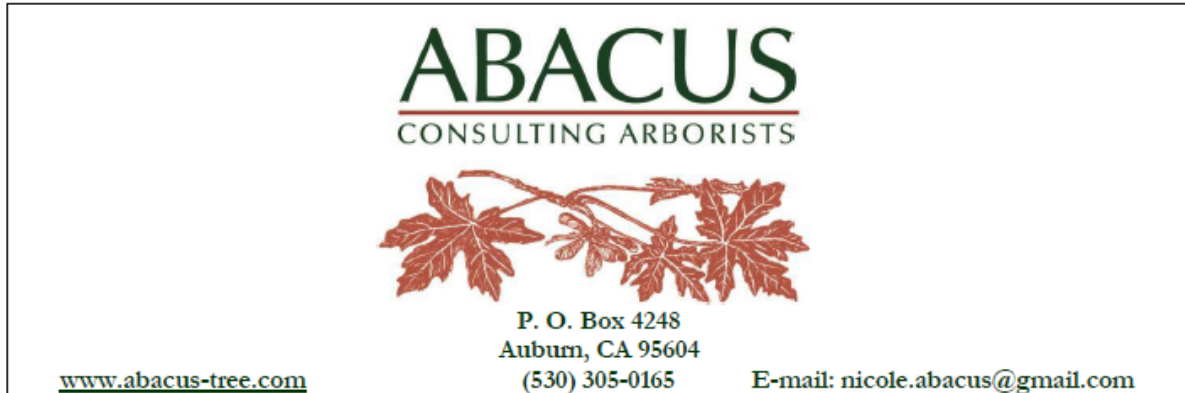


# APPENDIX G



# **Arborist Report** & **Tree Inventory**

Prepared at the request of:

Omni Means, Inc.

For

Proposed Sierra Gateway Apartments

In

Rocklin, California

**Nicole Harrison**

*International Society of Arboriculture, Certified Arborist #WE-6500.AM, TRAQ*

October 19, 2016

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**Executive Summary:**

Scott Robertson of Omni Means contacted **ABACUS** to inventory and evaluate the protected trees and produce an Arborist Report as the end product. The property is located at the south east corner of Rocklin Blvd and Sierra College Blvd. in Rocklin, California. The project is known as Sierra Gateway Apartments.

Nicole Harrison, ISA Certified Arborist #WE-6500AM, of **ABACUS** was on site October 22nd, 2015 through November 9<sup>th</sup>, 2015, and September 6<sup>th</sup>, 2016, providing species identification, number of trunks, measurements of DBH and canopy, field condition notes, recommended actions, and ratings.

There are **368** trees on this property that qualify as “protected trees” by the standards of the Rocklin Oak Tree Preservation Guidelines. 311 of the protected trees are located on the main parcel on the southeast corner of Rocklin Road and Sierra College Boulevard. 56 protected trees are located on the panhandle property to the south of Water Lily Lane along Sierra College Boulevard.

	Main Parcel to the North	Panhandle Property to the South
Total Protected Tree Count:	312	56
Protected Trees Rated 0 (Dead)	4	1
Protected Trees Rated 1 (Dangerous/Not Correctible)	109	24
Protected Trees Rated 2 (Poor)	109	13
Protected Trees Rated 3 or 4 (Fair to Good)	89	18
Protected Trees Rated 5 (Excellent)	1	0

There are 5 additional trees of unprotected species which were included in the survey and on the map. These trees are also marked onsite.

	Main Parcel to the North	Panhandle Property to the South
Total Other Tree Count (Unprotected Species):	4	1

There are 12 additional trees (protected and unprotected) off-site that will potentially be impacted by the development of this parcel. These trees are included on the map and marked onsite.

	Main Parcel to the North	Panhandle Property to the South
Total Off-Site Tree Count:	10	2
Total Off-Site Protected Trees:	10	2

There are **385** total trees inventoried including unprotected species and offsite trees.

Species Diversity onsite is as follows:

	Main Parcel to the North	Panhandle Property to the South
Blue Oak	49	4
Interior Live Oak	262	48
Valley Oak	1	4
Oracle Oak	1	0
Western Cottonwood	0	1
Grey Pine	1	0
Landscape Species	3	0

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### **Assignment:**

Pursuant to your request, **ABACUS** has completed an inventory of all the trees located on-site. We provided species identification, number of stems, measurements of DBH and canopy, field condition notes, recommended actions, and ratings

### **Observations:**

Nicole Harrison, *Project Manager & ISA Certified Arborist #WE-6500AM*, Michael McNamara and Nicholas McNamara, Arborist Asssistants, tagged and evaluated all the protected trees that met the requirements of the Rocklin Tree Ordinance. The fieldwork was performed on October 22nd, 2015 through November 9<sup>th</sup>, 2015.



The protected trees (on-site) tagged by **ABACUS** have a numbered tag, placed on each one that is 1-1/8" x 1-3/8", green anodized aluminum, "acorn" shaped, and labeled: **ABACUS**, Auburn, CA with 1/8" pre-stamped tree number, our phone number 530-889-0603, attached with a natural colored aluminum 10d (3") nail, installed at 6 feet above ground level on the north side of the tree. The tag should last ~10 – 20+ years depending on the species, before it is enveloped by the trees' normal growth cycle.

The trees, for purpose of discussion within this report, have been tagged and labeled by number on the Tree Site Map within this report. Tree Site Map is by Omni-Means. All of the other information within this report is by **ABACUS**. Tree locations were verified on-site by **ABACUS**.

**Chart B** in this report is an inventory on the trees. The following terms, and **Chart A** will further explain our findings on **Chart B** and the trees in question.

**Species** of trees is listed by our local and correct common name and botanical name by genus (capitalized) and species (lower case). Oaks frequently cross-pollinate and hybridize, but the identification is towards the strongest characteristics.

**# Stems** refers to the quantity of trunks or stems of a tree that have a significant connection. If one stem or trunk were to be removed, it would cause decay to harm an adjoining stem, making it one tree. All stems must be of the same species. (Also see "Tree SIZE Expressed by Trunk Diameter" at the end of this report)

**DBH** (diameter breast high) is normally measured at 4'6" (above the average ground height for "Urban Forestry"), but if that varies then the location where it is measured is noted here. A Swedish caliper<sup>1</sup> was used to measure the DBH for trees less than 26" in diameter and a steel diameter tape<sup>2</sup> for trees greater than 26"Ø.

**Canopy** is the farthest extent of the crown composed of leaves and small twigs. This measurement further defines the Critical Root Zone (CRZ) or Protection Zone (PZ), which is a circular area around a tree with a radius equal to a tree's largest dripline plus 1'. Our canopy measurement is the longest dripline measurement from the center point of the tree and includes the 1' only on the Tree Site Map.

**Rating** is subjective to condition and is based on both the health and structure of the tree. All of the trees were rated for condition, per the recognized national standard as set up by the Council of Tree and Landscape Appraisers and the International Society of Arboriculture (ISA) on a numeric scale of 5 (being the highest) to 0 (the worst condition, dead) as in Chart A. The

<sup>1</sup>A large wooden sliding adjustable thickness gauge calibrated in 1/16" increments.

<sup>2</sup>Diameter Tape is used to figure the tree's diameter, by measuring the circumference, whereon the inches are pre-multiplied by 3.14 or π (π called pi) and shown to produce the diameter of the tree directly on the tape.

ABACUS: Nicole Harrison, *Project Manager & ISA Certified Arborist #WE-6500A*

October 19, 2016

rating was done in the field at the time of the measuring and inspection. The scale is as follows:

**Chart A – Ratings Description**

Industry Standard Ratings		Numerical Rating	City of Rocklin Ratings	
No problem(s)	excellent	5	Healthy	
No apparent problem(s)	good	4	Healthy	
Minor problem(s)	fair	3	Healthy	
Major problem(s)	poor	2	Diseased and/or Dying	Category 2
Extreme problem(s)	hazardous/unhealthy	1	Diseased and/or Dying	Category 1
Dead	dead	0	Dead	

There is a very important line drawn between a tree rated a 3 and a 2. A tree rated 3, 4, or 5 is a tree to be preserved, and a tree rated 0, 1, or 2 is recommended for removal. On the following tree list **BLACK** marks are field notes and action items on trees that are to remain, and **RED** are trees that are recommended for removal, and **VIOLET** refers to trees that considered 'Heritage Trees'. **Trees rated a 2 may be retained but only if the recommendations are followed, otherwise the tree should be removed.**

Rating #0: This indicates a tree that has no significant sign of life.

Rating #1: Diseased or Dying – Category 1. The problems are extreme. This rating is assigned to a tree that has structural and/or health problems that no amount of work or effort can change. The issues may or may not be considered a dangerous situation.

Rating #2: Diseased or Dying – Category 2. The tree has major problems (structural and/or health) but could be considered for preservation for a limited time dependent on the proposed site development plan. If consider for preservation, the condition of the tree could be improved with correct arboricultural work including, but not limited to: pruning, cabling, bracing, bolting, guying, spraying, mistletoe removal, vertical mulching, fertilization, etc. If no action is taken, the tree is considered a liability and should be removed. These trees have a very limited future but can play a vital role in some situations, such as during establishment of a new landscape or during the nesting season.

Rating #3: The tree is in fair condition. There are some minor structural or health problems that pose no immediate danger. When the recommended actions in an arborist report are completed correctly the defect(s) can be minimized or eliminated.

Rating #4: The tree is in good condition and there are no apparent problems that a Certified Arborist can see from a visual ground inspection. If potential structural or health problems are tended to at this stage future hazard can be reduced and more serious health problems can be averted.

Rating #5: No problems found from a visual ground inspection. Structurally, these trees have properly spaced branches and near perfect characteristics for the species. Highly rated trees are not common in natural or developed landscapes. No tree is ever perfect especially with the unpredictability of nature, but with this highest rating, the condition should be considered excellent.

**Notes:** explain why the tree should be removed or preserved. If it is to remain and be preserved the tree may need some form of work to limit future liability from partial or total failure. Lower deadwood may not be an immediate problem, but the same size wood at a much higher location on the trees could be dangerous and might cause a minor injury to a fatal blow if the branch failed.

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### Abbreviation key and terms:

**CDL: Co-Dominant Leader:** Stems or trunks of the tree that are equal in size and relative importance.

**CRZ: Critical Root Zone:** The canopy is the farthest extent of the crown composed of leaves and small twigs. This measurement further defines the CRZ, which is a circular area around a protected tree with a radius equal to a tree's largest dripline radius. The roots of a tree grow minimally within this canopy measurement and have been found growing 2 to 3 times beyond the farthest branches.

**IB: Included Bark:** A sharp "V" crotch, usually less than a 45° angle of attachment, between 2 branches where the bark is kept between two narrowly joined branches and the bark is continually turned inward, rather than being pushed out. It is a common point for potential massive structural failure and this hazard can be minimized with properly installed and maintained cabling, bolting or bracing.

**BMT: Broadleaf Mistletoe** infested tree.

**EG: Epicormic Growth:** Shoots that arise from latent buds along the trees trunk or mature branches. This growth is usually a sign that the tree has undergone a stressful period.

**LTD: Limb Tip Dieback:** Generally associated with drought, the tips of scaffold limbs have died.

**NABA: Narrow Angle Branch Attachment:** A sharp "V" crotch, usually less than a 45° angle of attachment. Included bark is explained above and is common in branches with narrow attachments. In addition, these branches may not be attached to the trunk as well as others with wider angles of attachment, and can fail more frequently depending on the size of the branch.

**PS: Poor Structure:** These trees have grown with structural imperfections that cannot be corrected and therefore render them hazardous and more likely to fail in the future.

**RDW: Remove Dead Wood:** All dead wood to be removed over 3" in diameter and if over 2" in diameter when above 25', as this is a potential hazard for people under these limbs and a future health problem for the tree.

