Meeting
of the

TREES/PARKWAYS COMMITTEE

Wednesday,
January 27, 2016
4:30 p.m.

Agenda Packet

AGENDA

ROSSMOOR COMMUNITY SERVICES DISTRICT

TREES/PARKS/FACILITIES COMMITTEE MEETING

RUSH PARK
Administration Building
3001 Blume Drive
Rossmoor, California

Wednesday, January 27, 2016
4:30 p.m.

A. ORGANIZATION

1. CALL TO ORDER: 4:30 p.m.

2. ROLL CALL: Directors Casey, DeMarco

3. PLEDGE OF ALLEGIANCE

4. PRESENTATIONS: None

B. PUBLIC FORUM

Any person may address the members of the Trees/Parks/Facilities Committee at this time upon any subject within the jurisdiction of the Trees/Parks/Facilities Committee of the Rossmoor Community Services District.

C. REGULAR CALENDAR

1. DISCUSSION WITH GENERAL MANAGER RE: CITIZEN SERVICE REQUEST FOR TREE REMOVAL: 3072 RUTH ELAINE DRIVE, ROSSMOOR, CA 90720

D. ADJOURNMENT

CERTIFICATION OF POSTING

I hereby certify that the attached Agenda for the Wednesday, January 27, 2016, 4:30 p.m. Rossmoor Trees/Parkways Committee Meeting of the Rossmoor Community Services District was posted at least 24 hours prior to the time of the meeting.

ATTEST:

James D. Ruth

JAMES D. RUTH
General Manager

Date January 25, 2016

ROSSMOOR COMMUNITY SERVICES DISTRICT

AGENDA ITEM C-1

Date: January 27, 2016

To: Trees/Parkways Committee

From: General Manager

Subject: RESIDENT REQUEST FOR PARKWAY TREE REMOVAL AT 3072 RUTH ELAINE DRIVE

RECOMMENDATION:

Review additional information provided by staff and resident and make a recommendation to the Board.

BACKGROUND:

On January 6, 2016, a request by Ms. Cindy Nelson residing at 3072 Ruth Elaine Drive to remove a parkway tree was discussed by the Committee. The Committee voted to recommend to the Board that the request be denied. At the Regular Board meeting on January 12, 2016, the Board considered the testimony of staff and the resident.

At that meeting Ms. Nelson voiced her concerns regarding the parkway tree in front of her home. She also made statements regarding her history of her dealings with Tree Consultant Mary Kingman and representatives of Orange County Public Works, along with several other concerns regarding the health and safety of the tree.

After discussion, the Board voted to postpone the matter in order to give the resident additional time to submit additional information to the Board. The Committee is requested to review additional information provided by staff. This information has been sent to the resident in order to provide her an opportunity to review the staff's information and to present any new information she desires to share with the Committee.

ATTACHMENTS:

1. Background of Citizen Tree Removal Request: 3072 Ruth Elaine Drive.

2. District Response to Ms. Nelson's Statements.

3. Emails between OCPW Inspector Maurice Ortiz and Mary Kingman.

4. Information on Termites from UC Davis IPM Website.

5. Information on Summer Branch Drop: Journal of Arboriculture.

6. Weather History for Date of Limb Failure.

7. Trees/Parkway Tree Committee Agenda Item C-3 dated January 6, 2016 re: Update on Citizen Service Request for Tree Removal: 3072 Ruth Elaine Drive.

AGENDA ITEM C-1

Background of Citizen Service Request: 3072 Ruth Elaine Drive

The parkway tree at this address being a large, established California Sycamore (Platanus racemosa) with an estimated value of $9,830.

10/17/14 - Resident James Nelson put in removal request with OCPW due to sewer issues and sap dripping on his boat.

10/17/14 –Mary Kingman called resident back, unable to leave message. Sent a letter explaining tree policy and that sewer issues and sap dripping does not qualify for removal.

10/24/14 - Mary Kingman talked to resident about plumbing issues. Resident claims that plumber assured her that sewer connection was directly under the tree. Mary Kingman told her she would need a certified letter from plumber stating this information. Also if tree is cut down and connection is not under tree they could be liable for value of tree.

10/14/15 – Mary Kingman informed by Orange County Public Works that large snapped limb over weekend. Mary Kingman inspected tree and state of branch that was cut up by OCPW and left taped off at curb for pick-up. Tree appears healthy with no sign of disease or rot in downed limb or tree. Breakage likely caused by weight and changes in temperature combined with drought stressed tree. Summer limb drop is a phenomenon that is common occurrence in species.

10/16/15 – Resident Cindy Nelson came into RCSD office on Wednesday very upset and talked to Kathy Bell. Said she was going to sue Tree Consultant, Mary Kingman and the district because a large branch came down from the parkway tree and landed on daughter's car and requested that the tree be removed. Mary Kingman called resident back and could not leave message as mailbox was full.

10/20/15 – Resident Cindy Nelson came in to RSCD office wanting to talk to Mary Kingman. Jessica Verduzco informed her Mary was not in today. She reported that another branch has fallen and landed on her car again. She really wants this tree removed as it is a liability and would like to speak with Mary as soon as possible. She will try you back on 10/21/15 in the afternoon. She said the branch was not that big this time and she can remove it but she did take pictures.

10/26/15 - Resident Cindy Nelson came in to RCSD front office to talk to Mary Kingman. Resident threatened to sue her and District for allowing the tree to stay and said she considered the tree a deadly weapon. Mary Kingman ordered independent arborist report on tree and will inform all General Manager, Tree Committee Board Members and Resident Cindy Nelson of the result once report on the tree has been completed.

11/23/15 – Arborist report received from outside agency, Certified Arborist. Report agrees with Tree Consultant Mary Kingman's findings that tree is healthy and does not pose any specific risks.

District Response to Cindy Nelson Statements

1. **Resident Statement:** Cindy Nelson claims that a large limb fell from tree onto and 'crushed' her husband's truck. She also claimed another limb fell soon after the first limb fell.

   District Response: Mary Kingman received information on fallen limb on October 14, 2016 while speaking with Orange County Public Works area inspector Maurice Ortiz. The information that was given to Mary Kingman was that the limb fell over the weekend and the OCPW after-hours emergency crew responded. The resident did not inform RCSD or Mary Kingman about fallen limb and Mary Kingman did not receive information about the limb falling on a vehicle. Maurice Ortiz has since investigated the service call and found that the on-call inspector was contacted by Control 1 for a limb that fell on a truck and he has also found photos of limb on truck, which has now been sent to me. Photos show one large limb with two equally sized lateral branches snapped from the trunk of tree and still attached to the tree and resting on top of a truck. Neither Orange County Public Works nor RCSD received any claim for damage to the truck. Emails from Maurice Ortiz attached.

2. **Resident Statement:** Cindy Nelson claims that an 'Orange County Supervisor' told her that he would remove the tree if he could but that it was up to the RCSD Arborist.

   District Response: OCPW Area Inspector Maurice Ortiz has assured Mary Kingman that inspectors 'would not have made statements as to the health of the tree or recommendations for its removal.' He also stated that they 'have instructed all [County employees] to direct residents to RCSD for evaluation of removal.' Emails from Maurice Ortiz attached.

3. **Resident Statement:** Cindy Nelson stated that there was a disease on the leaves of the tree.

   District Response: Some Platanus species are subject to a fungal disease called Anthracnose, which infects the leaves of the tree. While the disease can result in dead or dying leaves and leaf drop, it will not kill a large established tree. In Southern California, the disease does not usually affect the species in question, Platanus racemosa, common name California Sycamore. Leaf spot can also be caused by Sooty Mold, which grows on the honeydew secretion of certain insects. Sooty Mold will not cause death or disease to a large established tree.

4. **Resident Statement:** Cindy Nelson states concern regarding termites and ants in the tree.

   District Response: Termites feed on dead or decayed wood and do not kill or damage trees or destroy living tissues in wood. See PDF attachment containing information on subject from UC Davis, IPM department website. Ants do not harm or feed on parkway trees, but feed on honeydew secreted onto the leaves by other insects, none of which could cause death or disease to a large established tree.

