Tree Report: Impact of home remodel on one coast live oak

per City of Thousand Oaks Res No 2010014

Client:

M. Client & B. Client

Oak Court Newbury Park, CA

Consulting Arborist:

LA Johnny

John Burke 10880 Del Norte Street #27 Ventura, California 805-754-9393

April 21, 2015

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Summary

The new owners of 1 Oak Court (M. Client and B. Client) wish to remodel their single family

dwelling by adding 766 square feet to the existing 1933. The proposed remodel will encroach

slightly into the protected zone of one coast live oak growing on the adjacent lot at 2 Oak Court.

The owners believe this reasonable and conforming use of the property justifies the

encroachment into the protected zone of this oak tree. Guided by the City's protection ordinance

and working with their architect, the owners have made every effort to comply with the four

design constraints listed on page 13 of the guidelines.

The owners of both lots have agreed to cooperate in seeking a permit.

Encroachment into the protected zone should be at about 2% and cause no long-term problems.

Pruning to create clearance around the new roof will be minor involving only small branches and

less than 5 % of the canopy.

While the impact from construction will be minor and should not contribute to the decline of the

tree, I have concerns about some of the conditions around the tree. The tree has suffered some

canopy wide small twig dieback in the last few years. That dieback might be associated with

drought stress and opportunistic insects that have since moved on.

A few simple improvements should improve the tree's health and appearance and help it defend

against pathogens. See the Recommendation section of this report for details.

Pruning Specification were prepared and included as Appendix D.

The City of Thousand Oaks requires specific information to assist in their decision process. That

information is shown in the Tree Evaluation Form in Appendix B.

M. Client and B. Client

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Site Plan

For this report I used the Architects Site Plan sheet A1.0 dated 4/9/2015 prepared by Enclosures

Architects, Los Angeles (323-931-1851). I drew the canopy outline on top of that plan using the

surveyed location for the oak tree and the canopy dimensions from my notes. Refer to that

separate oversized sheet dated 4/21/2015, and titled Modified Architects Site Plan with Arborist

Canopy Details Added.

Introduction/Assignment

This report is required by the City of Thousand Oaks to comply with the Revised Oak Tree

Perservation (sic) and Protection Guidelines, Resolution No 2010014, dated February 23 2010.

This report is part of an effort by the owners to remodel an existing single family home at 228

Mayfield Court in Thousand Oaks, California. The tree trunk is growing on the adjacent lot at 220

Mayfield Court. It is just inches from the property line and the canopy extends over the property

line.

The owners of the lot at 1 Oak Ct. (Client and Client) contacted the owner of lot 2. The house at

2 is rented and the owner lives in Orange County. That owner gave written permission for me to

examine the tree and map the canopy.

Furthermore, the owners of both lots agreed to cooperate to request a permit to encroach into

the protected zone of this tree to allow for the remodel of the house at 1 Oak Court.

I was retained to prepare this report and other arborist documents needed to request a tree

encroachment permit. I was to examine the tree's health, growing conditions and the impact of

the proposed project, if any, on this protected oak tree.

I believe a type "C" permit applies to this case.

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The City requires specific information in this report to aid in their decision making process. That

information is detailed in the Tree Evaluation Form. That form and the information it requires is

included as Appendix B to this report. Check the table of contents for exact page.

Observations

General Observations

Assessment observations were made on March 4, 2015 and the details are recorded in Appendix

B the Tree Evaluation Form as required by the City guidelines.

I also observed this tree briefly on 12/9/14 and took photos, two of which are shown in Appendix

C Tree Photos

Only one tree a coast live oak is the subject of this report. This tree stands separately. There are

no trees touching its canopy.

Given that this tree grows on such a short slope between to graded house pads I assume the tree

came after the lots were graded about fifty years ago.

Encroachment Observations

I used a 100' tape and strings to stake out the outline of the proposed addition. I used the gross

outside dimensions for my lines and stakes. (See Figure 1 Spatial Study Plan View) I used a tape

to measure the eight compass points required to plot the canopy on the site plan.

