



CITY OF
FOLSOM
DISTINCTIVE BY NATURE

City of Folsom
Tree In-Lieu Mitigation Fee
Nexus Study

January 14, 2020

INTRODUCTION

City staff prepared this nexus study for the update to the City's Tree In-Lieu Fee, which may be required for the removal of Protected Trees as set forth in Section 12.16.150 of the City's Tree Preservation Ordinance Update. The City's current in-lieu fee has not been updated since 1995 and does not reflect the actual cost of planting, maintaining, monitoring and administering the replacement of Protected Trees. The in-lieu fee payment is required in Section 12.16.150 of the draft Tree Preservation Ordinance as mitigation when replacement is not feasible. It is based on the actual cost of the following: 1) acquisition and planting of a new 15-gallon size tree (equivalent to 1" diameter at standard height or DSH)¹; 2) maintenance and monitoring over a three-year period; and 3) administration. The tasks associated with each of these are listed below.

Acquisition and Planting:

- Planting
- Due Diligence Survey/Analysis
- Photos

Mitigation and Monitoring:

- Irrigation
- Tree stock replacement (if needed)
- Weed control
- Staking
- Mulching
- Monitoring
- Installation of Above/Below-Ground Protection Devices (cages, tubes, etc.)
- Removal of Protective Materials at end of Maintenance Period
- Pest and Disease Control (application of herbicide, fungicide, etc.)

Administration:

- Calculation and collection of the fees
- Tracking of payment
- Preparation of required reports
- Periodic updates to the Tree In-Lieu Payment Fee Nexus Study
- Tracking of trees planted with mitigation funds

¹ Based on ANSI Standard Z60.1 – American Standard for Nursery Stock. ANSI Z60.1 sets minimum height/caliper standards for nursery plant material in addition to providing “professional horticulturalists and landscape architects with an understanding of common horticultural terms, plant nomenclature, and plant attributes.”

The purpose of this study is to satisfy the requirements of the State’s Mitigation Fee Act as set forth in Government Code Sections 66000 – 66025 and to explain how the proposed fee is calculated.

NEXUS ANALYSIS AND FINDINGS

This section documents the nexus for the fee, calculates the proposed rates for the City’s Tree Mitigation In-Lieu Fee, and documents the findings of this nexus study.

NEXUS REQUIREMENTS

Consistent with the requirements of the Mitigation Fee Act, also known as AB 1600, this study demonstrates that a reasonable relationship or “nexus” exists between new development that occurs within Folsom and the need to preserve and replace trees as a result of new development.

In order to demonstrate compliance with the Mitigation Fee Act, this study must address the following requirements:

1. Identify the purpose of the fee;
2. Identify the use to which the fee is to be put;
3. Determine how there is a reasonable relationship between the fee's use and the type of development project on which the fee is imposed;
4. Determine how there is a reasonable relationship between the need for the public facility and the type of development project on which the fee is imposed;
5. Determine how there is a reasonable relationship between the amount of the fee and the cost of the public facility or portion of the public facility attributable to the development on which the fee is imposed.

In this case Protected Trees are considered “public facilities” because the definition in Government Code Section 66000(d) states that public facilities include “public improvements, public services, and community amenities.” As stated in Section 12.16.010 (Purpose and Intent) of the City’s Tree Preservation Ordinance, “Trees are both community and environmental assets, unique in their ability to provide a multitude of benefits that appreciate over time.”

REQUIREMENTS AND FINDINGS

Requirement 1: Purpose of the Fee

The Tree In-Lieu Fee proposed by this nexus study is designed to fund mitigation of impacts to Protected Trees removed as a result of development activity through replacement planting of trees in Folsom in order to preserve the City’s existing tree canopy. The fee is structured such that the larger the Protected Tree removed, as measured by diameter inches at standard height, the greater the in-lieu fee. Since larger trees provide a greater benefit compared to

smaller trees, more smaller trees need to be planted to provide the same benefit of a larger tree. Given this, the removal of larger Protected Trees requires the planting of more one-inch replacement trees. Thus, the diameter inches of the removed Protected Tree are multiplied by the Tree In-Lieu to account for the need to plant more one-inch replacement trees. The Tree In-Lieu Fee is intended to cover the cost of tree acquisition, planting, maintenance and monitoring of each one-inch replacement tree for a three-year period.

