

266 & 272 Tyrella Ave Mountain View, CA Arborist Report 2024



Prepared For:
Eric Chiu
C/O William Maston Architects
& Associates

Site: 266 & 272 Tyrella Ave
Mountain View, CA 94043



Submitted by:
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Date: May 30th, 2024

Revised: October 7, 2024, Revised January 6th, 2025, Revised May 12th, 2025, Revised June 1st, 2025

Attn: Eric Chiu

C/O William Maston Architects & Associates

Site: 266 & 272 Tyrella Ave, Mountain View, CA 94043

Subject: Tree protection plan for 266 & 272 Tyrella Ave, Mountain View, CA 94043

Dear Eric Chiu,

INTRODUCTION AND OVERVIEW

As requested on Wednesday, May 11th, 2022, and again on March 27th, 2024, Kielty Arborist Services LLC visited the above site for the purpose of providing a Tree Inventory Report/Tree Protection Plan for the proposed construction. A new development project is proposed for this site, and as needed an Arborist Report is required when submitting plans to the city of Mountain View. Site plan A0.01, dated 4/27/25, was reviewed for writing this report. This Tree Inventory Report is not a Tree Risk Assessment. As such, no trees were assessed for risk in accordance with industry standards, nor are there any tree risk ratings or risk mitigation recommendations provided within this preservation plan unless stated otherwise.

Data Summary:

Total Trees	Total Street Trees	Neighboring Trees	Protected Trees		Non-Protected Trees		Overall Condition Rating		
			Total	Proposed for Removal	Total	Proposed for Removal	<50%	50%-69%	70-100%
24	5	2(#12 & #14)	20	8	4	2	16	8	0

There are 24 trees on the property, 20 of which are protected. 8 heritage trees and 2 non-protected trees are proposed for removal, as they are in decline or conflict with proposed project features.

ASSIGNMENT

At the request of Eric Chiu, Kielty Arborists Services LLC conducted a site visit on May 11th, 2022 and March 27th, 2024, and again on September 24th, 2024, to prepare a comprehensive Tree Inventory Report/Tree Protection Plan for the proposed construction project. This report is a requirement when submitting plans to the city of Mountain View.

The primary focus of this report is as follows:

- Identification and assessment of trees on the construction site that may be affected by the proposed development.
- Determination of potential impacts on tree health and stability, considering factors such as root damage and crown damage.
- Provision of recommendations for tree protection and preservation measures during the construction process to mitigate potential impacts.
- Ensuring compliance with local regulations pertaining to tree preservation, protection, and removal within the construction plans.

Please note that the report will provide specific details regarding tree assessments, impacts, and preservation measures.

The City of Mountain View requires the following tree reporting elements for development projects:

1. Map of tree locations.
2. Tree protection or removal recommendations for all trees over 4 inches in diameter.
3. Tree Protection Plan for all protected trees.

LIMITS OF THE ASSIGNMENT

As part of this assessment, it is important to note that Kielty Arborists Services LLC did not conduct an aerial inspection of the upper crown, a detailed root crown inspection, or a plant tissue analysis on the subject trees. Therefore, the information presented in this report does not include data obtained from these specific methods.

Furthermore, it is essential to clarify that no tree risk assessments were completed as part of this report unless stated otherwise. The focus of this assessment primarily centers on tree identification, general health evaluation, and the potential impacts of the proposed construction.

While the absence of these specific assessments limits the scope of the analysis, the findings and recommendations provided within this report are based on available information and observations made during the site visit.

METHOD OF INSPECTION

The inspections were conducted from the ground without climbing the trees. No tissue samples or root crown inspections were performed. The trees under consideration were identified based on the provided site plan. To assess the trees, their diameter at 48 inches above ground level (DBH or diameter at breast height) was measured using a D-Tape. For the surveying of multi-trunk trees, our methodology aligns with city ordinances. In cases where the city does not offer specific guidelines for measuring multi-trunk trees, we adhere to the standards outlined in the "Guide for Plant Appraisal, 10th Edition, Second Printing" by the Council of Tree and Landscape Appraisers. Additionally, the protected trees were evaluated for their health, structure, form, and suitability for preservation with the following explanation of the ratings:

EVALUATION FIELDS

Tree Tag #: Identification number for individual trees.	Protected Tree: Specifies whether the tree is protected by the city or county ordinance.
Height (ft.) / Canopy Spread (ft.): Measures both the height of the tree and the spread of its canopy.	Trunk (in.): Measures the primary trunk's diameter at the required height.
Comments: Any additional notes or observations about the tree.	Tree Picture: A photograph of the tree for visual assessment and record-keeping.
Preserve or Remove: Indicates the recommended action based on the tree's condition.	Common Name / Scientific Name: Specifies the name of the tree, both in common terms and scientific nomenclature.
If more than 1 Trunks, Total Diameter: If the tree has multiple trunks, this field indicates the combined diameter of all trunks.	6 ,8, 10 Times the Diameter (ft.): Provides calculations based on the diameter to assist in various tree protection requirements.
Appraised Value: An unbiased estimate of the tree's worth is performed in accordance with the current edition of the Guide for Plant Appraisal by the Council of Tree and Landscape Appraisers.	

*Note that not all fields may be provided for every tree. Some might be left blank due to various reasons, such as lack of accessibility to the tree, incomplete data, or the parameter not being applicable for a particular tree.






Tree Structure Ratings:	Tree Health Ratings:
Poor: Major uncorrectable structural flaws present; significant dead wood, decay, or multiple trunks; potentially hazardous lean.	Poor: Minimal new growth; significant dieback and pest infestation; expected not to reach natural lifespan.
Fair: Structural flaws exist but less severe; issues like slight lean and crowding on trunk; some uncorrectable issues through pruning.	Fair: Moderate new growth; canopy density 60-90%; potential external threats; not in decline but vulnerable.
Good: Minor flaws; mainly upright trunk, well-spaced branches; flaws correctable through pruning; symmetrical or mostly symmetrical canopy.	Good: Vigorous growth; healthy foliage; 90-100% canopy density; expected natural lifespan.
Suitability for Preservation:	Tree Form Ratings:
Poor: Adds little to landscape; poor health and potential hazards; unlikely to survive construction impacts.	Poor: Highly asymmetric or abnormal form; visually unappealing; little landscape function.
Fair: Contributes to landscape; survival possible with protection during minor construction impacts.	Fair: Significant asymmetries; deviation from species norm; compromised function or aesthetics.
Good: Valuable landscape asset; likely survival during minor to moderate construction impacts with protection.	Good: Near ideal form; minor deviations; consistent aesthetics and function in landscape.

*Suitability for Preservation: This rating is based solely on the tree itself, irrespective of potential construction impacts.






Overall Condition Ratings:	
Very Poor	1-29
Poor	30-49
Fair	50-69
Good	70-89
Excellent	90-100

The trees were assigned a condition rating based on a combination of existing tree health, tree structure, and tree form using the following scale.






TREE INVENTORY SURVEY

Tree Tag #	Heritage Tree	Preserve or Remove	Common Name / Scientific Name	Trunk (in.) Circumference	Transplant feasibility	Height (ft.) / Canopy Spread (ft.)	Health Rating	Structural Rating	Form Rating	Suitability for Preservation	Overall Condition (0-100%)	Summary	Tree Picture #1
1	Yes	(R)	Raywood Ash (<i>Fraxinus angustifolia</i>)	61.5	Poor	30/30	Poor	Poor	Poor	Poor	20%	In decline, abundance of dead wood, nearly dead, Street tree	
2	Yes	(R)	Coast Live Oak (<i>Quercus agrifolia</i>)	46.7	Poor	25/25	Fair	Poor	Fair	Fair	55%	Suppressed, under utilities, codominant at 2'.	
3	Yes	(P)	Coast Live Oak (<i>Quercus agrifolia</i>)	72.8	Poor	50/40	Fair	Poor	Poor	Poor	45%	Pruned on one side for utilities, heavy into property, decay.	
4	Yes	(P)	Coast Live Oak (<i>Quercus agrifolia</i>)	57.1	Poor	30/35	Good	Poor	Poor	Fair	50%	Topped for utilities, at underground utility box, grows heavy over road.	
5	No	(R)	Pittosporum (<i>Pittosporum eugenioides</i>)	43.3	Poor	30/20	Fair	Poor	Poor	Poor	45%	Topped for utilities, decay at root crown.	

