OAK TREE PRESERVATION GUIDELINES

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City of Rocklin
Oak Tree Preservation Guidelines

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OAK TREE
PRESERVATION GUIDELINES

I. General Principles

A. Statement of Purpose

Oak woodlands constitute a valuable natural resource for the city. They also provide habitat for many wildlife species. They contribute to the City's beauty and varied scenery. They also provide shade in parks as well as developed areas. Oaks enrich the soil and protect watersheds and streams from erosion.

Oak woodlands have declined substantially in both extent and quality both locally and regionally. They are continuing to decline under the pressures of agriculture, cutting for fuel wood, livestock grazing, range forage improvement, urbanization, flood control, and fire suppression.

The goal of these Guidelines is to address the decline of oak woodlands due to urbanization through a considered attempt to balance the benefit of preservation, and the cost thereof, against the social benefits of private property ownership and development. To reach this goal, these Guidelines implement a comprehensive design review process for new development, offer incentives for oak tree preservation, and provide feasible alternatives and options to removal where practical. These Guidelines are in furtherance of the Rocklin General Plan/Open Space Conservation and Recreation Element, Policies 1 and 4.

B. Topics Covered

There are a wide range of issues and situations which occur in the realm of tree preservation. These Guidelines will address such issues as tree removal from developed lots, tree preservation on undeveloped lots, required mitigation measures, the protection of oak trees during construction, and the issue of landmark trees.

C. Applicability

These Guidelines are adopted as required by Section 17.77.100 the Rocklin Municipal Code, a part of the Oak Tree Preservation Ordinance. They apply to all oak trees located wholly or partially within the City. "Oak tree" is defined as an oak tree with a trunk diameter at breast height (TDBH) (four and one-half feet above the root crown) of six inches or more and of a species identified in these Guidelines as native to the Rocklin area. The diameter of multi-trunked trees shall be the total diameter at breast height of the largest trunk only.

II. Developed Lots- Tree Removal Permit

A. Definition of Developed Lot

A developed lot is defined in the Code as follows:

"A lot zoned for single family, duplex, or triplex development, and subdivided down to its ultimate size, consistent with the zone, with or without on-site improvements, but with completed subdivision improvements," or

"A lot zoned for multifamily, commercial, or industrial use for which all discretionary entitlements, as well as design review approval under Chapter 17.72 of the Rocklin Municipal Code, have been approved and are effective."

"Developed lot" does not include any lot which otherwise meets the requirements of this definition, but for which another discretionary entitlement, or a modification to an existing entitlement is being requested. Such lots are treated as undeveloped lots, and are governed by Section III of these Guidelines.

The tree removal permit process discussed in this section applies only to lots which meet either of the above two definitions.

B. Owner's Rights

1. Residential: Single Family, Duplex, Triplex

Owners of developed single family, duplex, or triplex residential lots will be permitted to remove oak trees from their lot to develop more fully or utilize the site, upon issuance of a ministerial oak tree removal permit issued by the Rocklin Planning Department and compliance with the mitigation requirements described in section "D" below. The permit is required only for the purpose of reviewing the proposed tree removal and providing alternative suggestions. For example, if an owner wishes to install a swimming pool and proposes to remove one or more oak trees, city staff could make suggestions to the property owner for alternative locations for the pool or alternative treatment of the property in order to preserve the oaks. Staff's suggestions, however, are merely advisory. The final decision to remove the tree or trees would be left to the property owner.

2. Multifamily Residential, Commercial, Industrial

Property owners of developed multifamily residential, commercial or industrial property are subject to a ministerial permit requirement and to the mitigation requirements discussed below.

Upon submitting an application for the ministerial oak tree removal permit, staff will first determine if preservation of the subject tree, or provision of landscaping in the area where the tree is located, was a condition of approval of development of the property. If so, removal of the tree, and the accompanying mitigation requirements, will be governed by the terms of the condition of approval. It may require staff

review and action only, or it may require a modification to the condition of approval. If a modification is required, the proposal would be governed by Section III below.

If it is determined that the tree is not governed by a condition of project approval, the staff will next determine whether the tree is healthy, or whether it is dead or diseased to such an extent or in such a manner that the tree poses a risk of injury to persons or property. If healthy, the application will be denied. If not, the permit shall be issued, subject to the mitigation requirements described in "D" below.

C. Permit Required- Oak Tree Removal Permit

An application for an oak tree removal permit may be filed by the property owner or tenant, or their authorized agent. However, the application must be signed by the property owner. Application forms for the removal of existing trees on developed lots are available from the Rocklin Planning Department. The application form requests such information as the type, size, and condition of the tree proposed for removal. Additionally, the applicant should provide a site plan indicating the location of the tree and its proximity to any structures or manmade improvements on the lot (e.g. buildings, driveways, fences, pools, storage sheds). If the deteriorating health of the tree is a factor behind the removal of the tree, the applicant may be required to provide a certified arborist's report on the health of the tree. The arborist statement can be waived if the condition of the tree can be readily determined by the Planning Department.

After the city staff has reviewed the application for completeness, discussed any possible alternatives with the property owner and/or approved the application, and the application has been conditioned upon the selected mitigation method, the property owner may remove the oak tree. Ten (10) working days shall be allowed for processing the application. If tree replacement is the selected mitigation method, the approval form shall contain a certification that the property owner will plant the required replacement trees and a schedule for installation. The replanting schedule shall be agreed upon by the City prior to issuance of a permit for removal. Should payments into the city Oak Tree Preservation Fund be the mitigation method selected, such funds shall be paid upon issuance of the tree removal permit.

D. Mitigation Required

1. Single Family, Duplex, Triplex

Mitigation will be required for the removal of any healthy tree from a single family, duplex, or triplex developed lot. No mitigation shall be required when staff determines the tree is dead or diseased to such an extent or in such a manner that the tree poses a risk of injury to persons or property. The owner shall mitigate the tree removal by either tree replacement or payment of a fee into the Rocklin Oak Tree Preservation Fund, at the option of the property owner.

Tree replacement on site is the preferred method of mitigation. This mitigation method requires the tree to be removed to be replaced with native oak trees, (See Appendix A for the approved list) minimum 5 gallon size, at a five (5) to one (1) ratio if the tree to be removed is a heritage oak tree; otherwise, the replacement ratio shall be two (2) to one (1) and both must be native oaks. The maximum number of replacement trees that must be planted on any one lot shall not exceed 5. The replacement trees must come from the tree list included as part of these Guidelines.

All on-site replacement trees should be located in a manner that will not interfere with any future construction so that further removal of replacement trees is not anticipated.
Off-site tree replacement will not be allowed.

A property owner may choose to mitigate with a contribution to the Rocklin Oak Tree Preservation Fund. The amount of the fee will be determined by the City Council by resolution from time to time.

2. Multifamily, Commercial or Industrial

Mitigation methods and requirements for developed multifamily, commercial or industrial properties are as follows: for dead or diseased trees, the applicant shall be required to replace the tree at a one (1) to one (1) ratio, regardless of whether the tree to be removed is a heritage tree, or pay into the Oak Tree Preservation Fund at the option of the Director of Community Development. Healthy trees cannot be removed with a tree removal permit. The replacement tree shall be a 15 gallon oak of a species listed in these Guidelines.

3. Replacement Trees

Any replacement tree, including a transplanted tree, which dies within five (5) years of being planted must be replaced on a one-to-one basis.

When a replacement tree is planted as a required mitigation and subsequently needs to be removed because it is determined to be dead, dying or diseased, a one to one replacement is required; the replacement tree shall be an oak.

III. Undeveloped Property - Tree Preservation Plan Permit

A. Definition

An undeveloped lot is defined in the Code as follows:

> "any property or lot which is not a developed lot."

Therefore, if a property has not been subdivided to its ultimate size, does not have all discretionary entitlements, or design review granted to it, or is requesting additional entitlements or modifications to existing entitlements, it is an undeveloped lot and would have to follow the following procedures for a Tree Preservation Plan Permit. Trees can be removed from an undeveloped lot only upon building permit issuance, final map recordation, or with approved subdivision improvement plans and in compliance with the Tree Preservation Plan Permit unless the tree is found to be dead, dying or diseased. The owner of an undeveloped property with dead, dying or diseased trees may remove them with an Oak Tree Removal Permit as outlined in Section II of these guidelines.

B. Permit Required

A Tree Preservation Plan Permit must be obtained before any healthy oak tree can be removed from an undeveloped lot. If an oak is determined to be dead, dying or diseased, the property owner can apply for an oak tree removal permit as outlined in Section II, Paragraph C. of the guidelines.

1. Information Required

An application for a Tree Preservation Plan Permit shall include all of the following:

a. An arborist's written survey for all the trees on the site.

The arborist should be certified by the International Society of Arborculture. The survey should include the type, size, and condition of all oak trees on the site (trees 6" or greater in diameter at breast height).

Typically, the arborist will number each of the trees in the field with an identification tag. Therefore, in addition to the written documentation, the applicant should also provide a map which locates all the existing oak trees on the site and enumerates them with the corresponding number from the arborist's survey as well as a matrix which shows the number assigned to each surveyed tree and whether or not the tree will be removed under the proposed project. The following is a sample of how the matrix should be prepared.

SAMPLE

TREE	SIZE/TYPE	CONDITION	TO BE REMOVED	POSSIBLY REMOVED DUE TO CONSTRUCTION OF HOUSES OR OTHER STRUCTURES
1	14'/Blue Oak	Good	X	
2	10'/Live Oak	Good		X

Trees which are clearly outside of the potentially developable area and within an area proposed to be restricted with an Open Space easement, (i.e., flood plain, riparian area, hillside) need not be surveyed initially as determined by the Planning Department staff. The Planning Commission or City Council may determine, however, an area should not be included in an open space easement and that those trees need to be surveyed. Trees identified within an arborist's tree survey shall be referred to as "surveyed trees" and shall be subject to the appropriate mitigation measures.