Requirement 2: Use of the Fee

The Tree In-Lieu Fee will be deposited into the City's Tree Planting and Replacement Fund, which is used to acquire and plant individual replacement trees and perform monitoring and maintenance activities for a period of three years in order to ensure that the trees successfully establish themselves and grow to maturity. The fee can also be used for City urban tree canopy maintenance or improvement efforts as well as other similar supporting efforts outlined in the Tree Preservation Ordinance and the City's 2035 General Plan.

Requirement 3: Reasonable Relationship Between Fee Use and Development

Consistent with the City's 2035 General Plan and the Tree Preservation Ordinance, the replacement of Protected Trees promotes the health, safety, and general welfare of Folsom by protecting and enhancing the natural and scenic resources and by strengthening zoning, subdivision and land use regulations, while also recognizing individual rights to develop private property.

The replacement of trees enhances the City's natural scenic beauty, supports the potential increase in property values over time, helps reduce the urban heat island effect, and is consistent with the City's Greenhouse Gas Emissions Reduction Strategy contained in the 2035 General Plan. By replacing and replanting trees, this helps retain the tempering effect of trees on extreme temperatures by providing shade and cooling, increases the attractiveness of the City to visitors, helps to reduce soil erosion, and increases the oxygen output in the area, which is needed to combat air pollution.

The planting of replacement of trees is consistent with and furthers the purpose of the draft Tree Preservation Ordinance, which states:

Trees are both community and environmental assets, unique in their ability to provide a multitude of benefits that appreciate over time. In addition to many others, these benefits include life-giving oxygen, filtration of air pollutants, protection from heat and ultra-violet radiation, energy savings, reduced Heat Island effect, habitat for wildlife, carbon sequestration, and improvement of property values. The purpose of this chapter is to advance these aesthetic, economic, environmental, and social contributions of the City's Urban Forest through the creation and preservation of tree resources. In order to promote

the public health, safety and general welfare, enhance the beauty of Folsom and to complement and strengthen zoning, subdivision and land use standards and regulations, while at the same time recognizing individual rights to develop private property, the City Council finds it necessary to establish standards and measures for the preservation of trees.

Furthermore, two of the key guiding principles in the City's 2035 General Plan include:

Guiding Principle #9: Provide all residents with opportunities to live an active, healthy, and green lifestyle.

Guiding Principle #15: Foster a sustainable community for the next generation's benefit.

In addition, several policies in the General Plan, particularly those in the Land Use Element and the Natural and Cultural Resources Element, relate to the relationship between the proposed fee and new development:

- *LU 1.1.7 Concentrated Development* - Allow project applicants to concentrate the proposed development on a portion of the site through the clustering of buildings to encourage the preservation of open spaces, cultural resources, and natural features of the landscape.
- *LU 1.1.8 Preserve Natural Assets* - Maintain the existing natural vegetation, landscape features, open space, and viewsheds in the design of new developments.
- *LU 9.1.6 Community Beautification* - Encourage the landscaping of public rights-of-way and planting of street trees to beautify Folsom consistent with water-wise policies.
- *LU 1.1.14 Promote Resiliency* - Continue to collaborate with nonprofit organizations, neighborhoods groups, and other community organizations, as well as upstream, neighboring, and regional groups to effectively partner on and promote the issues relating to air quality, renewable energy systems, sustainable land use, adaptation, and the reduction of greenhouse gas (GHG) emissions.
- *NCR 1.1.4 Native and Drought Tolerant Vegetation* - Encourage new developments to plant native vegetation, including that which is important to Native American lifeways and values, and drought tolerant species and prohibit the use of invasive plants.
- *NCR 1.1.8 Planting in New Development* - Require the planting of street trees, parking lot canopy trees, screening trees, and other amenity trees and landscaping in all new development, consistent with City landscaping development guidelines, to minimize the heat island effect. Planting strips must be large enough to accommodate a large tree canopy and allow for healthy root growth.

- *PR 1.1.8 Shade and Hydration* - Ensure water fountains, trees, pavilions, arbors, and canopies are provided in Folsom's parks and playgrounds, as well as along bike paths, trails, and other active transportation corridors, where appropriate and feasible, to provide important safeguards on hot days.

The development of new residential and non-residential land uses in the City may result in a loss of existing Protected Trees if such trees are present on those development sites. The proposed increase to the Tree In-Lieu Fee, charged according to the loss of Protected Trees, based on their size, provides a means for development to occur while also achieving the environmental goals and objectives stated in the City's 2035 General Plan and the City's Tree Preservation Ordinance.

