Native Tree Protection Plan

For: Point Dume Marine Science School - Malibu Schools Alignment Project

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Introduction

Project Background

The District is proposing to combine Juan Cabrillo Elementary School with Point Dume Marine Science School at the Point Dume Marine Science School campus located at 6955 Fernhill Drive, in Malibu ("Campus") where it will install ten single-story portable buildings to house the Juan Cabrillo Elementary School students and staff.

Assignment

Provide arboricultural evaluation of all 64 trees adjacent to construction, including 9 protected native trees indicated (on provided aerial map) trees' health and condition, professional opinions and report as appropriate for the City of Malibu Biologist. Any rare, threatened, or endangered tree species will be so indicated. Information regarding the presence of any protected native trees on or immediately adjacent to the subject parcel will also be included. All native trees will be photographed and the photographs included in the appendix. Each tree over 4" trunk diameter will be inventoried by common and botanic name and located on a client provided site map or Google Earth map. The trunk diameter and canopy spread of each native tree will be listed. The health and structural condition of each native tree will be evaluated. An analysis of all potential construction and post-construction impacts on the identified native trees will be included. Any trees that must be removed will be listed. Protection radii and protection strategy to avoid removal of trees and to avoid and minimize impacts to protected trees will be provided.

A long-term maintenance and monitoring program will be designed to assure long-term protection and health for all native trees. (Ord. 303 § 3, 2007)" (City of Malibu 2002).

Findings

Conditions Affecting Tree Health

The site is about a half a mile from the coast and has a mild slope from roughly from west to east. The site is surrounded on all sides by established residential property. There is no surrounding native plant community. When the landscaping of the school was designed, plant selection did not focus on natives. The only native species are California sycamores, *Platanus racemosa,* and they are mostly in mowed turf with compacted soil. Although there are nine sycamores in this portion of the site, only one (#24) of the sycamores needs to be moved or removed. One or more of the California sycamores may be European sycamore, *Platanus x Acerifolia*, since only one tree had seed balls to make a clear identification of the species. Tree #24 has no seed balls, but based on the bark and foliage, it is most likely the native species.

Due to the prevailing compacted soil and turf irrigation conditions, most of the trees are shallow rooted. The exposed roots are often damaged by lawn mowers. The presence of decay in these damaged roots and the degree of decay is unknown.

Fortunately the sycamores are in fair to good structural condition. None were topped and none had any critical defects. Corrective pruning is recommended for 3 of the 9 sycamores. All were in good health. None were infested by the newly arrived polyphagous shot-hole borer.

Matrix of Findings

Tree#	Species	Circumference	Ht.	Spread	Health	Structure	Roots	Defects	Surface conditions
2	Platanus racemosa	44	32	22	B	B	Okay	Epicormics	Turf
11	Platanus racemosa	66	55	30	B	C	Okay	Codominant, doglegs	Turf
24	Platanus racemosa	31	45	24	B	C	1sRF	1-sided	Turf
26	Platanus racemosa	26	40	24	B	B	Sh	Leans T-injuries	Turf
43	Platanus racemosa	16+19+31	45	32	B	C	Sh	Cod Xing-trunks	Edge of turf
61	Platanus racemosa	44	40	25	C	C	planter	Topped	Near wall
62	Platanus racemosa	44	45	30	C-	C	Sh	Headed	edge of turf
63	Platanus racemosa	47	45	25	B	B	Sh	Headed	edge of turf
64	Platanus racemosa	44	45	25	B	B	Sh	Codominant	edge of turf

Abbreviations above

The rating of health uses typical school grades of A, B, C, D or F.
"A" = excellent health, not excessive, but having good foliage color, leaf size, canopy density, and twig elongation.
"B" = good health, not excessive, having good foliage color, average leaf size and density, and twig elongation.
"C" = fair health, little or no dieback, fair leaf color, size and density, adequate to continued life.
"D" = poor health, some dieback or poor leaf color, size and/or density, presently declining, but recoverable.
"F" = dead or dying, with little or no chance of recovery.

The rating of structure also uses typical school grades of A, B, C, D or F.
"A" = excellent structure, ideal for the species, little or no risk of failure.
"B" = good structure, not more than minor defects in attachment, limb taper or length and no significant decay.
"C" = fair structure, adequate branch attachment, taper, no significant decay, but correctible defects..
"D" = poor structure, some defects or decay, but acceptable risk level, with corrective pruning
"F" = hazardous and likely to drop limbs or topple, not correctible.

