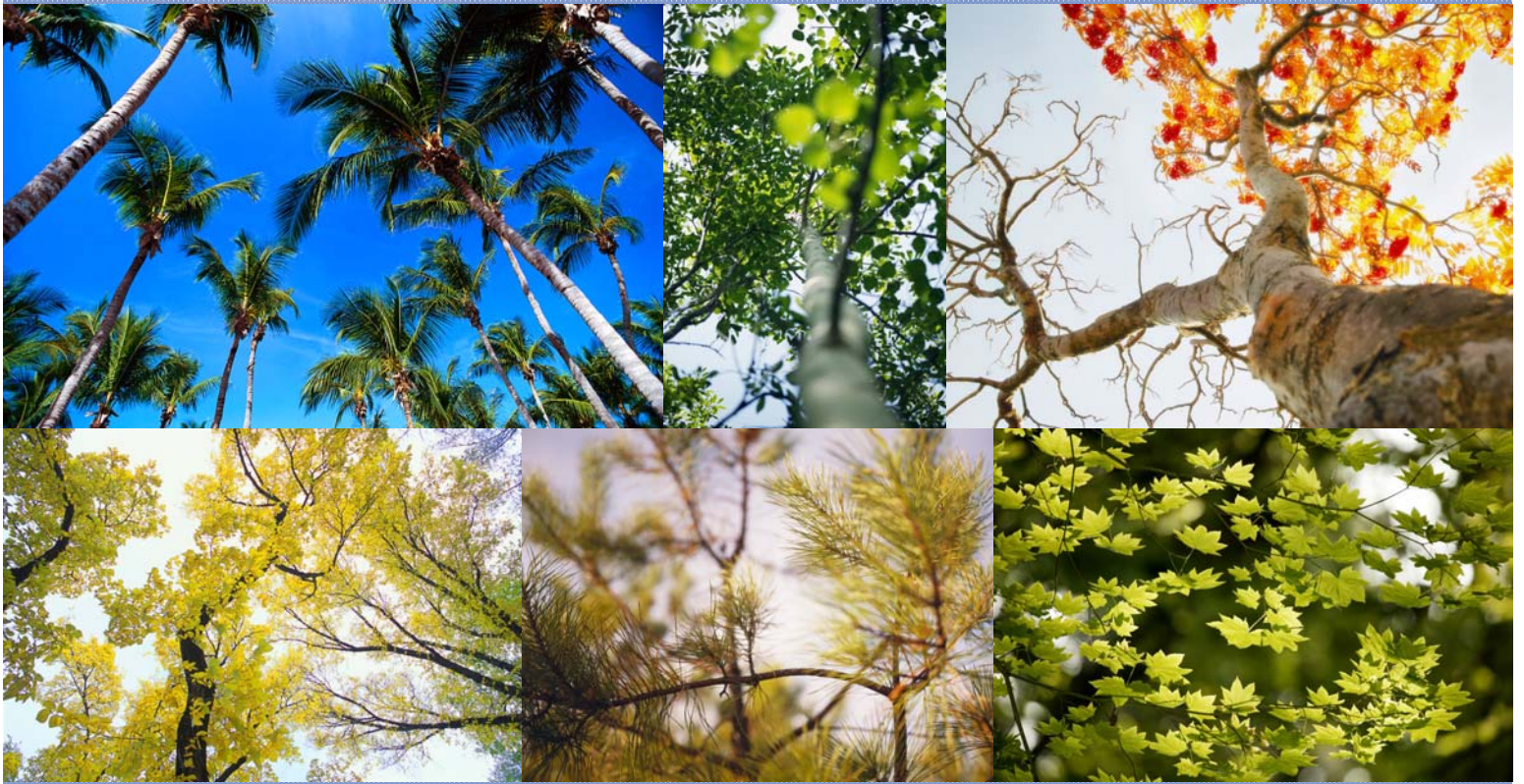




CITY OF
RIVERSIDE



URBAN FORESTRY POLICY MANUAL

Public Works Department

Revised August 2015

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Introduction

The City of Riverside is known as a “City of Trees.” Trees beautify the landscape and enhance the quality of life for all residents. The National Arbor Day Foundation has recognized our City as a “Tree City, USA” since 1987 in honor of the care we provide for our trees. The purpose of the Urban Forestry Policy Manual (“Manual”) is to provide guidelines for the preservation and protection of our tree heritage and the Urban Forest of Riverside. This Urban Forestry Policy Manual supersedes the 2007 Urban Forestry Policy.

The following pages document guidelines for the planting, pruning, preservation and removal of all trees in city rights-of-ways. These specifications are based on national standards for tree care established by the International Society of Arboriculture (ISA), the National Arborists Association and the American National Standards Institute. This Manual incorporates input from Public Works Department staff, the Park and Recreation Commission, City Council, various other Commissions and the citizens of Riverside.

This Manual is a reference for use by City staff, private contractors, volunteer organizations and citizens when working in and around trees within City jurisdiction.

Who Cares for the Urban and Community Forest?

The approximately 150,000 street trees and 40,000 park and open space trees throughout Riverside are a community asset valued at more than \$332,661,560. The urban forest provides environmental benefits, adds to property value and provides an enhanced quality of life for all residents.

Unfortunately, Riverside's trees suffer from the rigors of urban life such as air pollution, limited water, vandalism, compacted soils, limited growing spaces, and the extremes of our Southern California climate. In order to reap the benefits of this valuable asset, the care of Riverside's Urban Forest must be a public/private partnership.

The City Council

Elected officials who provide leadership, at the request of citizens, ensure that trees are a priority in our community. The City Council oversees the General Fund, which supports the planting and care of the urban forest. They also make decisions regarding policies and ordinances, which pertain to the care and protection of trees on public property and the development of private property as it pertains to our Urban Forest.

