructure Damage: Low

Soil pH: 5.3 – 7.5 Salt Tolerance: High

CLIMATE RESILIENCY

Catalina ironwood‡ (*Lyonothamnus floribundus* ssp. *aspleniifolius*) **Rose Family (Rosaceae)**

Shape: Conical or Rounded Foliage: Evergreen Water Requirements: Low

Maximum Height: 40 feet Maximum Width: 20 feet Average Annual Growth Rate: ≈ 24 inches

Flowers: Summer Potential to cause Infrastructure Damage: Moderate

Soil pH: 5.3 – 7.5 Salt Tolerance: High

CLIMATE RESILIENCY

Chinese pistache* (*Pistacia chinensis*) **Sumac Family (Anacardiaceae)**

Shape: Rounded | Foliage: Deciduous | Water Requirements: Low

Maximum Height: 35 feet | Maximum Width: 35 feet | Average Annual Growth Rate: ≈ 24 inches

Flowers: Spring | Potential to cause Infrastructure Damage: Low

Soil pH: 6.1 – 8.2 | Salt Tolerance: Low

CLIMATE RESILIENCY

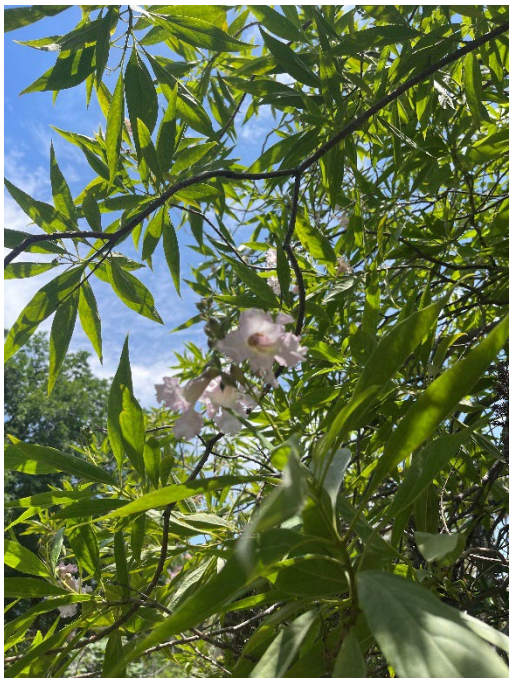
Chitalpa* (x *Chitalpa tashkentensis*) **Bignonia Family (Bignoniaceae)**

Shape: Rounded or Vase Foliage: Deciduous Water Requirements: Low

Maximum Height: 35 feet Maximum Width: 30 feet Average Annual Growth Rate: ≈ 36 inches

Flowers: Fall, Spring, Summer Potential to cause Infrastructure Damage: Low

Soil pH: 6.1 – 8.2 Salt Tolerance: Moderate



CLIMATE RESILIENCY

Compton oak (*Quercus* x *comptoniae*) **Beech Family (Fagaceae)**

Shape: Rounded
Foliage: Deciduous
Water Requirements: Moderate
Maximum Height: 60 feet
Maximum Width: 40 feet
Average Annual Growth Rate: ≈ 12 – 24 inches
Flowers: Spring
Potential to cause Infrastructure Damage: Low
Soil pH: 6.0 – 6.9
Salt Tolerance: Moderate

Photos from SelecTree

CLIMATE RESILIENCY

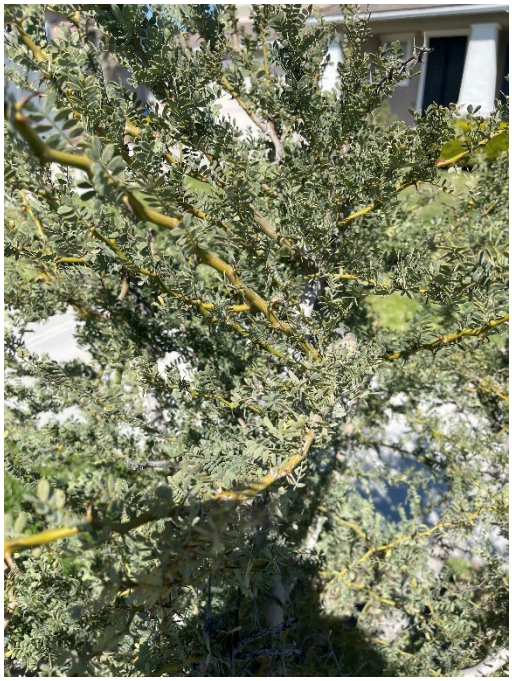
Desert ironwood‡ (*Olneya tesota*) **Pea Family (Fabaceae)**

Shape: Rounded or Vase | Foliage: Evergreen | Water Requirements: Low

Maximum Height: 30 feet | Maximum Width: 30 feet | Average Annual Growth Rate: ≈ 12 inches

Flowers: Summer | Potential to cause Infrastructure Damage: Low

Soil pH: 7.0 – 8.2 | Salt Tolerance: Low



CLIMATE RESILIENCY

Drooping she-oak* (*Allocasuarina verticillata*) **Beefwood Family (Casuarinaceae)**

Shape: Conical | Foliage: Evergreen | Water Requirements: Low

Maximum Height: 35 feet | Maximum Width: 35 feet | Average Annual Growth Rate: ≈ 24 – 36 inches

Flowers: Fall | Potential to cause Infrastructure Damage: Moderate

Soil pH: 5.3 – 8.2 | Salt Tolerance: Moderate

CLIMATE RESILIENCY

Eastern redbud* (*Cercis canadensis*) **Pea Family (Fabaceae)**

Shape: Rounded | Foliage: Deciduous | Water Requirements: Moderate

Maximum Height: 35 feet | Maximum Width: 35 feet | Average Annual Growth Rate: ≈ 36 inches

Flowers: Spring | Potential to cause Infrastructure Damage: Low

Soil pH: 5.3 – 8.2 | Salt Tolerance: Moderate

CLIMATE RESILIENCY

Edible loquat* (*Eriobotrya japonica*) **Rose Family (Rosaceae)**

Shape: Rounded or Vase | Foliage: Evergreen | Water Requirements: Moderate

Maximum Height: 30 feet | Maximum Width: 30 feet | Average Annual Growth Rate: ≈ 36 inches

Flowers: Fall | Potential to cause Infrastructure Damage: Low

Soil pH: 5.3 – 8.2 | Salt Tolerance: Moderate

CLIMATE RESILIENCY

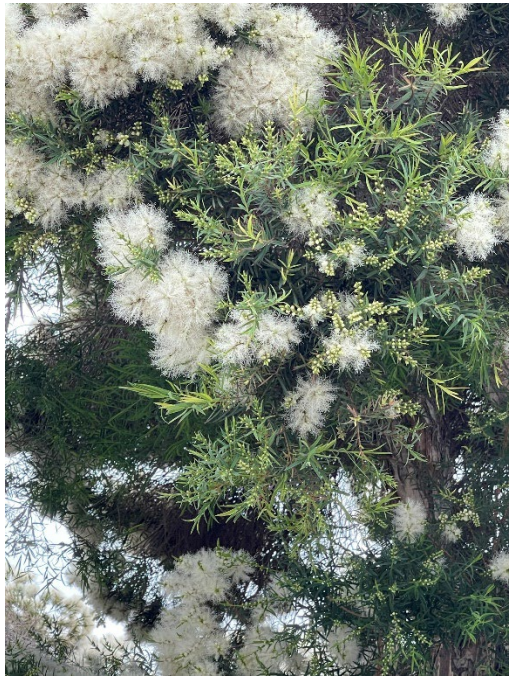
Flaxleaf paperbark (*Melaleuca linariifolia*) **Myrtle Family (Myrtaceae)**

Shape: Rounded | Foliage: Evergreen | Water Requirements: Low

Maximum Height: 30 feet | Maximum Width: 25 feet | Average Annual Growth Rate: ≈ 36 inches

Flowers: Summer | Potential to cause Infrastructure Damage: Low

Soil pH: 6.1 – 7.5 | Salt Tolerance: High



CLIMATE RESILIENCY

Fruitless olive* (*Olea europaea* 'Swan Hill') **Olive Family (Oleaceae)**

Shape: Rounded or Vase | Foliage: Evergreen | Water Requirements: Low

Maximum Height: 30 feet | Maximum Width: 30 feet | Average Annual Growth Rate: ≈ 24 inches

Flowers: Spring | Potential to cause Infrastructure Damage: Moderate

Soil pH: 6.1 – 8.2 | Salt Tolerance: Moderate

CLIMATE RESILIENCY

Ghost gum (*Corymbia aparrerinja*) **Myrtle Family (Myrtaceae)**

Shape: Rounded | Foliage: Evergreen | Water Requirements: Very Low

Maximum Height: 50 feet | Maximum Width: 35 feet | Average Annual Growth Rate: ≈ 36 inches

Flowers: Summer | Potential to cause Infrastructure Damage: Moderate

Soil pH: 6.1 – 8.2 | Salt Tolerance: Moderate

CLIMATE RESILIENCY

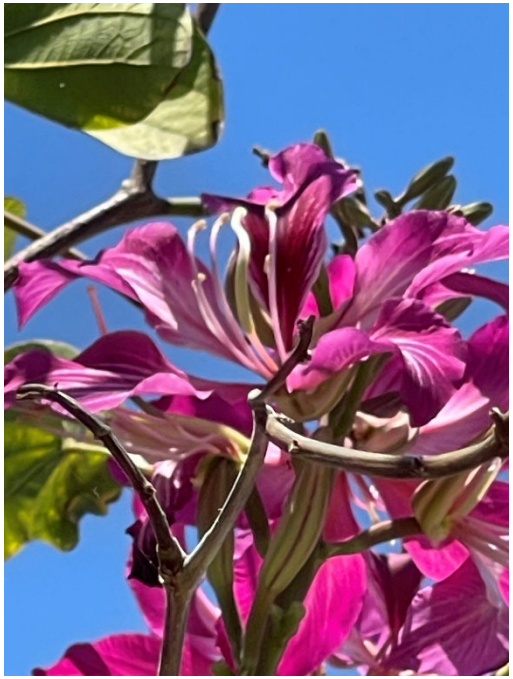
Hong Kong orchid tree* (*Bauhinia* x *blakeana*) **Pea Family (Fabaceae)**

Shape: Rounded Foliage: Evergreen Water Requirements: Low

Maximum Height: 30 feet Maximum Width: 25 feet Average Annual Growth Rate: ≈ 24 inches

Flowers: Spring Potential to cause Infrastructure Damage: Low

Soil pH: 5.3 – 7.5 Salt Tolerance: Low



CLIMATE RESILIENCY

Jacaranda* (*Jacaranda mimosifolia*) **Bignonia Family (Bignoniaceae)**

Shape: Rounded | Foliage: Partly Deciduous | Water Requirements: Moderate

Maximum Height: 30 feet | Maximum Width: 25 feet | Average Annual Growth Rate: ≈ 24 inches

Flowers: Spring | Potential to cause Infrastructure Damage: Moderate

Soil pH: 6.1 – 7.0 | Salt Tolerance: Low

CLIMATE RESILIENCY

Japanese black pine* (*Pinus thunbergii*) **Pine Family (Pinaceae)**

Shape: Conical Foliage: Evergreen Water Requirements: Moderate

Maximum Height: 30 feet Maximum Width: 35 feet Average Annual Growth Rate: ≈ 24 – 36 inches

Cones: Spring Potential to cause Infrastructure Damage: Moderate

Soil pH: 5.3 – 7.5 Salt Tolerance: Moderate

CLIMATE RESILIENCY

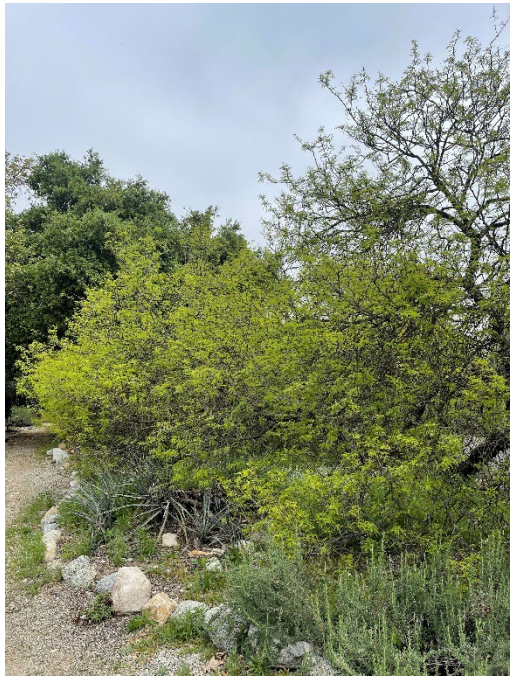
Mesquite*‡ (*Prosopis glandulosa*) **Pea Family (Fabaceae)**

Shape: Rounded | Foliage: Deciduous | Water Requirements: Low

Maximum Height: 35 feet | Maximum Width: 35 feet | Average Annual Growth Rate: ≈ 12 – 36 inches

Flowers: Spring, Summer | Potential to cause Infrastructure Damage: Low

Soil pH: 6.1 – 7.5 | Salt Tolerance: Moderate



CLIMATE RESILIENCY

Mexican blue palm* (*Brahea armata*) **Palm Family**
(Arecaceae)

Shape: Palm | Foliage: Evergreen | Water Requirements: Low

Maximum Height: 50 feet | Maximum Width: 25 feet | Average Annual Growth Rate: ≈ 12 – 24 inches

Flowers: Spring | Potential to cause Infrastructure Damage: Low

Soil pH: 6.1 – 7.5 | Salt Tolerance: Moderate

CLIMATE RESILIENCY

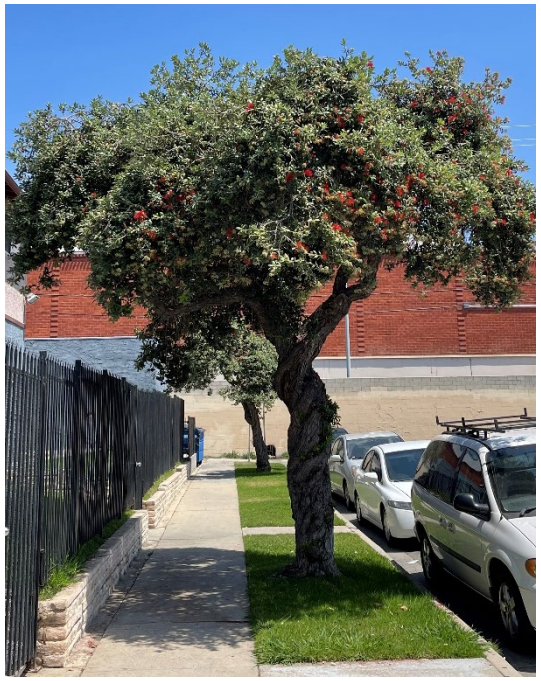
New Zealand Christmas tree* (*Metrosideros excelsa*) **Myrtle Family (Myrtaceae)**

Shape: Rounded | Foliage: Evergreen | Water Requirements: Low

Maximum Height: 35 feet | Maximum Width: 35 feet | Average Annual Growth Rate: ≈ 24 inches

Flowers: Spring, Summer | Potential to cause Infrastructure Damage: Moderate

Soil pH: 7.0 – 7.5 | Salt Tolerance: High



CLIMATE RESILIENCY

Olive* (*Olea europaea*) **Olive Family (Oleaceae)**

Shape: Rounded or Vase | Foliage: Evergreen | Water Requirements: Low

Maximum Height: 30 feet | Maximum Width: 30 feet | Average Annual Growth Rate: ≈ 12 – 24 inches

Flowers: Spring | Potential to cause Infrastructure Damage: Moderate

Soil pH: 6.1 – 8.2 | Salt Tolerance: Moderate

CLIMATE RESILIENCY

Peppermint tree* (*Agonis flexuosa*) **Myrtle Family (Myrtaceae)**

Shape: Rounded or Vase | Foliage: Evergreen | Water Requirements: Low

Maximum Height: 35 feet | Maximum Width: 30 feet | Average Annual Growth Rate: ≈ 24 – 36 inches

Flowers: Spring, Summer | Potential to cause Infrastructure Damage: Moderate

Soil pH: 6.1 – 8.2 | Salt Tolerance: Moderate

CLIMATE RESILIENCY

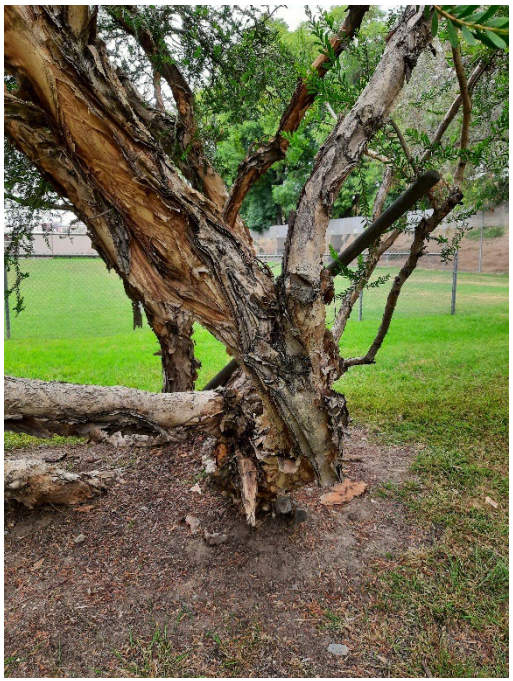
Pink Melaleuca (*Melaleuca nesophila*) **Myrtle Family (Myrtaceae)**

Shape: Rounded | Foliage: Evergreen | Water Requirements: Low

Maximum Height: 30 feet | Maximum Width: 30 feet | Average Annual Growth Rate: ≈ 36 inches

Flowers: Year-Round | Potential to cause Infrastructure Damage: Low

Soil pH: 6.1 – 8.2 | Salt Tolerance: High



CLIMATE RESILIENCY

Pink trumpet tree* (*Handroanthus heptaphyllus*) **Bignonia Family (Bignoniaceae)**

Shape: Rounded Foliage: Partly Deciduous Water Requirements: Moderate

Maximum Height: 30 feet Maximum Width: 25 feet Average Annual Growth Rate: ≈ 24 – 36 inches

Flowers: Winter, Spring Potential to cause Infrastructure Damage: Low

Soil pH: 6.0 – 7.5 Salt Tolerance: Moderate

CLIMATE RESILIENCY

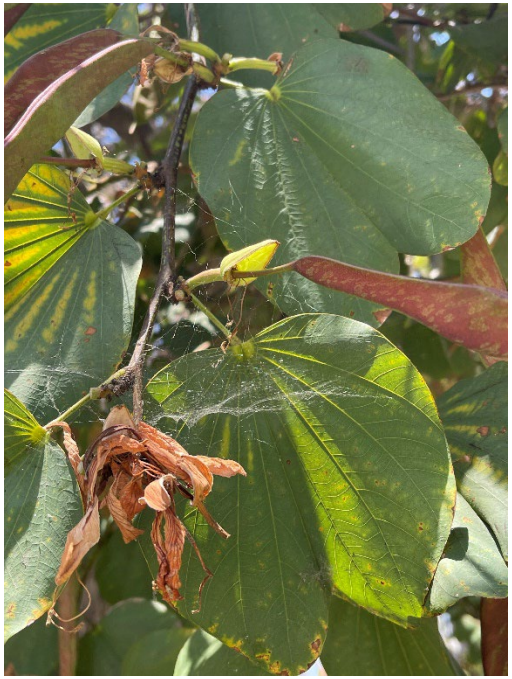
Purple orchid tree* (*Bauhinia variegata*) **Pea Family (Fabaceae)**

Shape: Rounded Foliage: Partly Deciduous Water Requirements: Moderate

Maximum Height: 35 feet Maximum Width: 35 feet Average Annual Growth Rate: ≈ 12 – 24 inches

Flowers: Winter, Spring Potential to cause Infrastructure Damage: Low

Soil pH: 5.3 – 7.5 Salt Tolerance: Low



CLIMATE RESILIENCY

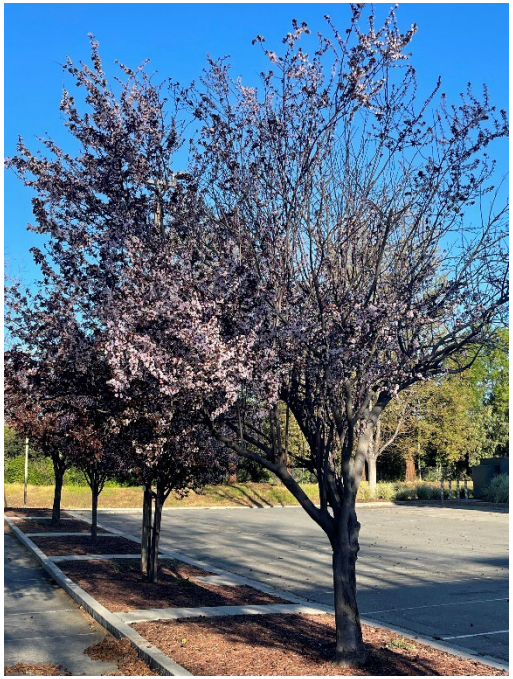
Purple-leaf flowering plum* (*Prunus cerasifera* 'Atropurpurea') **Rose Family (Rosaceae)**

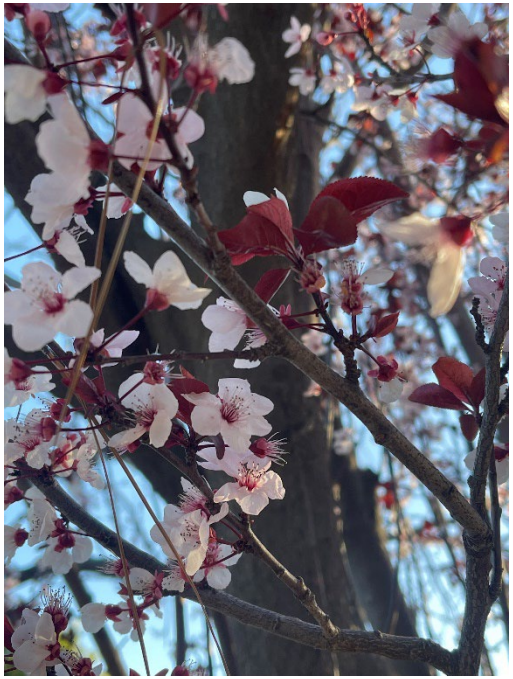
Shape: Rounded or Vase | Foliage: Deciduous | Water Requirements: Moderate

Maximum Height: 35 feet | Maximum Width: 35 feet | Average Annual Growth Rate: ≈ 24 – 36 inches

Flowers: Spring | Potential to cause Infrastructure Damage: Low

Soil pH: 5.3 – 7.5 | Salt Tolerance: Moderate





CLIMATE RESILIENCY

Queensland Pittosporum* (*Auranticarpa rhombifolia*) **Pittosporum Family (Pittosporaceae)**

Shape: Rounded Foliage: Evergreen Water Requirements: Low

Maximum Height: 35 feet Maximum Width: 20 feet Average Annual Growth Rate: ≈ 12 – 24 inches

Flowers: Spring Potential to cause Infrastructure Damage: Low

Soil pH: 6.1 – 8.2 Salt Tolerance: Moderate

CLIMATE RESILIENCY

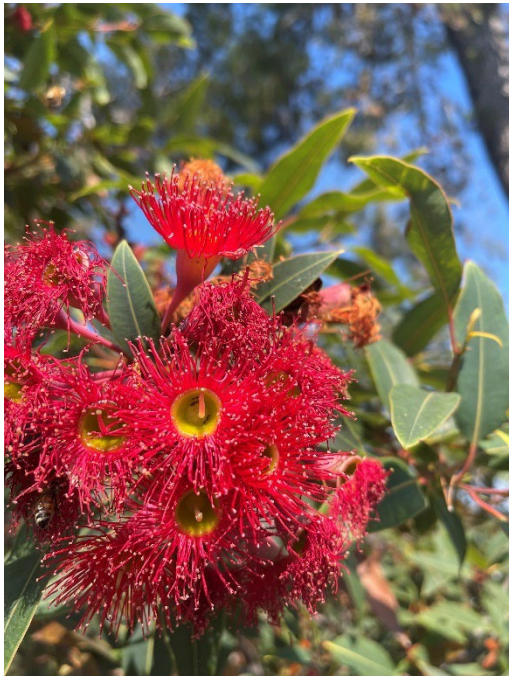
Red flowering gum* (*Corymbia ficifolia*) **Myrtle Family (Myrtaceae)**

Shape: Rounded | Foliage: Evergreen | Water Requirements: Low

Maximum Height: 45 feet | Maximum Width: 60 feet | Average Annual Growth Rate: ≈ 36 inches

Flowers: Year-Round | Potential to cause Infrastructure Damage: Moderate

Soil pH: 6.1 – 8.2 | Salt Tolerance: Moderate



CLIMATE RESILIENCY

Red flowering ironbark (*Eucalyptus sideroxylon* var. *rosea*) **Myrtle Family (Myrtaceae)**

Shape: Rounded / Vase Foliage: Evergreen Water Requirements: Low

Maximum Height: 90 feet Maximum Width: 60 feet Average Annual Growth Rate: ≈ 36 – 127 inches

Flowers: Fall, Winter, Spring Potential to cause Infrastructure Damage: High

Soil pH: 7.0 – 8.2 Salt Tolerance: High

CLIMATE RESILIENCY

Red Push pistache* (*Pistacia* x ‘ Red Push’) **Sumac Family (Anacardiaceae)**

Shape: Rounded
Foliage: Deciduous
Water Requirements: Moderate
Maximum Height: 40 feet
Maximum Width: 40 feet
Average Annual Growth Rate: ≈ 12 – 24 inches
Flowers: Spring
Potential to cause Infrastructure Damage: Low
Soil pH: 6.1 – 8.2
Salt Tolerance: Low

CLIMATE RESILIENCY

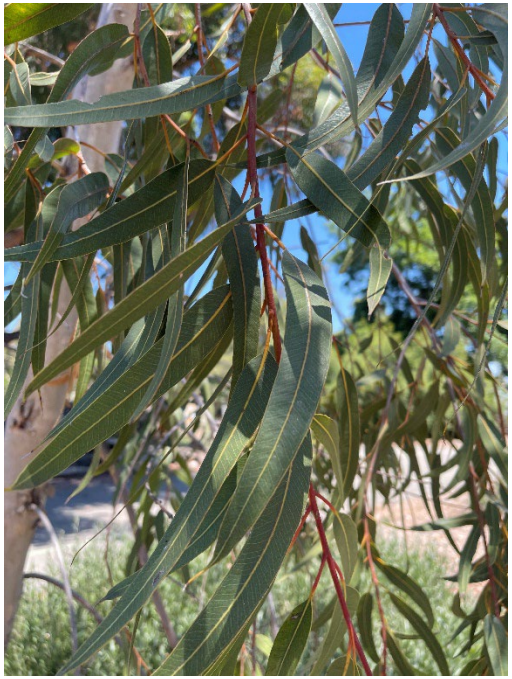
Red-cap gum (*Eucalyptus erythrocorys*) **Myrtle Family (Myrtaceae)**

Shape: Rounded | Foliage: Evergreen | Water Requirements: Low

Maximum Height: 30 feet | Maximum Width: 25 feet | Average Annual Growth Rate: ≈ 36 inches

Flowers: Year-Round | Potential to cause Infrastructure Damage: Low

Soil pH: 6.1 – 8.2 | Salt Tolerance: High



CLIMATE RESILIENCY

Round-leafed moort (*Eucalyptus platypus*) **Myrtle Family (Myrtaceae)**

Shape: Conical | Foliage: Evergreen | Water Requirements: Very Low

Maximum Height: 35 feet | Maximum Width: 35 feet | Average Annual Growth Rate: ≈ 36 inches

Flowers: Fall, Spring, Summer | Potential to cause Infrastructure Damage: Low

Soil pH: 6.1 – 8.2 | Salt Tolerance: High

CLIMATE RESILIENCY

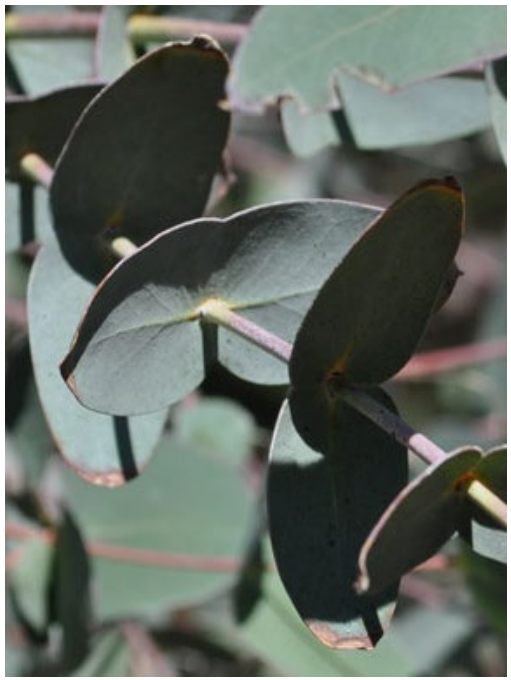
Round-leafed snow gum (*Eucalyptus perriniana*) **Myrtle Family (Myrtaceae)**

Shape: Rounded | Foliage: Evergreen | Water Requirements: Moderate

Maximum Height: 30 feet | Maximum Width: 25 feet | Average Annual Growth Rate: ≈ 36 inches

Flowers: Summer | Potential to cause Infrastructure Damage: Moderate

Soil pH: 6.1 – 8.2 | Salt Tolerance: Moderate



Photos from SelecTree

CLIMATE RESILIENCY

Silk tree* (*Albizia julibrissin*) **Pea Family (Fabaceae)**

Shape: Rounded or Vase | Foliage: Partly Deciduous | Water Requirements: Moderate

Maximum Height: 35 feet | Maximum Width: 20 feet | Average Annual Growth Rate: ≈ 36 inches

Flowers: Spring, Summer | Potential to cause Infrastructure Damage: Moderate

Soil pH: 5.3 – 8.2 | Salt Tolerance: Moderate

CLIMATE RESILIENCY

Singleleaf pinyon pine‡ (*Pinus monophylla*) **Pine Family (Pinaceae)**

Shape: Conical or Rounded Foliage: Evergreen Water Requirements: Low

Maximum Height: 30 feet Maximum Width: 20 feet Average Annual Growth Rate: ≈ 12 inches

Cones: Spring Potential to cause Infrastructure Damage: Low

Soil pH: 5.3 – 8.2 Salt Tolerance: Moderate

CLIMATE RESILIENCY

Soapbark tree (*Quillaja saponaria*) **Soapbark Family (Quillajaceae)**

Shape: Rounded | Foliage: Evergreen | Water Requirements: Low

Maximum Height: 45 feet | Maximum Width: 25 feet | Average Annual Growth Rate: ≈ 12 inches

Flowers: Spring, Summer | Potential to cause Infrastructure Damage: Low

Photos from SelecTree

CLIMATE RESILIENCY

South African wild plum* (*Harpephyllum caffrum*) **Sumac Family (Anacardiaceae)**

Shape: Rounded Foliage: Evergreen Water Requirements: Moderate

Maximum Height: 50 feet Maximum Width: 50 feet Average Annual Growth Rate: ≈ 36 inches

Flowers: Spring Potential to cause Infrastructure Damage: High

Soil pH: 6.1 – 7.0 Salt Tolerance: High

CLIMATE RESILIENCY

Strawberry tree* (*Arbutus unedo*) **Heath Family (Ericaceae)**

Shape: Rounded or Vase | Foliage: Evergreen | Water Requirements: Moderate

Maximum Height: 35 feet | Maximum Width: 35 feet | Average Annual Growth Rate: ≈ 12 – 24 inches

Flowers: Fall, Winter | Potential to cause Infrastructure Damage: Moderate

Soil pH: 5.3 – 7.5 | Salt Tolerance: High

CLIMATE RESILIENCY

Sweetshade* (*Hymenosporum flavum*) **Pittosporum Family (Pittosporaceae)**

Shape: Conical or Rounded Foliage: Evergreen Water Requirements: Moderate

Maximum Height: 35 feet Maximum Width: 20 feet Average Annual Growth Rate: ≈ 12 – 24 inches

Flowers: Spring, Summer Potential to cause Infrastructure Damage: Low

Soil pH: 6.1 – 8.2 Salt Tolerance: Moderate

CLIMATE RESILIENCY

Victorian box* (*Pittosporum undulatum*) **Pittosporum Family (Pittosporaceae)**

Shape: Rounded Foliage: Evergreen Water Requirements: Moderate

Maximum Height: 40 feet Maximum Width: 40 feet Average Annual Growth Rate: ≈ 24 – 36 inches

Flowers: Spring Potential to cause Infrastructure Damage: Moderate

Soil pH: 6.1 – 7.5 Salt Tolerance: Moderate

CLIMATE RESILIENCY

5.2.8.4 4 – 7 Foot Planter Width with Overhead Utility Lines

California buckeye‡ (*Aesculus californica*) **Soapberry Family (Sapindaceae)**

Shape: Rounded | Foliage: Evergreen | Water Requirements: Moderate

Maximum Height: 40 feet | Maximum Width: 40 feet | Average Annual Growth Rate: ≈ 24 – 36 inches

Flowers: Spring | Potential to cause Infrastructure Damage: Moderate

Soil pH: 6.1 – 7.5 | Salt Tolerance: Moderate

CLIMATE RESILIENCY

Gold medallion tree* (*Cassia leptophylla*) **Pea Family (Fabaceae)**

Shape: Rounded Foliage: Partly Deciduous – Evergreen Water Requirements: Moderate

Maximum Height: 25 feet Maximum Width: 30 feet Average Annual Growth Rate: ≈ 36 inches

Flowers: Summer Potential to cause Infrastructure Damage: Low

Soil pH: 7.0 – 7.5 Salt Tolerance: High

CLIMATE RESILIENCY

Guadalupe palm* (*Brahea edulis*) **Palm Family (Arecaceae)**

Shape: Palm | Foliage: Evergreen | Water Requirements: Low

Maximum Height: 25 feet | Maximum Width: 15 feet | Average Annual Growth Rate: ≈ 12 inches

Flowers: Spring | Potential to cause Infrastructure Damage: Low

Soil pH: 6.1 – 8.2 | Salt Tolerance: Moderate

CLIMATE RESILIENCY

Majestic Beauty Indian hawthorn* (x *Rhaphiobotrya splendens* 'Montic') **Rose Family (Rosaceae)**

Shape: Rounded / Vase Foliage: Evergreen Water Requirements: Moderate

Maximum Height: 25 feet Maximum Width: 10 feet Average Annual Growth Rate: ≈ 24 inches

Flowers: Fall, Winter, Spring Potential to cause Infrastructure Damage: Low

Soil pH: 6.1 – 8.2 Salt Tolerance: Moderate

CLIMATE RESILIENCY

Muskogee hybrid crape myrtle* (*Lagerstroemia* 'Muskogee') **Loosestrife Family (Lythraceae)**

Shape: Rounded / Vase

Foliage: Deciduous

Water Requirements: Moderate

Maximum Height: 25 feet

Maximum Width: 25 feet

Average Annual Growth Rate: ≈ 12 – 24 inches

Flowers: Summer

Potential to cause Infrastructure Damage: Low

Soil pH: 5.3 – 7.5

Salt Tolerance: Moderate

CLIMATE RESILIENCY

Natchez hybrid crape myrtle* (*Lagerstroemia* 'Natchez') **Loosestrife Family (Lythraceae)**

Shape: Rounded / Vase

Foliage: Deciduous

Water Requirements: Moderate

Maximum Height: 25 feet

Maximum Width: 25 feet

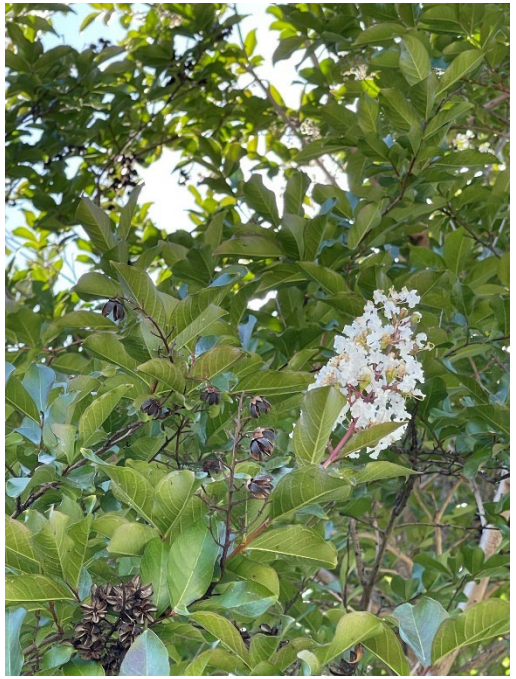
Average Annual Growth Rate: ≈ 12 – 24 inches

Flowers: Summer

Potential to cause Infrastructure Damage: Low

Soil pH: 5.3 – 7.5

Salt Tolerance: Moderate



CLIMATE RESILIENCY

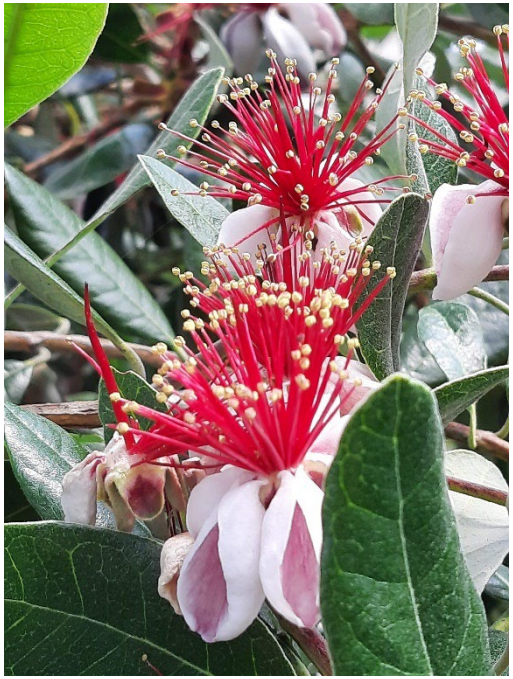
Pineapple guava (*Acca sellowiana*) **Myrtle Family (Myrtaceae)**

Shape: Rounded | Foliage: Evergreen | Water Requirements: Low

Maximum Height: 25 feet | Maximum Width: 25 feet | Average Annual Growth Rate: ≈ 24 inches

Flowers: Spring | Potential to cause Infrastructure Damage: Low

Soil pH: 6.1 – 8.2 | Salt Tolerance: Moderate



CLIMATE RESILIENCY

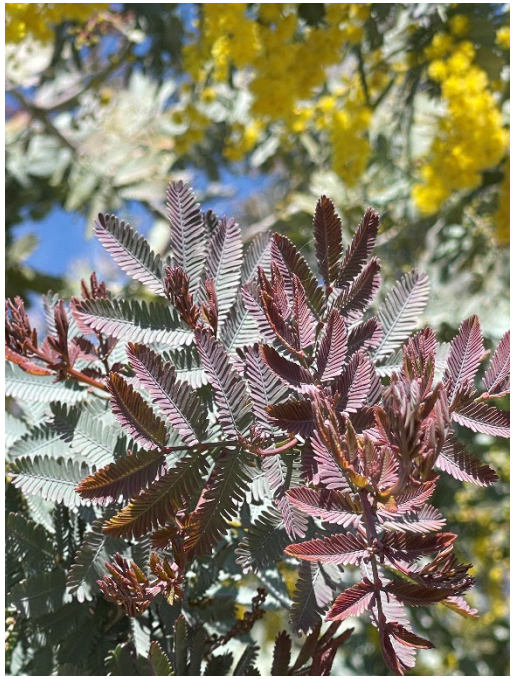
Purple-leaf acacia (*Acacia baileyana* 'Purpurea') **Pea Family (Fabaceae)**

Shape: Rounded | Foliage: Evergreen | Water Requirements: Very Low

Maximum Height: 30 feet | Maximum Width: 30 feet | Average Annual Growth Rate: ≈ 36 inches

Flowers: Winter, Spring | Potential to cause Infrastructure Damage: Moderate

Soil pH: 5.3 – 7.5 | Salt Tolerance: Moderate



CLIMATE RESILIENCY

River wattle (*Acacia cognata*) **Pea Family (Fabaceae)**

Shape: Rounded | Foliage: Evergreen | Water Requirements: Moderate

Maximum Height: 25 feet | Maximum Width: 25 feet | Average Annual Growth Rate: ≈ 36 inches

Flowers: Spring, Summer | Potential to cause Infrastructure Damage: Low

Soil pH: 6.1 – 8.2 | Salt Tolerance: High

Photos from SelecTree

CLIMATE RESILIENCY

Shoestring Acacia (*Acacia stenophylla*) **Pea Family (Fabaceae)**

Shape: Rounded or Vase | Foliage: Evergreen | Water Requirements: Very Low

Maximum Height: 30 feet | Maximum Width: 20 feet | Average Annual Growth Rate: ≈ 36 inches

Flowers: Spring, Summer | Potential to cause Infrastructure Damage: Low

Soil pH: 6.1 – 8.2 | Salt Tolerance: Moderate

CLIMATE RESILIENCY

Sydney golden wattle* (*Acacia longifolia*) **Pea Family (Fabaceae)**

Shape: Rounded | Foliage: Evergreen | Water Requirements: Low

Maximum Height: 25 feet | Maximum Width: 15 feet | Average Annual Growth Rate: ≈ 36 inches

Flowers: Winter, Spring | Potential to cause Infrastructure Damage: High

Soil pH: 6.1 – 8.2 | Salt Tolerance: High

CLIMATE RESILIENCY

Taiwan cherry (*Prunus campanulata*) **Rose Family (Rosaceae)**

Shape: Rounded or Vase | Foliage: Deciduous | Water Requirements: Moderate

Maximum Height: 25 feet | Maximum Width: 25 feet | Average Annual Growth Rate: ≈ 24 – 36 inches

Flowers: Winter, Spring | Potential to cause Infrastructure Damage: Low

Soil pH: 6.1 – 8.2 | Salt Tolerance: Moderate

Photos from SelecTree

CLIMATE RESILIENCY

Toyon*‡ (*Heteromeles arbutifolia*) **Rose Family (Rosaceae)**

Shape: Rounded / Vase | Foliage: Evergreen | Water Requirements: Low

Maximum Height: 25 feet | Maximum Width: 15 feet | Average Annual Growth Rate: ≈ 12 – 24 inches

Flowers: Summer | Potential to cause Infrastructure Damage: Low

Soil pH: 5.3 – 7.5 | Salt Tolerance: Moderate

CLIMATE RESILIENCY

Tuscarora hybrid crape myrtle* (*Lagerstroemia* 'Tuscarora') **Loosestrife Family (Lythraceae)**

Shape: Rounded or Vase | Foliage: Deciduous | Water Requirements: Moderate

Maximum Height: 25 feet | Maximum Width: 18 feet | Average Annual Growth Rate: ≈ 24 inches

Flowers: Summer | Potential to cause Infrastructure Damage: Low

Soil pH: 5.3 – 7.5 | Salt Tolerance: Moderate

CLIMATE RESILIENCY

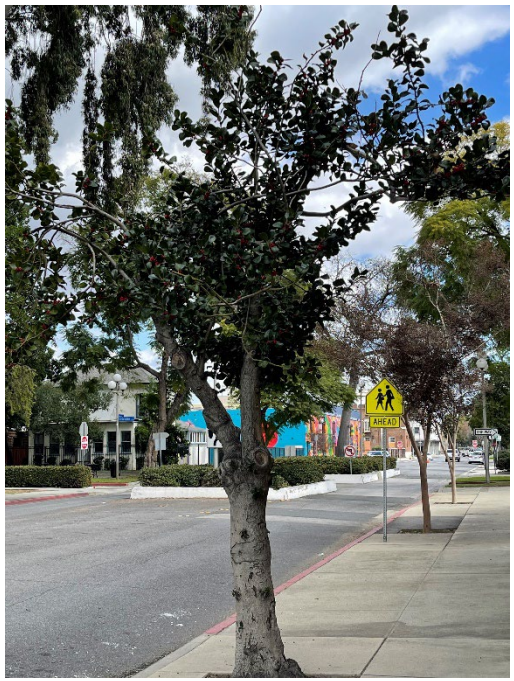
Wilson holly* (*Ilex* 'Wilsonii') **Holly Family (Aquifoliaceae)**

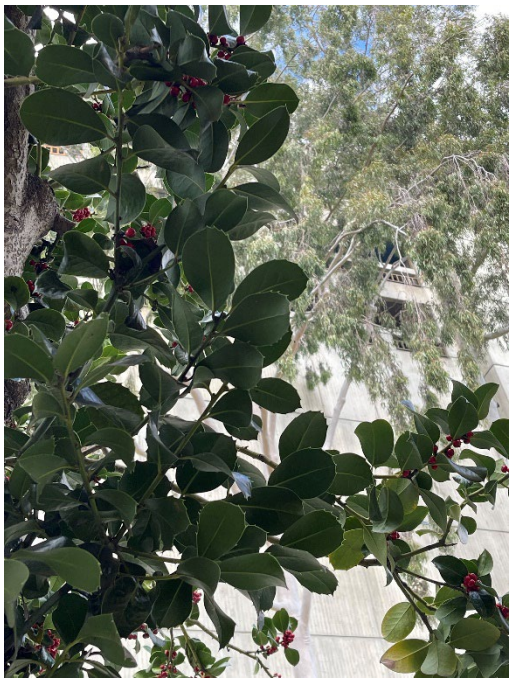
Shape: Rounded | Foliage: Evergreen | Water Requirements: Moderate

Maximum Height: 25 feet | Maximum Width: 25 feet | Average Annual Growth Rate: ≈ 24 inches

Flowers: Spring | Potential to cause Infrastructure Damage: Low

Soil pH: 6.1 – 7.5 | Salt Tolerance: Moderate





5.2.8.5 Planter Width Greater than 7 Feet

Afghan pine* (*Pinus eldarica*) **Pine Family (Pinaceae)**

Shape: Conical | Foliage: Evergreen | Water Requirements: Low

Maximum Height: 80 feet | Maximum Width: 25 feet | Average Annual Growth Rate: ≈ 36 inches

Cones: Spring | Potential to cause Infrastructure Damage: Moderate

Soil pH: 5.3 – 8.2 | Salt Tolerance: Moderate

CLIMATE RESILIENCY

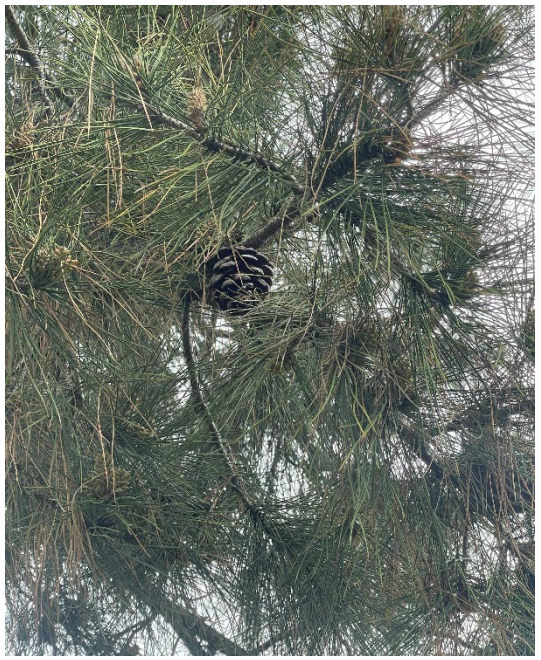
Aleppo pine* (*Pinus halepensis*) **Pine Family (Pinaceae)**

Shape: Conical Foliage: Evergreen Water Requirements: Moderate

Maximum Height: 60 feet Maximum Width: 40 feet Average Annual Growth Rate: ≈ 24 – 36 inches

Cones: Spring Potential to cause Infrastructure Damage: Moderate

Soil pH: 5.3 – 8.2 Salt Tolerance: High



CLIMATE RESILIENCY

Australian flame tree* (*Brachychiton acerifolius*) **Mallow Family (Malvaceae)**

Shape: Rounded | Foliage: Partly Deciduous | Water Requirements: Moderate

Maximum Height: 60 feet | Maximum Width: 40 feet | Average Annual Growth Rate: ≈ 24 inches

Flowers: Spring | Potential to cause Infrastructure Damage: Moderate

Soil pH: 6.0 – 7.0 | Salt Tolerance: Low

CLIMATE RESILIENCY

Autumn gold maidenhair tree* (*Ginkgo biloba* 'Autumn gold') **Ginkgo Family (Ginkgoaceae)**

Shape: Rounded Foliage: Deciduous Water Requirements: Moderate

Maximum Height: 50 feet Maximum Width: 35 feet Average Annual Growth Rate: ≈ 12 – 24 inches

Flowers: Spring Potential to cause Infrastructure Damage: Moderate

Soil pH: 5.3 – 7.5 Salt Tolerance: Moderate

CLIMATE RESILIENCY

Beefwood / She-oak (*Casuarina cunninghamiana*) **Beefwood Family (Casuarinaceae)**

Shape: Rounded Foliage: Deciduous Water Requirements: Moderate

Maximum Height: 50 feet Maximum Width: 35 feet Average Annual Growth Rate: ≈ 12 – 24 inches

Flowers: Spring Potential to cause Infrastructure Damage: Moderate

Soil pH: 5.3 – 7.5 Salt Tolerance: Moderate

CLIMATE RESILIENCY

Blue atlas cedar* (*Cedrus atlantica* 'Glauca') **Pine Family**
(Pinaceae)

Shape: Conical Foliage: Evergreen Water Requirements: Low

Maximum Height: 60 feet Maximum Width: 40 feet Average Annual Growth Rate: ≈ 12 – 24 inches

Pollen Cones: Spring Potential to cause Infrastructure Damage: Moderate

Soil pH: 5.3 – 7.5 Salt Tolerance: Moderate

CLIMATE RESILIENCY

Bottle tree* (*Brachychiton populneus*) **Mallow Family (Malvaceae)**

Shape: Conical | Foliage: Evergreen | Water Requirements: Moderate

Maximum Height: 50 feet | Maximum Width: 30 feet | Average Annual Growth Rate: ≈ 24 inches

Flowers: Spring, Summer | Potential to cause Infrastructure Damage: Moderate

Soil pH: 6.0 – 8.2 | Salt Tolerance: Moderate

CLIMATE RESILIENCY

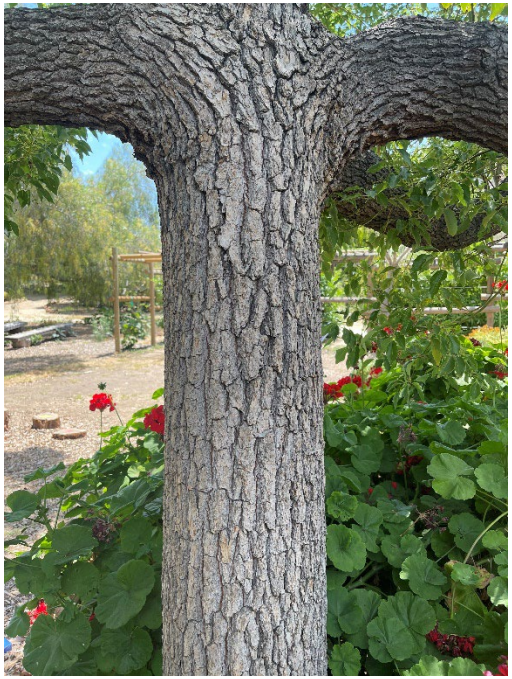
Camphor tree* (*Cinnamomum camphora*) **Laurel Family (Lauraceae)**

Shape: Rounded | Foliage: Evergreen | Water Requirements: Moderate

Maximum Height: 65 feet | Maximum Width: 60 feet | Average Annual Growth Rate: ≈ 24 inches

Flowers: Spring | Potential to cause Infrastructure Damage: High

Soil pH: 6.1 – 8.2 | Salt Tolerance: Moderate



CLIMATE RESILIENCY

Chinaberry* (*Melia azedarach*) **Mahogany Family (Meliaceae)**

Shape: Rounded Foliage: Deciduous Water Requirements: Low

Maximum Height: 50 feet Maximum Width: 25 feet Average Annual Growth Rate: ≈ 36 inches

Flowers: Spring, Summer Potential to cause Infrastructure Damage: Moderate

Soil pH: 5.3 – 8.2 Salt Tolerance: High

CLIMATE RESILIENCY

Chisos oak (*Quercus canbyi*) **Oak Family (Fagaceae)**

Shape: Rounded Foliage: Partly Deciduous – Evergreen Water Requirements: Low

Maximum Height: 50 feet Maximum Width: 50 feet Average Annual Growth Rate: ≈ 24 inches

Flowers: Winter, Spring Potential to cause Infrastructure Damage: Low

Soil pH: 5.3 – 8.6 Salt Tolerance: High

Photos from SelecTree

CLIMATE RESILIENCY

Coast banksia (*Banksia integrifolia*) **Protea Family (Proteaceae)**

Shape: Columnar or Vase Foliage: Evergreen Water Requirements: Very Low

Maximum Height: 60 feet Maximum Width: 30 feet Average Annual Growth Rate: ≈ 12 inches

Flowers: Fall, Winter, Spring Potential to cause Infrastructure Damage: Moderate

Soil pH: 6.1 – 7.5 Salt Tolerance: High

CLIMATE RESILIENCY

Coast live oak*‡ (*Quercus agrifolia*) **Beech Family (Fagaceae)**

Shape: Rounded Foliage: Evergreen Water Requirements: Low

Maximum Height: 70 feet Maximum Width: 70 feet Average Annual Growth Rate: ≈ 24 inches

Flowers: Spring Potential to cause Infrastructure Damage: Moderate

Soil pH: 5.3 – 7.5 Salt Tolerance: High

CLIMATE RESILIENCY

Cook pine* (*Araucaria columnaris*) **Araucaria Family (Araucariaceae)**

Shape: Columnar - Conical Foliage: Evergreen Water Requirements: Moderate

Maximum Height: 160 feet Maximum Width: 20 feet Average Annual Growth Rate: ≈ 12 – 24 inches

Flowers: – Potential to cause Infrastructure Damage: Moderate

Soil pH: 5.3 – 7.5 Salt Tolerance: Moderate

CLIMATE RESILIENCY

Empress tree (*Paulownia tomentosa*)

Bignonia Family (Bignoniaceae)

Shape: Rounded

Foliage: Deciduous

Water Requirements: Moderate

Maximum Height: 50 feet

Maximum Width: 50 feet

Average Annual Growth Rate: ≈ 36 inches

Flowers: Spring

Potential to cause Infrastructure Damage: High

Soil pH: 5.3 – 8.2

Salt Tolerance: Moderate

Photos from SelecTree

CLIMATE RESILIENCY

Engelmann oak‡ (*Quercus engelmannii*) **Oak Family (Fagaceae)**

Shape: Rounded Foliage: Deciduous – Partly Deciduous Water Requirements: Very Low

Maximum Height: 65 feet Maximum Width: 120 feet Average Annual Growth Rate: ≈ 12 – 24 inches