In the field it looked like one corner of the roof would pierce the canopy of the oak. I staked the

walls themselves aware that the roof had a two foot overhang. I knew I would need to use CAD

to do a spatial analysis of that corner to see how much the roofline might protrude into the

canopy given a 5 foot clearance setback from the new roof.

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I recorded the dimension on a field map to later transfer to site plan in AutoCAD. I also sketched

the general outline for help replicating the shape in CAD.

I could see that any pruning needed for clearance would involve only small branches under 2 inch

diameter at the largest but mostly 1-1/2 inch or less. The foliage in the area being affected came

almost exclusively from one scaffold branch. At the edge of the canopy that branch gets about

ten feet wide and it is pretty dense.

Tree Health and Growing Conditions Observations

It looks like the tree has been pruned over the years probably for clearance since it grows over

the driveways of both lots. There are a few decaying branch stubs about 4 inch diameter and 3

to 4 feet long. Pruning has distorted the inner canopy a little and created some patches of very

dense growth.

The tree is pushing out vigorous spring growth but there are a lot of dead twigs in the canopy

indicating it may have been struggling in the past few seasons. That canopy wide dieback might

be drought stress or some natural pest that has since moved on.

Analysis

Encroachment Analysis

I used AutoCAD to analyze and quantify the impact of the remodeled home on the tree protected

zone.

The architect's site plan is based on the survey prepared by Aablers & Associates in January of

this year, 2015. I believe the architect's site plan A1.0 dated 4/09/15 accurately shows the

location of the oak tree and its location in relation to the existing structure and the proposed

remodel.

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I staked the outside limits of the new slab to help me visualize the impact. I measured the eight

(8) octants of the canopy with a tape from trunk to canopy edge. I recorded both distance and

canopy height for all eight points. I also sketched the basic canopy outline.

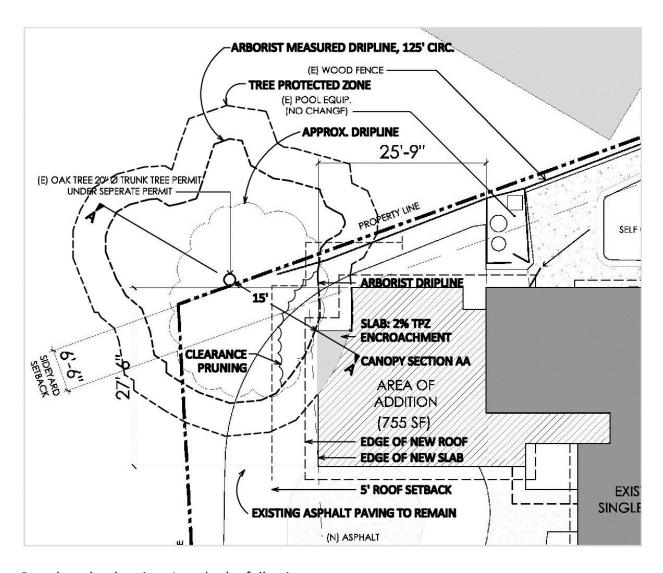
Back in the office I used CAD to overlay this more detailed outline of the canopy onto the

architect's site plan. With this information I did a spatial study in plan view and section to

measure the encroachment into the tree protected zone that would result from the proposed

site plan. Figure 1 Spatial Study Plan View shows how I did the measurements in CAD.