TREE INVENTORY SURVEY

Tree Tag #	Heritage Tree	Preserve or Remove	Common Name / Scientific Name	Trunk (in.) Circumference	Transplant feasibility	Height (ft.) / Canopy Spread (ft.)	Health Rating	Structural Rating	Form Rating	Suitability for Preservation	Overall Condition (0-100%)	Summary	Tree Picture #1
6	Yes	(P)	Holly Oak (<i>Quercus ilex</i>)	70	Poor	45/35	Fair	Fair	Poor	Fair	50%	Slight lean into property, pruned on one side for utility line clearance.	
7	Yes	(R)	Coast Live Oak (<i>Quercus agrifolia</i>)	110.2	Poor	40/75	Fair	Poor	Poor	Poor	40%	One sided canopy, heavy lateral limbs, large past limb loss, no wind protection due to previously removed tree, off balanced canopy, codominant at 15' with included bark.	
8	Yes	(R)	Deodar Cedar (<i>Cedrus deodara</i>)	121.4	Poor	60/45	Fair-Poor	Poor	Poor	Poor	40%	Codominant at 3', abundance of deadwood, codominant throughout canopy, leans, history of large limb loss.	
9	Yes	(R)	Japanese Yew (<i>Taxus cuspidata</i>)	53.4	Poor	30/20	Fair-Poor	Poor	Fair	Poor	45%	Suppressed, in decline, canker disease caused die back, codominant at 4' with included bark.	
10	Yes	(R)	Privet (<i>Ligustrum lucidum</i>)	91	Poor	30/20	Poor	Poor	Poor	Poor	10%	NEARLY DEAD.	




TREE INVENTORY SURVEY

Tree Tag #	Heritage Tree	Preserve or Remove	Common Name / Scientific Name	Trunk (in.) Circumference	Transplant feasibility	Height (ft.) / Canopy Spread (ft.)	Health Rating	Structural Rating	Form Rating	Suitability for Preservation	Overall Condition (0-100%)	Summary	Tree Picture #1
11	No	(R)	Japanese Yew (<i>Taxus cuspidata</i>)	46.4	Poor	30/20	Poor	Poor	Fair	Poor	30%	Codominant at 4' with included bark, canker disease, codominant leader at 4' is dead.	
12	Yes	(P)	Sweet Bay (<i>Laurus nobilis</i>)	53.3	Poor	20/15	Fair	Poor	Fair	Fair	50%	Multi leader at grade, stump re-sprout, maintain as hedge.	
13	Yes	(R)	Privet (<i>Ligustrum lucidum</i>)	63	Poor	35/20	Fair	Poor	Fair	Poor	45%	Multi leader at grade, decay on trunk.	
14*	Yes	(P)	Privet (<i>Ligustrum lucidum</i>)	51.2	Poor	35/15	Fair	Poor	Poor	Poor	45%	Codominant with included bark at 1', suppressed.	
15	Yes	(R)	Monterey Cypress (<i>Hesperocyparis macrocarpa</i>)	78.8	Poor	30/30	Poor	Poor	Poor	Poor	10%	Codominant at 3' with included bark, canker disease, NEARLY DEAD	

TREE INVENTORY SURVEY

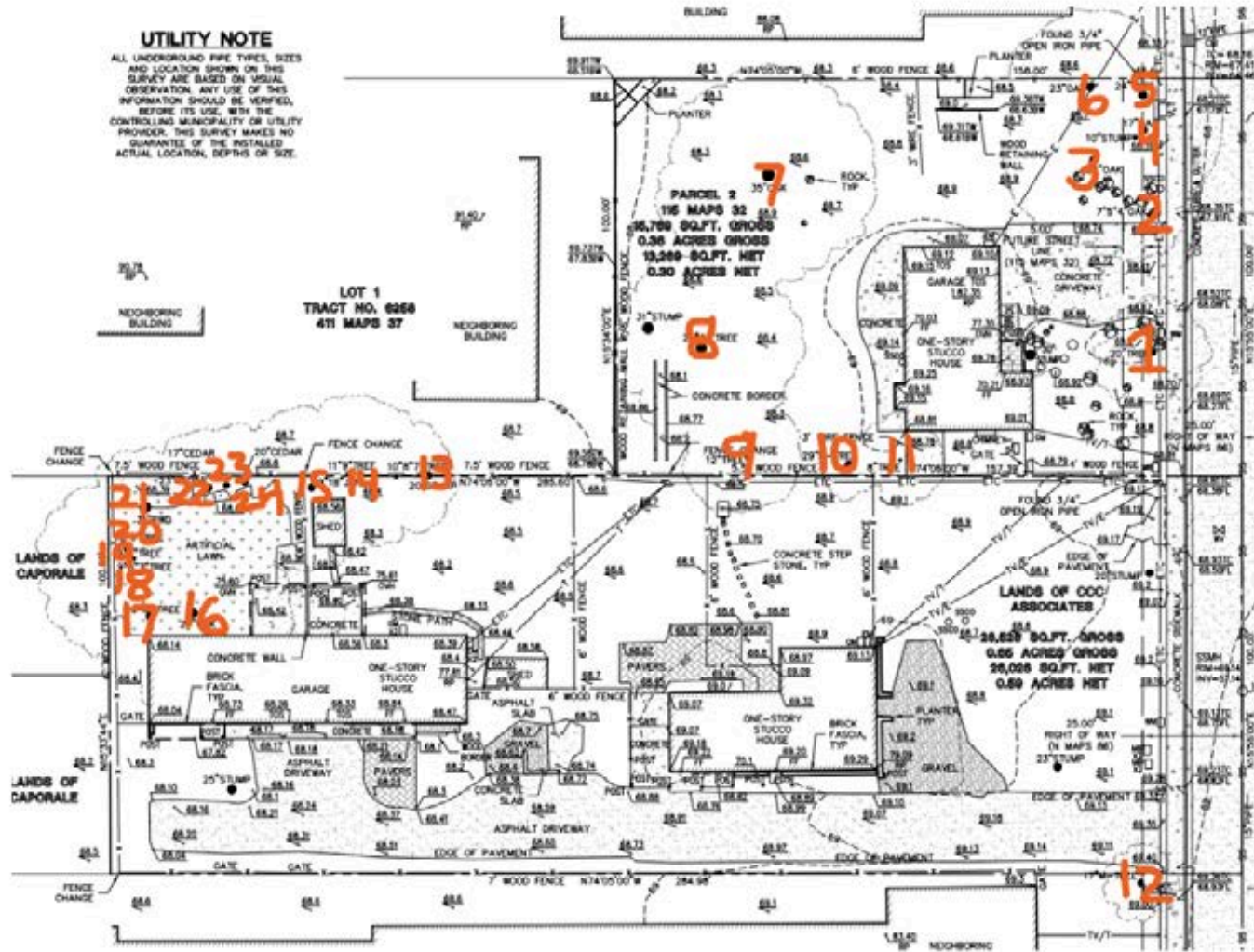
Tree Tag #	Heritage Tree	Preserve or Remove	Common Name / Scientific Name	Trunk (in.) Circumference	Transplant feasibility	Height (ft.) / Canopy Spread (ft.)	Health Rating	Structural Rating	Form Rating	Suitability for Preservation	Overall Condition (0-100%)	Summary	Tree Picture #1
16	Yes	(P)	Coast Live Oak (<i>Quercus agrifolia</i>)	79.4	Poor	40/40	Good	Fair	Fair	Good	65%	Suppressed, close to the existing home, bleeding cankers observed.	
17	Yes	(P)	Privet (<i>Ligustrum lucidum</i>)	71.4	Poor	30/20	Fair	Poor	Poor	Poor	45%	Suppressed, codominant at 2', dead wood.	
18	Yes	(P)	Privet (<i>Ligustrum lucidum</i>)	49.6	Poor	40/15	Fair	Poor	Poor	Poor	45%	Suppressed, codominant at 1'.	
19	No	(P)	Privet (<i>Ligustrum lucidum</i>)	42.3	Poor	30/15	Fair-Poor	Poor	Poor	Poor	45%	Suppressed, codominant at 1'.	
20	No	(P)	Privet (<i>Ligustrum lucidum</i>)	36.1	Poor	30/15	Fair-Poor	Poor	Poor	Poor	45%	Suppressed, codominant at 1'.	

TREE INVENTORY SURVEY

Tree Tag #	Heritage Tree	Preserve or Remove	Common Name / Scientific Name	Trunk (in.) Circumference	Transplant feasibility	Height (ft.) / Canopy Spread (ft.)	Health Rating	Structural Rating	Form Rating	Suitability for Preservation	Overall Condition (0-100%)	Summary	Tree Picture #1
21	Yes	(P)	Redwood (<i>Sequoia sempervirens</i>)	97.3	Poor	75/30	Fair-Poor	Good	Good	Good	50%	Drought stressed.	
22	Yes	(P)	Incense Cedar (<i>Calocedrus decurrens</i>)	72.2	Poor	60/20	Fair-Poor	Fair	Fair	Fair	50%	Canker die back.	
23	Yes	(P)	Incense Cedar (<i>Calocedrus decurrens</i>)	53.3	Poor	50/20	Fair-Poor	Fair	Fair	Fair	50%	Canker die back.	
24	Yes	(P)	Incense Cedar (<i>Calocedrus decurrens</i>)	57.4	Poor	55/20	Fair-Poor	Poor	Fair	Poor	30%	Excessive canker die back.	

