

CONSULTATION NOTES

Site	Courtyards of West Hollywood
Review Date	June 16, 2022



PHOTO - Crape Myrtle trees at entry. Pruning to stimulate flushes of growth have powdery mildew. Can spray these to reduce mildew activity.



PHOTOGRAPHS



PHOTO - Canary Pine - Previous pruning over-thinned the tree and encouraged flushes of growth. Future pruning should be less aggressive, and focused on load management.



PHOTOGRAPHS



PHOTO - Australian Willow tree - This tree appears slightly buried. Canopy appears vigorous. Pruning should work on structural pruning to reduce end weight on elongated branches.



PHOTOGRAPHS



PHOTO - Base of Australian Willow - Keep plants away from trunk. Inspect buried trunk



PHOTOGRAPHS



PHOTO - Queen Palms - remove rocks and plastic sheeting which are baking the roots and reduce oxygen to the roots. Mulch in the first 2 feet from the trunk.



PHOTOGRAPHS

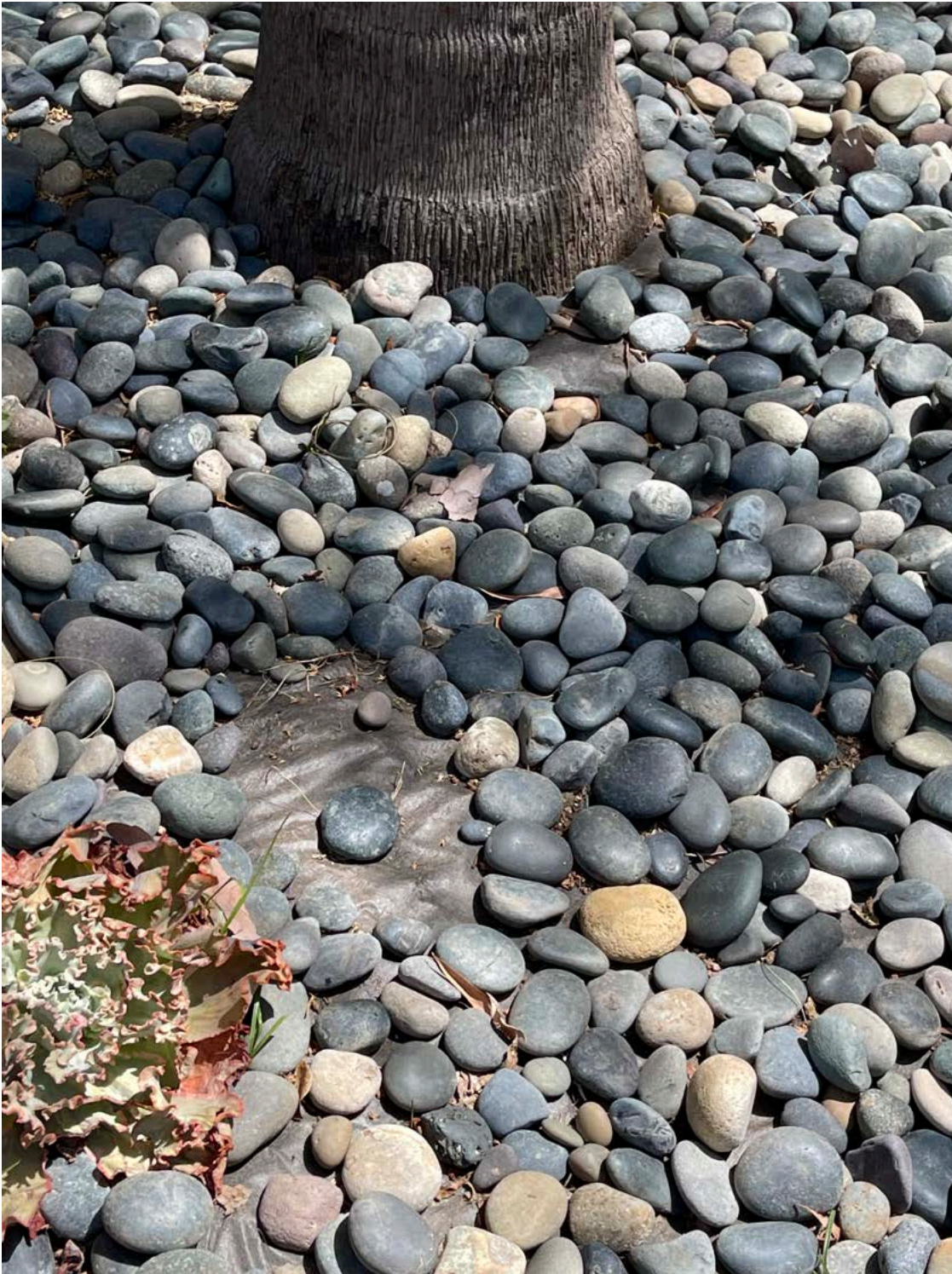


PHOTO - Queen Palms - remove rocks and plastic sheeting which are baking the roots and reduce oxygen to the roots. Mulch in the first 2 feet from the trunk.



PHOTOGRAPHS



PHOTO - Palms - fertilize in February, May and September.



PHOTOGRAPHS



PHOTO - Eucalyptus tree (*Corymbia citriodora* - new name) is leaning over roofline. We discussed this to be a removal candidate.



PHOTOGRAPHS



PHOTO - Eucalyptus - remove rocks from base and place them along the back rear edge of the turf. Place down mulch