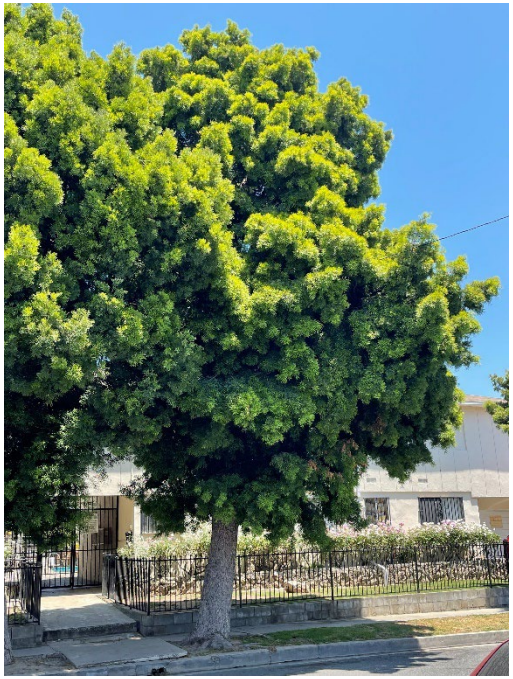
Flowers: Spring Potential to cause Infrastructure Damage: Moderate

Soil pH: 6.1 – 7.5 Salt Tolerance: High

CLIMATE RESILIENCY

Fern pine* (*Afrocarpus falcatus*) **Podocarpus Family (Podocarpaceae)**

Shape: Rounded
Foliage: Evergreen
Water Requirements: Moderate
Maximum Height: 65 feet
Maximum Width: – feet
Average Annual Growth Rate: ≈ 12 – 36 inches
Cones: Spring
Potential to cause Infrastructure Damage: Low
Soil pH: 6.0 – 6.9
Salt Tolerance: Moderate



CLIMATE RESILIENCY

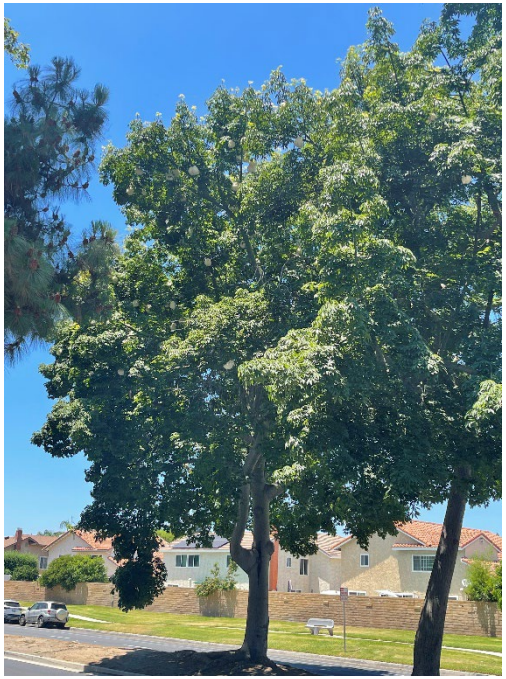
Floss silk tree* (*Ceiba speciosa*) **Mallow Family (Malvaceae)**

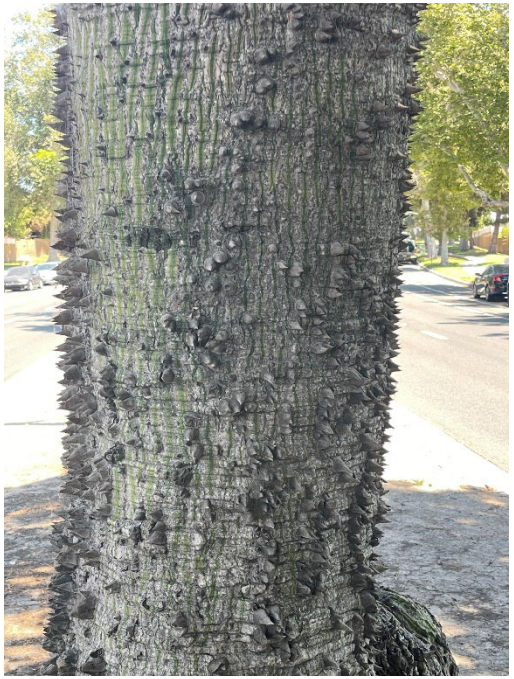
Shape: Rounded Foliage: Partly Deciduous Water Requirements: Low

Maximum Height: 60 feet Maximum Width: 50 feet Average Annual Growth Rate: ≈ 12 – 24 inches

Flowers: Fall, Winter Potential to cause Infrastructure Damage: Moderate

Soil pH: 7.0 – 7.5 Salt Tolerance: Moderate





Glossy privet* (*Ligustrum lucidum*) **Olive Family (Oleaceae)**

CLIMATE RESILIENCY

Shape: Rounded | Foliage: Evergreen | Water Requirements: Moderate

Maximum Height: 50 feet | Maximum Width: – feet | Average Annual Growth Rate: ≈ 36 inches

Flowers: Spring, Summer | Potential to cause Infrastructure Damage: Moderate

Soil pH: 5.3 – 8.2 | Salt Tolerance: Moderate

CLIMATE RESILIENCY

Holly oak* (*Quercus ilex*) **Oak Family (Fagaceae)**

Shape: Rounded | Foliage: Evergreen | Water Requirements: Moderate

Maximum Height: 60 feet | Maximum Width: 60 feet | Average Annual Growth Rate: ≈ 24 inches

Flowers: Winter, Spring | Potential to cause Infrastructure Damage: Low

Soil pH: 5.3 – 8.2 | Salt Tolerance: High

CLIMATE RESILIENCY

Honey locust* (*Gleditsia triacanthos*) **Pea Family (Fabaceae)**

Shape: Rounded | Foliage: Deciduous | Water Requirements: Moderate

Maximum Height: 70 feet | Maximum Width: 35 feet | Average Annual Growth Rate: ≈ 36 inches

Flowers: Spring, Summer | Potential to cause Infrastructure Damage: Moderate

Soil pH: 5.3 – 8.2 | Salt Tolerance: Low

CLIMATE RESILIENCY

Island oak‡ (*Quercus tomentella*) **Oak Family (Fagaceae)**

Shape: Rounded | Foliage: Evergreen | Water Requirements: Low

Maximum Height: 50 feet | Maximum Width: 40 feet | Average Annual Growth Rate: ≈ 24 inches

Flowers: Spring | Potential to cause Infrastructure Damage: Moderate

Soil pH: 5.3 – 7.5 | Salt Tolerance: Moderate

CLIMATE RESILIENCY

Italian cypress* (*Cupressus sempervirens*) **Cypress Family (Cupressaceae)**

Shape: Columnar | Foliage: Evergreen | Water Requirements: Moderate

Maximum Height: 70 feet | Maximum Width: 20 feet | Average Annual Growth Rate: ≈ 36 inches

Cones: Fall | Potential to cause Infrastructure Damage: Moderate

Soil pH: 5.3 – 8.2 | Salt Tolerance: Moderate

CLIMATE RESILIENCY

Lemon-scented gum* (*Corymbia citriodora*) **Myrtle Family (Myrtaceae)**

Shape: Rounded | Foliage: Evergreen | Water Requirements: Low

Maximum Height: 160 feet | Maximum Width: 100 feet | Average Annual Growth Rate: ≈ 36 inches

Flowers: Winter | Potential to cause Infrastructure Damage: Moderate

Soil pH: 5.3 – 8.2 | Salt Tolerance: –

CLIMATE RESILIENCY

Maidenhair tree* (*Ginkgo biloba*) **Ginkgo Family (Ginkgoaceae)**

Shape: Conical

Foliage: Deciduous

Water Requirements: Moderate

Maximum Height: 65 feet

Maximum Width: 25 feet

Average Annual Growth Rate: ≈ 12 – 24 inches

Flowers: Spring

Potential to cause Infrastructure Damage: Low

Soil pH: 5.3 – 7.5

Salt Tolerance: Low

CLIMATE RESILIENCY

Modesto ash* (*Fraxinus velutina* 'Modesto) **Olive Family (Oleaceae)**

Shape: Rounded | Foliage: Deciduous | Water Requirements: Moderate

Maximum Height: 50 feet | Maximum Width: 40 feet | Average Annual Growth Rate: ≈ 36 inches

Flowers: Spring | Potential to cause Infrastructure Damage: High

Soil pH: 5.3 – 8.2 | Salt Tolerance: Moderate

CLIMATE RESILIENCY

Monterey pine* (*Pinus radiata*) **Pine Family (Pinaceae)**

Shape: Conical, Rounded, or Vase Foliage: Evergreen Water Requirements: Moderate

Maximum Height: 100 feet Maximum Width: 35 feet Average Annual Growth Rate: ≈ 36 inches

Cones: Winter, Spring Potential to cause Infrastructure Damage: Moderate

Soil pH: 5.3 – 7.5 Salt Tolerance: High

CLIMATE RESILIENCY

Netleaf oak (*Quercus rugosa*) **Oak Family (Fagaceae)**

Shape: Rounded | Foliage: Evergreen | Water Requirements: Moderate

Maximum Height: 60 feet | Maximum Width: 40 feet | Average Annual Growth Rate: ≈ 36 inches

Flowers: Spring | Potential to cause Infrastructure Damage: Moderate

Soil pH: 7.0 – 7.5 | Salt Tolerance: Moderate

CLIMATE RESILIENCY

Norfolk Island pine* (*Araucaria heterophylla*) **Araucaria Family (Araucariaceae)**

Shape: Conical | Foliage: Evergreen | Water Requirements: Moderate

Maximum Height: 100 feet | Maximum Width: 60 feet | Average Annual Growth Rate: ≈ 24 inches

Flowers: Fall, Summer | Potential to cause Infrastructure Damage: Moderate

Soil pH: 5.3 – 7.5 | Salt Tolerance: Moderate

CLIMATE RESILIENCY

Queensland lacebark (*Brachychiton discolor*) **Mallow Family (Malvaceae)**

Shape: Conical Foliage: Partly Deciduous Water Requirements: Moderate

Maximum Height: 65 feet Maximum Width: 30 feet Average Annual Growth Rate: ≈ 24 – 36 inches

Flowers: Fall, Summer Potential to cause Infrastructure Damage: Moderate

Soil pH: 6.0 – 8.2 Salt Tolerance: Moderate

CLIMATE RESILIENCY

Red ironbark* (*Eucalyptus sideroxylon*) **Myrtle Family (Myrtaceae)**

Shape: Rounded or Vase Foliage: Evergreen Water Requirements: Low

Maximum Height: 90 feet Maximum Width: 60 feet Average Annual Growth Rate: ≈ 36 inches

Flowers: Year-Round Potential to cause Infrastructure Damage: High

Soil pH: 7.0 – 8.2 Salt Tolerance: High

CLIMATE RESILIENCY

Rose gum (*Angophora costata*) **Myrtle Family (Myrtaceae)**

Shape: Conical or Rounded Foliage: Evergreen Water Requirements: Low

Maximum Height: 65 feet Maximum Width: 50 feet Average Annual Growth Rate: ≈ 24 inches

Flowers: Summer Potential to cause Infrastructure Damage: Moderate

Soil pH: 7.0 – 8.2 Salt Tolerance: Moderate

CLIMATE RESILIENCY

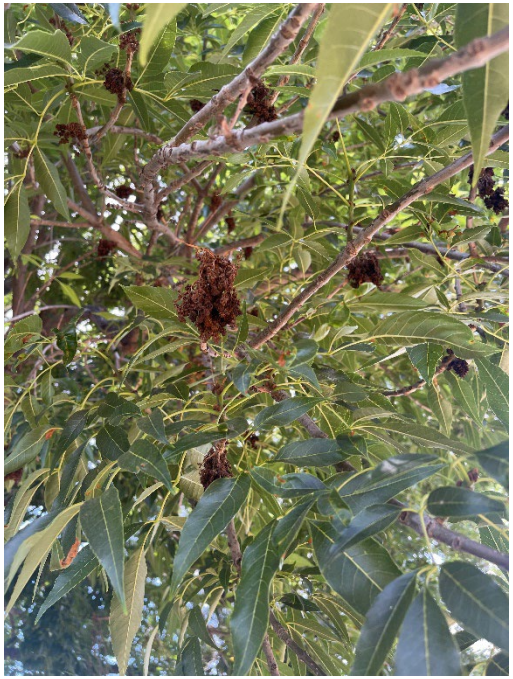
Shamel ash* (*Fraxinus uhdei*) **Olive Family (Oleaceae)**

Shape: Rounded Foliage: Partly Deciduous – Evergreen Water Requirements: Moderate

Maximum Height: 80 feet Maximum Width: 60 feet Average Annual Growth Rate: ≈ 36 inches

Flowers: Spring Potential to cause Infrastructure Damage: High

Soil pH: 5.3 – 8.2 Salt Tolerance: Moderate



CLIMATE RESILIENCY

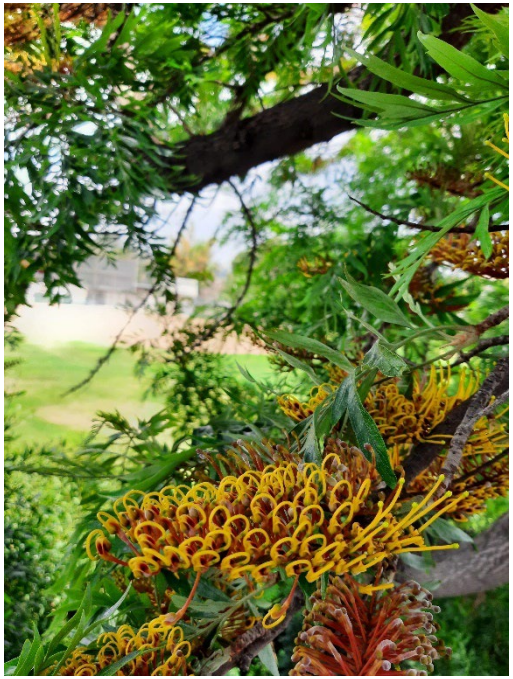
Silk oak* (*Grevillea robusta*) **Protea Family (Proteaceae)**

Shape: Conical or Rounded Foliage: Evergreen Water Requirements: Low

Maximum Height: 65 feet Maximum Width: – feet Average Annual Growth Rate: ≈ 36 inches

Flowers: Spring Potential to cause Infrastructure Damage: Moderate

Soil pH: 6.1 – 8.2 Salt Tolerance: Moderate



CLIMATE RESILIENCY

Silver dollar gum* (*Eucalyptus polyanthemos*) **Myrtle Family (Myrtaceae)**

Shape: Rounded | Foliage: Evergreen | Water Requirements: Low

Maximum Height: 75 feet | Maximum Width: 45 feet | Average Annual Growth Rate: ≈ 36 inches

Flowers: Spring, Summer | Potential to cause Infrastructure Damage: Moderate

Soil pH: 6.1 – 8.2 | Salt Tolerance: Moderate

CLIMATE RESILIENCY

Silverleaf oak (*Quercus hypoleucoides*) **Oak Family (Fagaceae)**

Shape: Rounded Foliage: Evergreen Water Requirements: Low

Maximum Height: 80 feet Maximum Width: 30 feet Average Annual Growth Rate: ≈ 36 inches

Flowers: Spring Potential to cause Infrastructure Damage: Moderate

Soil pH: 7.0 – 7.5 Salt Tolerance: Moderate

Photos from SelecTree

CLIMATE RESILIENCY

Smooth Arizona cypress (*Hesperocyparis arizonica* var. *glabra*) **Cypress Family (Cupressaceae)**

Shape: Columnar Foliage: Evergreen Water Requirements: Low

Maximum Height: 50 feet Maximum Width: 20 feet Average Annual Growth Rate: ≈ 36 inches

Pollen Cones: Spring Potential to cause Infrastructure Damage: Moderate

Soil pH: 5.3 – 8.2 Salt Tolerance: Moderate

CLIMATE RESILIENCY

Southern live oak* (*Quercus virginiana*) **Oak Family (Fagaceae)**

Shape: Rounded Foliage: Partly Deciduous – Evergreen Water Requirements: Moderate

Maximum Height: 80 feet Maximum Width: 100 feet Average Annual Growth Rate: ≈ 24 – 36 inches

Flowers: Spring Potential to cause Infrastructure Damage: Moderate

Soil pH: 5.3 – 8.2 Salt Tolerance: High

CLIMATE RESILIENCY

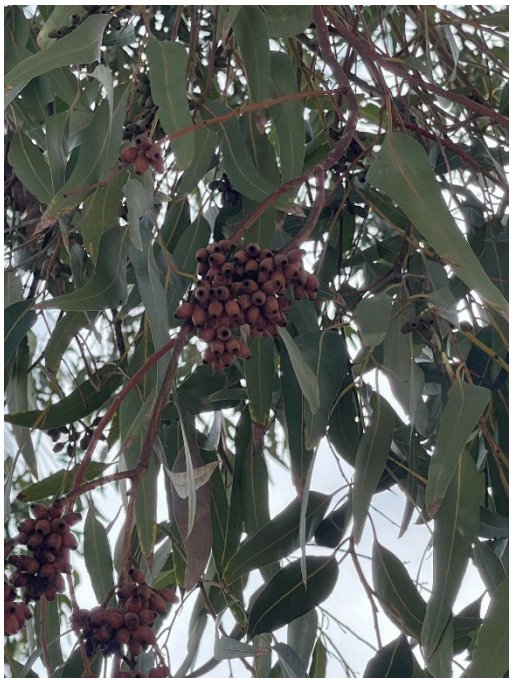
Sugar gum* (*Eucalyptus cladocalyx*) **Myrtle Family (Myrtaceae)**

Shape: Rounded | Foliage: Evergreen | Water Requirements: Low

Maximum Height: 90 feet | Maximum Width: 75 feet | Average Annual Growth Rate: ≈ 36 inches

Flowers: Fall, Spring | Potential to cause Infrastructure Damage: Moderate

Soil pH: 6.1 – 8.2 | Salt Tolerance: Moderate



CLIMATE RESILIENCY

Tipu* (*Tipuana tipu*) **Pea Family (Fabaceae)**

Shape: Rounded Foliage: Deciduous – Partly Deciduous Water Requirements: Moderate

Maximum Height: 50 feet Maximum Width: 50 feet Average Annual Growth Rate: ≈ 24 – 36 inches

Flowers: Summer Potential to cause Infrastructure Damage: Moderate

Soil pH: 5.3 – 7.5 Salt Tolerance: High

CLIMATE RESILIENCY

Torrey pine*‡ (*Pinus torreyana*) **Pine Family (Pinaceae)**

Shape: Conical or Vase | Foliage: Evergreen | Water Requirements: Moderate

Maximum Height: 50 feet | Maximum Width: 25 feet | Average Annual Growth Rate: ≈ 36 inches

Pollen Cones: Fall | Potential to cause Infrastructure Damage: Moderate

Soil pH: 5.3 – 7.5 | Salt Tolerance: Moderate

CLIMATE RESILIENCY

Velvet ash* (*Fraxinus velutina*) **Olive Family (Oleaceae)**

Shape: Conical or Rounded Foliage: Deciduous Water Requirements: Moderate

Maximum Height: 50 feet Maximum Width: 40 feet Average Annual Growth Rate: ≈ 24 inches

Flowers: Spring Potential to cause Infrastructure Damage: High

Soil pH: 5.3 – 8.2 Salt Tolerance: Moderate

CLIMATE RESILIENCY

White ironbark* (*Eucalyptus leucoxylon*) **Myrtle Family (Myrtaceae)**

Shape: Rounded | Foliage: Evergreen | Water Requirements: Low

Maximum Height: 90 feet | Maximum Width: 60 feet | Average Annual Growth Rate: ≈ 36 inches

Flowers: Winter, Spring | Potential to cause Infrastructure Damage: Moderate

Soil pH: 6.1 – 8.2 | Salt Tolerance: Moderate

White Jacaranda* (*Jacaranda mimosifolia* 'Alba') **Bignonia Family (Bignoniaceae)**

CLIMATE RESILIENCY

Shape: Rounded | Foliage: Partly Deciduous | Water Requirements: Moderate

Maximum Height: 50 feet | Maximum Width: 30 feet | Average Annual Growth Rate: ≈ 36 inches

Flowers: Fall, Spring, Summer | Potential to cause Infrastructure Damage: Moderate

Soil pH: 6.1 – 7.5 | Salt Tolerance: Moderate

5.3 PLANNING, DEVELOPMENT, AND INFRASTRUCTURE

A critical component of the continued growth of the City of Monterey Park is the development and improvement of new and existing public and private facilities and infrastructure. Prior to approving and issuing permits for any proposed project, The Public Works Director or his delegate must consider potential impacts to community assets and public resources, including the effects to the urban forest. Under the Tree Planting and Tree Removal Regulations (Monterey Park M.C § 9.63.040 – 9.63.060) permits are required for the planting and removal of public trees. A permit is required for any tree planted in a public street or within five feet (5') of any curb or sidewalk. The species shall be chosen from the tree palette listed in Sections 5.2.2 – 5.2.7. A permit is also required for the removal of any tree on public property. Permit applications are reviewed by the Recreation and Parks Commission.

5.3.1 TREE PROTECTION IN THE DEVELOPMENT AND PLANTING PROCESS

The ISA *Best Management Practices, Managing Trees During Site Development and Construction* and the *ANSI A300 Tree Care Standards Clause 9 – Management During Site Development and Construction* (Appendix B) both emphasize the importance of the inclusion of a certified arborist throughout the development process to evaluate direct and indirect impacts to the urban forest and ensure the appropriate measures are taken to protect trees as illustrated in Figure 5.1. At a minimum, proposed plans should address the following in relation to trees in The City of Monterey Park Urban Forest:

- An inventory of the trees on site and adjacent trees that may be impacted by the project
    - Inventory data required:
        - Location (either as a map or set of coordinates)
        - Tree Number (Electronic Inventory ID for City trees or site specific identification number
        - Species (common and botanical name)
        - Diameter at Breast Height ([DBH] measured at 4.5 feet above grade)
        - Health Condition
    - Impact zone outside of the project will vary. The precise buffer will be at the discretion of the Recreation and Parks Commission during the review process (See ISA BMP and ANSI Standards in Appendix B for more detail)
- Potential tree impacts:
    - Direct
        - Describe specific impacts to each tree.
        - Project specifics that make tree impacts unavoidable.
        - Permits required for removals, branch removals, root pruning.
        - Potential for increased sun exposure due to proposed pruning activities leading to sunburn on internal branches.
            - Proposed protection measures to prevent sunburn.

    - Indirect
        - Grade changes within the root zone of existing trees
        - Changes to water flow on site that may divert water away or increase flows around existing trees.
        - New hardscape installation near existing trees.
        - Changes in sun exposure for existing trees due to the removal of adjacent trees, removal/changes to existing structures or addition of new structures.
- List of trees proposed to be preserved on site after the project.
    - Defined Tree Protection Zone (TPZ) for each tree to be preserved (See ISA *BMP Managing Trees During Site Development* in Appendix B for assistance in defining appropriate TPZ).
        - Activities prohibited within the TPZ:
            - Grade changes (cuts and fills).
            - Trench excavation.
            - Root pruning or cutting.
            - Pedestrian and equipment traffic.
                - Can cause soil compaction and root damage.
            - Parking.
            - Burning of brush or woody debris.
            - Storing of soil, construction materials, petroleum products, water, or building refuse.
            - Disposing of wash water, fuel, or other liquids that could potentially damage tree roots.
        - Proposed method to delineate the TPZ(s) and restrict access.
        - TPZ(s) for adjacent trees outside the project area that may be impacted by the project.
- Monitoring and Maintenance Plan for trees to be preserved
    - Conducted by a Certified Arborist
    - Preconstruction
        - Watering
        - Mulching
        - Pest / Disease Prevention / Treatment
        - Routine Pruning
        - Tree Health
    - During Construction
        - Watering
        - Mulching
        - Pest / Disease Prevention / Treatment
        - Tree Health
        - TPZ Monitoring and Maintenance

        - Monitoring / Response to incidental damages to protected trees
        - Root Pruning Monitoring (According to the ISA *Best Management Practices Root Management* and *ANSI A300 Tree Care Standards Clause 12 – Root Management*, Appendix B)
    - Post Construction
        - Watering
        - Mulching
        - Pest / Disease Prevention / Treatment
        - Tree Health

For private development projects, as part of the review process, in compliance with the ISA BMPs and the ANSI A300 Standards, the Recreation and Parks Commission will evaluate the stated impacts and permit application(s) for each proposed project. The Commission will also evaluate the construction limits and protection measures around any preserved trees on the proposed plans to ensure the trees are suitable for preservation and the submitted protections are adequate to maintain a healthy tree after construction. Periodic site visits will be assigned at the discretion of the Director to ensure compliance with the approved protection measures.

For City managed or other public projects, The Director will coordinate with the lead agency to develop the tree protection plan as described above. A staff Certified Arborist or a contracted arborist will be assigned to complete the site evaluation, inventory and protection measures at the discretion of the Director.

Development Phase	Arborist Involvement
Planning	Resource evaluation Permitting needs Suitability for preservation Tree inventory
Design	Tree Impact assessment Tree protection plan Tree Protection Zones (TPZ) Landscape plan review
Preconstruction	Contractor communication TPZ barrier installation Aboricultural treatments
Construction	Site monitoring Assessing impacts Maintaining TPZ Arboricultural treatments
Landscaping	Site monitoring TPZ barrier adjustments Mitigate tree impacts
Postconstruction	Site monitoring TPZ barrier removal Mitigate tree impacts Plan for maintenance

Figure 5.1: Arborist Involvement in the Development Process
(From the International Society of Arboriculture *Best Management Practices Managing Trees During Site Development and Construction*, page 4)

5.4 REDUCTION OF URBAN HEAT ISLAND

The concept of urban heat island effect is empirically demonstrated by thermometer measurements of temperatures in various municipal areas across the world. As cities grow and the percentage of paving and built environment increases in relation to unpaved areas, there are demonstrable effects on air temperature from reflected heat, especially in zones that lack tree canopy.

Trees naturally provide a cooling effect by shading hardscape that would reflect the heat back to the atmosphere and evapotranspiration from tree leaves provides much needed cooling moisture.

Another important benefit of increased shade is that residents and visitors are more likely to walk rather than drive from one point to another. This results in less emissions and fossil fuel use, which is beneficial for human health. As trees grow, the area they shade will increase. The expanding zone of

reduced radiated heat from the surrounding hardscape and increased relative humidity can form microclimates that will support many more types of plants in the landscape than would otherwise be possible. Irrigation needs for plants in these microclimates may also be reduced since less water is lost to evaporation from unshaded soils.

Monterey Park's trees are essential to climate modification and energy savings. Benefits include:

1. The process of transpiration in trees cools the air by converting water used by the plants into water vapor. Without trees, the solar energy that makes this process happen would otherwise heat the air.

2. Shade from trees reduces radiant energy stored by impervious surfaces.

3. Trees moderate annual heating and cooling costs when planted in key locations.

5.5 PLANTING PLAN

The July 2024 inventory (Section 2.4) listed 1,420 vacant sites within the City of Monterey Park Urban Forest (approximately 16% of the total identified available sites). These sites were identified based on appropriate available space along parkways and medians where either no tree had been installed or a previous tree was removed. The City of Monterey Park currently enjoys a 1.5:1 replacement to removal ratio. This is not an exhaustive analysis of all potential sites where trees could be planted but serves as a benchmark to provide the greatest canopy cover possible within the current system of parkways and medians. The distribution of the vacant sites is shown in Figure 5.2.

To increase the benefits provided to the community by the urban forest, beginning in 2025, the City of Monterey Park plans to implement a structured planting plan to address the approximate 1,420 vacant sites found in Section 2.4. This plan is currently a work in progress that can be achieved by internal budget considerations and applications of grant funding, likely a combination of both. The sites will be chosen based on the areas with greatest need in terms of gaps in canopy cover (Section 3.4). Tables 5.7, 5.8, and 5.9 show the estimated annual progress of these planting plans, at 100, 150, and 200 units respectively, taking into account the average annual mortality rate of one percent (1.0%) that was calculated from recent historical data from the City's Electronic Inventory Software System. These quantity thresholds are presented as examples showing various timelines in undertaking the planting of vacant sites. After all vacant sites have been occupied, annual planting can be reduced to roughly eighty-eight (88) trees per year to replace mortalities.

The remainder of this section details the process for soil testing, species selection, nursery stock selection, installation, and young tree maintenance for all tree installations at sites managed by the City of Monterey Park.

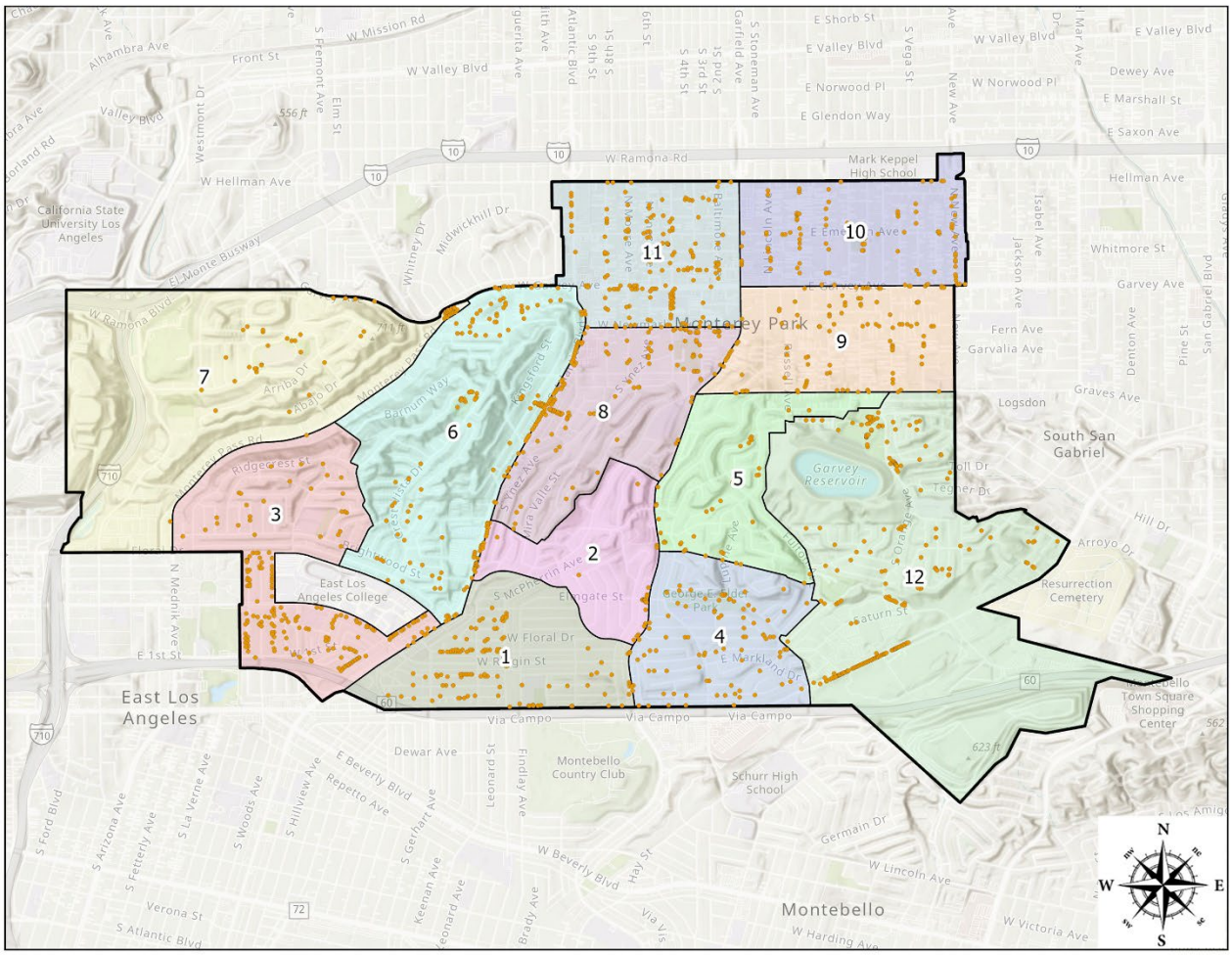


Figure 5.2: Distribution of Vacant Sites as of the July 2024 Inventory.

Year	Beginning Number of Trees	Beginning Number of Vacant Sites	Mortality	Number of Trees Planted
2025	7,360	1,420	74	100
2026	7,386	1,394	74	100
2027	7,413	1,367	74	100
2028	7,438	1,342	74	100
2029	7,464	1,316	75	100
2030	7,489	1,291	75	100
2031	7,514	1,266	75	100
2032	7,539	1,241	75	100
2033	7,564	1,216	76	100
2034	7,588	1,192	76	100
2035	7,612	1,168	76	100
2036	7,636	1,144	76	100
2037	7,660	1,120	77	100
2038	7,683	1,097	77	100
2039	7,707	1,073	77	100

Year	Beginning Number of Trees	Beginning Number of Vacant Sites	Mortality	Number of Trees Planted
2040	7,729	1,051	77	100
2041	7,752	1,028	78	100
2042	7,775	1,005	78	100
2043	7,797	983	78	100
2044	7,819	961	78	100
2045	7,841	939	78	100
2046	7,862	918	79	100
2047	7,884	896	79	100
2048	7,905	875	79	100
2049	7,926	854	79	100
2050	7,947	833	79	100
2051	7,967	813	80	100
2052	7,987	793	80	100
2053	8,008	772	80	100
2054	8,027	753	80	100
2055	8,047	733	80	100
2056	8,067	713	81	100
2057	8,086	694	81	100
2058	8,105	675	81	100
2059	8,124	656	81	100
2060	8,143	637	81	100
2061	8,161	619	82	100
2062	8,180	600	82	100
2063	8,198	582	82	100
2064	8,216	564	82	100
2065	8,234	546	82	100
2066	8,252	528	83	100
2067	8,269	511	83	100
2068	8,286	494	83	100
2069	8,304	476	83	100
2070	8,320	460	83	100
2071	8,337	443	83	100
2072	8,354	426	84	100
2073	8,370	410	84	100
2074	8,387	393	84	100
2075	8,403	377	84	100
2076	8,419	361	84	100
2077	8,435	345	84	100
2078	8,450	330	85	100
2079	8,466	314	85	100
2080	8,481	299	85	100
2081	8,496	284	85	100
2082	8,511	269	85	100
2083	8,526	254	85	100
2084	8,541	239	85	100
2085	8,556	224	86	100
2086	8,570	210	86	100

Year	Beginning Number of Trees	Beginning Number of Vacant Sites	Mortality	Number of Trees Planted
2087	8,584	196	86	100
2088	8,598	182	86	100
2089	8,612	168	86	100
2090	8,626	154	86	100
2091	8,640	140	86	100
2092	8,654	126	87	100
2093	8,667	113	87	100
2094	8,680	100	87	100
2095	8,694	86	87	100
2096	8,707	73	87	100
2097	8,720	60	87	100
2098	8,732	48	87	100
2099	8,745	35	87	100
2100	8,758	22	88	100
2101	8,770	10	88	100
2102	8,782	–	–	–

Table 5.7: Estimated Annual Progress for the City of Monterey Park General Planting Plan with 100 trees Installed Annually.

Year	Beginning Number of Trees	Beginning Number of Vacant Sites	Mortality	Number of Trees Planted
2025	7,360	1,420	74	150
2026	7,436	1,344	74	150
2027	7,512	1,268	75	150
2028	7,587	1,193	76	150
2029	7,661	1,119	77	150
2030	7,734	1,046	77	150
2031	7,807	973	78	150
2032	7,879	901	79	150
2033	7,950	830	80	150
2034	8,021	759	80	150
2035	8,091	689	81	150
2036	8,160	620	82	150
2037	8,228	552	82	150
2038	8,296	484	83	150
2039	8,363	417	84	150
2040	8,429	351	84	150
2041	8,495	285	85	150
2042	8,560	220	86	150
2043	8,624	156	86	150
2044	8,688	92	87	150
2045	8,751	29	88	150
2046	8,782	–	–	–

Table 5.8: Estimated Annual Progress for the City of Monterey Park General Planting Plan with 150 trees Installed Annually.

Year	Beginning Number of Trees	Beginning Number of Vacant Sites	Mortality	Number of Trees Planted
2025	7,360	1,420	74	200
2026	7,486	1,294	75	200
2027	7,612	1,168	76	200
2028	7,735	1,045	77	200
2029	7,858	922	79	200
2030	7,979	801	80	200
2031	8,100	680	81	200
2032	8,219	561	82	200
2033	8,337	443	83	200
2034	8,453	327	85	200
2035	8,569	211	86	200
2036	8,683	97	87	200
2037	8,782	–	–	–

Table 5.9: Estimated Annual Progress for the City of Monterey Park General Planting Plan with 200 trees Installed Annually.

5.5.1 SOIL TESTING

Prior to species selection for any planting site, soil samples will be taken to determine soil pH, nutrient availability and presence of heavy metals or other materials that may be harmful or reduce growth of new trees on the site. The samples will be submitted to a laboratory facility approved by the Public Works Director for analysis. Samples should be taken according to the methodology described in the ISA *Best Management Practices Soil Management for Urban Trees* (Appendix B) summarized below.

- Ten (10) core samples should be taken from the upper six to eight inches (6” – 8”) of site soil using a soil probe or augur for every one thousand square foot (1,000 sq. ft.) area to be tested. If the site is less than one thousand square feet, a minimum of ten core samples should be taken.
- Scrape aside any layer of mulch, litter, or turf before taking the sample.
- Core samples should be representative of the diversity of the site.
- Combine the ten core samples into a single sample bag to be submitted to the laboratory for analysis.
- Remove any rocks and/or debris from the sample before submittal.

5.5.2 SPECIES SELECTION

City Staff, with approval of the Public Works Director or Public Works Manager, shall refer to the approved species list for selection of the species from this list that is appropriate for the size of the available planting space and presence or absence of utility lines (Tables 5.2 – 5.7).

- Adjacent infrastructure should be considered when developing the list of potential species. The Approved Species List in Table 5.1 and the individual species profiles list the potential for roots to damage infrastructure. Species with moderate to high potential for hardscape damage may not be appropriate for planting adjacent to critical infrastructure.

- Compare the soil sample analysis results for the planting site to the Soil pH requirements provided in the species profiles for the list of potential species. If the site soil pH lies within the tree species pH tolerance range, the species may be considered suitable for the site.

5.5.3 NURSERY STOCK SELECTION

Obtaining healthy, well-structured nursery stock is essential for the establishment of healthy, well-structured trees in the City of Monterey Park Urban Forest. Nursery stock must be free of pests and diseases with a visible root flare to be accepted for installation in the City of Monterey Park. Codominant leaders, or trees with large pruning wounds from the recent removal of a codominant stem will also be rejected. Pruning of young trees in the nursery is a common industry practice, however, the pruning cuts should be made according to ANSI A300 Standards and ISA BMPs (Appendix B). Trees with flush cut pruning wounds and/or stubs left after pruning will not be accepted.

Ideally the trees should be inspected at the nursery prior to delivery, but if this is not feasible, the inspection should occur prior to offloading from the delivery truck. To the extent possible the roots at the container edge should be inspected to make sure they have not been turned back by the container and begun to form J-roots. J-roots will continue to grow inward forming a balled root system instead of growing out into the surrounding site soil. As the young tree grows and requires more the water uptake from the roots, the small root area will not be able to accommodate the demand. The young tree can experience drought stress symptoms regardless of the amount of water provided and eventually die. Figure 5.3 illustrates some of the conditions that would indicate healthy nursery stock compared to conditions that would lead to rejecting delivery of a nursery tree.

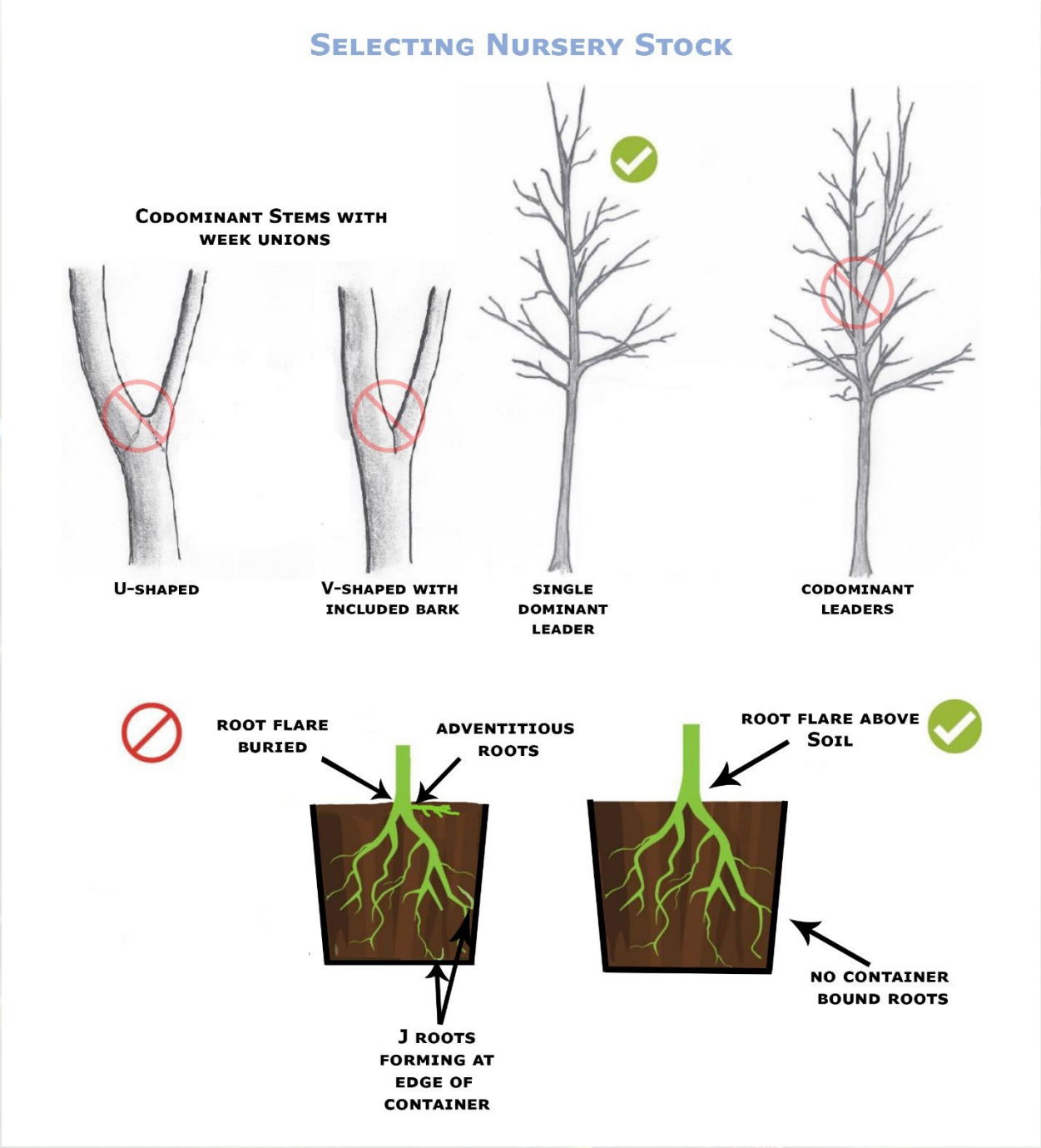


Figure 5.3: Conditions for Selecting Nursery Stock

5.5.4 TREE INSTALLATION

Prior to excavation of any tree planting site the location of underground utilities should be verified either internally by the City staff or with a contracted underground utilities locating service such as DigAlert. Once the site has been verified safe for excavation, the new tree will be installed according

to the following specifications and as illustrated in Figure 5.4 (Further detail can be found in Appendix B, ISA Best Management Practices Tree Planting and ANSI *A300 Tree Care Standards Clause 10 – Planting and Transplanting*):

- Excavate the planting hole twice the width of the container and to a depth one to one and half inches (1" – 1 1/2 ") less than the depth of the container soil.
    - The depth can be adjusted if needed by replacing excavated soil, water the fill and compacting it by foot.
- Remove excess soil around the base of the tree while it is still in the container to expose the root flare if necessary.
- Place the tree in the planting hole while still in the container to check that the container soil level is one to one- and one-half inches (1" – 1 ½") above the site grade.
    - The depth can be adjusted if needed by replacing excavated soil, water the fill and compacting it by foot.
- Once the depth of the planting hole has been properly adjusted
    - For plastic containers (15-gallon, 20-gallon, etc.):
        - Carefully remove the root ball from the container by squeezing or banging on the sides to free the soil from the container and sliding the container from the root ball. **Do not pull the tree out of the container by the trunk or turn the container upside down.**
        - Gently disturb the outer parts of the root ball by hand to free any roots that may have been constricted by the container. This will encourage outward expansion of the roots into the surrounding soil.
        - Place the root ball in the center of the hole supporting it with shovels or boards to keep it intact and in the proper position.
        - Begin backfilling with native soil.
            - Remove any debris, turf, mulch, or litter from the native soil prior to backfilling.
            - If soil amendments are recommended based on the pre-installation soil sample analysis, they should be thoroughly mixed with the native soil prior to being placed in the planting hole.
                - Amended soil should only be used for the top eight to twelve inches (8" – 12") of backfill unless otherwise specified.
            - Backfill soil in six-to-eight-inch (6" – 8") layers.
                - Water in and compact each layer by foot.
            - Once the backfill has reached $^{2}/_{3}$ the height of the root ball, the supports can be removed.
                - Backfill the gap left by supports, water and compact by foot.
                - Continue adding layers of soil, watering and compacting until the backfill is level with the surrounding grade (the top of the container soil should be one to one- and one-half inches [1" – 1 $^{1}/_{2}$"] above grade).

- Blend the edges of the container soil with the surrounding grade to create a gentle slope from the top of the container soil to the surrounding grade.
  - Cover any exposed roots on the edges. **Do not cut exposed roots unless recommended by a Certified Arborist.**
  - Remove any backfill soil that is covering the original container soil. The nursery soil will likely be significantly different in composition and drainage from the native soil. If the nursery soil is covered by native backfill, a soil barrier may result, which can prevent water from penetrating into the root ball. As the tree begins to establish at the site, the roots will expand into the surrounding soil and this will be less of an issue, but for the first few months, most of the absorbing roots will be within the original container soil.
- Build a berm from remaining backfill soil to create a watering basin around the new tree.
  - Berm should be four to six inches (4” – 6”) outside the edge of the original container and two to three inches (2” – 3”) high.
  - Compact the berm by hand.
- Fill the basin with water and allow water to infiltrate the soil completely.
- Once water has completely drained from the basin, fill with water a second time.

- For boxed trees
  - Follow the installation process above with these exceptions:
    - For twenty-four (24”) and thirty-six-inch (36”) boxes remove the bottom boards from the box before placing the tree in the planting hole
    - For forty-eight-inch (48”) boxes and larger, remove every other bottom board prior to placement in the planting hole.
    - Do not cut the straps or remove the box sides until the backfill has reached $^{2}/_{3}$ the height of the box, doing so can lead to collapse of the unsupported root ball, damaging the roots.
    - Backfill the gap created by the removal of the box sides in six-to-eight-inch (6” – 8”) layers, water each layer and compact the soil with shovels and by foot before applying the next layer.

5.5.5 NEW TREE SUPPORT AND TRUNK PROTECTION

Double staking with wooden stakes is usually adequate for most newly installed container trees up to forty-eight-inch (48”) box size. Trees from larger containers or balled and burlapped trees with small root balls relative to tree height may be too tall to be supported by wooden stakes. For these trees, guying and/or root ball anchoring may be the preferred support method. Details and methodology for guying and root ball anchoring can be found in the ISA *Best Management Practices Tree Support Systems: Cabling, Bracing, Guying, and Propping* and the ANSI *A300 Tree Care Standards Clause 7 – Supplemental Support Systems* in Appendix B.

5.5.5.1 Tree Stake Installation

Figure 5.4 illustrates the correct placement and attachment of the double stake support system. The process is as follows:

- Remove the nursery stake from the tree and the associated ties. If the stake cannot be completely removed without damaging the tree or roots, cut the stake flush with the ground. If the entire stake is removed, backfill the hole and compact by hand or with a small trowel. Avoid damaging the roots or trunk while backfilling he stake hole.
- Place the two untreated lodge pole pine or Douglas fir stakes on opposite sides of the tree perpendicular to the direction of the prevailing wind for the planting site.
- Drive stakes into native undisturbed soil, outside the planting hole to a minimum depth of two inches (2”). The stakes need to be driven into the ground straight and not at an angle.
- Attach the tree to the stake using 36” EZ-Band Self Locking Tree Ties or an equivalent approved by the City.
    - Place first pair of ties at the highest point on the trunk where the tree stands upright. The tie should not contact, cross, constrict or interfere with any branch in the canopy.
    - Each tie will be looped in a figure-8 orientation from the trunk to the stake (Figure 5.4).
    - The opposite tie in the pair should be placed so that it contacts the trunk just above or below the point of the first tie without overlapping.
    - The dull side of the tie should be placed flat against the trunk on this side of the loop.
    - If the distance from the trunk to the stake is greater than can be reached by a single tie, multiple ties can be linked by passing the end of one through the self-locking loop of the second tie. A knot is tied on the end of the first tie to prevent it from slipping through the self-locking loop. The connection and knot should be placed as far from the trunk as possible.
    - Place the end of tie through the self-locking loop against the stake and pull it through until the desired tightness is reached.
        - Ties should allow the trunk to move up to three times (3x) the diameter in all directions. Ties that are too loose will not support the tree properly, ties that are applied too tight will not allow the tree to develop supporting roots and reaction wood that will be necessary once the stake is removed. Over tightened stake ties can also lead to the trunk snapping above the tie point in heavy winds and are more likely to become embedded in the trunk sooner as the tree grows.
    - Secure the ties to the stake with a small nail driven through the self-locking loop to hold them in place and prevent the end from sliding back through the loop. The remaining end of the tie can be cut off after the tie is secured.
    - A second pair of ties should be installed in the same manner at approximately half the distance from the first set of ties and ground level.

- The top of the stakes should be cut off approximately one inch (1”) above the attachment point of the top ties and at least six inches (6”) below the lower branches of the canopy.

City of Monterey Park Tree Planting and Staking Standard

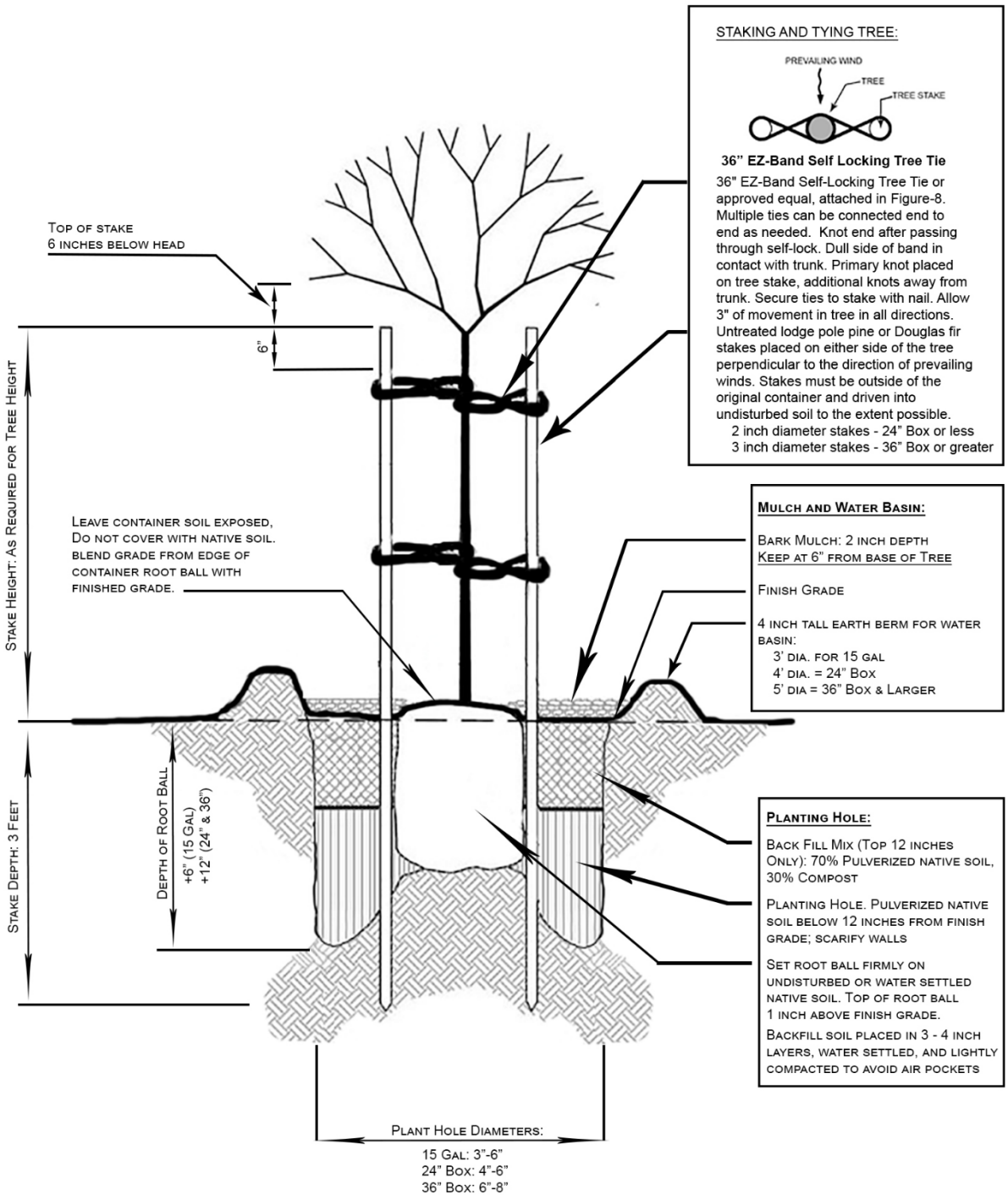


Figure 5.4: New Tree Installation Specification

5.5.5.2 Tree Stake Inspection

Stakes and ties should be inspected at least once every six (6) months after installation until they are removed. Broken or loose stake and/or ties need to be replaced. The contact point of the tie and the trunk will also be inspected for indications that the tie is constricting the growth of the trunk. The tie will be loosened or replaced if it is constricting trunk growth or becoming embedded in the bark.

5.5.5.3 Tree Stake Removal

Tree stakes should be left in place for a minimum of twelve (12) months and a maximum of eighteen (18) months after installation. If after the eighteen-month period the tree has not established sufficient support roots to prevent movement of the root plate when the trunk is moved, or cannot stand upright once the stakes are removed, a Certified Arborist should inspect the tree and roots to determine the course of action for the tree.

5.5.6 WATERING FOR NEW TREES

The first one to two years following planting are a critical time for young trees as they adjust from the ideal nursery growing conditions to the site conditions in an urban setting. As described in Section 5.5.4, the initial root system that was confined to the nursery container must expand into the surrounding soils at the planting site if the uptake capacity of the roots will be sufficient to replace increased transpiration water loss in the urban setting and support the growth of the trunk and canopy. Supplemental water will need to be provided to help the tree through this stage and become established in the urban forest.

The process for new tree installation must include a plan to provide the water necessary to support the trees through the establishment period. Details for water management are discussed as part of the cultural practices in Section 4.6.1.1 Water Management. The general scheduling guidelines based on species water usage requirements from Section 4.6.1.1 have been duplicated in Table 5.10 for reference. The water requirements for each species can be found in Table 5.1. This is only a general schedule and may need to be adjusted based on the specific environmental conditions at the planting site.

For sites with automatic irrigation systems, the schedules can be set to provide the necessary water based on species needs and site conditions. The system should be tested at the time of tree installation to ensure that the system provides enough water to fill the water basin and that the spray from overhead sprinklers is not hitting the trunk of the tree. For sites that will be hand watered, the schedule and responsible party will be identified prior to the installation work. Watering should be done with a shower nozzle whenever possible to reduce soil erosion in the basin. Any soil disturbance that occurs at the time of watering will be repaired prior to leaving the site. The berm around the watering basin will be inspected at the time of each visit and repaired as needed prior to watering the tree.