* - Indicates a neighboring tree

TREE MAP



OBSERVATIONS

Species List:

"Coast Live Oak, (*Quercus agrifolia*)"
 "Deodar Cedar, (*Cedrus deodara*)"
 "Holly Oak, (*Quercus ilex*)"
 "Incense Cedar, (*Calocedrus decurrens*)"
 "Japanese Yew, (*Taxus cuspidata*)"
 "Monterey Cypress, (*Hesperocyparis macrocarpa*)"
 "Pittosporum, (*Pittosporum eugenioides*)"
 "Privet, (*Ligustrum japonicum*)"
 "Raywood Ash, (*Fraxinus angustifolia*)"
 "Redwood, (*Sequoia sempervirens*)"
 "Sweet Bay, (*Laurus nobilis*)"

Trees Proposed For Removal:

Protected/Heritage- #1, #2, #7-10, #13 & #15

Non-protected- #5 & #11

Total Removed Trees	Heritage / Protected Trees	Non-Protected Trees
10	8	2

Protected trees on site:

The city of Mountain View regulates all Heritage trees. All trees with a circumference measurement of 48 inches or larger are considered "Heritage Trees". Trees #1-4, 6-10, 12-18, & 21-24 are Heritage trees.

Summary of "Heritage" trees to be retained:



Coast Live Oak tree #3 is in poor condition. The health of the tree is fair, but its form and structure are poor. The tree has been pruned on one side of its canopy for utility line clearance pruning. The tree also leans heavily into the property. The tree is not allowed to balance itself out and will always have an unbalanced canopy due to the overhead utility line location and the constant pruning needed. A large limb at 6' on the trunk has been removed in the past and some associated decay was observed. The tree has also been topped in the past, creating risk of limb failures due to the poor structure of the tree. Topping trees weakens trees. Topping cuts lead to decay as the wounds made are too large for the tree to compartmentalize the wound. This gives decay organisms a free path to move down through the branches, often resulting in an unacceptable level of risk. After a tree is topped, the tree's survival mechanism causes a tree to produce multiple shoots below each topping cut often referred to as "water sprout growth." The new shoots develop from latent buds hidden underneath the surface of old branches. These new shoots are not anchored into the tree like normal branches that develop in a socket of overlapping wood tissues. The new shoots are weakly attached as they are only anchored in the outermost layers of the parent branches. These sprouts grow very quickly as a survival mechanism and are prone to failure in normal weather conditions due to the limbs being weakly attached. Limb failure risk also increased as decay is likely to be found from the past topping cut. The new limbs are also at risk of developing included bark. Crown restoration and crown reduction pruning is recommended. This tree will need annual monitoring due to the tree's poor structure.



Coast live oak tree #4 is in fair condition (lower end). The health of the tree is good, but its structure and form are poor due to utility line clearance pruning and growing in suppressed conditions. The tree grows at a lean towards the street. This tree will need crown reduction pruning to reduce the risk of limb failure over the street.

Showing oak tree #4 under utility lines



Holly Oak tree #6 is in fair condition. The tree has a slight lean into the property and has been pruned in the past on only one side of the canopy for line clearance. Future crown reduction pruning in the direction of the lean is recommended to balance the canopy.

Showing Holly Oak #6



Sweet Bay tree #12 is located on the neighboring property to the south. In the past the tree has been cut down and allowed to re-sprout. Hedge type tree maintenance is recommended to continue for this tree.

Showing sweet bay #12

Coast Live Oak tree #16 is in fair condition. This tree is to be retained for the project. Minor crown reduction pruning where over-stretched limbs are observed is recommended. Bleeding cankers were observed on the trunk. To treat an oak tree suffering from bleeding canker, it is recommended to apply Agrifos (a phosphonate fungicide) to manage the disease. Agrifos works by enhancing the tree's natural defense mechanisms, stimulating resistance to the pathogen that causes the canker. It is typically applied via injection or bark spray to ensure effective absorption. This treatment can help slow the progression of the disease, limiting further damage to the vascular system and preserving the overall health of the tree. Regular monitoring and timely applications are key to managing bleeding cankers effectively. The tree is close to the existing structure and has been growing in suppressed conditions.

Showing Oak tree #16





Privet trees #14, #17 and #18 are in poor condition due to their poor structure and form ratings. The trees are codominant at 1-2', and dead wood was observed in the canopies. The trees do provide privacy screening and are to be retained for this purpose.

Showing privet trees #14, #17 and #18

Redwood tree #21 is in fair condition (lower end). The tree is under a significant amount of drought stress causing the tree to decline in vigor. It is recommended to deep water fertilize the tree with 300 gallons of water mixed with Nutriroot fertilizer. This tree will need to be heavily irrigated with 50 gallons of clean water every 2 weeks during the dry season. The irrigation will hopefully improve the tree's condition rating. It is recommended to continue to monitor the tree.

**Showing top of
Redwood tree #21 looking thin**





Showing tops of Cedar trees #22-24 with areas of die back.

Incense Cedar trees #22-24 are in fair to poor condition. Areas of *Coryneum canker* (caused by the fungus *Seiridium cardinale*) caused dieback were observed. The disease likely came from adjacent Monterey Cypress tree #15 that is in very poor condition due to the same disease. Treatment for *Coryneum canker* in incense cedar, caused by *Seiridium cardinale*, focuses on cultural practices aimed at reducing tree stress and promoting overall health, as no consistently effective fungicide treatment exists. Pruning infected branches during dry weather is essential to prevent the spread of spores; it's important to cut well below the cankered areas and disinfect tools between cuts. Proper irrigation, with deep and infrequent watering, helps reduce drought stress, a key factor that makes trees more susceptible to infection. Mulching with organic material around the base of the tree can aid in moisture retention and minimize root competition. Additionally, sanitation practices such as removing and disposing of fallen infected branches and needles can help limit the spread of the disease. While chemical treatments are generally ineffective, maintaining tree health and reducing environmental stress can significantly mitigate the impact of *Coryneum canker*. Regular monitoring is critical.

Maintaining irrigation for these trees is recommended to keep the retained trees healthy during construction. To irrigate trees effectively, deep but infrequent watering is essential, particularly during the dry season. Watering every other week is recommended to ensure moisture penetrates to a depth of 12 to 18 inches, encouraging deep root growth. This method helps trees access water from deeper soil layers, enhancing their resilience during periods of drought. Frequent, shallow watering should be avoided, as it promotes shallow roots, leaving trees more susceptible to stress.

Irrigation lines should be installed above grade for each tree that will be retained on the construction site. For native oak trees, special care is required. These trees are particularly sensitive to overwatering, and as such, their irrigation should be controlled and monitored by the project arborist to ensure the appropriate amount of water is applied without disrupting their natural water needs. The other trees on the site can be placed on an automatic timer system to deliver deep irrigation every other week during the dry season.

Mulching is also critical for maintaining soil moisture. A 3 to 4-inch layer of organic mulch should be applied around the base of trees, but care must be taken to keep the mulch a few inches away from the trunk to avoid rot or pest issues. The mulch helps conserve moisture, regulate soil temperature, and suppress weeds, further supporting the tree's overall hydration and health.

