



ARBOR RESOURCES

professional consulting arborists and tree care

TREE SURVEY REPORT

PUBLIC SAFETY BUILDING AND PARKING GARAGE PARKING LOTS C-6 AND C-7 PALO ALTO, CALIFORNIA

Submitted to:

City of Palo Alto
Public Works Department
250 Hamilton Street
Palo Alto, CA 94301

Prepared by:

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March 17, 2016

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EXHIBITS

<u>EXHIBIT</u>	<u>TITLE</u>
A	TREE INVENTORY TABLE (six sheets)
B	AERIAL MAPS (two sheets)
C	PHOTOGRAPHS (nine sheets)

1.0 INTRODUCTION

The City of Palo Alto is planning to construct a **Public Safety Building (PSB) and Parking Garage** over two existing surface and City-owned parking lots within the California Avenue Business District. Both lots are bordered by Sherman Avenue to the east and Jacaranda Lane to the west, and are bisected by Birch Street; the northern one is Parking Lot C-6 between Park Boulevard and Birch Street, and the southern one is Parking Lot C-7 between Ash Street and Birch Street. The PSB is sited for Parking Lot C-6, and the public Parking Garage is sited for Parking Lot C-7; both structures are planned for two-levels of underground parking.

As part of the site analysis, the City of Palo Alto Public Works Department has retained me to prepare this *Tree Survey Report* for helping to identify the type, amount, and condition of existing tree resource within and immediately adjacent to the project sites, to include both existing surface parking lots, as well as the center street median along Birch Street. Specific tasks assigned to execute are as follows:

- Visit the site to identify **39 trees** within or immediately adjacent to the project sites; site visits were performed on 3/8/16 and 3/14/16.
- Measure each tree's trunk diameter pursuant to the City's *Tree Technical Manual*¹ and the *Guide for Plant Appraisal, 9th Edition*.² Diameters are rounded to the nearest inch, and trees listed with more than one are formed by multiple trunks.
- Estimate each tree's height and average canopy spread (rounded to the nearest fifth).
- Obtain photographs; see Exhibit C.
- Ascertain each tree's health and structural integrity, and assign an overall condition rating (e.g. good, fair, poor or dead).
- Determine each tree's suitability for preservation (e.g. high, moderate or low).
- Identify trees defined as regulated by the Palo Alto Municipal Code (PAMC).
- Assign numbers in a sequential pattern from #1 thru 39, and affix round metal tags with engraved, corresponding numbers to the trees' trunks or major limbs.

¹ Available for viewing at www.cityofpaloalto.org/civica/filebank/blobdload.asp?BlobID=6436.

² Authored by the Council of Tree & Landscape Appraisers, and published by the International Society of Arboriculture (ISA).

- Show each tree's roughly approximate location on the two aerial maps in Exhibit B; numbers are shown on top of the canopies (aerial derived from *Google Earth*, imagery date of 3/28/15).
- Provide general design guidelines to help avoid or mitigate impacts to retained trees.
- Prepare a written report that presents the aforementioned information, and submit via email as a PDF document.

2.0 TREE COUNT AND COMPOSITION

Thirty-nine (39) trees of ten various species were inventoried for this report. They are sequentially numbered as **1 thru 39**, and the table below identifies their names, assigned numbers, counts and overall percentages.

NAME	TREE NUMBER(S)	COUNT	% OF TOTAL
Chinese elm	7, 9-11, 15, 16, 20	7	18%
Coast live oak	35	1	3%
Coast redwood	2-4, 12, 19, 21, 22	7	18%
Colorado blue spruce	23	1	3%
Evergreen pear	36	1	3%
Holly oak	1, 5, 6, 13, 14, 17, 18, 26-30, 34, 38, 39	15	38%
London plane tree	37	1	3%
Palo Alto sweetgum	31-33	3	8%
Valley oak	8	1	3%
Weeping bottlebrush	24, 25	2	5%
Total		39	100%

Specific information regarding each tree is presented within the table in **Exhibit A**. The trees' **numbers** and roughly approximate **locations** can be viewed on the two aerial maps in **Exhibit B**, and **photographs** are presented in **Exhibit C**.

As illustrated in the table, the project sites are **populated predominantly** by Holly oaks, followed by coast redwoods and Chinese elms.

The **general locations** of trees respective to the two parking lots and Birch Street median are as follows:

- Parking Lot C-6: **#1 thru 22**
- Parking Lot C-7: **#26 thru 39**
- Center Median along Birch Street: **#23 thru 25**

Tree #7 is situated offsite, its trunk originating from the western neighboring property on Parking Lot C-6, and abutting the 2460 Park Boulevard building.

