2019

URBAN FOREST MANAGEMENT PROGRAM

Adopted
May 7, 2019

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VISION

Placentia embraces its urban forest as an integral part of the community's infrastructure, which contributes to the healthy lifestyle of its residents; connects and enhances natural areas and habitat; provides ecological services, such as cleansing the region's air, capturing stormwater and sequestering carbon; and contributes to the property values of the City.

The Urban Forest Management Program (Program) is vibrant, robust and held as a critical city service. The Program draws strength from active, committed partners and volunteers and maintains a successful education and outreach program to engage the community. Its keen focus on integrated urban forestry education and direct landowner outreach make the Program both innovative and highly effective, while saving to maintain the Urban Forest in a healthy and sustainable way.

The urban forest of today is the result of the decisions by those who managed the forest before us and is greater than the sum of individual trees outside our homes, shops and offices. It is the environment in which we work and play and through which we travel daily. It is the aesthetic setting for our schools, businesses, cultural attractions, and places of recreation and renewal. It is our ecosystem; the habitat in which we thrive. It is our shared community resource.

EXECUTIVE SUMMARY

"Urban forests grown without foresight or planning can create high maintenance requirements and cost burdens. A well-managed urban forest, however, is economically and environmentally sustainable and a highly-visible source of community pride".

The City of Placentia has recognized that the environmental, economic, social and public health benefits provided by the urban forest along its streets and in its parks, are critical to maintaining attractive city. Moreover, the City recognizes that this valuable resource must be prudently managed and expanded. The intent of the Urban Forest Management Program is to address the long-term management and maintenance of the City' trees through an effective management plan and policies as well as provide the community an active stake in the City's Urban Forest. The goals of the Urban Forest Management Program are to:

1) Maximize the environmental, economic and social benefits derived from the urban forest.

2) Resolve conflicts between City trees and other vital infrastructure while protecting both.

3) Increase public awareness of the many social, economic and environmental benefits of urban forestry practices.

4) Provide increased opportunities and preference for access for financial support for tree projects and contributing to a safer and healthier urban forest.

Urban Forestry, as defined by the Dictionary of Forestry, is the "art, science, and technology of managing tree and forest resources in and around community ecosystems for the physiological, sociological, economic, and aesthetic benefits trees provide society. In 2009, the American Planning Association expanded the Urban Forestry definition to include "a planned and programmatic approach to the development of the urban forest, including all elements of green infrastructure within the community, in an effort to optimize the resulting benefits in social, environmental, public health, economic and aesthetic terms, especially when resulting from a community visioning and goalsetting process".

The City embarked on the development of its first Urban Forest Management Plan (Plan) recognizing the role of urban trees in providing environmental, economic, social and aesthetic benefits, as well as the challenges faced with managing the urban forest. Urban forests require careful management to ensure their preservation, restoration, and expansion. In certain areas of the city, the urban forest is aging, mature trees conflict with infrastructure, and species diversity is in decline. In addition, resources for the planting and care of trees and community participation in tree management are limited.

This document reflects the commitment of the entire Placentia community to foster a robust and resilient urban forest today and for the future. The purpose of the Plan is to facilitate the preservation, management and enhancement of Placentia's urban forest to meet the objectives of the Program:

1) Development of community forest standards.
2) A multi-year maintenance program for the City's Urban Forest.
3) Creation of planting programs to increase tree canopy citywide.
    a. Identify the areas with the greatest need for improvement.
    b. Recommend species appropriate for the available planting spaces.
    c. Discuss specific maintenance plans for newly established trees.
    d. Provide technical information about proper tree planting techniques.
4) A long-term strategy to systematically manage of our tree resources/assets – policy established for how and when trees are removed and under what conditions/protocols.
5) Update City ordinances and planning documents to provide consistency and reflect the Program's objectives.
6) Educate the public about the importance of trees and its care.

The Plan identifies long-term preservation and enhancement objectives and key management considerations including pruning standards, forest expansion, infrastructure maintenance, environmental resources, land use, aesthetics and community objectives. This guiding document includes best practices, technologies, and city policies while allowing for future revision to maintain its relevance for the next 20 years. The Plan will be evaluated and revised periodically to reflect evolving conditions, new information, and updated best management practices. By planning for the urban forest, the City will ensure that it maintains this valuable resource, an investment that will provide consistent returns well into the future. Through implementation of this Plan, the City will improve urban tree management, allocate resources, and promote stewardship in a coordinated, cooperative approach with City departments, community partners and citizens.

MISSION STATEMENT

Placentia's Urban Forest Management Program strives to promote a safe, healthy, and diverse urban forest by preserving, managing and enhancing tree resources, while promoting active community participation through public education and outreach. In cooperation with community residents and program stakeholders, the Program has outlined the following tenets to guide urban forest management in Placentia:

- Protect – Recognize the environmental, economic, cultural and social benefits offered by the urban forest and refine and implement policies to protect public tree resources, while seeking participation from landowners to protect private trees.
- Expand – Enable the growth of public and private tree resources to optimize the urban tree canopy through plantings, outreach and other incentives.
- Manage – Improve and institutionalize the care, maintenance funding and operating principles for the long-term viability of a mixed-aged, sustainable urban tree resource.
- Inform – Expand program awareness through innovative visible outreach and education campaigns.
- Partner – Increase community, private sector and other City departments' involvement in planning, management and funding of the urban forest.

INTRODUCTION

Placentia's urban forest is a valuable segment of the community's infrastructure and ecosystem. Placentia's urban forest is comprised of the nearly 7,000 trees located along public streets or within public parks and property. These trees provide a wealth of social and environmental benefits to City residents and visitors, from shade and beauty to air quality, carbon reduction and stormwater management. A healthy, sustained urban forest, carefully managed and cared for, will contribute significantly to the economic and environmental well-being of the City.

The mission of a well-developed municipal forestry program is to provide coordinated management of the urban forest through city departments, businesses, civic organizations, and residents by the forging of partnerships that place a high importance on trees in the City.

An urban forest management program guides the City's actions towards this mission while conveying a vision for how these valuable assets are nurtured and expanded and identifies the actions needed to achieve that vision. Based on the distinctive character and context of our community, an urban forest management program will help establish consistency and coherence in the City's long-range planning and budgeting for the management and care of its urban forest as well as engage the larger community as an active participant in this program.

WHY DO WE NEED A PROGRAM TO MANAGE TREES?

We need an urban forest management program to help our citizens as well as our employees understand the importance and proper care of our urban forest. Benefits from a properly managed and maintained urban forest include but are not limited to, increased property values, cooler temperatures from the shade they provide, carbon dioxide reduction, mitigation of risk associated property damage and personal injury, and an overall added beauty to our community.

Adoption of this Urban Forest Management Program (Program) and the Urban Forest Management Plan (Plan) ensures proper care and growth of our urban forest through effective policies and long-term maintenance. The result will be a well-maintained and healthy urban forest, as well as successful planning and management for future development. With this plan in place, and its successful operation, the City of Placentia will benefit greatly, and the citizens of Placentia will enjoy these benefits for many years.

Given the cost of removal and replacement of trees in our urban forest, we look to create this management program to help protect the investment of our existing urban forest and to constantly expand with healthy additions. With proper maintenance and care of existing trees, shrubs and landscaping, we look to keep them healthy and thriving with proper pruning, watering, replacement choices, and maintenance techniques in a cost-effective manner.

We will accomplish this by following specific guidelines for nursery quality when planting young trees, having the shaping and pruning of our urban forest preformed/overseen by a certified arborist, and practice best watering and maintenance techniques for the existing urban forest and its additions.

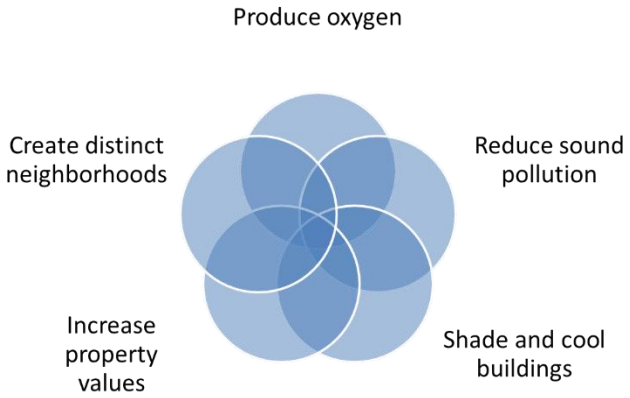
The implementation of an effective Plan will help in preventing and addressing any challenges brought on by storms, invasive pests, or disease. By following the City's Plan, our trees will be properly selected for their areas, pruned and maintained properly, resulting in less damage from pests, disease, and broken limbs/downed trees due to severe weather.

Having an adopted plan also reduces liability on the City due to the fact that we have a clear legal document showing the City is following a specific management plan to properly maintain our urban forest.

Building a successful Program is not only beneficial in keeping the City's urban forest healthy, properly maintained, and aesthetically pleasing, but it also opens the possibility to future grant money. Having a Plan in effect, we are more likely to be recognized as professional and serious in properly using money granted by external agencies such as California Department of Forestry and Fire Protection (CAL Fire) to fund urban forestry activities.

BENEFITS OF THE URBAN FOREST

An urban forest is the collection of trees growing within an urban area. Nationwide, city officials and residents are increasingly recognizing that urban forests are a vital component of community health. While urban forests planted without foresight or planning create high maintenance requirements and heavy cost burdens, a well-managed urban forest will be economically and environmentally sustainable and a highly visible source of community pride. The urban forest laces throughout the City's streets, parks and civic spaces, and adds significantly to the quality of life and the public health enjoyed by the City's residents. Well-maintained urban forests provide social, environmental and economic benefits.



ENVIRONMENTAL BENEFITS

Improved Air Quality: Trees can play several roles in improving air quality. The most direct way that trees help to improve air quality is by absorbing and filtering air pollutants. In addition, trees reduce air pollution by creating cool microclimates and by reducing the demand for air conditioning in buildings. When trees shade buildings and reduce the need for air conditioning, they also indirectly improve air quality. Air pollution increases with higher temperatures, so maintaining cool microclimates can improve air quality.

Temperature Reduction – Heat Island Mitigation: Urban areas can become "urban heat islands" due to the abundance of dark surfaces like asphalt and buildings that absorb the sun's heat and re-radiate the heat resulting in higher air temperatures. Trees and other vegetation can reduce this heat island effect by shading parking lots and other surfaces. In addition, trees can reduce the need for air-conditioning and heating in buildings. Trees located on the south side of buildings provide summer shade and cooling, while other trees can serve as windbreaks to reduce winter chill.

Stormwater Management: Trees improve the quality of stormwater by reducing the amount of stormwater runoff that is lost to storm drains. The leaves of a tree capture rain and other precipitation. This slows the rate of rainfall, reduces lost runoff volume, and increases water percolation directly into the soil, which filters the water. Roots and duff (fallen leaf layer on top of the soil) hold soil in place during storm events and allow more time for water to percolate into the soil.

Connection with Nature – Support Habitat: Trees provide shelter and food for birds and other small animals. A varied tree population supports a wide diversity of animals. In addition to being beneficial on a regional and global level, local habitat diversity creates a dynamic, educational, and enjoyable environment for humans.

"During one year, a mature tree will absorb more than 48 pounds of carbon dioxide from the atmosphere and release oxygen in exchange" (European Environment Agency)

"In Los Angeles, trees remove nearly 2,000 tons of air pollution each year." (U.S. Forest Service, 2011)

SOCIAL BENEFITS

Sense of Place: Character and Beautification. Trees are important elements of most beautification projects for good reasons. Trees bring color, texture, movement, seasonal change, and life into urban environments. Planted alone, trees can provide beautiful accents in an urban landscape. Planted together, trees can transform an urban area by softening typical forms, creating scenic views, and making large spaces and streets pleasing for pedestrians.

Well Being: Trees in urban areas convey serenity by providing a sensory experience of being surrounded by nature, which helps to reduce stress.

Walkable Streets: Street trees offer pedestrians a buffer from nearby vehicles, respite from the hot sun, and colorful scenery to enjoy. In addition, street trees can provide dramatic view corridors and, when properly planned, facilitate way-finding within an urban area.

Benefits of Trees for School Campuses and Academic Performance: The urban forest on school grounds facilitates environmental education opportunities and creates a healthy setting for learning. Access to greenery can help students concentrate and focus in school.

Improved Public Health: Nearly all the benefits provided by trees contribute to health. While clean air and water directly benefit physical health, the provision of shade and aesthetically pleasing streets encourages walking and physical activity. Research has also demonstrated that trees and other vegetation soothe nerves, helping to accelerate healing processes and reduce behavior problems in children.

Community Building: The presence of a healthy urban forest and community-wide efforts to improve urban forest health can empower communities to work together to protect and/or expand the forest, and to build community identity.

Community Safety: Crime levels can be reduced by strengthening and empowering communities through well managed urban forest growth. The greener a building's surroundings, the fewer reported crimes.

""In Baltimore, a 10% increase in tree canopy corresponded to a 12% decrease in crime." (University of Vermont and U.S. Forest Service, 2012).

ECONOMIC BENEFITS

Increased Property Values: Street trees increase property value gains environmentally, socially, and aesthetically. Having large trees in yards along streets increases a home's value from 3 percent to 15 percent (Wolf, 2007).

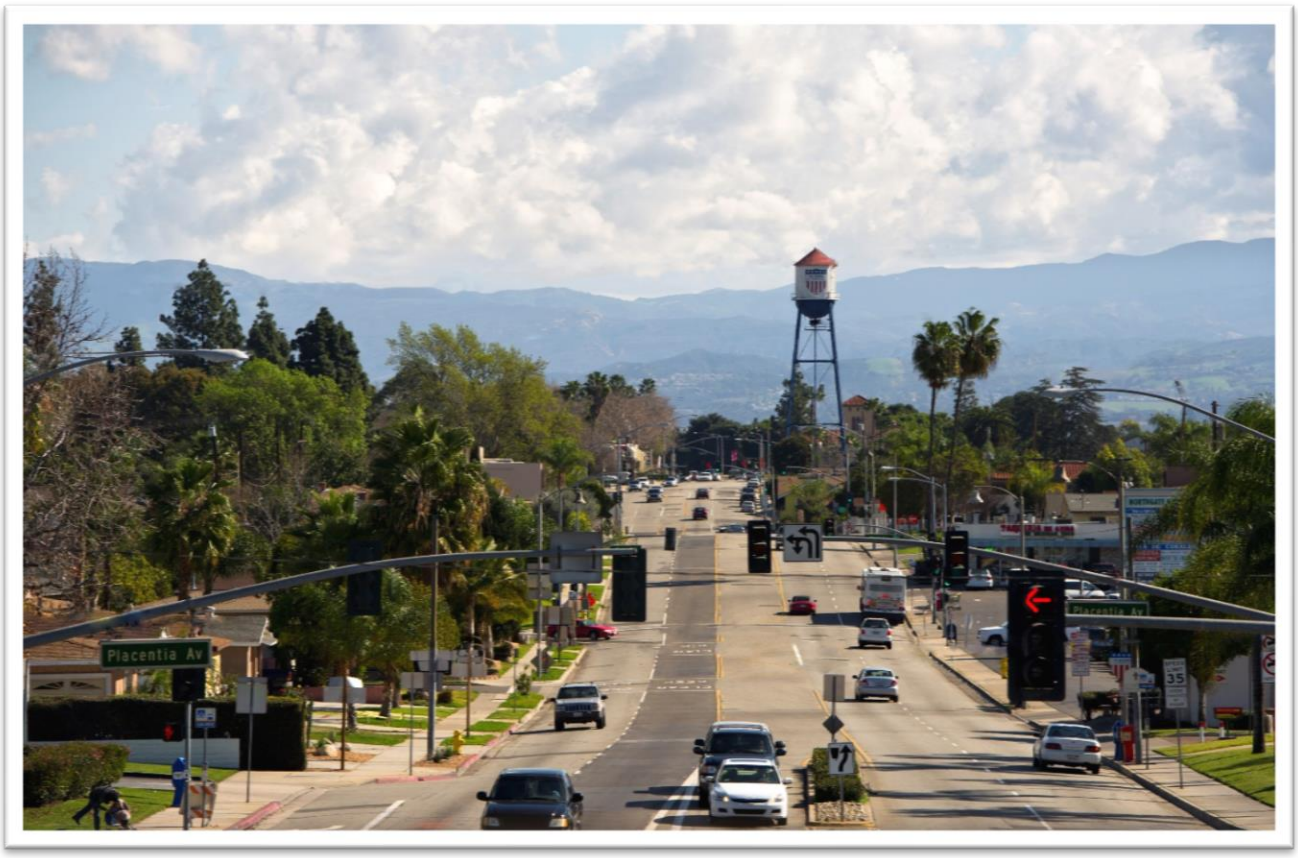
Energy Conservation: Trees can reduce the need for cooling and heating buildings, thereby reducing the cost of operating these systems.

