TOWN OF LOS GATOS
PLANNING COMMISSION STAFF REPORT
Meeting Date: March 25, 2015

ITEM NO: 2

PREPARED BY: Jocelyn Puga
Assistant Planner
jpuga@losgatosca.gov

APPLICATION NO.: Tree Removal Permit Application T14-004

LOCATION: **10 Jackson Street** (corner of East Main Street and Jackson Street)

APPLICANT/APPELLANT: Fran Garofalo and Sean Kali-rai

PROPERTY OWNER: 10 Jackson St LLC

CONTACT PERSON: Sean Kali-rai

APPLICATION SUMMARY: Appeal of a decision to deny a Tree Removal Permit on property zoned C-1. APN 529-34-018.

RECOMMENDATION: Grant the appeal.

PROJECT DATA: General Plan Designation: Neighborhood Commercial
Zoning Designation: C-1 – Neighborhood Commercial
Applicable Plans & Standards: None
Parcel Size: 34,025-square feet
Surrounding Area:

	Existing Land Use	General Plan	Zoning
North	Commercial	Neighborhood Commercial	C-1
East	Commercial	Neighborhood Commercial	C-1
South	Residential	Medium Density Residential	R-1: D
West	Residential	Medium Density Residential	RM-5:12

CEQA: The project is Categorically Exempt pursuant to the adopted Guidelines for the Implementation of the California Environmental Quality Act, Section 15304: Minor Alterations of Land.

FINDINGS:

- As required by the adopted Guidelines for the Implementation of the California Environmental Quality Act this project is Categorically Exempt, Section 15304: Minor Alterations of Land.

STANDARDS OF REVIEW:

- As required by Section 29.10.0990 of the Town Code for a tree removal permit.

ACTION:

The decision of the Planning Commission is final unless appealed within ten days.

EXHIBITS:

1. Location Map
2. Findings (two pages)
3. Recommended Conditions of Approval (one page)
4. Tree Removal Application (one page)
5. Appeal Information, received November 21, 2014 (22 pages)
6. Town Consulting Arborist report, January 7, 2015 (eight pages)
7. Town Consulting Arborist addendum, February 15, 2015 (three pages)

BACKGROUND:

On January 8, 2014 the Parks and Public Works Department (PPW) received a Tree Removal Application to remove one Redwood tree (Exhibit 4). The Redwood has a 49.5-inch trunk diameter. The property owner requested the removal of the tree based on current damage to the existing sidewalk and potential structural damage to the building. The Town's Arborist conducted an inspection and issued the permit on September 10, 2014. The length of time between the submittal of the application to the date of inspection was atypically long because Town staff was working with the applicant to submit an arborist report and accounts for time in which the applicant was out of town. On October 27, 2014 the approval was rescinded by the Parks and Public Works Director.

The property owner appealed the decision on November 19, 2014 (Exhibit 5). As required, the property owner provided a report by a licensed arborist (Exhibit 5) and structural engineer (Exhibit 5). The appeal letter (Exhibit 5) provides the applicant's justification for the removal of the tree.

ANALYSIS:

A. Standards of Review

The standards for review of Tree Removal Permits are set forth in Town Code Section 29.10.0990 (Exhibit 2).

The Town's Consulting Arborist conducted a site visit and prepared a report with recommendations (Exhibit 6). The tree is healthy but poses a threat due to its large size, proximity to the building, and existing pavement damage. The Consulting Arborist found no compelling evidence of damage to the foundation due to the tree at this time. The Consulting Arborist recommended excavation alongside the building foundation, down to the bottom of the footing be undertaken to more accurately determine whether or not roots are contacting the building, causing any damage to the foundation or growing underneath the foundation.

The applicant's structural engineer conducted a supplemental visit to the site and report based on the recommendations provided by the Town's Consulting Arborist (Exhibit 5). The report noted that the soil alongside the building foundation had been excavated roughly 12-inches below the top of slab exposing some of the tree roots. The applicant's structural engineer found that there are larger existing roots that are directly against the foundation, however, no damage to the foundation of the building was observed due to the top few inches of the footing only being visible.

The Town's Consulting Arborist completed an addendum to the previous report (Exhibit 7) based on the supplemental report provided by the applicant's structural engineer. The Consulting Arborist found that no excavation to expose the bottom of the footing had been performed. The addendum states that the tree is causing severe damage to the sidewalk adjacent to the building; however, the possibility of foundation damage cannot be determined without further excavation. The applicant chose not to do any further excavation.

The Consulting Arborist's report and addendum (Exhibit 6 and 7) provided the following discussion points:

1) What can be done about the tree to improve the situation?
    a. Shaving the tops of the roots is a possibility, but shaved roots can continue to grow and cause damage in the future. In addition, there is a possibility that wounding the roots can weaken the roots and impact the stability of the tree.
    b. Root cutting and/or the installation of root barriers are not a viable option

for the tree due to its close proximity to the existing building.

2) What can be done to improve the pavement surface?
   a. If concrete sidewalks are installed in the same location the same damage will recur. The existing path of the sidewalk provides the required California Title 24 accessibility standards for accessing the suite.

3) What can be done regarding the potential for structural damage?
   a. The Town's Consulting Arborist states that it is possible that the roots of the Redwood tree may never damage the foundation, although this is not a guarantee. The report states that most foundations are stronger than roots and a root that does contact a foundation is usually deflected alongside the footing and does not damage the footing or slab beyond.

B. Environmental Review

The project is Categorically Exempt according to the adopted Guidelines for the Implementation of California Environmental Quality Act, Section 15304: Minor Alterations of Land.

SUMMARY AND RECOMMENDATION:

A. Summary

Staff agrees with the finding of the Consulting Arborist that the concrete sidewalk damage will be a recurring problem and recommends the appeal be granted to allow the tree removal because there are no viable alternatives to provide the required California Title 24 accessibility standards to the suite that include retention of the tree. Canopy replacement shall be provided pursuant to Town Code requirements.

B. Recommendation

Grant the appeal and approve the tree removal permit subject to the required canopy replacement.

Alternatively, the Commission can:

1. Deny the tree removal permit appeal; or
2. Continue the matter to a date certain with specific direction.

Prepared by:
Jocelyn Puga
Assistant Planner

Approved by:
Laurel R. Prevetti
Assistant Town Manager/ Director of Community Development

LRP:JGP:cg

cc: Fran Garofalo and Sean Kali-rai, 10 Jackson Street, Los Gatos, CA 95030
Debbie Ellis, P.O. Box 3714, Saratoga, CA 95070
Matt Morley, Director of Parks & Public Works

