

**CITY OF MANHATTAN BEACH
COMMUNITY DEVELOPMENT DEPARTMENT**

TO: Planning Commission

THROUGH: Richard Thompson, Director of Community Development 

FROM: Angelica Ochoa, Assistant Planner 

DATE: January 9, 2008

SUBJECT: Consideration of a Tree Permit Application for Removal of a Protected American Sweetgum Tree (*Liquidambar styraciflua*) in the Front Yard at 605 26th Street (Colligan).

RECOMMENDATION

Staff recommends that the Planning Commission review the application and provide direction to staff.

APPLICANT

Perry and Kathy Colligan (property owners)
605 26th Street
Manhattan Beach, CA 90266

BACKGROUND

On September 18, 2007, the City received a tree permit application from the subject property owners requesting removal of a American Sweetgum Tree located in the front yard at 605 26th Street to accommodate the design of their new house. (Exhibits A and B).

The tree has a 22" trunk diameter and is 35' tall. Trees in the front yard over 12" in trunk diameter are protected under the City's Tree Preservation Ordinance. After reviewing the subject tree permit application, it was determined that based on all the information presented to Staff that it would be appropriate to have the Planning Commission review the application. Staff is looking for direction on the issue of preserving the protected subject tree that is consistent with the intent of the Tree Ordinance balanced with permitting the reasonable enjoyment of private property, as stated in Section 10.52.120, A (Exhibit G) and as discussed further in this report. Staff felt that it would not be appropriate to approve or deny the tree permit application at the administrative level.

The letter submitted by the property owner with the tree application on September 18, 2007 states that the tree is too big for the existing location, the root system is invasive, which has caused damage to the driveway and is spreading toward the foundation of the house. They also stated that constant maintenance and pruning must occur to keep the overhang of the tree away from the power and telephone lines. They stated that a large limb of the tree dropped off in 2006. Photos were submitted with the tree permit

application that showed cracks in the driveway, roots near the house, and the general location of the tree (Exhibit B). The property owners feel that construction of their new house would severely damage the roots of the tree and compromise the tree's health. The house as currently designed places the new driveway where the tree is on the lower side of the lot (about 2' lower), opposite from the current driveway location.

DISCUSSION

Application and Tree Reports

On September 18, 2007, a special study session was held by the City Council and staff to discuss tree issues. In summary, the City Council confirmed that the Tree Ordinance is intended to preserve and protect trees, not remove and replace trees, whenever feasible and the Council directed staff to forward all tree permit applications to the City arborist for review and recommendations. For this reason, the subject tree permit application was reviewed by the City arborist, Craig Crotty.

On September 26th, staff reviewed the tree permit application and contacted the applicant to discuss alternative designs that would protect the tree and still meet their goals for their new home. The applicants felt that keeping the tree and revising the home by "flipping" the floor plan would compromise the design of their new home. Staff informed the applicant that they needed to hire an arborist to evaluate the situation and make a recommendation since removal of the tree would be inconsistent with the Tree Ordinance.

On October 10th the City arborist inspected the tree and found that the tree was in good health and well maintained. He informed staff he would give comments based on his inspection and the report that would be provided by the applicant's arborist (Ann Barklow) on the subject tree.

On October 22nd the applicant's arborist, Ann Barklow, submitted a report to staff on the subject tree (Exhibit C). Her comments state that the tree has structural defects, a shallow and aggressive root system, a propensity to drop branches and decay, and she recommends removal and replacement.

On November 13, 2007, the applicant's arborist submitted a second report to address the property owner's concern of the design features of their new home in relation to preserving the tree (Exhibit D). Based on the plans submitted to the City on September 28, 2007 (Exhibit G), the location of their kitchen and family room is designed to gain the natural light from the east and west sides of their property, respectively. According to the property owners, another design issue is the placement of the garage and driveway on the low side of the property, where the subject tree is currently located to comply with the required driveway slope, and still maintain the 9'-10' interior ceiling heights and pitched roof. The plans currently being reviewed by the City in plan check have not been approved and have outstanding corrections.

The arborist also mentioned in her report that the neighbor at 601 26th Street, to the left side of the subject property supports removal of the tree (stated in a letter to the subject

applicants) due to damage of her walkway and steps. Overall, the applicant's arborist feels this tree is not a good specimen to be retained.

On December 5, 2007, the City's arborist, Craig Crotty submitted (Exhibit F) a Tree Report to staff to assess the subject tree and to respond to the applicant's arborist report. In his report, he mentions that the applicant's arborist recommended preservation of the same species of tree but at a different location, 2103 Elm Avenue. He compares the tree located at 2103 Elm Avenue (Photos G and H) in that it has had similar crown reduction pruning, and is in similar soil. The tree on Elm Avenue is a much larger and older tree growing in a smaller area with more severe root pruning contemplated when compared to the subject tree at 605 26th Street, which is a smaller tree growing in a larger space.

He states that the subject tree is currently very well shaped and maintained with crown reduction pruning of the branches and could continue to be maintained in this same manner. If the new driveway were located on the side where it currently is located, minimal root pruning would be required and would not negatively impact construction of the new house or the tree. The tree could be protected during construction and preserved.

The City arborist does not agree with the reasons stated by the applicants' arborist to remove the tree. First the root pruning could be held back far enough away (5 ½ feet to 9' recommended) to not impact the tree structurally; currently there is 9 to 10 feet of clearance in every direction, and root pruning would only need to be done on two sides. Sweetgums are strongly rooted and have deeper roots in sandy soil such as Manhattan Beach. The driveway does not appear to be damaged by the tree roots, there is no uplifting or surface roots in that area. Additionally, the neighbors' yard also did not show signs of uplifting from tree roots but similar to the applicant driveway there were broken and sunken areas of old thin concrete. If necessary for repairs, roots could be removed as they are far enough away to not impact the tree.

Secondly, summer limb drop which is characteristic of the Sweetgum can be properly managed with regular proper crown reduction pruning and inspections by an arborist and is not a reason to remove the tree. Additionally the tree is well shaped and there was no evidence of Southern California Edison power line clearance pruning.

Third, the decay observed by the applicants' arborist is in an isolated area of one branch, there is a strong wound wood formation and the decay is not likely to travel into the main trunk. The City arborist believes that the concern for limb breakage can be managed with pruning, and is not a reason to remove the entire tree. Both the applicants' and City's arborists are scheduled to be present at the Planning Commission meeting.

Tree Preservation Ordinance

Tree removal applications related to new homes involve extensive review and staff encourages retention of protected trees in the design process. Staff works with the architect and applicant to discuss other design options that would preserve the tree to comply with the Tree Ordinance. In this case, the applicant feels that preserving the tree will limit the design of their new home and other design options will not meet their goals. Both arborists have given their recommendations based on their expertise, however they

do not agree. Staff feels that in this case the Planning Commission needs to consider the proposed design of the new home in terms of the garage and driveway location on the low side of the lot, 9 foot to over 10 foot ceiling heights, and the orientation of the family room and kitchen for optimum sunlight.

The Purpose Section of the Tree Preservation regulations, 10.52.120 of the MBMC states that:

“Tree preservation is necessary for the health and welfare of the citizens of the City of Manhattan Beach in order to provide cooling shade and beauty, increase property values, minimize spread of disease to healthy trees, conserve scenic beauty, prevent erosion of topsoil, protect against flood hazards, counteract pollutants in the air, and generally maintain the climatic and ecological balance of the area. These regulations strive to preserve and enhance the existing tree canopies on individual residential properties as well as the overall neighborhood, in order to maintain the neighborhood character. The design of residences, including grading, driveways, walkways, patios, utilities and right-of-way improvements, shall consider and accommodate existing protected trees. The intent of this section is the retention and preservation of trees while permitting the reasonable enjoyment of private property.”

The Applicant has stated to staff that it is important to them to have high ceilings and the family room and kitchen oriented to the west and east, respectively. Staff suggested to the applicant that they provide information from their architect regarding the proposed design and possible redesign of the home to meet the applicant's goals and still preserve the tree. Staff has not received any written material regarding the design or possible redesign but anticipates that the applicant and their architect will provide further information at the Planning Commission meeting.

CONCLUSION

Staff requests that the Commission review the application and provide direction to staff.

ALTERNATIVES

1. Approve the Tree Permit application, allowing the tree to be removed and require replacement with a minimum of 1-36" size box or larger tree.
2. Deny the Tree Permit application, thereby requiring that the tree be retained and protected.