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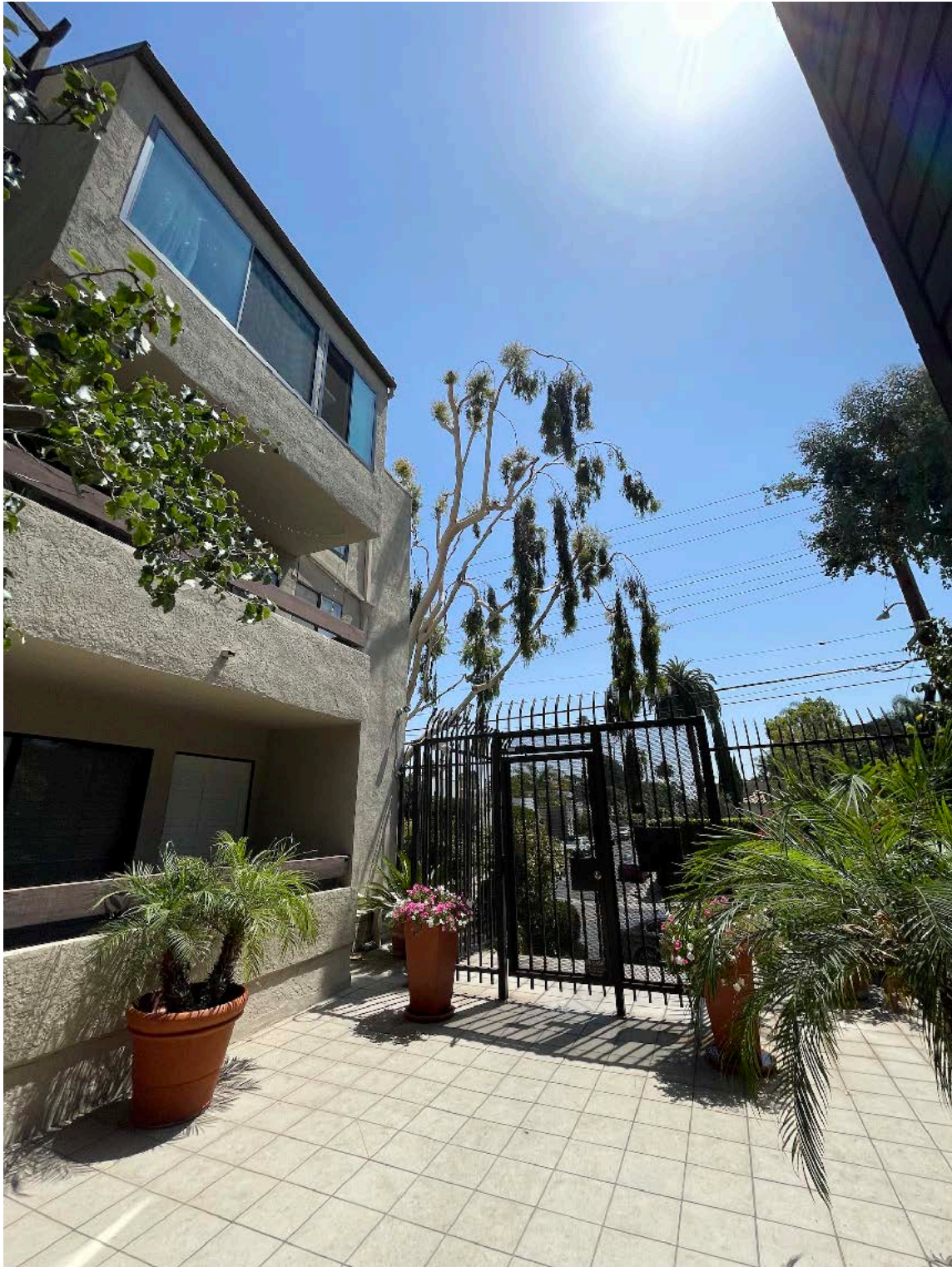


PHOTO - Eucalyptus at entrance were pruned in a topping manner to reduce load. This topping practice will encourage heavy sprouts of growth that will be more robust and dense. This will require “corrective” or “restorative” pruning next winter.



PHOTOGRAPHS



PHOTO - Side trees are a mix of conditions. These Red Iron Bark eucalyptus are heavy, however, they can be pruned properly in winter time, such as November - March. Building clearance, and end weight are goals.



PHOTOGRAPHS

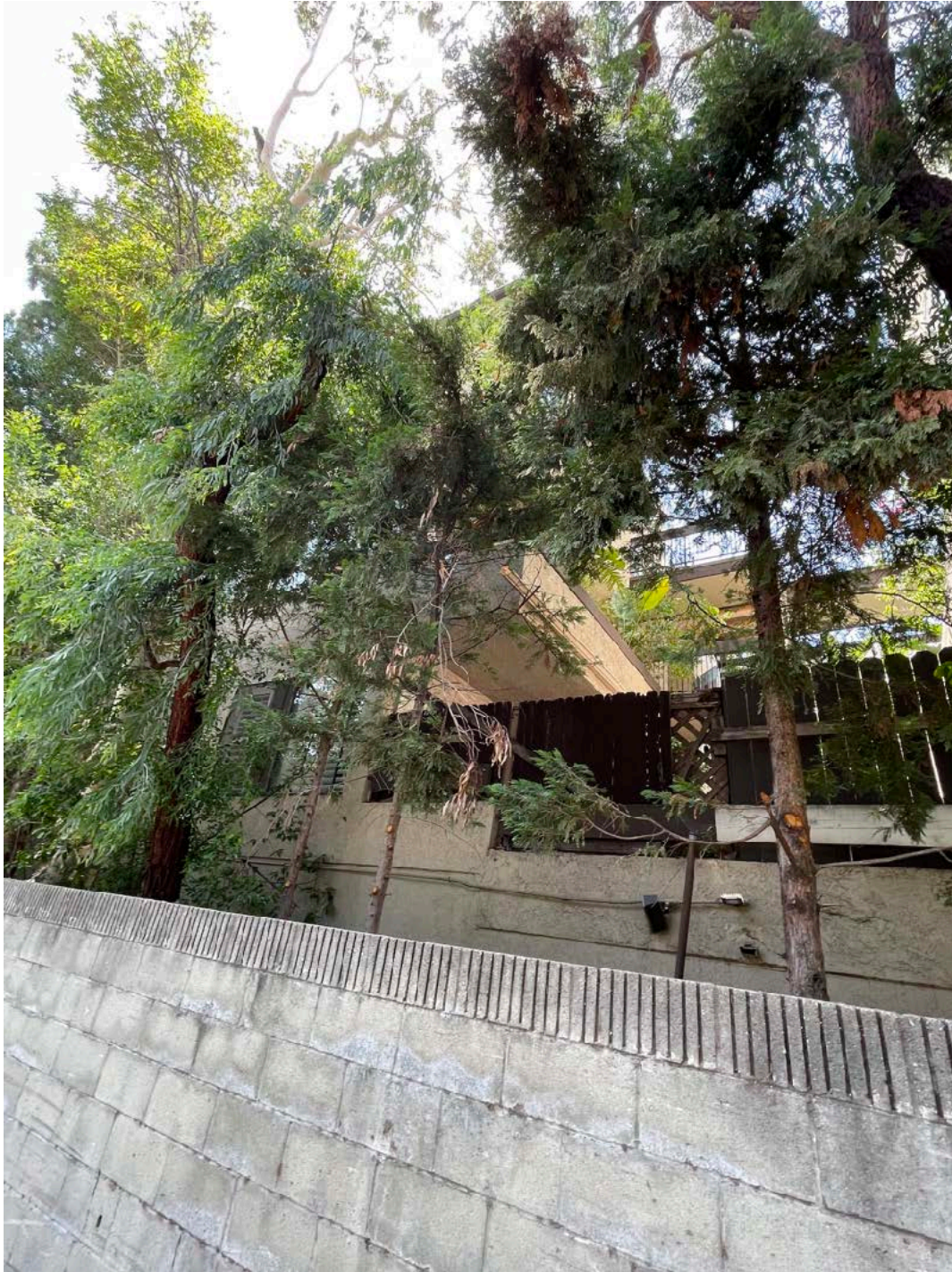


PHOTO - Some trees in this area are dead and should be removed.



PHOTOGRAPHS



PHOTO - These trees are in poor condition, provide no benefits, and the eucalyptus (white bark) should be removed.



