



ARBORIST REPORT

February 26, 2021
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5899.00

PROJECT

1020 Terra Bella Avenue
Mountain View, CA

PREPARED FOR

Alta Housing

PREPARED BY

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INTRODUCTION AND OVERVIEW

HMH was contracted to complete a survey, assessment and arborist report for trees located within the limit of work illustrated on Exhibit A. The project site encompasses parts of two adjacent parcels, totaling approximately 1 acre. One parcel is currently a Public Storage property and the other currently has a house. The 101 Freeway is to the north of the site and there are primarily commercial parcels to the east, south and west of the site. Our scope of services includes locating, measuring DBH, assessing, and photographing the condition of all trees within the limit of work. Disposition and health recommendations are based on current site conditions. Site development/design may affect the preservation suitability.

METHODOLOGY

Our tree survey work is a deliberate and systematic methodology for cataloging trees on site:

1. Identify each tree species.
2. Note each tree's location on a site map.
3. Measure each trunk circumference at 4.5' above grade per ISA standards.
4. Evaluate the health and structure of each tree using the following numerical standard:
 - 5 - A healthy, vigorous tree, reasonably free of disease, with good structure and form typical of the species.*
 - 4 - A tree with slight decline in vigor, small amount of twig dieback, minor structural defects that could be corrected.*
 - 3 - A tree with moderate vigor, moderate twig and small branch dieback, thinning of crown, poor leaf color, moderate structural defects that may that might be mitigated with care.*
 - 2 - A tree in decline, epicormic growth, extensive dieback of medium to large branches, significant structural defects that cannot be abated.*
 - 1 - A tree in severe decline, dieback of scaffold branches and or trunk, mostly epicormic growth; extensive structural defects that cannot be abated.*
 - 0 - Tree is dead.*

SUMMARY OF FINDINGS

HMH conducted a tree inventory of 12 trees located within the limit of work outlined in Exhibit A. Two (2) of the trees inventoried are classified as heritage trees under the City of Mountain View Tree Removal permit.

A heritage tree is:

Single Trunk - 48 inches or more in circumference at 4 ½ feet above ground; or

Multi-trunk - The combined measurements of each trunk circumference (just below the first major trunk fork) add up to 48 inches or more; or

Any Quercus (oak), Sequoia (redwood) or Cedrus (cedar) with a circumference of 12" measured at 4 ½ feet above natural grade; or

A tree or grove of trees designated as "heritage" by the City Council.

Table 1 - Tree Quantity Summary summarizes tree quantities by both species and size. Each species that was inventoried as part of this scope is included. This is a useful tool for analyzing the mixture of trees as part of the project. The size table is useful when calculating mitigation requirements in the case of tree removal as well as aiding in determining tree maturity.

Table 2 - Tree Evaluation Summary lists each tree number, botanical name, common name, DBH, circumference, ordinance trees, health rating, preservation suitability, general notes and observations and recommendations.

See Exhibit A for Existing Tree Locations

See Table 1 for Tree Quantity Summary by species and size.

See Table 2 for Tree Evaluation Summary for sizes, notes and recommendations regarding each tree.

GENERAL OBSERVATIONS AND RECOMMENDATIONS

For tree removal justification, please see Tree Disposition Plan.

Species: *Corymbia ficifolia* (Red Flowering Gum)

Quantity: 2

Observations / Recommendations:

The Red Gum trees are mature specimens and are in good shape and are a significant canopy tree at the front of the Public Storage site. The internal branching structure of these trees could benefit from a structural pruning effort. These trees, as all along the street frontage, are under power lines that could be problematic long term if topping occurs. These trees are not good candidates for transplanting.

Upon reviewing the plan set dated 12/22/2021, here are recommendations to consider for retaining Tree #8 and to lessen the impact of construction:

- Avoid installing utility lines underneath the dripline of the tree
- Avoid constructing decking/footings underneath the dripline of the tree
- New plantings underneath the dripline of the tree should match the WUCOLS water use rating, which is low.
- The structural plans should be reviewed by the design team to see the extent of the building's footings under the dripline of the tree and consider alternatives, if possible.