Figure 1 Spatial Study Plan View

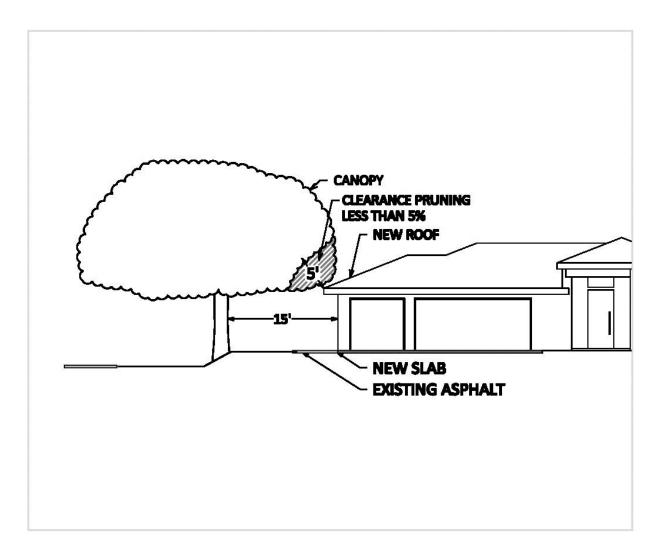


Based on the drawings I made the following measurements:

Tree protected Zone	1630 square feet
Excavation in protected zone	27 square feet about 2%
Drip line	125 feet long
Drip line penetration by roof	4 feet or 3%
Drip line penetration by clearance pruning	12 feet or 10%



Figure 2 Spatial Study Section



Based on the drawings and onsite observations I estimate less than 5% of the foliage will be removed to allow for 5 feet of clearance around the roof corner that penetrates the canopy.

Conservation Suitability Worksheet

A Guide to Factor Affecting Tree Conservation

- 1 Root Cut/Fill Distance From Trunk:
- 2 Health (Condition Rating):
- 3 Defects (Risk Rating):
- 4 Construction Tolerance:
- 5 Age:
- 6 Location of Construction Activity:
- 7 Soil Tolerance:
- 8 Species Desirability:

Score each factor per the table below

		1	5	10	15	Max.
1	Cut/Fill	< 6"/1"	6-12"/1"	12-18"/1"	>18"/1"	15
2	Health	decline	5	10	vigorous	15
3	Defects	severe	high	mod	low	15
4	Tolerance	poor	moderate	mod/good	good	15
5	Age	over mature	mature	young		10
6	Location	within 3xDBH		>2x dripline		10
7	Soil	1		10		10
8	Desirability	Low		High		10
						100

Suitability Rating:

> 80 = Good 60-79 = Moderate < 59 = Poor

Actual results for oak tree #1

		1	5	10	15	#1
1	Cut/Fill	< 6"/1"	6-12"/1"	12-18"/1"	>18"/1"	5
2	Health	decline	5	10	vigorous	9
3	Defects	severe	high	mod	low	12
4	Tolerance	poor	moderate	mod/good	good	15
5	Age	over mature	mature	young		7
6	Location	within 3xDBH		>2x dripline		5
7	Soil	1		10		5
8	Desirability	Low		High		10
	,				60-79 = Moderate	68

This rating of Moderate means the tree will probably not decline as a result of the proposed construction but it will need to be managed carefully.



Discussion

General Discussion

According to the City of Thousand Oaks Landmark Trees and Preservation Title 5 Chapter 24 a

permit may be issued by the City to allow for encroachment into the protected zone of a tree to

"enable the reasonable and conforming use of the property" (Sec. 5-24.05). The owner believes

that the proposed house remodel satisfies these terms.

The Revised Oak Tree Perservation (Sic) and Protection Guidelines lists four constraints to be

complied with as conditions for issuing a permit. The constraints are listed in the "Design

Guidelines and Evaluation Criteria" on pages 13 and 14 of the guidelines. In general these four

directives require that the design minimize the impact on the trees when possible while still

allowing for reasonable and conforming use.

Encroachment Discussion

The closest point of demolition and excavation should be about 15 feet from the trunk and affect

about 1 to 2 percent of the tree protection zone. That area is covered with asphalt paving right

now which reduces moisture and air discouraging root growth so the loss of roots should be

almost negligible. The remaining asphalt will stay in place meaning changes in the root zone will

be minor based on the site plan.

One of the trees scaffold branches will need to be reduced in order to create a 5 foot clearance

between the canopy and the proposed new roof line. That will require redirecting that branch

growth up at a slightly steep enough angle to allow separation between the canopy and the roof.

To accomplish that separation the owner will need to remove some live branches less than 2

inches in diameter. The clearance pruning will initially create a dimple in the bowl shaped canopy.