Park and Recreation Commission

Appointed by the City Council, this nine-member Commission oversees the Urban and Community Forestry Program. The Commission has the power and duty to "Establish policies . . . for the planting, care and removal of trees in parks and on streets, subject to the rights and powers of the city council."

Urban and Community Forest Ad-Hoc Committee

Appointed by the Park and Recreation Commission Chairperson, the Urban and Community Forest Ad-Hoc committee, together with Public Works staff, discusses issues and visits sites to make recommendations to the Park and Recreation Commission on tree issues in public landscapes.

An Ad-Hoc committee shall review the Urban Forestry Policy Manual a minimum of every two years.

Public Works Department

The Department, under the guidance of the Public Works Director, provides the daily management and emergency services which sustain our urban forest and employs an experienced Urban Forester who specializes in the management of urban and community forests. The Public Works Department provides planting and maintenance services and also oversees contracted and permitted tree work on City trees.

Funding for the Urban and Community Forest

The primary source for funding is the General Fund. In an effort to augment limited City resources available for urban forestry, additional funding sources are often sought. Alternatives include a “Perpetual Tree Care Fund,” public grants, private donations, and the use of volunteer labor for tree plantings.

Riverside’s Perpetual Tree Care Fund

This fund is separate from the General Fund. It is managed through the Riverside Chamber of Commerce solely for the enhancement of the community forestry program. Sources of revenue for the fund include contributions directly to the fund and other private donations. Tax-deductible contributions may be made to the Riverside Perpetual Tree Care Fund c/o the Greater Riverside Chambers of Commerce, 3985 University Avenue, Riverside, CA 92501.

Adopt-A-Tree Program

This program enables individuals to sponsor tree plantings. Individuals may select a preapproved planting site within the City for which to sponsor a tree. The program is managed through the Riverside Chamber of Commerce.

Grants

The staff of the Public Works Department actively researches the availability of grants for community forestry programs. Monies from these grants help to augment and sustain the urban forest.

Tree Care Guidelines

The care and maintenance of City trees is both an investment and a very valuable resource. Trees in an urban environment are subject to many variables that affect their health: air pollution reduces a tree's ability to make food; compacted soils from road and structure development interfere with the uptake of nutrients and water; and sidewalks, curbs, streets and buildings limit the space for trees to spread their roots and branches. Tree care, such as deep watering, proper pruning and pest control help a tree maintain its health and stability.

The guidelines in this Manual were developed to help reduce the many negative impacts on City trees and to provide for effective management of the urban forest. Following the guidelines in this Manual will result in an increase in the value of our trees and a reduction in the costs to maintain them.

It is the goal of the City of Riverside to work closely with our residents and property owners to proactively remove problematic trees such as those with invasive root systems that are causing chronic infrastructure damages and replace these problematic trees with appropriate tree species that are suitable for the surrounding environment.

Cultural Practices

Practices such as deep watering, prevention of damage to bark from string trimmers and mowers, the use of mulch or wood chips and proper pruning and staking, provide preventative care for trees. These practices help keep a tree healthy so it can maintain its own natural defense system.

Pest Control

Proper planting, pruning and care of trees are the best ways to prevent pest problems. A tree has a natural ability to withstand a certain amount of insects and disease. When a tree suffers from other impacts, which deplete its food-making capability (photosynthesis) and uptake of water and nutrients, its natural defenses are weakened.

When insect and/or disease infestations become a detriment to the tree, controls are used. When pest control is recommended, natural or biological substances are considered first, with chemical pesticides used only when warranted.

Pest control is based on the timing and intensity of the infestation. Inspections of trees are made based on the time of year and weather conditions that have favored the development of insect problems in past years. Not all problems are predictable and may not be treatable. If there are requests by residents, an inspection is conducted and recommendations are made based on the timing and effectiveness of the control.

Tree Pruning Guidelines

Need for Pruning

Trees are pruned principally to preserve their health and appearance and to prevent damage to property and human life. Broken, dead, or diseased branches are pruned to prevent decay from spreading. Live branches are removed to permit penetration of sunlight and air circulation which helps maintain a strong and healthy tree.

All public trees should be completely pruned on a periodic basis based on the needs of the species. Frequency depends on funding levels.

Additional tree pruning is done on an “as needed” basis. Specific examples where as needed work is authorized are:

1. Pruning tree branches that interfere with City utility lines.
2. Pruning tree branches that interfere with street light illumination and are not scheduled for periodic pruning within two (2) years.
3. Pruning tree branches that interfere with buildings or other private or public facilities.
4. Pruning hazardous branches, such as large dead branches greater than two (2) inches in diameter, hangers and structurally unsound branches.
5. Pruning tree branches that interfere with safe vehicular or pedestrian traffic.
6. Sucker pruning.

Property Owners Ability to Prune Trees

There are two options available to property owners who would like to have public tree(s) pruned more frequently than the scheduled trim cycle. First, a resident may pay a designated fee (see attached) to the City to have a tree trimmed outside the normal grid trim cycle. The City’s contractor will prune the tree within 30 days of the request. Second, a resident may apply for a permit and hire a licensed and insured contractor to trim the tree(s) according to City standards. A property owner may raise mature trees to eight (8) feet for clearance without a permit.

Tree Pruning Specifications

Any tree work performed on a City tree must be completed according to the City’s specifications. There are different criteria for pruning depending on the purpose for the pruning.

“Complete pruning specifications” are used when the entire tree needs to be fully pruned.