The proceeds from the proposed fee, which will be placed in the City's Tree Planting and Replacement Fund, will be used to acquire and plant replacement trees and maintain them for a period of three years. By maintaining the City's tree canopy over time, the fee will help further the principles and policies stated above.

Requirement 4: Reasonable Relationship Between Conservation Need and Development

A reasonable relationship exists between the need for the Tree In-Lieu Fee and new development that would pay the fee. When new development or improvements to existing development results in a loss of Protected Trees, there is a reduction in the benefits provided to the community by trees, which makes many of the City's General Plan policies more difficult to achieve. For example, the reduction of the City's overall tree canopy including the loss of individual Protected Trees makes it more difficult to lessen the urban heat island effect, reduces shading, worsens air pollution, and results in a loss of natural habitat and scenic beauty.

The fee is designed to mitigate the impacts of developments that remove Protected Trees by funding the cost of planting new trees. The costs associated with the acquisition and planting and maintenance for a period of three years is accounted for in the proposed Tree In-Lieu Fee.

Requirement 5: Reasonable Relationship Between Fee Amount and Mitigation Cost

The amount of the Tree In-Lieu Fee for impacts resulting from the removal of Protected Trees is proportional to the cost of mitigating impacts from non-exempt development activities. The in-lieu fee amount is calculated based on the actual cost to meet the requirements set forth in Section 12.16.150 of the new Tree Preservation Ordinance. Should a project applicant for non-exempt activities choose the in-lieu fee option, the fee amount will be based on the scale of impact as measured by the loss of diameter inches of Protected Tree. Therefore, a reasonable

relationship exists between the amount of Tree In-Lieu Fee for impacts to Protected Trees by new development.

FEE CALCULATION

This nexus study provides the basis upon which a new Tree In-Lieu Fee is calculated. The estimated cost for the equivalent of one inch of trunk diameter is a 15-gallon size native tree such as a live oak. The average price of a 15-gallon oak tree was calculated from a survey of six nurseries in Folsom and the surrounding region. As shown in Table 1, the average retail price is approximately \$101.

**Table 1
Retail Price for Coast Live Oak (15-Gallon Size)**

Nursery	Location	Retail Price
Big Oak Nursery	Elk Grove	\$85
Eisley’s Nursery	Auburn	\$100 - \$129
El Dorado Nursery and Garden Inc.	Shingle Springs	\$100
Fair Oaks Boulevard Nursery	Arden-Arcade	\$129
Green Acres Nursery	Folsom	\$85
Village Nursery Landscape Center	Sacramento	\$94
Average Price		\$101

Based on phone quotes from nurseries obtained by City staff on 11/13/2019.

The total fee for new non-exempt development activity is proportional to the scale of the impact based on the size (calculated as diameter inches at standard height lost) of the impacted tree(s). The fee is based on hypothetical scenario assuming a planting of 300 15-gallon oak trees. As shown in Table 2, the Sacramento Tree Foundation has identified the cost of conducting planting, installation, tree establishment and maintenance for the above planting scenario to estimate annual costs during the first three years to ensure successful establishment of the tree.

Table 2
Installation, Maintenance and Monitoring Costs*

Direct Project Expenses	Year 1	Year 2	Year 3	Total
Supplies (Irrigation materials, tree shelters, stakes, mulch)	\$35	\$18	\$9	\$61
Project Design	\$11	\$0	\$0	\$11
Site Preparation	\$11	\$0	\$0	\$11
Installation and Maintenance	\$51	\$25	\$25	\$101
Monitoring and Reporting	\$6	\$3	\$3	\$11
Volunteer Coordination (to oversee planting, etc.)	\$7	\$4	\$4	\$14
Tools and Equipment	\$8	\$8	\$8	\$25
Vehicle Expenses	\$12	\$12	\$12	\$35
Total	\$139	\$69	\$60	\$269
Average Cost per 15-gallon Tree:				\$269

**Notes: Figures are rounded. This excludes administrative costs which are already accounted for later in this analysis and it also excludes non-standard project costs such as water connection fees or other permits, which are unique and site specific.*

Source: Sacramento Tree Foundation, November 2019.

To the acquisition, planting, maintenance, and monitoring costs, an administrative component of five percent (5%) is added to cover the cost to the City of administering and updating the fee program, calculating total fee obligations for each development opting to pay the Tree In-Lieu Fee, collecting fee revenues, depositing these fee revenues to the Tree Planting and Replacement Fund, and using those funds for City staff or contractors to plant trees.