5. **Resident Statement:** Cindy Nelson questioned why a healthy tree drops branches.

   District Response: Platanus racemosa, common name California Sycamore are subject to a phenomenon known as 'Summer Branch Drop', also known as 'Sudden Branch Drop', which causes seemingly healthy limbs to fall from mature trees. The limb drop usually occurs on summer afternoons in warmer than average temperatures. Through a process called transpiration, trees release water as vapor through the leaves. In hot weather, water is released at a higher and faster rate. Once the weather cools down in the late afternoon or early evening, the leaves receive an uptake of water from the lower portion of the tree, which can cause a rapid and sudden weight increase on those upper branches that can sometimes result in limb failure. The weather history for the date that limb fell does show an average daytime temperature of 84 °F, at times reaching above 90 °F. Since 2012, when Mary Kingman started working for RCSD and keeping a record of branch failures there have been 19 incidences of California Sycamore trees dropping large healthy limbs in calm weather. PDF attached.

6. **Resident Statement:** Cindy Nelson claims that she was instructed to file a police report because tree branch failure considered 'assault with a deadly weapon'.

   District Response: District could not find records or instances of trees being considered deadly weapons.

From: Mary Kingman
Sent: Wednesday, October 14, 2015 4:19 PM
To: Ortiz, Maurice
Subject: 3072 Ruth Elaine

Hi Maurice,

Not sure if you knew, but branch is still cut up, coned and caution taped off in street at this address, it's the one you told me about earlier today.

Thanks,

Mary Kingman
Tree Consultant
mkingman@rossmoor-csd.org
www.rossmoor-csd.org

Rossmoor Community Services District
3001 Blume Drive, Rossmoor, CA 90720
562.430.3707

From: Mary Kingman
Sent: Wednesday, October 28, 2015 3:31 PM
To: 'Ortiz, Maurice'
Subject: RE: 3072 Ruth Elaine Dr.

OK thanks Maurice. I figured that was the case.

Mary

From: Ortiz, Maurice [redacted]
Sent: Wednesday, October 28, 2015 3:29 PM
To: Mary Kingman
Subject: RE: 3072 Ruth Elaine Dr.

Mary

I certainly did not and we have instructed all to direct residents to RCSD for evaluation for removal.

From: Mary Kingman [mailto:mkingman@rossmoor-csd.org]
Sent: Wednesday, October 28, 2015 10:05 AM
To: Ortiz, Maurice
Subject: 3072 Ruth Elaine Dr.

Hi Maurice,

There was a large limb that came down at this address on weekend of Oct. 11. but the branch was not removed from site until the 14th. It's a big Sycamore tree. Can you let me know (if you do know or remember) if you are or another agent from OCPW talked to the resident at this address and told her if it was up to them, the tree would be removed?

Thanks,

Mary Kingman
Tree Consultant
mkingman@rossmoor-csd.org
www.rossmoor-csd.org

Rossmoor Community Services District
3001 Blume Drive, Rossmoor, CA 90720
562.430.3707

From: Ortiz, Maurice [redacted]
Sent: Wednesday, January 20, 2016 6:48 AM
To: Mary Kingman
Subject: RE: 3072 Ruth Elaine
Attachments: Document.pdf

Mary

In October of 2014 we have 2 request in our system that were duplicated for the sewer line and tree dropping sap on vehicles which would have been referred to RCSD. In October of 2015 the on call inspector was contacted by Control 1 for a limb that fell on a truck see attachment. We have no claims for damages in either case. I do not believe our inspectors would have made statements as to the health of the tree or recommendations for its removal.

From: Mary Kingman [mailto:mkingman@rossmoor-csd.org]
Sent: Wednesday, January 13, 2016 11:29 AM
To: Ortiz, Maurice
Subject: 3072 Ruth Elaine

Hi Maurice,

The resident at this address had a removal request that ended up going to Tree Committee and then to the RCSD Board Meeting on last night's agenda. She showed up at meeting and after I had given the history of the tree and my dealings with this resident, she proceeded to speak and pretty much disagreed with most of what I said. The Board tabled her item to next month so now I really need to get the facts straight on this. Hopefully you have some record or can get something from County on this. Here are a couple of the points on which her information differed from mine:

1. I was informed on 10/14/15 that a large limb dropped over the weekend. I went out to inspect and the limb was cut up and lying in gutter. I taped off and informed you that branch was still there. You went out and removed the branch on 10/14/15. Resident claims that the branch fell onto her husband's truck and caused damage. She also claims that while 'County Supervisor' was there, another large limb fell on opposite side of tree. I was only aware of the one limb and did not get any information about truck damage. Hopefully County has some info and photos on this.
2. Resident claims 'County Supervisor' told her he would remove the tree if it was up to him but that it had to go through the District Arborist. Can you find out if anyone at County told her this? You told me in a previous email that you definitely did not tell her this, but could someone else from County have talked to her? Maybe someone from the emergency crew that responded to fallen limb?

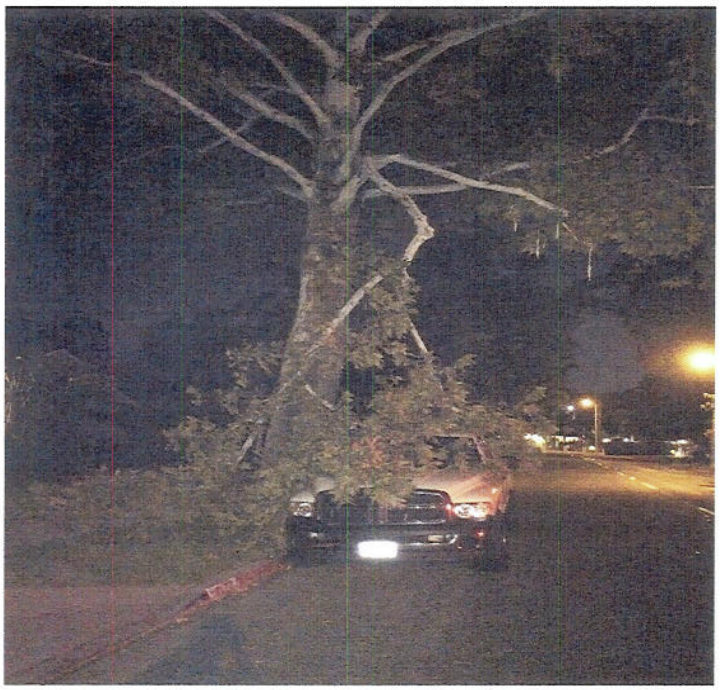
Thanks for your help with this,

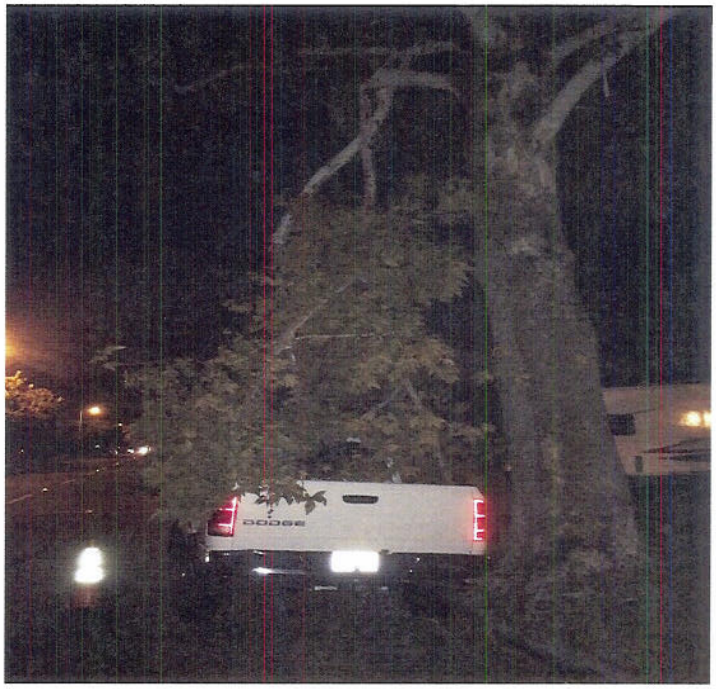
Mary Kingman
RCSD Tree Consultant
Certified Arborist
mkingman@rossmoor-csd.org
www.rossmoor-csd.org

