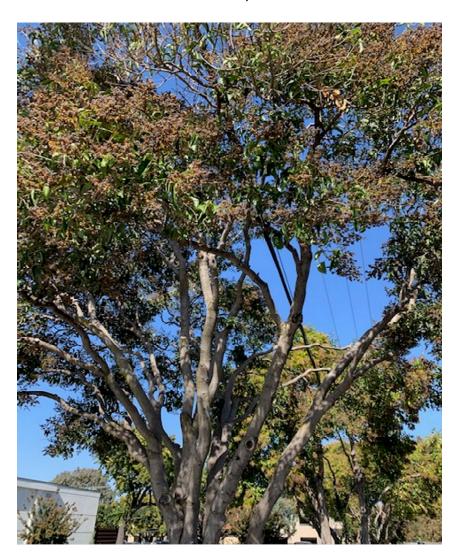


Tree Inventory of

500/550 Ellis St Mountain View, CA 94043



Prepared by Urban Tree Management, Inc. Inspection Date: November 4, 2019 Revised: October 12, 2023

Assignment

It was our assignment to physically inspect trees in the survey area based on a topographic map provided by the design team. We were to map, tag and compile data for each tree and write an inventory/ survey report documenting my observations.

We were also to review the Civil Plans sheet L0.01, L0.04, L0.05, L0.06, L0.07, L0.08, L0.09 and L4.01 all dated 08/04/2023 to confirm the sustainability of the onsite and offsite trees.

Summary

This survey provides a numbered map and complete and detailed information for each tree surveyed. There are forty-seven (47) trees included in this report with thirty (30) trees being protected under the City of Mountain View's tree protection ordinance. During our survey, none (0) of the trees were rated "A" condition, eleven (11) of the trees were rated "B" condition, nineteen (19) trees were rated "C" condition, and seventeen (17) of the trees were rated "D" condition.

- A Retain, condition warrants long-term preservation.
- B Preservable, tree is a benefit and may be worthy of extensive effort or design accommodation.
- C- May be preservable but is not worthy of extensive effort or design accommodation.
- D Recommend removal due to existing condition/structure/proposed construction impacts.

Type I tree protection shall be used as called out in the "Tree protection" section of this report for all trees to remain onsite. Tree protection fencing is recommended to be at least 8x the trunk diameter in all directions. Where 8x the trunk diameter isn't possible, the tree protection fencing shall be extended as far as possible and cover the entire dripline of the trees.

Trees #250 and #251 are protected Coast redwoods (*Sequoia sempervirens*) that will have construction taking place well inside the standard tree protection zones of these trees. All work within the tree protection zones of these two protected trees shall be by hand without the use of heavy equipment or machinery. I also recommend that after demolition and before the new structure is built that exploratory trenching be hand dug at the north side of these trees. This trenching shall be 36" deep, one shovel width deep and the length provided in the trenching diagram attached at the end of this report. This trenching will provide an exact location of the root structure and if preservation will be possible. Once the exploratory trenching is complete, the project arborist shall inspect the trenching and assess the impacts construction will have on these two trees. Once demolition is complete, tree protection fencing will be installed and a layer of mulch 4"-6" shall be spread evenly throughout the tree protection zones. Irrigation shall begin as soon as possible and shall happen twice a month to a depth of 18". Irrigation shall take place during all construction activities and for one (1) year after completion of construction to help alleviate construction stress.

Trees #255 through #261 are Privet (*Ligustrum*) trees that will be preserved. Trees #265, #267 through #272 are protected Coast redwood (*Sequoia sempervirens*) trees that will be preserved. These trees will have the existing pavement excavated within their driplines. The pavement excavation will impact approximately 25% of these trees' feeder roots. I recommend that the excavation equipment remain outside the driplines and only reach in with an extension bucket to carefully remove the pavement. Once the pavement is removed, tree protection fencing will be installed and a layer of mulch 4"-6" shall be spread evenly throughout the tree protection zones. Irrigation shall begin as soon as possible and shall happen once a month to a depth of 18". Irrigation shall take place during all construction activities and for one (1) year after completion of construction to help alleviate construction stress.