N:\DEV\REPORTS\2015\Jackson10-TreeAppeal.doc

This Page
Intentionally
Left Blank

10 Jackson Street

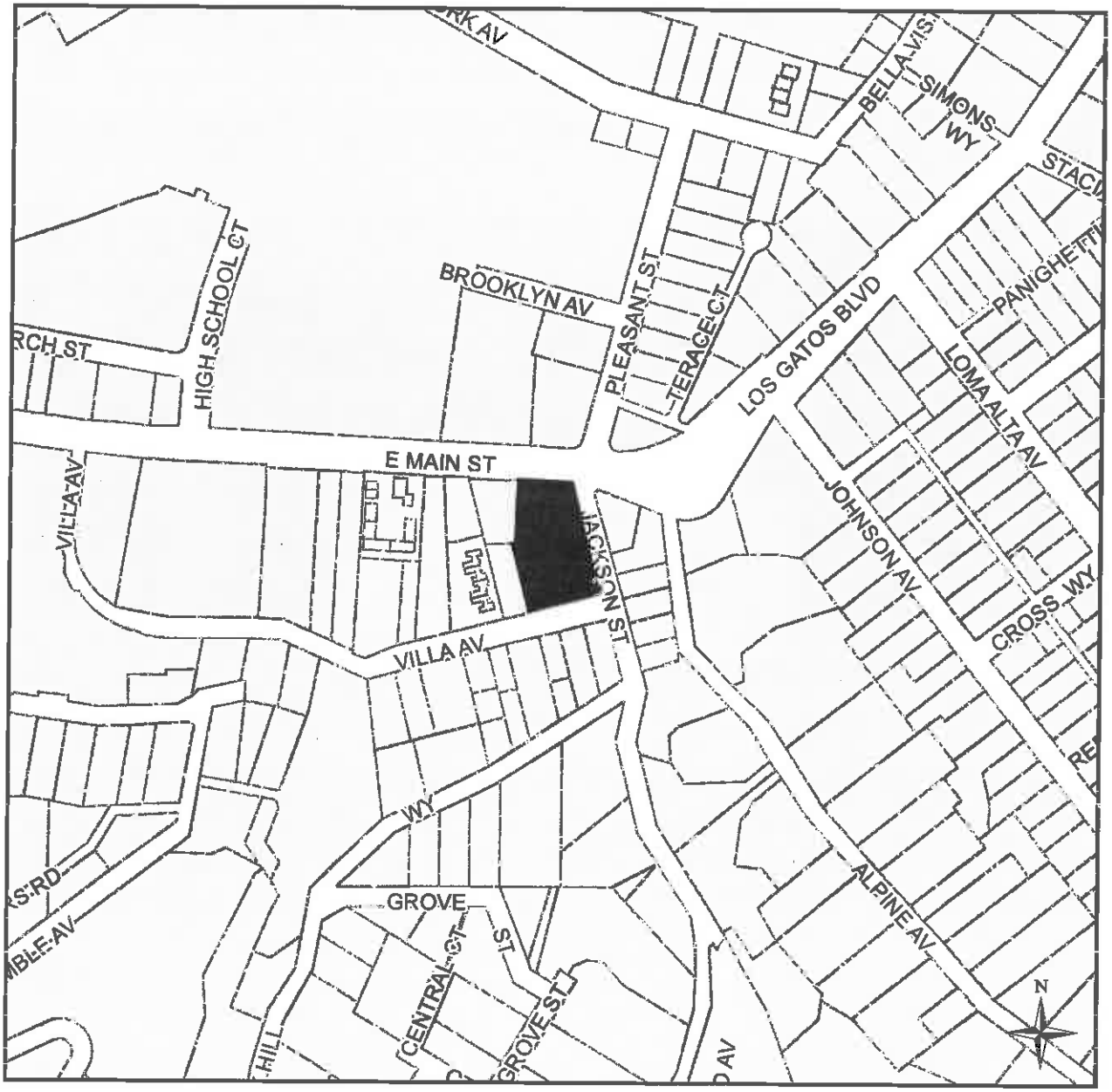


EXHIBIT 1

This Page
Intentionally
Left Blank

REQUIRED FINDINGS FOR:
March 25, 2015

10 Jackson Street
Tree Removal Permit T14-004

Appeal of a decision by the Director of Community Development denying a Tree Removal Permit on property zoned C-1. APN 529-34-018
APPLICANT/PROPERTY OWNER: Fran Garofalo and Sean Kali-rai

FINDINGS

Required finding for CEQA:

- The project is Categorically Exempt according to the adopted Guidelines for the Implementation of the California Environmental Quality Act, Section 15304: Minor Alterations of Land.

Required standards of review for a Tree Removal Application:

- As required by Section 29.10.0990 of the Town Code for granting approval of a Tree Removal Application:

  Each application for a tree removal permit required by this division shall be reviewed using the following criteria:

  (1) The condition of the tree or trees with respect to disease, imminent danger of falling or structural failure, proximity to existing or proposed structures based on a report from a certified arborist, structural damage to a building or a public nuisance caused by a tree. The danger of falling or failure shall be rated using the ISA Tree Hazard Rating Form or an approved equivalent.
  (2) The condition of the tree giving rise to the permit application cannot be reduced to a less than significant level by the reasonable application of preservation, preventative measures or routine maintenance.
  (3) The removal of the tree(s) will not result in a density of trees or tree cover that is inconsistent with the neighborhood.
  (4) The number of trees the particular parcel can adequately support according to good urban forestry practices, or whether a protected tree is a detriment to or crowding another protected tree.
  (5) In connection with a proposed subdivision of land into two (2) or more parcels, no protected tree shall be removed unless removal is unavoidable due to restricted access to the property or deemed necessary to repair a geologic hazard (landslide, repairs, etc.) The tree removed shall be replaced in accordance with the standards in section 29.10.0985 of this Code. Tree preservation and protection measures for any lot that is created by a proposed subdivision of land shall comply with the regulations of this Code.

(6) The retention of a protected tree would result in reduction of the otherwise-permissible building envelope by more than twenty-five (25) percent. In such a case, the removal shall be conditioned upon replacement in accordance with the standards in section 29.10.0985 of this Code.
(7) The Hillside Development Standards and Guidelines, current version.
(8) Removal of the protected tree(s) will not result in a substantial adverse change in the site's aesthetic and biological significance; the topography of the land and the effect of the removal of the tree on erosion, soil retention, or diversion or increased flow of surface waters.
(9) Whether the Protected Tree has a significant impact on the property.

N:\DEV\FINDINGS\2015\Jackson10TreeAppeal.doc

CONDITIONS OF APPROVAL – *March 25, 2015*

10 Jackson Street
Tree Removal Permit T14-04

Appeal of a decision by the Director of Community Development denying a Tree Removal Permit on property zoned C-1. APN 529-34-018.
PROPERTY OWNER/APPLICANT/APPELLANT: Fran Garofalo and Sean Kali-rai

TO THE SATISFACTION OF THE DIRECTOR OF COMMUNITY DEVELOPMENT:

Planning Division

1. APPROVAL: This application shall be completed in accordance with all of the conditions of approval listed below.
2. EXPIRATION: The Tree Removal Application approval will expire two years from the approval date pursuant to Section 29.20.320 of the Town Code, unless the approval has been vested.
3. REPLACEMENT TREES: Replacement trees shall be planted for trees being removed. The number and size of new trees shall be determined by the Town Arborist using the canopy replacement table in the Town's Tree Protection Ordinance. Required trees shall be planted within 60 days of tree removal.
4. TREE STAKING: All newly planted trees shall be double-staked using rubber tree ties.
5. TOWN INDEMNITY: Applicants are notified that Town Code Section 1.10.115 requires that any applicant who receives a permit or entitlement from the Town shall defend, indemnify, and hold harmless the Town and its officials in any action brought by a third party to overturn, set aside, or void the permit or entitlement. This requirement is a condition of approval of all such permits and entitlements whether or not expressly set forth in the approval, and may be secured to the satisfaction of the Town Attorney.

N:\DEV\CONDITIONS\2015\Jackson10-TreeAppeal.doc

EXHIBIT 3

This Page
Intentionally
Left Blank

TOWN OF LOS GATOS

TREE REMOVAL APPLICATION AND PERMIT

PARKS & PUBLIC WORKS
SERVICE CENTER
41 MILES AVENUE
LOS GATOS, CA 95030
(408) 399-5770

* * APPLICATION * *

Please PRINT the following information:

Name of Property Owner: 10 Jackson St. LLC — Phone: 408-605-6440 (Fran)
Property Owner's Site Address: 10 Jackson — Zip Code: 95030
Property Owner's Mailing Address: 17147 Heatherwood Way — Zip Code: 95037

I, _____ (Name), consent and agree to allow _____ (Name), to apply and obtain a tree removal permit on my property location at (Address) _____

Property Owner's Signature (required): [signature] Date: 1-8-14

Name of CDD Planner (if applicable): _____

Tree Type	Trunk Diameter (measured 3' from ground)	Reason for Removal (attach additional sheet, if needed)	Fee Amount	Tree Size Verified
Redwood	+12"	property damage	$ 130.00	
			$	
			$	
			$	

Total number of tree(s) requesting to be removed: 1 **Total Fees:** $ 130.00

*Staff will review each application and notify applicant of approval or denial within **14 business days** of receipt.*
This application becomes a permit only upon approval.

SUBMITTAL REQUIREMENTS

- [x] Photos of tree(s) proposed for removal depicting reason for requested removal (required);
- [x] Map indicating tree(s) location on the property (required);
- [x] Arborist Report (if applicable);
- [x] Fee $130 for one tree + $65 for each additional tree on same application (required) and;

Payment Received: 1/8/14
Receipt #: WB02073
Check/Money Order #: —
Credit Card Authorization #: [illegible]
Account: TREEREM

Payments (Cash, Check/Money Order made payable to the "Town of Los Gatos" or Credit Cards (VISA/MasterCard) are accepted Monday through Friday, at the following locations:

Parks & Public Works Department
41 Miles Avenue
~~7:00~~ 8:00 a.m. to ~~3:00~~ 1:00 p.m.

Civic Center (~~Finance Department~~ – Lower Level)
110 East Main Street
8:00 a.m. to 1:00 p.m.

02/10/15

* * PERMIT * *

T 14 - 004 / PER - [illegible] - 1

Application Received Date: 1/8/14 Inspection Date: 9-10-14 Inspection Conducted By: Rob Moulton

Summary of Inspection:

Remove as per arborist report recommendation. Posted tree for 10 days. Decision rescinded as per director. 10-22-14 Arborist report & structural report submitted.

Pursuant to Section 29.10.0990 of the Zoning Ordinance of the Town of Los Gatos Code, the removal of tree(s) is:

APPROVED xxxx DENIED 11-10-14 Rom Amount of Refund: $ 65.00

Denial Notification Date: 11-11-14 Appeal Deadline Date: 11-25-14

Replacement Tree Requirement: 3-24" box trees on property.

