APPENDIX D
TREE SURVEY AND ARBORIST'S REPORT

Project Comments

Date: November 13, 2015

To:

- **0** Engineering Division *(650) 558-7230*
- **0** Building Division *(650) 558-7260*
- **X** Parks Division *(650) 558-7334*
- **0** Fire Division *(650) 558-7600*
- **0** Stormwater Division *(650) 342-3727*
- **0** City Attorney *(650) 558-7204*

From: Planning Staff

Subject: Request for Environmental Review, Design Review and Conditional Use Permit for height for a new, five-story 29-unit apartment building at **1128 & 1132 Douglas Avenue, zoned R-4, APN: 029-132-180 & 029-132-190**

Staff Review:

1. The Mayne Tree Report dated Sept 10, 2015 is satisfactory and must be followed exactly.
2. Include the report on the demo and construction plans for the project.
3. The foundation is roughly 13 ft. from the base of the trees and the City Arborist is requiring the top 2 feet of the foundation closest to the trees be air spaded or hand dug under supervision of Mayne Tree Service to locate and evaluate any significant roots prior to mechanical excavation.
4. Mayne Tree will be required to submit a report regarding the findings of the excavation and recommend any actions needed to protect the roots to preserve the health and structure of both the redwood and oak trees.
5. Tree Protection described in detail on the August 8, 2015 Mayne Tree Report must be in place and followed during all phases of construction and approved by the City Arborist prior to any demolition.

Reviewed by: BD Date: 11/19/15

Mayne Tree Expert Company, Inc.

ESTABLISHED 1931 — STATE CONTRACTOR'S LICENSE NO. 276793

CERTIFIED FORESTER • CERTIFIED ARBORISTS • PEST CONTROL • ADVISORS AND OPERATORS

RICHARD L. HUNTINGTON
PRESIDENT

JEROMEY INGALLS
CONSULTANT/ESTIMATOR

535 BRAGATO ROAD, STE. A
SAN CARLOS, CA 94070-6311

TELEPHONE: (650) 593-4400
FACSIMILE: (650) 593-4443
EMAIL: info@maynetree.com

September 10, 2015

Mr. Wayne Lin, LEED AP
Dreiling Terrones Architecture, Inc.
1105 Juanita Ave.
Burlingame, CA 94010

Dear Mr. Lin,

RE: 1128 & 1132 DOUGLAS AVENUE, BURLINGAME

At your request, I reviewed the proposed construction plans on September 8, 2015. During my review, I determined the proposed construction plans involve removing the two homes and the majority of the vegetation on the properties, except a large Redwood and a large Coast Live Oak, both of which are located at the right front corner of 1128 Douglas Avenue. The two original lots will be combined in order to accommodate the new construction of an apartment building.

The new building has a basement/parking garage incorporated into its lowest level. Excavation for this portion of the project will affect roughly 30 to 35 percent of both the Redwood's and the Coast Live Oak's root zones. The Redwood has good form and should be minimally affected by the excavation; however, the Coast Live Oak's canopy leans away from the side of excavation, which increases the potential for a future failure. Weight reduction of the canopy should be done to reduce the chance of failure. In addition, a large leader will need to be removed from the Coast Live Oak canopy to provide clearance for the side of the proposed building. The weight reduction and leader removal should be done prior to the excavation of the basement. The more time in between these two stages (limb removal/weight reduction and the excavation for the basement of the project) will increase the adaptation of the tree to the weight distribution while reducing the chance of failure and overall stress on the tree.

The excavation for the new basement will exceed the depth of 5 feet. In most cases a cut back is required in a 1:1 ration for every foot below 5 feet. Due to the close proximity of the excavation wall to the trees, this cutback would severely damage the majority of feeder roots and buttress roots for both the Redwood and the Coast Live Oak. Because of this, I recommend installing soldier beams to shore up the wall of excavation in this area and eliminate the need for a cutback to occur.

I believe this report is accurate and based on sound arboricultural principles and practices. If I can be of further assistance, please contact me at my office.

Sincerely,

Jeromey A. Ingalls
Certified Arborist WE #7076A

JAI:pmd

Mayne Tree Expert Company, Inc.