There are situations where the use of a sampling method can be used to determine a project's impact on trees. This method would be used on projects with large acreage where development is scheduled to occur over a long period of time and it is impractical to have an arborist perform a detailed tree survey. When a sampling method is used, it should be accurate enough to give a reasonable understanding of likely impacts from future development. The sampling method would only be used in conjunction with applications for General Plan Amendments or Changes of Zone, and not for detailed entitlements like subdivisions or use permits.

b. A written report from the arborist recommending which trees should be saved and which removed.

The report shall also recommend maintenance procedures for the trees to be saved, such as pruning, cabling, and fertilizing. Usually, a developer is required to conduct these procedures prior to a certificate of occupancy or acceptance of subdivision improvements and under the direction of the project arborist. Verification that these measures have been undertaken is required prior to a final inspection approval by the Planning Department.

c. A grading plan.

The plan shall show all proposed grading around the preserved trees, any retaining walls which may be necessary, location of any utility easements, or any other structures which could impact the tree growth. Staff would evaluate the application and the preservation methods against the regulations and goals of the Oak Tree Preservation Ordinance as well as these Guidelines.

2. Planning Review Process

All projects which include a Tree Preservation Plan permit will be considered for approval by action of the Community Development Director**,** City Planning Commission or City Council. The approval will specifically address the Tree Preservation Plan and shall contain whatever conditions are necessary to mitigate the impacts to the trees. The conditions contained in the approving resolution shall be developed from the recommendations of the project arborist, City staff, Planning Commission, and/or City Council. Recommended mitigation measures could include replacement of removed trees, mitigation fees for removed trees, or design features recommended by the project arborist or redesign of some aspects of the project, to save trees more efficiently.

C. Tree Preservation Policy-Project Design

1. Planning Process

The planning process used to evaluate the removal of trees is described below. It is the City's objective to work with all applicants in pursuit of the preservation of as many oak trees as possible. The general procedure is as follows:

Staff monitors the protection and preservation of trees beginning when a project is first presented at "pre-application" meetings with staff. All applicants with proposals requiring action before the Planning Commission or City Council are required to meet with the staff to review their project for compliance with City wide policies and concerns.

For applications involving changes to land use designations or zoning, the City evaluates the terrain as well as all other natural features in determining the appropriate land use category for the property. For example, it would be inappropriate for a heavily treed lot with undulating terrain to be designated for small lot, single family subdivision because a substantial amount of grading could be required, thereby eliminating all the natural features of the property. In other words, staff would evaluate the potential future uses, minimum lot sizes, public facility needs and general plan policies against the proposed land use designation, as it relates to the number and general locations of the oak trees in the area, to determine if it is an appropriate one.

Most project applications do not involve changes to land use designations or zoning. In those situations, the application reviewed by staff would only include the actual development plans.

2. Project Design Features

There are several project design features which may have an effect on oak trees. The following list identifies those development design areas which commonly have an impact. City staff will initially recommend changes to the project design based on the impact of these items on existing oak trees. The Planning Commission and/or City Council could make further modifications.

- *Grading, including cuts, fills and drainage.*

Oak trees are very sensitive to grading and watering impacts. Ideally, the applicant should take every measure to preserve the area to at least 1 foot outside the dripline in the natural state. Changing the natural drainage around the tree can also affect it. It is important to keep the drainage flow around the existing trees as close to natural as possible.

- *Proposed building envelopes.*

Typically, an arborist will recommend that construction on parcels with oak trees take place well outside the dripline. Overcovering of the ground, either with buildings or grading, can be harmful to the preserved tree. In the case of construction, digging for footings can also pose a danger to the health of the oak. Therefore, the applicant is encouraged to locate any proposed buildings well outside the dripline of the trees. Consideration must also be given to areas where future property owners would likely construct accessory structures or swimming pools.

- *Lot configuration.*

When an applicant is proposing a subdivision, staff will evaluate the placement of the lot lines as they relate to the tree location. For example, if a tree is located on a property line, it can create problems for fencing for future property owners. Ideally, the lot line should be sufficiently away from the tree so it is obviously located on one property and it is in a yard area where it will not encumber future construction on the property. In addition, the final tree location should be such that it does not encumber the usable yard area for future structures such as pools, spas and decks or other accessory structures.

- *Site design and landscaping areas.*

There are many times when a proposed project does not involve any subdividing but only entails the development of a property (i.e., multi-family, commercial and industrial projects). In those situations, planter areas large enough to accommodate the dripline of the tree should be designed into the project. The arborist's report required as a part of the application should evaluate the type, size and condition of all trees to be saved and recommend any necessary mitigation measures. Those mitigation measures, if any, recommended by the arborist will be incorporated into the project approval and implemented during construction.

- *Emphasis is placed on preserving larger trees as well as specific "heritage" trees.*

There are occasions when the design of a project forces a choice for preservation between two trees. In those instances, the city would encourage the removal of the smaller or more undesirable tree. The preservation of any tree defined as heritage or landmark always takes precedence over other oak trees. A major part of the consideration of preservation of any tree is the health of that tree. Therefore, if the health of the larger oak tree is questionable, it would be wiser to preserve the healthier smaller tree.

Sometimes this determination can only be made with a site visit. The staff and the applicant would meet on the site to evaluate the merits of the trees and their relationship to the proposed project to determine which would be a more valuable asset to the project and the city.

- *Street and Utility Alignments*

During the design stages of a subdivision, the applicant should plan for roadways and utility corridors to be routed around and sufficiently out of any driplines. Applicants may be required to mitigate for the loss of trees due to widening or construction of collector or arterial streets shown on the Rocklin General Plan, unless the mitigation measure for that tree removal was previously established under the General Plan policies or zoning standards for the area. The city would encourage any applicant to route the street around oak trees wherever possible.

3. Heritage Oaks

Heritage tree means any oak tree with a trunk diameter of 24 inches TDBH. The tree should be of good or fair quality in terms of health, vigor of growth, and conformity to generally accepted horticultural standards of shape for its species. Heritage Oaks are defined for the purpose of increasing awareness that this is a special tree that should be preserved and for application of a greater tree replacement requirement. They deserve special consideration, and their proposed removal should be scrutinized carefully.

4. Open Space Easements

Some projects within the city involve the preservation of natural or open space areas, either within the flood plain, riparian area or on hillside slopes. Usually, these open space areas contain trees which provide habitat for wildlife. Since these areas are usually not buildable and cannot be considered for development, the question arises as to the appropriate ownership of those preserved open areas.

The city does not, under most circumstances, take ownership of the open space areas set aside under most development plans. Therefore, the preserve areas must be held under private ownership. The city would suggest either the open space be subdivided and added to any proposed lots adjacent to the open space area or that the entire area be placed into a property owners association. In either case, the management of the property, including the care of any oak trees located within the preserve area, would fall to the private sector. An open space conservation easement will be required over the preservation area. This easement will restrict the uses and activities allowed within the area.

D. Mitigation Required

1. Mitigation Methods and Preferences

The City does not require fee payment, tree replacement, or land dedication as mitigation for oak tree removal on property zoned B-P; C-1, 2, 3, 4; C-H; M-1, 2 or an equivalent PD zone. For all other zones, on-site mitigation in the form of planting replacement trees is preferred. Off-site tree replacement, contributions to the Rocklin Oak Tree Preservation Fund, and dedication of land instead of paying mitigation fees shall also be considered. Where on-site mitigation is chosen through the planning

process, all replacement trees must be located in a manner that will not interfere with any future construction so that further removal of replacement trees is not required when the lots are developed.

The preferred method for on-site replacement for undeveloped property will be to set aside locations where trees will have an opportunity to succeed. All on-site mitigation would be subject to review and approval by the City staff, Planning Commission and/or City Council, depending on the level of project review.

The preferred method for on-site replacement for all residential projects will be to locate the replacement trees in yard areas where they will have the greatest likelihood of survival. There are those instances where the formula for replacement trees results in such a large number of replacement trees it creates an encumbrance on the lot. In those situations, staff, with input from the applicant's arborist, will determine the maximum number of replacement trees which would have a reasonable chance of long term survival. All other trees removed would have to be mitigated through a contribution to the Tree Preservation Fund or through off-site mitigation.

Off-site mitigation is an alternative to on-site planting of replacement trees, paying into the Oak Tree Preservation Fund, or dedicating land. If the selected mitigation is to plant replacement trees off-site, the number and location must be approved through the planning process. The approved off-site locations would include City owned property, property owned and approved by other public agencies, and privately owned property; provided, that in each case a maintenance plan and agreement is developed, approved and recorded.

Dedicating land to the city in lieu of planting the replacement trees or paying into the oak tree preservation fund shall be considered by the approving bodies as a viable mitigation measure. The land must be usable for establishing an oak tree preserve and must be approved by the governing body for acceptance as a mitigation measure.

No mitigation is required for the removal of a dead, dying or diseased oak tree on an undeveloped property.

2. Type of Replacement

All replacement trees shall be from the Native Oak Tree list (Appendix A) attached to these Guidelines. The trees named on these lists are for on-site or off-site replacement plantings or for oak tree preserves. The minimum size of any replacement tree is 15 gallons.

The use of transplanted trees, whether from on-site or off-site may be accepted as replacement trees. If transplanted trees are used, they will be given a discounted value based on their anticipated survival rates as compared with nursery stock. The discounted value formula shall be 20% of the number of inches or trees, whichever is applicable. (See Appendix B for an example.)