M. Client and B. Client

LA Johnny

Pruning may remove up to 5% of the trees foliage. Over time branches may grow back into the

clearance area so the owner will need to monitor and periodically seek a permit to prune for

clearance.

Tree Health and Growing Conditions Discussion

Aside from some previous pruning damage, the tree is in good health. There is vigorous tip

growth and no obvious signs of pests or disease but there is a lot of dead wood in the canopy.

The dead are mostly twigs under ½" and they are dispersed throughout the canopy and present

on every scaffold branch.

The uniform canopy dieback may have been caused some natural pest perhaps aided by drought

stress. Removing the dead wood won't make the tree any healthier but it will allow the owners

to observe for future dieback should it occur.

The tree is planted in a 15' wide planter between the two asphalt driveways where it competes

with English ivy which is also growing up onto the trunk and into the crown of the tree. I didn't

see any indication of irrigation beneath the oak tree. The soil is bare, with no mulch.

The easiest and probably most important step to improve this tree's health would be to place a

thick layer of wood mulch in the planter below tree. Removing the English ivy is also critical to

the health of the tree. A 4-6 inch layer of mulch will cool the roots and reduce water loss. As

much as possible use the tree's own litter for mulch.

According to Ventura County Farm Advisor, Dr. Jim Downer, "Watering does not kill oak trees.

Summer watering can predispose oaks to various diseases, but only if a pathogen is present. In

drought years, summer watering can maintain health and vigor of oaks in landscapes."² (p. 2)

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In years of below normal rain fall it would be wise to give the tree a deep soaking once a month

during the summer. Slowly apply enough water to soak the root zone to 12 inches deep if

conditions and water use laws allow.

Taking those three steps: removing the vine, adding the mulch and soaking the roots as needed

should improve the health and appearance of the tree.

Conclusions

General Conclusions

I believe the owner's request for a permit does meet the protection ordinance criteria based on

the reasonable and conforming use clause. The design minimizes the impact on the oak tree.

Encroachment Conclusions

Root loss should be minimal and should not affect long-term health. Less than 2% of the Tree

Protected Zone will be affected.

The proposed new roof will just touch the canopy drip line at one corner but creating a 5 foot

clearance setback will require the loss of some small branches up to 2" diameter.

Tree Health and Growing Conditions Conclusions

The tree's health is average (or fair by ISA ratings) but it looks like something caused a lot of small

branches to die at some point in the past few years. Cleaning the deadwood from the canopy will

assist the owners in monitoring for future dieback if it should occur.

A few steps should be taken to improve the growing conditions including removing the vine

growing around and in the tree, adding a thick layer of mulch in the planter beneath the canopy,

and providing supplemental water this year and in future years when rainfall is below average.

Supplemental water should be in the form of a slow deep soaking once a month in the summer.

If convenient, chip the branches removed during pruning and add to the mulch layer. The

healthiest mulch for an oak is its own litter. Don't plant, irrigate or disturb the soil within 10 feet

of the trunk. Beyond 10 feet plant sparingly with low water use plants and don't use spray

irrigation within the trees protected zone. Give the tree at least a year to recover before planting

M. Client and B. Client

LA Johnny

anything. If plants are added in the future, refer to a reputable source like the Sunset Western

Garden Book for plants for beneath oaks. (Ninth edition p. 72)³

Recommendations

A permit should be issued based on the reasonable and conforming use clause

Prune to maintain health by cleaning the canopy of deadwood and rubbing branches as

described in the Pruning Specifications, Appendix D⁴.

Prune to provide 5' clearance to proposed roof while directing growth up as described in the

Pruning Specifications, Appendix D. Wait until the new roof is built to minimize branch loss.

Tie back the branches for clearance if needed during constitution.

Prune to provide 7'-6" clearance above the driveways as described in the Pruning

Specifications, Appendix D.

Remove the English ivy that is choking the oak tree.

Place a thick layer of mulch in the planter below the oak.

In years of below average rainfall provide the tree a deep soaking once a month in the

summer using a soaker hose or similar.