“Safety pruning specifications” require less pruning and are used when specific, possibly hazardous (dead/dying) branches need removal to eliminate all safety concerns. Safety pruning may be recommended in some circumstances instead of complete pruning. Safety pruning specifications are used for “as needed” pruning and address only safety concerns. Safety pruning includes only the basic requirements to address the problem.

Where overhead wires pass through trees, safety and reliability of service demand that tree trimming be done to clear wires of branches and foliage. The minimum clearance must be followed as established by the California Public Utilities Commission General Order No. 95.

All specifications are based on International Society of Arboriculture, National Arborist Association and American National Standards Institute criteria. This guarantees that Riverside’s City trees receive the best possible care.

The following trimming specifications are for the use of any permitted pruning of City trees.

Method of Operation

- a. Trim trees to lighten and balance the trees, according to current International Society of Arboriculture Western Chapter standards.
- b. Remove dead wood and crossing branches.
- c. Remove suckers.¹
- d. Remove diseased branches.
- e. Encourage radial distribution of all branches to provide a sufficient number of scaffold branches to fill the circular spaces as concentrically as possible around the trunk.
- f. Final trimming cuts shall be made without leaving a stub. Cuts shall be made just outside the branch collar. Extreme flush cuts, which produce large wounds and weaken the tree at the cut, shall not be made.
- g. Trimming shall provide adequate clearance for any obstructed street sign, streetlight or other approved standard.

¹ Vigorous, upright growth arising primarily from below the graft union or the ground from trunks or the roots.

- h. Over sidewalks, branches shall be raised a minimum of nine (9) and a maximum of twelve (12) feet from grade to wood. Where sidewalks do not occur or are located on the street side of a parkway, branches may be retained below the minimum elevation, providing they conform to the natural shape of the species.
- i. Over residential streets, branches shall be raised gradually from 12 feet curb to 16 feet over traffic lanes from grade to wood giving the appearance of an arch rather than an angle. Near driveways where automated refuse containers are placed, it is imperative to have 15 feet of clearance.
- j. Over arterial streets, branches should be raised a minimum of 14 feet and a maximum of 16 feet from grade to wood. A major arterial street may require a higher maximum over central traffic lanes for existing, mature, canopy-forming branches.
- k. Whether over sidewalk or street, where the lowest branch is attached to a trunk above the desired elevation but extends below that elevation, it shall be cut back to a large lateral near the desired elevation, if possible, rather than removed altogether, in order to avoid giving the trunk a skinned appearance.
- l. Trimming shall not exceed the amount necessary to achieve the specified elevation at the time of raising and to compensate for tree species and trim cycle. No branch over three inches in diameter will be removed without prior City approval.
- m. No lion-tailing. An effect known as "lion-tailing" results from pruning out the inside lateral branches. Lion-tailing, by removing all the inner foliage, displaces the weight to the ends of the branches and may result in sunburned branches, water sprouts, weakened branch structure and branch breakage.
- n. Topping, stub cutting, hat racking, pollarding etc. is not acceptable.

General Requirements

- a. **Certified Tree Workers** – All persons performing tree work on City trees should be trained according to tree care standards accepted by the International Society of Arboriculture, Western Chapter.
- b. **Certified to Work Around Electric Lines** – All persons performing tree work on City trees in or around primary electrical lines must be trained to do so according to the "Electrical Safety Orders" of the State of California, including all amendments and revisions.
- c. **Certified Arborist** – Any City contracted tree company shall employ a full-time, permanent Certified Arborist, as accredited by the International Society of

Arboriculture. This person is responsible for ensuring that the contractor's crew is performing work according to the City's specifications. It is also recommended that Riverside residents use a firm that employs a Certified Arborist for any tree work.

- d. **Contractor Qualifications** – All contractors are required to have a state contractor's license for tree work (C-61). Contractors are required to adhere to the specifications provided in the bid documents.

Safety Pruning Specifications

- a. Proper disposal of all tree debris generated.
- b. Adhere to proper traffic control standards as adopted by the American Public Works Association, latest adopted version.
- c. Assure adequate safety of employees and the public in accordance with CalOSHA and Senate Bill 198

Safety tree pruning shall consist of the total removal of those dead or living branches as may menace the future health, strength and attractiveness of trees. Specifically, trees shall be pruned according to the Tree Pruning Specifications as outlined on pages 7, 8 & 9.

Tree Preservation Guidelines

Trees are an essential element of Riverside's image and quality of life. Hardscape elements, such as sidewalks, curbs, gutters and driveways, are also indicative of the City's commitment to maintain its infrastructure. Over the years, broken and damaged sidewalks, curbs, gutters and driveways will have to be replaced throughout the City. As a result, many trees will be involved. Whenever possible curbs, gutters and sidewalks should be meandered away from the tree thereby providing more growing space for roots. To manage this process and protect existing trees, the following departmental guidelines have been established:

1. Root Pruning

- a. Whenever sidewalk, curb, gutter or driveway replacement occurs within four (4) feet of a tree, the Public Works Department will inspect the site for tree impact assessment. Root pruning may be performed on any tree that the Public Works Department determines can be safely performed without jeopardizing the life of the tree.
- b. All roots greater than two (2) inches in diameter must be cleanly cut to encourage good callus tissue. It is recommended that roots be pruned back to the next root node.

2. Sidewalk Renovation - Trees that would be seriously impacted by root pruning during sidewalk replacements will be inspected by the Urban Forester in coordination with the Street Division to determine whether:

- a. The repair work can be deferred and a temporary patch used to eliminate any hazard until other steps can be reviewed and implemented.
- b. The tree can be saved by narrowing the sidewalk near the tree, while still leaving sufficient sidewalk width for disabled access. Standard disability access width is four (4) feet.
- c. The tree can be saved by relocating the sidewalk onto private property and negotiating the appropriate easement.
- d. The tree can be saved by replacing the sidewalk with minimal disruption of the roots (alternatives: a temporary sidewalk, rubberized sidewalk, use of root barrier fabric, raising the sidewalk grade over the roots, an informal walkway; etc.).
- e. To remove the tree and replace it with a minimum 15 gallon replacement tree.