Heritage trees proposed for removal:

Raywood Ash street tree #1 is in poor condition due to Verticillium, a common fungal disease for the species. The disease has caused large areas of die back in the canopy leading to an overall decline in health. This tree is not well suited for preservation withing the new landscape. The condition of the tree is poor due to disease and not expected to improve with any mitigation measures. This tree meets the following tree removal criteria as set forth in the Heritage Tree Ordinance of Mountain View: *1. The **condition of the tree with respect to disease, infestation, general health, damage, public nuisance, danger of falling, proximity to existing or proposed structures, and interference with utility service.***

Showing Ash tree #1



Coast live oak tree #2 is in fair condition. The tree is growing in suppressed conditions. The tree is codominant at 2' with included bark. Included bark often raises risk of large leader failures. The tree is proposed for removal to facilitate the construction of a pedestrian entry plaza. This tree meets the following tree removal criteria as set forth in the Heritage Tree Ordinance of Mountain View: *1. The **condition of the tree with respect to age of the tree relative to the life span of that particular species, disease, infestation, general health, damage, public nuisance, danger of falling, proximity to existing or proposed structures, and interference with utility services.*** *2. The **necessity of the removal of the heritage tree in order to construct improvements and/or allow reasonable and conforming use of the property when compared to other similarly situated properties.***



Coast Live Oak tree #7 was given a poor condition rating. Another tree, in the past, was located between oak tree #7 and Deodar Cedar tree #8. This tree was removed for unknown reasons. Looking at old Google Earth images, it looks like the tree was a large dead Monterey Pine judging by the color and shape of the canopy. The removed tree looked to have been the dominant tree in the backyard causing trees #7 and #8 to grow heavy away from the center of the property. Now that the tree has been removed, the oak tree #7 is subjected to windthrow with an increased likelihood of failure due to having an off-balanced canopy. The canopy as a standalone tree is very unbalanced. The tree is also codominant at 15' with included bark observed. Included bark significantly raises risk of a large leader failure. The risk of a codominant leader failure is high due to windthrow in combination with having an unbalanced canopy and included bark observed at 15'. The large codominant leader that was removed in the past at 5' will likely decay as the pruning cut is large and will not compartmentalize leading to an increased risk of a total tree failure at the lower trunk of the tree. The city of Mountain View has asked for risk assessment on the tree. Below you will find a completed tree risk assessment. **Picture showing codominant leaders with included bark (MORE PHOTOS ON NEXT PAGE)**





Showing trees #7 and #8 with past removed tree Showing decay at 5'



Showing an off balanced canopy subjected to wind throw

Risk assessment:

A basic level 2 tree risk assessment was conducted for oak tree #7. The tree parts of most concern are the crown/branches and trunk due to an unbalanced crown with over-extended branches and decay observed from a past large leader removal (conditions of concern). Load factors include strong winds and heavy rains which are normal for the area and come from the North West. The load on the crown and branches is significant while the load on the trunk is minor. The load is also increased due to the previous pine tree removal that took place. The likelihood of failure in the crown and branches is imminent (in my professional opinion) and the likelihood of failure of the trunk is possible. The targets looked at are people using the proposed courtyard (#1) and the proposed structure (#2). Both targets are within the tree's drip line. The structure has a constant occupancy rate while people in the courtyard have an occupancy rate of frequent. It is not practical to move the targets or to restrict access. The likelihood of failure is imminent in the crown and branches due to the unbalanced crown with over-extended branches observed. The likelihood of failure of the trunk is possible. The likelihood of impacting people in the courtyard is medium as they are not static targets, while the likelihood of impacting the proposed structure is high as it is a static target.

Using the failure and impacts matrix as seen on the risk assessment form, it is likely that failure in the crown and branches will hit a person and very likely to hit the proposed structure. Using the same failure and impacts matrix, it is unlikely that failure of the trunk will hit a person and somewhat likely that a trunk failure would hit the proposed structure.

The consequences would be severe for people using the courtyard and significant for the structure at the point of failure.

Using the risk rating matrix as seen on the risk assessment form, the tree is at high risk of crown and branch failure impacting people using the courtyard and the proposed structure. Risk of a trunk failure impacting people using the courtyard is low and risk of trunk failure impacting the structure is moderate. Possible mitigation measures for the risk of failure in the crown and branches consist of crown reduction pruning, cabling of limbs and propping limbs. Residual risk are still expected to be moderate to high as the trees canopy is very unbalanced and prone to wind throw due to the loss of the pine tree. The same mitigation measures for the trunk, would reduce risk of a trunk failure down to low. (Risk assessment forms can be found at the end of this report).

Basic Tree Risk Assessment Form

Client: William Maston Architects & Associates Date: 5/14/2024 Time: 10:26 AM
 Address/Tree location: 272 & 266 Tyrella Avenue, Mountain View Ca Tree no.: #7 Sheet 1 of 7
 Tree species: coast live oak (Quercus agrifolia) dbh: 50.7 Height: 40 Crown spread dia: 55
 Assessor(s): David Beckham Time frame: 6 months Tools used: D-tape, binoculars

Target Assessment

Target number	Target description	Target zone			Occupancy rate 1 = rare 2 = occasional 3 = frequent 4 = constant	Practical to move target?	Restrictions Practical?
		Target within drip line	Target within 1 x HL	Target within 1.5 x HL			
1	People in future courtyard	Yes			3	No	No
2	Proposed structure	Yes			4	No	No
3							
4							

Site Factors

History of failures: Yes, other tree failures (pine tree) and limb failures on the subject oak tree
 Site changes: None ☒ Grade change ☒ Site clearing ☒ Changed soil hydrology ☐
 Soil conditions: Limited volume ☐ Saturated ☐ Shallow ☐ Compacted ☒
 Prevailing wind direction: NW Common weather: Strong winds ☒ Ice ☐ Snow ☐ Heavy rain ☒
 Topography: Flat ☒ Slope ☐ % Aspect _____
 Root cuts ☒ Describe: Roots will be impacted, grading and site clearing are proposed
 Pavement over roots ☐ 50% Describe: _____
 Describe: Normal for area

Tree Health and Species Profile

Vigor: Low ☐ Normal ☒ High ☐ Foliage None (seasonal) ☐ None (dead) ☐ Normal, 50% Chlorotic 5% Necro 5%
 Pests: Sycamore borer Abiotic: Past limb failure, compacted soil
 Species failure profile: Branches ☒ Trunk ☐ Roots ☒ Describe: common for mature oak trees

Load Factors

Wind exposure: Protected ☐ Partial ☒ Full ☐ Wind funneling ☐ Relative crown size: Small ☐ Medium ☐ Large ☒
 Crown density: Sparse ☐ Normal ☒ Dense ☐ Interior branches: Few ☐ Normal ☒ Dense ☐ Vines/Mistletoe/Moss ☐
 Recent or planned change in load factors: None

Tree Defects and Conditions Affecting the Likelihood of Failure

— Crown and Branches —

Unbalanced crown? ☒ LCR: 70%
 Dead twigs/branches: 5% overall Max. dia. 1"
 Broken/Hangers Number: _____ Max. dia. _____
 Over-extended branches ☒
 Pruning history:
 Crown cleaned ☐ Thinned ☐ Raised ☐
 Reduced ☐ Topped ☐ Lion-tailed ☐
 Flush cuts ☒ Other: Large limb failure in past led to large leader removal
 Main concern(s): Unbalanced crown with over-extended branches
 Load on defect: N/A ☐ Minor ☐ Moderate ☐ Significant ☒
 Likelihood of failure: Improbable ☐ Possible ☐ Probable ☐ Imminent ☒
 Cracks ☐ Lightning damage ☐
 Codominant ☒ at 5 and 15 feet Included bark ☒
 Weak attachments ☒ At 15 feet Cavity/Nest hole _____ circ.
 Previous branch failures ☒ Similar branches present ☒
 Dead/Missing bark ☐ Cankers/Galls/Burls ☐ Sapwood damage/decay ☒
 Conks ☐ Heartwood decay ☐
 Response growth: _____
 Abundance of sprout growth along limbs: _____

— Trunk —

Dead/Missing bark ☐ Abnormal bark texture/color ☐
 Codominant stem ☒ Included bark ☐ Cracks ☐
 Sapwood damage/decay ☒ Cankers/Galls/Burls ☐ Sap ooze ☐
 Lightning damage ☐ Heartwood decay ☐ Conks/Mushrooms ☐
 Cavity/Nest hole _____ circ. Depth _____ Poor taper ☐
 Lean _____° Corrected? _____
 Response growth: _____
 Main concern(s): Large leader removed in past back to trunk with associated decay, too large of cut to compartmentalize wound.
 Load on defect: N/A ☐ Minor ☒ Moderate ☐ Significant ☐
 Likelihood of failure: Improbable ☐ Possible ☒ Probable ☐ Imminent ☐

— Roots and Root Collar —

Collar buried/Not visible ☐ Depth _____ Stem girdling ☐
 Dead ☐ Decay ☐ Conks/Mushrooms ☐
 Ooze ☐ Cavity ☐ _____ circ.
 Cracks ☐ Cut/Damaged roots ☒ Distance from trunk: 6/8"
 Root plate lifting ☐ Soil weakness ☐
 Response growth: _____
 Main concern(s): Impacts to roots from proposed construction
 Load on defect: N/A ☐ Minor ☒ Moderate ☐ Significant ☐
 Likelihood of failure: Improbable ☐ Possible ☒ Probable ☐ Imminent ☐