"Trees properly placed around buildings can reduce air conditioning needs by 30 percent and can save 20–50 percent in energy used for heating (U.S. Forest Service)."

Increased Activity in Retail Areas: Street trees can raise the aesthetic appeal of a shopping street, and thus attract more shoppers to a retail block. Consumers have a 12% higher willingness to pay for goods and services in retail areas that have streetscape greening such as street trees and sidewalk gardens (Wolf, 2013).

"Every dollar spent on planting and caring for a community tree yields benefits that are two to five times that investment—benefits that include cleaner air, lower energy costs, improved water quality and storm water control and increased property values." (U.S. Forest Service, 2011).

PLACENTIA'S URBAN FOREST



Placentia's urban forest is comprised of 15,112 street trees, stumps, and vacant planting sites in public rights-of-way, medians, and City parks. Although the urban forest has an estimated value $21,845,40and is recognized as an important component of the urban environment, the size and distribution of the forest is not adequate to provide the desired level of shade and other urban forest benefits throughout the City. With many trees reaching the end of their lifespan or struggling under constrained urban conditions, deferred maintenance practices, and pest and disease infestation improving the health of existing trees and expanding and diversifying the forest is becoming a necessity.

DEFINING PLACENTIA'S URBAN FOREST

Urban forests are the trees and other vegetation growing along streets and waterways, around buildings, in backyards and parks of our City. For the purposes of this Program, Placentia's Urban Forest is defined as the trees within the public realm. Determining whether a tree is within public or private jurisdiction is often difficult since these jurisdictional lines are not typically visible in the physical landscape. For instance, the width of the public right-of-way varies between streets

and even different parcels. In some neighborhoods, there is a visible setback between street tree plantings and private yards. In others, street trees merge with private plantings and as a result it is difficult to discern whether trees are the responsibility of the City or private property owners. While the City assumes responsibility for trees within the public right-of-way, the blurry line between private and public private results in certain trees being overlooked or maintained by private property owners with inappropriate techniques. Undefined boundaries can also be an issue when commercial and institutional properties abut streets without parkways (such as shopping centers and schools.

In order to allow for efficient and effective management of the urban forest, areas of responsibilities are clarified below:

City of Placentia

The City's jurisdiction for the community forest is synonymous with the public right-of-way. The public right-of-way includes the following areas:

Public Rights-of-Way. Street rights-of-way vary are typically defined as the back of the sidewalk to the centerline of the street. The City Engineer provides right-of-way information to maintenance staff when necessary to clarify the jurisdiction of a tree.

Landscaped Medians. All public landscaped street medians are within the City's jurisdiction.

Parks. All existing and future City parks are within the City's jurisdiction.

Public Facilities. Public facilities include the Civic Center, City community centers, City Corporation Yard, City fire stations and the Placentia Metrolink Transit Center.

Private Jurisdiction and Responsibility

Areas of the city that are within private jurisdiction include the following:

Residential Properties. With the exception of the area within public rights-of-way residential front, back and side yards are maintained by individual property owners.

Business/commercial/industrial. Front, side and back areas, including parking lots, that are outside of the street right-of-way are within the jurisdiction of property owners.

Other Designated Areas of Jurisdiction

Placentia-Yorba Linda Unified School District. Trees growing on school property are currently the responsibility of the school district.

Southern California Edison. Trees within power lines outside of public right-of-way or City property are within the jurisdiction of Southern California Edison.

STATE OF PLACENTIA'S URBAN FOREST

An essential component of any urban forest management program or plan is an inventory of its urban forest. Street tree inventories provide information on an individual tree basis on the urban forest. In 2000, the City's tree maintenance contractor West Coast Arborists, Inc. (WCA) inventoried the City's tree and continually updates this inventory throughout the year as part of the tree maintenance services. The City's current street tree inventory (2018) consists of a total of 15,119 street trees, stumps, and vacant planting sites located in street rights-of-way, medians, and facilities in the City of Placentia.

As part of the inventory data collection process, the urban forest maintenance requirements were also identified so that maintenance needs and costs can be projected for upcoming years. The assessment includes routine maintenance trimming, removals of hazardous, dying, or dead trees, removals of stumps, and tree planting in vacant locations within the easement.

Current Condition of City's Urban Trees (2018)

Recommended Maintenance Action	Total	Pct.
Removal-Stump	63	0.41%
Removal-Dead Tree	62	0.41%
Removal-Diseased or Declining	1	0.01%
Removal-Poorly Structured	1	0.01%
Plant	7,774	51.26%
Grid/Routine Trim	7,069	46.78%

This condition information will be updated on an annual basis to coincide with annual work plans and budgets.

Recommended Maintenance Tasks:

1. **Grid/Routine Trimming:** Regardless of the amount of a community's tree management budget, systematic tree maintenance reduces costs in the long term. Systematic tree maintenance programs reduce the need for "emergency" maintenance, help prevent liability problems (such as dead or weak branches), reduce tree mortality and improve the urban forest health and real value over the long-term. The City adopted a four-year grid pruning schedule in 2017.

A systematic tree maintenance program is composed of pre-designed trimming grids which are trimmed in their entirety on a set schedule. By trimming every tree on the street regardless of size, every resident in that community feels that they have received a service for their tax dollars. At the same time, the safety and welfare of the community will be enhanced.

2. **Trim-Poorly Structured:** Trees that have been identified having structural defects that can be improved through structural pruning. These can include codominant stem trees requiring reduction cuts to reduce competition. This can also include end weight reduction cuts to improve structure.

3. **Young Tree Maintenance:** Newly planted trees that have not been established or had stakes removed yet. These trees require monitoring, watering, re-staking, fertilizing and structural pruning. This typically ends when the stakes are no longer needed, and the work type should be transitioned to a routine / grid trim.

4. **Monitor for Disease or Decline:** All trees are inspected as part of the routine grid pruning process for decline. These trees are in decline due to, environmental, pest or disease problems, or due to normal senescence. The trees have not, at the time of the inventory, reached the point where removal is necessary. In some cases, the condition of these trees may be improved by trimming, watering or improved by application of plant health care practices. It is recommended that these trees go through a process of disease identification and treatment prescription and be monitored to determine the timing of treatment and application or when removal is warranted.

5. **Inspect – Recommended Removal**: These are trees identified with conditions listed in the recommended removals categories that warrant further inspection and possible removal. These trees were identified by a certified arborist using the following criteria to validate the potential removal recommendation and assign a priority to the most hazardous trees. The cost to remove these trees can easily be determined with the inventory information. These trees are grouped into categories meeting the following criteria:
    i. Overhead Spacing
    ii. Dead
    iii. Diseased or Declining
    iv. Poorly Structured
    v. Seedling or Volunteer

vi. Tree Spacing

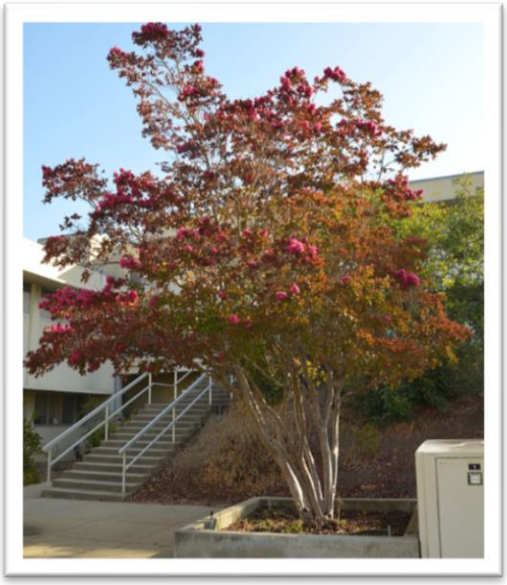
2. **Tree Planting Sites**: WCA identified vacant sites that are suitable for planting. Identification of vacant sites during inventory collection allows the City to expand the urban forest and may assist in obtaining additional grant funding.

MOST COMMON EXISTING SPECIES IN PLACENTIA'S URBAN FOREST

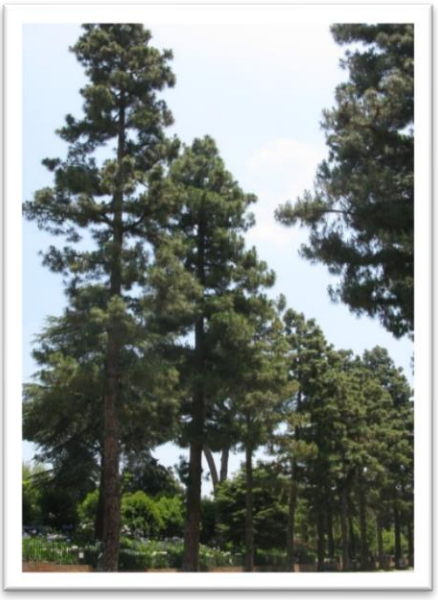
Most City residents probably recognize the ten most common species in Placentia's urban forest. These species strongly contribute to the character of the City, from the American Sweetgums on residential streets, to the Canary Island Pines and Queen Palm and Brisbane Box along major corridors. Each species offers different benefits: aesthetic, environmental, and financial. These ten species accounts for 64.4 % of all City-owned trees in the City.

Placentia's Top 10 Species & Estimated Value of Active Trees as of 2018

	Botanical Name	Common Name	Total No. of Trees	Pct.	Estimated Value
1.	Lagerstroemia indica	CRAPE MYRTLE	764	10.57%	$846,280.00
2.	Pinus canariensis	CANARY ISLAND PINE	651	9.01%	$4,487,220.00
3.	Syagrus romanzoffianum	QUEEN PALM	626	8.66%	$1,535,840.00
4.	Magnolia grandiflora	SOUTHERN MAGNOLIA	606	8.39%	$1,662,030.00
5.	Liquidambar styraciflua	AMERICAN SWEETGUM	513	7.10%	$881,220.00
6.	Afrocarpus gracilior	FERN PINE	373	5.16%	$1,316,220.00
7.	Lophostemon confertus	BRISBANE BOX	325	4.50%	$810,170.00
8.	Washingtonia robusta	MEXICAN FAN PALM	308	4.26%	$1,233,020.00
9.	Cupaniopsis anacardioides	CARROTWOOD	302	4.18%	$780,870.00
10.	Platanus racemosa	CALIFORNIA SYCAMORE	188	2.60%	$1,071,720.00
		Total	4,656	64.43%	$14,624,590.00



Crape Myrtle: 10.58%
(Lagerstroemia indica)



Canary Island Pine: 9.02%
(Pinus canriensis)

Queen Palm: 8.67%
(Syagrus romanzoffianum)

Southern Magnolia: 8.39%
(Magnolia grandiflora)

American Sweetgum: 7.08%
(Liquidambar styraciflua)

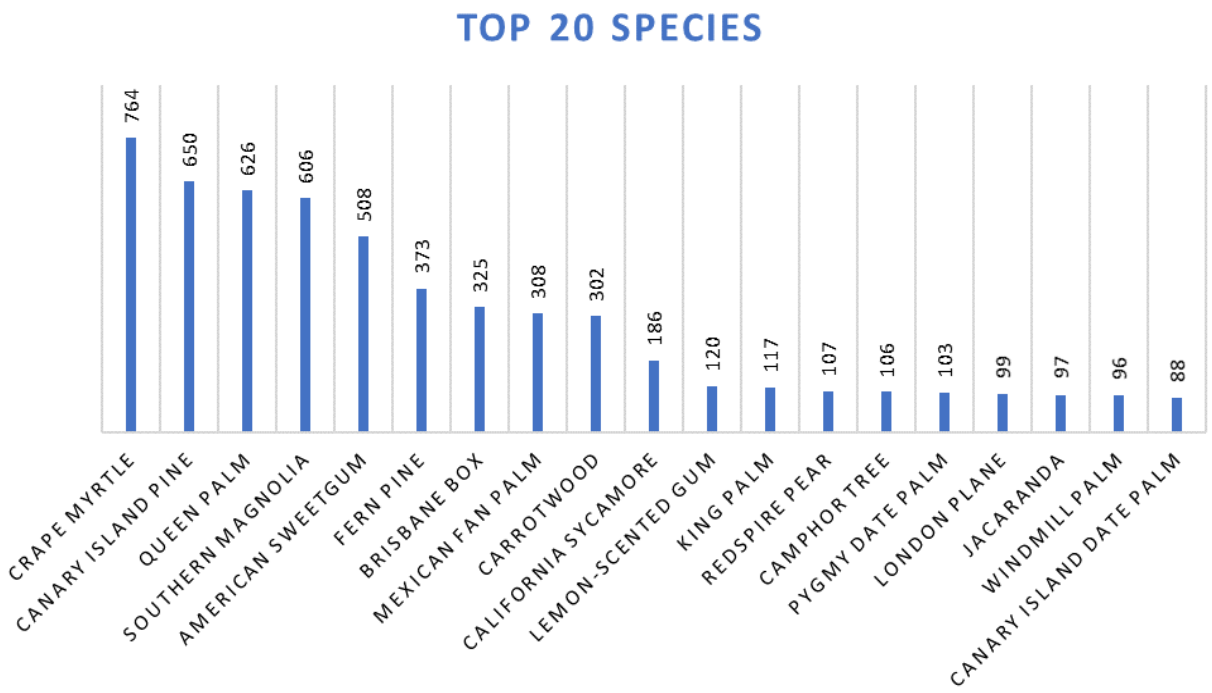
Fern Pine: 5.17%
(Afrocarpus gracillior)

Brisbane Box: 4.5%
(*Lophostemon*)

Mexican Fan Palm: 4.27%
(*Washingtonia robusta)*

Carrotwood: 4.18%
(Cupaniopsis anacardioides)

California Sycamore: 2.6%
(Platanus racemos)



EXISTING POLICIES AND ORDINANCES

The City's current urban forest management policies and procedures are guided by the following sources:

- Street Tree Policy Booklet; adopted in 1981 and focuses on master planning and planting specifications (Appendix A)
- Placentia Municipal Code Chapter 14.12 which focuses on permitting and regulatory oversight of street trees and shrubs by the Public Works Department and Parks and Recreation Commission (Appendix B).
- Ordinance No. 132 adopted in 1954 and later incorporated into the above-mentioned municipal code which essentially places the ownership of parkway trees onto the adjacent property owner. (Appendix C)

While the City's existing municipal code and Street Tree Policy Booklet may have been an effective means to manage the urban forest decades ago, changes in policy direction and clarification of responsibilities, as well as the implementation of modern best management practices and professional standards require a comprehensive update and consolidation of these various policies and codes. None of the City's existing policies or codes outline long-term management objectives including forest expansion, adoption of International Society of Arboriculture (ISA) pruning standards for tree maintenance, infrastructure constraints, environmental and financial resources to maintain the forest, land use, aesthetics and community needs. A proposed update to Chapter 14.12 of the Placentia Municipal Code will Codify the Urban Forest Management Plan in an enforceable Citywide ordinance.

