

***Los Angeles City College* Ten Year Master Plan 2002 - 2012**

an urban oasis of learning

May 31, 2002

Appendix 1 - Arborist Report

Prepared by

LEO A DALY | Bobrow/Thomas and Associates



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**Consulting Arborist's Report
October 4, 2001**

Tree Management & Preservation Study

Los Angeles City College

Prepared for:

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Introduction

Background

Spurlock Poirier and Jubany Architecture are working together on a landscape master plan for Los Angeles City College (LACC) at 855 Vermont in Los Angeles. This work is part of an overall master plan being developed by Leo A. Daly and Bobrow Thomas. The college is about 75 years old. The campus is more than 40 acres. Besides its educational function, the facility is open on weekends and also serves as a recreational facility for the surrounding community.

The master plan may include addition or removal of buildings or paving. The value of the various mature trees on campus is being prepared to aid in the planning and budgeting process. The future health of the trees will depend on protecting them during any construction, providing a suitable environment for their future growth and providing proper maintenance.

The trees of Los Angeles City College are a significant asset to the campus. While all trees age and eventually decline and die, proper care can extend their period of useful and attractive life. Some of the original trees dating back to 1929 are historically significant. There are no endangered species of trees on this property. Having evolved through various management programs, there is a mixture of large mature trees and younger replacement plantings. The vast majority of the trees covered within this report are non-native exotic species trees, except for several California live oaks, *Quercus agrifolia*, and two California sycamores, *Platanus racemosa*. Most of the trees on campus are attractive from a distance, however when inspected individually, many have been poorly trained and pruned, contain many structural defects, and are in poor health due to pests, disease, soil compaction, or the small root space available.

Mature trees and mature trees in decline pose more of a risk.

Assignment

Mr. Andrew Spurlock, of Spurlock Poirier Landscape Architects, contacted this consultant and requested that I propose to produce a study of the trees on the LACC campus and make recommendations to improve their health, safety and longevity. This consultant was asked to inspect the subject trees, report on their present health, condition, their present value, and make recommendations to preserve trees. The follow scope of work has been accepted based on my previous proposal:

1. Label each tree over 4 inches trunk diameter with numbered aluminum tags for report reference. The production and installation of arboretum style tags can be included as a cost-plus extra.
2. Assess the trees to obtain the following information:
 - Evaluate each tree for the trunk size, form, and species.
 - Evaluate the health, condition and density of the crown.
 - Evaluate the root crown and root depth to mitigate probable construction impacts.
 - Evaluate the trunk of each tree for signs and symptoms of disease, decay and defects.
 - The location of each tree will be referenced to the nearest building or feature.
3. Provide and include representative photographs for clarification of discussion and future monitoring.
4. Make recommendations for construction, planting, and irrigation accommodations to rooting and branching patterns of desirable trees.
5. Make other horticultural recommendations for measures needed to preserve and enhance other desirable trees, e.g. live oaks or cape chestnuts at the south end of the quad.
6. Provide a general tree hazard reduction policy and procedure recommendations.
7. Identify general landscape safety issues and recommendations for hazard reduction methods. Issues involving turf, hardscape and tree roots will be discussed.
8. Four hours of time is included for location of unusual or rare plants, e.g. Iris cultivars.
9. Eight hours of general horticultural consultation are included, to be used as needed.

Executive Summary

Overview of Conditions and Recommendations

There is a mixture of two hundred ninety-one trees including: a large number of *Eucalyptus citriodora*, lemon-scented gum; *Ficus microcarpa Nitida*, Indian laurel; *Pittosporum undulatum*, Victorian box; *Fraxinus uhdei*, Shamel ash, *Jacaranda acutifolia*, Jacaranda, *Liquidambar styraciflua*, sweet gum, *Calodendron capense*, cape chestnut, *Ulmus parvifolia*, evergreen elm, and *Washingtonia robusta*, Mexican fan palms, among many others planted on the property. Their sizes, esthetic quality, health and condition are found in the enclosed Matrix of Findings, which is found later in this report.

Most of the trees planted in large open areas are adequately healthy or capable of recovery. However, as one should expect, trees planted over seventy years ago in small, restricted planters are reaching their maximum size and are declining or will begin to decline in health. The average life expectancy of urban street trees in Los Angeles, as published by the American Forestry Association, is seventeen years. For appraisal purposes, Marshall Valuation Service gives an average life expectancy of 35 years for deciduous trees and 25 years for evergreen trees. Marshall's table gives a 30 or 20-year life expectancy guideline for "low" situations, which would apply to small planters or cutouts. The main limiting factor is the lack of root space. Large projects are mass graded and compacted to 90% Proctor density. When trees are planted a three or four-foot square hole is dug into this compacted soil. Typically, the tree roots grow up out of the planting hole and extend beneath the surrounding paving. This means that there is only about 48 cubic feet of prepared root space if a four by four foot plant pit is dug three feet deep. Usually it is less than this. A large mature elm, with a normal root system, can occupy 100 cubic yards (2700 cubic feet) of soil.

Proper pruning of trees can improve or reduce their health, soundness, beauty and value. Early training is needed to allow good attachment for the main scaffold limbs. Flush cuts, topping and lion-tail pruning not only create weak structure, but also reduce the health and beauty of the trees. While the pruning on campus is slightly higher than

average quality, there are still many defects caused by the above factors. The appraised values reflect these factors. The appraisal matrix is found later in this report.

For the purposes of master planning, I was requested to make a determination of which trees are more valuable or priority trees. In the absence of historically or socially important criteria, the more valuable trees would, in my opinion, be based on economic value.

Utilizing the *Guide for Plant Appraisal*, 9th Edition, the Western Chapter ISA *Species Classification and Group Assignment* publication, and my observations and findings, the total appraised value of the trees is \$1,087,000.

Due to the short lifespan of trees in small, confined planters, planners should consider that straight appraisal methods do not often account for remaining life expectancy. Trees in such confined areas should be given a lower status for retention, but were not appraised differently than trees in open planting areas. Since this appraisal is only used for budgeting and planning purposes, depreciation should not be necessary in this case. For maintenance budgeting purposes, the reader should consider that trees in confined planters usually require more maintenance.

A lower level of hazard analysis has been considered within this report. Maintenance personnel have been interviewed to determine past incidents and the types of inspections regularly performed at this time. Based on the analysis of my data and their input, mitigation recommendations and a suggested hazard policy are offered. No regular inspections are performed and no one on site has training in hazard analysis. As trees mature and decline, the level of hazard increases considerably, especially when they do not receive proper training and when the site is heavily used.

Even healthy mature trees drop otherwise sound limbs. However, in most cases there are good indications of future limb drop or failure during storms. Maintenance personnel should be trained to recognize warning signs, report them, and have a plan to deal with risk in a prioritized manner. A regular inspection by a designated and trained individual must be begun, since LACC is a heavily populated public institution. This is a significant public safety issue. A suggested hazard policy is found in the Hazard Analysis section of this report.

The blue gums on the north side of the campus get the first blast of Santa Ana winds, but are restricted in rooting to the north by concrete walls and sidewalks. With their history of dropping limbs on campus, poor structure and poor reputation they should be removed immediately. Several other trees are also recommended for immediate removal in the Hazard Analysis section of this report.

Findings

General

The bulk of the trees on this project are *Eucalyptus citriodora*, lemon-scented gum; *Eucalyptus globulus*, blue gum; *Ficus microcarpa Nitida*, Indian laurel; *Calodendron capense*, cape chestnut; *Pittosporum undulatum*, Victorian box; *Tupidanthus calyptratus*, mallet flower, and *Washingtonia robusta*, Mexican fan palms. There are 116 trees between these seven species on this site. Ficus are aggressive trees with destructive roots. An overly large percentage of trees at LACC are of the eucalyptus genus, which can be hazardous as they age. Blue gums and lemon-scented gums are typically fine rooted and seldom damage paving, however they are known for dropping large limbs even during calm winds. Tree preservation can be a costly and detailed undertaking, and the useful life span of these trees; their present appearance and condition dictate balancing the cost of transplanting or preservation in place with their value and remaining lifespan.

Surrounding city street trees are not included in this assignment.

Species distribution

Botanic name	Common name	Count
Acer palmatum	Japanese maple	1
Albizia julibrissin	Mimosa	1
Araucaria bidwillii	Bunya-bunya	1
Bauhinia punctata	Red bauhinia	1
Betula alba	White birch	1

Botanic name	Common name	Count
Callistemon viminalis	Weeping bottlebrush	1
Calocedrus decurrens	Incense cedar	7
Calodendron capense	Cape chestnut	14
Cassia leptophylla	Golden medallion	1
Cassia splendida	Golden wonder senna	1
Cedrus deodara	Deodar cedar	2
Celtis sinensis	Chinese hackberry	1
Chamaerops humilis	Mediterranean fan palm	1
Chorisia speciosa	Floss silk tree	6
Cinnamomum camphora	Camphor tree	1
Cupania anacardioides	Carrotwood	6
Cupressus sp.	Cypress	1
Erythrina caffra	Coral tree	7
Erythrina coralloides	Naked coral tree	1
Eucalyptus camaldulensis	Red gum	2
Eucalyptus citriodora	Lemon-scented gum	24
Eucalyptus globulus	Blue gum	10
Eucalyptus robusta	Swamp gum	2
Ficus benjamina	Benjamin fig	3
Ficus carica	Edible fig	2
Ficus elastica	Rubber tree	1
Ficus m. 'Nitida'	Indian laurel	26
Ficus macrophylla	Morton bay fig	2
Fraxinus uhdei	Shamel ash	9
Gingko biloba	Maidenhair tree	3
Heteromeles arbutifolia	Toyon	1

Botanic name	Common name	Count
Hymenosporum flavum	Sweet shade	1
Ilex x Wilsonii	Wilson holly	1
Jacaranda acutifolia	Jacaranda	7
Juniperus c. Torulosa	Hollywood juniper	1
Laurus nobilis	Grecian bay	4
Liquidambar styraciflua	Sweet gum	9
Magnolia grandiflora	Southern magnolia	5
Melaleuca linarifolia	Flax-leaf paperbark	1
Melaleuca quinquenervia	Cajeput	2
Morus alba	Fruitless mulberry	3
Olea europea	Olive	1
Olmediella betschlerana	Guatemalan holly	1
Phoenix reclinata	Senegal date palm	1
Pinus canariensis	Canary Island pine	1
Pinus pinea	Italian stone pine	1
Pinus sp.	Pine	2
Pinus torreyana	Torrey pine	1
Pittosporum rhombifolia	Queensland pittosporum	2
Pittosporum undulatum	Victorian box	12
Pittosporum viridiflorum	Cape pittosporum	1
Platanus racemosa	California sycamore	1
Platanus x acerifolia	London plane tree	5
Podocarpus gracilior	Fern pine	8
Populus nigra 'Italica'	Lombardy poplar	1
Prunus armeniaca	Apricot	1
Quercus agrifolia	Coast live oak	4

Botanic name	Common name	Count
Quercus chrysolepis	Canyon live oak	1
Quercus ilex	Holly oak	1
Quercus lobata	Valley oak	2
Rhus integrifolia	Lemonade berry	1
Rhus laurina	Laurel sumac	2
Sequoia sempervirens	Coast redwood	2
Strelitzia nicolai	Giant bird of paradise	5
Tipuana tipu	Tipu tree	5
Trachycarpus fortunei	Windmill palm	2
Tupidanthus calyptratus	Mallet flower	11
Ulmus parvifolia	Chinese elm	5
Washingtonia robusta	Mexican fan palm	19
Xylosma congesta	Shiny xylosma	2

Pests and Disease

Several significant pests were noted. Lemon gums are infested with a new species of psyllid – *Eucalyptolyma maidenii*, fern leaf psyllid. In California the red gum is infested with *Glycaspis brimblecombei*, red gum lerp psyllid. The Grecian bay trees are infested with scale insects. This consultant saw no clear signs of disease; however the stressful conditions the trees were living under would be likely to lead to disease. The dieback evident in a number of trees could be due to disease or environmental stress factors. The flush cuts found on a number of trees can be expected to lead to decay. Planned construction may cause stresses sufficient to allow disease to progress and decay to advance.

General Soils Discussion

One of the major effects of heavy foot and lawn mower traffic is soil compaction. Evidence linking compaction to the poor health and early death of trees has been clearly shown. The effect of compacted soil on trees is obvious. Other plants that happen to be rooted in compacted soil, shrubs, perennials, even turf, can suffer from compaction as well. The bare soils below many trees and shrubs, where even weeds cannot grow back, are common place. Root systems demand certain conditions and simply will not grow in compacted soil.

Several signs compacted soil are:

- Standing water on the soil surface long after moderate rain.
- Roots of plants, especially trees, close to or exposed on the surface.
- Yellowing of foliage, especially in early spring, coupled with diminished development of leaves throughout the growing season. Although, that may indicate unhealthy roots or nutrient deficiency as well. Cross-checking with foliar and soil analyses may be required.
- Presence of certain grasses or weeds that tolerate compacted soils, e.g. plantain.
- Incidence of various diseases that arise from poor drainage and lack of oxygen.
- Resistance to penetration of the soil by shovel, pick, knife point or probe.

Several of these symptoms may be present on a heavily used site, such as this. It is unlikely that one symptom alone - except resistance to penetration - indicates compaction. Moreover, individual features may occur on uncompacted soils; shallow-rooted tree species such as ficus, liquidambar and Shamel ash, for example, exhibit roots near the surface even on uncompacted soils.

Significant effects of soil compaction as they affect management of the site include:

- Crusting. Crusting occurs when the soil aggregates are pulverized and the fines fill the smaller pores. In addition, traffic compacts the surface more than lower soil depths.
- Decreased infiltration. The crust formation coupled with the reduced pore space and its smaller average-pore size reduces the infiltration capacity of the compacted soil even under heavy rainfall, creating runoff and soil erosion.
- Increased density. As soil fragments fill voids in compressed soil, the total pore space is reduced and the larger air-filled pores are destroyed or at least reduced in size.
- Decreased water-holding capacity. Since water is held in the pore space, any pore space decrease will generally decrease water-holding capacity. Drought symptoms may be shown even on frequently irrigated trees.
- Decreased soil aeration. Diffusion of gases, such as oxygen and carbon dioxide, into and out of the soil can be greatly reduced. Pores become discontinuous and the pores that are water-filled act as a barrier to diffusion of gases. Even though the surface soil may be the only portion compacted, infiltration and diffusion are determined by the least permeable layer of the soil profile; so the entire root zone may suffer from reduced diffusion.
- Root impedance. Roots penetrate only pores as large or larger in diameter than their root tip; the root will penetrate a smaller pore only if the soil is loose. If the soil is firm, the root simply cannot penetrate the smaller pore.

Unfortunately, soil compaction becomes obvious to many people only after it happens. The best and most reliable procedure for preventing it is to specify compaction-resistant soils in the redesign process, together with other design elements.

Matrix of Findings

Each tree on campus over 4 inches in trunk diameter was labeled with consecutively numbered metal tags (from 1-291), except Los Angeles City street trees. Common names for each species were presented in the previous section. The size, species, evaluation of health, structural condition, location, and the description of defects, health and condition of the trees is listed below. Arboricultural terms are defined in the glossary.

Caliper is determined according to methods described in the 9th edition of the *Guide for Plant Appraisal*. A Biltmore stick was used to measure trees over eight inches and tree calipers were used to measure trees less than eight inches in trunk diameter.

Tag	Species	*DBH	Form	Health	Density	Trunk	Scaffold	Root	Branch	Foliage	Location	Space
1	Liquidambar styraciflua	16	Excurrent	Fair	Light	90%	60%	50%	60%	60%	Vermont S.	Adequate
2	Jacaranda acutifolia	12	Decurrent	Fair	Light	50%	40%	40%	40%	50%	Vermont S.	Adequate
3	Chorisia speciosa	28	Decurrent	Good	Average	95%	80%	60%	70%	70%	Vermont S.	Restricted
4	Washingtonia robusta	20' th	Single	Excellent	Full	100%	-	60%	-	100%	Vermont S.	Adequate
5	Washingtonia robusta	14'	Single	Good	Average	100%	-	60%	-	90%	Vermont S.	Adequate
6	Washingtonia robusta	10'	Single	Good	Average	100%	-	60%	-	90%	Vermont S.	Adequate
7	Washingtonia robusta	50'	Single	Good	Average	60%	-	50%	-	80%	Vermont S.	Adequate
8	Washingtonia robusta	16'	Single	Good	Average	90%	-	60%	-	80%	Vermont S.	Adequate
9	Cinnamomum camphora	32	Decurrent	Decline	Sparse	80%	80%	60%	60%	50%	Vermont S.	Restricted
10	Cupania anacardioides	6.5	Decurrent	Good	Full	80%	60%	60%	80%	90%	Vermont S.	Restricted
11	Strelitzia nicolai	8@15'	Multi	Fair	Light	70%	-	50%	-	60%	Vermont S.	Enclosed
12	Strelitzia nicolai	15@15'	Multi	Good	Average	80%	-	50%	-	70%	Vermont N.	Enclosed
13	Chamaerops humilis	6@10'	Multi	Good	Average	90%	-	90%	-	80%	Vermont N.	Adequate
14	Washingtonia robusta	40'	Single	Poor	Light	80%	-	60%	-	50%	Vermont N.	Adequate
15	Washingtonia robusta	50'	Single	Fair	Average	90%	-	60%	-	90%	Vermont N.	Adequate
16	Washingtonia robusta	45'	Single	Fair	Average	80%	-	60%	-	90%	Vermont N.	Adequate
17	Tupidanthus calyptatus	8	Decurrent	Good	Average	70%	70%	80%	70%	80%	Vermont N.	Adequate
18	Eucalyptus citriodora	14	Excurrent	Fair	Average	90%	70%	80%	80%	60%	Vermont N.	Adequate
19	Ficus m. 'Nitida'	28	Decurrent	Good	Full	90%	60%	50%	80%	80%	Cafeteria	Restricted

Tag	Species	*DBH	Form	Health	Density	Trunk	Scaffold	Root	Branch	Foliage	Location	Space
20	Ficus m. 'Nitida'	36	Decurrent	Good	Average	90%	60%	50%	70%	70%	Cafeteria	Restricted
21	Ficus m. 'Nitida'	27	Decurrent	Good	Full	90%	60%	50%	70%	80%	Cafeteria	Restricted
22	Ficus m. 'Nitida'	23	Decurrent	Good	Average	90%	70%	50%	60%	70%	Cafeteria	Restricted
23	Ficus m. 'Nitida'	29	Decurrent	Good	Average	90%	70%	50%	60%	70%	Cafeteria	Restricted
24	Ficus m. 'Nitida'	28	Decurrent	Good	Full	80%	70%	50%	60%	70%	Cafeteria	Restricted
25	Ulmus parvifolia	17	Decurrent	Poor	Sparse	90%	60%	60%	40%	30%	Book store	Adequate
26	Ulmus parvifolia	17	Decurrent	Poor	Sparse	90%	70%	70%	50%	30%	Book store	Adequate
27	Ulmus parvifolia	14 b	Decurrent	Poor	Sparse	90%	80%	50%	50%	40%	Book store	Restricted
28	Pittosporum rhombifolia	8	Decurrent	Poor	Sparse	60%	20%	40%	30%	20%	Staff ctr	Restricted
29	Pittosporum rhombifolia	14b	Decurrent	Poor	Sparse	40%	40%	30%	30%	20%	Staff ctr	Restricted
30	Ficus macrophylla	42, 27, 32	Multi	Decline	Sparse	40%	40%	10%	20%	20%	Monroe ent	Restricted
31	Eucalyptus camaldulensis	53	Decurrent	Poor	Sparse	80%	80%	20%	60%	40%	Monroe ent	Restricted
32	Pittosporum undulatum	9, 10	Multi	Poor	Sparse	60%	60%	30%	30%	30%	Monroe ent	Restricted
33	Pittosporum undulatum	11	Decurrent	Poor	Sparse	10%	20%	40%	20%	20%	Monroe ent	Restricted
34	Pittosporum undulatum	6, 6, 7	Multi	Poor	Sparse	10%	10%	20%	20%	20%	Monroe ent	Restricted
35	Podocarpus gracilior	15	Decurrent	Fair	Sparse	90%	60%	30%	70%	60%	Holmes	Restricted
36	Podocarpus gracilior	14	Decurrent	Fair	Sparse	90%	60%	30%	70%	60%	Holmes	Restricted
37	Eucalyptus camaldulensis	37	Decurrent	Decline	Sparse	90%	60%	40%	20%	10%	Holmes	Restricted
38	Ulmus parvifolia	13	Decurrent	Fair	Sparse	50%	50%	40%	60%	50%	Holmes	Restricted
39	Eucalyptus citriodora	14	Decurrent	Fair	Sparse	90%	30%	50%	50%	50%	Art gallery	Restricted
40	Hymenosporum flavum	7	Excurrent	poor	sparse	60%	60%	60%	30%	20%	Art gallery	Restricted
41	Ilex x Wilsonii	8	Decurrent	Good	Average	80%	80%	90%	80%	80%	Clausen N	Restricted
42	Araucaria bidwillii	43	Excurrent	Good	Average	70%	70%	80%	90%	90%	Clausen N	Adequate
43	Olmediella betschlerana	21	Decurrent	Good	Average	90%	80%	90%	80%	90%	Clausen N	Adequate
44	Podocarpus gracilior	17	Decurrent	Poor	Sparse	90%	80%	60%	60%	50%	DaVinci N	Restricted
45	Fraxinus uhdei	34	Decurrent	Good	Full	90%	80%	70%	80%	90%	Lawn	Open
46	Liquidambar styraciflua	8	Excurrent	Good	Average	90%	90%	70%	90%	90%	DaVinci N	Restricted

Tag	Species	*DBH	Form	Health	Density	Trunk	Scaffold	Root	Branch	Foliage	Location	Space
47	Liquidambar styraciflua	15	Excurrent	Good	Average	90%	90%	60%	90%	90%	DaVinci N	Restricted
48	Liquidambar styraciflua	18	Excurrent	Fair	Sparse	80%	70%	40%	60%	60%	DaVinci N	Restricted
49	Fraxinus uhdei	20	Decurrent	Fair	Average	90%	80%	70%	70%	80%	Lawn	Open
50	Fraxinus uhdei	23	Decurrent	Poor	Sparse	90%	80%	70%	60%	60%	Lawn	Open
51	Tipuana tipu	24	Decurrent	Good	Average	90%	90%	60%	80%	80%	Lawn	Open
52	Magnolia grandiflora	10	Decurrent	Fair	Sparse	80%	80%	70%	50%	50%	Art gallery	Restricted
53	Tipuana tipu	16	Decurrent	Good	Average	70%	60%	60%	60%	60%	Art gallery	Restricted
54	Tipuana tipu	10	Decurrent	Good	Average	70%	60%	50%	60%	80%	Art gallery	Restricted
55	Melaleuca quinquenervia	12	Excurrent	Good	Average	80%	50%	60%	60%	50%	Art gallery	Restricted
56	Jacaranda acutifolia	12	Decurrent	Fair	Average	70%	40%	20%	60%	70%	Holmes	Adequate
57	Jacaranda acutifolia	14	Decurrent	Fair	Average	80%	50%	60%	60%	60%	Holmes	Adequate
58	Jacaranda acutifolia	12	Decurrent	Fair	Average	10%	40%	40%	70%	70%	Holmes	Adequate
59	Fraxinus uhdei	27	Decurrent	Good	Average	90%	80%	70%	70%	70%	Lawn	Open
60	Eucalyptus citriodora	28	Decurrent	Fair	Sparse	90%	60%	60%	60%	40%	Lawn	Adequate
61	Calodendron capense	19	Decurrent	Poor	Sparse	90%	90%	70%	70%	60%	Plaza	Restricted
62	Calodendron capense	14	Decurrent	Decline	V sparse	80%	70%	60%	30%	10%	Plaza	Restricted
63	Calodendron capense	15	Decurrent	Decline	Sparse	90%	80%	70%	50%	50%	Plaza	Restricted
64	Calodendron capense	20	Decurrent	Fair	Sparse	90%	90%	70%	80%	70%	Plaza	Restricted
65	Calodendron capense	13	Decurrent	Poor	Sparse	70%	60%	50%	50%	50%	Plaza	Restricted
66	Calodendron capense	10	Decurrent	Poor	Sparse	80%	70%	70%	60%	50%	Plaza	Restricted
67	Calodendron capense	14	Decurrent	Poor	Sparse	70%	90%	80%	60%	70%	Plaza	Restricted
68	Calodendron capense	12	Decurrent	Decline	V sparse	80%	90%	90%	30%	20%	Plaza	Restricted
69	Melaleuca quinquenervia	10, 8	Multi	Excellent	Full	90%	80%	60%	90%	90%	Admin	Adequate
70	Eucalyptus citriodora	11	Excurrent	Poor	Sparse	90%	60%	80%	50%	40%	Admin	Adequate
71	Eucalyptus citriodora	10	Excurrent	Poor	Sparse	90%	60%	80%	50%	50%	Admin	Adequate
72	Eucalyptus citriodora	16	Excurrent	Poor	Sparse	90%	50%	80%	50%	50%	Admin	Adequate
73	Ficus macrophylla	33,26,22	Multi	Good	Full	80%	80%	80%	90%	100%	Admin	Restricted

Tag	Species	*DBH	Form	Health	Density	Trunk	Scaffold	Root	Branch	Foliage	Location	Space
74	Pittosporum undulatum	9, 10	Multi	Fair	Sparse	60%	60%	60%	50%	50%	Admin	Restricted
75	Quercus agrifolia	32	Decurrent	Fair	Average	80%	80%	60%	70%	70%	Admin	Restricted
76	Pittosporum undulatum	8, 10, 13	Multi	Poor	Sparse	60%	40%	40%	30%	10%	Admin	Restricted
77	Washingtonia robusta	35'	Single	Good	Full	100%	-	90%	-	100%	Admin	Adequate
78	Washingtonia robusta	40'	Single	Good	Full	100%	-	90%	-	100%	Admin	Adequate
79	Washingtonia robusta	45'	Single	Good	Full	100%	-	90%	-	100%	Admin	Adequate
80	Pittosporum undulatum	6, 7, 9	Multi	Poor	Sparse	50%	40%	10%	40%	20%	Admin	Adequate
81	Pittosporum undulatum	9	Decurrent	Decline	Sparse	30%	20%	10%	20%	20%	Admin	Restricted
82	Jacaranda acutifolia	11	Decurrent	Good	Full	90%	60%	70%	70%	90%	Admin	Adequate
83	Washingtonia robusta	55'	Single	Good	Full	100%	-	90%	-	100%	Admin	Adequate
84	Washingtonia robusta	55'	Single	Fair	Average	60%	-	80%	-	80%	Admin	Adequate
85	Washingtonia robusta	55'	Single	Good	Full	80%	-	90%	-	90%	Admin	Adequate
86	Trachycarpus fortunei	25' th	Single	Good	Average	90%	-	90%	-	70%	Admin	Restricted
87	Strelitzia nicolai	10@12'	Multi	Fair	Sparse	70%	-	70%	-	60%	Admin	Restricted
88	Strelitzia nicolai	5@12'	Multi	poor	Sparse	50%	-	50%	-	40%	Admin	Restricted
89	Chorisia speciosa	29	Decurrent	Poor	Sparse	90%	60%	40%	40%	30%	Admin	Adequate
90	Cassia leptophylla	5,5, 6	Multi	Excellent	Full	70%	70%	80%	90%	90%	Admin	Adequate
91	Eucalyptus citriodora	18	Decurrent	Decline	Sparse	90%	70%	60%	60%	40%	Admin	Adequate
92	Calodendron capense	20	Decurrent	Fair	Average	90%	90%	70%	80%	80%	Admin	Restricted
93	Calodendron capense	10	Decurrent	Decline	Sparse	90%	50%	20%	20%	20%	Admin	Restricted
94	Calodendron capense	14	Decurrent	Poor	Sparse	70%	60%	70%	30%	30%	Admin	Restricted
95	Calodendron capense	14	Decurrent	Fair	Average	90%	90%	70%	80%	80%	Admin	Restricted
96	Liquidambar styraciflua	12	Excurrent	Good	Average	40%	80%	80%	80%	90%	Admin	Adequate
97	Washingtonia robusta	50'	Single	Good	Full	80%		70%		90%	Admin	Adequate
98	Trachycarpus fortunei	12'	Single	Good	Full	100%		100%		100%	Admin	Adequate
99	Chorisia speciosa	16	Decurrent	Poor	Sparse	90%	60%	70%	40%	50%	Admin	Restricted
100	Tipuana tipu	28	Decurrent	Fair	Sparse	90%	70%	70%	70%	50%	Admin	Adequate

Tag	Species	*DBH	Form	Health	Density	Trunk	Scaffold	Root	Branch	Foliage	Location	Space
101	Populus nigra 'Italica'	11	Excurrent	Good	Full	90%	90%	80%	100%	100%	Franklin	Restricted
102	Eucalyptus citriodora	11	Excurrent	Fair	Sparse	90%	80%	70%	50%	50%	Franklin	Restricted
103	Eucalyptus citriodora	15	Excurrent	Fair	Sparse	90%	70%	70%	60%	50%	Franklin	Restricted
104	Ginkgo biloba	10	Excurrent	Fair	Sparse	60%	60%	70%	60%	60%	Franklin	Adequate
105	Chorisia speciosa	29	Decurrent	Good	Average	90%	80%	70%	60%	60%	Franklin	Adequate
106	Eucalyptus citriodora	14	Decurrent	Fair	Sparse	80%	60%	60%	60%	60%	Franklin	Adequate
107	Albizia julibrissin	6	Decurrent	Fair	Full	90%	80%	60%	80%	90%	Franklin	Adequate
108	Erythrina caffra	24	Decurrent	Good	Average	70%	50%	70%	80%	80%	Franklin	Restricted
109	Laurus nobilis	11	Decurrent	Fair	Average	50%	60%	60%	50%	50%	Jefferson	Restricted
110	Laurus nobilis	10	Decurrent	Fair	Average	40%	70%	60%	50%	50%	Jefferson	Restricted
111	Fraxinus uhdei	14	Decurrent	Fair	Average	50%	70%	20%	40%	80%	Lawn	Open
112	Fraxinus uhdei	22	Decurrent	Good	Average	90%	70%	70%	70%	80%	Lawn	Open
113	Fraxinus uhdei	24	Decurrent	Good	Average	80%	70%	70%	70%	80%	Lawn	Open
114	Jacaranda acutifolia	14	Decurrent	Fair	Average	70%	80%	50%	60%	70%	Lawn	Adequate
115	Laurus nobilis	10	Decurrent	Fair	Average	40%	60%	50%	60%	60%	Jefferson	Adequate
116	Laurus nobilis	8	Decurrent	Fair	Average	40%	60%	50%	60%	60%	Jefferson	Adequate
117	Eucalyptus citriodora	24	Decurrent	Fair	Sparse	80%	70%	60%	70%	60%	Jefferson	Adequate
118	Eucalyptus citriodora	18	Decurrent	Fair	Sparse	90%	60%	60%	40%	60%	Jefferson	Adequate
119	Ficus benjamina	24	Decurrent	Excellent	Full	70%	60%	70%	60%	70%	Jefferson	Restricted
120	Ficus benjamina	20	Decurrent	Excellent	Full	80%	60%	70%	60%	70%	Jefferson	Restricted
121	Ficus benjamina	30	Decurrent	Excellent	Full	70%	70%	70%	60%	70%	Jefferson	Restricted
122	Magnolia grandiflora	19	Decurrent	Fair	Average	90%	80%	80%	60%	60%	Jefferson	Restricted
123	Liquidambar styraciflua	6	Excurrent	Good	Full	90%	90%	90%	90%	100%	Theatre	Restricted
124	Liquidambar styraciflua	8	Excurrent	Good	Sparse	90%	70%	80%	70%	60%	Theatre	Restricted
125	Morus alba	11	Decurrent	Good	Average	90%	50%	80%	40%	80%	Theatre	Restricted
126	Liquidambar styraciflua	4	Excurrent	Fair	Average	80%	50%	60%	60%	80%	Theatre	Restricted
127	Fraxinus uhdei	18	Decurrent	Fair	Average	90%	70%	70%	50%	60%	Lawn	Restricted