DBH measurements were made using calipers or Biltmore stick. Height and spread were estimated.

Abbreviations used in the above matrix include:

1s=one-sided , 1sRF = one-sided root flare
Cod=codominant
Cr = crowded limbs, roots or canopies
Db=dieback
DBH= trunk diameter at 4.5 feet above grade.
Dk = decay
DL = dog leg
Epi = epicormic shoots
FC = flush cut
Hd=headed
Ht.= height
Inc=included bark
Inj = injury (Tinj=trunk injury, Binj=basal injury)
2long = excessive limb length
Lt = lion tailed
MB = mower blight, ie. root damage by mowers
Rd = road, SE Rd = southeast of road
RF = root flare, aka root crown
Sh = shallow rooted
Sp = sparse
Th = trunk height
TD = tear down
TO = tear out
Top'd=topped
Wd. = width / spread
Xing = crossing branches

Photographic Documentation

#2 Sycamore

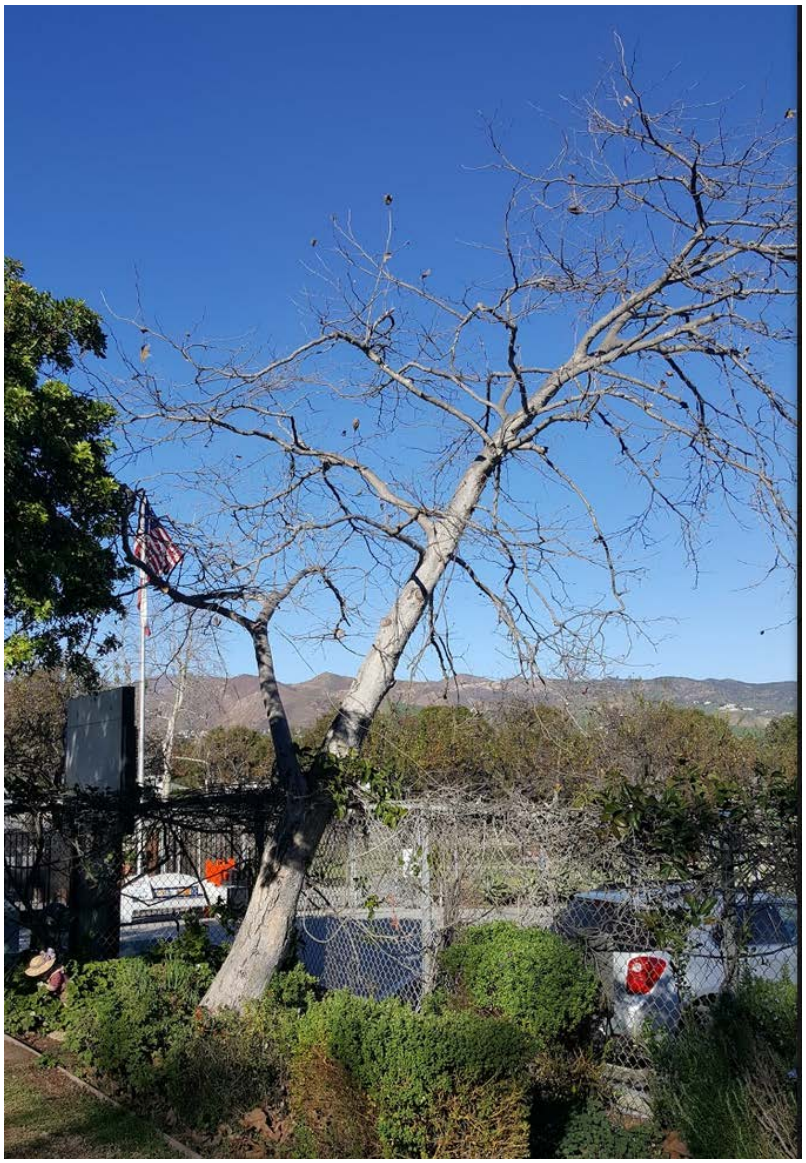
#11 Sycamore – note codominant limbs and leaning trunk.

California sycamore #24 (left)

#26 Sycamore (at right)

#43 Sycamore – note codominant and crossing trunks.