PHOTOGRAPHS

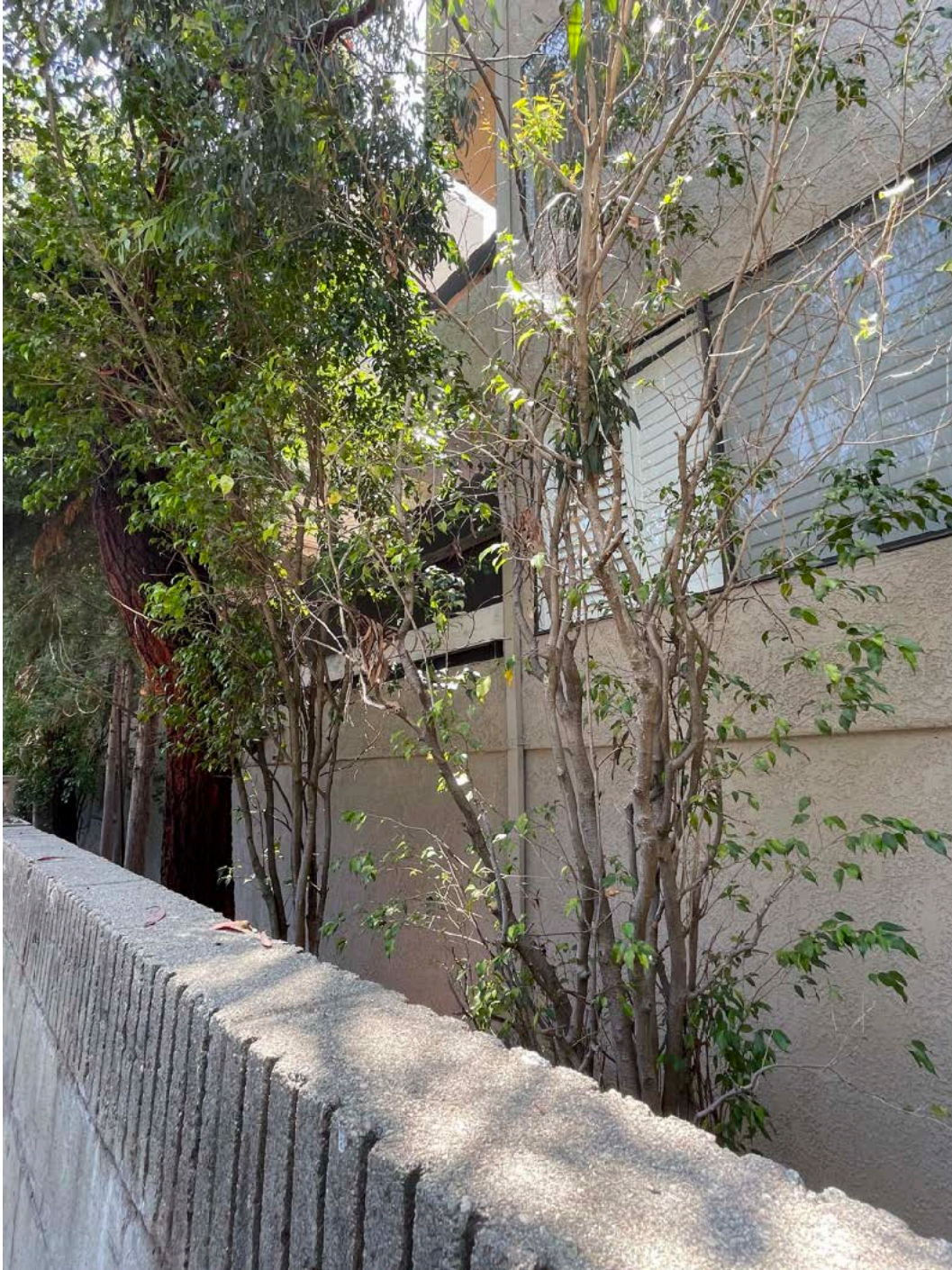


PHOTO - These Ficus benjamina trees are in poor condition. They may improve with more focused watering. OR, they would actually be removal candidates if you desire to improve the hedging, screening, and green vegetation that flanks this side of the property.



PHOTOGRAPHS



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PHOTOGRAPHS



PHOTO - Silver Dollar Eucalyptus - This tree could have pruning to reduce this limb that is growing toward the utility lines.



PHOTOGRAPHS



PHOTO - Pittosporum tree growing into base of the eucalyptus tree. May retain for now, or remove the pittosporum and allow this nicer eucalyptus to be retained. The pittosporum is in relatively fair health for now, and providing some greenery... So, challenging situation.



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ALSO, Oleander shrub to the left is in decline, and dying and is a removal candidate. May need to replant a new shrub for screening and greenery



PHOTOGRAPHS



PHOTO - Eucalyptus previously topped. This tree has a heavy issue with “kino” and appears to be a removal candidate.



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PHOTO - Eucalyptus previously topped. This tree has a heavy issue with “kino” which is a bleeding in response to stress, insect populations and drought stress. and appears to be a removal candidate.



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PHOTO - *Ficus benjamina* - This tree is near a foundation wall. Exploratory trenching should be performed on back of tree, near wall, and roots examined and possibly root pruned, and a root barrier installed to reduce impact from the massive *Ficus* roots.



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PHOTO - Silver Dollar Eucalyptus had topping pruning in past. Future pruning should be focused on end weight, correction of sprouts, etc.



PHOTOGRAPHS



PHOTO - Silver Dollar Eucalyptus - could prune out some larger branches that are near the utility lines.



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PHOTOGRAPHS



PHOTO These Lemon Scented Gum Eucalyptus (*Corymbia citriodora* - new name) are growing along the south west side of the property. This species is tolerant of wind events and less prone to branch failure. However, it is good to prune for end weight on elongated branches. Pruning is performed in winter, November - March.