**RBMT: Remove Broadleaf Mistletoe:** Broadleaf mistletoe, *Phoradendron villosum*, is an evergreen parasitic that grows on many hardwood trees and is spread most commonly by birds excreting the living seeds onto woody branches where they germinate. It is important to stop the spread by correctly removing the mistletoe plant by either pruning off the branch it lives on (if small enough) or by removing its light source and killing the parasite. Pruning: remove the branch at least 12" below the point of attachment to the next lateral using an approved thinning-type cut. Light exclusion: remove the mistletoe to flush with limb or trunk where it is attached and wrap the limb/trunk with 2-3 layers 6 mil polyethylene plastic 8" above and below the point of attachment. Tape it with a few wraps of electrical tape to keep all light out to kill the mistletoe, remove in 2-3 years.

**TBR: To Be Removed:** Tree to be removed due to health and/or structural reasons. Removal should be done carefully as to not harm the surrounding trees, branches, and/or trunks above or roots below ground. Do NOT rip out or push over the tree stumps if they are near other trees that are to be preserved. Cut them off close to ground level and leave the stumps and roots to decay, unless they are located within a proposed foundation or area to be paved/concrete surfaced.

**UC: Unbalanced Canopy:** Either the trunk is leaning and/or the canopy is phototropic and overly heavy on one side.

**Compass Points:** These are the standard 16 points of the compass as aligned with Geographic North or True North. In our area, True North (TN) is adjusted for declination 14°49' to the west of Magnetic North (MN).

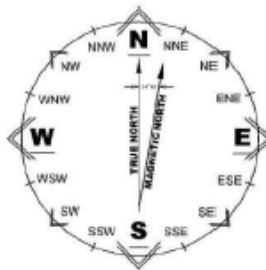




Chart B

Map Tree #	Site Tag #	Common Name	Botanical Name	Canopy '	DBH	Notes	Action	Rating
1	996	Interior Live Oak	Quercus wislizenii	35'	43 @ 2'	10' failure stub	To be Removed	1
2	997	Interior Live Oak	Quercus wislizenii	34'	9"-12"-22"-21"-16"-15"	IB, Stem on WSW, W&N trunk decay, WSW stem split & down, old prune on ESE stem with decay, has MT, hangers, canopy leans to S, ants, borer holes.	Remove south stem with conk and top failure, add 1 cable for north west co-dominant leader at 10', re-inspect annually	2
3		Interior Live Oak	Quercus wislizenii	30'		Dead	To be Removed	0
4	998	Interior Live Oak	Quercus wislizenii	24'	9	Too much decay	To be Removed	1
5	4002	Interior Live Oak	Quercus wislizenii	20'	12	Decay at base, sparse canopy, needs corrective pruning	Prune to balance, Re-inspect in 3 years	3
6	4001	Interior Live Oak	Quercus wislizenii	25'	12	Top failure, large deadwood	To be Removed	1
10	999	Interior Live Oak	Quercus wislizenii	30'	5"-5"-5"-9"-7"-9"	Poor structure - understory, too much decay	To be Removed	1
11	995	Interior Live Oak	Quercus wislizenii	25'	14	Included bark at 7', decay at base in old pruning cut	Remove dead wood, crown clean, prune to balance, re-inspect in 3 years	3
12	1000	Interior Live Oak	Quercus wislizenii	34'	15, 16, 12	BMT, included bark, decay at crotch at base	To be Removed	2
13	4003	Interior Live Oak	Quercus wislizenii	30'	15, 13, 7	Decay at base	Re-inspect in 3 years	3
14	NT	Interior Live Oak	Quercus wislizenii	30'	12	Suppressed, poor structure	To be Removed	2
15	NT	Interior Live Oak	Quercus wislizenii	30'	10	Suppressed, poor structure	To be Removed	1
16	NT	Interior Live Oak	Quercus wislizenii	25'	6	Poor structure	To be Removed	1
19	NT	Interior Live Oak	Quercus wislizenii	~	8	Top failure	To be Removed	1
20	NT	Interior Live Oak	Quercus wislizenii	32'	13	Top failure	To be Removed	1
22	NT	Interior Live Oak	Quercus wislizenii	30'	5	Poor structure, too small	Remove dead wood	2
23	NT	Interior Live Oak	Quercus wislizenii		8, 12	Poor structure	To be Removed	1
26	4004	Blue Oak	Quercus douglasii	24'	10	Needs corrective pruning	If to remain: remove dead stem	2

Map Tree #	Site Tag #	Common Name	Botanical Name	Canopy '	DBH	Notes	Action	Rating
27	4006	Interior Live Oak	Quercus wislizenii	36'	17, 19, 11, 22, 10, 10, 11, 18	17-19 Co-dominant leaders split, 11" stem suppressed, poor structure, cable for included bark	Remove the 17-19 stem with the split, add cable, re-inspect in 3 years	2
28	4005	Blue Oak	Quercus douglasii	17'	9	Suppressed by tree #27	Remove dead wood, remove NE stem, remove berries	3
29	NT	Interior Live Oak	Quercus wislizenii	20'	14, 12, 11	Suppressed by tree #27	Remove dead wood, remove vines, re-inspect in 3 years	3
30	4010	Interior Live Oak	Quercus wislizenii	15'	12, 7, 5	7" stem has too much decay, narrow angles thru out canopy	Remove west stem, crown clean	3
31	4011	Interior Live Oak	Quercus wislizenii	16'	12 @ 2'	Pleached to 7" stem of tree #30, broadleaf mistletoe	remove mistletoe	3
32	4012	Interior Live Oak	Quercus wislizenii	17'	11	Trunk & canopy leans to S.	~	3
33	4013	Interior Live Oak	Quercus wislizenii	17'	18 @ 1', 12	Decay under base, canopy to the ground	Prune to balance, Remove dead wood	2
34	4013	Interior Live Oak	Quercus wislizenii	30'	10	Poor structure, attached to tree #33	Thin crown, re-inspect in 3 years, will need structure support	2
35	4014	Interior Live Oak	Quercus wislizenii	26'	12, 8, 7	Narrow angle branch attachment, decay at crotch	NCP, prune to balance	2
36	4015	Interior Live Oak	Quercus wislizenii	25'	6, 12	Understory, poor structure	Remove dead wood, remove mistletoe, lowest branch to SE	2
37	4016	Interior Live Oak	Quercus wislizenii	15'	14	Wrapped in poison oak, decay under base	Remove dead wood	2
38	4017	Interior Live Oak	Quercus wislizenii	27'	13, 12, 9, 10	Co-dominant leader at 1', cavity under base	Remove dead wood, End weight reduction	2
39	4018	Interior Live Oak	Quercus wislizenii	30'	9, 10, 5, 8, 11, 4	Suppressed, poor structure, needs corrective pruning, decay under base. 2015 rating changed from 2 to 1 in 2016.	NCP, Remove dead wood	1
40	4008	Interior Live Oak	Quercus wislizenii	31'	18"-7"-6"-6"	Co-dominant leader at 6', included bark, 3 smaller stems have poor structure	Remove dead wood, remove 3 smaller stems, re-inspect in 3 years	3
42	4020	Interior Live Oak	Quercus wislizenii	~	10"-9"	Tag to south, wrapped in poison oak, too much decay	To be Removed	1
43	4021	Interior Live Oak	Quercus wislizenii	~	12"	Too much decay, poor structure, suppressed	To be Removed	1
45	4031	Interior Live Oak	Quercus wislizenii	19'	14	Decay under base	If to remain: Re-inspect in 3 years	2
46	4030	Interior Live Oak	Quercus wislizenii	~	9	Mostly dead	To be Removed	1
47	4032	Interior Live Oak	Quercus wislizenii	27'	13	Too much decay	If to remain: Re-inspect in 3 years	2
48	4028	Interior Live Oak	Quercus wislizenii	~	8, 18	Poor structure, lean and unbalanced canopy to south, 9" stem failed. Rating changed in 2016 from 2 to 1.	If to remain: Remove dead wood, prune to balance, Re-inspect in 3 years	1

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Map Tree #	Site Tag #	Common Name	Botanical Name	Canopy '	DBH	Notes	Action	Rating
49	4029	Interior Live Oak	Quercus wislizenii	~	14	Too much decay @ base, 7" stem failed at 3'	To be Removed	1
50	990	Interior Live Oak	Quercus wislizenii	~	7	Failed at base	To be Removed	1
51	989	Interior Live Oak	Quercus wislizenii	28'	18	Stub at base to south	Remove dead wood, remove WSW limb	3
52	991	Interior Live Oak	Quercus wislizenii	31'	11	Poor structure	To be Removed	2
53	992	Valley Oak	Quercus lobata	37'	25	Nice tree, should be protected and saved.	Remove dead wood	5
54	994	Interior Live Oak	Quercus wislizenii	~	14	Severe decay at base and lean	To be Removed	1
55	993	Interior Live Oak	Quercus wislizenii	32'	17, 20, 21	Canopy to the ground, low prostrate limbs, imbedded fence wire	Remove dead wood, add cable, re-inspect in 3 years, lighten canopy	3
57	988	Interior Live Oak	Quercus wislizenii	33'	16	Decay, included bark, hit by fallen tree	To be Removed, if to stay, needs designed support	1
58	987	Interior Live Oak	Quercus wislizenii	33'	18, 18, 11	2 stems have poor structure, west stem has bird hole, co-dominant leader failure	To be Removed	1
59	986	Interior Live Oak	Quercus wislizenii	~	9, 8, 8, 10	Poor structure, top failure, decay pocket in main stem	To be Removed	1
60	985	Interior Live Oak	Quercus wislizenii	~	8, 7	Too much decay, 7" stem dead. Dead in 2016. Rating changed from 1 to 0 Dead.	To be Removed	0
61	984	Interior Live Oak	Quercus wislizenii	27'	12	Too much decay under base	To be Removed	1
62	4076	Interior Live Oak	Quercus wislizenii	27'	16, 18, 14	Included bark	Remove dead wood, add 3 cable, re-inspect in 3 years	3
63	4023	Interior Live Oak	Quercus wislizenii	~	17 @ 6'	Too much decay	To be Removed	1
64	4024	Interior Live Oak	Quercus wislizenii	~	10	~	Remove dead wood	3
65	4022	Interior Live Oak	Quercus wislizenii	~	14 @ 2'	Too much decay	To be Removed	1
66	4036	Interior Live Oak	Quercus wislizenii	~	14	Sparse canopy, closing wounds	Remove dead wood, re-inspect in 3 years	2
67	4037	Interior Live Oak	Quercus wislizenii	~	18	Decay at old pruning cut, epicormic growth, decay at base	To be Removed	1
68	4038	Interior Live Oak	Quercus wislizenii	13'	8	Co-dominant leader at 6' with included bark	~	3
69	4039	Blue Oak	Quercus douglasii	13'	12	Co-dominant leader at 10' with included bark, closing mechanical damage wound at 1' - 3', too much decay at CDL	To be Removed	2
70	4040	Interior Live Oak	Quercus wislizenii		7, 9, 10	Too much decay at base, 2 smaller dead stems	To be Removed	1
71	4042	Interior Live Oak	Quercus	23'	15	Sparse canopy, grafting to #389	Remove dead wood	4