Sycamore #43



Sycamore #61

Sycamores #62 and 63 (left to right)

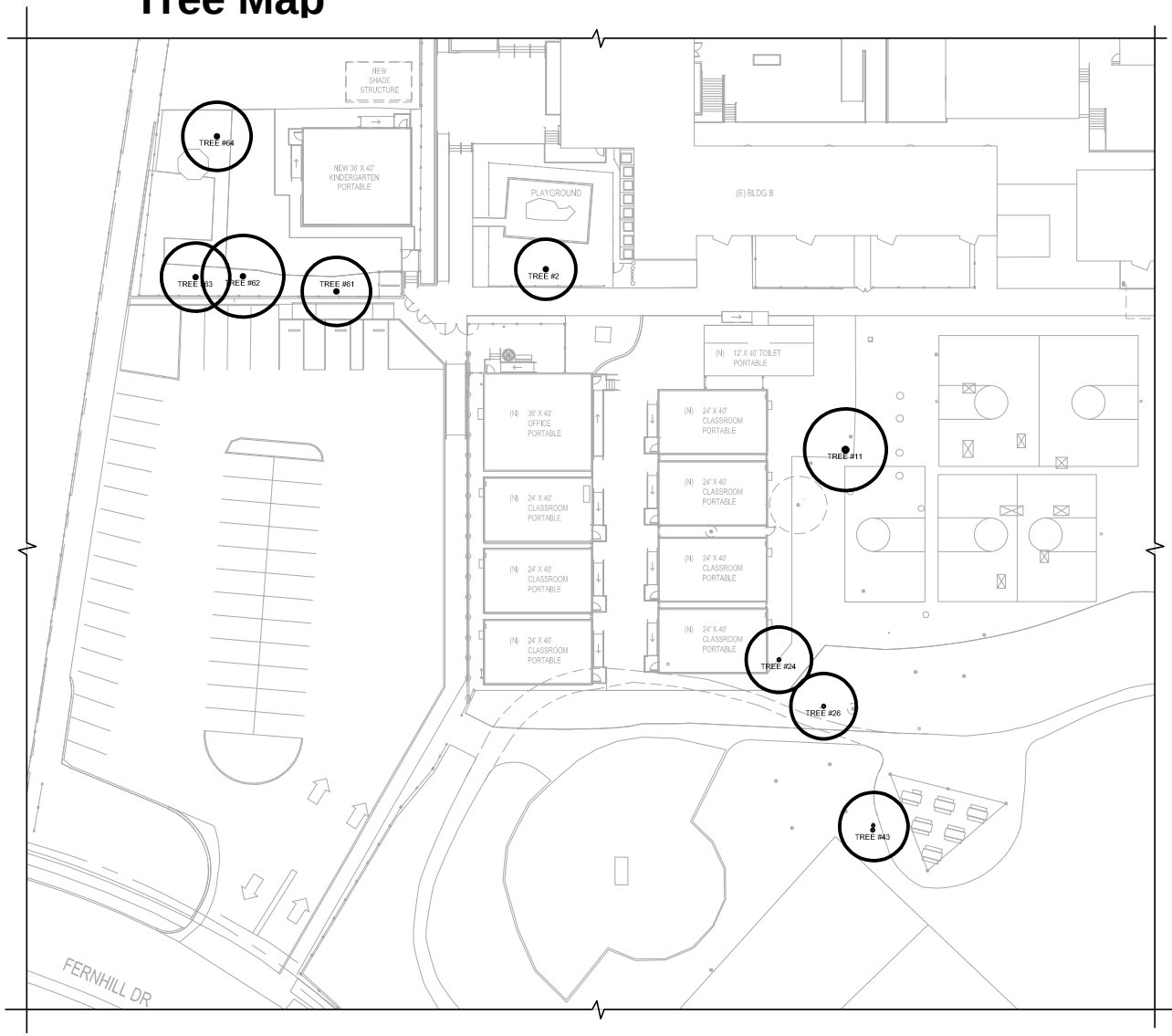
Sycamores #62 and 63 (left to right) – note dogleg trunk

Sycamore #64

Sycamore #64

Sycamore #64

Tree Map



LIST OF TREES (PLATANUS RACCMOSA)		
TREE #	DBH (IN.)*	WIDTH (FT.)
2	14	22
11	21	30
24	10	24
26	8.2	24
43	5+6+10	32
61	14	25
62	14	30
63	15	25
64	14	25

*DBH: TRUNK DIAMETER AT 4.5 FEET ABOVE GRADE.

DIAGRAM1: TREE PLAN
SCALE: $\frac{1}{64}$"=1'-0"

Analysis

Analysis of Construction and Post-Construction Impacts

Tree #2 is completely inside the little playground. It may have some minor impacts due to trenching along the sidewalk in front of it, but there is no work in its immediate vicinity. The existing fence will keep people away from it during construction.