URBAN FOREST MANAGEMENT PLAN

SCOPE OF THE PLAN

The centerpiece of the Program is the Urban Forest Management Plan (Plan). The Plan is a road map providing detailed information, recommendations and quantifying resources to establish consistency and cohesion with the City's long-range planning and budgeting for the management and care of its urban forest. The primary purpose of this plan is to address long-term tree maintenance objectives including pruning standards, forest expansion, infrastructure maintenance, environmental resources, land use, aesthetics and community objectives. The plan outlines recommended policies and programs for the protection, preservation and expansion of trees within the City's Urban Forest.

The creation of an urban forest management plan is essential to ensuring the protection, coordinated management and enhancement of the urban forest. Furthermore, recognizing that the City cannot manage its urban forest by itself, making it pertinent to have a comprehensive plan to coordinate the effective management of the urban forest by all participating entities in the City of Placentia.

The Plan will enable the City to control the spread of disease, preserve trees in the path of development, and to avoid unnecessary costs associated with damage to public and private infrastructure and tree-related accidents. The core elements of this Plan will form the basis of an updated, comprehensive tree ordinance.

The plan creates a clear vision for the future planning, and expansion of the urban forest with a focus on the following goals and policy objectives to accomplish the overall goals of the Program.

Goals:

1) Maximize the environmental, economic and social benefits derived from the urban forest.
2) Resolve conflicts between City trees and other vital infrastructure while protecting both.
3) Increase public awareness of the many social, economic and environmental benefits of urban forestry practices.
4) Provide increased opportunities and preference for access for financial support for tree projects and contributing to safer and healthier urban forest.

Objectives:

1) Development of community forest standards.
2) A multi-year maintenance program for the City's Urban Forest.
3) Creation of planting programs to increase tree canopy Citywide.
    a. Identify the areas with the greatest need for improvement.
    b. Recommend species appropriate for the available planting spaces.
    c. Implement recommended maintenance plans for newly established trees.
    d. Provide technical information about proper tree planting techniques.
4) A long-term strategy to systematically manage of our tree resources/assets – policy established for how and when trees are removed and under what conditions/protocols.
5) Update City ordinances and Plans to provide consistency and reflect the Plans' objectives.
6) Educate the public about the importance of trees and their care.

Achieving these goals and objectives will allow Placentia to protect and preserve its urban forest resource. These goals will be achieved by adopting the Plan and implementing the policies and procedures set forth in the Plan.

KEY MANAGEMENT TASKS FOR PLACENTIA'S URBAN FOREST

TREE RESOURCE MANAGEMENT

Existing resources allocated for tree planting and maintenance are insufficient to adequately care for existing trees and/or expand urban forest resources over the long-term. Currently, annual street tree pruning budgets are primarily focused on grid pruning. Fewer resources are available for specialized pruning, and systematic removal and replacement of poorly performing trees, or trees at the end of their life or expansion of the Urban Forest. The loss of tree resources and the lack of planning for new trees also affects the health and longevity of the City's tree population.

Specific Tree Resource Management Issues:

1. Low diversity/overuse of similar species in existing population; expand diversity of forest with the goal of 50% canopy.
2. Need to develop a proactive approach to systematic removal and timely replacement of poorly performing or placed trees and trees at the end of their life; increase funding when possible.
3. Need for organized plan to manage tree and infrastructure maintenance, improve parkways, address tree canopy clearances and assess roadway visibility and other public safety issues; link tree maintenance cycles to larger projects such as sidewalk, curb & gutter and road repairs for cost efficiency.

4. A large number of vacant tree sites exist in parks and parkways that are potentially suitable for planting; seek out grant or other external funding sources for infill projects.
5. Maintenance focuses on grid pruning and citizen response pruning.
    a. Need for proactive pruning/maintenance
6. Need for proactive versus reactive pest management.
7. Value of trees not frequently considered, trees not treated as a capital resource.
8. Take advantage opportunities to restore/enhance canopy, eliminate invasive species and increase native habitat in parks.
9. Limited maintenance and inappropriate planting and pruning of private trees
    a. Loss of tree resources through removals
    b. Lack of knowledge of landowner responsibility for maintenance of private infrastructure and regulated trees
10. Public and private infrastructure damage from both publicly and privately-owned trees.

RISK MANAGEMENT

While healthy urban forests provide countless positive benefits to a community, there are certain risks associated with trees. Trees can create various problems, including:

- Invading sewer systems, causing blockages and backflow problems.
- Delimbing, potentially injuring people and damaging property.
- Sightline obstructions that increase roadway hazards (Figure 1).
- Uplifting sidewalks, creating trip hazards (Figure 2).

Figure 1: Intersection with Sightline Obstruction

Figure 2: Uplifted Sidewalk

The City of Placentia needs to maintain good urban forest management practices and effective tree maintenance programs to minimize tree-related risks.

The City's urban forest inventory and its annual update is a useful tool to ensure tree maintenance is scheduled and documented when appropriate and resources are effectively allocated.

Additionally, easy to use communication channels such as the City's citizen relationship management tool, iPlacentia will facilitate early reporting of potential and existing issues by both City employees and residents, providing opportunities to mitigate any problems before an injury or significant damage occurs.

Within the City's urban landscape, tree maintenance is the responsibility of the City or a private party, depending on the location of the tree. An updated tree ordinance will be adopted which outlines a private party's duty for maintenance of trees and repair of tree-related damage, as well as actions that may be taken by the City of Placentia if those duties are not met.

The urban forest needs to be monitored for known risks and to identify any new issues. When hazardous conditions are found, the following corrective actions will be taken in order to mitigate any hazards.

- Damaged trees and limbs that create a significant hazard shall be cleaned up within a reasonably short period after discovery.
- Routine clean-up operations will be scheduled in the fall and during fruit-dropping season in those areas where such fallen material creates a significant hazard.
- Tree species known to suffer insect infestation or disease will be monitored for such. If infestation or disease is found, appropriate treatment will be administered by an International Society of Arboriculture (ISA) certified arborist.
- Specific trees identified as having the potential to obscure traffic and safety-related sightlines, such as those around intersections and road signs, shall be monitored, maintained, and/or removed to prevent sightline obstruction.
- Trees located in proximity to above and below grade infrastructure will be monitored, maintained, and/or removed to prevent damage. In some cases, such as for heritage trees, it may be preferable to relocate the infrastructure to avoid conflict with the tree.
- To maintain tree health, ISA best practices shall be followed in tree maintenance practices and crew qualifications.
- All contracted tree service firms and professionals will be properly licensed, bonded and insured. Additionally, each tree work authorization must be under a properly executed contract that includes appropriate indemnification language.
- The City of Placentia recognizes that many unidentified and unknown hazards exist. To minimize these risks, our employees, contractors and residents are encouraged to report problems or unusual situations, so they may be investigated and resolved.
- Trees that are dead, diseased ore dying shall be remove

- Vertical clearance of tree limbs over sidewalks shall be 8' and 14' over streets.
- Trees shall not be removed for leaf litter or tree debris or to improve views.

SEWER LINE ROOT INTRUSION

The City does not have an ordinance or policy that clearly defines the responsibility of private property owners and the City when it comes to tree root intrusions into private sewer laterals. Intrusion of roots into sewers is probably the most destructive problem encountered in a wastewater collection system. Root-related sewer problems include: sewer stoppages and overflows; structural damage caused by growing roots; formation of septic pools behind root masses (which generate hydrogen sulfide, other gases, and odors); reduction in hydraulic capacity and loss of self-scouring velocities; infiltration in areas where pipes are seasonally under a water table; and exfiltration of sewage into soils around cracked or separated joints.

The Plan recommends the adoption of a standalone Sewer Line Root Intrusion that outlines the roles and responsibilities for tree root intrusion into sewer lines or inclusion of regulations into an updated Tree Ordinance. The City's existing sewer ordinance defines the ownership and maintenance responsibility of residential and commercial sewer lateral lines to be that of the property/ business owner. Owners are responsible for the lateral line beginning at the property to the point of connection to the City main line, which is located in the street or the right of way, up to the point of a connection into the building. This includes sections of the lateral line that may be under the City sidewalks and curbs. Please see Appendix G for a summary of the proposed policy provisions.

COMMUNITY OUTREACH AND EDUCATION

The Plan recommends community involvement in the management in the City's urban forest from community outreach programs to community education. With proper education, training, and supervision volunteers are a valuable asset to the City of Placentia. The more a citizen is involved in their community the more sense of ownership and pride they will feel in their town, helping not only to beautify our community, but bring a positive energy to our town through our citizens.

RECOMMENDED PROGRAMS

Heritage Tree Designation Program

Placentia has many mature and beautiful, publicly owned trees that could be formally recognized as heritage trees. Irreplaceable and significant urban trees in good health and of stable form are substantial components to the history of each urban forest. These trees, known as heritage trees, are considered outstanding because of their size, form, age, color, rarity, genetic constitution and/or shape. They can also be a distinctive landmark to a community; a specimen associated

with a historic person, place, event or period; a representative of a crop grown by ancestors and their successors that is at risk of disappearing from cultivation; a specimen recognized by members of a community as deserving heritage recognition. Heritage trees also increase the prestige of the community and they play a vital role in maximizing environmental benefits.

Heritage trees would be designated based on historical, size, cultural or other values by City Council or a designated committee and would receive special protection under the Heritage Tree Program. This program would build awareness and pride amongst City Council members, City staff, and the community regarding existing tree resources. This plan includes a draft Heritage Tree Designation policy. This policy will be included with the updated tree ordinance.

Expand the Forest Tree Program

A tree donation program will provide an opportunity for community members to dedicate trees in honor of a loved one's life or for special occasions, including births, marriages, retirement, graduations and even local events. This type of gift lasts a lifetime or longer, and truly is a gift to the entire community. The best place to plant memorial trees is in parks and civic spaces where the tree is highly accessible and can be enjoyed by the community as it grows. To initiate such a program, the City will prepare marketing materials and develop program logistics, such as the recommended donation and a system for siting new plantings.

Prior to implementing this program, staff will identify and map locations where trees can be planted. Allowable tree species will be based on the types of trees currently located at each park and whether specific species will thrive in that environment. The proposed locations will also be identified in groves to ensure that open turf space used for sports activities is not lost to new trees. Spaces made available by existing trees removed due to death or disease will be reserved as future Expand the Forest locations as well.

Potential tree sponsors will be provided with a program application and copy of a tree location map for their preferred park along with the approved tree species. Sponsors will be able to use the map to identify their preferred planting location(s). Once a location is selected and payment for the tree has been received, staff will arrange to have the tree planted by the City's tree maintenance contractor, with or without the sponsor(s) in attendance, depending on their preference. Lastly, the sponsor(s) would receive a certificate signed by each councilmember in appreciation for their tree sponsorship and will be recognized in the City's quarterly newsletter.

Once planted, the tree would be added to the City's urban forest inventory and maintained by the City.

Tree City USA Designation

Recognition as a Tree City USA is another way to build public awareness and community forestry stewardship. The Arbor Day Foundation, the USDA Forest Service, and the National Association of State Foresters together sponsor the Tree City USA® program, which recognizes communities for their tree programs on a national scale. Requirements for becoming a Tree City USA include the presence of a tree board or department, a community forestry program with a minimum budget of $2 per capita, an adopted tree care ordinance and an arbor day observance. Tree City USA communities benefit both from achieving the necessary requirements to become a Tree City USA, which requires a certain level of commitment and organization on the part of the City and involves community education, and from the status itself. Once designated as a Tree City USA, a community can benefit from increased community pride and stewardship and improved public image. In addition, this designation can be helpful in obtaining grant funding for community forestry projects.

Residential Street Tree Planting Program

A residential street tree planting program for Placentia's residential streets would help to ensure that new plantings are focused in areas that need them most, and that plantings are distributed amongst all neighborhoods. The next step is to identify priority planting areas within residential areas and secure funding to implement these plantings. Right-of-way and existing sidewalk and urban forest conditions should be key considerations in determining priority areas. Tree plantings will be coinciding with road rehabilitation projects or other infrastructure projects

UPDATED TREE ORDINANCE

The key to the successful implementation of this Plan and meeting the overarching goals of the Program is to update the City's tree ordinance. The City's updated and modernized Tree Ordinance needs to include provisions that protect, preserve and expand the City's Urban Forest and Heritage Trees. The purpose of the City's Tree Ordinance will be to establish regulations that will have the effect of protecting, promoting, and maintaining a healthy, diverse, and mature canopy of native and naturalized hardwood and evergreen tree species.

The updated Tree Ordinance will include the following provisions:

- Establish polices for the protection of certain categories of trees and criteria for the orderly (as opposed to indiscriminate) removal of such trees;
- Protect the indiscriminate removal of healthy, mature trees within the city;
- Prohibit the destruction, "severe pruning" and "topping" of mature, protected trees;
- Maintain trees and mitigate hazards using the most current acceptable arboricultural standards and practices; and
- Provide for the enforcement and administration of tree protection, there by promoting and protecting public health, safety and welfare and enhancing the quality of life.
- Designation of Heritage Trees

The ordinance will regulate the planting, removal, and maintenance of trees in parks or along public rights-of-way, including private trees that could endanger the traveling public. The ordinance will include tree planting specifications (e.g., requiring tree planting in parking lots) and tree care standards (e.g., standards for pruning and removal). Under the ordinance, trees will be protected. The ordinance will include a defined removal process to be considered and approved by the Tree Advisory Ad-Hoc Committee.

GOALS, OBJECTIVES AND IMPLEMENTATION PROJECTS

Planning Horizon

The long-term goals of the Plan to protect and expand the urban forest are to be met by 20-year planning horizon. In order to achieve these long-term goals of increasing the canopy cover in the city through the expansion of the urban forest, inventories of approved street trees for the city will be revisited and altered based on usage, appropriate placement, survivability and need every five years. To measure the success of the long-term enhancement of the urban forest, the City of Placentia will first update current inventories of its street trees and set clear projected targets for the expansion of the urban forest to be met by 2039. The Plan will create a framework for effective management of and encourage the engagement of community members, organizations, and multiple City Departments to maintain the health and prosperity of the urban forest. Short-term actions that can be implemented within the next five years to achieve overall goals of the Plan include; improving the maintenance frequency of street trees, increasing tree plantings, and increasing community outreach about the value of trees and how to select, plant and care for trees.

GOALS

1) Develop an urban forest canopy that is sustainable over the long term.
2) Update and Adopt a Master Street Tree Plan.
3) Establish a Residential Parkway Tree Planting Program.
4) Maintain street trees appropriately to maximize benefits and minimize hazard, nuisance, hardscape damage, and maintenance costs.
5) Identify appropriate funding levels and provide long-term funding sources for urban forest activities and programs.
6) Develop a tree education program to provide City residents and local students with information about tree preservation policies, the benefits trees provide, and the importance of tree canopy.
7) Establish an Expand the Forest Program whereby members of the community are able to plant and dedicate a memorial tree in City Parks.
8) Task an existing City Commission with urban forest advisory duties and to consider appeals from the Public on tree removals.
9) Maintain an on-call professional services agreement with a licensed arborist to advice the City on tree removals and perform tree evaluations.