Water Usage	June - October	November - May
Very Low	1x per week	1x per week (0 – 3 months after installation) Every other week (3 months + after installation)
Low	2x per week (0 – 3 months after installation) 1x per week (3 months + after installation)	1x per week
Moderate	2x per week	2x per week

Table 5.10 – General Watering Schedule Based on Water Usage

5.5.7 STRUCTURAL PRUNING

A structural pruning plan will be developed for each newly planted tree within six (6) months of installation. The plan will address the goals in Figure 5.5 along with any site specific conditions, such as clearance for adjacent buildings, traffic signals, or signs where strategic pruning of smaller branches will encourage growth away from areas of conflict with these structures and reduce the need for removal of larger branches at a later date. Pruning at the time of installation should be avoided other than to remove dead or broken branches so that the tree's resources can be allocated to root growth and adaption to the new environmental conditions.

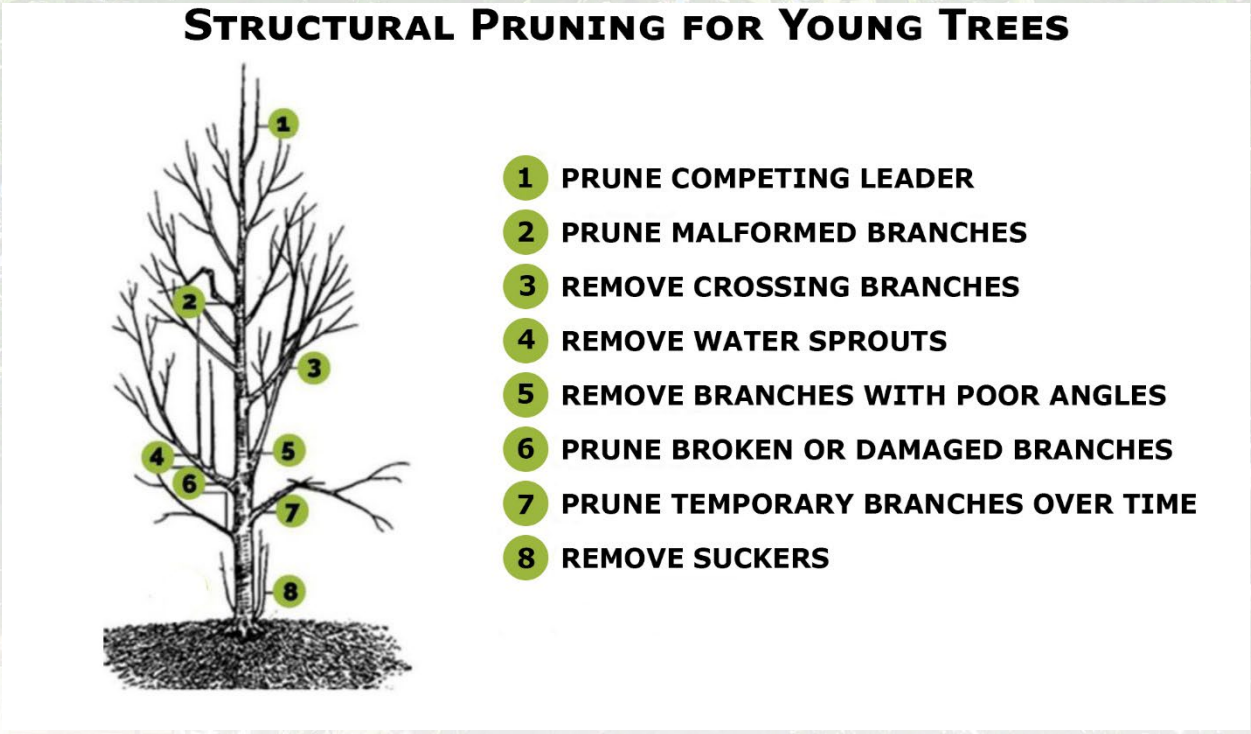


Figure 5.5: Structural Pruning for Young Trees

5.5.8 MONITORING OF NEWLY PLANTED TREES

For hand watered trees, the scheduled visits will be an opportunity to evaluate tree health and site conditions. Trees that show signs of pests, disease, stress, or other declining health will be reported to the Public Works Manager or Public Works Supervisor immediately and note will be placed on the site in the City's Electronic Inventory Software System. Follow-up action will be at the discretion of the Public Works Manager.

Prior to installation of new trees on planting sites that will be watered by an automatic irrigation system, a schedule of monitoring visits will be developed with the responsible party assignment. These visits will occur weekly for the first three months after installation and then bi-weekly through the first year. After year one, the frequency of visits can remain biweekly or transition to monthly at the discretion of the Public Works Manager.

6 STRATEGIC PLAN

STRATEGIC PLAN

6.1 VISION STATEMENT

The benefits that trees provide to the community make the urban forest one of the most valuable resources for the City of Monterey Park. The City of Monterey Park is committed to developing and maintaining an urban forest that will be a model to other municipalities as a pathway to maximize the benefits of trees in an efficient, sustainable, and cost-effect way in partnership with the residents and business community.

Many of the visions and goals stated in the Introduction for the City of Monterey Park Urban Forest Management Plan have been addressed in previous sections. The Strategic Plan will focus on the additional data analysis and specific planning needs to:

- Identify areas that may be underserved in terms of heat island reduction and canopy cover so that the entire community enjoys the benefits trees provide.
- Provide continuity of species for street sections and neighborhoods grouping species with similar pruning schedules for more efficient pruning planning and implementation.
- Replace higher maintenance tree species, aging trees, trees contributing to significant infrastructure damage, trees obscuring signs and traffic signals, and trees that are outgrowing the available space in a phased program that minimizes the impacts to canopy cover, shade, and other urban forest benefits that would result from the removal of large swaths of these trees at one time.

6.2 GUIDING PRINCIPLES

The overarching guiding principle for this Strategic Plan is to maximize the benefits that trees provide to the entire Monterey Park Community. Those benefits include:

Beautifying the landscape

Improving air quality

Releasing oxygen into the atmosphere

Absorbing carbon dioxide and other greenhouse gases

Providing sound barriers

Serving as a windbreak

Providing direct and indirect positive economic property value

Capturing storm water

Reducing soil erosion

Reducing runoff

Reducing water consumption in the landscape

Providing shade and cooling for homes and leisure

Reducing heat islands

Providing habitat for wildlife

Achievement of the main guiding principle is reliant on these additional component principles and guidelines.

- Maintaining healthy well-structured trees within the urban forest by following the Best Management Practices and Standards as developed by the International Society of Arboriculture and the American National Standards Institute and presented in the previous sections of this UFMP.
- Practicing adaptive management, adapting to new scientific information, industry understanding, and changes in climate that may require periodic updates in practices and standards.
- Protecting and conserving limited water resources by reducing the water requirements to sustain the urban forest.
- Reducing property damage and injury to persons by replacing trees that pose a higher risk based on species profile and history of failure within the City of Monterey Park.

6.3 STRATEGIC PLAN

The Strategic Plan consists of three major components: continuity of species, replacement of trees causing significant infrastructure damage along major arterial roads, and a phased succession plan for replacing aging trees. The goals of each of these components is described in the remainder of this section.

6.3.1 CONTINUITY OF SPECIES

Routine, scheduled pruning efforts are most efficiently planned and executed when they can be conducted according to geographical grids. Grid Pruning Districts 1 – 12 (Section 4.4.2) have been designed for this purpose based on a three-year pruning cycle. Not all tree species lend themselves to this three-year cycle. As a result, trees in high traffic locations, along the three major arterial roads, which require more frequent pruning have been placed in a separate Grid Pruning District, District 13 which is pruned on an annual schedule. The efficiency of grid pruning is challenged when individual streets are composed of scattered species with very different pruning frequency requirements. This can result in individual trees being pruned too frequently, not frequently enough, or the need for multiple trips within the grid cycle to the same street to address the cycle of individual species, significantly reducing the efficiency of the Grid Pruning System.

Planting only one species on a given street segment is not a viable option. Monoculture plantings of a single species can attract pests and allow diseases to spread more rapidly through the stand or grove. Closely related species in the same Genus or Family should be avoided to the extent possible since these species may be susceptible to the same pests and diseases as well.

6.3.2 REPLACEMENT OF TREES CAUSING SIGNIFICANT INFRASTRUCTURE DAMAGE ALONG MAJOR ARTERIAL ROADS

As previously discussed in Section 5.2, choosing the appropriate species for the available space is fundamental for tree health and minimizing maintenance efforts and costs. Conflicts with surrounding infrastructure are highly likely when a tree is planted in a space smaller than the species requires. This type of conflict and damage to the surrounding sidewalks and curbs has occurred with the Indian laurel fig (*Ficus microcarpa* 'Nitida') planted in tree wells along the three main arterial roads in the City of Monterey Park, Atlantic Boulevard, Garfield Avenue, and Garvey Avenue. The species requires a larger planter than the wells provided and has roots with moderate potential for hardscape damage. To avoid the impacts to canopy cover that would result from a large-scale removal of all of these trees at one time, the City of Monterey Park has initiated a phased replacement schedule, replanting trees more appropriate for the tree wells and less likely to damage the surrounding infrastructure. Figure 6.1 shows the locations of the remaining Indian laurel fig trees as of August 2024. Representative photos of the infrastructure damage adjacent to the tree wells along the arterial roads are presented in Figure 6.2.

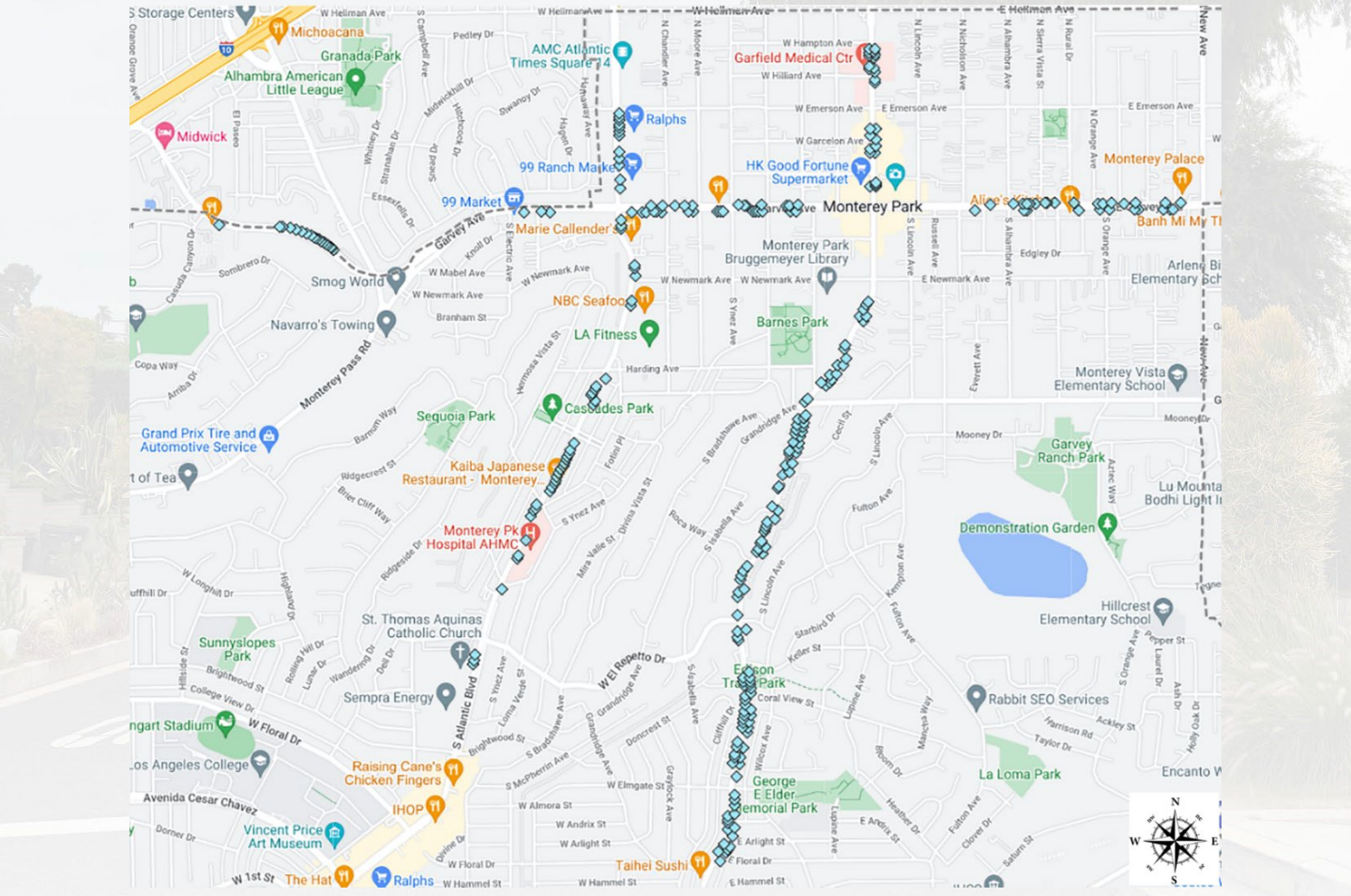


Figure 6.1: Locations of Indian laurel fig (*Ficus microcarpa* 'Nitida') along the three major arterial roads (Atlantic Boulevard, Garfield Avenue, and Garvey Avenue).

Figure 6.2: Photos of infrastructure damage from Indian laurel fig (*Ficus microcarpa* 'Nitida') trees along the three major arterial roads.

6.3.3 PHASED SUCCESSION PLAN FOR REPLACING AGING TREES

As living things, trees have finite lifespans and will begin to decline as they reach the end of that time. The length of a tree's lifespan varies depending on species and environmental conditions. The lifespan of any species is often much shorter for a tree in urban conditions compared to the same species in a forest setting. Additionally, urban trees may outgrow the available space or interfere with the intended use of the area in which they are planted well before they reach the end of their lifespan.

Mature trees provide many community benefits, most notably in terms of canopy cover and carbon sequestration, so maintaining a balance of age classes is an essential element to the goals of a sustainable and healthy urban forest stated in the Vision section of this UFMP. A phased replacement plan of aging trees provides the best opportunity to accomplish this balance.

6.4 IMPLEMENTATION PLAN

6.4.1 CONTINUITY OF SPECIES

For the greatest gird pruning efficiency, the City of Monterey Park Public Works Department will reevaluate the current designation for species by street segment (Appendix H), and develop a preferred species list of four to five species (4 – 5), chosen from the Approved Tree Palette, to be used as street trees on selected street segments. The street segments will cover the length of the selected street no less than the portion of the street within a single grid pruning zone, with the exception of arterial roads or roads that transverse an entire zone. Arterial roads and roads that transverse an entire zone can be divided into smaller sections for the purpose of developing the preferred species list. Each segment should be at least one-half mile long.

6.4.2 REPLACEMENT OF TREES CAUSING SIGNIFICANT INFRASTRUCTURE DAMAGE ALONG MAJOR ARTERIAL ROADS

At the time of the drafting of this UFMP there are a total of two hundred sixty-eight (268) Indian laurel fig (*Ficus microcarpa* 'Nitida') planted along Atlantic Boulevard, Garfield Avenue, and Garvey Avenue, the three major arterial roads in the City of Monterey Park (Figure 6.1). Roots from many of these trees have begun to uplift the surrounding sidewalks and displace curbs. The City of Monterey Park Public Works will remove the trees as sidewalk or curb repair work orders are processed and replace the trees with species more appropriate for the available space from the species list in Table 6.1 or with a species from the Approved Tree Palette. Tree Planting will be conducted according to the specifications described in Section 5.5.

Common Name	Botanical Name	Min. Planter Size (Width in Feet)	Potential Hardscape Damage	Overhead Utility Line Compatible	Foliage Type	Max Height (Feet)	Max Width (Feet)	Water Usage
Desert Museum Palo verde	*Parkinsonia* x 'Desert Museum'	2 – 4	Low	Yes	Deciduous	20	25	Very Low
Empress tree	*Paulownia tomentosa*	> 7	High	No	Deciduous	50	50	Moderate
Golden trumpet tree*	*Handroanthus chrysotrichus*	2 – 4	Moderate	No	Deciduous	30	30	Moderate
Majestic Beauty Indian hawthorn*	x *Rhaphiobotrya splendens* 'Montic'	4 – 7	Low	Yes	Evergreen	25	10	Moderate
Common Name	**Botanical Name**	**Min. Planter Size (Width in Feet)**	**Potential Hardscape Damage**	**Overhead Utility Line Compatible**	**Foliage Type**	**Max Height (Feet)**	**Max Width (Feet)**	**Water Usage**
Mesquite*‡	*Prosopis glandulosa*	4 – 7	Low	No	Deciduous	35	35	Low
Pink trumpet tree*	*Handroanthus heptaphyllus*	4 – 7	Low	No	Partly Deciduous	30	25	Moderate
Red Push pistache*	*Pistacia* x 'Red Push'	4 – 7	Low	No	Deciduous	40	40	Moderate
Taiwan cherry	*Prunus campanulata*	4 – 7	Low	Yes	Deciduous	25	25	Moderate
Western redbud‡	*Cercis occidentalis*	2 – 4	Low	Yes	Deciduous	20	20	Moderate

Table 6.1: Tree species for Indian laurel fig replacement along the three main arterial roads.

6.4.3 PHASED SUCCESSION PLAN FOR REPLACING AGING TREES

Maintaining a balance of age classes for the trees that constitute the City of Monterey Park Urban Forest is important for overall forest health and function. Age class balanced also allows for more efficient planning and execution of maintenance efforts. As discussed above, mature trees provide a significant benefit to the community, especially in terms of shade and canopy cover; however, trees, as living things, have finite lifespans and will eventually begin to decline and ultimately die even despite any best management practice. To minimize the reduction of cover that is provided by the canopy of mature trees, a phased succession plan is necessary for trees that are nearing the end of their lifespan or have outgrown the available space. Phasing the replacement planting will maintain a portion of the mature trees in each area while younger trees establish, mature and develop canopies that will have a greater contribution to the overall cover. The succession plan will need to prioritize mature trees that are declining or are in significant conflict with surrounding land use needs and/or infrastructure.

Trunk size, measured as diameter at breast height (DBH) is one measure to determine the age status of a tree. Growth rate and form for individual species may lead to the development of large trunks with larger DBH values at a much younger age, however, so DBH should only be used as a guide. Before the tree is scheduled for removal, it should be inspected by an ISA certified arborist to determine if there are any signs of decline or if the tree has outgrown the available space. For aging trees that have historical significance for the City of Monterey Park, an ISA certified arborist will be consulted to recommend mitigation measures to preserve the tree, if possible.

As a general rule, trees with a DBH of thirty-one inches or greater (≥ 31") may be approaching the end of their lifespan or outgrowing the available space. Trees with a DBH of twenty-five to thirty inches (25" – 30") should also be monitored as potential replacement sites in the future. Figures 6.3 –

6.27 show the trees in each of the above DBH classes by Grid Pruning District. Inspection of these trees and removal prioritization will be the first phase of the succession plan once this UFMP is approved. The maps below will need to be updated periodically based on the data available in the Electronic Inventory System. All replacement planting will be conducted according to the specifications outlined in Section 5.5.

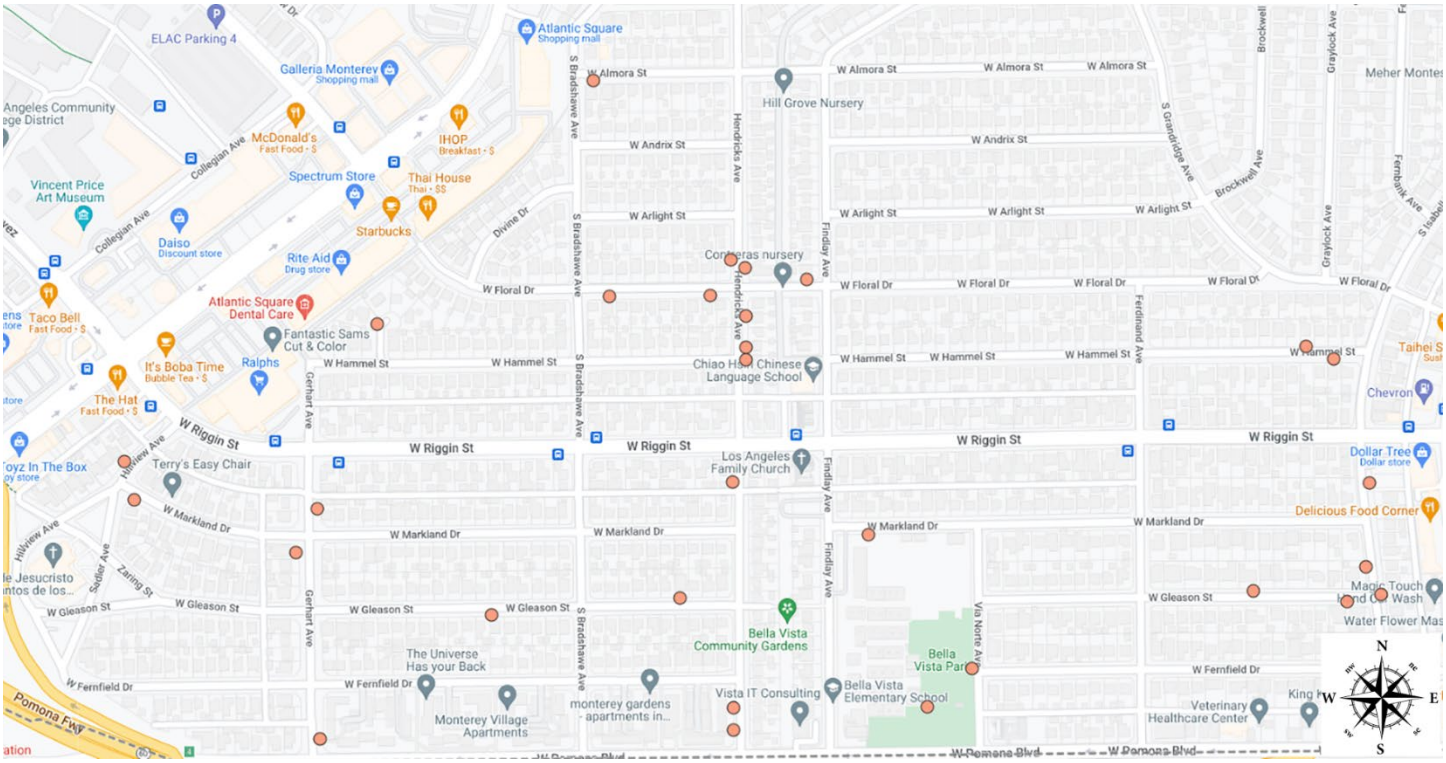


Figure 6.3: Location of trees in Grid Pruning District 1 with a DBH of 25” – 30”.

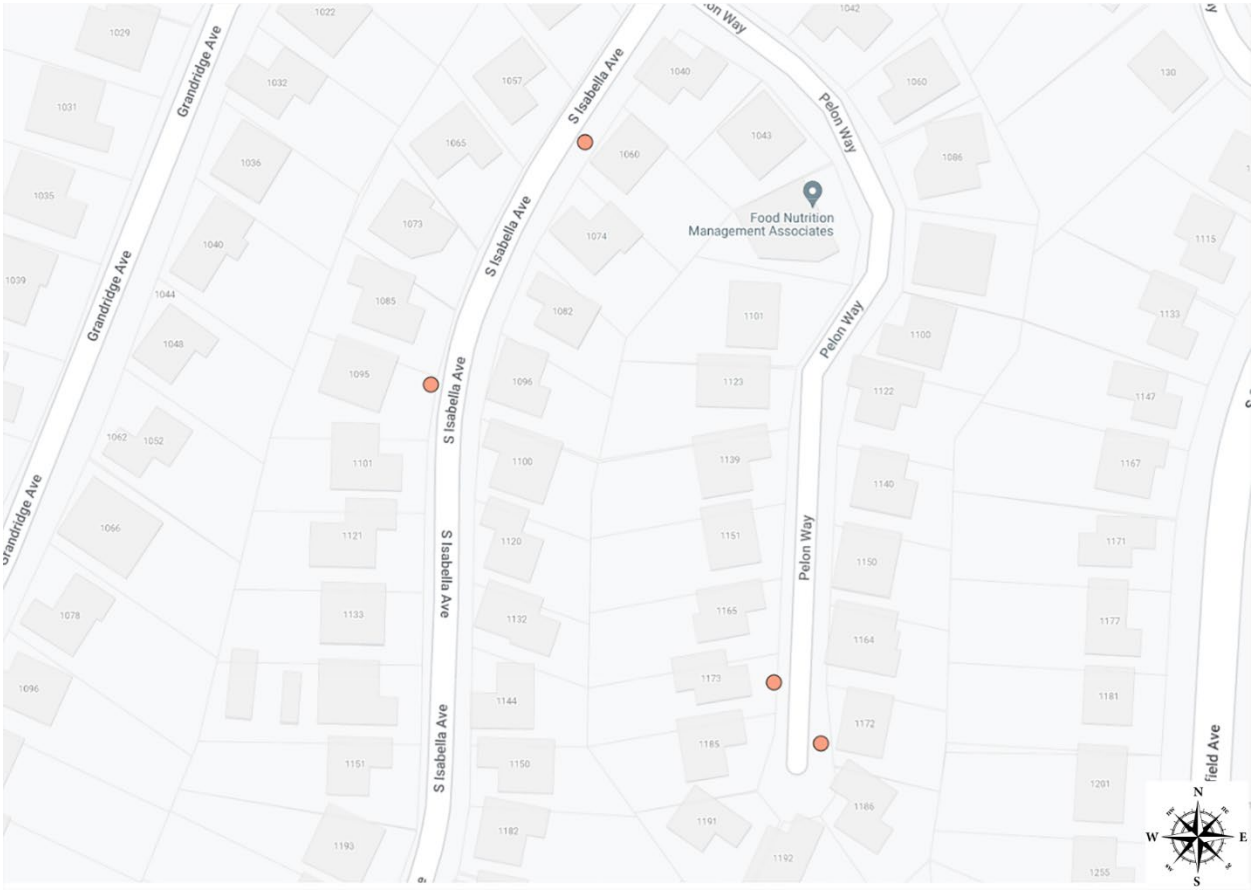


Figure 6.4: Location of trees in Grid Pruning District 2 with a DBH of 31” +.

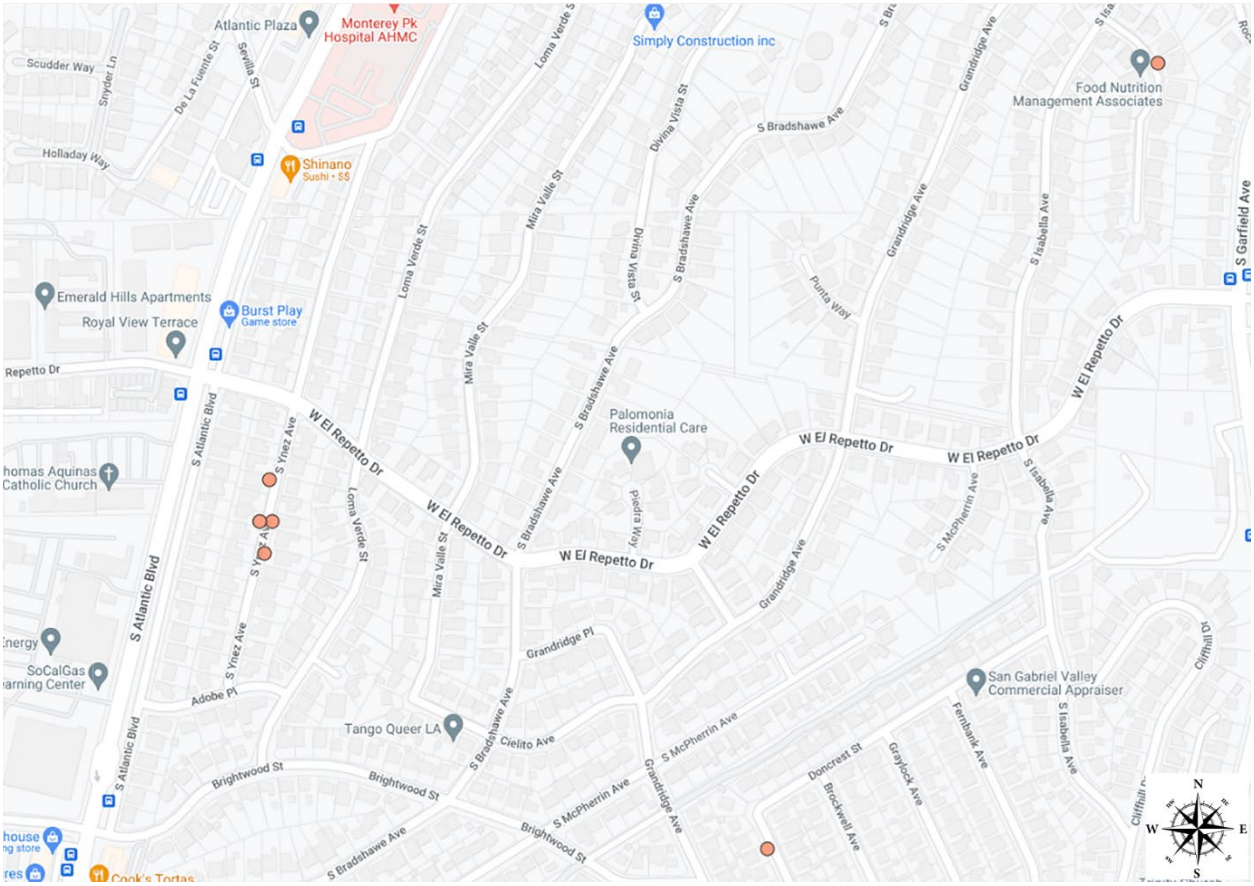


Figure 6.5: Location of trees in Grid Pruning District 2 with a DBH of 25” – 30”.

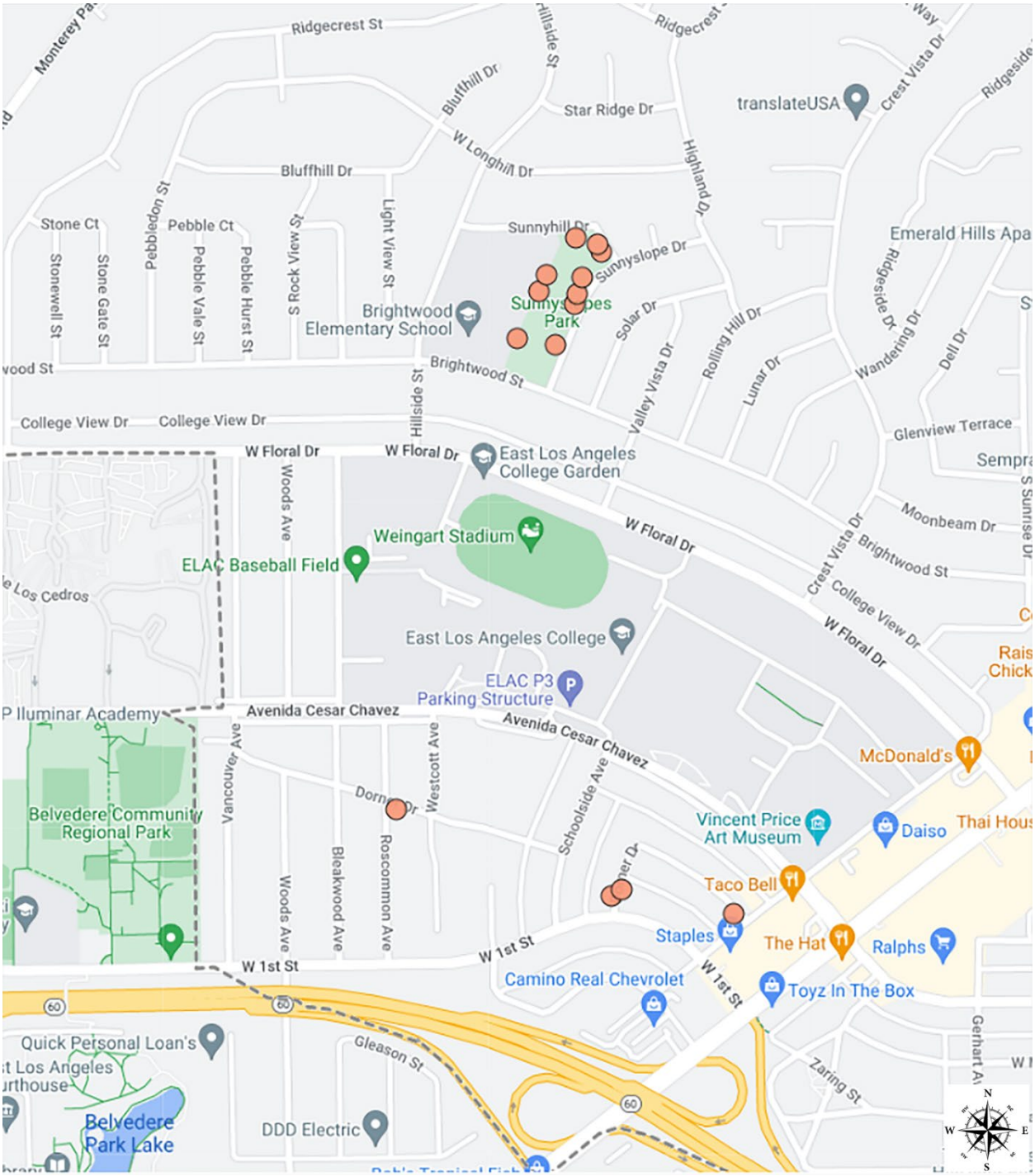


Figure 6.6: Location of trees in Grid Pruning District 3 with a DBH of 31" +.

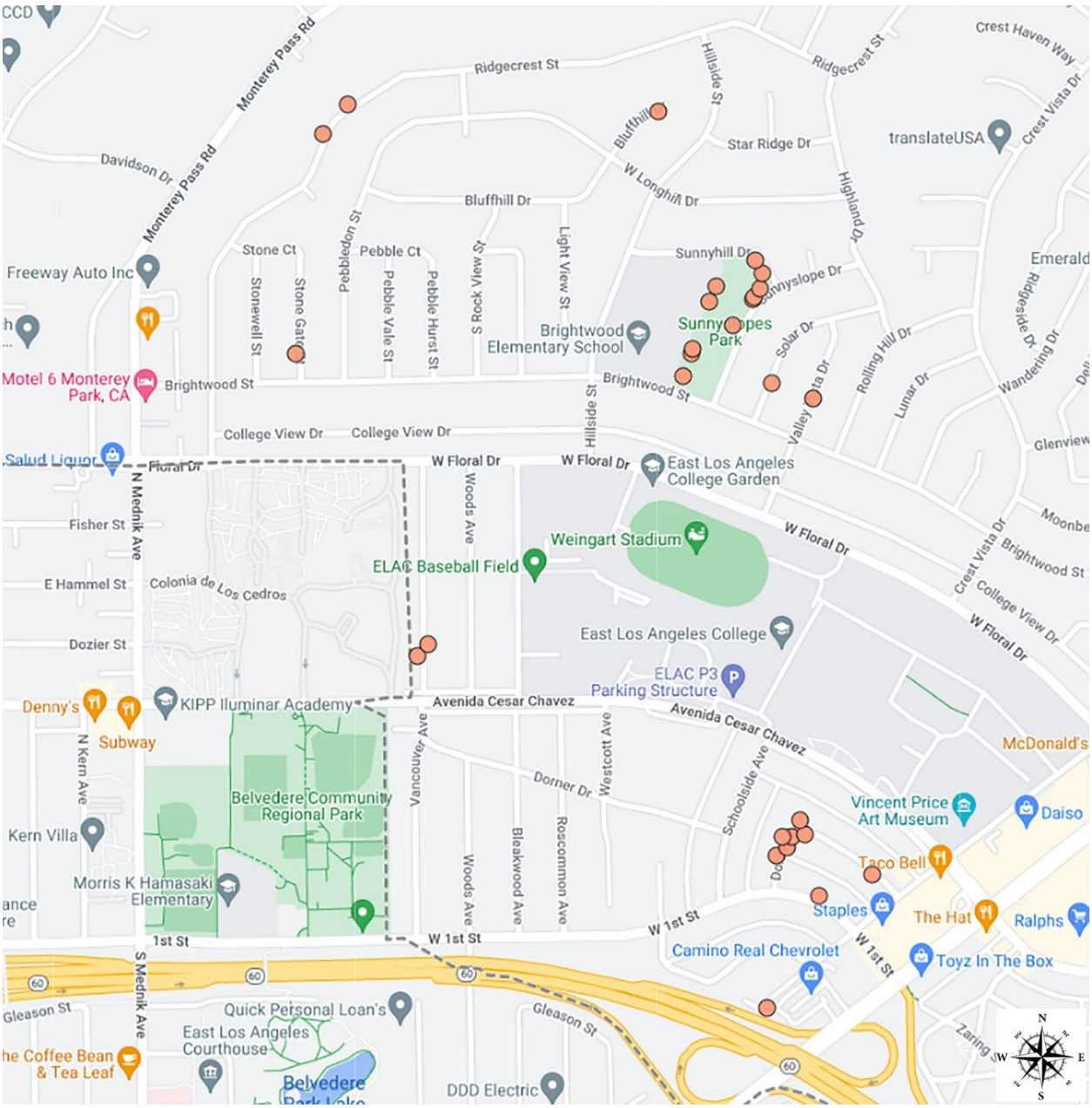


Figure 6.7: Location of trees in Grid Pruning District 3 with a DBH of 25” – 30”.

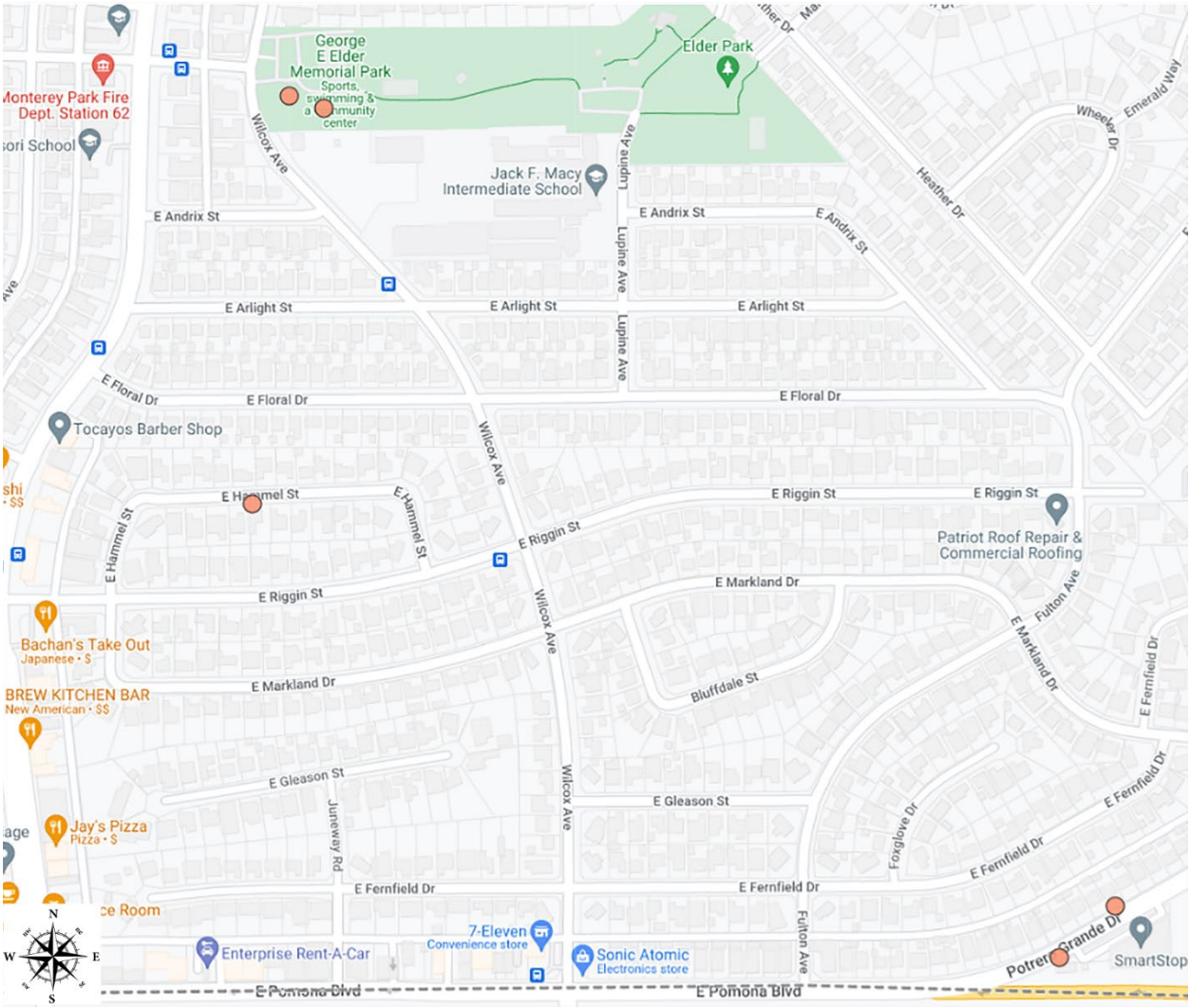


Figure 6.8: Location of trees in Grid Pruning District 4 with a DBH of 31" +.

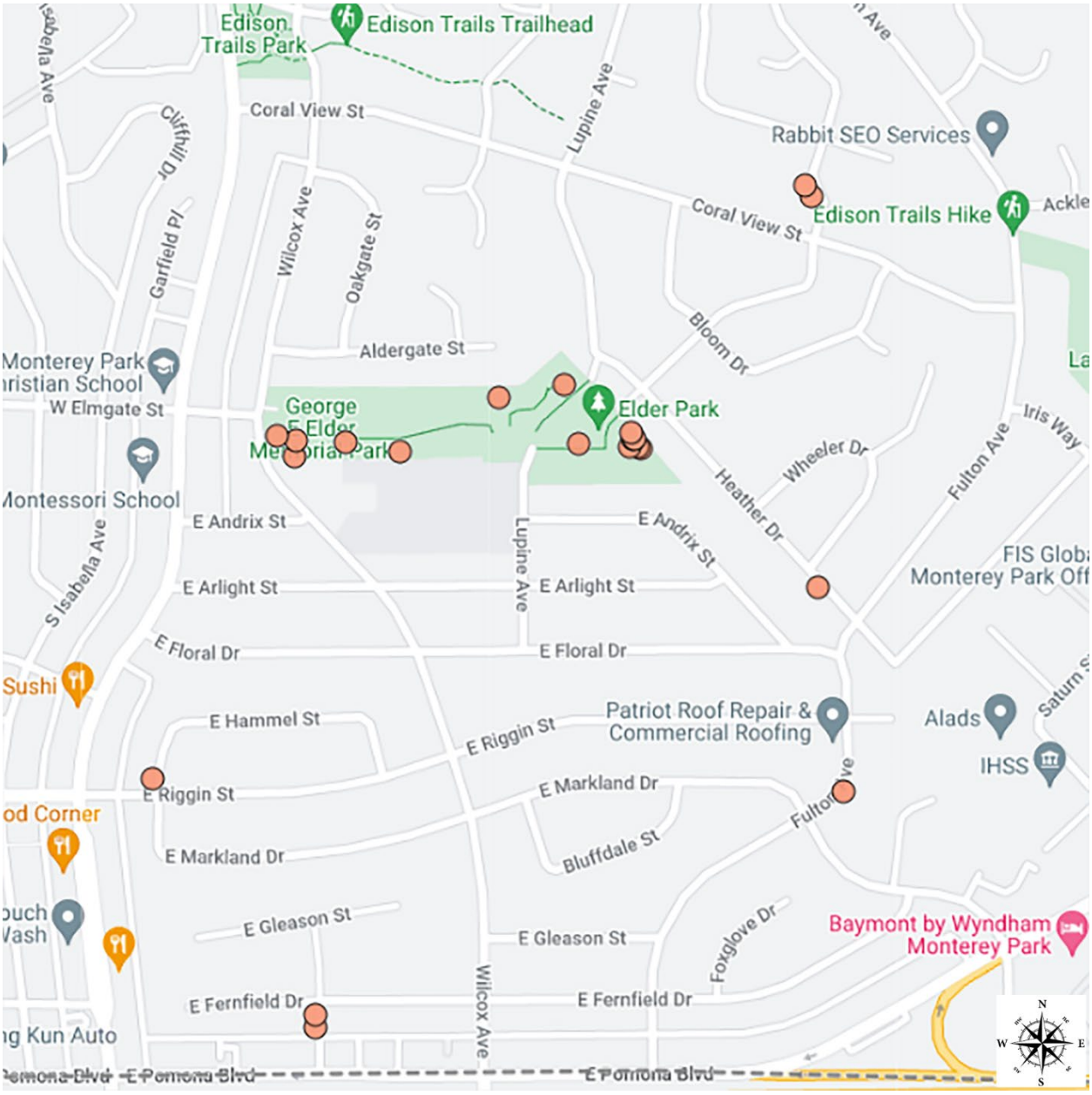


Figure 6.9: Location of trees in Grid Pruning District 4 with a DBH of 25” – 30”.

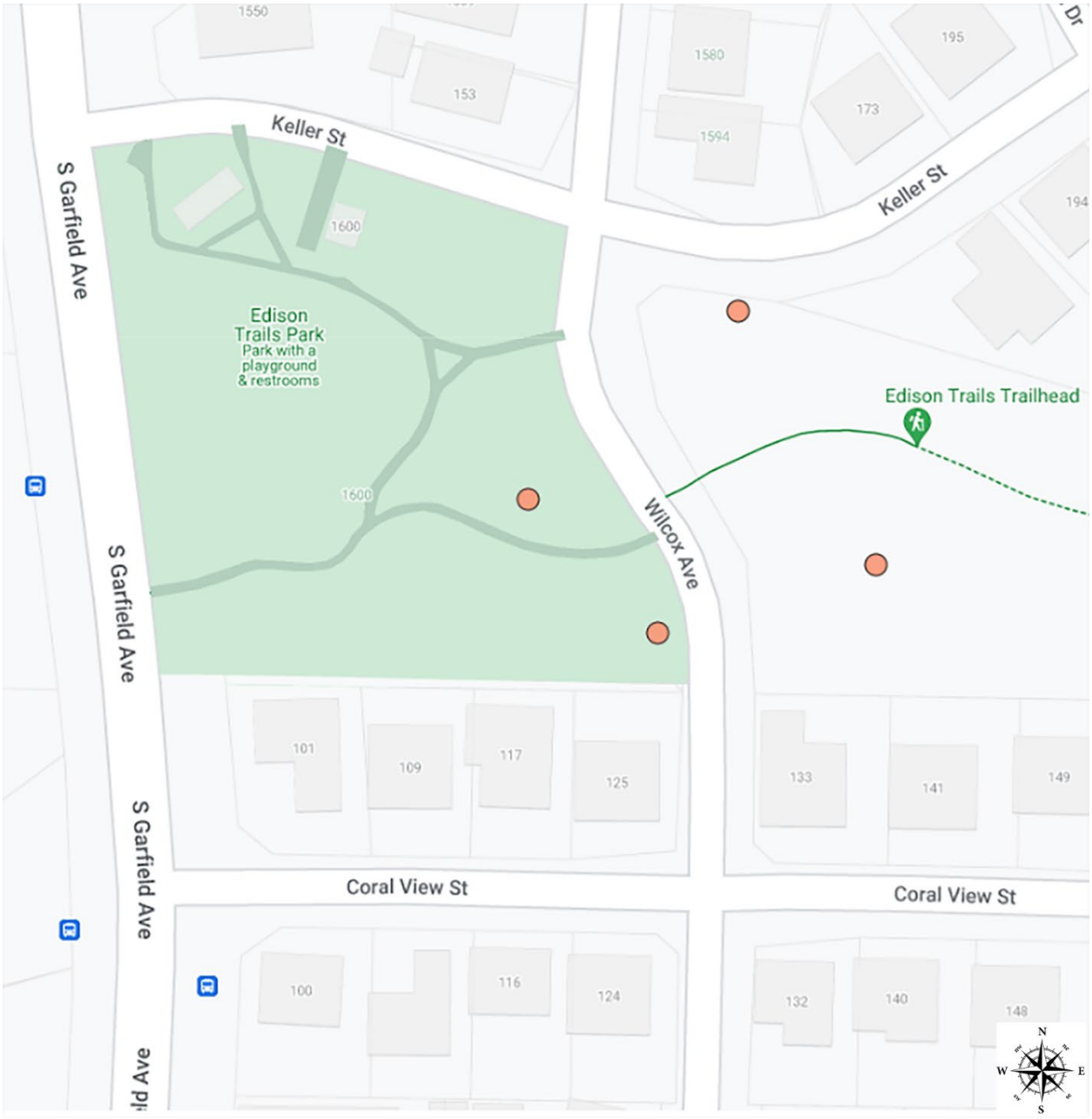


Figure 6.10: Location of trees in Grid Pruning District 5 with a DBH of 31" +.

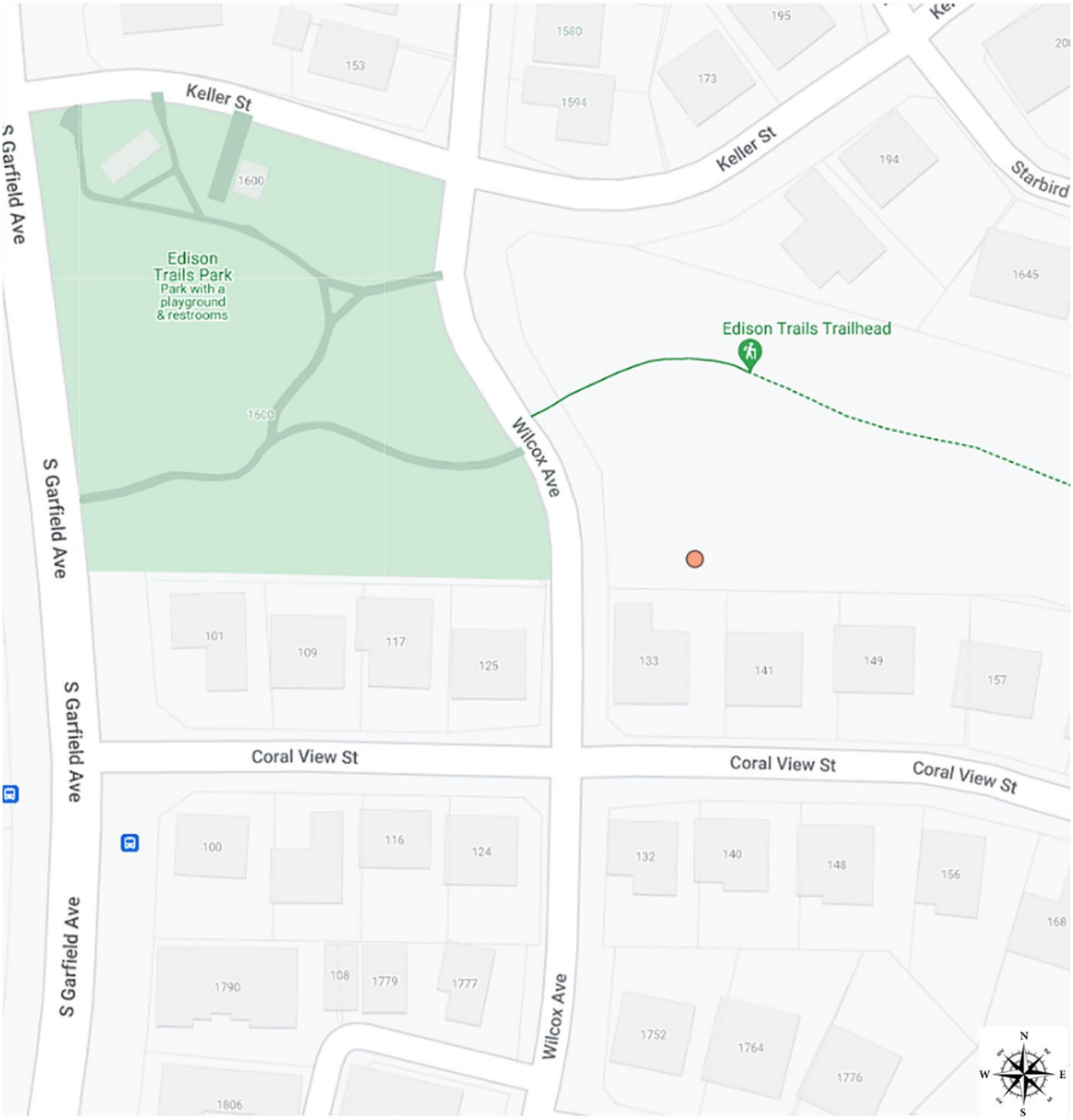


Figure 6.11: Location of trees in Grid Pruning District 5 with a DBH of 25” – 30”.

Figure 6.12: Location of trees in Grid Pruning District 6 with a DBH of 31" +.

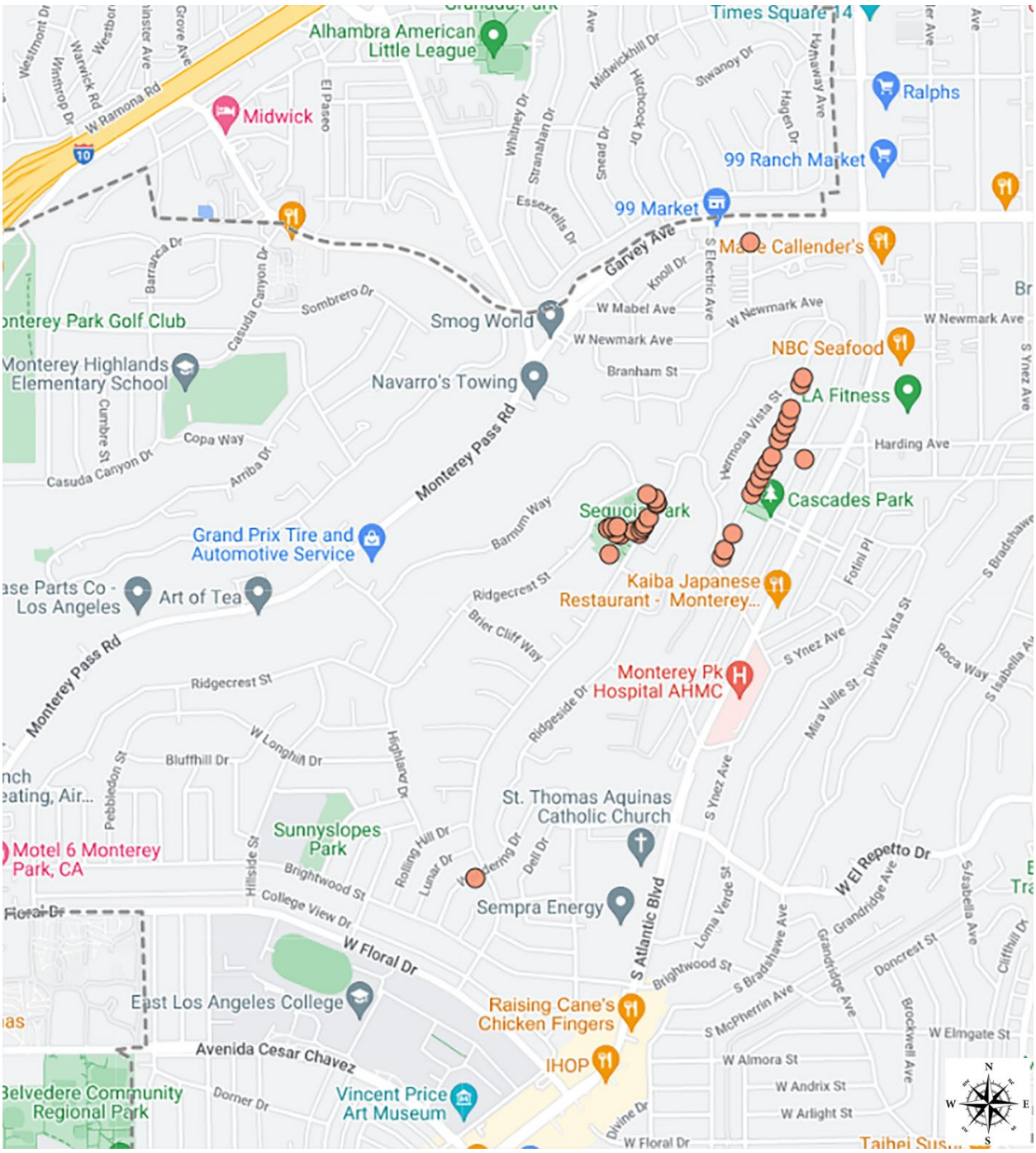


Figure 6.13: Location of trees in Grid Pruning District 6 with a DBH of 25” – 30”.