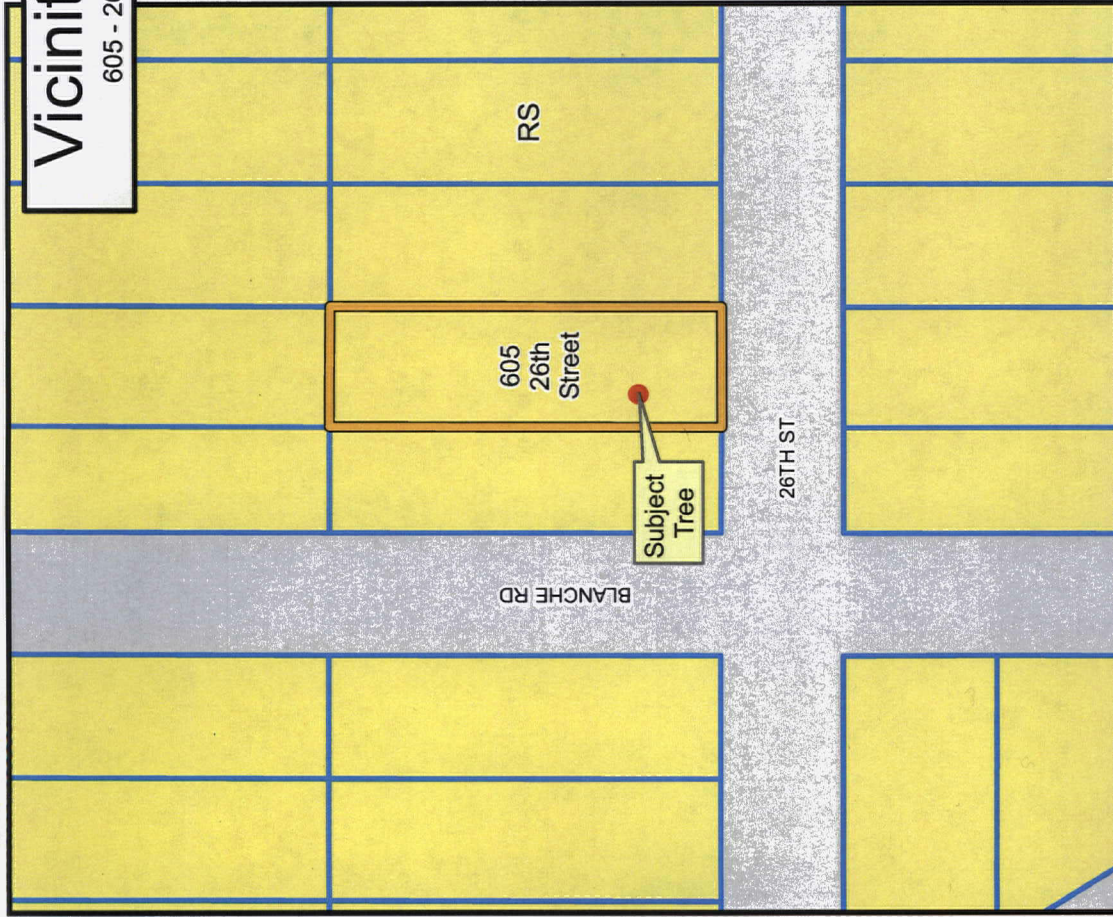
Attachments:

- Exhibit A - Vicinity map
- Exhibit B - Tree Permit Application
- Exhibit C - Tree Removal Report dated 10/22/07 from Applicant's Arborist
- Exhibit D - Tree Removal Report dated 11/13/07 from Applicant's Arborist
- Exhibit E - Tree Ordinance - Section 10.52.120
- Exhibit F - Tree Report from City Arborist
- Exhibit G - New House plan for 605 26th Street (not available electronically)


cc: Perry and Kathy Colligan
Ann Barklow
Craig Crotty


Vicinity Map


605 - 26th Street



Legend

 605 - 26th Street

 Parcels

 RS - Residential Single Family

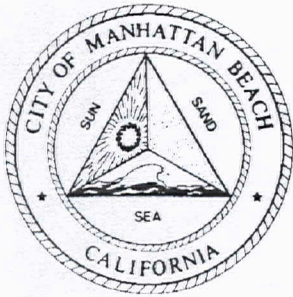


0 30 60 120 Feet

Exhibit A



City of Manhattan Beach
Community Development



Permit No.: TR 07-0045

TREE PERMIT APPLICATION

Private Property

COMMUNITY DEVELOPMENT DEPARTMENT

City Hall 1400 Highland Avenue Manhattan Beach, CA 90266-4795

Telephone (310) 802-5500 FAX (310) 802-5501 TDD (310) 546-3501

Address: 605-26th Street Permit Fee: (Code 4500): 57.50

(No fee for protection only, no removal. No fee if removal required by Public Works.)

Homeowner's Name: Perry Colligan Phone No. (310) 545-2997

Fax No. (310) 226-2726 E-mail pcolligan@dwyer-curlett.com (310) 226-2700

Tenant's Name: N/A Phone No. () (310)-383-0987 W C

This application is for tree protection/relocation or tree removal/replacement **in the front yard**, which is the first 20 feet behind the front property line, or the **streetside yard on corner lots**, which is the 3 foot minimum to 5 foot maximum yard (dimension is 10% of the lot width) behind the property line on the long side adjacent to the street. A Tree Permit is required for the protection/relocation or removal/replacement of a protected tree(s) in the residential zones of Area Districts I & II. Trees may not be removed or relocated until after a tree permit has been approved (**Section 10.52.120 MBMC**). Tree removal/replacement in the public right-of-way requires prior approval of a right-of-way permit.

Tree Protection/Relocation:

Describe tree(s) to be protected/relocated- Species, location, trunk diameter, and height: _____

Tree Removal/Replacement:

Describe tree(s) to be removed - Species, location, trunk diameter, and height of existing tree(s). Provide reasons for tree removal and replacement. Provide information on proposed replacement Attach additional sheets if necessary: We need to remove a liquid amber tree with an 18" trunk, approximately 30' high. We intend to demolish our house and build a new house. The tree is too big, has an enormous root structure, and is located in the wrong spot. →

Information required for both Tree Protection/Relocation and Tree Removal/Replacement:

The following are generally needed in order to obtain a Tree Permit. Where there is no associated construction proposed, less detail may be provided.

1. Provide a Tree Plot Plan (scaled 1/8 inch = 1 foot, minimally) showing the following. A survey will be required for demolition or development projects (see Survey Requirements handout):
 - (a) Property line, sidewalk, curb, parkway, parkway trees and street locations.
 - (b) Footprint (farthest extent of the exterior walls of the building) of all existing and proposed buildings and/or additions to buildings on the property. Indicate if plans for a new building or addition are in plan check with the Building Division.
 - (c) Location and height of all existing and proposed fences, walls, walkways, patios, structures, septic tanks, underground utilities or improvements in the front and streetside yards.
 - (d) Location of all tree(s) within the front and streetside yards, in the adjacent public right-of-way and on adjacent properties within 10 feet of the subject property adjacent to the front and streetside yards.

Symbol Example: ○


9/18/07 - To be submitted to plan ✓ in ~ 2 weeks


CASHIER: J
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EXHIBIT
B

(e) Location (actual trunk location and diameter shown to scale), size (trunk diameter at 4'-6" above the ground, add up all the trunks for multi-trunk trees), and species (botanical and common name), for all trees.

(f) Location of drip line for each tree, which is the farthest extent of the canopy of the leaves of the tree.

(g) Designation of tree(s) to be protected/relocated, and removed and/or replaced. Symbol Example: 

(h) Proposed location, size, and type of replacement tree(s). Symbol Example: 

(Minimum size 36" box and 1 new tree for each tree removed. Size, location and species of replacement trees subject to Planning approval.)

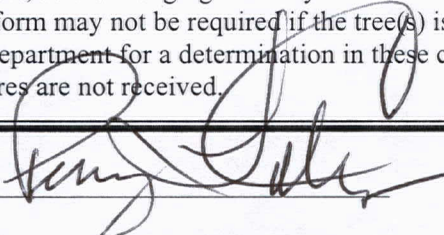
2. Provide photos of all tree(s) in the front and streetside yards. Provide close up views as well as overall views of the tree(s) on the subject property, in the adjacent public right-of-way and on adjacent properties within 10 feet of the subject property adjacent to the front and streetside yards.
3. A bond, cash deposit or other financial security may be required as determined by Planning to ensure required replacement trees are planted and/or that existing trees are properly protected.

Additional information required for Tree Protection/Relocation:

4. Provide a Tree Protection Plan for trees to remain. Show the type and location of the durable portable temporary fencing (generally chain link) surrounding the protected tree(s) and any trees in the adjacent public right-of-way, extending as close to the drip line(s) as feasible. Standard City issued signage on the temporary fencing indicated that the tree(s) is/are protected and no storage or other disturbance is allowed within the fenced area will be required to be posted.
5. Provide information on any proposed thinning or pruning of protected tree(s). Any pruning of branches or roots must comply with the American National Standards Institute ANSI A300 pruning standards. The standards are available to non-members at the online store for the Tree Care Industry at www.treecareindustry.org. Neglect, damage, mutilation, or injury of a protected tree is a violation of the tree preservation regulations.
6. A Tree Protection Acknowledgement form shall be required to be completed and signed prior to the issuance of a demolition or building permit when protected trees are to remain on the property.

Additional information required for Tree Removal/Replacement:

7. An arborist's letter stating the survival possibilities for the tree(s) if they are not removed is not required but is desirable. If pruning, thinning, deep watering, pesticide or other treatment, feeding, removal alternatives, or other recommendations are provided by an arborist, include this information. Information on certified arborists is available from the International Society of Arboriculture at www.isa-arbor.com.
8. If the Public Works Department has directed the removal of the tree(s) provide this information.
9. Acknowledgement Form signed by neighbors, for at least 200 feet on each side of the subject property on both sides of the street, acknowledging that they are aware of the proposed removal of the tree(s). An Acknowledgement form may not be required if the tree(s) is required to be removed by Public Works; check with the Planning Department for a determination in these circumstances. The City may send notices to neighbors if signatures are not received.

Applicant's Signature: 

Date: 9/17/07

Note: Violations of the requirements of Section 10.52.120 of the MBMC are punishable as a misdemeanor or infraction and a stop work order may be issued on construction work that violates these Code requirements. Additionally, violations of the Tree Preservation requirements may result in Administrative fines up to the cost of an equal size replacement tree or the appraised value of the tree, whatever is higher. Fines are placed in a Tree Canopy Restoration Fund to plant new trees throughout the City.



TREE PERMIT NEIGHBOR ACKNOWLEDGEMENT FORM

CITY OF MANHATTAN BEACH
COMMUNITY DEVELOPMENT DEPARTMENT
1400 HIGHLAND AVENUE
(310) 802-5504

I hereby acknowledge that I am aware that Perry & Kathi Colligan
(insert property owners names)
at 605-26th St.
(insert address where trees are proposed to be removed)
Liquidamber tree
(insert number and type of tree or trees) in the front or streetside yard
(circle applicable location).

By signing this acknowledgement it does not imply that I agree with the removal, only that I am aware of the proposal.

