

DEVELOPMENT SERVICES DEPARTMENT

COUNTY OF EL DORADO

<http://www.co.el-dorado.ca.us/devservices>



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Development Projects with Proposed Oak Canopy Removal

How to Calculate Oak Canopy Mitigation

All development projects removing oak trees that meet the determination below must mitigate all oak trees removed, by: retaining and replacing oak trees; or obtaining an off-site conservation easement; or payment into the Conservation Fund (per El Dorado County Oak Woodland Management Plan [OWMP]¹ and Chapter 17.73 of the El Dorado County Zoning Code²) in compliance with State law (PRC 21083.4³).

Determination if Oak Canopy Protection Applies

1. *Is the project a development project?* Development is any structure to be built that requires a building permit; or, any grading activity that requires a grading permit. This includes, for example, typical building permit requests such as building a home, granny flat, pool, or commercial building, and includes disturbance of a project site for the purpose of constructing the following, but is not limited to:
 - a. Roads, driveways, and access drives;
 - b. Graded areas for building sites, parking lots, and other improvements requiring a building permit;
 - c. Septic systems and leach fields; and
 - d. Areas of oak tree removal necessary to comply with fire safe standards for ***new*** construction.
2. *Does the project impact, or remove, oak woodland?*
3. *Does the parcel meet the following criteria?*
 - a. Less than or equal to one acre with at least 10% total oak woodland canopy cover; or
 - b. Greater than one acre with at least 1% oak woodland canopy cover.
4. *Does the project qualify for any of the following exemptions?*
 - a. **Agricultural cultivation** – which is the removal of oaks for the purposes of producing or processing plant and animal products or the preparation of land for this purpose; or

¹ The OWMP is available for purchase at the Planning Services counter or is available for free at: <http://www.edcgov.us/Planning/OakWoodlandsAdoptedMay2008.html> .

² The Oak Woodland Conservation Ordinance is available at: http://www.edcgov.us/Planning/ZoningOrdinanceUpdated/Chapter17-73_03252009.pdf .

³ Public Resources Code 21083.4 (Oak Woodland Conservation), available at: <http://info.sen.ca.gov/cgi-bin/displaycode?section=prc&group=21001-22000&file=21080-21098> .

- b. **Defensible Space / Fire Safe Measures** – This is the 100-foot area around an ***existing*** structure, or to the property line, whichever is closer. This exemption also includes fuel modification actions, inside and outside of the 100-foot defensible space zone. Examples of fuel modification actions are actions to ensure the safety of emergency fire equipment and personnel; to allow evacuation of civilians; to provide a point of attack or defense for firefighters during a wildland fire; to prevent the movement of a wildfire from a structure to the vegetated landscape; and/or the maintenance or creation of fuel breaks for fire safety, where no grading permit or building permit is applicable.

If the answers to questions 1-3 is yes and 4 is no, then the OWMP applies and oak canopy mitigation is required.

Calculating the Required Oak Canopy Retention Amount

Mitigation is required for *all* development projects removing oak canopy. Only calculate oak tree canopy removed; do not count other types of trees found in oak woodland. If the project does not remove oaks in excess of oak canopy cover to be retained in the Table 1 thresholds, below, then mitigation is at a 1:1 ratio. If the project removes oaks in excess of the amount allowed in the Table 1 thresholds, then the square footage amount removed that falls within the standards is mitigated at a 1:1 ratio, and the square footage removed in excess of the standards is mitigated at a 2:1 ratio.

Table 1. General Plan Policy 7.4.4.4 Oak Canopy Retention Requirements	
<i>Percent Existing Canopy Cover</i>	<i>Canopy Cover to be Retained</i>
80 – 100	60% of existing canopy
60 – 79	70% of existing canopy
40 – 59	80% of existing canopy
20 – 39	85% of existing canopy
10 – 19	90% of existing canopy
1 – 9 for parcels less than 1 acre	90% of existing canopy

- Determine the amount of oak canopy, in square footage, to be removed. Determine the amount of oak canopy, in square footage, to be retained. This calculation should be supplied by the applicant or her/his agent. The use of aerial photography or a ground survey by a qualified biologist, ISA Certified Arborist, or Registered Professional Forester may be used to determine canopy cover.
- Determine the percent of oak canopy on the parcel using the following formula:
Total sq. ft. of Oak Canopy ÷ Total sq. ft. of Parcel = Percent of Oak Canopy on Parcel. Use this number to establish the percent of oak canopy cover required to be retained, according to Table 1.
- Determine the percentage of canopy cover to be retained using the following formula: **Total sq. ft. of Oaks to be Retained ÷ Total sq. ft. of Oak Canopy = Percent of Oak Canopy to be Retained**
- Determine the percentage of canopy cover to be removed using the following formula: **Total sq. ft. of Oaks to be Removed ÷ Total sq. ft. of Oak Canopy = Percent of Oak Canopy to be Removed**
- Determine whether the amount of oak canopy removal meets and does not exceed the standards/thresholds in Table 1, above:

- a. If the oak canopy percentage amount retained is at or below the threshold in Table 1, then the applicant can either: replant acorns or oak seedlings or obtain an off-site conservation easement (Option A); or, pay the Oak Woodland Conservation Fee (Option B). The Conservation Fee is calculated on a 1:1 basis of oak canopy removed. Replanting or purchase of an off-site conservation easement is calculated on a 1:1 basis of oak canopy removed to area mitigated (i.e., remove 10,000 sq. ft. oak canopy, replant or purchase a conservation easement of 10,000 sq. ft. oak canopy).
- b. If the percentage of oak canopy removed exceeds the threshold in Table 1, then that portion in excess of the threshold shall be mitigated at a 2:1 basis (i.e., if the excess is 4,000 sq. ft oak canopy removed, then the portion of excess is mitigated by replanting or purchasing a conservation easement of 8,000 sq. ft oak canopy. The fee is doubled if paying into the Conservation Fund).

Replanting or Conservation Easements (Option A)

An applicant may choose to replant acorns or oak saplings on their property (on-site retention and replacement). Replacement planting plans shall be prepared by a qualified professional and include the provisions contained in Section 2.D and Appendix D of the OWMP. Qualified professionals include ISA-certified arborists, Registered Professional Foresters, and qualified biologists. A conservation easement covering the area of replacement planting must be granted to the County.

Additionally, an applicant may choose to mitigate off-site by acquiring a conservation easement from a willing seller for an area equal to the required replacement area of removed oak canopy, in an area within the Priority Conservation Area (PCA) or other area acceptable to the County. The off-site conservation easement area must meet the County's specifications. The management and monitoring fee shall apply. See the OWMP for more details.

The applicant may also choose to do a combination of on-site replanting, off-site conservation easement, and payment of a fee into the Conservation Fund, provided the total equals the full mitigation requirement for the project.

Calculating the Oak Woodland Conservation Fee Amount

If the applicant chooses to mitigate oak canopy removal by paying a fee to the Oak Woodland Conservation Fund, it is calculated as follows:

1. Meeting Oak Canopy Cover Retention Standards. If the oak canopy area removed is within the threshold in Table 1, and is calculated at a 1:1 basis, use the following formula: **Total sq. ft. of Oak Canopy Removed ÷ 43,560 x \$4,700 = Conservation Fee Amount for 1:1 Mitigation.**
2. In Excess of Oak Canopy Cover Retention Standards. For the oak canopy area removed that exceeds the threshold in Table 1, it is calculated at a 2:1 basis, using the following formula: **Total sq. ft. of Oak Canopy Removed in Excess of Standards ÷ 43,560 x \$4,700 x 2 = Conservation Fee Amount for 2:1 Mitigation.**

Examples:a. Meeting Oak Canopy Cover Retention Standards

Total sq. ft. of parcel: 217,800
 Total sq. ft. of oak canopy: 185,130
 Sq. ft of oak canopy to be removed: 3,900

Percent of existing oak canopy on the parcel is 85% ($185,130 \div 217,800$); therefore, 60% of the oak canopy must be retained (up to 40% may be removed), per Table 1.

Percent of oak canopy removed is 2% ($3,900 \div 185,130$); which is within the Table 1 standards/threshold, and therefore mitigation is at a 1:1 ratio.

Mitigation may take the form of replanting 3,900 sq. ft. of acorns or oak saplings as described in the OWMP and per a qualified professional's replacement planting plan; or, purchase of a 3,900 sq. ft. conservation easement acceptable to the County (and payment of a Management and Monitoring fee); or, payment of a fee into the Conservation Fund as follows:

$$3,900 \div 43,560 \times \$4,700 = \boxed{\$421 \text{ Total Conservation Fund Fee}}$$

b. In Excess of Oak Canopy Cover Retention Standards:

Total sq. ft. of parcel: 80,000
 Total sq. ft. of oak canopy: 9,600
 Sq. ft of oak canopy to be removed: 6,240

Percent of existing oak canopy on the parcel is 12% ($9,600 \div 80,000$); therefore, 90% of the oak canopy must be retained (up to 10% may be removed), per Table 1.

Percent of oak canopy removed is 65% ($6,240 \div 9,600$); which exceeds the Table 1 standards/threshold by 55%.

Calculate the 10% of oak canopy removed at a 1:1 mitigation ratio:

$$9,600 \times .10 = \mathbf{960 \text{ sq. ft. at 1:1 Mitigation Ratio}}$$

Calculate the 55% of oak canopy removed at a 2:1 mitigation ratio:

$$9,600 \times .55 = \mathbf{5,280 \text{ sq. ft. at 2:1 Mitigation Ratio}}$$

Verify your calculations:

$$960 + 5,280 = 6,240 \text{ sq. ft. of oak canopy to be removed } \checkmark$$

Final Calculations:

$$\begin{aligned} 960 \div 43,560 \times \$4,700 &= \mathbf{\$104 \text{ at 1:1 Mitigation Ratio}} \\ 5,280 \div 43,560 \times \$4,700 \times 2 &= \mathbf{\$1,139 \text{ at 2:1 Mitigation Ratio}} \\ \$104 + \$1,139 &= \boxed{\mathbf{\$1,243 \text{ Total Oak Conservation Fund Fee}}} \end{aligned}$$