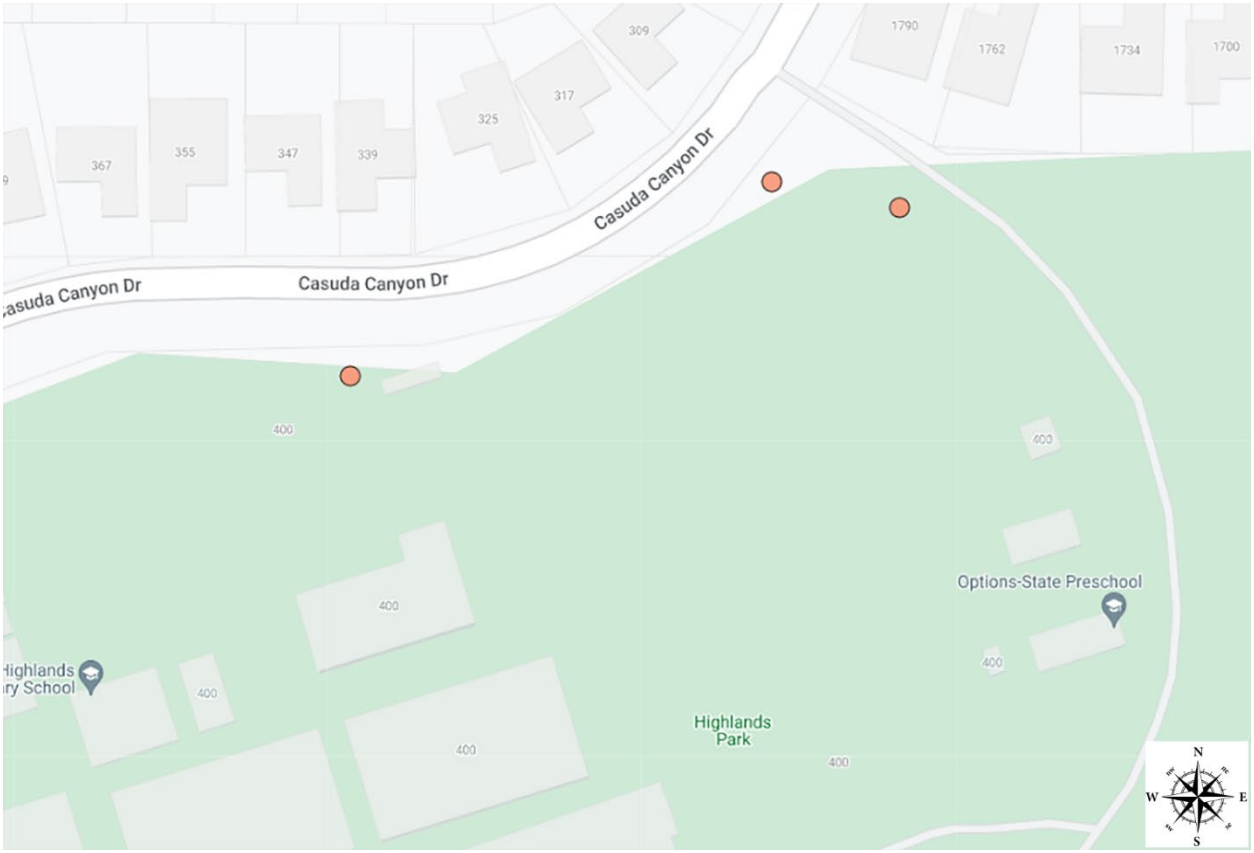


Figure 6.14: Location of trees in Grid Pruning District 7 with a DBH of 31" +.

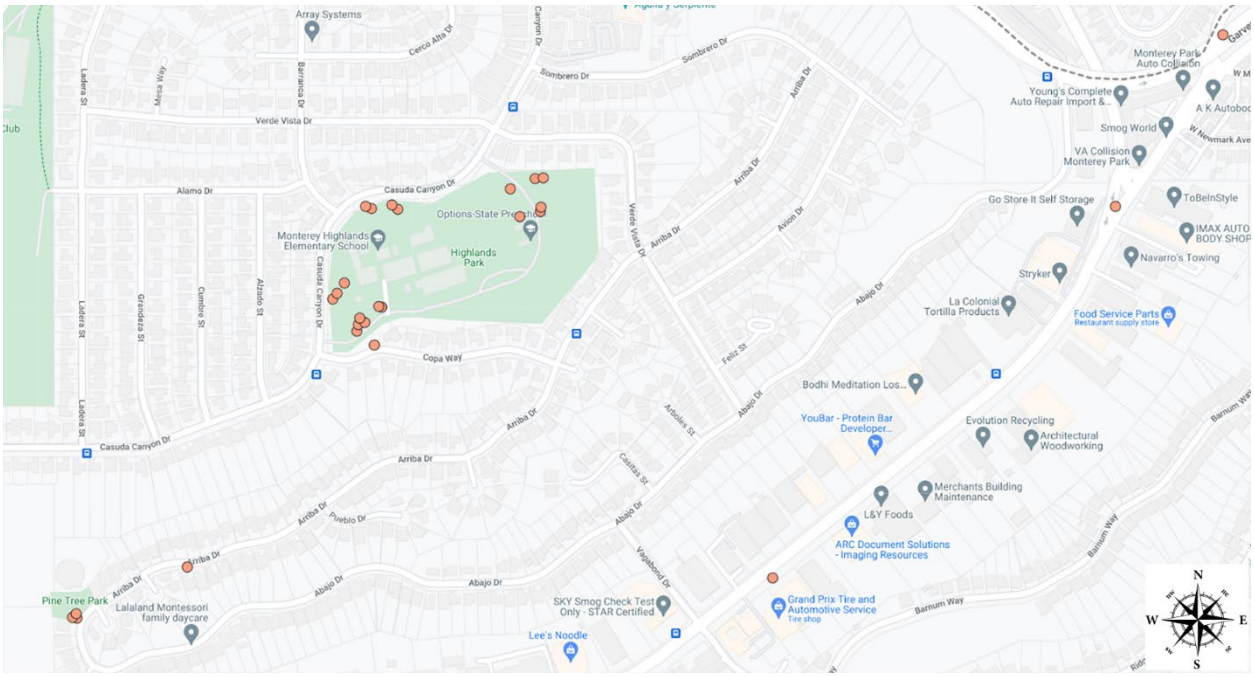


Figure 6.15: Location of trees in Grid Pruning District 7 with a DBH of 25” – 30”.

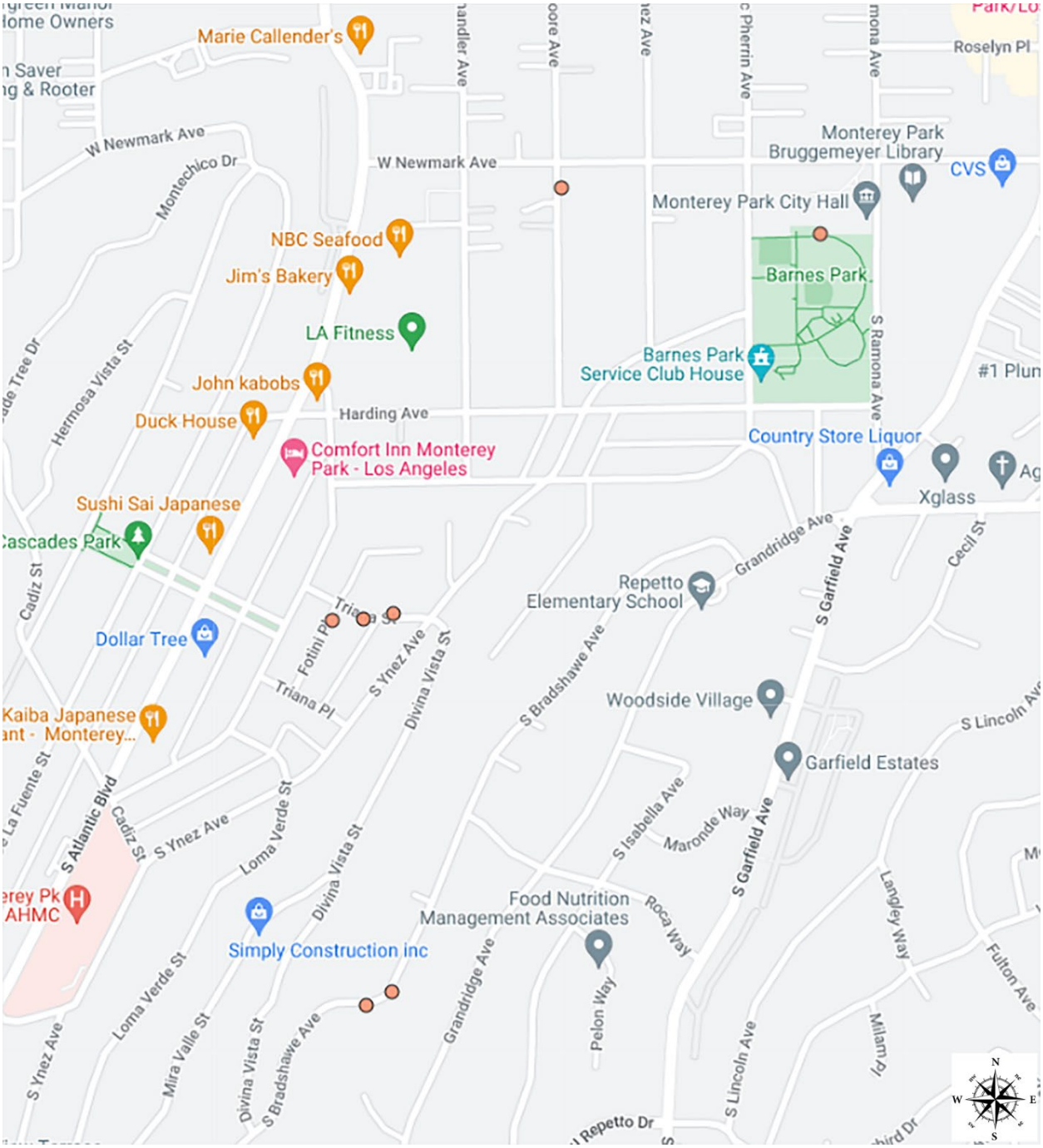


Figure 6.16: Location of trees in Grid Pruning District 8 with a DBH of 31” +.

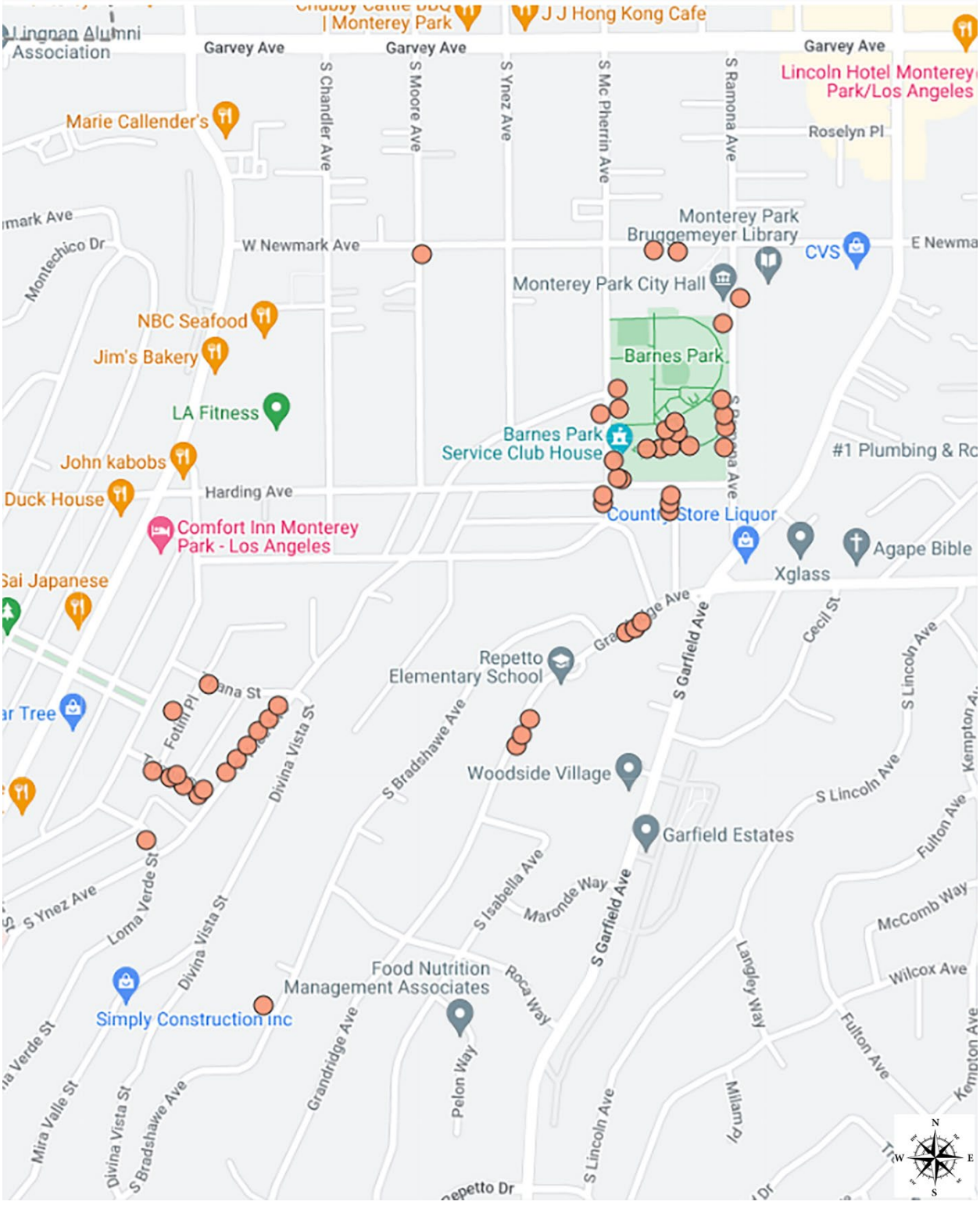


Figure 6.17: Location of trees in Grid Pruning District 8 with a DBH of 25” – 30”.

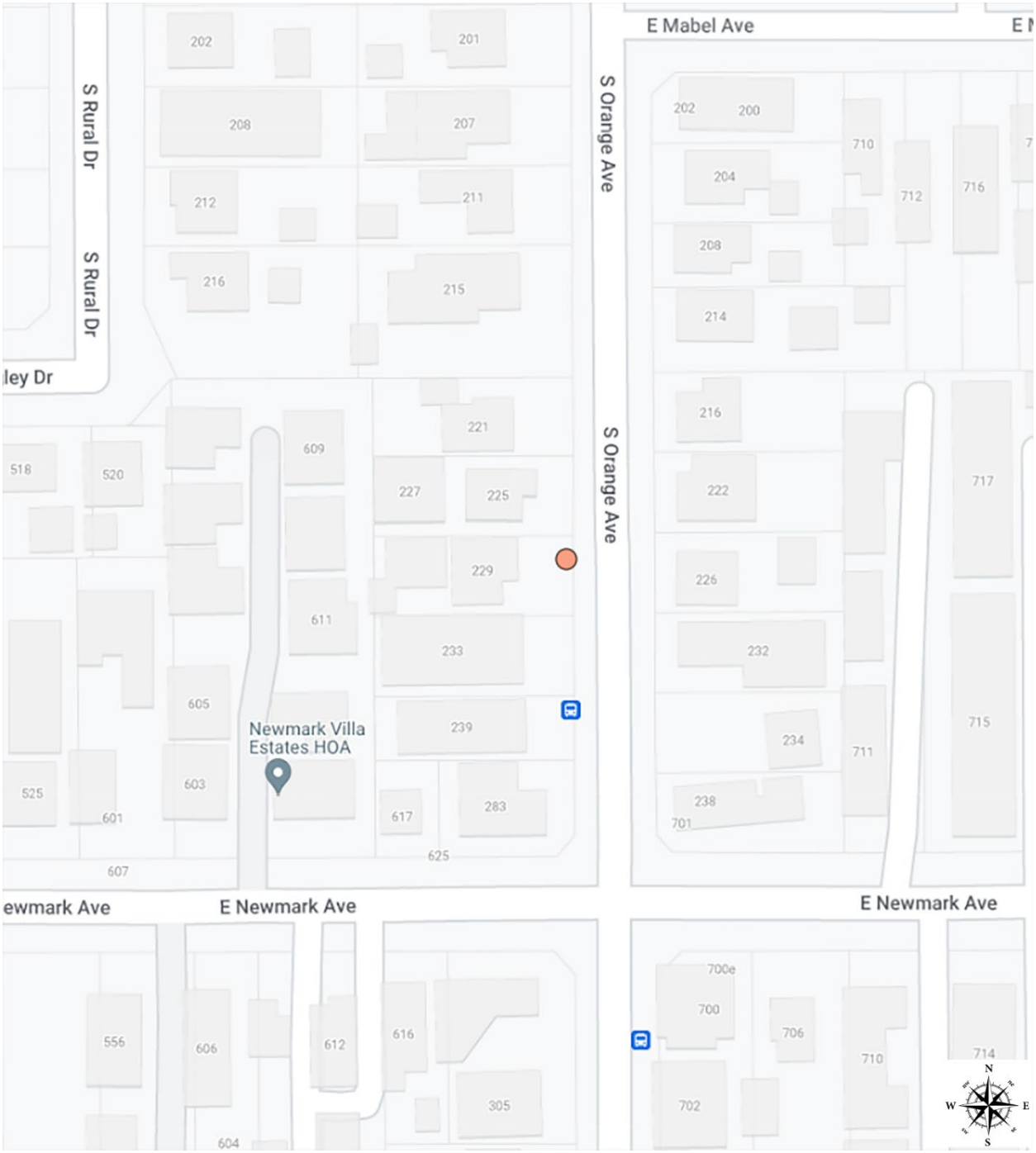


Figure 6.18: Location of trees in Grid Pruning District 9 with a DBH of 31" +.

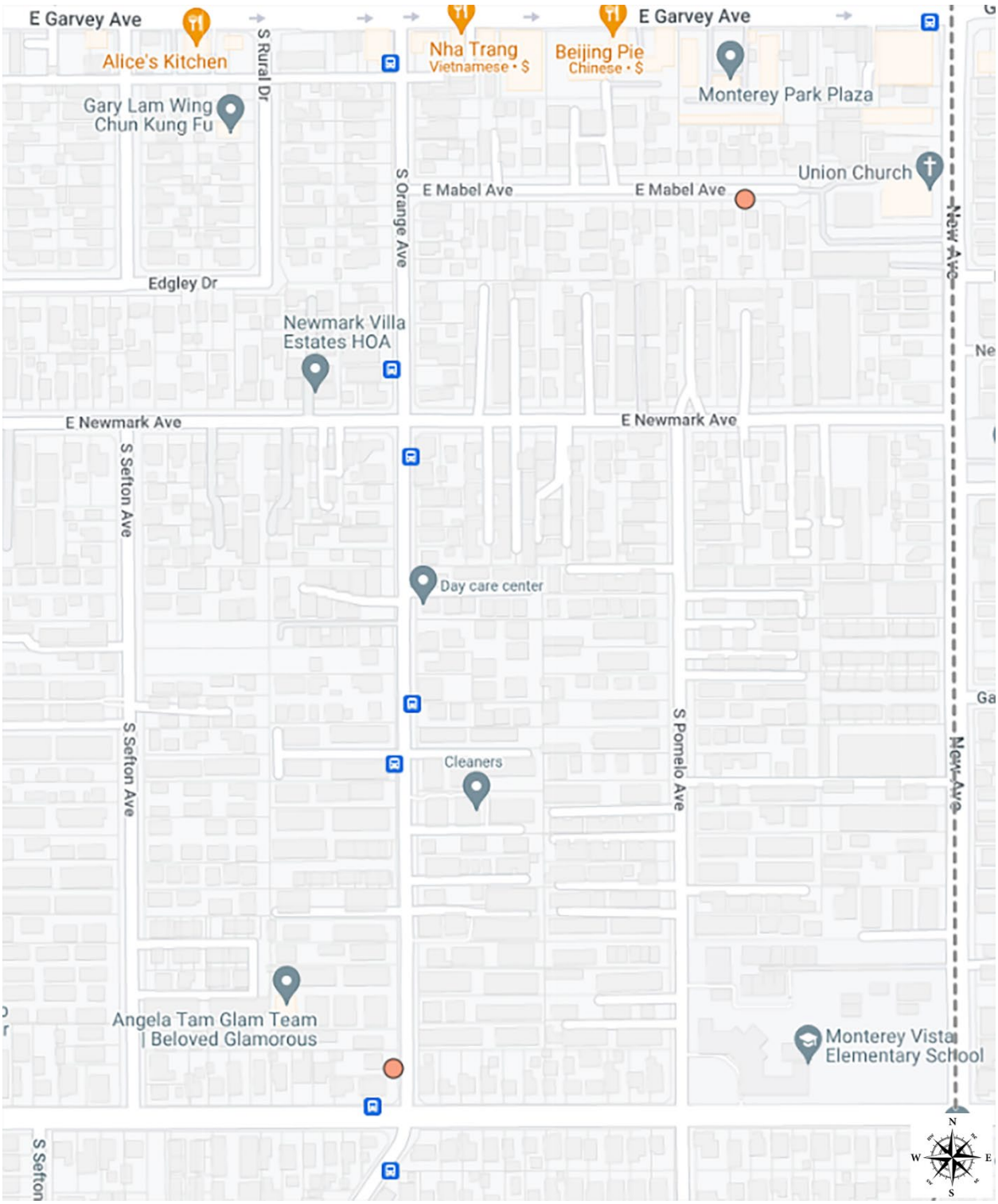


Figure 6.19: Location of trees in Grid Pruning District 9 with a DBH of 25” – 30”.

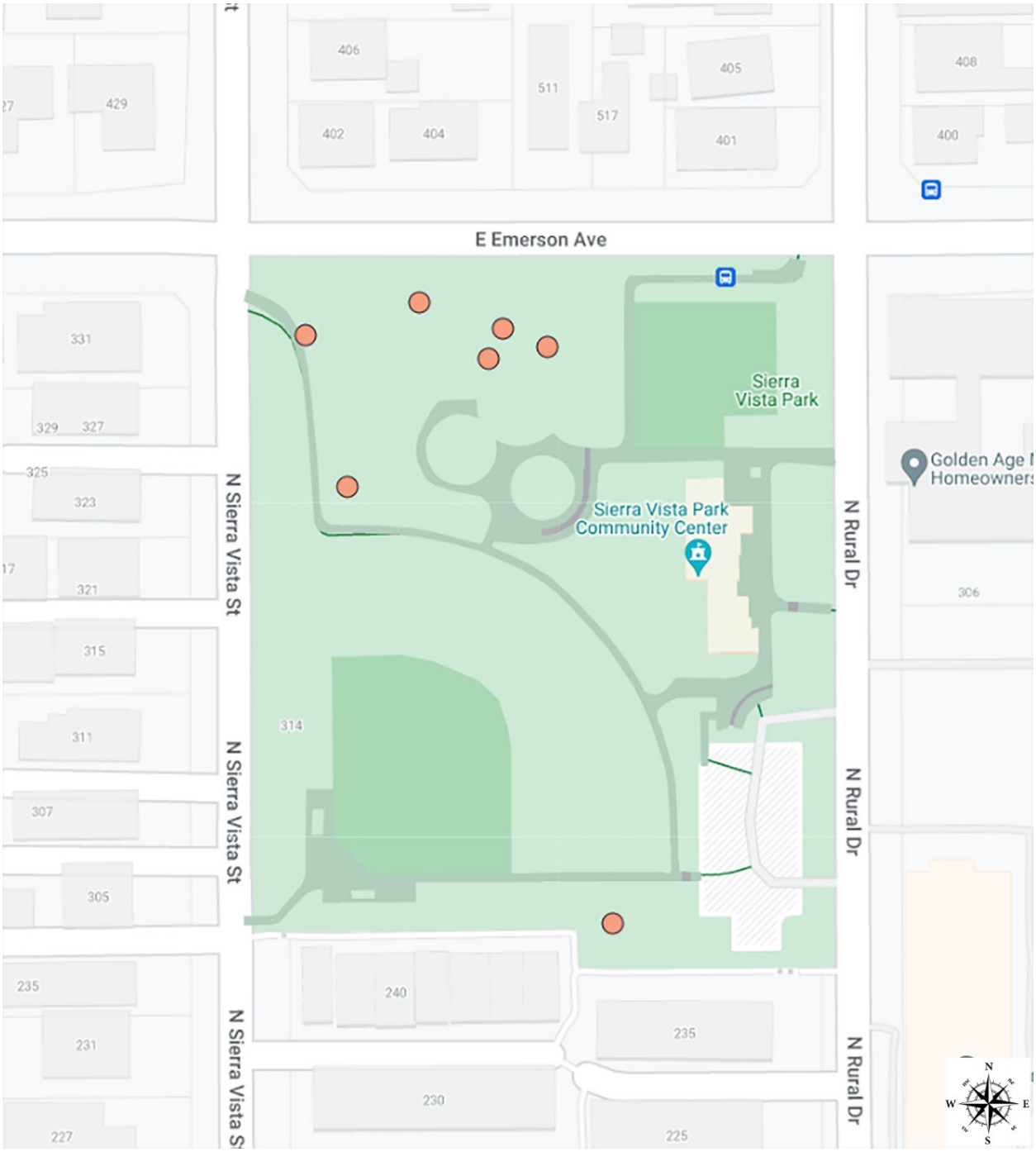


Figure 6.20: Location of trees in Grid Pruning District 10 with a DBH of 31" +.

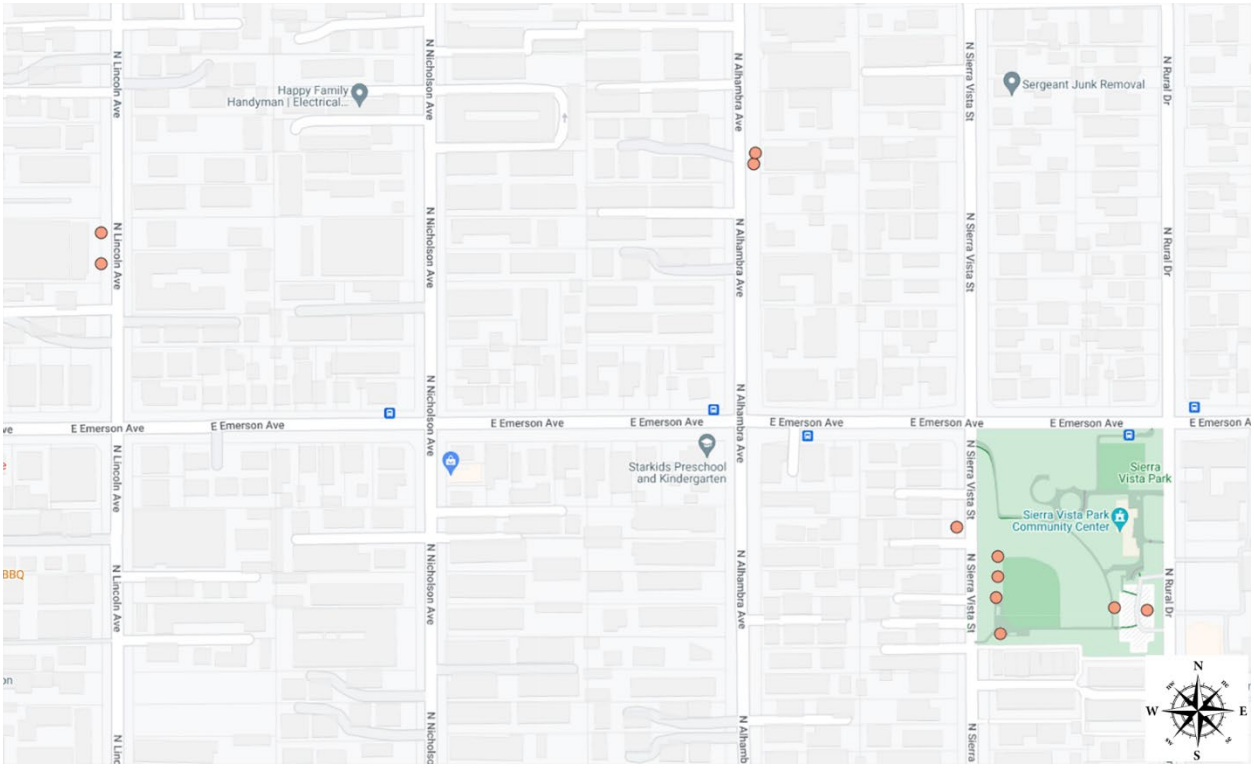


Figure 6.21: Location of trees in Grid Pruning District 10 with a DBH of 25” – 30”.

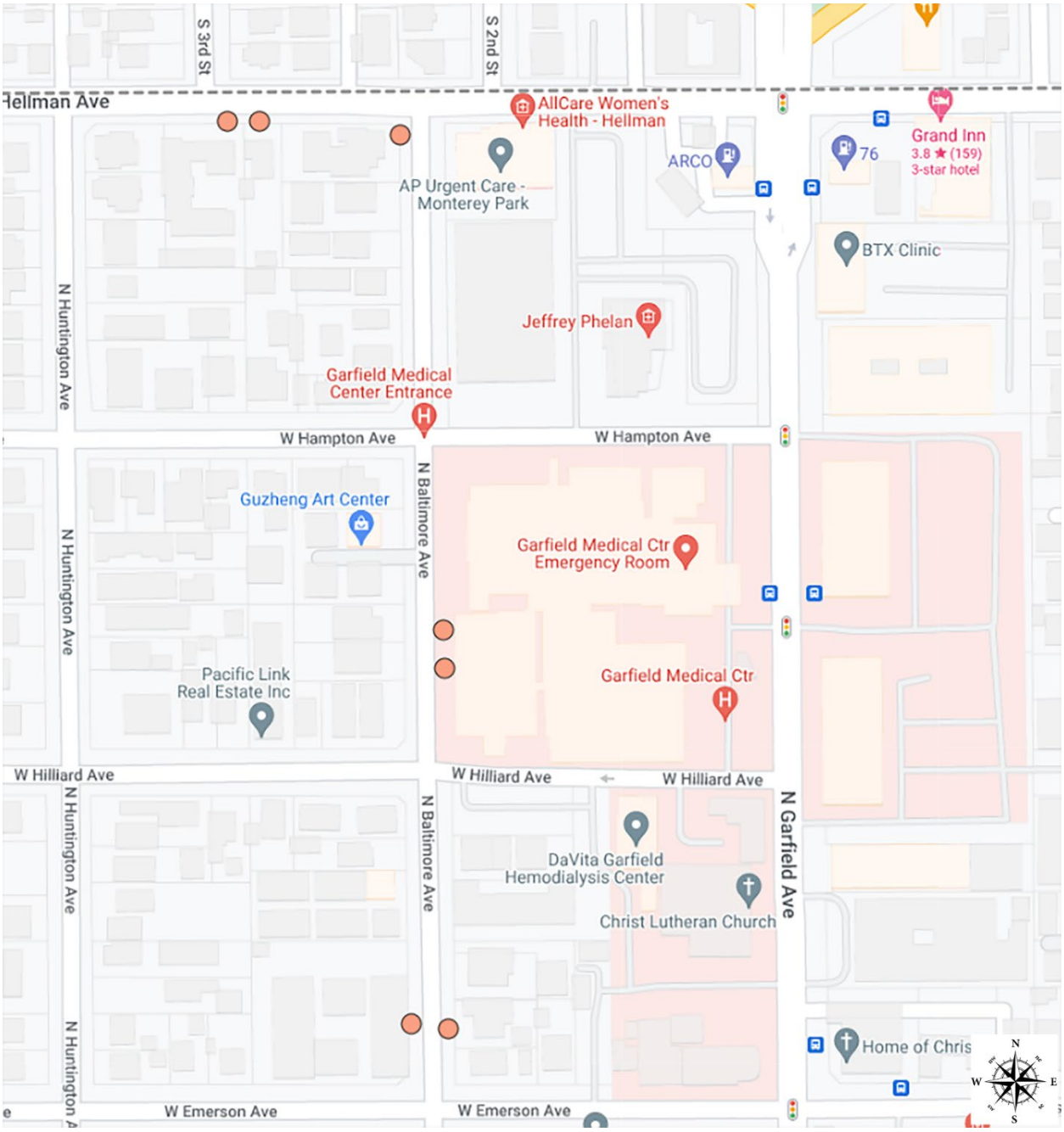


Figure 6.22: Location of trees in Grid Pruning District 11 with a DBH of 31" +.

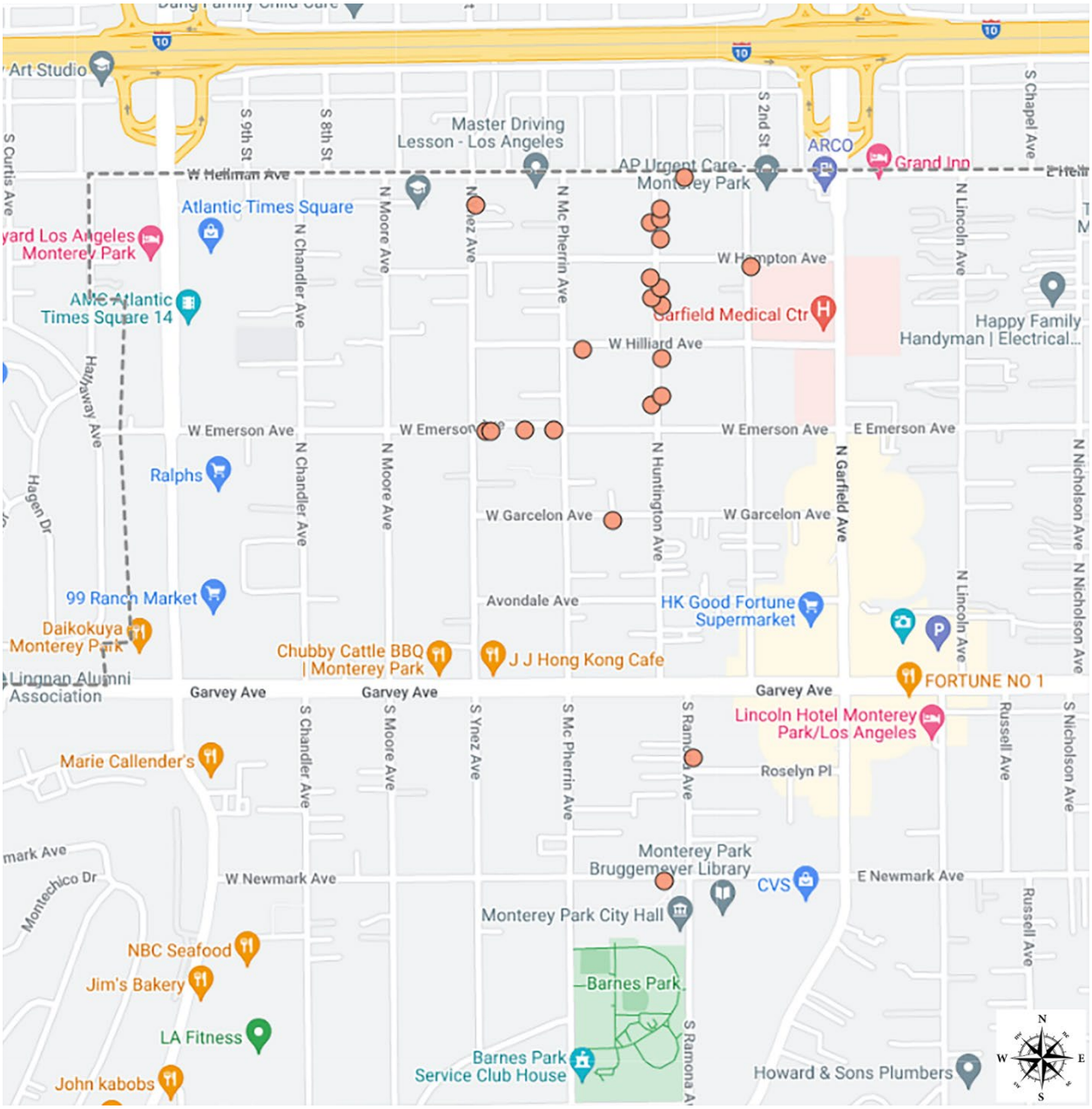


Figure 6.23: Location of trees in Grid Pruning District 11 with a DBH of 25” – 30”.

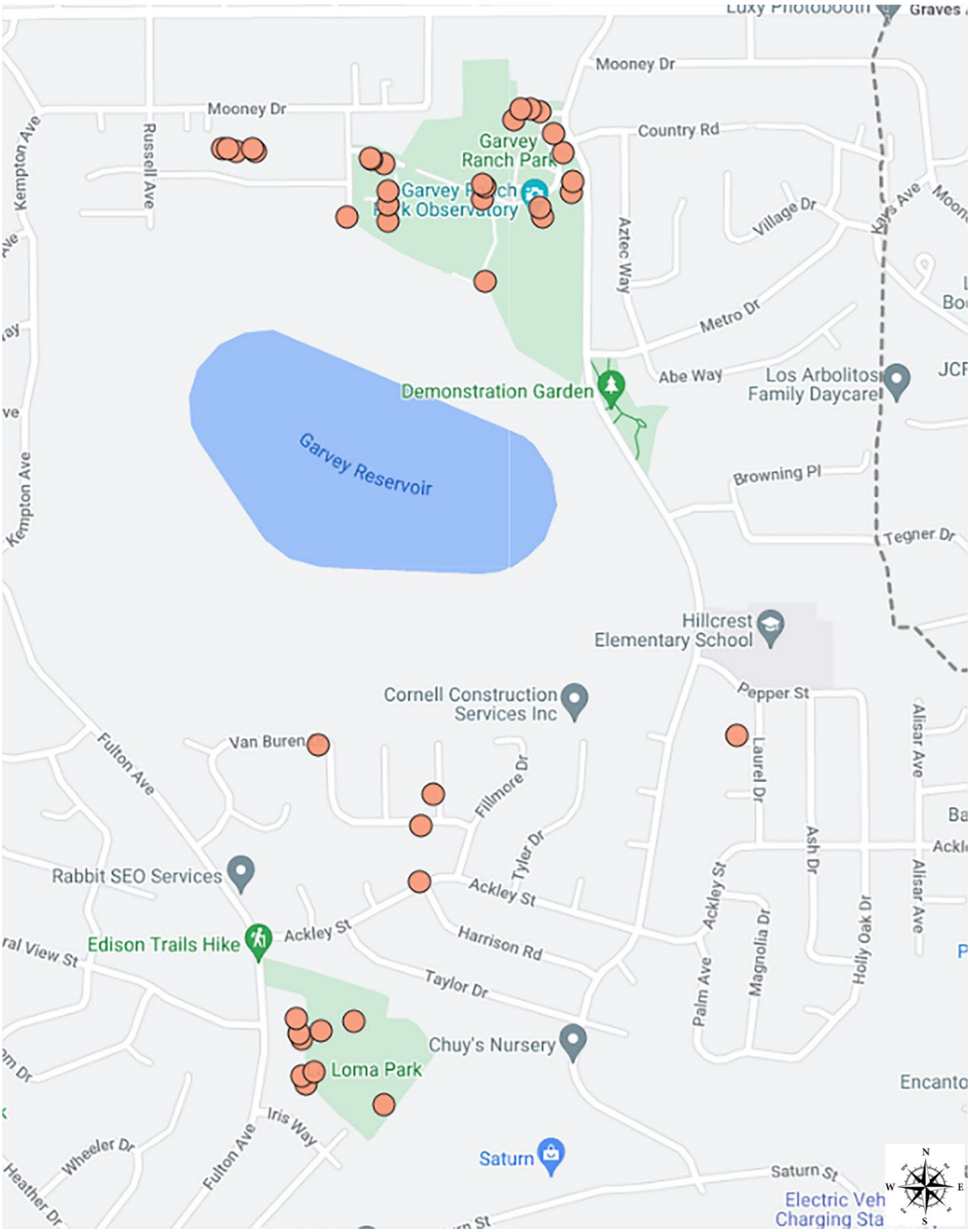


Figure 6.24: Location of trees in Grid Pruning District 12 with a DBH of 31" +.

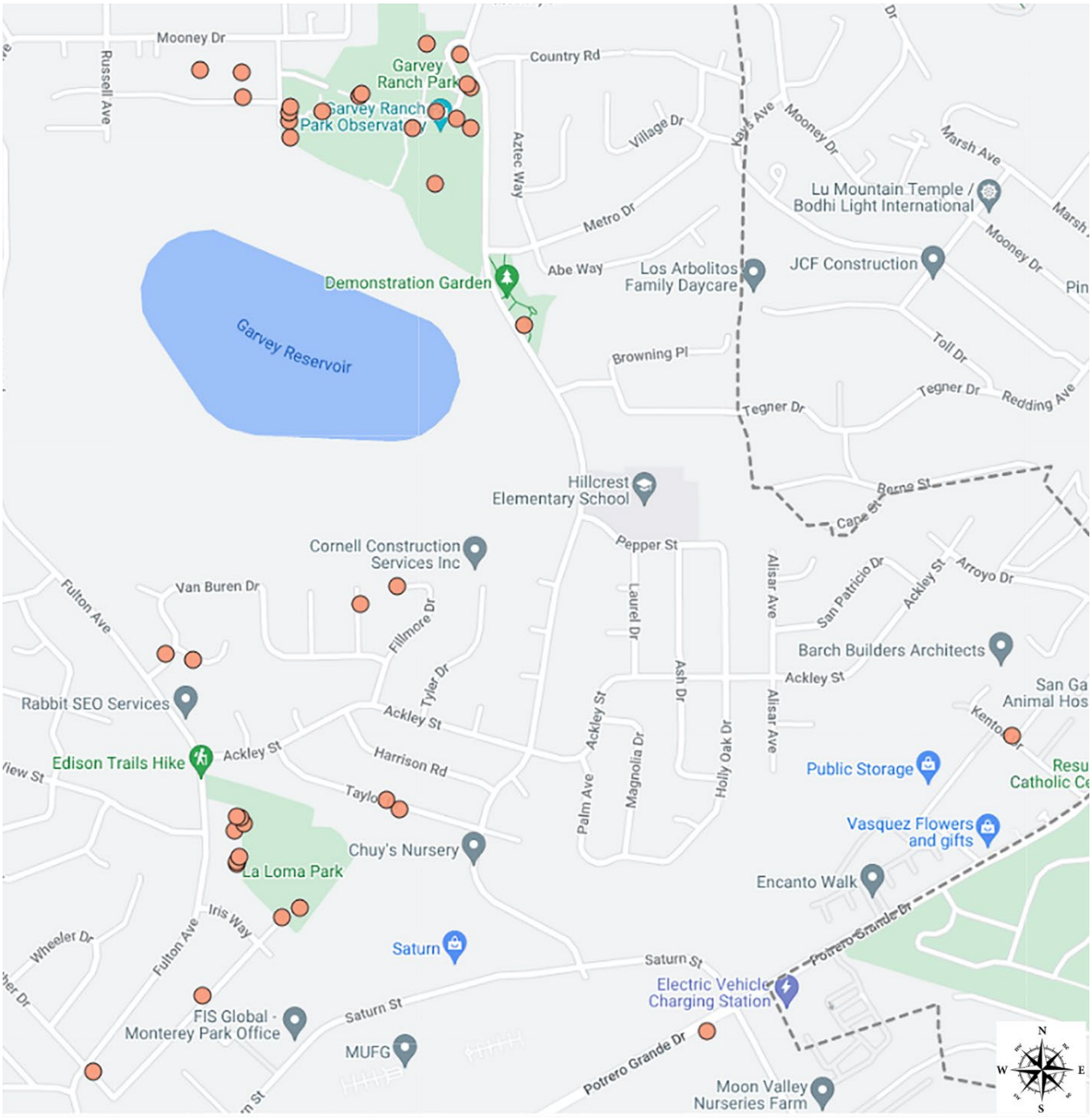


Figure 6.25: Location of trees in Grid Pruning District 12 with a DBH of 25” – 30”.

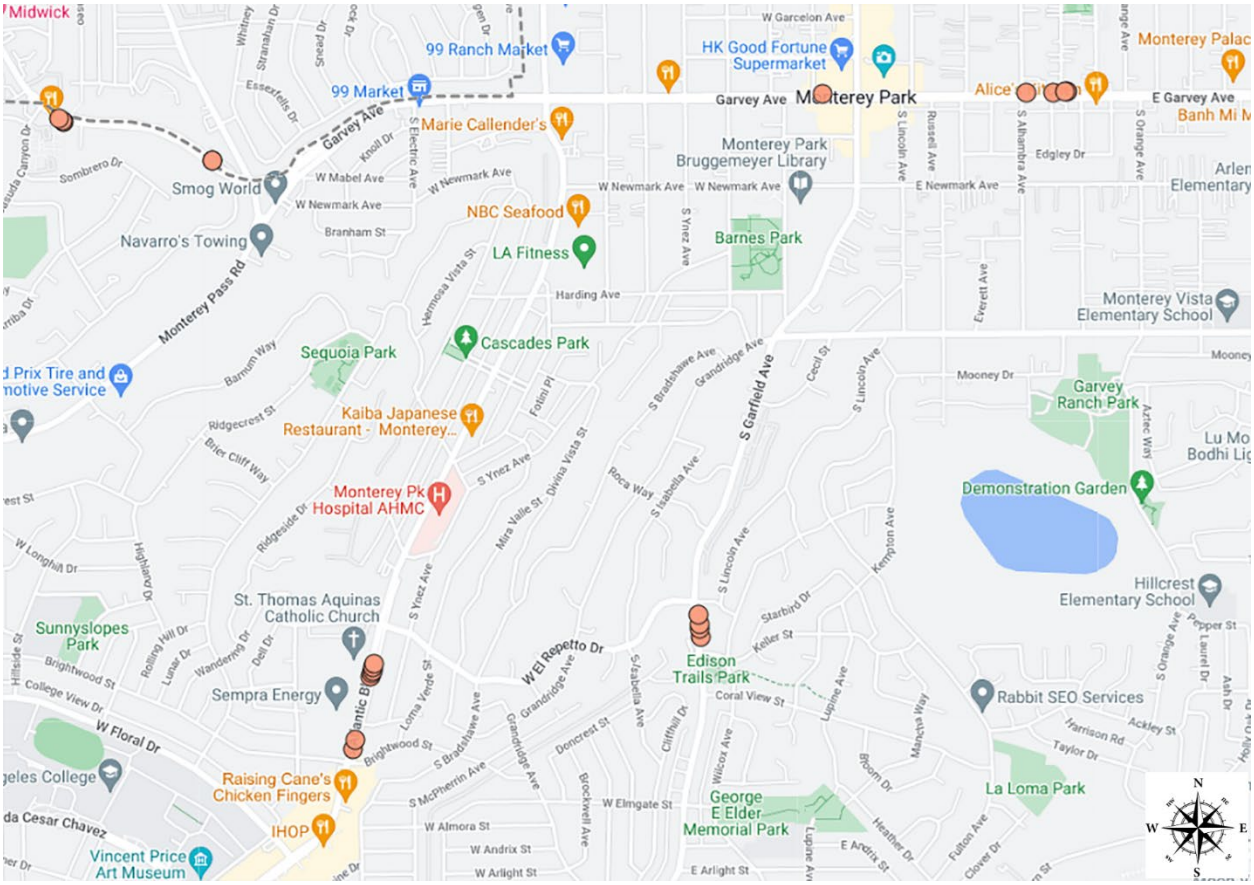


Figure 6.26: Location of trees in Grid Pruning District 13 with a DBH of 31" +.

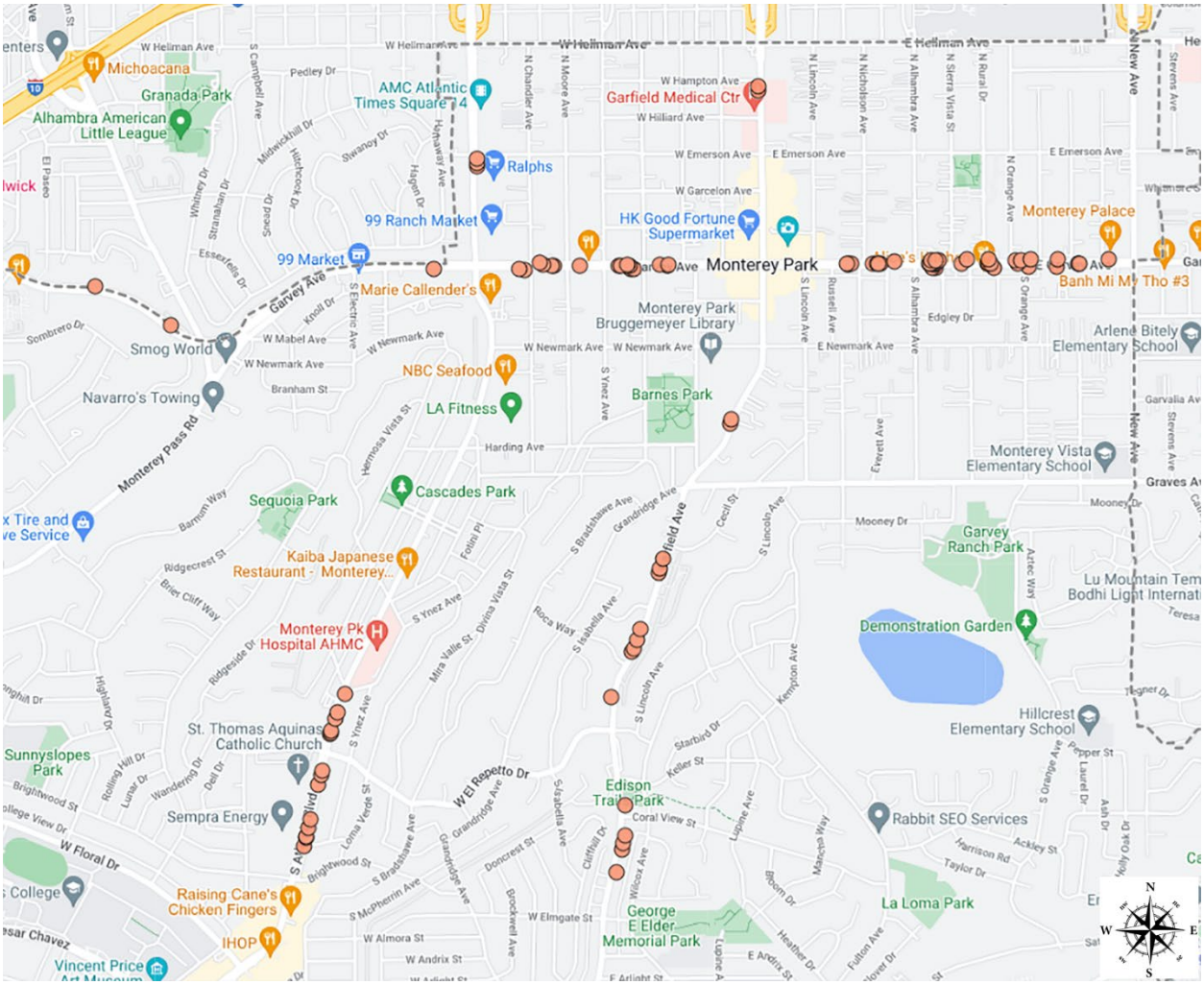
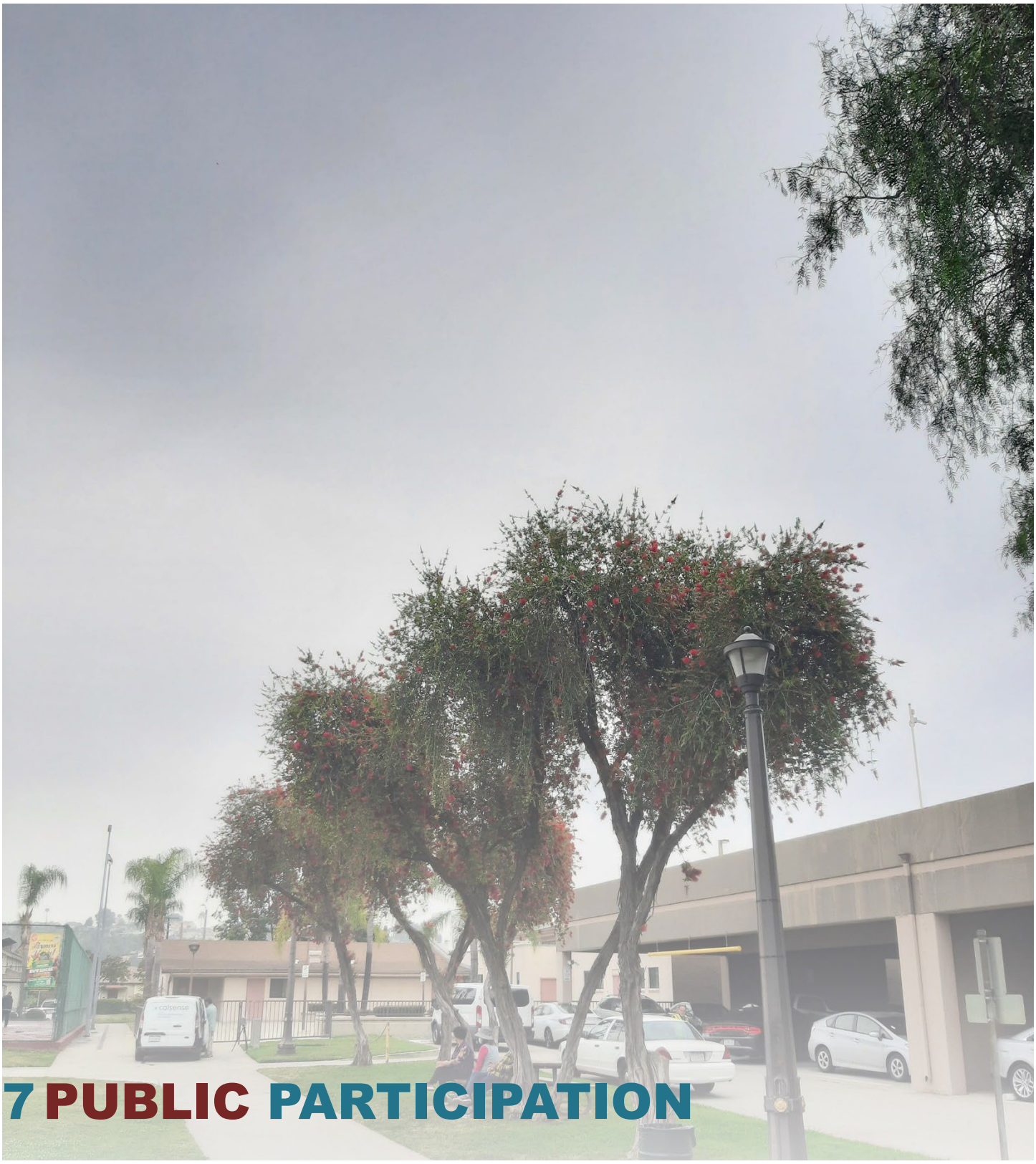


Figure 6.27: Location of trees in Grid Pruning District 13 with a DBH of 25” – 30”.