Print Name

Address

Signature

Sherri DeLuca 609 26th St. S DeLuca

Carolyn Oudin 617 26th St Carolyn Oudin

Carmen Jordan 621 26th St Carmen Jordan

Robert Monzingo 624 26th St R. A. Monzingo

Robert Monzingo 620 26th St R. A. Monzingo

Robert V. Maysa 614 26th St. Robert V. Maysa

June LaCascio 608 26th St. June LaCascio

Patricia Jackson 604 26th St Patricia Jackson

Melanie Polinger 613 26th St. Melanie Polinger

Timothy A. Phillips 625 26th St. Timothy A. Phillips

Robert Fournier 600 26th St Robert Fournier

Samuel H. Duarte 595 26th St. Samuel H. Duarte

Juan Duarte 595 26th St Juan Duarte

Dave Garay 593 26th St Dave Garay

TOM HUMPHREYS 591 26th St T. Humphreys

Beverly Calderon 601 26th St

Out of country

Tree Permit Application – Tree Removal Continued

We have enjoyed the beauty of the Liquidambar tree and, in some respects are sad to see it go. That said, the tree is too big (particularly horizontally) and has too large a root system for a lot of our size. Add to that its location approximately 9' from the house (and the to-be-built home) and it creates too many problems to resolve.

The first issue is the tree's location with respect to the design of the new home. Our plans include a garage that is below the house. To achieve the appropriate driveway grade, the driveway has to be on the low side of the lot. The tree is located on the low side of the lot and would have to be removed to accommodate our plan. If we try to preserve the tree, the design of the house would be compromised to the point that all of the features we seek would be either impossible or severely compromised.

We are in favor of having a nice tree in the front yard and intend to replace the Liquidambar with a 36" box tree (species to be determined). We would like a tree that isn't as difficult to maintain as the Liquidambar and is more suited to the small lots we have in Manhattan Beach. Also, we intend to be proactive in designing the area around the tree to contain roots and limit the damage the new tree could cause. It is apparent that no one took the invasiveness of the Liquidambar tree's roots into consideration when it was planted, which leads us to the second issue.

The existing tree has an enormous root structure (Liquidambar is notorious for having a destructive root system) that has penetrated the main sewer line approximately 20' inside the front wall of the house (according to the plumber that scoped the line). It has cracked the driveway and has a root approximately 9" in diameter that heads straight toward the house's foundation (see photo). The root system is out of control and is a constant maintenance problem. Also, the tree has been as tall as approximately 45' and had a diameter that hung over the house more than 10' (not to mention its encroachment onto the power and telephone lines). We have had to trim aggressively to keep the tree from becoming a hazard. The tree lost a large limb last year that could have done severe damage.

The final consideration is the difficulty of saving the tree during construction. The root system is everywhere and even the removal of the cesspool and the construction of a two-car driveway on the high side of the lot would do severe damage to the roots. Also, large roots (including the 9" root mentioned above) appear to go under the house and would have to be severed and contained to construct new footings and protect them from future damage by the tree. The tree is only 9' from the perimeter of the house. Based upon our inquiries with respect to Liquidambar trees, root damage of the scope necessary to build on our lot, even if we tried to save the tree, would very likely be fatal. If not fatal, the potential compromise to the tree's health could create a safety hazard. This tree has large limbs and we have already lost one that could have caused severe damage or injury.

9/18/07

Tree Permit Application – Tree Removal Page 2

In summary, we understand the importance of having trees in the Tree Section and intend to plant a nice large tree in the front yard of our new home. The Liquidambar is the wrong tree in the wrong location. We appreciate your consideration of our application and look forward to your favorable reply.

9/18/07



↑
Root

*CESS POOL ACCESS

9/18/07

605 26th Street – Liquidambar Tree



Another view of the large root that heads toward the house's southern wall.

9/10/07

605 26th Street – Liquidambar Tree



A driveway crack presumably caused by the Liquidambar's roots, 15' east of the tree.



The tree is located 9' from the house and 9' from the property line.

9/18/07

605 26th Street – Liquidambar Tree

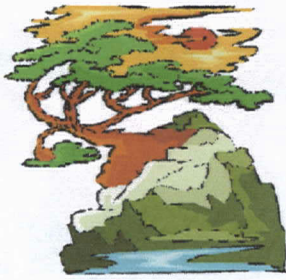


The measuring tape sits on top of a sink hole. The contractor thinks this is the access point for the cesspool.



This root, easily 8-10 inches wide is 5' from the house and heads in the direction of the house.

9/18/07



Ann Barklow Consulting

P.O. Box 1971 Manhattan Beach, CA 90267-1971

(310) 379-4447

TREE REMOVAL REPORT

for

Perry and Kathi Colligan

605 26th Street
Manhattan Beach, CA 90266
(310) 245-0211

by

Ann Barklow
Consulting Arborist #WE6920A
October 14, 2007



EXHIBIT

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Summary

The extent of structural defects, the shallow and aggressive roots, the tree's propensity to drop branches, and its indicated decay make this tree a poor candidate for preservation. I recommend the *Liquidambar* on the Colligan property be removed and replaced with a *Jacaranda mimosifolia*.

Background and Assignment

I was contacted by Perry and Kathi Colligan, on October 5, 2007. The Colligan's are planning to build a new home on their property. They are concerned with the sweetgum tree (*Liquidambar styraciflua*) in their front yard (Photo 1). Perry and Kathi would like to place their driveway in that area but the tree, even if designed around it would likely damage any hardscape nearby since it is doing that now.



Photo 1

I have been asked to:

- Visit the site and conduct an investigation of the sweetgum.
- Advise the Colligan's on the health of the tree.
- Provide my opinion in a report on whether it is practical to build around the tree.
- Provide recommendations for any course of action needed.

Observations

I visited the site of the sweetgum, and measured the diameter of the trunk at breast height (DBH) to be 22-inches. The height of the tree is approximately 35-feet. Bleeding is present on a large branch below an incorrect pruning cut (Photo 2). Large surface roots are present in the lawn area (Photo 3). The driveway has several cracks in the concrete (Photo 4). The tree has been topped. There are multiple branch attachments with branches of similar diameter on the tree (Photo 5).



Photo 2



Photo 3



Photo 4



Photo 5

Analysis

Bleeding (oozing sap) through the bark can indicate a number of problems. Liquid exuding from an almost closed wound such as in photo 2 may indicate decay behind the wound.¹ Decay may progress down the stem, endangering the attachment of lateral limbs.

Where roots are near the surface, distortions of the pavement can be expected. Each growth ring of a tree increases the root diameter and pushes the roots against the underside of the pavement, often with sufficient force to buckle and crack concrete or lift paving slabs. According to Professor Edward Gilman, sweetgums have aggressive and large surface roots and most of them are shallow. Gilman recommends a distance of more than 10-feet from walks to prevent root damage. *Liquidambar* are ranked as the most damaging street tree species in the city of San Francisco.² Contrary to popular belief, the soil environment beneath paved areas often favors tree root growth (Day, 1991; Wagar and Franklin, 1994).

Typical tree defects and factors that increase the potential for branch failure are multiple branch attachments with the size of the branches similar, narrow angle of attachments, and included bark (Photo 5). *Liquidambar* are also susceptible to *Summer Limb Drop*, an abiotic disorder caused by tree injury or stress usually occurring after hot weather.³

¹ Matheny and Clark, *Evaluation of Hazard Trees in Urban Areas* (second ed 1994) pg 23

² Roberts, Jackson and Smith, *Tree Roots in the Built Environment* 2006

³ Dreistadt, *Pest of Landscape Trees and Shrubs* 2004

Discussion and Conclusion

Liquidambar are beautiful trees that provide fall color. Unfortunately they are not a good tree for an urban environment because of their aggressive root system and summer limb drop. The Colligan's tree has evidence of decay and poor branch attachments. Their driveway is already damaged by the roots.

Recommendation

I recommend the sweetgum in the front of the Colligan's home be removed. For a replacement tree, I recommend *Jacaranda mimosifolia* because of its low root damage potential (Photo 6). It will also grow well in the lawn area proposed in the landscape plan for this yard. The 6' wide planter area near their walkway will provide a central location for this picturesque tree. I recommend that it be grown as a single leader and that it be supervised yearly by a certified arborist to be sure the canopy is raised properly and major limbs are spaced well apart. This tree will eventually exceed the height of the home. *Jacaranda*'s have surface roots but are not aggressive and are not likely to damage the hardscape nearby.

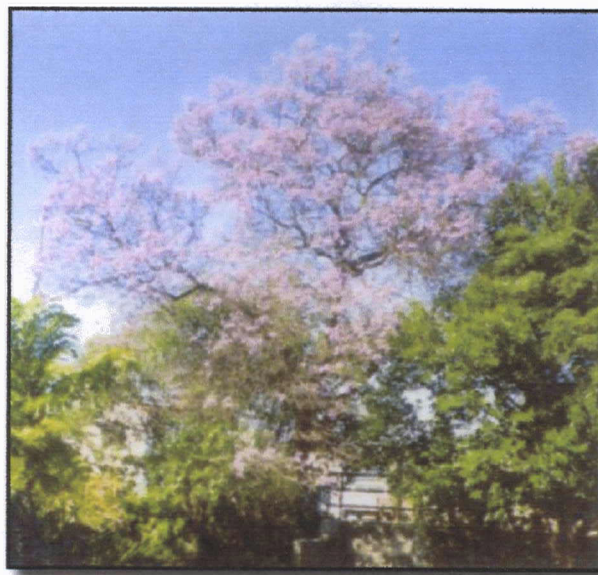
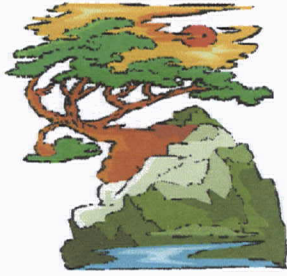


Photo 6

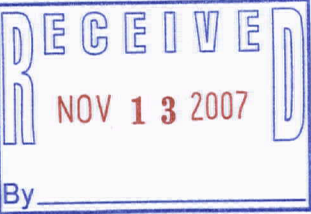
Assumptions and Limiting Conditions

1. Care has been taken to obtain information from reliable sources. However, the consultant cannot be responsible for the accuracy of information provided by others.
2. The consultant shall not be required to give testimony or to attend meetings, hearings, conferences, mediations, arbitrations, or trials by reason of this report unless subsequent contractual arrangements are made, including payment of an additional fee for services.
3. Sketches, drawings, and photographs in this report are intended for use as visual aids, are not necessarily to scale, and should not be construed as engineering or architectural reports or surveys.
4. Unless otherwise expressed this report covers only the examined items and their condition at the time of inspection. There is no warranty or guarantee, expressed or implied, that structural problems or deficiencies of plants or property may not arise in the future. No soil or tissue tests were obtained. No root examinations were performed.
5. Loss or alteration of any part of this report invalidates the entire report.
6. Neither all nor any part of the contents of this report, nor copy thereof, shall be conveyed by anyone, including the client, to the public through advertising, public relations, news, sales or other media, without the prior expressed written consent of the consultant.