Trees #275 through #279 are protected Coast redwood (*Sequoia sempervirens*) that are located at the front of the office building. The building redesign has moved the front of the proposed new building back to the footprint of the original building in hopes of better preserving these trees. The demolition of the existing building shall take place with the excavation equipment staying as far away from this tree's protection zone as possible and only reaching in with an extension bucket. Once excavation is complete, tree protection fencing with mulch and irrigation shall be applied as recommended above. Any trenching within the protection zone shall be by hand without the use of heavy equipment. Any roots greater than 2" in diameter will need consent from the project arborist before being removed.

Trees #282 through #286 currently reside in small planter spaces surrounded by asphalt. During the proposed asphalt excavation all heavy equipment and machinery will stay as far away from the tree protection zones and reach in with an extension bucket only taking precautions to not compact the soil. Once the excavation is complete the tree protection fencing will be installed per all recommendation above. Furthermore, the design team has redesigned the walkway to allow for a larger planter with spaced decking on piers to avoid root damage and allow rainwater to penetrate into the soil.

An after-demolition assessment by the project arborist is recommended to assess the impacts demolition has had on the trees to remain onsite. More trees may be recommended for removal at this time.

Discussion

All the trees surveyed were examined and then rated based on their individual health and structure according to the table following. For example, a tree may be rated "good" under the health column for excellent/vigorous appearance and growth, while the same tree may be rated "fair/poor" in the structure column if structural mitigation is needed. More complete descriptions of how health and structure are rated can be found under the "Methods" section of this report. The complete list of trees and all relevant information, including their health and structure ratings, their "protected/significant" status, a map and recommendations for their care can be found in the data sheet that accompanies this report.

Rating	<u>Health</u>	<u>Structure</u>
Good	excellent/vigorous	flawless
Fair/good	no significant health concerns	very stable
Fair	showing initial or temporary disease, pests, or lack of vitality. measures should be taken to improve health and appearance.	routine maintenance needed such as pruning or end weight reduction as tree grows
Fair/poor	in decline, significant health issues	significant structural weakness(es), mitigation needed, mitigation may or may not preserve the tree
Poor	dead or near dead	hazard

Tree Disposition Categories

Each tree onsite has been categorized for its suitability for preservation relative to its existing condition. Factors such as tree health, condition, age, planting location, species, and structure are all considered to determine if each tree is suitable for preservation. Each tree in the survey (Tree Data Table) has been assigned one of the following categories:

- A Retain, condition warrants long-term preservation.
- B Preservable, tree is a benefit and may be worthy of extensive effort or design accommodation.
- C- May be preservable but is not worthy of extensive effort or design accommodation.
- D Recommend removal due to existing condition/structure/proposed construction impacts.

If trees with poor structure or less than ideal conditions are retained, they may require further assessments, monitoring, access restrictions, maintenance, or eventual removal. More thorough conversations about impacts and specific preservation plans can be reported as the project evolves.

Methods

The trunks of the trees are measured using an arborist's diameter tape at 54" above soil grade. In cases where the main trunk divides below 54", the tree is measured (per the City of Mountain View's heritage tree ordinance) at the point where the trunks divide. In these cases, the height of that measurement is given in the note's column on the attached data sheet. The canopy height and spread are estimated using visual references only.

The condition of each tree is assessed by visual observation only from a standing position without climbing or using aerial equipment. No invasive equipment is used. Consequently, it is

possible that individual tree(s) may have internal (or underground) health problems or structural defects, which are not detectable by visual inspection. In cases where it is thought further investigation is warranted, a "full tree risk assessment" is recommended. This assessment may be inclusive of drilling or using sonar equipment to detect internal decay and include climbing or the use of aerial equipment to assess higher portions of the tree.

The health of an individual tree is rated based on leaf color and size, canopy density, new shoot growth and the absence or presence of pests or disease.