7 PUBLIC PARTICIPATION

PUBLIC PARTICIPATION

7.1 EDUCATION / OUTREACH

The commitment of City staff and officials to the vision, goals, and practices outlined in this Urban Forest Management Plan is essential to maximizing the urban forest benefits for the community, however the plan will not be successful without the understanding of the community members. To garner community support, the City of Monterey Park is committed to educating the community of the role that the trees in the urban forest play in improving the physical and mental well-being of the people that live, work, and visit the City.

An Annual Arbor Day Festival is central to the education/outreach program. As part of the implementation of this UFMP, the City of Monterey Park will establish an annual Arbor Day Festival. The festival not only provides an opportunity for the community to celebrate all the benefits that trees provide, but it is also the perfect setting to equip the participants with the tools and guidance necessary for each attendee to assist in the maintenance of a healthy, fully functioning urban forest. Representatives from state and federal forestry agencies, professional forestry organizations like ISA, and the local tree industry offer information and fun activities to increase awareness of the importance of trees and what residents can do to keep them healthy. Tree planting events during the Arbor Day celebration allow community members hands-on experience while promoting proper installation practices and developing a personal connection to the urban forest and a sense of stewardship.

7.2 TREE CITY USA STATUS

In 1976, to promote the many benefits of the urban forest to communities, the Arbor Day Foundation instituted the Tree City USA program. This program recognizes the commitment of cities across the country to maximizing the benefits provided to the community by the urban forest through expansion of canopy cover and proper maintenance of trees. The goals and visions in this UFMP demonstrate the commitment from the City of Monterey Park to the principles of the Tree City USA program. To celebrate that vision, the City seeks to obtain Tree City USA recognition and retain this designation in perpetuity.

There are four (4) standards that a city must meet to be recognized under the Tree City USA program, all of which will be met by the City of Monterey Park with the adoption of this Urban Forest Management Plan. Cities that meet the standards to be recognized as a Tree City USA have:

1. **A Tree Board or Department**: Responsibility for the care and maintenance of public trees within the City of Monterey Park resides with the Department of Public Works.

2. **A Public Tree Care Ordinance:** The City of Monterey Park has established a Tree Planting and Removal Ordinance (Monterey Park M.C. §9.63.10 – 9.63.60) which provides protection for qualifying trees on both public and private lands within the City Limits.

3. **A Community Forestry Program with an Annual Budget of at Least $2 Per Capita:** The population of the City of Monterey Park as of the 2020 Census was 61,096. To meet the $2 per capita budget requirement the City would need to allocate $122,192. The current City Urban Forestry budget is $425,000, far exceeding the requirement.

4. **An Arbor Day Observance and Proclamation:** An Arbor Day Observance is included in the Public Outreach in Section 7.1.

7.3 CARING FOR PRIVATE TREES

Professionally maintained trees will provide long lasting benefits to residents and help improve the environment. Residents and business owners are encouraged to seek out and contract with licensed and certified tree care professionals. Public outreach to educate the community about the benefits provided by the trees and how to properly maintain trees in good health is essential to achieving the urban forest goals described in this UFMP.

7.4 RESOURCES AND GUIDELINES FOR HOMEOWNERS AND BUSINESSES

The City of Monterey Park recognizes reaching the goal of a healthy urban forest that provides the greatest benefit for the community requires the participation and cooperation of the community members. The public outreach and education discussed in Section 7.2 demonstrates the City's understanding and commitment to that idea. The practices for species selection, tree installation, cultural care, mature tree protection, and tree maintenance presented in this UFMP provide guidance for Homeowner and Business participation in achieving these goals. Additional resources are available in Appendix G and through forestry agencies and professional organizations, with a few examples provided below.

PUBLIC PARTICIPATION

Trees Are Good, International Society of Arboriculture (ISA)

www.treesaregood.org

California Department of Forestry and Fire Protection Urban Forestry Program

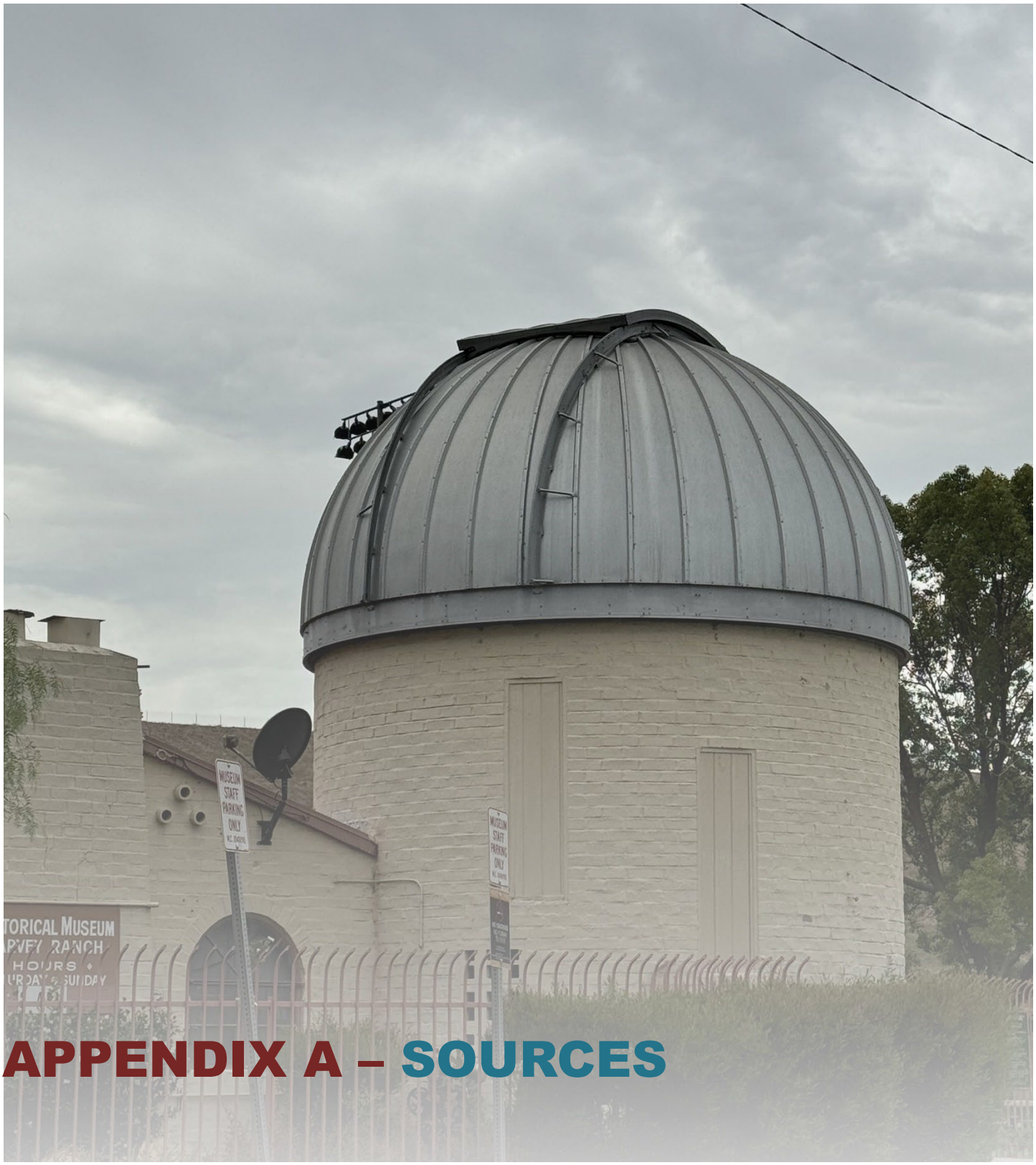
https://www.fire.ca.gov/what-we-do/natural-resource-management/urban-and-community-forestry

United States Forest Service

https://www.fs.usda.gov/learn/trees

University of California Agriculture and Natural Resources Master Gardner Program

https://mg.ucanr.edu/



APPENDIX A – SOURCES

APPENDIX A – SOURCES

Links to the International Society of Arboriculture Best Management Practices and American National Standards Institute A300 Standards that form the basis for much of this Urban Forest Management Plan are included in Appendix B for reference. Additional information sources referenced in the UFMP are listed below.

PBS SoCal. 2013. “On Location: Monterey Park.” https://www.pbssocal.org/history-society/on-location-monterey-park.

SelecTree. UFEI. 1995-2023. Cal Poly University, San Luis Obispo. https://selectree.calpoly.edu

UC IPM Statewide Integrated Pest Management Program. University of California Agriculture & Natural Resources. https://ipm.ucanr.edu/index.html

Photo Citations

Photograph of El Encanto in 1929. Monterey Park Bruggemeyer Library. https://calisphere.org/item/ark:/13030/c81v5bw4/

Photograph of aerial view of Monterey Park. Monterey Park Bruggemeyer Library. https://calisphere.org/item/ark:/13030/c89884xv/

Photograph of Business enterprises – California – Monterey Park on Garvey and Garfield. Monterey Park Bruggemeyer Library. https://calisphere.org/item/ark:/13030/c8c82761/

APPENDIX B – BEST MANAGEMENT PRACTICES

APPENDIX B – BEST MANAGEMENT PRACTICES

International Society of Arboriculture (ISA) *Best Management Practices*

Pruning

Soil Management for Urban Trees

Tree Support Systems

Managing Trees During Site Development & Construction

Tree Planting

Root Management

Tree Risk Assessment

Integrated Pest Management

Tree and Shrub Fertilization

American National Standards Institute (ANSI)

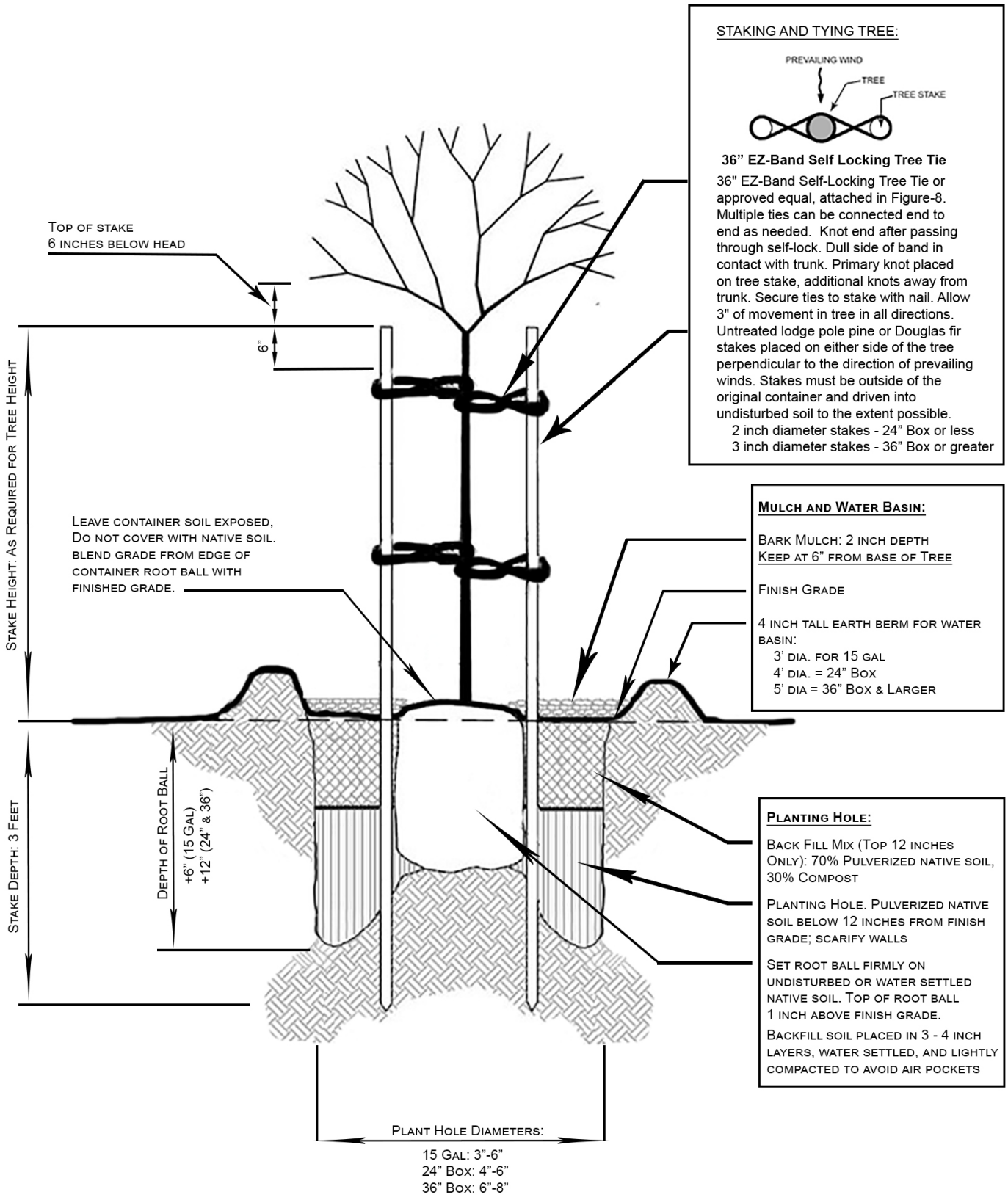
ANSI A300 Tree Care Standards

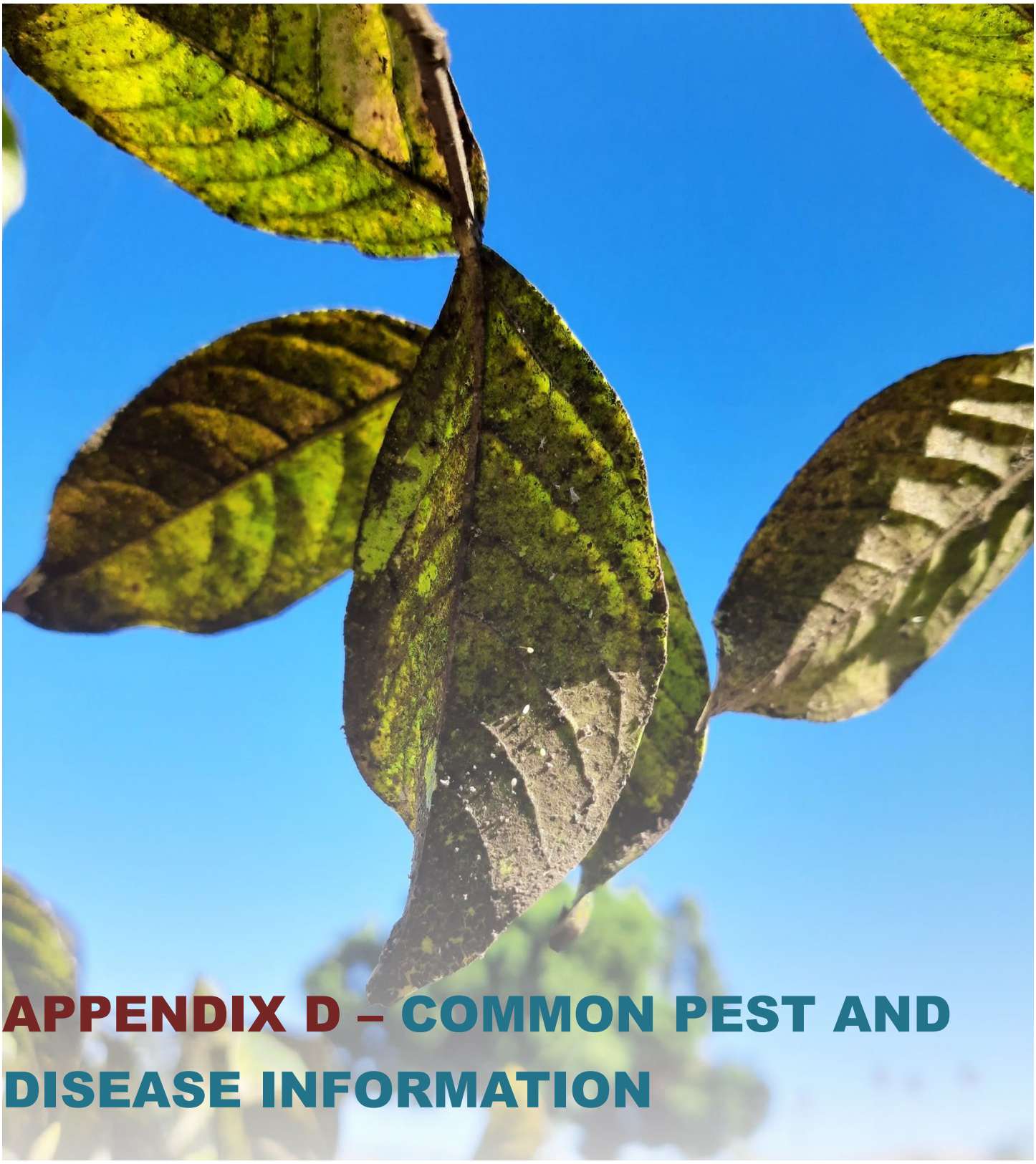
Clause 1 – 4: Scope, Purpose, Application, and General Info
Clause 5: Pruning
Clause 6: Soil Management
Clause 7: Supplemental Support Systems
Clause 9: Management During Site Development and Construction
Clause 10: Planting and Transplanting
Clause 11: Integrated Vegetation Management (IVM)
Clause 12: Root Management
Clause 13: Tree Risk Assessment
Clause 14: Integrated Pest Management
Clause 15: Industry Definitions

APPENDIX C – CITY PLANNING DETAILS AND SPECIFICATIONS

APPENDIX C – CITY PLANNING DETAILS AND SPECIFICATIONS

City of Monterey Park Tree Planting and Staking Standard





APPENDIX D – COMMON PEST AND DISEASE INFORMATION

APPENDIX D – COMMON PEST AND DISEASE INFORMATION

More information regarding tree pests and diseases is available through the links below. This is not a comprehensive list, there are many other pests and diseases not included.

Tree Pests and Pest/Disease Complexes

Adelgids

Aphids

Arizona Ash Tingid

Ash Borer

Ash Leaf Curl Aphid

Ash Moth

Ash Plant Bugs

Asian Citrus Psyllid and Huanglongbing (HLB) Disease

Banana Moth

Bark Beetles

Barnacle Scale

Black Scale

Black Vine Weevil

Boxelder Bug

Brown Soft Scale

Buffalo Treehopper

Calico Scale

California Pear Sawfly

California Red Scale

Carpenterworm

Citricola Scale

Citrus Thrips

APPENDIX D – COMMON PEST AND DISEASE INFORMATION

Clearwing Moths

Coconut Mealybug

Cottony Cushion Scale

Cuban Laurel Thrips

Dictyospermum Scale

Elm Leaf Beetle

Eriophyid Mites

Erythrina Stem Borer

Eucalyptus Red Gum Psyllid

Eucalyptus Tortoise Beetle

European Elm Bark Beetle

Ficus Gall Wasp

Frosted Scale

Fruittree Leafroller

Giant Palm Borer

Giant Whitefly

Gill's Mealybug

Goldspotted Oak Borer (GSOB)

Glassy-winged Sharpshooter

Greedy Scale

Greenhouse Thrips

Green Shield Scale

Ground Mealybug

Hemispherical Scale

Invasive Shothole Borers (ISHB)

APPENDIX D – COMMON PEST AND DISEASE INFORMATION

Ips Engraver Beetles

Lace Bugs

Leaf Miner

Longtailed Mealybug

Lygus Bugs

Mealybugs

Obscure Mealybug

Oleander Scale

Omnivorous Leafroller

Omnivorous Looper

Oystershell Scale

Palm Leaf Skeletonizer

Pit-Making Pittosporum Scale

Privet Bud Mite

Privet Rust Mites

Psyllids

Redhaired Pine Bark Beetle

Redhumped Caterpillar

Red Turpentine Beetle

San Jose Scale

Scales

Silverleaf Whitefly

South American Palm Weevil

Spider Mites

Thrips

APPENDIX D – COMMON PEST AND DISEASE INFORMATION

Tuliptree Scale

Tussock Moths

Vine Mealybug

Walnut Scale

Wax Scales

Whiteflies

Tree Diseases

Anthracnose

Armillaria Root Rot

Ash Dieback

Bacterial Blight

Bacterial Canker

Bacterial Leaf Scorch

Bacterial Slime Flux

Botryosphaeria Canker

Botrytis Blight

Chinese Elm Anthracnose

Chinese Wax Scale

Crown Gall

Dematophora Root Rot

Diamond Scale

Dutch Elm Disease

Entomosporium Leaf Spot

Ficus Branch Canker

Fire Blight

APPENDIX D – COMMON PEST AND DISEASE INFORMATION

Foamy Canker

Fusarium Wilt

Ghost Canker

Leaf Spot Diseases

Nectaria Canker

Oleander Leaf Scorch

Palm Diseases

Phyllosticta Leaf Spot

Phytophthora

Pink Rot

Pitch Canker

Powdery Mildew

Rusts

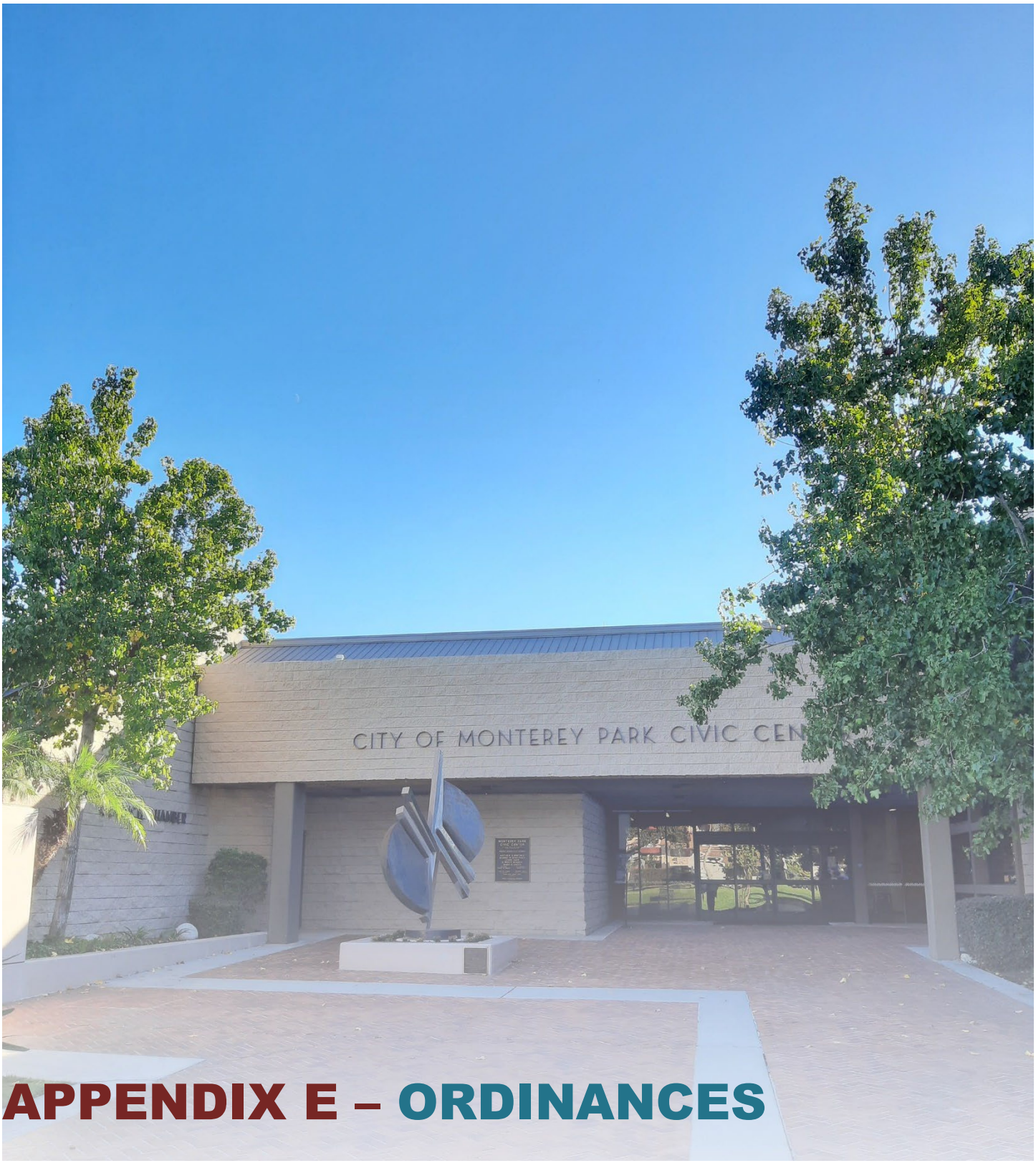
Sooty Mold

Sudden Crown Drop

Verticillium Wilt

Western Gall Rust

Wood Decay



APPENDIX E – ORDINANCES

APPENDIX E – ORDINANCES

Monterey Park, California Municipal Code

Title 9 PEACE, SAFETY AND MORALS

Chapter 9.63 PROPERTY DAMAGE

9.63.010 Damage to public property.

9.63.020 Injuring property.

9.63.030 Trees—Shrubbery.

9.63.040 Trees—Planting.

9.63.050 Permit.

9.63.060 Tree removal permit.

9.63.010 Damage to public property.

No person shall cut, break, destroy, remove, deface, tamper with, paint, color, mar, injure, disfigure, interfere with, damage, tear, remove, change or alter any of the following:

(1) Public street or sidewalk or easement or right-of-way;

(2) Part of any building belonging to the city;

(3) (A) Electric lamp erected or suspended on or over any street, sidewalk or park and used in the lighting thereof, or any wire or other apparatus immediately attached to such lamp,

(B) Any lamp standard or lamp pole, nor attach thereto any banner, pennant, streamer, flag, sign, picture, wire, rope or other attachment of any kind for any purpose without first obtaining a permit to do so from the city manager;

(4) Parts or appurtenances of the fire alarm, telegraph system or police signal system, lamp post, street sign post, fire alarm box, police signal box, post, standard, or pole or any fixture or apparatus used about or in connection with any such post, box, standard or pole;

(5) Water main, pipe, conduit, hydrant, reservoir or ditch, or to tap the same without permission of the public works director;

(6) Water meter or any box containing any pipe, stopcock or cut-off valve of the water department of this city or cover the same with earth, brick, stone, mortar, debris, or building material;

(7) Tree, shrub, tree stake or guard in any public street, or affix or attach in any manner any other thing whatsoever, including any guy wire or rope, to any tree, shrub, tree stake or guard except for the purpose of protecting it or unless otherwise authorized by this code;

(8) Property owned by any public utility located on any street or sidewalk;

(9) Other property owned or leased by this city or the United States government or any political subdivision or department thereof, and not specifically enumerated in this section;

(10) Public document, notice or advertisement or any legal document required to be posted or exhibited in the manner and place provided by law. (Ord. 1193 § 1, 1967; prior code § 4256)

9.63.020 Injuring property.

No person shall wilfully and maliciously break, destroy or injure any real or personal property not his own within the city or break open or unlawfully enter any pound for the purpose of removing, or aiding the escape of any animal that may have been placed in said pound by the police or pound master of such city. (Prior code § 4242)

9.63.030 Trees—Shrubbery.

No person shall cut down, injure, girdle, destroy or remove any standing or growing trees or shrubbery, or any ornament or improvement in any public park or street of the city without first being issued a permit as provided in this chapter; provided, however, this section shall not apply to the removal of trees or shrubbery by the director of public works when the same constitutes a public nuisance or safety hazard. (Ord. 1317 § 1, 1972; prior code § 4236)

9.63.040 Trees—Planting.

The recreation and parks commission shall designate the type and species of tree to be planted in or along every street within the city. Every tree hereafter planted in or along any street shall be of the type and species designated for such street or portion thereof by the recreation and parks commission. (Ord. 1317 § 2, 1972; prior code § 4236.1)

9.63.050 Permit.

Unless a permit shall have been issued therefor as hereinafter provided, no tree shall be planted in any portion of any public street nor within five feet of any curb or sidewalk. Upon investigation and finding by the recreation and parks director that any proposed tree will not damage public property or constitute a safety hazard, the recreation and parks director shall issue a written permit which shall designate the location of the tree or trees so authorized. Any person aggrieved by the refusal of the recreation and parks director to issue such a permit may appeal in writing to the recreation and parks commission within fifteen days after such refusal, and thereupon the recreation and parks commission shall, upon similar investigation and findings, render a decision. Such decision shall be final unless any person aggrieved by such decision appeals in writing to the city council within fifteen days after such decision. The decision of the city council thereon shall be final. (Ord. 1317 § 2, 1972; prior code § 4236.2)

9.63.060 Tree removal permit.

Persons desiring to remove trees from public property abutting property they own or occupy shall make application to the recreation and parks director for a tree removal permit. Application for said permit shall be in writing and set forth the reasons such removal is desired. If upon investigation and finding by the recreation and parks director that the tree desired to be removed constitutes a private nuisance, is not of the type or species designated by the recreation and parks commission for such street, or other good cause appearing, he shall issue a permit allowing such tree to be removed. Said permit may require the replanting of another tree after said removal, and, if a replacement is required, applicant shall deposit the prescribed fee with the recreation and parks director for each tree to be replaced before said permit shall be issued. If all the conditions of said permit are nor complied with the deposit herein required will be forfeited to the city. If such conditions are complied with, said deposit shall be refunded to applicant. Any person aggrieved by the refusal of the recreation and parks director to issue a permit or by the requirements of such permit may appeal to the recreation and parks commission in the time and manner specified in Section 9.63.050. Any person aggrieved by the decision of the recreation and parks commission may appeal to the city council in the time and manner specified in Section 9.63.050. The decision of the city council thereon shall be final. (Ord. 1317 § 2, 1972; prior code § 4236.3)

Contact:

City Clerk: (626) 307-1359, mpclerk@montereypark.ca.gov

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APPENDIX E – ORDINANCES

ORDINANCE NO. 1317

AN ORDINANCE OF THE CITY OF MONTEREY PARK AMENDING SECTIONS 4236 AND 9140 AND ADDING SECTIONS 4236.1, 4236.2 AND 4236.3 TO THE MONTEREY PARK MUNICIPAL CODE RELATING TO TREE PLANTING AND REMOVAL

THE CITY COUNCIL OF THE CITY OF MONTEREY PARK DOES ORDAIN:

SECTION 1. Sections 4236 and 9140 of the Monterey Park Municipal Code are hereby amended to read as follows:

Section 4236. Trees and Shrubbery. No person shall cut down, injure, girdle, destroy or remove any standing or growing trees or shrubbery, or any ornament or improvement in any public park or street of the City without first being issued a permit as provided herein; provided, however, this Section shall not apply to the removal of trees or shrubbery by the Director of Public Works when the same constitutes a public nuisance or safety hazard.

Section 9140. Street Lights, Street Trees, and Street Signs. Street lights shall be installed in accordance with specifications to be approved by the City Engineer. A street tree shall be installed in the parkway or tree planting easement in front of every residential lot in accordance with the terms of Section 4236 et seq. At least two street signs shall be installed at each street intersection or street junction in accordance with specifications approved or to be approved by the City Council.

SECTION 2. Sections 4236.1, 4236.2 and 4236.3 are hereby added to the Monterey Park Municipal Code to read as follows:

Section 4236.1. Trees, planting. The Recreation and Parks Commission shall designate the type and species of tree to be planted in or along every street within the city. Every tree hereafter planted in or along any street shall be of the type and species designated for such street or portion thereof by the Recreation and Parks Commission.

Section 4236.2. Same. Permit. Unless a permit shall have been issued therefor as hereinafter provided, no tree shall be planted in any portion of any public street nor within five feet of any curb or sidewalk. Upon investigation and finding by the Recreation and Parks

Ordinance No. 1317

the Recreation and Parks Director shall issue a written permit which shall designate the location of the tree or trees so authorized. Any person aggrieved by the refusal of the Recreation and Parks Director to issue such a permit may appeal in writing to the Recreation and Parks Commission within 15 days after such refusal, and thereupon the Recreation and Parks Commission shall, upon similar investigation and findings, render a decision. Such decision shall be final unless any person aggrieved by such decision appeals in writing to the City Council within 15 days after such decision. The decision of the City Council thereon shall be final.

Section 4236.3. Tree Removal Permit. Persons desiring to remove trees from public property abutting property they own or occupy shall make application to the Recreation and Parks Director for a tree removal permit. Application for said permit shall be in writing and set forth the reasons such removal is desired. If upon investigation and finding by the Recreation and Parks Director that the tree desired to be removed constitutes a private nuisance, is not of the type or species designated by the Recreation and Parks Commission for such street, or other good cause appearing, he shall issue a permit allowing such tree to be removed. Said permit may require the replanting of another tree after said removal, and, if a replacement is required, applicant shall deposit the prescribed fee with the Recreation and Parks Director for each tree to be replaced before said permit shall be issued. If all the conditions of said permit are not complied with the deposit herein required will be forfeited to the City. If such conditions are complied with, said deposit shall be refunded to applicant. Any person aggrieved by the refusal of the Recreation and Parks Director to issue a permit or by the requirements of such permit may appeal to the Recreation and Parks Commission in the time and manner specified in Section 4236.2. Any person aggrieved by the decision of the Recreation and Parks Commission may appeal to the City Council in the time and

Ordinance No. 1317

SECTION 3. The City Clerk of the City of Monterey Park shall certify to the passage and adoption of this Ordinance and to its approval by the Mayor and shall cause the same to be published in the Monterey Park Progress, a newspaper of general circulation, printed, published and circulated in the City of Monterey Park.

APPROVED and ADOPTED this 14th day of February, 1972.

Mayor of the City of
Monterey Park, California

ATTEST:

Laura Lee McMillen
City Clerk

STATE OF CALIFORNIA)
COUNTY OF LOS ANGELES) ss:
CITY OF MONTEREY PARK)

I, LAURA LEE McMILLEN, City Clerk of the City of Monterey Park, do hereby certify that the foregoing Ordinance, being Ordinance No. 1317, was introduced at a regular meeting of the City Council of the City of Monterey Park, held on the 31st day of January, 1972, and was duly passed, approved and adopted by said Council, approved and signed by the Mayor and attested by the City Clerk at a regular meeting of the said City Council held on the 14th day of February, 1972, by the following vote:

AYES: COUNCILMEN: Ige, Lewis, Gribble and Kreger
NOES: COUNCILMEN: Karnos
ABSENT: COUNCILMEN: None

Laura Lee McMillen
City Clerk of the City of
Monterey Park, California

APPENDIX F – I-TREE ECO™ REPORTS

i-Tree
Ecosystem Analysis

City of Monterey Park

Urban Forest Effects and Values
May 2024

Summary

Understanding an urban forest's structure, function and value can promote management decisions that will improve human health and environmental quality. An assessment of the vegetation structure, function, and value of the City of Monterey Park urban forest was conducted during 2024. Data from 7361 trees located throughout City of Monterey Park were analyzed using the i-Tree Eco model developed by the U.S. Forest Service, Northern Research Station.

- Number of trees: 7,361
- Tree Cover: 65.09 acres
- Most common species of trees: Lagerstroemia indica, Cupaniopsis anacardioides, Callistemon citrinus
- Percentage of trees less than 6" (15.2 cm) diameter: 13.5%
- Pollution Removal: 2.853 tons/year ($31.6 thousand/year)
- Carbon Storage: 3.983 thousand tons ($679 thousand)
- Carbon Sequestration: 160.1 tons ($27.3 thousand/year)
- Oxygen Production: 426.8 tons/year
- Avoided Runoff: 336.8 thousand gallon/year ($3.01 thousand/year)
- Building energy savings: N/A – data not collected
- Avoided carbon emissions: N/A – data not collected
- Replacement values: $33.1 million

Ton: short ton (U.S.) (2,000 lbs)
Monetary values $ are reported in US Dollars throughout the report except where noted.
Ecosystem service estimates are reported for trees.
With Complete Inventory Projects, oxygen production is estimated from gross carbon sequestration and does not account for decomposition. Oxygen production in Plot Inventory Projects is estimated from net carbon sequestration.

For an overview of i-Tree Eco methodology, see Appendix I. Data collection quality is determined by the local data collectors, over which i-Tree has no control.

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I. Tree Characteristics of the Urban Forest

The urban forest of City of Monterey Park has 7,361 trees with a tree cover of Lagerstroemia indica. The three most common species are Lagerstroemia indica (24.2 percent), Cupaniopsis anacardioides (8.8 percent), and Callistemon citrinus (6.5 percent).

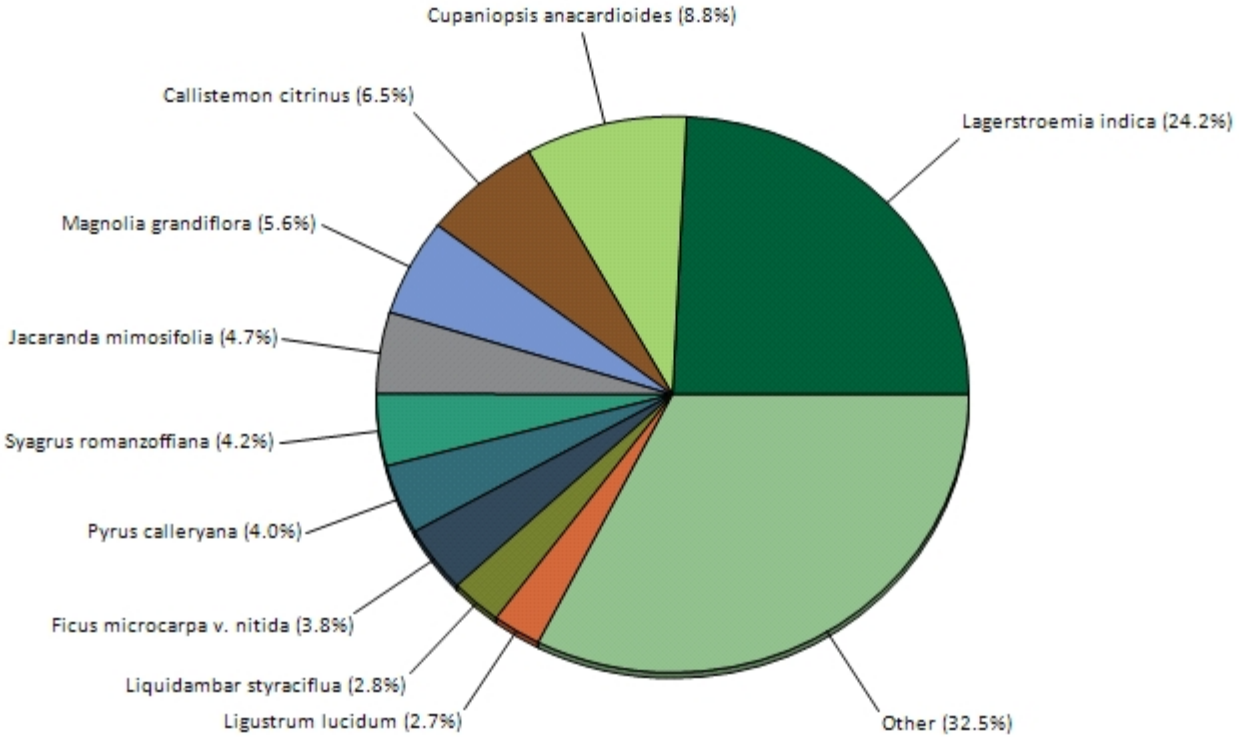


Figure 1. Tree species composition in City of Monterey Park

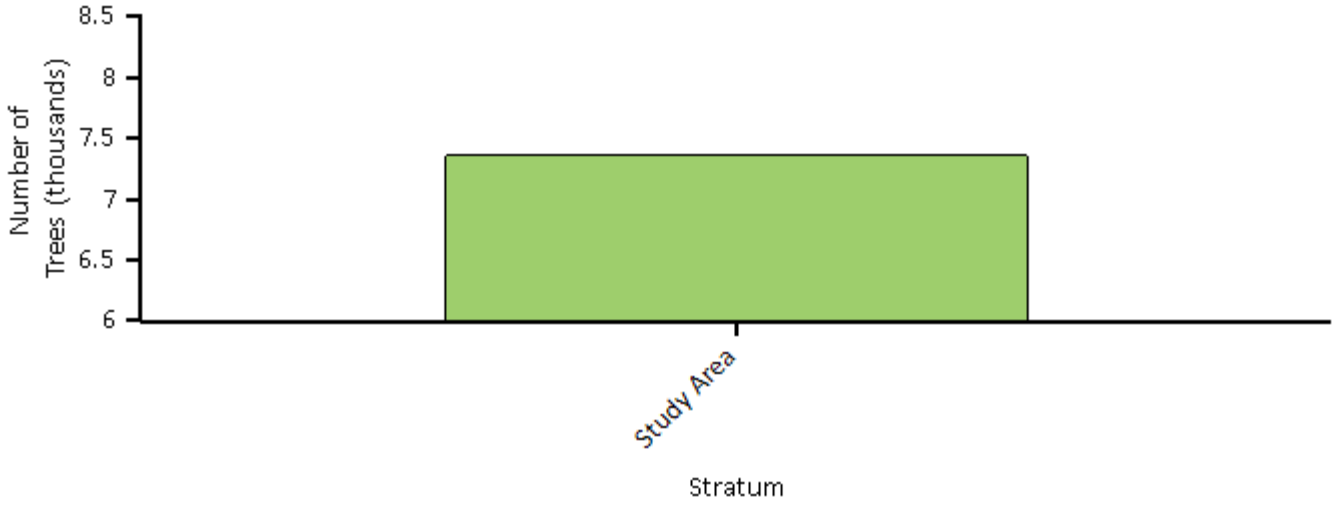


Figure 2. Number of trees in City of Monterey Park by stratum

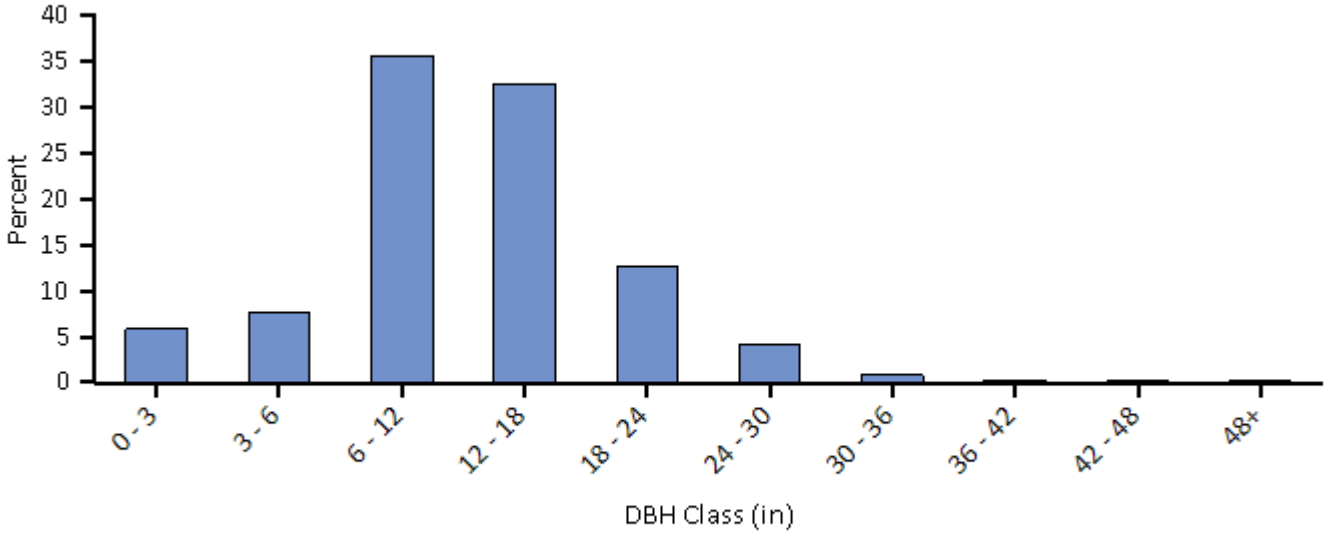


Figure 3. Percent of tree population by diameter class (DBH - stem diameter at 4.5 feet)

Urban forests are composed of a mix of native and exotic tree species. Thus, urban forests often have a tree diversity that is higher than surrounding native landscapes. Increased tree diversity can minimize the overall impact or destruction by a species-specific insect or disease, but it can also pose a risk to native plants if some of the exotic species are invasive plants that can potentially out-compete and displace native species. In City of Monterey Park, about 14 percent of the trees are species native to North America, while 2 percent are native to California. Species exotic to North America make up 86 percent of the population. Most exotic tree species have an origin from Asia (40 percent of the species).

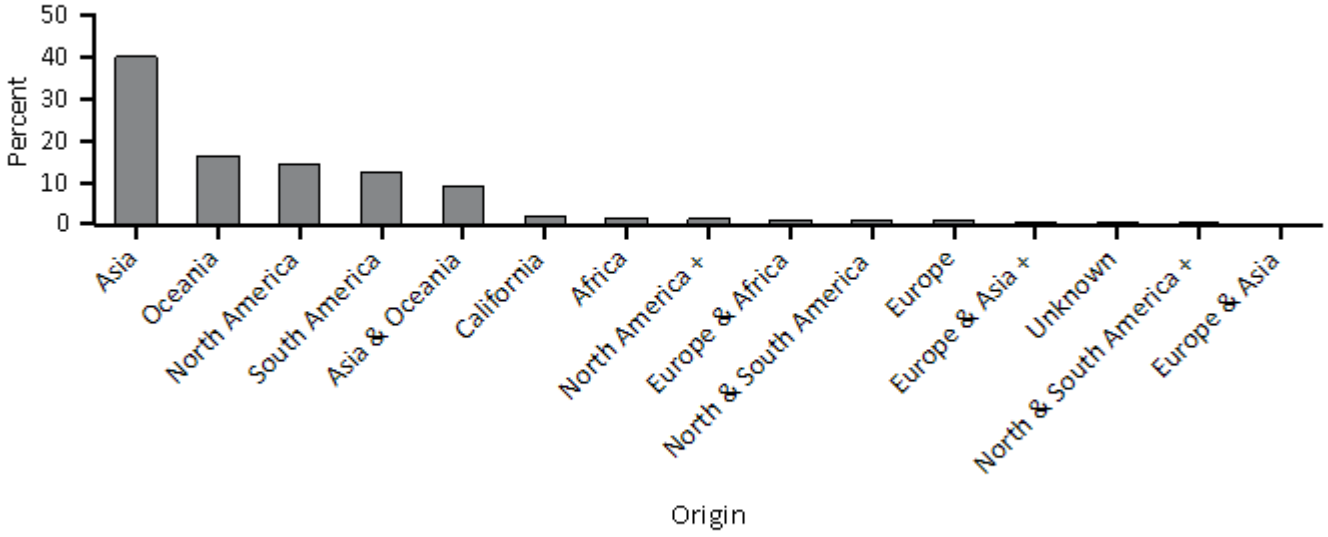


Figure 4. Percent of live tree population by area of native origin, City of Monterey Park

The plus sign (+) indicates the tree species is native to another continent other than the ones listed in the grouping.

Invasive plant species are often characterized by their vigor, ability to adapt, reproductive capacity, and general lack of natural enemies. These abilities enable them to displace native plants and make them a threat to natural areas. Four of the 144 tree species in City of Monterey Park are identified as invasive on the state invasive species list (California Invasive Species Advisory Committee 2010). These invasive species comprise 1.1 percent of the tree population though they may only cause a minimal level of impact. The three most common invasive species are Schinus molle (0.5 percent of population), Melaleuca quinquenervia (0.4 percent), and Eucalyptus globulus (0.2 percent) (see Appendix V for a complete list of invasive species).

II. Urban Forest Cover and Leaf Area

Many tree benefits equate directly to the amount of healthy leaf surface area of the plant. Trees cover about 65.09 acres of City of Monterey Park and provide 344.7 acres of leaf area.

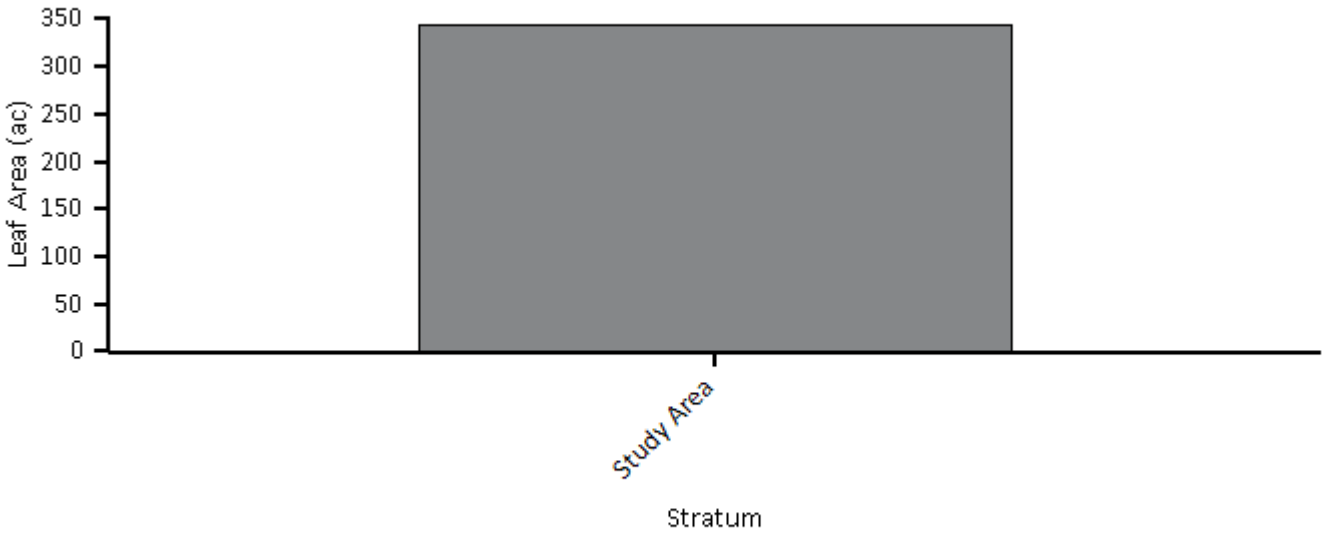


Figure 5. Leaf area by stratum, City of Monterey Park

In City of Monterey Park, the most dominant species in terms of leaf area are Cupaniopsis anacardioides, Lagerstroemia indica, and Magnolia grandiflora. The 10 species with the greatest importance values are listed in Table 1. Importance values (IV) are calculated as the sum of percent population and percent leaf area. High importance values do not mean that these trees should necessarily be encouraged in the future; rather these species currently dominate the urban forest structure.

Table 1. Most important species in City of Monterey Park

Species Name	*Percent Population*	*Percent Leaf Area*	*IV*
Lagerstroemia indica	24.2	8.0	32.2
Cupaniopsis anacardioides	8.8	9.3	18.1
Callistemon citrinus	6.5	5.8	12.3
Magnolia grandiflora	5.6	6.0	11.7
Jacaranda mimosifolia	4.7	5.6	10.4
Ficus microcarpa v. nitida	3.8	5.8	9.6
Liquidambar styraciflua	2.8	5.4	8.2
Pyrus calleryana	4.0	3.6	7.6
Ligustrum lucidum	2.7	3.1	5.7
Cinnamomum camphora	2.2	3.1	5.3

Common ground cover classes (including cover types beneath trees and shrubs) in City of Monterey Park are not available since they are configured not to be collected.

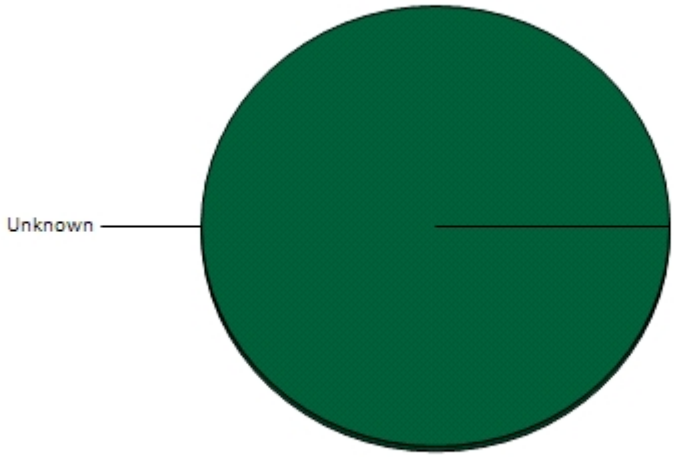


Figure 6. Percent of land by ground cover classes, City of Monterey Park

III. Air Pollution Removal by Urban Trees

Poor air quality is a common problem in many urban areas. It can lead to decreased human health, damage to landscape materials and ecosystem processes, and reduced visibility. The urban forest can help improve air quality by reducing air temperature, directly removing pollutants from the air, and reducing energy consumption in buildings, which consequently reduces air pollutant emissions from the power sources. Trees also emit volatile organic compounds that can contribute to ozone formation. However, integrative studies have revealed that an increase in tree cover leads to reduced ozone formation (Nowak and Dwyer 2000).

Pollution removal[1] by trees in City of Monterey Park was estimated using field data and recent available pollution and weather data available. Pollution removal was greatest for ozone (Figure 7). It is estimated that trees remove 2.853 tons of air pollution (ozone (O3), carbon monoxide (CO), nitrogen dioxide (NO2), particulate matter less than 2.5 microns (PM2.5), particulate matter less than 10 microns and greater than 2.5 microns (PM10*)[2], and sulfur dioxide (SO2)) per year with an associated value of $31.6 thousand (see Appendix I for more details).

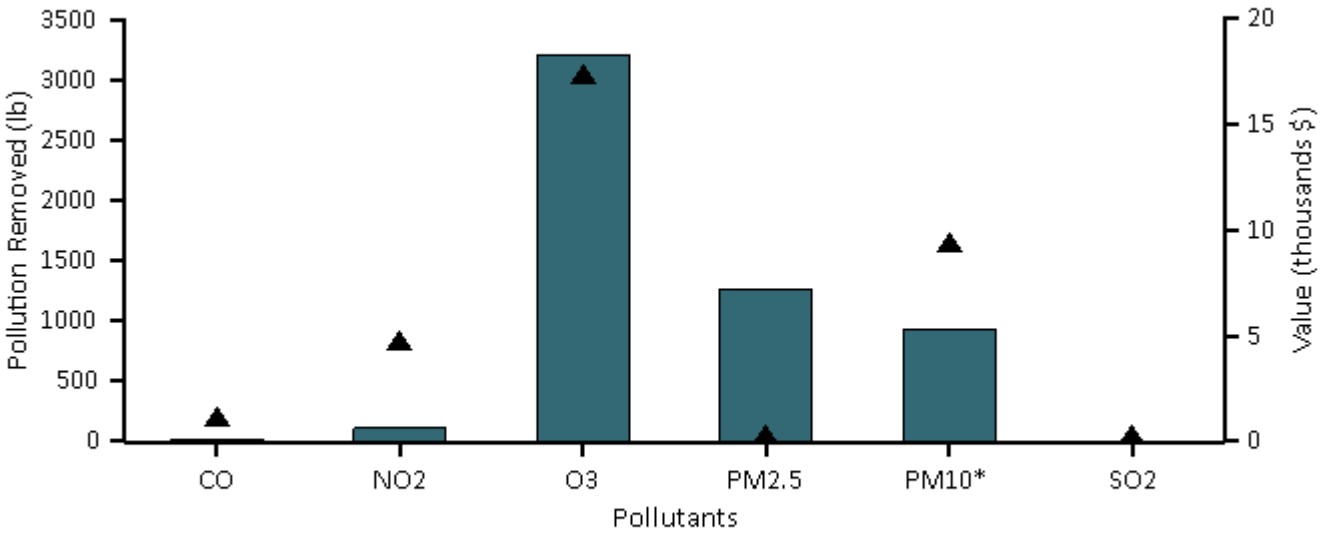


Figure 7. Annual pollution removal (points) and value (bars) by urban trees, City of Monterey Park

[1] PM10* is particulate matter less than 10 microns and greater than 2.5 microns. PM2.5 is particulate matter less than 2.5 microns. If PM2.5 is not monitored, PM10* represents particulate matter less than 10 microns. PM2.5 is generally more relevant in discussions concerning air pollution effects on human health.