3. Curb and Gutter Replacement - Trees that would be seriously impacted by root pruning during curb/gutter replacement will be inspected by the Urban Forester in coordination with the Street Division to determine whether:
 - a. Where six or more trees along one side of a block are severely affected, consideration is to be given to relocating the curb and gutter into the street along the entire block.
 - b. The tree can be saved by replacing the curb and gutter with minimal disruption of the roots (alternatives: temporary curb and gutter; use of root barrier fabric; rubberized panels, or by other methods).
4. Recovery Period
 - a. When significant root pruning on two sides of a tree is required, there will be a 24-month separation between sidewalk and curb/gutter repair to allow time for tree roots to recover and work shall be authorized by the urban forester.
 - b. An exception to this policy may be made if the curb/gutter or sidewalk is relocated away from the tree, or other measures are employed that reduce or eliminate root involvement or it is otherwise determined by the Urban Forest Section that root involvement is minimal.
5. Construction Projects on City Property - The following guidelines have been developed to protect trees on City property during construction projects:
 - a. A root protection zone shall be defined by a minimum 42" high barrier constructed around any potentially impacted tree. This barrier shall be at the drip line or at a distance from the trunk equal to 6 inches for each inch of trunk diameter 4.5 feet above the ground if this method defines a larger area.
 - b. Should it be necessary to install irrigation lines within this area, the line shall be located by boring, or an alternate location for the trench is to be established. The minimum clearance between an open trench and a street tree shall be one (1) foot, or six (6) inches for each inch of trunk diameter measured at 4.5 feet above existing grade if this method defines a larger distance. The maximum clearance shall be ten (10) feet. The contractor shall conform to these provisions unless otherwise directed by the City.
 - c. At no time shall any equipment, materials, supplies or fill be allowed within the prescribed root protection zone unless otherwise directed by Public Works Urban Forestry Division.. The root protection zone is defined as the larger of the drip line of 1) the tree or 2) the distance from

the trunk equal to six (6) inches for each inch of trunk diameter measured at 4.5 feet above existing grade.

- d. It is recognized that failure to abide by these provisions will result in substantial root damage to trees that may not be immediately apparent. The City will therefore assess damages according to the International Society of Arboriculture standards and bill the responsible party.

6. Release Requirements

- a. In order for construction work to begin that will impact a tree, a signed release form must be issued by the Public Works Department. This release shall be based on the condition of the tree and an assessment of the impact of the proposed construction. Mitigation measures necessary to protect the tree will also be stated.
- b. In the event a tree must be removed, Public Works Urban Forestry Division will issue a Tree Removal Permit.

7. Protecting Tree Roots From Vehicular Compaction

- a. In order to protect our urban forest and this City asset, it shall be unlawful for any vehicle to be parked in the public right of way, under the drip line of a City tree in non-paved areas such as parkway strips.

Tree Removal Guidelines

The Public Works Department is responsible for the maintenance of the street tree system. Individual trees can affect the environment of the total community.

The Public Works Director or the Director's designee shall have the authority to remove any hazardous, diseased or declining trees, providing that the removals meet the existing criteria as stated in the policy.

The Director or Designee shall authorize all tree removals with the authority granted in this policy and a quarterly report will be provided to the Park and Recreation Commission.

The Director shall provide the Park and Recreation Commission with a quarterly listing of the tree removals for the Commission's review.. The list shall include the locations of the trees and the reason for removal.

Hazard Tree Removal

Hazardous tree inspections shall be completed, including photo documentation of the condition of the tree(s).

A hazardous tree is one that is dying, dead or structurally weak; a traffic obstruction; or injurious to the health, safety, or welfare of the general public.

When a tree is determined by authorized staff to be a hazard, the tree will be removed and a replacement tree will be planted at the next appropriate planting cycle, unless inadequate parkway space exists or the location constitutes a hazard. Where long-term repairs can be made to sewer laterals, sidewalk or curb and gutter without endangering the stability of the tree, the tree will not be removed.

“Inappropriate” Tree Removal

An inappropriate tree possesses undesirable characteristics significant enough to have caused their elimination from future planting of street trees, as determined by the Park and Recreation Commission. Undesirable tree species shall be identified, approved by the Commission, and published.

There are three (3) types of inappropriate trees:

1. Class I Inappropriate - Tree species that cause chronic damage to infrastructure (i.e. curbs, gutters, sidewalks or other structures and trees) which, in the opinion of the Commission, are causing a nuisance to the property owner significant enough to necessitate removal of the tree.

2. Class II - Tree species that meet the general definition of an inappropriate tree, but the undesirable characteristics are not significant enough to necessitate removal of the tree (e.g., heavy fruit drop, susceptibility to wind damage, susceptibility to disease or insect infestation, etc.).
3. Non-conforming Trees - These are trees that may be in satisfactory health, but do not provide a benefit to the overall appearance of the community; trees that were started as volunteers and not removed; trees planted by residents/businesses without permits; or trees that may cause extensive damage to surrounding hardscape areas if allowed to mature.

Removals Because of Economic Considerations

A tree considered for removal must meet Criteria #1 and three (3) of the remaining four (4) following criteria before a removal is considered because of economic considerations..

