



PROTECTED TREES ADMINISTRATIVE GUIDELINES

APRIL 2022

Protected Trees Administrative Guidelines

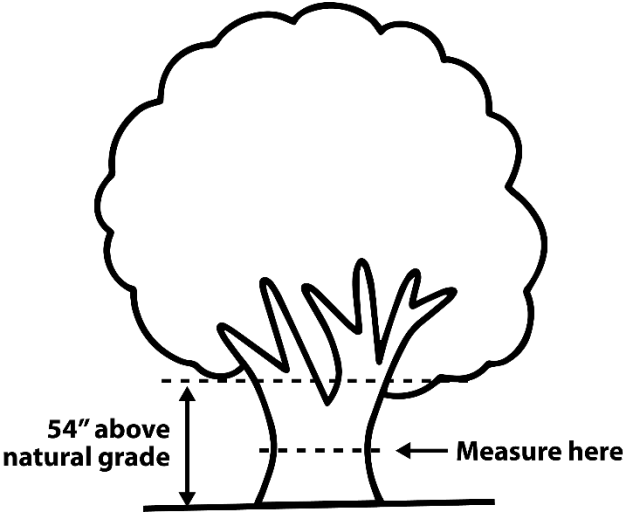
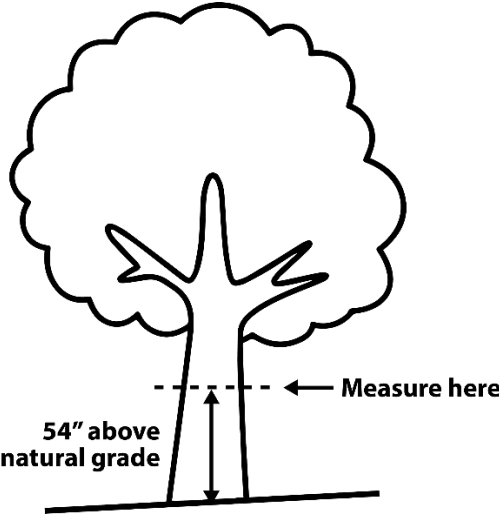


Background

This is a supplemental document to the Protected Tree Ordinance. This document provides procedural information and guidance to help users comply with and implement the Protected Tree Ordinance. It is also intended to educate and provide resources regarding best practices to maintain Protected trees.

1. Rules of measurement

- 1) For single-trunk trees, trunks shall be measured at 54" (4.5') above the natural grade.
- 2) For multi-trunk trees arising at or below 54", the trunk shall be measured at the smallest diameter point below the main union of the trunk unless the union occurs below grade.
- 3) For multi-trunk trees where union occurs below grade, each trunk shall be considered an individual tree. To determine the trunk diameter, measurements shall be taken for each individual stem – independent of the other stem's diameters.



2. Important definitions

1. “Protected tree” means any significant or heritage tree, any tree as part of an approved development permit or an approved landscaping plan.

The following trees shall not be classified as Protected trees regardless of size:

- i. Bailey, Green or Black Acacia: *A. baileyana*, *A. decurrens* or *A. melanoxylon*;
- ii. Tree of Heaven: *Ailanthus altissima*
- iii. Fruit trees of any kind;
- iv. Monterey Pine: *Pinus radiata*;
- v. Eucalyptus genera;
- vi. Monocot trees including palms and palm relatives.

2. “Heritage tree” means any:

i. Indigenous tree whose size, as measured at fifty-four inches above natural grade (unless otherwise indicated), is defined below:

- *Aesculus californica* (buckeye) with a single stem or multiple stems touching each other at fifty-four inches above natural grade and measuring nine inches (9”) in diameter
- *Arbutus menziesii* (madrone) with a single stem or multiple stems touching each other at fifty-four inches above natural grade and measuring nine inches (9”) in diameter.
- *Quercus agrifolia* (coast live oak) of more than nine inches (9”) in diameter
- *Quercus lobata* (valley oak) of more than nine inches (9”) in diameter
- *Quercus douglassii* (blue oak) of more than nine (9”) in diameter
- *Quercus wislizenii* (interior live oak) of more than nine inches (9”) in diameter
- *Sequoia sempervirens* (redwood) of more than fifteen inches (15”) in diameter
- *Umbellularia californica* (California bay laurel) with a single stem or multiple stems touching each other at fifty-four inches above natural grade and measuring eleven inches (11”) in diameter;