[2] Trees remove PM2.5 and PM10* when particulate matter is deposited on leaf surfaces. This deposited PM2.5 and PM10* can be resuspended to the atmosphere or removed during rain events and dissolved or transferred to the soil. This combination of events can lead to positive or negative pollution removal and value depending on various atmospheric factors (see Appendix I for more details).

In 2024, trees in City of Monterey Park emitted an estimated 2.772 tons of volatile organic compounds (VOCs) (1.721 tons of isoprene and 1.05 tons of monoterpenes). Emissions vary among species based on species characteristics (e.g. some genera such as oaks are high isoprene emitters) and amount of leaf biomass. Twenty- six percent of the urban forest's VOC emissions were from Cupaniopsis anacardioides and Magnolia grandiflora. These VOCs are precursor chemicals to ozone formation.[3]

General recommendations for improving air quality with trees are given in Appendix VIII.

[3] Some economic studies have estimated VOC emission costs. These costs are not included here as there is a tendency to add positive dollar estimates of ozone removal effects with negative dollar values of VOC emission effects to determine whether tree effects are positive or negative in relation to ozone. This combining of dollar values to determine tree effects should not be done, rather estimates of VOC effects on ozone formation (e.g., via photochemical models) should be conducted and directly contrasted with ozone removal by trees (i.e., ozone effects should be directly compared, not dollar estimates). In addition, air temperature reductions by trees have been shown to significantly reduce ozone concentrations (Cardelino and Chameides 1990; Nowak et al 2000), but are not considered in this analysis. Photochemical modeling that integrates tree effects on air temperature, pollution removal, VOC emissions, and emissions from power plants can be used to determine the overall effect of trees on ozone concentrations.

IV. Carbon Storage and Sequestration

Climate change is an issue of global concern. Urban trees can help mitigate climate change by sequestering atmospheric carbon (from carbon dioxide) in tissue and by altering energy use in buildings, and consequently altering carbon dioxide emissions from fossil-fuel based power sources (Abdollahi et al 2000).

Trees reduce the amount of carbon in the atmosphere by sequestering carbon in new growth every year. The amount of carbon annually sequestered is increased with the size and health of the trees. The gross sequestration of City of Monterey Park trees is about 160.1 tons of carbon per year with an associated value of $27.3 thousand. See Appendix I for more details on methods.

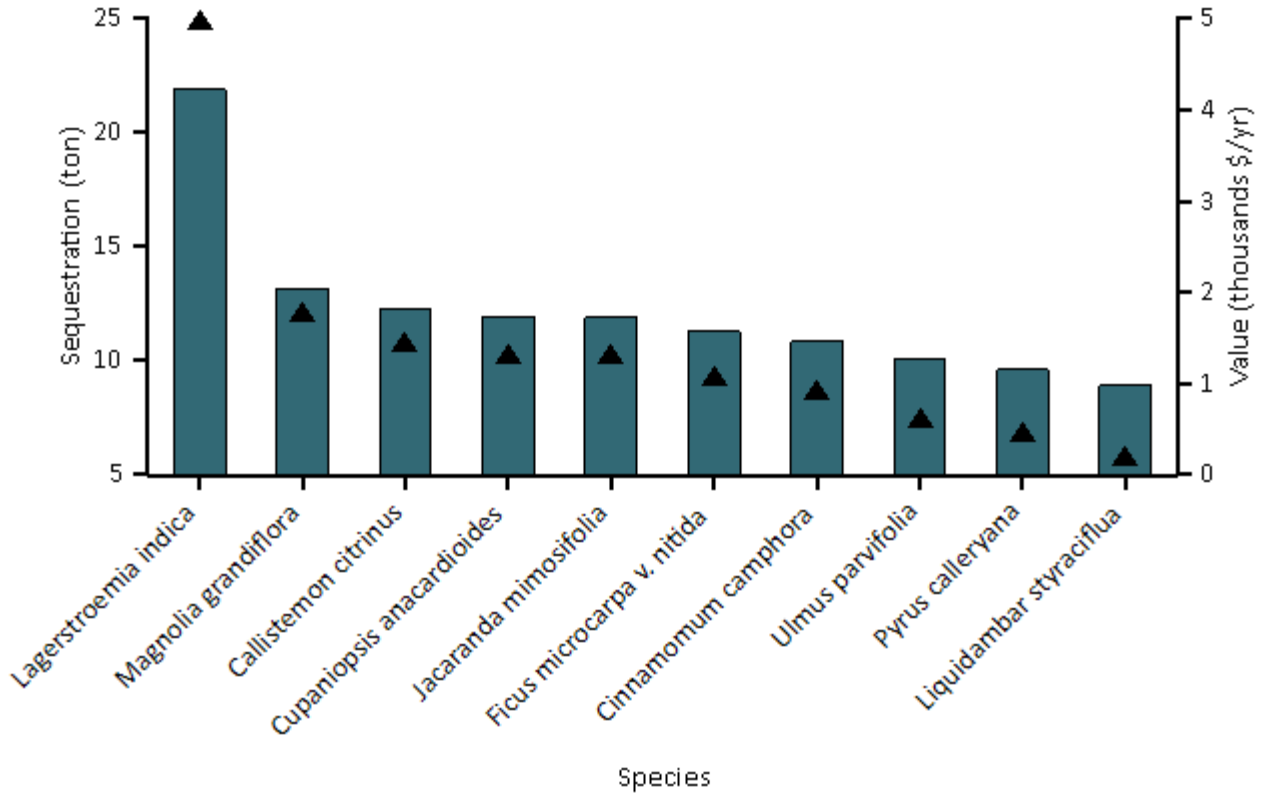


Figure 8. Estimated annual gross carbon sequestration (points) and value (bars) for urban tree species with the greatest sequestration, City of Monterey Park

Carbon storage is another way trees can influence global climate change. As a tree grows, it stores more carbon by holding it in its accumulated tissue. As a tree dies and decays, it releases much of the stored carbon back into the atmosphere. Thus, carbon storage is an indication of the amount of carbon that can be released if trees are allowed to die and decompose. Maintaining healthy trees will keep the carbon stored in trees, but tree maintenance can contribute to carbon emissions (Nowak et al 2002c). When a tree dies, using the wood in long-term wood products, to heat buildings, or to produce energy will help reduce carbon emissions from wood decomposition or from fossil-fuel or wood-based power plants.

Trees in City of Monterey Park are estimated to store 3980 tons of carbon ($679 thousand). Of the species sampled, Cupaniopsis anacardioides stores the most carbon (approximately 14.2% of the total carbon stored) and Lagerstroemia indica sequesters the most (approximately 15.5% of all sequestered carbon.)

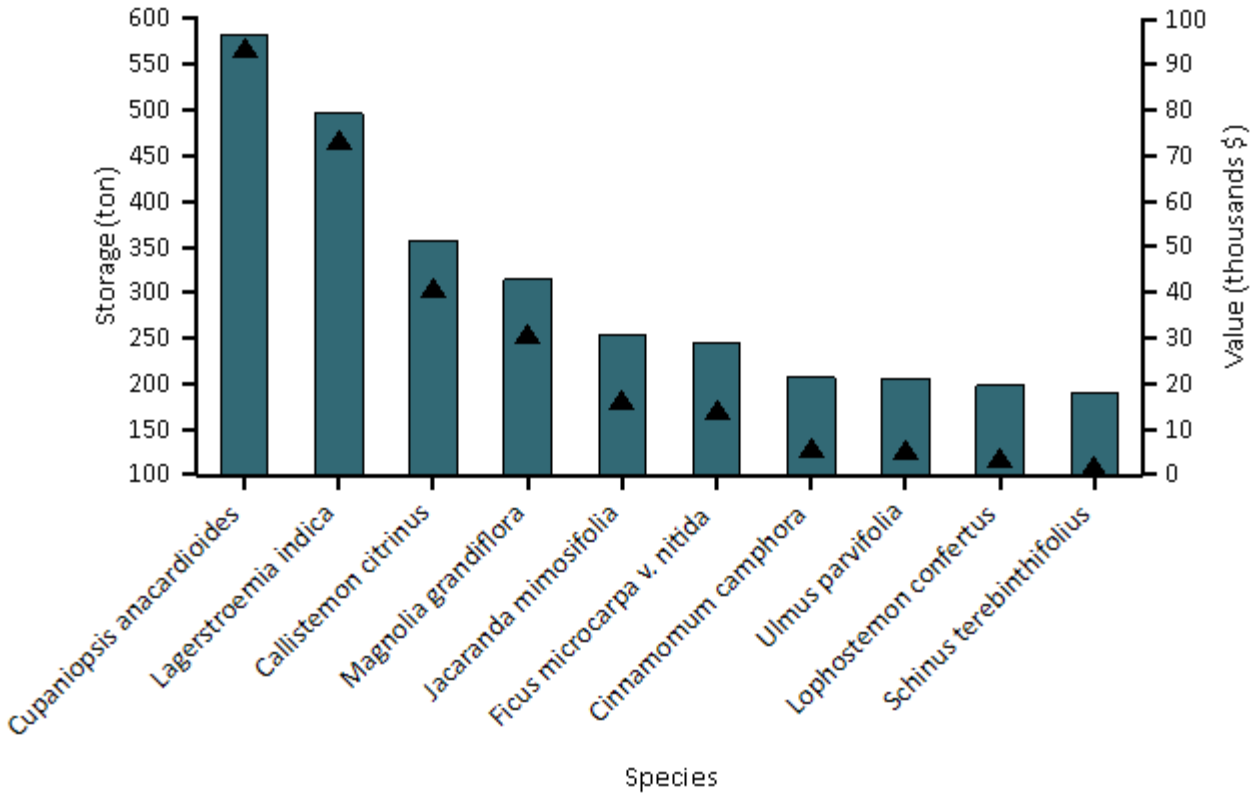


Figure 9. Estimated carbon storage (points) and values (bars) for urban tree species with the greatest storage, City of Monterey Park

V. Oxygen Production

Oxygen production is one of the most commonly cited benefits of urban trees. The annual oxygen production of a tree is directly related to the amount of carbon sequestered by the tree, which is tied to the accumulation of tree biomass.

Trees in City of Monterey Park are estimated to produce 426.8 tons of oxygen per year.[4] However, this tree benefit is relatively insignificant because of the large and relatively stable amount of oxygen in the atmosphere and extensive production by aquatic systems. Our atmosphere has an enormous reserve of oxygen. If all fossil fuel reserves, all trees, and all organic matter in soils were burned, atmospheric oxygen would only drop a few percent (Broecker 1970).

Table 2. The top 20 oxygen production species.

Species	*Oxygen (ton)*	*Gross Carbon Sequestration (ton/yr)*	*Number of Trees*	*Leaf Area (acre)*
Lagerstroemia indica	66.17	24.82	1,785	27.42
Magnolia grandiflora	31.99	12.00	415	20.79
Callistemon citrinus	28.44	10.67	478	20.15
Cupaniopsis anacardioides	27.19	10.20	651	31.93
Jacaranda mimosifolia	27.08	10.15	349	19.43
Ficus microcarpa v. nitida	24.56	9.21	283	19.86
Cinnamomum camphora	22.84	8.57	165	10.69
Ulmus parvifolia	19.76	7.41	100	9.98
Pyrus calleryana	18.03	6.76	298	12.26
Liquidambar styraciflua	15.29	5.73	206	18.67
Ligustrum lucidum	13.14	4.93	196	10.53
Lophostemon confertus	12.30	4.61	76	7.38
Fraxinus uhdei	8.42	3.16	105	9.90
Eucalyptus camaldulensis	6.50	2.44	28	6.92
Eucalyptus cladocalyx	5.46	2.05	20	5.43
Afrocarpus falcatus	4.89	1.83	47	4.93
Pinus canariensis	4.80	1.80	85	8.99
Pinus halepensis	4.34	1.63	78	6.41
Corymbia citriodora	4.03	1.51	11	3.09
Melaleuca quinquenervia	3.52	1.32	26	2.10

VI. Avoided Runoff

Surface runoff can be a cause for concern in many urban areas as it can contribute pollution to streams, wetlands, rivers, lakes, and oceans. During precipitation events, some portion of the precipitation is intercepted by vegetation (trees and shrubs) while the other portion reaches the ground. The portion of the precipitation that reaches the ground and does not infiltrate into the soil becomes surface runoff (Hirabayashi 2012). In urban areas, the large extent of impervious surfaces increases the amount of surface runoff.

Urban trees and shrubs, however, are beneficial in reducing surface runoff. Trees and shrubs intercept precipitation, while their root systems promote infiltration and storage in the soil. The trees and shrubs of City of Monterey Park help to reduce runoff by an estimated 337 thousand gallons a year with an associated value of $3 thousand (see Appendix I for more details). Avoided runoff is estimated based on local weather from the user-designated weather station. In City of Monterey Park, the total annual precipitation in 2020 was 10.1 inches.

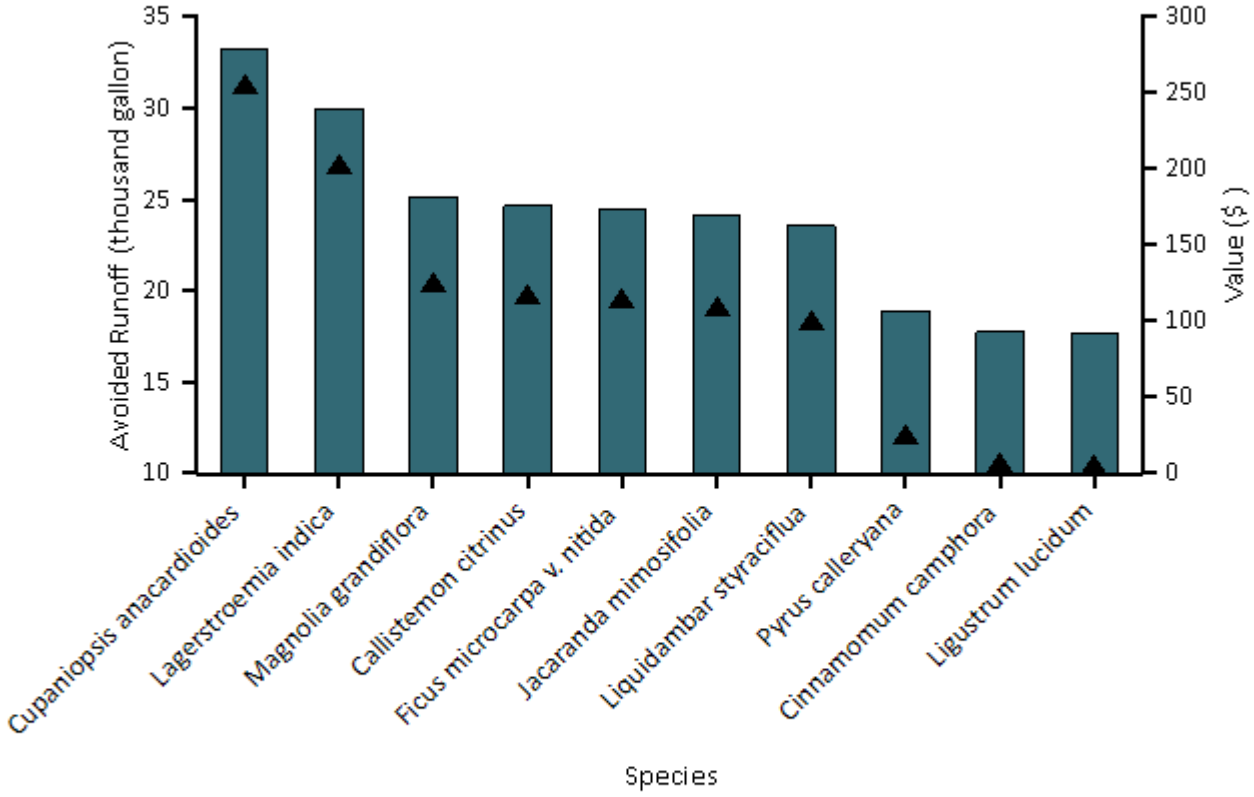


Figure 10. Avoided runoff (points) and value (bars) for species with greatest overall impact on runoff, City of Monterey Park

VII. Trees and Building Energy Use

Trees affect energy consumption by shading buildings, providing evaporative cooling, and blocking winter winds. Trees tend to reduce building energy consumption in the summer months and can either increase or decrease building energy use in the winter months, depending on the location of trees around the building. Estimates of tree effects on energy use are based on field measurements of tree distance and direction to space conditioned residential buildings (McPherson and Simpson 1999).

Because energy-related data were not collected, energy savings and carbon avoided cannot be calculated.

Table 3. Annual energy savings due to trees near residential buildings, City of Monterey Park

	Heating	*Cooling*	*Total*
MBTU[a]	0	N/A	0
MWH[b]	0	0	0
Carbon Avoided (pounds)	0	0	0

[a]MBTU - one million British Thermal Units

[b]MWH - megawatt-hour

Table 4. Annual savings [a]($) in residential energy expenditure during heating and cooling seasons, City of Monterey Park

	Heating	*Cooling*	*Total*
MBTU[b]	0	N/A	0
MWH[c]	0	0	0
Carbon Avoided	0	0	0

[b]Based on the prices of $204.7 per MWH and $12.9396400362223 per MBTU (see Appendix I for more details)

[c]MBTU - one million British Thermal Units

[c]MWH - megawatt-hour

[5] Trees modify climate, produce shade, and reduce wind speeds. Increased energy use or costs are likely due to these tree-building interactions creating a cooling effect during the winter season. For example, a tree (particularly evergreen species) located on the southern side of a residential building may produce a shading effect that causes increases in heating requirements.

VIII. Replacement and Functional Values

Urban forests have a replacement value based on the trees themselves (e.g., the cost of having to replace a tree with a similar tree); they also have functional values (either positive or negative) based on the functions the trees perform.

The replacement value of an urban forest tends to increase with a rise in the number and size of healthy trees (Nowak et al 2002a). Annual functional values also tend to increase with increased number and size of healthy trees. Through proper management, urban forest values can be increased; however, the values and benefits also can decrease as the amount of healthy tree cover declines.

Urban trees in City of Monterey Park have the following replacement values:

- Replacement value: $33.1 million
- Carbon storage: $679 thousand

Urban trees in City of Monterey Park have the following annual functional values:

- Carbon sequestration: $27.3 thousand
- Avoided runoff: $3.01 thousand
- Pollution removal: $31.6 thousand
- Energy costs and carbon emission values: $0

(Note: negative value indicates increased energy cost and carbon emission value)

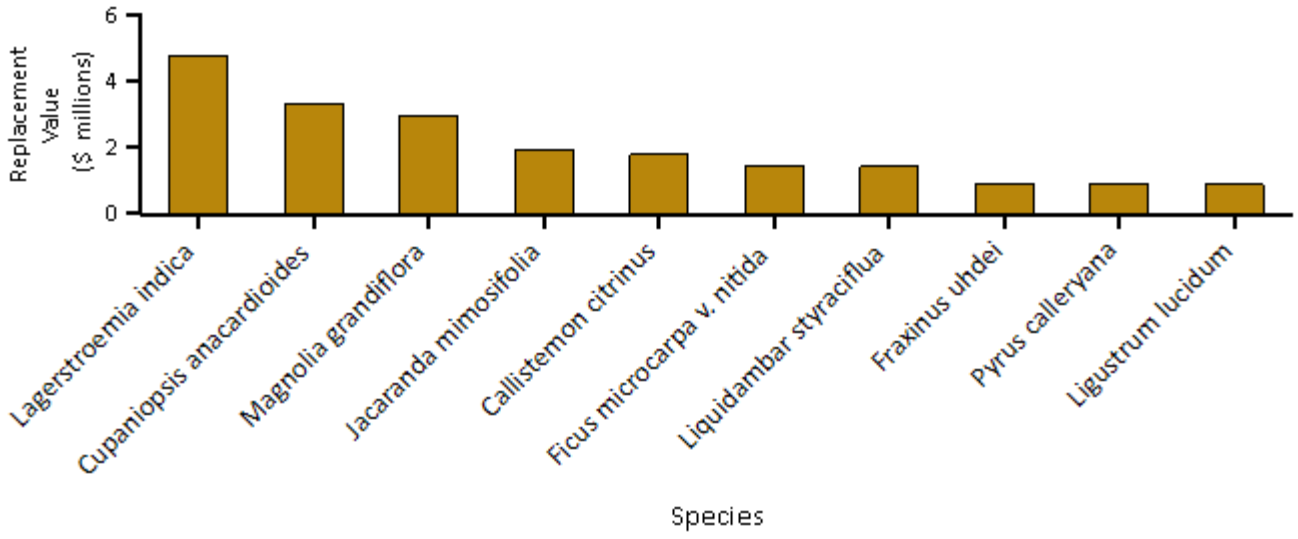


Figure 11. Tree species with the greatest replacement value, City of Monterey Park

IX. Potential Pest Impacts

Various insects and diseases can infest urban forests, potentially killing trees and reducing the health, replacement value and sustainability of the urban forest. As pests tend to have differing tree hosts, the potential damage or risk of each pest will differ among cities.Fifty-three pests were analyzed for their potential impact and compared with pest range maps (Forest Health Technology Enterprise Team 2014) for the conterminous United States to determine their proximity to Los Angeles County. Ten of the fifty-three pests analyzed are located within the county. For a complete analysis of all pests, see Appendix VII.

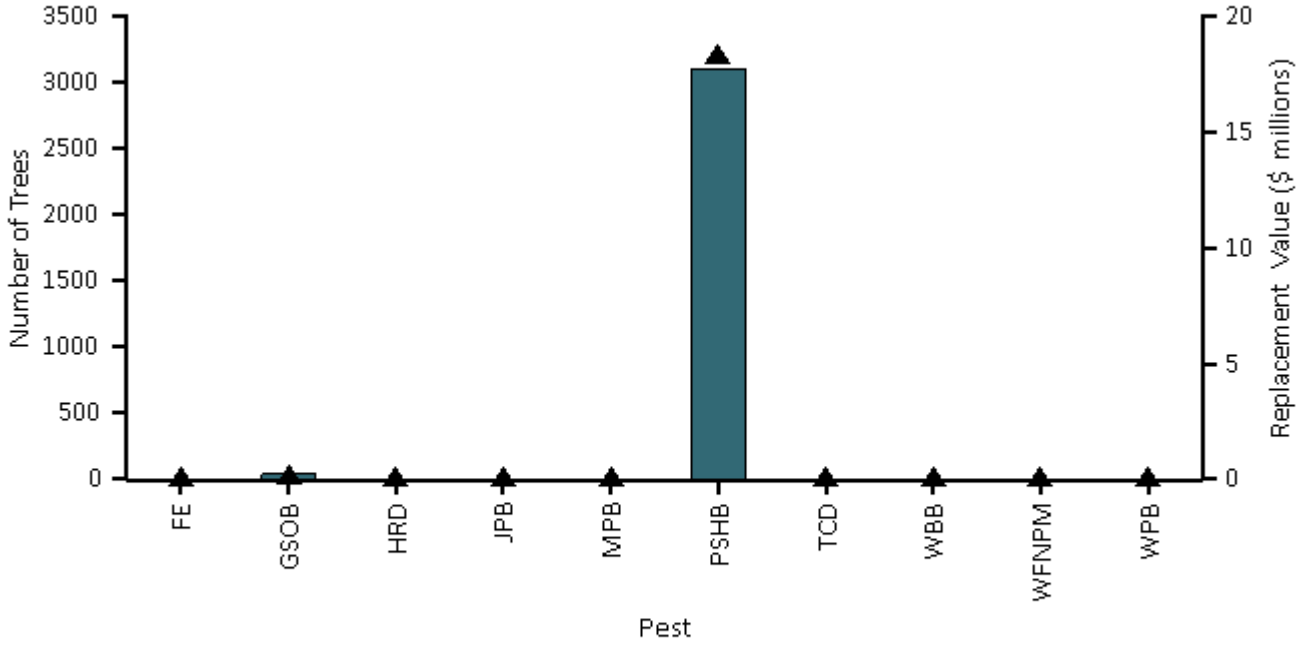


Figure 12. Number of trees at risk (points) and associated compensatory value (bars) for most threatening pests located in the county, City of Monterey Park

One common pest of white fir, grand fir, and red fir trees is the fir engraver (FE) (Ferrell 1986). FE poses a threat to 0.0 percent of the City of Monterey Park urban forest, which represents a potential loss of $0 in replacement value.

Infestations of the goldspotted oak borer (GSOB) (Society of American Foresters 2011) have been a growing problem in southern California. Potential loss of trees from GSOB is 0.3 percent ($223 thousand in replacement value).

Heterobasidion Root Disease (HRD) poses a threat to 0.0 percent of the City of Monterey Park urban forest, which represents a potential loss of $0 in replacement value.

The Jeffrey pine beetle (JPB) (Smith et al 2009) is native to North America and is distributed across California, Nevada, and Oregon where its only host, Jeffrey pine, also occurs. This pest threatens 0.0 percent of the population, which represents a potential loss of $0 in replacement value.

Mountain pine beetle (MPB) (Gibson et al 2009) is a bark beetle that primarily attacks pine species in the western United States. MPB has the potential to affect 0.0 percent of the population ($0 in replacement value).

Polyphagous shot hole borer (PSHB) (University of California 2014) is a boring beetle that was first detected in California. City of Monterey Park could possibly lose 43.5 percent of its trees to this pest ($17.8 million in replacement value).

Thousand canker disease (TCD) (Cranshaw and Tisserat 2009; Seybold et al 2010) is an insect-disease complex that kills several species of walnuts, including black walnut. Potential loss of trees from TCD is 0.0 percent ($0 in replacement value).

Western Bark Beetle (WBB) poses a threat to 0.0 percent of the City of Monterey Park urban forest, which represents a potential loss of $0 in replacement value.

Western Five-Needle Pine Mortality (WFNPM) poses a threat to 0.0 percent of the City of Monterey Park urban forest, which represents a potential loss of $0 in replacement value.

The western pine beetle (WPB) (DeMars and Roettgering 1982) is a bark beetle and aggressive attacker of ponderosa and Coulter pines. This pest threatens 0.0 percent of the population, which represents a potential loss of $0 in replacement value.

Appendix I. i-Tree Eco Model and Field Measurements

i-Tree Eco is designed to use standardized field data and local hourly air pollution and meteorological data to quantify urban forest structure and its numerous effects (Nowak and Crane 2000), including:

- Urban forest structure (e.g., species composition, tree health, leaf area, etc.).
- Amount of pollution removed hourly by the urban forest, and its associated percent air quality improvement throughout a year.
- Total carbon stored and net carbon annually sequestered by the urban forest.
- Effects of trees on building energy use and consequent effects on carbon dioxide emissions from power sources.
- Replacement value of the forest, as well as the value for air pollution removal and carbon storage and sequestration.
- Potential impact of infestations by pests, such as Asian longhorned beetle, emerald ash borer, spongy moth, and Dutch elm disease.

Typically, all field data are collected during the leaf-on season to properly assess tree canopies. Typical data collection (actual data collection may vary depending upon the user) includes land use, ground and tree cover, individual tree attributes of species, stem diameter, height, crown width, crown canopy missing and dieback, and distance and direction to residential buildings (Nowak et al 2005; Nowak et al 2008).

During data collection, trees are identified to the most specific taxonomic classification possible. Trees that are not classified to the species level may be classified by genus (e.g., ash) or species groups (e.g., hardwood). In this report, tree species, genera, or species groups are collectively referred to as tree species.

Tree Characteristics:

Leaf area of trees was assessed using measurements of crown dimensions and percentage of crown canopy missing. In the event that these data variables were not collected, they are estimated by the model.

An analysis of invasive species is not available for studies outside of the United States. For the U.S., invasive species are identified using an invasive species list (California Invasive Species Advisory Committee 2010)for the state in which the urban forest is located. These lists are not exhaustive and they cover invasive species of varying degrees of invasiveness and distribution. In instances where a state did not have an invasive species list, a list was created based on the lists of the adjacent states. Tree species that are identified as invasive by the state invasive species list are cross-referenced with native range data. This helps eliminate species that are on the state invasive species list, but are native to the study area.

Air Pollution Removal:

Pollution removal is calculated for ozone, sulfur dioxide, nitrogen dioxide, carbon monoxide, particulate matter less than 2.5 microns, and particulate matter less than 10 microns and greater than 2.5 microns. PM2.5 is generally more relevant in discussions concerning air pollution effects on human health.

Air pollution removal estimates are derived from calculated hourly tree-canopy resistances for ozone, and sulfur and nitrogen dioxides based on a hybrid of big-leaf and multi-layer canopy deposition models (Baldocchi 1988; Baldocchi et al 1987). As the removal of carbon monoxide and particulate matter by vegetation is not directly related to transpiration, removal rates (deposition velocities) for these pollutants were based on average measured values from the literature (Bidwell and Fraser 1972; Lovett 1994) that were adjusted depending on leaf phenology and leaf area. Particulate removal incorporated a 50 percent resuspension rate of particles back to the atmosphere (Zinke 1967). Recent updates (2011) to air quality modeling are based on improved leaf area index simulations, weather and

pollution processing and interpolation, and updated pollutant monetary values (Hirabayashi et al 2011; Hirabayashi et al 2012; Hirabayashi 2011).

Trees remove PM2.5 and PM10* when particulate matter is deposited on leaf surfaces (Nowak et al 2013). This deposited PM2.5 and PM10* can be resuspended to the atmosphere or removed during rain events and dissolved or transferred to the soil. This combination of events can lead to positive or negative pollution removal and value depending on various atmospheric factors. Generally, PM2.5 and PM10* removal is positive with positive benefits. However, there are some cases when net removal is negative or resuspended particles lead to increased pollution concentrations and negative values. During some months (e.g., with no rain), trees resuspend more particles than they remove. Resuspension can also lead to increased overall PM2.5 and PM10* concentrations if the boundary layer conditions are lower during net resuspension periods than during net removal periods. Since the pollution removal value is based on the change in pollution concentration, it is possible to have situations when trees remove PM2.5 and PM10* but increase concentrations and thus have negative values during periods of positive overall removal. These events are not common, but can happen.

For reports in the United States, default air pollution removal value is calculated based on local incidence of adverse health effects and national median externality costs. The number of adverse health effects and associated economic value is calculated for ozone, sulfur dioxide, nitrogen dioxide, and particulate matter less than 2.5 microns using data from the U.S. Environmental Protection Agency's Environmental Benefits Mapping and Analysis Program (BenMAP) (Nowak et al 2014). The model uses a damage-function approach that is based on the local change in pollution concentration and population. National median externality costs were used to calculate the value of carbon monoxide removal (Murray et al 1994).

For international reports, user-defined local pollution values are used. For international reports that do not have local values, estimates are based on either European median externality values (van Essen et al 2011) or BenMAP regression equations (Nowak et al 2014) that incorporate user-defined population estimates. Values are then converted to local currency with user-defined exchange rates.

For this analysis, pollution removal value is calculated based on the prices of $1,397 per ton (carbon monoxide), $12,128 per ton (ozone), $1,569 per ton (nitrogen dioxide), $565 per ton (sulfur dioxide), $527,908 per ton (particulate matter less than 2.5 microns), $6,565 per ton (particulate matter less than 10 microns and greater than 2.5 microns).

Carbon Storage and Sequestration:

Carbon storage is the amount of carbon bound up in the above-ground and below-ground parts of woody vegetation. To calculate current carbon storage, biomass for each tree was calculated using equations from the literature and measured tree data. Open-grown, maintained trees tend to have less biomass than predicted by forest-derived biomass equations (Nowak 1994). To adjust for this difference, biomass results for open-grown urban trees were multiplied by 0.8. No adjustment was made for trees found in natural stand conditions. Tree dry-weight biomass was converted to stored carbon by multiplying by 0.5.

Carbon sequestration is the removal of carbon dioxide from the air by plants. To estimate the gross amount of carbon sequestered annually, average diameter growth from the appropriate genera and diameter class and tree condition was added to the existing tree diameter (year x) to estimate tree diameter and carbon storage in year x+1.

Carbon storage and carbon sequestration values are based on estimated or customized local carbon values. For international reports that do not have local values, estimates are based on the carbon value for the United States (U.S. Environmental Protection Agency 2015, Interagency Working Group on Social Cost of Carbon 2015) and converted to local currency with user-defined exchange rates.

For this analysis, carbon storage and carbon sequestration values are calculated based on $171 per ton.

Oxygen Production:

The amount of oxygen produced is estimated from carbon sequestration based on atomic weights: net O2 release (kg/yr) = net C sequestration (kg/yr) × 32/12. To estimate the net carbon sequestration rate, the amount of carbon sequestered as a result of tree growth is reduced by the amount lost resulting from tree mortality. Thus, net carbon sequestration and net annual oxygen production of the urban forest account for decomposition (Nowak et al 2007). For complete inventory projects, oxygen production is estimated from gross carbon sequestration and does not account for decomposition.

Avoided Runoff:

Annual avoided surface runoff is calculated based on rainfall interception by vegetation, specifically the difference between annual runoff with and without vegetation. Although tree leaves, branches, and bark may intercept precipitation and thus mitigate surface runoff, only the precipitation intercepted by leaves is accounted for in this analysis.

The value of avoided runoff is based on estimated or user-defined local values. For international reports that do not have local values, the national average value for the United States is utilized and converted to local currency with user-defined exchange rates. The U.S. value of avoided runoff is based on the U.S. Forest Service's Community Tree Guide Series (McPherson et al 1999; 2000; 2001; 2002; 2003; 2004; 2006a; 2006b; 2006c; 2007; 2010; Peper et al 2009; 2010; Vargas et al 2007a; 2007b; 2008).

For this analysis, avoided runoff value is calculated based on the price of $0.01 per gallon.

Building Energy Use:

If appropriate field data were collected, seasonal effects of trees on residential building energy use were calculated based on procedures described in the literature (McPherson and Simpson 1999) using distance and direction of trees from residential structures, tree height and tree condition data. To calculate the monetary value of energy savings, local or custom prices per MWH or MBTU are utilized.

For this analysis, energy saving value is calculated based on the prices of $204.70 per MWH and $12.94 per MBTU.

Replacement Values:

Replacement value is the value of a tree based on the physical resource itself (e.g., the cost of having to replace a tree with a similar tree). Replacement values were based on valuation procedures of the Council of Tree and Landscape Appraisers, which uses tree species, diameter, condition, and location information (Nowak et al 2002a; 2002b). Replacement value may not be included for international projects if there is insufficient local data to complete the valuation procedures.

Potential Pest Impacts:

The complete potential pest risk analysis is not available for studies outside of the United States. The number of trees at risk to the pests analyzed is reported, though the list of pests is based on known insects and disease in the United States.

For the U.S., potential pest risk is based on pest range maps and the known pest host species that are likely to

experience mortality. Pest range maps for 2012 from the Forest Health Technology Enterprise Team (FHTET) (Forest Health Technology Enterprise Team 2014) were used to determine the proximity of each pest to the county in which the urban forest is located. For the county, it was established whether the insect/disease occurs within the county, is within 250 miles of the county edge, is between 250 and 750 miles away, or is greater than 750 miles away. FHTET did not have pest range maps for Dutch elm disease and chestnut blight. The range of these pests was based on known occurrence and the host range, respectively (Eastern Forest Environmental Threat Assessment Center; Worrall 2007).

Relative Tree Effects:

The relative value of tree benefits reported in Appendix II is calculated to show what carbon storage and sequestration, and air pollutant removal equate to in amounts of municipal carbon emissions, passenger automobile emissions, and house emissions.

Municipal carbon emissions are based on 2010 U.S. per capita carbon emissions (Carbon Dioxide Information Analysis Center 2010). Per capita emissions were multiplied by city population to estimate total city carbon emissions.

Light duty vehicle emission rates (g/mi) for CO, NOx, VOCs, PM10, SO2 for 2010 (Bureau of Transportation Statistics 2010; Heirigs et al 2004), PM2.5 for 2011-2015 (California Air Resources Board 2013), and CO2 for 2011 (U.S. Environmental Protection Agency 2010) were multiplied by average miles driven per vehicle in 2011 (Federal Highway Administration 2013) to determine average emissions per vehicle.

Household emissions are based on average electricity kWh usage, natural gas Btu usage, fuel oil Btu usage, kerosene Btu usage, LPG Btu usage, and wood Btu usage per household in 2009 (Energy Information Administration 2013; Energy Information Administration 2014)

- CO2, SO2, and NOx power plant emission per KWh are from Leonardo Academy 2011. CO emission per kWh assumes 1/3 of one percent of C emissions is CO based on Energy Information Administration 1994. PM10 emission per kWh from Layton 2004.
- CO2, NOx, SO2, and CO emission per Btu for natural gas, propane and butane (average used to represent LPG), Fuel #4 and #6 (average used to represent fuel oil and kerosene) from Leonardo Academy 2011.
- CO2 emissions per Btu of wood from Energy Information Administration 2014.
- CO, NOx and SOx emission per Btu based on total emissions and wood burning (tons) from (British Columbia Ministry 2005; Georgia Forestry Commission 2009).

Appendix II. Relative Tree Effects

The urban forest in City of Monterey Park provides benefits that include carbon storage and sequestration, and air pollutant removal. To estimate the relative value of these benefits, tree benefits were compared to estimates of average municipal carbon emissions, average passenger automobile emissions, and average household emissions. See Appendix I for methodology.

Carbon storage is equivalent to:

- Amount of carbon emitted in City of Monterey Park in 5 days
- Annual carbon (C) emissions from 2,820 automobiles
- Annual C emissions from 1,150 single-family houses

Carbon monoxide removal is equivalent to:

- Annual carbon monoxide emissions from 1 automobiles
- Annual carbon monoxide emissions from 2 single-family houses

Nitrogen dioxide removal is equivalent to:

- Annual nitrogen dioxide emissions from 59 automobiles
- Annual nitrogen dioxide emissions from 26 single-family houses

Sulfur dioxide removal is equivalent to:

- Annual sulfur dioxide emissions from 152 automobiles
- Annual sulfur dioxide emissions from 0 single-family houses

Annual carbon sequestration is equivalent to:

- Amount of carbon emitted in City of Monterey Park in 0.2 days
- Annual C emissions from 100 automobiles
- Annual C emissions from 0 single-family houses

Appendix III. Comparison of Urban Forests

A common question asked is, "How does this city compare to other cities?" Although comparison among cities should be made with caution as there are many attributes of a city that affect urban forest structure and functions, summary data are provided from other cities analyzed using the i-Tree Eco model.

I. City totals for trees

City	*% Tree Cover*	*Number of Trees*	*Carbon Storage (tons)*	*Carbon Sequestration (tons/yr)*	*Pollution Removal (tons/yr)*
Toronto, ON, Canada	26.6	10,220,000	1,221,000	51,500	2,099
Atlanta, GA	36.7	9,415,000	1,344,000	46,400	1,663
Los Angeles, CA	11.1	5,993,000	1,269,000	77,000	1,975
New York, NY	20.9	5,212,000	1,350,000	42,300	1,676
London, ON, Canada	24.7	4,376,000	396,000	13,700	408
Chicago, IL	17.2	3,585,000	716,000	25,200	888
Phoenix, AZ	9.0	3,166,000	315,000	32,800	563
Baltimore, MD	21.0	2,479,000	570,000	18,400	430
Philadelphia, PA	15.7	2,113,000	530,000	16,100	575
Washington, DC	28.6	1,928,000	525,000	16,200	418
Oakville, ON , Canada	29.1	1,908,000	147,000	6,600	190
Albuquerque, NM	14.3	1,846,000	332,000	10,600	248
Boston, MA	22.3	1,183,000	319,000	10,500	283
Syracuse, NY	26.9	1,088,000	183,000	5,900	109
Woodbridge, NJ	29.5	986,000	160,000	5,600	210
Minneapolis, MN	26.4	979,000	250,000	8,900	305
San Francisco, CA	11.9	668,000	194,000	5,100	141
Morgantown, WV	35.5	658,000	93,000	2,900	72
Moorestown, NJ	28.0	583,000	117,000	3,800	118
Hartford, CT	25.9	568,000	143,000	4,300	58
Jersey City, NJ	11.5	136,000	21,000	890	41
Casper, WY	8.9	123,000	37,000	1,200	37
Freehold, NJ	34.4	48,000	20,000	540	22

II. Totals per acre of land area

City	*Number of Trees/ac*	*Carbon Storage (tons/ac)*	*Carbon Sequestration (tons/ac/yr)*	*Pollution Removal (lb/ac/yr)*
Toronto, ON, Canada	64.9	7.8	0.33	26.7
Atlanta, GA	111.6	15.9	0.55	39.4
Los Angeles, CA	19.6	4.2	0.16	13.1
New York, NY	26.4	6.8	0.21	17.0
London, ON, Canada	75.1	6.8	0.24	14.0
Chicago, IL	24.2	4.8	0.17	12.0
Phoenix, AZ	12.9	1.3	0.13	4.6
Baltimore, MD	48.0	11.1	0.36	16.6
Philadelphia, PA	25.1	6.3	0.19	13.6
Washington, DC	49.0	13.3	0.41	21.2
Oakville, ON , Canada	78.1	6.0	0.27	11.0
Albuquerque, NM	21.8	3.9	0.12	5.9
Boston, MA	33.5	9.1	0.30	16.1
Syracuse, NY	67.7	10.3	0.34	13.6
Woodbridge, NJ	66.5	10.8	0.38	28.4
Minneapolis, MN	26.2	6.7	0.24	16.3
San Francisco, CA	22.5	6.6	0.17	9.5
Morgantown, WV	119.2	16.8	0.52	26.0
Moorestown, NJ	62.1	12.4	0.40	25.1
Hartford, CT	50.4	12.7	0.38	10.2
Jersey City, NJ	14.4	2.2	0.09	8.6
Casper, WY	9.1	2.8	0.09	5.5
Freehold, NJ	38.3	16.0	0.44	35.3

Appendix IV. General Recommendations for Air Quality Improvement

Urban vegetation can directly and indirectly affect local and regional air quality by altering the urban atmosphere environment. Four main ways that urban trees affect air quality are (Nowak 1995):

- Temperature reduction and other microclimate effects
- Removal of air pollutants
- Emission of volatile organic compounds (VOC) and tree maintenance emissions
- Energy effects on buildings

The cumulative and interactive effects of trees on climate, pollution removal, and VOC and power plant emissions determine the impact of trees on air pollution. Cumulative studies involving urban tree impacts on ozone have revealed that increased urban canopy cover, particularly with low VOC emitting species, leads to reduced ozone concentrations in cities (Nowak 2000). Local urban management decisions also can help improve air quality.

Urban forest management strategies to help improve air quality include (Nowak 2000):

Strategy	*Result*
Increase the number of healthy trees	Increase pollution removal
Sustain existing tree cover	Maintain pollution removal levels
Maximize use of low VOC-emitting trees	Reduces ozone and carbon monoxide formation
Sustain large, healthy trees	Large trees have greatest per-tree effects
Use long-lived trees	Reduce long-term pollutant emissions from planting and removal
Use low maintenance trees	Reduce pollutants emissions from maintenance activities
Reduce fossil fuel use in maintaining vegetation	Reduce pollutant emissions
Plant trees in energy conserving locations	Reduce pollutant emissions from power plants
Plant trees to shade parked cars	Reduce vehicular VOC emissions
Supply ample water to vegetation	Enhance pollution removal and temperature reduction
Plant trees in polluted or heavily populated areas	Maximizes tree air quality benefits
Avoid pollutant-sensitive species	Improve tree health
Utilize evergreen trees for particulate matter	Year-round removal of particles

Appendix V. Invasive Species of the Urban Forest

The following inventoried tree species were listed as invasive on the California invasive species list (California Invasive Species Advisory Committee 2010):

Species Name[a]	*Number of Trees*	*% of Trees*	*Leaf Area (ac)*	*Percent Leaf Area*
Schinus molle	40	0.5	1.3	0.4
Melaleuca quinquenervia	26	0.4	2.1	0.6
Eucalyptus globulus	16	0.2	4.5	1.3
Ailanthus altissima	1	0.0	0.1	0.0
Total	**83**	**1.13**	**8.02**	**2.33**

[a]Species are determined to be invasive if they are listed on the state's invasive species list

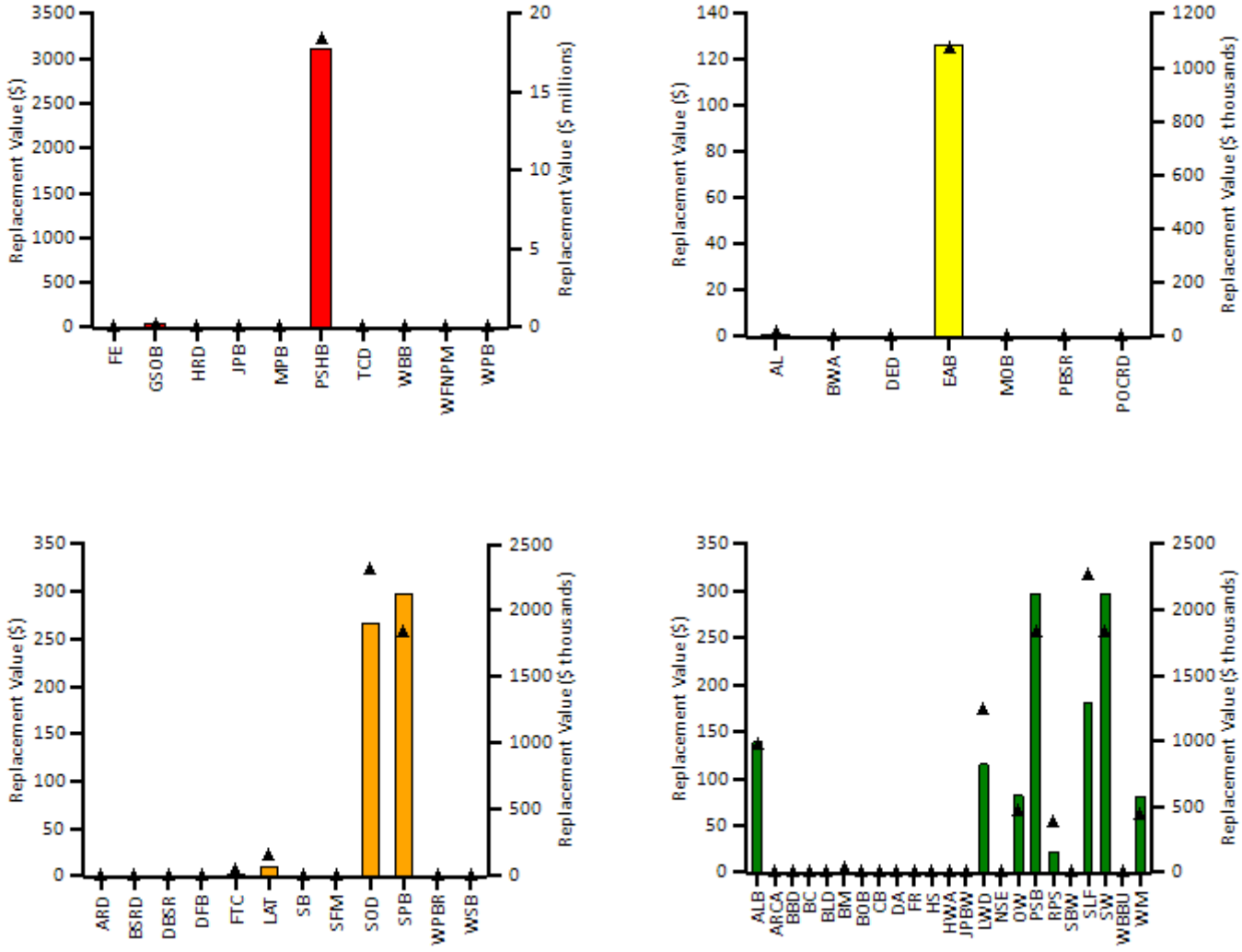
Appendix VI. Potential Risk of Pests

Fifty-three insects and diseases were analyzed to quantify their potential impact on the urban forest. As each insect/ disease is likely to attack different host tree species, the implications for {0} will vary. The number of trees at risk reflects only the known host species that are likely to experience mortality.

Code	Scientific Name	Common Name	Trees at Risk (#)	Value ($ thousands)
AL	Phyllocnistis populiella	Aspen Leafminer	2	5.85
ALB	Anoplophora glabripennis	Asian Longhorned Beetle	136	991.36
ARCA	Neodothiora populina	Aspen Running Canker	0	0.00
ARD	Armillaria spp.	Armillaria Root Disease	0	0.00
BBD	Neonectria faginata	Beech Bark Disease	0	0.00
BC	Sirococcus clavigignenti juglandacearum	Butternut Canker	0	0.00
BLD	Litylenchus crenatae mccannii	Beech Leaf Disease	0	0.00
BM	Euproctis chrysorrhoea	Browntail Moth	3	8.40
BOB	Tubakia iowensis	Bur Oak Blight	0	0.00
BSRD	Leptographium wageneri	Black Stain Root Disease	0	0.00
BWA	Adelges piceae	Balsam Woolly Adelgid	0	0.00
CB	Cryphonectria parasitica	Chestnut Blight	0	0.00
DA	Discula destructiva	Dogwood Anthracnose	0	0.00
DBSR	Leptographium wageneri var. pseudotsugae	Douglas-fir Black Stain Root Disease	0	0.00
DED	Ophiostoma novo-ulmi	Dutch Elm Disease	0	0.00
DFB	Dendroctonus pseudotsugae	Douglas-Fir Beetle	0	0.00
EAB	Agrilus planipennis	Emerald Ash Borer	125	1,084.33
FE	Scolytus ventralis	Fir Engraver	0	0.00
FR	Cronartium quercuum f. sp. Fusiforme	Fusiform Rust	0	0.00
FTC	Malacosoma disstria	Forest Tent Caterpillar	5	16.26
GSOB	Agrilus auroguttatus	Goldspotted Oak Borer	22	223.15
HRD	Heterobasidion irregulare/ occidentale	Heterobasidion Root Disease	0	0.00
HS	Neodiprion tsugae	Hemlock Sawfly	0	0.00
HWA	Adelges tsugae	Hemlock Woolly Adelgid	0	0.00
JPB	Dendroctonus jeffreyi	Jeffrey Pine Beetle	0	0.00
JPBW	Choristoneura pinus	Jack Pine Budworm	0	0.00
LAT	Choristoneura conflictana	Large Aspen Tortrix	21	66.41
LWD	Raffaelea lauricola	Laurel Wilt	173	822.28
MOB	Xyleborus monographus	Mediterranean Oak Borer	0	0.00
MPB	Dendroctonus ponderosae	Mountain Pine Beetle	0	0.00
NSE	Ips perturbatus	Northern Spruce Engraver	0	0.00
OW	Ceratocystis fagacearum	Oak Wilt	65	583.05
PBSR	Leptographium wageneri var. ponderosum	Pine Black Stain Root Disease	0	0.00
POCRD	Phytophthora lateralis	Port-Orford-Cedar Root Disease	0	0.00
PSB	Tomicus piniperda	Pine Shoot Beetle	256	2,126.72

Code	Scientific Name	Common Name	Trees at Risk (#)	Value ($ thousands)
PSHB	Euwallacea nov. sp.	Polyphagous Shot Hole Borer	3,202	17,755.59
RPS	Matsucoccus resinosae	Red Pine Scale	54	156.36
SB	Dendroctonus rufipennis	Spruce Beetle	0	0.00
SBW	Choristoneura fumiferana	Spruce Budworm	0	0.00
SFM	subalpine fir mortality summary	Subalpine Fir Mortality	0	0.00
SLF	Lycorma delicatula	Spotted Lanternfly	317	1,288.60
SOD	Phytophthora ramorum	Sudden Oak Death	322	1,903.75
SPB	Dendroctonus frontalis	Southern Pine Beetle	256	2,126.72
SW	Sirex noctilio	Sirex Wood Wasp	256	2,126.72
TCD	Geosmithia morbida	Thousand Canker Disease	0	0.00
WBB	Dryocoetes confusus	Western Bark Beetle	0	0.00
WBBU	Acleris gloverana	Western Blackheaded Budworm	0	0.00
WFNPM	western five-needle pine mortality summary	Western Five-Needle Pine Mortality	0	0.00
WM	Operophtera brumata	Winter Moth	61	579.09
WPB	Dendroctonus brevicomis	Western Pine Beetle	0	0.00
WPBR	Cronartium ribicola	White Pine Blister Rust	0	0.00
WSB	Choristoneura occidentalis	Western Spruce Budworm	0	0.00

In the following graph, the pests are color coded according to the county's proximity to the pest occurrence in the United States. Red indicates that the pest is within the county; orange indicates that the pest is within 250 miles of the county; yellow indicates that the pest is within 750 miles of the county; and green indicates that the pest is outside of these ranges.



Note: points - Number of trees, bars - Replacement value

Based on the host tree species for each pest and the current range of the pest (Forest Health Technology Enterprise Team 2014), it is possible to determine what the risk is that each tree species in the urban forest could be attacked by an insect or disease.