Trees #36 and 37, an evergreen pear and London plane tree, are street trees within planter cutouts along the City sidewalk.

All trees, but #7, can be considered **publicly-owned** due to their locations on City-owned land (survey pending).

3.0 REGULATED TREES

The PAMC **regulates** specific types of trees on public and private property for the purpose of avoiding their removal or disfigurement without first being reviewed and permitted by the City. Three categories within the status of **regulated trees** include **protected trees** (PAMC 8.10), **street trees** (PAMC 8.04.020), and **designated trees**. Additional Information regarding “regulated” trees can be viewed on page xiii of the City’s *Tree Technical Manual*.

Six (6) trees are defined as **protected trees** due to being either a coast live oak or valley oak with trunk diameters ≥ 11.5 inches, or a coast redwood with a trunk diameter ≥ 18 inches; they include **#4, 8, 12, 21, 22 and 35**. Trees #4, 12, 21 and 22 are coast redwoods; #8 is a valley oak; and #35 is a coast live oak.

Five (5) trees are situated within the public right-of-way and defined as **street trees**; they include **#23, 24, 25, 36 and 37**. Trees #23 thru 25 are within a center median along Birch Street, and #36 and 37 and within planter cutouts along Sherman Avenue.

As previously mentioned all trees, but #7, can be considered **publicly-owned** (i.e. street trees) due to their locations on City-owned land (survey pending).

The **designated tree** category may apply to a select number of existing trees planted on a commercial or planned development site, either for designated landscape or mitigation for tree removal. This category can be enacted by the City and applied to any specific tree associated with a proposed development project. In the event the City qualifies a specific tree to this category, it may become provisioned to be saved and protected.

4.0 SUITABILITY FOR TREE PRESERVATION

Each tree has been assigned either a “high,” “moderate” or “low” suitability for preservation rating as a means to cumulatively measure its existing health, structural integrity, anticipated life span, location, size, particular species, tolerance to construction impacts, growing space, and safety to property and persons within striking distance. Descriptions of these ratings are presented below; the high category is comprised of **4 trees** (or 10%), the moderate category **21** (or 54%), and the low category **14** (or 36%).

High: Applies to **trees #12, 18, 21 and 22.**

These trees appear healthy and seemingly structurally stable; have no apparent, significant health issues or structural defects; present a high potential for contributing long-term to the site; and require only periodic or regular care and monitoring to maintain their longevity and structural integrity. Trees assigned this rating are typically the most suitable for retaining and incorporating into the future landscape.

Moderate: Applies to **trees #4, 8-11, 13-17, 19, 20, 26-30, 34, 35, 37 and 39.**

These trees contribute to the site, but at levels less than those assigned a high suitability; may have health and/or structural issues which may or may not be reasonably addressed and properly mitigated; and frequent care is typically required for their remaining lifespans. These trees could potentially be worth retaining, if provided proper care, but not seemingly at significant expense or major design revisions.

Low: Applies to **trees #1-3, 5-7, 23-25, 31-33, 36 and 38.**

These trees have serious or significantly weakened health and/or structural issues expected to worsen regardless of tree care measures employed (i.e. beyond likely recovery). Removing these trees is recommended regardless of future development. In the case of **#5, 23 and 31**, their **removals** should be regarded as **urgent** due to having such weak structural conditions which present an unreasonably high threat to persons and property below.

5.0 GENERAL DESIGN GUIDELINES

Recommendations presented within this section serve as general design guidelines to help mitigate or avoid impacts to trees being retained and achieve conformance with City requirements. They are subject to revision upon reviewing the project plans, and I (hereinafter, "**project arborist**") should be consulted in the event any cannot be feasibly implemented. Please note that all referenced **distances from trunks** are intended to be from the closest edge (face of) of a trunk's outermost perimeter at soil grade.

1. **Prepare** a preliminary **Tree Disposition Plan** overlaid on a schematic or more developed design, showing underground garages and buildings, and submit to the project arborist and/or Urban Forestry Division for review and collaboration. Of specific interest will be impacts to, or the required removal of, protected and street trees.
2. Designate a **Tree Protection Zone (TPZ)** to restrict the following activities: trenching, soil scraping, compaction, mass grading, finish-grading, overexcavation, subexcavation, pier holes for shoring, bioswales, storm drains, equipment cleaning, stockpiling and dumping of materials, and equipment/vehicle operation.