Any replacement tree, including a transplanted tree, which dies within five (5) years of being planted, must be replaced on a one-to-one basis.

The amount of trees to be planted as replacement trees is discussed in the Oak Tree Preservation Ordinance and below.

3. Tree Replacement Formula

If the proposed number of trees to be removed on an undeveloped lot is no more than 20% of the TDBH of all the surveyed oak trees and is no more than 20% of the total number of surveyed trees to be removed, the replacement ratio shall be 2:1, two trees for every tree removed. The replacement trees must be oaks.

For removal of more than 20% of the TDBH or more than 20% of the total number of all the surveyed trees, the replacement TDBH shall be based upon the following 2 step formula:

STEP 1:

TDBH of all Surveyed Trees on the Site	**X**	**20%**	**=**	**Discount Diameter**

STEP 2:

TDBH of all Surveyed Trees on the Site to be Removed	**-**	**Discount Diameter**	**=**	**Total Number Inches of TDBH of Replacement Trees Required**

4. Fee Formula

Alternatively, the property owner may be permitted to pay a mitigation fee. The mitigation fee shall be established by resolution of the City Council.

- ***Undeveloped Land/Less than 20% Tree Removal***

If the applicant is removing no more than 20% of the TDBH and no more than 20% of the total number of surveyed trees, the mitigation formula (tree replacement) would be as follows:

Total Number of Removed Surveyed Trees Multiplied by 2	**X**	**Established Fee for 15 gallon Trees**	**=**	**Mitigation Fee**

- ***Undeveloped Land/More than 20% Tree Removal***

If the applicant is removing more than 20% of the TDBH or more than 20% of the total number of surveyed trees, and he wishes to pay into the fund, the mitigation formula (inch replacement) would be as follows:

TDBH of Trees to be Mitigated (As established in the formula in Section 3)	**X**	**Established Fee for 15 gallon trees**	**=**	**Mitigation Fee**

In no case shall the number of replacement trees be less than 2:1. Two trees replaced for every tree removed. See appendix C for an example of how to calculate the tree replacement formulas and fee formula as discussed in sections 3 and 4.

- ***Developed Single Family, Duplexes, Triplex***

In the case of tree removal on single family, duplex and triplex lots, the applicant would pay according to the following formula:

NON-HERITAGE

Total Number of Removed Trees Multiplied by 2	**X**	**Established Fee for 5 gallon Trees**	**=**	**Mitigation Fee**

HERITAGE

Total Number of Removed Trees Multiplied by 5	**X**	**Established Fee for 5 gallon Trees**	**=**	**Mitigation Fee**

The maximum number of trees used for mitigation calculations shall be five (5).

5. Tree Preservation Incentives

The following incentives shall be applied, upon request, to projects on property zoned B-P; C-1,2,3,4; C-H; M-1,2 or an equivalent PD zone:

a. Projects which save 25% or more of the surveyed oak trees shall receive expedited processing by the Community Development Department.

b. Defer City traffic mitigation and capital facilities fees as follows:

Saving 25%-49% of the surveyed oak trees defers fee payment for 3 months.

Saving 50%-74% of the surveyed oak trees defers fee payment for 6 months.

Saving 75%-99% of the surveyed oak trees defers fee payment for 9 months.

Saving 100% of the surveyed oak trees defers fee payment for 12 months.

IV. Protection of Oak Trees During Construction

A. Purpose

Not only is it important to require review and specification of tree preservation during the project planning process, but it is equally important to protect the preserved trees during construction. The installation of fencing around the dripline protects the tree by reminding those on the job site that there should be no activity under those trees.

B. Standards and Requirements

In addition to lot design, subdivision grading should take into consideration the preservation of existing trees. Excessive grading in and around the preserved tree should be avoided whenever possible.

In addition to the maintenance procedures, the developer is required to fence the trees to be preserved during construction. The tree preservation ordinance requires fencing and signage to be installed by the developer around trees which could be damaged during construction. The sign shall be a minimum of two feet by two feet in size and shall state the bond amount which protects the tree and that damage will result in forfeiture of all or part of the bond. Fencing shall be located three feet outside the dripline of the tree, shall be no less than 4 feet high, and shall be installed prior to any grading on the site. City staff will verify installation of the fencing. It is the responsibility of the property owner and workers on the site to assure that the fence remains in its proper location and at its proper height during construction.

If, during the course of construction, the developer is found to be violating condition(s) of the Tree Preservation Permit or the city's ordinances regarding trees, a correction notice shall be issued to rectify the violation. If the violation is not corrected, a stop work order will be issued until the corrective measures have been taken.

C. Security

A bond or other security instrument in a form approved by the City Attorney in the minimum amount of $10,000 (or greater as deemed necessary by the approving body) shall be posted and maintained to insure the preservation of the trees during construction. The security shall be posted prior to any grading or movement of heavy equipment onto the site or issuance of a permit. Any violation of any term or condition of the tree preservation plan permit or these Guidelines may result in forfeiture of all or a portion of the bond. Other violation penalties are contained in the Oak Tree Preservation Ordinance.

V. Oak Tree Preservation Fund Guidelines

The City Council has established the Oak Tree Preservation Fund into which all funds associated with oak tree preservation activities shall be deposited. Such funds may include mitigation in-lieu of money,

donations, fines and forfeitures, City cash contributions, grants, etc. Moneys collected as cash bonds, required under the construction protection provisions of the ordinance, shall not be deposited into this fund, but shall be handled in conformance with the City's normal procedures for handling security deposits. The City Manager, or his designee, will maintain a current accounting record of funds deposited into the Oak Tree Preservation Fund.

Funds deposited into the Oak Tree Preservation Fund shall be used for the following purposes only:

1. Acquisition of land deemed appropriate for oak tree reforestation.

2. Activities related to the planting, acquisition and maintenance of oak trees.

3. Compensation of arborists retained by the city in connection with the administration of this chapter and any related programs.

4. Oak tree preservation educational programs.

5. Activities related to the administration of this fund and the Oak Tree Preservation Ordinance.

Annually, in conjunction with the City's budgeting activities, the City Manager should prepare a budget for the Oak Tree Preservation Fund showing estimated revenues and detailing anticipated expenditures in the categories described above. Funds in the oak tree preservation fund shall not be used for any other City activity unless the City Council first makes a finding that the activity is closely related to the objectives of the oak tree preservation ordinance.

VI. Guidelines for the Planting and Protecting of Native Oak Trees

Oak trees require special care and consideration in order to maintain good long term health of the tree. In the attached Appendix D is detailed information on how to care for oaks.

APPENDIX A

NATIVE OAKS

BOTANICAL NAME	COMMON NAME
QUERCUS AGRIFOLIA	CALIFORNIA LIVE OAK
QUERCUS CHRYSOLEPIS	CANYON LIVE OAK
QUERCUS DOUGLAS II	BLUE OAK
QUERCUS KELLOGG II	CALIFORNIA BLACK OAK
QUERCUS LOBATA	VALLEY OAK, CALFIORNIA WHITE OAK
QUERCUS WISLIZEN II	INTERIOR LIVE OAK
QUERCUS DUMOSA	CALIFORNIA SCRUB OAK

NATURAL HYBRIDS

BOTANICAL NAME	COMMON NAME
QUERCUS X MOREHUS (ORACLE)	Q. KELLOGGII X Q. WISLIZENII
QUERCUS X CHASEI	Q. KELLOGGII X Q. WISLIZENII
QUERCUS X GANDERI	Q. KELLOGGII X Q. AGRIFOLIA VAR. OXYADENIA
QUERCUS X JOLONENSIS	Q. DOUGLASII X Q. LOBOTA
UNNAMED HYBRED #1:	Q. AGRIFOLIA X Q. WISLIZENII

APPENDIX B Sample of Transplanted Tree Discount Formula

EXAMPLE A- 5 TOTAL SURVEYED TREES- 3 REMOVED=2 REMAINING TREES

Size of 3 Trees to be Removed
(1 TREE @ 10", 1 TREE @ 15", 1 TREE @ 30")

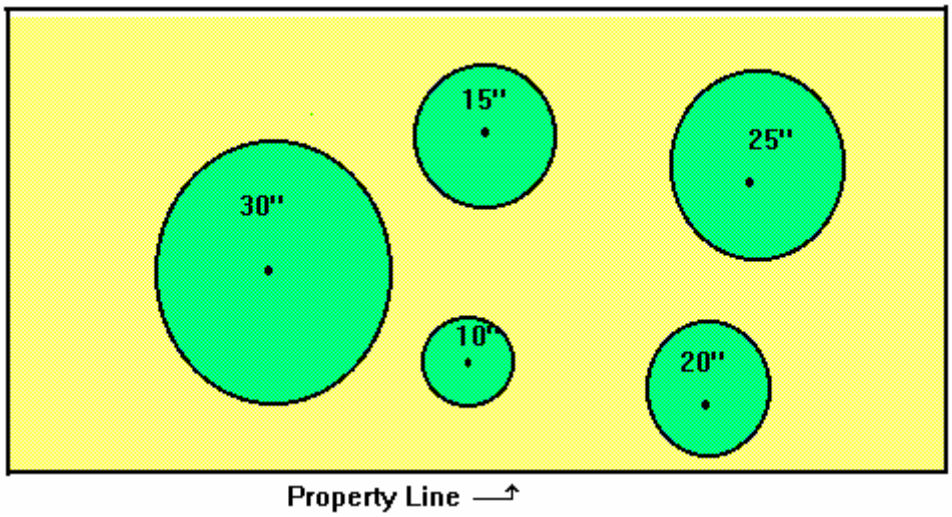
Under the tree replacement formula as shown in Example B of Appendix C, the mitigation for this proposed removal is 35". Therefore, if an applicant wished to use some transplanted trees, he will receive credit for 20% of the total inches of transplanted trees or 20% of the total number of replacement trees.