Spp. Risk	Risk Weight	Species Name	AL	ALB	ARCA	ARD	BBD	BC	BLD	BM	BOB	BSRD	BWA	CB	DA	DBSR	DED	DFB	EAB	FE	FR	FTC	GSOB	HRD	HS	HWA	JPB	JPBW	LAT	LWD	MOB	MPB	NSE	OW	PBSR
	13	Quercus agrifolia																																	
	11	Salix																																	
	10	Prunus																																	
	8	Cinnamomum camphora																																	
	8	Quercus ilex																																	
	7	Fraxinus velutina																																	
	7	Alnus rhombifolia																																	
	6	Fraxinus uhdei																																	
	6	Pinus thunbergii																																	
	6	Albizia julibrissin																																	
	6	Acer palmatum																																	
	6	Quercus virginiana																																	
	6	Prunus persica																																	
	5	Ulmus parvifolia																																	
	5	Pinus canariensis																																	
	5	Pinus halepensis																																	
	5	Liriodendron tulipifera																																	
	5	Pinus pinea																																	
	5	Morus alba																																	
	5	Juniperus chinensis																																	
	5	Persea americana																																	
	5	Prunus serrulata																																	
	5	Pinus radiata																																	
	5	Pinus eldarica																																	
	5	Pinus torreyana																																	
	5	Acacia																																	
	5	Ailanthus altissima																																	
	5	Diospyros kaki																																	
	5	Melia azedarach																																	
	4	Cupaniopsis anacardioides																																	
	4	Magnolia grandiflora																																	
	4	Jacaranda mimosifolia																																	
	4	Pyrus calleryana																																	
	4	Liquidambar styraciflua																																	
	4	Washingtonia robusta																																	
	4	Callistemon viminalis																																	
	4	Afrocarpus falcatus																																	
	4	Platanus mexicana																																	

Spp. Risk	Risk Weight	Species Name	AL	ALB	ARCA	ARD	BBD	BC	BLD	BM	BOB	BSRD	BWA	CB	DA	DBSR	DED	DFB	EAB	FE	FR	FTC	GSOB	HRD	HS	HWA	JPB	JPBW	LAT	LWD	MOB	MPB	NSE	OW	PBSR
	4	Schinus molle																																	
	4	Parkinsonia aculeata																																	
	4	Platanus racemosa																																	
	4	Chionanthus retusus																																	
	4	Eucalyptus camaldulensis																																	
	4	Prunus caroliniana																																	
	4	Archontophoenix cunninghamiana																																	
	4	Cassia leptophylla																																	
	4	Hymenosporum flavum																																	
	4	Washingtonia filifera																																	
	4	Koelreuteria bipinnata																																	
	4	Eriobotrya japonica																																	
	4	Ceratonia siliqua																																	
	4	Bauhinia variegata																																	
	4	Olea europaea																																	
	4	Ficus benjamina																																	
	4	Harpephyllum caffrum																																	
	4	Pistacia chinensis																																	
	4	Corymbia ficifolia																																	
	4	Tipuana tipu																																	
	4	Magnolia x soulangeana																																	
	4	Prosopis glandulosa																																	
	4	Pittosporum undulatum																																	
	4	Psidium guajava																																	
	4	Erythrina caffra																																	
	4	Eucalyptus polyanthemos																																	
	4	Arbutus unedo																																	
	4	Ceiba speciosa																																	
	4	Brachychiton populneus																																	
	4	Ficus macrophylla																																	
	4	Brachychiton acerifolius																																	
	4	Calodendrum capense																																	
	4	Catalpa speciosa																																	
	4	Senna spectabilis																																	
	4	Gleditsia triacanthos																																	
	4	Koelreuteria paniculata																																	

Spp. Risk	Risk Weight	Species Name	AL	ALB	ARCA	ARD	BBD	BC	BLD	BM	BOB	BSRD	BWA	CB	DA	DBSR	DED	DFB	EAB	FE	FR	FTC	GSOB	HRD	HS	HWA	JPB	JPBW	LAT	LWD	MOB	MPB	NSE	OW	PBSR
	3	Lophostemon confertus																																	
	3	Sequoia sempervirens																																	
	3	Heteromeles arbutifolia																																	
	3	Photinia x fraseri																																	
	3	Citrus																																	
	3	Alnus																																	
	3	Malus																																	
	1	Ligustrum lucidum																																	
	1	Prunus armeniaca																																	
	1	Robinia pseudoacacia																																	

Spp. Risk	Risk Weight	Species Name	POCRD	PSB	PSHB	RPS	SB	SBW	SFM	SLF	SOD	SPB	SW	TCD	WBB	WBBU	WFNPM	WM	WPB	WPBR	WSB
	13	Quercus agrifolia																			
	11	Salix																			
	10	Prunus																			
	8	Cinnamomum camphora																			
	8	Quercus ilex																			
	7	Fraxinus velutina																			
	7	Alnus rhombifolia																			
	6	Fraxinus uhdei																			
	6	Pinus thunbergii																			
	6	Albizia julibrissin																			
	6	Acer palmatum																			
	6	Quercus virginiana																			
	6	Prunus persica																			
	5	Ulmus parvifolia																			
	5	Pinus canariensis																			
	5	Pinus halepensis																			
	5	Liriodendron tulipifera																			
	5	Pinus pinea																			
	5	Morus alba																			
	5	Juniperus chinensis																			
	5	Persea americana																			
	5	Prunus serrulata																			
	5	Pinus radiata																			
	5	Pinus eldarica																			
	5	Pinus torreyana																			
	5	Acacia																			
	5	Ailanthus altissima																			
	5	Diospyros kaki																			
	5	Melia azedarach																			

Spp. Risk	Risk Weight	Species Name	POCRD	PSB	PSHB	RPS	SB	SBW	SFM	SLF	SOD	SPB	SW	TCD	WBB	WBBU	WFNPM	WM	WPB	WPBR	WSB
	4	Cupaniopsis anacardioides																			
	4	Magnolia grandiflora																			
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	4	Prunus caroliniana																			
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Spp. Risk	Risk Weight	Species Name	POCRD	PSB	PSHB	RPS	SB	SBW	SFM	SLF	SOD	SPB	SW	TCD	WBB	WBBU	WFNPM	WM	WPB	WPBR	WSB
	4	Brachychiton populneus																			
	4	Ficus macrophylla																			
	4	Brachychiton acerifolius																			
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	3	Heteromeles arbutifolia																			
	3	Photinia x fraseri																			
	3	Citrus																			
	3	Alnus																			
	3	Malus																			
	1	Ligustrum lucidum																			
	1	Prunus armeniaca																			
	1	Robinia pseudoacacia																			

Note:
Species that are not listed in the matrix are not known to be hosts to any of the pests analyzed.

Species Risk:

- Red indicates that tree species is at risk to at least one pest within county
- Orange indicates that tree species has no risk to pests in county, but has a risk to at least one pest within 250 miles from the county
- Yellow indicates that tree species has no risk to pests within 250 miles of county, but has a risk to at least one pest that is 250 and 750 miles from the county
- Green indicates that tree species has no risk to pests within 750 miles of county, but has a risk to at least one pest that is greater than 750 miles from the county

Risk Weight:
Numerical scoring system based on sum of points assigned to pest risks for species. Each pest that could attack tree species is scored as 4 points if red, 3 points if orange, 2 points if yellow and 1 point if green.

Pest Color Codes:

- Red indicates pest is within Los Angeles county
- Red indicates pest is within 250 miles county
- Yellow indicates pest is within 750 miles of Los Angeles county
- Green indicates pest is outside of these ranges

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Benefits Summary of Trees by Species

Location: Monterey Park, Los Angeles, California, United States of America
Project: City of Monterey Park, Series: 05.06.24, Year: 2024
Generated: 5/6/2024

Species	Trees	Carbon Storage		Gross Carbon Sequestration		Avoided Runoff		Pollution Removal		Replacement Value
	Number	(ton)	($)	(ton/yr)	($/yr)	(gal/yr)	($/yr)	(ton/yr)	($/yr)	($)
Acacia longifolia	1	0.17	29.17	0.01	1.73	58.50	0.52	0.00	5.50	5,091.33
Acer palmatum	12	1.58	268.98	0.10	17.44	266.70	2.38	0.00	25.05	23,454.95
Acacia	1	0.11	18.06	0.01	1.33	37.08	0.33	0.00	3.48	3,270.99
Afrocarpus falcatus	47	57.44	9,797.29	1.83	312.85	4,816.28	43.04	0.04	452.44	555,143.30
Agonis flexuosa	2	0.02	3.02	0.01	1.53	2.22	0.02	0.00	0.21	370.69
Ailanthus altissima	1	0.84	143.87	0.06	10.12	96.98	0.87	0.00	9.11	3,693.88
Alnus	1	0.22	37.40	0.01	2.25	40.80	0.36	0.00	3.83	3,677.32
Albizia julibrissin	21	11.52	1,964.74	0.20	34.67	1,248.21	11.15	0.01	117.26	114,315.46
Alnus rhombifolia	18	3.26	555.44	0.26	43.61	749.82	6.70	0.01	70.44	56,885.26
Allocasuarina verticillata	1	0.03	5.01	0.01	1.16	0.94	0.01	0.00	0.09	1,190.60
Arbutus	12	1.03	174.87	0.06	9.62	79.16	0.71	0.00	7.44	7,584.23
Araucaria columnaris	4	0.86	147.47	0.06	9.88	218.43	1.95	0.00	20.52	13,083.96
Archontophoenix cunninghamiana	26	2.12	362.27	0.14	24.70	305.59	2.73	0.00	28.71	24,038.55
Araucaria heterophylla	1	0.07	12.63	0.01	1.78	5.27	0.05	0.00	0.49	2,019.65
Arbutus unedo	3	2.08	354.80	0.05	8.47	169.04	1.51	0.00	15.88	12,080.46
Bauhinia x blakeana	17	4.86	829.66	0.21	36.05	138.25	1.24	0.00	12.99	48,728.67
Bauhinia variegata	14	5.82	992.96	0.24	41.12	291.03	2.60	0.00	27.34	54,719.20
Brachychiton acerifolius	1	0.25	42.94	0.02	3.78	46.01	0.41	0.00	4.32	4,116.15
Brahea armata	1	0.43	72.70	0.00	0.04	45.22	0.40	0.00	4.25	1,904.48
Brahea edulis	1	0.15	25.34	0.00	0.13	18.39	0.16	0.00	1.73	1,303.32
Brachychiton populneus	2	1.23	209.06	0.08	13.18	160.79	1.44	0.00	15.10	13,595.79
Carya	4	2.10	357.57	0.13	21.98	197.21	1.76	0.00	18.53	16,245.06
Calodendrum capense	1	0.07	12.61	0.01	1.98	13.07	0.12	0.00	1.23	1,515.66
Callistemon citrinus	478	302.11	51,525.83	10.67	1,818.99	19,686.98	175.92	0.17	1,849.40	1,809,935.48
Cassia leptophylla	24	4.63	789.45	0.33	56.71	346.27	3.09	0.00	32.53	55,196.92

Benefits Summary of Trees by Species

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Project: City of Monterey Park, Series: 05.06.24, Year: 2024
Generated: 5/6/2024

Species	Trees	Carbon Storage		Gross Carbon Sequestration		Avoided Runoff		Pollution Removal		Replacement Value
	Number	(ton)	($)	(ton/yr)	($/yr)	(gal/yr)	($/yr)	(ton/yr)	($/yr)	($)
Catalpa speciosa	1	0.11	19.33	0.01	2.21	23.52	0.21	0.00	2.21	2,098.96
Senna spectabilis	1	1.45	247.16	0.00	0.34	96.64	0.86	0.00	9.08	7,431.76
Callistemon viminalis	49	63.58	10,843.43	0.40	68.53	3,850.97	34.41	0.03	361.76	323,909.96
Cedrus atlantica v. glauca	3	1.90	323.32	0.08	13.23	137.56	1.23	0.00	12.92	23,575.30
Cercis canadensis	9	0.01	1.69	0.01	1.42	7.98	0.07	0.00	0.75	527.11
Cedrus deodara	15	16.89	2,880.13	0.67	113.93	1,299.79	11.61	0.01	122.10	195,166.40
Ceratonia siliqua	18	14.29	2,437.92	0.10	16.25	1,231.01	11.00	0.01	115.64	128,359.51
Ceiba speciosa	3	4.60	783.92	0.20	33.84	289.80	2.59	0.00	27.22	23,920.60
Chamaerops humilis	2	0.21	35.07	0.00	0.62	24.78	0.22	0.00	2.33	1,643.95
Chionanthus retusus	33	1.45	247.77	0.26	44.46	169.83	1.52	0.00	15.95	42,259.28
x Chitalpa tashkentensis	4	1.80	307.63	0.11	18.27	96.57	0.86	0.00	9.07	12,856.42
Cinnamomum camphora	165	125.58	21,417.22	8.57	1,461.00	10,445.71	93.34	0.09	981.27	788,085.94
Citrus	3	1.47	250.03	0.09	15.04	86.04	0.77	0.00	8.08	10,414.33
Corymbia citriodora	11	31.70	5,407.22	1.51	257.71	3,020.14	26.99	0.03	283.71	115,474.45
Cotinus coggygria	1	0.99	169.33	0.02	3.86	33.04	0.30	0.00	3.10	5,091.33
Cupaniopsis anacardioides	651	564.82	96,329.74	10.20	1,739.02	31,202.26	278.82	0.26	2,931.14	3,333,372.29
Cupressus sempervirens	14	6.09	1,038.05	0.17	29.41	492.30	4.40	0.00	46.25	57,608.96
Diospyros kaki	1	0.13	22.42	0.01	2.36	18.99	0.17	0.00	1.78	2,555.86
Erythrina caffra	4	3.47	591.87	0.10	16.33	419.15	3.75	0.00	39.38	49,815.80
Eriobotrya deflexa	5	1.03	175.51	0.11	18.50	51.31	0.46	0.00	4.82	11,121.47
Eriobotrya japonica	20	3.98	679.03	0.32	54.73	182.81	1.63	0.00	17.17	44,102.39
Eucalyptus camaldulensis	28	75.25	12,833.54	2.44	415.63	6,763.28	60.44	0.06	635.34	259,794.21
Eucalyptus cladocalyx	20	79.72	13,596.93	2.05	349.32	5,304.11	47.40	0.04	498.27	254,557.27
Corymbia ficifolia	8	14.33	2,444.31	0.12	20.34	525.93	4.70	0.00	49.41	58,755.24
Eucalyptus globulus	16	68.93	11,755.53	1.07	183.24	4,437.62	39.65	0.04	416.87	247,488.63

Benefits Summary of Trees by Species

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	Number	(ton)	($)	(ton/yr)	($/yr)	(gal/yr)	($/yr)	(ton/yr)	($/yr)	($)
Eucalyptus leucoxylon	6	8.09	1,380.14	0.52	89.42	501.05	4.48	0.00	47.07	30,027.70
Eucalyptus polyanthemos	4	16.01	2,730.50	0.28	48.37	681.93	6.09	0.01	64.06	42,907.24
Eucalyptus sideroxylon	3	7.81	1,331.88	0.41	69.73	683.11	6.10	0.01	64.17	22,700.42
Eugenia uniflora	1	1.39	237.49	0.01	1.33	76.62	0.68	0.00	7.20	6,196.53
Ficus benjamina	9	4.06	691.85	0.34	58.14	307.92	2.75	0.00	28.93	36,785.28
Ficus elastica	1	2.42	412.75	0.00	0.44	102.90	0.92	0.00	9.67	11,088.70
Ficus macrophylla	2	2.80	478.26	0.07	11.96	272.66	2.44	0.00	25.61	25,086.68
Ficus microcarpa v. nitida	283	168.65	28,762.96	9.21	1,571.09	19,410.30	173.45	0.16	1,823.40	1,482,644.86
Ficus rubiginosa	6	10.68	1,821.76	0.32	55.06	810.90	7.25	0.01	76.18	71,001.76
Fraxinus uhdei	105	103.28	17,613.76	3.16	538.34	9,670.40	86.41	0.08	908.44	913,341.12
Fraxinus velutina	20	18.48	3,150.98	0.53	89.97	1,879.08	16.79	0.02	176.52	170,984.88
Geijera parviflora	79	35.96	6,133.47	1.21	206.38	1,616.45	14.44	0.01	151.85	208,467.81
Ginkgo biloba	36	4.25	725.56	0.22	37.54	1,666.28	14.89	0.01	156.53	116,523.64
Gleditsia triacanthos	1	1.45	247.48	0.08	13.03	114.66	1.02	0.00	10.77	10,316.74
Grevillea robusta	23	17.23	2,938.77	1.08	184.96	1,557.32	13.92	0.01	146.30	134,149.99
Harpephyllum caffrum	9	3.00	511.94	0.27	45.29	88.21	0.79	0.00	8.29	22,661.40
Handroanthus chrysotrichus	10	0.91	154.53	0.12	20.04	35.66	0.32	0.00	3.35	10,966.56
Handroanthus heptaphyllus	58	10.48	1,787.26	1.08	184.45	497.41	4.44	0.00	46.73	105,153.69
Heptapleurum actinophyllum	9	2.05	349.38	0.24	40.32	110.31	0.99	0.00	10.36	17,330.40
Heteromeles arbutifolia	7	6.19	1,056.48	0.24	40.10	242.87	2.17	0.00	22.82	29,576.92
Hymenosporum flavum	24	10.50	1,790.47	0.70	119.21	685.69	6.13	0.01	64.41	90,693.53
Ilex	1	0.00	0.26	0.00	0.22	0.82	0.01	0.00	0.08	58.57
Jacaranda mimosifolia	349	179.67	30,643.52	10.15	1,731.72	18,982.55	169.63	0.16	1,783.22	1,956,385.35
Juniperus	2	0.28	46.93	0.03	4.35	34.17	0.31	0.00	3.21	4,401.65
Juniperus chinensis	9	4.48	764.27	0.32	54.63	376.72	3.37	0.00	35.39	42,713.77

Benefits Summary of Trees by Species

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Generated: 5/6/2024

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	Number	(ton)	($)	(ton/yr)	($/yr)	(gal/yr)	($/yr)	(ton/yr)	($/yr)	($)
Koelreuteria bipinnata	22	20.33	3,467.36	0.31	53.64	1,587.41	14.19	0.01	149.12	125,624.81
Koelreuteria paniculata	1	0.13	22.40	0.01	1.89	10.28	0.09	0.00	0.97	1,970.75
Lagerstroemia	2	0.17	29.75	0.02	4.07	10.25	0.09	0.00	0.96	3,453.90
Lagerstroemia indica	1,785	464.46	79,214.27	24.82	4,232.28	26,792.03	239.41	0.23	2,516.84	4,815,658.03
Ligustrum japonicum	5	0.90	153.94	0.11	18.34	136.09	1.22	0.00	12.78	12,194.17
Ligustrum lucidum	196	89.78	15,311.61	4.93	840.40	10,293.96	91.99	0.09	967.02	898,999.42
Liquidambar styraciflua	206	88.75	15,135.55	5.73	978.01	18,242.37	163.01	0.15	1,713.69	1,426,726.53
Liriodendron tulipifera	42	3.66	623.68	0.50	85.02	904.43	8.08	0.01	84.96	81,721.40
Lophostemon confertus	76	115.43	19,686.99	4.61	786.85	7,211.20	64.44	0.06	677.42	497,273.78
Malus	1	0.21	35.49	0.02	3.44	16.02	0.14	0.00	1.50	2,555.86
Magnolia grandiflora	415	251.03	42,813.31	12.00	2,046.18	20,318.10	181.56	0.17	1,908.68	2,987,480.72
Magnolia x soulangeana	7	1.61	274.74	0.12	19.62	153.82	1.37	0.00	14.45	23,486.48
Melaleuca	1	1.23	209.57	0.01	1.18	58.85	0.53	0.00	5.53	6,196.53
Melia azedarach	1	0.17	29.17	0.02	3.67	32.85	0.29	0.00	3.09	2,555.86
Metrosideros excelsa	4	2.67	455.30	0.19	32.49	102.55	0.92	0.00	9.63	11,864.98
Melaleuca quinquenervia	26	29.09	4,962.00	1.32	224.99	2,052.06	18.34	0.02	192.77	172,893.35
Morus alba	13	11.69	1,993.68	0.57	97.59	970.92	8.68	0.01	91.21	73,809.95
Nerium oleander	1	0.09	15.26	0.01	2.46	7.20	0.06	0.00	0.68	1,726.95
Olea europaea	13	6.70	1,142.27	0.19	33.10	501.13	4.48	0.00	47.08	53,116.72
Parkinsonia aculeata	37	3.48	593.67	0.48	81.41	267.02	2.39	0.00	25.08	66,757.07
Persea americana	8	5.45	928.85	0.15	24.74	459.23	4.10	0.00	43.14	34,196.91
Phoenix canariensis	55	14.77	2,519.62	0.28	47.32	3,384.74	30.25	0.03	317.96	241,442.67
Photinia x fraseri	5	0.51	86.89	0.07	12.42	44.10	0.39	0.00	4.14	8,244.69
Phoenix roebelenii	46	0.93	158.01	0.04	6.58	170.51	1.52	0.00	16.02	45,498.93
Pittosporum	1	1.17	200.19	0.00	0.21	90.91	0.81	0.00	8.54	7,431.76

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	Number	(ton)	($)	(ton/yr)	($/yr)	(gal/yr)	($/yr)	(ton/yr)	($/yr)	($)
Pinus canariensis	85	61.52	10,492.96	1.80	307.18	8,782.48	78.48	0.07	825.03	693,062.44
Pistacia chinensis	9	0.63	108.03	0.07	12.28	54.37	0.49	0.00	5.11	8,647.17
Pinus eldarica	3	1.42	242.27	0.09	15.30	198.54	1.77	0.00	18.65	21,089.06
Pinus halepensis	78	44.47	7,584.18	1.63	277.42	6,259.43	55.93	0.05	588.01	628,648.73
Pinus pinea	29	52.56	8,964.54	1.11	189.42	3,501.99	31.29	0.03	328.98	561,395.88
Pinus radiata	4	0.81	137.97	0.06	10.93	164.18	1.47	0.00	15.42	18,878.57
Auranticarpa rhombifolia	19	16.60	2,831.02	0.33	56.92	651.81	5.82	0.01	61.23	82,302.56
Pinus thunbergii	54	5.76	982.95	0.34	57.99	696.19	6.22	0.01	65.40	156,355.78
Pinus torreyana	3	3.49	595.51	0.14	23.40	355.23	3.17	0.00	33.37	47,287.09
Pittosporum undulatum	6	6.70	1,141.99	0.06	10.54	438.98	3.92	0.00	41.24	37,585.53
Platanus mexicana	42	19.89	3,392.92	1.02	173.94	5,593.56	49.98	0.05	525.46	309,221.26
Platanus racemosa	34	35.54	6,061.92	0.89	151.94	8,114.08	72.51	0.07	762.24	443,863.72
Prunus	1	0.42	71.86	0.03	5.74	53.00	0.47	0.00	4.98	3,270.99
Prunus armeniaca	1	0.25	43.31	0.03	4.65	12.21	0.11	0.00	1.15	2,247.05
Prunus caroliniana	28	22.53	3,843.31	0.49	82.73	1,343.47	12.01	0.01	126.21	131,651.43
Prunus cerasifera	16	3.18	542.07	0.31	53.65	295.08	2.64	0.00	27.72	37,821.88
Prosopis glandulosa	7	0.66	113.22	0.09	14.66	50.15	0.45	0.00	4.71	12,576.26
Prunus Kanzan	24	1.75	298.36	0.23	39.26	257.37	2.30	0.00	24.18	22,611.09
Prunus persica	8	0.70	118.96	0.14	23.42	74.95	0.67	0.00	7.04	11,790.55
Prunus serrulata	8	2.08	353.91	0.20	33.54	132.32	1.18	0.00	12.43	19,764.23
Prunus Shirotae	1	0.01	0.92	0.00	0.49	1.72	0.02	0.00	0.16	185.34
Prunus subhirtella	3	0.34	58.02	0.06	10.65	33.44	0.30	0.00	3.14	5,180.86
Psidium guajava	6	2.43	414.37	0.12	20.87	86.97	0.78	0.00	8.17	16,609.44
Pyrus calleryana	298	96.95	16,534.67	6.76	1,152.87	11,983.06	107.08	0.10	1,125.69	907,443.35
Quercus agrifolia	22	29.27	4,992.29	0.82	140.31	2,387.14	21.33	0.02	224.25	223,152.52

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	Number	(ton)	($)	(ton/yr)	($/yr)	(gal/yr)	($/yr)	(ton/yr)	($/yr)	($)
Quercus ilex	32	20.61	3,515.39	1.12	190.86	1,926.14	17.21	0.02	180.94	186,740.26
Quercus virginiana	11	21.62	3,688.03	0.78	132.84	1,612.62	14.41	0.01	151.49	173,159.87
Raphiolepis	1	0.02	3.67	0.01	0.89	4.67	0.04	0.00	0.44	1,190.60
Searsia lancea	1	0.59	101.30	0.02	3.32	28.70	0.26	0.00	2.70	4,587.49
Robinia pseudoacacia	1	0.29	50.30	0.03	5.26	43.25	0.39	0.00	4.06	2,576.99
Salix	1	0.24	40.90	0.02	3.33	39.72	0.35	0.00	3.73	2,576.99
Schinus molle	40	18.60	3,172.40	0.35	59.55	1,246.66	11.14	0.01	117.11	150,403.53
Schinus terebinthifolius	104	105.75	18,036.22	0.72	123.13	5,595.31	50.00	0.05	525.62	736,098.68
Sequoia sempervirens	15	11.60	1,978.42	0.52	89.40	1,674.88	14.97	0.01	157.34	170,671.83
Syzygium australe	1	2.15	366.54	0.08	13.72	262.82	2.35	0.00	24.69	10,292.30
Syagrus romanzoffiana	308	10.49	1,788.69	0.36	61.73	3,103.87	27.74	0.03	291.58	215,848.35
Tipuana tipu	8	7.22	1,231.22	0.34	58.06	523.70	4.68	0.00	49.20	57,048.67
Trachycarpus fortunei	35	2.32	395.24	0.09	14.93	278.53	2.49	0.00	26.17	32,272.68
Tristaniopsis laurina	1	0.10	16.56	0.01	1.81	3.23	0.03	0.00	0.30	1,515.66
Ulmus parvifolia	100	124.35	21,207.76	7.41	1,264.09	9,752.81	87.15	0.08	916.18	845,184.00
Washingtonia filifera	23	6.85	1,167.64	0.24	40.45	1,302.50	11.64	0.01	122.36	15,570.28
Washingtonia robusta	70	11.61	1,980.18	0.46	79.19	3,840.65	34.32	0.03	360.79	29,364.71
Xylosma	13	6.82	1,162.41	0.42	71.78	562.73	5.03	0.00	52.86	42,019.02
Yucca gloriosa	2	0.52	88.68	0.03	5.59	15.85	0.14	0.00	1.49	358.88
Total	**7,361**	**3,983.04**	**679,310.58**	**160.06**	**27,298.64**	**336,813.81**	**3,009.77**	**2.85**	**31,640.30**	**33,078,319.84**

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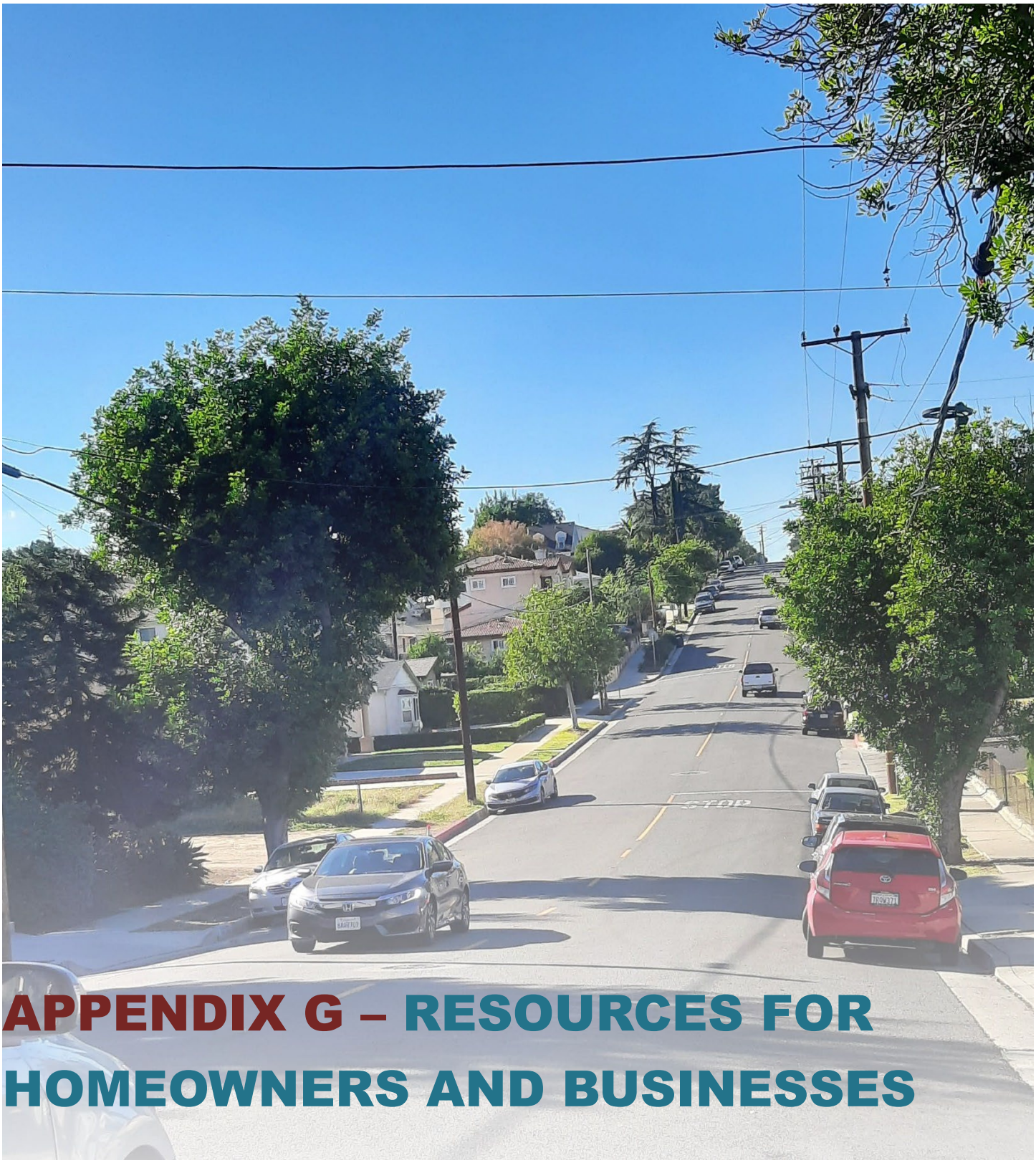
Carbon storage and gross carbon sequestration value is calculated based on the price of $170.55 per ton.
Due to limits of available models, i-Tree Eco will limit carbon storage to a maximum of 7,500 kg (16,534.7 lbs) and not estimate additional storage for any tree beyond a diameter of 254 cm (100 in). Whichever limit results in lower carbon storage is used.
Avoided runoff value is calculated by the price $0.009/gal. The user-designated weather station reported 10.1 inches of total annual precipitation. Eco will always use the hourly measurements that have the greatest total rainfall or user-submitted rainfall if provided.
Pollution removal value is calculated based on the prices of $1,396.60 per ton (CO), $12,128.42 per ton (O3), $1,568.50 per ton (NO2), $565.00 per ton (SO2), $527,907.69 per ton (PM2.5), $6,565.07 per ton (PM10*).
Replacement value is the estimated local cost of having to replace a tree with a similar tree.
A value of zero may indicate that ancillary data (pollution, weather, energy, etc.) is not available for this location or that the reported amounts are too small to be shown.



APPENDIX G – RESOURCES FOR HOMEOWNERS AND BUSINESSES

BENEFITS OF TREES

Strategic planting can reduce energy consumption by **15-35%**

Shade decreases air conditioning use and reduces the amount of carbon dioxide emitted by power plants.

CO_2

Tree canopies help protect us from exposure to the sun's UV rays.

On average, each tree reduces runoff by **845** gallons annually.

Shade provided by trees to other landscape plants can reduce their water requirements.

Planting trees can increase the value of residential property by approx. **20%**

In commercial areas, trees can boost business and tourism by providing aesthetic appeal.

Beautification of our surroundings enhances our well-being and alleviates stress.

Trees promote pride within the community.

Trees alter the environment by:

- Moderating the climate
- Improving air quality
- Reducing noise pollution
- Saving energy
- Conserving water
- Harboring wildlife

A healthy urban forest can reduce the amount of runoff and pollution in receiving waters.

Mature Tree Care

Learn procedures specific to a routine maintenance program for mature tree care, including tree inspection, mulching, fertilization, pruning, and tree removal.

Trees serve many purposes in your local community; therefore, homeowners should think of tree care as an investment. A healthy tree increases in value with age and pays big dividends by increasing property values, beautifying surroundings, purifying air, and saving energy by providing cooling shade from summer's heat and protection from winter's wind.

Trees in the city or near houses need regular maintenance to promote health and structural integrity. An effective maintenance program, including regular inspections and necessary follow-up care—mulching, fertilizing, and additional soil management—can identify problems and correct them before they become damaging or fatal.

Tree Inspection

Regular tree inspections can detect changes in a tree's health before a disease, insect, or environmental problem becomes too serious. Mature trees should be inspected at least once a year to assess four characteristics of tree vitality: new leaf or bud formation, leaf size, twig growth, and absence of crown dieback (gradual death of the upper part of the tree).

Growth reduction is a fairly reliable cue that the tree's health has recently changed. An experienced arborist can look at twig growth from past years to determine whether there is a reduction in the tree's typical growth pattern.

In addition to tree health, tree stability is a major concern. There are some tree characteristics you can look for that can indicate structural weakness. These include cavity opening, extensive twig dieback, and the presence of fungal conks (mushrooms or brackets on the trunk).

Any abnormalities found during these inspections should be noted and monitored closely. Report your findings to your local tree care professional for advice on treatment options.

Pruning

- Pruning is often desirable or necessary to remove dead, diseased, or insect-infested branches and to improve tree structure, enhance vitality, or reduce risk.
- The removal of live branches creates a lasting wound; therefore, no branch should be removed without a reason.
- Pruning large trees requires special equipment, training, and experience.
- If pruning requires climbing, the use of a chain or hand saw, or the removal of large limbs, personal safety equipment is a must.

ISA Certified Arborists® can assist in performing the job safely and reducing the risk of personal injury and damage to your property. They can also determine which type of pruning is necessary to maintain or improve the health, appearance, and safety of your trees.

Soil Management

- Soil tests are generally required before fertilizing or adjusting pH.
- Urban landscape trees often exist in soils that lack the nutrients, pH (acidity or alkalinity), drainage, or pore space (air and water space) needed for growth and development.
- Fertilization based on plant needs can correct many deficiencies that limit growth. Sometimes soil nutrients may be sufficient, but soil pH levels may prevent plant uptake. In this case, soil amendments, such as sulfur, lime, and even some mulches, can alter soil chemistry and help alleviate plant stress.
- Drainage systems or grading can help correct saturated soil conditions.
- Trenching or earthmoving within the tree's root zone may cause more harm than good.
- Compacted soils can be tilled mechanically or with compressed air to increase porosity and encourage root growth.
- When dealing with a mature tree, have the soil tested for nutrient content and texture. An arborist can arrange to have your soil tested at a soil testing laboratory and recommend treatments based on the results.

Mulching

- Mulching can reduce environmental stress by providing trees with a root environment that has fewer temperature and moisture extremes than the surrounding soil.
- Mulch reduces competition from weeds and grass and prevents mechanical damage by keeping lawn care equipment away from the tree's base.
- Mulches made from plant matter will add nutrients to the soil as they decompose and help improve soil biology.
- Mulch should be placed 2-4 inches (5-10 cm) deep. It should be placed near, but not touching, the trunk and extend to the dripline (furthest extent of the branches).

If you can't mulch the full distance, go as far from the trunk as possible while maintaining the landscape character.

Removal

Although tree removal is a last resort, there are circumstances when it is necessary. An ISA Certified Arborist can help decide whether or not a tree should be removed and they possess the skills and equipment to safely and efficiently remove trees. Removal is recommended when a tree:

- Is dead, dying, or considered irreparably hazardous.
- Is causing an obstruction or is crowding and causing harm to other trees and the situation is impossible to correct through pruning.

With maintenance, trees can add aesthetic and economic value to your property. Poorly maintained trees can be a significant liability.

What Is a Certified Arborist?

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Finding an Arborist

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Be an Informed Consumer

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CITY OF MONTEREY PARK CALIFORNIA

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Why Hire an Arborist?

Learn about services that arborists provide, criteria for selecting an arborist, and the benefits of hiring an ISA Certified Arborist®.

Healthy trees serve many purposes in your local community. A way to ensure your trees stay healthy is by hiring an arborist. Professional, trained arborists know how to properly maintain trees for the safety of the public and the health of the tree.

What Is an ISA Certified Arborist?

An ISA arborist certification is a nongovernmental, voluntary process by which individuals can document their base of knowledge. Certification provides a measurable assessment of an individual's knowledge in the competencies needed for proper tree care.

When a professional becomes an ISA Certified Arborist, they should be recognized by their peers and the public as a tree care professional who has attained a generally-accepted level of knowledge in areas such as tree biology, diagnosis, maintenance practices, safety, and other subject and practice areas within the tree care profession as identified through periodic job task analyses.

They must also continue their education to maintain their certification. Therefore, they are more likely to be up to date on the latest techniques in arboriculture.

Selecting the Right Arborist for the Job

- Check for an ISA arborist credential. ISA Certified Arborists and ISA Board Certified Master Arborists® are experienced professionals who have passed comprehensive exams covering all aspects of tree care.
- Check for membership in professional organizations such as the International Society of Arboriculture (ISA), the Tree Care Industry Association (TCIA), or the American Society of Consulting Arborists (ASCA).
- Ask for proof of insurance and call the insurance company.
- Check for local permits and licenses.
- Get more than one estimate and ask for references.
- Don't always accept the lowest bid. Examine the credentials and the written specifications of the firms that submitted the bids and determine the best combination of price, work to be done, skills and professionalism.
- Be wary of people who go door to door and offer bargains.
- ISA certification holders must follow a Code of Ethics and use industry-accepted practices and standards.
- Get it in writing. Most reputable arborists have their clients sign a contract. Read it carefully and ask questions.

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- ISA credential holders have access to a digital certificate of their credentials to shared online.

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Your local garden center, extension agent, or city arborists are also excellent sources of information if you should have further questions. They may also be able to refer you to an ISA Certified Arborist or ISA Board Certified Master Arborist in your area.

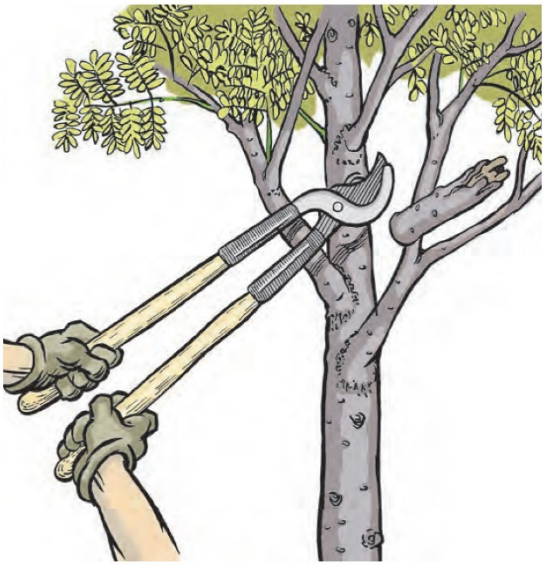
Services That Arborists Provide:

Pruning

Arborists can determine the type of pruning necessary to improve the health, appearance, and safety of trees. Pruning may include removing limbs that:

- Interfere with utilities or structures.
- Obstruct streets or sidewalks.
- Are dead, damaged by storms, weak, or decayed, and pose unacceptable risk.
- Are diseased or insect-infested.

Other pruning strategies improve tree structure, and reduce the likelihood of future damage during storm events.



Planting

Some arborists plant trees, and most recommend species that are appropriate for certain locations. Selecting the wrong tree can lead to future problems with growing space, insects, diseases, or poor growth.

Emergency Tree Care

Removing or pruning storm-damaged trees can be dangerous, but an arborist can perform the job safely while reducing further risk of damage to people and property.

Tree Removal

Arborists can help decide if a tree should be removed. Hiring an arborist is recommended when the tree is:

- Dead, dying, or considered an unacceptable risk.
- Causing an obstruction that is impossible to correct through pruning.
- Crowding and causing harm to other more desirable trees.
- Located in where new construction requires removal.

Other Services

Arborists may also provide other services, including:

- Plant health care or preventive maintenance.
- Cabling and bracing for added support to branches with weak attachments.
- Soil aeration to improve root growth.
- Installation of lightning protection systems.
- Consulting and legal services relating to trees.
- Tree risk assessment.
- Tree protection during construction.

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CITY OF MONTEREY PARK CALIFORNIA

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Why Topping Hurts Trees

Learn why topping is not an acceptable pruning technique and discover recommended alternatives.

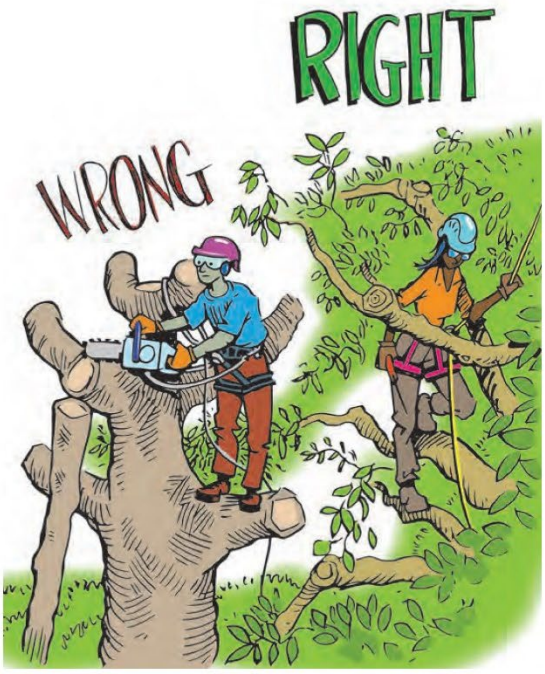
Topping is perhaps the most harmful tree pruning practice known. Yet, despite more than 25 years of literature and seminars explaining its harmful effects, topping remains a common practice.

What Is Topping?

Topping is the indiscriminate cutting of tree branches to stubs or to lateral branches that are not large enough to assume the terminal role.

Other names include "heading," "tipping," "hat-racking," and "rounding over."

Topping is often used to reduce the size of a tree. Homeowners may feel a large tree poses a risk to their property; however, topping is not a viable method of height reduction, and may increase risk in the long term.



Topping Stresses Trees

Leaves are the food factories of a tree; however, topping can remove 50-100% of a tree's leaf-bearing crown. Removing the leaves can potentially starve a tree and trigger various survival mechanisms. Dormant buds are activated, forcing rapid growth of multiple shoots below each cut. The tree needs to grow a new crop of leaves as soon as possible. If a tree does not have the stored energy reserves to do so, it will be seriously weakened and may die.

A stressed tree with large, open pruning wounds is more vulnerable to insect and disease infestations. The tree may lack sufficient energy to chemically defend the wounds against invasion, and some insects are actually attracted to the chemical signals trees release.

Topping Can Lead to Sunburn

Branches within a tree's crown produce thousands of leaves to absorb sunlight. When the leaves are removed, the remaining branches and trunk are suddenly exposed to high levels of light and heat. The result may be sunburn of the tissues beneath the bark, which can lead to cankers, bark splitting, and death of some branches.

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Topping Can Lead to Unacceptable Risk

The survival mechanism that causes a tree to produce multiple shoots below each topping cut comes at great expense to the tree *(see figure above)*. These shoots develop from buds near the surface of the old branches. Unlike normal branches that develop in a socket of overlapping wood tissues, these new shoots are anchored only in the outermost layers of the parent branches and are weakly attached.

The new shoots grow quickly, as much as 20 feet (6 m) in one year in some species. Unfortunately, the shoots are weakly attached and prone to breaking, especially during windy or icy conditions. While the original goal was to reduce risk by reducing height, risk of limb failure has now increased *(see figure below)*.

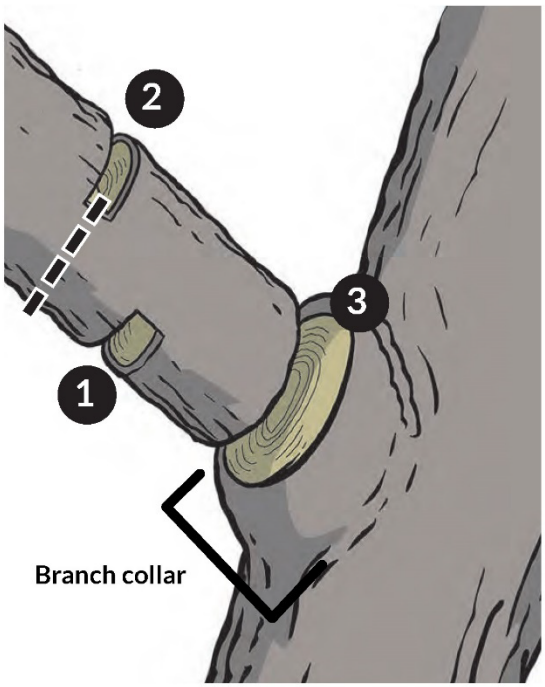
Topping Makes Trees Ugly

Topping destroys the natural form of a tree. Trees form a variety of shapes and growth habits, all with the same goal of presenting their leaves to the sun. Topping removes the ends of the branches, often leaving ugly stubs. Without leaves (for up to six months of the year in temperate climates), a topped tree appears disfigured and mutilated. **A tree that has been topped can never fully regain its natural form.**

Topping Leads to Decay

Correct pruning cuts are made just beyond the branch collar *(see figure below)*. The tree is biologically equipped to close such a wound if the tree is healthy enough and the wound is not too large.

Cuts made indiscriminately between lateral branches create stubs or wounds that the tree may not be able to close. The exposed wood tissues begin to decay. Normally, a tree will "wall off," or compartmentalize, the decaying tissues, but few trees can defend the multiple severe wounds caused by topping. The decay organisms are given a free path to move through branches.



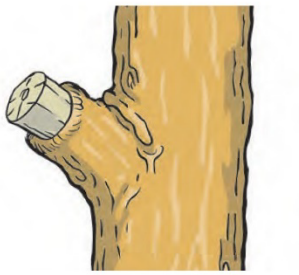
How to Make a Pruning Cut:

1. Make an undercut about 12–18 inches (30–46 cm) from the limb's point of attachment.

2. Make a second cut from the top, directly above or a few inches farther out on the limb. Doing so removes the limb, leaving a stub.

3. Remove the stub by cutting back to the branch collar, but do not cut the collar. This technique reduces the possibility of tearing the bark.

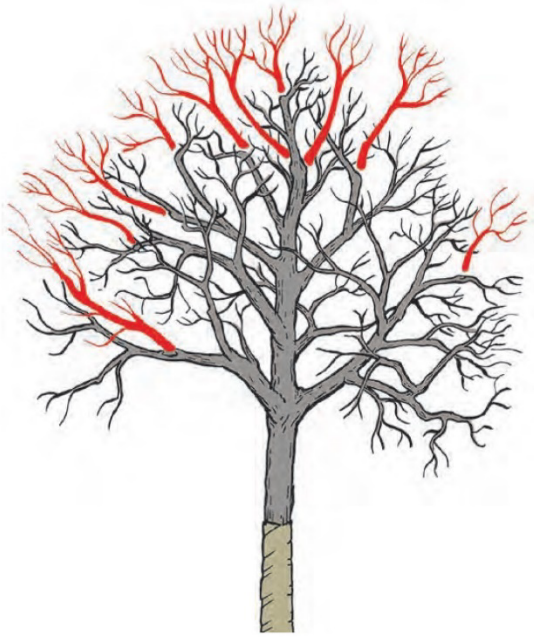
If the tree has started closing over a stub, cut just the dead stub and not the live tissue.



Topping Is Expensive

The cost of topping a tree is not limited to only the job cost. Some hidden costs include:

- Increased maintenance costs. If the tree survives, it will likely require corrective pruning within a few years (e.g., crown reduction or storm damage repair). If the tree dies, it will have to be removed.
- Reduced property value. Healthy, well-maintained trees can add 10–20% to the value of a property. Disfigured, topped trees are considered an impending expense.
- Increased liability potential. Topped trees may pose an unacceptable level of risk. Because topping is considered an unacceptable pruning practice, any damage caused by branch failure of a topped tree may lead to a finding of negligence in a court of law.



Proper branch reduction preserves natural form.

Alternatives to Topping

Sometimes a tree must be reduced in height or spread, such as for providing utility line clearance. There are recommended techniques for doing so. Small branches should be removed back to their point of origin. If a larger limb must be shortened, it should be pruned back to a lateral branch that is large enough (at least one-third the diameter of the limb being removed) to assume the terminal role. This method of branch reduction helps to preserve the natural form of the tree.

Sometimes the best solution is to remove the tree and replace it with a species that is more appropriate.

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CITY OF MONTEREY PARK CALIFORNIA

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Buying High-Quality Trees

Discover guidelines for determining tree quality at time of purchase and for identifying problems with tree structure, roots, and injuries.

Trees serve many purposes in your local community and throughout the entire world. A high-quality tree, when planted and cared for, can become a long-lasting asset to your property. A low-quality tree may develop costly problems over time, increasing the need for maintenance and reducing the benefits a tree can provide.

What Determines Tree Quality?

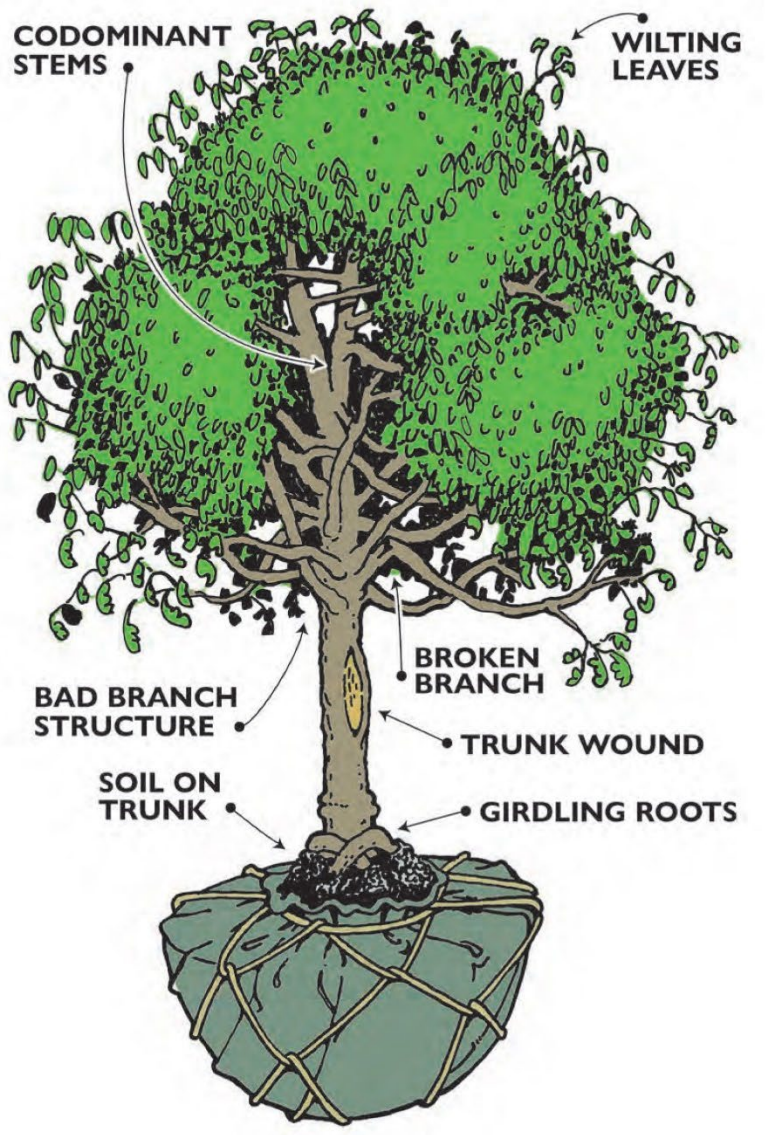
A high-quality tree has:

- A straight trunk with well-spaced branches.
- An exposed trunk free of wounds or damage.
- Roots growing straight out from the trunk.

A low-quality tree has:

- Weak form in which multiple stems originate from the same point and branches grow into each other.
- A trunk with wounds from handling or incorrect pruning.
- Limited, crushed, or circling roots in an undersized ball or container.

These problems can greatly reduce the tree's prospects for a healthy and productive life. When buying a tree, inspect it carefully to identify problems related to form, injuries, or roots.



Root Problems

Nursery trees are often classified based on how they are produced, harvested, and sold. Each type of tree has a unique root system:

- Bare root: no soil surrounding roots; usually small trees.
- Balled and burlapped: roots of field-grown trees surrounded by soil and held with burlap and wire or rope.
- Container: roots and soil in a container.

Bare Root Stock

Bare roots should not be crushed, torn, desiccated, or discolored. The ends of the roots should be cleanly cut. Damaged roots may be cut cleanly prior to planting and watering. The benefits of bare roots are that they tend to grow straight roots after planting and are easy to transport and plant. They have limitations; however, bare roots need to be planted soon after digging to prevent root drying and may not be suitable for all species.

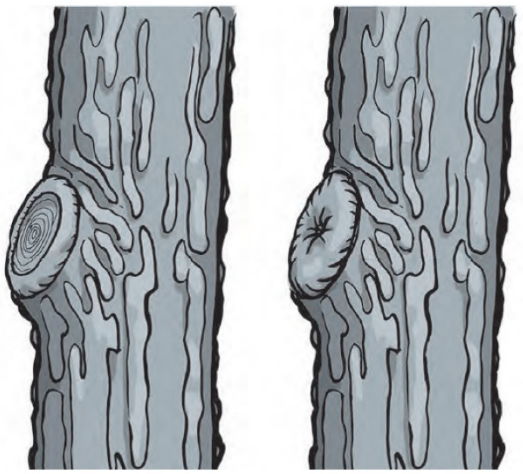
Balled-and-Burlapped Stock

You should be able to see the trunk flare (the area where the trunk widens and connects with the roots) at the top of the root ball. Avoid buying plants with badly damaged or compressed root balls. The top of the root ball should be flat. Rounding may be an indication of woody root loss.

The diameter of the root ball should be at least 10–12 times the diameter of the trunk as measured 6 inches (15 cm) above the trunk flare.

Container Stock

- Roots should not twist or circle in the container.
- Remove the root ball from the container for inspection.
- Pay special attention to larger, exposed roots.
- Circling roots may girdle *(see figure on right)* and kill other roots or the entire tree if wrapped around the trunk.
- Fine circling roots may be cut away at planting.
- Larger roots may be straightened if still flexible.
- You should be able to see the basal trunk flare with container-grown plants. If the trunk flare has been buried, gently expose it before planting the tree, taking care not to damage the bark.

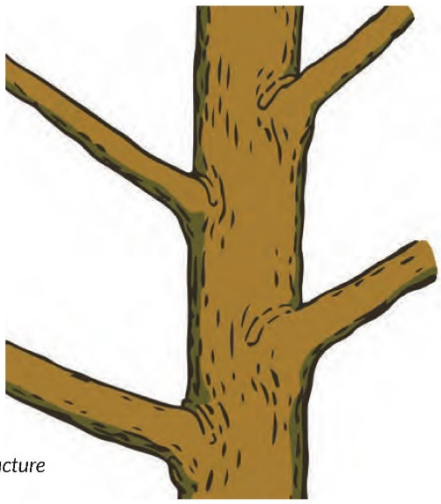


Injuries

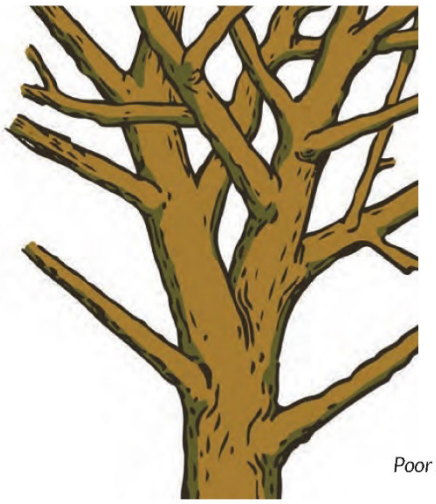
Never buy a tree without thoroughly checking the trunk. If the tree is wrapped, remove the wrap and inspect the trunk for wounds, incorrect pruning cuts, and insect injuries. Wrap can be used to protect the trunk during transit, but should be removed after planting.