Courtyards of West Hollywood



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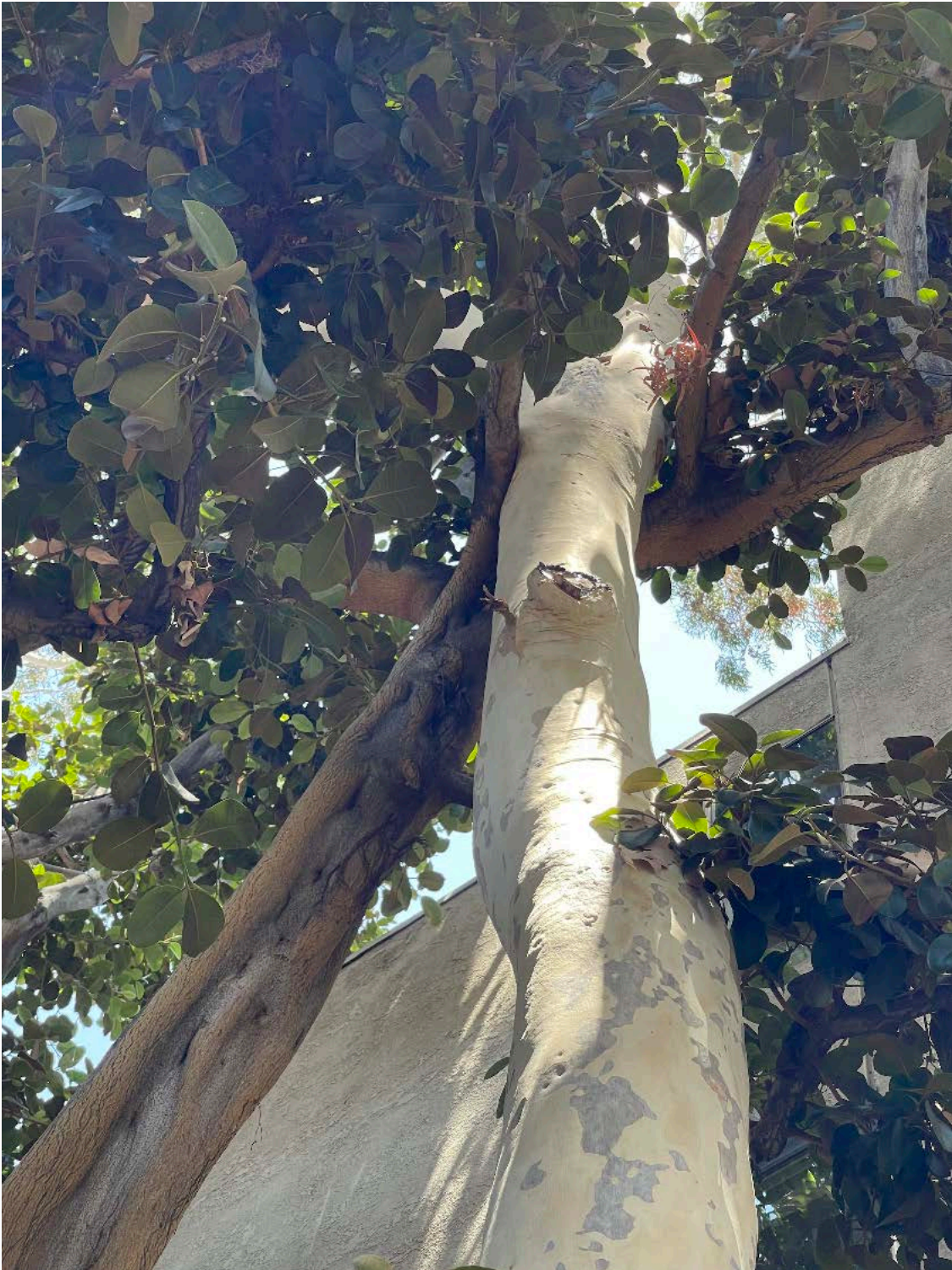


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FICUS tree is growing around this eucalyptus trunk. Remove one branch extending to right.

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PHOTOGRAPHS



PHOTO - *Podocarpus henkelii* is a species of podocarpus that is highly prone to insect populations that impact the health, suck out chlorophyll from the leaves and cause leaf stippling and Chlorosis is whitish or yellowish leaf discoloration caused by lack of chlorophyll. Often caused by nutrient deficiency.. The white psyllids or mealy bugs on the under side of the leaves is observed on these trees. Keeping foliage CLEAN can reduce pest populations. This is a problem with the drought. Many trees are dirty and have heavy pest populations.



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PHOTO - This eucalyptus is a removal candidate. The variegated Ficus next to it can be retained and pruned from the recent other eucalyptus failure damage.

PHOTOGRAPHS



PHOTO - Slender Cook Pine that was topped before. This is a removal candidate. This tree will not regain a normal canopy. Also, this species is too large for this area.

PHOTOGRAPHS



PHOTO - Leaning red iron bark eucalyptus. This tree is not an optimal structure, however, it's been pruned back to keep from growing into walking path. Continue to maintain and just enjoy its leaning structure as long as it is pruned back from the walking path. Monitor tree annually.



PHOTOGRAPHS



PHOTO - Liquidambar trees along this planter edge. This species has a very invasive root system, however these trees appear semi-mature and not large enough to have robust roots. However, if you decide to keep these trees, root barriers could be installed on the back side of the trees.

STRUCTURAL PRUNING - Also, these trees benefit from some proper structural pruning, as they are very prone to branch failure when mature.

Courtyards of West Hollywood

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PHOTO - Fiddle Leaf Fig (*Ficus lyrata*) appears in good health, but can benefit from some end weight pruning to reduce potential for branch failure. There is a 'bark inclusion' between two branches and that can allow a branch to fail where the attachment is not optimal.

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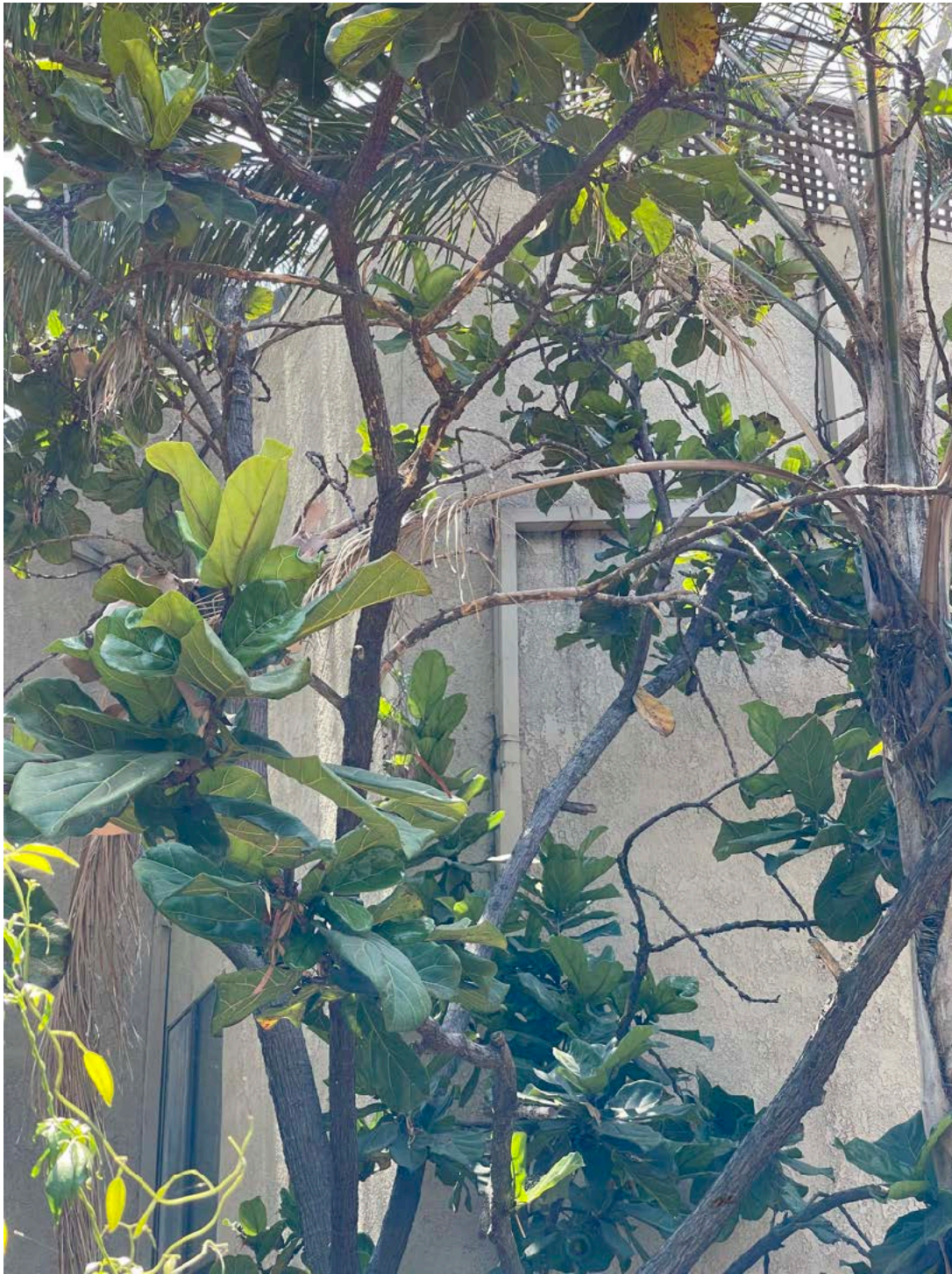