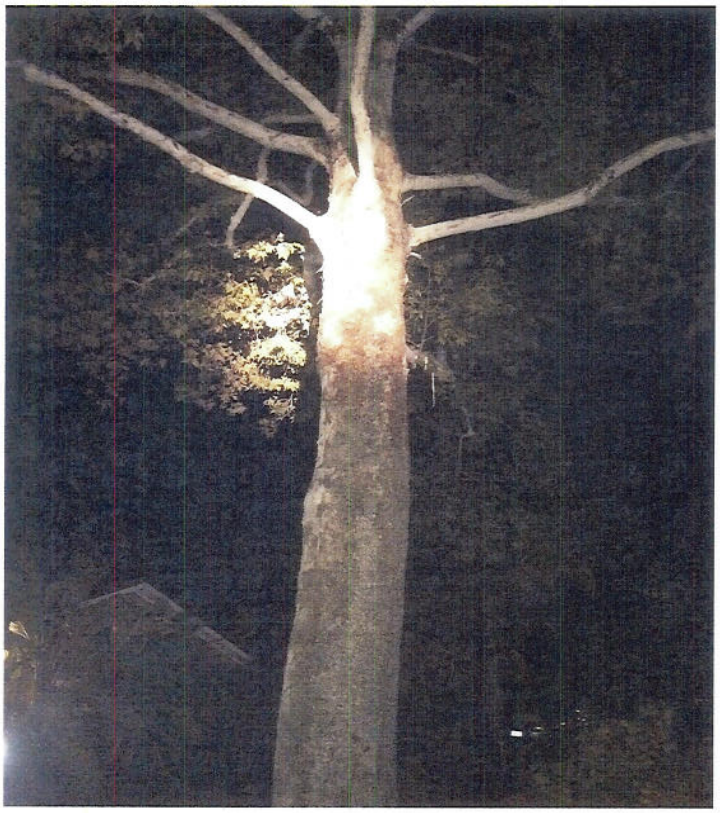
Rossmoor Community Services District

MIR#: 336567

Activity #306 Date:10-10-15 Map Page#:796 H-3 Facility:Ruth Elaine dr.







SUBTERRANEAN AND OTHER TERMITES

Integrated Pest Management in and around the Home

Termites comprise a large and diverse group of ecologically and economically important insects that feed on cellulose, principally in wood. Worldwide there are over 2,600 species of termites; in California there are at least 23 different species. Although many people associate termites with negative impacts, in nature they make many positive contributions to the world's ecosystems.

In California forests, woodlands, and deserts termites commonly feed on felled trees and stumps, grasses, bushes, or other pieces of dead or decaying wood. Termites can be highly beneficial as they degrade woody debris, return nutrients to the soil, and provide an energy-rich food source to a variety of predators. Their tunneling efforts help to ensure that soils are porous, contain nutrients, and are healthy enough to support plant growth. Termites rarely injure or kill trees. However, a minority of termite species can be very destructive to wood in buildings, including furniture and many other wood-based products. Each year thousands of housing units in California require treatment for the control of these insects.

SOCIAL STRUCTURE

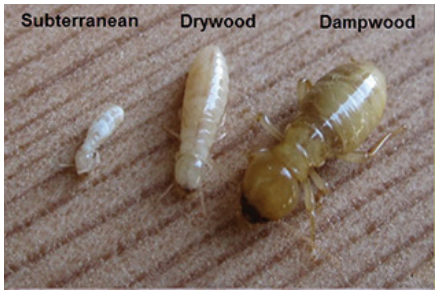
Termites are different from most other insects in that, like ants, bees, and wasps, they are eusocial and live in colonies or societies that are highly integrated. Eusocial insects are characterized by three traits: (1) Individuals of the same species cooperatively care for immatures; (2) there is a reproductive division of labor with sterile individuals working on behalf of the reproductives; (3) there is an overlap of at least two generations in a colony so that offspring assist parents during their lifetime.

Termite colonies can vary in size from only two individuals (a mated pair or incipient colony) to hundreds of thousands or perhaps even millions of individuals. Colonies contain several forms or castes, including larvae or immatures, workers, soldiers, nymphs, and reproductives. These castes can be distinguished by physical characteristics.

Worker termites are wingless, soft-bodied, and light caramel in color (Figure 1A). They comprise the largest contingent in most colonies and are the individuals most frequently seen when infested wood is examined. Workers are reproductively undeveloped. They are responsible for the care of eggs and immatures; foraging for food; feeding and hygiene of nest mates, including the queen; and construction and maintenance of shelter tubes, galleries, and/or other colonial structures. Workers can also be involved in protection of the colony but are not as fierce as the soldiers.

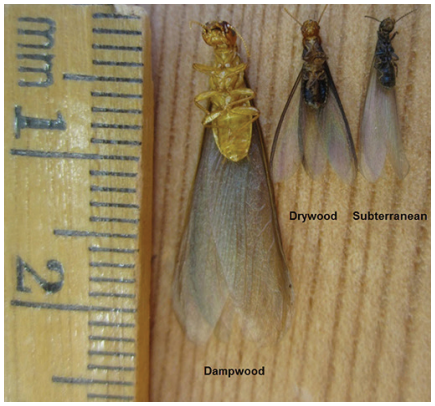
Soldiers (Figure 1B) can vary greatly in morphology but, generally, have larger, amber or brownish heads and larger mandibles than workers. They guard the colony and defend it against predators.

Reproductives, or sexual adults (Figure 1C), have yellow-brown or black bodies. At maturity, they initially have two pairs of wings of equal size and are referred to as alates. After their swarming flight they shed their wings and establish new colonies. The queen is largest in physical size, attaining mass several times that of workers. Her main function is to lay eggs, sometimes thousands in a single day. A king or male reproductive is always by her side. In the more primitive termites, other individuals are capable of replacing kings or queens if they die.



(1A) Workers

(1B) Soldiers



(1C) Reproductives (new kings and queens)

Figure 1. Various castes of dampwood, drywood, and subterranean termites.
(R.L. Tabuchi, U.C. Berkeley)

PEST NOTES Publication 7415
University of California
Agriculture and Natural Resources
Statewide Integrated Pest Management Program
May 2014

TYPES OF TERMITES

Termite pests in California include subterranean, drywood, and dampwood species. Dampwood termites derive their name from the fact that they live in moist wood, especially in stumps and fallen trees in forests. Drywood termites are common and can survive in very dry conditions, even in dead wood in deserts and do not require much moisture or contact with soil. Subterranean termites are very abundant in most parts of California, even at elevations above 8,000 feet, and live and breed in soil, sometimes many feet below the soil surface.

Dampwood Termites

Dampwood termites are common throughout the state; however, due to high moisture requirements, they are most often found in cool, humid areas along the coast. They typically infest decayed wood that remains moist either through contact with the soil or exposure to a water leak. Dampwood termites create large, open galleries within the wood where they live and feed (Figure 2, left). Their presence is significant as an indicator of a moisture problem or wood decay in wooden structures.

Drywood Termites

In California, with one exception, all species of drywood termites infest dry, sound wood—including structural lumber, dead limbs on trees, utility poles, decks, fences, lumber in storage, and furniture. From this infested wood, winged reproductives periodically swarm to infest additional nearby wood. Drywood termites are most prevalent in southern California, including the desert areas, but also occur along most coastal regions and in the Central Valley. Nests of most species remain entirely above ground and do not connect to the soil.