Aesculus californica (buckeye)	9" diameter or greater
Arbutus menziesii (madrone)	9" diameter or greater
Quercus agrifolia (coast live oak)	9" diameter or greater
Quercus lobata (valley oak)	9" diameter or greater
Quercus douglassii (blue oak)	9" diameter or greater
Quercus wislizenii (interior live oak)	9" diameter or greater
Sequoia sempervirens (redwood)	15" diameter or greater
Umbellularia californica (California bay)	11" diameter or greater

iii. Tree so designated by the City Council, based upon findings that the particular tree is unique and of importance to the public due to its unusual age, appearance, location or other factors.

3. "Significant tree" means any tree that is eleven inches (11") in diameter (or more), outside of bark, measured at fifty-four inches above natural grade. The following trees shall not be classified as significant or heritage trees regardless of size:

- i. Bailey, Green or Black Acacia: *A. baileyana*, *A. decurrens* or *A. melanoxylon*;
- ii. Tree of Heaven: *Ailanthus altissima*;
- iii. Fruit trees of any kind;
- iv. Monterey Pine: *Pinus radiata*;
- v. Eucalyptus genera;
- vi. Monocot trees including palms and palm relatives.

4. "Community of trees" means a group or grove of trees that are dependent upon each other for their survival and/or structural stability.

3. Protected Tree Removal Permit Procedures

All permit requests shall be accompanied by a completed application form, recent colored photograph with correct botanical identification of the subject tree(s) and applicable fees. The number of pruning applications shall be limited to only one application per tree within the

preceding 12-month period. The City arborist may review exceptions. The submission packet shall include the corresponding material for each removal criteria per this guidance document. The application packet will be reviewed by the City arborist at cost to the applicant. Please note, an arborist report prepared by the applicant **is not required**. However, if an arborist report has already been completed for the subject tree(s), please include it in the application submission to be peer reviewed by the City arborist.

Criteria-based Submission Requirements for Protected Tree Removal Applications

Removal criteria	Stages and requirements of review
1. Death	<ol style="list-style-type: none"> 1. Applicant submits a conceptual site plan showing the protected tree proposed to be removed. 2. The City arborist conducts a site visit and prepares a report/memo and renders a final decision.
2. Tree Risk Rating	<ol style="list-style-type: none"> 1. Applicant submits a conceptual site plan showing the protected tree proposed to be removed. 2. The City arborist conducts a site visit and prepares a report indicating the risk rating of the tree proposed to be removed and renders a final decision. The tree risk rating shall be based on the International Society of Arboriculture Best Management Practices: Tree Risk Assessment and/or as indicated in these administrative guidelines.
3. Tree Heath Rating	<ol style="list-style-type: none"> 1. Applicant submits a conceptual site plan showing the protected tree proposed to be removed. 2. The City arborist conducts a site visit and prepares an arborist report detailing the sub-criteria A and/or B under which the tree is proposed to be removed. The City arborist renders a final decision.
4. Species	<ol style="list-style-type: none"> 1. Applicant submits a conceptual site plan showing the protected tree proposed to be removed. 2. The City arborist conducts a site visit and prepares an arborist report analyzing if the tree in question is invasive or an undesirable species at the given location or not. The City arborist renders a final decision.
5. Development (Existing or	Applicant submits necessary documentation to demonstrate

<p>proposed)</p> <p><i>Tree Appraisals may be required for removal and/or pruning.</i></p>	<p>infeasibility of alternative design that includes:</p> <ol style="list-style-type: none"> 1. A written narrative of infeasibility and describing areas where structural damage is possible due to the tree(s). 2. Detail Site Plans: <ol style="list-style-type: none"> a. Existing site plan showing existing development b. Proposed site plan showing proposed development c. On the proposed site plan, location of all protected trees, within 30'-0 of all construction activities irrespective of proposed to be removed or not shall be shown. d. Detail information of each protected tree including but not limited to tree species, tree trunk diameter measured at 54", heritage or significant tree, proposed action to be taken 3. At least two alternative site plan designs showing infeasibility with respect to the tree proposed for removal. 4. The City arborist prepares an arborist report based on the submitted documents and site visit(s). The City arborist renders a final decision.
<p>6. Utility Interference</p>	<p>The utility, public or transportation agency shall submit:</p> <ol style="list-style-type: none"> 4. Proposed site plan showing proposed development 5. On the proposed site plan, location of all protected trees, within 30'-0 of all construction activities irrespective of proposed to be removed or not shall be shown. 6. The City arborist conducts a site visit and prepares an arborist report analyzing the utility interference. The City arborist renders a final decision.