Trees #61 to 63 are at the edges of the raised kindergarten yard, and already have a landscape area around them. They could benefit from mulching, but none of the work actually calls for heavy foot or equipment traffic close to them. Tree #64 is almost clear of the construction zone, and will at worst have a small amount of its root area compacted under the new portable building The protective construction fencing will help adequately protect #64. Tree #43 is fairly clear of the construction zone and probably won't see more foot traffic and trampling than it usually does.

Tree #11 is in the middle of everything and is trampled often, and may be by heavy equipment, if not protected. Tree #24 is unavoidably in the way. Tree #26 would be walked around often, and will need protection from some equipment coming and going near it.

Construction impacts include increased foot and vehicular traffic over or near the root systems of the sycamores (#11, 26, 43 and 64), and removal of sycamores too close to the work area to survive the work performed, i.e. tree #24. These impacts can be mitigated by mulching and fencing off at least the clearance radii listed in the Recommendations section of this report.

Post-construction, use of the site returns to normal, and post- construction impact should be minimal. Most of the existing sycamores are at edges and borders of play yards and paths. The new buildings do not introduce new paths near these trees, and do not change the flow of surface water in ways that reduces the amount available to the trees.

Alternative Designs

Per the architect, the preservation of native trees was an actively observed design criteria during the design of the project. (See also Section 26 - Feasible Alternatives Report- submitted to the City as part of the CDP Application) The Portable Buildings are shifted as close to the existing buildings as possible while avoiding subsurface sanitary piping, and shifted to miss existing trees.

Trees for Removal

Despite this, the work area could not be shifted enough to entirely miss Tree #24. This sycamore is less than 7.5' from one of the portable buildings and the base of the tree would be buried in several feet of gravel and soil. It would not survive these changes to its environment.

California sycamores have a large spreading, but shallow root system, often spreading 100 feet or more past the dripline *at maturity*. Most of the root system will be in the top two feet, and it is unlikely that any significant amount of roots will be found below three feet deep. In this setting the most important roots are those in the top foot of soil. While California sycamores have a high tolerance for construction impacts, protecting as much of the root zone as possible will help to preserve their health, beauty and stability.

Mitigation

The one California sycamore that is close to planned construction (#24) could remain in place if seven and a half feet of secure protection could be provided, but that is not possible. Other than transplanting, there are no alternative arrangements or siting alternatives that would allow tree #24 to remain. However, it is too late in the season to transplant this tree.

It is the District's intention to pay an in-lieu fee to the Native Tree Impact Mitigation Fund, in care of the Santa Monica Mountains Conservancy, in compensation for the District’s loss of tree #24.

Recommendations

Preservation Recommendations and Clearances for Sycamores

Clearances

Chain link fencing should be installed at the edge of all access routes and around all work zones according to the following matrix. No work, parking vehicles, no trenching, no storage, and no dumping may take place within this protection zone. If the canopy spreads 2 or 3 feet further, prune early to provide any special clearance needed by whatever construction equipment will be used. Consult your general contractor for this information.

Above Ground Surface Protection

Apply a 3-inch deep layer of coarse-textured wood or tree chips to the entire surface of the protection zone.

If there will be *foot* traffic through a protection zone, 3 to 4 inch deep layer of coarse wood or tree chips can make an acceptable path.

If there will be some necessary vehicle traffic under certain trees, but well clear of the trunks, apply a 5-inch deep layer of wood or tree chips and cover with steel plates or 1" plywood, depending of the weight of the equipment. Dry out the soil in this area for at least a week prior to allowing traffic though the area.

Matrix of Recommendations

Tree #	Species	Circumference	Health	Root condition	Defects	Remove	Clearance
2	Platanus racemosa	44	B	Okay	Epi	No	10.5'
11	Platanus racemosa	66	B	Okay	Cod DL	No	15.75'
24	Platanus racemosa	31	B	1sRF	1s	Yes	7.5'
26	Platanus racemosa	26	B	Sh	leans T-injs	No	6.15'
43	Platanus racemosa	16+19+31	B	Sh	Cod Xing-Ts	No	11'
61	Platanus racemosa	44	C	planter	top'd	No	11'
62	Platanus racemosa	44	C-	Sh	Hd	No	11'
63	Platanus racemosa	47	B	Sh	Hd	No	12'
64	Platanus racemosa	44	B	Sh	cod	No	11'

Native Tree Protection or Relocation

In the simplest terms, leave the trees as undisturbed as possible. Mature trees respond slowly to sudden changes in their environment. Since the playground is the scene of children playing and occasional large gatherings of families and youth, safety is paramount. Nothing done to the site should compromise the stability and structural integrity of these trees. Their roots are the anchors holding them upright and the pipeline through which their nutrients and water come. What you don't see below ground is vital to their continued health and stability.