Similar to dampwood termites, feeding by drywood termites can cut across the grain of wood leaving a characteristic pattern of chambers and tunnels, some of which are filled with fecal pellets (Figures 2 and 3). Drywood termites often expel their fecal pellets through surface openings and they can accumulate on horizontal surfaces below the openings (Figure 4). These fecal pellets, which are distinctive in appearance with six longitudinal flattened sides, may be the first clue to their presence. For further information on drywood termite biology and management see *Pest Note: Drywood Termites*.

Subterranean Termites

Subterranean termites are common throughout California and can be found infesting fallen trees, stumps, or other dead wood in contact with the soil in the forest, landscape, or structural lumber in our houses. The species of economic importance are within the genera *Reticulitermes*, *Heterotermes*, and *Coptotermes*. Other genera of subterranean termites found in California are mostly restricted to the desert areas in the southeastern corner of the state and are generally not important pests.

The most common subterranean termites, *Reticulitermes*, can be encountered in nearly all regions of the state, from the sand dunes of the coast to the upper elevations of the mountain ranges and even in some of the desert areas. The species of *Reticulitermes* are the most destructive termites found in California. They are small in size compared to dampwood and drywood termites, but mature colonies can contain hundreds of thousands of individuals.

Reproductive winged forms of subterranean termites are dark brown to brownish-black with brownish-gray wings. On warm, sunny days following fall or spring rains, swarms of reproductives may be seen emerging en masse from their underground nests. Soldiers are wingless with light caramel-colored bodies and long, narrow amber-colored heads with no eyes. Workers are slightly smaller than reproductives, wingless, and have a shorter head than soldiers; their color is similar to that of soldiers.

In the Sonoran Desert of southeastern California, *Heterotermes aureus* is the most destructive species of subterranean termites. This species has light-brown winged forms that fly in the early evening and are attracted to lights. Another destructive species in this group, the Formosan subterranean termite, *Coptotermes formosanus*, is native to China but now established in California, thus far restricted to a small area near San Diego. Unlike the native *Reticulitermes* but similar to *Heterotermes*, Formosan subterranean termites swarm at dusk and are attracted to lights.

Figure 2. Damage to wood by dampwood (left), drywood (center), and subterranean (right) termites. (R.L. Tabuchi, U.C. Berkeley)

Figure 3. Drywood termite fecal pellets are oblong with six flattened sides. The color of pellets can vary with wood species fed on. (R.L. Tabuchi, U.C. Berkeley)

Figure 4. A pile of drywood termite fecal pellets on a horizontal surface. (R.L. Tabuchi, U.C. Berkeley)

LIFE CYCLE

Termite colonies are self-perpetuating. When the colony is composed of a large number of individuals, often thousands, a small percentage of individuals develop into winged reproductives (alates or swarmers) that then leave the nest, flying in swarms to mate, disperse, and establish new colonies. Most of these reproductives perish during the flight due to predation by birds, lizards, ants, or other insects. The time of day and year when flights occur varies with species and geographic location. *Reticulitermes* species swarms during the afternoon in either spring or fall on clear days after a soaking rain. *Heterotermes aureus* flies in the late afternoon or early evening in July, August, and September. *Coptotermes formosanus*, although rare in California, flies in the late evening and is attracted to lights. In buildings with heated basements, termites occasionally fly inside during winter.

New kings and queens are winged during their early adult life and generally fly less than 100 meters from their colony. Once they land on the ground they find a mate and begin the search for a nest site. A colony begins when a mated pair constructs a small underground chamber, which they enter and seal. Soon afterward mating occurs and the female begins laying eggs.

Most species of termites have microscopic one-celled organisms, called protists, within their intestines that help in converting otherwise indigestible cellulose from wood into food for the colony. Both the king and queen feed the young on predigested food, thereby transferring these intestinal protists until the new brood is able to feed themselves. Once workers are produced, the king and queen are fed by them and cease feeding on wood.

Surprisingly, termites can be long lived; queens and kings can have a life span of a decade or more, while individual workers can live for one to several years.

SIGNS OF SUBTERRANEAN TERMITE INFESTATION

Signs of a subterranean termite infestation include swarms of winged reproductives in the spring, summer, or fall, the presence of shelter tubes, and evidence of tunneling in wood. Shelter tubes (sometimes called mud tubes) are the most commonly seen evidence of a subterranean termite infestation. These earth-hardened tubes are made by workers using saliva mixed with soil and bits of wood or even drywall. There are four types of tubes:

- *working tubes* are constructed from the nest in the soil to wooden structures and they may travel up concrete or stone foundations (Figure 5A);
- *exploratory and migratory tubes* arise from the soil but do not connect to wood structures (Figure 5B);
- *drop tubes* extend from wooden structures back to the soil (Figure 5C); and
- *swarm tubes* for new and swarming reproductive kings and queens to emerge from and fly away during swarm season (Figure 5D).

If you break termite tubes open, you may see live workers and soldiers running through the tubes. The darkening or blistering of structural wood members is another possible indication of an infestation; wood in damaged areas is typically thin at the surface and easily punctured with a knife or screwdriver. Finding live termites foraging within wood is a sure sign of an active infestation.

The excavations that termites make in wood are hollow, completely enclosed, more or less longitudinal cavities. Some species deposit light-brown excrement within cavities. Feeding in wood by subterranean termites generally follows the grain of wood; these species attack the softer springwood and leave the harder, less digestible summerwood. Many times this distinctive pattern of wood damage alone can be used to positively distinguish subterranean termite activity from that of other species.

(5A) Working tubes

(5B) Exploratory and migratory tubes

(5C) Drop tubes

(5D) Swarm tubes emerging from floor crack.

Figure 5. Four types of shelter tubes.
V. R. Lewis, U.C. Berkeley (5A-C); L.L. Strand (5D)

ECOLOGICAL AND BEHAVIORAL CHARACTERISTICS OF SUBTERRANEAN TERMITES

The ecology and behavior of subterranean termites offers useful information for homeowners and the pest control industry, providing new insights into management of these potential pests.

Moisture Requirements

Subterranean termites require moist environments. To satisfy this need, they usually nest in or near the soil and maintain some connection with the soil through tunnels in wood or through shelter tubes. Furthermore, because of the moisture requirements of subterranean termites, they are often found in wood that has been slightly decayed.

Soil serves as a source of moisture that protects termites from desiccation, shields them from predators, and can be used as a building material for shelter tubes and carton nests (Formosan subterranean termites) above ground. Termites can also excavate passageways through the soil to reach additional food sources.

Reproduction and Dispersal

New subterranean termite colonies are typically started from an initial male and female pair (incipient colony). Pair formation occurs after the reproductive nuptial flight. Mated pairs usually begin laying eggs immediately. At the end of a year a colony may have grown to only 75 individuals. Very few of the reproductives that fly each year ever pair up and establish a new colony; and very few of the colonies established ever reach maturity. Colonies that survive to maturity can contain hundreds of thousands of individuals and pose a serious threat to structures.

Subterranean termite colonies may also be established by division of an existing colony. Colonies send workers to look for new food sources. If a new supply is found, then more individuals are recruited to the site. After a while, a subcolony is established with a continuous exchange of foragers between this group and the main portion of the colony. Then for any number of reasons, the subcolony may be cut off from the mother colony; and the exchange of individuals terminated. This subcolony has the capacity of producing its own reproductives and developing rapidly as an independent colony.

Foraging

Because subterranean termites usually do not build their nests in wood, they must forage for food away from the nest. In most parts of the country, foraging is essentially curtailed by winter or extremely dry periods. However, in California they can forage year-round, though the intensity of foraging varies with the season. The amount of wood consumed generally increases with increasing temperature. Foraging is minimal from November to February, moderate in spring and fall, and high, but erratic, during the summer months. During the hot summer months of June through September, even a slight amount of rain increases the number of foragers above the soil surface and the amount of wood that a colony can consume. The optimal conditions for foraging, warm temperatures and high soil moisture, are usually present under and around buildings.