Tag	Species	*DBH	Form	Health	Density	Trunk	Scaffold	Root	Branch	Foliage	Location	Space
128	Calodendron capense	9	Decurrent	Decline	Sparse	90%	80%	60%	40%	20%	p	Restricted
129	Calodendron capense	13	Decurrent	Decline	Sparse	90%	70%	70%	40%	30%	p	Restricted
130	Cassia splendida	6	Multi	Good	Full	70%	70%	70%	80%	90%	Theatre	Restricted
131	Cupania anacardioides	5	Decurrent	Decline	Sparse	60%	50%	40%	40%	40%	Theatre	Restricted
132	Cupania anacardioides	9b	Multi	Fair	Sparse	60%	60%	50%	50%	60%	Theatre	Restricted
133	Magnolia grandiflora	12	Decurrent	Poor	Sparse	90%	70%	80%	40%	40%	Theatre	Adequate
134	Magnolia grandiflora	12	Decurrent	Poor	Sparse	90%	70%	80%	40%	40%	Theatre	Adequate
135	Ficus carica	12	Decurrent	Excellent	Full	80%	60%	70%	60%	90%	Theatre	Adequate
136	Tipuana tipu	16	Decurrent	Poor	Sparse	60%	40%	30%	40%	40%	Admin	Restricted
137	Quercus agrifolia	19	Decurrent	Fair	Sparse	90%	60%	60%	70%	60%	Sheriffs	Restricted
138	Podocarpus gracilior	25	Decurrent	Fair	Average	90%	70%	60%	60%	60%	Sheriffs	Restricted
139	Eucalyptus citriodora	22	Decurrent	Decline	Sparse	50%	60%	50%	50%	40%	Theatre	Restricted
140	Ficus m. 'Nitida'	17	Decurrent	Good	Full	90%	70%	50%	70%	80%	Women	Restricted
141	Ficus m. 'Nitida'	18	Decurrent	Good	Full	90%	70%	50%	70%	80%	Women	Restricted
142	Ficus m. 'Nitida'	18	Decurrent	Good	Full	90%	70%	50%	70%	80%	Women	Restricted
143	Ficus m. 'Nitida'	17	Decurrent	Good	Full	80%	70%	50%	70%	80%	Women	Restricted
144	Phoenix reclinata	6@18'	Multi	Fair	Sparse	80%		60%		60%	Women	Adequate
145	Juniperus c. Torulosa	10	Bush	Fair	Sparse	70%	70%	40%	30%	20%	Women	Enclosed
146	Magnolia grandiflora	12	Decurrent	Decline	Sparse	90%	30%	60%	30%	30%	Fitness	Adequate
147	Eucalyptus citriodora	17	Decurrent	Fair	Sparse	90%	90%	70%	60%	70%	Tennis	Adequate
148	Laurus nobilis	10	Decurrent	Poor	Sparse	60%	50%	50%	20%	30%	Fitness	Restricted
149	Laurus nobilis	7	Decurrent	Poor	Sparse	50%	40%	50%	10%	20%	Fitness	Restricted
150	Laurus nobilis	7	Decurrent	Poor	Average	10%	30%	20%	20%	50%	Fitness	Restricted
151	Tupidanthus calyptratus	10b	Bush	Fair	Average	50%	70%	30%	50%	50%	Radiology	Restricted
152	Tupidanthus calyptratus	12b	Bush	Fair	Full	50%	50%	70%	60%	80%	Radiology	Restricted
153	Podocarpus gracilior	18	Decurrent	Poor	Sparse	90%	70%	60%	40%	50%	Tennis	Adequate
154	Podocarpus gracilior	26	Decurrent	Fair	Average	80%	70%	60%	50%	60%	Tennis	Adequate

Tag	Species	*DBH	Form	Health	Density	Trunk	Scaffold	Root	Branch	Foliage	Location	Space
155	Platanus x acerifolia	13	Decurrent	Good	Average	90%	70%	60%	80%	90%	Radiology	Restricted
156	Platanus x acerifolia	9	Decurrent	Good	Average	90%	70%	70%	70%	70%	Radiology	Adequate
157	Platanus x acerifolia	14	Decurrent	Good	Average	90%	70%	60%	80%	80%	Radiology	Restricted
158	Platanus x acerifolia	15	Excurrent	Good	Average	90%	90%	70%	80%	80%	Radiology	Restricted
159	Platanus x acerifolia	14	Excurrent	Fair	Average	90%	90%	70%	80%	70%	Radiology	Restricted
160	Tupidanthus calyptratus	10b	Bush	Good	Full	40%	50%	50%	50%	70%	Radiology	Restricted
161	Tupidanthus calyptratus	8b	Bush	Fair	Average	50%	50%	50%	70%	70%	Radiology	Restricted
162	Tupidanthus calyptratus	9b	Bush	Fair	Average	50%	50%	50%	70%	70%	Radiology	Restricted
163	Eucalyptus globulus	20	Decurrent	Fair	Average	60%	50%	50%	60%	60%	Parking	Restricted
164	Eucalyptus globulus	37	Decurrent	Decline	Sparse	30%	30%	50%	40%	40%	Parking	Restricted
165	Platanus x acerifolia	10	Decurrent	Fair	Average	90%	70%	50%	70%	80%	Comm ctr	Restricted
166	Platanus x acerifolia	5	Decurrent	Decline	Sparse	80%	60%	50%	30%	30%	Comm ctr	Restricted
167	Platanus x acerifolia	7	Excurrent	Decline	Sparse	60%	30%	40%	30%	30%	Comm ctr	Restricted
168	Platanus racemosa	20	Excurrent	Good	Average	70%	80%	30%	80%	80%	Comm ctr	Restricted
169	Chorisia speciosa	10	Decurrent	Poor	Sparse	80%	20%	30%	30%	60%	Comm ctr	Restricted
170	Chorisia speciosa	12	Decurrent	Fair	Average	80%	60%	30%	70%	80%	Comm ctr	Restricted
171	Chorisia speciosa	12	Decurrent	Fair	Average	70%	60%	20%	60%	80%	Comm ctr	Restricted
172	Platanus x acerifolia	9	Decurrent	Fair	Average	40%	40%	50%	70%	70%	Comm ctr	Restricted
173	Chorisia speciosa	5	Excurrent	Fair	Sparse	70%	60%	60%	40%	40%	Tennis	Open
174	Morus alba	7	Decurrent	Good	Average	50%	30%	70%	40%	80%	Comm ctr	Open
175	Platanus x acerifolia	10	Decurrent	Fair	Sparse	80%	60%	8%	50%	50%	Comm ctr	Adequate
176	Platanus x acerifolia	8	Excurrent	Fair	Average	70%	60%	80%	70%	70%	Comm ctr	Adequate
177	Platanus x acerifolia	9	Excurrent	Fair	Average	80%	80%	80%	70%	70%	Comm ctr	Adequate
178	Platanus x acerifolia	10	Decurrent	Fair	Average	70%	60%	60%	70%	70%	Comm ctr	Adequate
179	Platanus x acerifolia	10	Decurrent	Fair	Average	70%	60%	60%	70%	70%	Comm ctr	Restricted
180	Gingko biloba	10	Excurrent	Decline	Sparse	80%	40%	70%	40%	40%	Int students	Open
181	Gingko biloba	10	Excurrent	Poor	Sparse	80%	60%	70%	60%	70%	Int students	Open

Tag	Species	*DBH	Form	Health	Density	Trunk	Scaffold	Root	Branch	Foliage	Location	Space
182	Fraxinus uhdei	15	Decurrent	Fair	Average	80%	30%	60%	40%	70%	Life science	Restricted
183	Calocedrus decurrens	16b	Excurrent	Poor	Sparse	70%	60%	50%	50%	50%	Life science	Restricted
184	Eucalyptus robusta	15	Decurrent	Fair	Full	80%	20%	40%	50%	80%	Life science	Restricted
185	Eucalyptus robusta	25	Decurrent	Good	Full	80%	30%	40%	50%	80%	Life science	Restricted
186	Calocedrus decurrens	10	Excurrent	Decline	Sparse	30%	30%	30%	20%	20%	Life science	Restricted
187	Calocedrus decurrens	10	Excurrent	Poor	Sparse	10%	20%	30%	30%	40%	Life science	Restricted
188	Calocedrus decurrens	9	Excurrent	Fair	Average	60%	50%	30%	70%	70%	Life science	Restricted
189	Calocedrus decurrens	16	Excurrent	Fair	Average	60%	60%	30%	70%	80%	Life science	Restricted
190	Calocedrus decurrens	20b	Excurrent	Decline	Sparse	80%	40%	30%	20%	20%	Life science	Restricted
191	Liquidambar styraciflua	10	Excurrent	Fair	Average	70%	50%	60%	60%	70%	Life science	Restricted
192	Eucalyptus globulus	65	Decurrent	Good	Full	60%	40%	20%	40%	80%	Bldg X	Restricted
193	Acer palmatum	8, 7	Decurrent	Decline	Average	40%	70%	50%	50%	60%	Bldg X	Restricted
194	Olea europea	16	Decurrent	Poor	Sparse	50%	50%	70%	60%	50%	Chemistry	Restricted
195	Ulmus parvifolia	16	Decurrent	Good	Full	80%	60%	80%	80%	90%	1 stop	Restricted
196	Ficus elastica	13	Decurrent	Good	Average	60%	30%	30%	20%	30%	Chemistry	Restricted
197	Bauhinia punctata	5,5, 5	Bush	Good	Full	40%	60%	60%	90%	100%	Chemistry	Restricted
198	Morus alba	20b	Multi	Good	Full	10%	10%	30%	60%	80%	Chemistry	Restricted
199	Ficus m. 'Nitida'	18b	Multi	Good	Full	10%	10%	30%	60%	80%	Chemistry	Restricted
200	Strelitzia nicolai	5@13'	Multi	Poor	Sparse	70%		70%		60%	Chemistry	Restricted
201	Callistemon viminalis	10,3,3,4	Multi	Fair	Sparse	70%	50%	50%	50%	50%	Chemistry	Restricted
202	Melaleuca linarifolia	13	Decurrent	Good	Average	90%	80%	8%	70%	80%	Chemistry	Restricted
203	Calocedrus decurrens	17	Excurrent	Fair	Full	90%	90%	70%	80%	80%	Chemistry	Restricted
204	Platanus racemosa	23	Excurrent	Fair	Average	90%	70%	60%	70%	70%	Chemistry	Restricted
205	Heteromeles arbutifolia	6, 4	Multi	Poor	Sparse	50%	60%	50%	50%	40%	Chemistry	Restricted
206	Eucalyptus globulus	23	Decurrent	Fair	Average	90%	70%	60%	70%	70%	Pool N.	Restricted
207	Eucalyptus globulus	37	Decurrent	Poor	Sparse	70%	60%	50%	40%	30%	Pool N.	Restricted
208	Eucalyptus globulus	13, 17	Multi	Poor	Sparse	50%	50%	50%	40%	30%	Pool N.	Restricted

Tag	Species	*DBH	Form	Health	Density	Trunk	Scaffold	Root	Branch	Foliage	Location	Space
209	Eucalyptus globulus	22	Decurrent	Fair	Sparse	80%	60%	50%	40%	40%	Pool N.	Restricted
210	Eucalyptus globulus	18	Decurrent	Fair	Sparse	80%	60%	50%	40%	40%	Pool N.	Restricted
211	Eucalyptus globulus	26	Decurrent	Fair	Average	80%	60%	50%	40%	40%	Pool N.	Restricted
212	Eucalyptus globulus	18	Decurrent	Fair	Average	80%	60%	50%	40%	40%	Pool N.	Restricted
213	Pittosporum undulatum	14	Decurrent	Poor	Sparse	50%	40%	50%	40%	40%	Chemistry	Restricted
214	Pinus pinea	8	Decurrent	Fair	Average	50%	60%	60%	80%	80%	Parking	Restricted
215	Erythrina caffra	10b	Multi	Fair	Average	50%	40%	30%	40%	50%	Comm ctr	Restricted
216	Eucalyptus citriodora	10	Excurrent	Poor	Sparse	90%	60%	60%	50%	40%	Comm ctr	Restricted
217	Eucalyptus citriodora	9	Excurrent	Fair	Sparse	90%	60%	60%	50%	50%	Comm ctr	Restricted
218	Eucalyptus citriodora	13	Excurrent	Fair	Sparse	70%	60%	70%	50%	50%	Comm ctr	Restricted
219	Erythrina caffra	19, 19	Multi	Fair	Average	40%	50%	50%	30%	70%	Comm ctr	Restricted
220	Erythrina caffra	19, 19	Multi	Good	Average	50%	50%	50%	40%	80%	Comm ctr	Restricted
221	Erythrina caffra	25	Decurrent	Good	Average	60%	40%	40%	40%	80%	Aids garden	Restricted
222	Erythrina caffra	20,10,20	Multi	Good	Average	40%	40%	40%	40%	80%	Aids garden	Restricted
223	Erythrina caffra	20, 15	Multi	Fair	Average	40%	40%	50%	40%	60%	Aids garden	Restricted
224	Tupidanthus calyptratus	12	Decurrent	Poor	Sparse	70%	30%	50%	30%	10%	Jefferson	Restricted
225	Xylosma congesta	8	Decurrent	Fair	Average	50%	50%	50%	50%	60%	Jefferson	Adequate
226	Xylosma congesta	4,4, 6	Multi	Poor	Average	60%	50%	60%	60%	40%	Jefferson	Adequate
227	Tupidanthus calyptratus	10	Decurrent	Decline	Sparse	50%	10%	20%	10%	10%	Jefferson	Adequate
228	Quercus ilex	16	Decurrent	Good	Average	80%	80%	60%	70%	70%	Jefferson	Restricted
229	Chorisia speciosa	21	Decurrent	Poor	Sparse	80%	50%	30%	50%	40%	Jefferson	Restricted
230	Erythrina coralloides	17,12,10,15	Multi	Fair	Average	60%	40%	50%	40%	50%	Cafeteria	Enclosed
231	Podocarpus gracilior	16	Decurrent	Poor	Sparse	80%	80%	70%	20%	20%	Wellness	Adequate
232	Podocarpus gracilior	15	Decurrent	Fair	Average	90%	80%	60%	70%	70%	Wellness	Adequate
233	Eucalyptus citriodora	18	Excurrent	Good	Average	90%	70%	60%	70%	60%	Library	Restricted
234	Washingtonia robusta	11	Single	Excellent	Full	100%		100%		100%	Library	Adequate
235	Prunus a. (apricot)	9	Decurrent	Fair	Average	60%	50%	60%	40%	70%	Admin	Open

Tag	Species	*DBH	Form	Health	Density	Trunk	Scaffold	Root	Branch	Foliage	Location	Space
236	Washingtonia robusta	55'	Single	Fair	Average	90%		90%		80%	Admin	Adequate
237	Washingtonia robusta	50'	Single	Good	Average	80%		90%		90%	Admin	Adequate
238	Washingtonia robusta	60'	Single	Good	Average	90%		80%		90%	Admin	Adequate
239	Jacaranda acutifolia	12	Decurrent	Fair	Average	80%	60%	80%	60%	60%	Admin	Open
240	Eucalyptus citriodora	17	Decurrent	Poor	Sparse	80%	60%	60%	50%	50%	Admin	Adequate
241	Eucalyptus citriodora	13	Decurrent	Fair	Average	90%	70%	60%	70%	70%	Admin	Adequate
242	Eucalyptus citriodora	26	Excurrent	Good	Average	90%	60%	90%	80%	70%	Admin	Adequate
243	Eucalyptus citriodora	23	Excurrent	Fair	Average	90%	70%	80%	70%	60%	W gym	Restricted
244	Eucalyptus citriodora	14	Decurrent	Fair	Sparse	80%	60%	70%	50%	50%	W gym	Restricted
245	Eucalyptus citriodora	20	Decurrent	Fair	Sparse	90%	60%	80%	60%	60%	W gym	Restricted
246	Tupidanthus calyptratus	13	Decurrent	Fair	Average	70%	40%	20%	50%	50%	W gym	Restricted
247	Tupidanthus calyptratus	10	Decurrent	Fair	Sparse	60%	30%	20%	50%	40%	W gym	Restricted
248	Eucalyptus citriodora	27	Excurrent	Good	Full	90%	90%	60%	70%	80%	W gym	Restricted
249	Eucalyptus citriodora	15	Decurrent	Fair	Sparse	70%	70%	80%	70%	60%	W gym	Adequate
250	Eucalyptus citriodora	11	Decurrent	Decline	Sparse	60%	50%	40%	20%	10%	Life science	Open
251	Betula alba	10	Excurrent	Decline	Sparse	20%	30%	20%	30%	30%	Life science	Open
252	Tupidanthus calyptratus	10b	Multi	Good	Average	60%	60%	60%	70%	80%	Life science	Open
253	Sequoia sempervirens	16	Excurrent	Dead	Sparse	0%	0%	0%	0%	0%	Life science	Restricted
254	Ficus carica	9	Decurrent	Fair	Average	50%	40%	30%	50%	50%	Life science	Restricted
255	Sequoia sempervirens	12	Excurrent	Dead	Sparse	0%	0%	0%	0%	0%	Bldg X	Restricted
256	Pittosporum viridiflorum	7	Decurrent	Fair	Full	60%	70%	50%	70%	70%	Bldg X	Restricted
257	Celtis occidentalis	8	Decurrent	Good	Average	70%	50%	50%	60%	60%	Chemistry	Restricted
258	Pittosporum undulatum	14b	Multi	Poor	Sparse	40%	40%	40%	20%	30%	Track	Restricted
259	Pittosporum undulatum	9, 10	Multi	Poor	Sparse	50%	50%	60%	50%	60%	Track	Adequate
260	Pittosporum undulatum	5, 7	Multi	Poor	Sparse	50%	40%	60%	60%	60%	Track	Adequate
261	Pittosporum undulatum	5, 6, 8	Multi	Poor	Sparse	50%	50%	60%	50%	50%	Track	Adequate
262	Pinus torreyana	18	Excurrent	Fair	Average	60%	50%	50%	60%	60%	Track	Adequate

Tag	Species	*DBH	Form	Health	Density	Trunk	Scaffold	Root	Branch	Foliage	Location	Space
263	Quercus lobata	7	Excurrent	Poor	Sparse	80%	60%	60%	50%	50%	Track	Adequate
264	Pinus canariensis	15	Excurrent	Good	Full	90%	70%	60%	80%	90%	Track	Restricted
265	Quercus agrifolia	11b	Multi	Good	Full	60%	60%	70%	70%	70%	Track	Open
266	Cupressus sp.	6	Excurrent	Fair	Sparse	70%	70%	70%	60%	60%	Track	Open
267	Quercus lobata	4, 4	Multi	Poor	Sparse	50%	60%	50%	50%	50%	Track	Open
268	Quercus chrysolepis	16	Decurrent	Fair	Full	80%	80%	80%	80%	80%	Track	Adequate
269	Rhus laurina	4, 3	Bush	Fair	Average	50%	50%	60%	60%	60%	Track	Crowded
270	Rhus laurina	4,3,3,3	Bush	Good	Average	70%	70%	70%	70%	70%	Track	Crowded
271	Pinus sp.	6, 4	Multi	Good	Sparse	60%	40%	50%	40%	40%	Track	Crowded
272	Pinus sp.	6, 7	Multi	Good	Sparse	60%	60%	50%	50%	50%	Track	Crowded
273	Rhus integrifolia	8	Decurrent	Good	Full	60%	60%	60%	90%	90%	Track	Adequate
274	Cedrus deodara	16	Excurrent	Fair	Sparse	60%	50%	50%	50%	40%	Track	Crowded
275	Quercus agrifolia	14, 15	Multi	Good	Average	60%	70%	50%	70%	70%	Track	Crowded
276	Ficus m. 'Nitida'	10	Decurrent	Fair	Average	50%	10%	20%	60%	60%	Track	Restricted
277	Ficus m. 'Nitida'	5	Decurrent	Fair	Sparse	10%	0%	10%	10%	10%	Track	Restricted
278	Ficus m. 'Nitida'	9	Decurrent	Fair	Full	70%	50%	20%	60%	60%	Track	Restricted
279	Ficus m. 'Nitida'	10, 8	Multi	Fair	Full	50%	40%	20%	60%	60%	Track	Restricted
280	Ficus m. 'Nitida'	10	Decurrent	Fair	Full	30%	20%	20%	50%	50%	Track	Restricted
281	Ficus m. 'Nitida'	12	Decurrent	Fair	Average	60%	40%	20%	40%	40%	Track	Restricted
282	Ficus m. 'Nitida'	5	Decurrent	Poor	Sparse	50%	40%	20%	30%	30%	Track	Restricted
283	Ficus m. 'Nitida'	4	Decurrent	Poor	Sparse	30%	30%	20%	30%	30%	Track	Restricted
284	Ficus m. 'Nitida'	6	Decurrent	Decline	Sparse	50%	20%	10%	20%	20%	Track	Restricted
285	Ficus m. 'Nitida'	4	Decurrent	Dead	Sparse	0%	0%	0%	0%	0%	Track	Restricted
286	Ficus m. 'Nitida'	8	Decurrent	Fair	Average	40%	20%	20%	40%	40%	Track	Restricted
287	Ficus m. 'Nitida'	8	Decurrent	Fair	Average	30%	20%	20%	40%	40%	Track	Restricted
288	Ficus m. 'Nitida'	10	Decurrent	Fair	Average	30%	20%	20%	40%	40%	Track	Restricted
289	Ficus m. 'Nitida'	11	Decurrent	Fair	Average	40%	20%	20%	40%	40%	Track	Restricted

Tag	Species	*DBH	Form	Health	Density	Trunk	Scaffold	Root	Branch	Foliage	Location	Space
290	Ficus m. 'Nitida'	12, 11	Multi	Fair	Average	30%	20%	20%	50%	50%	Track	Restricted
291	Cedrus deodara	17	Excurrent	Fair	Sparse	60%	60%	50%	60%	70%	Track	Restricted

**DBH – Diameter at Brest Height, i.e. 4.5 feet above grade.*

Appraisal

Appraisal Standards

The Council of Tree & Landscape Appraisers, made up of landscape contractor, nursery, arborist and consulting arborist trade organizations, has established various methods and terms of plant appraisal. They published the *Guide for Plant Appraisal* and have revised it numerous times over the years. The current edition is the ninth edition, which was used for this report.

The species factor and group size were rated and the basic price established using the Western Chapter International Society of Arboriculture *Species Classification and Group Assignment* publication.

Size Determination - Method of Measurement

For the purpose of appraisal, the size of trees is usually determined by the trunk diameter. Trunk diameter is used to compute the cross-sectional area of the trunk, assuming the trunk perimeter to be circular. Palm size is determined by trunk height measured to the base of the youngest frond.

The height at which the trunk diameter is measured depends on its size. The American Standard for Nursery Stock (ANSI-Z60-1.1.1-1990) stipulates that trunks up to 4 inches shall be measured at 6 inches above grade. Larger trees (assumed by "The Guide" to be of transplantable size) are measured at 12 inches above grade. This consultant generally uses 10-inch caliper as the common practical limit of transplantable size, realizing that trees over three feet in trunk diameter have been moved. At 12 inches up, the degree of trunk taper begins to distort measurements of most trees above 10 inches in diameter.

Replacement Cost Method

If a tree can commonly be found available for sale in the same size, the replacement method is a fairly straightforward approach. The value is based on the cost of replacing it in the same location with a plant of the same or comparable species, size, condition and location. It typically takes the wholesale cost and doubles it to allow for installation. This method also allows for replacement with several smaller trees that would have the same total trunk cross-sectional area.

If the installed cost of the tree is \$1200 and the condition is 80%, and the species rating is 80% and the location rating is 90%, the appraised value would be $\$1200 \times .8 \times .8 \times .9$ or \$691.20.

Trunk Formula Method

The "Trunk formula" method is for trees too large to replace, according to "The Guide", and nearly all of these trees are too large to replace in kind, except for the palms. "When appraising a tree that is too large to replace, the basic value is obtained by adding the replacement cost of the largest available transplantable tree to the increase in value of the appraised tree when compared to the size of the replacement tree. The value of the difference in sizes is based on the basic price (cost per unit trunk area) of the replacement tree. The basic value is then adjusted by the appraised tree's species rating, condition rating, and location rating to obtain the tree's appraised value."

The formula is: appraised value = basic value X condition X location X species.

Basic value is: replacement cost + (basic price X [TAa-TAr])

Basic price is the cost per unit of trunk area of the installed replacement tree.

TA is trunk area or square inches of exposed surface area if the trunk was cut off at breast height.

Condition

In "The Guide", a tree condition is determined by considering five factors, roots, trunk, scaffold branches, smaller branches and foliage. The condition of the roots, trunk, and scaffold limbs is equally weighed at twenty percent (or 8 points) each of the total. The small branches and foliage combine for the other 25 percent or four points each of the total (or 32 points). The factors are then averaged for the "average condition rating" used in the appraisal.

In general most of the older trees have served their purpose for many years and do not have the vitality to endure a massive re-arrangement of their environment.

Location

The location rating of a tree is made up of three factors: site, contribution and placement. The rating for each ranges from 10 to 100% and the three factors averaged together for the overall location rating. In appraising the value of these trees, the standard methods established by the Council of Tree and Landscape Appraisers dictate that the current use of the property be considered in the evaluation. Commercial properties and malls are usually given a site factor of 60 to 100%. Given the age and upkeep of the site a 80 to 90 percent site factor was used. Due to how well the trees performed their functional and aesthetic benefits, the contribution factor was rated between 50 and 90%. Due to the effective size or placement of the trees and how well or how poorly they provide their functional and aesthetic benefits they were given a 25 to 90% placement rating.

Species & Group Factors

In the ninth edition of the Guide a species factor is used in both the formula and replacement cost methods. Most trees are almost the same price in the same size box, but they vary in how large they are in the same size box. The Western Chapter of the International Society of Arboriculture has established species factors in a booklet entitled *Species Classification and Group Assignment*. The species rating equates to a median percentage for that species in the area in which the specimen is being evaluated. It is left to the appraiser to raise or lower the rating by 10% if he feels that is justified. Being on the committee presently updating this publication, a few proposed revisions were injected here.

The group number is based on the fact that smaller, slower growing species are smaller in the same size box. The group number does not vary by region. Smaller, slower growing species will have a greater value per square inch of trunk area than will a large fast growing species.

The basic price was set according to the *Species Classification and Group Assignment* publication, which is being revised at this time, being last updated in 1992. These basic prices may rise by as much as 100 percent in the updated publication. The faster growing species, such as coral trees, typically have lower costs per square inch because they have thicker trunks than slower trees in the same size box.

Appraisal Matrix

The following appraisal is based on the above findings and factors. All trees and palms on site are appraised below. Palms are measured and appraised by trunk height (th).