Protection Measures during Construction

1. All trenching and grading must stay as far away from the trees as possible. Any roots encountered should be cut cleanly and quickly covered to protect from desiccation.
2. If any utility or irrigation lines must come within the clearance limits of the trees, provide tunneling under the root zone versus trenching.
3. Prior to any construction activities, existing grass and weeds should be removed and immediately a 4 inch thick layer of coarse textured, organic mulch shall be installed under the tree driplines. Do not leave mulch in contact with the trunk, but keep it slightly back (6-12”).
4. Fertilization shall be per the recommendations of an agronomic soil lab, and based on their soil analysis.
5. The protection zones shall be fenced off with a 6-foot high chain link fence. Fencing shall remain until the final landscape phase. Do not raise or lower the grade within the protection zone, except as approved by this consultant.
6. Signs shall be placed on the fence, which indicates that no chemicals, machinery, vehicles or materials shall be placed or stored within the confines of the fence.
7. During construction a Registered Consulting Arborist should be retained by the school district to provide periodic inspections, enforce protection measures during construction and to speak for the trees’ interests in interface with the landscape architect and contractors.

Long-term Maintenance and Monitoring Program

In the years beyond the construction program, the existing sycamores will be healthier and last longer if they are protected from soil compaction, lawn mower damage, and properly mulched.

While sycamores are a riparian species, and they do need adequate amounts of water, they will be deeper rooted and stronger if they are separated from turf irrigation and protected from careless use of turf maintenance equipment. There are many ways to protect their root zones from compaction, such as using a large bed of coarse textured mulch, bordered by fences, low shrubs or rocks. When the soil is moist, as it typically is day-by-day with turf, it compacts more easily. When trees have their own separate irrigation valves and schedules, deeper, less frequent irrigation helps roots grow deeper. Even sycamores and even in the summer can become adjusted to biweekly deep irrigation, especially when they are also mulched.

Lawn mowers can do great damage to exposed shallow roots. If the existing roots are exposed or become exposed, the mulch bed needs to be expanded to cover and protect them. String trimmers can also do considerable damage to the trunks, even girdling them. The weight of lawn mowers and even the foot prints of maintenance people gradually compact the soil year by year. Compacted soil makes roots more shallow, less healthy and more subject to drying out.

Turf fertilization leads to excess growth and weaker wood. Excess growth often leads to over-pruning or poor pruning, e.g. heading or topping. Excess growth also leads to more insects, especially sucking insects. Separation from everything connected to turf maintenance will be best for the sycamores.

Both the mulch and any surrounding shrubs keep to be kept away from and off the trunk. An important part of a regular tree inspection program is inspecting the root crown, which is much more difficult if shrubs or ground cover are allowed to spread over the trunk. If underplanting is needed, they must be plants whose irrigation and fertilization requirements are not in conflict with the various trees. Non-living ornament, such as boulders, cobbles, or mulch are preferable to any planting within the dripline.

The two best times to inspect the trees are in Spring and winter. Spring is a time of insect activity and a critical period to monitor bud break and the flush of new growth. Monitor the foliage for signs of pests monthly for at least one year after transplanting. In the following four years annual inspection in Spring is sufficient. Winter is when the trunk and limbs are more visible.

The qualifications of the person who inspects the trees will determine how early and how well issues will be spotted. A licensed pest control advisor would be well suited for the spring inspection, but not so well suited to the winter inspection. The winter inspection is more structurally focused, and will help set up pruning specifications for that year. It will also be a good time for risk

assessment and management. For that reason a Registered Consulting Arborist and Tree Risk Assessment Qualified individual would be well suited.

Trees that are properly trained do not need to be pruned as often, and often go for three or more years without need for pruning. Sycamores are somewhat more prone to decay when not properly pruned or when larger cuts are needed. When they are well trained and trained early, large cuts are seldom necessary. Proper cuts also are less apt to decay. Quality work only happened with good supervision. Good supervision seldom happens with low-bid tree services and under trained workers. At a minimum, the tree services needs to be supervised by a certified arborist. The best combination would be to have the consultant who writes the pruning specifications be the one to supervise the work. School administration needs to retain qualified consultants for inspection, and the best tree service available.