ABACUS: Nicole Harrison, Project Manager & ISA Certified Arborist #WE-6500A

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Map Tree #	Site Tag #	Common Name	Botanical Name	Canopy '	DBH	Notes	Action	Rating
			wislizenii					
72	4043	Interior Live Oak	Quercus wislizenii	23'	7, 4, 7, 7, 7, 9, 8, 9, 5, 6	Too much decay in most stems. 2015 rating changed from 2 to 1 in 2016	To be Removed	1
73	4047	Interior Live Oak	Quercus wislizenii	~	11, 9	Too much decay, poor structure	To be Removed	1
74	4046	Interior Live Oak	Quercus wislizenii	~	10, 5, 6	Too much decay. 2015 rating changed from 2 to 1 in 2016.	To be Removed	1
75	4044	Interior Live Oak	Quercus wislizenii	27'	16	Decay under base, good vigor	If to remain: Remove dead wood, re-inspect in 3 years	2
76	4025	Interior Live Oak	Quercus wislizenii	15'	10	~	Remove dead wood	4
77	4026	Interior Live Oak	Quercus wislizenii	29'	8, 7, 5, 12, 12	Decay under base, 6" stem is dead and failed, unbalanced canopy to south west. 2015 rating changed from 2 to 1 in 2016.	Remove poison oak and re-evaluate	1
78	4027	Blue Oak	Quercus douglasii	23'	10	Poor structure, dogleg, horizontal fractures	Remove dead wood, reduce weight by 30%, re-inspect in 3 years	2
79	4077	Interior Live Oak	Quercus wislizenii	~	9 @ 2'	Poor structure, too much decay under base	To be Removed	1
80	983	Blue Oak	Quercus douglasii	22'	12	Sparse canopy, epicormic growth, co-dominant leader at base removed	If to remain: Re-inspect in 3 years	2
81	982	Interior Live Oak	Quercus wislizenii	~	14, 14, 8	Poor structure, unbalanced canopy to southwest, decay under base	To be Removed	1
82	960	Interior Live Oak	Quercus wislizenii	~	14, 11, 16	Growing together with tree #388	To be Removed	1
83	958	Interior Live Oak	Quercus wislizenii	~	10	Dangerous, too much decay, poor structure.	To be Removed	1
84	957	Blue Oak	Quercus douglasii	11'	8	Unbalanced canopy	Remove dead wood	3
85	956	Interior Live Oak	Quercus wislizenii	15'	10	Too much decay at base	To be Removed	1
86	955	Interior Live Oak	Quercus wislizenii	~	10	Poor structure, too much decay	To be Removed	1
87	954	Interior Live Oak	Quercus wislizenii	29'	17	Decay at base	Remove dead wood, re-inspect in 3 years	3
88	953	Interior Live Oak	Quercus wislizenii	~	8	Too much decay	To be Removed	1
89	950	Interior Live Oak	Quercus wislizenii	24'	8, 6	Too much decay, poor structure	To be Removed	1
90	949	Interior Live Oak	Quercus wislizenii	32'	18, 11	11" stem has too much decay, 2015 rating of 2 changed to 1 in 2016	If to remain: remove smaller stem, re-inspect in 3 years	1
91	948	Interior Live Oak	Quercus wislizenii	29'	14	Poor structure, large dead wood	If to remain: end-weight reduction, prune to balance, re-	2

Map Tree #	Site Tag #	Common Name	Botanical Name	Canopy <sup>1</sup>	DBH	Notes	Action	Rating
							inspect in 3 years	
92	947	Interior Live Oak	Quercus wislizenii	34'	8, 10, 6	Too much decay in most stems. 2015 rating changed from 2 to 1 in 2016	To be removed	1
93		Interior Live Oak	Quercus wislizenii	~	12	Standing Dead	To be Removed	0
94	945	Interior Live Oak	Quercus wislizenii	26'	13, 12, 12	Poor structure, too much decay at base	To be Removed	2
95	951	Interior Live Oak	Quercus wislizenii	17'	11, 6	~	~	4
96	952	Interior Live Oak	Quercus wislizenii	~	34	Top failure, too much decay	To be Removed	1
97	937	Interior Live Oak	Quercus wislizenii	30'	21	Too much decay	To be Removed	2
98	946	Interior Live Oak	Quercus wislizenii	29'	12	Poor structure, one remaining stem has too much decay	To be Removed	1
100	968	Interior Live Oak	Quercus wislizenii	21'	9, 8	Poor structure	If to remain: Re-inspect in 3 years	2
101	966	Blue Oak	Quercus douglasii	29'	16, 12	Sparse canopy, included bark	Re-inspect in 3 years, need future cabling	3
102	967	Interior Live Oak	Quercus wislizenii	~	10	Poor structure, too much decay at base	To be Removed	1
103	964	Interior Live Oak	Quercus wislizenii	24'	14, 9, 10	Sparse canopy, old stem removed on W, slight decay @ base in center.	Prune to balance, Remove dead wood	3
104	962	Interior Live Oak	Quercus wislizenii	~	6	Suppressed, poor structure	Prune to balance	2
105	965	Interior Live Oak	Quercus wislizenii	25'	10, 6, 7	Decay under base, 5" stem is dead	Remove dead wood, prune to balance, Re-inspect in 3 years	2
106	961	Interior Live Oak	Quercus wislizenii	~	7	Old stem removed @ base on N, many small branch wounds up trunk, trunk & canopy lean to N, decay @ base on W.	Prune to balance	3
107	963	Interior Live Oak	Quercus wislizenii	~	14, 14	Too much decay	To be Removed	1
109	981	Interior Live Oak	Quercus wislizenii	23'	17	Decay pocket at base to East. 2015 rating of 3 changed to 1 in 2016. Note: root decay, heart rot, large dead wood	Remove dead wood, Re-inspect in 3 years	1
110		Interior Live Oak	Quercus wislizenii	29'	10, 7, 8	Included bark, poor structure, too much decay	To be Removed	2
111	979	Interior Live Oak	Quercus wislizenii	~	8	Suppressed, poor structure, 6" stem is dead. Rating changed from 1 to 0 Dead in 2016.	To be Removed	0
112	980	Interior Live Oak	Quercus wislizenii	16'	7, 6	Poor structure, 6" stem dead. 2015 rating of 2 changed to 1 in 2016.	To be Removed	1
113	4079	Interior Live Oak	Quercus	17'	9	~	Prune to balance	3

ABACUS: Nicole Harrison, Project Manager & ISA Certified Arborist #WE-6500A

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Map Tree #	Site Tag #	Common Name	Botanical Name	Canopy '	DBH	Notes	Action	Rating
			wislizenii					
114	4086	Blue Oak	Quercus douglasii	14'	6	Sparse canopy, lots of deadwood	Remove dead wood	3
115	4087	Interior Live Oak	Quercus wislizenii	~	9	Too much decay	To be Removed	1
116	4088	Interior Live Oak	Quercus wislizenii	~	8, 4, 4, 4	Poor structure, too much decay at crotch	To be Removed	1
117	4089	Interior Live Oak	Quercus wislizenii	~	6, 12, 10, 7	Decay under tree	To be Removed	2
118	4045	Interior Live Oak	Quercus wislizenii	~	18, 8, 9, 8	Poor structure, crossing limbs, included bark, failure of large structural limb to east	To be Removed	1
119	4058	Interior Live Oak	Quercus wislizenii	26'	15 @ 3'	Poor structure, too much decay. 2015 rating of 2 changed to 0 Dead in 2016.	To be Removed	0
120	4057	Interior Live Oak	Quercus wislizenii	28'	16, 14, 11, 8	Poor structure, included bark at 1' and 5', cavity at crotch at base. 2015 rating changed from 2 to 1 in 2016.	Prune to balance, Remove dead wood	1
121	4056	Interior Live Oak	Quercus wislizenii	20'	14, 12	Dominant, decay pockets at old pruning cuts	Re-inspect every year	3
122	4049	Interior Live Oak	Quercus wislizenii	21'	10, 10, 6	Pleached stems on SE, old stem removed between N & S stems, conks, old stem removed on N.	Remove dead wood, re-inspect in 3 years	3
123	4048	Interior Live Oak	Quercus wislizenii	~	6	Too much decay	To be Removed	1
124	4050	Interior Live Oak	Quercus wislizenii	22'	14, 11	Poor structure, crossing limbs, some dead wood	Remove dead wood, re-inspect in 3 years	3
125	4051	Interior Live Oak	Quercus wislizenii	29'	23	Co-dominant leader at 6', included bark	Remove dead wood, re-inspect in 3 years	3
126	4054	Interior Live Oak	Quercus wislizenii	25'	14	Sulfur fungus at 6' in old pruning cut, poor structure	To be Removed	2
127	4055	Blue Oak	Quercus douglasii	22'	14	Sparse canopy	Prune to balance, Remove dead wood	3
128	4053	Blue Oak	Quercus douglasii	27'	16	Abnormal flare, poor taper, leans to west	Prune to balance, Remove dead wood	2
129	4052	Blue Oak	Quercus douglasii	14'	8	Understory, poor structure	Remove dead wood	3
130	4064	Interior Live Oak	Quercus wislizenii	11'	5	Suppressed, poor taper, narrow attachments	prune to balance, Remove dead wood	3
131	4063	Interior Live Oak	Quercus wislizenii	13'	7, 9, 6	Decay under base, sparse canopy	Remove dead wood	3
132	4065	Interior Live Oak	Quercus wislizenii	23'	14, 6	Decay under base	Remove dead wood, re-inspect annually	3
133	4066	Interior Live Oak	Quercus wislizenii	17'	10		Remove dead wood, remove 4" limb at 5' with narrow attachment	3

Map Tree #	Site Tag #	Common Name	Botanical Name	Canopy '	DBH	Notes	Action	Rating
							angle	
134	4060	Interior Live Oak	Quercus wislizenii	30'	9, 8, 5, 8, 4, 7, 8, 9	Poor structure, too much decay, too much deadwood	To be Removed	2
135	4059	Blue Oak	Quercus douglasii	26'	17	Sparse canopy, epicormic growth	Remove dead wood	4
137	4101	Interior Live Oak	Quercus wislizenii	~	12	Too much decay at base	To be Removed	1
138	4102	Interior Live Oak	Quercus wislizenii	~	12, 11, 10	Too much poison oak for accurate evaluation	Remove poison oak and re-evaluate	3
140	4091	Interior Live Oak	Quercus wislizenii	~	6	Poor taper, too much deadwood	To be Removed	2
141	4093	Interior Live Oak	Quercus wislizenii	~	8	Epicormic growth, narrow angle attachment, needs corrective pruning	Needs corrective pruning	3
142	4092	Interior Live Oak	Quercus wislizenii	~	13 @ 2'	Lost co-dominant leader at 4', too much decay - wound almost closed	Re-inspect in 3 years	2
143	4094	Interior Live Oak	Quercus wislizenii	~	8	Poor structure, large deadwood, decay under base	To be Removed	2
144	4095	Interior Live Oak	Quercus wislizenii	~	8	Poor structure, too much deadwood	To be Removed	1
146	4090	Interior Live Oak	Quercus wislizenii	14'	10	Decay under tree	If to remain: remove dead wood	2
147	4082	Interior Live Oak	Quercus wislizenii	17'	10 @ 3'	Poor taper, epicormic growth, mostly dead	To be Removed	2
148	4081	Interior Live Oak	Quercus wislizenii	26'	7, 6	Decay at crotch, poor taper	If to remain: Remove dead wood, remove N branch	2
149	4080	Interior Live Oak	Quercus wislizenii	24'	11, 4, 5, 7, 5, 10	Central stem is dead, smaller stems have poor structure. 2015 rating of 3 changed to 2 in 2016	Prune to balance, Remove dead wood	2
150	978	Blue Oak	Quercus douglasii	18'	13	Sparse canopy, too much deadwood	Remove dead wood	3
151	976	Interior Live Oak	Quercus wislizenii	~	14, 15, 11, 12	Large stem removed	To be Removed	2
152	975	Interior Live Oak	Quercus wislizenii	~	9, 8, 7, 7	Too much decay at base. 2015 rating changed from 2 to 1 in 2016	Re-inspect in 3 years	1
153	974	Interior Live Oak	Quercus wislizenii	~	8	~	To be Removed	1
154	969	Interior Live Oak	Quercus wislizenii	17'	7, 6, 7	6" stem has too much decay, top failure, limb tip dieback	To be Removed	1
155	970	Interior Live Oak	Quercus wislizenii	~	9	~	To be Removed	2
156	971	Interior Live Oak	Quercus wislizenii	22'	8, 15	Top failure in both stems	To be Removed	1
158	935	Blue Oak	Quercus	~	10	Poor structure, unbalanced canopy,	To be Removed	1