• Refrain from planting within 10 feet of the trunk.

Refrain from any new planting for one year.

Don't use spray irrigation under the oak canopy.

Monitor the tree for dying branches, defoliation and conks growing on the trunk. Consult with

a qualified arborist if symptoms occur.

Monitor the clearance area around the new garage roof and consult with a qualified arborist

if branches regrow into that area.

Certification

PREMISES: 2 and 1 Oak Court, Thousand Oaks, CA

I, John Burke, CERTIFY to the best of my knowledge and belief:

1. That the statements of fact contained in this plant appraisal are true and correct.

2. That the appraisal analysis, opinions, and conclusions are limited only by the reported assumptions and limiting conditions, and that they are my personal, unbiased

professional analysis, opinions and conclusions.

3. That I have no present of prospective interest in the plants that are the subject of this

appraisal, and that I have no personal interest or bias with respect to the parties involved.

4. That my compensation is not contingent upon predetermined value or direction in value

that favors the cause of the client, the amount of the value estimate, the attainment of a

stipulated result, or the occurrence of a subsequent event.

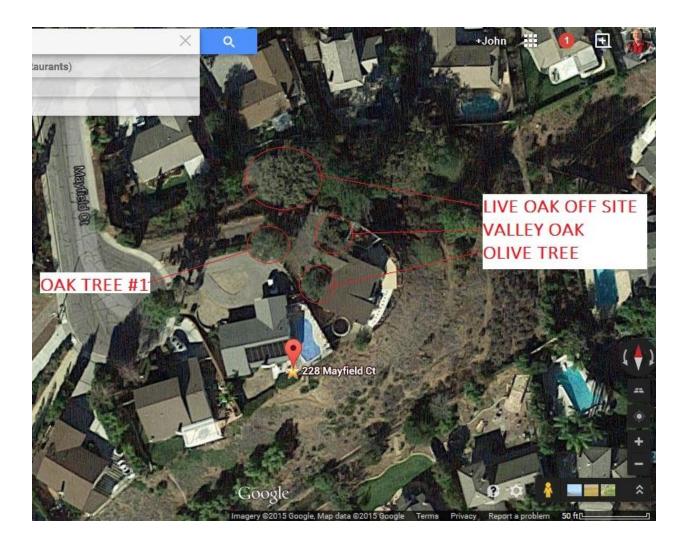
Date: 4/21/2015

John Burke

Landscape Architect 5251

ISA Certified Arborist WE-8327A

Appendix A: Arborist Tree Map



Appendix B: 2 Oak Tree Evaluation

2.1 Physical Evaluation

- a. Species and location of the tree: Quercus agrifolia (coast live oak)
- b. Diameter of trunk: 22" DBH (69" circ.)
- c. Diameter of canopy and accurate plotting of the protected zone and mean natural grade at base:
 Canopy approx. 40' diameter (see arborist site plan for details) on 1:2 slope at elevation
 786 per survey
- d. Height of tree: approximately 26'
- e. Existing tree environment including type of terrain:

 Grows on a short steep slope in a 15' wide planter between two asphalt driveways
- f. Physical structure, excessive horizontal branching, unbalanced crown, broken branches, etc and any mitigation measures necessary to correct any problem:

There are dead twigs throughout canopy and a few dead branches to 1" diameter and a few short dead branch stubs to 4". A few dead oak galls are the only signs of insect activity. Drought stress, competition from ivy and lack of mulch may explain dieback.