3.1 Tree Relocation

Applicants may choose to professionally relocate an on-site protected tree to accommodate proposed development, repair, alteration or improvement of a site. Any tree proposed to be relocated will be construed as tree removed and shall comply with application procedures as set forth above. The City arborist may require documentation to certify that the relocation work was accomplished according to acceptable tree relocation standards and specifications. Additional

documentation may be required to prove feasibility of relocating, establishing and maintaining the relocated protected tree.

4. Replacement Trees Requirements

4.1 Species of replacement trees

- Replacement tree(s) for heritage tree removals shall be from the heritage tree list, with the exception of Redwood trees, at a 1:1 ratio of a size, as determined by the City arborist and/or specified in the administrative guidelines. The City arborist may choose a different species for replacement if:

The species from the heritage tree list is proven to be unsuitable to a given location per an ISA Certified Arborist and/or the City arborist,

- Replacement tree(s) for all other significant tree removals shall be at a 1:1 ratio of a size, as determined by the City arborist and/or as specified within a recommended tree list (see bottom of the document) or per the administrative guidelines.
- Replacement Tree(s) shall not include, Bailey, Green or Black Acacia: *A. baileyana*, *A. decurrens* or *A. melanoxylon*; Tree of Heaven: *Ailanthus altissima*; Fruit trees of any kind; Monterey Pine: *Pinus radiata*; Eucalyptus genera; Monocot trees including palms and palm relatives.
- The City arborist shall perform replacement tree inspection after first few years of planting, as required by the City arborist, to ensure the health of the replacement tree.

4.2 Exception to 1-1 tree replacement

Per Ordinance, granting an exception for a 1-1 tree replanting requirement or allowing payment of a tree fee will be solely at the discretion of the City arborist. The City arborist may require documentation such as, but not limited to, soil report, existing conditions report, and an existing or proposed site plan to arrive at a decision.

4.2 Size of replacement trees

For every Protected tree proposed for removal, it must be replaced by a minimum 24" box size tree per the replacement tree species requirement unless as required by the City arborist or any condition of approval of a development application or the following:

- Any Protected tree with a trunk diameter between 9 inches to 30 inches has a minimum replacement tree requirement of one (1) 24-inch tree box.
- Any Protected tree with a trunk diameter of greater than 30 inches to 40 inches has a minimum replacement tree requirement of one (1) 36-inch tree box.
- Any Protected tree with a trunk diameter of greater than 40 inches to 50 inches has a minimum replacement tree requirement of one (1) 48-inch tree box.
- Any Protected tree with a trunk diameter of greater than 50 inches has a minimum replacement tree requirement of one (1) 60-inch tree box.
- Or any combination as determined by the City arborist.

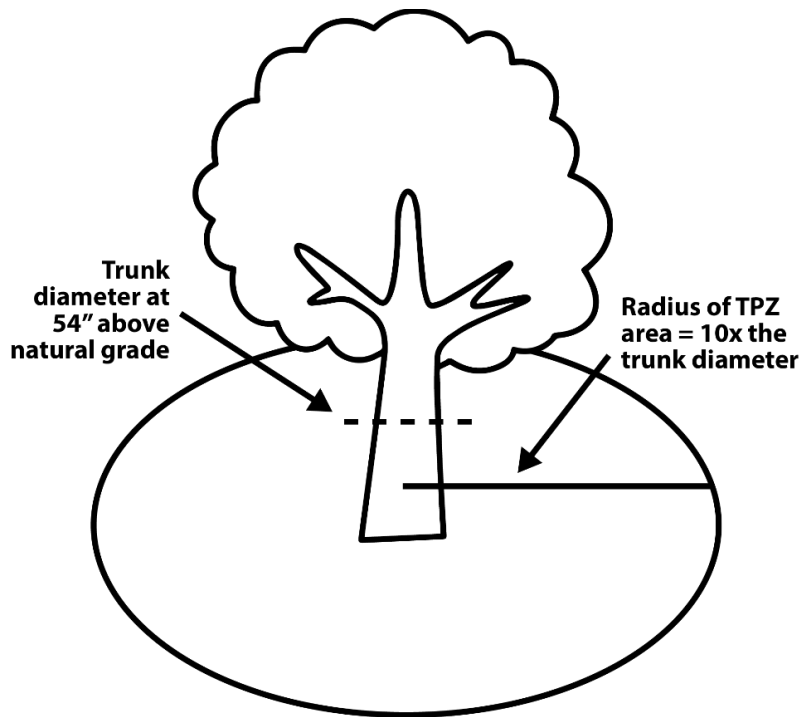
5. Selecting a good location for street-oriented trees