Tag#	Diameter-Appraised	Diameter-Replace	Replacemnt price	Species factor	Condition rating	Location rating	Basic price	Appraised trunk area	Replacemnt trunk area	Basic value	Appraised value
1	16	3.5	\$1,805	80%	65%	90%	\$56.50	200.96	9.616	\$12,615.92	\$5,904
2	12	3.5	\$1,805	90%	44%	90%	\$56.50	113.04	9.616	7648.44	\$2,710
3	28	5	\$1,805	70%	76%	87%	\$27.50	615.44	19.625	18,189.91	\$8,414
4	20' th*	1' th	\$44/th	100%	87%	90%	\$44.00	20	1' th	880.00	\$686
5	14' th	1' th	\$44/th	100%	83%	90%	\$44.00	14	1' th	616.00	\$462
6	10' th	1' th	\$44/th	100%	83%	90%	\$44.00	10	1' th	440.00	\$330
7	50 th'	1' th	\$44/th	100%	63%	90%	\$44.00	50	1' th	2200.00	\$1,254
8	16' th	1' th	\$44/th	100%	77%	90%	\$44.00	16	1' th	704.00	\$486
9	32	3.5	\$1,805	90%	69%	87%	\$56.50	787.56	9.616	45,758.82	\$24,538
10	6.5	4.25	\$1,805	50%	71%	87%	\$37.00	33.16625	14.179	2507.53	\$774
11	8@15' th	1' th	\$ 50./th	100%	60%	80%	\$50.00	120	1' th	6000.00	\$2,880
12	15@15' th	1' th	\$ 50./th	100%	67%	80%	\$50.00	225	1' th	11,250.00	\$6,000
13	6@10' th	1' th	\$220./th	100%	87%	90%	\$220.00	60	1' th	13,200.00	\$10,296
14	40' th	1' th	\$44./th	100%	63%	90%	\$44.00	40	1' th	1760.00	\$1,003
15	50' th	1' th	\$44./th	100%	80%	90%	\$44.00	50	1' th	2200.00	\$1,584
16	45' th	1' th	\$44./th	100%	77%	90%	\$44.00	45	1' th	1980.00	\$1,366
17	8	4.25	\$1,805	90%	74%	90%	\$37.00	50.24	14.179	3139.25	\$1,875
18	14	3.5	\$1,805	60%	78%	90%	\$56.50	153.86	9.616	9954.77	\$4,166
19	28	4.25	\$1,805	80%	70%	77%	\$37.00	615.44	14.179	24,051.65	\$10,326
20	36	4.25	\$1,805	80%	68%	77%	\$37.00	973.64	14.179	37,305.05	\$15,444
21	27	4.25	\$1,805	80%	69%	77%	\$37.00	572.265	14.179	22,454.18	\$9,468
22	23	4.25	\$1,805	80%	69%	77%	\$37.00	415.265	14.179	16,645.18	\$7,019
23	29	4.25	\$1,805	80%	69%	77%	\$37.00	660.185	14.179	25,707.22	\$10,840

Tag#	Diameter-Appraised	Diameter-Replace	Replacemnt price	Species factor	Condition rating	Location rating	Basic price	Appraised trunk area	Replacemnt trunk area	Basic value	Appraised value
24	28	4.25	\$1,805	80%	66%	77%	\$37.00	615.44	14.179	24,051.65	\$9,773
25	17	3.5	\$1,805	70%	61%	83%	\$56.50	226.865	9.616	14,079.55	\$5,031
26	17	3.5	\$1,805	70%	68%	83%	\$56.50	226.865	9.616	14,079.55	\$5,544
27	12.6	3.5	\$1,805	70%	66%	77%	\$56.50	124.6266	9.616	8303.08	\$2,952
28	8	2.75	\$1,805	80%	36%	77%	\$91.00	50.24	5.937	5836.61	\$1,298
29	12.6	2.75	\$1,805	80%	34%	77%	\$91.00	124.6266	5.937	12,605.79	\$2,609
30	42, 27, 32	4.25	\$1,805	90%	28%	77%	\$37.00	2761	14.179	103,437.37	\$19,627
31	53	4.25	\$1,805	40%	58%	77%	\$37.00	1644.885	14.179	62,141.12	\$10,958
32	9, 10	3.5	\$1,805	80%	45%	77%	\$56.50	143	9.616	9341.18	\$2,578
33	11	3.5	\$1,805	80%	23%	77%	\$56.50	94.985	9.616	6628.33	\$915
34	6, 6, 7	3.5	\$1,805	80%	15%	77%	\$56.50	94	9.616	6572.68	\$605
35	15	3.5	\$1,805	90%	61%	77%	\$56.50	176.625	9.616	11,240.99	\$4,751
36	14	3.5	\$1,805	90%	61%	77%	\$56.50	153.86	9.616	9954.77	\$4,207
37	37	4.25	\$1,805	40%	51%	77%	\$37.00	1018.485	14.179	38,964.32	\$6,124
38	13	3.5	\$1,805	70%	49%	72%	\$56.50	132.665	9.616	8757.25	\$2,142
39	14	3.5	\$1,805	60%	55%	80%	\$56.50	153.86	9.616	9954.77	\$2,628
40	7	3.5	\$1,805	70%	51%	83%	\$56.50	38.465	9.616	3434.95	\$1,027
41	8	3.5	\$1,805	70%	83%	83%	\$56.50	50.24	9.616	4100.24	\$1,973
42	43	4.25	\$1,805	90%	78%	83%	\$37.00	1273.485	14.179	48,399.32	\$28,132
43	21	3.5	\$1,805	90%	86%	83%	\$56.50	346.185	9.616	20,821.13	\$13,469
44	17	3.5	\$1,805	90%	71%	80%	\$56.50	226.865	9.616	14,079.55	\$7,223
45	34	5	\$1,805	50%	81%	87%	\$27.50	881.94	19.625	25,518.66	\$8,985
46	8	3.5	\$1,805	80%	85%	83%	\$56.50	50.24	9.616	4100.24	\$2,323
47	15	3.5	\$1,805	80%	83%	83%	\$56.50	176.625	9.616	11,240.99	\$6,183
48	18	3.5	\$1,805	80%	63%	83%	\$56.50	254.34	9.616	15,631.89	\$6,513
49	20	5	\$1,805	50%	79%	87%	\$27.50	314	19.625	9900.31	\$3,378
50	23	5	\$1,805	50%	75%	87%	\$27.50	415.265	19.625	12,685.10	\$4,123

Tag#	Diameter-Appraised	Diameter-Replace	Replacemnt price	Species factor	Condition rating	Location rating	Basic price	Appraised trunk area	Replacemnt trunk area	Basic value	Appraised value
51	24	3.5	\$1,805	70%	80%	87%	\$56.50	452.16	9.616	26,808.72	\$13,011
52	10	4.25	\$1,805	80%	70%	80%	\$37.00	78.5	14.179	4184.87	\$1,875
53	16	3.5	\$1,805	70%	63%	77%	\$56.50	200.96	9.616	12,615.92	\$4,232
54	10	3.5	\$1,805	70%	63%	77%	\$56.50	78.5	9.616	5696.93	\$1,911
55	12	4.25	\$1,805	80%	61%	77%	\$37.00	113.04	14.179	5462.85	\$2,052
56	12	3.5	\$1,805	90%	49%	87%	\$56.50	113.04	9.616	7648.44	\$2,908
57	14	3.5	\$1,805	90%	63%	87%	\$56.50	153.86	9.616	9954.77	\$4,853
58	12	3.5	\$1,805	90%	40%	87%	\$56.50	113.04	9.616	7648.44	\$2,386
59	27	5	\$1,805	50%	78%	87%	\$27.50	572.265	19.625	17,002.60	\$5,710
60	28	3.5	\$1,805	60%	65%	87%	\$56.50	615.44	9.616	36,034.04	\$12,180
61	19	3.5	\$1,805	80%	79%	87%	\$56.50	283.385	9.616	17,272.93	\$9,431
62	14	3.5	\$1,805	80%	58%	87%	\$56.50	153.86	9.616	9954.77	\$3,969
63	15	3.5	\$1,805	80%	73%	87%	\$56.50	176.625	9.616	11,240.99	\$5,650
64	20	3.5	\$1,805	80%	81%	87%	\$56.50	314	9.616	19,002.68	\$10,705
65	13	3.5	\$1,805	80%	58%	87%	\$56.50	132.665	9.616	8757.25	\$3,491
66	10	3.5	\$1,805	80%	69%	87%	\$56.50	78.5	9.616	5696.93	\$2,716
67	14	3.5	\$1,805	80%	76%	87%	\$56.50	153.86	9.616	9954.77	\$5,263
68	12	3.5	\$1,805	80%	71%	87%	\$56.50	113.04	9.616	7648.44	\$3,778
69	10, 8	4.25	\$1,805	80%	80%	90%	\$37.00	129	14.179	6053.37	\$3,487
70	11	3.5	\$1,805	60%	69%	90%	\$56.50	94.985	9.616	6628.33	\$2,461
71	10	3.5	\$1,805	60%	70%	90%	\$56.50	78.5	9.616	5696.93	\$2,153
72	16	3.5	\$1,805	60%	68%	90%	\$56.50	200.96	9.616	12,615.92	\$4,599
73	33,26,22	4.25	\$1,805	90%	84%	87%	\$37.00	1766	14.179	66,622.37	\$43,521
74	9, 10	3.5	\$1,805	80%	58%	87%	\$56.50	143	9.616	9341.18	\$3,724
75	32	4.25	\$1,805	100%	73%	87%	\$37.00	787.56	14.179	30,420.09	\$19,114
76	8, 10, 13	3.5	\$1,805	80%	40%	87%	\$56.50	262	9.616	16,064.68	\$4,455
77	35' th	1' th	\$44./th	100%	97%	90%	\$44.00	35	1' th	1540.00	\$1,340

Tag#	Diameter-Appraised	Diameter-Replace	Replacemnt price	Species factor	Condition rating	Location rating	Basic price	Appraised trunk area	Replacemnt trunk area	Basic value	Appraised value
78	40' th	1' th	\$44./th	100%	97%	90%	\$44.00	40	1' th	1760.00	\$1,531
79	45' th	1' th	\$44./th	100%	97%	90%	\$44.00	45	1' th	1980.00	\$1,723
80	6, 7, 9	3.5	\$1,805	80%	33%	90%	\$56.50	130	9.616	8606.68	\$2,014
81	9	3.5	\$1,805	80%	20%	87%	\$56.50	63.585	9.616	4854.23	\$673
82	11	3.5	\$1,805	90%	75%	90%	\$56.50	94.985	9.616	6628.33	\$4,027
83	55' th	1' th	\$44./th	100%	97%	90%	\$44.00	55	1' th	2420.00	\$2,105
84	55' th	1' th	\$44./th	100%	73%	90%	\$44.00	55	1' th	2420.00	\$1,597
85	55' th	1' th	\$44./th	100%	87%	90%	\$44.00	55	1' th	2420.00	\$1,888
86	25' th	1' th	\$110.00/th	100%	83%	90%	\$110.00	25	1' th	2750.00	\$2,063
87	10@12'	1' th	\$50.00/th	100%	67%	87%	\$50.00	120	1' th	6000.00	\$3,467
88	5@12'	1' th	\$50.00/th	100%	47%	87%	\$50.00	60	1' th	3000.00	\$1,213
89	29	5	\$1,805	70%	56%	90%	\$27.50	660.185	19.625	19,420.40	\$6,882
90	5,5, 6	3.5	\$1,805	90%	78%	87%	\$56.50	68	9.616	5103.68	\$3,085
91	18	3.5	\$1,805	60%	68%	90%	\$56.50	254.34	9.616	15,631.89	\$5,698
92	20	3.5	\$1,805	80%	83%	87%	\$56.50	314	9.616	19,002.68	\$10,870
93	10	3.5	\$1,805	80%	45%	87%	\$56.50	78.5	9.616	5696.93	\$1,777
94	14	3.5	\$1,805	80%	58%	87%	\$56.50	153.86	9.616	9954.77	\$3,969
95	14	3.5	\$1,805	80%	83%	87%	\$56.50	153.86	9.616	9954.77	\$5,694
96	12	3.5	\$1,805	80%	71%	90%	\$56.50	113.04	9.616	7648.44	\$3,924
97	50" th	1' th	\$44./th	100%	80%	90%	\$44.00	50' th	1' th	2200.00	\$1,584
98	12" th	1' th	\$110./th	100%	100%	90%	\$110.00	12' th	1' th	1320.00	\$1,188
99	16	5	\$1,805	70%	66%	87%	\$27.50	200.96	19.625	6791.71	\$2,730
100	28	3.5	\$1,805	70%	73%	90%	\$56.50	615.44	9.616	36,034.04	\$16,459
101	11	5	\$1,805	30%	90%	83%	\$27.50	94.985	19.625	3877.40	\$872
102	11	3.5	\$1,805	60%	73%	83%	\$56.50	94.985	9.616	6628.33	\$2,403
103	15	3.5	\$1,805	60%	71%	83%	\$56.50	176.625	9.616	11,240.99	\$4,005
104	10	3.5	\$1,805	90%	63%	87%	\$56.50	78.5	9.616	5696.93	\$2,777

Tag#	Diameter-Appraised	Diameter-Replace	Replacemnt price	Species factor	Condition rating	Location rating	Basic price	Appraised trunk area	Replacemnt trunk area	Basic value	Appraised value
105	29	5	\$1,805	70%	75%	87%	\$27.50	660.185	19.625	19,420.40	\$8,836
106	14	3.5	\$1,805	60%	65%	87%	\$56.50	153.86	9.616	9954.77	\$3,365
107	6	4.25	\$1,805	70%	79%	87%	\$37.00	28.26	14.179	2325.99	\$1,111
108	24	5	\$1,805	70%	68%	83%	\$27.50	452.16	19.625	13,699.71	\$5,394
109	11	3.5	\$1,805	80%	55%	80%	\$56.50	94.985	9.616	6628.33	\$2,333
110	10	3.5	\$1,805	80%	55%	80%	\$56.50	78.5	9.616	5696.93	\$2,005
111	14	5	\$1,805	50%	50%	87%	\$27.50	153.86	19.625	5496.46	\$1,191
112	22	5	\$1,805	50%	76%	87%	\$27.50	379.94	19.625	11,713.66	\$3,870
113	24	5	\$1,805	50%	74%	87%	\$27.50	452.16	19.625	13,699.71	\$4,378
114	14	3.5	\$1,805	90%	66%	87%	\$56.50	153.86	9.616	9954.77	\$5,144
115	10	3.5	\$1,805	80%	53%	83%	\$56.50	78.5	9.616	5696.93	\$1,994
116	8	3.5	\$1,805	80%	53%	83%	\$56.50	50.24	9.616	4100.24	\$1,435
117	24	3.5	\$1,805	60%	69%	83%	\$56.50	452.16	9.616	26,808.72	\$9,215
118	18	3.5	\$1,805	60%	65%	83%	\$56.50	254.34	9.616	15,631.89	\$5,080
119	24	4.25	\$1,805	70%	66%	80%	\$37.00	452.16	14.179	18,010.29	\$6,682
120	20	4.25	\$1,805	70%	69%	80%	\$37.00	314	14.179	12,898.37	\$4,966
121	30	4.25	\$1,805	70%	69%	80%	\$37.00	706.5	14.179	27,420.87	\$10,557
122	19	4.25	\$1,805	80%	78%	80%	\$37.00	283.385	14.179	11,765.62	\$5,836
123	6	3.5	\$1,805	80%	91%	87%	\$56.50	28.26	9.616	2858.37	\$1,808
124	8	3.5	\$1,805	80%	76%	87%	\$56.50	50.24	9.616	4100.24	\$2,168
125	11	4.25	\$1,805	50%	70%	87%	\$37.00	94.985	14.179	4794.82	\$1,454
126	4	3.5	\$1,805	80%	65%	87%	\$56.50	12.56	9.616	1971.32	\$888
127	18	5	\$1,805	50%	71%	83%	\$27.50	254.34	19.625	8259.66	\$2,452
128	9	3.5	\$1,805	80%	65%	87%	\$56.50	63.585	9.616	4854.23	\$2,188
129	13	3.5	\$1,805	80%	66%	87%	\$56.50	132.665	9.616	8757.25	\$4,022
130	6	2.75	\$1,805	80%	74%	90%	\$91.00	28.26	5.937	3836.43	\$2,037
131	5	4.25	\$1,805	50%	48%	87%	\$37.00	19.625	14.179	2006.50	\$413

Tag#	Diameter-Appraised	Diameter-Replace	Replacemnt price	Species factor	Condition rating	Location rating	Basic price	Appraised trunk area	Replacemnt trunk area	Basic value	Appraised value
132	9b	4.25	\$1,805	50%	56%	87%	\$37.00	51.5	14.179	3185.87	\$777
133	12	4.25	\$1,805	80%	70%	90%	\$37.00	113.04	14.179	5462.85	\$2,753
134	12	4.25	\$1,805	80%	70%	90%	\$37.00	113.04	14.179	5462.85	\$2,753
135	12	4.25	\$1,805	50%	71%	90%	\$37.00	113.04	14.179	5462.85	\$1,752
136	16	3.5	\$1,805	70%	43%	87%	\$56.50	200.96	9.616	12,615.92	\$3,253
137	19	4.25	\$1,805	100%	69%	78%	\$37.00	283.385	14.179	11,765.62	\$6,336
138	25	3.5	\$1,805	90%	70%	78%	\$56.50	490.625	9.616	28,981.99	\$14,303
139	22	3.5	\$1,805	60%	51%	85%	\$56.50	379.94	9.616	22,728.29	\$5,941
140	17	4.25	\$1,805	80%	71%	78%	\$37.00	226.865	14.179	9674.38	\$4,320
141	18	4.25	\$1,805	80%	71%	78%	\$37.00	254.34	14.179	10,690.95	\$4,774
142	18	4.25	\$1,805	80%	71%	78%	\$37.00	254.34	14.179	10,690.95	\$4,774
143	17	4.25	\$1,805	80%	69%	78%	\$37.00	226.865	14.179	9674.38	\$4,168
144	6@18" th	1' th	\$250.00/th	100%	67%	82%	\$250.00	108' th	1' th	27,000.00	\$14,700
145	10	4.25	\$1,805	60%	51%	72%	\$37.00	78.5	14.179	4184.87	\$922
146	12	4.25	\$1,805	80%	53%	80%	\$37.00	113.04	14.179	5462.85	\$1,836
147	17	3.5	\$1,805	60%	79%	80%	\$56.50	226.865	9.616	14,079.55	\$5,322
148	10	3.5	\$1,805	80%	46%	77%	\$56.50	78.5	9.616	5696.93	\$1,616
149	7	3.5	\$1,805	80%	39%	77%	\$56.50	38.465	9.616	3434.95	\$816
150	7	3.5	\$1,805	80%	24%	77%	\$56.50	38.465	9.616	3434.95	\$500
151	10b	4.25	\$1,805	90%	50%	82%	\$37.00	64	14.179	3648.37	\$1,341
152	12b	4.25	\$1,805	90%	60%	82%	\$37.00	91.56	14.179	4668.09	\$2,059
153	18	3.5	\$1,805	90%	66%	80%	\$56.50	254.34	9.616	15,631.89	\$7,456
154	26	3.5	\$1,805	90%	66%	80%	\$56.50	530.66	9.616	31,243.97	\$14,903
155	13	4.25	\$1,805	70%	76%	82%	\$37.00	132.665	14.179	6188.98	\$2,698
156	9	4.25	\$1,805	70%	75%	85%	\$37.00	63.585	14.179	3633.02	\$1,621
157	14	4.25	\$1,805	70%	75%	82%	\$37.00	153.86	14.179	6973.19	\$2,990
158	15	4.25	\$1,805	70%	83%	82%	\$37.00	176.625	14.179	7815.50	\$3,686

Tag#	Diameter-Appraised	Diameter-Replace	Replacemnt price	Species factor	Condition rating	Location rating	Basic price	Appraised trunk area	Replacemnt trunk area	Basic value	Appraised value
159	14	4.25	\$1,805	70%	81%	82%	\$37.00	153.86	14.179	6973.19	\$3,239
160	10b	4.25	\$1,805	90%	50%	82%	\$37.00	64	14.179	3648.37	\$1,341
161	8b	4.25	\$1,805	90%	55%	82%	\$37.00	40.69	14.179	2785.90	\$1,126
162	9b	4.25	\$1,805	90%	55%	82%	\$37.00	51.5	14.179	3185.87	\$1,288
163	20	5	\$1,805	10%	55%	70%	\$27.50	314	19.625	9900.31	\$381
164	37	5	\$1,805	10%	38%	70%	\$27.50	1018.485	19.625	29,273.65	\$768
165	10	4.25	\$1,805	70%	71%	83%	\$37.00	78.5	14.179	4184.87	\$1,739
166	5	4.25	\$1,805	70%	55%	83%	\$37.00	19.625	14.179	2006.50	\$644
167	7	4.25	\$1,805	70%	40%	83%	\$37.00	38.465	14.179	2703.58	\$631
168	20	4.25	\$1,805	70%	65%	83%	\$37.00	314	14.179	12,898.37	\$4,891
169	10	5	\$1,805	70%	44%	83%	\$27.50	78.5	19.625	3424.06	\$874
170	12	5	\$1,805	70%	61%	83%	\$27.50	113.04	19.625	4373.91	\$1,563
171	12	5	\$1,805	70%	55%	83%	\$27.50	113.04	19.625	4373.91	\$1,403
172	9	4.25	\$1,805	70%	50%	83%	\$37.00	63.585	14.179	3633.02	\$1,060
173	5	5	\$1,805	70%	58%	77%	\$27.50	19.625	19.625	1805.00	\$557
174	7	4.25	\$1,805	50%	53%	87%	\$37.00	38.465	14.179	2703.58	\$615
175	10	4.25	\$1,805	70%	50%	87%	\$37.00	78.5	14.179	4184.87	\$1,257
176	8	4.25	\$1,805	70%	70%	87%	\$37.00	50.24	14.179	3139.25	\$1,333
177	9	4.25	\$1,805	70%	78%	87%	\$37.00	63.585	14.179	3633.02	\$1,708
178	10	4.25	\$1,805	70%	65%	87%	\$37.00	78.5	14.179	4184.87	\$1,650
179	10	4.25	\$1,805	70%	65%	83%	\$37.00	78.5	14.179	4184.87	\$1,587
180	10	3.5	\$1,805	90%	58%	77%	\$56.50	78.5	9.616	5696.93	\$2,260
181	10	3.5	\$1,805	90%	69%	77%	\$56.50	78.5	9.616	5696.93	\$2,702
182	15	5	\$1,805	50%	56%	70%	\$27.50	176.625	19.625	6122.50	\$1,205
183	16b	4.25	\$1,805	90%	58%	73%	\$37.00	162.777	14.179	7303.12	\$2,772
184	15	4.25	\$1,805	50%	51%	73%	\$37.00	176.625	14.179	7815.50	\$1,469
185	25	4.25	\$1,805	50%	54%	73%	\$37.00	490.625	14.179	19,433.50	\$3,830

Tag#	Diameter-Appraised	Diameter-Replace	Replacemnt price	Species factor	Condition rating	Location rating	Basic price	Appraised trunk area	Replacemnt trunk area	Basic value	Appraised value
186	10	4.25	\$1,805	90%	28%	73%	\$37.00	78.5	14.179	4184.87	\$760
187	10	4.25	\$1,805	90%	24%	73%	\$37.00	78.5	14.179	4184.87	\$656
188	9	4.25	\$1,805	90%	53%	73%	\$37.00	63.585	14.179	3633.02	\$1,259
189	16	4.25	\$1,805	90%	56%	73%	\$37.00	200.96	14.179	8715.89	\$3,236
190	20b	4.25	\$1,805	90%	43%	73%	\$37.00	254	14.179	10,678.37	\$2,995
191	10	3.5	\$1,805	80%	61%	73%	\$56.50	78.5	9.616	5696.93	\$2,047
192	65	5	\$1,805	10%	45%	70%	\$27.50	2002.125	19.625	56,323.75	\$1,774
193	8, 7	2.75	\$1,805	90%	54%	77%	\$91.00	88.71	5.937	9337.38	\$3,463
194	16	4.25	\$1,805	80%	56%	73%	\$37.00	200.96	14.179	8715.89	\$2,876
195	16	3.5	\$1,805	70%	76%	68%	\$56.50	200.96	9.616	12,615.92	\$4,601
196	13	3.5	\$1,805	70%	36%	63%	\$56.50	132.665	9.616	8757.25	\$1,407
197	5,5, 5	2.75	\$1,805	90%	64%	85%	\$91.00	43.38	5.937	5212.35	\$2,542
198	20b	4.25	\$1,805	50%	30%	68%	\$37.00	254	14.179	10,678.37	\$1,095
199	18b	4.25	\$1,805	80%	30%	52%	\$37.00	206.2	14.179	8909.77	\$1,105
200	5@13" th	1' th	\$50/th	100%	67%	73%	\$50.00	65' th	1' th	3250.00	\$1,589
201	10,3,3,4	2.75	\$1,805	90%	55%	77%	\$91.00	106	5.937	10,910.77	\$4,141
202	13	3.5	\$1,805	80%	63%	77%	\$56.50	132.665	9.616	8757.25	\$3,397
203	17	4.25	\$1,805	90%	83%	73%	\$37.00	226.865	14.179	9674.38	\$5,268
204	23	4.25	\$1,805	70%	73%	73%	\$37.00	415.265	14.179	16,645.18	\$6,195
205	6, 4	2.75	\$1,805	70%	51%	73%	\$91.00	40.82	5.937	4979.39	\$1,310
206	23	5	\$1,805	10%	73%	70%	\$27.50	415.265	19.625	12,685.10	\$644
207	37	5	\$1,805	10%	54%	70%	\$27.50	1018.485	19.625	29,273.65	\$1,101
208	13, 17	5	\$1,805	10%	46%	70%	\$27.50	360	19.625	11,165.31	\$361
209	22	5	\$1,805	10%	58%	70%	\$27.50	379.94	19.625	11,713.66	\$471
210	18	5	\$1,805	10%	58%	70%	\$27.50	254.34	19.625	8259.66	\$332
211	26	5	\$1,805	10%	58%	70%	\$27.50	530.66	19.625	15,858.46	\$638
212	18	5	\$1,805	10%	58%	70%	\$27.50	254.34	19.625	8259.66	\$332

Tag#	Diameter-Appraised	Diameter-Replace	Replacemnt price	Species factor	Condition rating	Location rating	Basic price	Appraised trunk area	Replacemnt trunk area	Basic value	Appraised value
213	14	3.5	\$1,805	80%	45%	73%	\$56.50	153.86	9.616	9954.77	\$2,628
214	8	5	\$1,805	90%	63%	72%	\$27.50	50.24	19.625	2646.91	\$1,067
215	10b	5	\$1,805	70%	41%	78%	\$27.50	64	19.625	3025.31	\$684
216	10	3.5	\$1,805	60%	64%	78%	\$56.50	78.5	9.616	5696.93	\$1,707
217	9	3.5	\$1,805	60%	65%	78%	\$56.50	63.585	9.616	4854.23	\$1,483
218	13	3.5	\$1,805	60%	63%	78%	\$56.50	132.665	9.616	8757.25	\$2,572
219	19, 19	5	\$1,805	70%	48%	78%	\$27.50	566	19.625	16,830.31	\$4,384
220	19, 19	5	\$1,805	70%	53%	78%	\$27.50	566	19.625	16,830.31	\$4,845
221	25	5	\$1,805	70%	50%	77%	\$27.50	490.625	19.625	14,757.50	\$3,960
222	20,10,20	5	\$1,805	70%	45%	77%	\$27.50	707	19.625	20,707.81	\$5,001
223	20, 15	5	\$1,805	70%	45%	77%	\$27.50	431	19.625	13,117.81	\$3,168
224	12	4.25	\$1,805	90%	43%	77%	\$37.00	113.04	14.179	5462.85	\$1,602
225	8	2.75	\$1,805	70%	51%	77%	\$91.00	50.24	5.937	5836.61	\$1,605
226	4,4, 6	2.75	\$1,805	70%	55%	77%	\$91.00	55.38	5.937	6304.35	\$1,861
227	10	4.25	\$1,805	90%	23%	80%	\$37.00	78.5	14.179	4184.87	\$678
228	16	3.5	\$1,805	90%	73%	77%	\$56.50	200.96	9.616	12,615.92	\$6,311
229	21	5	\$1,805	70%	51%	77%	\$27.50	346.185	19.625	10,785.40	\$2,966
230	17,12,10,15	5	\$1,805	70%	49%	77%	\$27.50	596	19.625	17,655.31	\$4,619
231	16	3.5	\$1,805	90%	63%	80%	\$56.50	200.96	9.616	12,615.92	\$5,677
232	15	3.5	\$1,805	90%	75%	80%	\$56.50	176.625	9.616	11,240.99	\$6,070
233	18	3.5	\$1,805	60%	71%	78%	\$56.50	254.34	9.616	15,631.89	\$5,235
234	11" th	1' th	\$44./th	100%	100%	82%	\$44.00	11' th	1' th	484.00	\$395
235	9	3.5	\$1,805	60%	56%	80%	\$56.50	63.585	9.616	4854.23	\$1,311
236	55" th	1' th	\$44./th	100%	87%	82%	\$44.00	55' th	1' th	2420.00	\$1,713
237	50" th	1' th	\$44./th	100%	87%	82%	\$44.00	50' th	1' th	2200.00	\$1,557
238	60" th	1' th	\$44./th	100%	87%	82%	\$44.00	60' th	1' th	2640.00	\$1,869
239	12	3.5	\$1,805	90%	70%	82%	\$56.50	113.04	9.616	7648.44	\$3,935

Tag#	Diameter-Appraised	Diameter-Replace	Replacemnt price	Species factor	Condition rating	Location rating	Basic price	Appraised trunk area	Replacemnt trunk area	Basic value	Appraised value
240	17	3.5	\$1,805	60%	63%	82%	\$56.50	226.865	9.616	14,079.55	\$4,312
241	13	3.5	\$1,805	60%	73%	82%	\$56.50	132.665	9.616	8757.25	\$3,111
242	26	3.5	\$1,805	60%	79%	82%	\$56.50	530.66	9.616	31,243.97	\$12,056
243	23	3.5	\$1,805	60%	76%	77%	\$56.50	415.265	9.616	24,724.15	\$8,672
244	14	3.5	\$1,805	60%	65%	77%	\$56.50	153.86	9.616	9954.77	\$2,976
245	20	3.5	\$1,805	60%	73%	77%	\$56.50	314	9.616	19,002.68	\$6,337
246	13	4.25	\$1,805	90%	45%	77%	\$37.00	132.665	14.179	6188.98	\$1,922
247	10	4.25	\$1,805	90%	39%	77%	\$37.00	78.5	14.179	4184.87	\$1,119
248	27	3.5	\$1,805	60%	79%	77%	\$56.50	572.265	9.616	33,594.65	\$12,170
249	15	3.5	\$1,805	60%	71%	80%	\$56.50	176.625	9.616	11,240.99	\$3,844
250	11	3.5	\$1,805	60%	41%	77%	\$56.50	94.985	9.616	6628.33	\$1,258
251	10	4.25	\$1,805	50%	25%	77%	\$37.00	78.5	14.179	4184.87	\$401
252	10b	4.25	\$1,805	90%	64%	77%	\$37.00	64	14.179	3648.37	\$1,605
253	16	5	\$1,805	90%	0%	73%	\$27.50	200.96	19.625	6791.71	\$0
254	9	4.25	\$1,805	50%	43%	73%	\$37.00	63.585	14.179	3633.02	\$566
255	12	5	\$1,805	90%	0%	73%	\$27.50	113.04	19.625	4373.91	\$0
256	7	2.75	\$1,805	80%	63%	73%	\$91.00	38.465	5.937	4765.09	\$1,747
257	8	4.25	\$1,805	70%	58%	63%	\$37.00	50.24	14.179	3139.25	\$800
258	14b	3.5	\$1,805	80%	36%	73%	\$56.50	124.63	9.616	8303.28	\$1,766
259	9, 10	3.5	\$1,805	80%	54%	77%	\$56.50	143	9.616	9341.18	\$3,079
260	5, 7	3.5	\$1,805	80%	53%	77%	\$56.50	58	9.616	4538.68	\$1,461
261	5, 6, 8	3.5	\$1,805	80%	53%	77%	\$56.50	98	9.616	6798.68	\$2,189
262	18	4.25	\$1,805	80%	55%	77%	\$37.00	254.34	14.179	10,690.95	\$3,606
263	7	3.5	\$1,805	70%	63%	77%	\$56.50	38.465	9.616	3434.95	\$1,152
264	15	4.25	\$1,805	90%	76%	73%	\$37.00	176.625	14.179	7815.50	\$3,933
265	11b	4.25	\$1,805	100%	65%	77%	\$37.00	76.94	14.179	4127.15	\$2,057
266	6	3.5	\$1,805	70%	68%	77%	\$56.50	28.26	9.616	2858.37	\$1,035

Tag#	Diameter-Appraised	Diameter-Replace	Replacemnt price	Species factor	Condition rating	Location rating	Basic price	Appraised trunk area	Replacemnt trunk area	Basic value	Appraised value
267	4, 4	3.5	\$1,805	70%	53%	77%	\$56.50	25.12	9.616	2680.96	\$755
268	16	3.5	\$1,805	90%	80%	77%	\$56.50	200.96	9.616	12,615.92	\$6,964
269	4, 3	2.75	\$1,805	70%	55%	73%	\$91.00	19.63	5.937	3051.10	\$861
270	4,3,3,3	2.75	\$1,805	70%	70%	73%	\$91.00	33.63	5.937	4325.10	\$1,554
271	6, 4	4.25	\$1,805	90%	48%	73%	\$37.00	40.82	14.179	2790.71	\$875
272	6, 7	4.25	\$1,805	90%	55%	73%	\$37.00	66	14.179	3722.37	\$1,351
273	8	2.75	\$1,805	70%	68%	77%	\$91.00	50.24	5.937	5836.61	\$2,114
274	16	4.25	\$1,805	90%	51%	73%	\$37.00	200.96	14.179	8715.89	\$2,948
275	14, 15	4.25	\$1,805	100%	63%	73%	\$37.00	331	14.179	13,527.37	\$6,200
276	10	4.25	\$1,805	80%	35%	67%	\$37.00	78.5	14.179	4184.87	\$781
277	5	4.25	\$1,805	80%	8%	67%	\$37.00	19.625	14.179	2006.50	\$80
278	9	4.25	\$1,805	80%	50%	67%	\$37.00	63.585	14.179	3633.02	\$969
279	10, 8	4.25	\$1,805	80%	43%	67%	\$37.00	129	14.179	6053.37	\$1,372
280	10	4.25	\$1,805	80%	30%	67%	\$37.00	78.5	14.179	4184.87	\$670
281	12	4.25	\$1,805	80%	40%	67%	\$37.00	113.04	14.179	5462.85	\$1,165
282	5	4.25	\$1,805	80%	35%	67%	\$37.00	19.625	14.179	2006.50	\$375
283	4	4.25	\$1,805	80%	28%	67%	\$37.00	12.56	14.179	1745.09	\$256
284	6	4.25	\$1,805	80%	25%	67%	\$37.00	28.26	14.179	2325.99	\$310
285	4	4.25	\$1,805	80%	0%	67%	\$37.00	12.56	14.179	1745.09	\$0
286	8	4.25	\$1,805	80%	30%	67%	\$37.00	50.24	14.179	3139.25	\$502
287	8	4.25	\$1,805	80%	28%	67%	\$37.00	50.24	14.179	3139.25	\$460
288	10	4.25	\$1,805	80%	28%	67%	\$37.00	78.5	14.179	4184.87	\$614
289	11	4.25	\$1,805	80%	30%	67%	\$37.00	94.985	14.179	4794.82	\$767
290	12, 11	4.25	\$1,805	80%	30%	67%	\$37.00	208	14.179	8976.37	\$1,436
291	17	4.25	\$1,805	90%	59%	73%	\$37.00	226.865	14.179	9674.38	\$3,751

Total value \$1,087,983

*DBH – Diameter at Brest Height, i.e. 4.5 feet above grade.