Species: *Magnolia grandiflora* (Southern Magnolia)

Quantity: 1

Observations / Recommendations:

The Magnolia tree is a younger specimen and is in good to moderate shape. It is located on the east site of the Public Storage site on San Rafael Avenue. Tree number two is under the powerlines which could be an issue long term if topping occurs. As Magnolia are a moderate water use tree ensuring that adequate irrigation is being applied would help the vigor of these trees. This tree is not a good candidate for transplanting.

Species: *Pistacia chinensis* (Chinese Pistache)

Quantity: 5

Observations / Recommendations:

The Pistache trees are younger specimens and are in good shape. These trees, as all along the street frontage, are under power lines that could be problematic long term if topping occurs. These trees are not good candidates for transplanting.

Species: *Platanus x hispanica* (London Plane Tree)

Quantity: 1

Observations / Recommendations:

The London Plane Tree is a mature specimen and is in good shape. This tree is also along the street frontage, are under power lines that could be problematic long term if topping occurs. There is also some crowding with the adjacent Eucalyptus which could be a conflict for space in the future. This tree is not a good candidate for transplanting.

Species: *Prunus caroliniana* (Carolina Laurel Cherry)

Quantity: 1

Observations / Recommendations:

The Carolina Cherry is a volunteer multi-stem shrub / tree growing under the Red flowering gum tree. This tree should be removed. This tree is not a good candidate for transplanting.

Species: *Pyrus calleryana* (Callery Pear)

Quantity: 2

Observations / Recommendations:

The Pear trees are in good shape and in the front of the Public Storage office. They are younger specimens and with proper care and maintenance will continue to thrive. Pear trees are susceptible to fire blight so proper pruning practices should be taken into consideration to limit the spread if infected. These trees are not good candidates for transplanting.

RECOMMENDATIONS FOR TREE PROTECTION DURING CONSTRUCTION

Site preparation: All existing trees shall be fenced off 10' beyond the outside the drip line (foliar spread) of the tree. Alternatively, where this is not feasible, fence to the drip line of the tree. Where fencing is not possible, the trunk shall be protected straw waddle and orange snow fencing. The fence should be a minimum of six feet high, made of pig wire with steel stakes or any material superior in quality, such as cyclone fencing. Tree protection zone sign shall be affixed to fencing at appropriate intervals as determined by the arborist on site. If the fence is within the drip line of the trees, the foliar fringe shall be raised to offset the chance of limb breakage from construction equipment encroaching within the drip line. All contractors, subcontractors and other personnel shall be warned that encroachment within the fenced area is forbidden without the consent of the certified arborist on the job. This includes, but is not limited to, storage of lumber and other materials, disposal of paints, solvents or other noxious materials, parked cars, grading equipment or other heavy equipment. Penalties, based on the cost of remedial repairs and the evaluation guide published by the international society of arboriculture, shall be assessed for damages to the trees. Please see City of Mountain View tree protection specifications.

Grading/excavating: All grading plans that specify grading within the drip line of any tree, or within the distance from the trunk as outlined in the site preparation section above when said distance is outside the drip line, shall first be reviewed by a certified arborist. Provisions for aeration, drainage, pruning, tunneling beneath roots, root pruning or other necessary actions to protect the trees shall be outlined by an arborist. If trenching is necessary within the area as described above, said trenching shall be undertaken by hand labor and dug directly beneath the trunk of the tree. All roots 2 inches or larger shall be tunneled under and other roots shall be cut smoothly to the trunk side of the trench. The trunk side should be draped immediately with two layers of untreated burlap to a depth of 3 feet from the surface. The burlap shall be soaked nightly and left in place until the trench is back filled to the original level. An arborist shall examine the trench prior to back filling to ascertain the number and size of roots cut, so as to suggest the necessary remedial repairs.