For general design purposes, the **TPZ** of a particular tree should be a minimum distance from the trunk of **five to seven times its diameter** (strive towards ten times the diameter, and/or, beyond the actual canopy); for trees with multiple trunks, the diameter of the largest one would only be considered. Where an impact encroaches slightly within a setback, it can be reviewed by the project arborist on a case-by-case basis to determine appropriate mitigation measures. Ultimately, the TPZ for each tree or group of trees must be delineated and identified on the project plans (can be finalized following collaboration with the project arborist).

3. The design of future buildings and/or parking garages should consider the **retention of major limbs** (such as those \geq three inches in diameter for larger trees). In doing so, sufficient space is needed to construct a building, including shoring, erecting

construction scaffolding, installing roofs, and exterior finishing. In some instances, pruning and/or tying back branches may be a viable option for certain trees, but would need to be reviewed on a case-by-case basis.

4. **Shoring** should be implemented to avoid or minimize soil disturbance within a TPZ. All shoring should be specified on the appropriate plan and provided for review. Critical elements to consider include the locations of pier holes, vertical clearance for drilling equipment and/or a pile driver beyond tree canopies (note a pile driver's hydraulic hoses extend at least five feet beyond the equipment). Where near a tree's canopy, any overexcavation or soil disturbance needed beyond the walls (towards the tree's trunk), must be confined to a maximum of 36 inches.
5. The project design should consider all **soil disturbance** (e.g. overexcavation, subexcavation, grading, compaction and trenching) beyond a feature to be built within or near a TPZ shall be **reduced** to the maximum extent possible in the direction of a tree's trunk. In no instance should disturbance exceed **12 inches** for a curb, gutter, walkway or pier, or **24 inches** for retaining walls, foundations and concrete pads.
6. Trees inventoried for this report should be **shown on all site-related plans** (e.g. architectural site, demolition, grading and drainage, utilities and landscape). Information to show includes their assigned numbers; trunk diameters (shown as a circle to-scale); trunk locations; and canopy dimensions (where trees are densely grouped together, dimensions could be combined). As the design progresses, detailed canopy dimensions of retained trees (e.g. on-site survey versus aerial dimensions) may become required. For trees being retained, the civil plans should reflect their **surveyed trunk location** and **vertical ground elevations** (at least for those originating on-site).
7. Any **walkways, driveways and sections of drive aisle** proposed within a TPZ should be designed to be entirely on top of existing soil grade (including curb/gutter, base materials, edging and forms); if a vertical soil cut is necessary, the location and depth should be reviewed with the project arborist beforehand. Additionally, direct

compaction of the existing soil surface or subgrade must be avoided (foot-tamping is acceptable), and any soil fill used to bevel the top of a walk or drive to existing grade should not extend beyond 12 to 24 inches from the hardscape edge. Tensar® Biaxial **Geogrid** (www.tensarcorp.com) can be considered to help achieve these specifications.

8. All **existing, unused lines or pipes** within a TPZ shall be **abandoned** and cut off at existing soil grade (rather than being dug up and causing subsequent root damage); this provision should be specified on applicable plans (e.g. demolition plan).
9. The permanent and temporary **drainage design**, including downspouts, should not require water being discharged with TPZs. Additionally, the **drainage design** shall not require trenching within a TPZ, and **new bioswales** must be established *well beyond* a tree's TPZ and/or canopy.
10. **Underground utilities and services** should be routed **beyond TPZs**. Where this is not feasible, the section of line(s) within the TPZ should be directionally-bored by at least four feet below existing grade, or installed by other means (e.g. pipe-bursting) to avoid an open trench; the ground above any tunnel must remain undisturbed, and access pits and any above-ground infrastructure (e.g. splice boxes, meters and vaults) must be established beyond all TPZs.
11. To restrict spoils and runoff from traveling into root zones, the future **erosion control design** should establish any silt fence and/or straw rolls uphill away from a tree trunk (not against it), and as close to the canopy edge as possible. Additionally, where within a TPZ, the material should require none or a maximum vertical soil cut of two inches for its embedment.
12. The future **staging area** and **route(s) of access** should be shown on the final site plan and avoided on unpaved areas beneath or near canopies.