Risk Categorization

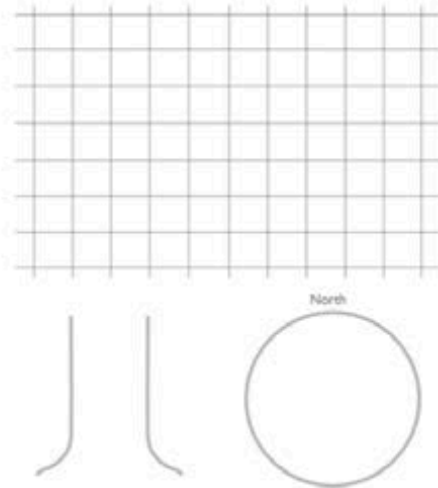
Condition number	Tree part	Conditions of concern	Part Size	Fall distance	Target number	Target protection	Likelihood												Consequences				Risk rating of part (from Matrix 2)	
							Failure				Impact				Failure & Impact (from Matrix 1)									
							Improbable	Possible	Probable	Imminent	Very Low	Low	Medium	High	Unlikely	Somewhat	Likely	Very Likely	Negligible	Minor	Significant	Severe		
1	Crown and branches	Unbalanced crown with over-extended branches	24"	40'	1	No				x			x				x					x	High	
			24"	40'	2	No				x				x				x					High	
2	Trunk	Large leader removal in past with associated decay	30.7"	40'	1	No		x					x		x								x	Low
			30.7"	40'	2	No		x						x		x						x	Moderate	
3	Roots and root collar	Future root impacts from proposed construction	30.7"	40'	1	No		x					x		x								x	Low
			30.7"	40'	2	No		x						x		x						x	Moderate	
4																								

Matrix 1. Likelihood matrix.

Likelihood of Failure	Likelihood of Impacting Target			
	Very low	Low	Medium	High
Imminent	Unlikely	Somewhat likely	Likely	Very likely
Probable	Unlikely	Unlikely	Somewhat likely	Likely
Possible	Unlikely	Unlikely	Unlikely	Somewhat likely
Improbable	Unlikely	Unlikely	Unlikely	Unlikely

Matrix 2. Risk rating matrix.

Likelihood of Failure & Impact	Consequences of Failure			
	Negligible	Minor	Significant	Severe
Very likely	Low	Moderate	High	Extreme
Likely	Low	Moderate	High	High
Somewhat likely	Low	Low	Moderate	Moderate
Unlikely	Low	Low	Low	Low

Notes, explanations, descriptions See detailed report.

Mitigation options Crown reduction pruning to reduce weight of over extended leaders. Install prop under over-extended leaders, cabling over-extended laterals. No mitigation for decay on trunk from past limb removal. **Residual risk** Mod/high

Residual risk _____**Residual risk** _____**Residual risk** _____

Overall tree risk rating Low ☐ Moderate ☐ High ☒ Extreme ☐ **Work priority** 1 ☒ 2 ☐ 3 ☐ 4 ☐

Overall residual risk Low ☐ Moderate ☒ High ☒ Extreme ☐ **Recommended inspection interval** _____

Data Final ☒ Preliminary ☐ **Advanced assessment needed:** No ☐ Yes ☐ **Type/Reason** _____

Inspection limitations None ☒ Visibility ☐ Access ☐ Vines ☐ Root collar buried ☐ **Describe** _____

Recommendations on Oak Tree #7:

Tree removal is recommended due to a moderate to high risk of failure in the crown or branches. The tree is very unbalanced with over-extended limbs. Once the load on the limbs exceeds the strength of the wood, large limb failures will take place. Pruning mitigations within ANSI standards would only delay the failure of large limbs. It is my professional opinion that this tree should be removed due to the risk of a large limb failure. The canopy is very unbalanced. This tree meets the following tree removal criteria: *1. The condition of the tree with respect to age of the tree relative to the life span of that particular species, disease, infestation, general health, damage, public nuisance, **danger of falling, proximity to existing or proposed structures**, and interference with utility services.* The developer owner is not comfortable with the tree and its associated risk; therefore, tree removal is recommended as the tree is outside the tolerable risk level of the developer.



Deodar Cedar tree #8 was given a poor condition rating. An old mature Monterey Pine tree in the past was removed near the tree. The pine tree was removed for unknown reasons. The removed tree looked to have been the dominant tree in the backyard causing cedar tree #8 to grow heavy away from the center of the property. The large Cedar tree is now subjected to windthrow as the tree has lost its protection from prevailing winds. The canopy as a stand-alone tree is very unbalanced. Tree failure risk is high due to windthrow in combination with an unbalanced canopy. Poor codominant unions with included bark were also observed that further increase the risk of a large leader failure. A history of large limb failures was also observed. This tree meets the following tree removal criteria: *1. The condition of the tree with respect to age of the tree relative to the life span of that particular species, disease, infestation, general health, damage, public nuisance, **danger of falling, proximity to existing or proposed structures**, and interference with utility services. 2. **The necessity of the removal of the heritage tree in order to construct improvements and/or allow reasonable and conforming use of the property when compared to other similarly situated properties.*** (Photo showing off balanced canopies subjected to wind throw)



Japanese Yew tree #9 is in poor condition and not expected to improve with any possible mitigation measures. Canker disease caused die back and drought stress have led to the tree into a state of decline. Tree removal is recommended. This tree meets the following tree removal criteria as set forth in the Heritage Tree Ordinance of Mountain View: *1. The **condition of the tree with respect to disease, infestation, general health, damage, public nuisance, danger of falling, proximity to existing or proposed structures, and interference with utility service.***

Showing Yew tree #9 in decline

Privet tree #10 is nearly dead and not expected to improve with any possible mitigation measures. Drought stress has led to the tree's decline. Tree removal is recommended. This tree meets the following tree removal criteria as set forth in the Heritage Tree Ordinance of Mountain View: *1. The **condition of the tree with respect to disease, infestation, general health, damage, public nuisance, danger of falling, proximity to existing or proposed structures, and interference with utility service.***

Showing nearly dead privet tree #10



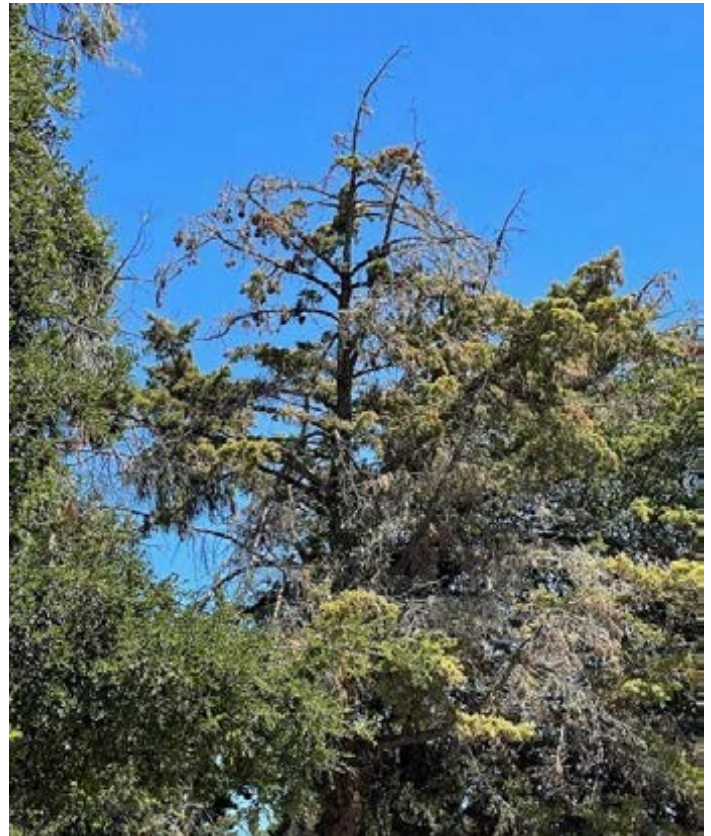


Privet tree #13 is in poor condition. The tree has not been well maintained in the past. The Privet tree is codominant with included bark. The Privet tree does offer some screening for the property but would easily be replaced by new screening material. This tree is not expected to improve. Privet tree #13 meets the following tree removal criteria as set forth in the Heritage Tree Ordinance of Mountain View: *1. The **condition of the tree with respect to disease, infestation, general health, damage, public nuisance, danger of falling, proximity to existing or proposed structures, and interference with utility service.***

Showing privet tree #13

Monterey Cypress tree #15 is in very poor condition. Severe die back due to Cypress Canker Disease was observed. This tree is not expected to improve with any possible mitigation measures. Tree removal is recommended. This tree meets the following tree removal criteria as set forth in the Heritage Tree Ordinance of Mountain View: *1. The **condition of the tree with respect to disease, infestation, general health, damage, public nuisance, danger of falling, proximity to existing or proposed structures, and interference with utility service.***

Showing top of Monterey Cypress tree #15



Non heritage trees proposed for removal:

Pittosporum tree #5, and Japanese Yew tree #11 are recommended for removal as they are in poor condition or interfering with overhead utility lines. These trees are under the protected size in Mountain View.