Remedial repairs: An arborist shall have the responsibility of observing all ongoing activities that may affect the trees, and prescribing necessary remedial work to ensure the health and stability of the trees. This includes, but is not limited to, all arborist activities brought out in the previous sections. In addition, pruning, as outlined in the "pruning standards" of the western chapter of the International Society of Arboriculture, shall be prescribed as necessary. Fertilizing, aeration, irrigation, pest control and other activities shall be prescribed according to the tree needs, local site requirements, and state agricultural pest control laws. All specifications shall be in writing. For pest control operations, consult the local county agricultural commissioner's office for individuals licensed as pest control advisors or pest control operators.

Final inspection: Upon completion of the project, the arborist shall review all work undertaken that may impact the existing trees. Special attention shall be given to cuts and fills, compacting, drainage, pruning and future remedial work. An arborist should submit a final report in writing outlining the ongoing remedial care following the final inspection.

MAINTENANCE RECOMMENDATIONS FOR TREES TO REMAIN

Regular maintenance, designed to promote plant health and vigor, ensures longevity of existing trees. Regular inspections and the necessary follow-up care of mulching, fertilizing, and pruning, can detect problems and correct them before they become damaging or fatal.

Tree Inspection: Regular inspections of mature trees at least once a year can prevent or reduce the severity of future disease, insect, and environmental problems. During tree inspection, four characteristics of tree vigor should be examined: new leaves or buds, leaf size, twig growth, and absence of crown dieback (gradual death of the upper part of the tree). A reduction in the extension of shoots (new growing parts), such as buds or new leaves, is a fairly reliable cue that the tree's health has recently changed. Growth of the shoots over the past three years may be compared to determine whether there is a reduction in the tree's typical growth pattern. Further signs of poor tree health are trunk decay, crown dieback, or both. These symptoms often indicate problems that began several years before. Loose bark or deformed growths, such as trunk conks (mushrooms), are common signs of stem decay. Any abnormalities found during these inspections, including insect activity and spotted, deformed, discolored, or dead leaves and twigs, should be noted and observed closely.

Mulching: Mulch, or decomposed organic material, placed over the root zone of a tree reduces environmental stress by providing a root environment that is cooler and contains more moisture than the surrounding soil. Mulch can also prevent mechanical damage by keeping machines such as lawn mowers and string trimmers away from the tree's base. Furthermore, mulch reduces competition from surrounding weeds and turf. To be most effective, mulch should be placed 2 to 4 inches deep and cover the entire root system, which may be as far as 2 or 3 times the diameter of the branch spread of the tree. If the area and activities happening around the tree do not permit the entire area to be mulched, it is recommended that as much of the area under the drip line of the tree is mulched as possible. When placing mulch, care should be taken not to cover the actual trunk of the tree. This mulch-free area, 1 to 2 inches wide at the base, is sufficient to avoid moist bark conditions and prevent trunk decay. An organic mulch layer 2 to 4 inches deep of loosely packed shredded leaves, pine straw, peat moss, or composted wood chips is adequate. Plastic should not be used as it interferes with the exchange of gases between soil and air, which inhibits root growth. Thicker mulch layers, 5 to 6 inches deep or greater, may also inhibit gas exchange.