The Protected Tree Ordinance specifies that at least one of the trees required to be planted as part of the lot coverage requirement (SCMC 18.18.070 C) shall be street-oriented. A street-oriented tree shall be located between the front of the property and the street. This may include the area in front of the property located in the public right of way. For example, a planter strip between the sidewalk and the street. Note that not all species of trees are suitable for the narrow width of a planter strip. For appropriate placement of street-oriented trees, it is recommended to consult a qualified consulting arborist prior to selecting a species.

Please contact San Carlos Public Works regarding any work to be performed in the public right of way. Please note, it is the owner's responsibility to maintain trees adjacent to their property, regardless of whether they are located on private property or within the right-of-way.

6. Tree Protection Zone (TPZ)

The Protected Tree Ordinance requires each Protected tree to be retained have a designated TPZ identifying the area with a radius 10x the trunk diameter to protect the tree, soil and roots from proposed disturbance. Any variation in the size of the TPZ radius must be approved by the City arborist. The TPZ shall be shown on all site plans and landscaping plans for the project. If any construction activity is proposed within the TPZ, a Tree Protection Plan (TPP) prepared by a certified arborist shall be submitted to the City arborist for review.



6.1 Activities prohibited within the TPZ include:

- Storage or parking vehicles, staging building materials or refuse on exposed soil without a root buffer and trunk protection (Type III protection).
- Placement of excavated spoils or dumping of poisonous materials on or around trees and roots. Poisonous materials include, but are not limited to, paint, petroleum products, concrete or stucco mix, dirty water or any other material which may be deleterious to tree health.
- The use of tree trunks as a winch support, anchorage, as a temporary power pole, sign posts or other similar function.
- Cutting of tree roots by utility trenching, foundation digging, placement of curbs and trenches and other miscellaneous excavation without prior approval of the City Arborist.
- Soil disturbance or grade change (see Grade Changes and Trenching, Section 2.20). Drainage changes.
- Improvements or activities such as paving, utility and irrigation trenching and other ancillary activities shall occur outside the TPZ, unless authorized by the City Arborist, or by project approval.

6.2 Activities permitted or required within the TPZ include:

- Mulching. During construction, wood chips may be spread within the TPZ to a 4-to 6-inch depth, leaving the trunk clear of mulch to help inadvertent compaction and moisture loss from occurring. The mulch may be removed if improvements or other landscaping is

required. Mulch material shall be 2-inch unpainted, untreated wood chip mulch or approved equal.

- Root Buffer. When areas under the tree canopy cannot be fenced, a temporary buffer is required and shall cover the root zone and remain in place at the specified thickness until final grading stage. The root buffer shall be constructed using one of the methods in the current ISA Best Management Practices: Managing Trees During Construction Publication. Type III trunk protection is also required with a root buffer.
- Irrigation, aeration, fertilizing or other beneficial practices that have been specifically approved for use within the TPZ.

7. Tree Protection Plan (TPP) and Procedures

A Tree Protection Plan is required when construction activity is proposed within the 10x trunk diameter (TPZ) of a Protected Tree.