Map Tree #	Site Tag #	Common Name	Botanical Name	Canopy '	DBH	Notes	Action	Rating
			douglasii			canopy to the ground		
159	936	Interior Live Oak	Quercus wislizenii	~	12	Wounds almost closed at 4' to west and 5' to west	If to remain: Re-inspect in 3 years	3
160	932	Interior Live Oak	Quercus wislizenii	21'	14	Too much decay at base	To be Removed	1
161	933	Interior Live Oak	Quercus wislizenii	~	15, 9	Too much decay at base	To be Removed	1
162	934	Interior Live Oak	Quercus wislizenii	~	11	Too much decay, poor structure	To be Removed	1
165	930	Blue Oak	Quercus douglasii	17'	10	Diseased, large splits at base to south	If to remain: Re-inspect in 3 years	2
166	929	Interior Live Oak	Quercus wislizenii	~	10	Failed, hanging . 2015 rating changed from 1 to 0 in 2016	To be Removed	0
167	928	Interior Live Oak	Quercus wislizenii	~	14, 13	Hit by fallen tree, too much dead wood in west stem	To be Removed	1
168	927	Interior Live Oak	Quercus wislizenii	~	7, 6	Poor structure, too much deadwood	To be Removed	1
169	926	Interior Live Oak	Quercus wislizenii	~	11	Poor structure, too much deadwood	To be Removed	1
170	924	Interior Live Oak	Quercus wislizenii	~	11	Too much decay under base	To be Removed	2
171	925	Interior Live Oak	Quercus wislizenii	~	25, 14	Top failure in both stems, too much deadwood	To be Removed	1
172	972	Interior Live Oak	Quercus wislizenii	~	12	Dead	To be Removed	0
173	973	Interior Live Oak	Quercus wislizenii	20'	9, 9	Too much decay at base	To be Removed	1
175	977	Interior Live Oak	Quercus wislizenii	23'	16, 6, 14, 8	Top failure, epicormic growth, decay at crotch. 2015 rating changed from 2 to 1 in 2016.	Remove dead wood, re-inspect in 3 years	1
176	4085	Interior Live Oak	Quercus wislizenii	22'	11, 4, 15 @ 2'	4" stem has top failure	Remove dead wood, remove 4" stem, re-inspect in 3 years	3
177	4084	Interior Live Oak	Quercus wislizenii	13'	11	Decay under base, crossing limbs	Remove dead wood, remove crossing limb, re-inspect in 3 years	2
178	4083	Blue Oak	Quercus douglasii	14'	10	Sparse canopy, stubs from failures	Remove dead wood	3
179	4096	Interior Live Oak	Quercus wislizenii	29'	6, 8	Too much decay under base, poor structure	To be Removed	2
180	4098	Interior Live Oak	Quercus wislizenii	~	14	One stem remaining, too much decay	To be Removed	1
181	4097	Interior Live Oak	Quercus wislizenii	~	14, 12	Top failure	To be Removed	1
182	4103	Interior Live Oak	Quercus	18'	9		Remove dead wood	3



Map Tree #	Site Tag #	Common Name	Botanical Name	Canopy '	DBH	Notes	Action	Rating
			wislizenii					
183	4104	Interior Live Oak	Quercus wislizenii	21'	15, 14	Co-dominant leader at 2'	Remove dead wood, brace	3
184	4061	Interior Live Oak	Quercus wislizenii	23'	10, 10, 7, 8, 7, 7, 7, 4, 12	Poor structure, not correctable	To be Removed	2
185	4067	Blue Oak	Quercus douglasii	9'	8	Poor taper	Remove dead wood	3
186	4072	Interior Live Oak	Quercus wislizenii	16'	10	Included bark, wrapped in poison oak	Remove poison oak and re-evaluate	3
187	4070	Interior Live Oak	Quercus wislizenii	19'	8, 9, 10, 10, 9	Unbalanced canopy to west, decay pockets at crotch. 2015 rating changed from 2 to 1 in 2016	To be Removed	1
188	4069	Interior Live Oak	Quercus wislizenii	8'	6 @ 2'	Co-dominant leader at 3', west stem is dead. 2015 rating of 2 changed to 0 Dead in 2016	Remove dead wood, remove dead stem	0
189	4068	Blue Oak	Quercus douglasii	12'	7	Poor taper, too much deadwood, poor health	To be Removed	2
190	4062	Blue Oak	Quercus douglasii	19'	6, 5, 10	Too much poison oak for accurate evaluation	Remove dead wood, remove poison oak and re-evaluate	2
191	4071	Interior Live Oak	Quercus wislizenii	23'	16, 8	Too much decay	To be Removed	1
192	4112	Blue Oak	Quercus douglasii	10'	9	Suppressed, poor taper	To be Removed	2
193	4111	Interior Live Oak	Quercus wislizenii	25'	13, 7, 13, 13, 12	Many old pruning cuts with decay	End weight reduction, add 2 cables, re-inspect in 3 years	2
194	4109	Interior Live Oak	Quercus wislizenii	29'	19, 19, 20, 15	Sparse canopy, sulfur fungus	Requires a level 3 advanced inspection	2
195	4110	Interior Live Oak	Quercus wislizenii	29'	12, 5, 15, 9, 13, 9, 14, 10	Narrow angle branch attachment, decay at crotch	If to remain: Remove dead wood, remove west stem, prune to balance	2
197	4114	Interior Live Oak	Quercus wislizenii	18'	10	Slight lean, poor taper	Remove dead wood	3
200	4113	Interior Live Oak	Quercus wislizenii	20'	20	Recently dead	To be Removed	0
201	4115	Interior Live Oak	Quercus wislizenii	22'	14, 12	Included bark, too much decay under base	To be Removed	1
202	4116	Interior Live Oak	Quercus wislizenii	~	11	Poor structure, suppressed, too much deadwood	To be Removed	1
203	4121	Interior Live Oak	Quercus wislizenii	34'	22 @ 3', 15	Extensive decay in central stem @ 6'	Remove dead wood, remove central stem, prune to balance, re-inspect in 3 years	3
204	4117	Interior Live Oak	Quercus wislizenii	27'	19, 14, 14	Dominant, decay pocket at crotch. 2015 rating changed from 3 to 2.	Remove dead wood, cable, re-inspect in 3 years	2

Map Tree #	Site Tag #	Common Name	Botanical Name	Canopy <sup>1</sup>	DBH	Notes	Action	Rating
205	4120	Interior Live Oak	Quercus wislizenii	21'	13, 10	Decay under tree	If to remain: prune to balance, re-inspect in 3 years	2
208	4119	Blue Oak	Quercus douglasii	13'	10	Poor taper, closed wounds	Remove dead wood	3
209	4118	Interior Live Oak	Quercus wislizenii	21'	13	~	Remove dead wood	3
210	4105	Interior Live Oak	Quercus wislizenii	24'	13, 12	Included bark, decay under tree	Remove dead wood, cable, Re-inspect in 3 years	3
211	4106	Interior Live Oak	Quercus wislizenii	21'	9	Suppressed, decay at base	If to remain: Re-inspect in 3 years	2
212	4107	Interior Live Oak	Quercus wislizenii	24'	11	Poor structure, narrow angle branch attachment, decay at old pruning cut at crotch	To be Removed	2
213	4100	Interior Live Oak	Quercus wislizenii	27'	10	Poor structure	To be Removed	2
214	4099	Blue Oak	Quercus douglasii	23'	10	Sparse canopy, epicormic growth, poor health	Re-inspect in 3 years	3
215	824	Interior Live Oak	Quercus wislizenii	33'	9, 13, 13, 15, 8, 14, 9	Poor structure, decay pockets	Remove dead wood, prune to balance	3
216	823	Interior Live Oak	Quercus wislizenii	~	9, 5, 7, 12	5" stem dead, too much decay	To be Removed	1
217	822	Interior Live Oak	Quercus wislizenii	15'	13	Poor structure, too much decay	To be Removed	1
218	821	Interior Live Oak	Quercus wislizenii	16'	9	Suppressed	Prune to balance, Remove dead wood	2
219	825	Interior Live Oak	Quercus wislizenii	~	6, 10	Too much decay, very poor structure	To be Removed	1
220	826	Blue Oak	Quercus douglasii	19'	14	~	Remove dead wood	4
221	827	Interior Live Oak	Quercus wislizenii	~	18, 17	Top failure, too much decay	To be Removed	1
222	828	Interior Live Oak	Quercus wislizenii	31'	12, 12, 11, 6, 9, 5, 14, 7	Sign, 6" and 5" stems are dead, 7" stem poor structure, 9" stem poor structure and decay, 2015 rating changed from 3 to 2 in 2016	Remove dead wood, remove 2 dead stems and 7" stem, future cable, re-inspect in 3 years	2
223	829	Interior Live Oak	Quercus wislizenii	~	13	Top failure	To be Removed	1
224	836	Interior Live Oak	Quercus wislizenii	14'	6	~	~	3
225	835	Interior Live Oak	Quercus wislizenii	17'	8	Some decay under base	Remove dead wood, re-inspect in 3 years	3
226	834	Interior Live Oak	Quercus wislizenii	17'	6	~	Prune to balance, Remove dead wood	3

Map Tree #	Site Tag #	Common Name	Botanical Name	Canopy '	DBH	Notes	Action	Rating
227	833	Blue Oak	Quercus douglasii	15'	11	Sparse canopy	Remove dead wood	4
228	837	Interior Live Oak	Quercus wislizenii	28'	18, 15	Extensive internal decay	To be Removed	1
229	838	Interior Live Oak	Quercus wislizenii	~	19	Too much decay	To be Removed	2
230	832	Interior Live Oak	Quercus wislizenii	~	15, 6	6" stem top failure and borers	Remove 6" stem, re-inspect in 3 years	3
231	831	Interior Live Oak	Quercus wislizenii	18'	7, 8	Decay at base	If to remain: prune to balance, Remove dead wood, re-inspect in 3 years	2
232	830	Interior Live Oak	Quercus wislizenii	26'	14, 10, 13, 10, 11	Broadleaf mistletoe, some decay	prune to balance, Remove dead wood, re-inspect in 3 years	3
233	923	Blue Oak	Quercus douglasii	25'	10, 7	Narrow angle attachment, 3rd co-dominant leader removed - turkey tail fungus is present, epicormic growth	Re-inspect in 3 years	2
234	922	Interior Live Oak	Quercus wislizenii	~	12, 11, 10	Too much decay at base	To be Removed	1
236	907	Interior Live Oak	Quercus wislizenii	~	16	Too much decay at base, large wound	To be Removed	1
238	902	Interior Live Oak	Quercus wislizenii	~	19, 13	Too much decay, poor structure	To be Removed	1
239	921	Interior Live Oak	Quercus wislizenii	24'	12, 10, 9, 7	Top failure, too much decay	To be Removed	1
240	920	Blue Oak	Quercus douglasii	16'	13	Co-dominant leader failure almost closed, 2015 rating changed from 3 to 1 in 2016	Remove dead wood	1
241	919	Interior Live Oak	Quercus wislizenii	31'	19, 9, 9, 10, 5	Too much decay under tree	To be Removed	1
242	918	Interior Live Oak	Quercus wislizenii	28'	9, 10, 8, 5	Suppressed, poor structure, 5" stem is dead	prune to balance, Re-inspect in 3 years	3
244	914	Interior Live Oak	Quercus wislizenii	11'	12, 15, 5	Included bark at co-dominant leader at 1', large stub at 15'	Remove dead wood, remove mistletoe, remove stub, re-inspect in 3 years	3
246	917	Interior Live Oak	Quercus wislizenii	~	8	~	To be Removed	2
247	916	Interior Live Oak	Quercus wislizenii	~	6	Too much decay	To be Removed	1
248	915	Interior Live Oak	Quercus wislizenii	20'	7	Top failure, too much deadwood	To be Removed	1
249	913	Interior Live Oak	Quercus wislizenii	31'	21, 12, 16	Dominant, included bark on west stem, large old pruning cut with borers to east, broadleaf mistletoe	Remove dead wood, remove mistletoe, cable, end-weight reduction by 25%, re-inspect in 3 years	3