For example, if the applicant has 100" of transplanted trees available, only 20" of those 100" would count toward his required mitigation. He would have to plant the full 100" but only 20" would count. In this example, the remaining 15" would have to be made up with nursery stock.

MITIGATION

35" of Replacement Trees		And at Least 6 Trees	
Inches of Proposed Transplanted Trees	100"	Number of Proposed Transplanted Trees	25
Credit Trees (100" x 20%)	20"	Credit Trees (25 Trees x 20%)	5
Minimum Required Nursery Trees (35" replacement inches minus 20" credit inches)	15"	Minimum Required Nursery Trees (6 replacement trees minus 5 credit trees)	1
Total Inches Planted (100" Transplanted Trees plus 15" Nursery Trees)	115"	Total Trees Planted (25 Transplanted Trees plus 1 Nursery Tree)	26

Appendix C Sample of Tree Replacement Formula



TDBH = 100"

TOTAL NUMBER OF TREES = 5
(1 TREE = 20%)

If no more than 20% of the TDBH and no more than 20% of the total number of trees are removed, the applicant must replace the number of trees at a 2:1 ratio. (2 trees for every one tree removed.)

If more than 20% of the TDBH or more than 20% of the total number of trees are removed, the applicant must replace the inches of trees removed based upon the following two-step formula:

STEP 1:

TDBH of all Surveyed Trees on the Site	**X**	**20%**	**=**	**Discount Diameter**

STEP 2:

TDBH of all Removed Surveyed Trees on the Site	**—**	**Discount Diameter**	**=**	**TDBH of all Trees to be Mitigated**

Appendix C (cont.)

Example A (No More Than 20% Removal)

The applicant is proposing to remove the 10 inch tree. His mitigation would be calculated based on the following:

10" of TDBH = 10% of the TDBH of the surveyed trees
1 tree = 20% of the total number of surveyed trees

Therefore, because he meets both criteria, his mitigation is a 2:1 tree replacement ratio. He replants 2 trees or he pays into the Oak Tree Preservation Fund in the following formula:

(1 tree x 2) 2	**X**	**$96**	**=**	**$192**

****

Example B (More Than 20% of the Inches Being Removed **and** More Than 20% of the Trees Being Removed)

The applicant is proposing to remove the 10", 15" and 30" trees. His mitigation would be calculated based on the following:

10" + 15" + 30" = 55" of TDBH = 55% of the TDBH of the surveyed trees
3 trees = 60% of the total number of surveyed trees

Therefore, because he is removing over 20% of the TDBH and over 20% of the total number of surveyed trees, his mitigation is a based upon the formula;

TDBH of all Surveyed Trees on the Site	**X**	**20%**	**=**	**Discount Diameter**
(100"	**X**	**20%**	**=**	**20")**

TDBH of all Removed Surveyed Trees on the Site	**–**	**Discount Diameter**	**=**	**TDBH of all Trees to be Mitigated**
(55"	**-**	**20"**	**=**	**35")**

Appendix C (cont.)

If the applicant pays into the Oak Tree Mitigation Fund, he would pay based upon the following formula:

35"	**X**	**$96**	**=**	**$3360**

Example C (More Than 20% of Either Total Inches Being Removed **or** Total Number of Trees Being Removed)

The applicant is proposing to remove the 30" tree. His mitigation would be calculated based on the following:

30" of TDBH = 30% of the TDBH of the surveyed trees
1 tree = 20% of the total number of surveyed trees

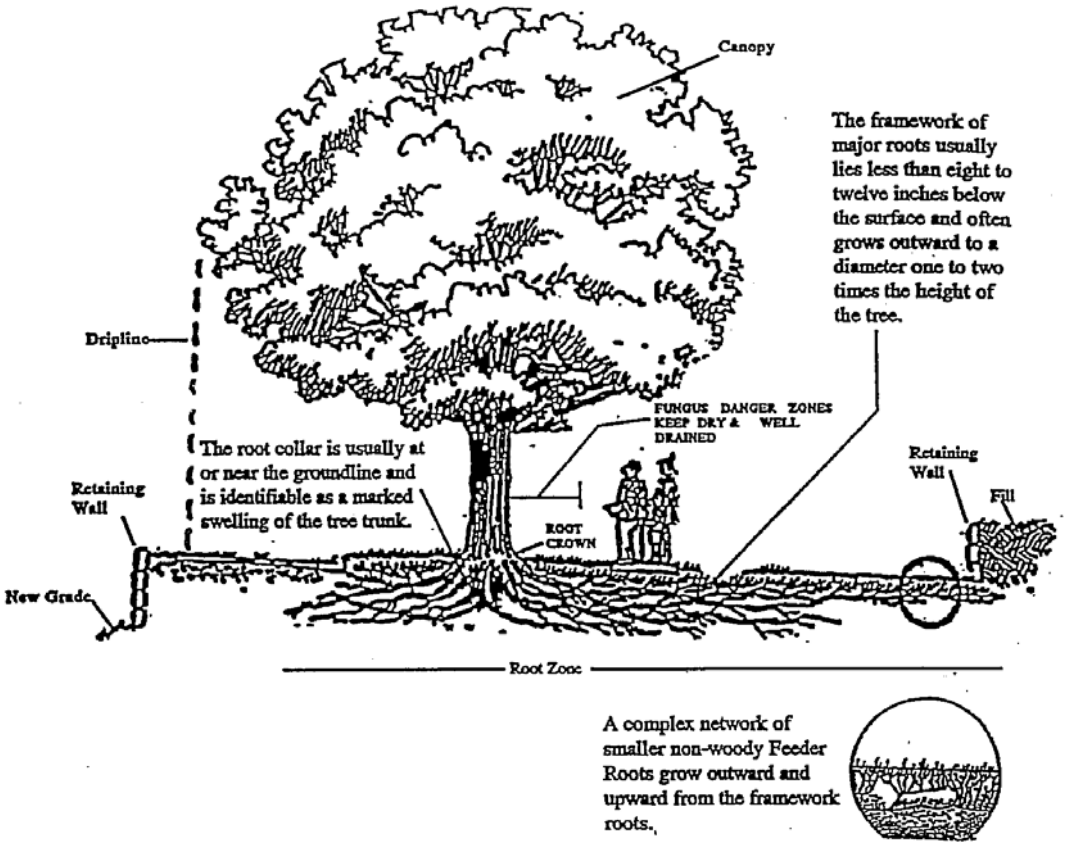
Although the applicant is removing 20% or less of the total number of trees surveyed, he is removing over 20% of the TDBH. Therefore, because he cannot meet both criteria like the applicant in example A, he must mitigate using the formula as shown in Example B. He must replant 10" of trees either on or off-site or some combination thereof, or pay into the Oak Tree Preservation fund using the following formula:

100"	**X**	**20%**	**=**	**20"**
30"	**-**	**20"**	**=**	**10" (Required Mitigation)**
10"	**X**	**$96**	**=**	**$960**

APPENDIX D

GUIDELINES FOR THE PLANTING AND PROTECTING OF NATIVE OAK TREES

1. DIAGRAM OF AN OAK TREE:



2. DEFINITIONS:

A. CANOPY: The leafy extremities of the tree. When depicted on a map, the canopy will appear as an irregular shaped circle that follows the contour of the tree's branches as seen from overhead.

B. DRIPLINE: The outermost edge of the tree's original canopy. When depicted on a map, the DRIPLINE will appear as an irregularly shaped circle that follows the contour of the tree's branches as seen from overhead.

C. FUNGUS DANGER ZONE: An area approximately six feet from the trunk of the tree, 18 inches or less diameter at breast height, and 10 feet from the trunk of a tree greater than 18 inches diameter at breast height, which is particularly sensitive to any sort of disturbance, watering, cuts or fills, or compacting. This area must be kept dry and well drained.

D. ROOT CROWN: The most vulnerable part of the oak tree, located at the base of the trunk.

E. ROOT ZONE (APPROXIMATE): The total length of all roots of an oak tree. The approximate root zone varies. Some species have more roots outside the branch dripline than within. The maximum root spread of some varieties of oak can vary from 1.68 times the dripline distance to 3.77 times.

3. HOW TO BUILD AROUND YOUR OAK TREE

A. Consult a certified arborist if you intend any kind of construction or the installation of landscaping in the vicinity of an oak tree. Each tree is unique and special mitigation measures may be advisable for your tree in its particular location. The following suggestions represent minimal standards for construction near an oak tree.

B. Changes in grade:

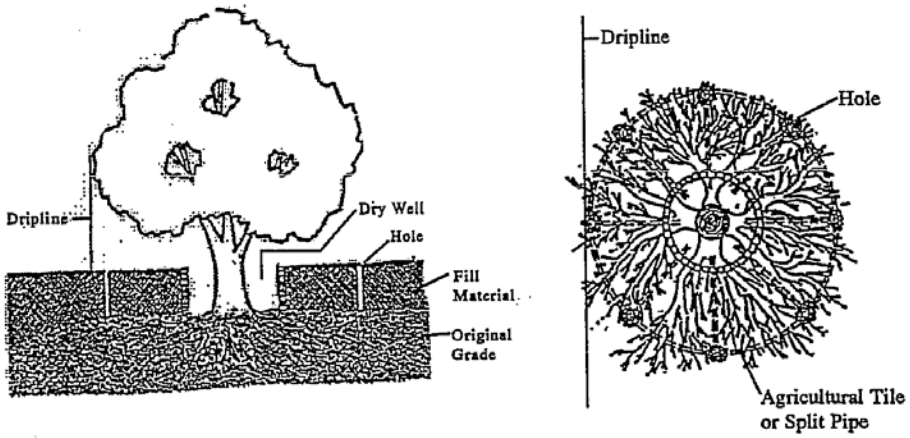
1) Great care should be taken in excavating any soil from the dripline of an oak tree. In Rocklin, the concentration of roots is found in 3" to 18" of soil. In excavating a foot of soil within the dripline of an oak tree, 90% of the root system could be removed. Therefore, before any soil is removed within the dripline of an oak, a licensed arborist should be consulted. No excavation should occur within six feet of the trunks of trees 18 inches or less in diameter at breast height or within ten feet of the trunks of larger trees. Excavating soil can destroy the roots or expose them to damage by surface activity.