Although tree protection measures are not required for Protected trees located beyond 10 x the trunk diameter from construction activities, they are still protected by Ordinance. Therefore, no items may be stored, staged, parked or driven within the TPZ of these trees. The health, structural stability and aesthetics of Protected Trees on any property must be maintained at all times during a development project, except where Protected Trees have been permitted for removal by the City. The Tree Protection Plan preparation shall follow the following guidelines:

7.1 General Guidelines

1. A property owner/project-arborist shall have prepared a Tree Protection Plan prior to commencement of a development project.
2. Prior to writing the TPP, the project arborist shall review the most current version of the entire available plan set including but not limited to grading, demolition, utilities, building and landscaping. The TPP shall identify the plan sheets reviewed by name, sheet number and date. The project arborist shall also visit the site and identify on a site plan from the current plan set, the location of all Protected trees within 30'-0 of the project. The TPP shall indicate the date of the site visit.
3. The Tree Protection Plan (TPP) shall be prepared to assess impacts to trees; recommend mitigation for reducing impacts to a less than significant level and identify construction guidelines to be followed through all phases of a construction project.
4. The TPP shall be project-specific and contain recommendations for how the tree protection measures are to be practically executed on the project site. Routine maintenance

recommendations such as pruning or fertilizing are not required in a TPP except as specified mitigation for specific construction impacts.

5. The TPP will be peer-reviewed by the City arborist for approval.
6. The approved TPP is to be reproduced on one or more full-size sheets and included in the plan set properly indexed. The TPP must be readable so that important details will not be missed.
7. If any parts of the plan set were not made available, or a site visit was not performed, the TPP shall indicate these limitations.

7.2 Impacts of Construction

The TPP shall accurately detail the impacts of construction on Protected Trees including but not limited to soil compaction, root loss or damage, bark injury and excessive pruning. All construction-related activities shall be considered including but not limited to demolition, grading, excavation, paving, storing, staging, site access, parking, placement of temporary structures, debris disposal and landscaping.

Impacts to trees shall be documented by the type of work taking place, the distance of the work from the trunk in feet as precisely as possible and expressed as a multiple of the trunk diameter (measured at 54 inches from the ground). Example: “Foundation excavation will take place about 50 feet from Tree 1, which is 12 times the trunk diameter.” Vague statements such as “the work is taking place far from the tree” will not be acceptable. Measurements may be made in the field using flags, stakes or story poles, or using Adobe Measuring Tool on a site plan showing accurate tree locations and drip lines in relation to the proposed work. The method of measuring distance of impacts to Protected Trees shall be documented in the tree protection plan.

If below-grade work takes place within a radius of 6 times the trunk diameter (measured at 54 inches from the ground) of any Protected Trees, the City Arborist may require a test excavation in the presence of the Project Arborist using air, water or hand-digging to document all roots likely to be affected. The test excavation and report may be required as part of the submittal review process, prior to permit approval and issuance.

7.3 Site Plan Requirements

On all improvement plans for the project, indicate accurate trunk locations, canopy driplines and the ‘TPZ’ of all trees or groups of trees to be preserved within the development area. In addition, for protected trees the plans shall accurately show the trunk diameter, dripline, TPZ and clearly indicate the tree protection zone to be enclosed with the specified tree fencing as a bold dashed

line. Root buffers, trunk protection and locations of hand-digging shall also be located on the site plan. Site plan is to include a north arrow and scale bar.

7.4 Verification of TPP

The project arborist or contractor shall verify, in writing, that all pre-construction conditions have been met (tree fencing, erosion control, trimming, etc.) and are in place. Include photos of each tree or group of trees to be Protected as specified in the approved Tree Protection Plan. Photos are to be labeled with tree numbers and show the relationship of the fencing to the dripline. Written verification must be submitted to and approved by the City Arborist prior to demolition, grading or building permit issuance.

8. Tree Rating for Condition and Suitability

Protected trees shall be rated according to health, structure and suitability for preservation. The rating system shall define the terms used and criteria for such ratings. The rating system must be based on current professional standards for evaluating tree condition and suitability for preservation.

Below is a sample system that may be used:

8.1 Tree Health: Rated Good, Fair or poor, using the following criteria:

Good: Vigorous growth with foliage of normal size, shape and color. Canopy density 90-100%, little to no dead wood, minor or no pest infestation, little to no decay. Tree is expected to live its natural lifespan.