Tree replacement:

Required mitigation for the removal of existing trees at 2:1 for nine (8) Heritage trees removed and 1:1 for two (2) non-heritage trees. The proposed tree removals will require a total of 18 mitigation trees to be planted. Please refer to the proposed landscape plan to see the replacement tree schedule.

PROJECT PLAN REVIEW

The following report's recommendations are contingent upon the contractor adhering to the stated responsibilities. It is the contractor's responsibility to contact the project arborist to schedule all required inspections promptly. Failure to schedule these inspections as needed may result in fines or stop work orders from the city.

Impacts/recommendations:

Oak trees #3 and #6 are shown in close proximity to the ADA ramp (4'1" from #3 & 2'11" from #6). The ramp is to be supported entirely on top of the existing grade using individual wooden posts. No continuous cut shall be used as a foundation for the ramp, as this would lead to higher impacts than necessary. All post holes when working within the tree driplines shall be excavated by hand under the project arborist's supervision. The plan shall maintain flexibility in post-hole locations. If roots measuring 2" in diameter or larger are encountered, the posts are recommended to be moved to retain a root of this size. Impacts are expected to be minor. The trees are recommended to be deep water fertilized using Nutriroot as a mitigation measure in the early spring. Mulch is proposed within the tree protection zones of trees #3, 4, and 6 as seen in the landscape plans for the site. The mulch should be installed within the tree protection zone before the start of construction as an additional tree protection measure.

The proposed underground parking and first-floor foundation are shown 11' from oak tree #3 and 16' from oak tree #6. The basement is recommended to be built using vertical shoring where oak tree #3 and #6 are located to reduce potential impacts to the trees as using a standard OSHA overcut would have higher impacts on the tree than necessary. The Project Arborist is recommended to be on-site to inspect the basement cut for the underground garage. All exposed roots at the basement cut are recommended to be cleanly cut back to the basement wall. Roots exposed measuring 1.5" in diameter or larger are recommended to be covered by layers of wetted-down burlap to help avoid root desiccation. Roots encountered are recommended to be documented by the Project Arborist. Impacts on the tree from the underground parking structure and foundations are expected to be minor. It is recommended to set up a series of soaker hoses at the basement cut and first-floor foundations once building materials have been allowed to dry and cure. Every other week during the dry season, the soaker hoses are recommended to be turned on until the top foot of the soil is saturated. Once a year following the construction of the foundations and underground basement cut, the irrigation can be permanently suspended. Deep water fertilizing the tree in early spring using Nutriroot is also recommended.

A pathway is proposed at 3' from oak tree #3. The pathway is recommended to be built up on top of grade and only require rough surface grading not to exceed more than 6" into grade when within the dripline of the tree. The rough surface grading will need to be done by hand when within the dripline of the tree. The entire pathway construction when within the dripline of the tree, will be required to be constructed by hand in combination with an air spade while under the supervision of the Project Arborist. Any roots encountered within the minor surface grading measuring 1.5" in diameter or larger are recommended to be retained by raising the grade of the pathway to keep the tree roots or packing the required base rock around the tree roots. All exposed roots during this process are recommended to be kept moist by wrapping/covering roots in layers of wetted down burlap to help avoid root desiccation. Impacts from the pathway

construction are expected to be minor if constructed in this manner. The tree is recommended to be deep water fertilized during the growing season as a mitigation measure for the expected minor impacts. Temporary irrigation will also be provided for the tree as a mitigation measure.

The proposed underground parking and first floor foundation is shown at 9 feet to the south of Oak tree #16. The existing building to the south of the oak tree is only 5 feet from the tree. The existing building has likely acted as a root barrier from the tree and little to no roots are expected underneath the existing structure foundation. The basement to the east is shown at 16 feet 11 inches from the tree. This distance equals approximately 8 times the diameter of the tree and is considered within a tolerable distance, where impacts to the tree are expected to be minimal.

To reduce unnecessary root disturbance, the basement is recommended to be built using vertical shoring where underneath buildings #6 and #7. This method minimizes the extent of excavation compared to a standard OSHA sloped overcut, which would result in higher impacts to the tree. The Project Arborist is recommended to be on-site to inspect the basement cut for the underground garage. All exposed roots at the basement cut are recommended to be cleanly cut back to the basement wall. Roots exposed measuring 1.5 inches in diameter or larger are recommended to be covered by layers of wetted-down burlap to help avoid root desiccation. Roots encountered are recommended to be documented by the Project Arborist. Impacts on the tree from the underground parking structure and foundations are expected to be minor.

To directly address concerns about over-excavation, the over-excavation will be kept as minimal as possible. When vertical shoring is used, the average over-excavation depth is typically limited to approximately 2 feet. On the south side of the tree, this 2-foot over-excavation remains entirely within the footprint of the existing building, where root presence is already expected to be minimal due to long-term structural exclusion. On the east side, a 2-foot over-excavation would bring the excavation limit to approximately 14 feet 11 inches from the trunk, or 7.1 times the diameter of the tree. This remains within a tolerable threshold for potential root impacts and does not pose a significant risk to the tree's health or stability.

It is recommended to set up a series of soaker hoses at the basement cut and first-floor foundations once building materials have been allowed to dry and cure. Every other week during the dry season, the soaker hoses are recommended to be turned on until the top foot of the soil is saturated. Once a year following the construction of the foundations and underground basement cut, the irrigation can be permanently suspended. Deep water fertilizing the tree in early spring using Nutriroot is also recommended.

Landscape work near Heritage Oak tree #16 and Heritaget trees #21-24 consist of raised deck area within the proposed courtyard area, a property line fence at grade, and seat walls. The raised deck is proposed to be supported by individual post with no continuous cut into grade as recommended in previous meetings on this proposed work. All post hole locations proposed will require hand excavation under the project arborist supervision. The project must maintain flexibility on post hole locations. If larger roots measuring 2" in diameter or larger are encountered post holes must be moved to avoid the need to cut a root of this size. By building the deck in this manner impacts can be reduced as much as possible. Property line fencing is proposed around these trees. The fence when near trees #16 and #21-24 will be built at grade to avoid impacting these trees. The rest of the fence once further away from the trees becomes a fence on a retaining wall. Seat walls are proposed near oak tree #16, Redwood tree #21 and Incense cedar tree #22 and #23. The seat wall is recommended to be supported entirely on top of grade by individual post. No continuous cut between the posts shall take place. Post locations shall maintain flexibility. All post-hole locations will be determined in the field, with post-hole locations being excavated by hand in combination with an air knife. If large roots measuring 2" in diameter are encountered, post shall be moved to avoid roots of this size. Overall Impacts to these trees due to the landscaping are expected to be minor due all work supported by individual post with no continuous cut. Before the courtyard portion of the job starts, the trees are recommended to be fertilized with 200 gallons of water per tree mixed

with Nutriroot injected into the tree root zones. This work shall be done by a licensed tree care provider and only done after having a soil test. The irrigation and fertilization will act as mitigation for the minor impacts expected.

Basement excavation at the back of the property when within 25' from trees #21-24 is recommended to be vertically shored. Encountered roots will need to be cleanly cut back to the basement wall. Impacts to these trees are expected to be minor. All exposed roots or cut root ends are recommended to be covered by layers of wetted-down burlap to help avoid root desiccation. Burlap moisture is recommended to be maintained by the contractor until basement walls have been completed. Trees #21-24 are recommended to be deep water fertilized as a mitigation measure. Supplemental irrigation is also recommended for these trees. Every other week during the dry season 50 gallons of water is recommended for the Redwood tree, and once a month 50 gallons of water for the cedar trees is recommended. Tree protection fencing for these trees is recommended to be placed as close to the proposed structure location as possible while still allowing construction to safely continue.

Pathway work near all of the retained trees is recommended to take place by hand while underneath the Project Arborist supervision when underneath the dripline of these trees. Excavation depth for the Pathways is recommended not to exceed 6" under grade when beneath the dripline of a heritage tree to be retained. Maintaining irrigation for the trees will act as a mitigation measure for the expected minor impacts from pathway work. The following tree protection plan will help to reduce potential impacts to the trees on site.

