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owmp

To Board of Supervisors County of El Dorado

Item 27

From Supervisor James R. "Jack" Sweeney

October 2, 2007

re: Oak Woodlands

Attached herewith is a proposed revision to the first seven sections of the document provided to us for the September 25, 2007 meeting as Item 41. I believe this revision more realistically meets the desires of our Board and fulfills the requirements of the General Plan.

It is obvious that this proposed alternative is not yet complete. More time is needed to complete the analysis of sections VIII, IX, & X. Also there is a need to analyze the appendix to the original document.

I propose that we refer this partial alternative and the previously adopted map to the staff and direct them to start the effort on bringing back to this Board, via the Planning Commission, an ordinance implementing this plan and the appropriate CEQA document (hopefully a categorical exemption or a negative declaration). I would propose to return to the Board on either October 16 or 23 with the remainder of the proposed alternate.

A major component of the rest of the analysis will be the way to calculate the fee in Option B.

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I. Purpose and Goals

The Purpose of this Oak Woodland Management Plan (OWMP) is to outline the County's strategy for conservation of its valuable oak resources. Through the OWMP, the County intends to identify areas where conservation easements may be acquired from willing sellers as a means to offset and mitigate the loss or fragmentation of oak woodlands in other areas as a result of implementation of the 2004 El Dorado County General Plan (General Plan). Additionally, this OWMP will provide guidance for voluntary conservation and management efforts by landowners and land managers.

Loss and fragmentation of wildlife habitat, including oaks and oak woodlands, was identified in the 2004 General Plan Environmental Impact Report (EIR) as a significant impact that would result from development under the General Plan. The County identified several mitigation measures which would reduce the severity of these impacts, although not to below a level of significance. These mitigation measures included Policies 7.4.4.4, 7.4.4.5 and 7.4.5.2, and the related implementation Measure CO-P.

Measure CO-P directs the County to develop and adopt an Oak Resources Management Plan which addresses the following:

- Mitigation standards outlined in Policy 7.4.4.4;
- Thresholds of significance for the loss of oak woodlands;
- Requirements for tree surveys and mitigation plans for discretionary projects;
- Replanting and replacement standards;
- Heritage/landmark tree protection standards; and
- An Oak Tree Preservation ordinance as outlined in Policy 7.4.5.2.

Policy 7.4.4.4 applies to all new development projects (not including agricultural cultivation/operations and actions pursuant to a County-approved Fire Safe Plan necessary to protect existing structures, both of which are exempt) that would result in soil disturbance (see Appendix F for complete policy). Under this policy, the County shall require one of two mitigation options. Option A applies oak tree canopy retention standards and requires replacement with oak woodland at a 1:1 ratio. Option B contains no minimum oak tree canopy retention standard, but allows a project applicant to pay an in-lieu fee, at a 2:1 mitigation ratio (based on canopy removed), toward the Integrated Natural Resources Management Plan (INRMP) conservation fund described in Policy 7.4.2.8. Option A of Policy 7.4.4.4 is the only form of mitigation available to applicants until such time as this plan is adopted by the County. Upon adoption of this OWMP, the full range of mitigation alternatives described herein will be available, including Option B.

At the state level, the Oak Woodlands Conservation Act of 2001 recognizes the importance of private land stewardship in conserving oak woodlands. The legislation established the California Oak Woodlands Conservation Program (COWCP), the mission of which is to "conserve the integrity and diversity of oak woodlands across California's working landscapes through

incentives and education. The COWCP provides technical and financial incentives to private landowners to protect and promote biologically functional oak woodlands.

This OWMP serves multiple purposes. It defines the County's conservation strategy for oak resources. It also complies with Measure CO-P, and constitutes the oak portion of the County's INRMP. Finally, it will establish a plan for voluntary conservation that landowners, the County, and others can use to seek grants and cost-sharing from State/Federal programs for oak woodland conservation in El Dorado County.

A. OWMP Goals

The OWMP goals are guided by General Plan Objective 7.4.4: Forest and Oak Woodland Resources. "Protect and conserve forest and woodland resources for their wildlife habitat, recreation, water production, domestic livestock grazing, production of a sustainable flow of wood products and aesthetic values."