Fertilization: Trees require certain nutrients (essential elements) to function and grow. Urban landscape trees may be growing in soils that do not contain sufficient available nutrients for satisfactory growth and development. In certain situations, it may be necessary to fertilize to improve plant vigor. Fertilizing a tree can improve growth; however, if fertilizer is not applied wisely, it may not benefit the tree at all and may even adversely affect the tree. Mature trees making satisfactory growth may not require fertilization. When considering supplemental fertilizer, it is important to consider nutrients deficiencies and how and when to amend the deficiencies. Soil conditions, especially pH and organic matter content, vary greatly, making the proper selection and use of fertilizer a somewhat complex process. To that end, it is recommended that the soil be tested for nutrient content. A soil testing laboratory can give advice on application rates, timing, and the best blend of fertilizer for each tree and other landscape plants on site. Mature trees have expansive root systems that extend from 2 to 3 times the size of the leaf canopy. A major portion of actively growing roots is located outside the tree's drip line. Understanding the actual size and extent of a tree's root system before applying fertilizer is paramount to determine quantity, type and rate at which to best apply fertilizer. Always follow manufacturer recommendations for use and application.

Pruning: Pruning is often desirable or necessary to remove dead, diseased, or insect-infested branches and to improve tree structure, enhance vigor, or maintain safety. Because each cut has the potential to change the growth of (or cause damage to) a tree, no branch should be removed without reason. Removing foliage from a tree has two distinct effects on growth: (1) it reduces photosynthesis and, (2) it may reduce overall growth. Pruning should always be performed sparingly. Caution must be taken not to over-prune as a tree may not be able to gather and process enough sunlight to survive. Pruning mature trees may require special equipment, training, and experience. Arborists are equipped to provide a variety of services to assist in performing the job safely and reducing risk of personal injury and property damage (See also ANSI A300 Part 1 Pruning Standards- <https://www.tcia.org>).

Removal: There are circumstances when removal is necessary. An arborist can help decide whether or not a tree should be removed. Professionally trained arborists have the skills and equipment to safely and efficiently remove trees. Removal is recommended when a tree: (1) is dead, dying, or considered irreparably hazardous; (2) is causing an obstruction or is crowding and causing harm to other trees and the situation is impossible to correct through pruning; (3) is to be replaced by a more suitable specimen, and; (4) should be removed to allow for construction. Pruning or removing trees, especially large trees, can be dangerous work. It should be performed only by those trained and equipped to work safely in trees.

TERMS AND CONDITIONS

The following terms and conditions apply to all oral and written reports and correspondence pertaining to consultations, inspections and activities of HMM.

1. The scope of any report or other correspondence is limited to the trees and conditions specifically mentioned in those reports and correspondence. HMM assumes no liability for the failure of trees or parts of trees, either inspected or otherwise. HMM assumes no responsibility to report on the condition of any tree or landscape feature not specifically requested by the named client.
2. No tree described in this report was climbed, unless otherwise stated. HMM does not take responsibility for any defects, which could have only been discovered by climbing. A full root collar inspection, consisting of excavating the soil around the tree to uncover the root collar and major buttress roots was not performed unless otherwise stated. HMM does not take responsibility for any root defects, which could only have been discovered by such an inspection.
3. HMM shall not be required to provide further documentation, give testimony, be deposed, or attend court by reason of this appraisal or report unless subsequent contractual arrangements are made, including payment of additional fees for such services as described by HMM or in the schedule of fees or contract.
4. HMM guarantees no warranty, either expressed or implied, as to the suitability of the information contained in the reports for any reason. It is the responsibility of the client to determine applicability to his/her case.
5. Any report and the values, observations and recommendations expressed therein represent the professional opinion of HMM, and the fee for services is in no manner contingent upon the reporting of a specified value nor upon any particular finding to be reported.
6. Any photographs, diagrams, graphs, sketches or other graphic material included in any report, being intended solely as visual aids, are not necessarily to scale and should not be construed as engineering reports or surveys, unless otherwise noted in the report. Any reproductions of graphic material or the work produced by other persons, is intended solely for clarification and ease of reference. Inclusion of said information does not constitute a representation by HMM as to the sufficiency or accuracy of that information.
7. Trees can be managed, but they cannot be controlled. To live near trees is to accept some degree of risk. The only way to eliminate all risk associated with trees is to eliminate all trees.