GUIDING PRINCIPLE	GOALS
Protect the Urban Forest: Recognize the environmental, economic, cultural and social benefits offered by the urban forest and refine and implement policies to protect public tree resources, while seeking participation from landowners to protect private trees	***Goal 1*** *Develop an urban forest canopy that is sustainable over the long term.*

OBJECTIVES

Objective 1: *Trees are to be preserved to the greatest extent practicable. If a tree is healthy and viable it will not be removed. Trees will not be removed for leaf or tree litter, or to improve Viewsheds.*

Actions:

1. Adopt an updated and modernized Tree Ordinance with policies that provide protection of certain categories of trees and criteria for the orderly (as opposed to indiscriminate) removal of trees when needed and other corrective measures are not available.
2. Establish criteria to define and preserve Heritage Trees within in the City. A Heritage Tree Policy to be included within the updated tree ordinance.

Objective 2: *Maintain a high level of species and genetic diversity within large plantings and within the Urban Forest as a whole.*

Actions:

1. Develop policies for diversifying tree species within City owned parks and along public rights-of-way, to ensure the ongoing health of the urban forest.
2. Where possible, substitute trees of different species or varieties for overused species/varieties when planting new or replacement trees.
3. Ensure that adequate species diversity is included in commercial landscapes and other private plantings during the planning process.
4. Establish upper limits for the percentage of the tree population that a single variety or species should comprise within planning areas or citywide. Use these percentages to aid in species selection for new and replacement tree plantings to reduce the risk that a large percentage of the urban forest canopy could be lost or degraded by damage due to new diseases, pests, or problems that affect only a single species or variety.

Objective 3: *Maximize the effective age diversity of plantings to avoid even-aged stand problems.*

Actions:

1. In new plantings where even-aged plantings cannot be avoided, use a mix of species with different useful life spans. For example, oaks may live for well over 100-150 years whereas flowering pears may have a maximum useful life closer to 30-50 years.
2. When planting replacement trees, avoid using trees that will reach the end of their useful life at the same time as existing trees in the planting.

Objective 4: *Maximize the effective age diversity of plantings to avoid even-aged stand problems.*

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Actions:

1. Monitor compliance with existing policies that emphasize the use of drought tolerant trees in new plantings and consider additional policies and practices to increase the use of drought tolerant trees.
2. Reduce or eliminate the use of trees with high water use requirements in harsh street tree and parking lot sites.
3. Increase the overall percentage of low water use trees in City street tree plantings and in parks and private development by using more drought-tolerant species in new and replacement plantings when feasible.

GUIDING PRINCIPLE	GOALS
Expand the Urban Forest *Expand Placentia's urban forest in the public right of way, on City-owned property, and in partnership with private property owners in the City.*	***Goal 2*** Update and Adopt a Street Master Tree Plan. ***Goal 3*** *Establish a Residential Parkway Tree Planting Program.*

OBJECTIVES

Objective 1*: As part of the Street Tree Master Plan update, define appropriate age and species diversity distribution and locate areas where new or replacement trees should be planted.*

Actions:

1. Identify planting locations along City streets, in City parks and on other public property that can support greater canopy and/or large canopy tree species.
2. Increase planting species that have longer average life spans.
3. Formalize the criteria and methodology for change to street tree designations.
4. Adopt formal parkway and tree care planting guidelines as outlined in Appendix D and specifications to maximize tree health and minimize conflict with public infrastructure.
5. Present the updated Street Tree Master Plan to the City Council for its consideration and adoption.

Objective 2: *Create a Residential Parkway Tree Planting Program.*

Actions:

1. Make planting new trees within the Public-Right-of-Way a priority through a combination of City outreach efforts and education of property owners.
2. Work with adjacent land owners and neighborhoods to provide supplemental water and weed management.
3. Revise and enforce City landscaping standards for tree planting in parking lots in development projects to ensure appropriate canopy cover is achieved in them.
4. Allow residents the opportunity to ask for a tree to be planted upon their request. City will pay for tree plantings and budget annually for these requests.

GUIDING PRINCIPLE	GOALS
Manage the Urban Forest Improve and institutionalize the care, maintenance funding and operating principles for the long-term viability of a mixed-aged, sustainable urban tree resource.	***Goal 4*** *Maintain street trees appropriately to maximize benefits and minimize hazard, nuisance, hardscape damage, and maintenance costs.* ***Goal 5*** *Identify appropriate funding levels and provide long-term funding sources for urban forest activities and programs.*

OBJECTIVES

Objective 1: *Implement best management practices for tree planting and care on city properties to maintain the City owned trees in a safe and healthy condition as cost-effectively as possible.*

Actions:

1. Monitor tree health on public property (parks, streets, open space areas, and public buildings) to identify developing pest and disease problems and implement corrective actions.
2. Update the list of tree species potentially suitable for landscape uses in Placentia to reflect new pest problems that may render a tree unsuitable for continued planting.
3. Plant good-quality, preferably locally-grown, disease-free nursery stock to help assure long-term tree survival. Implement the use of updated tree nursery stock standards to ensure the use of good quality stock.
4. Continue existing pre-and post-planting inspections conducted by City staff. Conduct additional training of building inspectors to ensure compliance with city planting standards for street trees planted by developers.
5. Continue early care of new trees to establish proper long-term structure and avoid future maintenance problems.
6. Conduct periodic City inspections of trees to ensure minimum clearances are met for pedestrian and vehicle safety.
7. Appoint someone to monitor new trees to make sure they are nurtured and care for appropriately.

Objective 2: *Adopt tree pruning guidelines based on current International Society of Arboriculture (ISA) and ANSI 300 standards that are specific to the needs of the City of Placentia. These address the different needs of young tree maintenance, adult tree maintenance and mature tree maintenance.*

Actions:

1. Implement current ANSI 300 pruning standards and ISA BMP (best management practices) for pruning conducted by City staff and tree care contractors.
2. Provide adequate training and continuing education opportunities to ensure that City staff has up-to-date knowledge about trees, and tree care practices.
3. Develop and implement standards for assessing and improving soil conditions prior to planting to improve long-term tree health and survival. Assess and remediate site conditions prior to replanting trees that have died. Record sites that are unsuitable for tree planting in the street tree inventory.

Objective 3: *Integrate the management of street trees and sidewalk/curb concrete maintenance as part of the City's ongoing Residential Street Rehabilitation Program.*

Actions:

1. Provide best management practices and processes within the Department of Public Works to ensure the integration of street tree services and the City's Residential Street Rehabilitation Program.
2. The City will replant all parkway trees remove during sidewalk and curb and gutter repair projects.
3. Utilize a certified licensed arborist to inspect affected locations and to advise whether the roots can be pruned without damage to trees or creating a safety hazard. If not, the City will remove trees damaging public infrastructure and repair damaged concrete and replant trees.
4. Provide employees with adequate training and continuing education opportunities to ensure that staff has up-to-date knowledge about trees, root growth, and methods used to minimize root/hardscape conflicts.
5. Consider developing a "call before you dig" program that would notify the Public Works Department before activities that could damage roots are scheduled to occur within a given radius of a City street tree. Authorize Staff to provide procedures to minimize any adverse impacts to City street tree roots in these situations.
6. Contract with a third-party arborist for independent tree evaluations.

Objective 4: *Develop a program for correcting tree related hazards on public properties.*

Actions:

1. Maintain or shorten current preventative maintenance pruning interval of every four years for each tree on average depending upon species to maintain safe tree structure and minimize failure potential of trees along streets and high-use public areas.
2. Continue to respond to all requests from residents and property owners to assess a tree's condition within 15 days or less depending upon the conditions.
3. Continue to abate all potentially hazardous conditions in trees within 90 days or less depending upon the conditions.

Objective 5: *Maintain up-to-date inventories for all city-managed trees to facilitate tree management.*

Actions:

1. Maintain and update the existing street tree inventory after each trimming cycle so it reflects present conditions.
2. Within GIS, maintain a current, complete inventory of City trees with records for individual trees with data related to management needs.

Objective 6: *Provide adequate funding for tree trimming, maintenance, removal and replacement, which helps to keep the urban forest healthy and mitigate risks.*

Actions:

1. Increase annual maintenance funding for the management and care of City trees to increase trim cycle to every 3 years instead of 4 years.
2. Establish an annual capital improvement program to plant and maintain new trees. Establish funding for community outreach programs and public education resources.

GUIDING PRINCIPLE	GOALS
Inform the Community *Enhance public awareness and appreciation of the Urban Forest as a community resource* through innovative visible outreach and education campaigns.	***Goal 6*** *Develop a comprehensive tree education program to provide City residents and local students with information about tree preservation policies, the benefits trees provide, and the importance of tree canopy.* ***Goal 7*** *Establish an Expand the Forest Program whereby members of the community are able to plant and dedicate a memorial tree in City Parks.*

OBJECTIVES

Objective 1: *Provide education materials, online resources and services to provide city residents with information about tree preservation policies; benefits, values and costs of the urban forest; and tree care polices.*

Actions:

1. Publicize and enforce tree ordinance, relating for example to planting and removal within the street right-of-way and planting requirements for new projects.
2. Notify residents and property owners in advance of any project involving the planting, tree removal or large-scale crown thinning near their home or business.
3. Work with property owners and community members to identify tree planting opportunities and constraints on private property.
4. Encourage the use of trees from the Street Master Plan.
5. Encourage the use of Tree planting guidelines by private property owners. (Guidelines provided in Appendix.)

Objective 2: *Establish an Expand the Forest Program whereby members of the community are able to plant and dedicate a memorial tree in City Parks.*

Actions:

1. Prepare an Expand the Forest Program policy for the consideration and adoption by the City Council.

Objective 3: *Obtain designation as Tree City USA*

Actions:

1. Annually adopt an Arbor Day proclamation and host a community tree-planting event during Arbor Day week.

GUIDING PRINCIPLE	GOALS
Partner with the Community Increase community, private sector and other City departments' involvement in planning, management and funding of the Urban Forest.	***Goal 8*** *Designate an existing City commission to include proactive urban forest planning and management oversight within the purview of that commission's duties and responsibilities.*

OBJECTIVES

Objective 1: *Recommend to City Council to task an existing City commission to oversee all tree-related interests including involved City agencies, departments and commissions. nonprofit organizations and community groups.*

Objective 2: *Continue coordinated multi-departmental initiatives to pursue available federal, state and local and private grant funding for tree planting.*

Actions:

1. Develop public-private partnerships to address tree resource needs.

2. Identify and obtain external sources of funding to support the goals and objectives of the Plan.

IMPLEMENTATION PLAN

For Placentia's urban forest to reach its full potential as a citywide asset, leaders need to take a proactive approach at managing the forest efficiently. This requires a well-organized management structure and access to implementation tools.

URBAN FOREST MANAGEMENT

Management of the Program will be centralized in the Public Works Department under the direction of the Director of Public Works. The management of the urban forest requires coordination with other department divisions and City departments including Development Services and Community Services as part of public safety, public capital improvement projects and land use planning and development. Public review and policymaking related to tree planting, maintenance, and preservation will be provided by a designated City Commission.

Public Works Department

The Public Works Superintendent will develop, implement, and supervise tree planting, pruning, removal, and pest management; enforce City tree ordinances; and, coordinate urban forestry related activities with other divisions, departments, and outside agencies or groups. The Parks and Landscape Maintenance Division's Public Works Supervisor will oversee field staff, inspect trees, and schedule the day-to-day tree maintenance operations and emergency response including contracted tree maintenance services. Field staff and/or City contractors will be responsible for City tree maintenance including trimming, planting, watering, and respond to emergency tree situations.

In addition, the Streets and Sanitation and Engineering Services divisions need to participate in the management of the Urban Forest. The Streets and Sanitation Division is responsible for the maintenance of the City's maintenance of the City's sewer collection system, street sweeping, storm drain maintenance, roadway and public right-of-way maintenance. The Engineering Services Division oversees the coordination and delivery of City's Capital Improvement Program, utility coordination and right-of-way management, as well as review of private development projects.

The City's urban forest management needs to include street trees and the relationship of trees and maintenance of public infrastructure. Of interest is maintenance of tree canopy for sidewalk travel and street parking, as well as intersection, traffic signal and streetlight visibility. Tree type and placement and potential for conflict with maintenance of underground infrastructure such as water and sewer lines are also important. Trees need to be trimmed to allow for vehicle and pedestrian sidewalk clearance and ensure traffic control sign visibility. Street and sidewalk

improvement projects at times impact the root zone of trees. The City Engineer will work with the Public Works Superintendent to assess trees that may be impacted from these activities.

Tree Advisory Committee

Greening and maintaining a community's urban forest is a long-term commitment dependent on not only the professional management and expertise from the City but also on the support and involvement of the citizens. An urban forest is a public asset that can generate both positive and negative emotional responses. An important step in dealing with this unique characteristic of an infrastructure component is forming and supporting a group of local citizens and elected officials who are dedicated to the care and maintenance of the community trees while assisting the public works agency in its mission.

This group is often called a tree board or an urban forestry advisory council. They typically educate the citizens at large on the importance of trees, interact directly with elected officials in support of the program, assist in maintenance tasks like small tree maintenance, mulching, planting, and watering, and apply for grants and generate private financial donations. This Plan directs Staff to work with the City Council to task an existing City commission to serve as the Tree Advisory Committee.

The Tree Advisory Committee's mission will be to recommend unbiased, citizen-based direction and alternatives regarding community tree management to City staff as well as hear appeals or consider request from private parties to remove City trees. They will serve in an advisory capacity only and depend on Public Works personnel to implement most of their recommendations. Still, the ultimate responsibility for Placentia's Urban Forest Program will rest with the Public Works Department.

Contracted Work

It is often beneficial for a City to contract out certain maintenance tasks as well as tasks that require specialized skill and are not required on a regular basis. Two types of contracted work that would be beneficial to the City are described below:

> **Tree Maintenance.** It is recommended that the City continue contracting regular pruning to a local maintenance company.
>
> **ISA Certified Arborist.** The City shall find and retain an ISA certified arborist on an as-needed basis. Currently, the City uses the arborists provided by its current contractor, West Coast Arborists. The Plan recommends the City to contract with an independent arborist to conduct for peer review in cases such as hazard trees and replacement trees, and to have an additional resource for staff and community training.

Financing

To address funding needs the Plan recommends the following primary implementation actions:

- Increase annual maintenance funding for the management and care of City trees to shorten the trim cycle from four year-trim cycle to a three-year trim cycle.
- Establish an annual capital improvement program to include planting and maintenance of new trees planted as part of City projects.
- Establish funding for community outreach programs and public education resources.

Funding Sources

In addition to the City's Operating Budget, several other sources could be explored to help fund the planting and management of the community forest.

Grant Funding

California Department of Forestry and Fire Protection (CALFIRE)

Through the California Climate Investments (CCI) Urban & Community Forestry Grant Program, CAL FIRE works to optimize the benefits of trees and related vegetation through multiple-objective projects as specified in the California Urban Forestry Act of 1978 (Public Resources Code 4799.06-4799.12). These projects further the goals of the California Global Warming Solutions Act of 2006 (AB 32), result in a net greenhouse gas benefit, and provide environmental services and cost-effective solutions to the needs of urban communities and local agencies. Co-benefits of the projects include increased water supply, clean air and water, reduced energy use, flood and storm water management, recreation, urban revitalization, improved public health, and producing useful products such as bio-fuel, clean energy, and high-quality wood.