Fair: All or some of the new growth shoots are shorter than expected for the species. Canopy density 60-90%. Some small branch dieback. Noticeable pest infestation and/or decay. Tree is not in decline right now, but further stress such as construction impacts, increased pest pressure, drought etc. May cause a decline in health.

Poor: Little to no new growth and significant dieback. Foliage may be undersized, distorted, yellowed or another color abnormal for the species. Canopy density 20-60% or less. Significant dead wood, pest infestation or decay. Tree is not expected to live its natural lifespan.

8.2 Tree Structure: Rated Good, Fair or Poor, using the following criteria:

Good: Minor structural flaws may be corrected through pruning. Tree has an upright trunk and a single trunk tapering to a single leader at the top, or a single leader may be easily trained. Most scaffold branches are smaller than the leader, attached to the trunk at angles

approaching 45 degrees and are spaced apart on the trunk both vertically and radially. Structure does not contain included bark (bark inside the juncture of multiple trunks). No sign of previous branch failures. Foliage is evenly distributed on the limbs. Symmetrical or mostly symmetrical canopy.

Fair: Some structural flaws not correctable through pruning. Tree may have more than one trunk or leader, trunk may have a slight lean. Scaffold branches may be attached at angles less than 30-9 degrees and/or may be crowded on the trunk. Structure may have included bark, previous branch failures or end-heavy limbs. Some asymmetry in the canopy.

Poor: Significant structural flaws not correctable through pruning. Significant dead wood or decay. More than one trunk or leader and/or branches crowded together on the trunk. Significantly end-heavy limbs may be present. Structure may contain significant included bark, previous branch failures and/or asymmetry. Precipitous lean may be present. Tree is likely to be hazardous.

8.3 Suitability for Preservation: based only on the tree itself and not related to potential construction impacts. Rated Good, Fair or poor, using the following criteria:

Good: Tree is currently an asset to the landscape and may be expected to survive minor to moderate construction impacts if adequately Protected.

Fair: Tree contribute something to the landscape and may be improved by pruning or other maintenance activities. May be expected to survive minor construction impacts if adequately Protected. Protection measures are probably worth taking except where construction impacts are extensive.

Poor: Tree does not contribute to the landscape. It is in poor health and may be hazardous. It is not expected to survive any construction impacts. Some trees with poor viability may be retained if they will not be impacted by construction.

9. Protective Tree Fencing Requirements

Unless otherwise specified, the protective fencing shall serve as the TPZ. Fenced enclosures shall be erected around trees to be Protected to achieve three primary goals, (1) to keep the foliage crowns and branching structure clear from contact by equipment, materials and activities; (2) to preserve roots and soil conditions in an intact and non-compacted state and; (3) to identify the tree protection zone (TPZ) in which no soil disturbance is permitted and activities are restricted, unless otherwise approved.

All trees to be preserved shall be Protected with five or six (5' - 6') foot high chain link fences. Fences are to be mounted on two inch diameter galvanized iron posts, driven into the ground to a depth of at least 2-feet at no more than 10-foot spacing. This detail shall appear on grading, demolition and improvement plans.

9.1 Type I Tree Protection

The fences shall enclose the entire area under the TPZ of the tree(s) to be saved throughout the life of the project, or until final improvement work within the area is required, typically near the end of the project. Parking Areas: If the fencing must be located on paving or sidewalk that will not be demolished, the posts may be supported by an appropriate grade level concrete base.

9.2 Type II Tree Protection

For trees situated within a narrow planting strip, only the planting strip shall be enclosed with the required chain link protective fencing in order to keep the sidewalk and street open for public use.

9.3 Type III Tree Protection

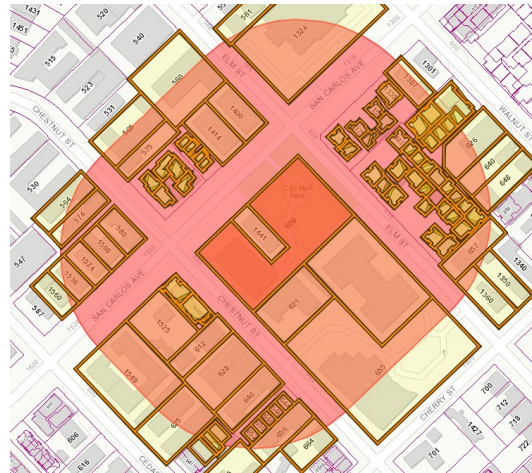
Trees situated in a small tree well or sidewalk planter pit, shall be wrapped with 2-inches of orange plastic fencing as padding from the ground to the first branch with 2-inch thick wooden slats bound securely on the outside. During installation of the wood slats, caution shall be used to avoid damaging any bark or branches. Major scaffold limbs may also require Type III protection as directed by the City Arborist.