2) In general, do not fill within the dripline of an oak tree because fills tend to compact the soil and reduce permeability. They also promote the water entrapment in the root zone, and encourage root and crown rots. Mounding up soil reduces the oxygen supply to the root zone, which can suffocate a tree.

3) If there is no alternative to filling within the dripline, techniques are available to minimize the impact of the tree. It is always advisable to consult a certified arborist when working near the oak tree.

i. No more than one foot of fill should ever be placed within the dripline of oak trees, and in no case should fill be placed within six or ten feet of the trunks, depending on the tree size.

TECHNIQUES FOR FILLING
WITHIN THE DRIPLINE
(Allowed only under special circumstances)
5 feet from trunk, minimum;
10 feet recommended



ii. With one foot of fill or less, perforated drain lines should be installed radiating out from the tree in order to cut down compaction, drain away water, and supply oxygen to the tree.

C. Changes in drainage: If extensive cuts or fills have to be made within the drip line of oak trees, adequate drainage to mitigate the adverse effects caused by elevation changes should be provided.

D. Trenching:

1) Trenching within the dripline of oak trees should be avoided whenever possible.

2) If it is absolutely necessary to install underground utilities within the dripline of oak trees, the trench should be either bored or drilled, but not within ten feet of any tree trunk. Alternatively, hand excavation around primary roots may be used to install pipe and power lines.

3) If utility conduits are unavailable, have all utilities placed in a singe trench.

4) After any trenching in the root zone, roots should be carefully pruned and not left ragged. The tree itself should be pruned to remove canopy material proportional to the roots lost or damage. A licensed arborist's advice should be sought on pruning.

E. Soil compaction: Heavy traffic or the operation of heavy equipment can cause soil compaction, that is, the spaces between the soil particles can become compressed. Since a tree "breathes" through the exchange of gases that occur within these spaces, compaction could suffocate the tree.

1) Trees shall be fenced with a four foot high fence located at least three feet outside of the dripline of the preserved tree. The fence shall remain standing throughout the construction period.

2) Vehicles, construction equipment, mobile offices, supplies, or any other materials, should not be parked, stockpiled, or located within the root zone of oak trees.

3) Where soil compaction occurs within the dripline of an oak tree, measures should be taken to restore soil conditions, aeration and permeability.

F. Paving

1) Paving within the driplines of oak trees should be avoided whenever possible. If it is absolutely necessary to pave within the dripline, porous material should be used for paving, with consideration given to the need for aeration and permeability to water.

2) Regardless of the permeability of the ground covering, nothing should be placed within a six to ten foot radius of the tree's trunk, depending on tree size. This area should always be left undisturbed and uncovered.

G. Signs, ropes, cables or other items should never be attached to trees.

H. Disturbance Beyond the Root Zone:

1) Watch for fill materials that could pond water near the tree.

2) Consider the effect of nearby swimming pools, ponds or other pools of water on soil moisture.

3) Watch for bank or hillside cuts that could drain away moisture a tree is used to receiving.

4. LANDSCAPING AROUND YOUR OAK TREE

A. Landscaping within the driplines of oak trees, except with non-plant material such as boulders, cobbles, wood chips, etc. should be avoided.

B. Artificial irrigation should not be allowed within the driplines of oak trees.

C. The only plant species that should be planted within the driplines of oak trees are species that are tolerant of a semi arid summer environment. Limited summer irrigation of approximately one watering per month is recommended for the oak understory plants, as this intensity of irrigation should sustain landscaping with out adversely affecting the oak trees. Initial irrigation of these plants should be with drip variety irrigation.

D. Examples of drought tolerant landscaping which would be planted within the dripline of oak trees are attached to this document as Exhibit 1. Once established, usually after a year, these plants require little care and once a month watering.

5. CARE AND MAINTENANCE OF MATURE OAKS

A. Oak Tree Health Check

1. Tree Growth:

a) Tree size is not a good indicator of growth. Oaks in steeper less watered sites may be smaller, but still healthy.

b) Twig growth in a season can vary from 3 to 24 inches. If it is less each year, the tree may be declining.

c) Growth cracks in the tree's trunk are usually visible. Tissue in the cracks should be bright green or pink when scratched.

d) Loose bark indicates dead tissue and diseased condition.

e) Twig and branch die-back from the ends of branches can indicate disease, root loss, and/or other root zone problems.

2. Pests and other stresses:

a) Disease or insect infestations can be indicated by leaf loss, changes in leaf color, twig die-back, sooty foliage and branches, other significant changes in appearance.

i. Oak gall: Harmless swelling of branches in reaction to enzymes released when a wasp lays its eggs. Can be colorful, abundant, and almost look like Christmas tree ornaments.

ii. Pit scales: Pinhead sized scales on the bark of twigs and branches. This condition requires treatment.

iii. Oak web worms, fruit tree leaf rollers. These insects create more of a nuisance than structural damage to trees. Trees are often sprayed to alleviate the nuisance.

iv. University of California Cooperative Extension has several publications on the diagnosis and treatment of insect infestation. If there is evidence of infestation, an arborist should be consulted.

b) Unusual leaf drop during early summer can indicate drought stress, nutrient deficiencies, gall insects, or other root zone problems.

c) Oak root fungus: Clumps of honey colored mushrooms, often accompanied by a white fan-like fungal growth between the bark and sapwood are symptoms of the oak root fungus (Armillaria melea).

i. This fungus is usually present on the roots of all oaks. Under natural conditions it is controlled by summer drought. Once a serious infestation develops on the roots

of a tree, it can persist in the soil organic material and can later infect other trees, even after the death or removal of the original host tree.

ii. Fruit trees and ornamentals planted on the site, particularly those that are irrigated during the summer, may be subject to infestation.

d) Heart rot: One or several fungi attacking the inactive heartwood of the tree. Heart rot does not usually impair the tree's vigor but this condition can weaken it structurally. Weakened branches break off. Judicious examination and pruning, and bracing weakened structures can prolong the life of the afflicted oak.

e) Mistletoe: Parasitic shrub that causes structural weakness making the tree vulnerable to branch breakage. Small infestations can be removed or cut out, by cutting back the bark around the spot where the mistletoe stem entered the oak branch. Remove the mistletoe with a flush cut, cover the cut with black plastic and attach it with electrical black plastic tape. Check in one year to see if the mistletoe has resprouted. Major infestations require professional help from a Cooperative Extension advisor or licensed arborist.

f) Spanish moss: A lichen, not a true moss, Spanish moss poses little threat to oaks. It could reduce growth due to the shading of leaves by a heavily laden tree.

3. Structural weakness:

a) Structural weakness in oak trees can be caused by mistletoe, heavy foliage, or poor branch structure.

b) Tight, V-shaped branch crotches, long horizontal limbs, extensive decay in branches, and cracks developing in crotches indicate weak branch structure.

c) Pruning and support for distressed limbs can preserve the tree and prevent further breakage. (See **Exhibit 2** on pruning techniques.)

4. Drainage:

a) Standing water should not be evident within a tree's root zone.

b) No building, landscaping, or other activity near oaks should be increased water in the root zone during summer.

5. Root crown condition:

Root crown condition may be checked by digging carefully at the base of the tree.

a) A characteristic root flare should be obvious. If it is not, the trunk has been buried and the soil should be excavated to the original grade.

b) Bright pink, green, or dark red bark tissue is healthy. Dark yellow or brown tissue underneath the bark indicates disease.

c) Large decay pocks at the root crown or in the buttress roots may indicate a dangerous condition.

B. <u>Pruning</u> (See Exhibit 2)

1. Mature oaks do not require pruning except to remove dead, weakened, diseased or dangerous branches.

2. For best results, should pruning be necessary, consult a licensed arborist on correct techniques. There are copies of "Pruning Standards" printed and distributed by the Western Chapter of the International Society of the Arboriculture for distribution at the Planning Department of the City of Rocklin.

3. "Daylighting" (light thinning) of 10 to 20% of the leaf area from branches three to six inches in diameter can open a canopy to deeper light penetration. It also reduces wind resistance and the weight of branches.

4. Excess pruning stimulates vigorous sprouting that is vulnerable to damage from mildew.

5. Light pruning can be done any time of the year.

6. Heavy pruning on deciduous oaks should be done in winter and on evergreens should be done during July and August.

C. <u>Watering and Feeding of Mature Oaks</u>

1. Summer irrigation will doom an adult tree. For that reason plants requiring irrigation should not be planted at the base of an oak tree.

2. If the winter season is unusually dry, a supplemental watering in early spring can complement natural rainfall.

    a) Water deeply in the outer two-thirds of the root zone.

    b) A similar water can be repeated once or twice during especially dry summers.