Other potential sources include:

- United States Forest Service Program
- California Resources Agency
- State of California Department of Parks and Recreation (State Parks)
- California Community Foundation
- Other Private Foundation
- Public-Private Partnerships

Plan Monitoring and Reporting

The Urban Forest Management Plan is intended to be a living document with the ability to be updated and revised periodically to:

- Reflect changes in the urban forest resource structure and function
- Incorporate changes in industry standards
- Consider community response
- Amend and/or develop new recommended actions

Ongoing monitoring, analysis, and reporting will help keep staff and urban forest partners involved and focused on accomplishing Plan objectives. To monitor progress of the Plan's recommended actions, a progress report may be prepared periodically. The reporting can include progress in planting and maintenance, removals, ordinance violations, and community outreach. Analysis may include an updated street tree inventory, i-Tree benefits analysis, or urban tree canopy assessment. In addition, the City's tree inventory should continue to be updated on regular basis by the City staff, urban forestry spending for outreach, maintenance, removal, and planting needs to continue to be separately tracked for effective budgeting and facilitate the identification of cost saving opportunities.

References

Articles

Kuo, F.E., & Sullivan, W.C. (2001). "Environment and crime in the inner city: Does vegetation reduce crime?" *Environment and Behavior*, 33(3), 343-367.

Wolf, Kathleen L, PhD. (2007). City Trees and Property Values. *Arborist News*. 16, 4:34-36.

Wolf, Kathleen L. (2003). Public response to the urban forest in inner-city business districts. *Journal of Arboriculture*. 29(3): 117-126. ISA

Technical Guides and Standards

INTERNATIONAL SOCIETY OF ARBORICULTURE (ISA)

http://www.isa-arbor.com/

ANSI

http://www.ansi.org/

ANSI A300

http://www.tcia.org/business/ansi-a300-standards

ANSI A300 Part 1 (2008)

http://www.tcia.org/business/business-resources/ansi-a300/part-1

ANSI A300 Part 5 (2012)

http://www.tcia.org/business/business-resources/ansi-a300/part-5

ISA BMP Tree Pruning Guidelines

http://www.isa-arbor.com/store/product.aspx?ProductID=58&CID=73

ISA Companion Publication

http://www.isa-arbor.com/store/product.aspx?ProductID=154

Online Resources

- Urban Forestry Best Management Practices for Public Works Managers

https://www2.apwa.net/Documents/About/CoopAgreements/UrbanForestry/UrbanForestry-4.pdf

- Arbor Day Foundation. https://www.arborday.org/trees/

- Urban Forestry South. https://urbanforestrysouth.org/

APPENDICES

Appendix A - Street Tree Policy Booklet, Adopted 1981

Appendix B - Placentia Municipal code, Chapter 14.12 Trees & Shrubs

(Current code, code update will be attached later after UFMP is adopted)

Appendix C - Ordinance No. 132 adopted in 1954

Appendix D - Tree Care Guidelines

Appendix E - Expand the Forest Program Policy

Appendix F - Draft Heritage Tree desgination Policy (Future policy discussion)

Appendix G - Sewer line Root Intrusion policy

Appendix H – Tree Removal Procedures

APPENDIX A:
STREET TREE POLICY BOOKLET, ADOPTED 1981

APPENDIX B:

PLACENTIA MUNICIPAL CODE, CHAPTER 14.12

APPENDIX C:

ORDINANCE NO. 132 ADOPTED IN 1954

APPENDIX D:

TREE CARE GUIDELINES

TREE CARE GUIDELINES

PLANTING INSTRUCTIONS

1. TREE SELECTION

Tree selection is important to the overall landscape of the City of Placentia. Considering that most trees have the potential to outlive the people who plant them, the impact of this decision is significant and lasts a lifetime. It is essential that selected trees are appropriate for the site. The City of Placentia shall consider the following during the selection process:

- Why is the tree being planted, to provide shade, aesthetics, or act as a windbreak or screen?
- What is the size and location of the planting site? Does the space lend itself to a large, medium, or small tree?
- Are overhead or sub-surface utilities in the vicinity?
- Are safety clearance distances, such as those around sidewalks, bike paths, roads, traffic sight distances adequate?
- Are there tree vs. lighting conflicts, or obscured fire hydrants and road signs?
- Are there too many similar trees in the area?
- Are there barriers to future root growth, such as building foundations, sidewalks, curbs, or the size of the planter areas?
- Which types of soil conditions exist? Is the soil deep, fertile, and well drained, or is it shallow, compacted, and infertile?

The City of Placentia shall use nursery-grown trees and shrubs that are free of insects, diseases or mechanical injuries; not overly staked, but having straight trunk(s) and a form characteristic of the species in conformance with American Standard for Nursery Stock (ANSI Z60.1-1996).

Select trees, shrubs, and perennials that are well adapted to conditions of individual planting sites (i.e. small utility friendly trees for planting under or within 10 lateral feet of any overhead utility lines). Poorly-sited plants are doomed from the start, no matter how carefully they're planted. All the plants need to be suited to match the other plants in the area (drought tolerant plants will not mix well with high moisture requiring plants on the same irrigation zone).

Native trees and shrubs should be used whenever possible. Exotic (non-native) species, particularly those known to be invasive, should not be planted. Trees that are known to be resistant to attacks by disease or insects should be given preference over those known to be susceptible.

If trees are container grown, select trees that have not been in the container too long and are "root bound" (circling roots). Any circling roots should be cut or pulled out (if possible), as to be radiating straight from the tree, in a larger hole.

Select trees with good branching/trunk structure. The best quality trees have a dominant central leader or trunk up to the top of the canopy. Some species of tree maybe specifically developed to have multi-trunks or multi-leaders (i.e. Crape Myrtle, Saucer Magnolia, Western Redbud, etc.). Trees produced with less care and quality may have two or more competing leaders. Major branches and trunks should not touch or cross. Branches should be less than 2/3 diameter of trunk. Eventually, mature permanent branches on large trees should be spaced 12 - 24 inches apart. Main branches on smaller new trees should be 4 - 6 inches apart. Trees shall not have been topped.

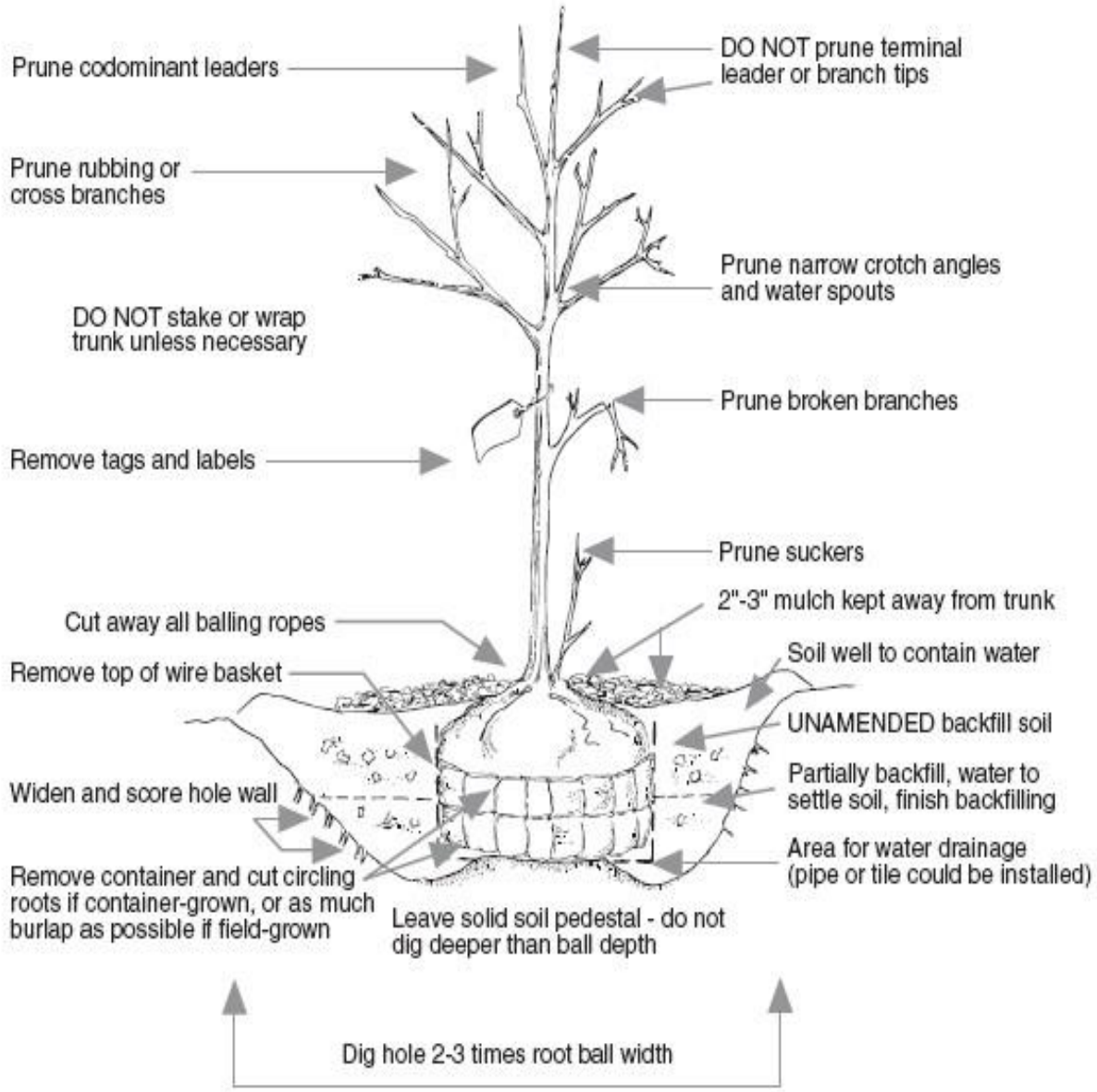
2. SOIL PREPARATION

- Underground utilities must be located prior to planting in order to avoid damage to utilities during planting operations. Trees should not be planted within 4' of a public underground utility. Call Underground Service Alert (USA) a minimum of 72 hours before digging starts to have all underground utilities located. The USA phone number is 811.
- Test soil drainage before planting. Dig a test hole as deep as your planting hole and fill with water. If water drains at a rate of less than one inch per hour, consider installing drainage to carry water away from the planting hole base, or moving or raising the planting site (berm construction).
- Where drainage is poor, consider using more water-tolerant, climate-adapted, species such as:
    - Red Maple
    - Sycamore
    - Bald Cypress
    - Willow Oak
    - River Birch
    - Chinese Fringe

- Examine soil for compaction before planting. If soils are compacted, incorporate several inches of an organic material such as composted yard waste to a depth of at least 8 inches over the entire planting area.
- Dig shallow planting holes two to three times as wide as the root ball. In compacted soils, dig and loosen the soil three to five times as wide as the root ball. Wide, shallow holes encourage horizontal root growth that trees, and shrubs naturally produce.
- In well-drained soil, dig holes no deeper than the root ball. In poorly-drained heavy clay soil, dig holes one to two inches shallower than the root ball.
- Do not dig holes deeper than root balls or put loose soil beneath roots because loose soil will compact over time, leaving trees planted too deep. Widen holes near the soil surface where most root growth occurs. It is best not to dig tree holes with an auger.

3. PLANTING TREES

- Remove tree from the container and trim the root ball in the following way:
- Straighten (if possible) and/or cut thick circling roots. If there are too many circling roots, reject the tree, as it will fail due to poor root structure.
- For thin roots, make three or four vertical cuts ½ inch deep around root ball. Spread the bottom out if necessary.
- Place the tree in the hole and orient the tree to direct main branch structures away from the street side, if possible.
- Backfill holes with existing unamended soil. Do not incorporate organic matter such as peat moss into backfill for individual planting holes. Differences in soil pore sizes will be created causing problems with water movement and root growth between the root ball, planting hole, and surrounding soil. Create a small berm around the outside of the planting area to help the tree capture rainfall.
- Backfill half the soil, then water thoroughly to settle out air pockets. Finish backfilling and water again. Cover any exposed root ball tops with mulch, not with soil.
- Incorporate slow-release granular fertilizers (rather than fertilizer tablets) into backfill soil to provide nitrogen, or if a soil test indicates a need for phosphorus or potassium. Avoid using fast-release agronomic fertilizers that can dehydrate tree roots. Use no more than 1-pound actual nitrogen per 1,000 ft. of planting hole surface. (Example - if using 18-6-12 fertilizer with a 5' diameter hole, incorporate 0.3 oz. per planting hole.)
- Make sure to water each tree as it is planted.

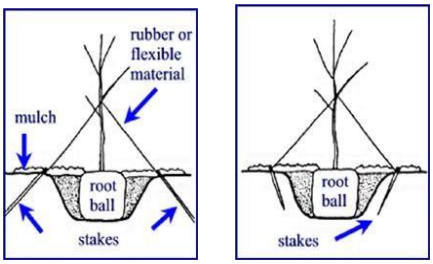


4. TREE CARE AFTER PLANTING

- Remove tags and labels from trees and shrubs to prevent girdling branches and trunks.
- Mulch newly planted trees and shrubs. Three to four inches of mulch is best - less if a fine material, more if coarse. Use organic mulches (hardwood chips, pine straw, shredded or chunk pine/fir bark,). Mulch from coniferous plants is best for conifers; hardwood mulch is probably best for hardwood plantings. Conifer mulches could reduce the soil pH in some cases to levels undesirable for hardwoods.

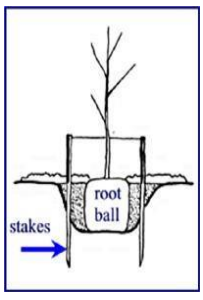
- Hardwood mulches could increase the soil pH to levels undesirable for conifers. Cedar or Redwood bark as a mulch is not as beneficial as compared to hardwood wood chips, as it is too slow to decay so the symbiotic mycorrhizae colony is unable live and grow on it.
- Apply the mulch around the base of the tree in a flat saucer-like shape (like a bagel) not touching the trunk. It is better to mulch wide, not deep. Never pile mulch in a volcano-like manner against the trunk. This cuts off oxygen to roots, can keep vital irrigation and rain water out, can keep roots too wet in poorly drained soils, and can cause decay in the trunk. Keep mulch from touching tree trunks and shrub stems to prevent disease and rodent problems.
- Approximately 30 to 40 gallons (9 to 12 cubic feet) of mulch per tree is needed to properly cover the root ball and the area of soil that you assume the tree will grow into during the next year's root surge. Inorganic mulches (i.e. gravel, cobbles, plastic, granite sand, etc.) are not recommended as they do not provide what a tree needs to establish and thrive.
- Do not use black or clear plastic beneath mulch around trees and shrubs because it blocks air and water exchange. Weed cloth will allow air and water exchange, but it is still a problem with tree health as it divides the organic mulch from the trees roots. The weed cloth will not allow the most important symbiotic relationship. The mycorrhizae fungus (which injects nutrients from the soil into the tree) lives on the excess tree sugars (which exude from the tree's roots) and on the organic mulch, feeding the colony.
- Only stake trees when required by top heavy crowns (boles), those situated on windy sites, or where they may be pushed over. Stake the tree for a maximum of six months past the first growing season. Allow trees a slight amount of flex rather than holding them rigidly in place. Do not use guying or attaching material that will damage the bark (such as bare wire). If rope or wire must be used, protect the bark of the tree with rubber hose or plastic tubing. To prevent trunk girdling, remove all guying material six months past the first growing season. It is best to support new trees with tall wooden stakes for as short a time as possible for root anchorage and trunk thickening.