Individual tree structure is rated based on the growth pattern of the tree (including whether it is leaning); the presence or absence of poor limb attachments (such as co-dominant leaders); the length and weight of limbs and the extent and location of apparent decay. For each tree, a structural rating of fair or above indicates that the structure can be maintained with routine pruning such as removing dead branches and reducing end weight as the tree grows. A fair/poor rating indicates that the tree has significant structural weaknesses and corrective action is warranted. The notes section for that tree will then recommend a strategy/technique to improve the structure or mitigate structural stresses. A poor structural rating indicates that the tree or portions of the tree are likely to fail and that there is little that can constructively be done about the problem other than removal of the tree or large portions of the tree. Very large trees that are rated Fair/Poor for structure AND that are near structures or in an area frequently traveled by cars or people, receive an additional **CONSIDER REMOVAL" notation under recommendations. This is included because structural mitigation techniques do not guarantee against structural failure, especially in very large trees. Property owners may or may not choose to remove this type of tree but should be aware that if a very large tree experiences a major structural failure, the danger to nearby people or property is significant.

Survey Area Observations

The property is located in an industrial area in the City of Mountain View. The lots are rectangular, and the properties are flat. The property is occupied, and it appears that there is some sort of irrigation and very basic tree maintenance program in place.

Tree Health on This Property

Generally, the trees in the survey area range from fair/good to poor. All of the trees in this survey would benefit from regular maintenance, pruning and irrigation. Individual issues and recommendations for each tree are listed under the "Notes" column on the accompanying data sheet.

Tree Structure on This Property

Ideally, trees are pruned for structure when young and are properly maintained to reduce endweight as they grow. This practice prevents excessively long, lateral branches that are prone to breaking off due to weight or wind. As mentioned above all trees on this property would benefit from routine maintenance and pruning therefore all trees have received fair/good to poor structure ratings.

Local Regulations Governing Trees

Mountain View's City Code (Chapter 32, Article II) defines a "Heritage Tree" as a tree with any of the following characteristics:

A tree trunk with a circumference of forty-eight inches (48") or more, measured at fifty-four inches (54") above natural grade. Multi-trunk trees are measured just below the first major trunk fork.

Any of the following three species of trees with a circumference of twelve inches (12") or more, measured at fifty-four inches (54") above natural grade.

Quercus (oak)
Sequoia (redwood)
Cedrus (cedar)
A grove(s) of trees designated as "heritage" by the City Council.

Risks to Trees by Construction

Besides the above-mentioned health and structure-related issues, the trees at this site could be at risk of damage by construction or construction procedures that are common to most construction sites. These procedures may include the dumping or the stockpiling of materials over root systems; the trenching across the root zones for utilities or for landscape irrigation; or the routing of construction traffic across the root system resulting in soil compaction and root dieback. It is therefore essential that Tree Protection Fencing be used as per the Architect's drawings. In constructing underground utilities, it is essential that the location of trenches be done outside the drip lines of trees except where approved by the Arborist.

Tree Protection Plan

• **Type I** Tree Protection The fences shall enclose the entire area under the canopy dripline or TPZ of the tree(s) to be saved throughout the life of the project, or until final improvement work within the area is required, typically near the end of the project Parking Areas: If the fencing must be located on paving or sidewalk that will not be demolished, the posts may be supported by an appropriate grade level concrete base.

- **Type II** Tree Protection For trees situated within a narrow planting strip, only the planting strip shall be enclosed with the required chain link protective fencing in order to keep the sidewalk and street open for public use.
- **Type III** Tree Protection Trees situated in a small tree well or sidewalk planter pit, shall be wrapped with 2-inches of orange plastic fencing as padding from the ground to the first branch with 2-inch-thick wooden slats bound securely on the outside. During installation of the wood slats, caution shall be used to avoid damaging any bark or branches. Major scaffold limbs may also require plastic fencing as directed by the City Arborist.