The following goals are set forth by this OWMP:

- Identify Priority Conservation Areas (PCA's) within large expanses of contiguous oak woodland habitat where conservation easements may be acquired by the County or by private landowners or developers as direct mitigation, to offset the anticipated effects of increased habitat loss and fragmentation elsewhere;
- Encourage voluntary conservation and management of oak woodlands, including sustainable ranching and farming operations within working landscapes;
- Acquire conservation easements or other interests in land only from willing sellers or donors;
- Focus conservation easement acquisitions within areas not currently fragmented and which are unlikely to become fragmented through implementation of the General Plan;
- Provide flexibility through a range of alternatives for mitigation;
- Encourage conservation of contiguous oak woodlands;
- When weighing acquisition opportunities for conservation easements, generally maintain the relative acreages of all five oak woodland California Wildlife Habitat Relationship (CWHR) types (VOW, BOW, BOP, MHW, and MHC), but emphasize conservation of Valley Oak Woodlands, considered a "special status species" due to its relative rarity in the county;
- Establish an Option B fee that is sufficient to fully fund the mitigation program.

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II. Natural Resource and Economic Values of Oak Woodlands

The purpose of this section is to introduce the reader to the ecosystem value of oak woodlands. Oak woodlands and their natural resource values are discussed in more detail in Appendices G and H. Mapping of oak woodlands and conservation areas is presented in Section IV and Appendix J. The planning area covered by the OWMP is bordered by the County's administrative boundary to the north, west, and south and ending at the 4,000 foot elevation to the east.

A. Oak Woodlands

The term "oak woodland" is defined in the Oak Woodland Conservation Act [PRC §21083.4, Fish and Game Code §1361] as an oak stand with greater than 10 percent canopy cover or that may have historically supported greater than 10 percent canopy cover. The General Plan uses the term "oak woodland" interchangeably and in the same context as "oak canopy". This OWMP clarifies the County's intent and definition of these terms in Section XV.

Five main oak woodland types are identified within the planning area: Blue Oak Woodland (BOW), Blue Oak-Foothill Pine (BOP), Valley Oak Woodland (VOW), Montane Hardwood (MHW), and Montane hardwood-conifer (MHC). A sixth type, Valley Foothill Riparian (VRI), has a limited distribution in the County. These types are part of the CWHR classification scheme (Mayer and Laudenslayer 1988) and were analyzed in the General Plan EIR (EDAW, 2003). The oak woodland types are dominated by one or more of five main native oak tree species: blue oak (*Quercus douglasii*), valley oak (*Quercus lobata*), California black oak (*Quercus kelloggii*), interior live oak (*Quercus wislizeni*), and canyon live oak (*Quercus chrysolepis*).

Montane hardwood is the most represented oak woodland type throughout the planning area. Blue oak woodland, blue oak-foothill pine, and valley oak woodland tend to be more prevalent below 2,000 feet. Montane hardwood-conifer becomes more prevalent above 2,000 feet and transitions to conifer-dominated types. The oak woodland types are described in greater detail in Appendix G under the Oak Woodland Habitats subsection.

Oak woodlands are comprised of a variety of tree species. Non-oak tree species include foothill pine, knob cone pine, California buckeye, ponderosa pine, Douglas fir, big leaf maple, Pacific madrone, and Pacific dogwood. The shrub component can be sparse to dense depending on site conditions. The components and structure of the oak woodlands contribute to the natural resource values discussed below and in Appendix H.

B. Natural Resource Values

Oak woodlands provide many natural resource values. These values extend to wildlife uses and ecosystem functions. Conversion and fragmentation of oak woodlands results in loss of oak woodland or degradation of the remaining oak woodland.

In California, over 300 species of birds, mammals, reptiles, and amphibians, 5,000 insect species, and 2,000 plant species occur in oak woodlands. Oak woodlands with more complex understories

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(e.g., tree under story, shrubs, herbaceous vegetation, downed woody material) provide habitat for a greater variety of species. Wildlife use pine nuts, berries, and seeds for food. Shrubs provide cover for more species. A diverse structure provides reproductive sites for diverse wildlife.