Ann Barklow Consulting

P.O. Box 1971 Manhattan Beach, CA 90267-1971
(310) 379-4447



11/13/07
TO Craig

TREE REMOVAL REPORT

for

Perry and Kathi Colligan

605 26th Street
Manhattan Beach, CA 90266
(310) 245-0211

by

Ann Barklow
Consulting Arborist #WE6920A
November 12, 2007

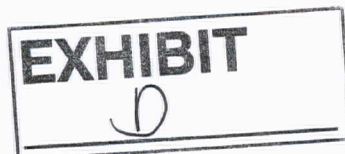


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Summary

The proximity to the power lines, the shallow and aggressive roots that have damaged the Colligans hardscape along with their neighbors, the tree's history and propensity to drop branches, and it's indicated decay make this tree a poor candidate for preservation. The design adjustments needed to keep the tree would deny the Colligan's morning light in their kitchen and late afternoon light in the family room, a much desired feature. The age of the tree makes it less able to survive injury during construction and decay is more common in older trees along with having a greater tendency to shed branches due to decline in wood quality. I recommend the *Liquidambar* on the Colligan property be removed and replaced in the area designated on the plan with a tree more suitable for the new location.

Background and Assignment

I was contacted by Perry and Kathi Colligan, on October 5, 2007. The Colligan's are planning to build a new home on their property. They are concerned with the sweetgum tree (*Liquidambar styraciflua*) in their front yard (Photo 1). Perry and Kathi would like to place their driveway in that area but the tree, even if the design were flipped, would likely damage any hardscape nearby since it is doing that now. The Colligan's are also worried for their children since a large branch dropped on their roof last summer and flipping the home would place the walkway and lawn area directly under the large limbs. The Colligans have also been asked by their neighbor, Mrs. Calderon, to remove the tree because of the damage to her walkways and steps (Appendix A). Perry and Kathi do not want to flip their design plan because the kitchen would lose the morning eastern light and the family room would lose the afternoon light, which are the desirable features they had discussed early in the design stage.



Photo 1

I have been asked to:

- Visit the site and conduct an investigation of the sweetgum.
- Advise the Colligan's on the health and safety of the tree.
- Provide my opinion in a report on whether it is practical to build around the tree.
- Provide recommendations for any course of action needed.

Observations

I visited the site of the 45-year old sweetgum, and measured the diameter of the trunk at breast height (DBH) to be 22-inches. The height of the tree is 35-feet. Bleeding is present on a large branch below a flush cut (Photo 2). Large surface roots are present in the lawn area (Photo 3). The driveway has several cracks in the concrete (Photo 4). The neighbor to the west has damage as far away as 25-feet from this tree (Photo 5, 6, 7). The tree has been topped and is in the power lines. No undergrounding is scheduled in this area.



Photo 2



Photo 3



Photo 4



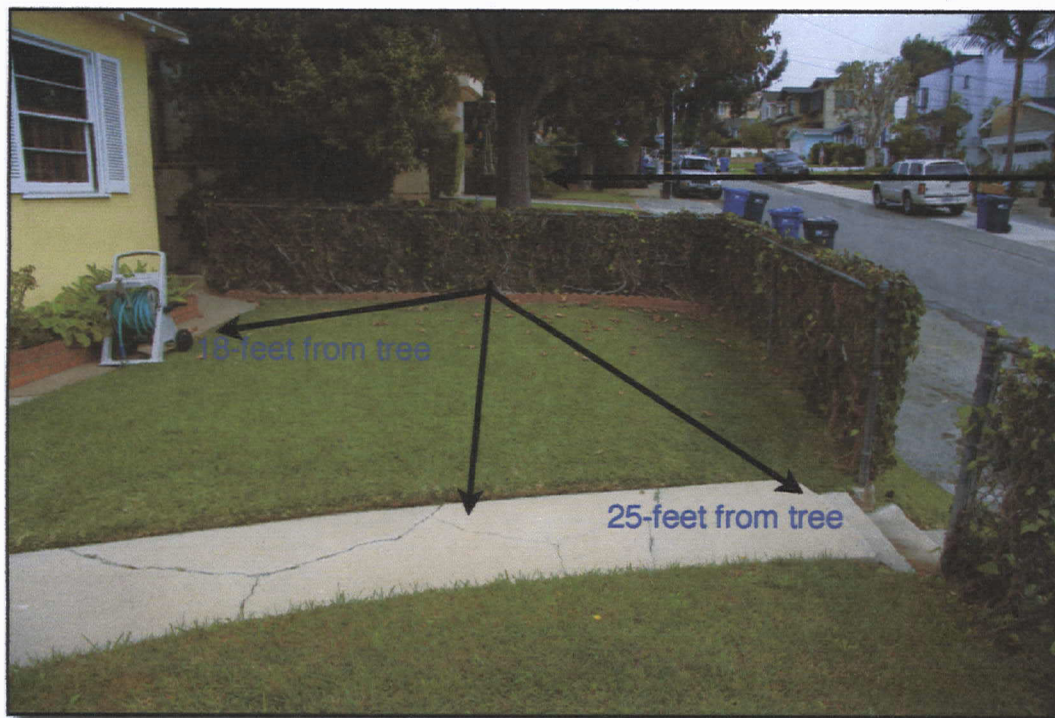
Entrance to neighbors home

Photo 5



Walkway in front of neighbors home

Photo 6



Colligan Tree

18-feet from tree

25-feet from tree

Photo 7

Analysis

My research shows that bleeding (oozing sap) through the bark can indicate a number of problems. Liquid exuding from an almost closed wound such as in photo 2 may indicate decay behind the wound.¹ Decay may progress down the stem, endangering the attachment of lateral limbs and weakening the integrity of the trunk. According to the List of Inherent Failure Patterns for Selected Species, *Liquidambar styraciflua* are listed as having trunk failure from internal decay.²

When pruning cuts are made too flush, tissue around a cavity will callous and form woundwood, particularly around the vertical edges as in this subject tree. Woundwood will roll inward on itself in a cavity and can become quite thick. Even though this wound has callused over, the cavity may still be enlarging.³ This limb may be removed, but experience has shown that in trees that are more than 15 years old, removal of limbs that are more than a third the diameter of the trunk may have poor ability to restrict spread of decay following removal.⁴ This 10-inch diameter branch would need to be under 7-inches to consider removing without significant harm to this older tree.

Where roots are near the surface, distortions of the pavement can be expected. Each growth ring of a tree increases the root diameter and pushes the roots against the underside of the pavement, often with sufficient force to buckle and crack concrete or lift paving slabs. According to Professor Edward Gilman, sweetgums have aggressive and large surface roots and most of them are shallow. Gilman recommends a distance of more than 10-feet from walks to prevent root damage. Francis et al. (1996) suggested a distance of 15-feet may be needed between trees and concrete for species that grow very large. *Liquidambars* are ranked as the most damaging street tree species in the

¹ Matheny and Clark, *Evaluation of Hazard Trees in Urban Areas* (second ed 1994) pg 23

² Matheny and Clark, *Evaluation of Hazard Trees in Urban Areas* (second ed 1994) pg 81

³ Harris et al, *Arboriculture 4th ed* 2004

⁴ Gilman, *An Illustrated Guide to Pruning* 2nd ed pg 242

city of San Francisco.⁵ Contrary to popular belief, the soil environment beneath paved areas often favors tree root growth (Day, 1991; Wagar and Franklin, 1994). The Colligan's neighbor, Beverly Calderon's hardscape demonstrates how far reaching the Liquidambar's roots are and how their surface roots can lift walkways 25-feet away in photos 5, 6 and 7.

Liquidambar's are also susceptible to *Summer Limb Drop*, also referred to as *Sudden Limb Drop* an abiotic disorder caused by tree injury or stress usually occurring after hot weather.⁶ The Colligan's topped the tree after a large branch broke and landed on their roof because they feared the tree would pose a hazard to their two children. Topping however, is not a viable method of height reduction and does not reduce the hazard. Topping in the long term will make a tree more hazardous. The severity of the pruning triggers a survival mechanism forcing the rapid growth of multiple shoots below each cut. This is at great expense to the tree's health and the new shoots are anchored only in the outermost layers of the topped branches. While the goal was to reduce the tree's height and weight to make it safer, it has made it more hazardous than before. Edison also does regular topping of one side of the Colligan's tree because it extends into the power lines (Photo 8).

Section of tree that is routinely removed by Edison tree contractors



Photo 8

⁵ Roberts, Jackson and Smith, *Tree Roots in the Built Environment* 2006

⁶ Dreistadt, *Pest of Landscape Trees and Shrubs* 2004

I also discovered through extensive research that the age of 45 years is considered old for an urban tree. For example, Monterey pines have a maximum potential life-span of 150 years (Loehle 1988). Typically these trees die at the age of 80-100 years. In the Eastern parts of the San Francisco Bay Area, the trees die at 50 years. In the Central Valley of California, Monterey pine rarely survive past 25 years. In evaluating two species of trees in New Jersey streets, London plane and Norway maple, they were found to have an average longevity of 39-48 years respectively (Polanin 1991).⁷ London plane trees can have a longevity of 150 years. Urban stress, such as the Colligan's *Liquidambar* tree has been subjected to creates a life span much shorter than those found in a natural environment.