13. The proposed **landscape design** should conform to the following additional guidelines:
- a. **Large growing trees**, such as those which can exceed the height of retained trees, should be installed beyond TPZs, and at least 10 to 15 feet from a future foundation, wall and hardscape.
 - b. **Plant material** installed beneath the canopies of native oaks (i.e. coast live and valley) must be drought-tolerant, limited in amount, and planted at least five or more feet from their trunks. Plant material installed beneath the canopies of all other trees should be at least 36 inches from their trunks.
 - c. **Irrigation** can, overtime, adversely impact native oaks and should be avoided. Irrigation for any new plant material beneath their canopies should be low-volume, applied irregularly (such as only once or twice per week), and temporary (such as no more than three years).
 - d. **Irrigation** should not be applied within six inches from the trunks of existing trees being irrigated, and not applied against the trunks of new trees.
 - e. **Irrigation and lighting features** (e.g. main line, lateral lines, valve boxes, wiring and controllers) should be established so that no trenching occurs within a TPZ. In the event this is not feasible, they may require being installed in a radial direction to a tree's trunk, and terminate a specific distance from a trunk (versus crossing past it). Should this not be possible, the work may need to be performed using a pneumatic air device (such as an Air-Spade®) to avoid root damage. Any Netafim tubing used should be placed on grade, and header lines installed as mentioned above.
 - f. **New fencing** (posts) should be placed at least two feet from a tree's trunk (depends on trunk size and growth pattern).
 - g. **Ground cover** beneath canopies should be comprised of a three- to four-inch layer of coarse wood chips or other high-quality mulch (gorilla hair, bark or rock, stone, gravel, black plastic or other synthetic ground cover should be avoided). Mulch should not be placed against the trees' trunks.
 - h. **Tilling, ripping and compaction** within TPZs shall be avoided, as well as applying herbicides within a TPZ. I also recommend no liming be specified within 50 feet from a trunk.
 - i. Bender board or other **edging material** proposed beneath the canopies should be established on top of existing soil grade (such as by using vertical stakes).

14. The City will require the project plans are **reviewed** for **tree-related impacts**, and that a **Tree Protection Report** is subsequently prepared, essentially a report to address project specific mitigation measures to be implemented during demolition, grading, underground utility installation, construction and landscaping. Plans typically reviewed include the following: site; building elevations; grading and drainage; underground utility; landscaping (layout, planting and irrigation); electrical; plumbing; structural; and mechanical. To achieve a feasible design around trees to be retained, I recommend the plans are submitted to me for review and comment at (or earlier) the 50-percent design development stage, and again at the 50-percent construction document stage.

15. Pursuant to City Ordinance, a copy of the future “**Tree Protection Report**” shall be incorporated into the building permit (or before) plan set. It shall follow the City template of Sheet T-1; be assigned Sheets T-2, T-3, T-4, etc. (Tree Protection Instructions); and referenced on all site-related plans. The Sheet T-1 template and additional forms required by the City of Palo Alto can be viewed at http://www.cityofpaloalto.org/gov/depts/ds/planning_review.asp#5. *Trees*.

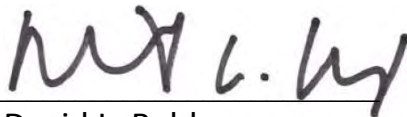
16. The City will require the building permit project plans are **reviewed** by the project arborist for preparation of an **Arborist Certification Letter**.

17. The City requires all **plan changes** near retained or relocated trees to be reviewed with the project arborist prior to resubmitting plans, for the purpose of identifying potential impacts and any possible mitigation measures.

6.0 ASSUMPTIONS AND LIMITING CONDITIONS

- All information presented herein covers only the inventoried trees, and reflects their size, condition, and areas viewed from the ground on March 8, 2016.
- Documented condition, suitability ratings and species of dormant trees are subject to change once they can be observed following the growth of new leaves.
- My observations were performed visually without probing, coring, dissecting or excavating. I cannot, in any way, assume responsibility for any defects that could only have been discovered by performing the mentioned services in the specific area(s) where a defect was located.
- The assignment pertains solely to trees listed in Exhibit A. I hold no opinion towards other trees on or surrounding the project area.
- I cannot provide a guarantee or warranty, expressed or implied, that deficiencies or problems of any trees or property in question may not arise in the future.
- No assurance can be offered that if all my recommendations and precautionary measures (verbal or in writing) are accepted and followed, that the desired results may be achieved.
- I cannot guarantee or be responsible for the accuracy of information provided by others.
- I assume no responsibility for the means and methods used by any person or company implementing the recommendations provided in this report.
- The information provided herein represents my opinion. Accordingly, my fee is in no way contingent upon the reporting of a specified finding, conclusion or value.
- The aerial maps in Exhibit B are intended to only represent the trees' approximate locations.
- This report is proprietary to me and may not be copied or reproduced in whole or part without prior written consent. It has been prepared for the sole and exclusive use of the parties to who submitted for the purpose of contracting services provided by David L. Babby.
- If any part of this report or copy thereof be lost or altered, the entire evaluation shall be invalid.