Oak woodlands contribute to the health of watersheds and help to maintain the quality of our water supplies. Oak woodlands improve soil structure, increase infiltration rates, reduce soil erosion and sedimentation, and enhance nutrient cycling and soil fertility. Appendix H provides a fuller description of natural resource values of oak woodlands.

C. Potential Threats to Oaks and Oak Woodland Habitat

Factors affecting oaks and oak woodland in El Dorado County are addressed in Appendices G & H. Potential threats include uncontrolled wildfire (often the consequence of extended fire suppression), which can result in the sudden and unpredictable loss of significant amounts of oak woodland habitat. New residential and commercial development will result in the loss of oak canopy and the fragmentation of additional oak woodlands within the developed areas. Agricultural cultivation, such as expansion of vineyards, would also result in the conversion of oak woodlands to other uses. Poor recruitment rates or lack of regeneration, particularly among valley oaks and blue oaks may adversely affect the long-term viability of those woodlands. Finally, although Sudden-Oak Death (caused by the fungus *phytophthora ramorum*) has not occurred in the County, it has had devastating consequences in oak woodland habitats in affected areas.

D. Economic Value of Oak Woodlands

Oak woodlands in El Dorado County provide economic value to landowners and the community at large. In addition to providing a source for firewood and other wood products, oak woodlands support important economic activities, such as grazing and recreation, enhance land values, and play a critical role in the healthy functioning of aquatic and terrestrial ecosystems throughout the County. Economic values associated with these functions are described in more detail in Appendix H.

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III. Economic Values of Oak Woodlands

[Note: This section has been combined with Section II.]

IV. Mapping of Oak Woodlands

[Note: This entire section should be moved to Appendix J]

To establish an effective oak woodland program that fulfills the 2004 General Plan policies for mitigation and conservation purposes, locations need to be identified that meet the Goals presented in Section I of this plan. Areas for conservation should possess the characteristics described in Section II (Natural Resource Values of Oak Woodlands). Furthermore, to develop an Option B fee, the potential locations suitable for conservation lands need to be known in order to estimate the costs of acquisition.

From the goals and objectives listed in Section I, this OWMP analyzed oak woodlands by:

- 1) using the best geographic information on oak woodlands currently available for the planning area,
- 2) considering oak woodland evaluation criteria based on the adopted 2004 General Plan policies, and
- 3) completing a mapping process that is objective, replicable, and supportable for the intended purpose of identifying oak woodlands eligible to receive priority for mitigation and conservation purposes of this OWMP.

The County mapping process concluded by identifying the PCAs shown in Figure - [New Map]_. The mapping was conducted in these general phases:

- Phase 1 (Identifying and Mapping Oak Woodland Resources) – First, an initial inventory of all oak woodlands in the planning area was conducted (Figure IV-1). Following completion of this initial inventory and mapping, resource mapping criteria were considered, selected, and applied. Large expanses of oak woodlands equal to, or greater than, 500 acres were identified.
- Phase 2 (Prioritizing Conservation Areas) – Applying parcel size information to the Phase I results and land use designations from the 2004 General Plan, these large expanses were narrowed to those lands where: 1) oak woodland would not likely undergo substantial fragmentation, and 2) oak woodland conservation would be largely consistent with the 2004 General Plan land use designations. These large expanses are classified as PCAs.

Figure S-1 is the result of dozens of mapping exercises and criteria. Overall, the approach was to start with the resource (oak woodlands) and then identify which areas would be most consistent with the policies and land use designations of the 2004 General Plan. The mapping is based on Geographic Information System (GIS) data available from State and County sources in the ESRI Arc Map environment. The data, processes, and many intermediate maps that led to Figure ___ are described below and more fully in Appendix J.

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A. Mapping/OWMP Study Boundary

The OWMP study area boundary is western El Dorado County below 4000 foot elevation. The County boundary shape file was acquired from El Dorado County GIS. Elevation data was acquired from the USGS 30m Digital Elevation Model that was also supplied by the County GIS department. The County polygon was then clipped with the 4000foot contour to produce the OWMP boundary layer.