Trees suitable for preservation must be evaluated on the basis of their desirability in the new landscape and the effort necessary to save them. Factors to be considered are tree health, structural integrity, public safety, and expected longevity. In an urban environment trees can outlast today's streets, homes, and buildings. Many structures are renovated or expanded every 30 to 50 years.⁸ The renovation is often so extensive that it becomes difficult to protect a tree's extensive root system. For this reason, concern about tree longevity may be inappropriate in highly urbanized landscapes such as Manhattan Beach since the life-span is limited.

Discussion and Conclusion

*Liquidambar*s are beautiful trees that provide fall color and habitat for wildlife. No one can argue the benefits of trees but many take trees for granted, like they take lampposts...beneficial objects that have always been there. But unlike lampposts, they are living organisms that require continuing supplies of water and nutrients for growth. They need an environment without adverse factors that could affect them such as the harsh pruning that this tree will require to keep it in bounds and reduce risk. The adverse factors of root severance, drought, and soil compaction common in construction

⁷ Matheny and Clark, *Evaluation of Hazard Trees in Urban Areas* (second ed 1994) pg 7

⁸ Gillman, *Trees for Urban and Suburban Landscapes*, p. 16.

sites is especially harmful to an older tree such as the Colligan's. Tree growth itself requires that trees be given adequate room for expansion without upsetting their surroundings. I consider *Liquidambar* similar to *Ficus* trees. They belong in a park like setting far away from hardscape. Not just for the reason of having to repair the hardscape but the continual root pruning that will be needed when the concrete areas are repaired.

The new driveway to this home if the tree stays will be as close as 8-feet from the tree trunk. The tree is currently damaging hardscape 25-feet away. The walkway will be under limbs of a tree lacking structural integrity. The home the Colligan's wish to build will be there long after the tree and should be allowed to be designed for the homeowners comfort and to retain it's value.

Recommendation

I recommend the sweetgum in the front of the Colligan's home be removed. Pruning will reduce risk of failure and keep it out of the power lines but will reduce the energy reserves of the tree and negatively affect growth and vitality. Repeated root pruning when hardscape damage occurs will affect it's stability and health. Removal is the only alternative that will eliminate the risk of damage or injury to objects or people in the vicinity.

For a replacement tree, the Colligan's need to consider a tree with a low root damage potential and strong branch attachments to grow in the 6-foot wide planter area. It's canopy should grow under and not near the power lines. If turf is being installed the tree needs to be able to take regular irrigation. I will continue to work with the Colligan's to choose a replacement tree.

Assumptions and Limiting Conditions

1. Care has been taken to obtain information from reliable sources. However, the consultant cannot be responsible for the accuracy of information provided by others.
2. The consultant shall not be required to give testimony or to attend meetings, hearings, conferences, mediations, arbitrations, or trials by reason of this report unless subsequent contractual arrangements are made, including payment of an additional fee for services.
3. Sketches, drawings, and photographs in this report are intended for use as visual aids, are not necessarily to scale, and should not be construed as engineering or architectural reports or surveys.
4. Unless otherwise expressed this report covers only the examined items and their condition at the time of inspection. There is no warranty or guarantee, expressed or implied, that structural problems or deficiencies of plants or property may not arise in the future. No soil or tissue tests were obtained. No root examinations were performed.
5. Loss or alteration of any part of this report invalidates the entire report.
6. Neither all nor any part of the contents of this report, nor copy thereof, shall be conveyed by anyone, including the client, to the public through advertising, public relations, news, sales or other media, without the prior expressed written consent of the consultant.

Colligan-sweetgum

Beverly Calderon
601 – 26th Street
Manhattan Beach, CA 90266

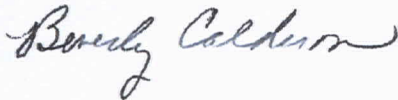
Appendix A

Perry Colligan
605 – 26th Street
Manhattan Beach, CA 90266

Dear Perry:

I am aware that you have applied for a tree removal permit in connection with your plans to build a new home at 605 – 26th Street. We have enjoyed the tree over the last 45 years, but its roots have caused significant damage to the walkways in front of our home. I support your position in removing the tree and understand why you wouldn't want to build around it.

Sincerely,



Beverly Calderon

PS: My daughter confirmed that the tree was planted in the early 1960's

ORDINANCE NO. 2082

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF MANHATTAN BEACH APPROVING AMENDMENTS TO THE CITY ZONING CODE (SECTION 10.52.120) TO REVISE THE TREE PRESERVATION REGULATIONS

THE CITY COUNCIL OF THE CITY OF MANHATTAN BEACH, CALIFORNIA, DOES HEREBY ORDAIN AS FOLLOWS:

SECTION 1. The City Council of the City of Manhattan Beach, California, does hereby find, determine and declare as follows:

WHEREAS, the City's Tree Preservation Ordinance was originally adopted August 19, 1993 (Ordinance No. 1884), and is included as Section 10.52.120 of the Zoning Code, and the Ordinance originally applied only to the Tree Section, generally bounded by Rosecrans Avenue, Blanche Road, Valley Drive and Sepulveda Boulevard, and;

WHEREAS, on May 6, 2003, the Ordinance was expanded (Ordinance No. 2045) to apply to all of the residential zones in Area Districts I and II; the Beach Area is not covered by the Tree Ordinance, and;

WHEREAS, on June 24, 2005, the City Council held a special session and developed the 2005-2007 Work Plan, which included an item to study possible revisions to the Tree Ordinance, and;

WHEREAS, on July 5, 2005, the City Council amended and formally adopted the 2005-2007 Work Plan, and;

WHEREAS, on July 26, 2005 the City Council and Planning Commission held a joint Work Plan meeting, and provided direction to revise the Tree Ordinance as one of the top priorities for the Community Development Department, and;

WHEREAS, pursuant to applicable law, the Planning Commission of the City of Manhattan Beach conducted a public hearing on August 24, 2005, on the proposed Code Amendments related to revisions to the Tree Preservation regulation, and adopted Resolution No. PC 05-11 recommending to the City Council revisions to the Tree Ordinance, and;

WHEREAS, the public hearing was advertised pursuant to applicable law, testimony was invited and received, and;

WHEREAS, public noticing included a one-quarter page display ad published on August 11, 2005 in a newspaper of general circulation (Beach Reporter), and;

WHEREAS, pursuant to applicable law, the City Council conducted a duly noticed public hearing on September 20, 2005 regarding the Planning Commission's recommendation regarding the proposed Code Amendments (Resolution No. PC 05-11) related to revisions to the tree preservation regulations, and public testimony was invited and received, and the Council directed staff and the Planning Commission to revisit portions of the proposed Ordinance, and;

WHEREAS, the public hearing held by the City Council was advertised by a one-quarter page display ad published on September 1, 2005 in The Beach Reporter, a newspaper of general circulation in Manhattan Beach and notice was mailed to interested parties of record, and;

WHEREAS, pursuant to applicable law, the Planning Commission of the City of Manhattan Beach conducted a public hearing on October 26, 2005, on the proposed Code Amendments related to revisions to the Tree Preservation regulation, and after accepting public input and discussing the item, provided direction to staff for revisions to the Ordinance and continued the public hearing to December 14, 2005, and adopted Resolution No. PC 05-20, recommending to the City Council revisions to the Tree Preservation regulations, and;

EXHIBIT
E

WHEREAS, the public hearing was advertised pursuant to applicable law, testimony was invited and received, and;

WHEREAS, public noticing included a one-quarter page display ad published on October 13, 2005 in a newspaper of general circulation (Beach Reporter), and;

WHEREAS, pursuant to applicable law, the City Council of the City of Manhattan Beach conducted a public hearing on February 7, 2006, on the proposed Code Amendments related to revisions to the Tree Preservation regulation, and after accepting public input and discussing the item, provided direction to staff for further revisions to Draft Ordinance No. 2082, and;

WHEREAS, the public hearing was advertised pursuant to applicable law, testimony was invited and received, and;

WHEREAS, the public hearing held by the City Council was advertised by an ad published on January 26, 2006 in The Beach Reporter, a newspaper of general circulation in Manhattan Beach and notice was mailed to interested parties of record, and;

WHEREAS, pursuant to applicable law, the City Council of the City of Manhattan Beach conducted a public hearing on March 7, 2006, on the proposed Code Amendments related to revisions to the Tree Preservation regulation, and after accepting public input and discussing the item, introduced Ordinance No. 2082, for revisions to the Tree Preservation regulations, and;

WHEREAS, the public hearing was advertised pursuant to applicable law, testimony was invited and received, and;

WHEREAS, the public hearing held by the City Council was advertised by a 1/4 page ad published on February 24, 2006 in The Beach Reporter, a newspaper of general circulation in Manhattan Beach and notice was mailed to interested parties of record, and;

WHEREAS, the applicant for the subject project is the City of Manhattan Beach; and,

WHEREAS, pursuant to the California Environmental Quality Act (CEQA) and the Manhattan Beach CEQA Guidelines, the subject Amendments are exempt in that they are covered by the general rule that CEQA [Section 15061 (3)] only applies to projects which have the potential for causing a significant effect on the environment, and since it can be seen with certainty that there is no possibility that the activity will have a significant effect on the environment, the activity is not subject to CEQA; and,

WHEREAS, the proposed amendments have been prepared in accordance with the provisions of Title 7, Division 1, Chapter 4, Section No. 65853, et seq., of the State of California Government Code, and;

WHEREAS, the City Council finds that the project will not individually nor cumulatively have an adverse effect on wildlife resources, as defined in Section 711.2 of the Fish and Game Code; and,

WHEREAS, the City Council made the following findings with regard to the proposed changes:

1. The proposed amendments are consistent with the City of Manhattan Beach General Plan as follows:

Goal LU-2: Encourage the provision and retention of private landscaped open space.

Policy LU-2.3: Protect existing mature trees throughout the City, and encourage their replacement with specimen trees whenever they are lost or removed.

Goal LU-3: Achieve a strong, positive community aesthetic.

Goal CR-4: Preserve the existing landscape resources in the City, and encourage the provision of additional landscaping.