PHOTO - Fiddle leaf fig - dead twigs throughout to clean up also.

PHOTOGRAPHS



PHOTO - Fiddle Leaf Fig between the Eucalyptus and palms. We discussed removing the queen palm on the back right side of the fig tree. Also, eucalyptus pruning could be light end weight in winter.

PHOTOGRAPHS



PHOTO - Melaleuca trees have invasive roots and can be problematic adjacent to the buildings, planter walls, plumbing pipes, etc. Some trees are removal candidates. Others should be monitored.

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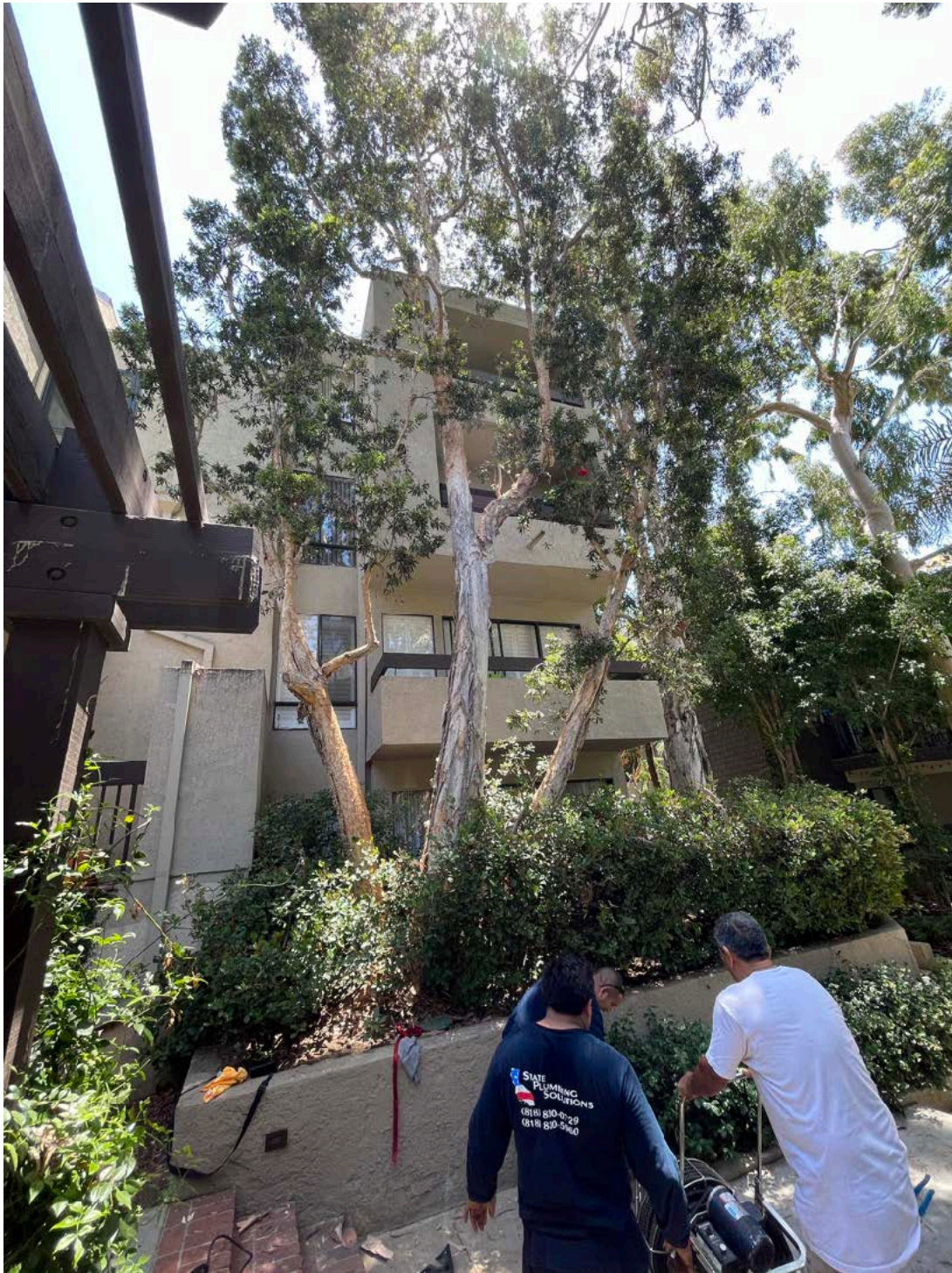


PHOTO - Melaleuca trees have invasive roots and can be problematic adjacent to the buildings, planter walls, plumbing pipes, etc. Some trees are removal candidates. Others should be monitored. Sadly this melaleuca is a removal candidate.



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PHOTO - Prune dead branch off of evergreen pear. Ultimately, this tree is in poor shape, and is a removal candidate. When a new tree is selected for this planter, this tree should be removed.

PHOTOGRAPHS



PHOTO - Remove pampas grass. This is invasive, fire fuel, etc. Replace with better plant material.



Assumptions and Limiting Conditions

No warranty is made, expressed or implied, that problems or deficiencies of the trees or the property will not occur in the future, from any cause. The Consultant shall not be responsible for damages or injuries caused by any tree defects, and assumes no responsibility for the correction of defects or tree related problems.

The owner of the trees may choose to accept or disregard the recommendations of the Consultant, or seek additional advice to determine if a tree meets the owner's risk abatement standards.

The Consulting Arborist has no past, present or future interest in the removal or retaining of any tree. Opinions contained herein are the independent and objective judgments of the consultant relating to circumstances and observations made on the subject site.

The recommendations contained in this report are the opinions of the Consulting Arborist at the time of inspection. These opinions are based on the knowledge, experience, and education of the Consultant. The field inspection was a visual, grade level tree assessment.