ESTABLISHED 1931 — STATE CONTRACTOR'S LICENSE NO. 276793

CERTIFIED FORESTER • CERTIFIED ARBORISTS • PEST CONTROL • ADVISORS AND OPERATORS

RICHARD L. HUNTINGTON
PRESIDENT

JEROMEY INGALLS
CONSULTANT/ESTIMATOR

535 BRAGATO ROAD, STE. A
SAN CARLOS, CA 94070-6311

TELEPHONE: (650) 593-4400
FACSIMILE: (650) 593-4443
EMAIL: info@maynetree.com

August 11, 2014

Mr. Wayne Lin, LEED AP
Dreiling Terrones Architecture, Inc.
1105 Juanita Ave.
Burlingame, CA 94010

Dear Mr. Wayne Lin,

RE: 524 OAK GROVE AVENUE, BURLINGAME

At your request, I visited the above site on Thursday, July 31, 2014. The purpose of my visit was to identify, inspect, and comment on the trees located on the site. Included in this report is a plan review and tree protection plan for the proposed construction project.

Limitations of this report

This report is based on a visual-only inspection that took place at ground level. I accept no responsibility for any unknown or any unseen defects associated with the trees on this site.

Method

Each tree on this report is given an identification number, which is scribed on to a metal foil tag and placed at eye level on the trunk of the tree. This number is also placed on the provided site map to show the approximate location of the trees on the property. The diameter for each tree was found by measuring the trunk of the tree at fifty-four inches off of the natural grade as described in the Burlingame Heritage Tree Ordinance. The height and canopy spread has been estimated for each tree to show their approximate dimensions. Each tree was given a condition rating; this rating is based on form and vitality and can be further defined by the following table:

0	–	29	Very Poor
30	–	49	Poor
50	–	69	Fair
70	–	89	Good
90	–	100	Excellent

Lastly, a comments section has been provided to give more individual detail about the trees.

Tree Survey

Tree #	Species	Diameter (inches)	Condition (percent)	Height (feet)	Spread (feet)	Comments
1	Olive	13.1	35	15	21	Root crown covered by soil, ivy, and organic material; topped at 12 feet; canopy leans south; growing into the wires; lower trunk is hollow; roots lifting the curb and street.
2	Coast Live Oak	20.9	45	20	27	Codominant at 1 foot with included bark; root crown covered; pipe embedded in the lower trunk; ivy growing up the trunk into the upper canopy; abundance of interior deadwood; leans south; healthy canopy; measured below the codominant attachment.
3	Coast Live Oak	40.7	60	40	54	Partially covered root crown; girdling root at the base; codominant at 6 feet; most of the canopy growth is to the south; excess end weight on the lateral limbs; limbs touching the roof; large interior deadwood present; healthy canopy.
4	Monterey Pine	52.0 (est.)	50	90	63	Root crown covered by ivy and other organic material; ivy growing up the trunk; high-voltage lines going through the canopy; history of limbs failing over the street; excess end weight on the lateral limbs over the street; large deadwood present; abundance of pine cones; pitch moth present.
5	Olive	19.3	35	15	15	Partially covered root crown; codominant at 2 feet with included bark; interior deadwood present; measured below the codominant attachment; suppressed growth by tree #3.
6	Spanish Fir	18.5	55	70	21	Root crown covered; ivy growing up the trunk; abundance of interior deadwood; top leans northeast.
7	Olive	17.8	30	15	24	Root crown covered; codominant at 1 foot; measured below codominant attachment; top growing southeast; abundance of interior deadwood; poor form and vigor; ivy growing up the trunk.

Tree #	Species	Diameter (inches)	Condition (percent)	Height (feet)	Spread (feet)	Comments
8	Italian Stone Pine	60.4	55	40	63	Root crown covered with ivy; codominant at 5 feet with included bark; holly sapling growing out of main attachment; long heavy lateral limbs; codominant attachments in the upper canopy; large dead limb over the street; roots lifting the street.
9	Italian Stone Pine	54.3	60	35	69	Root crown covered; ivy growing up the trunk; codominant at 8 feet; heavy lateral limbs; roots lifting the curb, the gutter, and the street; several crossing limbs (some grafted together) in the upper canopy; excess end weight on the lateral limbs growing over the street.

Observations

Tree #1 is an Olive tree located within the planter strip along Oak Grove Avenue. Ivy, soil, and other organic material cover the root crown of this tree. Roots from this tree are lifting the curb and the street slightly. The upper canopy is routinely topped at 12 feet by PG&E to minimize growth into the high-voltage wires. Approximately 20 feet away from the base of the tree in the same planter strip, I found an active yellow jacket nest.

Tree #2 is a Coast Live Oak located near the driveway behind a fence. Leaf litter, soil, and other organic material cover the root crown of this tree. There is a codominant attachment at 1 foot off of the natural grade with included bark between the two stems. The upper canopy leans south due to a competition for light with the adjacent Coast Live Oak canopy. A large square pipe is embedded in the lower trunk.