Appraisal Discussion

Over a million dollars worth of trees should justify a maintenance budget of at least 10 percent or more, not including regular maintenance duties, such as trimming shrubs, mowing lawns, clean up and irrigation. Replacement cost of these trees would be over two million. A replacement cost appraisal was not done in this case, but would come up higher because it does not depreciate the installed cost by 40 percent on the larger sizes, as the current WC ISA publication does.

The immediate need to mitigate some hazards may exceed this budget. Any maintenance budget should be weighed only against the need for public safety. With good care these trees could be worth much more and they would last longer and eventually need less maintenance. Once a well-positioned tree is trained it should cost much less to maintain it, and its value has been increased. Early shaping should be done by well trained professional arborists, not grounds people, unless they have the necessary skills and knowledge. It should always be done under the direct supervision of a certified arborist.

Hazard Analysis

Hazard Analysis Matrix

In the following matrix the more important elements of hazard analysis have been listed for each tree in the study area. The abatement options involve consideration of both the tree and the target. In most cases, proper pruning, cabling, bracing, or guying, can reduce the risk of failure. Risk can also be reduced in many cases by restricting use or moving the target. With limited budget and time, the degree of hazard (hazard rating) has been ranked according to the scale described in *A Photographic Guide to the Evaluation of Hazard Trees in Urban Areas*, by Matheny and Clark. "Defective part size" ranks the size of the part most likely to fail into four categories: 1-less than 6 inches; 2-6 to 18 inches; 3-18 to 30 inches; and 4-greater than 30 inches. "Failure potential" is ranked; 1-low; 2-medium; 3-high; and 4-severe. The target ranking is based on "Frequency of use", which is 1-occasional use; 2-intermittent use; 3-frequent use; and 4-constant use. The "Hazard rating" is the total of "Defective part size" + "Failure potential" + "Frequency of use". Horticultural recommendations follow in a separate recommendations section of this report.

Tag	Species	*DBH	Space	Defective part size	Failure potential	Target	Frequency of use	Hazard rating	Can use be restricted?	Wind exposure	Risk reduction
1	Liquidambar styraciflua	16	Adequate	2	3	Bus stop	4	9	No	75%	Reduce 2nd leader
2	Jacaranda acutifolia	12	Adequate	2	2	Bus stop	4	8	No	50%	Thin tips
3	Chorisia speciosa	28	Restricted	2	3	Bus stop	4	9	No	75%	DC* vertical shoot
4	Washingtonia robusta	20' th	Adequate	2	0	Sidewalk	3	5	No	75%	
5	Washingtonia robusta	14'	Adequate	2	0	Lawn	2	4	No	75%	
6	Washingtonia robusta	10'	Adequate	2	0	Lawn	2	4	No	75%	
7	Washingtonia robusta	50	Adequate	2	2	Sidewalk	3	7	No	100%	
8	Washingtonia robusta	16'	Adequate	2	0	Lawn	2	4	No	75%	

Tag	Species	*DBH	Space	Defective part size	Failure potential	Target	Frequency of use	Hazard rating	Can use be restricted?	Wind exposure	Risk reduction
9	Cinnamomum camphora	32	Restricted	2	2	Sidewalk	3	7	No	90%	Remove dead wood
10	Cupania anacardioides	6.5	Restricted	1	3	Lawn	2	6	No	75%	Train
11	Strelitzia nicolai	8@15'	Enclosed	1	1	Sidewalk	3	5	No	75%	
12	Strelitzia nicolai	15@15'	Enclosed	1	1	Sidewalk	3	5	No	75%	
13	Chamaerops humilis	6@10'	Adequate	1	1	Lawn	2	4	No	60%	
14	Washingtonia robusta	40'	Adequate	2	2	Sidewalk	3	7	No	100%	
15	Washingtonia robusta	50'	Adequate	2	0	Sidewalk	3	5	No	100%	
16	Washingtonia robusta	45'	Adequate	2	0	Sidewalk	3	5	No	100%	
17	Tupidanthus calyptratus	8	Adequate	2	2	Lawn	2	6	No	75%	
18	Eucalyptus citriodora	14	Adequate	2	1	Sidewalk	3	6	No	80%	Prune
19	Ficus m. 'Nitida'	28	Restricted	2	2	Sidewalk	3	7	No	30%	Cable
20	Ficus m. 'Nitida'	36	Restricted	2	3	Sidewalk	3	8	No	30%	Cable
21	Ficus m. 'Nitida'	27	Restricted	2	2	Sidewalk	3	7	No	30%	Cable
22	Ficus m. 'Nitida'	23	Restricted	2	2	Sidewalk	3	7	No	30%	Cable
23	Ficus m. 'Nitida'	29	Restricted	3	3	Sidewalk	3	9	No	30%	Cable
24	Ficus m. 'Nitida'	28	Restricted	3	2	Sidewalk	3	8	No	30%	Cable
25	Ulmus parvifolia	17	Adequate	2	2	Sidewalk	3	7	No	30%	Prune
26	Ulmus parvifolia	17	Adequate	1	3	Sidewalk	3	7	No	40%	Thin tips
27	Ulmus parvifolia	14 b	Restricted	1	3	Sidewalk	3	7	No	90%	Thin tips
28	Pittosporum rhombifolia	8	Restricted	1	3	Tables	3	7	Some	10%	Move tables
29	Pittosporum rhombifolia	14b	Restricted	2	3	Tables	3	8	Some	10%	Move tables
30	Ficus macrophylla	42, 27, 32	Restricted	3	3	Tables	3	9	Some	20%	Move tables
31	Eucalyptus camaldulensis	53	Restricted	2	3	Sidewalk	3	8	No	90%	Thin tips
32	Pittosporum undulatum	9, 10	Restricted	2	3	planter	1	6	No	10%	
33	Pittosporum undulatum	11	Restricted	2	2	planter	1	5	No	10%	
34	Pittosporum undulatum	6, 6, 7	Restricted	2	3	planter	3	8	No	20%	

Tag	Species	*DBH	Space	Defective part size	Failure potential	Target	Frequency of use	Hazard rating	Can use be restricted?	Wind exposure	Risk reduction
35	Podocarpus gracilior	15	Restricted	2	2	Sidewalk	3	7	No	20%	
36	Podocarpus gracilior	14	Restricted	2	2	Sidewalk	3	7	No	30%	
37	Eucalyptus camaldulensis	37	Restricted	2	3	Sidewalk	3	8	No	80%	Remove tree
38	Ulmus parvifolia	13	Restricted	2	2	Bench	3	7	Yes	80%	Move bench
39	Eucalyptus citriodora	14	Restricted	2	3	Tables	4	9	Yes	90%	Move tables
40	Hymenosporum flavum	7	Restricted	1	3	Sidewalk	3	7	No	90%	
41	Ilex x Wilsonii	8	Restricted	1	1	Sidewalk	1	3	Pointless	90%	
42	Araucaria bidwillii	43	Adequate	1	4	Sidewalk	3	8	No	50%	Remove cones
43	Olmediella betschlerana	21	Adequate	2	2	Sidewalk	3	7	No	60%	
44	Podocarpus gracilior	17	Restricted	2	3	Sidewalk	3	8	No	50%	
45	Fraxinus uhdei	34	Open	2	2	Lawn	2	6	No	90%	Thin tips, DC
46	Liquidambar styraciflua	8	Restricted	1	1	Sidewalk	1	3	Pointless	80%	DC larger limbs
47	Liquidambar styraciflua	15	Restricted	1	3	Sidewalk	3	7	No	80%	DC larger limbs
48	Liquidambar styraciflua	18	Restricted	1	4	Sidewalk	3	8	No	70%	Cut cracked limb
49	Fraxinus uhdei	20	Open	2	3	Lawn	2	7	No	90%	Thin tips
50	Fraxinus uhdei	23	Open	2	3	Bench	3	8	Some	90%	Thin tips
51	Tipuana tipu	24	Open	3	2	Sidewalk	3	8	Some	80%	Thin tips, DC
52	Magnolia grandiflora	10	Restricted	1	1	Bench	3	5	No	20%	
53	Tipuana tipu	16	Restricted	2	2	Sidewalk	3	7	No	80%	Thin tips, DC
54	Tipuana tipu	10	Restricted	2	2	Sidewalk	3	7	No	80%	Thin tips, DC
55	Melaleuca quinquenervia	12	Restricted	2	1	Sidewalk	3	6	No	50%	
56	Jacaranda acutifolia	12	Adequate	2	2	Sidewalk	3	7	Some	80%	Move bench
57	Jacaranda acutifolia	14	Adequate	2	2	Sidewalk	3	7	No	70%	
58	Jacaranda acutifolia	12	Adequate	2	3	Sidewalk	3	8	No	80%	
59	Fraxinus uhdei	27	Open	2	2	Lawn	2	6	Some	60%	Move bench
60	Eucalyptus citriodora	28	Adequate	1	3	Sidewalk	3	7	No	70%	

Tag	Species	*DBH	Space	Defective part size	Failure potential	Target	Frequency of use	Hazard rating	Can use be restricted?	Wind exposure	Risk reduction
61	Calodendron capense	19	Restricted	1	1	Seat-wall	2	4	No	100%	Remove dead wood
62	Calodendron capense	14	Restricted	2	2	Seat-wall	2	6	No	90%	Remove dead wood
63	Calodendron capense	15	Restricted	1	2	Seat-wall	2	5	No	80%	Remove dead wood
64	Calodendron capense	20	Restricted	1	3	Seat-wall	2	6	No	70%	
65	Calodendron capense	13	Restricted	1	1	Seat-wall	2	4	No	90%	Remove dead wood
66	Calodendron capense	10	Restricted	1	1	Seat-wall	2	4	No	60%	Remove dead wood
67	Calodendron capense	14	Restricted	1	1	Seat-wall	2	4	No	50%	Remove dead wood
68	Calodendron capense	12	Restricted	1	1	Seat-wall	2	4	No	60%	Remove dead wood
69	Melaleuca quinquenervia	10, 8	Adequate	2	2	Sidewalk	3	7	No	90%	
70	Eucalyptus citriodora	11	Adequate	1	3	Sidewalk	3	7	No	90%	Thin tips, DC
71	Eucalyptus citriodora	10	Adequate	1	2	Sidewalk	3	6	No	90%	Thin tips, DC
72	Eucalyptus citriodora	16	Adequate	1	3	Sidewalk	3	7	No	90%	Thin tips, DC
73	Ficus macrophylla	33,26,22	Restricted	2	2	Bench	2	6	Yes	40%	Move bench
74	Pittosporum undulatum	9, 10	Restricted	2	1	Parking	4	7	Some	20%	Move bench
75	Quercus agrifolia	32	Restricted	2	3	Sidewalk	2	7	No	80%	Thin tips, DC
76	Pittosporum undulatum	8, 10, 13	Restricted	2	1	Fountain	2	5	No	90%	
77	Washingtonia robusta	35'	Adequate	2	1	Sidewalk	2	5	No	100%	
78	Washingtonia robusta	40'	Adequate	2	1	Sidewalk	2	5	No	100%	
79	Washingtonia robusta	45'	Adequate	2	1	Sidewalk	2	5	No	100%	
80	Pittosporum undulatum	6, 7, 9	Adequate	2	3	Sidewalk	2	7	No	100%	
81	Pittosporum undulatum	9	Restricted	2	3	Driveway	1	6	No	100%	
82	Jacaranda acutifolia	11	Adequate	2	1	planter	1	4	No	20%	
83	Washingtonia robusta	55'	Adequate	2	1	Sidewalk	2	5	No	100%	
84	Washingtonia robusta	55'	Adequate	2	1	Sidewalk	2	5	No	100%	
85	Washingtonia robusta	55'	Adequate	2	1	Sidewalk	2	5	No	100%	
86	Trachycarpus fortunei	25' th	Restricted	1	2	Sidewalk	3	6	Pointless	20%	

Tag	Species	*DBH	Space	Defective part size	Failure potential	Target	Frequency of use	Hazard rating	Can use be restricted?	Wind exposure	Risk reduction
87	Strelitzia nicolai	10@12'	Restricted	1	1	Sidewalk	3	5	No	50%	
88	Strelitzia nicolai	5@12'	Restricted	1	1	Sidewalk	3	5	No	50%	
89	Chorisia speciosa	29	Adequate	3	1	Sidewalk	3	7	No	50%	
90	Cassia leptophylla	5,5, 6	Adequate	1	1	Bench	3	5	Yes	20%	Move bench
91	Eucalyptus citriodora	18	Adequate	1	3	Bench	3	7	Yes	90%	Move bench
92	Calodendron capense	20	Restricted	2	1	Seat-wall	2	5	No	70%	
93	Calodendron capense	10	Restricted	1	1	Seat-wall	2	4	No	90%	Prune
94	Calodendron capense	14	Restricted	2	2	Seat-wall	2	6	No	90%	Prune
95	Calodendron capense	14	Restricted	1	2	Seat-wall	2	5	No	80%	
96	Liquidambar styraciflua	12	Adequate	2	3	Sidewalk	3	8	No	90%	Thin tips, DC
97	Washingtonia robusta	50'	Adequate	2	1	Sidewalk	3	6	No	100%	
98	Trachycarpus fortunei	12'	Adequate	1	1	Sidewalk	3	5	No	10%	
99	Chorisia speciosa	16	Restricted	2	1	Sidewalk	3	6	No	20%	
100	Tipuana tipu	28	Adequate	2	3	Patio	3	8	Some	50%	Move tables
101	Populus nigra 'Italica'	11	Restricted	2	1	Lawn	2	5	No	90%	
102	Eucalyptus citriodora	11	Restricted	1	2	Sidewalk	3	6	No	20%	Thin tips, DC
103	Eucalyptus citriodora	15	Restricted	2	2	Building	3	7	No	50%	Thin tips, DC
104	Gingko biloba	10	Adequate	1		Building	1	2	No	10%	Thin tips, DC
105	Chorisia speciosa	29	Adequate	2	3	Lawn	2	7	No	20%	Thin tips, DC
106	Eucalyptus citriodora	14	Adequate	2	3	Sidewalk	3	8	No	50%	Thin tips, DC
107	Albizia julibrissin	6	Adequate	1	3	Sidewalk	3	7	Pointless	10%	
108	Erythrina caffra	24	Restricted	2	2	Sidewalk	3	7	No	20%	Cable
109	Laurus nobilis	11	Restricted	2	2	Sidewalk	3	7	No	10%	
110	Laurus nobilis	10	Restricted	2	2	Sidewalk	3	7	No	10%	
111	Fraxinus uhdei	14	Open	2	3	Lawn	2	7	No	80%	
112	Fraxinus uhdei	22	Open	1	2	Bench	3	6	Yes	70%	Move bench

Tag	Species	*DBH	Space	Defective part size	Failure potential	Target	Frequency of use	Hazard rating	Can use be restricted?	Wind exposure	Risk reduction
113	Fraxinus uhdei	24	Open	2	3	Lawn	2	7	No	70%	
114	Jacaranda acutifolia	14	Adequate	2	3	Sidewalk	3	8	No	50%	Thin tips, DC
115	Laurus nobilis	10	Adequate	2	3	Sidewalk	3	8	No	10%	
116	Laurus nobilis	8	Adequate	2	3	Sidewalk	3	8	No	10%	
117	Eucalyptus citriodora	24	Adequate	2	2	Sidewalk	3	7	No	70%	Thin tips, DC
118	Eucalyptus citriodora	18	Adequate	2	3	Sidewalk	3	8	No	70%	Thin tips, DC
119	Ficus benjamina	24	Restricted	2	2	Sidewalk	3	7	No	40%	Prune
120	Ficus benjamina	20	Restricted	2	2	Sidewalk	3	7	No	50%	Prune
121	Ficus benjamina	30	Restricted	2	2	Sidewalk	3	7	No	60%	Prune
122	Magnolia grandiflora	19	Restricted	1	2	Sidewalk	2	5	No	90%	
123	Liquidambar styraciflua	6	Restricted	1	1	Sidewalk	2	4	Pointless	80%	
124	Liquidambar styraciflua	8	Restricted	1	2	Sidewalk	2	5	No	80%	
125	Morus alba	11	Restricted	1	3	Plantings	1	5	Pointless	80%	
126	Liquidambar styraciflua	4	Restricted	1	3	Sidewalk	3	7	Pointless	60%	Too close - remove
127	Fraxinus uhdei	18	Restricted	2	3	Sidewalk	3	8	No	60%	
128	Calodendron capense	9	Restricted	1	3	Seat-wall	2	6	No	50%	
129	Calodendron capense	13	Restricted	1	1	Seat-wall	2	4	No	50%	
130	Cassia splendida	6	Restricted	1	1	Plantings	1	3	Pointless	20%	
131	Cupania anacardioides	5	Restricted	2	3	Sidewalk	3	8	Pointless	50%	
132	Cupania anacardioides	9b	Restricted	2	3	Sidewalk	3	8	No	40%	Remove tree
133	Magnolia grandiflora	12	Adequate	1	1	Sidewalk	2	4	No	40%	
134	Magnolia grandiflora	12	Adequate	1	1	Sidewalk	2	4	No	50%	
135	Ficus carica	12	Adequate	1	1	Sidewalk	2	4	No	80%	
136	Tipuana tipu	16	Restricted	2	4	Parking	4	10	Some	10%	Restrict parking, DC
137	Quercus agrifolia	19	Restricted	2	3	Parking	4	9	Some	100%	Restrict foot traffic
138	Podocarpus gracilior	25	Restricted	1	1	Sidewalk	3	5	No	20%	Crown reduction

Tag	Species	*DBH	Space	Defective part size	Failure potential	Target	Frequency of use	Hazard rating	Can use be restricted?	Wind exposure	Risk reduction
139	Eucalyptus citriodora	22	Restricted	2	2	Sidewalk	2	6	No	20%	Thin tips, DC
140	Ficus m. 'Nitida'	17	Restricted	2	1	Driveway	3	6	Some	10%	Restrict parking
141	Ficus m. 'Nitida'	18	Restricted	2	1	Driveway	3	6	Some	10%	Restrict parking
142	Ficus m. 'Nitida'	18	Restricted	1	2	Driveway	3	6	Some	10%	Restrict parking
143	Ficus m. 'Nitida'	17	Restricted	1	1	Driveway	3	5	Some	20%	Restrict parking
144	Phoenix reclinata	6@18'	Adequate	2	3	Sidewalk	2	7	No	20%	Remove dead trunk
145	Juniperus c. Torulosa	10	Enclosed	1	1	Sidewalk	3	5	No	50%	
146	Magnolia grandiflora	12	Adequate	1	1	Sidewalk	2	4	No	90%	
147	Eucalyptus citriodora	17	Adequate	1	3	Sidewalk	3	7	Yes	90%	Move bench
148	Cupania anacardioides	10	Restricted	1	1	Sidewalk	3	5	No	80%	
149	Cupania anacardioides	7	Restricted	1	1	Sidewalk	3	5	No	80%	
150	Cupania anacardioides	7	Restricted	2	3	Sidewalk	3	8	No	80%	
151	Tupidanthus calyptratus	10b	Restricted	1	1	Sidewalk	1	3	Pointless	60%	
152	Tupidanthus calyptratus	12b	Restricted	1	1	Sidewalk	1	3	Pointless	60%	
153	Podocarpus gracilior	18	Adequate	2	2	Driveway	2	6	No	100%	
154	Podocarpus gracilior	26	Adequate	2	4	Trucks	2	8	Yes	100%	Restrict truck entry
155	Platanus x acerifolia	13	Restricted	1	1	Bench	3	5	No	90%	Prune
156	Platanus x acerifolia	9	Adequate	1	1	Sidewalk	2	4	No	80%	
157	Platanus x acerifolia	14	Restricted	1	1	Sidewalk	2	4	No	70%	
158	Platanus x acerifolia	15	Restricted	1	1	Sidewalk	3	5	No	60%	
159	Platanus x acerifolia	14	Restricted	1	1	Bench	2	4	Pointless	80%	Prune
160	Tupidanthus calyptratus	10b	Restricted	1	1	Sidewalk	3	5	No	60%	
161	Tupidanthus calyptratus	8b	Restricted	1	2	Sidewalk	3	6	No	80%	
162	Tupidanthus calyptratus	9b	Restricted	1	2	Sidewalk	3	6	No	80%	
163	Eucalyptus globulus	20	Restricted	2	4	Parking	3	9	Yes	90%	Remove or no parking
164	Eucalyptus globulus	37	Restricted	2	4	Driveway	2	8	No	90%	Remove or no parking

Tag	Species	*DBH	Space	Defective part size	Failure potential	Target	Frequency of use	Hazard rating	Can use be restricted?	Wind exposure	Risk reduction
165	Platanus x acerifolia	10	Restricted	2	1	Stairs	2	5	No	90%	
166	Platanus x acerifolia	5	Restricted	1	2	Stairs	2	5	Pointless	90%	
167	Platanus x acerifolia	7	Restricted	1	1	Stairs	2	4	No	90%	
168	Platanus x acerifolia	20	Restricted	2	2	Stairs	2	6	No	90%	Track movement
169	Chorisia speciosa	10	Restricted	1	2	Plantings	1	4	Pointless	10%	
170	Chorisia speciosa	12	Restricted	2	3	Plantings	1	6	Pointless	10%	
171	Chorisia speciosa	12	Restricted	1	3	Plantings	1	5	Pointless	10%	
172	Platanus x acerifolia	9	Restricted	2	2	Seat-wall	3	7	No	80%	
173	Chorisia speciosa	5	Open	1	1	Lawn	1	3	Pointless	100%	
174	Morus alba	7	Open	1	3	Lawn	1	5	Pointless	80%	
175	Platanus x acerifolia	10	Adequate	2	2	Sidewalk	2	6	No	70%	
176	Platanus x acerifolia	8	Adequate	1	1	Sidewalk	2	4	No	70%	
177	Platanus x acerifolia	9	Adequate	1	1	Lawn	1	3	Pointless	70%	
178	Platanus x acerifolia	10	Adequate	2	2	Sidewalk	2	6	No	70%	
179	Platanus x acerifolia	10	Restricted	1	2	Plantings	3	6	No	90%	
180	Ginkgo biloba	10	Open	1	1	Lawn	1	3	Pointless	80%	
181	Ginkgo biloba	10	Open	1	2	Lawn	1	4	No	80%	
182	Fraxinus uhdei	15	Restricted	2	3	Lawn	1	6	No	70%	
183	Calocedrus decurrens	16b	Restricted	1	2	Sidewalk	2	5	No	10%	
184	Eucalyptus robusta	15	Restricted	2	3	Sidewalk	2	7	No	30%	Restructure
185	Eucalyptus robusta	25	Restricted	2	3	Sidewalk	2	7	No	30%	Restructure
186	Calocedrus decurrens	10	Restricted	1	2	Sidewalk	2	5	No	10%	
187	Calocedrus decurrens	10	Restricted	1	2	Sidewalk	2	5	No	10%	
188	Calocedrus decurrens	9	Restricted	1	2	Sidewalk	2	5	No	10%	
189	Calocedrus decurrens	16	Restricted	2	2	Sidewalk	2	6	No	10%	
190	Calocedrus decurrens	20b	Restricted	1	3	Sidewalk	2	6	No	10%	

Tag	Species	*DBH	Space	Defective part size	Failure potential	Target	Frequency of use	Hazard rating	Can use be restricted?	Wind exposure	Risk reduction
191	Liquidambar styraciflua	10	Restricted	2	3	Sidewalk	3	8	No	60%	
192	Eucalyptus globulus	65	Restricted	3	4	Building	3	10	No	70%	Remove tree
193	Acer palmatum	8, 7	Restricted	2	3	Sidewalk	2	7	No	20%	
194	Olea europea	16	Restricted	2	2	Entry	2	6	No	20%	
195	Ulmus parvifolia	16	Restricted	2	2	Sidewalk	3	7	Yes	80%	Enlarge fenced area
196	Ficus elastica	13	Restricted	2	1	Air conditn	1	4	Pointless	20%	
197	Bauhinia punctata	5,5, 5	Restricted	1	3	Parking	3	7	Yes	10%	No parking
198	Morus alba	20b	Restricted	2	3	Wall	1	6	No	20%	
199	Ficus m. 'Nitida'	18b	Restricted	2	3	Wall	1	6	No	30%	
200	Strelitzia nicolai	5@13'	Restricted	1	1	Wall	1	3	Pointless	30%	
201	Callistemon viminalis	10,3,3,4	Restricted	2	3	Bench	2	7	Yes	10%	Move bench
202	Melaleuca linarifolia	13	Restricted	1	2	Parking	3	6	Yes	10%	Restrict parking
203	Calocedrus decurrens	17	Restricted	1	1	Paving	2	4	No	50%	
204	Platanus racemosa	23	Restricted	2	1	Sidewalk	2	5	No	60%	Monitor lean
205	Heteromeles arbutifolia	6, 4	Restricted	1	2	Sidewalk	2	5	No	20%	
206	Eucalyptus globulus	23	Restricted	2	3	Sidewalk	3	8	No	60%	Remove tree
207	Eucalyptus globulus	37	Restricted	1	2	Building	3	6	No	60%	Remove tree
208	Eucalyptus globulus	13, 17	Restricted	1	3	Building	3	7	No	70%	Remove tree
209	Eucalyptus globulus	22	Restricted	2	3	Building	3	8	No	80%	Remove tree
210	Eucalyptus globulus	18	Restricted	2	3	Building	3	8	No	90%	Remove tree
211	Eucalyptus globulus	26	Restricted	3	2	Building	3	8	No	90%	Remove tree
212	Eucalyptus globulus	18	Restricted	2	2	Building	3	7	No	90%	Remove tree
213	Pittosporum undulatum	14	Restricted	2	3	Table	3	8	Yes	90%	Move tables
214	Pinus pinea	8	Restricted	1	3	Paving	1	5	Pointless	90%	Prune only 1 half
215	Erythrina caffra	10b	Restricted	1	2	Paving	1	4	Pointless	70%	Restructure
216	Eucalyptus citriodora	10	Restricted	2	2	Building	3	7	No	90%	

Tag	Species	*DBH	Space	Defective part size	Failure potential	Target	Frequency of use	Hazard rating	Can use be restricted?	Wind exposure	Risk reduction
217	Eucalyptus citriodora	9	Restricted	2	2	Tower	1	5	No	90%	
218	Eucalyptus citriodora	13	Restricted	1	2	Bench	1	4	Yes	90%	Move bench
219	Erythrina caffra	19, 19	Restricted	3	3	Driveway	2	8	Yes	50%	Move bench
220	Erythrina caffra	19, 19	Restricted	2	3	Parking	3	8	Yes	60%	Restrict parking
221	Erythrina caffra	25	Restricted	2	2	Parking	2	6	Yes	90%	No bench or parking
222	Erythrina caffra	20,10,20	Restricted	2	3	Parking	2	7	Yes	90%	Restrict parking
223	Erythrina caffra	20, 15	Restricted	2	3	Parking	3	8	Yes	90%	Restrict parking
224	Tupidanthus calyptratus	12	Restricted	1	2	Sidewalk	2	5	No	100%	
225	Xylosma congesta	8	Adequate	2	2	Building	3	7	No	40%	
226	Xylosma congesta	4,4, 6	Adequate	2	1	Building	3	6	No	40%	
227	Tupidanthus calyptratus	10	Adequate	2	2	Building	3	7	No	90%	
228	Quercus ilex	16	Restricted	2	1	Bench	3	6	yes	80%	Move bench
229	Chorisia speciosa	21	Restricted	2	2	Sidewalk	2	6	yes	100%	Restrict parking, guy
230	Erythrina coralloides	17,12,10,15	Enclosed	2	3	Sidewalk	3	8	No	40%	Cable
231	Podocarpus gracilior	16	Adequate	1	2	Sidewalk	3	6	No	20%	
232	Podocarpus gracilior	15	Adequate	1	2	Sidewalk	2	5	No	20%	
233	Eucalyptus citriodora	18	Restricted	2	3	Sidewalk	3	8	No	80%	Thin tips, DC
234	Washingtonia robusta	11	Adequate	1	1	Sidewalk	2	4	No	10%	
235	Prunus a. (apricot)	9	Open	1	1	Lawn	1	3	Pointless	80%	
236	Washingtonia robusta	55'	Adequate	2	1	Sidewalk	2	5	No	100%	
237	Washingtonia robusta	50'	Adequate	2	1	Sidewalk	2	5	No	100%	
238	Washingtonia robusta	60'	Adequate	2	1	Sidewalk	2	5	No	100%	
239	Jacaranda acutifolia	12	Open	1	2	Sidewalk	3	6	No	80%	Prune st. side limbs
240	Eucalyptus citriodora	17	Adequate	2	3	Tree #239	1	6	No	80%	Thin tips, DC
241	Eucalyptus citriodora	13	Adequate	1	2	Lawn	1	4	No	70%	Thin tips, DC
242	Eucalyptus citriodora	26	Adequate	2	4	Sidewalk	3	9	No	60%	Thin tips, DC