The Consulting Arborist shall not be required to give testimony, perform site monitoring, provide further documentation, be deposed, or to attend any meeting without subsequent contractual arrangements for this additional employment, including payment of additional fees for such services as described by the Consultant.

The Consultant assumes no responsibility for verification of ownership or locations of property lines, or for results of any actions or recommendations based on inaccurate information.

This Arborist report may not be reproduced without the express permission of the Consulting Arborist and the client to whom the report was issued. Any change or alteration to this report invalidates the entire report.

Should you have any further questions regarding this property, please contact me at (310) 663-2290.

Respectfully submitted,

Registered Consulting Arborist #464
ISA Board Certified Master Arborist #WE3782B
ISA Tree Risk Assessor Qualified
American Society of Consulting Arborists, Member

Improving Soil Conditions Around Existing Trees



Tree root systems are sometimes overlooked by arborists. Attention is given to trunks, branches and leaves, but rarely do arborists focus on the "landscape below ground." However, it is proven that a healthy root system is critical to a tree's overall vigor.

As a quick review, **most of a tree's absorptive roots are in the top 6 to 12 inches of soil and may extend well beyond the "drip line" or edge of the tree's canopy.** These roots take in water and nutrients, which the tree converts to energy that results in growth. Larger roots serve as a storehouse for unused carbohydrates. Roots also produce hormones that regulate the tree canopy.

Many roots are small, even microscopic in the case of "root hairs." **Small roots are easily damaged beyond repair.** Although trees have the capacity to regenerate roots, if soil conditions are not conducive to root growth, a tree will be unable to function properly and will slowly decline and die.

Usually, if a mature tree is thriving, roots need little or no manipulation. So why would an arborist need to improve soils around an existing tree? Trees can maintain their canopy with relatively few roots, so a tree's root system can be in decline for months or years before it actually dies.

COMPACTION PREVENTION

In general, **one of the greatest impacts on tree root health is soil compaction.** Soil compaction causes stunted growth, or prevents any growth from occurring. Compaction-based stress leads to insect infestations/or disease infections that contribute to tree demise.

Compaction often occurs due to construction around or near a tree. Heavy equipment, excessive foot traffic and grade changes kill absorptive roots.

Established native trees also can be adversely impacted when newly surrounded by human activities. For example, natural areas are desirable settings for parks or outdoor venues for concerts, nature paths and trails. These activities all result in traffic and compaction.

As with many maladies, prevention is the most desirable control method. Protecting root zones from foot traffic can be as simple as mulching heavily with organic matter or as complicated as redesigning the site to direct traffic away from trees. **During construction, mulching and sturdy fencing, along with regular inspections by an arborist to ensure compliance, can insure that the fragile root zone remains undisturbed.**

STEPS TO ALLEVIATE COMPACTION

But what if the damage is already done? This is a common occurrence and arborists are often called to "rescue" ailing trees that are declining months or years after construction is complete.

Extremes in soil moisture are not favorable for tree root growth. **Keeping soil moisture at an optimum level for the species is critical for its health.** At the same time, insure that drainage is adequate and that the roots are not "drowning" in standing water. Extremely dry or wet conditions can predispose trees to root rot diseases.

Preserving natural tree "litter" is the least expensive and easiest way to begin addressing soil compaction. Leaf litter is alive with biological activity. It provides food and shelter for many invertebrates such as earthworms and millipedes. In addition, eggs and larvae of spiders and other beneficial insects thrive in leaf litter. Leaf litter is also a carbon source for the underlying soil microbial community.

Leaf litter moved through the soil horizon by earthworms decomposes quickly. Mineral nutrients are slowly released from the microbial community to tree roots. Added carbon from leaf litter causes micro-aggregate formation in soils, thus lessening compaction. In addition, this "free" mulch results in well known benefits such as reduction in soil temperature, water evaporation and weed growth.



Protecting the root zone of a tree before construction begins is the best way to prevent soil compaction.
All photos courtesy: Russ Thompson

Improving Soil Conditions Around Existing Trees



In addition to allowing leaf litter to accumulate, mulch can be applied to speed up the recovery process. Clean, disease-free coarse wood chips from a chipper are an excellent resource easily obtained by most arborists. **Spread mulch about six to eight inches or so** (it will compress to about three to four inches) everywhere that litter would naturally fall and accumulate. If the tree has a nutrient deficiency, fertilizer can be broadcast before the mulch is applied. Water thoroughly, then be sure that the roots remain undisturbed.



A thick layer of mulch is one of the easiest and most inexpensive ways to improve conditions in a tree's root zone.

MECHANICAL METHODS

While there is little research supporting vertical mulching, the more invasive (and expensive) technique known as radial trenching, also referred to as soil replacement, is effective. In 2002, at the Morton Arboretum in Chicago, IL, Dr. Gary Watson's follow-up research showed that trenched trees had significantly more new root growth than controls, even after 14 years.

Radial trenching removes soil between the root buttresses perpendicular to the trunk, out to the edge of the tree's canopy or further. The trenches are then filled with compost or a compost/topsoil mixture. A layer of mulch can be spread over the surface of the soil to provide a "finished" look.

Watson's original experiment used a backhoe to dig the trenches. **Today, tools such as the air spade can literally blow away the soil, a much less invasive procedure that preserves much of the**

existing fine root system.

Although an expensive tool, the air spade can also be used for root collar excavations, trenching around existing trees for utility and irrigation installation and other projects. Equipment is also available for rent.

SLOW RECOVERY

Whenever trenches are made to invigorate trees, results will not be immediate. **Root regrowth and renewed tree vigor can take years.**

Mature trees should be protected from activities that can compact the soil beneath the canopies and beyond. However, although there are no miracle cures, in some cases trees can be saved and even thrive in the future.

It is essential that mature trees have room for litter fall and or mulch applications. This promotes longevity of their root systems.

In the worst-case scenario, recovery of declining mature trees can be an impossible goal to achieve. In other cases, recovery is a slow, long-term process that can literally take years. However, sometimes a tree's recovery is spectacular if soil conditions for root growth are improved. Considering the value of a mature tree, the return on investment of time, effort and materials is a payoff that is worth the attempt. 🍂



After creating radial trenches, soil is replaced with rich organic material.

Further Reading/Links:

Soil Compaction & Trees: Causes, Symptoms & Effects

http://www.extension.iastate.edu/forestry/publications/pdf_files/for00-003.pdf

Ease Post-Construction Tree Damage with Radial Trenching

http://www.air-spade.com/literature/Tree_Care_Industry_Sep_2004.pdf

Soil Replacement: Long Term Results

http://www.mortonarb.org/images/stories/pdf/research/watson/soil_replacement.pdf

Third in a series of 10 Technical Information sheets by Helen M. Stone and Dr. AJ Downer. Funded by The Britton Fund, Inc. and supported by the Western Chapter of the International Society of Arboriculture. Copyright 2013.

Caring for Old Native Oaks



Oak trees are beloved throughout the world, with more than 600 species found in the northern hemisphere. In the West, they occur throughout California and Arizona, from coastal climates to the mountains – in almost all ecosystems with the exception of the high desert.