Mitigation should include removing the ivy, adding a thick 4 to 6 inch layer of mulch in the planter and providing supplemental summer water in drought years.

g. The minimum clearance from the present grade to the bottom of the canopy on each of the compass points

N	14'-7"clear	16' - 6" distance to trunk

See arborist site plan for graphic details.

h. Appearance rating on an AE scale based on the following system: C Average

A Outstanding

A healthy and vigorous tree characteristic of its species and free of any visible signs of disease or pest infestation

B Above Average

A healthy and vigorous tree However there are minor visible signs of disease and pest infestation

C Average

Although healthy in overall appearance there is a normal amount of disease and or pest infestation

D Below Average/Poor

This tree is characterized by exhibiting a greater degree of disease and/or pest infestation than normal and appears to be in a state of decline This tree also exhibits extensive signs of dieback

E Dead

This tree exhibits no signs of life whatsoever

Appendix B: Tree Evaluation Form

2.2 Horticultural Evaluation

Horticultural evaluation information required including but not limited to:

a. Physical evidence of disease exfoliation leaf scorch exudations etc:

There are dead twigs throughout canopy and a few dead branches to $1^{\prime\prime}$ diameter and a

few short dead branch stubs to 4".

b. Identification of pests twig girdler borers, termites pit scale plant parasites etc

A few dead oak galls are the only clear signs of insect activity.

c. Evaluation of trees vigor

new tip growth good/normal

good leaf color poor leaf color good/normal

abnormal bark good/normal

deadwood thinning of crown: density is OK but lots of dead twigs may indicate drought

stress and tough growing conditions.

and recommended mitigation measures necessary to correct any problems:

Remove vine that is growing around trunk and root crown

Remove dirt and debris around the root crown/trunk flare

Add a thick 4 to 6 inch layer of mulch in the planter. If possible use the oaks own

chipped dead wood at mulch.

Provide supplemental summer water in drought years, slowly soak the root zone to at

least 12 inches deep once a month in summer months when rainfall is below normal

averages.

M. Client and B. Client

LA Johnny

Appendix C Tree Photos

Photo 1



ABOVE: Looking north at the south side of oak tree #1.



ABOVE: Looking south at the north side of oak tree #1.



ABOVE: Looking east at the west side of oak tree #1.



ABOVE: Looking west at the east side of oak tree #1.



ABOVE: Looking west at the southeast side of the trunk of oak tree #1. Notice that the ivy groundcover is growing up the tree, the vines are woods to ½" diameter.

Appendix D: Pruning Specification

Appendix D: Pruning Specifications

Scope:

A permit must be issued by the City of Thousand Oaks before any pruning can be done to this protected

oak tree. One coast live oak (Quercus agrifolia) located at 220 Mayfield Court and growing onto lot 228

Mayfield Court. In addition to the permit the contractor must obtain permission from the owners of

both properties before performing the work specified below.

Objective:

Prune to maintain health by cleaning the canopy of deadwood and rubbing branches.

Prune to provide 5' clearance to proposed roof while directing growth up and 7'-6" clearance above the

driveways.

Procedures:

1. Wait until the new roof has been built to perform the clearance pruning. This should assist in

removing the least amount of living foliage to create clearance of 5' from the new roof.

2. Any low hanging branches can be tied back to create clearance during construction.

3. Remove dead or broken branches throughout canopy including those described in Key Notes A, B, C,

D and F on the following page.

4. Use reduction cuts to create clearance at the house roof. Remove the minimum needed to achieve

clearance while cutting the branch at a significant lateral. Reduction should be accomplished by

removing branches less than 2" diameter and less than 5% of the total living foliage.

5. Above the driveways, raise canopy to 7'-6" by removing downward growing branches 1" in diameter

and smaller.

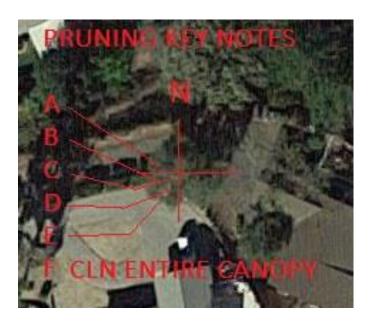
6. Tree workers shall observe for signs of pest and disease and report that to the owner.

7. Pruning cuts shall be in accordance with ANSI A300 pruning standard, and work shall be performed

in accordance with the ANSI Z133.1 safety standard. Pruning shall be in accordance with ISA's Best

Management Practices: Tree Pruning.