Feeding

Termites do not like all wood species, but the condition of the wood is more important in determining the probability of infestation. Decayed wood is eaten faster and preferred over sound wood. Digestion of wood, in this case, really begins before the termites take their first bite, since decay fungi in the wood break down cellulose into smaller units. Termites can digest sound wood, but decay fungi make their work much easier.

Most subterranean termite species consume wood at about the same rate, but three factors can make some species potentially more voracious and damaging than others. These factors include the environment in which they live (termites eat more wood when conditions are optimal over a longer period of time), the size of the insects (larger insects eat more wood), and the number of insects (larger colonies eat more wood).

One of the chief means of shared feeding is called trophallaxis or the mutual exchange of gut contents between colony members. Trophallaxis also permits the efficient use of nutrients, recognition of colony members, distribution of chemicals involved in caste regulation, and the transfer of cellulose-digesting protozoans. Many members of a termite colony cannot feed themselves, so they rely on other colony members to feed them. This behavior also facilitates the transfer of toxicants used in baits and other insecticides (see Management section below).

Population Biology

The nest system of subterranean termites in California consists of a network of galleries that extend into the ground and can enlarge into more spacious chambers. The foraging territories of colonies of pest species can comprise a single foraging site or many sites around a single building, and the size of the populations utilizing these territories can range from a few tens of thousands to hundreds of thousands of individuals. A home with a footprint of 2400 square feet could have several termite colonies with hundreds of thousands of foragers seeking food and shelter (for examples of subterranean foraging territories in California see Haverty, et al. 2010 or Potter 2011 in References.

MANAGEMENT OF SUBTERRANEAN TERMITES

It is unlikely that homeowners will be able to execute subterranean termite control on their own. However, it is important for homeowners to have some familiarity with inspection procedures, reduction of conducive conditions, and treatment strategies. Successful termite management requires special skills and knowledge, including a working knowledge of building construction. An understanding of termite biology and identification can help a homeowner understand and select a suitable method of control. Of course, homeowners can replace termite damaged wood and correct conditions conducive to subterranean termite infestation on their own; however, applications of registered pesticides are highly regulated and require a licensed pest control professional to carry out the inspection and control program.

Multiple colonies of the same termite species or several different species can infest a building. A professional inspection and an integrated approach to control are required. A combination of methods, such as habitat modification, elimination of excess moisture, removal of infested wood from the structure, exclusion of termites from the building by physical and/or chemical means, and the use of chemical methods to destroy existing colonies will probably be necessary.

Inspection

An inspection by a licensed pest management professional is required before any treatments can be performed. Most homeowners will be unaware that a subterranean termite problem exists until a significant finding occurs. For instance, an infestation is discovered during an inspection in a real estate transaction, damaged wood is uncovered during a room remodel, a shelter tube appears on an interior or exterior wall, or the sudden appearance of thousands of flying insects in a bathroom or kitchen. These situations are not unusual due to the cryptic and secretive life habits of subterranean termites hidden behind walls or buried away in crawlspaces and under slab foundations.

This Pest Note and other resources found on the Internet show photos and images of termites, shelter tubes, and damage that homeowners can reference if they suspect an infestation or if they want more details about the termite inspection process before contacting a pest control professional. However, because the telltale signs of subterranean termites often occur in dark and sometime hazardous locations (attics or tight crawlspaces that have nails, dust, or standing water), it is recommended that you contact a licensed professional for inspection and subsequent treatment.

Spring time, especially a warm, sunny day following rain, is the optimal time for subterranean termite swarming behavior and, at least for brief moments during the day, a chance to see live termites and perhaps a specific location where they are emerging from in the home. Since most soil around a home has buried cellulose debris (roots, stumps, or fence posts), finding swarming termites in your yard doesn't necessarily mean your house has termites.

Homes that have had a history of subterranean termite problems can be especially vulnerable to reinfestation and should be inspected by a professional every several years. California, like most states, has nonprofit associations that provide contact information for reputable pest control professionals in your area.

Prevention

Building design may contribute to the probability of termite invasion. Identify and correct any structural deficiencies that attract or promote subterranean termite infestations. Ideally all substructural wood beneath the building should be kept at least 12 inches above the soil. Consult local building codes for exact, minimum distances from wood to soil. Stucco siding that reaches the ground may promote termite infestations since termites might travel between the stucco and the foundation unseen. Keep foundation areas well ventilated and dry. Reduce chances of infestation by removing any wood in contact with the soil. Inspect porches and other structural or foundation wood for signs of termites. Look for tree stumps, stored lumber, untreated fence posts, and buried scrap wood near the structure that may contribute to a termite infestation.

Replacing Lumber in Structures

Structural lumber in buildings is usually Douglas-fir, hemlock, or spruce. Of these materials, Douglas-fir is moderately resistant to termites, whereas the other two are not. Lumber used in foundations and other wood in contact with the soil should be chemically treated or naturally resistant to termites and decay to help protect against termite damage in areas where building designs must be altered or concrete cannot be used. When using naturally resistant wood species, we recommend that you request documentation from suppliers to authenticate resistance levels stated on labeling. If susceptible wood is used above the treated wood, however, subterranean termites can build their shelter tubes over chemically treated wood and infest untreated wood above.

Use only exterior-grade, pressure-treated lumber for areas that are exposed to weather; otherwise, the chemical in the lumber may leach from the wood. All topical treatments that will be exposed to weather must also have a sealer coat to prevent leaching into the soil following rain.

Controlling Subterranean Termites

Subterranean termites in structures cannot be controlled using techniques that are appropriate for drywood termites, such as fumigation, heat treatment, freezing, and termite electrocution devices, because the reproductives and a large majority of the termites are concentrated in nests near or below ground level out of reach of these control methods. The primary methods of controlling these termites are insecticides, either applied to the soil adjacent to the structure, directly to nests via shelter tubes, or through bait stations. To facilitate control of subterranean termites, destroy their shelter tubes whenever possible to interrupt access to wooden substructures.

Insecticides. Liquid applications of pesticides are most often used for subterranean termite control and applied to the soil either in drenches or by injection. There are no reliable over-the-counter termite control products available for the public in California; all effective products are for professional use only.

Pest management professionals are provided special training because of the hazards involved in applying insecticides to the soil around and under buildings. Applications in the wrong place can cause insecticide contamination of heating ducts and/or damage to radiant heat pipes or plumbing used for water or sewage under the treated building. Soil type, weather, and application techniques influence the mobility of insecticides in the soil; soil-applied insecticides must not leach through the soil profile to contaminate groundwater or run off to contaminate surface water.

Recently, active ingredients used to control subterranean termites in soils were broadly classified as repellent or nonrepellent. Subterranean termites can detect repellent insecticides, usually pyrethroids; and they are repelled without receiving a dose that would kill them. Because of this negative reaction, termiticide products containing repellent active ingredients have been phased out.

Newly introduced chemicals are available that are less toxic to humans and other mammals than the older insecticides but remain highly toxic to insects. These insecticides, including chlorantraniliprole, fipronil, and imidacloprid are nonrepellent to termites and have been shown to be effective in killing termites at low dosage rates under California's climatic conditions. Depending on the label language, these materials are used as barriers as described above and also as local treatments, targeting nests directly via shelter tubes.

Baiting. Subterranean termite baits, which are slow-acting insecticides consumed during feeding and shared within the colony, are commercially available in California. Generally, bait is delivered within a cellulose or wood matrix infused with the active ingredient and installed underground at regular intervals around a structure. Commercial bait products are also available for above-ground use, where there is no soil for in-ground station installation. This method of controlling termites is very appealing because it doesn't require extensive site preparation, such as trenching, or extensive application of insecticides to the soil or structure, and because the most effective baits use insect growth regulators (IGRs) to suppress or destroy the entire colony. IGRs have very low toxicity to humans and their pets. The most effective bait products, however, are available for professional use only.

REFERENCES

Ebeling, W. 1975. *Urban Entomology.* University of California Press, Berkeley, California. Available online at http://www.entomology.ucr.edu/ebeling/.