Policy CR-4.1: Protect existing mature trees throughout the City and encourage their replacement with specimen trees whenever they are lost or removed.

Policy CR-4.3: Recognize that landscaping, and particularly trees, provide valuable protection against air pollution, noise, soil erosion, excessive heat, and water runoff, and that they promote a healthy environment.

Policy CR-4.4: Review the tree ordinance to consider its application citywide and to determine the need to strengthen tree preservation criteria.

Policy CR-4.5: Discourage the reduction of landscaped open space and especially the removal of trees from public and private land.

2. The purpose of the proposed amendments include, but are not limited to, the following:
 - A. Continue to encourage the retention and preservation of trees while permitting the reasonable enjoyment of private property;
 - B. Provide internal consistency within the existing Tree Preservation regulations;
 - C. Ensure that the purpose as stated within the regulations is met;
 - D. Preservation and retention of trees for future generations;
 - E. Adequate size replacement trees in relationship to the size of trees that are removed; and,
 - F. Consistency with other Code provisions and current practices, including but not limited to street tree provisions.
3. The City Council also finds as follows:
 - A. Removal of trees in certain zones requires a permit to be issued by the Director of Community Development;
 - B. An exemption to this requirement is provided for when an "emergency" exists;
 - C. Because this section is vague as to what constitutes an "emergency" it is susceptible to abuse by those wishing to rid themselves of unwanted trees who cannot otherwise obtain a permit.
 - D. It is therefore in the best interests of the general public health, safety and welfare with regard to the preservation of trees to amend this exemption to clarify when a tree may be removed for "emergency" reasons and to insure that public safety is the real reason.

SECTION 2. The City Council of the City of Manhattan Beach hereby amends Section 10.52.120 of Title 10, of the Manhattan Beach Municipal Code, entitled Tree preservation and restoration in residential zones, Area Districts I and II as follows:

"10.52.120 Tree Preservation and Restoration in Residential Zones Area Districts I and II

"A. **Purpose.** Tree preservation is necessary for the health and welfare of the citizens of the City of Manhattan Beach in order to provide cooling shade and beauty, increase property values, minimize spread of disease to healthy trees, conserve scenic beauty, prevent erosion of topsoil, protect against flood hazards, counteract pollutants in the air, and generally maintain the climatic and ecological balance of the area. These regulations strive to preserve and enhance the existing tree canopies on individual residential properties as well as the overall neighborhood, in order to maintain the neighborhood character. The design of residences, including grading, driveways, walkways, patios, utilities and right-of-way improvements, shall consider and accommodate existing protected trees. The intent of this section is the retention and preservation of trees while permitting the reasonable enjoyment of private property.

B. General Requirements.

1. Except as provided in subsection G (Exemptions), no person shall directly or indirectly remove or cause to be removed, or relocate any protected tree as herein defined, from

residentially zoned properties within Area Districts I and II, without first obtaining a permit to do so in accordance with the procedures set forth in this section.

2. No person shall directly or indirectly neglect, abuse, damage, mutilate, injure or harm any protected tree as herein defined, from residentially zoned properties within Area Districts I and II.

C. **Definitions.**

1. "Protected tree" shall include: any species of tree, (excluding deciduous fruit-bearing trees and Washingtonia species palms) the trunk of which is located at least partially within the required front yard or streetside yard (on corner lots) of a site, with a trunk diameter of twelve inches (12") or greater or multiple trunks totaling twelve inches (12") in diameter or greater at a height of four and one-half feet (4.5') from existing grade; and any replacement tree required pursuant to this section.

2. A "tree permit" is a permit required for the removal, relocation or replacement of a protected tree.

3. A "tree plan" shall mean a plot plan (scale 1/8 inch = 1 foot, minimally) with all trees on the subject property identified by location, size and species, including:

- a. footprint of all existing and proposed buildings and/or additions to buildings on the property
- b. location of all trees within the front and streetside yards, in the adjacent public right-of-way and on adjacent properties within 10 feet of the subject property adjacent to the front and streetside yards
- c. size (diameter and height) and species of each tree
- d. location of drip line for each tree
- e. designation of tree(s) to be removed, saved, relocated and/or replaced
- f. proposed location, size and type of replacement tree(s)
- g. photos of all trees in front and streetside yards.

D. **Preservation of Trees During Grading and Construction Operations.**

1. All protected trees, as defined above, shall be preserved and protected, and may be only be removed or relocated with prior approval of a tree permit provided they are replaced or relocated in accordance with the provisions of this Section.

2. Trees required to be retained shall be protected during demolition, grading, and construction operations by methods subject to the approval of the Community Development Director.

3. Care shall be exercised for trees to be preserved so that no damage occurs to said trees. Advisory sign(s) that identify the tree protection requirements shall be clearly posted on the site. All construction shall preserve and protect the health of trees:

- a. Remaining in place
- b. Being relocated
- c. Planted to replace those removed
- d. Adjacent to the subject property.

5. Any tree which is adjacent to the subject property and may be potentially impacted by construction activity on the subject property shall be protected pursuant to the provisions of this chapter.

6. No grading or construction, including structures, paving, and walls, that disrupts the root system on private as well as public property, shall be permitted without prior approval by the Community Development Director. As a guideline, no cutting of roots over 2 inches in diameter should occur within the drip line of the tree as measured at ground level. Where some root removal is necessary as approved by the City the tree crown may require thinning to prevent wind damage.

7. Residential buildings shall take priority over tree preservation, however alternative designs and materials, shall be considered and implemented, as feasible, with the proposed overall design of the project.

8. Required public right-of-way improvements shall take priority over tree preservation, however alternative designs and materials, including but not limited to permeable surfaces and planter areas with irrigation, shall be considered and implemented, as feasible.

9. Relocation of protected trees shall only be allowed if the Community Development Director determines that the relocation will not be detrimental to the health of the tree or to other protected trees.

10. No fill material shall be placed within the drip line of any tree.

11. The Community Development Department may impose special measures determined necessary to preserve and protect the health of trees to remain on site.

E. **Tree Permit Applications - without Building Permit.**

1. Any person desiring to remove or relocate one or more protected trees shall

obtain a Tree Permit from the Community Development Department. A fee, as specified in the City's Fee Resolution, *shall may* be required for a Tree Permit.

2. Tree Permit applications shall include a Tree Plan, and written proof of neighbor notification pursuant to applicable permit instructions *and may also include* or an arborist's report, *or verification of a potential safety risk*

3. *A bond, cash deposit or other financial security, may be required to ensure required replacement trees are planted and/or that existing protected trees are properly protected, as determined to be appropriate by the Community Development Director.*

4. The Community Development Director, when approving tree permits, shall determine the adequacy and appropriateness of the submitted plan, neighbor input, and other related information.

F. **Tree Permit - with Building Permit.**

1. Application for a Building Permit *shall may* require a Tree Permit/Acknowledgement and Plan as defined above, *if protected trees are located on the property.*

2. A Tree Permit shall be required if the proposed project may impact existing trees in the front or streetside yard of the subject property even though removal is not planned.

3. *A fee, as specified in the City's Fee Resolution, shall be required for a Tree Permit.*

4. *A bond, cash deposit or other financial security, may be required to ensure required replacement trees are planted and/or that existing protected trees are properly protected, as determined to be appropriate by the Community Development Director.*

5. *Any new residential construction project in Area Districts I and II which exceeds fifty-percent (50%) valuation (total estimated cost of reconstructing the entire structure as defined by Section 10.68.030 of the Manhattan Beach Municipal Code) shall be required to plant a minimum of one new thirty-six inch (36") box tree, unless the Director of Community Development determines that it is inappropriate to require additional tree(s) on the property.*

G. **Replacement Trees.** Required replacement trees shall be minimum *twenty-four-inch (24")-boxed trees-thirty-six inch (36") box trees for each protected tree removed* of an appropriate species and must be planted prior to final inspection. Actual sizes, species, *location*, and quantities of replacement trees are subject to Community Development Director approval. *The City street tree list may be used as a guideline by the Director in determining appropriate replacement tree(s). In no case shall A combination of protected and replacement tree quantities shall not result in less than one protected tree per lot or thirty feet (30') of site frontage storage-if the Director of Community Development determines that there is not adequate room on the property for replacement tree(s) due to the number of existing trees to remain, then the requirement for replacement trees may be modified or waived.*

H. **Exemptions.** Tree removals and alterations exempt from the requirements of this section are as follows:

1. Removal in case of imminent emergency caused by the hazardous or dangerous condition of a tree, requiring immediate action for the safety of life or property (e.g., a tree about to topple onto a dwelling due to heavy wind velocities) *with the prior approval of the Director of Community Development or his or her designee* if a subsequent application for a Tree Permit is filed within five (5) working days.

2. *Removal of any tree that is determined to be a public nuisance in accordance with Section 7.32.070, with prior approval of the Directors of Community Development and Public Works or his or her designee if a subsequent application for a Tree Permit is filed within five (5) working days.*

2. Removal of deciduous, fruit-bearing trees, *Washingtonia robusta*, or *Washingtonia filifera*.

3. Public Utility actions, under the jurisdiction of the Public Utilities Commission of the State of California, as may be necessary to comply with their safety regulations, or to maintain the safe operation of the facilities.

4. Cutting of tree branches and roots extending across property lines into adjacent property, *to the extent that the pruning complies with the American National Standards Institute (ANSI A300) standards and does not damage or potentially damage the health and structure of the tree(s).*

5. *Cutting of tree branches and roots to the extent that the pruning complies with the American National Standards Institute (ANSI A300) requirements and does not damage or potentially damage the health and structure of the tree(s).*

I. **Non-liability of City.** Nothing in this Ordinance shall be deemed to impose any liability for damages or a duty of care and maintenance upon the City or upon any of its officers or employees. The person in possession of any private property shall have a duty to keep the trees upon the property

and under his control in a safe and healthy condition.

J. **Violation/Penalties.** Violation of this chapter shall be punishable as a misdemeanor or an infraction subject to the discretion of the City Prosecutor with the following additional penalties:

1. **Suspension, Revocation, and Restoration:** In addition to any other penalties allowed by this Code, the Director of Community Development may suspend any Tree Permit. The Planning Commission or City Council may suspend the Tree Permit for a Discretionary Project upon a finding at a public hearing that a violation of conditions of approval has occurred.