NOTE: ALL TREE LOCATIONS MUST BE VERIFIED WITH IN FIELD SURVEY

TABLE 1 - TREE QUANTITY SUMMARY

Tree Quantity by Species		
Species	Quantity	% of Site
Corymbia ficifolia	2	17%
Magnolia grandiflora	1	8%
Pistacia chinensis	5	42%
Platanus x hispanica	1	8%
Prunus caroliniana	1	8%
Pyrus calleryana	2	17%
Total Trees	12	100%

TABLE 2 - TREE EVALUATION SUMMARY

Prepared By: William Sowa ISA Certified Arborist WE-12270A

DBH MEASUREMENT HEIGHT: 54"

Date of Evaluation: 2/22/2021

Suitability for Preservation is based on the following

Good - Trees with good health and structural stability that have the potential for longevity at the site.

Moderate - Trees in somewhat declining health and/or exhibits structural defects that cannot be abated with treatment. Trees will require more intense management and will have a shorter lifespan than those in the 'Good' category.

Poor - Trees in poor health or with significant structural defects that cannot be mitigated. Tree is expected to decline, regardless of treatment.

Health Rating

5 A healthy, vigorous tree, reasonably free of disease, with good structure and form typical of the species.

4 A tree with slight decline in vigor, small amount of twig dieback, minor structural defects that could be corrected.

3 A tree with moderate vigor, moderate twig and small branch dieback, thinning of crown, poor leaf color, moderate structural defects that may that might be mitigated with care.

2 A tree in decline, epicormic growth, extensive dieback of medium to large branches, significant structural defects that cannot be abated.

1 A tree in severe decline, dieback of scaffold branches and or trunk, mostly epicormic growth; extensive structural defects that cannot be abated.

0 Tree is dead.

Abbreviations and Definitions

CD	Codominant branches	Forked branches nearly the same size in diameter, arising from a common junction and lacking a normal branch union.
CDB	Dieback in Crown	Condition where branches in the tree crown die from the tips toward the center.
CR	CR	Tree is bounded closely by one or more of the following: structure, tree, Etc.
D	Decline	Tree shows obvious signs of decline, which may be indicative of the presence of multiple biotic and abiotic disorders.
DBH	Diameter at Breast Height	Measurement of tree diameter in inches. Measurement height varies by City and is noted above.
EG	Epicormic Growth	Watersprouting on trunk and main leaders. Typically indicative of tree stress.
EH	Exposed Heartwood	Exposure of the tree's heartwood is typically seen as an open wound that leaves a tree more susceptible to pathogens, disease or infection.
H	Hazardous	A tree that in it's current condition, presents a hazard.
HD	Headed	Poor pruning practice of cutting back branches. Often practiced under utility lines to limit tree height.
IB	Included Bark	Structural defect where bark is included between the branch attachment so the wood can't join. Such defect can have a higher probability of failure.
LC	Low crotch	Multiple central leaders originating below the DBH measurement site.
LN	Leaning Tree	Tree leaning, see notes for severity.
ML	Multiple Leaders	More than one upright primary stem
PT	Phototropism	Tree exhibits phototropic growth habits. Reduced trunk taper, misshapen trunk and canopy growth are examples of this growth habit.
S	Suckers	Shoot arising from the roots.
SD	Structural Defects	Naturally or secondary conditions including cavities, poor branch attachments, cracks, or decayed wood in any part of the tree that may contribute to structural failure.
SE	Severe	Indicates the severity of the following term.
SL	Slight	Indicates the mildness of the following term.
SR	Surface Roots	Roots visible at finished grade.
ST	Stress	Environmental factor inhibiting regular tree growth. Includes drought, salty soils, nitrogen and other nutrient deficiencies in the soil.
WU	Weak Union	Weak union or fork in tree branching structure.
	Heritage Tree	Heritage Trees. A heritage tree is: Single Trunk - 48 inches or more in circumference at 4 ½ feet above natural grade; or Multi-trunk - The combined measurements of each trunk circumference add up to 48 inches or more, measured just below the first major trunk fork; or three species of trees: Quercus (oak), Sequoia (redwood) or Cedrus (cedar) with a circumference of 12" measured at 4 ½ feet above natural grade; or a grove(s) of trees designated as "heritage" by the City Council.