Prepared By:



David L. Babby

Registered Consulting Arborist® #399

Board-Certified Master Arborist® #WE-4001B

Date: March 17, 2016



EXHIBIT A:

TREE INVENTORY TABLE

(six sheets)



TREE INVENTORY TABLE

TREE/ TAG NO.	TREE NAME	SIZE			CONDITION			Suitability for Preservation (High/Moderate/Low)	Protected Tree
		Trunk Diameter (in.)	Height (ft.)	Canopy Spread (ft.)	Health Condition (100%=Best, 0%=Worst)	Structural Integrity (100%=Best, 0%=Worst)	Overall Condition (Good/Fair/Poor/Dead)		

1	Holly oak (<i>Quercus ilex</i>)	11	20	25	60%	20%	Poor	Low	
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Comments: Very large decaying basal wound along south side of trunk's lower 3.5'. As with all Holly oaks at this site, sooty mold is causing the black residue (darkened leaf color) on foliage. Base nearly abuts curb, which is slightly buckled.

2	Coast redwood (<i>Sequoia sempervirens</i>)	16	40	25	30%	70%	Poor	Low	
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Comments: Very sparse canopy. Crowded-growing conditions. Slight lean towards east.

3	Coast redwood (<i>Sequoia sempervirens</i>)	13	40	25	30%	60%	Poor	Low	
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Comments: Very sparse canopy.

4	Coast redwood (<i>Sequoia sempervirens</i>)	32	45	40	40%	70%	Fair	Moderate	X
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Comments: Top was pruned away or snapped off in past, leaving a flat, broad top. Adjacent curb is buckled, and asphalt lot is raised.

5	Holly oak (<i>Quercus ilex</i>)	19	45	35	30%	10%	Poor	Low	
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Comments: Numerous canker rot fungi growing on lower 9' of main trunk; they are fruiting bodies, the particular species being *Inonotus dryophilus*, which reveals external and internal decay. Tree should be removed asap. Codominant leaders at 7' high.

6	Holly oak (<i>Quercus ilex</i>)	12	35	25	40%	30%	Poor	Low	
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Comments: Extremely high canopy. Watersprouts along lower 2/3 of total height. Narrow form due to crowded-growing conditions. Codominant leaders at 4.5' high.

7	Chinese elm (<i>Ulmus parvifolia</i>)	18	40	65	60%	30%	Poor	Low	
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Comments: Offsite, adjacent to 2460 Park Boulevard building, and base abuts foundation. Has a very high canopy with large prior cuts. Watersprouts within lower crown.



TREE INVENTORY TABLE

TREE/ TAG NO.	TREE NAME	SIZE			CONDITION			Suitability for Preservation (High/Moderate/Low)	Protected Tree
		Trunk Diameter (in.)	Height (ft.)	Canopy Spread (ft.)	Health Condition (100%=Best, 0%=Worst)	Structural Integrity (100%=Best, 0%=Worst)	Overall Condition (Good/Fair/Poor/Dead)		

8	Valley oak (<i>Quercus lobata</i>)	28	45	50	70%	40%	Fair	Moderate	X
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Comments: Buried root collar. The surrounding circular planter is cracked at multiple locations. Wire cage and mesh covering old wound, and there is a sheet metal 'roof' above (seemingly to keep rodents out); wound not visible. Trunks sweeps west and canopy grows with asymmetry towards SW. Thin canopy with large deadwood overhanging lot. History of limb failure. Codominant leaders at 15' high.

9	Chinese elm (<i>Ulmus parvifolia</i>)	22	35	80	60%	60%	Fair	Moderate	
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Comments: High canopy with large prior cuts. Watersprouts within lower crown. Root collar deeply buried by groundcover.

10	Chinese elm (<i>Ulmus parvifolia</i>)	21	30	70	70%	60%	Fair	Moderate	
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Comments: High canopy with large prior cuts. Roots collar deeply buried by groundcover.

11	Chinese elm (<i>Ulmus parvifolia</i>)	18	40	40	70%	40%	Fair	Moderate	
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Comments: High canopy with large prior cuts. Crowded-growing conditions adjacent to, and creating an asymmetrical canopy away from tree #12.

12	Coast redwood (<i>Sequoia sempervirens</i>)	30	75	35	50%	80%	Fair	High	X
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Comments: Sparse, thin canopy. Adjacent walk is raised.