2. **Stop Work Orders:** Whenever any construction or work is being performed contrary to the provisions of this section or condition of approval of the applicable discretionary project the Director of Community Development may issue a written notice to the responsible party to stop work on the project on which the violation has occurred or upon which the danger exists. The notice shall state the nature of the violation and the risk to the trees. No work shall be allowed until the violation has been rectified and approved by the Director of Community Development.

3. **After-the-Fact Permit Fees:** The standard permit fee shall be doubled for tree removals or other work requiring a tree permit pursuant to this section when commenced prior to issuance of said permit."

K. **Administrative Fines.** *The Director of Community Development may impose a fine against any person who is in violation of any provision of this section. Such fine shall be a range as specified in the City fee Resolution. The proceeds of all administrative fines imposed under this section shall be placed in a "Tree Canopy Restoration Fund" to be used solely for the replacement and maintenance of trees in the public right of way or on public property within the City.*

1. *Any person upon whom a fine is considered to be imposed pursuant to this section shall be entitled to a written notice of the pending decision of the imposition of the fine within ten (10) calendar days of the decision of the imposition of the fine. The notice shall state the amount of the fine, the reason for the proposed imposition of the fine and the authority for imposing the fine. The notice shall also state that the person upon whom the fine is proposed to be imposed has a right to request a hearing to protest the proposed decision of imposition of the fine and the time and method by which a hearing may be requested.*

2. *Any person upon whom a fine authorized by this section is proposed to be imposed may request, in writing, a hearing to protest the proposed fine. The request must be filed with the City Clerk within ten (10) calendar days from the mailing date of the notice of the proposed fine. The failure to timely file a written request for a hearing shall constitute a waiver of the right to a hearing.*

3. *Upon timely receipt of a request for a hearing the City shall, within ten (10) calendar days of receipt of such a request hold a hearing to be presided over by the Director of Community Development or his or her designee. This presiding officer shall determine the procedure and rules for the conduct of the hearing. The ruling of the presiding officer, notwithstanding any other provision of this code shall be final.*

4. *If the Director determines that a fine is due, and the fine imposed by this section is not paid within fifteen (15) calendar days of its becoming due and payable the City may file a lien in the amount of the fine plus interest at the legal rate, which may be recorded on any property owned by the individual subject to the fine which is located in the City of Manhattan Beach.*

5. *In the event that a civil action is filed regarding any provision of this subsection "K" the City shall be entitled to attorney fees if it prevails.*

SECTION 3. All other provisions of the City of Manhattan Beach Municipal Code shall remain unchanged and continue in full force and effect.

SECTION 4. Any provisions of the City of Manhattan Beach Municipal Code, or appendices thereto, or any other ordinances of the City, to the extent that they are inconsistent with this ordinance, and no further, are hereby repealed.

SECTION 5. If any section, subsection, sentence, clause, phrase or portion of this ordinance is for any reason held to be invalid or unconstitutional by the decision of any court of competent jurisdiction, such decision shall not affect the validity of the remaining portions of this ordinance. The City Council hereby declares that it would have adopted this ordinance and each section, subsection, sentence, clause, phrase or portion thereof irrespective of the fact that any one or more sections, subsections, sentences, clauses, phrases or portions be declared invalid or unconstitutional.

SECTION 6. A staff review of the proposed amendments per Section 2 of this

Ordinance is hereby directed to occur approximately twelve (12) months after the effective date of this Ordinance.

SECTION 7. This ordinance shall go into effect and be in full force and operation from and after thirty days after its final passage and adoption.

SECTION 8. The City Clerk shall certify to the passage and adoption of this ordinance shall enter the same in the book of original ordinances of said City; shall make a minute of the passage and adoption thereof in the records of the proceedings of the City Council of said City in the minutes of the meeting of said Council at which the same is passed and adopted; and shall within fifteen (15) days after the passage and adoption thereof cause the same to be published once in a weekly newspaper of general circulation, printed, published and circulated within the City of Manhattan Beach, California and which is hereby designated for that purpose.

PASSED, APPROVED AND ADOPTED this 21st day of March, 2006.

AYES:
NOES:
ABSENT:
ABSTAIN:

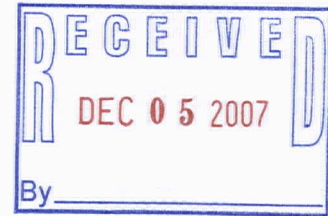
Mayor of the City of Manhattan Beach, California

ATTEST:

City Clerk

**CRAIG CROTTY
ARBOR CULTURE**

P.O. Box 246
Verdugo City, CA 91046
Tel. 818 957-8824
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November 30, 2007

Laurie Jester, Senior Planner
Community Development
City of Manhattan Beach
Tel 310 802-5615

TREE REPORT

RE: Assessment of an ordinance-protected American Sweetgum tree
at 605 26th Street, Manhattan Beach

The following arborist statement is an assessment of an ordinance-protected tree in the City of Manhattan Beach. An American Sweetgum tree, *Liquidambar styraciflua*, is located in the front yard of this residential property at 605 26th Street (Photos A & B).

The property owner proposes to remove the tree, along with the existing house, for a new driveway access to the proposed residence. A summary of the Tree Ordinance from the city website states, 'the design of residences needs to consider and accommodate trees', and this tree could be preserved through construction by keeping the driveway access in the current location, holding root pruning away from the trunk at a distance of three to five times the trunk diameter, and a continuation of pruning methods already employed in the past maintenance history of the tree.

However, a strong case could be made to remove the tree to enable the property owners to have a reasonable usage and full enjoyment of their home site. This is a valid point, but not within my purview as an arborist consultant, and should be argued by the property owner, architects, city planning staff, commissioners, or other qualified professionals and officials. The ultimate decision in this case could help clarify the administration of the Tree Ordinance for future cases regarding preservation of trees on private property.

I was asked to discuss issues relating to the subject tree. This tree could be preserved through construction and should not be condemned on the basis of its condition, species characteristics, potential limb drop, existing root damage, future root growth, age, or past pruning history. The subject tree has species characteristics and some lesser defects that could be managed through common pruning techniques and protection during construction, in the environmental context of this front yard.



The property owner's arborist has written two advocacy statements supporting tree removal as the only alternative. The first of these is a Tree Removal Report of October 14, 2007; the second also a Tree Removal Report dated November 12, 2007. The statements in these reports condemn the species as unsuitable to be grown in Manhattan Beach due to potential for limb drop and surface rooting characteristics. Further statements in these two reports point out past pruning history, a cavity with decay in one lower limb, and damage to the driveway and an adjoining property walkway.

Yet a third tree report by the same consultant regarding another tree of the exact same species, in similar soil conditions, but a much larger, older tree growing in even more limited space, suggests root pruning as an alternative to removal. Preservation is recommended for this larger and older Sweetgum tree, *Liquidambar styraciflua*, located at 2103 Elm Avenue in Manhattan Beach (Photos G and H).

Thus, our subject Sweetgum tree at 605 26th Street should be able to be preserved using the same points argued for the larger tree at 2103 Elm Avenue. Both trees are of the identical genus and species; both trees have had past heavy pruning (topping) and subsequent crown reduction and crown restoration pruning; both are growing in similar sandy loam, deep soils.

The primary differences between the two trees are only in size (larger generally means older), and root space limitations.

- The tree at 2103 Elm Avenue is much larger (32 inches trunk diameter) and growing in more confined space with a retaining wall within a few feet of the trunk on the street side.
- The tree at 605 26th Street is almost a third smaller (22 inches trunk diameter), but growing in more space (nearest site infrastructure being the existing house at about nine to ten feet away).

The consultant's report on the 2103 Elm Avenue Sweetgum tree suggests the roots could be cut at a distance of three times the trunk diameter, in a radius encircling three sides of the trunk. This recommendation is intended to allow preservation. Given the trunk size, this is a much more severe root pruning recommendation than would be required to preserve our subject tree at 605 26th Street.

But beyond the seeming contradictions of the three arborist reports, I believe the Sweetgum at 605 26th Street should be preserved on its own merits.

Condition of the Roots:

While there are no hard and fast rules for root pruning mature trees, it makes sense that the farther away from the trunk, that roots are removed, the better. The available research relating to distance which roots could be removed is limited and highly dependent on the circumstances of the site and condition of the individual tree, even within a particular species. In my experience, *Liquidambar* has an 'intermediate' tolerance to root loss, highly dependent on distance from the trunk and size of the root.

This said, Bartlett Tree Research Laboratories has a good 'General Guide for Minimum Distance for Rootcut' (1). From a structural point of view, the general guide suggests the tree could withstand root loss at a distance of three times (minimum) to five times (preferred) the trunk diameter.

Limiting the total percentage of root loss by limiting the number of sides pruned is obviously helpful. Root loss this close to the trunk may have significant negative effects on tree health. So, it is a good idea to limit such root loss to one side, or two sides if necessary.

Other information, not scientific research, regarding root pruning tolerances by species is even more vague and based on the individual tree and experience of the contributor. For instance, and only as a generality, the opinion of an urban forester may be largely based on experience gained from observing trees planted in the restricted root space of the street-side parkway area. Parkway can be as narrow as three to five feet.

Observations of Liquidambar in a street parkway would necessarily be skewed toward destruction of infrastructure and intolerance of root pruning very close to the trunk. I agree that Liquidambar can be problematic in narrow parkways and inadequate soil volumes. However, our subject Liquidambar tree is located in a front yard in sufficient space, with about nine to ten feet of clearance in every direction.

Sweetgum is a strongly rooted tree and tends to put down deeper roots in the soils of Manhattan Beach than it would in a denser soil type. These soils are deep, sandy loam, with an emphasis on sandy. Water penetrates deeper. Necessary gaseous exchange with the atmosphere is facilitated in this soil type. In short, these are great soils for growing trees.