Map Tree #	Site Tag #	Common Name	Botanical Name	Canopy '	DBH	Notes	Action	Rating
250	912	Interior Live Oak	Quercus wislizenii	26'	15, 22	Included bark, split at crotch	To be Removed	1
251	911	Interior Live Oak	Quercus wislizenii	19'	12	Sparse canopy, closing wounds (x5)	Re-inspect in 3 years	2
253	910	Interior Live Oak	Quercus wislizenii	21'	14	Leans to South	prune to balance, Remove dead wood	3
254	909	Interior Live Oak	Quercus wislizenii	28'	12, 7, 13	Poor structure, many old pruning cuts, too much decay	To be Removed	1
255	908	Interior Live Oak	Quercus wislizenii	~	15, 6	Decay under tree, included bark at 8'	Remove 6" stem, remove dead wood, prune to balance, re-inspect in 3 years	2
256	893	Interior Live Oak	Quercus wislizenii	17'	12, 11, 6	Included bark, poor structure, some decay	If to remain: Add cable, re-inspect in 3 years	2
257	892	Interior Live Oak	Quercus wislizenii	12'	7, 10	Poor structure, decay at old pruning cuts at base for removal of co-dominant leaders	To be Removed	2
258	883	Interior Live Oak	Quercus wislizenii	~	10	One stem failed, too much decay	To be Removed	2
259	882	Interior Live Oak	Quercus wislizenii	~	6	Decay into center of trunk.	To be Removed	2
260	881	Interior Live Oak	Quercus wislizenii	30'	19, 26	Dominant, too much decay under base of tree	If to remain: Remove dead wood, cable, re-inspect in 3 years	2
262	888	Interior Live Oak	Quercus wislizenii	21'	8, 7	Too much decay, too much deadwood	To be Removed	2
263	889	Interior Live Oak	Quercus wislizenii	~	10, 8	Co-dominant leader at 4' with included bark, poor structure	Remove dead wood, prune to balance, Re-inspect in 3 years	2
264	890	Interior Live Oak	Quercus wislizenii	~	11	Poor structure, unbalanced canopy to west	To be Removed	2
265	891	Interior Live Oak	Quercus wislizenii	~	13, 13	Too much decay, diseased	To be Removed	1
266	885	Interior Live Oak	Quercus wislizenii	23'	17	Broadleaf mistletoe, some decay under tree	Re-inspect in 3 years	2
267	886	Interior Live Oak	Quercus wislizenii	26'	13, 5, 11	Suppressed, poor structure, too much decay	To be Removed	1
268	887	Interior Live Oak	Quercus wislizenii	~	5	Too much deadwood	To be Removed	1
269	878	Interior Live Oak	Quercus wislizenii	~	6, 6	Too much decay at co-dominant leader at 1'	To be Removed	1
271	879	Interior Live Oak	Quercus wislizenii	18'	9, 9	Large deadwood, epicormic growth, too much decay in west stem	Re-inspect in 3 years	2
272	877	Interior Live Oak	Quercus wislizenii	~	18, 17	Severe decay, dangerous.	To be Removed	1
273	880	Interior Live Oak	Quercus	~	9	Top failure	To be Removed	1

ABACUS: Nicole Harrison, Project Manager & ISA Certified Arborist #WE-65004

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Map Tree #	Site Tag #	Common Name	Botanical Name	Canopy '	DBH	Notes	Action	Rating
			wislizenii					
274	906	Interior Live Oak	Quercus wislizenii	16'	10, 12	3" stem is dead, 10" stem has too much decay	To be Removed	2
275	905	Interior Live Oak	Quercus wislizenii	20'	10, 10	Broadleaf mistletoe, decay under tree, decay in east stem	Remove dead wood, re-inspect annually	2
276	903	Interior Live Oak	Quercus wislizenii	23'	10, 12	Poor structure, cavity underneath tree, too much decay	To be Removed	1
277	904	Interior Live Oak	Quercus wislizenii	~	15, 8, 7, 9	Poor structure, too much decay, too much deadwood	To be Removed	1
278	901	Interior Live Oak	Quercus wislizenii	31'	13, 12, 6, 13, 17	IB, old prune cuts on N & W, minor decay, leans to S.	If to remain: Add cable, re-inspect in 3 years	2
279	900	Interior Live Oak	Quercus wislizenii	~	6, 12	Too much deadwood	To be Removed	1
280	899	Interior Live Oak	Quercus wislizenii	~	9, 14, 21	Poor structure, some decay	Remove dead wood, re-inspect in 3 years	2
281	898	Interior Live Oak	Quercus wislizenii	28'	10, 10	Decay at base	Remove dead wood, re-inspect in 3 years	2
282	897	Blue Oak	Quercus douglasii	18'	9	Sparse canopy	Remove dead wood, re-inspect base in 3 years	2
283	896	Interior Live Oak	Quercus wislizenii	33'	13, 9, 10, 6	Poor structure, decay under base	To be Removed	2
284	895	Interior Live Oak	Quercus wislizenii	26'	11, 11	Too much decay at base	To be Removed	1
285	894	Blue Oak	Quercus douglasii	19'	11, 11, 10	Sparse canopy, large deadwood	Remove dead wood	3
286	840	Interior Live Oak	Quercus wislizenii	22'	15	Suppressed, poor structure, extensive decay	If to remain: prune to balance, Remove dead wood, re-inspect in 3 years	2
287	839	Interior Live Oak	Quercus wislizenii	26'	14	1 stem remaining, too much decay, too much deadwood	To be Removed	1
288	851	Interior Live Oak	Quercus wislizenii	~	19	Too much decay	To be Removed	1
289	852	Interior Live Oak	Quercus wislizenii	~	11, 6, 9, 11	6" stem dead, 13" stem top failure, too many problems	To be Removed	2
290	853	Interior Live Oak	Quercus wislizenii	25'	12, 13, 8	IB, holes @ base of cluster, minor decay.	Remove dead wood	3
291	856	Interior Live Oak	Quercus wislizenii	24'	8, 12, 11	Poor structure, 2015 rating changed from 2 to 1 in 2016	prune to balance, Remove dead wood, remove Poison Oak, remove east stem	1
292	820	Interior Live Oak	Quercus wislizenii	26'	13, 11@1', 8, 15	Decay under base, large failure, poor structure	Remove dead wood, prune to balance, Re-inspect in 3 years	2
293	819	Blue Oak	Quercus douglasii	27'	12, 17, 12	Sparse canopy, epicormic growth	Remove dead wood	3

Map Tree #	Site Tag #	Common Name	Botanical Name	Canopy '	DBH	Notes	Action	Rating
294	818	Blue Oak	Quercus douglasii	19'	13	Sparse canopy, extensive decay	If to remain: Re-inspect in 3 years	2
295	814	Blue Oak	Quercus douglasii	24'	8	Suppressed, poor structure	Prune to balance	2
296	812	Interior Live Oak	Quercus wislizenii	~	12, 8, 14	Too much decay, top failure	To be Removed	1
297	813	Interior Live Oak	Quercus wislizenii	~	10, 11	Decay up 3' on both stems.	To be Removed	1
298	811	Interior Live Oak	Quercus wislizenii	~	11, 12,, 12, 11	Too much decay, poor structure	To be Removed	1
299	810	Blue Oak	Quercus douglasii	14'	9, 10, 8	Sparse canopy	Remove dead wood, remove wire	3
300	857	Blue Oak	Quercus douglasii	18'	13, 13, 12, 10, 9	Narrow angle branch attachment, co-dominant leader at 1', sparse canopy	Remove dead wood, re-inspect in 3 years	3
301	809	Interior Live Oak	Quercus wislizenii	~	16	Too much decay, 13" stem failed at 5'	To be Removed	1
302	808	Interior Live Oak	Quercus wislizenii	33'	20, 17	2 remaining stems, unbalanced canopy to south, 17" stem bows at 8-10'	Remove dead wood, prune to balance, re-inspect in 3 years	3
303	806	Interior Live Oak	Quercus wislizenii	18'	13, 11'	Severe decay in trunk.	To be Removed	1
304	807	Blue Oak	Quercus douglasii	17'	13	Sparse canopy, too much deadwood	To be Removed	2
305	804	Interior Live Oak	Quercus wislizenii	24'	7, 20	Broadleaf mistletoe, smaller stem is dead, bird tree	Remove dead wood, re-inspect in 3 years	3
306	805	Interior Live Oak	Quercus wislizenii	~	15, 17	Included bark, large old pruning cut at base with extensive decay, too much decay	To be Removed	2
307	858	Interior Live Oak	Quercus wislizenii	~	7, 6, 13	Understory, too much decay under base	To be Removed	1
308	859	Interior Live Oak	Quercus wislizenii	~	6, 10	Top failure, suppressed, poor structure	To be Removed	2
309	855	Interior Live Oak	Quercus wislizenii	26'	14, 13, 12	Too much decay at base	To be Removed	2
310	854	Interior Live Oak	Quercus wislizenii	~	19	Too much decay	To be Removed	1
311	842	Blue Oak	Quercus douglasii	13'	10	Poor health, diseased	To be Removed	2
312	841	Blue Oak	Quercus douglasii	15'	13	Sparse canopy, large deadwood	Remove dead wood	3
313	843	Blue Oak	Quercus douglasii	13'	12	Epicormic growth, sparse canopy, co-dominant leader at 8', included bark	Remove dead wood	3
314	850	Interior Live Oak	Quercus wislizenii	~	20 @ 3'	Too much decay	To be Removed	1

Map Tree #	Site Tag #	Common Name	Botanical Name	Canopy '	DBH	Notes	Action	Rating
315	849	Interior Live Oak	Quercus wislizenii	25'	12, 10	Leans to SSE, Co-dominant leaders @ 3'6".	prune to balance, Remove dead wood	3
316	848	Interior Live Oak	Quercus wislizenii	~	9	Too much decay, top failed in 7" stem	To be Removed	1
317	847	Interior Live Oak	Quercus wislizenii	21'	11, 13, 13	Poor structure	Prune to balance, Remove dead wood	2
318	845	Blue Oak	Quercus douglasii	~	12	Too much decay	To be Removed	1
319	846	Blue Oak	Quercus douglasii	17'	11	Included bark at 10', leans to S, understory, diseased at base	Prune to balance, Remove dead wood	2
320	844	Blue Oak	Quercus douglasii	15'	15	Diseased, large deadwood, sparse canopy	Remove dead wood	2
321	860	Interior Live Oak	Quercus wislizenii	~	45 @ 1'	Too much decay, major stem failures	To be Removed	1
322	861	Interior Live Oak	Quercus wislizenii	~	26	Large old pruning cut at 1" with sulfur fungus, broadleaf mistletoe, narrow attachments, recent stem failure	To be Removed	1
323	868	Oracle Oak	Quercus X morehus	~	14	Too much decay	To be Removed, leave new sprout on NE, cut stump off flush to save new sprout	1
324	867	Interior Live Oak	Quercus wislizenii	17'	10, 10, 11	Decay at co-dominant leader	Re-inspect in 3 years	3
325	866	Interior Live Oak	Quercus wislizenii	23'	13	Very poor structure, decay pocket at 5'	To be Removed	1
326	862	Interior Live Oak	Quercus wislizenii	19'	14	Unbalanced canopy to east	Prune to balance	3
327	863	Interior Live Oak	Quercus wislizenii	21'	10, 11, 13	~	Remove dead wood, prune to balance, Re-inspect in 3 years	3
328	864	Interior Live Oak	Quercus wislizenii	11'	11	Too much decay	To be Removed	2
329	865	Interior Live Oak	Quercus wislizenii	10'	10	Decay pockets, poor structure	To be Removed	1
330	869	Interior Live Oak	Quercus wislizenii	~	9, 10	Sparse canopy, large deadwood, top failure	To be Removed	1
331	870	Blue Oak	Quercus douglasii	~	10	Sparse canopy, too much deadwood	To be Removed	1
332	871	Interior Live Oak	Quercus wislizenii			Past failures, too much decay	To be Removed	1
333	872	Blue Oak	Quercus douglasii	~	6	Top failure, diseased at base	To be Removed	2
334	873	Blue Oak	Quercus douglasii	15'	10	Epicormic growth, good	Removed dead wood, prune to balance	4
335	874	Blue Oak	Quercus	18'	16	Closed wounds base to 5'	Remove dead wood, prune to	3