If pruning is needed, all work shall be performed by a firm drawn from a pre-qualified list of tree services. The selected firm shall provide a Certified Arborist to direct their crew's operations on site.

All pruning shall be in accordance with ANSI A-300, part 1 standards. Specifications for pruning must follow A300, part 1 guidelines.

Disclaimer

Good, current information on tree preservation has been applied. However, even when every tree is inspected, inspection involves sampling, therefore some areas of decay or weakness may be missed. A complete tree hazard evaluation was not requested or performed. The degree of hazard a tree may constitute can only be estimated after the construction and relandscaping process has ended. 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. Continuing construction activity such as trenching will also affect the 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 does not assume liability for any tree failures involved with this property.

Glossary

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.

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.

ASCA The American Society of Consulting Arborists, Inc. a professional society, as described in its by-laws.

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.

Basal flare Most trees have a rapid increase in diameter as the trunk meets the soil line or root crown. This area is associated with both trunk and root tissue.

Canopy The live, foliage-bearing part of a tree or palm.

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.

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.
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.
Dripline	A projected line on the ground that corresponds to the spread of branches in the canopy; the farthest spread of branches.
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.
Foliage	The live leaves or needles of the tree - the plant part primarily responsible for photosynthesis.
Included bark	Bark or cortex tissue that is included or trapped between close-growing branches. Usually found in narrow or tight crotches.
Limb	A large lateral branch growing from the main trunk.
Mulch/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.
Root Crown	Area at the base of a tree where the roots and stem merge (synonym - root flare)
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.
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
Value	The relative worth, merit, or importance of a thing, expressed as a single point, a range, or a relationship to a benchmark.
Vigor	Active, healthy growth of plants: ability to respond to stress factors.

Appendix

Tree Inventory (All species)

Tree Map (All Species)

Resume

Matrix of Findings

Tree#	Species	DBH	Ht.	Wd.	Health	Structure	Roots	Defects	Surface conditions
1	Melaleuca quinquenervia	11+12	24	14	B	C	Okay	Cod inc	Turf
2	Platanus racemosa	14	32	22	B	B	Okay	epi	Turf
3	Pyrus kawakamii	10	18	18	B	C	Okay	Lt DL cod	Compact soil
4	Pyrus kawakamii	13	26	22	C	C	Sh	Lt DL cod	Compact soil
5	Pinus halepensis	31	60	32	C-	C-	Okay	Lt Hd Sp cod	Sand
6	Schinus terebinthifolius	36"b	50	40	D	C	Cr	DL Hd Sp	Open soil
7	Melaleuca quinquenervia	20	22	15	B	C	Okay	Cod inc Hd	Sand
8	Melaleuca quinquenervia	16	24	16	B	C	Okay	Cod inc Hd leans	Sand
9	Melaleuca quinquenervia	4x12	22	18	B	C	Okay	Cod FC Hd 1s	Sand
10	Washingtonia robusta		65'th	12	A	A	Okay	good	Mulch
11	Platanus racemosa	21	55	30	B	C	Okay	Cod DL	Turf
12	Pyrus kawakamii	6	18	12	C	C	Sh	Cod inc Tinj Lt	Turf
13	Pyrus kawakamii	10	20	20	C	C-	Sh	Xing Binj Lt	Turf
14	Pyrus kawakamii	13	24	24	B	C	MB Sh	Cod Lt	Turf
15	Pyrus kawakamii	13	24	24	B	C-	Sh	Cod inc Binj Lt	Turf
16	Pyrus kawakamii	10	20	16	C	C	Sh	Cod inc Binj Lt	Turf
17	Pyrus kawakamii	11	22	22	B	C	Okay	T-canker Lt	Sand
18	Pyrus kawakamii	13	24	24	B	C-	Okay	Old T-inj cod inc	Both turf & sand
19	Pyrus kawakamii	11	20	24	C-	C-	Okay	Cod inc DL Sp Lt	Both turf & sand
20	Pyrus kawakamii	14	26	24	C	C	Sh	DL old TO, Lt	Sand
21	Pyrus kawakamii	13	26	24	C	C	Cr	DL Lt	Compact soil
22	Pyrus kawakamii	5.3	14	10	D	D	NoRF	Cod DL 1s Tinjs	edge of turf
23	Pyrus kawakamii	15	24	24	C-	C-	Okay	Xing cod DL Lt	edge of turf
24	Platanus racemosa	10	45	24	B	C	1sRF	1s	Turf
25	Melaleuca quinquenervia	12+10	30	28	B	C	Sh	Cod Xing Lt	Turf
26	Platanus racemosa	8.2	40	24	B	B	Sh	leans T-injs	Turf
27	Melaleuca quinquenervia	5+9+13	32	20	B	C	MB Sh	Cod inc top'd	Turf
28	Melaleuca quinquenervia	14+16	32	22	B	C	MB Sh	Top'd cod inc	Turf
29	Melaleuca quinquenervia	10+21	30	22	B	C	MB Sh	Top'd cod inc B-inj	Turf
30	Melaleuca quinquenervia	12	24	12	B	C	MB Sh	Top'd leans Binj	Turf
31	Melaleuca quinquenervia	11+12+14	30	20	B	C	MB Sh	Top'd cod in Binj	Turf