Haverty, M. I., R. L. Tabuchi, E. L. Vargo, D. L Cox, L. J. Nelson, and V. R. Lewis. 2010. Response of *Reticulitermes hesperus* (Isoptera: Rhinotermitidae) colonies to baiting with lufenuron in Northern California. *J. Econ. Entomol.* 103:770-780.

Krishna, K., D. A. Grimaldi, V. Krishna, and M. S. Engel. 2013. Treatise on the Isoptera of the World. *Bulletin of the American Museum of Natural History* Vols. 1-7.

Lewis, V.R. 2003. *Pest Notes: Drywood Termites*. Oakland: Univ. Calif. Agric. Nat. Res. Publ. 7440. Also available online at http://www.ipm.ucanr.edu/PMG/PESTNOTES/pn7440.html.

Peterson, C., T. L. Wagner, J. E. Mulrooney, and T. G. Shelton. 2006. Subterranean Termites – Their Prevention and Control in Buildings. *USDA Home and Garden Bulletin* 64.

Potter, M. F. 2011. Termites. In A. Mallis, S. A. Hedges, and D. Moreland, eds. *Handbook of Pest Control*: *the behavior, life history, and control of household pests*, 10th ed. Cleveland: GIE Media Inc.

AUTHORS: V. R. Lewis, Environmental Science, Policy, and Management, UC Berkeley; **A. M. Sutherland,** UC Statewide IPM Program, Alameda Co.; and **M. I. Haverty,** Environmental Science Policy, and Management, UC Berkeley.

TECHNICAL EDITOR: M. L. Flint
EDITOR: K. Beverlin

This and other Pest Notes are available at www.ipm.ucanr.edu.

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University of California scientists and other qualified professionals have anonymously peer reviewed this publication for technical accuracy.

The ANR Associate Editor for Pest Management managed this process.

To simplify information, trade names of products have been used. No endorsement of named products is intended, nor is criticism implied of similar products that are not mentioned.

This material is partially based upon work supported by the Extension Service, U.S. Department of Agriculture, under special project Section 3(d), Integrated Pest Management.

Produced by **UC Statewide Integrated Pest Management Program**
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urban tree manager, and the commercial arborist as the key person needed to implement the tree preservation plan.

In Central Park, the partnership between the urban tree manager and the commercial arborist who is sensitive to landscape and park use as well as to trees is recognizable and a vital part of the restoration process.

Central Park Horticulturist
Department of Parks and Recreation
City of New York
830 Fifth Ave.
New York City, NY 10021

SUMMER BRANCH DROP[1]

by Richard W. Harris

Abstract. *Apparently sound limbs occasionally break out of* mature trees during calm summer weather. Species of at least 19 genera are susceptible. This is particularly puzzling since normally limbs would be lighter in weight during times of high transpiration. High xylem pressure and/or weakening of the cell wall bonding in the xylem accompanied by increased limb weight may be responsible.

Seemingly healthy limbs up to a meter in diameter occasionally break out of mature trees during or following hot calm summer afternoons (Australia, South Africa, and the United States) (Harris 1972) or during calm weather following a heavy summer rain which terminates a period of increasing soil dryness (England) (Rushforth 1979). In California this type of limb failure occurs on both native and planted trees as well as in irrigated and unirrigated landscapes. People have been seriously injured and property damaged by falling branches. The failure of the top forty feet of a mature *Eucalyptus globus* in Los Angeles in 1977 seriously crippled a child and resulted in a recent out-of-court settlement of $1,625,000.

Trees Affected

Limb failure has been reported on species of 19 genera, Table 1. Kellogg (1882) first reported the phenomenon on *Quercus lobata* in the coastal mountain ranges of central California. Young and vigorous maturing trees of susceptible species seem to be less prone to branch failure while overmature and senescent trees may shed branches repeatedly (Rushforth 1979).

[1]Presented at the 58th Annual Conference of the International Society of Arboriculture in Louisville, Kentucky, on August 10.

Most commonly, breakage occurs 1 to 4 m from the branch attachment on long limbs that extend to or beyond the tree canopy. Sometimes a branch may fail at its attachment. Less frequently, the main leader or the entire top may fail. No outward appearance has been associated with impending branch failure; the wood at many breaks appears sound while some or much of the wood at other breaks may be brash (breaks are short and at right angles to the axis of the branch) or decayed. Brash or decayed wood may predispose branches to the possibility of failure, but does not account for failure occurring under the conditions that it does.

This phenomenon was thought to be confined to times of high temperature in arid regions, such as Australia, South Africa, and southwestern United States, because, until this year, no one could be found who was familiar with this problem in the midwestern or eastern United States. However, summer branch drop has been reported in England (Rushforth 1979) and is serious enough for the Royal Botanic Garden at Kew to post a large sign at each entrance warning visitors that "The older trees; particularly beech and elm, are liable to shed large branches without warning." In arranging for this presentation, Cal Bundy recalled branches dropping out of two American elms in Peoria, Illinois in 1959 or 60. At the 1982 American Society of Consulting Arborists meeting, a reported tree failure of red oak in New York could have been related to summer branch drop.

Possible Explanations

Limb failure on hot afternoons is an anomaly since tree trunks normally shrink in the afternoons (Kozlowski and Winget 1964). I have observed limbs rise as well as shrink indicating that transpiration has exceeded water uptake and that limbs are lighter in the afternoon. This is further borne out since most of the breaks are relatively dry; this would be due to moisture tension in the xylem drawing water into the wood on each side of the break.

Just the opposite is often the case. After a break, water has been observed "flowing" from both sides of a fracture. Many report that the limb "exploded" and dropped quickly with no warning. Kellogg (1882) stated "Often late in the season when the hot sun broils and steams the sap, as it were, internally, an ax struck into it (mature *Quercus lobata*) hisses like a legion of little safety valves; and sometimes, most unaccountably, it is said to burst with a loud explosion, and strong limbs that had hitherto withstood centuries of storms, in the calm airs of late summer and early autumn crash unexpectedly down, the fracture disclosing not the least cause of weakness." These observations indicated the xylem to be under pressure, at least in these instances.

Two possibilities could account for this pressure: 1) Wetwood bacteria have created gas pressures up to 60 psi (4.2 kg/cm^2) in elm trunks (Carter 1969). Such infections are common in several species subject to limb breakage. 2) Under calm conditions, transpiration may be greatly reduced due to high humidity within tree

Table 1. Trees reported to be susceptible to summer branch drop.

Species most often reported in Britain (Rushforth 1979).
Quercus spp.
Populus spp.
Salix spp.
Ulmus procera
Castanea sativa
Fagus sylvatica
Fraxinus excelsior
Aesculus hippocastanum
Genera most often reported in California
Eucalyptus
Quercus
Ulmus
Pinus
Cedrus
Fraxinus
Platanus
Species also reported in California.
Ailanthus altissima
Erythrina caffra
Ficus microcarpa
Olea europaea
Grevillea robusta
Sequoiadendron giganteum
Sophora japonica

canopies. Root pressure could then increase the moisture content of branches, thereby increasing their weight and internal sap pressure.

Another theory tied to calm weather would be due to reduced transpiration (high humidity in tree canopy), the reduced flow of water in the xylem would allow the branch temperature to increase and in turn could increase the production of ethylene and other substances. These could begin to weaken the cell wall cementation, an accelerated development of brashness, if you will. This increased weakening coupled with the increased weight of a limb due to increasing leaf surface and fruit and reduced transpiration could result in branch failure.

If wood actually weakens under hot, calm, conditions, the process must be reversible or new wood must form rapidly enough to strengthen branches in order for them to withstand the increased weight of rain on the foliage and the strain of wind storms that may follow.

Suggested precautions

1. Warn people of potential hazard or rope off areas near hazardous trees as done at Kew. This would be most important from late spring to early fall.
2. In areas to be frequented by people, do not plant species known to be susceptible to this problem.
3. On mature trees, shorten and lighten long horizontal branches and open up the tree so humidity is less likely to build up.
4. Keep trees vigorous and healthy; however, this may be self defeating since potentially susceptible branches would become longer and heavier, but hopefully stronger.
5. Inspect susceptible trees for externally visible defects, removing low-vigor limbs that have decay or cavities. An entire tree should be removed if decayed and of low vigor.