- [x] Cartegraph Work Request/Order
- [x] Accela Application
- [x] PPW Tree Inspection
- [ ] PPW Tree Replacement

Distribution: PPW (white copy), Planning Department (yellow copy), Applicant (pink copy)

EXHIBIT 4

This Page
Intentionally
Left Blank

TOWN OF LOS GATOS
COMMUNITY DEVELOPMENT DEPARTMENT

110 E. Main Street
Los Gatos, CA 95030

APPEAL OF THE DECISION OF DIRECTOR OF COMMUNITY DEVELOPMENT OR DEVELOPMENT REVIEW COMMITTEE

PLEASE TYPE or PRINT NEATLY

I, the undersigned, do hereby appeal a decision of the COMMUNITY DEVELOPMENT DEPARTMENT/DIRECTOR OF COMMUNITY DEVELOPMENT OR DEVELOPMENT REVIEW COMMITTEE as follows:

DATE OF DECISION: 11-11-2014

PROJECT/APPLICATION: Tree Removal Permit Denial

LOCATION: 10 Jackson Street, Los Gatos

Corner of Jackson & E. Main Street

LIST REASONS WHY THE APPEAL SHOULD BE GRANTED:
1) Potential to cause structural damage to building per section 29.10.0990 - Standards of Review in the Town of Los Gatos ordinance section one; and 2) Tree is causing walkway to slope toward building and not away as originally built causing water to runoff toward building resulting in water damage to structur Monarch Consulting Arborists LLC and Biggs Cardosa Associates Structural Engineer reports attached.
(If more space is needed, attach additional sheets.)

IMPORTANT:

1. APPEAL MUST BE FILED WITHIN TEN (10) DAYS AFTER THE DATE OF MAILING OF WRITTEN NOTIFICATION OF THE DECISION.
2. THE APPEAL SHALL BE SET FOR THE FIRST REGULAR MEETING OF THE PLANNING COMMISSION WHICH THE BUSINESS OF THE PLANNING COMMISSION WILL PERMIT, MORE THAN FIVE (5) DAYS AFTER THE DATE OF THE FILING OF THE APPEAL. THE PLANNING COMMISSION MAY HEAR THE MATTER ANEW AND RENDER A NEW DECISION IN THE MATTER.
3. YOU WILL BE NOTIFIED, IN WRITING, OF THE APPEAL DATE.
4. CONTACT THE PROJECT PLANNER TO DETERMINE WHAT MATERIAL IS REQUIRED TO BE SUBMITTED FOR THE PUBLIC HEARING.

RETURN APPEAL FORM TO COMMUNITY DEVELOPMENT DEPARTMENT

PRINT NAME Fran Garofalo SIGNATURE

DATE November 19, 2014 ADDRESS 10 Jackson Street, Suite 105

PHONE (408) 605-6440 Los Gatos, CA 95030

****

OFFICE USE ONLY

DATE OF PLANNING COMMISSION HEARING: _____

COMMISSION ACTION:
1. _____ DATE: _____
2. _____ DATE: _____
3. _____ DATE: _____

PLAPPEAL	$ 176.00	Residential
PLAPPEAL	$ 705.00	Commercial
PLAPPEAL	$ 72.00	Tree Appeals

This Page
Intentionally
Left Blank

March 16, 2015

Town of Los Gatos
Planning Commission
110 East Main Street
Los Gatos, CA 95030

RE: Appeal of the Tree Removal Permit Denial / Rescission

Honorable Planning Commission Members,

We respectfully request the reinstatement of our Tree Removal Permit for the following reasons: The report provided to us by Richard Gessner of Monarch Consulting Arborists, a ASCA Registered Consulting Arborist #496, ISA Board Certified Master Arborist and ISA Tree Risk Assessor Certified, we engaged, in his report dated August 13, 2014 on page 2 states *"...Three factors are typically present when trees damage foundations which are as follows (Watson, 2010): 1. The subsoil beneath the foundation must have a moderate to high shrink-swell capacity. 2) There must be unusual soil drying from severe drought. 3) Roots must be growing near the base or the foundation. The coast redwood is located within seven feet of the foundation. This is a large redwood in close proximity to building. Although determining the soil conditions regarding subsidence can be difficult, it is clear that the redwood is growing near the foundationand large roots are present. All three factors are present and there is high potential for the tree to damage the building or heave the foundation.* In the next paragraph: *"...Because the building is located within the critical root zone of the redwood, root cutting or removal is not an option. The minimum distance for any cutting to occur would need to be outside of sixteen feet and root cutting could predispose the tree to failure. This leaves no option for installing a root barrier or removing roots".* Finally on page 3 of his report Mr. Gessner states: *" In Conclusion, the coast redwood is large and in close proximity to the permanent structure and would meet the criteria for tree removal as stated in section 29.10.0990 – Standards of Review in the Town of Los Gatos ordinance section one. The tree species, growth habit, location and site conditions are all consistent with the potential to cause damage to the building. Because there are large visible surface roots near the foundation and the walkway has already been replaced, there is high potential the tree could cause structural damage to the building."* In addition, the report created by Deborah Ellis, MS, Consulting Arborist and Horticulturist dated January 6, 2015 on page 1 of 8 under the heading ***"SUMMARY"***, *"The subject redwood tree was planted too close to the adjacent building. To save or remove the tree is debatable in my opinion; although I lean more toward removal."* Finally, in the report dated November 3, 2014 by Kathleen Dillon of Biggs Cardosa Associates Inc Structural Engineers she states on page one *"In our opinion, the tree's root system if not removed, has the potential to damage the building foundation at some time in the future. The foundation may become cracked, settle, or heave which would compromise its load-bearing capacity and result in damage to the structural framing and architectural finishes above."*

There is no doubt that the tree is an attractive addition to the office building as is any tree of its majesty. Unfortunately it has developed into a significant problem as it has grown to its current size and its proximity to the building. The following are a number of the existing and potential problems that we have to deal with for an ongoing basis:

(1) Health & Safety: Safety is a concern because twice the concrete walkway leading to suite 105, closest to the coastal redwood tree, has cracked and heaved which lead to unsafe walking conditions. Twenty five tenants twelve times a year (once a month) on minimum visit suite 105 not to mention other clients and service personnel. During the day a crack in the sidewalk or uneven pavement is visibly avoidable for most but the hazardous situation increases in the evening. At this particular time, because of the removal of the walkway and the excavation of the soil to expose the roots and foundation, there is an extremely unsafe condition that exists. However, this hazardous situation is not just limited to the walkway leading to suite 105 but also at the walkway at the next office over, closer to E. Main Street. The tree is very large and so is its root structure and the roots are spreading throughout the landscape area along Jackson Street toward E. Main Street and creating a number of unsafe walkway and sidewalk conditions.

(2) Liability: With hazardous walkway and sidewalks inevitably liability issues arise. As owners of this property since December of 2005, we have paid three claims thus far because of sidewalk, walkway or driveway hazards that caused personal or property damage. Only one of these instances was caused directly by tree roots (of a different Coastal Redwood tree on the property) that caused heaving and lifting of the concrete where the underside of a car suffered damage at the driveway, where tree roots had caused unsafe driving conditions. We mention this instance because it demonstrates the nature of the roots to go where they will and cause direct damage to concrete and the immediate structure but also ancillary damage to persons and property.

(3) Expense and Loss of Property Value: Because of these unsafe conditions and the expense of consistently replacing concrete walkways and re-grading the landscape to direct water away from the building, digging up and replacing drainage pipes (some that drain excess water off the building roof) to remove root intrusion, the potential permanent closure of suite 105 entirely making it un-rentable because of ingress egress issues especially for the handicapped, the increased liability and the potential for foundation and structure damage the tree is adversely affecting the building property value. Unfortunately, as the tree grows so will the damage and cost of repairs increase so will it affect future value greater. Thus far we have spent thousands of dollars with concrete contractor Maxicon, Inc. to remove and replace damaged concrete, thousands of dollars with Lupe Gonzales Landscape in resolving landscape and drainage issues and thousands of dollars with Moulding & More, Inc. in replacing a hardwood floor, drywall and wainscoting damaged due to water intrusion caused by the tree causing water to run toward suite 105. We are in the process of obtaining estimates for re-grading and re-pouring a new walkway which will cost at least several thousand dollars only to have to pull it out and do it again in several years time as the roots grow and cause the same hazardous conditions again.

My business partner and I have well over a dozen trees (Coastal Redwoods and others) on the property and have always been good citizens and mindful of the law in obtaining permits and respecting the Town's wishes since our purchase of the property in December 2005. We have invested well over a hundred thousand dollars in upgrading the building and the landscaping for which we received an award in 2008. We had originally discussed with the Town Arborist a tree removal permit for this tree in 2007, when we removed an even larger Coastal redwood at the front of the building (facing E. main Street) because it was causing severe property and walkway damage. At that time a neighbor on Villa Street (behind the building) complained about the tree removal and we were asked to wait some time before asking for the permit for this tree to be removed. We complied with the Town's request and we replaced the damaged walkway and re-graded the landscape area for drainage and hoped that things would be fine. Unfortunately, we are at this point and we hope that based on the reasons above we will be granted a tree removal permit at this time.