1. Cost of damage exceeds 1/3 of the value of the tree.
 - a. The problems caused by the street tree must exceed at least 1/3 the dollar value of the tree as established by the International Society of Arboriculture's Tree Replacement Book. For example, a tree valued at \$10,000 must have caused at least \$3,333.00 in damages.
2. Damages have caused potential liability issues.
3. A request made for removal that authorized staff concurs to be a legitimate request.
 - a. Recurring problems related to the tree within a 10-year period. The tree has lifted or broken the sidewalk more than once within 10 years, has broken the sewer lines more than once, (etc.), or other physical damage to hardscape.
4. Comparable problems or concerns in the surrounding area would not lend themselves to removal of all the trees in that area.

These criteria may not apply toward trees that are considered to be historical, landmark, or in a sensitive ecological and/or historical area.

Removal Process

1. Tree removal reports, shall be presented quarterly at the Park and Recreation Commission meeting.
2. Tree removal appeals will be reviewed by the Urban Forest Ad-Hoc committee of the Park and Recreation Commission For multiple requests from the same neighborhood each tree will be assessed individually and up to a maximum of 20% can be removed within a three-year period, unless the trees pose a potential safety hazard or if there is full community support and approval to remove all the trees that are considered problematic on one (1) street of a neighborhood and replace with an approved appropriate species. The Public Works Department will track removals to protect neighborhoods from excessive removals. Unless hazards exist or if there is full community support and approval to remove all the trees that are considered problematic on one (1) street of a neighborhood and replace with an approved appropriate species, additional removals from a neighborhood will not be considered for three years, to establish the replacement trees.
3. Inappropriate trees, i.e., Shamel Ash, (*Fraxinus uhdei*) Carob (*Ceratonia siliqua*) and California Pepper (*Schinus molle*) trees, that are approved for removal by the Park and Recreation Commission, will be removed within three years, contingent on funding. A property owner may choose to pay the City half of the removal cost and have the tree removed within 120 days, contingent on funding.
4. Trees approved for removal may be removed by a property owner through either of the following:
 - a. A payment to the City of Riverside to have the tree removed and replaced, per the approved fee schedule. If it is determined that a replacement tree is inappropriate, the replacement tree may be planted elsewhere on public right of way.
 - b. A property owner may obtain a Removal Permit from the Public Works Department for removal at the owner's expense and subject to payment of a fee for the removal and replacement of the tree.
5. Class II Inappropriate trees, i.e., Holly Oak and Evergreen Elm Trees, may be removed and replaced, at the property owner's expense provided that the total neighborhood removals do not exceed 20%.
6. Shamel Ash Trees may be removed and replaced with an approved 24" box tree, at the property owner's expense and provided that the total neighborhood removals do not exceed 20%.

Programmed Tree Removals

1. Developed by the Director or his Designee based on the severity of overall deficiencies including width of parkway, species, conditions of trees, or extent and number of recurrences of chronic structural damage to improvements which shall be approved by the Commission.
2. This program removal may, wherever practicable, be scheduled on a multiple year schedule and remove alternate/intermittent trees so as not to remove all trees at one time, as determined by the Park and Recreation Commission.

Site Restriction

1. Trees located so as to prevent a legal improvement to the property.
2. Street improvement plans are subject to the conditional requirements imposed upon the approval by the Public Works Department.
3. The property owner shall remove the tree(s) at owners expense upon issuance of a permit by the Public Works Department and subject to the conditional requirements imposed upon the approval (e.g., payment of fees for mitigation based on the Asset Value, removal and replacement plantings).

Accident/Unauthorized Removals

1. Trees that are removed due to damage from vehicular accident or other accidental causes or trees removed without legal authorization.
2. Trees removed either due to damage from an accident or unauthorized removal shall be replaced by the City using funds from any insurance settlement or fines assessed.

Specific Removal Policies

1. Consideration shall be given to retain trees by means of
 - a. Relocating sidewalk and/or any utilities
 - b. Root pruning trees
 - c. Installation of root barriers where it is deemed appropriate and in the best interest of the tree as determined by the Public Works Department.
2. Trees shall be replaced by the Public Works Department at the next appropriate planting cycle within one hundred and twenty (120) days, provided funding is available according to the Department Planting Guidelines.

3. When street improvements mandate that palms or wood trees be removed, if the species is adapted to replanting, every reasonable effort shall be made to relocate said trees.
4. Fees are required for replacement trees and are set by the fee schedule. All replacement trees will be a minimum of 24" box size.
5. Trees may require relocation and preservation at the discretion of the Public Works Department.
6. One year of maintenance will be required by property owner or contractor for all trees relocated. The property owner will water the tree, at owner's expense, to aid its survival a minimum of one year after relocation.
7. The Park and Recreation Commission must approve any request for the removal of four (4) or more trees in a quarter mile square.

Stump Grinding

1. Stump grinding will be limited to the immediate area of the stump and all visible surface roots within the City right-of-way. Private property is not to be renovated for the removal of surface roots or sucker growth.
2. The void created by the grinding operation will be filled with materials slightly higher than grade to allow for settling. Where no replacement tree is designated, the backfill shall contain approximately 60% soil and overseeded with appropriate plantings.

Street Tree Asset Value

The Street Tree Asset Value describes the asset value of any public tree. It is the dollar amount assigned to a public tree, as determined by the International Society of Arboriculture.

An asset value will be considered for any public tree. This value will be used:

1. When a public tree must be removed because of a construction project that impacts the public right-of-way
2. When the Park and Recreation Commission considers any public tree for removal
3. When any public tree is damaged and must be removed or is illegally removed.

The Diameter at Shoulder Height (DSH) will be determined for the tree (s). The asset value will be established as \$50 per inch and rounded down to the nearest inch.