A statement was made that this Sweetgum tree has damaged surrounding pavements. While this is not out of character for this species, a closer look at the pavement damage reveals a cracked, but not uplifted, driveway (see Photos C, D, & E).

The cracked cement in the driveway looks more like the result of poor construction practices, thin pavement or insufficient subsurface compaction. The cracked concrete appears to be caused by the weight of vehicles and not by the upward pressure of surface roots. In fact, I was not able to observe surface rooting from the Liquidambar tree near the cracked driveway.

Observations of damage to walkways in the west neighbor's yard were made by the property owner's consultant. Roots from this tree could have traveled into the west yard and uplifted pavement. This could be remedied by removing the offending roots at this distance (which appears to be outside the five times trunk diameter threshold). Roots could be removed annually at this distance if concerns merit.

1. Smiley et al, Tree Risk Management, 2002, page 16

Pruning to Maintain Condition:

The subject Sweetgum tree appears to be very well maintained by pruning, receiving crown restoration pruning, after past topping, and regular power line clearance. Pruning to clear power lines is a common arboricultural practice applied to many trees. In this case, the Sweetgum tree shows few adverse effects in form or structure due to power line clearance. It is now a very nicely shaped and aesthetically pleasing tree.

Summer limb drop is cited as a characteristic of the species. This is true but is well managed by crown reduction and crown restoration pruning. Summer limb drop is mentioned as an abiotic characteristic of Liquidambar trees in hot weather by Dreistadt (2). However, Dreistadt recommends protecting Sweetgum trees from injury and providing appropriate cultural care (ie. pruning), and having the tree inspected by an arborist as a means of managing summer limb drop. The entire species should not be condemned on the basis of this characteristic.

A branch cavity with decay is observed with strong wound wood formation (Photo F). I do not believe this is sufficient cause to remove the entire tree. A cavity with decay is primarily a structural concern due to potential for breaking due to loss of interior branch tissue (structural tissue). This concern can be managed by weight reduction pruning as has been applied to the tree in the past. Take weight out of the end of the branch and it will be less likely to fail.

Further, it is not likely that decay organisms will travel through the tree defense barriers into the main trunk from this branch due to compartmentalization (CODIT) (3). It is likely that decay is isolated locally within the branch and thus could be managed by pruning to reduce weight on the branch.

Crown reduction pruning and crown restoration pruning are recommended treatments to control both summer limb drop and to reduce weight on the limb with a cavity. These are just two types of pruning common in arboriculture and defined in the American National Standards Institute, ANSI A300 Pruning Standard 2001 (4). ANSI A-300 is the superseding pruning standard in the arboricultural industry.

The two recommended pruning methods lead to objectives of improved structure and appearance are defined in the standard as:

'5.6.4 Reduce-Reduction shall consist of selective pruning to decrease height and/or spread.' This is a size and end weight management method particularly suited to this individual tree.

2. Dreistadt, Pests of Landscape Trees and Shrubs, 2004

3. Shigo, A New Tree Biology Dictionary, 1986, pages 24-26

4. American National Standards Institute, ANSI A300 Pruning Standard 2001

Crown reduction pruning can be used, and has been used on this tree, to reduce end weight on branches, to clear any overhead wires, and reduce the potential for summer limb drop or potential failure of the branch with the cavity.

‘5.7.4.1 Restoration: Restoration shall consist of selective pruning to improve the structure, form, and appearance of trees that have been severely headed, vandalized, or damaged.’

Crown restoration is usually a series of pruning treatments spanning over a period of years. The subject tree has received this type of pruning in the past and should continue to receive crown restoration if the City decides to preserve it. Crown restoration incorporates other pruning methods, such as crown cleaning, crown thinning, and crown reduction to improve structure, form, and appearance.

Tree Preservation during Construction

As this is a proposed construction site, the primary issue is how close grading and excavation can encroach and still give the tree a reasonable chance to survive. Again, the farther away from the trunk that root removal takes place the better.

One solution would be to place the new driveway on the same side as existing and protect the root zone within three to five times the trunk diameter (3 x 22" trunk diameter = 66 inches or 5.5 feet) (5 x 22" trunk diameter = 110 inches or 9.16 feet). Then leave natural grade intact on the south and west sides of the tree.

Ideally, root pruning could be held back to five times the trunk diameter of the Liquidambar tree at 605 26th Street. This would leave enough space to place a wider driveway than currently exists on site. Recommendations are:

- Limit root pruning to approximately nine feet (9 ft.) on two sides of the tree; the north side at the existing home and east side at the existing driveway.
- Any root pruning should be performed by a qualified certified arborist, not construction site personnel.
- Excavation and root pruning should be done by hand first, then grading for the driveway with equipment second. Prior hand root-pruning could help limit root damage.
- Have a certified arborist monitor any work that could impact the tree, especially during grading.
- Place protective fencing as far as possible from the tree trunk and exclude activity within the fence.
- Cover the entire area within the fence with a four inches (4 in.) thick layer of coarse wood-chip mulch.
- Water the tree on the recommendation of the project certified arborist.
- Keep all trenching for utilities along the east property line, as far from the tree as possible.

- Crown reduction and crown restoration pruning should be continued regularly, as in past practices with this tree, to improve branch structure and maintain form. Pruning should conform to American National Standards Institute guidelines.

Craig Crotty, Arborist Consultant

Supplemental Information:

- Photos A through H
- Assumptions and Limiting Conditions



Photo A: The tree appears to be very well maintained by pruning as part of a regular maintenance regime. Crown restoration pruning has been applied after past topping. It is now a very nicely shaped and aesthetically pleasing tree that could be maintained in this manner for years more.
Craig Crotty, Consulting Arborist
November 30, 2007



Photo B shows another view, looking east.



Photo C illustrates the primary conflict. The property owners wish to place their new driveway on the west side (left) of their property. There may be valid reasons for this site layout, unrelated to tree condition, size, age, or species propensities.

However, there is enough space to enlarge the current driveway and still preserve the tree using five times the trunk diameter as a guide ($5 \times 22'' = 110''$ or $9.16'$). The distance of root pruning could be shortened to three times the trunk diameter if absolutely necessary ($3 \times 22'' = 66''$ or $5.5'$).

The number of sides affected by root pruning should be limited to as few as possible, in this case two, the driveway (east) and the house to be demolished (north). The street side and west neighbor's side should remain undisturbed, but could have the low wall replaced in the same location to maintain the existing grade.

The cracked cement in the driveway looks like the result of poor construction practices, thin pavement, caused by the downward weight of vehicles and not by the upward pressure of surface roots. In fact, I was not able to observe surface rooting from the Liquidambar tree near the cracked driveway or uplifted pavement consistent with root damage.

Observations of damage to walkways in the west neighbor's yard were made by the subject tree owner's consultant. Roots from this tree could have traveled into the west yard and uplifted pavement. This could be remedied by removing the offending roots at such a distance (appears to be outside the five times trunk diameter threshold). Roots could be removed annually at this distance if concerns merit.



Photo D reveals more of a sunken or imploded failed pavement inconsistent with upward pressures of root growth. No surface roots are observed immediately adjacent to the driveway.

The cracked concrete appears to be caused by downward pressure of vehicles. The cracked concrete closer to the house appears to be at a location where cars are habitually parked.



Photo E shows a large surface root within a few feet of the tree trunk. This root grows in the direction of the house. It is unusual for tree roots to damage a house foundation, because roots tend to be opportunistic.

Opportunistic means they will generally take the path of least resistance. If a root encounters a solid 18" or 24" deep footing, it is easier to turn and proceed along the perimeter of such an obstruction, than to go through or under the obstruction.

In my experience, roots usually turn and travel along foundations.

Shallow pavements are another story. Roots of trees such as Liquidambar can easily go under shallow pavement. The interface between the underside of the pavement and the soil is attractive to roots, especially in dense (clay) or compacted soils.

This said, soils I have observed in Manhattan Beach are deep, sandy loam, with an emphasis on sandy. Water penetrates deeper. Necessary gaseous exchange with the atmosphere is facilitated in this soil type. Tree roots are going to trend deeper in this soil type over denser soil types. This trend concurs with observations made on this site.

I did not see pavement damaged by this tree on this property.



Photo F shows an old pruning wound with strong wound wood formation. It is true there is very likely decay inside this cavity, but I do not believe this is sufficient cause to remove the entire tree.

A cavity with decay is primarily a structural concern of the branch breaking due to loss of interior branch tissue. This concern can be managed by weight reduction pruning as has been applied to the tree in the past.

Take weight out of the end of the branch and it will be less likely to fail.

Further, it is not likely that the decay organisms will travel through the tree defense barriers into the main trunk from here due to compartmentalization (CODIT).

It is likely that decay is isolated locally within the branch and thus could be managed by pruning to reduce weight on the branch.



Photo G shows a larger, older Liquidambar styraciflua at 2103 Elm Avenue, Manhattan Beach, as a comparison to the 26th St. tree. Circumstances are very similar to our subject tree but this tree has a 32" dia. trunk compared to our 22" dia. trunk and is larger all around. It is also growing in more limited space than our subject tree. This tree is recommended for preservation by both arborists. Craig Crotty, Consulting Arborist November 30, 2007



Photo H shows another view of the 2103 Elm Avenue comparison Liquidambar tree, looking east.

Root pruning is proposed along the right side of the tree at about three times the trunk diameter to a depth of about 3.5 feet.

Assumptions and Limiting Conditions

The Consulting Arborist has no past, present or future interest in this property or the subject tree. Opinions contained herein are the independent and objective judgements of the Consultant relating to circumstances and observations made on the subject site. The field inspection was a visual, grade level tree assessment.

The observations, opinions, and conclusions in this report represent my personal, unbiased professional analysis of the tree and the surrounding environment. I have no personal bias with respect to the parties involved.

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

It is assumed that statements of fact regarding property ownership, property boundaries, exact tree and structure locations are "as represented" by the client, in all verbal, written or drawn communications. 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.

Any change or alteration to this report invalidates the entire report.

Client _____ Date _____

Consultant _____ Date _____