13	Holly oak (<i>Quercus ilex</i>)	12	25	30	50%	60%	Fair	Moderate	
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Comments: Several old cuts along lower trunk. Low canopy. Adjacent to transformer.

14	Holly oak (<i>Quercus ilex</i>)	15	30	30	60%	40%	Fair	Moderate	
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Comments: Cluster of watersprouts in lower canopy. Adjacent walk, curb and gutter are raised. Two prior limbs removed and wounds are decaying. Codominant leaders at 6' high.



TREE INVENTORY TABLE

TREE/ TAG NO.	TREE NAME	SIZE			CONDITION			Suitability for Preservation (High/Moderate/Low)	Protected Tree
		Trunk Diameter (in.)	Height (ft.)	Canopy Spread (ft.)	Health Condition (100%=Best, 0%=Worst)	Structural Integrity (100%=Best, 0%=Worst)	Overall Condition (Good/Fair/Poor/Dead)		
15	Chinese elm (<i>Ulmus parvifolia</i>)	28	55	85	60%	40%	Fair	Moderate	
<p>Comments: High and asymmetrical canopy, growing mostly towards lot. Adjacent curb is slightly raised. Large prior cuts.</p>									
16	Chinese elm (<i>Ulmus parvifolia</i>)	21	50	70	60%	40%	Fair	Moderate	
<p>Comments: High canopy with large prior cuts. Trunk sweeps south, and buttress root opposite lean is highly pronounced. Adjacent curb is raised.</p>									
17	Holly oak (<i>Quercus ilex</i>)	16	30	45	50%	40%	Poor	Moderate	
<p>Comments: Watersprouts within nearly entire half of crown. Planted high, and root mass surrounding all sides, up to 8 to 12" from trunk, is pronounced. Decaying SE limb at trunk attachment. Formed by three codominant leaders at 5 to 6' high.</p>									
18	Holly oak (<i>Quercus ilex</i>)	16	30	35	70%	70%	Good	High	
<p>Comments: Sinuous trunk and limb structure; primarily sweeps SE then to vertical. Asymmetrical canopy, mostly over street.</p>									
19	Coast redwood (<i>Sequoia sempervirens</i>)	15	35	25	50%	70%	Fair	Moderate	
<p>Comments: Top snapped out sometime ago.</p>									
20	Athena Chinese elm (<i>Ulmus p.</i> 'Athena')	2	15	10	80%	60%	Good	Moderate	
<p>Comments: Staked and a fairly new install.</p>									
21	Coast redwood (<i>Sequoia sempervirens</i>)	22	45	25	60%	80%	Fair	High	X
<p>Comments: Somewhat sparse.</p>									



TREE INVENTORY TABLE

TREE/ TAG NO.	TREE NAME	SIZE			CONDITION			Suitability for Preservation (High/Moderate/Low)	Protected Tree
		Trunk Diameter (in.)	Height (ft.)	Canopy Spread (ft.)	Health Condition (100%=Best, 0%=Worst)	Structural Integrity (100%=Best, 0%=Worst)	Overall Condition (Good/Fair/Poor/Dead)		
22	Coast redwood (<i>Sequoia sempervirens</i>)	19	40	20	60%	70%	Fair	High	X
Comments: Somewhat sparse, and has a few dead branches.									
23	Colorado blue spruce (<i>Picea p. 'Glauca'</i>)	15	45	20	60%	20%	Poor	Low	
Comments: Street tree within center median of Birch Street. Grows with a pronounced southern lean due to having partially uprooted in past, and roots surface as far as 20' from trunk. Roots under tension along north side. Some deadwood. Remove asap.									
24	Weeping bottlebrush (<i>Callistemon viminalis</i>)	20	35	25	40%	30%	Poor	Low	
Comments: Street tree within center median of Birch Street. Rangy form of multi-leaders at 6' high. Asymmetrical and thin canopy.									
25	Weeping bottlebrush (<i>Callistemon viminalis</i>)	12	25	15	50%	30%	Poor	Low	
Comments: Street tree within center median of Birch Street. Trunk with highly pronounced sweep to NW. Asymmetrical, mostly one-sided and high canopy. Large basal wound along trunk's north side.									
26	Holly oak (<i>Quercus ilex</i>)	13	25	35	50%	40%	Poor	Moderate	
Comments: Very sparse, thin top. Trunk sweeps SE, and canopy is asymmetrical.									
27	Holly oak (<i>Quercus ilex</i>)	17	35	55	50%	40%	Poor	Moderate	
Comments: Multi-leader structure at 8' high.									
28	Holly oak (<i>Quercus ilex</i>)	20	35	40	60%	40%	Fair	Moderate	
Comments: Codominant leaders at 4' high, some included bark developing.									