3. Feeding.

    a) Healthy mature oak trees do not require supplemental feeding.

    b) If the oak exhibits disease or stress, or when growth is poor and the natural fertilizer supply consisting of leaf drop and organic litter decomposing under the canopy has been removed, supplemental feeding is beneficial.

    c) Young oaks can be fertilized to encourage healthy growth.

    d) Fertilizers:

i. Nitrogen is the primary fertilizer of value to oaks. Apply by spreading on the ground in the outer 2/3 of the root zone, or through holes dug 18 inches apart along the drip line.

ii. Nitrate or organic fertilizers may be used. Organic fertilizers are preferred and should be applied in winter. Nitrate should be applied in late spring.

iii. An iron deficiency indicated by yellow leaves can occur on poorly drained alkaline or clay soils. Acidifying the soil with sulfur worked into the surface at a rate of 10-20 pounds per thousand sq. ft. may slowly improve condition. Iron chelate (organic complexes of iron) are helpful.

6. PLANTING, TRANSPLANTING AND CARE OF YOUNG OAKS

A. Acorns

1. Gather acorns in late October and early November. Soak them in water. Acorns that float may have been damaged by insect infestations.

2. Acorns can be stored up to six months in a cool place. Place them in peat or saw dust within polyethylene bags, in a 40 degree temperature (a refrigerator). After storing, float the acorns again and select the sinkers.

3. Plant the acorns in late fall or early winter. Dig a hole 10 inches in diameter and 4-5 inches deep. Place one gram of nitrogen fertilizer in the bottom of the hole and tamp down, leaving a one to three inch depression on top. Remove acorn caps and place 6 to 10 acorns, tips down or sideways, in the hole. Cover and tamp down. Use a protective device to discourage both above and below ground predators.

   Keep the soil covered with mulch, and weed the area when necessary. Thin the seedlings to 2 or 3 at the end of the first season, and to one seedling by the third year.

4. If the site is on a slope, cut into the hillside to create a pocket for the acorns. Plant the acorns on the lip of the pocket with the cut sloping slightly downward and deeper into the hillside.

5. If the acorns are planted after heavy rains when the ground is moist, watering is unnecessary. Otherwise water thoroughly after planting, and periodically during the first several summers. Taper off during the second and third year.

6. Acorns can be planted in one-gallon or larger cans. They should have holes in the bottom for drainage. Keep the soil moist but aerated.

B. Transplanting:

1. Seedlings should be transplanted as soon as the first leaves open and become firm, before extensive root development.

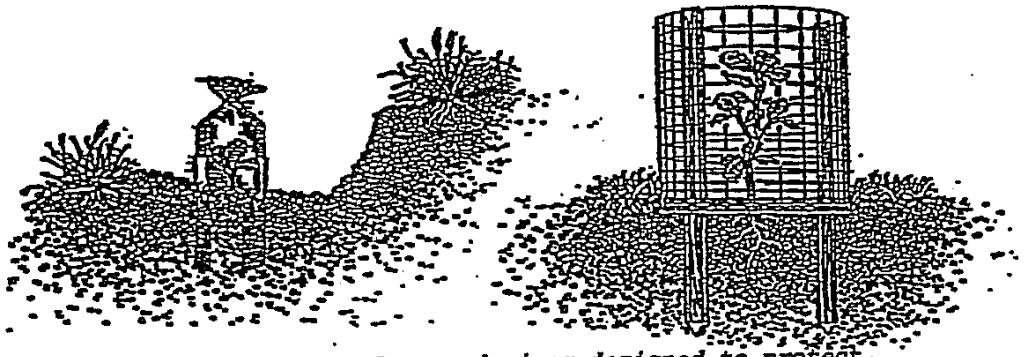
2. Young trees in containers should be transplanted in late winter or early spring, after the ground has begun to warm and before the leaves on deciduous trees emerge.

3. The hole should be twice as wide and deep as the can. Thoroughly moisten the root ball and carefully remove.

4. If roots have begun to curve around the inside of the container, prune them to allow placement in the hole without bending or folding. Prune a corresponding amount of foliage after transplanting.

5. Gently set the root ball into the hole, with the root crown level with the surface. Fill the hole with soil and firmly tamp and soak.

6. Water, weed and mulch until the seedling is well established. If transplanting is done during the fall or winter, normal rains should provide sufficient watering. For the first season soak the seedling so that the water deeply penetrates the soil every two weeks, or whenever to top two inches of soil are dry.



Two frequently used enclosure devices designed to protect seedlings.

7. ADDITIONAL RESOURCES.

A. Public Agencies:
   1. University of California Cooperative Extension
   2. California Dept. of Forestry and Fire Protection
   3. U.S.D.A Soil Conservation of Fish and Game
   4. California Department of Fish Game

B. Private Sector:
   1. American Farmland Trust
   2. California Native Plant Society
   3. California Oak Foundation
   4. Sacramento Tree Foundation
   5. The Trust for Public Land

(Much of the information above is obtained from the pamphlet "Living Among the Oaks", published by the University of California Cooperative Extension at Berkeley, Natural Resources Program).

EXHIBIT 1

DROUGHT TOLERANT GROUND COVER AND SHRUBBERY

Appropriate for planting in the vicinity of native oak trees

1. Shrubs: partial shade:

    a. Carpenteria (Carpenteria californica)
    b. Wild lilacs (ceanothus)

        1) C. griseus, C. Thysiflous, C. maritimus, B. Cultivars: C. Joyce Coulter, C. Ray Hartman
        2) Western rebud (cercis occidentalis)
        3) Mountain mahogany (cerocarpus etuloides var. blancheae)
        4) Santa Cruz Island wild buckwheat (erigomum arboescens)
        5) Silk tassel bush (Garrya elliptica)
        6) Toyon (Hetermeles arbutifolia)
        7) Barberries and Mahonias
        8) Holly leaf cherry (prunus ilicifolia)
        9) Coffeeberry (Rhamnus californica)
        10) Gooseberries (Ribes species)
        11) California wild rose
        12) "Plena" double California rose
        13) Wild sage: San Diego & Coastal white

2. Shrubs: full sun:

    a. Fremontia, Flannel bush, "California glory", "Pacific sunset"
    b. Island snapdragon (Galvesia speciosa)
    c. Lupine, Silver bush and chamisso bush
    d. Monkey flower: Bush and red
    e. Cleveland's penstemon
    f. Matilija poppy (romneya coulteri)

3. Groundcovers:

    a. Dwarf coyote bush (baccharis pilularis)
    b. Carmel creeper (ceanothus griseus)
    c. Hoover ceanothus
    d. Catalina currant (Ribes viburnifolium)

4. Evergreen herbaceous plants

    a. Wood fern
    b. Buckwheat
    c. Giant alum root
    d. Viguiera deltoidea var. parishii

5. Deciduous or annual herbaceous plants

    a. Clarkias
    b. Chinese houses (Collinsia)
    c. Shooting stars (dodecatheo clevelandii)
    d. Poppies (Eschscholzia species)
    e. Miners lettus (Monmtia perfliata)
    f. Baby blue eyes (Nemophilia menziesii)
    g. Evening primroses (oenothera species)
    h. Blue eyed grass (Sisyrinchium bellum)
    i. Yellow pansy (viola pedunculata)
    j. California wild fuchsia (zauschneria californica)

6. Bulbs: Maripos lilies, soap plant, leopard lily, common trillium.

EXHIBIT 2

WESTERN CHAPTER
ISA

PRUNING STANDARDS

Purpose:
Trees and other woody plants respond in specific and predictable ways to pruning and other maintenance practices. Careful study of these responses has led to pruning practices which best preserve and enhance the beauty structural integrity, and functional value of trees.

In an effort to promote practices which encourage the preservation of tree structure and health, the W.C. ISA Certification Committee has established the following Standards of Pruning for Certified Arborists. The standards are presented as working guidelines, recognizing that trees are individually unique in form and structure, and that their pruning needs may not always fit strict rules. The Certified Arborist must take responsibility for special pruning practices that vary greatly from these Standards.

I. Pruning Techniques

A. A thinning cut removes a branch at its point of attachment or shortens it to a lateral large enough to assume the terminal role. Thinning opens up a tree reduces weight on heavy limbs, can reduce a tree's height, distributes ensuing invigoration throughout a tree and helps retain the tree's natural shape. Thinning cuts are therefore preferred in tree pruning.

When shortening a branch or leader, the lateral to which it is cut should be at least one-half the diameter of the cut being made. Removal of a branch or leader back to a sufficiently large lateral is often called "drop crotching".

B. A heading cut removes a branch to a stub, a bud or a lateral branch not large enough to assume the terminal role. Heading cuts should seldom be used because vigorous, weakly attached upright sprouts are forced just below such cuts, and the tree's natural form is altered. In some situations, branch stubs die or produce only weak sprouts.

II. Types of Pruning --Mature Trees

A. CROWN CLEANING

Crown cleaning or cleaning out is the removal of dead, dying diseased, crowded, weakly attached, and low-vigor branches and watersprouts from a tree crown.

B. CROWN THINNING

Crown thinning includes crown cleaning and the selective removal of branches to increase light penetration and air movement into the crown. Increased light and air stimulates and maintains interior foliage, which in turn improves branch taper and strength. Thinning reduces the wind-sail effect of the crown and the weight of heavy limbs. Thinning the crown can emphasize the structural beauty of trunk and branches as well as improve the growth of plants beneath the tree by increasing light penetration. When thinning the crown of mature trees, seldom should more than one-third of the live foliage be removed.

At least one-half of the foliage should be on branches that arise in the lower two-thirds of the trees. Likewise, when thinning laterals from a limb, an effort should be made to retain inner lateral branches and leave the same distribution of foliage along the branch. Trees and branches so pruned will have stress more evenly distributed throughout the tree or along a branch.

An effect known as "lion's-tailing" results from pruning out the inside lateral branches. Lion's-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 limb breakage.