The asset value is based on the following formula:

A 24" boxed tree is used as the standard size. The average DSH of a 24" box is 2 inches. The cost to purchase and plant a 24" boxed tree based on the current contract price is \$205.00. The cost for plant establishment of this new tree is \$40. Total cost for planting and establishing a 24" boxed tree is \$240.00 or \$100.00 per diameter inch.

The City acknowledges that some trees are more valuable than others depending on species, location, tree health, etc. A 50% discount will be used to allow for these variables. Therefore, the standard assessed value of any tree will be \$50 per diameter inch at shoulder height (DSH).

Master Urban Forest Plan Guidelines

One of the most important aspects of caring for Riverside's trees is to ensure an ongoing heritage of appropriately planted trees for future generations. All trees planted must conform to the Master Urban Forest Plan, which designates the species of City trees to be planted on each street.

Tree planting requires planning. The Master Urban Forest Plan Guidelines were designed to provide optimum tree selection in order to reduce future problems and expense. The guidelines are used to facilitate the species selection based on a review of tree size at maturity as well as physical characteristics. Each neighborhood block has been evaluated and designated species have been chosen and approved by the Park and Recreation Commission to ensure that the right tree is planted in the right place.

The Master Urban Forest Plan takes into consideration the full size of a tree at maturity and whether it will fit the growing space. Other characteristics considered are the tree's growth rate, litter from fruit or leaves, insect or disease problems, water needs, temperature hardiness, soil requirements, aesthetics and design criteria.

Another reason for a plan is to make certain that there are never too many trees of one species in an area of the City or Citywide. Large populations of one tree species may be lost during an insect or disease epidemic.

Many streets in Riverside are designated with more than one species. This will help reduce the spread of insects and disease on a block-by-block basis and decrease the potential for losing entire populations of a specific species in the case of a pest epidemic. Along streets which have mature trees of a single species which provide a closed canopy, such as Camphors, or otherwise provide a special aesthetic quality, the single designated species will be maintained whenever appropriate. The following pages describe the guidelines for determining a designated species for a street.

The following should be considered when designating species for a new City street or for revising the Master Urban Forest Plan:

1. No more than 5% of the total trees in Riverside will be any one species. Trees that currently comprise more than 5% of Riverside's public trees are:
 - Mexican Fan Palm (*Washingtonia robusta*)
 - California Fan Palm (*Washingtonia filifera*)
 - Crape Myrtle (*Lagerstroemia indica*)
 - Shamel Ash (*Fraxinus udei*)
 - Holly Oak (*Quercus ilex*)
2. General tree characteristics to be encouraged are (not listed by priority):
 - Drought tolerance
 - Heat tolerance

- Minimal allergy problems (pollen production)
- Native to California
- Minimal root damage potential
- Long life span
- Good branch strength and structure
- No major insect/disease problems
- Good cold tolerance
- Low maintenance
- Large shading potential
- Future wood utilization/recycling potential
- Low amount of natural hydrocarbon production
- No messy fruit/other plant parts
- Showy flowers

Replacement tree species shall be selected by the Public Works Department based on site conditions and tree planting guidelines.

Tree Planting Guidelines

The following guidelines have been developed to promote the health and safety of City trees for years to come. These guidelines and specifications are required for any tree planting on City property or within City right-of-ways.

The City has a goal of planting all vacant sites on City property or within City right-of-way, which meet the requirements for an appropriate planting site (See Planting Site Specifications). The tree planted must be the designated species as per the most current Master Urban Forest Plan.

The City also has a goal of replacing all trees, which are removed, based on the Tree Removal Guidelines that meet the requirements for an appropriate planting site. Whenever a vacant site is considered for planting or whenever a City tree is removed a replacement tree will be planted if the following conditions are met:

1. Adequate spacing (both aboveground and underground) is present to allow healthy growth to maturity.
2. Location is conducive to good management practices and does not overly disrupt maintenance activities or utilities.
3. Future maintenance, especially water, is available.
4. Funding is available for planting.

Standard replacement size would be an appropriate 24" box in commercial areas and 15 gallon in residential areas, unless limited by a grant for trees of a lesser size.

Property Owner Plantings

If a property owner wants a tree planted sooner than the City schedule can accommodate, the conditions may be met:

1. Obtain a permit allowing the property owner to provide the planting at his or her own expense following the City of Riverside's planting specifications.
2. Request that volunteers be asked to schedule the planting when time is available.
3. Pay the City's fee to have the tree planted by the City's contractor.

Care of Newly Planted Trees

Care of young trees must be a partnership between the City and residents. The City monitors newly planted trees for the first three years. This includes verifying that the tree is properly pruned, staked and tied and receiving deep watering by the resident. If you notice that a newly planted tree needs water, re-staking, or is otherwise not growing well, please notify the City immediately. Neighborhood trees need the attention of residents who live near them to make sure they grow healthy and strong.

A common cause of death among young trees is damage to the bark by string trimmers and lawn mowers. It is necessary to keep the ground around the trunk bare except for wood chip mulch. Wood chips may be used, however, neither wood chips nor bark should be placed against the tree's trunk. Any weeding or clipping around the base of the tree's trunk must be done by hand tools to prevent injury to the bark.

Planting Specifications

Street Tree Planting

The Urban Forester shall be the responsible authority for determining the appropriate species or variety of trees planted within the public streets rights-of way or easements.