Tree#	Species	DBH	Ht.	Wd.	Health	Structure	Roots	Defects	Surface conditions
32	Melaleuca quinquenervia	10+12+18	30	24	B	C	noRF Sh	Top'd cod inc	Turf
33	Melaleuca quinquenervia	14	34	18	B	C	1sRF MB	cod	Turf
34	Erythrina caffra	20+20+18+18	28	30	B	D	Sh	Cod inc B, top'd Hd	Turf
35	Erythrina caffra	14+24+20+30	28	30	B	D	Sh	Cod inc B, top'd Hd	Compact soil
36	Erythrina caffra	9+12+ 13+9+18+16	26	30	C-	D	Sh	Cod inc B, top'd Hd	Mulch
37	Schinus terebinthifolius	19	30	30	C	C-	MB Sh	Lt CrS	Edge of turf
38	Schinus terebinthifolius	14	25	25	C-	C-	MB Sh	Lt CrS Xing epi sp	Edge of turf
39	Schinus terebinthifolius	18	30	30	C	C	MB Sh	Cod Lt gall epi	Edge of turf
40	Schinus terebinthifolius	18	30	30	C-	C	MB Sh	Lt cod inc epi Sp	Edge of turf
41	Schinus terebinthifolius	15	28	26	C-	C-	MB Sh	Lt leans cod inc FC	Edge of turf
42	Schinus terebinthifolius	13	28	28	C	C-	Sh	Lt cod DL epi leans	Edge of turf
43	Platanus racemosa	5+6+10	45	32	B	C	Sh	Cod Xing-Ts	Edge of turf
44	Melaleuca quinquenervia	21	32	34	C-	C	MB Sh	Cod inc	Dead twigs, in turf
45	Melaleuca quinquenervia	14	32	30	C-	C	MB Sh	Cod inc	Dead twigs, in turf
46	Melaleuca quinquenervia	6+8+8	30	24	C	C	MB Sh	Cod inc-Ts	Dead twigs, in turf
47	Melaleuca quinquenervia	14	28	24	C	C	MB Sh	Cod inc	Dead twigs, in turf
48	Schinus terebinthifolius	20	30	32	C	C	MB Sh	CrS	Turf
49	Melaleuca quinquenervia	16+10+8+8	25	22	B	C	MB Sh	Cod inc Ts	Turf
50	Melaleuca quinquenervia	10"b	30	22	D	C-	MB Sh	Cod Db	Turf
51	Schinus terebinthifolius	20	40	36	D	C	MB Sh	Lt	Turf
52	Melaleuca quinquenervia	12+14	26	20	C	C	MB Sh	top'd cod Xing	Turf
53	Schinus terebinthifolius	20	34	32	C	C	MB Sh	Lt DL cod	Turf
54	Schinus terebinthifolius	13	32	32	C-	C	MB Sh	/Lt DL Sp	Turf
55	Schinus terebinthifolius	21	30	32	B	C	MB Sh	Lt mDk gall FC	Turf
56	Schinus terebinthifolius	16	20	24	C	C-	MB Sh	Lt cod Xing epi	Cable embedded, Turf
57	Melaleuca quinquenervia	11+12	40	24	B	C-	MB Sh	TO	Turf
58	Melaleuca quinquenervia	6+6+9+13	30	28	C	C	Sh	cod mDb	Mulch
59	Persia americana	9	30	22	C	C-	MB Sh	tip burn, dry	edge of turf
60	Schinus terebinthifolius	12	30	30	B	C	Sh	cod Lt	edge of turf
61	Platanus racemosa	14	40	25	C	C	planter	top'd	Near wall
62	Platanus racemosa	14	45	30	C-	C	Sh	Hd	edge of turf
63	Platanus racemosa	15	45	25	B	B	Sh	Hd	edge of turf
64	Platanus racemosa	14	45	25	B	B	Sh	cod	edge of turf

Abbreviations above

The rating of health uses typical school grades of A, B, C, D or F.