Potential Trip Hazards



- Be careful with angled guy-lines (wire or rope), as these can be a trip hazard. The preferred method for tree staking is illustrated. If they hold the tree too tight at this one spot, it can cause the tree to rip apart or break off at the guy point.
- For protection against equipment (weed whackers) or animal damage, consider installing guards to protect the trunk. Be sure the guards are loose-fitting and permit air circulation. The organic wood chip mulch layer will also reduce the reason for weed whackers or lawn mowers if installed 3-4" from the trunk and minimally out to 24".

Preferred



PRUNING INSTRUCTIONS

1. PRUNING TECHNIQUES

The objective of pruning is to produce strong, healthy, attractive trees, creating long lasting community assets while reducing potential liability. Additionally, removing branches that could fall, obstruct vision, or interfere with utility lines lowers the City of Placentia]'s liability exposure.

As trees mature, pruning should be based on its purpose. The pruning purpose determines which pruning method is best utilized. There are six accepted types of pruning (refer to the ISA Tree Pruning Guidelines):

- Crown Cleaning
- Crown Trimming
- Crown Raising
- Crown Reduction
- Crown Restoration
- Utility Pruning

Never indiscriminately remove branches. Branches under 5 cm can be trimmed per the guidelines provided below. For branches between 5 and 10 cm, consider the purpose and any potential alternatives. If branches are larger than 10 cm, ensure there is sufficient reason for removal.

Caution: Never attempt to prune trees that are touching or near utility lines!

Pruning large trees is hazardous and should be done by well-qualified professionals. It is recommended that a qualified arborist, certified by the International Society of Arboriculture *(ISA), is used. A list of ISA Certified Arborists may be found at www.isa-arbor.com.*

When hiring an arborist, the following information should be included in the bid specification:

- State which tree(s) will be pruned with general language and specifications, plus detailed requirements for each tree by number or mapped location;
- Indicate the purpose for pruning (such as reduce risk of failure, improve aesthetics, provide clearance, etc.);

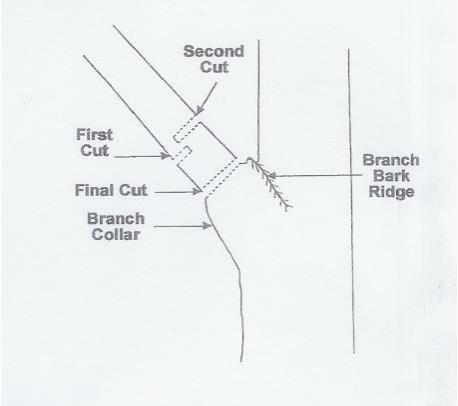
- State the maximum number of live branches and woody material that can be removed (i.e. no more than 15% to 25% of the live crown in one season).
- Generally, no cuts should be made on live wood larger than 3" in diameter except in special circumstances like a large broken limb. In this case, include a specific request for that tree by location or tag number delineating the limb, location, size, and work to be accomplished. Pruning of branches less than 2" in diameter should be made with sharp hand tools such as pruners, loppers, and/or handsaws. Chainsaws should not be used on small branches.
- Detail the minimum branch diameter for deadwood removal (i.e. remove all deadwood over 2" in diameter).
- Include the statements:
    - "All work shall be performed under the direct supervision of a qualified ISA Certified Arborist and with a company that is licensed and insured."
    - "All cutting, pruning, trimming, cabling, guying, bracing, lightning protection systems, and fertilization shall conform to the most current standards of the American National Standards Institute (ANSI) A300 for Tree Care work." The "Best Management Practices" (BMP's), printed by the ISA, shall be used as a companion guide to the ANSI Tree Care Standards."

2. PROHIBITED PRUNING PRACTICES

Topping and tipping are pruning practices that harm trees and should not be used. Topping is the pruning of large upright branches between nodes and tipping is a practice of cutting lateral branches between nodes to reduce the crown width. These practices may damage the tree and tend to increase the risk of failure.

- Crown reduction pruning is the preferred method to reduce the size or height of a tree.
- Do not climb trees that are not being completely removed with gaff hooks or climbing spikes.
- No flush cuts or stub cuts. Know where to prune correctly, just past the branch collar. No chain saw chatter marks on trunks or limbs.

- Do not make a single cut that may cause the bottom of the cut to rip past the intended pruning location. Use the 3-cut method:



- A pruning cut that removes a branch at its point of origin should be made close to the trunk or parent limb, without cutting into the branch bark ridge or collar, or leaving a stub. Branches too large to support with one hand should be precut to avoid splitting of the wood or tearing of the bark, as illustrated in the photo below.

3. WHEN TO PRUNE

Light pruning to remove few small branches can be done at any time of the year. More extensive pruning should be done in late fall to winter. The dormant season is the best time to prune although dead branches can and should be removed at any time.

Pruning during the dormant period minimizes sap loss and subsequent stress to the tree. It also minimizes the risk of fungus infection or insect infestation as both fungi and insects are likely to be in dormancy at the same time as the tree. Finally, in the case of deciduous trees, pruning when the leaves are off will give a better idea of how pruning will affect the shape.

Do not prune trees just after bud break. Spring flowering trees that are most desired due to their flowering attributes such as the flowering pear, peach, crabapple, cherry, Saucer Magnolia, dogwood, etc. should not be pruned until just after the flowering cycle is completed. Summer flowering trees that bloom on current growth such as Crape Myrtle, Linden, Goldenrain Tree, etc. are best if pruned during winter dormancy. Pine trees and birch trees should not be pruned in late spring or early winter since the pheromones in the sap will attract borer insects.

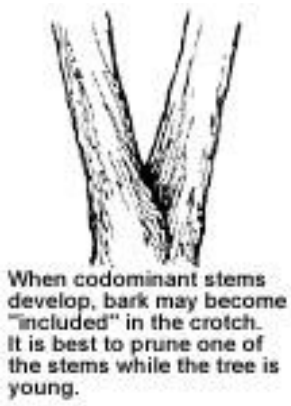
Crown Thinning

- Assess how a tree will be pruned from the top down.
- Favor branches with strong, U-shaped angles of attachment. Remove branches with weak, V-shaped angles of attachment and/or included bark.
- Ideally, lateral branches should be evenly spaced on the main stem of young trees.
- Remove any branches that rub or cross another branch.
- Make sure that lateral branches are no more than one-half to three-quarters of the diameter of the stem to discourage the development of co-dominant stems.
- Do not remove more than one-quarter of the living crown of a tree at one time. If it is necessary to remove more, do it over successive years. *Crown Raising*
- Always maintain live branches on at least two-thirds of a tree's total height. Removing too many lower branches will hinder the development of a strong stem.
- Remove basal sprouts and vigorous epicormic sprouts. *Crown Reduction*
- Use crown reduction pruning only when absolutely necessary. Make the pruning cut at a lateral branch that is at least one-third the diameter of the stem to be removed.
- If it is necessary to remove more than half of the foliage from a branch, remove the entire branch.

4. PRUNING YOUNG TREES

It is most effective with the best long-term results to prune trees while they are smaller, pruning them annually for the first 5-years after planting. Corrective pruning in the first year will maximize the amount of retained leaves, which will produce the tree's energy, remove torn or broken branches, and remove co-dominant leaders. Other pruning measures should be saved for the second or third year.

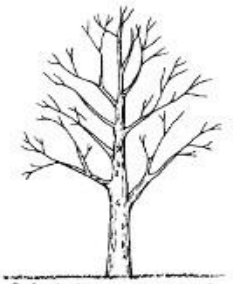
1. Select and establish a single central leader



When codominant stems develop, bark may become "included" in the crotch. It is best to prune one of the stems while the tree is young.

Young trees should maintain a single, dominant trunk. Do not prune back the tip of this leader. Do not allow secondary branches to outgrow the leader. Sometimes a tree will develop double leaders known as co-dominant stems (see left figure). These can lead to structural weaknesses, so it is best to remove one while the leaders are small, preferably when under 1". If the competing leaders are too large, look at bracing, cabling, or simply replacing the tree.

Good primary scaffold branch structure should be established while the tree is young. Primary branches provide the framework for the mature tree. Properly trained young trees develop strong structures and require less corrective pruning while maturing. Main branches should be spaced 12 to 18 inches apart, as illustrated, to avoid tight grouping.



Select strong permanent scaffold branches that are spaced 12-18 inches apart.

Avoid over-thinning the interior of the tree. The leaves of each branch must manufacture enough food to keep that branch alive and growing. In addition, each branch must contribute "food" to grow and sustain the trunk and roots. Removing too many leaves may "starve" the tree, reduce growth, and create an unhealthy tree. A good rule of thumb is to maintain at least half the foliage on branches arising in the lower 2/3 of the tree.

5 . PRUNING DISTRESSED TREES

Trees that have been injured or neglected require as much leaf area as possible to overcome stressed conditions and return to health. If a tree has been damaged by injury or disturbance, delay pruning until deadwood becomes evident. Crown cleaning is recommended. Trees that have not been maintained may require moderate crown thinning, reduction or restoration.

WATERING & FERTILIZATION

1. WATERING SCHEDULE

Roots need air as much as they need water, and new trees will need a more frequent watering cycle than established trees. The cycle consists of the pores within the soil becoming saturated with water due to drainage or absorption; the empty pores will allow air to enter the soil. If the wet or dry cycle is too long the tree will suffer.

It is important to water infrequently and slowly (adjusted for the soil's porosity), so the water is able to completely infiltrate down to the tree's root system and be followed by air. Watering frequently for short periods only encourages shallow root development, which can actually lead to more severe drought damage. Apply water to saturate the critical root zone to a soil depth of 12-16 inches. Aeration measures may be required for a healthy root environment, better drainage will allow for deeper roots, better anchorage, and well stabilized (safer) trees.

Mature trees that do not have supplemental irrigation should be watered based on climate. Trees that are native to high rainfall regions will require more frequent watering than those that are drought tolerant. Consult with an agronomist, nursery professional, or a Certified Arborist to determine appropriate watering schedule. This can easily change from one location to another on the same parcel of land. Clay to sandy soils, hardpan to rocky soil, organic-loamy topsoil mixtures or salty/alkaline residue can all effect the watering schedule in addition to temperature, solar exposure, duration of temperature days, and the evapotranspiration rate, ***mycorrhizae*** colony that has been established, mulch depth and type, soil compaction, plus many other contributing factors.

2. FERTILIZATION / MULCH

Fertilization is another important aspect of mature tree care. Trees require certain nutrients (essential elements) to function and grow. Urban landscape trees are often planted in soils that do not contain sufficient nutrients for satisfactory growth and development. In these situations, it may be necessary to fertilize to improve plant vigor. Soil conditions, especially pH and organic matter content, vary greatly, making the proper selection and use of fertilizer a somewhat complex process. Consult with an agronomist or arborist to have your soil tested for nutrient content and provide application rates, timing, and the best blend of fertilizer. Don't fertilize until you know if there is a soil deficiency, what specifically is missing, and what is needed to correct the Problem.

A 4-6" layer of **mulch** (an artificial organic duff layer) on top of the soil may remedy a lot of urban landscape and soil problems by providing a slow time-release natural fertilizer. It will also help protect the soil and the tree's roots from additional compaction; help neutralize the soil and root zone temperatures, so the root will have a longer growing season; and support a HUGE beneficial colony of mycorrhiza fungus. The mulch will reduce evaporation, trap water, reduce run-off and prevent soil erosion, and increase the likelihood of live soil[1], which aids soil aeration, porosity, decreases root decay and the likelihood of cataclysmic failure.

[1] "Live soil" shall mean soil that contains vast quantities of living microflora (algae, bacteria, fungi, and actinomycetes) and macrofauna (vertebrates, arthropods, annelida, mollusca, protozoa, and nematodes), which continue to live due to favorable temperature, air, moisture, and organic nutrient conditions.

INSECT AND DISEASE CONTROL

Urban environments are hostile places for trees to grow and survive because there are many interrelated variables that may cause stress. Some of these environmental stress agents include drought, construction damage, soil compaction, lawnmower and line trimmer damage, tree climber's spikes, de-icing salt, vandalism, and air pollution. Trees exposed to one or more of these stress agents are more vulnerable to disease and insect attacks, which may lead to the tree's death.

Poor landscape design surrounding old trees often causes diseases below ground. Certain soil conditions encourage disease. Disruption of soil around the tree's dripline, such as compacting, trenching, excavation, rototilling, adding fill dirt, removing soil from the root area, excessive or more frequent watering, combined with poorly draining soil, often activate dormant fungi and cause infection. These activities will often infect and may lead to the eventual demise of the tree.

Prior to landscaping around a tree, an evaluation of the tree and soil must be performed to determine if there is disease present or if the proposed conditions will further activate its growth and destructive activities. If the tree is diseased, landscaping may contribute to its further decline. The City of Placentia will take reasonable measures to reduce or eliminate the conditions that may cause tree decline.

Foliar disease causes leaf spot or galls, which may be chronic or reoccurring with the seasons. The disease may destroy leaf tissue and make the tree appear unsightly, however, they may not significantly affect the health of the tree and treatment is often unnecessary.

If the City of Placentia inspection process has revealed a potential insect or disease infestation, an ISA certified arborist will be contracted to evaluate the tree's condition and take appropriate action as follows:

- Use Integrated Pest Management (IPM) techniques to mollify the insect and/or disease from being in contact with the host within their area of responsibility. The possibilities are to reduce the amounts of infected tree species, reduce or eliminate the pest or its conditions for the pest/disease and its host plant cycle as reasonably possible.
- Consult with a licensed pest control operator for treatment of insects. Whenever possible, a non-chemical treatment should be used then the least toxic chemicals possible, as required.

- Determine how above ground disease and decay should be treated. Fungal decay can eventually erode the health of a tree and/or weaken its structure, which can compromise the safety of people or property.

WEED ABATEMENT

ALWAYS READ AND FOLLOW LABEL DIRECTIONS:

- Instructions for registered uses of herbicides are given on container labels.
- Persons are required to have the necessary supplemental or specific labeling in their possession at the time of application.
- Because labels can and do change frequently, applicators should ensure they are following the most recent label.
- MSDS Materials sheets for any hazardous chemicals used should be maintained by the Public Works Director.

What is a Weed?

A weed is a plant growing where it is not wanted, competing with more desirable plants for water, nutrients, sunlight and space. Understanding growth cycles and the most vulnerable growth stage of weeds is important for effective control strategies.

Annual weeds are plants that germinate from seed in the spring of the year, grow quickly, flower and set seed during the growing season, and die. Early weed control is critical to reduce competition with trees and to prevent weed/seed production. Control becomes increasingly difficult as weeds develop past the seedling stage.

Biennials require two growing seasons to complete their life cycle. They usually form rosettes the first year and reproduce the second year by bolting or growing a flower stalk. Controlling the rosettes the first year is the easiest and most effective way to control biennials.

Perennial weeds are plants that grow from roots, rhizomes, stolons, tubers, tillers, or seed in the spring, then flower and set seed. Unlike annual plants, they do not die but continue to grow and spread each year through specialized roots and stems. Control can be difficult, requiring greater and more consistent efforts than for annual weeds.

1. MECHANICAL WEED CONTROL

The object of mechanical weed control is to limit competition by uprooting and separating the green stem and leaves from the root system, or a total maceration of the weed plant. This activity either kills the weed completely or causes sufficient injury to render the plants non-competitive.

Mechanical weed control is quite effective for control of annual weeds, especially in the seedling stage. However, cultivation may bring weed seeds to the soil surface where they can germinate. Seed dormancy may be broken by exposure to light during tillage or by other changes in the environment around the seed. Therefore, shallow cultivation is encouraged to reduce the number of dormant weed seeds brought to the surface. Repeated tillage may be required throughout the growing season as new weeds emerge. Cultivation actually propagates and spreads a perennial weed problem throughout the tree planting when rhizomes, stolons, tillers, tubers or roots are spread by the tillage tool.