Table 3 below summarizes the detailed cost components, shown on a per-diameter inch basis, associated with acquisition, planting, monitoring, and maintenance for three years. The total in-lieu fee cost for a replacement tree is \$389 per inch. As noted earlier, a 1" replacement tree is considered by arborists to be equivalent to a 15-gallon tree.

Table 3
In-Lieu Fee Cost Components*

Cost Components	Price
Acquisition and Planting	\$101
Maintenance and Monitoring	\$269
Administration (5%)	\$19
Total	\$389

**Note: Figures are rounded to nearest dollar.*

FEE CALCULATION EXAMPLES

Scenario 1

A Protected Tree such as an oak tree with a 10-inch trunk diameter as measured at standard height (typically 4.5 feet high) that is permitted to be removed would require mitigation for 10 diameter inches, based on the inch-for-inch replacement requirement in the draft Tree Preservation Ordinance. The new ordinance mitigation requirement including the in-lieu fee assumes that a 15-gallon size replacement tree equals 1 inch in trunk diameter. Therefore, mitigation for removal of a 10-inch native oak tree requires planting and maintenance of ten 15-gallon trees or the payment of the in-lieu fee which would be 10 multiplied by the per-inch cost or a combination of the two. As allowed under this nexus study, the maximum per inch cost is \$389 per inch for a total fee of \$3,890. As shown later in Table 5, the regional average in-lieu fee is \$221 for a total fee of \$2,210 in this example compared to a \$750 fee under the City's current fee structure.

In-Lieu Fee Calculation:

1. Diameter Inches Impacted: 1 tree at 10 DSH inches = 10 inches
2. Cost Per Diameter Inch = \$389 per inch
3. Fee = 10 diameter inches times \$389 per inch

Total Tree In-Lieu Fee = \$3,890

Scenario 2

If a developer wants to remove two protected trees, a 30-inch diameter Heritage Oak Tree and one 10-inch oak tree, the Tree In-Lieu Fee would be calculated as follows:

In-Lieu Fee Calculation:

1. Diameter Inches Impacted: 1 tree at 30 DSH inches plus 1 tree at 10 DSH inches = 40 inches
2. Cost Per Diameter Inch = \$389 per inch
3. Fee = 40 diameter inches times \$389 per inch

Total Tree In-Lieu Fee = \$15,560

As a comparison, if the regional average in-lieu fee was used (\$221 as shown in Table 5) then the total cost would be \$8,860. In contrast, under the City's current in-lieu fee structure, the fee would be \$6,000 in accordance with standards in Table 4.

Scenario 3

If a property owner submits plans to build on a vacant custom home lot with three Protected Trees within the buildable area of the new parcel then the fee would be calculated as follows based on the draft Tree Preservation Ordinance which has a 50 percent reduction for trees within the buildable area for a residential parcel:

In-Lieu Fee Calculation:

1. Diameter Inches Impacted: 1 tree at 12 DSH inches plus 2 trees each at 7 DSH inches = 26 inches
2. Cost Per Diameter Inch = \$389 per diameter inch
3. Buildable Area Reduction = 50% reduction
4. Fee = 26 DSH inches times \$389 per acre times 50% reduction

Total Tree In-Lieu Fee = \$5,057

As a comparison, if the regional average in-lieu fee is used (\$221 as shown in Table 5) then the total cost would be \$2,873, assuming a 50 percent reduction for trees within the buildable area. In contrast, under the City's current in-lieu fee structure, the fee would be \$300 since staff assesses a \$100 per tree fee for trees within the building footprint of a single-family home.

COMPARISON OF TREE IN-LIEU FEES

Based on Resolution No. 4792, which was adopted by Council in 1995, the City of Folsom set in-lieu fees for the removal of Protected Trees based on a range of size of the Protected Tree as shown in Table 4 below. In addition, the original 1995 ordinance (Section 12.16.070(C)(1)(i)) requires that mitigation for a Protected Tree removed from within the footprint of a planned single-family home is one 15-gallon tree, which is equivalent to the cost of a 15-gallon tree which is \$100 replacement fee (refer to Table 1) when there is no room on-site or the applicant prefers the fee payment over planting. The current fee levels have not been updated since 1995 and have not kept pace with the cost increases.