All of the overhead utility lines are to be placed underground. All utility line work on site is recommended to be excavated by hand in combination with an air knife and other hand tools such as a rotary hammer with a clay spade attachment and shovels under the direct supervision of the project arborist when working within the driplines of the retained trees. All encountered roots are required to be left exposed and as damage-free as possible while getting to the required depth of the trench. Roots to be left exposed are recommended to be covered/wrapped in layers of wetted-down burlap. The contractor is required to soak down the burlap daily with water to help avoid root desiccation. Utility lines are then recommended to be tunneled underneath or beside roots where possible to avoid the need to cut tree roots. Any root that needs to be cut measuring 1.5" in diameter or larger shall first be shown to the project arborist before being cleanly cut with loppers or a handsaw. All roots to be cut are required to be documented by the project arborist. Once the utility line work is complete, the trenches are recommended to be immediately backfilled and irrigated until the top 3' of soil is saturated. If done as recommended under the project arborist's supervision, impacts are expected to be minor to non-existent.

Pruning needed for clearance:

To accommodate the proposed mid-rise structure and ensure the long-term health and stability of trees #3 and #16, specific pruning measures will be implemented in adherence to ISA Best Management Practices (BMPs). Both trees exhibit strong vitality, making them well-suited to tolerate the necessary pruning. The pruning will focus on crown reduction techniques to provide the required 5–10 feet of clearance from the structure for scaffolding during construction, as well as a minimum 5-foot clearance post-construction. Crown reduction pruning will involve the removal of secondary and tertiary branches back to appropriate lateral branches that are at least one-third the diameter of the branch being cut. This method ensures the tree retains a natural form and minimizes the potential for stress or decay.

Given that construction is not anticipated to begin for several years, this extended timeline provides the opportunity to implement a gradual pruning strategy. It is recommended that pruning be carried out in two cycles before the start of construction, allowing for smaller, incremental reductions in each cycle. This approach will further reduce stress on the trees, maintain canopy balance, and allow them to adapt more effectively to the structural adjustments. If proper reduction cuts are not feasible in some cases, heading cuts may be necessary. In such situations, sprout growth will need to be actively monitored and trained through crown restoration pruning to establish a stable, natural canopy over time.

Pruning should be performed during the optimal time of year for Coast Live Oaks, which is typically during their dormant season in late summer or early fall. Pruning at this time minimizes the risk of pathogens, ensuring the trees recover quickly and remain resilient. To further enhance tree health and manage vigorous regrowth that may compromise clearance, the use of growth-regulating hormones is recommended. These hormones reduce the rate of canopy growth, lowering the frequency of pruning cycles and mitigating the impact of root disturbance often associated with construction activities. Slower growth rates also support the trees in directing their energy towards wound compartmentalization and recovery from pruning.

All pruning shall be performed exclusively by a certified arborist and not by the contractor, ensuring compliance with professional standards and proper execution of pruning techniques. The project arborist must be present onsite during all pruning operations to supervise the work and provide real-time guidance. Any deviations from the pruning plan, such as the necessity for heading cuts, must be evaluated and approved by the project arborist.

In addition to near-term clearance needs, the long-term presence of the approximately 50-foot-tall building wall adjacent to tree #16 has been considered in the pruning and management approach. The proximity and height of this structure will influence available sunlight and airflow on the tree's southeastern side, which may lead to gradual canopy imbalance or phototropic growth away from the wall over time. As part of the long-term management plan, annual inspections will include evaluation of the tree's canopy distribution, structural response to reduced light exposure, and any adaptive growth patterns. Future pruning shall consider this altered growing environment and may require selective weight reduction or structural training on the opposing canopy side to maintain balance and minimize the risk of limb failure. These inspections and responsive pruning measures will ensure that the tree remains structurally stable and healthy over the lifespan of the adjacent development.

While the proposed pruning will address clearance needs, the impacts on the trees are expected to be minor due to their current health and vigor. To maintain their health and structural integrity, the trees shall be inspected annually by a certified arborist and pruned as needed. These routine inspections will also monitor sprout growth and any adaptive responses to the pruning, ensuring long-term success in maintaining clearance and preserving tree health. It is recommended that the trees be pruned at the optimal time of year, even if construction has not yet begun, to align the work with their biological rhythms and maximize their resilience.

Post-Construction Tree Stability and Failure Risk Assessment – Tree #16

The potential for tree failure of Coast Live Oak #16 following construction has been evaluated, including the consideration that a portion of the root system on the southern side of the tree may be affected by excavation for the proposed underground garage. Based on the project layout, the garage wall is located 9 feet from the tree, within an area currently occupied by an existing structure that has likely functioned as a physical root barrier for many years. As previously stated, little to no significant rooting is expected on the southern side beneath the existing building footprint. Additionally, the proposed eastern basement wall lies approximately 16 feet 11 inches from the tree, or 8 times the tree's diameter, which is within a tolerable threshold for protected trees.

With vertical shoring to minimize over-excavation and arborist-supervised excavation practices, expected root loss will be limited to non-structural fine roots. The main structural roots supporting the tree are likely to remain intact, particularly on the north and west sides, which are undisturbed. Given the tree's current good health, structural form, and adaptive capacity, and considering the conservative construction methods proposed, the risk of structural failure post-construction is considered low. Ongoing annual inspections are recommended to monitor the tree's health and stability, particularly during the first few years following construction, to ensure any early signs of stress or imbalance are addressed promptly.

Privet tree #14 is located adjacent to the proposed building footprint for Building #6. The planned basement cut for Building #6 is in close proximity to the tree but will be constructed using vertical shoring, which significantly reduces the extent of soil disturbance and eliminates the need for a standard sloped excavation (OSHA overcut). This approach minimizes the impact on the tree's root zone, particularly on the side facing the structure, and is considered an appropriate mitigation method for preserving the tree's stability and health during construction.

In addition to the basement cut, a pedestrian pathway is proposed in the space between the tree and the new building. Because this pathway falls within the tree's functional root zone, special care must be taken during installation. The pathway shall be constructed at or slightly above existing grade, with surface preparation limited to rough grading not exceeding 6 inches in depth. All grading activities within the tree's root zone must be conducted by hand, using non-mechanized tools such as shovels and air spades, and performed under the direct supervision of the Project Arborist.

If roots measuring 1.5 inches in diameter or larger are encountered during grading, they must be preserved in place. The pathway design shall accommodate such roots by raising the finished grade or carefully packing base material around the root system to avoid severance. Any exposed roots must be immediately wrapped in wetted burlap and kept moist throughout the duration of work until they are re-covered or incorporated into the final pathway structure. The Project Arborist shall oversee and document all root encounters and ensure that appropriate protection measures are implemented.

With these practices in place, and the use of vertical shoring to limit excavation impacts, the overall impact to privet tree #14 is expected to be minor. Continued arborist monitoring is recommended during the excavation and pathway construction to ensure the tree remains stable and healthy. Supplemental deep watering during the dry season and post-construction root zone care (e.g., mulching or fertilization) may further assist in supporting the tree's recovery and long-term viability.

Pre And Post-Construction Care:

If the project is approved, a comprehensive soil test is recommended to assess and address any nutrient deficiencies for the retained trees. Construction is taking place near the trees and thus requires oversight. The soil test shall take place before the start of construction.

Pre-Construction Care:

In the pre-construction phase, it is critical to prepare the trees for the upcoming stress and disturbances. Implementing a deep watering schedule is foundational, ensuring trees receive adequate moisture deep within their root zones. Depending on the recommended soil test analysis, fertilizing may be needed. Within the tree protection zones, it is recommended that an inline drip emitter system be installed in a grid-like manner to provide deep irrigation during the dry season. The irrigation system should be placed on top of the existing grade and require no excavation. The irrigation system shall be turned on by the project arborist as seen fit during the required monthly inspections. Regardless of the soil test results, the use of NutriRoot is still strongly advisable for trees that will be impacted by construction activities. The stresses caused by construction, such as root disturbance, soil compaction, and changes in water availability, can severely affect a tree's health. NutriRoot provides essential nutrients, promotes root growth, and enhances water management, helping trees withstand and recover from these stresses. Importantly, NutriRoot is low in macronutrients, which means it should not cause issues associated with over-fertilization, such as nutrient runoff or root burn. This makes it a safe and effective option for supporting the resilience and vitality of trees during and after construction, ensuring their long-term health and stability.

Post-Construction Care:

Following the completion of construction activities, it's vital to continue supporting the trees' recovery and growth. Annual inspections by a Certified Arborist are recommended to ensure the tree remains in good health. Maintaining the deep watering schedule will ensure that trees remain adequately hydrated. A post-construction application of NutriRoot is advised to sustain soil moisture control and support ongoing root health. It is also pertinent to reintroduce microbial inoculants to restore beneficial microbial communities that may have been disrupted during construction. Additional applications of soil amendments like Biochar and HydraHume will continue to enhance soil structure, fertility, and water-holding capacity, supporting the trees' long-term health and resilience. Employing air spading techniques can also be advantageous to aerate the soil and gently introduce these amendments without causing root damage.