B. Specific Planting Policies

1. Street trees shall be planted according to the Master Plan and in accordance with Department Standard Specifications. The Master Plan maybe updated and revised as needed by the Public Works Department.
2. A minimum of one street tree shall be planted per lot. Property with frontage of 65 feet or more shall have trees planted at an average maximum spacing of 35 feet (tree to tree) on center. The actual number and spacing for planting will be based on the established canopy width of the designated species as approved by the Park and Recreation Commission. To preserve the integrity of the street tree pattern, where site constraints preclude planting of a street tree within the rights-of-way, trees may be planted on private property in those instances where an easement for that purpose has been provided.
3. Property owners may plant street trees at the owner's expense in accordance with Department standards and subject to prior written approval of the Department.
4. Planting of street trees shall be required at the time the property abutting the rights-of-way is developed. The owner of the abutting property shall be responsible for the costs of furnishing, installing and providing a minimum of the first year of maintenance for all street tree plantings.
5. To maximize the square footage of tree canopy and its benefit to the City, all new and redeveloped properties both residential and commercial shall be required to provide funding for public trees. Fees are established by the City Council. The City, through its contractor, will schedule planting of the street trees on or before the time occupancy permits are issued.
6. Tree removal through a permit by other agencies shall be subject to both mitigation and replacement fee and shall be replaced by the City's Public Works Department within 120 days.
7. Fertilization and water of all street trees within the City shall be the responsibility of the abutting property owner, except in reverse frontage and median strips that are maintained by the City. The Public Works Department is responsible for all other maintenance after completion of the maintenance period and written acceptance by the Department.

8. Tree planting is not required in street right-of-ways abutting undeveloped property. If the property owner desires to plant the street right-of-way abutting the owner's undeveloped property, the owner must provide an automatic irrigation system and shall be responsible for the cost of installation and maintenance. The Public Works Director, upon approval by the Commission, may require the posting of a bond of a sufficient amount to guarantee installation and care of the appropriate improvements.
9. When the sidewalk is located next to the curb, the trees shall be planted a minimum of one foot from the right-of-way line within the public street right-of-way line or easement. Where right-of-way is not available adjacent to the sidewalk, the trees should be planted in easements behind the sidewalk whenever possible. When a tree well in the sidewalk is the only possible solution, a tree will be selected that will not cause or result in long-range curb or sidewalk damage.
10. In the interest of public safety and maintenance, trees shall be planted:
 - a. A minimum distance from the intersection, to provide adequate sight distance. Minimum distance shall be 30 feet from beginning of curve at the curb return, except at secondary and arterial streets where the minimum shall be 50 feet.
 - b. Five (5) feet minimum from fire hydrants, service walks, and driveways.
 - c. Ten (10) feet minimum from sewer laterals, other utility services laterals and water meters.
 - d. Fifteen (15) feet minimum from lamp standards.
 - e. With consideration given to those varieties of trees that will not create a conflict with existing overhead electric utility lines.
11. All trees, other than palm trees, shall be a minimum 15-gallon size in residential areas and 24" box size in commercial areas as determined by the American Association of Nurserymen. Smaller/larger sizes may be permitted/required by the Park and Recreation Commission.
12. A larger sized tree may be planted, provided that the property owner pays the difference in cost.
13. Palm trees planted in nonresidential areas shall be at the discretion of the Public Works Department.
14. All newly planted trees (except palms) shall be staked per Department standards.

15. All staked trees shall be inspected during the regularly scheduled grid trimming cycle. Stakes are to be adjusted or removed as necessary.
16. All trees planted in tree wells shall be installed and irrigated in a manner that promotes deep rooting per Department standards. All trees in wells shall be installed with an automatic irrigation system, if funding is available.

Tree/Hardscape Conflicts Guidelines

In keeping with the City's policy to preserve and protect healthy trees and to provide for the safety of citizens, the following guidelines have been established for correcting hazardous situations that result from tree roots disturbing hardscape in the public right-of-way.

Inspection

When tree roots are suspected of causing hardscape damage, the Public Works Department shall inspect the tree and assess the potential damage. The size, species, structure/condition, and (external) environmental factors will be considered before a recommendation is made.

1. Trunk size (DSH) and height
2. Desirability of the species
3. Structure, condition and health of the tree
4. External or environmental factors such as proximity to overhead or underground utilities

Recommendations

A tree will be recommended for removal or root pruning if it meets the conditions outlined in this Manual.

Tree/Utility Conflicts Guidelines

Sewer Lines

In keeping with the City's policy to preserve and protect healthy trees and to provide free flowing sewer lines, the following guidelines have been established for addressing situations that may result from tree roots invading sewer laterals.

Responsibility

City of Riverside Municipal Code 14.08.020 requires the City to maintain private lateral sewer lines from the property line to the point of connection to the City's main sewer line. All persons shall keep their house connections (sewer lateral line from the house to the connection at the property line) in good order at their own expense and shall be liable for all damages which may result from failure to do so.

If the property owner believes a City owned tree has caused a sewer lateral problem, the owner should contact the City's Call Center at (951) 826-5311 for instructions on dealing with the problem.

Procedure

Following notification of a potential sewer/City-owned tree conflict, the Public Works Department will forward all pertinent information to the Risk Manager. The Risk Manager will assign a City contractor to inspect the sewer line to determine damage and the City's responsibility if any. The Public Works Department will conduct a site visit to determine if there is a public tree, the tree species, location and report back to Risk Management.

Water Lines

In keeping with the City's policy to preserve and protect healthy trees and to provide uninterrupted water service, the following guidelines have been established for addressing conflict situations that result from tree roots.

Responsibility

Residential water lateral lines are the sole responsibility of the property/business owner. Owners are responsible for the lateral line beginning at the water meter, which is located in the right-of-way to the building. This includes sections of the lateral that may be under City sidewalks.

In the event of a leak or break in the lateral line, owners are responsible for determining the cause and repairing the line between the building and the City water meter. The City's Water Division is not responsible for determining the cause of, or repairing the residential/business lateral line.