Based on the existing development and the condition and location of trees present on site, the following is recommended:

- 1. The Project Arborists is Chris Stewart (408) 313-1937. A Project Arborist should supervise any excavation activities within the tree protection zone of these trees.
- 2. Any roots exposed during construction activities that are larger than 2 inches in diameter should not be cut or damaged until the project Arborist has an opportunity to assess the impact that removing these roots could have on the trees.
- 3. The area under the drip line of trees should be thoroughly irrigated to a soil depth of 18" every 3-4 weeks during the dry months.
- 4. Mulch should cover all bare soils within the tree protection fencing. This material must be 6-8 inches in depth after spreading, which must be done by hand. Course wood chips are preferred because they are organic and degrade naturally over time.
- 5. Loose soil and mulch must not be allowed to slide down slope to cover the root zones or the root collars of protected trees.
- 6. There must be no grading, trenching, or surface scraping inside the driplines of protected trees, unless specifically approved by a Certified Arborist. For trenching, this means:
 - a. Trenches for any underground utilities (gas, electricity, water, phone, TV cable, etc.) must be located outside the driplines of protected trees, unless approved by a Certified Arborist. Alternative methods of installation may be suggested.
 - b. Landscape irrigation trenches must be located a minimum distance of 10 times the trunk diameter from the trunks of protected trees unless otherwise noted and approved by the Arborist.
- 7. Materials must not be stored, stockpiled, dumped, or buried inside the driplines of protected trees.
- 8. Excavated soil must not be piled or dumped, even temporarily, inside the driplines of protected trees.
- 9. Landscape materials (cobbles, decorative bark, stones, fencing, etc.) must not be installed directly in contact with the bark of trees because of the risk of serious disease infection.
- 10. Landscape irrigation systems must be designed to avoid water striking the trunks of trees, especially oak trees.

- 11. Any pruning must be done by a Company with an Arborist Certified by the ISA (International Society of Arboriculture) and according to ISA, Western Chapter Standards, 1998.
- 12. Any plants that are planted inside the driplines of oak trees must be of species that are compatible with the environmental and cultural requirements of oaks trees. A publication detailing plants compatible with California native oaks can be obtained from The California Oak Foundation's 1991 publication "Compatible Plants Under & Around Oaks" details plants compatible with California native oaks and is currently available online at: http://californiaoaks.org/wp-

content/uploads/2016/04/CompatiblePlantsUnderAroundOaks.pdf

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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. Please call me if you have questions or if I can be of further assistance.

Respectfully,

Chris Stewart

WC ISA Certified Arborist WE-13682A



TREE SURVEY DATA

Ratings for health and structure are given separately for each tree according to the table below. IE, a tree may be rated "Good" under the health column For excellent, vigorous appearance and growth, while the same tree may be rated "Fair, Poor" in the structure column if structural mitigation is needed.

KEY	Health	Structure	
Good	excellent, vigorous	flawless	
Fair - Good	no significant health concerns	very stable	
Fair	declining; measures should be taken to improve health and appearance	routine maintenance needed	
Fair - Poor	lin docling: cianiticant health iccurs	mitigation needed, it may or may not preserve this tree	
Poor	dead or near dead	hazard	