Tree #3 is a large Coast Live Oak located in the rear of the home. I found several Pine roots girdling the lower buttress roots at the base of this Oak and a small amount of ivy growing up the lower trunk. There is a codominant attachment at 6 feet and an abundance of large interior deadwood. Most of the upper canopy leans to the south with excess end weight on many of the lateral limbs. Many of these lateral limbs are touching the roof of the existing home.

Tree #4 is a large Monterey Pine located on the right side of the home, along the property line fence. A significant amount of ivy, pine needles, and other organic material cover the root crown of this tree. There are several stubbed off limbs in the lower canopy where the previous failures have occurred. Many of the lateral limbs have excess end weight and are in need of end weight reduction. High-voltage lines are going through the middle canopy of this tree and there are several large dead limbs in the interior of this canopy.

Tree #5 is an Olive tree located along the rear of the property. This tree has a codominant attachment at 2 feet with included bark between the two stems. Tree #3 has suppressed the growth of this tree creating a competition for light and undesirable form of the upper canopy.

Tree #6 is a Spanish Fir located on the left side of the home near the left corner property line. Ivy and other organic material cover the root crown of this tree. There is an abundance of interior deadwood in the upper canopy, which leans northeast slightly.

Tree #7 is an Olive tree located on the left side of the property. This tree has a codominant attachment at 1 foot. The upper canopy is growing to the southeast toward the existing home. This tree has poor form and vigor and an abundance of interior deadwood.

Tree #8 is an Italian Stone Pine located within the planter strip along Marin Drive. Ivy, soil, and other organic material cover the root crown of this tree. I noticed several large upwelling areas of the street near the base of the tree that appear to be from the tree's surface roots. There is a codominant attachment at 5 feet with included bark between the two stems. A small Holly sapling appears to be growing out of the included bark area of the codominant attachment. There is an abundance of lateral limbs with excess end weight growing over the street and several codominant attachments in the upper canopy. I identified one large dead limb located over the street.

Tree #9 is an Italian Stone Pine located on the corner of Oak Grove Avenue and Marin Drive. Ivy, soil, and other organic material cover the root crown of this tree. I identified a codominant attachment at 8 feet and excess end weight on the lateral limbs. The roots of this tree appear to be lifting the curb, gutter, and portions of the street. There are several crossing branches grafted together in the upper canopy.

All of the trees on site appear to be in need of routine maintenance that should include significant end weight reduction, large deadwood removal, and reshaping of the canopies. Special attention should be focused on the canopies of trees #3, #4, #7, and #9. Tree #3 needs significant end weight reduction over the home to reduce the chance of future failures occurring. Trees #4, #6, and #9 all overhang the street. The lateral limbs of these trees have poor branch taper and an abundance of excess end weight. Due to vehicle and pedestrian traffic, there is a higher potential for significant injury or damage to occurring in the event of a failure.

I recommend the removal of trees #1, #5, and #7 as they all have poor form and vigor. All tree work performed as a result of this report should be completed by a qualified licensed tree care professional.

Plan Review

On August 4, 2014, I reviewed the proposed construction plans for the above site. The plans call for the removal of the existing home and the new construction and partial reconstruction of a historical building from a different site. Pruning and the removal of several trees will be needed to accommodate the new home and driveway. Trees #2, #3, #8, and #9 will need end weight reduction and select limb removal to allow the construction project to continue unhindered. Trees #5, #6, and #7 will need to be removed.