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TREE/ TAG NO.	TREE NAME	SIZE			CONDITION			Suitability for Preservation (High/Moderate/Low)	Protected Tree
		Trunk Diameter (in.)	Height (ft.)	Canopy Spread (ft.)	Health Condition (100%=Best, 0%=Worst)	Structural Integrity (100%=Best, 0%=Worst)	Overall Condition (Good/Fair/Poor/Dead)		
29	Holly oak (<i>Quercus ilex</i>)	18	45	40	80%	50%	Fair	Moderate	
<p>Comments: Low canopy over drive aisle, and somewhat asymmetrical away from #28's. Small girdling root. Multiple leaders at 6' high.</p>									
30	Holly oak (<i>Quercus ilex</i>)	10	20	25	60%	40%	Fair	Moderate	
<p>Comments: Multiple leaders 5.5' high. Old, large 6" diameter cut of a SE limb at 5.5' high. Canopy is high and broad.</p>									
31	Palo Alto sweetgum (<i>Liquidambar s.</i> 'Palo Alto')	8	15	15	20%	20%	Poor	Low	
<p>Comments: Squat, broad and sinuous form, mostly sweeps to east. Nearly dead. Dead limbs and branches overhanging parking spaces. Remove asap.</p>									
32	Palo Alto sweetgum (<i>Liquidambar s.</i> 'Palo Alto')	9	25	20	40%	30%	Poor	Low	
<p>Comments: Trunk sweeps south then to vertical. Large and substantial levels of deadwood. Excessive limb weight overhanging parking spaces. Codominant leaders at 7' high. Girdling roots. History of limb failure.</p>									
33	Palo Alto sweetgum (<i>Liquidambar s.</i> 'Palo Alto')	8	20	10	50%	30%	Poor	Low	
<p>Comments: Very high canopy, asymmetrical towards north. Stem wound near grade.</p>									
34	Holly oak (<i>Quercus ilex</i>)	16	35	45	60%	40%	Fair	Moderate	
<p>Comments: Multi-leaders at 5.5 to 8' high. Very broad structure and thin top.</p>									
35	Coast live oak (<i>Quercus agrifolia</i>)	24	25	40	40%	40%	Poor	Moderate	X
<p>Comments: Very sparse canopy for many years. Grows with a pronounced leaning sweep towards SW; ground opposite lean is flat. Buried root collar, and poor lateral root development. Western sycamore borers have attacked trunk. Moderate to low suitability.</p>									



TREE INVENTORY TABLE

TREE/ TAG NO.	TREE NAME	SIZE			CONDITION			Suitability for Preservation (High/Moderate/Low)	Protected Tree
		Trunk Diameter (in.)	Height (ft.)	Canopy Spread (ft.)	Health Condition (100%=Best, 0%=Worst)	Structural Integrity (100%=Best, 0%=Worst)	Overall Condition (Good/Fair/Poor/Dead)		

36	Evergreen pear <i>(Pyrus kawakamii)</i>	8	15	20	50%	30%	Poor	Low	
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Comments: Street tree. Poor, asymmetrical form. Crowded-growing conditions partly beneath #35. History of limb failure at numerous locations. Large cut made 5.5' high. Codominant leaders at 6' high, forming a very narrow attachment.

37	London plane tree <i>(Platanus × hispanica)</i>	12	35	30	70%	40%	Fair	Moderate	
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Comments: Street tree. Multi-leader, codominant structure. Adjacent walk and curb are raised.

38	Holly oak <i>(Quercus ilex)</i>	14	25	35	40%	60%	Poor	Low	
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Comments: Codominant leaders at 5' high. Sparse and thin canopy.

39	Holly oak <i>(Quercus ilex)</i>	20	35	60	60%	50%	Fair	Moderate	
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Comments: Adjacent curb, gutter and narrow walk along trunk's north side are raised. Formed by four codominant, widely-spaced leaders at 4' high, and at their attachment, a flat surface is formed. Surface roots in planter, and their tops are damaged and decaying. Deadwood. Low canopy. Ivy along trunk.