Tag	Species	*DBH	Space	Defective part size	Failure potential	Target	Frequency of use	Hazard rating	Can use be restricted?	Wind exposure	Risk reduction
243	Eucalyptus citriodora	23	Restricted	2	3	Sidewalk	3	8	No	60%	Thin tips, DC
244	Eucalyptus citriodora	14	Restricted	1	3	Sidewalk	3	7	No	60%	Thin tips, DC
245	Eucalyptus citriodora	20	Restricted	2	2	Sidewalk	2	6	No	70%	Thin tips, DC
246	Tupidanthus calyptratus	13	Restricted	1	2	Plantings	1	4	No	10%	
247	Tupidanthus calyptratus	10	Restricted	1	1	Plantings	1	3	Pointless	10%	
248	Eucalyptus citriodora	27	Restricted	2	2	Entry	2	6	No	80%	Thin tips, DC
249	Eucalyptus citriodora	15	Adequate	1	2	Plantings	1	4	No	100%	Thin tips, DC
250	Eucalyptus citriodora	11	Open	1	2	Building	2	5	No	100%	Thin tips, DC
251	Betula alba	10	Open	1	1	Lawn	1	3	Pointless	20%	
252	Tupidanthus calyptratus	10b	Open	1	3	Lawn	1	5	No	30%	
253	Sequoia sempervirens	16	Restricted	2	3	Building	2	7	No	80%	Remove tree
254	Ficus carica	9	Restricted	2	3	Lawn	1	6	No	70%	
255	Sequoia sempervirens	12	Restricted	2	3	Building	2	7	No	80%	Remove tree
256	Pittosporum viridiflorum	7	Restricted	2	1	Sidewalk	2	5	No	10%	
257	Celtis sinensis	8	Restricted	2	1	Building	2	5	No	10%	
258	Pittosporum undulatum	14b	Restricted	1	2	Sidewalk	2	5	No	90%	
259	Pittosporum undulatum	9, 10	Adequate	2	1	Plantings	1	4	No	80%	
260	Pittosporum undulatum	5, 7	Adequate	1	1	Sidewalk	2	4	No	8%	
261	Pittosporum undulatum	5, 6, 8	Adequate	2	1	Plantings	1	4	No	90%	
262	Pinus torreyana	18	Adequate	2	2	Sidewalk	2	6	No	90%	
263	Quercus lobata	7	Adequate	1	2	Open	1	4	No	10%	
264	Pinus canariensis	15	Restricted	1	2	Sidewalk	2	5	No	80%	
265	Quercus agrifolia	11b	Open	1	2	Open	1	4	No	10%	
266	Cupressus sp.	6	Open	1	2	Track	1	4	Pointless	60%	
267	Quercus lobata	4, 4	Open	1	2	Open	1	4	No	30%	
268	Quercus chrysolepis	16	Adequate	2	1	Open	1	4	No	20%	

Tag	Species	*DBH	Space	Defective part size	Failure potential	Target	Frequency of use	Hazard rating	Can use be restricted?	Wind exposure	Risk reduction
269	Rhus laurina	4, 3	Crowded	1	1	Open	1	3	Pointless	20%	
270	Rhus laurina	4,3,3,3	Crowded	1	1	Open	1	3	Pointless	20%	
271	Pinus sp.	6, 4	Crowded	1	1	Open	1	3	Pointless	40%	Prune 1 half only
272	Pinus sp.	6, 7	Crowded	2	2	Track	1	5	No	20%	Prune 1 half only
273	Rhus integrifolia	8	Adequate	2	2	Open	1	5	No	70%	
274	Cedrus deodara	16	Crowded	1	2	Oak #275	1	4	No	100%	
275	Quercus agrifolia	14, 15	Crowded	2	2	Sidewalk	3	7	Yes	90%	Fence off, DC
276	Ficus m. 'Nitida'	10	Restricted	2	3	Sidewalk	3	8	No	20%	Head back to hedge
277	Ficus m. 'Nitida'	5	Restricted	1	1	Nothing	1	3	Pointless	10%	Head back to hedge
278	Ficus m. 'Nitida'	9	Restricted	2	2	Open	1	5	No	10%	Head back to hedge
279	Ficus m. 'Nitida'	10, 8	Restricted	2	3	Sidewalk	3	8	No	10%	Head back to hedge
280	Ficus m. 'Nitida'	10	Restricted	1	4	Sidewalk	3	8	No	10%	Head back to hedge
281	Ficus m. 'Nitida'	12	Restricted	2	3	Open	1	6	No	10%	Head back to hedge
282	Ficus m. 'Nitida'	5	Restricted	1	2	Open	1	4	Pointless	10%	Head back to hedge
283	Ficus m. 'Nitida'	4	Restricted	1	2	Open	1	4	Pointless	10%	Head back to hedge
284	Ficus m. 'Nitida'	6	Restricted	1	2	Open	1	4	Pointless	10%	Head back to hedge
285	Ficus m. 'Nitida'	4	Restricted	1	2	Nothing	1	4	Pointless	10%	Head back to hedge
286	Ficus m. 'Nitida'	8	Restricted	1	3	Sidewalk	3	7	No	10%	Head back to hedge
287	Ficus m. 'Nitida'	8	Restricted	2	3	Sidewalk	3	8	No	10%	Head back to hedge
288	Ficus m. 'Nitida'	10	Restricted	2	3	Sidewalk	3	8	No	10%	Head back to hedge
289	Ficus m. 'Nitida'	11	Restricted	2	3	Sidewalk	3	8	No	10%	Head back to hedge
290	Ficus m. 'Nitida'	12, 11	Restricted	2	3	Building	2	7	No	10%	Head back to hedge
291	Cedrus deodara	17	Restricted	2	2	Ficus ^	1	5	No	80%	

*DC = Drop crotch, i.e. shortening overly long branches to significant inner side branches.

*DBH – Diameter at Brest Height, i.e. 4.5 feet above grade.

When “Can use be restricted” is answered “Pointless” it means that there is little reason to do so either because it already is restricted, the “Defective part size” is very small, or the “Failure potential is very low. Arboricultural terms are defined in the Glossary of this report.

Specific Hazard Findings

As a part of my background research, I interviewed the Gardening Supervisor, Dawn Stearns, regarding the types of risks she has observed on campus. Ms. Stearns reported that during her ten years on campus she had seen about five to ten eucalyptus drop limbs, usually under six inches in diameter. The large blue gum between Building X and the Chemistry building has dropped a couple larger limbs a year ago, and recently a broken water pipe was dug up and repaired in its root zone. A ginkgo tree dropped a large limb about ten years ago. Near the communications building a Chorisia dropped small limbs less than 6 inches in diameter as part of its declining health. In addition Ms. Stearns reported that the sidewalk along Vermont was replaced a year or two ago and “some” roots were cut. The large camphor tree (#9) is declining as if large roots may have been cut.

Ms. Stearns tries to maintain 7 to 8 foot head clearance on trees near sidewalks. This has resulted in a number of trees being over-lifted and having poor trunk taper. Lower limbs should be maintained so that no more than one third of the trunk is exposed. Lower limbs may be kept shortened to avoid clearance problems.

Ms. Stearns informs me that very little of the irrigation system is functional and that most areas are watered by “dragging hose”. This is having several results. Some trees are declining due to inadequate moisture and declining trees are more apt to shed limbs. With limited budget and limited time to water such a large campus, many areas get shallow watering, which leads to shallow root systems and trees that are more likely to blow over. Such watering also leads to salt build up, which leads to more decline. On the other hand dry soil provides better grip for tree roots. While mulching will reduce the water consumption of the trees, hand watering is still not a cost efficient practice. The irrigation system should be repaired.

Most trip hazards would be handled by other departments of the college and were not identified or dealt with in this report. However, it should be noted that the proximity of many trees to paving will cause lifting or buckling of sidewalks and paving at some time in the future. When sidewalk or paving repairs are made a consulting arborist should be contacted to verify that proposed root cutting will not destabilize the trees nearby. LACC would not benefit by transferring a trip and fall risk into a tree failure liability.

Blue gum has been involved in more death and injury cases than any other species I am aware of and the California Tree Failure Database, at UC Davis has records of a high number of failures, in both limb drop and whole trees toppling. (See the Eucalyptus Hazard Charts in the Appendix.) I recommend a high priority removal program for this species.

The large Araucaria (#42) can produce cones weighing ten pounds or more. Growing as it does next to the sidewalk, it poses a significant risk. Ten-pound cones dropping from fifty feet up in a tree could seriously injure passers-by. This is equivalent to falling bowling balls. Annual pruning should concentrate on removing these cones before they fall or the area should be roped off during the season they do fall.

Failure Profiles by Species

Botanic name	Common name	Failures Common to Species
<i>Acer palmatum</i>	Japanese maple	None noted
<i>Albizia julibrissin</i>	Mimosa	None noted
<i>Araucaria bidwillii</i>	Bunya-bunya	Drops 10-15 lb cones
<i>Bauhinia punctata</i>	Red bauhinia	None noted
<i>Betula alba</i>	White birch	Branch failure associated with regrowth from topping
<i>Callistemon viminalis</i>	Weeping bottlebrush	None noted
<i>Calocedrus decurrens</i>	Incense cedar	Rarely fails. Root failure from root rot occasionally
<i>Calodendron capense</i>	Cape chestnut	None noted
<i>Cassia leptophylla</i>	Golden medallion	None noted
<i>Cassia splendida</i>	Golden wonder senna	None noted
<i>Cedrus deodara</i>	Deodar cedar	Branch loss in strong wind. Lower limbs shed with age
<i>Celtis sinensis</i>	Chinese hackberry	Occasional branch, but rare trunk failure
<i>Chamaerops humilis</i>	Mediterranean fan palm	None noted
<i>Chorisia speciosa</i>	Floss silk tree	Lower limbs shed with age. Flowers may be slippery on paving
<i>Cinnamomum camphora</i>	Camphor tree	None noted
<i>Cupania anacardioides</i>	Carrotwood	Limb failure with included bark and crowded scaffolds.
<i>Cupressus</i> sp.	Cypress	None noted
<i>Erythrina caffra</i>	Coral tree	Limb or trunk failure with included bark, girdling roots & crowded scaffolds. Summer branch drop
<i>Erythrina coralloides</i>	Naked coral tree	Limb or trunk failure with included bark and crowded scaffolds
<i>Eucalyptus camaldulensis</i>	Red gum	Branch failure usually without decay. Root failure due to root rot (<i>Laetiporus sulfureus</i> , sulfur conk)
<i>Eucalyptus citriodora</i>	Lemon-scented gum	Branch failure usually without decay. Lower limbs shed with age
<i>Eucalyptus globulus</i>	Blue gum	Branch failure usually without decay. Root failure due to root rot

Botanic name	Common name	Failures Common to Species
		(<i>Laetiporus sulfureus</i> , sulfur conk)
Eucalyptus robusta	Swamp gum	Limb failure in strong winds.
Ficus benjamina	Benjamin fig	None noted
Ficus carica	Edible fig	None noted
Ficus elastica	Rubber tree	Rarely fails except as a result of poor pruning
Ficus m. 'Nitida'	Indian laurel	Limb failure with codominant stems or included bark.
Ficus macrophylla	Morton bay fig	Long end-heavy limbs rarely fail with age
Fraxinus uhdei	Shamel ash	Branch failure due to poor structure, weak attachment and heavy end weight.
Ginkgo biloba	Maidenhair tree	Rarely fails except as a result of poor pruning
Heteromeles arbutifolia	Toyon	None noted
Hymenosporum flavum	Sweet shade	Rarely fails except as a result of poor pruning
Ilex x Wilsonii	Wilson holly	None noted
Jacaranda acutifolia	Jacaranda	Branch failure in strong winds.
Juniperus c. Torulosa	Hollywood juniper	None noted
Laurus nobilis	Grecian bay	None noted
Liquidambar styraciflua	Sweet gum	Branch failure with excessive end weight and poor attachment. Trunk failure from internal decay. Subject to summer branch drop.
Magnolia grandiflora	Southern magnolia	Rarely fails
Melaleuca linarifolia	Flax-leaf paperbark	None noted
Melaleuca quinquenervia	Cajeput	Codominant leaders may split.
Morus alba	Fruitless mulberry	Trunk, limb and root failure with decay or poor attachment after heading. Medium failure rate.
Olea europea	Olive	None noted.
Olmediella betschlerana	Guatemalan holly	Female trees make large hard fruit that may cause a tripping hazard
Phoenix reclinata	Senegal date palm	Rarely fails

Botanic name	Common name	Failures Common to Species
<i>Pinus canariensis</i>	Canary Island pine	Rarely fails. Lower limbs may be shed in old trees.
<i>Pinus pinea</i>	Italian stone pine	Codominant trunks occasionally split apart.
<i>Pinus</i> sp.	Pine	Girdling roots occasionally cause trunk failure in fast growing pines.
<i>Pinus torreyana</i>	Torrey pine	Lower limbs may be shed in old trees
<i>Pittosporum rhombifolia</i>	Queensland pittosporum	None noted.
<i>Pittosporum undulatum</i>	Victorian box	None noted
<i>Pittosporum viridiflorum</i>	Cape pittosporum	None noted
<i>Platanus racemosa</i>	California sycamore	Branch and trunk failure due to heart rot
<i>Platanus x acerifolia</i>	London plane tree	Rarely fails except as a result of poor pruning
<i>Podocarpus gracilior</i>	Fern pine	Rarely fails except as a result of poor pruning
<i>Populus nigra</i> 'Italica'	Lombardy poplar	Ranked as "high hazard". Trunk failure in strong winds often associated with decay caused by root injury or Hypoxylon canker
<i>Prunus armeniaca</i>	Apricot	Root and butt failure related to crown gall and Ganoderma. Branch failure follows poor pruning and fruit load.
<i>Quercus agrifolia</i>	Coast live oak	Scaffold limbs fail due to internal decay, heavy loads, and unknown reasons. Root failure due to oak root fungus and butt rot, especially in irrigated landscapes. Summer branch drop
<i>Quercus chrysolepis</i>	Canyon live oak	Root failure due to oak root fungus and butt rot, especially in irrigated landscapes
<i>Quercus ilex</i>	Holly oak	None noted.
<i>Quercus lobata</i>	Valley oak	Branch failure associated with poor taper and excessive end weight or decay. Root failure from decay, especially in irrigated landscapes.
<i>Rhus integrifolia</i>	Lemonade berry	Occasionally limb or codominant stems fail in irrigated landscapes
<i>Rhus laurina</i>	Laurel sumac	Occasionally limb or codominant stems fail in irrigated landscapes
<i>Sequoia sempervirens</i>	Coast redwood	Rarely fails
<i>Strelitzia nicolai</i>	Giant bird of paradise	None noted
<i>Tipuana tipu</i>	Tipu tree	Limb or trunk failure with included bark, girdling roots & crowded

Botanic name	Common name	Failures Common to Species
		scaffolds.
Trachycarpus fortunei	Windmill palm	None noted
Tupidanthus calyptratus	Mallet flower	None noted
Ulmus parvifolia	Chinese elm	Medium failure rate. Branch and scaffold limb failure due to poor attachments and excessive end weight.
Washingtonia robusta	Mexican fan palm	Rare trunk failure due to pink rot caused by climbing gaff injuries.
Xylosma congesta	Shiny xylosma	None noted

Arboricultural terms are defined in the Glossary of this report

Recommendations

Matrix of Recommendations

Tag	Species	DBH	Space	Risk reduction	Effect of removal on other trees	Horticultural recommendation
1	Liquidambar styraciflua	16	Adequate	Reduce 2nd leader	None	Surface mulch
2	Jacaranda acutifolia	12	Adequate	Thin tips	None	Surface mulch
3	Chorisia speciosa	28	Restricted	DC vertical shoot	None	Surface mulch
4	Washingtonia robusta	20' th	Adequate		None	Surface mulch
5	Washingtonia robusta	14'	Adequate		None	Surface mulch
6	Washingtonia robusta	10'	Adequate		None	Surface mulch
7	Washingtonia robusta	50'	Adequate		None	Surface mulch
8	Washingtonia robusta	16'	Adequate		None	Surface mulch
9	Cinnamomum camphora	32	Restricted	Remove dead wood	Slight downwind risk	Mulch, remove dead wood
10	Cupania anacardioides	6.5	Restricted	Train	None	Replace
11	Strelitzia nicolai	8@15'	Enclosed		None	Water, surface mulch
12	Strelitzia nicolai	15@15'	Enclosed		None	Water, surface mulch
13	Chamaerops humilis	6@10'	Adequate		None	Surface mulch
14	Washingtonia robusta	40'	Adequate		None	Surface mulch
15	Washingtonia robusta	50'	Adequate		None	Surface mulch

Tag	Species	DBH	Space	Risk reduction	Effect of removal on other trees	Horticultural recommendation
16	Washingtonia robusta	45'	Adequate		None	Surface mulch
17	Tupidanthus calyptatus	8	Adequate		None	Surface mulch
18	Eucalyptus citriodora	14	Adequate	Prune	None	Control psyllids, prune
19	Ficus m. 'Nitida'	28	Restricted	Cable	Downwind risk	Surface & vertical mulch
20	Ficus m. 'Nitida'	36	Restricted	Cable	Downwind risk	Surface & vertical mulch
21	Ficus m. 'Nitida'	27	Restricted	Cable	Downwind risk	Surface & vertical mulch
22	Ficus m. 'Nitida'	23	Restricted	Cable	Downwind risk	Surface & vertical mulch
23	Ficus m. 'Nitida'	29	Restricted	Cable	Downwind risk	Surface & vertical mulch
24	Ficus m. 'Nitida'	28	Restricted	Cable	Downwind risk	Surface & vertical mulch
25	Ulmus parvifolia	17	Adequate	Prune	Slight downwind risk	Spray for anthracnose
26	Ulmus parvifolia	17	Adequate	Thin tips	None	Spray for anthracnose
27	Ulmus parvifolia	14 b	Restricted	Thin tips	None	Spray, enlarge tree well, water
28	Pittosporum rhombifolia	8	Restricted	Move tables	None	Replace
29	Pittosporum rhombifolia	14b	Restricted	Move tables	None	Replace
30	Ficus macrophylla	42, 27, 32	Restricted	Move tables	Slight downwind risk	Replace
31	Eucalyptus camaldulensis	53	Restricted	Thin tips	None	DC
32	Pittosporum undulatum	9, 10	Restricted		None	Mulch
33	Pittosporum undulatum	11	Restricted		None	Mulch
34	Pittosporum undulatum	6, 6, 7	Restricted		None	Remove
35	Podocarpus gracilior	15	Restricted		Downwind risk	Vertical mulch, prune
36	Podocarpus gracilior	14	Restricted		None	Vertical mulch, prune
37	Eucalyptus camaldulensis	37	Restricted	Remove tree	Good	Remove
38	Ulmus parvifolia	13	Restricted	Move bench	None	Spray for anthracnose
39	Eucalyptus citriodora	14	Restricted	Move tables	Slight downwind risk	DC, control psyllids
40	Hymenosporum flavum	7	Restricted		None	Surface & vertical mulch
41	Ilex x Wilsonii	8	Restricted		None	Mulch
42	Araucaria bidwillii	43	Adequate	Remove cones	None	Mulch

Tag	Species	DBH	Space	Risk reduction	Effect of removal on other trees	Horticultural recommendation
43	Olmediella betschlerana	21	Adequate		None	Mulch
44	Podocarpus gracilior	17	Restricted		None	Surface & vertical mulch
45	Fraxinus uhdei	34	Open	Thin tips, DC	None	Surface & vertical mulch
46	Liquidambar styraciflua	8	Restricted	DC larger limbs	None	Surface & vertical mulch
47	Liquidambar styraciflua	15	Restricted	DC larger limbs	None	Surface & vertical mulch
48	Liquidambar styraciflua	18	Restricted	Cut cracked limb	Slight downwind risk	Surface & vertical mulch
49	Fraxinus uhdei	20	Open	Thin tips	None	Surface & vertical mulch
50	Fraxinus uhdei	23	Open	Thin tips	None	Surface & vertical mulch
51	Tipuana tipu	24	Open	Thin tips, DC	Slight downwind risk	DC branch ends
52	Magnolia grandiflora	10	Restricted		Slight downwind risk	Remove ground cover, mulch
53	Tipuana tipu	16	Restricted	Thin tips, DC	Slight downwind risk	Reduce crowding
54	Tipuana tipu	10	Restricted	Thin tips, DC	Tree #55	Mulch
55	Melaleuca quinquenervia	12	Restricted		Tree #54	Remove
56	Jacaranda acutifolia	12	Adequate	Move bench	Slight downwind risk	Remove
57	Jacaranda acutifolia	14	Adequate		Slight downwind risk	Mulch
58	Jacaranda acutifolia	12	Adequate		Slight downwind risk	Remove
59	Fraxinus uhdei	27	Open	Move bench	Slight downwind risk	Thin
60	Eucalyptus citriodora	28	Adequate		Slight downwind risk	DC
61	Calodendron capense	19	Restricted	Remove dead wood	None	Remove shrubs, vertical mulch
62	Calodendron capense	14	Restricted	Remove dead wood	Slight downwind risk	Remove shrubs, vertical mulch
63	Calodendron capense	15	Restricted	Remove dead wood	Slight downwind risk	Remove shrubs, vertical mulch
64	Calodendron capense	20	Restricted		Slight downwind risk	Remove shrubs, vertical mulch
65	Calodendron capense	13	Restricted	Remove dead wood	Slight downwind risk	Remove shrubs, vertical mulch
66	Calodendron capense	10	Restricted	Remove dead wood	Slight downwind risk	Remove shrubs, vertical mulch
67	Calodendron capense	14	Restricted	Remove dead wood	Slight downwind risk	Remove shrubs, vertical mulch
68	Calodendron capense	12	Restricted	Remove dead wood	Slight downwind risk	Remove shrubs, vertical mulch
69	Melaleuca quinquenervia	10, 8	Adequate		None	Cable

Tag	Species	DBH	Space	Risk reduction	Effect of removal on other trees	Horticultural recommendation
70	Eucalyptus citriodora	11	Adequate	Thin tips, DC	Trees #71 & 72	DC long branches
71	Eucalyptus citriodora	10	Adequate	Thin tips, DC	Trees #70 & 73	DC long branches
72	Eucalyptus citriodora	16	Adequate	Thin tips, DC	Trees #70 & 71	DC long branches
73	Ficus macrophylla	33,26,22	Restricted	Move bench	Slight downwind risk	Thin prune
74	Pittosporum undulatum	9, 10	Restricted	Move bench	None	Remove
75	Quercus agrifolia	32	Restricted	Thin tips, DC	None	Remove planters and fountain
76	Pittosporum undulatum	8, 10, 13	Restricted		None	Remove
77	Washingtonia robusta	35'	Adequate		None	Water
78	Washingtonia robusta	40'	Adequate		None	Water
79	Washingtonia robusta	45'	Adequate		None	Water
80	Pittosporum undulatum	6, 7, 9	Adequate		None	Remove
81	Pittosporum undulatum	9	Restricted		None	Remove
82	Jacaranda acutifolia	11	Adequate		None	Mulch, DC
83	Washingtonia robusta	55'	Adequate		None	Mulch
84	Washingtonia robusta	55'	Adequate		None	Mulch
85	Washingtonia robusta	55'	Adequate		None	Mulch
86	Trachycarpus fortunei	25' th	Restricted		None	Mulch
87	Strelitzia nicolai	10@12'	Restricted		None	Fertilize, mulch
88	Strelitzia nicolai	5@12'	Restricted		None	Fertilize, mulch
89	Chorisia speciosa	29	Adequate		None	Mulch
90	Cassia leptophylla	5,5, 6	Adequate	Move bench	Insignificant	Mulch
91	Eucalyptus citriodora	18	Adequate	Move bench	Slight downwind risk	Mulch, control psyllids
92	Calodendron capense	20	Restricted		Slight downwind risk	Remove shrubs, mulch
93	Calodendron capense	10	Restricted	Prune	None	Remove shrubs, mulch
94	Calodendron capense	14	Restricted	Prune	None	Remove ground cover, mulch
95	Calodendron capense	14	Restricted		None	Remove shrubs, mulch
96	Liquidambar styraciflua	12	Adequate	Thin tips, DC	None	DC long branches

Tag	Species	DBH	Space	Risk reduction	Effect of removal on other trees	Horticultural recommendation
97	Washingtonia robusta	50'	Adequate		None	Mulch
98	Trachycarpus fortunei	12'	Adequate		None	
99	Chorisia speciosa	16	Restricted		None	DC, vertical mulch
100	Tipuana tipu	28	Adequate	Move tables	Downwind risk	DC, vertical mulch
101	Populus nigra 'Italica'	11	Restricted		None	Vertical mulch
102	Eucalyptus citriodora	11	Restricted	Thin tips, DC	Insignificant	Phase out
103	Eucalyptus citriodora	15	Restricted	Thin tips, DC	Slight downwind risk	Phase out
104	Ginkgo biloba	10	Adequate	Thin tips, DC	Insignificant	DC scaffolds
105	Chorisia speciosa	29	Adequate	Thin tips, DC	None	Surface & vertical mulch
106	Eucalyptus citriodora	14	Adequate	Thin tips, DC	None	Surface mulch
107	Albizia julibrissin	6	Adequate		None	Surface & vertical mulch
108	Erythrina caffra	24	Restricted	Cable	None	Mulch
109	Laurus nobilis	11	Restricted		None	Control scale insects
110	Laurus nobilis	10	Restricted		Tree #109	Remove tree
111	Fraxinus uhdei	14	Open		None	Remove tree
112	Fraxinus uhdei	22	Open	Move bench	None	Cable
113	Fraxinus uhdei	24	Open		None	DC, thin
114	Jacaranda acutifolia	14	Adequate	Thin tips, DC	None	Prune, vertical mulch
115	Laurus nobilis	10	Adequate		None	Replace
116	Laurus nobilis	8	Adequate		None	Replace
117	Eucalyptus citriodora	24	Adequate	Thin tips, DC	None	Phase out
118	Eucalyptus citriodora	18	Adequate	Thin tips, DC	None	Phase out
119	Ficus benjamina	24	Restricted	Prune	Slight downwind risk	Phase out
120	Ficus benjamina	20	Restricted	Prune	Slight downwind risk	Mulch
121	Ficus benjamina	30	Restricted	Prune	Slight downwind risk	Phase out
122	Magnolia grandiflora	19	Restricted		Slight downwind risk	Mulch, increase irrigation
123	Liquidambar styraciflua	6	Restricted		None	Limit side branches

Tag	Species	DBH	Space	Risk reduction	Effect of removal on other trees	Horticultural recommendation
124	Liquidambar styraciflua	8	Restricted		None	Limit side branches, DC
125	Morus alba	11	Restricted		None	DC
126	Liquidambar styraciflua	4	Restricted	Too close - remove	None	
127	Fraxinus uhdei	18	Restricted		Slight downwind risk	Thin ends, water, mulch
128	Calodendron capense	9	Restricted		None	Fix valve, remove shrubs
129	Calodendron capense	13	Restricted		None	Remove shrubs, mulch
130	Cassia splendida	6	Restricted		None	Okay
131	Cupania anacardioides	5	Restricted		good	Remove crowded weak branch
132	Cupania anacardioides	9b	Restricted	Remove tree	good	Guy, brace or stake
133	Magnolia grandiflora	12	Adequate		Good for #131 & 132	Water, mulch
134	Magnolia grandiflora	12	Adequate		None	Water, mulch
135	Ficus carica	12	Adequate		None	-
136	Tipuana tipu	16	Restricted	Restrict parking	Good for #100	Water, mulch, pin & cable
137	Quercus agrifolia	19	Restricted	Restrict foot traffic	None	Remove paving, mulch
138	Podocarpus gracilior	25	Restricted	Crown reduction	Slight downwind risk	Remove ivy
139	Eucalyptus citriodora	22	Restricted	Thin tips, DC	None	Restrict foot traffic beneath
140	Ficus m. 'Nitida'	17	Restricted	Restrict parking	None	Crown reduction
141	Ficus m. 'Nitida'	18	Restricted	Restrict parking	Intertwined w/142	Crown reduction
142	Ficus m. 'Nitida'	18	Restricted	Restrict parking	Intertwined w/141&143	Crown reduction
143	Ficus m. 'Nitida'	17	Restricted	Restrict parking	Intertwined w/#142	Crown reduction
144	Phoenix reclinata	6@18'	Adequate	Remove dead trunk	None	Remove dead trunk, increase water
145	Juniperus c. Torulosa	10	Enclosed		None	Replace when it declines, water
146	Magnolia grandiflora	12	Adequate		None	Mulch, water
147	Eucalyptus citriodora	17	Adequate	Move bench	None	Vertical mulch, water
148	Laurus nobilis	10	Restricted		None	Replace
149	Laurus nobilis	7	Restricted		None	Replace
150	Laurus nobilis	7	Restricted		None	Replace

Tag	Species	DBH	Space	Risk reduction	Effect of removal on other trees	Horticultural recommendation
151	Tupidanthus calyptratus	10b	Restricted		None	Mulch, water
152	Tupidanthus calyptratus	12b	Restricted		None	Mulch, water
153	Podocarpus gracilior	18	Adequate		None	Vertical mulch, water
154	Podocarpus gracilior	26	Adequate	Restrict truck entry	None	Vertical mulch, water
155	Platanus x acerifolia	13	Restricted	Prune	Slight downwind risk	Vertical mulch, water
156	Platanus x acerifolia	9	Adequate		Slight downwind risk	Vertical mulch, water
157	Platanus x acerifolia	14	Restricted		Slight downwind risk	Vertical mulch, water
158	Platanus x acerifolia	15	Restricted		Slight downwind risk	Vertical mulch, water
159	Platanus x acerifolia	14	Restricted	Prune	Slight downwind risk	Vertical mulch, water
160	Tupidanthus calyptratus	10b	Restricted		None	Vertical mulch, water
161	Tupidanthus calyptratus	8b	Restricted		None	
162	Tupidanthus calyptratus	9b	Restricted		None	
163	Eucalyptus globulus	20	Restricted	Restrict parking	None	Remove tree
164	Eucalyptus globulus	37	Restricted	Restrict parking	None	Remove tree
165	Platanus x acerifolia	10	Restricted		None	Water, mulch, feed
166	Platanus x acerifolia	5	Restricted		None	Water, mulch, feed
167	Platanus x acerifolia	7	Restricted		None	Water, mulch, feed
168	Platanus racemosa	20	Restricted	Track movement	Slight downwind risk	Water, mulch, feed
169	Chorisia speciosa	10	Restricted		Slight downwind risk	Water, mulch
170	Chorisia speciosa	12	Restricted		Slight downwind risk	Water, mulch
171	Chorisia speciosa	12	Restricted		None	Water, mulch
172	Platanus x acerifolia	9	Restricted		None	Water, mulch
173	Chorisia speciosa	5	Open		None	Water, mulch
174	Morus alba	7	Open		None	Water, mulch
175	Platanus x acerifolia	10	Adequate		Slight downwind risk	Water, mulch, thin ends
176	Platanus x acerifolia	8	Adequate		Slight downwind risk	Water, mulch, thin ends
177	Platanus x acerifolia	9	Adequate		Slight downwind risk	Water, mulch, thin ends