B. Mapping Databases

The existing vegetation coverage is a mosaic of the USDA Forest Service (USFS) Remote Sensing Lab's (RSL) existing vegetation data (CALVEG) Tiles 19, 20, and 21. Information on the data can be found at: <http://www.fs.fed.us/r5/rs/clearinghouse/gettiles.shtml>. This data was chosen as it has the highest resolution of any existing vegetation data that covered the entire OWMP study area. The tiles were merged and then clipped with the OWMP boundary layer to create vegetation coverage of the entire OWMP area.

Community Centers, Rural Regions, parcels, land use, and street centerlines are taken from the El Dorado County GIS department. The USFS boundary is from the USFS Pacific Southwest Region GIS Clearinghouse. The water bodies and hydrology layer is from the California Spatial Information Library (CaSIL).

C. Oak Woodland Resources

Figure IV1 (FRAP CWHR Oak Woodland Types) displays a selection of the mosaic vegetation data that were determined to be "Oak Woodlands". This was achieved by a simple selection from RSL vegetation data where WHRTYPE = BOP, BOW, VOW, MHW, and MHC. VRI is not included as it does not appear in the data set for this region. The selected polygons were then exported as a new "Oak Woodlands" layer. Acreages were calculated and summarized for all CWHR types.

The oak woodlands shown in Figure IV-1 are based on 2002 data and are the same oak woodlands analyzed in the 2004 General Plan EIR. The acreages for each oak woodland type are shown on Figure IV-1 and in Table S1.

D. Large Expanses of Oak Woodland

Large Expanses of Oak Woodland were created by dissolving the Oak Woodlands layer that removed boundaries between contiguous polygons. An acreage calculation was applied to the new aggregate polygons and a selection of all polygons > 500 acres was made. This selection was then exported to "Large Expanse of Oak Woodland" layer.

Large expanses of oak woodlands represent one of the criteria for developing the INRMP under Policy 7.4.2.8. This first step is considered a resource based approach to begin identifying areas that could be considered a priority for conservation or mitigation.

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E. Mapping of Priority Conservation Areas

Several early attempts were made to create a PCA map. Models were used to narrow oak woodlands to those areas that would receive an increased conservation emphasis. Appendix J describes the modeling and mapping processes in greater detail.

As the mapping progressed, an increasing effort was made to narrow PCAs to those areas that are most consistent with the 2004 General Plan land use designations. Because the General Plan concentrates land development within the Community Regions and Rural Centers (CR/RC) where oak woodland impacts and fragmentation are most likely, potential PCA designations were removed from these areas. The distribution of PCAs with CR/RC was then reviewed. For public discussion and planning consideration, the Important Biological Corridors (IBC) layer was added to this map to assess the geographic relationship of IBCs to PCAs.

A subsequent mapping iteration of PCAs was developed by County staff and presented at the June 25, 2007 Board of Supervisors workshop on the status of the OWMP mapping. For this particular map, additional PCAs were removed where the 2004 General Plan designates Low Density Residential (LDR) land use.

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V. Mitigation Standards for the Loss of Oak Woodlands

El Dorado County's 2004 General Plan identifies mitigation standards and requirements for projects that remove oak woodlands. This OWMP provides a comprehensive approach for project level oak woodland mitigation and simultaneously identifies 'landscape level' conservation goals. Subsequent to adoption of the County's General Plan, statewide requirements for evaluation and mitigation of impacts to oak woodlands have also been established. This section reviews both the State and County level requirements for oak woodland mitigation standards.

A. California Oak Woodlands Conservation Law Requirements

In September, 2004, after the County's General Plan was adopted, the state Public Resources Code was amended to require a county to determine (as part of its CEQA review) whether a project may result in conversion of oak woodlands that will have a significant effect on the environment (PRC 21083.4, the California Oak Woodlands Conservation Act). If it determines that a project may have a significant effect, a county shall require one or more oak woodland mitigation alternatives "to mitigate the significant effect of the conversion of oak woodlands." Alternatives include: 1) conserve oak woodlands, 2) plant an appropriate number of replacement trees and maintain those trees for seven years, 3) contribute to the Oak Woodlands Conservation Fund, or 4) other mitigation measures developed by the County. Plantings shall not fulfill more than one half of the mitigation requirements for a project. Where a county adopts, and a project incorporates, one or more of these mitigation measures, the project is deemed to be in compliance with CEQA as it relates to effects on oaks and oak woodlands.