Sincerely,

SSKALIRAI

Sean Kali-rai
Managing Member
10 Jackson Street, LLC

Fran Garofalo
Member
10 Jackson Street, LLC

10 Jackson Street, Los Gatos – Tree Removal Permit Pictures

1960's picture of the property showing the 10 Jackson Street property formerly a 76 Gas Station without the subject Coastal Redwood Tree

2007 Picture of Tree at Suite 105 obstructing the door opening because of raised concrete walkway.

2007 - walkway at Suite 105 showing door opening to a maximum of 28 inches because of raised concrete caused by tree. To avoid this in the future, door was re-hung opening inward.

2015 - trench dug to remove drainage pipe clogged with tree roots causing rain water to accumulate on building roof.

2014 – sloping concrete caused by tree forces water toward suite 105 and not away from the building resulting in water damage

2014 – with more rain the drainage problem gets worse driving more water toward the building causing severe water damage

2014 – sandbags are used in order to keep the water from causing damage to the building

2015 – Picture of rear parking lot area and resulting damage caused by coastal redwood. This picture demonstrates that tree roots will break concrete. Fortunately the roots can be trimmed and concrete re-poured.

This Page
Intentionally
Left Blank

August 13, 2014

Fran Garofalo
10 Jackson Street
Los Gatos, CA 95030

Monarch Consulting Arborists LLC
P.O. Box 1010
Felton, CA 95018
831. 331. 8982

Regarding the coast redwood (*Sequoia sempervirens*) growing along the east side of 10 Jackson Street in Los Gatos (Appendix A). The tree has a high potential to damage the permanent structure through root intrusion.

On August 12, 2014 I inspected the crown, trunk, trunk flare, above ground roots, and site conditions around the tree to help determine its proximity to the building and potential for damaging the structure. No tree risk assessment was performed.

The purpose of this report is to help identify the tree's potential for causing property damage and document its proximity to the permanent structure. The report is to be used by the property owner, their agents, and the Town of Los Gatos.

The coast redwood has a trunk diameter of 66 inches (207 inch circumference) at 3 feet above grade and is approximately 75 feet tall (Appendix B). The crown spreads approximately eighteen feet in all directions and has been raised and reduced to provide clearance from the building. There are some small dead branches and the foliage near the top is sparse. The trunk is upright with a single stem and the crown is symmetrical. The root collar is partially buried by the turf and there is good taper where it meets the ground.

The building is eight feet to south and seven feet to west of the tree. The concrete walkway to the suite has recently been replaced. There are two visible surface roots along the recently replaced walkway that are approximately seven inches in diameter (Appendix B). The large surface roots are within 15 and 36 inches to the building foundation. The new walkway slab is already heaving in one location.

Coast redwoods grow naturally along the California coast from Big Sur to southern Oregon. Their range extends inland approximately 1 to 30 miles from the ocean (Peattie, 1991). The trees are large, fast-growing evergreens reaching 70 to 90 feet in urban areas with proper irrigation, and they are the tallest growing trees in the world. Redwoods are naturally resistant to insects, fungi, and fire because they are high in tannins and do not produce pitch. Currently, there are no insect pests known to kill coast redwoods.

Coast redwood roots are typically shallow with no tap root and are wide spreading. Large trees may have roots that extend down to six feet deep however the majority of roots are usually located within the first two feet of soil. In ideal environments redwood roots have been known to extend over 100 feet from the trunk and tend to intertwine with neighboring trees to help create stability.

Tree roots in urban environments often grow near the soil surface and, as they grow in girth, they heave and crack hard-scapes. The size of the planting site, the tree species, and the design of the adjacent structures all contribute to damage to hard-scape surfaces (Clark and Matheny, 2008). The previous buckling of the walkway is compounded by the tree's proximity to the nearby concrete slab. Visible surface roots and large structural roots extend into the landscape and have previously damaged the walkway.

Three factors are typically present when trees damage foundations which are as follows (Watson, 2010):

1. The subsoil beneath the foundation must have a moderate to high shrink-swell capacity.
2. There must be unusual soil drying from severe drought.
3. Roots must be growing near the base of the foundation.

The coast redwood is located within seven feet of the foundation. This is a large coast redwood in close proximity to building. Although determining the soil conditions regarding subsidence can be difficult, it is clear that the redwood tree is growing near the foundation and large roots are present. All three factors are present and there is high potential for the tree to damage the building or heave the foundation.

The Critical Root Zone (CRZ) is the area of soil around the trunk of the tree where roots are located that provide stability and uptake of water and nutrients required for survival. The CRZ is the minimum distance from the trunk that trenching or root cutting can occur and is defined by the trunk diameter as a distance of three times the diameter in feet, and preferably five times (Smiley, Fraedrich and Hendrickson, 2007). Because the building is located within the critical root zone of the redwood, root cutting or removal is not an option. The minimum distance for any cutting to occur would need to be outside of sixteen feet and root cutting could predispose the tree to failure. This leaves no option for installing a root barrier or removing roots.

Section 29.10.0990 - Standards of Review in the Town of Los Gatos ordinance lists the nine criteria for removal. The first criteria states the following:

> "The condition of the tree or trees with respect to disease, imminent danger of falling or structural failure, *proximity to existing or proposed structures* based on a report by a certified arborist, structural damage to a building or a public nuisance cased by a tree. The danger of falling or failure should be rated using the ISA Tree Hazard Rating Form or an approved equivalent."

Because the coast redwood is large and near the building it would fall into the first criteria for tree removal within the town's ordinance.

In conclusion, the coast redwood is large and in close proximity to the permanent structure and would meet the criteria for tree removal as stated in section 29.10.0990 - Standards of Review in the Town of Los Gatos ordinance section one. The tree species, growth habit, location, and site conditions are all consistent with the potential to cause damage to the building. Because there are large visible surface roots near the foundation and the walkway has already been replaced, there is high potential the tree could cause structural damage to the building.

I recommend obtaining all necessary permits prior to removing or altering the tree significantly. If the tree is to be removed the town ordinance section 29.10.0985 Determination and Conditions of Permit would require replacement trees. The town will require either four 24 inch box or two 48 inch box specimens to be planted.

Bibliography

Clark, James R., and Nelda P. Matheny. *ISA Municipal Specialist Certification Study Guide.* Champaign: International Society Of Arboriculture, 2008. Print.

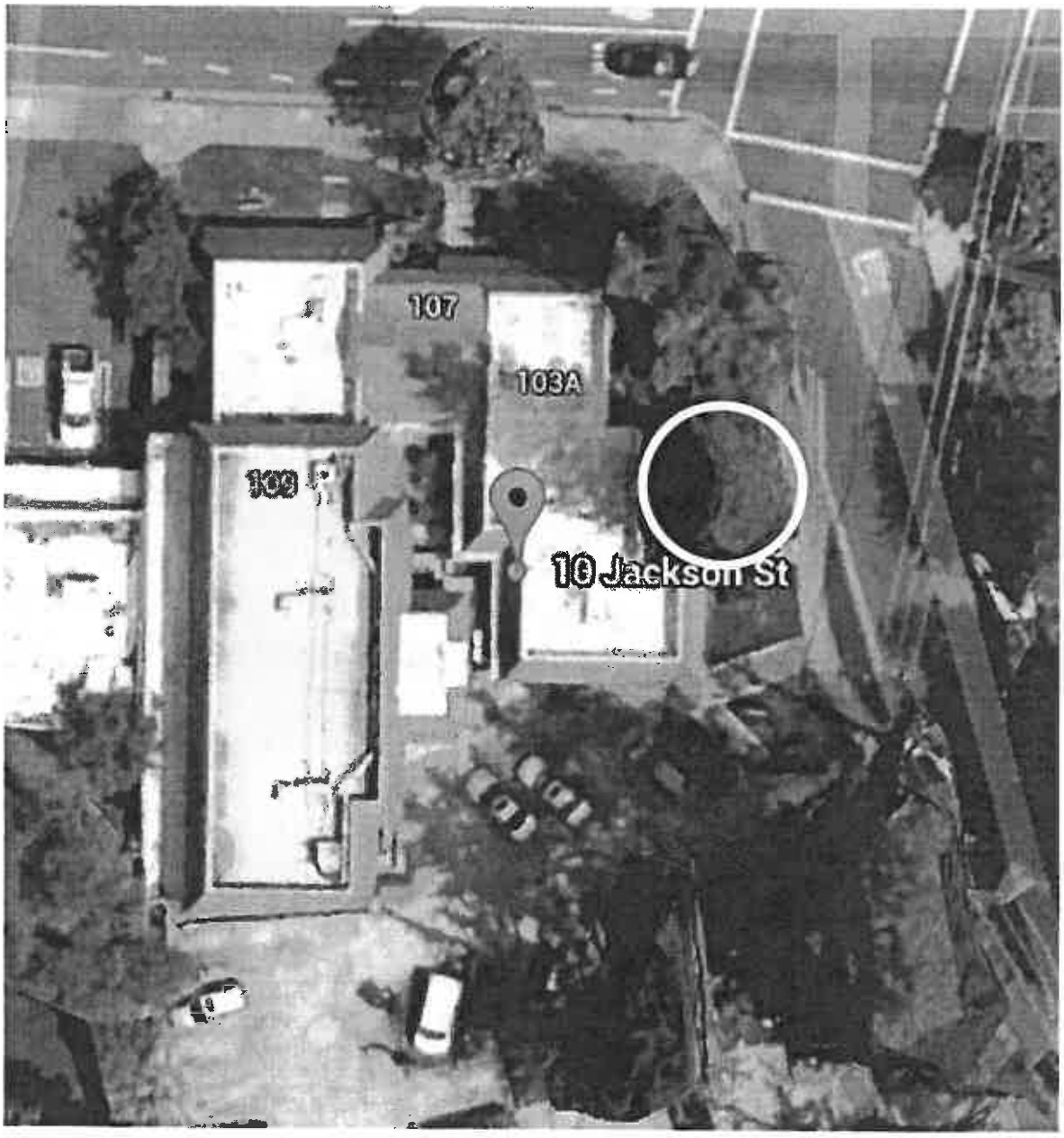
Los Gatos, California, Code of Ordinances, Chapter 29 - Zoning Regulations - Article I - In General - Division 2 - Tree Protection

Peattie, Donald Culross. *A Natural History of Western Trees.* Boston: Houghton Mifflin, 1991.