Caution: After young trees are established and growing, mechanical cultivation deeper than two to three inches can damage tree roots resulting in stunted growth. Tractors and equipment can injure lower branches, root collars or tree trunks, providing entry wounds for insect and disease pests. Excessive tillage increases erosion including exposure to wind erosion that can cause sandblast damage to young trees.

Tillage practices adjacent to suckering shrubs must be modified as the planting matures. Many shrubs begin suckering (sending up new shoots from the root system) within two to five years after planting. Tillage should be modified to prevent damage or removal of these newly emerged shrub stems. Tillage may need to be done intermittently or performed farther from the row to encourage healthy and vigorous sucker production.

2. MECHANICAL WEED CONTROL IMPLEMENTS

A variety of hand tools and tractor-mounted implements are available for mechanical weed control. The size of the tillage implement should be determined by the particular tree planting.

Hoes and hand cultivators are some of the oldest tools used for cultivation of trees and crops. Although effective, especially in closely spaced tree plantings, these methods are laborious and

time-consuming. Over the years, many designs of hand cultivators have been developed for home gardens and most work equally well around trees.

Line trimmers have become increasingly popular for grass trimming around trees. When line trimmers are used near trees, plastic tree guards should be placed around the base of young trees and trees with thin bark. These guards protect the tree from accidental wounding and possible girdling of trees. Bark and cambium on larger trees are often severely damaged by careless line trimmer usage. Perennial weeds will develop multiple stems after existing stems are removed by any mechanical tool or implement.

Mulches are placed around the trees to serve as physical barriers to weed emergence. Mulches also prevent sunlight from reaching weed seeds or small plants. Decreased weed competition means more moisture and nutrients for tree growth. Mulches conserve soil moisture by preventing evaporation from wind and they keep soils cooler through shading during the growing season. Also, mulches reduce rainfall runoff and increase water infiltration into the soil. Mulches also maintain warmer soil temperature later into the autumn by insulation, allowing for an extended tree root growth period.

Organic mulches include straw, woodchips, chopped corn cobs, grass clippings, various composts, and other organic material. These are most effective when placed around the tree to the edge of the tree crown. A minimum three-foot circle of mulch is recommended around individual trees, and the diameter of the circle should be increased as the tree grows. Organic mulch must be maintained at three to four inches deep to prevent weed emergence. Sufficient depth must be maintained because control of weeds through mulch may be more difficult than controlling weeds without mulch. Finer-mulch materials are effective at thinner depths while a greater thickness is needed for coarse materials to prevent weed emergence.

Organic mulches are commonly added to improve soil structure by increasing organic matter content. This practice is effective in heavy clay soils, where added organic matter improves porosity, which in turn increases water permeability and oxygen exchange. In light sandy soils, organic matter improves water- and nutrient-holding capacities of the soil. Organic mulches also provide slow release of nutrients to encourage growth.

Artificial mulches were first used around trees in home landscaping to control weed growth and conserve soil moisture. Solid plastic sheets did not allow sufficient oxygen exchange between the tree roots and open air. Newer forms of plastic mulches are manufactured with an interwoven or spun fiber to allow more porosity for better water and oxygen exchange.

3. CHEMICAL WEED CONTROL

Herbicides are widely used for weed control in tree plantings because they provide selective and rapid control of weeds. Some are especially effective on hard-to-control perennial weed where tillage and other control options are limited. Herbicides must be applied at the proper growth stage for effective control. The herbicide selected will vary with application preference, weed type and species or growth stage of the tree. Problem weeds should be controlled before site preparation.

Many herbicides are labeled for use in tree plantings. Some herbicides can be applied directly over the trees, while others must be applied as a directed spray to minimize spray contact or to avoid the trees entirely.

Herbicides are applied in various stages of tree growth. Correctly identify the existing weeds and use herbicides designed to control those weeds. Select herbicides that are safe for the desired trees and shrubs and apply at the optimum stage for effective weed control.

Site preparation. Prior to planting trees, the site is usually prepared by one of two methods: 1) a non-selective herbicide is applied to kill existing vegetation, followed by a pre-plant incorporated or pre-emergent herbicide to provide residual weed control; or 2) tillage is used to remove existing vegetation and a pre-plant or pre-emergent herbicide is used to provide residual weed control.

After planting. During the first season after planting, spot treatment of hard-to-kill perennial weeds may be required. Spray only the weed and avoid drift or spraying young tree bark and foliage. A hand sprayer with a shield or a pail placed over nearby trees will help prevent spray drift damage.

Fall and early spring application. Weed control during the following growing season can be achieved by applying residual granular herbicide in the fall after trees are dormant or in early spring before trees break dormancy.

Mature Trees. Grass weed competition can reduce tree growth and vigor. A translocated herbicide applied selectively can eliminate weed competition.

Native River Stands. Water quality and runoff are major concerns. Some herbicides have a restricted use classification because of water quality concerns, and many general use herbicides cannot be applied in open water. Use only herbicides that are labeled for use near water.

Hand-held sprayers are often used for spot treating patches of weeds or for treating small areas in tree plantings. Spray coverage should be uniform but not to the point of runoff. Calibrating a hand-held sprayer can be difficult because of irregular size and dimension of the area to be sprayed and difficulty in attaining uniform spray coverage with a single nozzle.

APPENDIX E:

EXPAND THE FOREST PROGRAM POLICY

EXPAND THE FOREST POLICY

I. SCOPE

This policy shall establish the "Expand the Forest Program" for resident purchase of trees to serve as a living reminder of a special person or event in their lives and will be applied to City Parks.

II. PURPOSE AND INTENT

The purpose of this policy is to establish the guidelines for an Expand the Forest Program. The program is intended to allow residents to purchase dedicate a tree in honor of a loved one or special event. The "Expand the Forest Program" should be of benefit to the public and provide opportunities to all individuals regardless of income. This program will apply to parks City-wide.

III. GENERAL PROVISIONS

a. The Department of Public Works will administer this program.

b. The Director of Public Works, or an appointed designee, will determine variety, size, location, and price of trees annually.

c. Placement of trees will be pre-determined by the Public Works Department with the applicant having the option to choose which pre-determined location(s) the tree(s) will be planted in.

d. All costs associated with purchasing and planting of the tree(s), including staff time, will be borne by the applicant. Any changes to program costs will be addressed through regular budget procedures.

e. Donors will be required to complete an application for the Expand the Forest Program.

f. The Director of Public Works, or appointed designee, will schedule the date and time the tree will be planted in conjunction with the applicant's desire to be present when the tree(s) is planted.

g. A memorial certificate signed by each City Councilmember will be provided to all applicants.

h. A tax receipt for the charitable donation will be provided.

i. When tree site opportunities are exhausted in an individual park, no further plantings will be added unless at which point a new planting area has been created due to the removal of an existing tree.

IV. PROCEDURES

The Expand the Forest Application will be made available through the Public Works Department and the City's website.

Application information will include sponsor name, address, phone number, and for whom or what special event the tree is planted for. The application will also include:

a. Tree quantity
b. Tree species
c. Preferred park and location
d. Sponsor information

V. APPLICATION LOG

This form will stay on file with the Public Works Department at the City Yard and will include the following:

a. Request details including tree size and type

b. Location

c. Applicant Information (Name, Address, Phone Number, Date of Request, and or affiliated organization information)

d. Request Approval/Denial

e. Confirmation of memorial approval with installation date, or denial with explanation and alternatives

f. Installation Date

g. Department Signature, Title, and Date

Public Works Staff will document and track the requests from application through planting.

VI. MAINTENANCE OF MEMORIAL TREES

Routine maintenance of Expand the Forest Trees will be the responsibility of the City.

a. When a City park is schedule for renovation, no plaques or amenities may be placed until park design standards and selections are finalized.

b. In the event that an area containing Expand the Forest Trees is re-developed, the applicant will be notified as to the location of the alternative site and/or replacement tree.

c. If a tree must be removed, the City will bear the responsibility for removal of the existing tree and planting of the replacement per City standard.

d. The City will not bear responsibility for replacement of lost, stolen, or vandalized plaques.

VII. ADDITIONAL OPTIONS

a. A bronze 5”x7” memorial plaque may be purchased for an additional fee and will be placed at the base of the memorial tree site two years after the tree has been planted. This will ensure that the tree has taken in its planted location so that the plaque does not have to be removed and reinstalled should the tree fail within the first two years.

b. The plaque will note the person or special event the tree memorializes

APPENDIX F:

DRAFT HERITAGE TREE DESGINATION POLICY (FUTURE POLICY DISCUSSION)

Draft Heritage Tree Designation Policy

I. PURPOSE

a. This chapter is adopted because the city recognizes that trees contribute in many important ways to the health, safety, and welfare of all of Placentia's citizens. Besides their aesthetic benefits, trees offer windbreaks, provide erosion control, act as filters for airborne pollutants, release oxygen, and provide a habitat for birds and other wildlife. All trees perform these functions for the lands on which they occur. The city recognizes, however, that trees of significant size and maturity often perform these functions for all people living in their vicinity.

b. For these reasons the city finds it is in the public interest, convenience, necessity and welfare to establish regulations controlling the removal of and the preservation of heritage trees within the city. In establishing these regulations, it is the city's intent to preserve as many heritage trees as possible consistent with the reasonable use and enjoyment of private property.

II. APPLICABILITY

a. This policy applies to all property within the city of Placentia, including private property, residential and nonresidential zones, developed and undeveloped land.

III. DEFINITIONS

A. "Circumference" means trunk circumference measured at four and one-half feet (4½') above the ground. For trees which are multi-stemmed above this height, measurement includes the circumference of two (2) or more trunks if combined are equal to or greater than the minimum size stipulated.

B. "Damage" means significant injury to the root system or other parts of a tree including burning, application of toxic substances, damaging through contact with equipment or machinery, changing the natural grade, compacting the soil within the dripline, interfering with the normal water requirements of the tree, trenching or excavating within the drip line, or removing more than one-third (⅓) of the live wood.

C. "Diameter" means trunk diameter measured at four and one-half feet (4½') above the ground.

D. "Dripline" means the area created by extending a vertical line from the outermost portion of the limb canopy to the ground.

E. "Heritage tree" means a tree or group of trees specifically designated by official act of the parks and recreation commission its outstanding characteristics in terms of size, age, rarity, shape or location

F. "Topping" means elimination of the upper twenty-five percent (25%) or more of a tree's trunk or main leader.

G. "Tree" means a large woody plant which ordinarily has a central trunk and at maturity exceeds a height of fourteen feet (14').

IV. CRITERIA FOR HERITAGE TREES

a. The tree or group of trees has historical significance or has taken on the aura of historical appeal; or
b. The tree or group of trees is mutually dependent upon each other for survival; or
c. The tree or group of trees is considered an outstanding specimen of its species; or
d. The tree or group of trees is the size of 48 inches or more in diameter measured at 24 inches above natural grade; and
e. The tree or group of trees has been recommended as such by the City Council and/or the designated Tree Board.
f. Any tree designated as a heritage tree may by identified with a marker or by any other any other means as determined by the City Council and/or the designated Tree Board.

V. HERITAGE TREE DEDICATION

a. The Tree Board shall make a recommendation to the commission whether a tree, which meets the definitions of the Policy and/or has a significant historical or horticultural value to the City to warrant its dedication as a heritage tree.
b. Not all trees which meet the definition under this Policy will be significant, and the Tree Board shall weigh the cost of maintenance against the value of the tree(s) as a Placentia landmark in determining whether a tree should be dedicated as a heritage tree.
c. Upon the recommendation of the parks and recreation commission that a tree(s) meets the criteria of a heritage tree and should be dedicated as such, the owner of the tree(s) may dedicate the tree(s) to the City, if he/she also dedicates right of access for maintenance and protection, and the dedication is accepted by resolution of the City Council. Dedication shall be subject to such conditions as the council considers proper in the case.

VI. APPEALS

a. Any decision of the Tree Board, pursuant to this policy, may be appealed to the City Council. Appeals shall be in writing, shall be signed by the applicant, shall

state the reasons the appeal is made, and be filed with the City Clerk within fourteen (14) days of written notification of the decision by the Tree Board. Any appeal shall be accompanied by an appeal fee in the amount established by resolution of the City Council.

b. The City Clerk shall place all such appeals on the agenda of the next regular Council meeting and shall give the appellant at least five (5) calendar days' notice of the time and place of said hearing. Appeals shall be conducted in accordance with the procedures set forth in Section A of this code.

VII. PROTECTION OF HERITAGE TREES DURING CONSTRUCTION

a. All applicants for demolition, grading, or building permits on property containing one or more heritage trees shall prepare a tree protection plan pursuant to this policy.

b. Protection plan required prior to issuance of permit
    i. A plan to protect heritage trees as described in Section A of this chapter shall be submitted to the Director of Public Works prior to the issuance of demolition, grading or building permits. The plan shall ensure that the tree, including its root system, is adequately protected from potential harm during demolition, grading and construction that could cause damage to the heritage tree. Such harm may include excavation and trenching, construction and chemical materials storage, stormwater runoff and erosion, and soil compaction. The plan shall be prepared and signed by a certified arborist and approved by the Director of Public Works. The Director of Public Works may refer the plan to a city-selected arborist for review and recommendation. The cost of this review shall be borne by the developer/applicant requesting said permit.

c. The Director of Public Works may require that a certified arborist be present on the project site during grading or other construction activity that may impact the health of the tree(s) to be preserved.

d. Damage to any tree during construction shall be immediately reported to the Director so that proper treatment may be administered. The Director of Public Works may refer to a city-selected arborist to determine the appropriate method of repair for any damage. The cost of any treatment or repair shall be borne by the developer/applicant responsible for the development of the project. Failure to notify the Director of Public Works may result in the issuance of a stop work order.

e. The Director of Public Works may waive the requirement for a tree protection plan if he or she determines that the grading or construction activity is minor in

nature and that the proposed activity will not significantly modify the ground area within or immediately surrounding the drip-line of the tree(s).

F. **APPLICANT TO GUARANTEE PROTECTION—SECURITY DEPOSIT**

i. The applicant shall guarantee the protection of the existing tree(s) on the site not approved for removal through placement of a cash bond or other security deposit in the amount based upon the valuation of the trees acceptable to the Director of Public Works. The Director of Public Works may refer to a city-selected arborist to estimate the value of the tree(s) in accordance with industry standards.

ii. The cash bond or other security shall be retained for a reasonable period of time following the acceptance of the public improvements for the development, not to exceed one (1) year. The cash bond or security is to be released upon the satisfaction of the Director of Public works that the tree(s) to be preserved have not been endangered. The cash bond or security deposit shall be forfeited as a civil penalty for any unauthorized removal or destruction of a heritage tree.

VIII. REMOVAL AND DAMAGING OF HERITAGE TREES PROHIBITED

a. It is unlawful for any person to break, injure, deface, mutilate, kill or destroy any heritage tree or set fire or permit any fire to burn where such fire or the heat thereof will injure any portion of a heritage tree, or to cause or permit any wire charged with electricity to come into contact therewith, or to allow any gas, liquid, or solid substance which is harmful to such trees to come in contact with their roots.

b. It is unlawful and it is prohibited for any person other than the Director of Public works or his duly authorized representative to place, apply, attach or keep attached to any such heritage tree any wire, rope, sign, paint, or any other substance, structure, thing or device of any kind or nature whatsoever until a written permit to do so has first been obtained from the Tree Board.