**Table 4
Current Folsom Tree In-Lieu Fees**

Range of Tree Size	In-Lieu Fee	Min. Per Inch Fee	Max. Per Inch Fee
6 - 10 diameter inches	\$750.00	\$75.00	\$ 125.00
10+ - 15 diameter inches	\$1,500.00	\$100.00	\$ 150.00
15+ - 20 diameter inches	\$2,000.00	\$100.00	\$ 133.33
20+ - 25 diameter inches	\$2,500.00	\$100.00	\$ 125.00
25+ - 30 diameter inches	\$3,000.00	\$100.00	\$ 120.00
30+ - 35 diameter inches	\$3,500.00	\$100.00	\$ 116.67
35+ - 40 diameter inches	\$4,500.00	\$112.50	\$ 128.57
40 + diameter inches	\$6,000.00	N/A	\$ 150.00
Average Fee Per Inch		\$98.21	\$ 131.07

Source: City of Folsom, Resolution No. 4792, August 22, 1995.

The present approach of using a set fee amount based on size range of the tree lost is unique among jurisdictions in the Sacramento region. Most jurisdictions use a per inch fee based on the diameter measured at standard height or DSH (4.5 feet high) while a few use 100 percent of the appraised value of the tree.

While not a requirement of the Mitigation Fee Act, Table 5 shows the in-lieu fees of other jurisdictions within the Sacramento region that use the per inch in-lieu fee approach for mitigation for the removal of Protected Trees as proposed in the Tree Preservation Ordinance.

In-lieu fees based on diameter inch of the tree removed is the most common method used for the fee calculation. Of the jurisdictions surveyed in our region which use that measure, the fees ranged from as little as \$100 per inch to as much as \$459 per inch for large heritage oaks. The average tree in-lieu fee is approximately \$221 per diameter inch. However, it is important to note that in some cases the in-lieu fees have not been updated in many years, especially in those jurisdictions with lower fees. This is particularly true in rural jurisdictions and/or smaller communities.

**Table 5
Comparison of Regional In-Lieu Fees**

Jurisdiction	In-Lieu Fee
Citrus Heights	\$298 per inch
El Dorado County	For individual oak trees: \$153 per inch for non-Heritage Oak Trees \$459 per inch for Heritage Oak Trees.
Elk Grove	\$200 per inch
Lincoln	\$150 per inch (oak trees only)
Loomis	\$100 per inch (for removal of 1 to 4 oak trees); \$300 per inch (for removal of 5 to 9 oak trees); \$500 per inch (for removal of 10 or more trees)
Placer County	\$100 per inch DSH or the current market value of the trees as established by an arborist, forester, or landscape architect plus installation costs.
Rancho Cordova	\$165 per inch
Roseville	\$118 per inch
Sacramento	\$325/inch (excluding palm trees) \$100/inch for each linear foot in height of clear trunk removed.
Sacramento County	Native Oaks are \$325 per inch, others vary by project.
West Sacramento	\$325 per inch at DSH

Resources:

- Big Oak Nursery, Elk Grove. Live Oak (15 gal.) - Cost: \$85. Contacted 11/13/2019.
- Easley's Nursery, Auburn. Live Oak (15 gal.) - Cost: \$99.99 to \$129.99 (depends on vendor). Contacted 11/13/2019
- El Dorado Nursery and Garden, Inc., Shingle Springs. Live Oak (15 gal.) - Cost \$100. Contacted 11/13/2019.
- Fair Oaks Boulevard Nursery, Arden-Arcade. Live Oak (15 gal.) - Cost \$129. Contacted 11/13/2019.
- Green Acres Nursery, Folsom. Live Oak (15 gal.) – Cost \$85.00. Contacted 11/13/2019.
- Village Nursery Landscape Center (aka Site One Landscape), Sacramento. Live Oak (15 gal.) - Cost \$94.50. Contacted 11/13/2019.
- Sacramento Tree Foundation, *Proposal for Tree Programs and Services for Planting and Maintenance*. November 22, 2019.
- Keith Wilson, Principal Landscape Architect / Owner of Wilson Design Studio – Landscape Architecture and Site Design. Discussion with City staff regarding tree maintenance and monitoring costs on November 19, 2019 and subsequent email correspondence on December 4, 2019.
- Krissy Walker-Berry, Staff Biologist, ECORP Consulting, Inc. Email correspondence with City Arborist dated November 20, 2019.