Address: 500/550 Ellis St Mountain View, CA 94043

Inspection Date: 10/30/2019

Revised: 10/12/2023

TAG NO.	COMMON NAME	Circumference at Breast Height inches	W'/H'	HEALTH	STRUCTURE	PROTECTED (X)	TREE DISPOSITION	NOTES, RECOMMENDATIONS	
250	Coast redwood	182.12	30'/100'	fq	fq	х	В	Recommend EWR, DWR, SP	
251	Coast redwood	86.35	25'/75'	f	f	х	С	Recommend EWR, DWR, SP, upper half of tree is stressed, deep watering needed	
252	Ash	64.37	35'/40'	f	f	х	D	Remove for construction impacts and replace per sheet L4.01	
253	Ash	67.51	30'/40'	f	f	х	D	Remove for construction impacts and replace per sheet L4.01	
254	Ash	75.36	25'/30'	f	f	х	D	Remove for construction impacts and replace per sheet L4.01	
255	Privet	51.81	20'/25'	fg	f	х	С	Recommend EWR, DWR, SP, multiple leaders at 5'	
256	Privet	43.96	15'/25'	f	fp		С	Recommend EWR, DWR, SP, multiple leaders at 5', large tear in trunk, consider removal, tree is on neighboring property	
257	Privet	34.54	15'/18'	f	f		С	Recommend EWR, DWR, SP, multiple leaders at 5', consider removal, tree is on neighboring property	
258	Privet	40.82	20'/20'	f	f		С	Recommend EWR, DWR, SP, multiple leaders from base, consider removal, tree is on neighboring property	
259	Privet	42.39	20'/20'	f	f		С	Recommend EWR, DWR, SP, multiple leaders at 5', consider removal	
260	Privet	36.11	18'/20'	f	f		С	Recommend EWR, DWR, SP, multiple leaders at 4', consider removal, tree is on neighboring property	
261	Privet	45.53	20'/25'	f	f		С	Recommend EWR, DWR, SP, multiple leaders from base, consider removal	
262	Coast redwood	26.69	8'/25'	fp	fp	х	D	Remove for construction impacts and replace per sheet L4.01	
263	Privet	31.4	10'/15'	р	р		D	Recommend removal, overgrown with ivy, tree was topped, tag on power pole	
264	Callery pear	36.11	25'/20'	f	f		С	Recommend EWR, DWR, SP, multiple leaders, tree is on neighboring property	
265	Coast redwood	42.39	20'/40'	fg	f	Х	С	Recommend EWR, DWR, SP, tree was topped	
266	Mayten	26.69	10'/20'	f	f		С	Recommend EWR, DWR, SP, tree is leaning	
267	Coast redwood	111.47	20'/75'	fg	f	Х	С	Recommend EWR, DWR, SP, upper half of tree is stressed, deep watering needed	
268	Coast redwood	109.9	20'/60'	fg	fg	Х	В	Recommend EWR, DWR, SP	
269	Coast redwood	39.25	8'/25'	f	f	Х	С	Recommend EWR, DWR, SP, upper half of tree is stressed, deep watering needed	
270	Coast redwood	109.9	20'/60'	fg	f	Х	С	Recommend EWR, DWR, SP	
271	Coast redwood	56.52	15'/40'	f	f	X	С	Recommend EWR, DWR, SP, slight lean	
272	Coast redwood	59.66	15'/45'	f	f	Х	С	Recommend EWR, DWR, SP, upper half of tree is stressed, deep watering needed	
273	Crape myrtle	21.98	15'/20'	fg	f		D	Remove for construction impacts and replace per sheet L4.01	
274	Crape myrtle	23.55	15'/20'	fg	f		D	Remove for construction impacts and replace per sheet L4.01	
275	Coast redwood	128.74	20'/90'	fg	fg	X	В	Recommend EWR, DWR	
276	Coast redwood	197.82	25'/100'	fg	fg	Х	В	Recommend EWR, DWR	
277	Coast redwood	142.87	20'/90'	fg	fg	х	В	Recommend EWR, DWR	
278	Coast redwood	117.75	25'/90'	fg	fg	х	В	Recommend EWR, DWR	
279	Coast redwood	136.59	25'/90'	fg	fg	х	В	Recommend EWR, DWR	
280	Crape myrtle	26.69	15'/20'	fg	f		D	Remove for construction impacts and replace per sheet L4.01	
281	Crape myrtle	25.12	12'/20'	fg	f		D	Remove for construction impacts and replace per sheet L4.01	
282	Coast redwood	133.45	25'/80'	f	fg	х	В	Recommend EWR, DWR	
283	Coast redwood	91.06	20'/60'	f	fq	х	В	Recommend EWR, DWR	
284	Coast redwood	51.82	15'/45'	f	fg	х	В	Recommend EWR, DWR	
285	Coast redwood	48.5	15'/45'	f	fq	х	В	Recommend EWR, DWR	
286	Coast redwood	87.92	20'/50'	f	f	х	С	Recommend EWR, DWR	
287	Coast redwood	28.26	8'/25'	f	f	x	D	Remove for construction impacts and replace per sheet L4.01	
288	Crape myrtle	7.85	6'/12'	fq	fq	<u> </u>	D	Remove for construction impacts and replace per sheet L4.01	
289	Crape myrtle	9.42	6'/14	fa	fa		D	Remove for construction impacts and replace per sheet L4.01	
290	Crape myrtle	12.56	7'/14'	fa	fa		D	Remove for construction impacts and replace per sheet L4.01	