Tree 1- Image 1 Pruning Key Notes

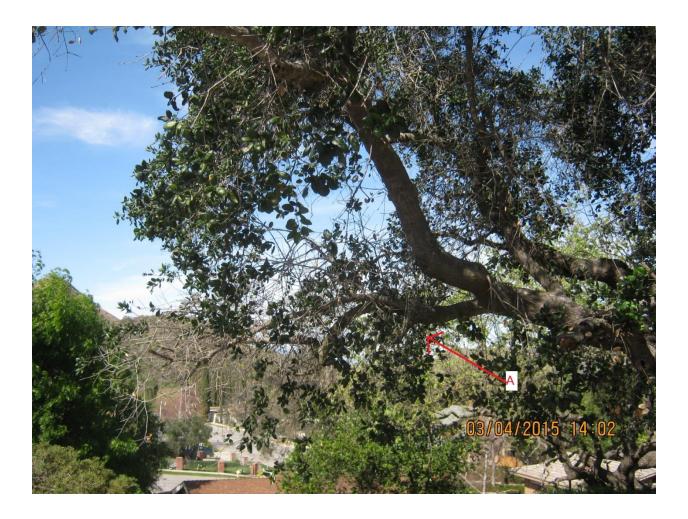


Above: looking at an aerial image of oak tree #1. Lines from the Pruning Key Notes point to the location within the canopy where the note applies. Locations are described by octant or eighths based on the eight compass locations used in this evaluation. Notes are described below:

- A. Remove dead branch (3-1/2" diameter) where it joins 6" branch in the W-NW octant
- B. Remove dead branch stub (3" diameter) in the W-SW octant
- C. Remove a 1" crossing branch originating near the center of the canopy in the W-SW octant and growing east
- D. Remove four (4) dead branch stubs growing from the same 8" scaffold branch.
- E. Reduce the canopy in this area to provide clearance for the proposed roof by five (5') feet. Nearly all the foliage to be reduced comes from the same 8" scaffold branch. Encourage branches that will grow to clear the proposed roof by 5'. To accomplish this clearance, do not remove any live branches over 2" diameter and do not remove more than 5 percent of the oaks total living foliage.
- F. Clean the canopy of all dead wood over 1" diameter and remove the vine that is growing on the tree.



Tree 1- Image 2 Key Note A



Key Note A: Remove dead branch (3-1/2" diameter) where it joins 6" branch in the W-NW octant

Tree 1- Image 3 Key Note B



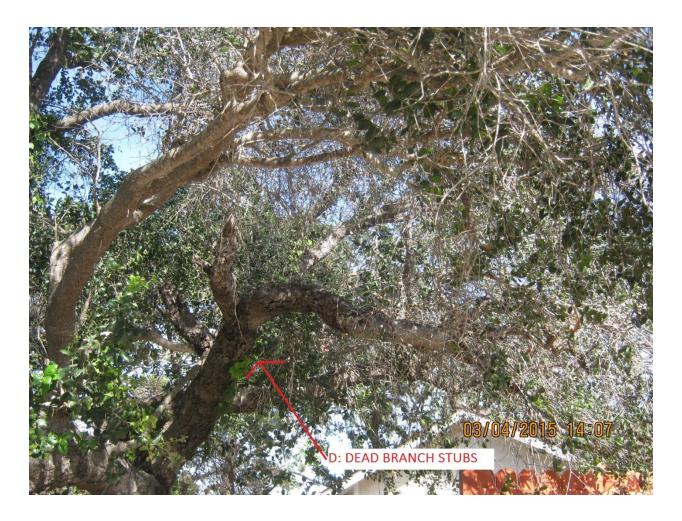
Key Note B: Remove dead branch stub (3" diameter) in the W-SW octant

Tree 1- Image 5 Key Note C



Key Note C: Remove a 1" crossing branch originating near the center of the canopy in the W-SW octant and growing east