Map Tree #	Site Tag #	Common Name	Botanical Name	Canopy '	DBH	Notes	Action	Rating
			douglasii				balance, re-inspect in 3 years	
336	875	Interior Live Oak	Quercus wislizenii	~	12, 11	Too much decay	To be Removed	1
337	876	Blue Oak	Quercus douglasii	17'	13	Epicormic growth, sparse canopy	Remove dead wood	4
341	P	Interior Live Oak	Quercus wislizenii	34'	7, 11, 8, 9, 12, 7, 15	Old pruning cut with extensive decay to west at 2'	NCP, Remove dead wood	3
342	P	Interior Live Oak	Quercus wislizenii	~	8	Too much decay	To be Removed	1
343	P	Blue Oak	Quercus douglasii	18"	15	Sparse canopy	Remove dead wood	4
344	P	Interior Live Oak	Quercus wislizenii	~	14 @ 4', 8 @ 4'	Broadleaf mistletoe, too much decay in all stems	To be Removed	1
345	P	Interior Live Oak	Quercus wislizenii	~	12, 12	Too much decay, top failure both stems	To be Removed	1
346	P	Interior Live Oak	Quercus wislizenii	~	16	Hazard - Remove immediately	To be Removed	1
347	P	Interior Live Oak	Quercus wislizenii	~	7, 5	Too much decay at base, poor structure	To be Removed	1
348	P	Interior Live Oak	Quercus wislizenii	~	6	Too much decay	To be Removed	1
349	P	Interior Live Oak	Quercus wislizenii	~	10	Too much decay	To be Removed	1
350	P	Interior Live Oak	Quercus wislizenii	23"	16	Included bark at 5' and 8', failure stubs	Remove dead wood, prune to balance, Re-inspect in 3 years	3
351	P	Interior Live Oak	Quercus wislizenii	23"	8, 5	Epicormic growth only, poor structure, too much decay at base	To be Removed	1
352	P	Interior Live Oak	Quercus wislizenii	31"	7, 4, 3, 13, 14, 7	Poor structure, co-dominant leader at 1', included bark, broadleaf mistletoe, large structural limb over wall, hanging swing **Dangerous	Remove dead wood, end weight reduction over wall, re-inspect in 3 years	3
353		Interior Live Oak	Quercus wislizenii	~	5	Suppressed, top failure	To be Removed	1
354	P	Interior Live Oak	Quercus wislizenii	12	5	Sparse canopy	Re-inspect in 3 years	3
355	P	Interior Live Oak	Quercus wislizenii	23"	13, 7	Decay under base	If to remain: Remove dead wood, remove smallest stem to SW	2
356	P	Interior Live Oak	Quercus wislizenii	26"	12, 14 @ 2'	Poor structure, unbalanced canopy to east, epicormic growth, top failures, 14" stem has old pruning cut with borers	If to remain: NCP, prune to balance, Remove dead wood	1
357	P	Valley Oak	Quercus lobata	32"	18	Co-dominant leader at 20', some failures, evidence of stress (small leaves)	Remove dead wood, remove competition	4
358	P	Interior Live Oak	Quercus	22"	15, 10, 8	Poor structure, too much decay	To be Removed	1



Map Tree #	Site Tag #	Common Name	Botanical Name	Canopy '	DBH	Notes	Action	Rating
			wislizenii					
359	P	Interior Live Oak	Quercus wislizenii	25"	8, 9, 13	13" stem co-dominant leader at 4' with included bark, Suppressed	If to remain: Remove dead wood, remove hanger	2
360	P	Interior Live Oak	Quercus wislizenii	~	6, 11, 9	Suppressed, too much deadwood	If to remain: Remove dead wood, Re-inspect in 3 years	2
361	P	Interior Live Oak	Quercus wislizenii	~	3, 4, 3, 4, 8	Poor structure, too much deadwood	To be Removed	1
362	P	Interior Live Oak	Quercus wislizenii	~	7, 7	Poor structure, decay under base of north stem	If to remain: prune to balance, Remove dead wood, re-inspect in 3 years	1
363	P	Interior Live Oak	Quercus wislizenii	~	14, 10	Too much decay, larger stem dead	To be Removed	1
364	P	Interior Live Oak	Quercus wislizenii	~	9, 12, 4, 2	Unbalanced canopy to west, 4" stem is dead	Prune to balance, remove 4" stem, re-inspect in 3 years	3
365	P	Interior Live Oak	Quercus wislizenii	19"	11, 12	Old pruning cut with extensive decay in north stem at 5'	Remove dead wood, remove mistletoe, re-inspect in 3 years	3
366	P	Interior Live Oak	Quercus wislizenii	21"	8 @ 2'	Poor structure, suppressed	Remove dead wood, prune to balance, Re-inspect in 3 years	3
367	P	Interior Live Oak	Quercus wislizenii	39"	14, 17, 16	Poor structure, large deadwood, decay at crotch at base	prune to balance, Remove dead wood, re-inspect in 3 years	2
368	P	Interior Live Oak	Quercus wislizenii	33"	14, 16, 18	Non-correctable, too much decay in center stem	To be Removed	1
369	P	Interior Live Oak	Quercus wislizenii	28"	17	Unbalanced canopy to east	Prune to balance, Remove dead wood	3
370	P	Interior Live Oak	Quercus wislizenii	~	19 @ 2'	Poor structure, too much decay	To be Removed	1
371		Interior Live Oak	Quercus wislizenii	27"	10"-5"-12"-7"	Suppressed, poor structure, top failure in w stem	To be Removed	2
372	P	Interior Live Oak	Quercus wislizenii	`	8, 12, 15, 12, 7	Top failure in north and south stems	To be Removed	1
373	P	Interior Live Oak	Quercus wislizenii	42'	12, 12, 6, 9, 11, 6, 11, 11	Poor structure, failures, Dominant, MT, 2 large pleached stems in center, decay @ base to west in 9" stem.	Remove failures (3 stems), remove west stem with decay, remove bmt, Remove dead wood, Re-inspect in 3 years	2
374	P	Blue Oak	Quercus douglasii	26'	12, 16	Co-dominant leader at base and 15' and 20' in larger stem, unbalanced canopy to South, hanger	Remove dead wood, brace @ 10', remove hanger, prune to balance	3
375	P	Interior Live Oak	Quercus wislizenii	~	11, 9	9" stem has too much decay, 11" stem poor structure	To be Removed	1
377	P	Interior Live Oak	Quercus wislizenii	~	21, 21, 12	Included bark in center stem, too much decay	To be Removed	1
378	P	Interior Live Oak	Quercus wislizenii	30'	9"-9"-14"-7"-6"	Poor structure, decay pockets in smaller stems	To be Removed	2

Map Tree #	Site Tag #	Common Name	Botanical Name	Canopy '	DBH	Notes	Action	Rating
379	P	Interior Live Oak	<i>Quercus wislizenii</i>	~	25	Top failure, too much decay	To be Removed	1
380	P	Interior Live Oak	<i>Quercus wislizenii</i>	~	17"@24"	Too much decay	To be Removed	1
381	P	Blue Oak	<i>Quercus douglasii</i>	33'	21	Sparse canopy, dead epicormic growth, over weight limb to east	Remove competition	4
382	P	Interior Live Oak	<i>Quercus wislizenii</i>	46'	18, 7, 3	Suppressed, poor structure, top failure in 7" stem, bows to east, decay in old pruning cut over wall	Aerial inspect decay pocket and reduce limb over wall	2
383	P	Interior Live Oak	<i>Quercus wislizenii</i>	~	25"@18"	Too much decay	To be Removed	1
384	P	Blue Oak	<i>Quercus douglasii</i>	18'	17	Suppressed, unbalanced canopy to west, limb tip dieback, dead epicormic growth	Prune to balance, remove limb to north at 10'	3
385	Not Tagged, P	Valley Oak	<i>Quercus lobata</i>	10	7	Epicormic growth, poor taper	~	3
386	406	Blue Oak	<i>Quercus douglasii</i>	~	8	Too much decay	TBR	2
388	82	Blue Oak	<i>Quercus douglasii</i>	25'	14	Connected to #82	Try to remove #82 with minimal damage	3
389	4041	Interior Live Oak	<i>Quercus wislizenii</i>	~	8, 6	Too much decay	To be Removed	1
393	4035	Blue Oak	<i>Quercus douglasii</i>	27'	18, 18	Included bark	~	3
394	4033	Blue Oak	<i>Quercus douglasii</i>	22'	12, 13	Rock at base	~	3
395	4034	Interior Live Oak	<i>Quercus wislizenii</i>	27'	10, 10, 6, 9, 6, 5, 7	Pleached stems	~	3
396	P2	Red Oak	<i>Quercus rubra</i>	20'	~	Not Protected	~	0
397	P2	Willow	<i>Salix species</i>	28'	~	Not Protected	~	0
398	4073	Interior Live Oak	<i>Quercus wislizenii</i>	34'	17, 17, 17, 6	Previous failure in west stem, co-dominant leader failure in east stem	To be Removed	1
399	4074	Interior Live Oak	<i>Quercus wislizenii</i>	28'	12, 7, 9, 8	Poor taper, suppressed, too much decay	To be Removed	1
400	4075	Interior Live Oak	<i>Quercus wislizenii</i>	29'	13, 13, 12, 9, 9	~	To be Removed	1
401	817	Grey Pine	<i>Pinus sabiniana</i>	34'	~	Not Protected	To be Removed	0
402	816	Interior Live Oak	<i>Quercus wislizenii</i>	19'	12	Too much decay	To be Removed	1
403	815	Interior Live Oak	<i>Quercus wislizenii</i>	36'	20, 10, 16, 12, 8, 16	Crossing limbs, needs end weight reduction	Remove 12" stem, end weight reduction, re-inspect every year	3
404		Coast Redwood	<i>Sequoia sempervirens</i>	11'	~	Not Protected	~	0
405	P2	Interior Live Oak	<i>Quercus wislizenii</i>	36'	37, 26	Many closed wounds, sparse canopy, good tree	~	4

Map Tree #	Site Tag #	Common Name	Botanical Name	Canopy'	DBH	Notes	Action	Rating
406	931	Interior Live Oak	Quercus wislizenii	22'	16, 9	CDL @ 1', poor structure	Remove smaller stem, re-inspect in 3 years	3
407	P2	Western Cottonwood	Populus fremontii	~	~	Not Protected	~	0
408	P	Interior Live Oak	Quercus wislizenii	30'	12, 10, 9	Too much decay, poor structure, dead epicormic growth	To be Removed	1
409	P	Interior Live Oak	Quercus wislizenii	~	9 @ 6', 16 @ 6', 10 @ 2'	Sulfur fungus at 4' to south, IB, Rot @ base	If to remain: remove tree #408 to remove competition, re-inspect in 3 years	2
410	P	Interior Live Oak	Quercus wislizenii	27'	10, 6, 6, 11, 7, 12	Canopy leans to south	Prune to balance, Remove dead wood	3
412	P2	Valley Oak	Quercus lobata	23'	12	Standing Dead	To be Removed	0
418	P2	Interior Live Oak	Quercus wislizenii	~	7	Poor structure, decay under base	To be Removed	2
419	P2	Interior Live Oak	Quercus wislizenii	22'	12	Severe lean to W, has been topped	To be Removed	2
421	P2	Interior Live Oak	Quercus wislizenii	29'	23	Dominant, dead epicormic growth, unbalanced canopy to west	Prune to balance, remove dead wood, remove mistletoe, re-inspect in 3 years	3
422	P2	Interior Live Oak	Quercus wislizenii	35'	12, 8, 9, 12, 13	Too much decay at crotch, epicormic growth	If to remain: Remove dead wood, Re-inspect in 3 years	2
424	P2	Interior Live Oak	Quercus wislizenii	37'	20	Dead except for largest stem	If to remain: Remove dead wood	2
425	P2	Interior Live Oak	Quercus wislizenii	32'	14, 10	Poor structure	Remove dead wood and unattached dead stems on W, re-inspect in 3 years	3
426	P2	Interior Live Oak	Quercus wislizenii	27'	12	Poor structure, lean to west	If to remain: prune to balance, re-inspect in 3 years	2
427	P2	Interior Live Oak	Quercus wislizenii	34'	10	One stem remaining - failed on ground	To be Removed	1
428	P2	Valley Oak	Quercus lobata	31'	20	Significant lean to south, co-dominant leader with included bark	prune to balance, Remove dead wood	3
429	P2	Interior Live Oak	Quercus wislizenii	22	10, 12	IB, fence included on W	Remove dead wood, remove fence	3

**Level of Inspection, Testing and Analysis:**

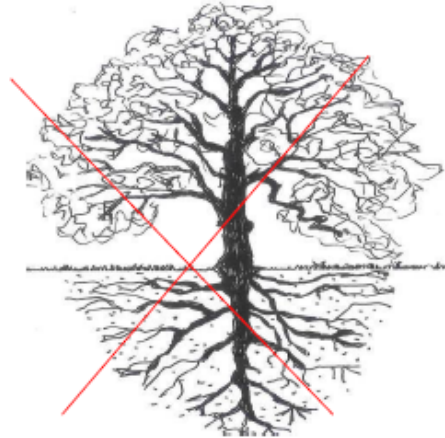
A Level 2 – Basic Visual Assessment was performed in accordance with the International Society of Arboriculture’s best management practices. This assessment level is limited to the observation of conditions and defects which are readily visible. No laboratory or chemical testing and analysis was performed, only ground level observations.