TREE PROTECTION SPECIFICATIONS

1. A protective barrier of 6-foot chain link fencing shall be installed around the dripline of protected tree(s). The fencing can be moved within the dripline if authorized by the Project Arborist or the City Arborist, but not closer than 2 feet from the trunk of any tree. Fence posts shall be 1.5 inches in diameter and are to be driven 2 feet into the ground. The distance between posts shall not be more than 10 feet. This enclosed area is the Tree Protection Zone (TPZ). I have drawn in on the provided site plan the approximate location of the tree protection fencing.
2. Movable barriers of chain link fencing secured to cement blocks can be substituted for "fixed" fencing if the Project Arborist and City Arborist agree that the fencing will have to be moved to accommodate certain phases of construction. The builder may not move the fence without authorization from the Project Arborist or City Arborist.
3. **Avoid the following conditions.**
   DO NOT:
   a. Allow runoff or spillage of damaging materials into the area below any tree canopy.
   b. Store materials, stockpile soil, or park or drive vehicles within the TPZ.
   c. Cut, break, skin, or bruise roots, branches, or trunks without first obtaining authorization from the City Arborist.
   d. Allow fires under and adjacent to trees.
   e. Discharge exhaust into foliage.
   f. Secure cable, chain, or rope to trees or shrubs.
   g. Trench, dig, or otherwise excavate within the dripline or TPZ of the tree(s) without first obtaining authorization from the City Arborist.
   h. Apply soil sterilants under pavement near existing trees.
4. Only excavation by hand or compressed air shall be allowed within the driplines of trees. Machine trenching shall not be allowed.
5. Avoid injury to tree roots. When a ditching machine, which is being used outside of the dripline of trees, encounters roots smaller than 2 inches, the wall of the trench adjacent to the trees shall be hand trimmed, making clear, clean cuts through the roots. All damaged, torn, and cut roots shall be given a clean cut to remove ragged edges, which promote decay. Trenches shall be filled within 24 hours, but, where this is not possible, the side of the trench adjacent to the trees shall be kept shaded with four layers of dampened, untreated burlap, wetted as frequently as necessary to keep the burlap wet. Roots 2 inches or larger, when encountered, shall be reported immediately to the Project Arborist, who will decide whether the Contractor may cut the root as mentioned above or shall excavate by hand or with compressed air under the root. The root is to be protected with dampened burlap.

6. Route pipes outside of the area that is 10 times the diameter of a protected tree to avoid conflict with roots.
7. Where it is not possible to reroute pipes or trenches, the contractor shall bore beneath the dripline of the tree. The boring shall take place not less than 3 feet below the surface of the soil in order to avoid encountering "feeder" roots.
8. Any damage due to construction activities shall be reported to the Project Arborist or City Arborist within six hours so that remedial action can be taken.
9. Violation of any of the above provisions may result in sanctions or other disciplinary action.

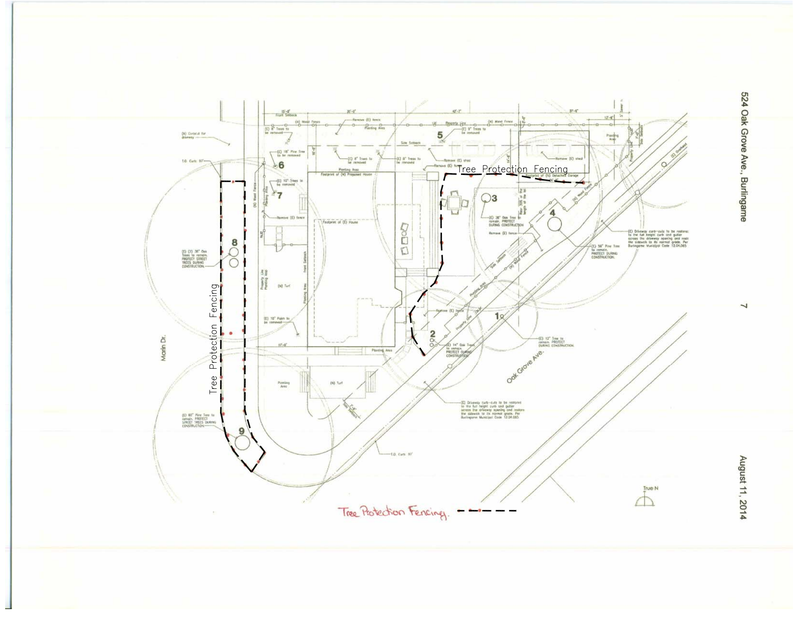
I believe this report is accurate and based on sound arboricultural principles and practices. If I can be of further assistance, please contact me at my office.

Sincerely,

Jeromey A. Ingalls
Certified Arborist WE #7076A

JAI:pmd

INTERNATIONAL SOCIETY OF ARBORICULTURE — JEROMEY A. INGALLS — No. WE-7076A — CERTIFIED ARBORIST



DTA
Dreiling Terrones Architecture Inc.
Architecture
Infrastructure
Environments

1105 Juanita Avenue
Burlingame, California
94010
650 696 1200

314 Center Street #220
Healdsburg, California
95448
707 343 1305

Relocation and Addition at:

Oak Grove

524 Oak Grove Ave
Burlingame, California

APN: 029-083-010

2014-06-13: Planning Submittal
2014-10-31: Planning Re-submittal
2014-12-19: Planning Re-submittal

Arborist Report

AR1.0

1413