The County's General Plan, and in particular Policy 7.4.4.4, incorporates a range of mitigation alternatives which conform to these requirements.

B. Policy 7.4.4.4 Mitigation Requirements

Mitigation standards under General Plan Policy 7.4.4.4 apply to new development projects (excluding agricultural cultivation/operations and actions pursuant to an approved Fire Safe Plan for existing structures) that will result in soil disturbance. The Policy 7.4.4.4 standards apply to parcels as follows:

- Less than or equal to one acre with at least 10% total canopy cover by oak woodland, or
- Greater than one acre with at least 1% oak tree canopy cover

One of two mitigation options, discussed below, shall be required:

Option A – adherence to oak canopy retention and replacement standards, or

Option B – contribution of an in lieu fee to the County's INRMP conservation fund.

If a project does not meet the oak tree canopy cover and parcel size requirements listed above, but has oak trees that will be removed, then the applicant shall adhere to the Oak Tree Preservation Ordinance (Appendix D).

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C. Mitigation Option A

Option A incorporates two components of the mitigation requirements identified under state law; onsite retention of substantial portions of existing canopy cover and replacement of woodland removed at a 1:1 ratio.

Retention: Under Option A, the County shall apply the following oak tree canopy retention standards:

Percent Existing Canopy Cover	Canopy Cover to be Retained
80 – 100	60% of existing canopy cover
60 – 79	70% of existing canopy cover
40 – 69	80% of existing canopy cover
20 – 39	85% of existing canopy cover
10 – 19	90% of existing canopy cover
1 – 9 for parcels > 1 acre	90% of existing canopy cover

Replacement. In addition to retention, Option A requires that removed oak canopy be replaced at a 1:1 ratio. The size of the designated replacement area shall equal the total area of the oak canopy cover proposed to be removed. For example, removal of 2 acres of oak woodland requires replacement of 2 acres of oak woodland; removal of 5,000 square feet of oak canopy requires replacement of 5,000 square feet of oak woodland.

Replacement objectives may be achieved, given County approval, by:

- 1) replacement planting onsite at a 1:1 land area ratio,
- 2) contributing to the County's INRMP fund at a 1:1 ratio, or
- 3) acquiring an offsite conservation easement on oak woodlands at a 1:1 ratio, or
- 4) placing a conservation easement on existing onsite oak woodland at a 1:1 ratio.

Subject to County approval, a combination of these four options may be used

Onsite mitigation

Replacement plantings may be accepted if adequate openings exist onsite and the replanting area likely would support oak woodland (e.g., soil type and general environment). The intent is not to remove existing natural habitats for plantings or to create a continuous canopy that would reduce wildlife value or contribute to increased fire hazard. Replacement plantings shall meet the County's replanting and replacement standards and is subject to County approval.

A recorded covenant (e.g., conservation easement or notice of restriction) shall be recorded on each property by the County, project applicant, or landowner for all replanting areas approved by the County as mitigation. (Refer to Section IX, Monitoring and Reporting, for more information on the recorded covenant.)

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D. Mitigation Option B

Option B does not require the retention of a minimum percentage of canopy onsite. This mitigation alternative is intended to preserve existing oak woodland of equal or greater biological value as those lost. To compensate for both habitat loss and fragmentation, the preservation mitigation ratio was set at 2:1 based on the acreage of oak canopy affected. For purposes of the fee program, the standard for offsite mitigation under Option B is payment of the fee at a ratio of 2:1. In other words, for each acre of oak canopy that is lost, the payment is the fee per acre multiplied by two. The Option B Fee Mitigation Method is presented in Section VIII and described in detail in Appendix B.

Alternatives to the Option B fee, including dedication of offsite conservation easements by a landowner/developer as direct mitigation at a 2:1 ratio, or dedication of onsite conservation easements at a 2:1 ratio, are considered the functional equivalent of the Option B in-lieu fee, and will be permitted.

E. Mitigation Program Flexibility

Mitigation options under Policy 7.4.4.4 are intended to be flexible and appropriate for the circumstances. Accordingly, mitigation programs may be comprised of one or a combination of the mitigation measures identified in this OWMP, including a mix of Option A and Option B.