Tag	Species	DBH	Space	Risk reduction	Effect of removal on other trees	Horticultural recommendation
178	Platanus x acerifolia	10	Adequate		Slight downwind risk	Water, mulch, thin ends
179	Platanus x acerifolia	10	Restricted		Slight downwind risk	Water, mulch, thin ends
180	Ginkgo biloba	10	Open		None	Shorten long branches
181	Ginkgo biloba	10	Open		None	Shorten long branches
182	Fraxinus uhdei	15	Restricted		None	Restructure
183	Calocedrus decurrens	16b	Restricted		None	Mulch
184	Eucalyptus robusta	15	Restricted	Restructure	Slight downwind risk	Restructure heading
185	Eucalyptus robusta	25	Restricted	Restructure	Slight downwind risk	Restructure heading
186	Calocedrus decurrens	10	Restricted		Slight downwind risk	Mulch, water
187	Calocedrus decurrens	10	Restricted		Slight downwind risk	Mulch, water
188	Calocedrus decurrens	9	Restricted		Slight downwind risk	Mulch, water
189	Calocedrus decurrens	16	Restricted		Slight downwind risk	Mulch, water
190	Calocedrus decurrens	20b	Restricted		None	Mulch, water
191	Liquidambar styraciflua	10	Restricted	DC long branches	None	Mulch, water
192	Eucalyptus globulus	65	Restricted	Remove tree	Slight downwind risk	Remove tree
193	Acer palmatum	8, 7	Restricted		None	Mulch, water, remove ivy
194	Olea europea	16	Restricted		Tree #193	Water, thin prune
195	Ulmus parvifolia	16	Restricted	Enlarge fenced area	None	Remove paving, water
196	Ficus elastica	13	Restricted		None	Restructure, water
197	Bauhinia punctata	5,5, 5	Restricted	No parking	None	Remove cable, restructure, water
198	Morus alba	20b	Restricted		None	Remove tree
199	Ficus m. 'Nitida'	18b	Restricted		None	Remove tree
200	Strelitzia nicolai	5@13'	Restricted		None	Mulch, water
201	Callistemon viminalis	10,3,3,4	Restricted	Move bench	Tree #202	Water, restructure
202	Melaleuca linarifolia	13	Restricted	Restrict parking	Tree #201	Water, thin prune
203	Calocedrus decurrens	17	Restricted		None	Mulch, water
204	Platanus racemosa	23	Restricted		None	Water, mulch, lift

Tag	Species	DBH	Space	Risk reduction	Effect of removal on other trees	Horticultural recommendation
205	Heteromeles arbutifolia	6, 4	Restricted		None	Prune street trees for sun, water
206	Eucalyptus globulus	23	Restricted	Remove tree	None	Remove tree
207	Eucalyptus globulus	37	Restricted	Remove tree	None	Remove tree
208	Eucalyptus globulus	13, 17	Restricted	Remove tree	None	Remove tree
209	Eucalyptus globulus	22	Restricted	Remove tree	None	Remove tree
210	Eucalyptus globulus	18	Restricted	Remove tree	None	Remove tree
211	Eucalyptus globulus	26	Restricted	Remove tree	None	Remove tree
212	Eucalyptus globulus	18	Restricted	Remove tree	None	Remove tree
213	Pittosporum undulatum	14	Restricted	Move tables	None	Mulch, water
214	Pinus pinea	8	Restricted	Prune only 1 half	None	Mulch, water, prune 1 leader
215	Erythrina caffra	10b	Restricted	Restructure	None	Mulch, water, prune
216	Eucalyptus citriodora	10	Restricted		Coral trees below	Control psyllids, DC
217	Eucalyptus citriodora	9	Restricted		Coral trees below	Control psyllids, DC
218	Eucalyptus citriodora	13	Restricted	Move bench	Coral trees below	Control psyllids, DC, water
219	Erythrina caffra	19, 19	Restricted	Move bench	Adjoining coral	Restructure, increase irrigation
220	Erythrina caffra	19, 19	Restricted	Restrict parking	Adjoining coral	Restructure
221	Erythrina caffra	25	Restricted	No bench or parking	Adjoining coral	Restructure
222	Erythrina caffra	20,10,20	Restricted	Restrict parking	Adjoining coral	Restructure, lift
223	Erythrina caffra	20, 15	Restricted	Restrict parking	Adjoining coral	Restructure, increase irrigation
224	Tupidanthus calyptratus	12	Restricted		None	Head back, water
225	Xylosma congesta	8	Adequate		None	Control white fly, water
226	Xylosma congesta	4,4, 6	Adequate		None	Control white fly, water
227	Tupidanthus calyptratus	10	Adequate		None	Remove
228	Quercus ilex	16	Restricted	Move bench	None	Thin ends, water, mulch
229	Chorisia speciosa	21	Restricted	Restrict parking, guy	None	Roots cut, guy, stake or brace
230	Erythrina coralloides	17,12,10,15	Enclosed	Cable	None	Cable, water
231	Podocarpus gracilior	16	Adequate		None	DC, water, mulch

Tag	Species	DBH	Space	Risk reduction	Effect of removal on other trees	Horticultural recommendation
232	Podocarpus gracilior	15	Adequate		None	DC, water, mulch
233	Eucalyptus citriodora	18	Restricted	Thin tips, DC	None	DC, mulch, water
234	Washingtonia robusta	11	Adequate		None	Mulch
235	Prunus a. (apricot)	9	Open		None	Mulch, control water
236	Washingtonia robusta	55'	Adequate		None	Mulch
237	Washingtonia robusta	50'	Adequate		None	Mulch
238	Washingtonia robusta	60'	Adequate		None	Mulch
239	Jacaranda acutifolia	12	Open	Prune street side limbs	None	DC or thin ends
240	Eucalyptus citriodora	17	Adequate	Thin tips, DC	Good for tree #239	Remove ivy, DC, water
241	Eucalyptus citriodora	13	Adequate	Thin tips, DC	Street trees only	DC scaffold over walk
242	Eucalyptus citriodora	26	Adequate	Thin tips, DC	Street trees only	Shorten or thin branch ends
243	Eucalyptus citriodora	23	Restricted	Thin tips, DC	None	Shorten or thin branch ends
244	Eucalyptus citriodora	14	Restricted	Thin tips, DC	None	Shorten or thin branch ends
245	Eucalyptus citriodora	20	Restricted	Thin tips, DC	None	Shorten or thin branch ends
246	Tupidanthus calyptratus	13	Restricted		None	Water, prune #248
247	Tupidanthus calyptratus	10	Restricted		None	Water, prune #249
248	Eucalyptus citriodora	27	Restricted	Thin tips, DC	Good for trees 246, 247	DC, mulch, water
249	Eucalyptus citriodora	15	Adequate	Thin tips, DC	None	DC, mulch, water
250	Eucalyptus citriodora	11	Open	Thin tips, DC	None	Remove tree
251	Betula alba	10	Open		None	Remove tree
252	Tupidanthus calyptratus	10b	Open		None	Mulch, water
253	Sequoia sempervirens	16	Restricted	Remove tree	None	Remove tree
254	Ficus carica	9	Restricted		None	Prune hard, increase irrigation
255	Sequoia sempervirens	12	Restricted	Remove tree	None	Remove tree
256	Pittosporum viridiflorum	7	Restricted		None	Water, mulch, remove soil pile
257	Celtis occidentalis	8	Restricted		None	Water, mulch
258	Pittosporum undulatum	14b	Restricted		Good #265, 267, 269	Water, mulch, thin

Tag	Species	DBH	Space	Risk reduction	Effect of removal on other trees	Horticultural recommendation
259	Pittosporum undulatum	9, 10	Adequate		Good #265, 267, 269	Water, mulch, thin
260	Pittosporum undulatum	5, 7	Adequate		Good #265, 267, 269	Water, mulch, thin
261	Pittosporum undulatum	5, 6, 8	Adequate		Good #265, 267, 269	Water, mulch, thin
262	Pinus torreyana	18	Adequate		None	DC, water, mulch
263	Quercus lobata	7	Adequate		None	Dead wood, water, mulch
264	Pinus canariensis	15	Restricted		None	Prune street trees for sun, water
265	Quercus agrifolia	11b	Open		None	Thin branch ends, water, mulch
266	Cupressus sp.	6	Open		None	Shorten smaller trunk, water, mulch
267	Quercus lobata	4, 4	Open		None	Shorten smaller trunk, water, mulch
268	Quercus chrysolepis	16	Adequate		None	Water
269	Rhus laurina	4, 3	Crowded		None	Prune back #258 - 261, water
270	Rhus laurina	4,3,3,3	Crowded		None	Prune back #258 - 261, water
271	Pinus sp.	6, 4	Crowded	Prune 1 half only	Uncrowds #272	Remove small trunk, water
272	Pinus sp.	6, 7	Crowded	Prune 1 half only	Uncrowds #271	Shorten side branches, water
273	Rhus integrifolia	8	Adequate		None	Shorten upper portion, water
274	Cedrus deodara	16	Crowded		Good for oak below	Remove for oak
275	Quercus agrifolia	14, 15	Crowded	Fence off, DC	None	DC over sidewalk, pin & cable
276	Ficus m. 'Nitida'	10	Restricted	Head back to a hedge	Reduce crowding	Maintain as hedge, control thrips
277	Ficus m. 'Nitida'	5	Restricted	Head back to hedge	Reduce crowding	Maintain as hedge, control thrips
278	Ficus m. 'Nitida'	9	Restricted	Head back to hedge	Reduce crowding	Maintain as hedge, control thrips
279	Ficus m. 'Nitida'	10, 8	Restricted	Head back to a hedge	Reduce crowding	Maintain as hedge, control thrips
280	Ficus m. 'Nitida'	10	Restricted	Head back to a hedge	Reduce crowding	Maintain as hedge, control thrips
281	Ficus m. 'Nitida'	12	Restricted	Head back to hedge	Reduce crowding	Maintain as hedge, control thrips
282	Ficus m. 'Nitida'	5	Restricted	Head back to hedge	Reduce crowding	Maintain as hedge, control thrips
283	Ficus m. 'Nitida'	4	Restricted	Head back to hedge	Reduce crowding	Maintain as hedge, control thrips
284	Ficus m. 'Nitida'	6	Restricted	Head back to hedge	Reduce crowding	Maintain as hedge, control thrips
285	Ficus m. 'Nitida'	4	Restricted	Head back to hedge	Reduce crowding	Maintain as hedge, control thrips

Tag	Species	DBH	Space	Risk reduction	Effect of removal on other trees	Horticultural recommendation
286	Ficus m. 'Nitida'	8	Restricted	Head back to hedge	Reduce crowding	Maintain as hedge, control thrips
287	Ficus m. 'Nitida'	8	Restricted	Head back to a hedge	Reduce crowding	Maintain as hedge, control thrips
288	Ficus m. 'Nitida'	10	Restricted	Head back to a hedge	Reduce crowding	Maintain as hedge, control thrips
289	Ficus m. 'Nitida'	11	Restricted	Head back to a hedge	Reduce crowding	Maintain as hedge, control thrips
290	Ficus m. 'Nitida'	12, 11	Restricted	Head back to hedge	Reduce crowding	Maintain as hedge, control thrips
291	Cedrus deodara	17	Restricted		None	Remove fill soil, thin tips, water

DC – Drop-crotch pruning, i.e. shorten to a significant inward side branch.

Arboricultural terms are defined in the Glossary of this report.

Pest and Disease

Few significant pest or disease problems were noted. The *Ficus m. 'Nitida'* almost always are infested by thrips. There will be some thrips present at all times, however a spray program can lessen the degree of foliage distortion.

In southern California, two species of eucalyptus have recently been attacked by separate species of psyllids, and thus far no good solution has been found. Both species are defoliating and dripping sticky secretions. Phasing out these two species, the red gum (*Eucalyptus camaldulensis*), and lemon-scented gum (*Eucalyptus citriodora*) starting with those with high hazard ratings is recommended.

Although a third species of eucalyptus, the blue gum (*Eucalyptus globulus*), has a psyllid of its own which has successfully been controlled, it remains a problematic species to have on campus. Among other weaknesses, this species is prone to sulfur conk, *Laetiporus sulphureus*, which is often involved in trunk or root failure. There are ten trees on campus, mostly at the north end, and for various reasons all ten should be removed.

Decay, Mechanical Injury and Wind Damage

A number of the trees have circling roots or shallow roots, which affected the "Failure Potential" rating in the previous hazard matrix. Cutting roots of mature trees is likely to lead to heart rot, basal decay, or toppling. Vertical mulching may slightly increase the rooting depth and volume, but not by more than 5 percent per application, therefore it should

be repeated over several years. Trees with severely circling or shallow roots are recommended for removal. Many trees are in turf, which leads to shallow rooting. Regular turf aeration and occasional vertical mulch will help.

Root space is limiting for many trees. Small open areas with a large tree or trees are common on the LACC campus. Many times a small area bordered by a sidewalk has turf on the other side and if roots grow under the walk and get the water and fertilizer intended for the lawn, they quickly thicken and develop breaking the sidewalk. If the roots cannot grow under the walk because of compaction or obstruction the life span of the tree will be cut short. The Aids Garden has three coral trees and even one could outgrow the space provided. The native garden above the track is also very crowded. Although these native plants are drought tolerant, their normal means of surviving drought is to draw water from large volumes of soil.

With so many plants crowded at one end of the garden and the root zone being limited by the handicapped ramp, either some will be out-competed and die, or they will be shaded and deformed by the taller plants. Supplying additional irrigation (if there is any) will allow a greater density, but will not solve the crowding problem. A few less desirable plants should be removed before more important plants are ruined. If irrigation were provided, there is more available space to the east for new planting and this could be an attractive backdrop to the sports field and track.

The past pruning or lack of pruning of the trees at Los Angeles City College has also reduced their life span. Many trees at LACC have been either poorly trained or unskillfully pruned over the years, and have therefore grown up with less than ideal form and strength. Proper training would have corrected the frequent development of codominant leaders and overly long, end-heavy side branches. Heading cuts have produced dog-legs and epicormic shoots, which are poorly attached. Flush cuts are likely to lead to decay.

Future pruning should be done by selected bidders and supervised by an on site certified arborist. Many trees will need two or more pruning sessions over several years to correct structural defects. Therefore the same bidder and crew, if possible, should be used on both occasions. Removal of hazardous limbs, leaders or trees and shortening overly long side branches should be done prior to more ornamental pruning or lacing. Spotters or supervisors should check from below that maximum foliage removal is not exceeded.

These issues are not the limiting factors and are discussed as they impact the condition of the trees. There are two main limiting factors: one is the size and age of the trees relative to the planting spaces and therefore the need for periodic replacement; and the second is the fact that the planned relocation of paving, planters, buildings in a new master plan will necessitate the removal or relocation of certain trees. The health, structural condition, access and value will determine which trees are worthwhile to transplant and reuse. Specific information regarding the proximity of planned improvements to specific trees will be necessary to prepare a specific tree preservation plan.

Soil Improvement

Typically, soil compaction happens so slowly and imperceptively that it becomes obvious only after it has progressed too far. The best and most reliable procedure for preventing it is to specify compaction-resistant soils in the redesign process, together with other design elements.

Compaction-resistant soils have a large proportion of coarse sand and little silt or clay. Soil with a large proportion of the latter elements is susceptible to compaction. A new engineered soil mix, referred to a “gap-graded” can be used in small planting areas, even under paving, but is too expensive to use over large areas.

Adding organic matter in moderate amounts (4 to 5 percent by weight) will tend to diminish compaction. Organic matter lightens the soil, acts as a cementing agent and encourages organisms so necessary to loosening the soil. Further, organic matter contributes some nitrogen to the soil nutrient pool. Excessive organic matter, however, will cause settling.

Also useful in preparing new areas for planting to provide compaction resistance is a polymer known as PAM, by Complete Green Company (310-640-6815). Applied to the soil per directions PAM provides a more stable soil aggregate, less prone to compaction.

Vegetative cover, especially heavy turf, will tend to reduce soil compaction on a short term basis, but long-term mowing and use in wet soil conditions will increase compaction over drier type uses. Therefore, use-management, including closing areas after a heavy rain and delaying mowing, is probably the best way to avoid compaction. If such closings are planned, it is crucial to inform students through bulletins or flyers.

A thick surface layer of mulch, especially wood chips, will reduce soil compaction. This method is very useful in heavily trafficked areas where turf is not maintained. Surface mulching will also increase beneficial soil organisms, moderate fluctuations of soil moisture and temperature, improve soil structure and fertility, and increase the depth of roots. Vertical mulching, the drilling of 3 inch diameter or larger holes into the soil, can also increase the depth of roots.

- Auguring. A simple yet effective method is to auger twelve-inch holes on a 36-inch grid pattern to a depth of 36 inches, beginning beyond or between the main lateral roots and extending beyond the tree dripline if possible. The holes are immediately backfilled with a mixture of composted organic matter or other low-density amendment and fertilizer. Many fine roots will invade the holes by the end of the growing season following a spring auguring.

- Trenching. An old Chinese technique, this consists of a series of trenches dug radially from the trunk and located to avoid the major lateral roots. The trenches should be spaced approximately 30 to 45 degrees apart. The trenches are backfilled with soil high in organic matter
- High compaction tends to prevent the normal formation of a mycorrhizal / root symbiosis. The application of ectomycorrhizal fungus spores has shown promising results on other tree species. Spores are now commercially available from a number of sources and should be tried in this case. I believe many trees at LACC are in serious condition and need more than tried and proven methods to give them much of a future. The spores should be mixed into the back-fill soil or dusted on the cut root ends before back-filling. The Doggett Corporation (800-448-1862) and Plant Health Care Inc. (PT Injectable) available through J. Harold Mitchell Company (818-287-1101) are a couple sources of spores. In the case of PT Injectable, it should be mixed at the rate of ¼ pound per 100 gallons and sprayed in the trenches. The same solution should be used to wet the soil mix before or after its placed in the trenches.
- A horticultural soils test is needed to check for salts and primary nutrients. Fertilizer and other recommendations should be based on the results. So-called “balanced” fertilizers should not be used unless and until recommended by a soil laboratory. The soil must be moist before any recommended fertilizer is applied. Surface mulching is recommended after fertilization.

Shrub Care

Shrubs are not significantly different than small multi-trunked trees. Trees and shrubs are both woody plants that have about the same range of needs and tolerances. The same soil conditions affecting the general tree pallet are also affecting the shrubs. Just as the lower limbs of trees are often shaded out by over hanging limbs higher in the canopy, the lower limbs of shrubs can be shaded out by allowing the upper portions to grow out over them and shade them out. This is happening in many areas of the campus. Maintenance personnel may be cutting lower limbs for easier raking. However, shrubs and hedges should be kept narrower at the top and wider at the base. There is too much raking of leaves and no need for most of it. Leaves on the ground serve as free mulch and will benefit the soil if left in place.

Also just as with trees, there are better times to prune shrubs. Subtropical species should be trimmed or pruned during the warmer months or just after blooming. Cool season shrubs should be pruned or trimmed in winter and early spring. Regular light trimming can be done anytime.

Hazard Reduction

Trees and other woody plants respond in specific and predictable ways to pruning and other maintenance practices. Careful study of these responses has led to pruning practices, which preserve and enhance the beauty, structural integrity and functional values of trees.

Trees grown with turf irrigation and fertilization need to be pruned on a two or three year cycle. The extra fertilizer given to the turf is taken up also by the trees and results in weaker wood, but produces extra foliage weight and wind resistance. While fall is not a good time for pruning in general, the hazards that exist need to be corrected before strong winds begin and students are back on campus.

Adjoining structures and paving limit root spread. Trees are supported primarily by roots under tension. Trees that have limited root spread and high exposure to the wind are at greater risk and need special attention. If crown reduction pruning cannot adequately reduce the risk, removal should be considered. Trees such as the blue gums on the north side of the campus get the first blast of Santa Ana winds, but are restricted in rooting to the north by concrete walls and sidewalks. With their poor structure and poor reputation they should be removed immediately.

A good looking and safer branch pattern is difficult to obtain after years of neglect. Many limbs have grown too long and heavy. Epicormic shoots have developed into major limbs after heading older limbs. Many branches have included bark at their attachment. A number of dead limbs have accumulated within the canopies. Many mature trees are sensitive to severe pruning and should have no more than 25 percent foliage removed in one year. Studies have shown that even professional arborists have difficulty in estimating 25 percent. When measured, the amount they end up removing varies from 20 to 50 percent. Removing more than 25 percent will cause epicormic shoots, which will require further pruning. The corrective pruning that is needed must be tightly control and performed by highly skilled professionals.

Bidding documents must state that ANSI A-300 standards (see glossary) will be followed and sample trees of each species should be pruned under a district representative's supervision before proceeding. A certified arborist must be on site during all pruning operations to supervise work.

After a successful bidder is selected a pre-job-start meeting should be held to walk through the planned pruning program. Once a sample tree of each species has been completed and the contractor demonstrates his understanding, approval is obtained and he may proceed.

Trees that require more than 25 percent foliage removal may need to have the pruning beyond 25 percent done next year. Certain trees tolerant to severe pruning, such as Ficus, Platanus, and Fraxinus, may be pruned up to 50 percent removal if conditions dictate and a certified arborist approves. Removing dead, overly long, and poorly attached limbs

should be accomplished first. Pruning less important to safety can be postponed if needed to stay below 25 percent foliage removal.

Climbing gaffs (spikes) should not be allowed, except in rare cases. The trees should be climbed by rope and saddle only. If, for cost reasons, the contractor is allowed to bring lift trucks onto the turf areas, the soil should be as dry as possible.

After pruning work is complete the entire turf area should be aerated using a turf aerator and augured as below in the General Soils Recommendations. Trees on the outside edge of the stand should be radially trenched as in the General Soils Recommendations.

Foot traffic should be directed around trees in turf by fencing or other means and twelve foot diameter mulch beds should be placed around each tree. The mulch beds should extend to cover all surface roots so that they are not damaged by lawn mowers. Such injuries can lead to infection, decay and root failure. The mulch beds should be maintained at least 4 inches deep. Use a coarse textured and well-composted organic product with particle sizes between ½ to 3 inches. The soil surface should be scarified before placing the mulch. Mulch should not be piled against the trunk. This will improve the health and extend the life of the trees that receive this extra care.

All digging, trenching and tree removal should be carefully considered and controlled for its impact on the remaining trees. Trees and limbs newly exposed to the wind must be pruned according to the instructions of a registered consulting arborist. Landscape workers must be instructed not to cut roots without approval, and that approval based on the direction of wind and the density and structure of the tree canopy.

Tree Hazard Reduction Policy

Not being in a position to make policy for the college, I submit the following as generalized suggested tree hazard reduction policy statement:

It is the policy Los Angeles City College to provide a safe environment for students, staff, and the public. In implementing this policy, grounds maintenance personnel will be instructed in recognition and prioritizing tree and landscape related hazards. Furthermore a plan will be developed to mitigate the hazards identified. This plan will be updated on a regular basis, through good record keeping, monitoring, and regular inspections.

The Plan

Based on the budget, a two-year, five-year, or ten-year plan may be necessary. Based on the hazard rating and expense involved, mitigation may be spread over a reasonable period of time. Many hazards may be mitigated simply by moving a target, or restricting access. More expensive mitigation, such as pruning and paving repair should be accomplished in the order of the hazard rating.

Records

Good record keeping is important to monitoring the progress of a hazard reduction plan. Trees in turf, in crowded conditions, or in small planting spaces need regular care to keep them safe and healthy. To know those conditions are in fact improving, good inspections and record keeping must take place. The ISA “Tree Hazard Evaluation Form” should be used or adapted for use during the annual inspection. As this form is long and time consuming, it may be used as a model for a shorter form such as used above. Other hazards related to landscape, such as tripping hazards caused by tree roots, can be added to the form, as it conforms to the specific needs of the college. Keep records of the progress of the plan for hazard reduction – how the trees with higher hazard ratings have been or will be mitigated and when.

Monitoring

Monitoring should consist of comparing each season’s actual mitigation against in the plan’s schedule of pruning, removals, fencing, or pavement repair. Monitoring must include updating the plan and schedule depending on the results of regular inspections. Inspections will certainly add new items and change priorities, but without tracking your progress, improvement is uncertain and perhaps unlikely.

Recommended Schedule of Inspections

A thorough hazard inspection should be scheduled prior to the beginning of school every year. Weekly drive through inspections should be scheduled. Any digging or trenching in the root zone should be inspected while the excavation is still open. After every strong Santa Ana wind, large trees should be checked for broken hanging limbs.

The Gardening Supervisor and key members of her crew should receive training in hazard recognition. A copy of *A Photographic Guide to the Evaluation of Hazard Trees in Urban Areas*, by Matheny and Clark, should be obtained, read and maintained in her library.

Hazard Response

A procedure of approval for prompt response when a new hazard is noticed is key to public safety. A groundskeeper who notes a sudden change or storm damage in the tree population starts a chain of response. An arborist must be called to decide if the tree needs immediate removal or safety trimming. At the same time the area around the tree should be taped off to protect passers by. Law suits can run into the millions, but more importantly human life may be at risk.

General Discussion

The shallow compacted soils will limit the health and stability of the trees as much or more than any other factor. Many forests grow on thin soils less than a foot deep, however they are usually more continuous and provide shelter for each other. Roots of forest trees interlock and if they are the same species often fuse with each other. Many of the trees at LACC are fused and interlocked and will provide adequate support for each other. However, if trenching, digging or tree removal breaks this bond, the risk of trees falling will increase dramatically. Roots provide more support under tension than compression. Therefore downwind removals are safer than on the windward side, because they are not providing wind protection for the canopies of downwind trees. Many of these locations are too small to remain in use or to have new curbs installed. The only way to keep and preserve such trees would be to increase the planting space and reduce parking.

The lemon scented gums are a significant part of the overall tree palette and yet they are an inherently hazardous tree. Please note the occurrence of limb drop in the charts found in the appendix. The lower limbs of most trees in groves (eucalyptus or other species) are shed and can be large enough to cause damage and injury. In natural settings limb drop is seldom a concern, but on a heavily populated campus, LACC's staff must employ professional oversight and the best pruning practices to anticipate much of this limb drop and preemptively remove the limbs before they drop.

Because of the limited root space, life expectancy of these trees will be cut short. Limited root volume is the main reason the average life expectancy of street trees in Los Angeles is seventeen years. On campus, *Eucalyptus citriodora* in particular already have a low live crown ratio, indicating a later phase in their lives. Plans should be prepared to replace at least twenty percent of these trees every year. As eucalyptus reach maturity increased limb drop can be expected. Additionally, trees that have been heavily watered and fertilized have weaker wood and can be expected to drop more limbs than wild trees.

It is a useful insight to consider the probable condition of these trees five or ten years into the future. Now is the time period for planning. Five or ten years from now, when the decline of the trees is more pronounced, spot replacements will not give an orderly, well maintained look to the campus. Trees have short life spans in urban settings. The limited root space is primarily to blame. While trees may outlive humans many times over in natural settings, they need to be replaced on a regular basis in urban plantings. As a comparison, cities need to replace street trees as often as every seven years in other parts of the country.

Roots are growing thicker year-by-year, and as they do, they cause more and more paving damage. As paving damage increases, the risk of trip and fall injuries and law suits increases. If roots are cut to replace broken planters and sidewalks, trees could be expected to blow over due to the shallow root systems.

A college also needs to be replanted periodically to maintain a safe and attractive environment. This current master planning is a good time to replace such trees.

Replacement

Periodic replacement is the only practical solution for large trees in small planters in high traffic areas, such as at LACC. Smaller species of trees will generally last longer than larger faster growing species, but give less shade. However, small species of trees may not provide the scale needed in a large lawn area or near large buildings. Some larger species, such as many eucalypts, have been shown to have less expansive and damaging root systems. Root barriers, properly installed can also reduce damage. Sooner or later any tree will outgrow the small planters, such as at the main entry on Vermont.

Disclaimer

Professional and current information on tree hazard evaluation has been applied to the tree-by-tree inspection. However, even when every tree is inspected, inspection involves sampling, therefore some areas of decay or weakness may be missed. Weather, winds and the magnitude and direction of storms are not predictable and some failures may still occur despite the best application of high professional standards. Future tree maintenance will also affect the trees health and stability and is not under the supervision or scrutiny of this consultant. Future construction activity such as trenching will also affect their health and safety, but are unknown and unsupervised by this consultant. Trees are living, dynamic organisms and their future status cannot be predicted with complete certainty by any expert. This consultant assumes no liability for any tree failures involved with this project.

Appendix

A. Resume

B. Photographic Documentation

C. Eucalyptus Hazard Charts

A. RESUME - GREGORY W. APPLGATE, ASCA, ASLA

Registered Consulting Arborist

**PROFESSIONAL
REGISTRATIONS:**

American Society of Consulting Arborists #365
International Society of Arboriculture, Certified Arborist Number WC-180

EXPERIENCE:

Mr. Applegate is an independent consulting arborist. He has been in the horticulture field since 1963, providing professional arboricultural consulting since 1984 within both private and public sectors. His expertise includes appraisal, tree preservation, diagnosis of tree growth problems, construction impact mitigation, environmental assessment, hazard evaluation, pruning programs, species selection and tree health monitoring.

Mr. Applegate has consulted for insurance companies, major developers, theme parks, homeowners, homeowners' associations, landscape architects, landscape contractors, property managers, attorneys and cities.