Request for Information

Please send information concerning any suspected cases of summer branch drop, giving: species, approximate DBH, approximate diameter of limb or trunk at break, the time and date, location of tree, maximum temperatures for the day of the accident and the five preceding days, wind conditions at time of break, estimate of damage caused, and other information that may be pertinent. Send to the author at the address below.

Literature Cited

1. Carter, J.C. 1969. The wetwood disease of elm. Illinois Natural History Survey Circ. 50.
2. Harris, R.W. 1972. *High-temperature limb breakage.* Proc. Int'l Shade Tree Conf. 48:133-34.
3. Kellogg, A. 1882. Forest trees in California. Sacramento, Calif.: State Printing Office.
4. Kozlowski, T.T. and C.H. Winget. 1964. *Dinurnal and seasonal variation in radii of tree stems.* Ecology 45:149-55.
5. Rushforth, K.D. 1979. Summer branch drop. Arboriculture Res. Note (British Dept. of the Environment), 12:1-2.

Professor of Landscape Horticulture
Department of Environmental Horticulture
University of California
Davis, California 95616

Los Alamitos, CA

2:46 PM PST on January 20, 2016 (GMT -0800)
Los Alamitos Army Air Field

- Forecast
- **History**
- Calendar
- Rain / Snow
- Health

Weather History for KSLI - October, 2015

Change the Weather History Date:

October 10 2015 View

Saturday, October 10, 2015

« Previous Day

Next Day »

Daily
Weekly
Monthly
Custom

	Actual	Average	Record
Temperature			
Mean Temperature	**84** °F	-	
Max Temperature	**100** °F	**76** °F	**100** °F (2015)
Min Temperature	**68** °F	**60** °F	**49** °F (2013)
Cooling Degree Days	19		
Growing Degree Days	34 (Base 50)		
Moisture			
Dew Point	**57** °F		
Average Humidity	46		
Maximum Humidity	81		
Minimum Humidity	19		
Precipitation			
Precipitation	**0.00** in	-	- ()
Sea Level Pressure			
Sea Level Pressure	**29.93** in		
Wind			

	Actual	Average	Record
Wind Speed	**5** mph (North)		
Max Wind Speed	**18** mph		
Max Gust Speed	-		
Visibility	**10** miles		
Events			

ROSSMOOR COMMUNITY SERVICES DISTRICT

AGENDA ITEM C-3

Date: January 6, 2016

To: Trees/Parkways Committee

From: James Ruth

Subject: DISCUSSION WITH GENERAL MANAGER RE: UPDATE ON CITIZEN SERVICE REQUEST FOR TREE REMOVAL: 3072 RUTH ELAINE DR. – ARBORIST REPORT RECEIVED

RECOMMENDATION:

Receive the report of the District's Tree Consultant regarding resident's requested removal of the parkway tree located at 3072 Ruth Elaine Drive; a large, established California Sycamore (Platanus racemosa) with an estimated value of $9,830. West Coast Arborist report agrees with Tree Consultant Mary Kingman's findings that tree is healthy and does not pose any specific risks.

BACKGROUND:

The parkway tree at this address being a large, established California Sycamore (Platanus racemosa) with an estimated value of $9,830.
10/17/14 - Resident James Nelson put in removal request with OCPW due to sewer issues and sap dripping on his boat.
10/17/14 –Mary Kingman called resident back, unable to leave message. Sent a letter explaining tree policy and that sewer issues and sap dripping does not qualify for removal.
10/24/14 - Mary Kingman talked to resident about plumbing issues. Resident claims that plumber assured her that sewer connection was directly under the tree. Mary Kingman told her she would need a certified letter from plumber stating this information. Also if tree is cut down and connection is not under tree they could be liable for value of tree.
10/14/15 – Mary Kingman informed by Orange County Public Works that large snapped limb over weekend. Mary Kingman inspected tree and state of branch that was cut up by OCPW and left taped off at curb for pick-up. Tree appears healthy with no sign of disease or rot in downed limb or tree. Breakage likely caused by weight and changes in temperature combined with drought stressed tree. Summer limb drop is a phenomenon that is common occurrence in species.
10/16/15 – Resident Cindy Nelson came into RCSD office on Wednesday very upset and talked to Kathy Bell. Said she was going to sue Tree Consultant, Mary Kingman and the district because a large branch came down from the parkway tree and landed on daughter's car and requested that the tree be removed. Mary Kingman called resident back and could not leave message as mailbox was full.

10/20/15 – Resident Cindy Nelson came in to RSCD office wanting to talk to Mary Kingman. Jessica Verduzco informed her Mary was not in today. She reported that another branch has fallen and landed on her car again. She really wants this tree removed as it is a liability and would like to speak with Mary as soon as possible. She will try you back on 10/21/15 in the afternoon. She said the branch was not that big this time and she can remove it but she did take pictures.

10/26/15 - Resident Cindy Nelson came in to RCSD front office to talk to Mary Kingman. Resident threatened to sue her and District for allowing the tree to stay and said she considered the tree a deadly weapon. Mary Kingman ordered independent arborist report on tree and will inform all General Manager, Tree Committee Board Members and Resident Cindy Nelson of the result once report on the tree has been completed.

11/23/15 – Arborist report received from outside agency, Certified Arborist. Report agrees with Tree Consultant Mary Kingman's findings that tree is healthy and does not pose any specific risks.

ATTACHMENTS:

1. WCA Certified Arborist Report

November 23, 2015

Rossmoor Community District
ATTN: Mary Kingman
3001 Blume Drive
Rossmoor, CA 90720

RE: 3072 Ruth Elaine Drive

Ms. Kingman,

Pursuant to your request this report has been prepared in order to present the findings from my evaluation of the California Sycamore (*Platanus racemosa*) located at 3072 Ruth Elaine Drive. The purpose of the evaluation was to assess the general health and condition of the tree and to offer maintenance recommendations based on those findings. The site was visited on Monday, November 16, 2015 and all comments and discussion that follows are based on my observations while on the site.

A basic health evaluation and a level 2 risk assessment were used for this evaluation; however only my findings are included and no actual risk assessment forms are being provided as part of this report. The criteria for this level of assessment is detailed by *ANSI A300 (Part 9)-2011 Tree Risk Assessment, a. Tree Structure Assessment* and *A Photographic Guide to the Evaluation of Hazard Trees (Matheny & Clark)* and includes a 360-degree ground based visual inspection of the tree crown, trunk, trunk flare, above ground roots, and site conditions around the tree(s).

OBSERVATIONS: The tree in question has a trunk diameter of 36 inches, is roughly seventy feet tall with a fifty foot canopy spread and is growing in a large, seven foot wide, irrigated parkway (see Figure 1). The canopy is symmetrical and well balanced with a greater than 75% live crown ratio; there is no indication of any significant insect, disease, or other pathogen presence (see Figure 2). There are only a very few small dead twigs and/or branches, but nothing that is considered abnormal (see Figure 3). The development of small dead branches such as that seen here is perfectly normal in a large, mature specimen such as this tree. This sycamore has great structure, is well established and appears to be thriving, contributing greatly to the esthetics of the neighborhood.

GENERAL DISCUSSION: "Risk Assessment" is a systematic process by which the evaluator examines observable phenomena and their implications in order to derive an estimate of "risk" for a given tree. The degree of risk associated with any given specimen will vary over time as natural physical influences change; the healthier the

West Coast Arborists, Inc.
2200 E. Via Burton Street, Anaheim, CA 92806 714.991.1900 800.521.3714 Fax 714.956.3745

tree is overall, the better able it is to handle changes in its physical environment. Generally speaking, risk assessment is used for two reasons. First, it is used to identify hazardous situations and to determine appropriate actions to mitigate any recognized risks. Second, is to assure that the proper owner/manager of the tree that the mechanical integrity of the tree is acceptable and that the specific tree can safely be retained under normal conditions.