C. CROWN REDUCTION

Crown reduction is used to reduce the height and/or spread of a tree. Thinning cuts are most effective in maintaining the structural integrity and natural for of a tree and in delaying the time when it will need to be pruned again. The lateral to which a branch or trunk is cut should be at least one-half the diameter of the cut being made.

D. CROWN RESTORATION

Crown restoration can improve the structure and appearance of trees that have been topped or severely pruned using heading cuts. One to three sprouts on main branch stubs should be selected to reform a more natural appearing crown. Selected vigorous sprouts may need to be thinned to a lateral, or even headed, to control length growth in order to ensure adequate attachment for the size of the sprout. Restoration may require several prunings over a number of years.

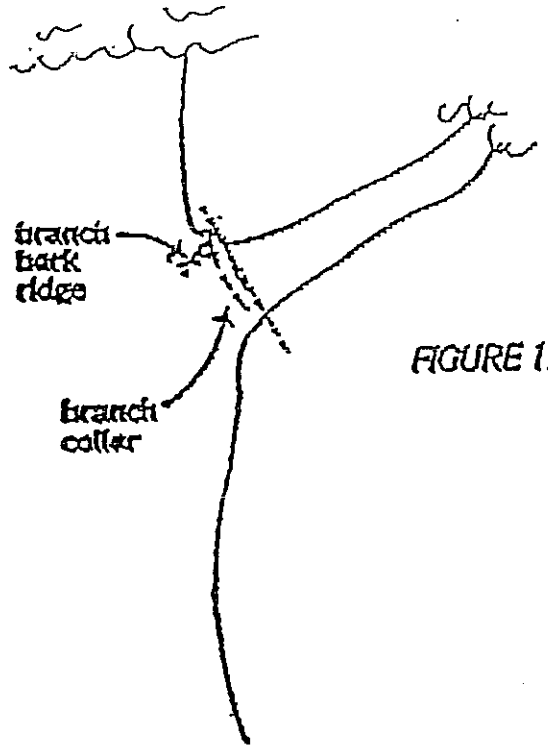
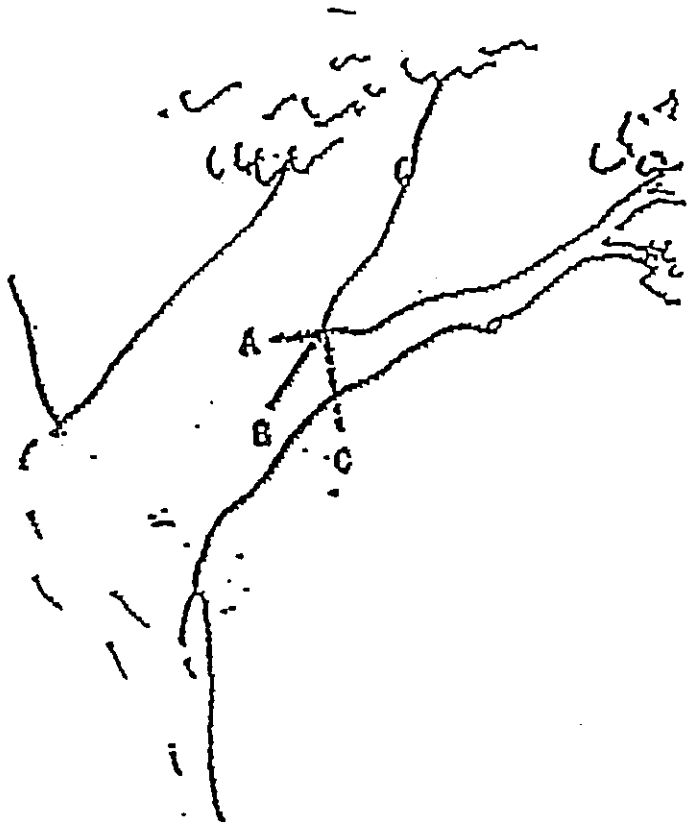


FIGURE 1. When removing a branch, the final cut should be just outside the branch bark ridge and collar.

2. In removing a limb without a branch collar, the angle of the final cut to the branch bark ridge should approximate the angle the branch bark ridge forms with the limb. Angle AB should equal Angle BC.



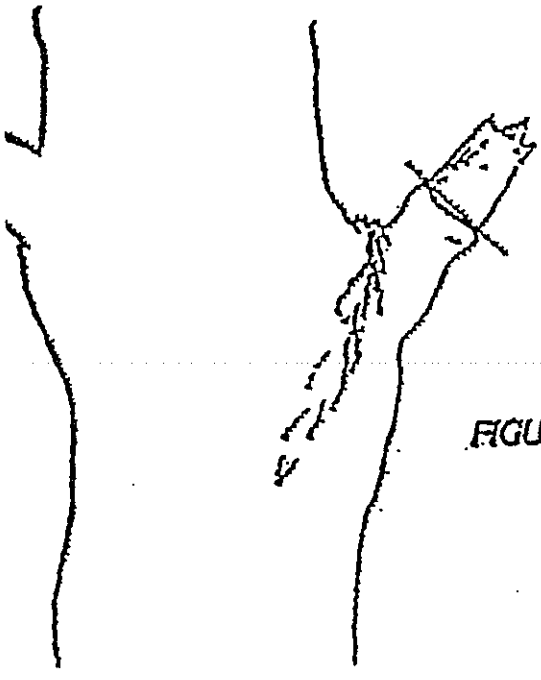


FIGURE 3. When removing a dead branch, cut outside the callus tissue that has begun to form around the branch.

Chapter 17.77
Oak Tree Preservation

(Please refer to Ordinance Nos. 676, 746, and 763)

17.77.010 Intent and purpose.

By enacting this chapter of the Rocklin Municipal Code, to be known as the Rocklin Oak Tree Preservation Ordinance the City Council finds that oak woodlands constitute a valuable natural resource within the City. They provide habitat for wildlife; they contribute to the City's beauty and varied scenery; they provide shade in parks as well as in developed areas; and they enrich soils and protect watersheds and streams from erosion. Oak woodlands have declined substantially in extent and quality, both locally and regionally. They are continuing to decline under pressures of agriculture, cutting for fuel wood, livestock grazing, range forage improvement, flood control, fire suppression, and urbanization. The goal of this chapter is to address the decline of oak woodlands due to urbanization through a considered attempt to balance the benefits of preservation, and the cost thereof, against the social benefits of private property ownership and development. To reach this goal, this chapter implements a comprehensive design review process for new development, offers incentives for oak tree preservation, and provides feasible alternatives and options to removal where practicable. This chapter is enacted in furtherance of Rocklin General Plan/Open Space Conservation and Recreation Element Policies 1 and 4.

17.77.020 Definitions.

Within the context of this chapter, the following words and phrases shall have the meaning given below, unless otherwise specifically provided:

A. "Developed lot" means the following:

1. A lot zoned for single family, duplex, or triplex development, and subdivided down to its ultimate size consistent with the zone, with or without on-site improvements, but with completed subdivision improvements;

2. A lot zoned for multifamily, commercial, or industrial use for which all discretionary entitlements, as well as design review approval under Chapter 17.72, have been approved and are effective. "Developed lot" shall not mean any lot which otherwise meets the requirements of this paragraph, but for which another discretionary entitlement, or a modification to an existing entitlement is being requested. Such lots shall be treated as undeveloped lots under this Chapter.

B. "Guidelines" means the Oak Tree Preservation Guidelines adopted pursuant to section 17.77.100 of this chapter.

C. "Heritage tree" means any oak tree with TDBH of 24 inches or more and which is of good or fair quality in terms of health, vigor of growth, and conformity to generally accepted horticultural standards of shape for its species.

D. "Oak tree" or "tree" means an oak tree with a TDBH of six inches or more and of a species identified in the Oak Tree Preservation Guidelines by resolution of the City Council as native to the Rocklin area.

E. "Property" means a lot or contiguous or noncontiguous lots, which, taken together, are proposed for development of a single project, whether or not phased.

F. "Removed" with reference to an oak tree means the physical removal of the tree from the ground or the willful injury, trimming, disfiguring, or other harmful action which leads directly to physical removal or creates such a condition that makes disease likely or results in a significant risk of injury to persons or property.

G. "Surveyed Trees" means all trees which are included in the arborist's tree survey required for a proposed project and are not located within an existing or proposed Open Space and Conservation easement.

H. "TDBH" means trunk diameter of an oak tree at breast height, which is a point located 4-1/2 feet above the root crown. TDBH of multi-trunk trees shall be the TDBH of the largest trunk only.

I. "Transplanted Trees" means a tree which is moved from a field grown location and replanted in a new location. Transplanted trees are not nursery grown container plants.

J. "Undeveloped property" means any property or lot which is not a developed lot.

17.77.030 Prohibition.

No person shall remove an oak tree located wholly or partially within the City unless the requirements of this chapter are fully met and a permit has been obtained from the director.

17.77.040 Developed lot - Removal of oak tree - Permit.

A. No oak tree shall be removed from a developed lot without first obtaining from the director an oak tree removal permit.

B. The director shall prepare and issue a form for making application for an oak tree removal permit. The form shall require the following information:

1. Condition of the tree.

2. Plot plan of the lot.

3. Reason and objective for removal.

4. Signature of the owner of the property on which the tree is located requesting or consenting to the removal.

5. Any other information as determined by the director to be necessary or convenient to evaluate the request.

C. Application for an oak tree removal permit shall be made by filing a completed application form with the director.

D. Within ten (10) days of receipt of the application, the director or his authorized representative shall meet with the applicant to discuss the proposed tree removal and investigate alternative means to obtain the objective while minimizing the impact on the tree. One meeting shall be mandatory; additional meetings may be held if mutually agreed.