A recommended Level 3 – Advanced Assessment should be performed on trees determined during the development process to have a target. Level 3 assessment includes aerial inspection and evaluation of the structural defects of a tree including decay and load testing for purposes of risk analysis.

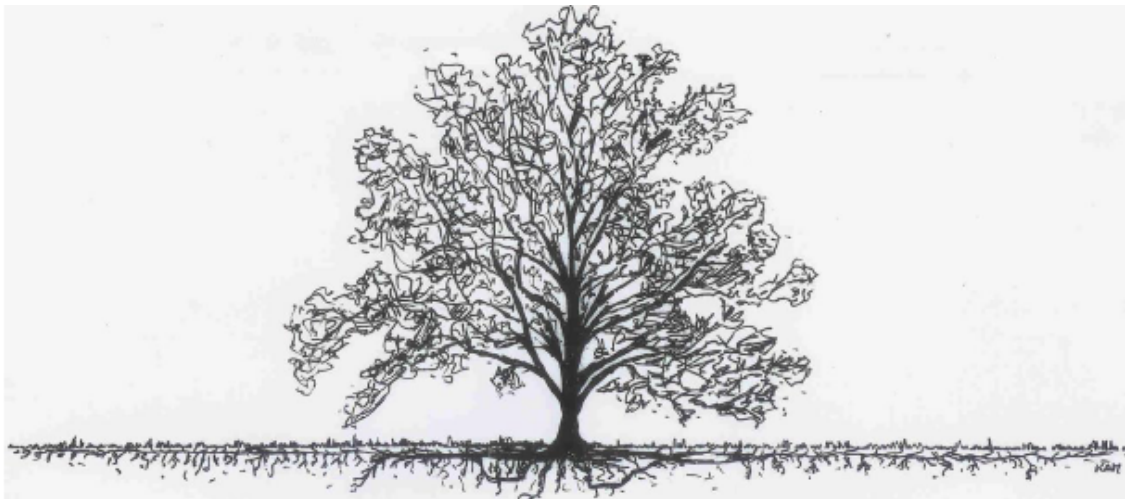
**Discussion:**

**Health and Root Growth Pattern**

The majority of a tree’s roots are contained in a radius from the main trunk outward approximately two to three times the canopy of the tree. These roots are located in the top 6” to 3’ of soil. It is a common misconception that a tree underground resembles the canopy (see Drawing A below). The correct root structure of a tree is in Drawing B. All plants’ roots need both water and air for survival. Surface roots are a common phenomenon with trees grown in compacted soil. Poor canopy development or canopy decline in mature trees is often the result of inadequate root space and/or soil compaction.



**Drawing A**  
Common misconception of where  
tree roots are assumed to be  
located



**Drawing B**

The reality of where roots are generally located

Roots are the method by which a tree receives water and water-soluble nutrients. The water and nutrients are transported through the tree in the cambium layer, which lies just underneath the bark. Photosynthesis, which occurs in the leaves, requires the water from the roots. In return, the leaves produce sugars to feed the roots. There is a balance between the roots and leaves. There must be enough of each to provide for the other. In re-iteration: The GREEN part of the tree has an equal and more vigorous portion of roots that are unseen below the ground. What you see is a small portion of the tree!



Water is required to maintain each leaf on a tree. The larger a tree becomes, the more water is required to maintain it. If there is not enough water in the soil, the tree will begin to drop leaves to balance the leaf surface to the available water. Our native oaks have adapted to our dry environment and cycle in and out of leaf drop and re-growth phases. Non-native species, however, are not able to adapt to this cycle. In particular, Coast Redwood are notorious for growth to a certain size, a size to which water is available, and then they quickly decline and die from lack of available water.

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Epicormic growth is a tree's response to loss of leaf surface from either limb drop, over pruning, or stressful conditions. Epicormic growth is simply the release of latent buds, which begin rapid growth in order to provide as much new leaf surface in the shortest period of time to make up for the loss of leaf surface. Epicormic growth prevents the death of the tree in stressful times, but creates a need for additional pruning. It is not the formation of a structurally intact new limb. The new limbs are weakly attached and need support and pruning.



Epicormic Growth  
Leaves develop on main stems  
as opposed to on branch tips

#### Structural Issues

Limited space for canopy development produces poor structure in trees. The largest tree in a given area, which is 'shading' the other trees is considered Dominant. The 'shaded' trees are considered Suppressed. The following picture illustrates this point. Suppressed trees are more likely to become a potential hazard due to their poor structure.

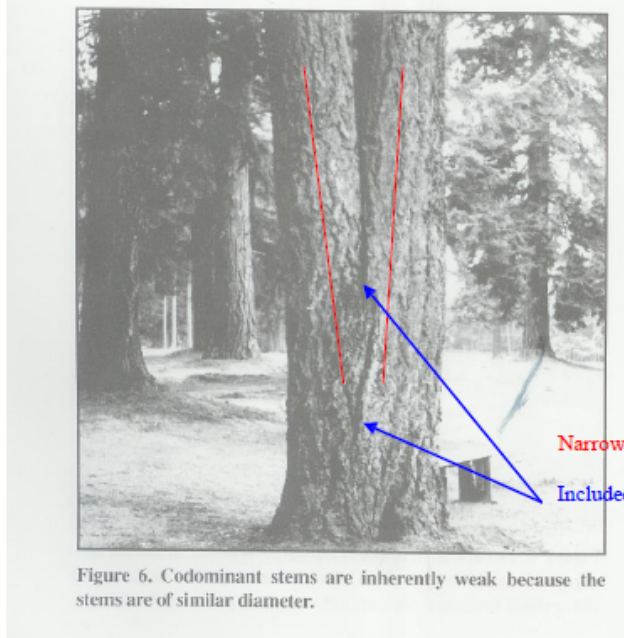
Dominant Tree  
Growth is upright  
Canopy is balanced  
by limbs and  
foliage equally



Suppressed Tree  
Canopy weight all to one  
side  
Limbs and foliage grow  
away from dominant tree

Co-dominant leaders are another common structural problem in trees.

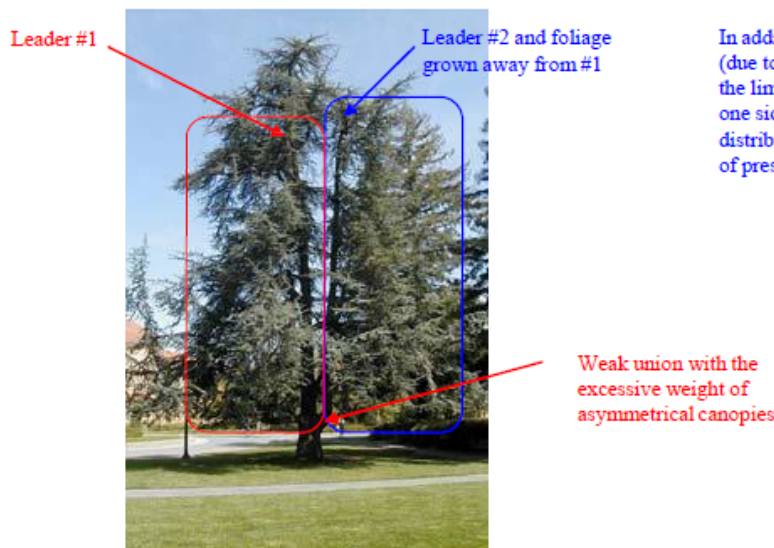
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The tree in this picture has a co-dominant leader at about 3' and included bark up to 7 or 8'. Included bark occurs when two or more limbs have a narrow angle of attachment resulting in bark between the stems – instead of cell to cell structure. This is considered a critical defect in trees and is the cause of many failures.

Figure 6. Codominant stems are inherently weak because the stems are of similar diameter.

Photo from [Evaluation of Hazard Trees in Urban Areas](#) by Nelda P. Matheny and James R. Clark, 1994 International Society of Arboriculture



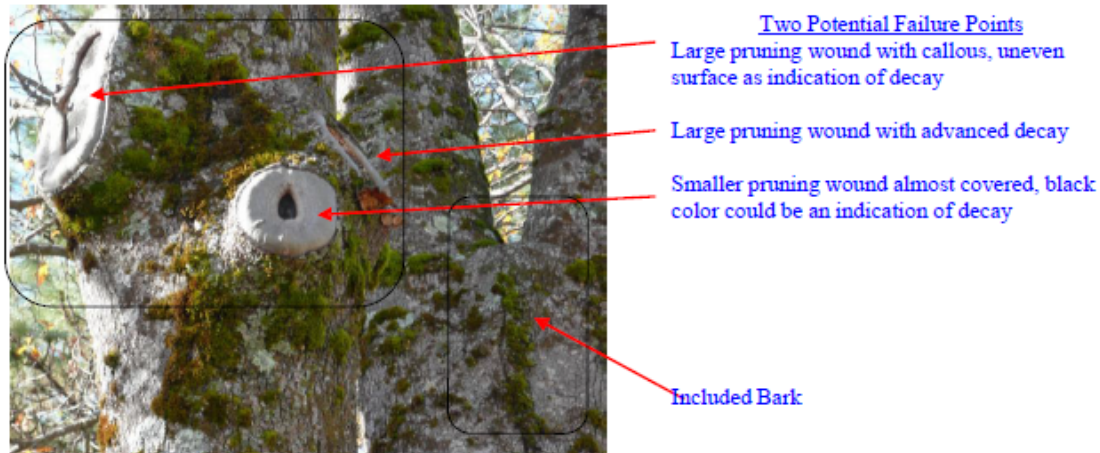
In addition, co-dominant leaders phototropically (due to sunlight) suppress each other's growth. All the limbs are grown away from the main trunk to one side. The weight of the foliage of the tree is distributed asymmetrically placing a greater amount of pressure on the already weak union.

Photo from <http://grounds.stanford.edu/points/significanttrees/cedrusatlantica.html>

Pruning causes an open wound in the tree. Trees do not “heal” they compartmentalize. Any wound made today will always remain, but a healthy tree, in the absence of decay in the

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wound, will 'cover it' with callus tissue. Large, old pruning wounds with advanced decay are a likely failure point.



Our native oak trees are easily damaged or killed by having the soil within the Critical Root Zone (CRZ) disturbed or compacted. All of the work initially performed around protected trees that will be saved should be done by people rather than by wheeled or track type tractors. Oaks are fragile giants that can take little change in soil grade, compaction, or warm season watering. Don't be fooled into believing that warm season watering has no adverse effects on native oaks. Decline and eventual death can take as long as 5-20 years with poor care and inappropriate watering. Oaks can live hundreds of years if treated properly during construction, as well as later with proper pruning, and the appropriate landscape/irrigation design.

**Conclusion:**

There are **368** trees on this property that qualify as "protected trees" by the standards of the Rocklin Oak Tree Preservation Guidelines. 312 of the protected trees are located on the main parcel on the southeast corner of Rocklin Road and Sierra College Boulevard. 56 protected trees are located on the panhandle property to the south of Water Lily Lane along Sierra College Boulevard.

There are 5 additional trees of unprotected species which were included in the survey and on the map. These trees are also marked onsite.

There are 12 additional trees (protected and unprotected) off-site that will potentially be impacted by the development of this parcel. These trees are included on the map and marked onsite.

There are **385** total trees inventoried including unprotected species and offsite trees.