Smiley, E. Thomas, Fraedrich, Bruce R., and Hendrickson, Neil. *Tree Risk Management.* 2nd ed. Charlotte, NC: Bartlett Tree Research Laboratories, 2007

Watson, Gary. *Tree Roots and Foundation Damage.* Chicago, IL: The Morton Arboretum, 2010

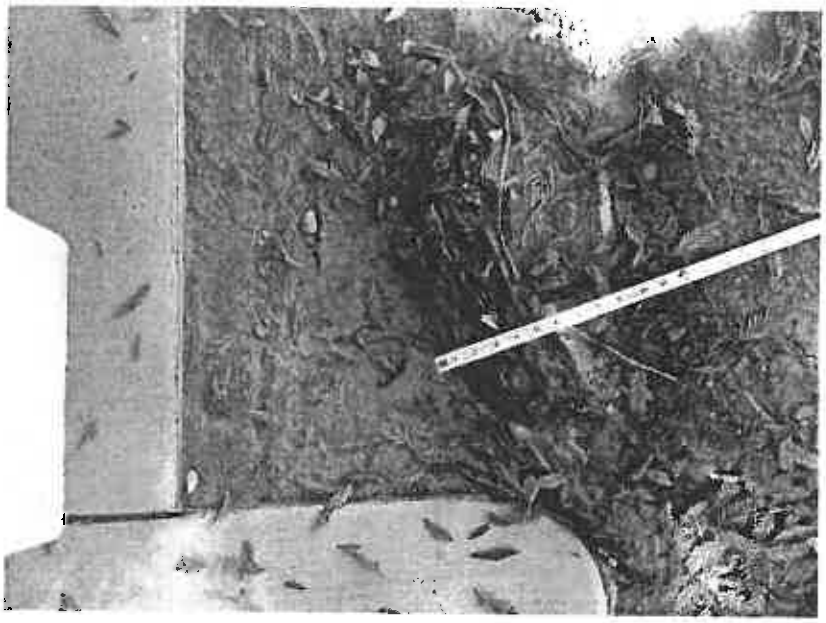
Appendix A: Site Overview



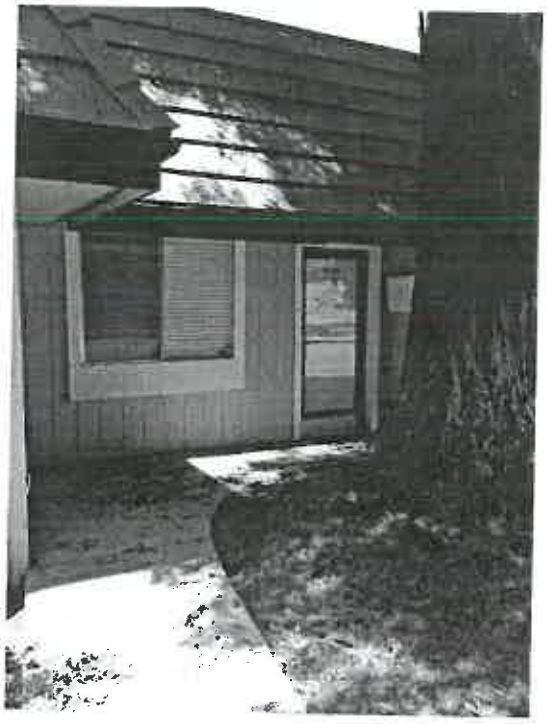
The white circle indicates the location of the coast redwood.

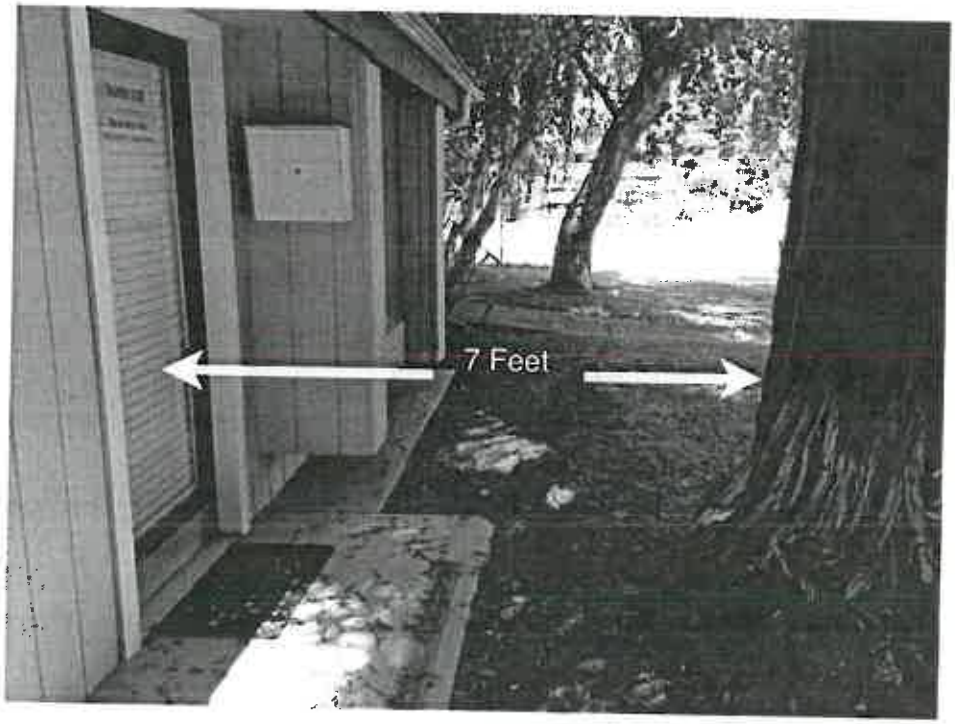
Appendix B: Photographs

Tree from across Main Street



Large surface roots near the building foundation and walkway





Tree's proximity to the building

Qualifications, Assumptions, and Limiting Conditions

Any legal description provided to the consultant is assumed to be correct. Any titles or ownership of properties are assumed to be good and marketable. All property is appraised or evaluated as though free and clear, under responsible ownership and competent management.

All property is presumed to be in conformance with applicable codes, ordinances, statutes, or other regulations.

Care has been taken to obtain information from reliable sources. However, the consultant cannot be responsible for the accuracy of information provided by others.

The consultant shall not be required to give testimony or attend meetings, hearings, conferences, mediations, arbitration, or trials by reason of this report unless subsequent contractual arrangements are made, including payment of an additional fee for such services.

This report and any appraisal value expressed herein represent the opinion of the consultant, and the consultant's fee is not contingent upon the reporting of a specified appraisal value, a stipulated result, or the occurrence of a subsequent event.

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. The reproduction of information generated by architects, engineers, or other consultants on any sketches, drawings, or photographs is only for coordination and ease of reference. Inclusion of said information with any drawings or other documents does not constitute a representation as to the sufficiency or accuracy of said information.

Unless otherwise expressed: a) this report covers only examined items and their condition at the time of inspection; and b) the inspection is limited to visual examination of accessible items without dissection, excavation, probing, or coring. There is no warranty or guarantee, expressed or implied, that structural problems or deficiencies of plants or property may not arise in the future.

Certification of Performance

I Richard Gessner, Certify:

That I have personally inspected the tree(s) and/or the property referred to in this report, and have stated my findings accurately. The extent of the evaluation and/or appraisal is stated in the attached report and Terms of Assignment;

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

That the analysis, opinions and conclusions stated herein are my own;

That my analysis, opinions, and conclusions were developed and this report has been prepared according to commonly accepted Arboricultural practices;

That no one provided significant professional assistance to the consultant, except as indicated within the report.