Mature specimens are prized and add substantial value to a home or commercial property. Yet too often we see a stately giant in a slow state of decline. How can arborists make sure that these priceless treasures survive and thrive?

As a general rule, less is more. ***The closer a tree's native surroundings can be simulated, the better off it will be.*** Keep in mind that the tree's most active roots are close to the surface of the soil—no deeper than one to three feet, with absorbing roots prolific in the top six to 12 inches. Roots can also extend far beyond the "drip line" or canopy of the tree—an astounding two to three times the distance in optimum conditions.

PRESERVATION DURING CONSTRUCTION

Preserving mature oaks starts before any construction project, with a plan and design that keeps the trees' needs in mind. Provide room for leaves and mulch to accumulate on an undisturbed root system. ***Traffic should be directed away from specimen trees when possible, and raising or lowering existing grades avoided.*** Placing soil on top of the roots will literally suffocate them, while scraping away the soil will destroy absorbing roots.

Once construction begins, the area beneath the tree(s) should be fenced off and strictly off-limits to vehicles, equipment and personnel. Chain link fence is preferable to the commonly seen orange plastic fencing, which can be easily breached. ***Fencing should extend beyond the trees' canopies if possible.*** Mulching with a thick layer of wood chips also helps protect the root zone. The site should be monitored and any restrictions enforced immediately.

LANDSCAPING UNDER OAKS

Once the building construction is complete, landscape construction is the next challenge. Again, caring for oaks starts at the design phase. If at all possible, ***landscaping and planting under established oaks should be kept to a minimum.***

If supplemental landscaping is necessary, try to limit plantings to accent plants, rather than blanketing the soil surface beneath the trees' canopies. Aim to disturb the roots as little as possible.

Turfgrass should be avoided, as should plants that require copious summer water such as azaleas, rhododendrons and the like. Ornamental grasses and native, drought-tolerant plants such as *Mahonia* or *Heuchera* (coral bells) are suggested.

IRRIGATION ISSUES

When rainfall is at normal levels, native oaks do not need supplemental irrigation. If landscape plantings require irrigation, use drip lines with emitters placed at each plant rather than sprinkler systems that flood the root zone. Avoid sprays on the tree's trunk at all costs.

During drought years, oaks will benefit from supplemental irrigation, especially during the normal rainy season. If the winter has been dry, irrigate during early spring. Irrigation can continue into summer, but limit cycles to once a month or less. During warmer months take care not to irrigate near the base of the tree as this can exacerbate any possible oak root fungus infections.

The "irrigation zone" should be approximately half way between the tree's drip line and the trunk and extend a few feet beyond the canopy. Irrigate deeply. A soil probe should be used to test the soil moisture content. Avoid woody roots when inserting the probe. The soil should be moist to the depth of approximately 12 inches. Proper irrigation at a slow



Chain link fence is preferable to orange plastic fencing to protect oaks during construction. Photo courtesy: HortScience, Inc.

Caring for Old Native Oaks



rate can take several hours per tree to avoid runoff and ensure that the water penetrates deeply.

It was long thought that younger mature oak trees would adapt to frequent irrigation. This is false. Although young trees tolerate irrigation, their lives will be shortened if root diseases set in.

PRESERVING ROOT ZONE BIOTA

Oak trees require organic matter around their root systems. **Do not remove leaf litter if at all possible.** Fallen leaves provide nutrients slowly as they decompose, help moderate soil temperatures, prevent water loss and encourage earthworms and other beneficial insects in the soil. Oaks are unique in that they can absorb forms of nitrogen in organic litter that other trees cannot uptake.



Mushrooms at a tree's base are a sign that Oak Root Fungus is present. Photo courtesy: Jim Downer.

With sufficient mulch and water, oaks should not require supplemental fertilization. However, if they are located where leaf litter is regularly removed or there is extensive landscaping, supplemental nitrogen might be required.

Broadcast one to three pounds of actual nitrogen per 1,000 square feet in the irrigation zone and water in. Calculate the actual nitrogen in a fertilizer by multiplying the weight of the bag by the percentage nitrogen.

Do not fertilize stressed or declining trees in the mistaken notion that fertilizer is curative. Determine the cause of the stress and make corrections.

COMMON PESTS AND DISEASES

Oak trees are highly susceptible to root and crown rots. When carelessly irrigated, a seemingly healthy tree can suddenly topple over with no warning. Examining the failure will show no visible roots past the trunk.

The two major oak diseases are Crown Rot (*Phytophthora* spp.) and Oak Root Fungus (*Amillaria mellea*). In both cases, signs include slow or reduced growth, dieback, premature leaf drop and general symptoms of decline. **By the time symptoms such as trunk cankers, canopy dieback, or defoliation occur, it is usually too late to save the tree.**

The best treatment for these oak-destroying diseases is to avoid them in the first place. **Improper irrigation, root cutting and fill over the root ball are primary predisposing factors for oak diseases.** Although a variety of insects can appear on oaks, treatment is usually not recommended or necessary with the exception of ambrosia beetles in Northern California and Oak bark beetles and polyphagous shot hole borers in Southern California, which can destroy weakened oaks.

PROPER PRUNING PRACTICES

Oaks need pruning to structure their canopies as young trees in urban settings. **Mature oaks need little pruning and old specimens require little or no pruning.** Pruning removes leaves and stored carbohydrates in wood that mature oaks depend on for annual growth. Even deadwood removal is not necessary if that deadwood can become a part of the litter/mulch under the tree.

Mature oak canopies shade the main stem or bole of the tree and rely on that shade to prevent stress. Do not "skirt up" oaks as this places them in higher stress. Let branches provide shade as much as the site will allow.

Many oaks are also reliant on their inner canopies of "shade" leaves which continue to transpire and function during hot summer months. Crown cleaning is deleterious to most oaks if green leaves are removed.

Most oaks are easily attacked by decay fungi and so large cuts should be avoided. Frequent light prunings as the trees reach maturity will ensure good structure. As trees enter old age, respect for their canopies and litterfall zones will ensure their survival. 🍂

Further Reading/Links:

Compatible Plants Around Oaks

<http://www.californiaoaks.org/ExtAssets/CompatiblePlantsUnder&AroundOaks.pdf>

California Oak Disease and Arthropod (CODA) host index database

<http://phytosphere.com/coda/>

A Field Guide to Insects and Disease of California Oaks

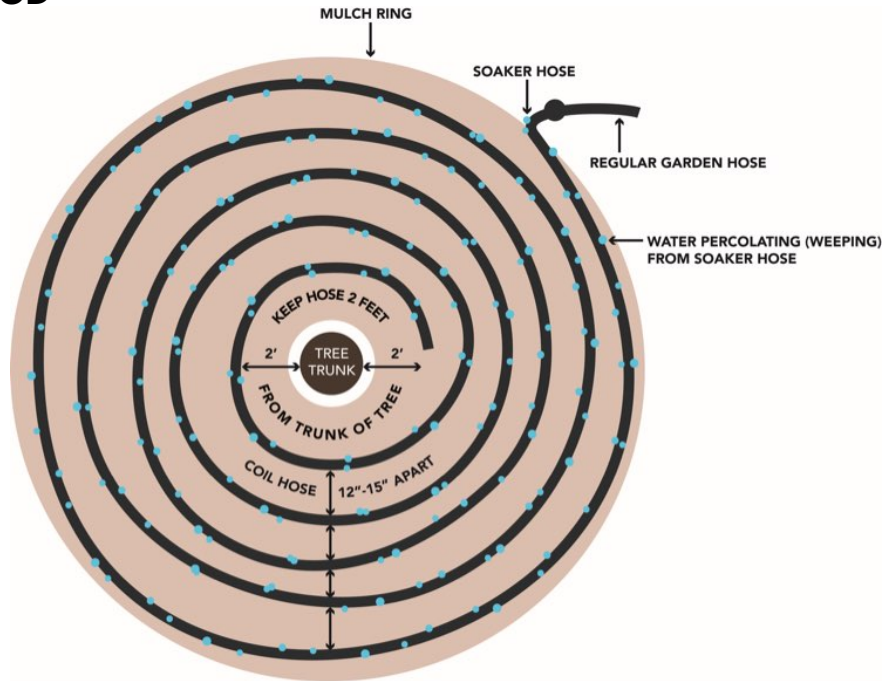
http://www.fs.fed.us/psw/publications/documents/psw_gtr197/psw_gtr197.pdf

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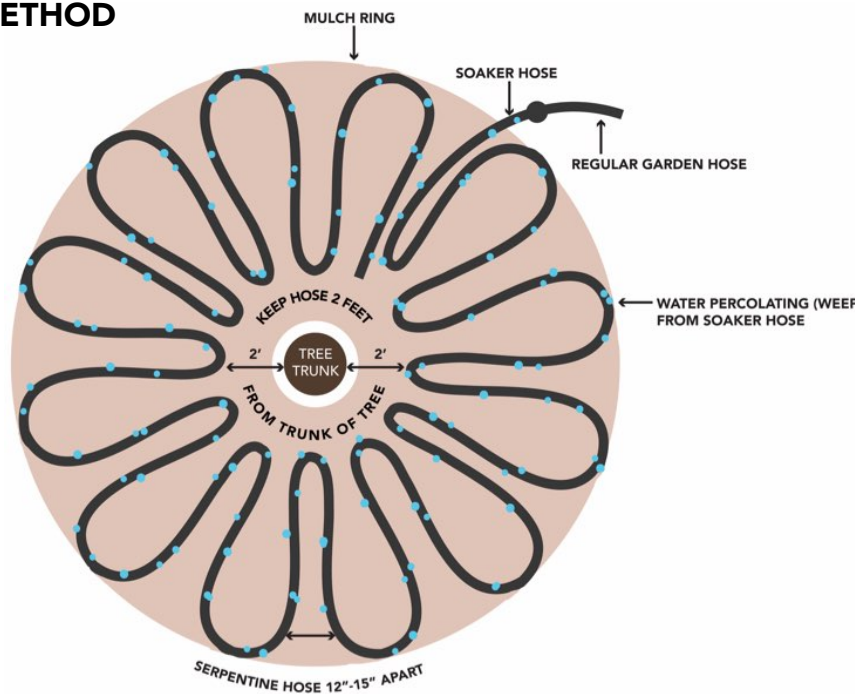
DEEP SOAKING INSTALLATION DIAGRAMS

Deep soaking is an irrigation method that uses a **soaker hose** to slowly percolate water into the soil for anywhere from 10 - 20 hours at a time, once or twice a month. Deep soaking is highly recommended during summer months and periods of drought. Place the soaker hose on the ground in a serpentine or spiral pattern, for coverage from near the base of the tree (minimum 2 - 3 feet away) to the drip line (edge of canopy). Install the soaker hose temporarily or permanently. Permanently installed soaker hoses can be hidden with an additional 1" layer of mulch.

SPIRAL METHOD



SERPENTINE METHOD





PHYTOPHTHORA (ROOT ROT)

How to reduce the problem, improve cultural growing conditions, and suppress this common root rot pathogen that can cause the slow decline of the oaks and other common species in California.

Bleeding Cankers



Canopy Dieback



Oak Leaf Symptoms



DESCRIPTION

Phytophthora is a genus of oomycetes that are similar to fungi. There are 59 species of Phytophthora, all of which cause disease in plants. Phytophthora species are water molds that are well known plant pathogens. They are water-loving and produce plentiful spores in moist, humid conditions. Phytophthora are natural and universally occurring soil organisms which attack roots in poorly drained or anaerobic soils. As infected roots discolor and decay, the result is wilt, canopy dieback, cankers on the trunk, general decline and death. Phytophthora species are host specific attacking many types of trees such as Coast live oaks and California Bay Laurel. The typical Phytophthora pathogen in Southern California is *Phytophthora cinnamomi*.

SYMPTOMS

Leaves will appear drought-stressed, sometimes turning dull green, yellow, red or purple as they wilt. Thinning of the crown, chlorosis, twig and branch dieback. Infected bark is water-soaked, with red-brown discoloration and a disagreeable odor. Bleeding cankers form at the base of the trunk and eventually lead to death. Phytophthora root rot infection is often followed by beetle infestation and/or an alternate pathogen infection.

LIFE CYCLE

Root rot-causing Phytophthora species can survive in the soil for years, as long as moist conditions persist. It can spread through splashing rain, irrigation water, and runoff water. Disease fungi can spread through contaminated soil and garden equipment as well. Rot is more likely to spread in early spring and late fall during cool, rainy weather. But symptoms are more likely during stress periods of low rainfall. Another triggering mechanism for Phytophthora is the buildup of soil or mulching material onto the trunk of a tree.

TREATMENT

Drought, unusually wet soil conditions, regular and frequent irrigation, root loss, poor drainage, soil compaction, and pavement are common factors causing stress. Maintaining or restoring favorable growing conditions and avoiding disturbances are the best ways to maintain tree health.

Improve water drainage. Make amendments to the soil composition to help manage drainage away from tree roots. Don't allow water to pool around the collar or root system. Core aerate to improve drainage and lessen compaction.

Remove soil. If soil has been piled up over the crown, remove it carefully to expose root flare. This is where fungal infection is likely to occur.

There are two different fungicides that are effective against Phytophthora root rot. These fungicides will not save an oak that is in severe decline due to Phytophthora root rot. Proper cultural care is the most important component to prevent and control root disease in oaks.

Resources

<https://www.suddenoakdeath.org/about-sudden-oak-death/>

<https://www.missouribotanicalgarden.org/gardens-gardening/your-garden/help-for-the-home-gardener/advice-tips-resources/pests-and-problems/diseases/rot/phytophthora-root-rot-of-trees-and-shrubs.aspx>

<https://www.besttreecare.com/oak-trees/oak-tree-diseases-deadly-left-untreated>