If the property owner believes a City owned tree has caused the problem, the owner should contact the City's Call Center at (951) 826-5311 for instructions on dealing with the problem.

Procedure

1. Notification: When notified of a potential water lateral line and City owned tree conflict, the Public Works Department is to take all of the pertinent information and forward that to the Risk Manager.
2. Inspection: The Risk Manager will assign a contractor to inspect the water line to determine damage and the City's responsibility if any. The Public Works Department will conduct a site visit to determine if there is a public tree, the tree species and its location in relation to the water meter and lateral line and report to Risk Management.
3. Follow Up: Risk Management will determine if the water lateral needs to be repaired.
4. If the lateral is to be repaired by the City's contractor and if the water line can be rerouted away from the tree, then the Risk Manager will coordinate repairs with Public Utilities.
5. If pruning the City tree roots can repair the water lateral, then the Risk Manager will notify the Public Works Department to coordinate pruning with their contractor.
6. If the lateral is to be repaired by the City's contractor and if the repairs cannot be made without removing the tree, then the Public Works Department will be notified and the removal will be scheduled.

Electric Lines

In keeping with the City of Riverside's policy to preserve and protect healthy trees and the City of Riverside's Public Utility to provide reliable electric service, the following guidelines have been established for addressing conflict situations that result from tree branches and foliage that interfere with electric lines.

Responsibility

Residential and Commercial Electric Service lines affected by private trees are the sole responsibility of the property/business owner. Owners are responsible for the service line beginning at the power pole to the point of connection to the home or business unless strain or abrasion is present per General Order No. 95 Rule 35.

If the service wire shows signs of damage from contact with a private tree, Public Utilities will

1. Repair the wires and install tree guard;
2. Re-route the service so that it does not contact the tree; or
3. Drop the service to allow the homeowner to trim the tree.

Due to the extensive requirements for Utility tree workers and the lack of qualified tree firms, the City has established a procedure that would allow residents the ability to use the City's tree maintenance contractor for service line clearances and private tree removals.

Property owners would contact the Public Works Department and request a written estimate for the work. Work will be scheduled by the Department if the property owner agrees to the price estimate and provides written authorization for services. All clearance trims shall adhere to the City's standard for trimming.

Only transmission, primary and secondary electric lines are the responsibility of the City of Riverside; cable TV and telephone lines are the responsibility of those agencies or the tree owner. Based on the California Public Utilities Commission's General Order No. 95 Rule 35, Riverside Public Utilities is required to keep City owned utility wires clear of branches and foliage from nearby trees.

Line Clearance Trimming Procedure

When possible, property owners will be notified at least 48 hours in advance, via a door hanger of scheduled line clearance services, with the exception of emergency and high priority situation.

It is the intent of the City to trim for line clearance on an annual cycle. Minimal trimming clearance standards will adhere to the California Public Utilities Commission General Order No. 95 Rule 35. Trimming practices will be outlined under the "Tree

Pruning Specifications” of this policy. Trimming clearances will be based on tree species and circuit trimming cycles.

Line Clearance Removal Procedure for Trees in the Public Right-of-Way

It is the goal of the City of Riverside to plant the right tree in the right space, with long-term objectives of gradually removing inappropriate trees in the public right of way. Inappropriate trees are those that grow too large to be compatible with the wires. They will be removed and replaced where warranted with appropriate species.

The Public Works Department will identify those trees under wires needing removal and establish a long-term removal and replacement program. Adjacent property owners will be notified of the City’s intent to remove and replace a public tree that is interfering with overhead power lines. Removal of trees, grinding of stumps, and planting of new trees, will follow the specifications outlined in this policy.

Line Clearance Removal Procedure for Trees on Private Property

It is the goal of the City of Riverside to remove trees on private property that grow too large to be compatible with the wires. The Public Works Department will identify those trees under wires needing removal and establish a long-term removal program. Trees will be flush cut according to the specifications outlined in this policy. If the species of tree is one that suckers from the base, the stump will be treated as much as possible to kill the tree.

Property owners will be notified of the City’s intent to remove trees that are growing within the utility easement and that interfere with overhead power lines. Those property owners who do not want the tree removed will be notified of the City’s intent to continue to keep the wires safe on a two year trimming cycle. The property owner may be billed for all additional trimming costs in excess of the two-year circuit trim cycle.

Line Clearance Procedures for Public Palm Trees that Interfere with Wires

The City of Riverside recognizes the value of palm trees to the City’s heritage. Every effort will be taken to preserve and protect palms where they have a significant impact on the public right-of-way. Public Utilities and Public Works staff will inspect palm tree wire conflicts to determine if the wires can be protected or rerouted without removing the tree.

Where appropriate, adjacent property owners will be notified of the City’s intent to remove the tree. A hardwood tree or a small stature palm compatible with overhead wires will be replanted where appropriate.

Line Clearance Procedures for Private Palm trees that Interfere with Wires

It is the goal of the City of Riverside to eliminate private palm trees that interfere with electric wires. Public Utilities and Public Works staff will inspect private palm tree wire conflicts to determine a course of action depending if the palm is directly under or to the side of the wires.

Palms located under the wires within the utility easement will be flush cut and removed dependant on funding. Those palms outside the easement will be cut six feet below the wire and the property owner will be responsible for removing the remainder of the tree.

When possible, property owners will be notified of the City's intent to cut or remove the tree. Where property owners do not want the palm removed, and where the palm can be trimmed to keep the wires safe, Public Utilities will continue to trim the tree. Once the palm reaches the wires and can no longer be trimmed, the heart of the palm will be removed. The property owner may be billed for all excess trimming costs necessary to increase the trimming frequency of the circuit.