17.77.045 Developed lot - Removal of oak tree - Single family, duplex, triplex.

A. With respect to tree removal applications for single family residential, duplex, or triplex developed lots, the director shall issue the permit after conclusion of the meetings described in Section 17.77.040(D), unless the applicant voluntarily withdraws the application.

B. If the applicant does not withdraw the application and the permit is to be issued, the applicant shall be required to mitigate the impact of the tree removal as described below:

1. If the director determines that the tree is dead or diseased to such an extent, or in such a manner that the tree poses a risk of injury to person or property, no mitigation shall be required.

2. If the director determines that the tree is healthy, the applicant shall mitigate removal of the tree in one or a combination of the following ways, at the applicant's option:

a. Replacing each heritage oak tree removed with five trees on site, and each non-heritage tree removed with two trees on site; provided, that the maximum number of replacement trees required to be planted on any one lot shall not exceed five. The species, size, and planting location of the replacement trees shall be in accordance with the Guidelines;

b. Payment of a fee for each tree removed in an amount set by resolution of the City Council into the Rocklin Oak Tree Preservation Fund.

17.77.047 Developed lot - Removal of oak tree - Multifamily, commercial, industrial.

With respect to applications for a tree removal permit for multi-family, commercial, or industrial developed lots, the director shall take action on the application at the conclusion of the meeting described in Section 17.77.040(D) in one of the following ways:

A. If the director determines that the tree proposed for removal is healthy, the permit shall be denied.

B. If the director determines that the tree is dead or diseased to such an extent or in such a manner that the tree poses a risk of injury to persons or property, the permit shall be issued, and the applicant shall be required to mitigate the impact of the tree removal in one or a combination of the following ways, at the option of the director:

1. Replacing each tree removed with one tree on site, the species, size and planting location of the replacement tree to be in accordance with the Guidelines;

2. Payment of the fee for each tree removed in an amount set by resolution of the City Council into the Rocklin Oak Tree Preservation Fund.

17.77.050 Undeveloped property - Tree preservation plan permit.

A. Preservation and removal of healthy oak trees from undeveloped property shall be addressed in the development application review process, and shall be governed by the Guidelines adopted under section 17.77.100. Removal of oak trees from undeveloped property shall require mitigation.

B. No healthy oak tree shall be removed from such property until the review process is completed and a tree preservation plan permit has been issued.

C. Application for a tree preservation plan permit shall be made on forms issued by the director. Completed applications shall be filed, processed and acted upon as part of the project development application.

D. The body issuing a tree preservation plan permit shall require mitigation for the removal as a condition of the permit and approval of the project. Required mitigation shall be governed by sections 17.77.070 and 17.77.080 and the Guidelines.

E. A bond or other security instrument in an amount not less than $10,000 shall be required as a condition of issuance of the permit to protect those trees identified for preservation during the construction period. The form and amount of the security instrument shall be specified by the permit issuing body and approved by the City Attorney. No grading or other on-site work shall be permitted until the security is posted.

F. Notwithstanding any other provision of this section, a property owner may apply for an oak tree removal permit to remove a dead, dying or diseased oak tree from an undeveloped property where no tree preservation plan permit is pending.

1. With respect to applications for a tree removal permit for dead, dying or diseased trees on undeveloped lots, the director shall take action on the application at the conclusion of the meeting described in Section 17.77.040(D) in one of the following ways.

a. If the director determines the oak tree is dead, dying or diseased to such an extent or in such a manner that the tree poses a risk of injury to persons or property, the oak tree removal permit shall be issued. No mitigation shall be required for removing a dead, dying or diseased tree from an undeveloped property.

b. If the director determines that the oak tree is not dead, dying or diseased the application shall be denied.

17.77.060 Undeveloped property -- City council review- Repealed. (Ord. 746, l996)

17.77.065 Emergency removal of dangerous trees.

Notwithstanding any other provisions of this chapter to the contrary, the director may authorize the immediate removal of any oak tree upon the written request of the owner or other person in legal possession of the property and upon making a determination that the tree, because it is dead or diseased, poses an immediate risk of injury to persons or property which risks cannot feasibly be removed in any other manner. The owner thereafter shall be required to mitigate the tree removal in accordance with the provisions of this chapter.

17.77.070 Mitigation - General.

All required tree mitigation shall conform to the Guidelines and the following policies:

A. On-site mitigation through native oak tree replacement is the preferred mitigation method.

B. The location and condition under which replacement trees are planted must be carefully selected to allow for practicable and feasible future development to minimize the likelihood that future tree removal is not required, and to maximize the likelihood that the replacement trees will survive and thrive.

C. The ideal age and size of a replacement tree shall be as specified in the Guidelines.

D. Transplanted trees, whether from on-site or off-site, may be accepted as replacement trees, but shall be given a discounted value, as specified in the Guidelines, based on anticipated survival rates, as compared with nursery stock. The discounted value specified in the Guidelines shall be reviewed from time to time.

E. Any replacement tree, including a transplanted tree, which dies within five years of being planted must be replaced on a one (1) to one (1) basis.

F. Where mitigation formulas use percentages, results will always be rounded up to the next whole number percentage.

17.77.080 Mitigation - Undeveloped property.

Tree mitigation for undeveloped property shall conform to the following policies:

A. On property zoned B-P; C-1,2,3,4; C-H; M-1,2 or an equivalent PD zone, no fee payment, tree replacement, or land dedication will be required as mitigation for oak tree removal. In these zones, the following incentives shall be applied, upon request:

1. Projects which save twenty-five percent or more of the surveyed oak trees shall receive expedited processing by the community development department.

2. Defer city traffic mitigation and capital facilities fees as follows:

a. Saving twenty-five percent to forty-nine percent of the surveyed oak trees defers fee payment for three months.

b. Saving fifty percent to seventy-four percent of the surveyed oak trees defers fee payment for six months.

c. Saving seventy-five percent to ninety-nine percent of the surveyed oak trees defers fee payment for nine months.

d. Saving one hundred percent of the surveyed oak trees defers fee payment for twelve months.

B. For all zones other than those identified in A, above, the following mitigation requirements shall apply:

1. Where not more than twenty percent of the TDBH of all the surveyed oak trees, and not more than twenty percent of the total number of surveyed oak trees on the property are to be removed, each tree shall be replaced on a 2-to-1 tree replacement ratio (two trees planted on-site for each tree removed).

2. Where more than twenty percent of the TDBH of all the surveyed oak trees or more than twenty percent of the total number of surveyed oak trees on the property are to be removed, each inch of TDBH removed in excess of twenty percent of the TDBH of all the surveyed oak trees shall be replaced with an equal number of inches of TDBH of replacement trees, but in no event shall the number of replacement trees be less than twice the number of trees removed (2-to-1).

3. The species, size, and planting location of the replacement trees shall be in accordance with the Guidelines.

4. Where on-site replacement is not feasible, mitigation shall be by off-site replacement, land dedication, or payment of a fee in an amount set by resolution of the City Council into the Rocklin Oak Tree Preservation Fund. Where partial mitigation is by on-site or off-site replacement, or land dedication, the fee shall be appropriately prorated.

17.77.090 Rocklin Oak Tree Preservation Fund.

A. There is within the city treasury a separate fund to be known as the Rocklin Oak Tree Preservation Fund.

B. There shall be deposited in the fund all fees paid in connection with the mitigation of trees removed under this chapter or otherwise, plus any monies received from bond forfeitures and enforcement actions to the extent allowed by law.

C. The council shall transfer from the general fund to the Oak Tree Preservation Fund a total amount of $30,000.00. The transfer shall be in three $10,000.00 increments and shall be made with the adoption of the City budget in each of the three succeeding fiscal years following the effective date of Ordinance No. _____ enacting this chapter; provided, that if the council, in its sole discretion, finds that the transfer should not be made in any one or more of those fiscal years due to budgetary constraints, the transfer for that year shall be postponed as directed by the council.

D. Expenditures from the fund shall be limited to the following: 1) acquisition of land deemed appropriate for oak tree reforestation; 2) acquisition, planting, and maintenance of oak trees; 3) compensation of arborists retained by the City in connection with the administration of this chapter and any related program; 4) oak tree preservation educational programs; 5) administration and enforcement of this chapter.

17.77.100 Oak Tree Preservation Guidelines.

A. The council shall adopt, by resolution, guidelines to aid in the administration and implementation of this chapter, to be known as the Rocklin Oak Tree Preservation Guidelines.

B. The Guidelines shall address each of the following issues:

1. A tree removal permit application process for the review of tree removal proposals on developed lots.

2. A tree preservation plan permit application process for the review of development proposals of undeveloped property.

3. A method of determining the amount of a bond or other security instrument required by section 17.77.050 C. to guarantee protection of all oak trees designated for preservation during the project construction period.

4. Required mitigation for tree removal on undeveloped property consistent with and as more fully described in sections 17.77.070 and 17.77.080.

5. Requirement that special attention be given to the preserving of heritage oak trees.

6. A list of native and hybrid oaks recommended as replacement trees.

7. Any other issues the council deems appropriate relating to oak tree preservation.

17.77.110 Violations and penalties.

A. Violation of this chapter shall be punishable as a misdemeanor or an infraction at the discretion of the City Attorney.

B. In addition to the provisions of Paragraph A, violation of this chapter for failure to obtain a tree removal or tree preservation plan permit prior to removing a tree shall be punishable by an order for restitution and/or the payment of triple mitigation fees.

C. In addition to the provisions of Paragraph A, violation of the terms or conditions of a tree removal or tree preservation plan permit shall be punishable by forfeiture of the security provided under section 17.77.050 D., and order for restitution.