"A" = excellent health, not excessive, but having good foliage color, leaf size, canopy density, and twig elongation.

"B" = good health, not excessive, having good foliage color, average leaf size and density, and twig elongation.

"C" = fair health, little or no dieback, fair leaf color, size and density, adequate to continued life.

"D" = poor health, some dieback or poor leaf color, size and/or density, presently declining, but recoverable.

"F" = dead or dying, with little or no chance of recovery.

The rating of structure also uses typical school grades of A, B, C, D or F.

"A" = excellent structure, ideal for the species, little or no risk of failure.

"B" = good structure, not more than minor defects in attachment, limb taper or length and no significant decay.

"C" = fair structure, adequate branch attachment, taper, no significant decay, but correctible defects..

"D" = poor structure, some defects or decay, but acceptable risk level, with corrective pruning

"F" = hazardous and likely to drop limbs or topple, not correctible.

DBH measurements were made using calipers or Biltmore stick. Height and spread were estimated.

Tree Map (All Species)

Resume

Credentials

American Society of Consulting Arborists - Registered Consulting Arborist #365
International Society of Arboriculture - Certified Arborist #WE-180a
International Society of Arboriculture - Tree Risk Assessment Qualified-PNC-444

Experience

Mr. Applegate is an independent consulting arborist, CEO of Arborgate Consulting, Inc. He has been in the horticulture industry since 1963, providing professional arboricultural consulting since 1984 within both private and public sectors. His expertise includes appraisal, tree preservation, diagnosis of tree and palm problems, decay quantification & evaluation, construction impact mitigation, forensic consulting and testimony, risk evaluation, pruning specifications and supervision, species selection, and tree health monitoring.

Mr. Applegate consults for insurance companies, developers, theme parks, museums, homeowners, homeowners' associations, landscape architects, landscape contractors, property managers, attorneys, schools, universities and governmental bodies.

Notable projects on which he has consulted are: Disneyland, Disneyland Hotel, DisneySeas-Tokyo, Disney's Wild Animal Kingdom, the New Tomorrowland, Disney's California Adventure, Disney Hong Kong project, Universal Studios, Knott's Berry Farm, J. Paul Getty Museum, Tustin Ranch, Newport Coast, Crystal Court, Newport Fashion Island Palms, Bixby Ranch Country Club, Playa Vista, MTA Purple and Expo Lines, MWD-California Lakes, Loyola-Marymount campus, Cal Tech, Cal State Long Beach, Pierce College, The Irvine Concourse, UCI, USC, UCLA, LA City College, LA Trade Tech, Riverside City College, Crafton Hills College, and the State of California review of the Landscape Architecture License exam (re: plant materials).

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 Courses in Arboriculture required to maintain Certified Arborist status and for ASCA membership

Professional Affiliations

American Society of Consulting Arborists (ASCA), Registered Member
American Society of Landscape Architects (ASLA), Full Member
International Society of Arboriculture (ISA), Regular Member
ASCA 2011 Nominations Committee and A3G appraisal update committee
ASCA, Industry definitions committee 2009-2010
ASCA web site, west coast tree question responder (2007 and continuing)
California Tree Failure Report Program, UC Davis, Participant (1995 to present)
California Oak Foundation, Member (2009 and continuing)
International Palm Society (IPS), Member (1977 and continuing)
Street Tree Seminar (STS), Member (1978 and continuing)

Community Affiliations

Horticulture Advisory Committee, Saddleback College (1988 -1995
SoCalif ASLA visibility committee 1980-82
UCLA Interior Landscape Committee 1987
Landscape Arch. License Exam prep, Instructor, Cal Poly Pomona (1986-90)
American Institute of Landscape Architects 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 UCLA, Cal Poly, Saddleback College, & Palomar Junior College
The Tree People (2000 and continuing)

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 outcome that favors the cause of the client, or the attainment of stipulated result.

That my analysis, opinions, and conclusions were developed, and this report has been prepared, in conformity with the professional practice standards of ASCA and customary arboricultural practice.

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

Gregory W. Applegate, ASCA, ASLA_____ Date 1-28-2019

Registered Consulting Arborist #365