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VI. Thresholds of Significance for the Loss of Oak Woodlands

Upon receipt of an application for a permit or other discretionary approval, the County is required to determine whether the project would potentially have a significant effect on the environment. If the County determines that the project could potentially have a significant effect, the County is required to conduct a CEQA review of the proposed project. This review will include potential effects to the oak woodland resources as addressed in this plan. Once the extent and severity of the impacts are determined, the mitigation standards of PRC 21083.4 and Policy 7.4.4.4 Option A and/or Option B will be applied as described in Section V. With respect to oaks and oak woodlands, compliance with this Oak Woodland Management Plan will constitute mitigation.

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VII. Mitigation Plans; Replanting and Replacement Standards

A. Mitigation Plans

Oak canopy replacement plans may be prepared by a qualified professional (such as a certified arborist, registered professional forester, certified rangeland manager, or biologist), but the standard of acceptance is that the replacement plan addresses the following.

- *Suitability of the replacement site for oak woodlands:* The suitability of the site for oak woodlands may be demonstrated with soil information, aerial photography, or other resources. Where oak woodlands currently exist at the site, it is conclusively presumed that the site is suitable for oak woodlands replacement.
- *The planting density is sufficient to replace the oak canopy removed:* The adequacy of the planting density may be demonstrated through academic literature, measurements of oak density, estimated sizes of mature oaks, or by other means. The County recognizes that it may take many decades for oaks to mature and replace both the quantity and ecological quality of canopy removed.
- *The species of oaks planted:* The suitability of the planted species for the replacement site may be demonstrated through existing site conditions, the biology of selected oaks, or by other means. It is recognized that the mix of replacement oaks may not equal the mix of oaks removed. The goal is a suitable mix of oaks for the conditions at the replacement site.
- *Source of acorns:* The source of acorns shall be addressed whether acorns or young trees are planted. The goal should be to use acorns from a source near the replacement site. It is recognized that a local source may not always be feasible.
- *Care of young oaks:* Items such as weed control, irrigation, herbivory/grazing protection, fertilization, and planting methods should be addressed with the goal of meeting the success criteria in mind. The prescribed care of young oaks will vary based on site-specific conditions.
- *Fire safety:* The replacement plan will address fire safety relative to existing and proposed structures. Issues such as defensible space, tree density, firebreaks, surrounding land use and/or terrain, and other considerations may be discussed. While the risk of wildfire may always be present, advance planning may reduce the risk to structures.
- *Quantifiable success criteria:* The replacement plan shall identify quantifiable success criteria.
- *Monitoring methods:* The replacement plan shall identify the term, frequency, and methods of monitoring, as well as contingencies or alternatives if the success criteria are not met at the end of the monitoring term. The monitoring term shall be seven years (CA PRC 21083.4).

B. Resources

The following resources may be helpful in developing a tree replacement plan:

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- Guidelines for Maintenance, Restoration, and Rehabilitation of Oak Woodlands and How to Grow California Oaks (Appendix H; McCreary 1995)
- The UC Cooperative Extension or County Agriculture Department can provide information to assist re-vegetation and restoration activities. Section XI.D (Sources of Information for Landowners) provides contact information for these and other sources of information.
- Guidelines for defensible space (State Board of Forestry and Fire Protection 2006)
- Wildfire protection plan guidebook (Katelman et al. 2007)
- Fire Safe Council of El Dorado County website (<http://www.edcfiresafe.org>)

C. Replanting and Replacement Standards

Policy 7.4.4.4 Option A addresses oak woodland retention and replacement. Policy 7.4.4.4 Option B is a fee-based mitigation option that includes a replacement component. The oak woodland replanting and replacement standards in this section apply to both options. The successful establishment of oaks may require substantial effort during the first years of growth.

Appendix L identifies the replanting and replacement standards. The standards in Appendix L shall be applied to replacement plans for specific projects and may need to be tailored and/or modified by a qualified professional as appropriate for site-specific conditions.



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IV. Mitigation Option B Fee Method

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[More information is needed]



IX. Monitoring and Reporting

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X. Administration of Oak Woodland Conservation Program

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