TREE SURVEY DATA

TAG NO.	COMMON NAME	Circumference at Breast	W'/H'	HEALTH	STRUCTURE	PROTECTED (X)	TREE DISPOSITION	NOTES, RECOMMENDATIONS
		Height inches						
291	Ash	37.68	20'/20'	f	f		D	Remove for construction impacts and replace per sheet L4.01
292	Coast redwood	130.31	20'/90'	fg	fg	X	D	Remove for construction impacts and replace per sheet L4.01
293	Coast redwood	78.5	15'/60'	f	f	X	С	Recommend DWR, SP
294	Coast redwood	131.88	20'/90'	fg	f	х	D	Remove for construction impacts and replace per sheet L4.01
295	Coast redwood	113.04	25'/90'	f	f	X	С	Recommend DWR, SP, codominant leader at 15'
296	Coast redwood	207.25	25'/95'	fg	fg	X	D	Remove for construction impacts and replace per sheet L4.01

A = Retain, condition warrants long-term preservation	0	
B = Preservable, tree is a benefit and may be worthy of extensive effort or design according	11	
C = May be preservable but is not worthy of extensive effort or design accommodation	19	
D= Recommend removal due to existing condition/structure/proposed construction i	17	
TOTAL TREES	47	
PROTECTED TOTAL	30	

KEY TO ACRONYMS

DWR - Dead Wood Removal pruning recommended.

EWR - End Weight Reduction: pruning to remove weight from limb ends, thus reducing the potential for limb failure(s).

RCE - Root Collar Excavation: excavating a small area around a tree that is currently buried by soil or refuse above buttress roots, usually done with a hand shovel

- SP Structural pruning removal of selected non-dominant leaders in order to balance the tree.
- CD Codominant Leader, two leaders with a narrow angle of attachement and prone to failure.

LCR-Live Crown Ratio.

- RR Recommend Tree Removal based upon Health or Structure of tree.
- Prop Steel prop in concrete footing recommended to help support a tree/limb.
- Cable Recommend a steel cable(s) be installed to help support a weakly attached limb(s).

TREE ORDINANCE

Mountain View's City Code (Chapter 32, Article II) defines a "Heritage Tree" as a tree with any of the following characteristics:

A tree trunk with a circumference of forty-eight inches (48") or more, measured at fifty-four inches (54") above natural grade. Multi-trunk trees are measured just below the first major trunk fork.

Any of the following three species of trees with a circumference of twelve inches (12") or more, measured at fifty-four inches (54") above natural grade.

Quercus (oak)

Sequoia (redwood)

Cedrus (cedar)

A grove(s) of trees designated as "heritage" by the City Council.

Common Name	Latin Name
Coast redwood	Sequoia sempervirens
Ash	Fraxinus sp.
Privet	Ligustrum sp.
Callery pear	Pyrus calleryana
Mayten	Maytenus boaria
Crape myrtle	Lagerstroemia indica

Disclaimer: Urban Tree Management locates our Tree Inventory Numbers in approximate locations, for visual reference only. Field verification of tree locations and tree numbers is required before any actions are taken. Trunk diameters, locations, and species are not necessarily accurate on topographic maps. Urban Tree Management, Inc. does not create topographic survey maps and cannot be held liable for information therein.

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