That my compensation is not contingent upon the reporting of a predetermined conclusion that favors the cause of the client or any other party, nor upon the results of the assessment, the attainment of stipulated results, or the occurrence of any other subsequent events;

I further certify that I am a Registered Consulting Arborist® with the American Society of Consulting Arborists, and that I acknowledge, accept and adhere to the ASCA Standards of Professional Practice. I am an International Society of Arboriculture Board Certified Master Arborist® and Tree Risk Assessor Qualified. I have been involved with the practice of Arboriculture and the care and study of trees since 1998.

Richard J. Gessner 

ASCA Registered Consulting Arborist® #496
ISA Board Certified Master Arborist® WE-4341B
ISA Tree Risk Assessor Qualified

Copyright

This Page
Intentionally
Left Blank

BIGGS CARDOSA
ASSOCIATES INC
STRUCTURAL ENGINEERS

865 The Alameda
San Jose, CA 95126-3133
Telephone 408-296-5515
Facsimile 408-296-8114

November 3, 2014
2014265

10 Jackson St., LLC
10 Jackson St., Suite 105
Los Gatos, CA 95030

Attention: Mr. Fran Garofalo

Subject: 10 Jackson St., Suite 105 – Redwood Tree
Los Gatos, CA

Dear Fran:

Per your request, we visited the subject structure to assess the potential impacts of the redwood tree to the adjacent foundation of unit 105. We understand the structure to be a one-story office building of conventional wood-framed construction founded on continuous perimeter footings with an interior slab on grade.

Assessed Condition

We observed visible damage to the concrete walkways in front of the building in the form of cracking and heaving. We did not observe any damage to the foundation of the building at this time, however only portions of the footing stem wall were visible in the vicinity of the tree.

In our opinion, the tree's root system if not removed, has the potential to damage the building foundation at some time in the future. The foundation may become cracked, settle, or heave which could compromise its load-bearing capacity and result in damage to the structural framing and architectural finishes above.

If the tree is to be removed, we recommend care be taken to prevent any resulting damage to the foundation.

Limitations of this Review

1. The information given in this letter is based on a walk-through of the site. The site walk-through was brief and not intended to be a comprehensive site investigation of the structure. In all of the locations investigated, architectural finishes were not removed in order to view the condition of hidden structural elements.
2. Biggs Cardosa Associates makes no warranty either expressed or implied, as to the findings, recommendations, or professional opinions stated in this letter.
3. No reliance of this letter shall be made by anyone other than the client whose name appears above.

BCA

4. Biggs Cardosa Associates has made reasonable efforts to assure that this letter is accurate; however, we cannot assume liability for damages, which may result from its use or any conditions, which this letter might fail to disclose.

Please call if you have any questions or comments regarding this letter. We look forward to working with you in the future.

Sincerely,

BIGGS CARDOSA
ASSOCIATES, INC.

Kathleen Dillon
Associate

M:\2014\265\10 Jackson St Letter.doc

BIGGS CARDOSA ASSOCIATES INC
STRUCTURAL ENGINEERS

865 The Alameda
San Jose, CA 95126-3133
Telephone 408-296-5515
Facsimile 408-296-8114

February 13, 2015
2014265

10 Jackson St., LLC
10 Jackson St., Suite 105
Los Gatos, CA 95030

Attention: Mr. Fran Garofalo

Subject: 10 Jackson St., Suite 105 – Redwood Tree Supplemental letter
Los Gatos, CA

Dear Fran:

Per your request, we performed a supplemental site visit at the subject structure to assess the impact of the redwood tree on the adjacent foundation of unit 105. The purpose of this supplemental letter is to validate our previous assessment. The sidewalk adjacent to the building has been removed and some of the tree roots are now visible.

Assessed Condition

As noted previously, the sidewalk has been removed and the soil excavated to roughly 12 inches below top of slab exposing some of the tree roots. We observed several root clusters in close proximity to the building foundation (see attached photos). The size of the roots varies with the larger roots measuring approximately 8 to 10 inches in diameter. Some of these larger roots are directly against the foundation. The path of the roots below the excavation is unknown.

We did not observe damage to the foundation of the building, however only the top few inches of the footing were visible.

Based on our site visit, it remains our opinion that tree's root system if not removed, has the potential to damage the building foundation. The foundation may become cracked, settle, or heave which could compromise its load-bearing capacity and result in damage to the structural framing and architectural finishes above.

If the tree is to be removed, we recommend care be taken to prevent damage to the foundation.

BCA

Photo 1: Unit 105 Entry

Photo 2: Root Cluster Adj. to Foundation

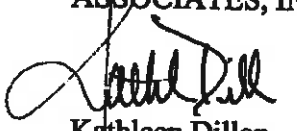
Limitations of this Review

1. The information given in this letter is based on a walk-through of the site. The site walk-through was brief and not intended to be a comprehensive site investigation of the structure. In all of the locations investigated, architectural finishes were not removed in order to view the condition of hidden structural elements.
2. Biggs Cardosa Associates makes no warranty either expressed or implied, as to the findings, recommendations, or professional opinions stated in this letter.
3. No reliance of this letter shall be made by anyone other than the client whose name appears above.
4. Biggs Cardosa Associates has made reasonable efforts to assure that this letter is accurate; however, we cannot assume liability for damages, which may result from its use or any conditions, which this letter might fail to disclose.

Please call if you have any questions or comments regarding this letter. We look forward to working with you in the future.

Sincerely,

BIGGS CARDOSA
ASSOCIATES, INC.



Kathleen Dillon
Associate

This Page
Intentionally
Left Blank

Deborah Ellis, MS

Consulting Arborist & Horticulturist

Service since 1984

Jocelyn Puga
Los Gatos Community Development Department
110 E. Main Street
Los Gatos, CA 95031

January 6, 2015

10 Jackson Street, Tree Removal Permit Denial Appeal T-14-004

SUMMARY

The subject redwood tree was planted too close to the adjacent building. To save or remove the tree is debatable in my opinion; although I lean more toward removal. On one hand a reasonable argument to remove the redwood can be made due to its large size, nearness to the building, past pavement (walkway) damage, certain future pavement (walkway) damage and possible future foundation damage. On the other hand if roots of the tree are confirmed not to be damaging the foundation at this time and a walkway can be built above existing roots, then it may be reasonable to save the tree – at least for the time being.

EXHIBIT 6

BACKGROUND:

Jocelyn Puga, Assistant Planner at the Town of Los Gatos asked me to review an appeal of a tree removal permit denial relative to the subject redwood tree, which is located on the north and west sides of the office building at 10 Jackson Street. Prior to my evaluation of the tree and the site on December 22, 2014 I reviewed the following documents:

- Email from Jocelyn Puga to Deborah Ellis, dated December 18, 2014 explaining the history of the situation. Prior to my evaluation of the tree, the Los Gatos Parks & Public Works Department as well as Jocelyn had advised the applicant to remove the existing sidewalk adjacent to the building. The goal of the pavement removal was to reveal the roots and determine if it was clearly visible these roots were compromising the structure's foundation.
- Arborist Report from Monarch Consulting Arborists (Richard Gessner) to Fran Garofalo of 10 Jackson Street LLC, dated August 13, 2014.
- Tree Removal Application and Permit, filled out by Fran Garofalo (January 8, 2014). Reviewed by Rob Moulden of the Los Gatos Public Works Department (November 11, 2014). The application portion of the document requested permission to remove the tree. The permit portion of the document agreed and provided permission to remove the tree on October 21, 2014. The permit portion also lists a Denial Notification date of November 11, 2014 and states that <the original decision of the Town to allow the tree to be removed> was rescinded as per Director.
- Appeal of the Decision of the Director of Community Development or Development Review Committee. By Fran Garofalo to Community Development Department, dated November 19, 2014.
- Letter from Structural Engineer Kathleen Dillon of Biggs Cardosa Associates, Inc. to Fran Garofalo, dated November 3, 2014. Subject: 10 Jackson Street, Suite 105 – Redwood Tree.

OBSERVATIONS:

On December 22, 2014 I arrived at 10 Jackson Street to find that the existing pavement (concrete walkways) adjacent to the building and tree had been removed. Prior investigators (arborist Richard Gessner and structural engineer Kathleen Dillon) based their previous reports on intact pavement adjacent to the building. During my December 22 visit I was therefore able to observe visible redwood tree roots exposed at the soil surface underneath the pre-existing pavement.

I measured the visible base of the trunk of the tree (the *root collar*) at 6 feet from the edge of the building/front door sill. I found exposed portions of individual roots up to 8 inches in diameter, with mats of roots up top 15 inches wide. Although it was not clear from the photos in Richard Gessner's report, he does mention that the pavement (sidewalks

adjacent to the building) had recently been replaced and that one of the new slabs was already heaving in one location. The structural engineer's report also mentions cracking and heaving of the pavement although there are no photos in their report. Based upon the size and height of the exposed portions of roots above the soil surface, it is obvious that the roots of this tree must have been damaging the pavement in this area.

In this photo I have placed a measuring tape across a mat of roots that is 15 inches wide, with individual roots up to 8 inches in diameter. The corner of the base of the trunk is highlighted at right with a yellow dotted line. There are many other large exposed roots within the area of the photo that are not visible, due to poor lighting.