EXHIBIT B:

AERIAL MAPS

(two sheets)

Map Index

Map B-1: Trees #1 thru 22

Map B-2: Trees #23 thru 39

PARKING LOT C-6

Palo Alto, California

Trees #1 thru 22



PARKING LOT C-7

Palo Alto, California

Trees #23 thru 39

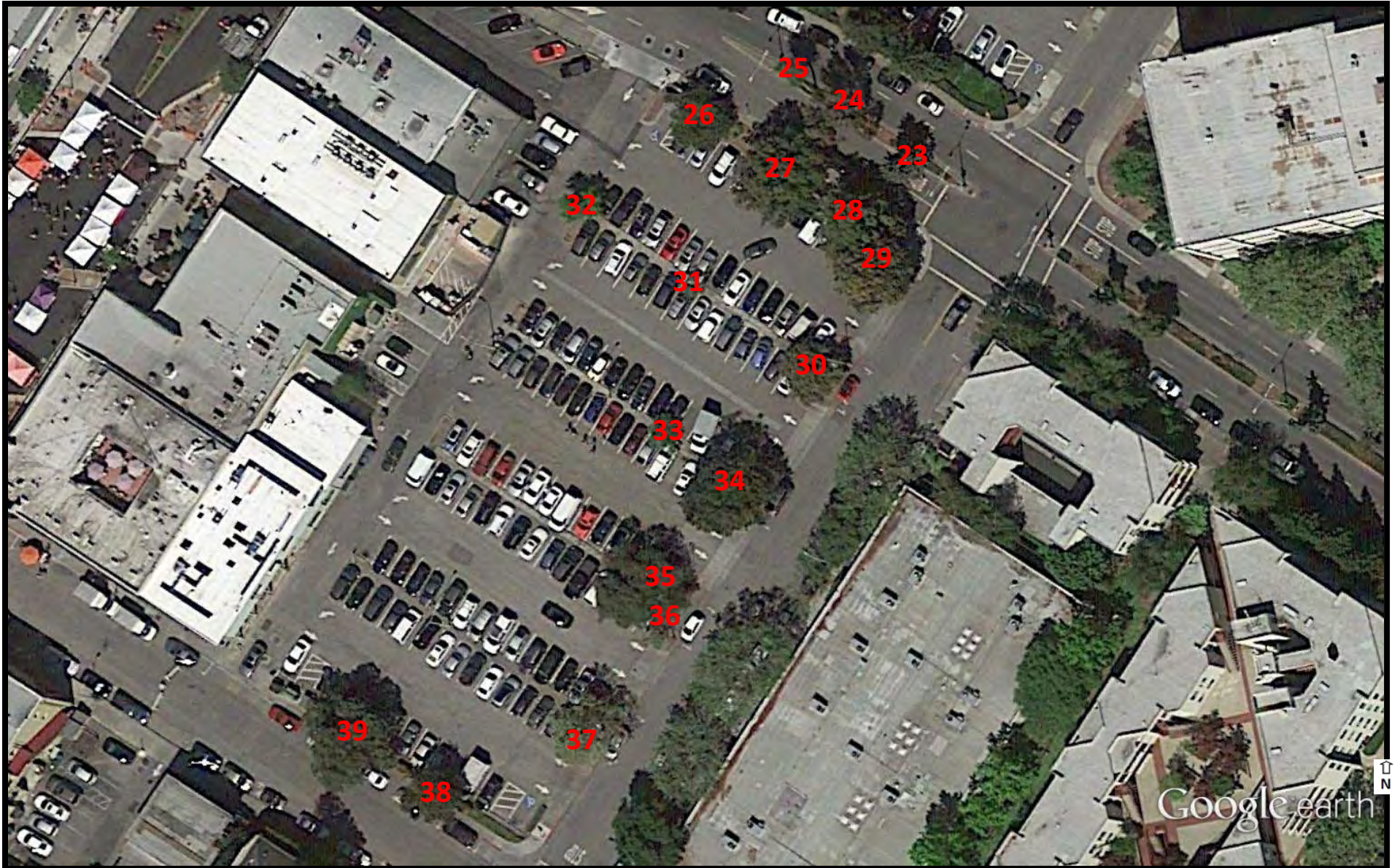


EXHIBIT C:

PHOTOGRAPHS

(nine sheets)

Photo Index

Page C-1: Trees #1 thru 5

Page C-6: Trees #24 thru 28

Page C-2: Trees #6 thru 8

Page C-7: Trees #29 thru 33

Page C-3: Trees #9 thru 12

Page C-8: Trees #34 and 35

Page C-4: Trees #13 thru 17

Page C-9: Trees #36 thru 39

Page C-5: Trees #18 thru 23