Tree 1- Image 6 Key Note D



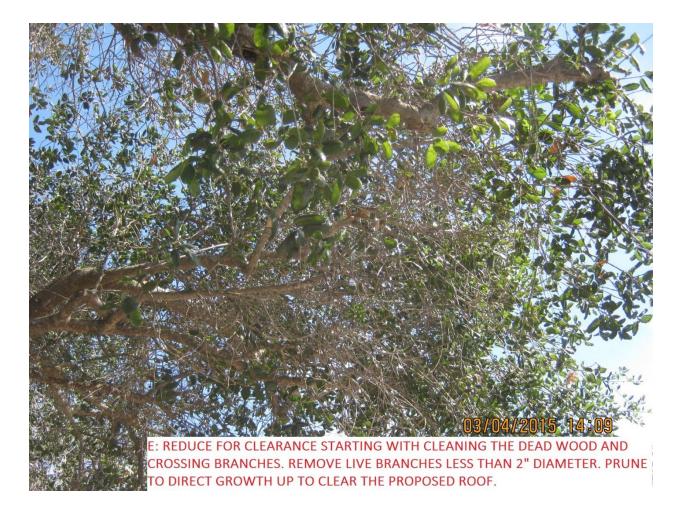
Key Note D: Remove four (4) dead branch stubs growing from the same 8" scaffold branch.

Tree 1- Image 7 Key Note E



Key Note E: Reduce the canopy in this area to provide clearance for the proposed roof by five (5') feet. Nearly all the foliage to be reduced comes from the same 8" scaffold branch. Encourage branches that will grow to clear the proposed roof by 5'. To accomplish this clearance, do not remove any live branches over 2" diameter and do not remove more than 5 percent of the oaks total living foliage.

Tree 1- Image 8 Key Note E



Key Note E: Reduce the canopy in this area to provide clearance for the proposed roof by five (5') feet. Nearly all the foliage to be reduced comes from the same 8" scaffold branch. Encourage branches that will grow to clear the proposed roof by 5'. To accomplish this clearance, do not remove any live branches over 2" diameter and do not remove more than 5 percent of the oaks total living foliage.

Tree 1- Image 9 Key Note F



Above: looking east at oak tree #1.

Key Note F: Clean the canopy of all dead wood over 1" diameter and remove the vine that is growing on the tree. Note> roof line was based on an earlier design, actual roof eve is lower. See Figure 2 Section AA.

JUSTIFICATION STATEMENT

All applications of an Oak/Landmark Tree Permit require a written statement by the applicant indicating

the reason(s) why the request should be approved. The Community Development Department will base its

decision on the applicant's ability to make the findings required by the Ordinance and the Tree Preservation

Guidelines. (See Section 5-14.01 of the Thousand Oaks Municipal Code and Section IV of the Oak Tree

Preservation and Protection Guidelines).

This statement was prepared by the oak tree consultant, John Burke in cooperation with the

owners.

The new owners of 1 Oak Court (M. Client and B. Client) wish to remodel their single family

dwelling by adding 755 square feet to the existing 1933. The proposed remodel will encroach

slightly into the protected zone of one coast live oak growing on the adjacent lot at 2 Oak Court.

The owners believe this reasonable and conforming use of the property justifies the

encroachment into the protected zone of this oak tree. Guided by the City's protection ordinance

and working with their architect, the owners have made every effort to comply with the four

design constraints listed on page 13 of the guidelines.

Encroachment into the protected zone should be about 2% and cause no long-term problems.

Pruning to create clearance around the new roof will be minor involving only small branches and

Date: 4/21/2015

less than 5 % of the canopy.

John Burke

Landscape Architect 5251, ISA Certified Arborist WE-8327A

M. Client and B. Client

LA Johnny

Endnotes

¹ Fite, Kelby and Thomas Smiley, Best Management Practices: Managing Trees During Construction, International Society of Arboriculture, 2008, Champaign. Page 8.

² Downer, James. "Diagnosing Your Oak Tree," Landscape Notes, Vol. 19, No. 4. 12/14/06.

³ Sunset Western Garden Book, ninth edition, 2012 New York, NY

⁴ Gilman, Edward and Sharon Lilly, Best Management Practices: Tree Pruning, International Society of Arboriculture, 2008.