IX. DESIGNATED HISTORICAL TREES

a. In those cases, in which the city and property owner cannot reach an agreement for the dedication of a proposed heritage tree, or where the City finds that a tree's historical importance is outweighed by its dedication and maintenance costs, the City's Tree Board may declare such a tree a designated historical tree.
b. The purpose of such identification is to recognize and locate trees of historical significance in the city. Such identification as a designated historical tree is not intended nor shall it restrict the owner of such property where the tree shall occur from any normal exercise of his property rights that are recognized under law.

c. Such identification shall include the marking of designated historical trees on maps of the City's historical resources and on a master heritage and historical tree map to shall be prepared and maintained by the city public works department.
d. Identification shall also include written notification to the property owner of such designation and, if so ordered by the designated Tree Board and accepted by the property owner, a physical marker may be placed on or near a designated historical tree.

X. PUBLIC UTILITIES

a. Any public utility installing or maintaining any overhead wires or underground pipes or conduits in the vicinity of a heritage tree shall obtain permission from the Director of Public Works before performing any work which may cause injury to the heritage tree. The Director of Public Works shall provide all water, sewer, electrical and gas utilities operating within the city with a copy of this chapter.

XI. PENALTIES

a. Any person violating any of the provisions of this chapter or failing to comply with them shall upon conviction thereof be punished by a fine not to exceed $500.00, or by imprisonment not to exceed six months, or both such fine and imprisonment.

APPENDIX G:

SEWER LINE ROOT INTRUSION POLICY

SEWER LINE ROOT INTRUSION POLICY

I. Purpose

The purpose of this policy is to establish various criteria and verification procedures necessary for the City to ascertain whether plumbing expensesrepairs to damage private for the sewer lateral lines repairs are reimbursable to the property owner, when if the source of tree roots from are from a City tree.

II. Scope

This policy shall apply to all sewer laterals to the maximum extent practicable.

III. Definitions:

a. "Sewer Lateral" is defined as the segment of pipe, appurtenances and fixtures that connect the building sewer to the City sewer main in the street. The portion of the lateral pipe within the public right-of-way or an easement shall be subject to the engineering division's review, permitting and inspection and shall comply with the policies and requirements set forth herein.

b. Chronic Sewer Lateral Problem: Sewer laterals with chronic problems are those that have:

i. at least three blockages on record over two-year period

ii. major structural issues (pipe defects, collapse or break)

iii. major root intrusion.

IV. Sewer Lateral Maintenance

a. Maintenance Responsibility: The property owner is responsible for maintaining, cleaning and servicing the sewer lateral from the house or building to the connection at the public sewer in the street or easement. This includes the portion of the lateral on private property and the portion in the right-of-way or easement.

b. Sewer Lateral Failure or Stoppage: Whenever failure or blockage of a sewer lateral occurs, City crews will respond only to check the City's sewer main to verify that it is open and flowing. If the sewer main is found to be clear, it is the responsibility of the property owner to call a licensed plumbing contractor to inspect and correct the problem.

i. A property owner is responsible for determining the cause and clearing the blockage of the line between the building and the City' s sewer line. The City is not responsible for determining the cause of or clearing the blockage of a residential/business lateral line.

ii. If the following has been performed:

1. Property owner obtained the services of a licensed plumber and the licensed plumber certifies in writing that they cannot clear the stoppage using proper tools, and;

2. The stoppage has occurred between a property line cleanout and the public sewer main, and;

3. The property has a "WyeY" type property line cleanout and the property owner has located and uncovered the property line cleanout, or a qualified plumber has installed a new "WyeY" type property line cleanout. And the blockage has still not been cleared,

Then, the City may provide additional assistance to investigate if resources are available to clear blockage in the lateral. If it is found that the obstruction is in the private lateral, then the City may seek reimbursement of incurred costs.

The City may issue a notice of correction to the property owners with chronic sewer lateral problems. In such cases the property owners are required to submit an action plan to the City Engineer. Failure to comply to the notice may result in further action against the property owner including but not limited to administrative citation by the City.

c. ***Root Intrusion:*** Root intrusion into a private sewer lateral is typically a symptom of a defect in the sewer lateral. Tree roots seek out water and nutrient sources. If a sewer lateral is damaged and leaking, tree roots will tend to force their way into sewer laterals via those damaged sections. If the roots entered at a damaged and leaking joint or connection of a sewer lateral, the property owner is responsible to repair or correct the situation.

i. If it is determined that the root ball from a City tree has broken or crushed the sewer lateral, a property owner may file a claim with the City. The property owner follows the City's claim filing procedure to ensure that the request provides the best available information in its review consideration.

a. The City does not pay for the replacement of undamaged pipe sections, or system upgrades including clean-outs or backflow valves. If the property owner believes a City owned tree has caused the problem, the owner should contact the City with evidence of such cause.

ii. Root intrusion into sewer laterals shall not be grounds for removal of a tree in the public right-of-way. The property owner is responsible for regular cleaning or root treating or replacing the lateral.
    a. The City does not remove trees for sewer issues. Removing a tree or shrubbery will not solve the issue, as existing roots from surrounding vegetation can still enter a broken sewer lateral.
iii. If it is determined that a root ball from a previously planted City tree has broken or crushed the sewer lateral, the City will repair the broken/crushed section of the pipe. Trees previously planted too close to a sewer lateral line

d. ***Root Intrusion from Lateral into Main Line:*** The Public Works Department are responsible to notify property owners in writing when they find roots from a sewer lateral protruding into the sewer main line. The property owner is then responsible to remedy the situation.

e. **Recommended Maintenance:**
    i. Property owners should periodically inspect the sewer line before there are symptoms of trouble, to avoid costly major repairs. A thorough video inspection of the sewer lateral line will reveal debris blockage, root intrusion, low spots, cracked or deteriorating piping, and cracked, separated or leaking pipe joints. The depth and exact location of problem areas can be identified to keep your repair cost down. Access to the sewer house lateral can be gained through a properly installed 4-inch clean out at the outlet of your home.the home or building.

    ii. The City recommends cleaning the sewer lateral line through a 4-inch clean-out directly installed in the sewer lateral. A 4-inch clean-out is necessary to get the largest cutting blade and most debris removed from inside pipe.

APPENDIX H:

TREE REMOVAL PROCEDURES

Tree Removal Procedures

I. Purpose

It is the City's policy to protect and preserve healthy trees that provide valuable benefits to the quality of life in Placentia to the greatest extent practicable. The Public Works Department shall be responsible for all removals of City trees.

City trees are defined as and located within:

- Trees in the right-of-way of public streets.
- Trees located in and around public parks and other public properties.

The Department shall have the authority to remove a City tree based upon the following conditions:

Hazardous Trees: The Public Works Department shall identify hazardous trees based on the severity of the following signs of decline:

- Large dead branches in the tree
- Cavities or rotten wood along the truck or in major branches
- Mushrooms present at the base of the tree
- Cracks or splits in the trunk or where branches are attached
- Strong lean at the trunk
- Many major branches arise from one point on the trunk
- Damaged, broken or injured roots
- Tree has been topped or otherwise heavily pruned

Dead Trees: Trees that are dead or have been determined by an ISA Certified Arborist to be in a state of severe decline with no available remedies to save the tree, although perhaps not an immediate hazard, shall be removed. D Dead and dying trees located on City-owned open space or natural areas not accessible by the Public shall not be removed unless they pose an immediate hazard or other reasons warrant their removal.

Emergency Removals: Healthy trees may be removed if the Director of Public Works or his designee decides an emergency condition exists, and tree removal is determined to be the only option available.

Public Safety: Healthy trees may be removed if the Director of Public Works or his designee decides that a public safety concern exists, and the tree removal is determined to be the only option available.

Other Removals: Other examples where a condition shall warrant removal include:

- Diseased/Insect Infested Trees - The tree is diseased, has lost its productive capacity, and is not likely to recover despite the application of available remedies. Trees that acquire an infectious disease or are infested with an insect that is declared to be a serious pest threat to other nearby trees shall be removed, if removal is determined to be the best pest control solution. Examples of this include trees infested with the Shot Hole Borer.

- Building damage - If a tree is causing structural damage to a building, and the condition cannot be corrected without removing the tree, or severely damaging its root structure causing it to fail or potentially topple over.

- Surface Roots - In situations where tree roots have developed above the surface, an ISA Certified Arborist shall evaluate the roots and determine if root pruning can occur without jeopardizing the health and stability of the tree. Should the arborist decide that roots cannot be pruned without jeopardizing the tree, and those same roots pose a safety concern, the tree may be removed.

- Hardscape Damage - If hardscape repairs cannot be completed without severe root pruning which would jeopardize the health and stability of the tree, the tree may be removed. The general policy that shall be observed when repairing or replacing hardscape adjacent to a City tree is that the health and integrity of the tree take precedent over the installation of concrete or asphalt. Every effort shall be made to protect the tree from root or trunk damage.

- Several alternatives are available for accommodating the installation of new hardscape without severely infringing upon a tree's root system. Any hardscape installation that may involve the removal of an extensive portion of a tree's root system or may require the removal of one or more roots that are of a diameter greater than two (2) inches, shall first be evaluated by the ISA Certified Arborist. If it is determined by the ISA Certified Arborist that the removal of the offending roots might jeopardize the health or integrity of the tree, then one of the following alternatives should be considered:

    - Off-set. An off-set is the tapering or reduction of a sidewalk's size down to a width no less than forty-two (42) inches.
    - Reconfiguration. Sidewalks do not need to be constructed in a straight line. If the public easement can accommodate it, a sidewalk may be reconfigured to curve around a tree in a suitable manner. In some cases, the property owner may wish to extend the easement over their property to accommodate the installation of sidewalk without removing a tree. Any root removal that occurs while completing hardscape installation shall conform with the Root Pruning specifications provided by City staff.
    - In all cases, all sidewalk modification must conform to al current ADA or CBC standards.

- Development Review. Tree Pruning and Removal as a part of a development project. Some tree pruning, and removal can be allowed on private land as part of project development if a Building Permit or Planning Application is approved by Development Services staff. Removal of tree(s) will require replacement mitigation or plantings at a 2:1 ratio.

Programmed Tree Removal and Replacement Program: In an effort to minimize deforestation, a programmed removal and replacement program may be proposed by the Director of Public Works or his/her designee. When considering a Tree Removal and Replacement Program, the severity of the following shall be evaluated:

- Neighborhood impacts
- Grow space
- Species
- Age of trees
- Condition of trees
- Cost to repair hardscape damage
- Severity and frequency of reoccurring hardscape damage.

This programmed removal may, wherever possible, be scheduled on a multiple year schedule, removing alternative/intermittent trees so as to avoid neighborhood deforestation and coupled with later street rehabilitation or maintenance projects. . Any plan proposed for phased removal of trees in a defined area must be specifically crafted to meet the needs of the particular area. Such a proposal must be presented to affected residents at a noticed workshop. In addition, programmed Tree Removal and Replacement Programs must be reviewed by the Committee

Reasons that are NOT Valid for Tree Removal:

- Leaves getting into gutters on to sidewalks or private property or a nuisance to remove.
- Messy fruit.
- Roots getting into the sewer lines as a result of deteriorating infrastructure.
- Hardscape damage unless a feasible, economic solution exists to save the tree.
- City tree is blocking solar panels. The City complies with existing solar access regulations in the State of California, including The Solar Rights Act (AB3250) and The Solar Shade Act (AB2321). The Solar Shade Act prohibits shading of solar collectors that result from tree growth occurring after a solar collector is installed. It states that no plant may be placed or allowed to grow such that it shades a collector more than 10% from 10 am to 2 pm. It does not apply to plants already in place or replacement of plants that die after the installation of the solar collectors.

Unauthorized Trimming and Removal

It is unlawful for any person to injure, cut, damage, carve, transplant, prune, root prune, or remove any public tree. Procedures for addressing violations are outlined in the City's municipal code.

Property Owner Request for Removals

Periodically, property owners approach the City with requests to remove a City tree that is located within the public easement on their property. The Director of Public Works or his designee and the City arborist have the authority to approve these requests only if the tree is dead, diseased, hazardous, or an public safety condition exists, as referenced above; otherwise staff will deny the request. Property owners may appeal the staff denial by written request, which shall be brought before the designated City Tree Advisory Committee.

The Committee may grant an appeal if it finds that the City staff decision would result in a burden on the property owner that substantially outweighs the benefit to the public. The Commission's decision may be appealed to the City Council if a written appeal, setting forth the grounds, is filed with the City Clerk within ten days of the Commission decision. If no timely appeal is filed, the decision shall be final." Public Works staff shall provide all interested parties with information on the committee and commission review process. Any tree removal requests brought forth to the Commission shall be evaluated by staff and a certified arborist.

The Committee will evaluate tree removal requests individually, considering any of these factors listed below to determine if tree's removal represents a greater loss to the public that the burden placed on the property owner by its continued existence:

- Species of the tree. Does the tree's species further the City's urban forest management goals or has it been removed from the planting pallet?
- Size of the tree. Does the tree's size provide significant value in terms of shade, tree canopy, and neighborhood character?
- Approximate age of the tree. Whether the tree is young, mature, or near the end of its life cycle may be considered.
- Health of the tree. Is the tree in excellent health or it is showing signs of decline or approaching the end of its life cycle?
- Physical characteristics of the tree. Does the tree have appropriate structure and form or is it growing in a manner that will produce a strong, stable tree?
- Environmental productivity of the tree. Is the tree believed to be environmentally productive or has productivity likely declined due to age, condition, or poor health?
- Safety of the property owner and general public will be considered. The Commission may consider health and safety impacts for the residents, adjacent property owners, and public at large when evaluating a removal request.

- Asset value of the tree. The value of the tree as listed in the City's inventory shall be included in the information presented to the Commission.
- Utility conflicts, both above and below ground, may be considered when evaluating a removal request. Anticipated utility conflicts may also be considered.
- Species and age diversification may be considered to determine if the street would benefit from having a more diverse street tree population to reduce threats of deforestation.
- Trees may not be approved for removal based on leaves getting into gutters or a nuisance to remove, messy fruit or tree debris, roots getting into the sewer lines as a result of deteriorating infrastructure, hardscape damage if a feasible, economic solution exists to save the tree, or if a City tree is blocking solar panels.

If a property owner requests a tree removal and the request is approved by the Committee, the property owner will be required to pay for the subsequent removal and the replanting of two replacement City trees. This practice is intended to contribute to the growth of the City's Urban Forest. Information regarding this requirement will be made available to the property owner prior to the commission process. Costs will be determined based upon the City's current contract rates for removal and planting. A viable planting site for the replacement tree will be determined by the City's arborist. The accepted planting site may or may not be adjacent to the removed tree or on the same property. Property owners may appeal the requirement to pay for the requested removal and replanting two replacement trees if they are able to demonstrate financial hardship.

Resident/Merchant Notification

In an effort to encourage public participation, residents/merchants immediately surrounding the affected property shall be notified by mail of any property owner appeals/requests for a tree removal. A minimum of three properties adjacent to either side of the affected property shall be notified, as well as the closest three properties across the street. Staff will take into consideration unique geographic factors when sending notification letters and may exceed the three-property minimum as deemed necessary. In addition, City staff will post a notice on the affected tree no less than 10 days prior to review by the Committee. The notice will include information on the proposed removal/property owner appeal and meeting dates, times, and locations.

Agendas for the Committee meetings will be posted a minimum of 72 hours prior to the meeting date for public review. Interested residents/merchants are invited to make public comment at the meetings or submit written comments for consideration. The Public Works Department may or may not be able to notify the public of emergency and hazardous tree removals due to the degree of urgency during these events. A list of newly planted and removed trees will be brought to the Committee a monthly basis as a receiver and file item for information purposes.

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