Notable projects on which he has consulted are: Disneyland, California Adventure, Disneyland Hotel, Disney's Wild Animal Kingdom, DisneySeas-Tokyo, Knott's Berry Farm, Newport Coast, Crystal Court, Newport Fashion Island, Volt Headquarters-interior planting, Big Canyon Golf Course, Tustin Ranch windrows, Laguna Canyon Road and Myford Road for The Irvine Company, Hillcrest Park-Fullerton, Westpark-Irvine community parks, Loyola Marymount University, UCI, Inland Empire Shopping Center, Universal City Station/MTA tree inventory and the State of California review of the Landscape Architecture License exam (plant materials portion)

EDUCATION:

Bachelor of Science in Landscape Architecture, California State Polytechnic University, Pomona 1973
Arboricultural Consulting Academy (by ASCA), Arbor-Day Farm, Kansas City 1995
Continuing Education in Arboriculture required to maintain Certified Arborist status and for ASCA membership

**PROFESSIONAL
AFFILIATIONS:**

American Society of Consulting Arborists (ASCA), Full Member
American Society of Landscape Architects (ASLA), Full Member
American Board of Forensic Examiners (ABFE), -Diplomate
International Society of Arboriculture (ISA), Regular Member
International Palm Society (IPS), Member
California Tree Failure Report Program, UC Davis, Participant
Street Tree Seminar (STS), Member

**COMMUNITY
AFFILIATIONS:**

Horticulture Advisory Committee, Saddleback College (1988 until present)
Landscape Architecture License Exam, Reviewer, Cal Poly Pomona (1986-90)
American Institute of Landscape Architects (L.A.) Board of Directors (1980-82)
California Landscape Architect Student Scholarship Fund - Chairman (1985)
International Society of Arboriculture - Examiner-tree worker certification (1990)
Guest lecturer at Cal Poly, Saddleback College, & Palomar Junior College

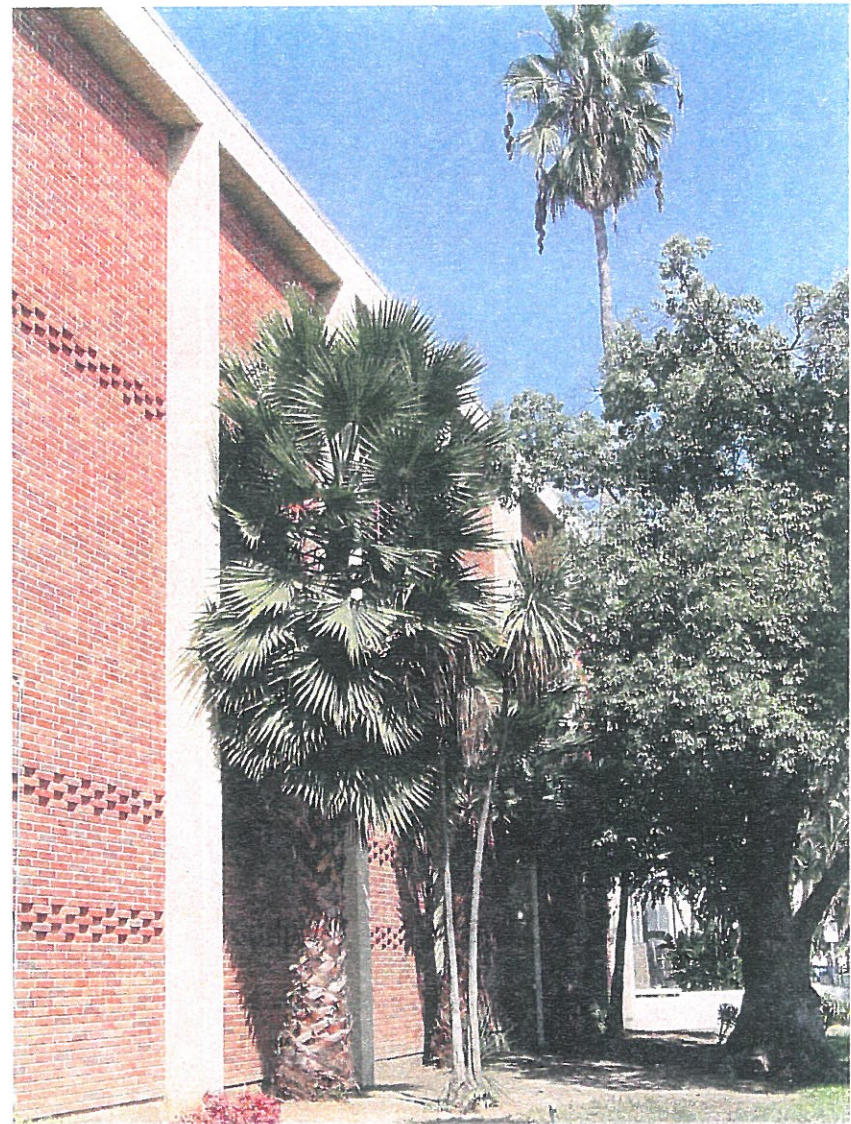
B. Photographic Documentation



Native garden north of track. Note crowding and proximity to paving and walls. Note 4 pines within six feet of each other.



Chorisia #3 has a large vertical shoot on the left that should be removed.



Many of the Mexican fan palms are so close to the wall they have poor support against western winds.



Camphor #9 is declining probably due to root cutting.
50 Dry compacted soil should be scarified and mulched.



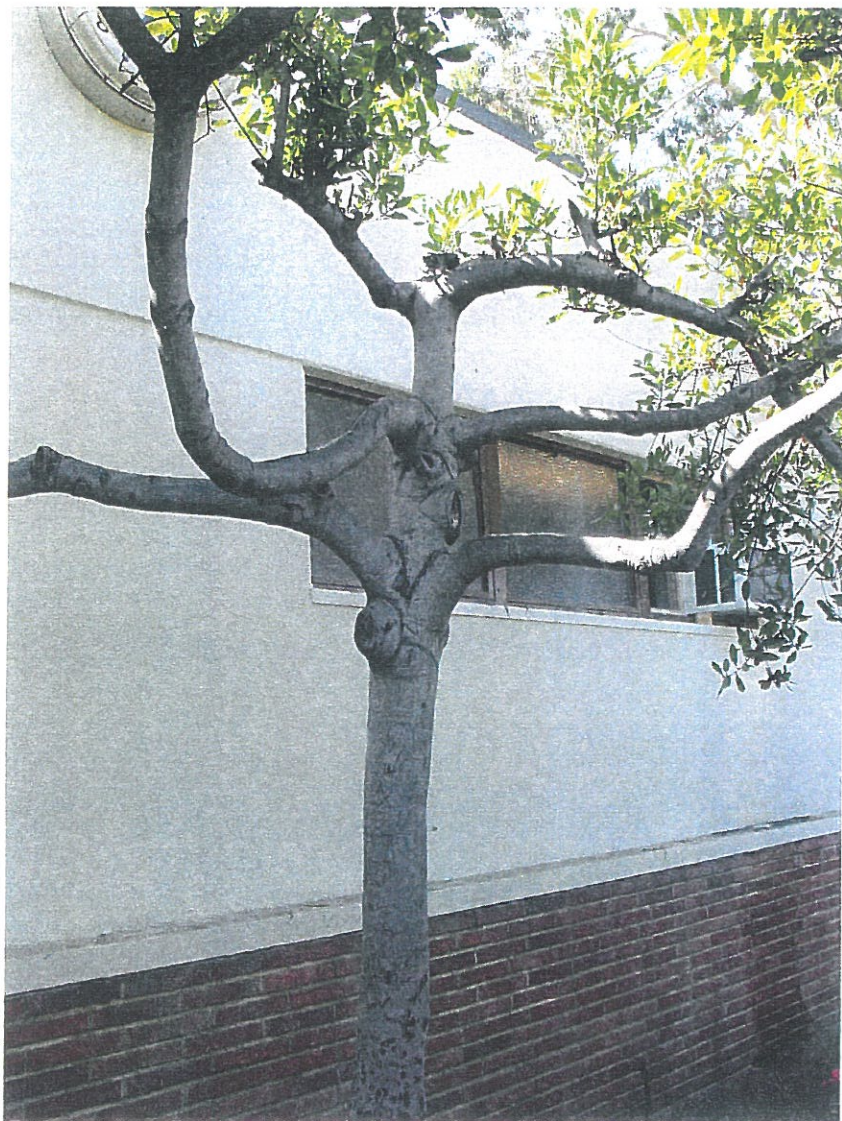
Bunya bunya #42 is dangerously close to the sidewalk. See page
The Guatemalan holly behind and to the left is a rare specimen.



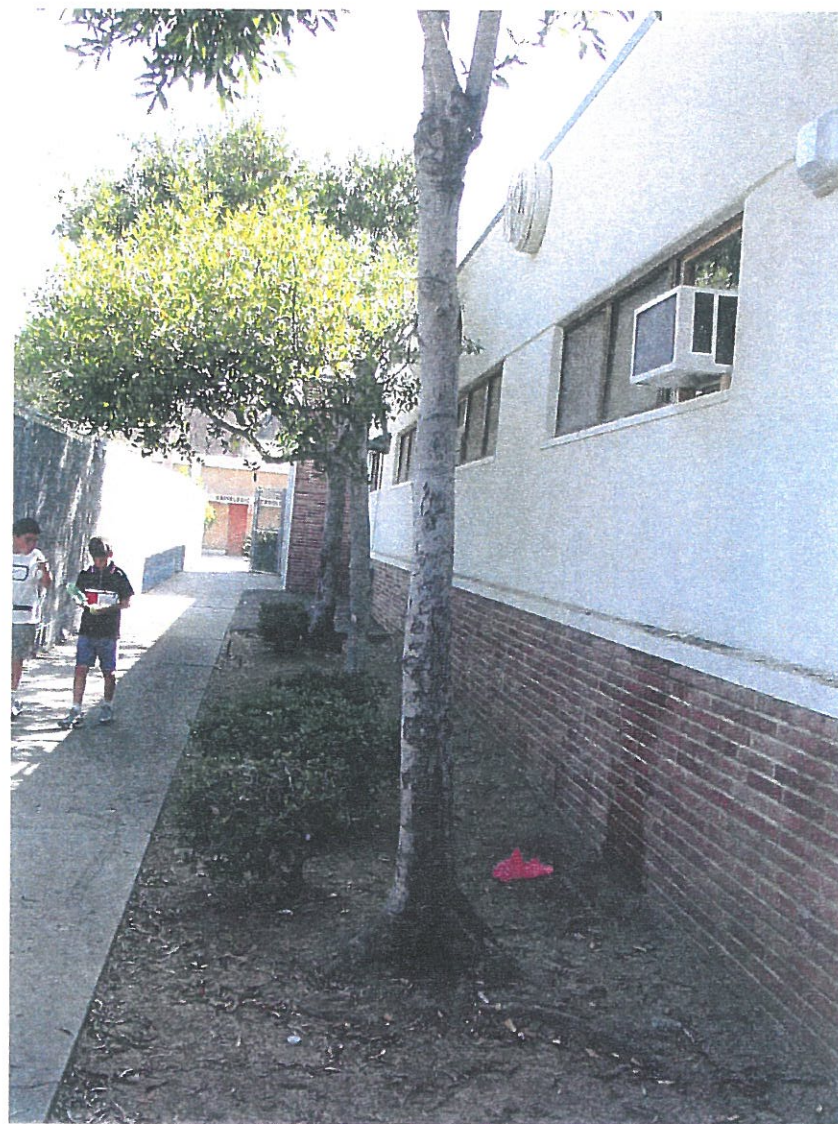
A great specimen of *Bauhinia punctata* is found by the lath house.



Two Ginkgos by the NW corner of campus. Both in poor health



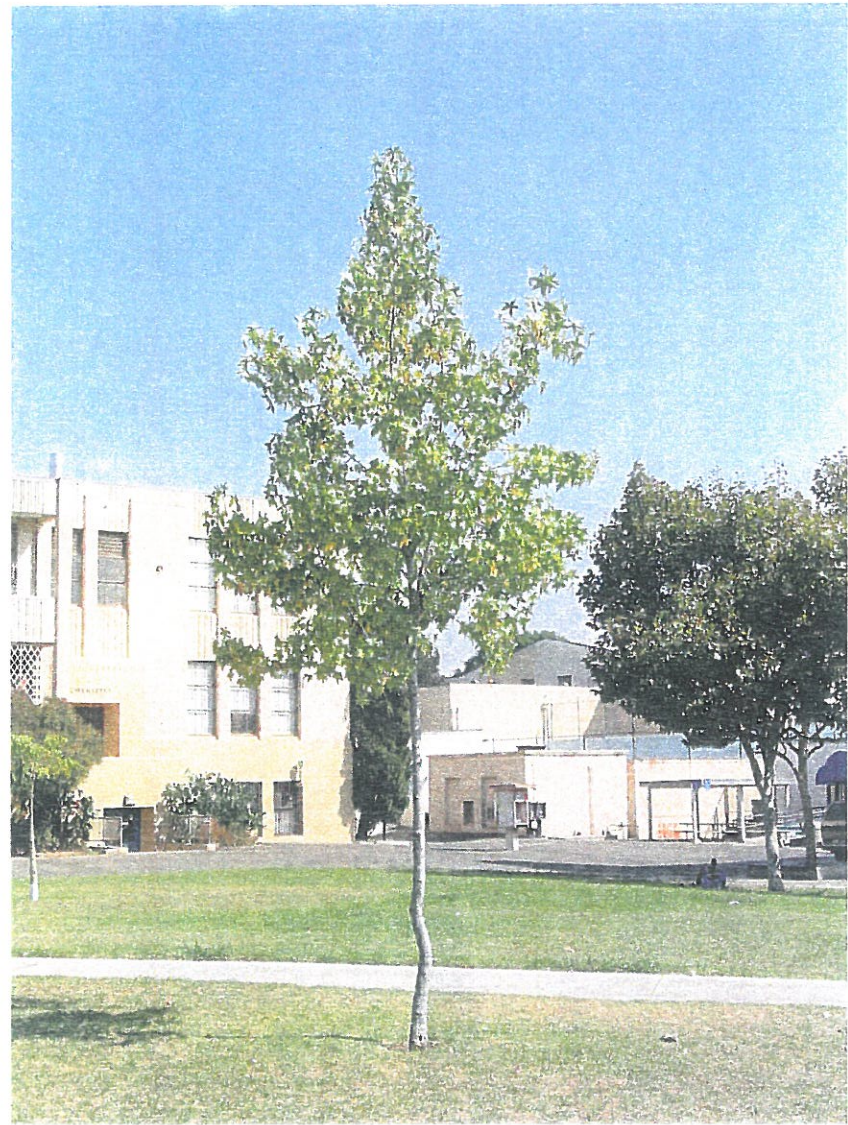
Topped Grecian bay tree by girls gym. Note poor health.



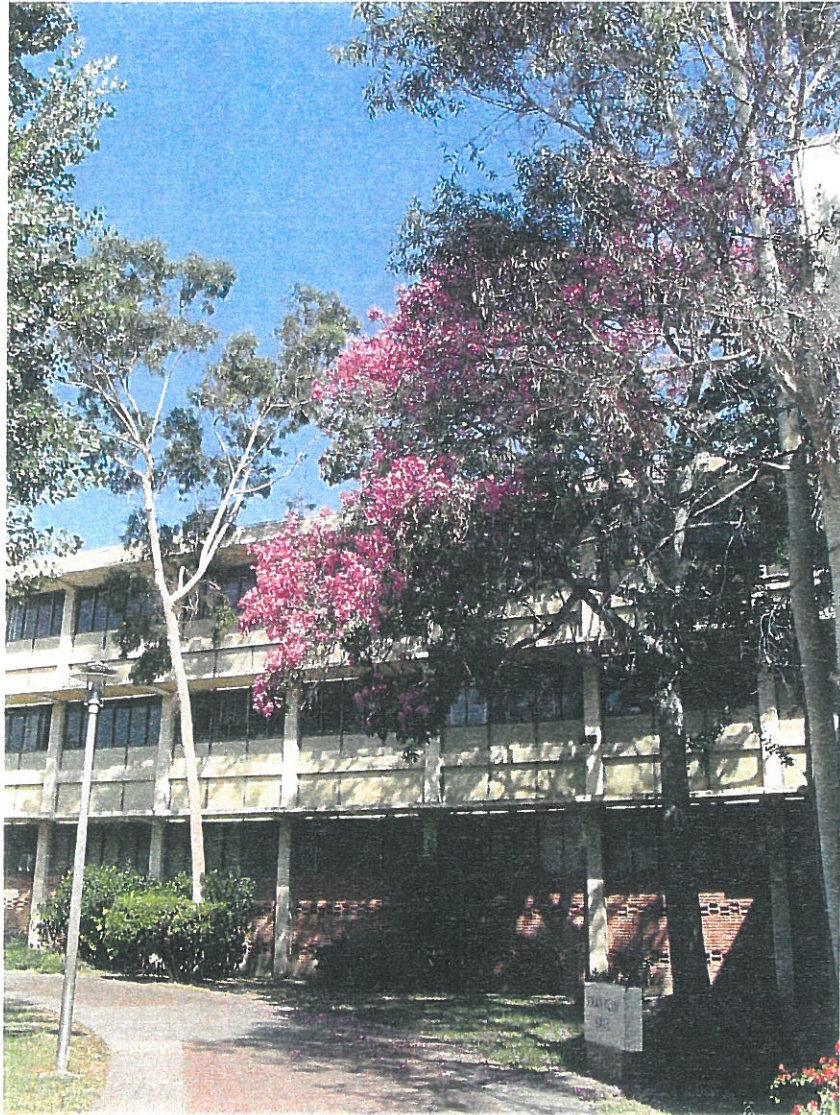
Note severe decay at base of the third Grecian bay tree.



Grecian bays near Jefferson building have sunburned trunks



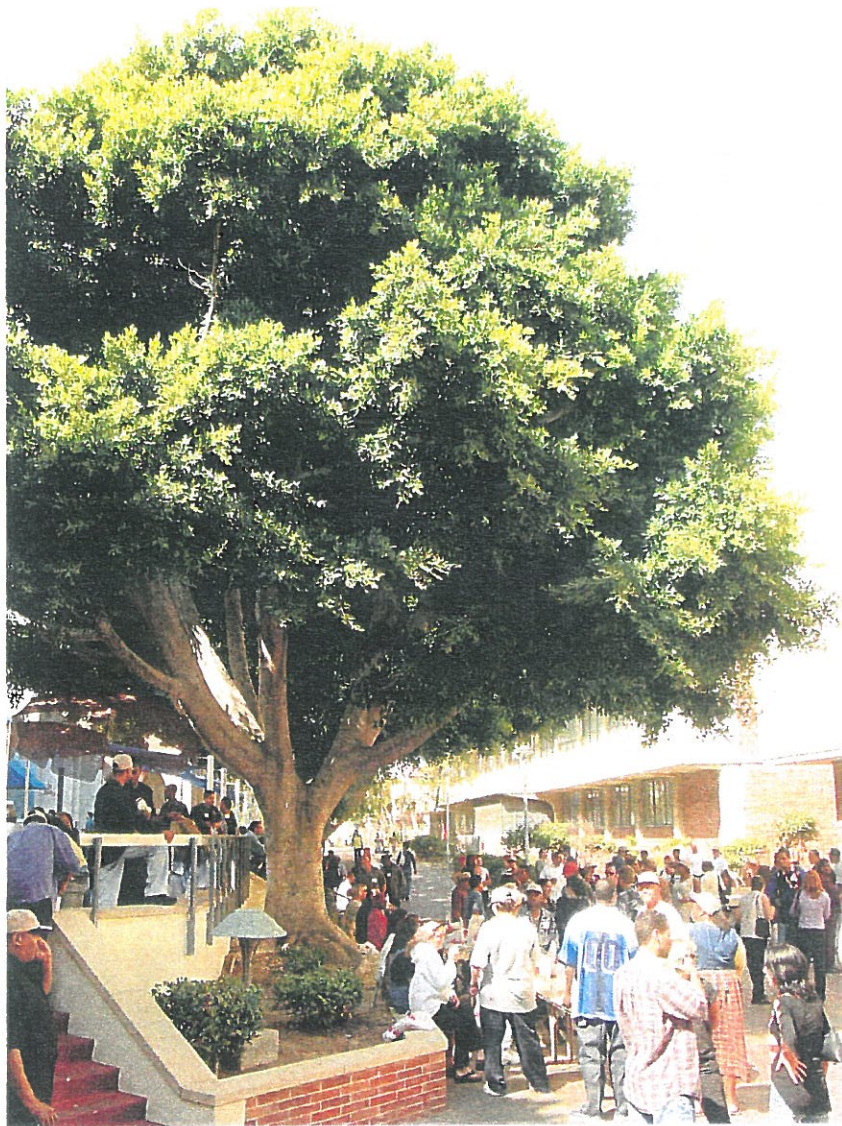
This sweet gum has been cleared up too high and has poor taper.



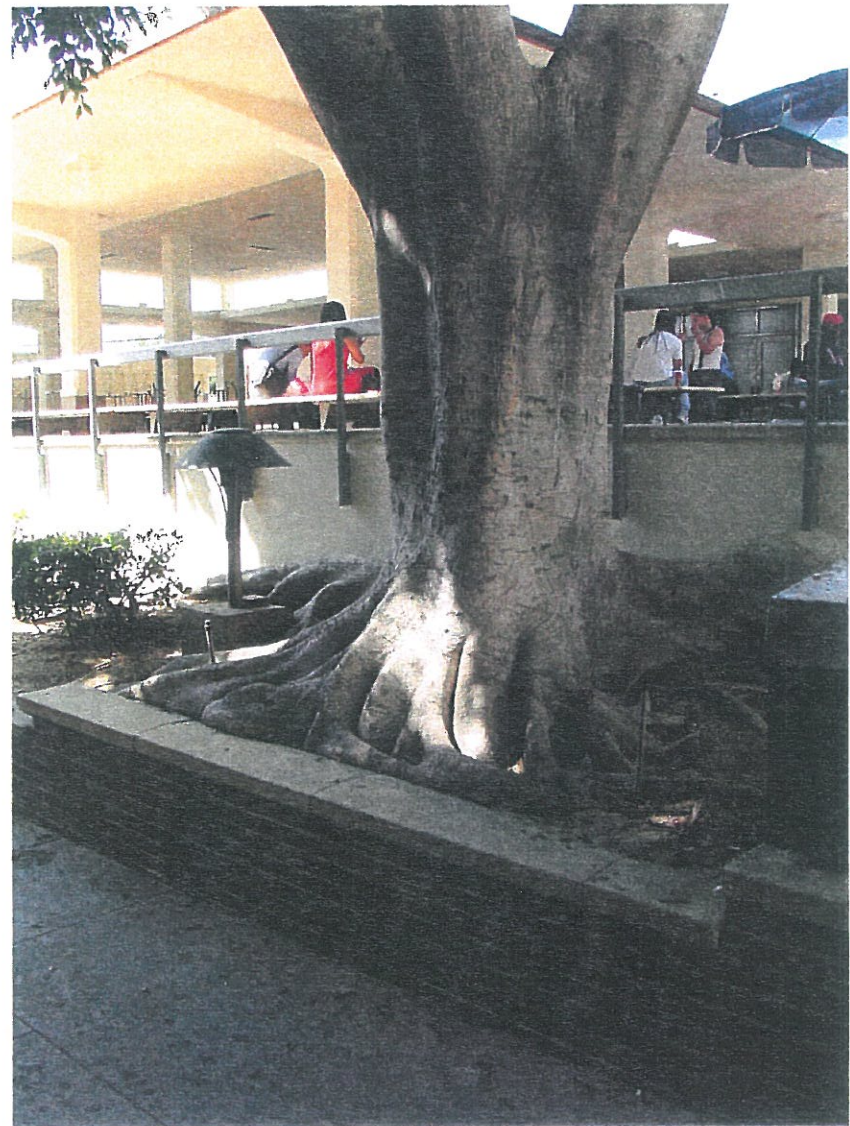
This small group of lemon gums near the main entry has overly long scaffold limbs that could fall onto this busy sidewalk.



Most of the Shamel ash in the lawns have weak structure and need crown reduction and or cabling. Note narrow crotches.



The Indian laurels in the planters along the cafeteria have full heads, but limited root spread.



The root systems of these ficus are primarily running lengthwise with the planter, making them less stable to cross winds.



This lemon gum is being defoliated by psyllids and the limbs are crowded at their point of attachment and end heavy.



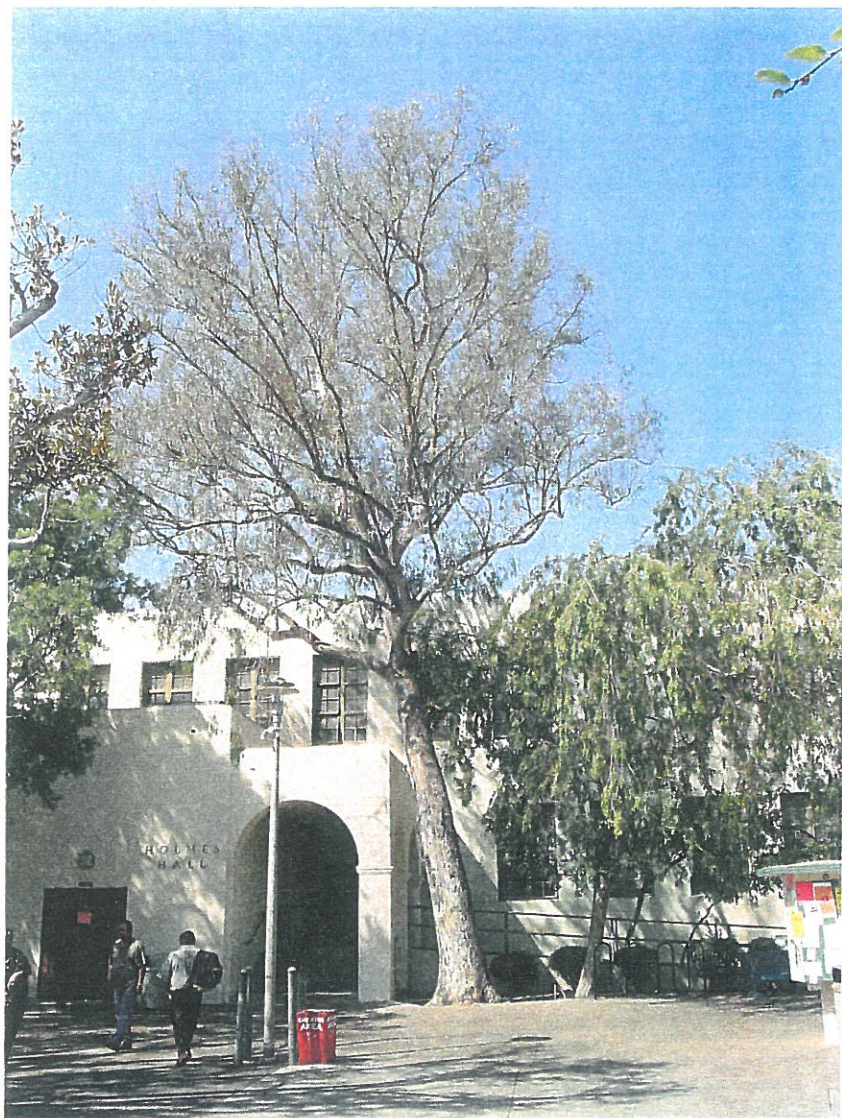
This is the only sweet shade on campus. The dry compact soil is opposite of what this tree needs to grow well.



This large specimen Morton Bay fig is declining; probably due to paving over or cutting a large part of its root system.



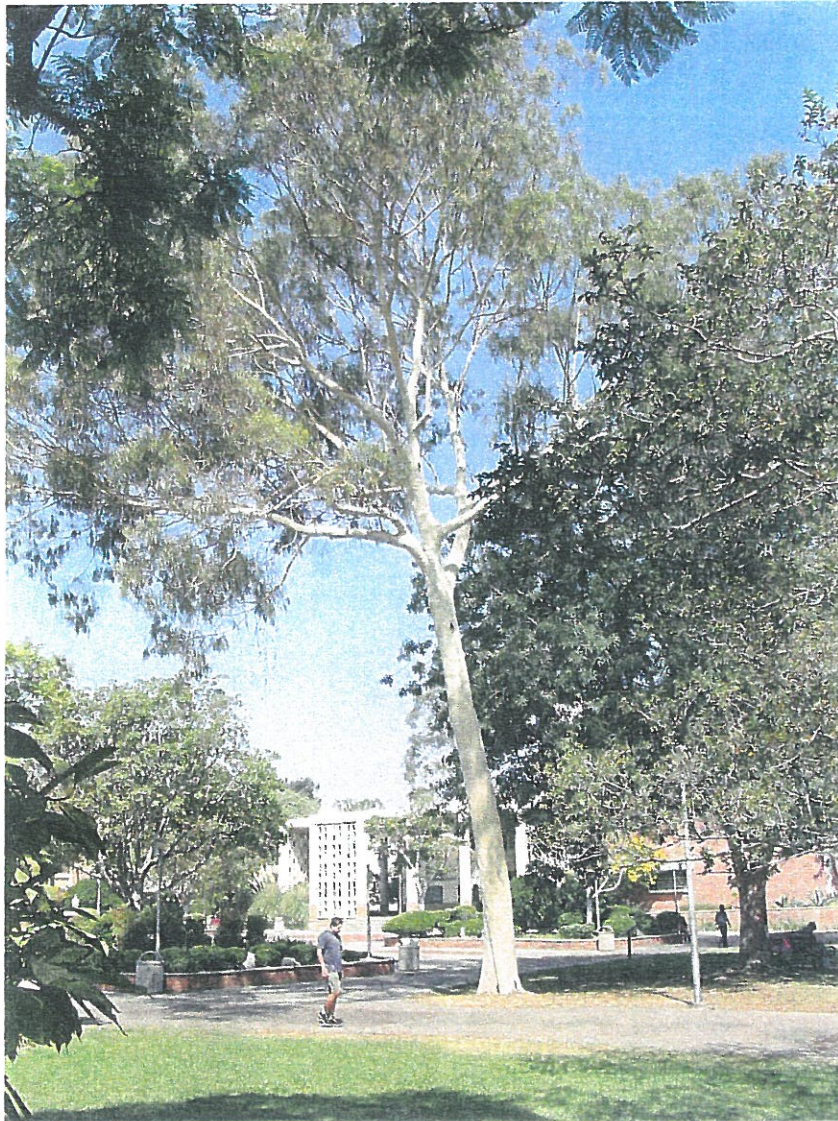
These are the only two Queensland pittosporums. They are also declining, and probably from the same paving job.



The large red gum in the middle is declining mainly due to psyllids, but also due to competition from the adjoining elms tree



In this small narrow planter are two large species of trees, both competing for the same roots space and deformed by the other.



This large lemon gum hangs over a busy sidewalk area. Therefore it should be pruned frequently to protect against limb drop.



Tipu trees are legumes and need little fertilizer. Being in a lawn it will tend to have weak wood, and require frequent pruning.



Note the large circling root at the base of this jacaranda. This tree should be replaced before it fails.



This jacaranda is also a potential risk. The live trunk is very thin and supported largely by a decaying stump.



This small species, *Cassia splendida*, is a near perfect choice for small planters like this.