SUMMARY: Based on all observable conditions of the subject tree, I can find no reason for elevated concern; this tree is healthy and poses no specific risk at this time. There is of course a possibility that any of the small dead twigs and/or branches may fall from the tree and impact a target below the tree. However, with a tree of this size, the development of such material is considered normal and is not a sign of poor or declining health. The only maintenance recommendations I have at this point is to preserve the current cycle of regular scheduled pruning, retaining the overall canopy shape and size, and pruning out any dead material as it is deemed necessary by management staff. A pruning cycle of anywhere from every 3 to 5 years is acceptable for a mature sycamore.

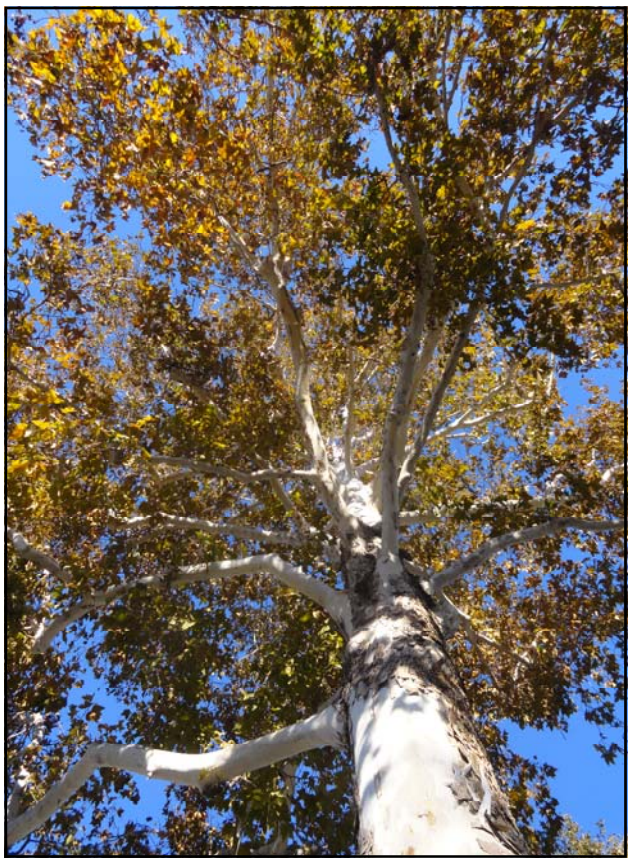
The intent of this report was to provide as complete and unbiased an opinion as possible with regards to the current health and condition of the tree discussed above. If you have any questions or require additional information, please feel free to contact me at (714) 991-1900 ext., 149.

Respectfully,

Rebecca Mejia

Rebecca Mejia
ISA Certified Arborist #WE-2355A
ISA Qualified Risk Assessor #CTRA-1534
West Coast Arborists Inc.

West Coast Arborists, Inc.
2200 E. Via Burton Street, Anaheim, CA 92806 714.991.1900 800.521.3714 Fax 714.956.3745



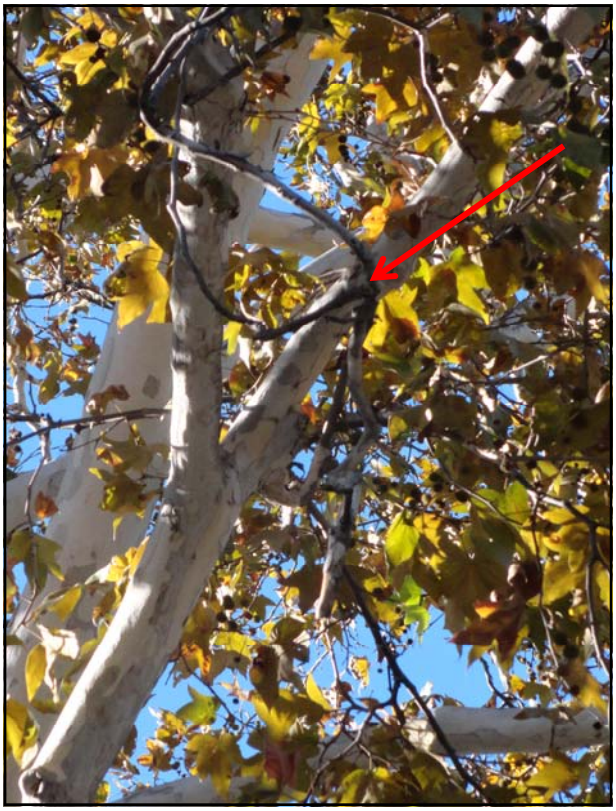


Figure 1 (top, left). Showing the subject California Sycamore located at 3072 Ruth Elaine Drive.

Figure 2 (top, right). Looking up into the canopy; note the nicely spaced limbs and lack of any significant diseased or dead material.

Figure 3 (bottom, left). Showing one of the small, dead twigs seen within the canopy. I was able to only spot four such branches. The development of small dead branches such as that seen here, is perfectly normal in a large, mature specimen like this tree.

ASSUMPTIONS AND LIMITING CONDITIONS

1. Care has been taken to obtain all information from reliable sources. All data has been verified insofar as possible; however, the Consultant can neither guarantee nor be responsible for the accuracy of information provided by others. Standard of Care has been met with regards to this project within reasonable and normal conditions.

2. The Consultant will not be required to give testimony or to attend court by reason of this report unless subsequent contractual arrangements are made, including payment of an additional fee for such services as described in the fee schedule and contract of engagement.

3. Loss or alteration of any part of this report invalidates the entire report.

4. Possession of this report or a copy thereof does not imply right of publication or use for any purpose by any other than the person to whom it is addressed, without the prior written consent of the Consultant.

5. This report and any values expressed herein represent the opinion of the Consultant, and the Consultant's fee is in no way contingent upon the reporting of a stipulated result, a specified value, the occurrence of a subsequent event, nor upon any finding to be reported.

6. Unless expressed otherwise: 1) information contained in this report covers only those items that were examined and reflects the condition of those items at the time of inspection; and 2) the inspection is limited to visual examination of accessible items without dissection, excavation, or coring, unless otherwise stated. There is no warranty or guarantee, expressed or implied, that problems or deficiencies of the tree(s) or property in question may not arise in the future.

7. Arborists are tree specialists who use their education, knowledge, training, and experience to examine trees, recommend measures to enhance the beauty and health of trees, and attempt to reduce the risk of living near trees. It is highly recommended that you follow the arborist recommendations; however, you may choose to accept or disregard the recommendations and/or seek additional advice.

8. Arborists cannot detect every condition that could possibly lead to the structural failure of a tree. Trees are living organisms that fail in ways we do not fully understand. Conditions are often hidden within trees and below ground. Arborists cannot guarantee that a tree will be healthy or safe under all circumstances, or for a specific period of time.

9. Any recommendations and/or performed treatments (including, but not limited to, pruning or removal) of trees may involve considerations beyond the scope of the arborist's services, such as property boundaries, property ownership, site lines, disputes between neighbors, and any other related issues. Arborists cannot take such considerations into account unless complete and accurate information is disclosed to the arborist. An arborist can then be expected to consider and reasonably rely on the completeness and accuracy of the information provided.

10. The author has no personal interest or bias with respect to the subject matter of this report or the parties involved. He/she has inspected the subject tree(s) and to the best of their knowledge and belief, all statements and information presented in the report are true and correct.

11. Unless otherwise stated, trees were examined using the tree risk assessment criteria detailed by the International Society of Arboriculture's publications *Best Management Practices – Tree Risk Assessment* and the *Tree Risk Assessment Manual* and *A Photographic Guide to the Evaluation of Hazard Trees (Matheny & Clark)*.

West Coast Arborists, Inc.
2200 E. Via Burton Street, Anaheim, CA 92806 714.991.1900 800.521.3714 Fax 714.956.3745