Species Diversity onsite is as follows:

	Main Parcel to the North	Panhandle Property to the South

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Blue Oak	49	4
Interior Live Oak	261	48
Valley Oak	1	4
Oracle Oak	1	0
Western Cottonwood	0	1
Grey Pine	1	0
Landscape Species	3	0

**Recommendations:**

- 1) Follow all of the recommendations in the action column of [Chart B](#) immediately.
- 2) Mulch the area under the oaks' branched canopy with arborist type hard wood woodchips (4 – 6" deep), not redwood or cedar bark
- 3) All trees to be saved shall have their root zones and trunk(s) protected with a four (4') foot high orange or yellow plastic, high visibility exclusionary fence surrounding the trees' root zone. The fence shall be staked 10' o.c. maximum spacing, with 5' steel "T" posts, 2" x 2" square or 2"+ Ø wood posts. The exclusionary area shall be under the tree's branched canopy and extend out to the tree's longest dripline radius plus one foot, as a circle. Where new construction will be within the Protected Root Zone, the fencing shall be 4' away from the footings, and extend around the rest of the canopy of the tree from that point. The fencing shall be maintained and not removed until the completion of construction. The fencing shall completely surround the Protected Root Zone and not be "U" shaped or open at any point. Whenever possible, include as many trees that are to be saved into one fenced exclusionary Protected Root Zone. The fencing plan will be completed once the developer decides on driveway, utility, and structure placement.
- 4) As soon as the concrete is poured and the forms are stripped, backfill the footings and stem walls. The protected trees nearby that are to remain should be watered to the point of soil saturation.
- 5) Care must also be continued after the construction is over to select the right plants to live under and near the native oaks. Watered lawns and any frequent summer watering near California oaks will not mix well over a long period. This will cause the oaks to perish due to *Armillaria mellea* (oak root fungus). The demise of the native oaks due to *Armillaria mellea* may take 5 – 20 years. Oaks should live 200 - 300 years.
- 6) To help control root damage, utility-trenching paths are to be established away from the roots and branches of the oaks that are to remain.
- 7) Soil compaction shall be avoided by maintaining the exclusionary Protected Root Zone fencing, keeping material storage, people, portable outhouses, vehicles, and dogs out of this area.
- 8) Soil contamination shall be avoided by eliminating chemical dumping on the property that may infiltrate into the Protected Root Zone. **No:** washing, dumping, or contaminating the site including but not necessarily limited to the following: concrete from tools or trucks, paint materials, sheetrock mud or stucco materials, other chemicals, solvents, herbicides, etc. Limestone gravel should not be used as base material or for drain rock as it will change the pH to be more alkaline, and may harm the native oaks.

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- 9) Do not nail, tie, screw, or fasten any signs, braces, etc. to the trees that are to remain.
- 10) The cut and fill material excavated from or added to the lot can kill an oak by removing too many roots, drying or wetting the soil or by suffocating the roots with too much soil. Care must be taken with the added soil as well as with the actual excavation. Roots need air as much as they need water to survive and for the whole tree to live and to flourish. If fill material is needed, properly designed aeration/ventilation systems made to protect the trees and allow for the fill material can be installed.
- 11) When deciding on a pruning arborist, inquire about a chipper and require them to utilize the chipped branches of the trees to be removed or pruned. The chips are to be used under the oaks that are to remain, as mulch in the Protected Root Zone. Other mulch may be used of arborist type woodchips (4 – 6" deep), but not redwood or cedar bark.
- 12) When the recommended pruning is completed, it is only advisable if a qualified ISA Certified Arborist is on site. No cutting of live wood over 2"Ø shall be made. All cutting, pruning, trimming, cabling, guying, bracing, and lightning protection systems shall conform to the most current standards of the American National Standards Institute (ANSI). The current ANSI Tree Care Standards are A300 (Parts 1-4) 2000 to 2002 (copies at: [www.ansi.org](http://www.ansi.org)). The BMPs are "Best Management Practices", as companion publications to the ANSI Tree Care Standards, printed by the International Society of Arboriculture (copies at: [www.isa-arbor.com](http://www.isa-arbor.com)). The BMP booklets explain the details of the ANSI Tree Care Standards and how to follow them correctly. Pruning of branches under 3" in diameter should be made with sharp hand tools: pruners, loppers, and/or handsaws, not chainsaws.

These important details will greatly increase the likelihood of survival for your protected trees.

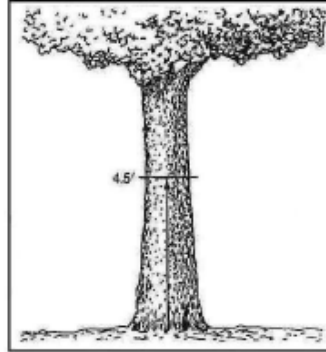


**SUPPORTING INFORMATION**

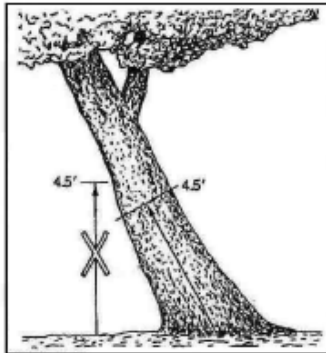
**Tree SIZE Expressed by Trunk Diameter**

"The height at which the trunk diameter of a tree is measured depends upon its size. The American Standard for Nursery Stock (ANSI, 1990) state that measurements shall be taken 6 inches (15 cm) above the ground for trunk diameters up to and including 4 inches (10 cm). Larger trees (assumed, but not stated, to be of transplantable size) are to be measured at 12 inches (30 cm). Trees normally considered too large to transplant are to be measured 4.5 feet [4'-6" is also called diameter breast high or dbh] (1.4 m) above the ground. Trees, like conifers, which have branches below 4.5 feet should be measured at a height that most effectively represents the size of the tree." The diameter is calculated by first measuring the circumference divided by 3.14 ( $\pi$  called pi) or by using a "diameter tape" whereon the inches are multiplied by  $\pi$  and shown to produce the diameter directly.

This is the dbh standard for measurement as shown in figure 4-2.



Figures 4-2. Trees with fairly straight, upright trunks with the lowest branch arising on the trunk higher than 6 feet (1.8 m) above the ground should be measured at 4.5 feet (1.4 m).



Figures 4-3 (top) and 4-4 (bottom). In each case, the trunk circumference should be measured at right angles to the trunk 4.5 feet (1.4 m) along the center of the trunk axis so the height is the average of the shortest and longest sides of the trunk.

There are some exceptions to the dbh standard as shown in the figures 4-3, 4-4, 4-5 & 4-6.

Figure 4-6. In a multi-stem tree, measure the trunk circumference of each trunk at 4.5 feet (1.4 m) above the ground. The area of each trunk is determined and then added together to obtain a trunk area that is representative of the size of the tree and each of the stems contribute its proportionate share to the canopy.

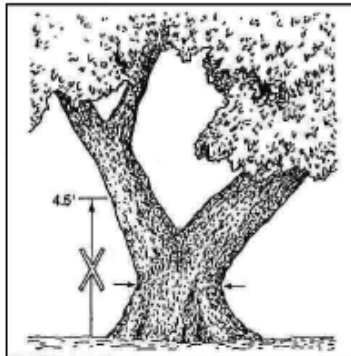
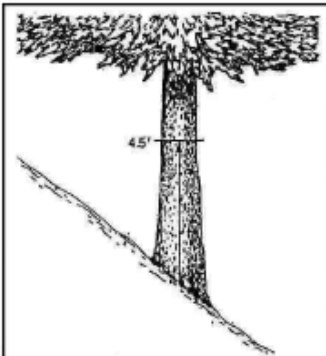
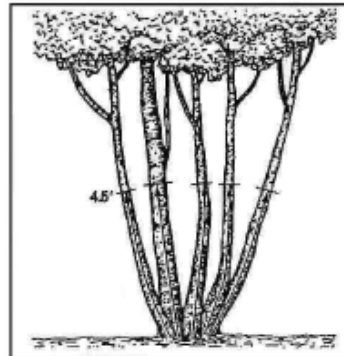


Figure 4-5. When low branches preclude measuring the trunk at 4.5 feet (1.4 m) measure the smallest circumference below the smallest branch. In this example, an alternative would be to determine the sum of the cross-sectional areas of the two stems measured about 12 inches (30 cm) above the crotch; then average the sum of the two branch areas and the smallest cross-sectional area below the branches. This may give a better estimate of tree size. Record the height of measurement (x) and the reasons the height or those heights were chosen.



**ABACUS**

"Where Every Detail Counts"

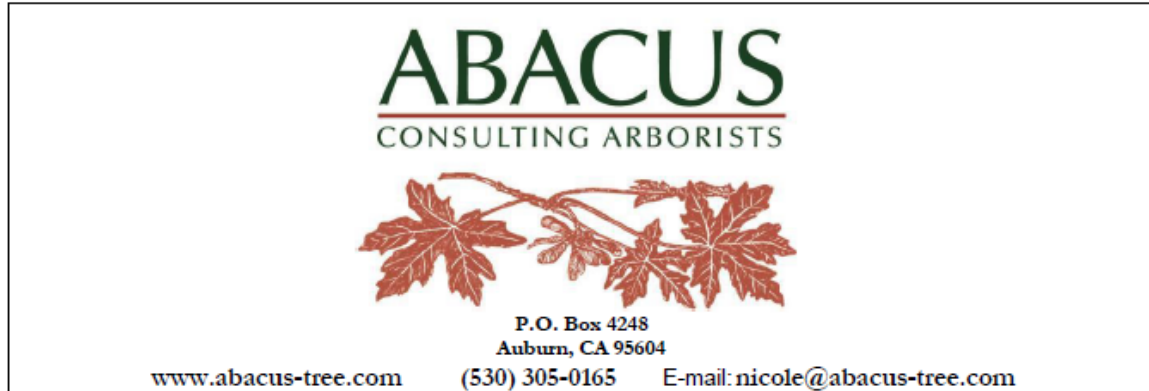
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**Tree SIZE Expressed by Trunk Diameter**

Scale: NTS

Drawing: TSE



Disclosure, Assumptions and Disclaimer

- 1) I, Nicole Harrison, *ISA Certified Arborist WE-6500AM*, with "ABACUS", did personally inspect the site and investigated the tree(s) as mentioned in this report and I performed all aspects of this report unless noted otherwise in the report. Arborist Assistants were Michael McNamara and Nicholas McNamara.
- 2) We have neither financial interest in the tree work that may or may not be done, nor financial interest in the property where the tree(s) is (are) located unless noted within the report.
- 3) All opinions and recommendations expressed herein this report are ours solely. We have used our specialized education, knowledge, training and experience to examine the tree(s) and to make our opinions and recommendations to enhance the beauty, health and longevity, with an attempt to reduce the risk of who and/or what is near these trees. We cannot guarantee or warranty that a tree will not be healthy or safe under all circumstances, nor for a specific period of time or that problems may not arise in the future.
- 4) Our report with its opinions and recommendations are limited to the tree(s) inspected.
- 5) We attempt to be cognizant of the whole scope of a project, but many matters are beyond the scope of our professional consulting arborist services such as: exact property boundaries, property ownership, site lines, easements, codes, covenants & restrictions (CC&Rs), disputed between neighbors, and other issues.
- 6) We rely on the information disclosed to us and assume the information to be complete, true, and accurate.
- 7) The inspection is limited to visual examination of accessible items of the tree(s), from the ground unless otherwise noted, without excavation, probing, boring, or dissection, unless noted otherwise. Only information covered in this report was examined, and reflects the condition of those inspected items at that specific time.
- 8) Clients may choose to accept or disregard these opinions and recommendations of the arborist or to seek additional advice.
- 9) This report is copyrighted. Any modification or partial use shall nullify the whole report. Do not copy without written permission. This report is for the client and the client's assignees.
- 10) Sketches, diagrams, graphs, drawings, and photographs within this report are intended as visual aids and are not necessarily to scale, and should not be construed as engineering or architectural detail, reports or surveys.
- 11) We shall not attend or give a deposition and/or attend court by reason of this report unless fees are contracted for in advance, according to our standard fee schedule, adjusted yearly, for such services as described.

Signed:

ABACUS: Nicole Harrison, *Project Manager & ISA Certified Arborist #WE-6500A*