9.4 Duration of protective fencing

Tree fencing shall be erected before demolition, grading or construction begins and remain in place until final inspection of the project permit, except for work specifically required in the approved plans in which case the project arborist or City Arborist (in the case of street trees) must be consulted.

10. Noticing requirements

Notice before Issuance. Before a Protected tree is removed/pruned, notice of removal shall be posted by the applicant on the property containing the Protected tree at a conspicuous location. When a removal/pruning permit is sought under subsection (e) (Development) or (f) (Utility Interference) of this section, property owners within three-hundred (300') feet of the exterior boundary of the property containing the Protected tree shall be notified by the City by mail of the pending application. Failure to receive copies of such notice shall not invalidate any action taken by the City.



Notice of Issuance. Upon receipt of a tree removal/pruning permit, the property owner shall post a notice of issuance of any permit for a tree removal/pruning at the subject property for a period of fourteen (14) calendar days at a conspicuous location. The City will furnish the owner with a copy of the notice of issuance. A proof of posting shall be sent via email to the City arborist.



11. Fines for Violation

Any person violating the Protected tree ordinance shall be subject to a civil fine or penalty in the amount established by this ordinance. If a person commits, or maintains a violation of any part of Municipal Code Section 18.18, he/she/they will be fined in an amount not to exceed \$5,000 per violation; and if the violation resulted in the removal or demise of a Protected tree, the fine will not exceed \$5,000 per tree or the appraised value of each such tree, as determined by an ISA Certified Arborist in consultation with the City arborist, whichever amount is higher. Replacement shall occur as provided in this chapter. The arborist shall use the then-current issue of “A Guide to Plant Appraisal” published by the International Society of Arboriculture or as specified in the administrative guidelines.

12. Tree Appraisal Method

When a violation of this chapter occurs, the certified arborist must prepare the appraisal by using the most current edition of (1) the 'Guide for Plant Appraisal', published by the Council of Tree and Landscape Appraisers, and (2) the most recent 'Form for Northern California' established by the International Society of Arboriculture.

The Trunk Formula Technique: Applies to trees that are too large for practical replacement (transplanting) and shall be appraised by: determining the basic tree value and adjusting this value by a condition and location ratings. The appraised value shall be determined by using the most recent edition of the 'Guide for Plant Appraisal', published by the Council of Tree and Landscape Appraisers. The Trunk Formula established by the International Society of Arboriculture must be used to compute the appraised value. When the value of a tree needs to be determined for establishing the amount of security required, or for any other purpose, the value shall be determined by using the most recent edition of the Guide for Plant Appraisal published by the Council of Tree and Landscape Appraisers.

13. Resources

- 1) For consumer tree care info: <https://www.treesaregood.org/treeowner/treeownerinformation>
- 2) For Tree species selection: <https://selectree.calpoly.edu>
- 3) For Tree species selection: <https://canopy.org/tree-info/canopy-tree-library/>
- 4) California Native Plants and Trees: <https://calscape.org/>
- 5) Caring for trees: <https://canopy.org/tree-info/caring-for-trees/>
- 6) Tree Planting and Care - Arbor Day Foundation: https://www.arborday.org/trees/index-planting.cfm?utm_source=Arborday.org&utm_medium=Top_Menu&utm_campaign=Dropdown_Menu&utm_term=Trees&utm_content=Planting_and_Care
- 7) What Tree is That? Tree Identification Field Guide: <https://www.arborday.org/trees/whattree/>
- 8) Trees are good: <https://www.treesaregood.org/treeowner/treeownerinformation>

Some portions of this document were adapted from heritage tree administrative guidelines and technical documents of the City of Menlo Park, City of San Mateo and City of Palo Alto