A correct pruning cut removes the branch just outside of the collar. A ring, or "doughnut," of sound tissues then grows around the cut *(see figure above)*. **Do not make cuts flush to the trunk.** Trunk tissues above and below a flush-cut branch often die, creating dead spots. When high summer or low winter temperatures occur, cracks or long, dead streaks may develop above and below the dead spots.

(Figure below) Girdling root as tree matures.



Good structure



Poor structure

Form

- When buying a young shade tree it is important to note that the branches you see may not be present at maturity. Many lower branches will be shaded out as the tree grows, or pruned away to allow clearance for pedestrians, traffic, mowing, or other activities.
- Many nurseries prune young trees to spur crown growth. This may lead to issues that must be addressed later with corrective pruning.
- Good strong form—branch architecture—starts with branches evenly spaced along the trunk. Branches should have firm, sturdy attachments to the trunk.
- Branches with narrow angles of attachment may cause problems later.
- When several branches are growing at the same position on the trunk, the likelihood of weak attachments, compression, and cracks increases greatly.
- Branches that press against the trunk or each other signal problems. These areas of contact may become compressed, crack, or die back.
- If you desire a tree with multiple trunks, make certain that the trunks are well separated at the ground line. Remember, trunks expand in diameter as they grow. Two trunks may be slightly separated when small, but as they grow the trunks will squeeze together.
- When planting remove only broken or torn branches to allow the tree to recover from the stress of transplanting.
- Many architectural issues can be addressed through corrective pruning or training. Begin corrective pruning one year after planting and space over several years.

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CITY OF MONTEREY PARK CALIFORNIA

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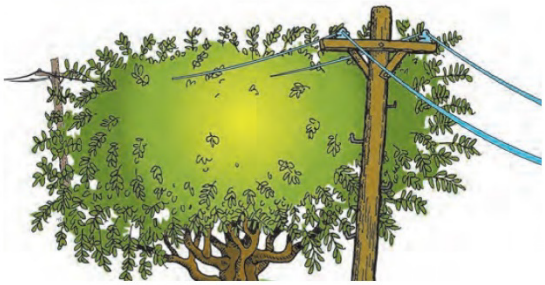
Tree Selection and Placement

Understand the various factors to consider when selecting trees.

Tree selection and placement are important decisions a homeowner makes when landscaping or replacing a tree. Matching the tree to the site benefits both the tree and the homeowner.

Before asking, "What kind of tree should I plant?" consider the following:

- Why is it being planted and what function will it serve?
- What are the soil conditions?
- How will necessary maintenance be provided?
- What size tree is best suited for the location? How large will the tree be when full grown? Do overhead or below ground utilities prevent planting a tree? What clearance is needed for sidewalks, patios, or driveways?



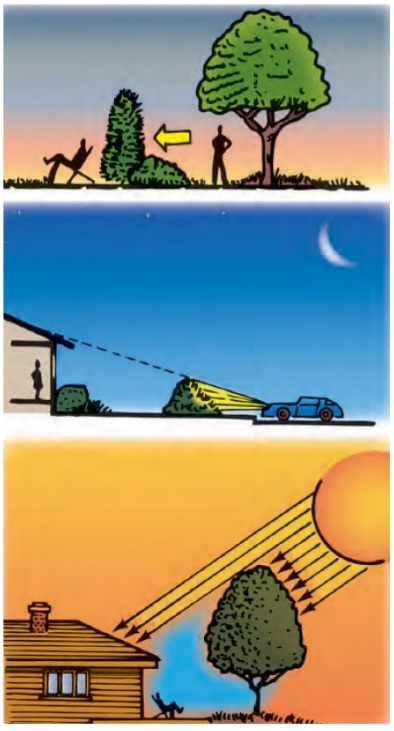
Form and Size

Selecting the right form (shape) to complement the desired function can reduce maintenance costs and increase the tree's value.

- Mature tree size determines the level of benefits received.
- Larger trees typically provide the greatest economic and environmental returns.
- Depending on the site restrictions, you can choose from hundreds of form and size combinations.
- Low spreading trees may be planted under overhead utility lines, while a tall evergreen may provide a screen.

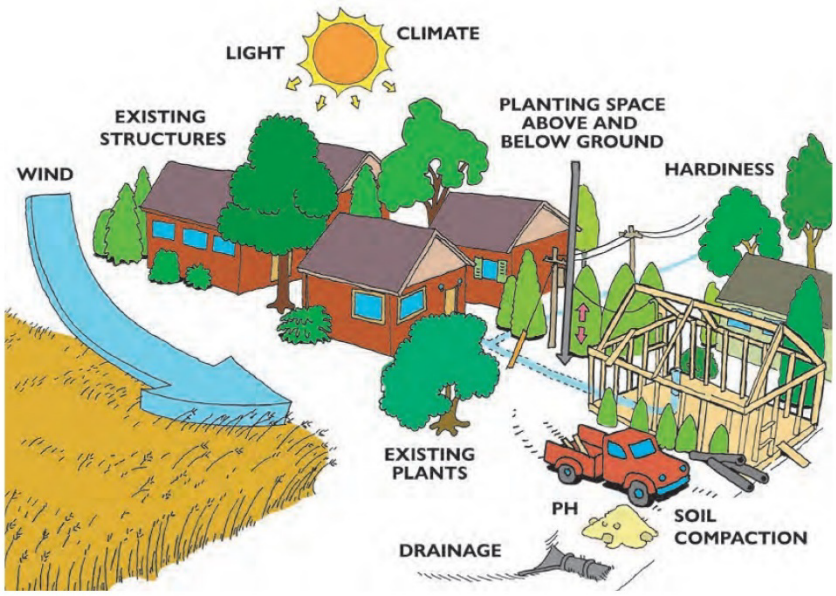
Tree Functions

- Healthy trees increase property values.
- Deciduous shade trees cool homes in the summer and allow the winter sun to heat homes when they lose their leaves.
- Evergreens can provide a windbreak or a screen for privacy.
- Fruit trees or shrubs can provide food for owners or wildlife.
- Street trees reduce the glare from pavement, reduce runoff, filter pollutants, add oxygen, and improve overall appearance and quality of life.
- Trees also provide environmental benefits such reducing the amount of carbon dioxide in the atmosphere.



Site Conditions

Choosing a tree for the right site conditions is the key to tree survival and reduced maintenance. Consider the following:



Soil conditions

- The soil in dense urban areas and new subdivisions is often disturbed, shallow, compacted, and subject to drought. An arborist can take soil samples from your yard for testing to determine which trees are suited for your property and may provide recommendations to improve the soil condition.

Exposure (sun and wind)

- The amount of available sunlight will affect tree and shrub selection. Wind exposure is also a consideration.

Space constraints

- Available planting space can be limited by many factors, such as overhead or underground utilities, pavement, buildings, visibility, or other trees. Ensure there's adequate room to let trees grow above and below ground.

Hardiness zone

- Hardiness is the tree's ability to survive extreme temperatures of a specific region. Research plants for their hardiness information in your region.

Human activity

- The top five causes of tree death result from things people do. Soil compaction, under-watering, overwatering, vandalism, and the number-one cause — planting the wrong tree — account for more tree deaths than all insect- and disease-related tree deaths combined.

Drainage

- Roots require oxygen to develop; poor drainage limits oxygen availability and may kill the tree.

Insect and disease susceptibility

- Every plant has its particular pest and disease problems and the severity varies geographically.

Personal preferences and site constraints also play major roles in the selection process.

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APPENDIX H – CURRENT PLANTING PLAN BY STREET SEGMENT

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Monterey Park City Trees

Street Name	Between	Existing Tree	New Tree
Abajo Drive	Garvey to Cereza Drive	*Liquidambar styraciflua* American Sweetgum	*Liriodendron tulipifera* Tulip-"Arnold"
Abe Way		*Pyrus kawakami* Evergreen Pear	*Lagerstroemia indica* Crape Myrtle (mix)
Ackley Place		*Magnolia grandiflora* Southern Magnolia	
Ackley St	Fulton to Orange	Alnus rhombifolia White Alder	
	Orange to Holly Oak	Alnus rhombifolia White Alder	
	Holly Oak to Arroyo	*Callistemon lanceolatus* Lemon Bottlebrush	
	Arroyo to North Limits	NO TREE REQUIRED (No Easement)	
Adams Way		*Lagerstroemia indica* Crape Myrtle (pink)	
Adobe Place		*Lagerstroemia indica* Crape Myrtle (pink)	
Agate Way	Off Bloom	*Liquidambar styraciflua* American Sweetgum	Ginkgo biloba Maidenhair (male)
Alamo Drive	Off Barranca	*Cupaniopsis anacardioides* Carrot Wood	*Magnolia grandiflora* Southern Magnolia
Aldergate		*Cupaniopsis anacardioides* Carrot Wood	*Magnolia grandiflora* Southern Magnolia
Alhambra Ave.	Hellman to Graves	*Lagerstroemia indica* Crape Myrtle (pink)	

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St. Name	Between	Existing Tree	New Tree
Alhambra Ave.	Mooney to south limits	NO TREE REQUIRED (No Easement)	
Alisar Ave.	Eroica to north end of cul-de-sac	NO TREE REQUIRED (Parkway too narrow)	
	Eroica to Coriolanus	*Ligustrum lucidum* Glossy Privet	
	Coriolanus to south end of cul-de-sac	NO TREE REQUIRED (Parkway too narrow)	
Aliso St.		*Cupaniopsis anacardioides* Carrot Wood	*Eribotrya deflexa* Bronze Loquat
Almora St.	Bradshawe to Findlay	*Jacaranda acutifiola* Jacaranda	
	Findlay to Grandridge	NO TREE REQUIRED	
Alpine Terr.	Off Crest Vista	*Callistemon lanceolatus* Lemon Bottlebrush	
Alta Mesa Pl.	Off Bradshawe	*Magnolia grandiflora* Southern Magnolia	
Alzado St.	Off Casuda Conyon	*Pinus Thunbergii* Japanese Black Pine	*Albizia julibrissin* Silk Tree
Ameron Dr. (private)		NO TREE REQUIRED	
Andrix St.	Lupine to Floral	*Ceratonia siliqua* Carob	*Magnolia grandiflora* Southern Magnolia
	Garfield to Wilcox	*Magnolia grandiflora* Southern Magnolia	
	Grandridge to Findlay	NO TREE REQUIRED (No easement)	
	Hendricks to Bradshawe	*Cupaniopsis anacardioides* Carrot Wood	*Pistachia chinensis* Chinese Pistachio (male)
Arboles St.	Off Abajo	*Lagerstroemia indica* Crape Myrtle (pink)	
Arlight St.	Garfield to Andrix	*Cupaniopsis anacardioides* Carrot Wood	*Lagerstroemia indica* Crape Myrtle (purple)
	Findlay to Grandridge	NO TREE REQUIRED (No easement)	
	Bradshawe to Hendricks	*Cupaniopsis anacardioides* Carrot Wood	*Lagerstroemia indica* Crape Myrtle (white)
Arriba Dr.	Cereza to 1904 Arriba	*Liquidambarstyraciflua* American Sweetgum	*Liriodendron tulipifera* Tulip-"Arnold"
	1887 & 1892 Arriba to Sombrero	*Cupaniopsis anacardioides* Carrot Wood	*Liriodendron tulipifera* Tulip-"Arnold"

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St. Name	Between	Existing Tree	New Tree
Arroyo Dr.	Ackley to west limits	NO TREE REQUIRED (Parkway too narrow)	
	Ackley to Potrero Grande	*Quercus ilex* Holly Oak	
Ash Dr.		*Fraxinus velutina "Modesto"* Modesto Ash	*Quercus ilex* Holly Oak
Altantic Blvd.	Hellman to Newmark	*Ficus Nitida* Indian Laurel	*Arecastrum romanzoffianum* Queen Palm
	Newmark to Harding	*Ficus Nitida* Indian Laurel	*Arecastrum romanzoffianum* Queen Palm
	Harding to Cadiz	*Ficus Nitida* Indian Laurel	*Arecastrum romanzoffianum* Queen Palm
	Cadiz to Riggin	*Liquidambar styraciflua* American Sweetgum	
	Riggin to First	*Ficus Nitida* Indian Laurel	*Arecastrum romanzoffianum* Queen Palm
Atlas Ave. (private)		NO TREE REQUIRED	
Avalanche Way (ELAC)	Rear service Rd.	NO TREE REQUIRED	
Avion Dr.	Verde Vista to Aliso	*Cupaniopsis anacardioides* Carrot Wood	*Hymenosporum flavum* Sweet Shade
	Aliso to Sombrero	*Cupaniopsis anacardioides* Carrot Wood	*Hymenosporum flavum* Sweet Shade
Avondale Ave.		*Prunus cerasifera Vesuvius* Purple Leaf Plum	
Aztec Way		*Pyrus kawakami* Evergreen Pear	*Pyrus calleryana* Bradford Pear
Baltimore Ave.		*Ligustrum lucidum* Glossy Privet	
Barnum Way		*Lagerstroemia indica* Crape Myrtle (pink)	
Barranca Dr.		*Lagerstroemia indica* Crape Myrtle (red)	
Batan Pl.		*Pinus thunbergii* Japanese Black Pine	*Tristania confera* Brisbane Box
Berkebile Ct.		*Pyrus kawakami* Evergreen Pear	*Pyrus calleryana* Bradford Pear

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St. Name	Between	Existing Tree	New Tree
Bleakwood Ave.		*Prunus caroliniana* Carolina Cherry	*Hymenosporum flavum* Sweet Shade
Bloom Dr.		*Lagerstroemia indica* Crape Myrtle (pink)	
Bluestone Lane	Off Arroyo	NO TREE REQUIRED (No easement)	
Bluffdale St.	Off Markland	*Fraxinus velutina "Modesto"* Modesto Ash	*Ginkgo Biloba* Maidenhair (male)
Bluffhill Dr.	Pebbledon to Longhill	*Pinus Thunbergii* Japanese Black Pine	*Albizia julibrissin* Silk Tree
Bonita Terr.	Off north end of Arriba	*Cupaniopsis anacardioides* Carrot Wood	*Hymenosporum flavum* Sweet Shade
Bradshawe Ave.	Pomona to Almora , including N/E C/R lot	*Magnolia Grandiflora* Southern Magnolia	
	S/E C/R of McPherrin to N/E & N/W of C/R of Cielito	NO TREE REQUIRED (No easement)	
	Grandridge Pl. including S/E corner of Grandridge	*Magnolia Grandiflora* Southern Magnolia	
Bradshawe Pl.		*Magnolia Grandiflora* Southern Magnolia	
Branham St.		NO TREE REQUIRED (No easement)	
Brier Cliff Way		*Ficus nitida* Indian Laurel	*Lagerstroemia indica* Crape Myrtle (purple)
Brightwood St.	Monterey Pass to Atlantic	*Lagerstroemia indica* Crape Myrtle (pink)	
	Atlantic to Grandridge	NO TREE REQUIRED (No easement)	
Brockwell Ave.	Off Doncrest	NO TREE REQUIRED (No easement)	
Browning Pl.		*Pinus Thunbergii* Japanese Black Pine	*Melaleuca leucadendra* Cajeput Tree
Buchanan Pl.		*Prunus caroliniana* Carolina Cherry	
Cadiz St.	Ynez to Hermosa Vista	*Liquidambar styraciflua* American Sweetgum	*Ginkgo Biloba* Maidenhair (male)
	Hermosa Vista to Crest Vista	NO TREE REQUIRED (too steep, no city trees planted)	

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St. Name	Between	Existing Tree	New Tree
Caliente St.	Off Casuda Canyon south of golf course	*Ficus nitida* Indian Laurel	*Raphiolepis* Majestic Beauty
Campanita St.	Off Casuda Canyon	Ilex altaclarensis "Wilsoni" Wilson Holly	*Lagerstroemia indica* Crape Myrtle
Campo St.	Off Avion	*Cupaniopsis anacardioides* Carrot Wood	*Hymenosporum flavum* Sweet Shade
Casitas St.	Off Abajo	Mixed varieties	*Liriodendron tulipifera* Tulip-"Arnold"
Casuda Canyon Dr.		*Cupaniopsis anacardioides* Carrot Wood	*Lagerstroemia indica* Crape Myrtle (white)
Cecil St.	Garfield to Graves	NO TREE REQUIRED (No easement)	
Centre Plaza Dr.		NO TREE REQUIRED (No easement)	
Cerco Alta Dr.		*Harpephyllum caffrum* Kafir Plum	
Cereza Dr.	Off Arriba	*Liquidambar styraciflua* American Sweetgum	
Cesar Chavez Ave.	Atlantic to Collegian	*Callistemon lanceolatus* Lemon Bottlebrush	
	Collegian to west city limits	*Magnolia Grandiflora* Southern Magnolia	
Chalet Terr.		*Prunus cerasifera vesuvius* Purple Leaf Plum	
Chandler Ave.		*Lagerstroemia indica* Crape Myrtle (pink)	
Cielito Ave.	Off Grandridge	NO TREE REQUIRED (No easement)	
Cipriano Pl.		*Ficus nitida* Indian Laurel	*Camphora officianrum* Camphor
Cliffhill Dr.	Off Isabella	NO TREE REQUIRED (No easement)	
Clover Dr.		*Jacaranda acutifolia* Jacaranda	
Colina Terr.	Off Arriba	*Cupaniopsis anacardioides* Carrot Wood	*Albizia julibrissin* Silk Tree
College View Dr.		*Lagerstroemia indica* Crape Myrtle (pink)	
College View Lane		*Lagerstroemia indica* Crape Myrtle (pink)	

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St. Name	Between	Existing Tree	New Tree
Collegian Ave.		*Ficus nitida* Indian Laurel	*Hymenosporum flavum* Sweet Shade
Copa Way		*Ficus nitida* Indian Laurel	*Lagerstroemia indica* Crape Myrtle (red)
Coral Circle (private) McCaslin		OWN TREES	
Coral View St.		*Lagerstroemia indica* Crape Myrtle (pink)	
Coriolanus	Off Alisar	NO TREE REQUIRED (No easement)	
Corporate Center Dr.	Corporate Center	OWN TREES	
Corporate Pl.	Corporate Center	OWN TREES	
Country Pl.		*Harpephyllum caffrum* Kafir Plum	
Country Rd.		*Harpephyllum caffrum* Kafir Plum	
Craighurst Terr.	Off Graves	NO TREE REQUIRED (No easement)	
Crest Haven Way		*Ficus nitida* Indian Laurel	*Albizia julibrissin* Silk Tree
Crest Vista Dr.	Floral to 951 & 964	*Albizia julibrissin* Silk Tree	
Cumbre St.		*Liquidambarstyraciflua* American Sweetgum	*Lagerstroemia indica* Crape Myrtle (red)
Cupania Circle (private)	McCaslin	NO TREE REQUIRED	
Davidson Dr.	Corporate Center	OWN TREES	
De La Fuente	South limits to Cadiz, west side of St.	*Callistemon lanceolatus* Lemon Bottlebrush	
	1010 Cadiz to Cadiz , east side of St.	*Callistemon vimunalis* Weeping Bottlebrush	
	Cadiz to Harding	*Callistemon vimunalis* Weeping Bottlebrush	
	Harding to Kingsford	NO TREE REQUIRED (No easement)	
Dell Dr.		*Liquidambarstyraciflua* American Sweetgum	*Ginkgo Biloba* Maidenhair (male)
Diane Way	Off Cecil	NO TREE REQUIRED (No easement)	

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St. Name	Between	Existing Tree	New Tree
Divina Vista St.		*Ulmus parvifolia semperwirens* Chinese Elm	*Geijera parviflora* Australian Willow
Divine Dr.	Off Floral	*Lagerstroemia indica* Crape Myrtle	
Doncrest St.		*Liquidambarstyraciflua* American Sweetgum	*Ginkgo Biloba* Maidenhair (male)
Donner Pl.	Off Ridgecrest	*Ilex altaclarensis "Wilsoni"* Wilson Holly	
Dorner Dr.	Collegian to First St.	*Tristania conferta* Brisbane Box	
	Schoolside to Vancouver	*Magnolia Grandiflora* Southern Magnolia	
Dover Way		*Ficus nitida* Indian Laurel	*Magnolia Grandiflora* Southern Magnolia
Durango Dr.		*Ficus nitida* Indian Laurel	*Magnolia Grandiflora* Southern Magnolia
East Crest Way	Off Ridgeside	*Callistemon lanceolatus* Lemon Bottlebrush	
Edgley Dr.		*Callistemon lanceolatus* Lemon Bottlebrush	
Electric Ave.		*Pyrus kawakami* Evergreen Pear	*Pyrus calleryana* Bradford Pear
Elevado Terr.	Off Arriba	*Cupaniopsis anacardioides* Carrot Wood	*Albizia julibrissin* Silk Tree
Elizabeth Ave.	Garvey to Emerson	*Lagerstroemia indica* Crape Myrtle (red)	
	Emerson to north limits	*Lagerstroemia indica* Crape Myrtle (red)	
El Mercado Ave.		*Cupaniopsis anacardioides* Carrot Wood	*Lagerstroemia indica* Crape Myrtle (red-eastside, white-westside)
Elmgate St.	Grandridge to Garfield	NO TREE REQUIRED (No easement)	
	Garfield to Wilcox	*Harpephyllum caffrum Kafir Plum*	
El Portal Pl.		*Pittosporum undulatum* Victorian Box	
El Repetto Dr.	Lincoln to & including 401	NO TREE REQUIRED (No easement)	
	400, southside of 418 Piedra	Alnus rhombifolia White Alder	

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St. Name	Between	Existing Tree	New Tree
	Atlantic to Dell	Ligustrum lucidum Glossy Privet	
Emerald Way	Off Wheeler	Camphora officinarum Camphor	
Emerson Ave.	West limits to Huntington	*Lagerstroemia indica* Crape Myrtle (pink)	
	Huntington to Alhambra	*Pyrus kawakami* Evergreen Pear	*Pyrus calleryana* Bradford Pear
	Alhambra to east limits	*Lagerstroemia indica* Crape Myrtle (pink)	
Eroica	Off north-Alisar	NO TREE REQUIRED (No easement)	
Everette Ave.	Garvey to Edgley	*Ilex altaclarensis "Wilsoni"* Wilson Holly	
	Peach to Graves	*Callistemon lanceolatus* Lemon Bottlebrush	
Feliz St.		*Callistemon lanceolatus* Lemon Bottlebrush	
Ferdinand Ave.		*Jacaranda acutufolia* Jacaranda	
Fernbank Ave.	Off Elmgate	NO TREE REQUIRED (No easement)	
East Fernfield	West end to Wilcox	*Cupaniopsis anacardioides* Carrot Wood	*Liriodendron tulipifera* Tulip-"Arnold"
	Wilcox to Markland	*Liquidambarstyraciflua* American Sweetgum	*Liriodendron tulipifera* Tulip-"Arnold"
Fernfiled Dr.	Markland to East End	NO TREE REQUIRED (No easement)	
	Garfield to Isabella	*Lagerstroemia indica* Crape Myrtle (pink)	
	Isabella to Ferdinand	*Ilex altaclarensis "Wilsoni"* Wilson Holly	
	Ferdinand to Via Norte	NO TREE REQUIRED (No easement)	
	Hendricks to Gerhart	*Prunus Caroliniana* Carolina Cherry	*Tristania conferta* Brisbane Box
	Gerhart to west end	*Ligustrum lucidum* Glossy Privet	
Fillmore Dr.	Off Ackley	*Jacaranda acutufolia* Jacaranda	
Findlay Ave.	Pomona to Riggin	*Prunus cerasifera vesuviua* Purple Leaf Plum	
	Riggin to Almora	NO TREE REQUIRED (No easement)	

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St. Name	Between	Existing Tree	New Tree
First St.		*Magnolia Grandiflora* Southern Magnolia	
Floral Ave.	Garfield to Isabella	*Ficus Nitida* Indian Laurel	
	Findlay to Isabella	NO TREE REQUIRED (No easement)	
	West end to Findlay	*Jacaranda acutufolia* Jacaranda	
	Atlantic to Long Beach Fwy.	*Liquidambarstyraciflua* American Sweetgum	*Lagerstroemia indica* Crape Myrtle (purple)
	Garfield to Fulton	*Jacaranda acutufolia* Jacaranda	
Florence Ave.	Garvey to Emerson	*Lagerstroemia indica* Crape Myrtle (pink)	
	Emerson to north limits	*Lagerstroemia indica* Crape Myrtle (pink)	
Fotini Pl.		*Cupaniopsis anacardioides* Carrot Wood	*Lagerstroemia indica* Crape Myrtle (white)
Foxglove Dr.	Off Fernfield	*Fraxinus velutina "Modesto"* Modesto Ash	*Camphora officianrum* Camphor
Fremont Ave.		*Callistemon lanceolatus* Lemon Bottlebrush	
Friar Dr.	Off Kenton	NO TREE REQUIRED (No easement)	
Fulton Ave.	Kempton to Kempton	*Jacaranda acutufolia* Jacaranda	
	Kempton to Edison Trails	NO TREE REQUIRED (No easement)	
	Edison Trails to Floral	*Alrus rhomifolia* White Alder	
	Floral to Pomona	*Fraxinus velutina "Modesto"* Modesto Ash	*Geijera parviflora* Australian Willow
Garcelon Ave.		*Callistemon lanceolatus* Lemon Bottlebrush	
Garfield Ave.	Hellman to Newmark	*Ficus nitida* Indian Laurel	*Arecastrum romanzoffianum* Queen Palm
	Newmark to Maronde Way	*Ficus nitida* Indian Laurel	*Arecastrum romanzoffianum* Queen Palm

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St. Name	Between	Existing Tree	New Tree
Garfield Ave.	Maronde Way to Elmgate	*Ficus nitida* Indian Laurel	*Arecastrum romanzoffianum* Queen Palm
	Elmgate to Pomona	*Ficus nitida* Indian Laurel	*Arecastrum romanzoffianum* Queen Palm
Garvey Ave.	New to Atlantic	*Ficus nitida* Indian Laurel	*Arecastrum romanzoffianum* Queen Palm
	Atlantic to Casuda Canyon	*Ficus nitida* Indian Laurel	*Arecastrum romanzoffianum* Queen Palm
Gerhart Ave.	Pomona to Riggin	*Liquidambarstyraciflua* American Sweetgum	*Magnolia grandiflora* Southern Magnolia
Gerhart Ave.	Riggin to north end of St.	*Liquidambarstyraciflua* American Sweetgum	*Magnolia grandiflora* Southern Magnolia
Gladmar St.	Collegian to Sherbrook	*Ligustrum lucidum* Glossy Privet	
Gladys Ave.		*Callistemon lanceolatus* Lemon Bottlebrush	
East Gleason St.	Off Juneway Rd.	*Fraxinus velutina "Modesto"* Modesto Ash	*Camphora officianrum* Camphor
	Wilcox to Fulton	*Fraxinus velutina "Modesto"* Modesto Ash	*Camphora officianrum* Camphor
West Gleason St.	Isabella to Ferdinand	*Ulmus parvifolia sermpervirens* Chinese Elm	*Camphora officianrum* Camphor
	Ferdinand to Via Norte	*Lagerstroemia indica* Crape Myrtle (pink)	
	Hendricks to west end	*Cupaniopsis anacardioides* Carrot Wood	*Ligustrum lucidum* Glossy Privet
Glenview Terr.	Off north-Sunrise	*Pittosporum rhombifolium* Queensland Pittosporum	*Pittosporum undulatum* Victorian Box
Granada Dr.	Off Arriba	*Pinus Thunbergii* Japanese Black Pine	*Bauhinia blakeana* Hong Kong Orchid
Grandeza St.		*Ficus nitida* Indian Laurel	*Magnolia grandiflora* Southern Magnolia
Grandridge Ave.	Garfield to 697	*Ficus nitida* Indian Laurel	*Bauhinia blakeana* Hong Kong Orchid
	785 to 1071 & 1078	*Liquidambarstyraciflua* American Sweetgum	*Bauhinia blakeana* Hong Kong Orchid
	1095 & 1096 to Grandridge Pl.	NO TREE REQUIRED (No eastment)	

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St. Name	Between	Existing Tree	New Tree
Grandridge Ave.	Grandridge Pl. to Floral	NO TREE REQUIRED (No easement)	
Grandridge Pl.		*Magnolia grandiflora* Southern Magnolia	
Grand Vista Pl.		*Lagerstroemia indica* Crape Myrtle (pink)	
Grand Vista Way	Off Crest Vista	*Lagerstroemia indica* Crape Myrtle (pink)	
Grant St.	Off Van Buren	*Cupaniopsis anacardioides* Carrot Wood	*Geijera Parviflora* Australian Willow
Graves Ave.	East limits to Orange	Cupaniopsis anacardioides Carrot Wood	*Hymenosporum flavum* Sweet Shade
	Orange to Garfield	Cupaniopsis anacardioides Carrot Wood	*Hymenosporum flavum* Sweet Shade
Graves Ave.	Grandridge to El Mercado	*Callistemon lanceolatus* Lemon Bottlebrush	
Graylock Ave.	Off Elmgate	NO TREE REQUIRED (No easement)	
Greenwood Ave.	Off Potrero Grande	NO DESIGNATED TREE AS OF YET	
Hamlet Dr.	Off Metro	*Pinus canariensis* Canary Island Pine	*Lagerstroemia indica* Crape Myrtle (red)
Hammel St.	Riggin to Riggin	*Harpephyllum caffrum* Kafir Plum	
	Isabella to Ferdinand	*Ulmus parviflora sempervirens* Chinese Elm	*Camphora officianrum* Camphor
	Ferdinand to Findlay	NO TREE REQUIRED (No easement)	
	Hendricks to Gerhart	*Prunus cerasifera vesuvius* Purple Leaf Plum	
Hampton Ave.		*Lagerstroemia indica* Crape Myrtle (pink)	
Harding Ave.	Ramona to Atlantic		
	Atlantic to Kingsford		
Harrison Rd.		*Camphora officianrum* Camphor	
Hathaway Ave.	Off west Hellman	*Prunus Caroliniana* Carolina Cherry	*Lagerstroemia indica* Crape Myrtle (purple)
Heather Dr.		*Ceratonia Siliqua* Carob	*Magnolia Grandiflora* Southern Magnolia

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St. Name	Between	Existing Tree	New Tree
Hellman Ave.	Hathaway to Atlantic	Lagerstroemia indica Crape Myrtle	
	Atlantic to McPherrin	*Pyrus kawakami* Evergreen Pear	*Pyrus calleryana* Bradford Pear
	McPherrin to Alhambra	Lagerstroemia indica Crape Myrtle (pink and white)	
	Alhambra to East Limits	*Pyrus kawakami* Evergreen Pear	*Pyrus calleryana* Bradford Pear
Hendricks Ave.		*Liquidambarstyraciflua* American Sweetgum	*Melaleuca leucadendra* Cajeput
Hendron Way	South-end of Kempton	*Lagerstroemia indica* Crape Myrtle	
Hermosa Vista St.		NO TREE REQUIRED (No easement)	
Hershey Ave.		NO TREE REQUIRED (No easement)	
Highland Dr.		*Fraxinus velutina "Modesto"* Modesto Ash	*Magnolia grandiflora* Southern Magnolia
Hilliard Ave.		*Callistemon lanceolanus* Lemon Bottlebrush	
Hillside St.	Off Brightwood	Albizia julibrissin Silk Tree	
Hillvale Dr.	Off Sunrise	*Liquidambarstyraciflua* American Sweetgum	*Ginkgo biloba* Maidenhair Tree (Male)
Hillview Ave.	Off Riggin	*Cupaniopsis anacardioides* Carrot Wood	*Hymensporum flavum* Sweet Shade
Holly Oak Dr.		*Quercus ilex* Holly Oak	
Holly Oak Pl.		*Quercus ilex* Holly Oak	
Huntington Ave.	Garvey to Hellman	*Callistemon lanceolatus* Lemon Bottlebrush	
	Harding to Grandridge	*Callistemon lanceolatus* Lemon Bottlebrush	
Iris Way		*Lagerstroemia indica* Crape Myrtle (pink)	
Isabella Ave.	Isabella Terr. to 990 & 993	NO TREE REQUIRED (No easement)	
	995 & 996 & 1144 & 1145	*Jacaranda acutifolia* Jacaranda	
	1150 & 1151 & 1600 & 1693	NO TREE REQUIRED (No easement)	

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St. Name	Between	Existing Tree	New Tree
Isabella Ave.	1768 to Floral	NO TREE REQUIRED (No easement)	
	Floral to Pomona	*Jacaranda acutifolia* Jacaranda	
Isabella Terr.	Grandridge to Isabella	NO TREE REQUIRED (No easement)	
Jade Tree Dr.		*Prunus cerasifera Vesuvius* Purple Leaf Plum	
Juneway Rd.		*Harpephyllum caffrum* Kafir Plum	
Karl Barnum Way	Off Ridgeside	*Ficus benjamina* Weeping Chinese Banyan	
Kays Ave.	Teresa to Mooney	NO TREE REQUIRED (No easement)	
Keller St.	Garfield to Fulton	NO TREE REQUIRED (No easement)	
Kempton Ave.	Lincoln to 695 & 696 Kempton	NO TREE REQUIRED (No easement)	
Kempton Ave.	740 to Fulton	*Jacaranda acutifolia* Jacaranda	
	1500 block Fulton to 1688-91 Kempton (Edison Trails Park)	NO TREE REQUIRED (No easement)	
	Edison Trails to west end	*Jacaranda acutifolia* Jacaranda	
Kempton Pl.		*NO TREE REQUIRED (No easement)*	
Kenton Dr.	Off Potrero Grande	*Ilex altaclarensis "Wilsoni"* Wilson Holly	
Kern Ave.	Off Floral	*Lagerstroemia indica* Crape Myrtle	
Kingsford St.	East side only	*Phoenix canariensis* Canary Island Date Palm	
Knoll Dr.	Off Electric	*Lagerstroemia indica* Crape Myrtle (pink)	
Ladera St.		*Prunus caroliniana* Carolina Cherry	*Lagerstroemia indica* Crape Myrtle (white)
LaMont Dr.	Off Cecil	*Lagerstroemia indica* Crape Myrtle	
Langley Way		*NO TREE REQUIRED (No easement)*	
Laurel Circle		*Ficus nitida* Indian Laurel	*Lagerstroemia indica* Crape Myrtle (red)

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St. Name	Between	Existing Tree	New Tree
Laurel Dr.		*Ficus nitida* Indian Laurel	*Lagerstroemia indica* Crape Myrtle (white)
Laurel Pl.		*Ficus nitida* Indian Laurel	*Lagerstroemia indica* Crape Myrtle (purple)
Lightview St.	Off Hillside	*Liquidambarstyraciflua* American Sweetgum	*Albizia julibrissin* Silk Tree
Lincoln Ave.	Hellman to Garvey	*Lagerstroemia indica* Crape Myrtle (pink)	
	Garvey to Graves	*Dodonea viscose "Purpurea"* Hopseed	*Bauhinia blakeana* Hong Kong Orchid
	Graves to Wilcox	*NO TREE REQUIRED (No easement)*	
Loma Verde St.	Brightwood to 1200	*Ceratonia siliqua* Carob	*Camphora officianrum* Camphor
	1034 & 1035 to Ynez	*NO TREE REQUIRED (No easement)*	
	Ynez to El Mercado	*Cedus deodara* Deodar Cedar	
Longhill Dr.	Off Highland Dr.	*Pittosporum rhombifolium* Queensland Pittosporum	*Pittosporum undulatum* Victorian Box
Longhill Way		*Lagerstroemia indica* Crape Myrtle	
Lunar Dr.		*Magnolia grandiflora* Southern Magnolia	
Lupine Ave.	1500 block Kempton to Edison Trails	*NO TREE REQUIRED (No easement)*	
	1800 block Lupine (Edison Trails) to Floral	*Liquidambarstyraciflua* American Sweetgum	*Magnolia grandiflora* Southern Magnolia
Lupine Pl.		*NO TREE REQUIRED (No easement)*	
Luy St.	Off Van Buren	*Cupaniopsis anacardioides* Carrot Wood	*Lagerstroemia indica Crape Myrtle (red)*
Mabel Ave.	Orange to east end	*Lagerstroemia indica* Crape Myrtle (pink)	
	Atlantic to Marguerita	*Callistemon lanceolatus* Lemon Bottlebrush	
	Monterey Pass Rd. to Electric	*Callistemon lanceolatus* Lemon Bottlebrush	
Magnolia Dr.		*Magnolia grandiflora* Southern Magnolia	
Mancha Pl.		*NO TREE REQUIRED (No easement)*	

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Mancha Way	Keller to Edison	*NO TREE REQUIRED (No easement)*	
	Edison Trails to Heather	*Liquidambarstyraciflua* American Sweetgum	*Liriodendron tulipfera* Tulip
	Heather to south end	*Lagerstroemia indica* Crape Myrtle (pink)	
Maplegate St.	Off Aldergate	*Liquidambarstyraciflua* American Sweetgum	*Magnolia grandiflora* Southern Magnolia
Margaret Ave.	Off west Fernfield	*NO TREE REQUIRED (No easement)*	
Marguerita Ave.		*Cupaniopsis anacardioides* Carrot Wood	*Lagerstroemia indica* Crape Myrtle (white)
Markland Dr.	Isabella to Findlay	*Callistemon lanceolatus* Lemon Bottlebrush	
	Hendricks to Gerhart	*Prunus Caroliniana* Carolina Cherry	*Magnolia grandiflora* Southern Magnolia
	Gerhart to Hillview	*Koelreuteria bipinnata* Goldenrain Tree	
	Riggin to Wilcox	*Harpephyllum caffrum* Kafir Plum	
	Wilcox to Potrero Grande	*Fraxinum velutina "Modesto"* Modesto Ash	*Magnolia grandiflora* Southern Magnolia
Maronde Way		*NO TREE REQUIRED (No easement)*	
McBride Ave.	Floral to west limits	*Pinus thunbergii* Japanese Black Pine	*Lagerstroemia indica Crape Myrtle (purple)*
McComb Way	Off Kempton	*Jacaranda acutifolia* Jacaranda	
McPherrin Ave.	Hellman to Garvey	*Callistemon lanceolatus* Lemon Bottlebrush	
	Garvey to Graves	*Melaleuca leucadendra* Cajeput Treet	
	El Repetto to south end to St.	NO TREE REQUIRED (No easement)	
	Bradshawe to end to St.	NO TREE REQUIRED (No easement)	
Mesa Way	Off Verde Vista	*Lagerstroemia indica* Crape Myrtle (purple)	
Metro Dr.		*Callistemon lanceolatus* Lemon Bottlebrush	
Milan Pl.	Off Wilcox	NO TREE REQUIRED (No easement)	

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St. Name	Between	Existing Tree	New Tree
Mira Valle St.	Divina Vista to 945	NO TREE REQUIRED (No easement)	*Hymenosporum flavum* Sweet Shade
	1000 to 1851	*Pinus canariensis* Canary Island Pine	
	1853 to NE corner to Mira Valle and Cielito	NO TREE REQUIRED (No easement)	
Montechico Dr.		NO TREE REQUIRED (No easement)	
Monterey Pass Rd	Fremont to Floral	*Pinus thunbergii* Japanese Black Pine	*Geijera parviflora* Australian Willow
Moonbeam Dr.		*Lagerstroemia indica* Crape Myrtle (pink)	
Mooney Dr.	Orange to east limits	*Lagerstroemia indica* Crape Myrtle (pink)	
	Sefton to 200 E. Mooney	NO TREE REQUIRED (No easement)	
Moore Ave.	Hellman to Garvey	*Ligustrum lucidum* Glossy Privet	
	Garvey to Newmark	*Callistemon lanceolatus* Lemon Bottlebrush	
	Newmark to Harding	*Callistemon lanceolatus* Lemon Bottlebrush	
Nachi Way		*Albizia julibrissin* Silk Tree	
New Ave.		*Prunus cerasifera Vesuvius* Purple Leaf Plum	
Newlee Ave.	Off Electric	*Callistemon lanceolatus* Lemon Bottlebrush	
Newmark Ave.	Montechico to Marguerita	NO TREE REQUIRED (No easement)	
	Marguerita to Monterey Pass Rd.	*Lagerstroemia indica* Crape Myrtle (pink)	
	Atlantic to Ramona	*Pyrus kawakami* Evergreen Pear	*Pyrus calleryana* Bradford Pear
	Ramona to Alhambra	*Lagerstroemia indica* Crape Myrtle (pink)	
	Alhambra to New	*Pyrus kawakami* Evergreen Pear	*Pyrus calleryana* Bradford Pear
Nicholson Ave.	Hellman to Garvey	*Callistemon lanceolatus* Lemon Bottlebrush	
	Garvey to Newmark	*Dodonea viscose "Purpurea"* Hopseed	*Photinia fraseri* Photinia
North Ridge Pl.	Off Hillside Dr.	*Lagerstroemia indica* Crape Myrtle	

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St. Name	Between	Existing Tree	New Tree
Oakgate St.		*Lagerstroemia indica* Crape Myrtle	
Ojai Circle	Off Bradshawe	*Magnolia grandiflora* Southern Magnolia	
Olive Pl.	Off Orange	*Olea europaea* European Olive	
Orange Ave.	Hellman to Garvey	NO TREE REQUIRED	
	Garvey to Graves	*Dodonea viscose "Purpurea"* Hopseed	*Lagerstroemia indica* Crape Myrtle (pink)
	Tegner to Taylor	*Dodonea viscose "Purpurea"* Hopseed	*Lagerstroemia indica* Crape Myrtle (pink)
	Taylor to Saturn	*Lagerstroemia indica* Crape Myrtle (pink)	
Orange Pl.		*Pyrus kawakami* Evergreen Pear	*Pyrus calleryana* Bradford Pear
Palm Ave.	Off Ackley	*Arecastrum romanzoffianum* Queen Palm	
Park Ave.	Off McPherrin	*Pyrus kawakami* Evergreen Pear	*Pyrus calleryana* Bradford Pear
Pavo Real Ave.	Grandridge to El Repetto	NO TREE REQUIRED (No easement)	
Pavo Real Ave.	McPherrin to north end	NO TREE REQUIRED (No easement)	
Peach St.		*Callistemon lanceolatus* Lemon Bottlebrush	
Pebble Ct.		*Callistemon lanceolatus* Lemon Bottlebrush	
Pebbledon St.		*Ficus benjamina* Weeping Chinese Banyan	
Pebblehurst St.		*Callistemon lanceolatus* Lemon Bottlebrush	
Pebble Vale St.		*Prunus caroliniana* Carolina Cherry	*Lagerstroemia indica* Crape Myrtle (purple)
Pelon Way	Off Isabella	*Jacaranda acutifolia* Jacaranda	
Pepper St.		*Schinus terebinthifolius* Brazilian Pepper	
Piedra Way	Off El Repetto	NO TREE REQUIRED (No easement)	
Pierce Pl.		*Callistemon lanceolatus* Lemon Bottlebrush	
Plateau Ave.	Metro Area	*Cupaniopsis anacardioides* Carrot Wood	*Magnolia grandiflora* Southern Magnolia

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St. Name	Between	Existing Tree	New Tree
Pluma Way	Off Loma Verde	*Ceratonia siliqua* Carob	*Camphora officianrum* Camphor
Poco Way		NO TREE REQUIRED (No easement)	
Polk Way	Off Van Buren	*Callistemon lanceolatus* Lemon Bottlebrush	
Pomelo Ave.		*Pittosporum rhombifolium* Queensland Pittosporum	*Pittosporum undulatum* Victorian Box
Pomona Blvd.	Alternating	*Lagerstroemia indica* Crape Myrtle (pink) & *Callistemon lanceolatus* Lemon Bottlebrush	
Potrero Grande	East Saturn to Pomona	*Lagerstroemia indica* Crape Myrtle (pink, white) & *Callistemon lanceolatus* Lemon Bottlebrush	
	East- Saturn to Arroyo	*Cupaniopsis anacardioides* Carrot Wood	*Lagerstroemia indica* Crape Myrtle (pink, white) & *Callistemon lanceolatus* Lemon Bottlebrush
Pueblo Dr.	Off Arriba	*Liquidambarstyraciflua* American Sweetgum	*Tristania conferta* Brisbane Box
Punta Way	Off Grandridge	NO TREE REQUIRED (No easement)	
Ramona Ave.	Garvey to Newmark	*Lagerstroemia indica* Crape Myrtle (pink)	
	Newmark to Garfield, west side of St. only	*Magnolia grandiflora* Southern Magnolia	
	Newmark to Garfield, east side of St. only	*Lagerstroemia indica* Crape Myrtle (pink)	
Ransom Way	Off Russell	*Ficus nitida* Indian Laurel	*Arecastrum romanzoffianum* Queen Palm
Red Plum Circle (private)	McCaslin	*OWN TREES*	
Ridge Crest Ct.		*Liquidambarstyraciflua* American Sweetgum	*Liriodendron tulipfera* Tulip "Arnold"
Ridge Crest St.	Floral to Monterey Hills Estate gate	*Liquidambarstyraciflua* American Sweetgum	*Albizia julibrissin* Silk Tree
	Monterey Hills Estate gate to north end	*Callistemon lanceolatus* Lemon Bottlebrush	

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St. Name	Between	Existing Tree	New Tree
Ridge Crest Way		*Lagerstroemia indica* Crape Myrtle (red)	
Ridgeside Circle		*Pinus thunbergii* Japanese Black Pine	
Ridgeside Dr.	Wandering to 1095 & 100	*Schinus terebinthifolius* Brazilian Pepper	*Magnolia grandiflora* Southern Magnolia
	1075 & 1086 to Crest Vista	*Pinus thunbergii* Japanese Black Pine	
Riggin St.	East end to Wilcox	*Cupaniopsis anacardioides* Carrot Wood	*Lagerstroemia indica* Crape Myrtle (white)
	Wilcox to Garfield	*Liquidambarstyraciflua* American Sweetgum	*Lagerstroemia indica* Crape Myrtle (white)
	Garfield to Ferdinand	*Pyrus kawakami* Evergreen Pear	*Camphora officianrum* Camphor
	Ferdinand to Atlantic	*Cupaniopsis anacardioides* Carrot Wood	*Camphora officianrum* Camphor
Robinlinda Lane	Off Arroyo	*Ficus nitida* Indian Laurel	*Ginkgo Biloba* Maidenhair (male)
Roca Way		*Lagerstroemia indica* Crape Myrtle (red)	
Rock Haven St.		*Ilex altaclarensis "Wilsoni"* Wilson Holly	
Rock View Ct.		*Ilex altaclarensis "Wilsoni"* Wilson Holly	
Rock View St.		*Liquidambarstyraciflua* American Sweetgum	*Bauchinia blakeana* Hong Kong Orchid
Rodman Circle	Off Crest Vista	*Pinus thunbergii* Japanese Black Pine	
Rolling Hill Dr.		*Lagerstroemia indica* Crape Myrtle (pink)	
Roscommon Ave.	Off Cesar Chavez	*Prunus Caroliniana* Carolina Cherry	*Geijera parviflora* Australian Willow
Roselyn Pl.	Off Ramona	NO TREE REQUIRED (No easement)	
Roselyn Way (private)		NO TREE REQUIRED (No easement)	
Rural Dr.	Hellman to Garvey	NO TREE REQUIRED (owner's responsibility to maintain)	
	Garvey to Edgley	*Lagerstroemia indica* Crape Myrtle (pink)	
Russell Ave.	Garvey to Newmark	*Lagerstroemia indica* Crape Myrtle (red)	

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St. Name	Between	Existing Tree	New Tree
Russell Ave.	Newmark to Graves	*Lagerstroemia indica* Crape Myrtle (pink)	
	Graves to south end	*Lagerstroemia indica* Crape Myrtle (pink)	
Sadler Ave.		*Cupaniopsis anacardioides* Carrot Wood	*Ligustrum lucidum* Glossy Privet
San Patricio St.	Off Ackley	*Lagerstroemia indica* Crape Myrtle (pink)	
Saturn St.	McCaslin	*Lagerstroemia indica* Crape Myrtle (white)	
Schoolside Ave.		*Ligustrum lucidum* Glossy Privet	
Sefton Ave.	Mooney to Graves	NO TREE REQUIRED (No easement)	
	Graves to Newmark	*Ginkgo biloba* Maidenhair Tree	
	Edgley to Garvey	*Ficus nitida* Indian Laurel	*Eriobotrya deflexa* Bronze Loquat
Sevilla St.		NO TREE REQUIRED (No easement)	
Shady Crest Lane		*Callistemon lanceolatus* Lemon Bottlebrush	
Sherbrook Ave.		*Mixed varieties*	*Hymenosporum flavum* Sweet Shade
Sheriff Rd.		NO TREE REQUIRED (No easement)	
Sherwood Circle	Off west-Hammel	*Schinus terebinthifolis* Brazilian Pepper	*Bauhinia blakeana* Hong Kong Orchid
Sierra Alta Ave.	Off Cerco Alta	*Schinus terebinthifolis* Brazilian Pepper	
Sierra Vista Ave.	Hellman to Emerson	*Cupaniopsis anacardioides* Carrot Wood	*Lagerstroemia indica* Crape Myrtle (purple)
	Emerson to Garvey	*Cupaniopsis anacardioides* Carrot Wood	*Lagerstroemia indica* Crape Myrtle (purple)
	Garvey to Edgley	*Callistemon lanceolatus* Lemon Bottlebrush	
Solar Dr.		*Liquidambarstyraciflua* American Sweetgum	*Bauhinia blakeana* Hong Kong Orchid
Sombrero Dr.		*Ficus nitida* Indian Laurel	*Lagerstroemia indica* Crape Myrtle (red)
Starbird Dr.	281 to south end	*Liquidambarstyraciflua* American Sweetgum	*Ligustrum lucidum* Glossy Privet

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St. Name	Between	Existing Tree	New Tree
Starbird Pl.		*Liquidambarstyraciflua* American Sweetgum	*Ligustrum lucidum* Glossy Privet
Star Ridge Pl.	Off Hillside Dr.	*Lagerstroemia indica* Crape Myrtle (pink)	
Stone Ct.		*Lagerstroemia indica* Crape Myrtle (pink)	
Stone Gate St.		*Schinus terebinthifolius* Brazilian Pepper	*Ginkgo biloba* Maidenhair Tree
Stonewell St.		*Ginkgo biloba* Maidenhair Tree	
Summit Pl.	Off Ridge Crest	*Pinus thunbergii* Japanese Black Pine	
Sunnyhill Dr.		*Prunus Caroliniana* Carolina Cherry	*Geijera parviflora* Australian Willow
Sunnyslope Dr.		*Fraxinus velutina "Modesto"* Modesto Ash	*Lagerstroemia indica* Crape Myrtle (purple)
Sunnyslope Pl.		*Ilex altaclarensis "Wilsoni"* Wilson Holly	
Sunrise Dr.		*Cupaniopsis anacardioides* Carrot Wood	*Liriodendron tulipfera* Tulip Tree "Arnold"
Sunrise Pl.		*Cupaniopsis anacardioides* Carrot Wood	*Liriodendron tulipfera* Tulip Tree "Arnold"
Susan Way		*NO TREE REQUIRED (easement)*	
Taft Ct.	Off Orange	*Ilex altaclarensis "Wilsoni"* Wilson Holly	
Tapacio Dr.		*Liquidambarstyraciflua* American Sweetgum	*Hymenosporum flavum* Sweet Shade
Taylor Dr.		*Lagerstroemia indica* Crape Myrtle (pink)	
Tedford Way		NO TREE REQUIRED (No easement)	
Tegner Dr.	Off Orange	*Pinus thunbergii* Japanese Black Pine	
Terbush Dr.	Off Potrero Grande	NO TREE REQUIRED (No easement)	
Teresa Ave.	Kays to east limits	NO TREE REQUIRED (No easement)	
Town Ave.	Off Kays	*Callistemon lanceolatus* Lemon Bottlebrush	

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St. Name	Between	Existing Tree	New Tree
Triana Pl.		*Phoenix canariensis* Canary Island Date Palm	*Arecastrum romanzooffianum* Queen Palm
Trumbower Ave.		NO TREE REQUIRED (No easement)	
Tyler Dr.	Off Ackley	*Lagerstroemia indica* Crape Myrtle (pink, purple)	
Vagabond Rd.		*Liquidambarstyraciflua* American Sweetgum	*Eriobotrya deflexa* Bronze Loquat
Valley Vista Dr.	Floral to Solar	*Prunus cerasifera Vesuvius* Purple Leaf Plum	
Van Buren Dr.	Fulton to 489 van Buren	*Cupaniopsis anacardioides* Carrot Wood	*Lagerstroemia indica* Crape Myrtle (white)
	500 Van Buren to Fillmore	*Cupaniopsis anacardioides* Carrot Wood	*Lagerstroemia indica* Crape Myrtle (white)
Vancouver	Floral to Cesar Chavez	*Prunus caroliniana* Carolina Cherry	*Magnolia grandiflora Southern Magnolia*
	Cesar Chavez to First St.	*Magnolia grandiflora Southern Magnolia*	
Vercoe Pl.	Off Wilcox	*Jacaranda acutifolia* Jacaranda	
Verde Vista Dr.	Ladera to 1601 and 1650	*Lagerstroemia indica* Crape Myrtle (pink)	
	1601 and 1650 to Abajo	*Magnolia grandiflora* Southern Magnolia	
Via Norte Ave.	Off Pomona	*Schinus terebinthifolius* Brazilian Pepper	*Ginkgo biloba* Maidenhair Tree
Village Dr.	Off Metro	*Pinus tunbergii* Japanese Black Pine	
Village Pl.		*Prunus cerasifera Vesuvius* Purple Leaf Plum	
Villa Monte	Off Graves	*Liquidambarstraciflua* American Sweetgum	*Lagerstroemia indica* Crape Myrtle (pink)
Wandering Dr.	Off Crest Vista	*Jacaranda acutifolia* Jacaranda	
West Crest Way		*Prunus caroliniana* Carolina Cherry	*Bauhinia blakeana* Hong Kong Orchid
Wescott Ave.	Off Cesar Chavez	*Ligustrum lucidum* Glossy Privet	
Wheeler Dr.		*Camphora officianrum* Camphor	

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St. Name	Between	Existing Tree	New Tree
Whitehurst Dr.		NO TREE REQUIRED (No easement)	
Whitmore Ave.	New to east limits	NO TREE REQUIRED (No easement)	
Whitney Pl.	Off Williams	NO TREE REQUIRED (No easement)	
Wilcox Ave.	Kempton to 1183 and 1186	*Jacaranda acutifolia* Jacaranda	
	Excluding 1183 and 1186 to 1520	NO TREE REQUIRED (No easement)	
	1521 and 1536 to Pomona	*Jacaranda acutifolia* Jacaranda	
Williams St.	Off Electric	NO TREE REQUIRED (No easement)	
Wilson Pl.	Off Orange	*Magnolia grandiflora* Southern Magnolia	
Windover Way	Off Crest Vista	*Lagerstroemia indica* Crape Myrtle (pink)	
Woodland way	Off Markland	*Ligustrum lucidum* Glossy Privet	
Woods Ave.	Floral to Cesar Chavez	*Pyrus kawakami* Evergreen Pear	*Pyrus calleryana* Bradford Pear
	Cesar Chavez to First	*Quecux ilex* Holly Oak	
Ynez Pl.	Hellman to Garvey	*Callistemon lanceolatus* Lemon Bottlebrush	
	Garvey to Harding	*Pyrus kawakami* Evergreen Pear	*Pyrus calleryana* Bradford Pear
	Harding to Triana St.	*Lagerstroemia indica* Crape Myrtle (pink)	
	Triana St. to Cadiz	*Magnolia grandiflora* Southern Magnolia	
	Sevilla to Adobe	*Camphora officianrum* Camphor	
Zaring St.		*Cupaniopsis anacardioides* Carrot Wood	*Camphora officianrum* Camphor