It appears that the existing pavement (walkways) have been removed along the building, but there has been no excavation to further investigate where roots are going and what (if any) foundation damage these roots are causing. Since the soil along the foundation had not been excavated down to the bottom of the footing I was not able to see roots in this area. I did observe exposed roots up to 4 inches in diameter within 12 inches of the footing, and smaller roots closer to, and growing toward the footing. I did not see any roots actually contacting the footing. It is possible that there may be roots below the soil surface that are contacting the footing.

The structural engineer's letter states that no damage to the foundation was observed during their visit and evaluation, but they observed the property with the pavement (walkways adjacent to the building) intact. No additional investigation other than a brief visual observation was conducted at their visit. I found no compelling evidence of root damage to the foundation either. Additional investigation including excavation of soil alongside the foundation, to the bottom of the footing, is necessary to more accurately assess any real or potential damage to the foundation by the roots of this tree, however.

Description of the Tree

Species: *Sequoia sempervirens*
Common Name: coast redwood
Trunk DBH[1]**:** 49.5 inches
Tree size *(height x canopy spread, estimated)*: 93 feet tall.
(measured with handheld laser hypsometer)
with a canopy spread of approximately 30 feet

Condition:
Vigor: 70 (Fair/Good)
Structure: 70 (Fair/Good)
Preservation Suitability: Fair/Poor
Action: Debatable
Reason: Proximity to building, past and future pavement/building damage
Notes: The vigor of the redwood is not good, nor is it poor; but its canopy density, particularly in the upper half of the tree, is sparser than desirable for the redwood's age and size. Although the tree is not dying, it does appear to be struggling at this point in its lifecycle. The reason for this is probably drought – the redwood is not receiving as much water from natural rainfall as it has in the past, and it is beginning to decline. Redwoods often put on much of their new growth in Spring when soil moisture is plentiful, but they may suffer during the heat of Summer and early Fall as they become larger and irrigation volume is not increased.

DISCUSSION

The subject redwood tree was planted too close to the adjacent building. Roots of the tree have been causing pavement damage alongside the building and threaten the building foundation. It is unclear whether roots of the tree beneath the soil surface are contacting the foundation. Excavation alongside the building foundation, down to the bottom of the footing could be undertaken to more accurately determine whether or not

[1] Terms highlighted at their first occurrence in this report are explained in the Glossary on page 7.

roots are contacting the building at this time, causing any damage to the foundation or growing underneath the foundation. This excavation would best be performed a combination of air spade and hand excavation. A decision to save or remove the tree could be made after such additional investigation. If no damage if found based upon the excavation, it is still possible that roots of the tree could damage the foundation in the future. The size of this large-growing tree and its close proximity to the building makes future foundation damage a possibility that cannot be denied.

Alternatively the tree could be removed now due to its nearness to the building and the possibility that it may cause pavement damage in the future, without any further investigation.

It is possible that the roots of the redwood may never damage the foundation, although this cannot be guaranteed. Most foundations are stronger than roots. Roots contacting a foundation footing are usually deflected alongside the footing and do not damage the footing or the slab beyond the footing. There are exceptions to these generalizations, of course. Foundations that are structurally compromised in some way are most likely to be damaged by roots. The subject building is not very old (it was probably built 1960-1970) and so it probably has a fairly deep and strong foundation that will not be damaged by tree roots. Roots do not usually grow underneath foundations because there is dry and compacted soil beneath the slab. Roots do not grow where the soil is hard and dry. When roots are found underneath foundations it is usually because there is or has been water leaking beyond the foundation perimeter. Roots grow in this moist and softer soil. Examples are leaking water pipes or drains.

Roots can also cause foundation damage withdrawal of water from the soil via their roots; usually combined with high shrink/swell capacity soils. Most soils in the Los Gatos area have relatively high clay content, so they also have a high shrink/swell capacity. Building foundations are normally designed to take this into account, however. There have been some instances of building foundation damage occurring after trees are removed due to changes in the moisture content of the soil. I have attached a paper I wrote that explains tree root damage to buildings and pavement, for additional information.

Roots of the redwood tree will cause damage to new pavement that is installed in the same location as the previous pavement. The installation of an alternative walking surface above the existing soil (like a deck) is possible but in my opinion it will probably not be feasible. This option would need to be studied in greater detail by an engineer and/or general contractor to see if the height of the door sill above the existing soil surface and exposed roots is sufficient to allow for such a walkway to be built. There should be a gap of at least one inch between the top of existing roots, to allow for root diameter growth. It is possible that after a number of years this gap will be filled through root growth and the walkway will again be disrupted.

Shaving of the tops of roots is a possibility (on one or a few roots), but shaved roots can continue to grow and can cause pavement damage in the future. There is always a possibility that such wounding to roots will weaken the roots and impact whole-tree stability, particularly if treated roots are large. It is best to avoid wounding roots when possible, particularly large roots close to the trunk.

Root cutting and/or the installation of root barriers are not a viable option for this tree. As Richard Gessner mentioned in his report, such root cutting would occur within the 3xDBH distance from the trunk of the tree, and so is not advisable from a whole-tree stability standpoint.

****

I certify that the information contained in this report is correct to the best of my knowledge, and that this report was prepared in good faith. Thank you for the opportunity to provide service again. Please call me if you have questions or if I can be of further assistance.

Sincerely,

Deborah Ellis

Deborah Ellis, MS.
Consulting Arborist & Horticulturist
Certified Professional Horticulturist #30022
ASCA Registered Consulting Arborist #305
I.S.A. Board Certified Master Arborist WE-457B
I.S.A. Tree Risk Assessment Qualified

Enclosure: *Tree Root Damage to Pavement & Buildings*. D. Ellis, Rev. 5/29/14

GLOSSARY

1. **3 to 5 X DBH**: No one can estimate and predict with absolute certainty how far a soil disturbance such as an excavation must be from the edge of the trunk of an individual tree to effect tree stability or health at a low, moderate or severe degree – there are simply too many variable involved that we cannot see or anticipate. 3xDBH however, is a reasonable "rule of thumb" minimum distance (in feet) any excavation should be from the edge of the trunk on one side of the trunk. This is supported by several separate research studies including (Smiley, Fraedrich, & Hendrickson 2002, Bartlett Tree Research Laboratories). DBH is trunk "diameter at breast height" (4.5 feet above the ground). This distance is often used during the design and planning phases of a construction project in order to estimate root damage to a tree due to the proposed construction. It tends to correlate reasonably well with the zone of rapid taper, which is the area in which the large buttress roots (main support roots close to the trunk) rapidly decrease in diameter with increasing distance from the trunk. For example, using the 3X DBH guideline an excavation should be no closer than 4.5 feet from the trunk of an 18-inch DBH tree. For trees with multiple trunks, an adjusted DBH is often calculated using 100% of the largest trunk plus 50% of the remaining smaller trunks. Such distances are guidelines only, and should be increased for trees with heavy canopies, significant leans, decay, structural problems, etc. I will generally not recommend a root protection distance of less than 3 feet for any tree, even very small trees. It is also important to understand that in actual field conditions we often find that much less root damage occurs than was anticipated by the guidelines. 3xDBH may be more of an aid in preserving tree stability and not necessarily long-term tree health. 5X DBH or greater is the "preferred" minimum distance which should be strived for, and this distance or greater should probably be used when there are multiple trenches on more than one side of the trunk. The roots beyond the zone of rapid taper form an extensive network of long, rope-like roots one to two inches in diameter. These woody perennial roots are referred to as transport roots because they function primarily to transport water and minerals. Maintaining a 5xDBH tree protection zone or greater around a tree will preserve more of these transport roots, which will have less of an impact on tree health than if the excavation were closer to the trunk.

2. **Air spade**: a commercial grade, hand-held metal probe attached to a large air compressor by a hose. This equipment is specialized, industrial equipment that is intended for use by trained professionals. Pressurized air is discharged from the tip of the probe. The air is used to excavate soil away from items such as tree roots, or to dig trenches or remove soil with minimal damage to tree roots (compared to traditional soil removal methods). Information for horticultural uses of the air spade is available at on line at: http://www.air-spade.com/market_arboriculture.html. Pre-irrigation to soften the soil a few days before is recommended, and is often done by the company that is providing the service. In addition it is also helpful to use a pickaxe to loosen very hard surface soil before and often during the use of an air spade. Air spade works is somewhat expensive, but it may be economical if a root collar or other excavation is extensive, difficult, the tree species is very sensitive to root damage, if many roots must be exposed, the undersides of roots must be exposed, or if multiple excavations will occur.

3. **Canopy density** refers to the percentage of leaf cover in a tree canopy (after full leaf expansion and maturation), which varies with tree species and age. A lower than normal canopy density can indicate tree decline or some other problem such as insect or pathogen-caused defoliation.