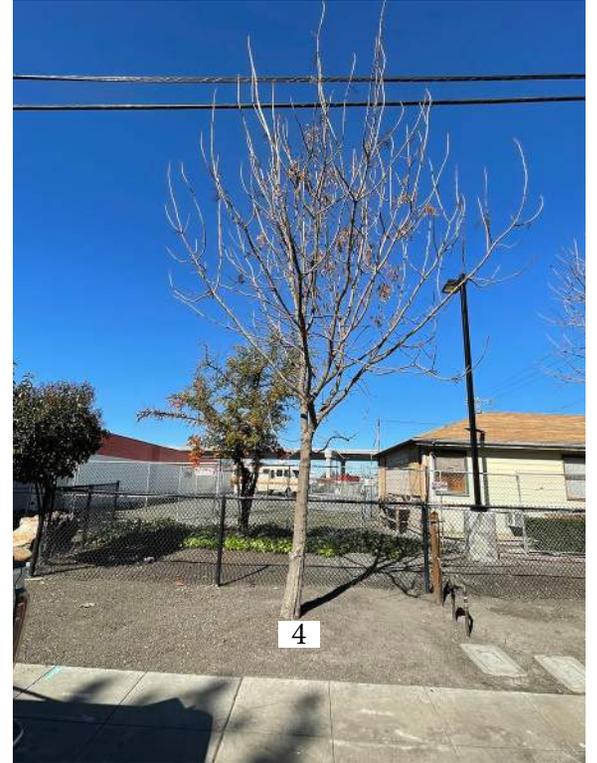
TREE #	BOTANICAL NAME	COMMON NAME	DBH (INCHES)	CIRCUMFERENCE (INCHES)	HERITAGE TREE	HEALTH	PRESERVATION SUITABILITY	ONSITE OR ROW	REMOVE/RETAIN/RELOCATE	NOTES
2	<i>Magnolia grandiflora</i>	Southern Magnolia	5.0	16	NO	4	Moderate	ROW	REMOVE	SD
3	<i>Pistacia chinensis</i>	Chinese Pistache	5.5	17	NO	4	Good	ROW	REMOVE	
4	<i>Pistacia chinensis</i>	Chinese Pistache	5.0	16	NO	4	Good	ROW	REMOVE	
5	<i>Prunus caroliniana</i>	Carolina Laurel Cherry	13.0	41	NO	3	Poor	ROW	REMOVE	MULTI-TRUNK
6	<i>Corymbia ficifolia</i>	Red Flowering Gum	47.0	148	YES	3	Moderate	ROW	REMOVE	MULTI-TRUNK, CD, PS, ST
7	<i>Platanus x hispanica</i>	London Plane Tree	10.0	31	NO	4	Good	ROW	REMOVE	
8	<i>Corymbia ficifolia</i>	Red Flowering Gum	24.0	75	YES	3	Moderate	ONSITE	RETAIN	SLLN, PS, IB
9	<i>Pistacia chinensis</i>	Chinese Pistache	8.0	25	NO	4	Good	ROW	REMOVE	
10	<i>Pistacia chinensis</i>	Chinese Pistache	9.0	28	NO	4	Good	ROW	REMOVE	
11	<i>Pistacia chinensis</i>	Chinese Pistache	7.0	22	NO	4	Good	ROW	REMOVE	
12	<i>Pyrus calleryana</i>	Callery Pear	8.0	25	NO	4	Good	ONSITE	REMOVE	
13	<i>Pyrus calleryana</i>	Callery Pear	7.0	22	NO	3	Good	ONSITE	REMOVE	SD



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