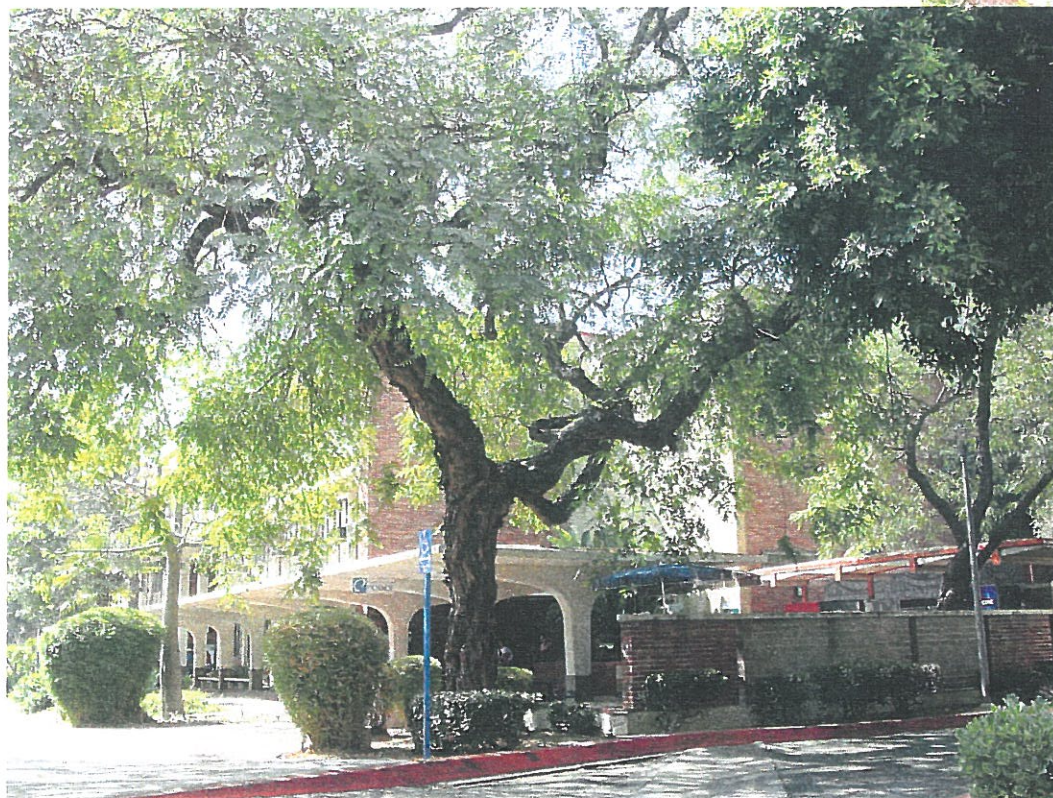
Many cape chestnuts are in decline. The present conditions are crowded, but the main cause was probably a past injury.



There are too many cape chestnuts for this size planter. Even irrigation, mulching and removal of some shrubbery will help recovery.



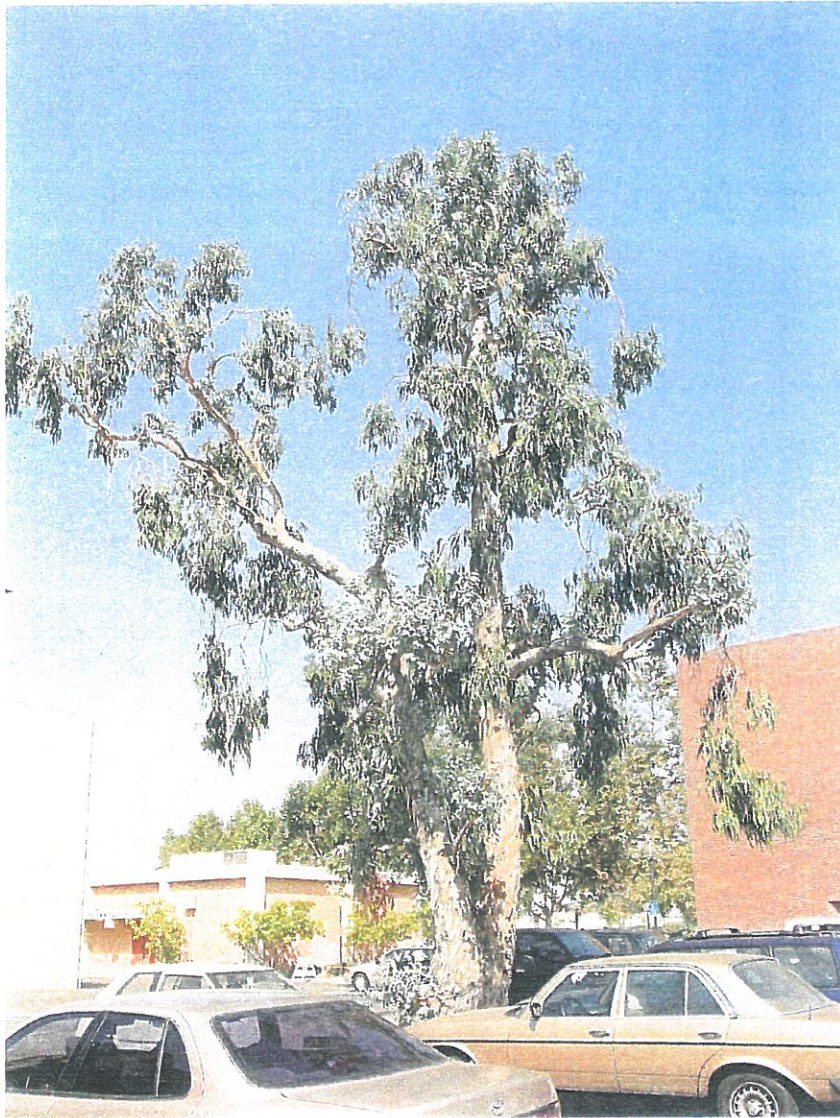
Note that one trunk at the back of this palm broke at the top



Large tipu tree with end-heavy branches over snack area. (above).



Tree at far right in the picture to the left has a very twisted structure and included bark between scaffold limbs.



This blue gum has many risks and hangs over cars all day long. It has a bad reputation, long end heavy limbs and is codominant.



A sulfur conk was found at the base of this same blue gum. It is an indication of internal decay.



This tree grate has become imbedded in the base of this plane tree. Besides weakening the base, it will be further damaged by removal.



This is an excellent example of how a London plane tree should look. Note the central leader and smaller side branches.



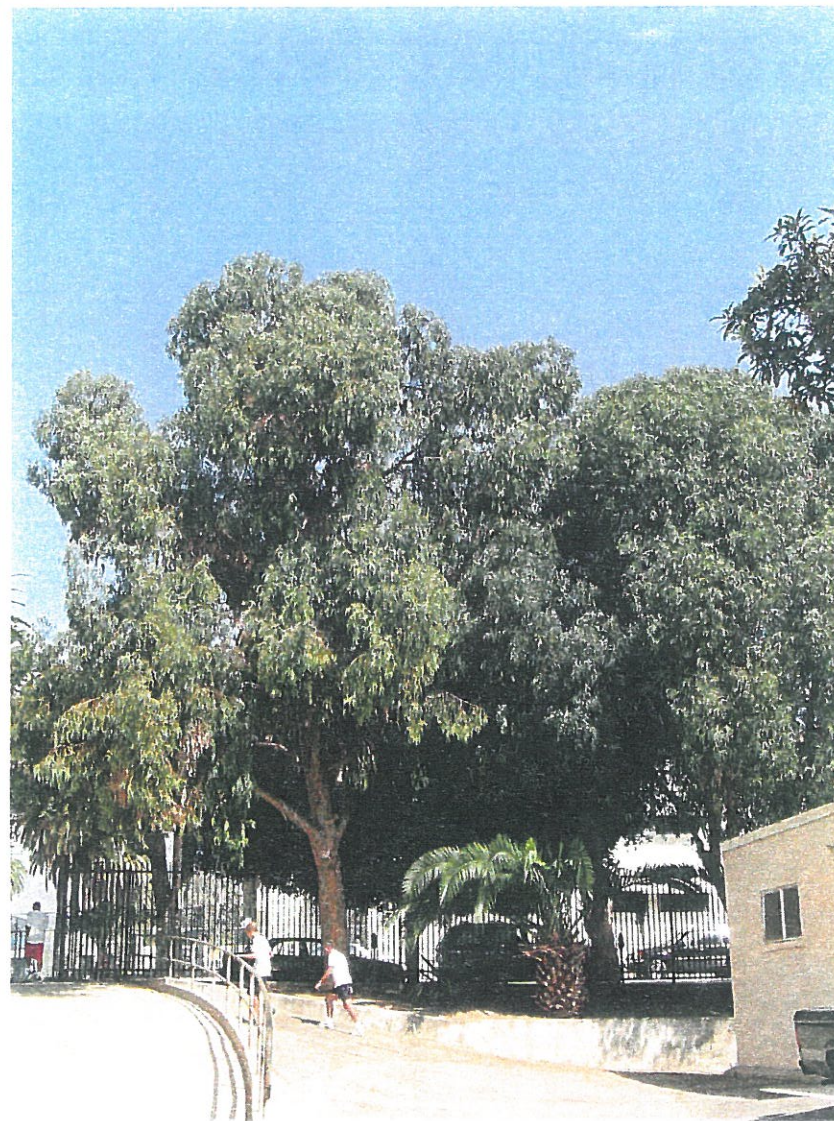
This floss silk tree has circling surface roots.



It is leaning against the Communications Center. It could have fallen across the sidewalk just as well.



This row of blue gums should be replaced. Note the proximity of concrete planter walls in front and behind these trees.



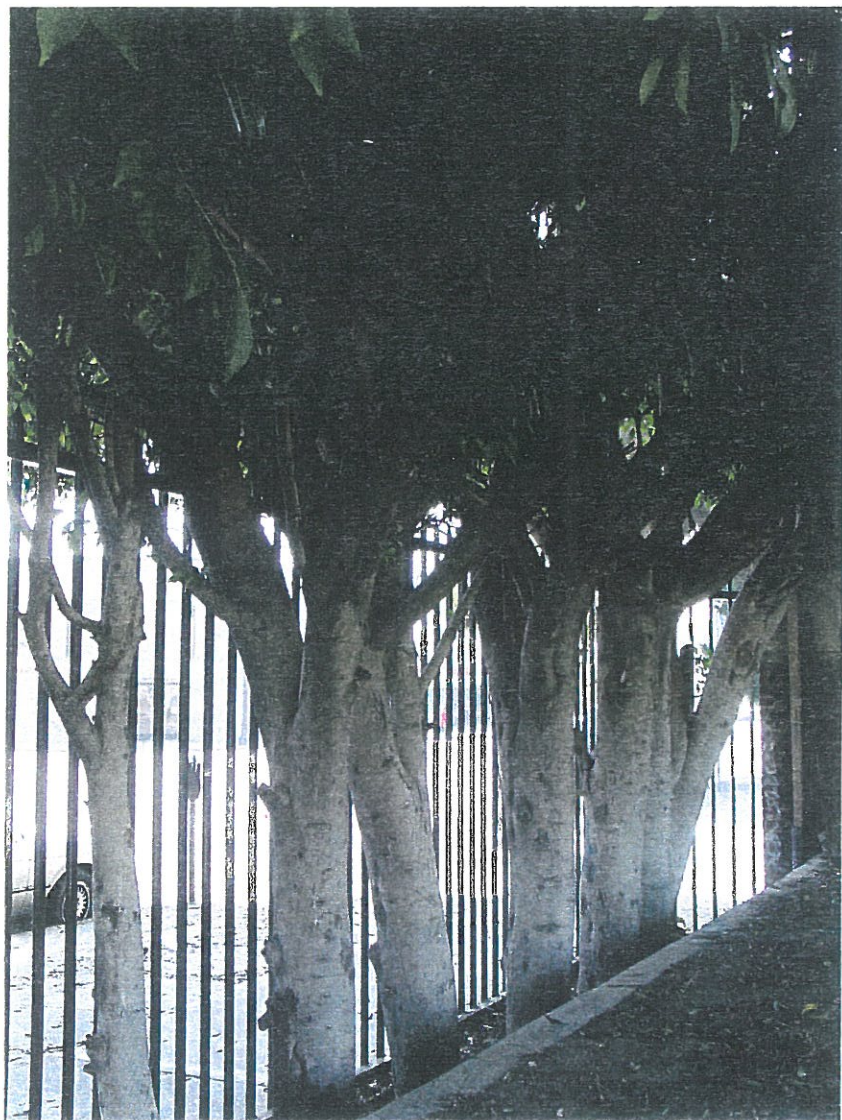
Besides overhanging buildings they also threaten pedestrians.



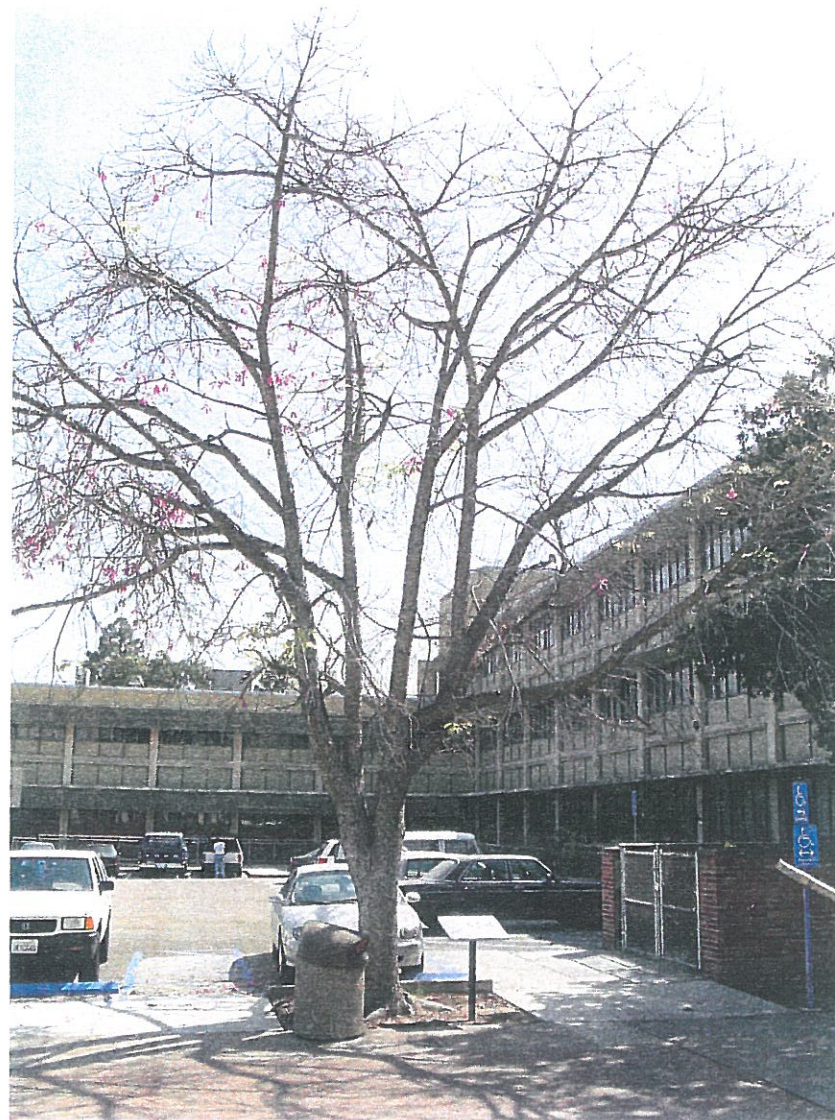
Note the dry and cracking soil and the Canary Island pine growing against the sidewalk.



This deodar cedar grows over the oak and forces it to grow wide for sunlight, thereby having overly long end heavy branches.



This row of ficus has weak branch attachment and hangs over the sidewalk. It has only a two-foot wide strip of soil to grow in.



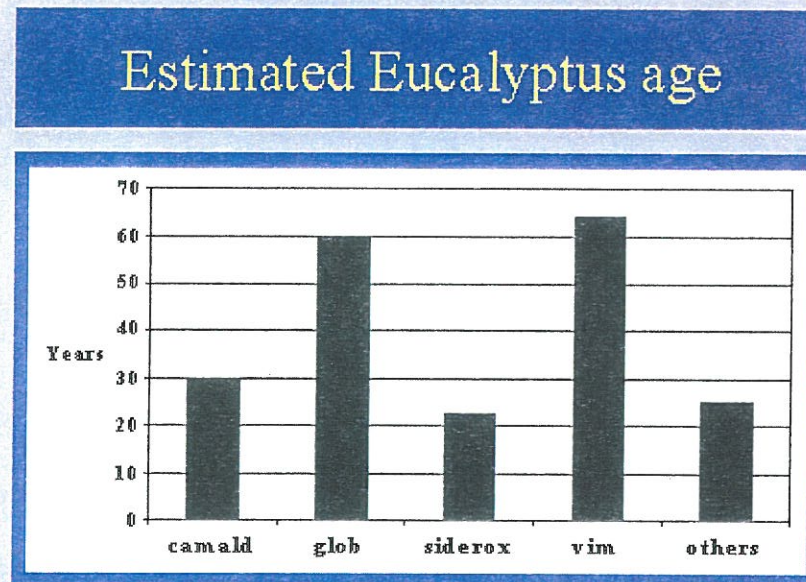
Ms. Dawn Stearns says that this tree has suffered root damage. It has a codominant main leader and if it splits, may cause damage.



The AIDS garden corals are crowded, lion-tailed, have codominant trunks and poor root structure. This is a species known for decay and summer branch drop. Despite the appeal of their shade, I recommend no benches, tables, or parking.

Eucalyptus Hazard Charts

The following charts are taken from a recent presentation of information of the California Tree Failure Database. Information is submitted by arborist participants throughout California.



The above chart shows the average age when these species fail.

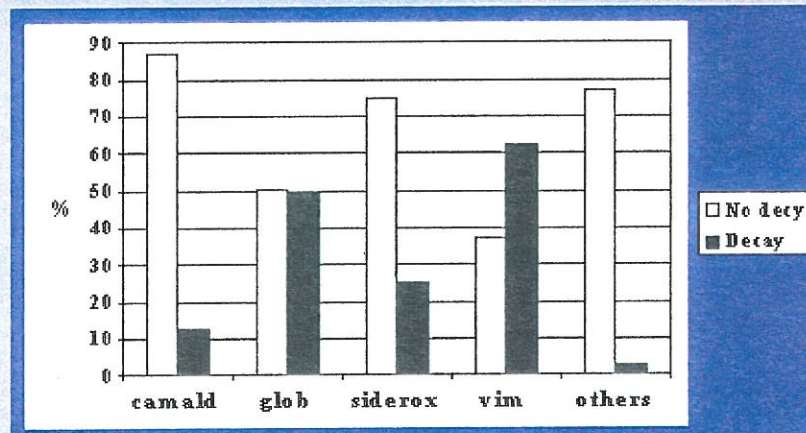
camald = Eucalyptus camaldulensis River gum

glob = Eucalyptus globulus Blue gum

siderox = Eucalyptus sideroxylon Ironbark

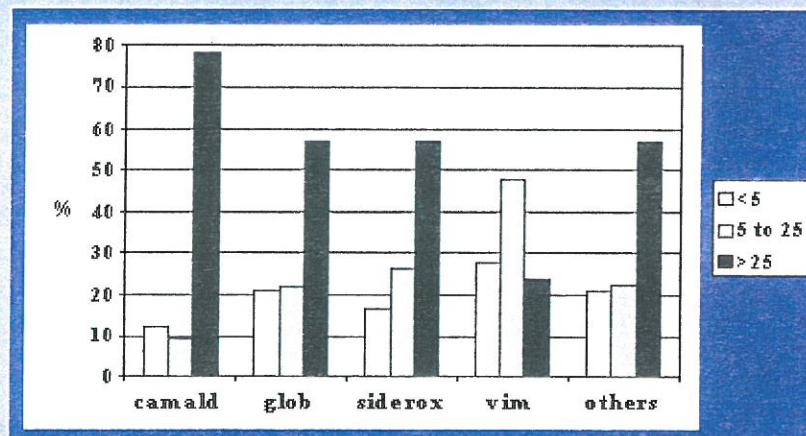
vim = Eucalyptus viminalis Manna gum

Decay / No decay



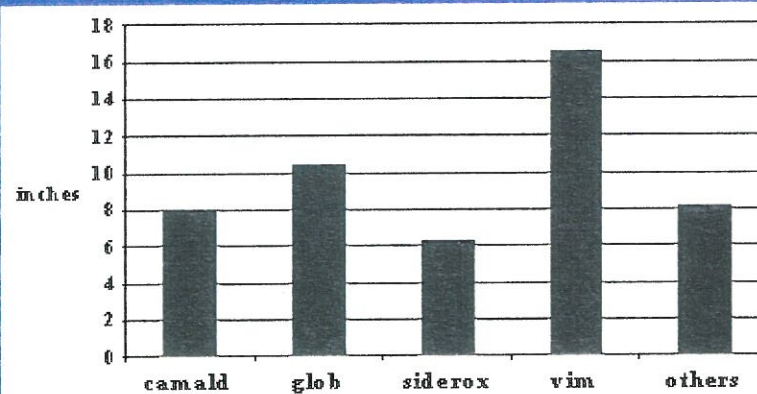
The above chart shows the degree to which decay is involved in failures.

Windspeed at time of failure



This chart shows the degree to which wind is involved with failures for these species.

Mean branch failure diameter



The chart shows the mean size of limbs that fail for these species.

Target	Any person or object within reach of a falling tree or part of a tree, that may be injured or damaged.
Thinning	Pruning technique where branches are removed at their point of origin or to a large lateral at least on half the diameter of the removed branch.
Topping	The practice of cutting large limbs back severely, without regard to form or habit of the tree. Cuts are usually made between lateral branch nodes. This practice is extremely injurious to trees, and promotes decay in the canopy.
Trees	An arborescent woody plant, with a single or few trunks near the base
Trunk Flare	The basal area of the trunk that flares or widens, and merges with the main roots. see root collar
Valuation	An analysis or study of monetary value or the methodology used in determining monetary value or the giving of advice concerning monetary value, which is not constrained by the same duties as an appraisal and which is not held out or reported as an appraisal. An assignment involving such activity.
Value	The relative worth, merit, or importance of a thing, expressed as a single point, a range, or a relationship to a benchmark.
Vertical mulching	Ventilation of soil by auguring holes in a regular pattern. Usually the holes are backfilled with amended soil, but small holes may be left open.
Vigor	Active, healthy growth of plants: ability to respond to stress factors.

Lion-tailing	Pruning technique where internal foliage and branches are removed, leaving the latter concentrated at branch ends.
Mulch or Mulching	Substances spread on top of the ground to conserve water, protect against erosion, retain moisture, and protect the roots of trees from heat, cold or drought. The substances are typically organic, such as compost, manure or bark chips.
Mycorrhizae	A term given to the symbiotic relationship between roots and certain beneficial fungi. Mycorrhizae are the combined root / fungal growth.
Narrow Crotch	Also tight crotch. A crotch with a narrow angle between branches, often having included bark.
Pathogen	A disease-causing organism, usually a fungus in plants, but may also be viral or bacterial.
Prune or Pruning	Selective removal of woody plant parts of any size, using saws, pruners, clippers, or other pruning tools.
Restructuring	Restoration of a natural and/or structurally sound form to a tree, which has been previously topped or damaged. Also known as "crown restoration".
Root crown	Area at the base of a tree where the roots and stem merge (synonym - root collar)
Root system	The portion of the tree containing the root organs, including buttress roots, transport roots, and fine absorbing roots; all underground parts of the tree.
Root zone	The area and volume of soil around the tree in which roots are normally found. May extend to three or more times the branch spread of the tree, or several times the height of the tree.
Scaffold limb	Primary structural branch of the crown.
Shrub	A relatively low woody plant with several stems arising near the ground.
Soil Grade	Also Grade level. The level of the soil in an area; topographic elevation.
Street tree	A tree growing adjacent to dedicated roadways and within the city's right of way.
Stress	"Stress is a potentially injurious, reversible condition, caused by energy drain, disruption, or blockage, or by life processes operating near the limits for which they were genetically programmed." Alex Shigo
Sudden limb drop	An otherwise sound and well-attached branch that is dropped in calm air, usually during warm, dry weather. Also referred to as "High temperature limb drop".
Taper	Relative change I diameter with length - reflects ability of stem or branch to evenly distribute stress.

Decurrent	Referring to crowns which are made up of a system of codominant scaffold branches. Lacking a central leader.
Dieback	Progressive death of buds, twigs and branch tissues, on individual limbs, or throughout the canopy.
Dripline	A projected line on the ground that corresponds to the spread of branches in the canopy; the farthest spread of branches.
Drop-crotching	Shortening a limb by pruning to an inner branch large enough to assume the terminal role.
Evergreen	retains its leaves throughout the year.
Excurrent	Referring to crowns having a strong central leader.
Fertilization	The process of adding nutrients to a tree or plant; usually done by incorporating the nutrients into the soil, but sometimes by foliar application or injection directly into living tissues.
Fill (Soil)	Altering the soil level to raise the elevation of the surface; addition of soil. see cut
Foliage	The live leaves or needles of the tree; the plant part primarily responsible for photosynthesis.
Fruit	A ripened ovary, together with any other parts which may develop with it, containing one, two or more seeds.
Gall	An abnormal, disorganized growth of plant tissues, caused by parasitic or infectious organisms such as insects, fungi, bacteria, or viruses.
Genus	A more or less closely related and definable group of plants, including one or more species.
Hardscape	The sidewalk, curb, gutter, paving or other concrete permanent features.
Hazardous condition	The combination of a likely failure of a tree or tree part with the presence of a likely target.
Heading	Pruning techniques where the cut is made to a bud, weak lateral branch or stub.
Hybrid	The offspring that results from crosses between plants belonging to different species, genera or distinct forms of the same species.
Included bark	Bark or cortex tissue that is included or trapped between close-growing branches. Usually found in narrow or tight crotches.
Leader	A main stem or branch of a tree that is (usually) codominant with other main stems.
Limb	A large lateral branch growing from the main trunk.

Chlorotic	Also Chlorosis. A condition of the plant marked by yellowing of normally green foliage, often indicating nutrient deficiency or plant dysfunction.
Codominant	Leaders equal in size and relative importance, developed from 2 apical buds at the top of a stem. Each codominant stem is an extension of the stem below it. There are no branch collars or trunk collars at the bases of codominant stems.
Codominant crown class	Crowns of equal or near equal height and dominance in a stand.
Compaction	(Soil Compaction) The compression of soil, causing a reduction of pore space and an increase in the bulk density of the soil. Tree roots cannot grow in compacted soil.
Compartmentalize	To seal off decay. The ability of the tree to restrict the spread of invasive organisms, such as decay fungi, by means of internal changes in cell structure and chemistry.
Conifer	Cone bearing shrub or tree, e.g. pines and cypress (or modified cone-like structure as in Podocarpus and Taxus)
Conk	A woody or perennial reproductive organ of certain fungi, usually found on trunks, branches or stumps.
Crotch	The union of two or more branches; the axillary zone between branches.
Crown	The upper portions of a tree or shrub, including the main limbs, branches, and twigs.
Crown class	The relative size of individual trees in relation to others in the stand, usually termed dominant, codominant, intermediate, or suppressed
Crown Reduction	Removal of large branches and/or cutting back to large laterals to reduce the height or width of the crown; frequently referred to as “drop crotch” pruning – corresponds to National Arborist Association Class IV pruning.
Cultivar	A cultivated variety. Maybe a field selection or a horticultural variety that has originated and persisted under cultivation. Usually enclosed in single quotes after the genus and species names.
DBH	Diameter of the trunk, measured at breast height or 54 inches above the average grade. See caliper.
Decay	Progressive deterioration of organic tissues, usually caused by fungal or bacterial organisms, resulting in loss of cell structure, strength, and function. In wood, the loss of structural strength.
Deciduous	Trees which shed their leaves at the end of the growing season.
Decline	Progressive reduction of health or vigor of a plant.

ASCA	The American Society of Consulting Arborists, Inc. a professional society, as described in its by-laws.
Backfill	The soil returned to a planting hole after planting, sometimes amended, sometimes not.
Bark	Tissue on the outside of the vascular cambium. Bark is usually divided into inner bark - active phloem and aging and dead crushed phloem - and outer bark.
Biotic	Pertaining to living organisms.
Bracing	Installation of steel rods or bolts through the stems or limbs, to reduce twisting or splitting of the wood.
Branch angle	The angle of attachment between two branches.
Branch Collar	Trunk tissue that forms around the base of a branch between the main stem and the branch, or between a main branch and a lateral branch. As a branch decreases in vigor or begins to die, the collar usually becomes more pronounced and more completely encircles the branch.
Cabling	Installation of steel cables, attached to lag screws or bolts placed in tree limbs, to provide additional support or to limit movement and stress of limbs.
Caliper	Diameter of a nursery-grown or small size tree trunk. Larger trees are usually measured at 48 feet (see DBH) Trees with calipers 4 inches and below are measured at 6 inches above grade(ANSI Z60-1-1990) Trees above 4 inches, but still transplantable are measured at 12 inches above grade.
Callus	Undifferentiated cells, often formed at the edges of recent injuries. This tissue quickly becomes differentiated, forming cells of the type characteristic of that position on the tree (ie: forming wood, bark, roots, etc.) see wound response tissue
Cambium	A thin layer of actively growing and dividing cells, located between the xylem (sapwood) and bark of a plant; the part responsible for lateral growth of a tree stem or branch.
Canker	An area of dead bark caused by certain fungal infections.
Canopy	The part of the crown composed of foliage and twigs, for an individual tree or collective group of trees.
Cavity	An open and exposed area of wood, where the bark is missing and internal wood has been decayed and dissolved.
Central leader	The main stem of the tree.

Glossary

Anaerobic	A condition marked by the absence of oxygen; unsuitable for normal life and growth of plant tissues. Usually populated by bacteria capable of surviving low oxygen conditions.
Annual	A plant that completes its life cycle in a year or less, from germination, through flowering, setting seed and dying.
ANSI-A300	American National Standards Institute performance standards for the care and maintenance of trees, shrubs and other woody plants.
ANSI-Z60-1	American National Standards Institute standards sizing and describing trees, shrubs and other nursery stock.
Apical dominance	Relative strength of the central leader compared to lateral branches.
Appraisal	The act or process of reaching a monetary opinion of properly defined value, which is disinterested, impartial, independent, and objective and of unambiguously reporting that opinion. Distinguished from valuation.
Arboricultural	Pertaining to the awareness, care, evaluation, identification, growing, maintenance, management, planting, selection, treatment, understanding, valuation and so forth of trees and other woody plants and their growing environments, particularly in shade and ornamental (non-crop/commodity) settings.
Arboriculture	The selection, cultivation, and care of trees, vines, and shrubs.
Arborist	A person possessing the technical competence through experience and related training to provide for or supervise the management of trees or other woody plants in a landscape setting.

Disclaimer

This consultant does not verify the safety or health of any tree on this site for any period of time. Construction activities are hazardous to trees and cause many short and long-term injuries that can cause trees to die or topple.

Even when every tree is inspected, inspection involves sampling; therefore some areas of decay or disease may be missed. Weather, winds and the magnitude and direction of storms are not predictable and some failures may still occur despite the best application of high professional standards.

Certification

I, Gregory W. Applegate, certify to the best of my knowledge and belief:

That the statements of fact contained in this report, are true and correct. That the report analysis, opinions, and conclusions are limited only the reported assumptions and limiting conditions, and are my personal unbiased professional analysis, opinions and conclusions.

That I have no present or prospective interest in the vegetation that is the subject of this report, and I have no personal interest or bias with respect to the parties involved.

That my compensation is not contingent upon the reporting or a predetermined value or direction in value that favors the cause of the client, the amount of the value estimate, or the attainment of stipulated result.

That my analysis, opinions, and conclusions were developed, and this report has been prepared, in conformity with the Guide for Plant Appraisal, authored by the Council of Tree & Landscape Appraisers (depreciation excepted) and the standards of arboricultural practice.

That I have made a personal inspection of the plants that are the subject of this report. No one provided significant professional assistance to the person signing this report.

Gregory W. Applegate

Registered Consulting Arborist #365

Date Oct 4 '01