4. **Condition & Preservation Suitability Ratings**: Trees are rated on their condition on a scale of zero to 100 with zero being a dead tree and 100 being a perfect or near-perfect tree (which rarely exists – like a supermodel in human terms). There are two components to tree condition – vigor and structure, and they are each rated separately. Averaging the components would not be useful because a very low rating for either component could be a good reason to remove a tree from a site – even if the other component has

a high rating. Numerically speaking, 100 is *Excellent* (an A' academic grade), 80 is *Good* (B), 60 is *Fair* (C), 40 is *Poor* (D), 20 is *Unacceptable* (F) and 0 is *Dead*. Condition of the tree is considered relative to the tree species and present or future use of the site to obtain the tree's *Preservation Suitability Rating* (i.e. "Is this tree worth keeping on this site, in this location, if the tree could be provided with enough above and below ground space to survive and live a long life?"). Preservation suitability ratings are: *None, Poor, Fair, Good* and *Excellent*. *Fair/Poor* and *Fair/Good* are intermediate ratings.

Please Note: The subject tree described in this report received a basic evaluation. Other trees on the property were not evaluated. Trees on neighboring properties were not evaluated. A basic evaluation is a brief and cursory visual evaluation of the tree from the ground, without climbing into the tree or performing detailed tests such as extensive digging, boring or removing samples. It is an initial screening of the tree after which the evaluator may recommend that additional, more detailed examination(s) be performed if deemed necessary. It is possible that defects in the tree can be missed during a basic evaluation. Note that because there may be hidden defects within the root system, trunk or branches of trees, it is possible that trees with no obvious defects can be subject to failure without warning. The current state of arboricultural science does not guarantee the accurate detection and prediction of tree defects and the risks associated with trees. There will always be some level of risk associated with trees, particularly large trees. It is impossible to guarantee the safety of any tree. Trees are unpredictable.

Deborah Ellis, MS

Consulting Arborist & Horticulturist

Service since 1984

Jocelyn Puga
Los Gatos Community Development Department
110 E. Main St.
Los Gatos, CA 95031

RECEIVED

FEB 17 2015

TOWN OF LOS GATOS
PLANNING DIVISION

February 15, 2015

10 Jackson Street, Tree removal Permit Denial Appeal T-14-004, Arborist Review #2

Dear Jocelyn:

This report is an addendum to my previous report for this tree dated January 6, 2015. This current report was written in response to a second letter submitted by the building owner's consulting structural engineer, Biggs Cardosa Associates, dated February 13, 2015. For their second report Kathleen Dillon returned to the site to <presumably on February 13> to validate their previous assessment (report dated November 3, 2014).

In the Discussion section of my January 6 report I mentioned that "Excavation alongside the building foundation, down to the bottom of the footing could be undertaken to more accurately determine whether or not roots <of the redwood tree> are contacting the building at this time, causing any damage to the foundation or growing underneath the foundation. A decision to save or remove the tree could be made after such additional investigation."

I was under the impression that such an excavation would be performed and the structural engineer would return to observe the results and make recommendations. Instead, the structural engineer saw the same situation I did when I initially visited the site on December 22, 2014 – just the exposed roots underneath the pavement that had been removed prior to my initial site visit on December 22, 2014. No excavation to the expose the bottom of the footing had been performed. In their February 3, 3015 report the structural engineers stated: "We did not observe damage to the foundation of the building, however only the top few inches of footing were visible." They also state, "In our opinion, the tree's root system if not removed, has the potential to damage the building foundation at some time in the future. The foundation may become cracked, settle, or heave which could compromise its load-bearing capacity and result in damage to the structural framing and architectural finishes above." I basically say the same thing in my January 6, 2015 report, except I also explain how tree roots do not usually grow underneath foundations and are usually not strong enough to damage the foundation. So we are back to where we were upon completion of my January 6, 2015 report. In short, nothing new has been learned or recommended.

Here is what I think at this time:

No additional investigation has been performed (excavating to base of foundation footing adjacent to the tree), so we cannot be sure if roots are or are not growing underneath the footing and/or damaging the foundation in some way, beyond what can be seen after the initial pavement removal. We can continue speculate whether or not the tree is or may cause damage to the foundation at some time in the future.

Regardless of the possibility of foundation damage, the tree was causing severe damage to pavement (sidewalks) adjacent to the building. If concrete (or other type of pavement) sidewalks are installed in the same location as the previous pavement, the same damage will recur. If roots are cut in order to install the

pavement, they will most likely regrow to damage the pavement again in the future. Significant root cutting close to the trunk is not advisable from a whole-tree stability standpoint, and this is also why the use of a root barrier is not feasible in this situation.

In my January 6 report I mentioned investigating whether or not some sort of raised walkway over the roots, such as a decking surface, could be constructed. To my knowledge, this has not been done. This could still be done and perhaps it may be possible to save the tree, although I think the chances of this working are slim. Whether or not this is done however, the subject tree is still a large-growing tree that was definitely planted too close to the building, or the building was built too close to the tree (whichever came first). As I mentioned in my January 6 report after discussing the foundation footing excavation, "Alternatively the tree could be removed now due to its nearness to the building and the possibility that it may cause pavement damage in the future, without any further investigation." In my opinion this is still a reasonable option. How much more trouble do you want to go through relative to this tree?

I have one additional idea that might work here and allow the redwood tree to be saved – at least for the near future. If the uncertainty of future foundation damage by the roots of this tree can be accepted, at least for the time being, then it may be possible to install rubber sidewalks in place of the previous concrete sidewalks. The caveat to this is that there should be very limited root cutting in order to achieve a uniform sidewalk surface. This is something that would have to be investigated in greater detail. I have attached a paper on rubber sidewalks that contains a link to the company that produces the product. If you are interested in exploring this possibility, then I suggest that you contact the company representative, explain the situation and have a discussion with them about the feasibility of using their product in this situation.

****

I certify that the information contained in this report is correct to the best of my knowledge, and that this report was prepared in good faith. Thank you for the opportunity to provide service again. Please call me if you have questions or if I can be of further assistance.

Sincerely,

Deborah Ellis

Deborah Ellis, MS.
Consulting Arborist & Horticulturist
Certified Professional Horticulturist #30022
ASCA Registered Consulting Arborist #305
I.S.A. Board Certified Master Arborist WE-457B
I.S.A. Tree Risk Assessment Qualified

Enclosure: Recycled Rubber Sidewalks. D. Ellis, 6/15/11 Rev.

Deborah Ellis, MS
Consulting Arborist & Horticulturist
Service since 1984

Recycled Rubber sidewalks[1]:

Since 1999 recycled rubber can and is being used as a substitute for concrete sidewalks. Rubber sidewalk modules may work very well in some situations to replace portions of or entire concrete or asphalt sidewalks that have been removed. Recycled rubber is available for use as a sidewalk replacement in modules with dimensions of 2.5 feet by 2.5 feet or 2.5 by 5 feet. It can also be cut to fit other dimensions. These modules can be installed as individual pavers or glued together to form a uniform surface. A compacted sand base is used under the modules. Modules come in various colors including light gray, green and black with surfaces of smooth or brick tile design. Advantages of recycled rubber pavers include flexibility, permeability and ease of repair (in case the modules are lifted by tree roots). When displaced by roots, welded modules lift as a unit, and they flex and bend a bit. Modular pavers present a lower tripping hazard than individual pavers. If installed as a remedial treatment after root pruning, modules can be easily lifted for periodic management of root growth, such as cutting small roots that are beginning to lift the sections. Installation costs for recycled rubber sidewalks are slightly higher than concrete, but are decreasing as their use increases.

Figure 57.
Recycled rubber is being tested as an alternative to concrete (A). Individual pavers or modules can be removed to inspect and treat underlying roots (B).

Maintenance and Repair Times for 100-square-foot Sections of Concrete and Rubber Sidewalks in Santa Monica, CA.

Typical Concrete Sidewalk Repair Time (100 ft²)	Rubber Sidewalk Maintenance
Saw cut and concrete removal = 10 hr	Rubber sidewalk removal = 1 hr
[illegible]	Root trimming = 1 hr (base had been pruned two years previously when the original concrete sidewalk was removed)
Form setting = 6 hr	Form setting = 0 hr
[illegible]	[illegible]
Strip and backfill = 2 hr	Strip and backfill = 0 hr
[illegible]	[illegible]

Source: Warriner 2002

The rubber sections do need an edge to keep them in place. Adjacent to a roadway a concrete curb is often available, but without that type of barrier you will need something like a 2" x 6" header board, held in place with stakes. When installing such a border, take care to not cause additional root damage.

You can read about and contact the company that provides the rubber sidewalk materials and can also install them at: http://www.rubbersidewalks.com/. Several Bay Area cities including Sunnyvale are using rubber sidewalks now.

D. Ellis, 6/15/11

[1] Information and photographs taken from the text, Reducing Infrastructure Damage by Tree Roots, A Compendium of Strategies. Costello et al., International Society of Arboriculture, 2003.

PO Box 3714, Saratoga, CA 95070. 408-725-1357. decah@pacbell.net. http://www.decah.com.

This Page
Intentionally
Left Blank