By adopting this dual-phase approach, (pre- and post-construction) leveraging a combination of deep watering, nutritional support, and soil health enhancement, the strategy aims to not only protect the trees during construction but also promote their recovery and thriving in the post-construction landscape. This holistic care plan underscores a commitment to sustainable tree management, ensuring that the trees remain a valuable and vibrant part of the ecosystem for years to come.

TREE PROTECTION PLAN***Tree Protection Zones***

Tree protection zones should be installed and maintained throughout the entire length of the project. Fencing for tree protection zones should be 6' tall, metal chain link material supported by metal 2" diameter poles, pounded into the ground to a depth of no less than 2'. The location for the protective fencing for the retained trees on site should be placed as close to the proposed structures as possible while still allowing for construction to safely continue. A diagram showing the recommended tree protection zones is provided on the following pages. The work proposed within the tree protection zones for the courtyard work will require the tree protection fencing to be reduced to the edge of the courtyard work. The Project Arborist will need to be on site when the tree protection zones are to be reduced. A 4-inch-thick layer of mulch is recommended to be placed within the tree protection zones. No equipment or materials shall be stored or cleaned inside the protection zones. Areas where tree protection fencing needs to be reduced for access, should be mulched with 6" of coarse wood chips with ½ inch plywood on top. The plywood boards should be attached together in order to minimize movement. The spreading of chips will help to reduce compaction and improve soil structure. All tree protection measures must be installed prior to any demolition or construction activity at the site.

Avoid the following conditions:**DO NOT:**

- A.** Allow run off of 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 sterilant under pavement near existing trees.

Fencing Specifications:

The tree protection fencing should be established and maintained throughout the entire length of the project. It's essential that no equipment, materials, or debris are stored or cleaned inside these protection zones. The zones should remain free

from human activity unless explicitly authorized. The choice of fencing type depends on the tree's location and the nature of the surrounding environment.

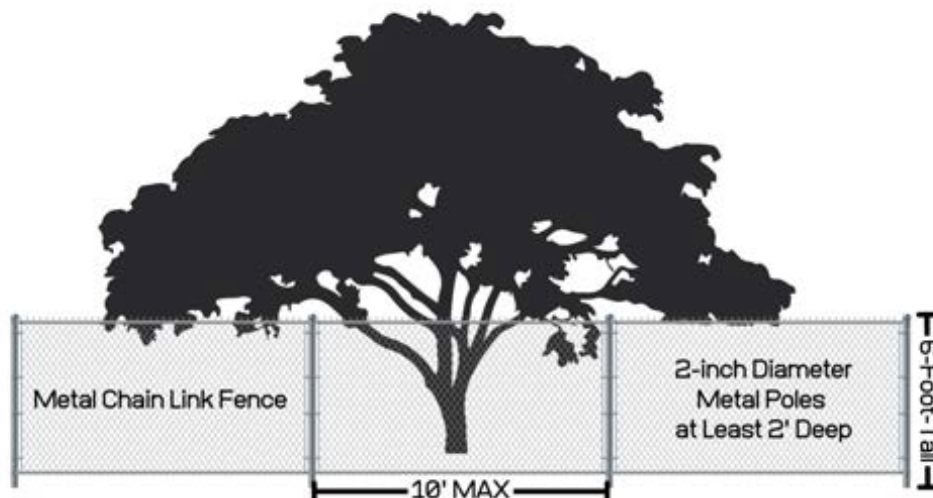
Type I Tree Protection:

Description: This is the most comprehensive form of tree protection fencing. It encompasses the full canopy dripline or Tree Protection Zone (TPZ) of trees designated for preservation.

Application: Typically used in areas where trees are a significant distance away from construction activity or when trees have a large canopy spread.

Specifications:

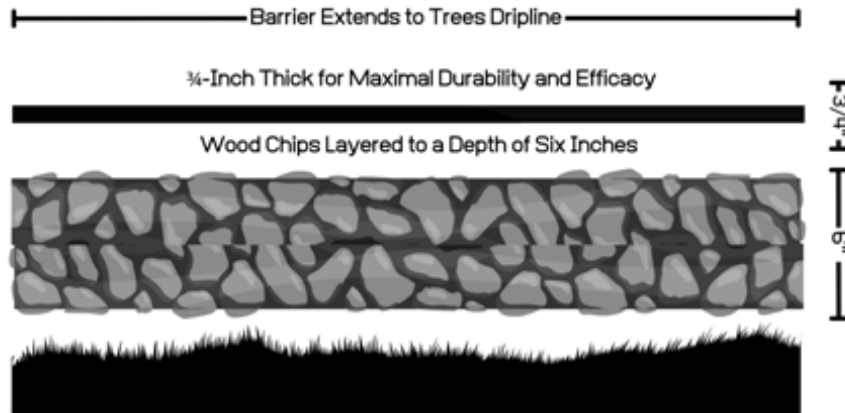
The fencing shall remain intact throughout the duration of the project or until activities within the TPZ are finalized. Tree protection fencing should be a 6-foot-tall metal chain link type supported by 2-inch thick diameter metal posts pounded into the ground to a depth of no less than 2 feet, ensuring stability even in challenging conditions. Poles should be spaced no more than 10 feet apart from center to center, providing a consistent and strong barrier. For trees near existing hardscapes or structures, tree protection fencing shall be placed as close as possible while still allowing access. Sensitive areas may require a landscape barrier if fencing needs to be reduced for access reasons. The location for tree protection fencing for the protected trees on site should be placed at the tree driplines where possible (TPZ). All other non-protected trees are recommended to be protected by fencing placed at the dripline. No equipment or materials should be stored or cleaned inside protection zones. Apply mulch to the tree protection zones at a depth of 3 inches. Spread the mulch evenly throughout the designated area, ensuring it extends to, but does not touch, the tree trunk. Keep the mulch at least 3 to 4 inches away from the base of the trunk to prevent moisture buildup and potential rot. This will provide the necessary benefits of mulching, such as moisture retention and temperature regulation, while helping to maintain tree health. Signs should be placed on fencing signifying "Tree Protection Zone - Keep Out". If fencing needs to be reduced for access or any other reasons, the non-protected areas must be protected by a landscape buffer. All tree protection and inspection schedule measures, design recommendations, watering, and construction schedules shall be implemented in full by the owner and contractor. All retained trees are to be protected by Type I tree protection fencing.



Type I Fencing

Landscape Barrier Zone

If for any reason a smaller tree protection zone is needed for access, a landscape buffer should be used, composed of wood chips layered to a depth of six inches, complemented by plywood atop the wood chips where tree protection fencing would typically be situated. The plywood should be $\frac{3}{4}$ -inch thick for maximal durability and efficacy. This landscape buffer plays a crucial role in mitigating soil compaction within the tree's vulnerable root zone. For optimum stability, it is advisable to securely join the plywood boards, thus preventing any unwanted shifts in the plywood or underlying wood chips.



Landscape Barrier Zone



Red lines showing the recommended tree protection zones.**Staging**

All tree protection measures must be in place before the start of construction. An inspection prior to the start of construction is often required by the town. All vehicles must remain on paved surfaces if possible. Existing pavement should remain and should be used for staging. If vehicles are to stray from paved surfaces, 6 inches of chips shall be spread, and plywood laid over the mulch layer. This type of landscape buffer will help reduce the compaction of desired trees. Parking will not be allowed off the paved surfaces

Root Cutting

If for any reason roots are to be cut, the work shall be monitored and documented. Large roots (over 2 inches in diameter) or large masses of roots to be cut must be inspected by the site arborist. The site arborist, at this time, may recommend irrigation or fertilization of the root zone. All roots needing to be cut should be cut clean with a saw or lopper. Roots to be left exposed for a period of time should be covered with layers of burlap and kept moist.

Trenching/excavation

Trenching or excavation for irrigation, drainage, electrical, foundation, or any other reason shall be done by hand when inside the dripline of a protected tree. Hand digging and the careful placement of pipes below or besides protected roots will significantly reduce root loss, thus reducing trauma to the tree. All trenches shall be backfilled with native materials and compacted to near their original level, as soon as possible. Trenches to be left open for a period of time (24 hours), will require the covering of all exposed roots with burlap and be kept moist. The trenches will also need to be covered with plywood to help protect the exposed roots.

Grading

All existing grades underneath the dripline of a protected tree shall remain as is where possible. Grading within the dripline of a protected tree is required to be done under the supervision of the project arborist.

Irrigation

Non native trees- Irrigating the retained mature trees in the landscape is important to ensure their health and vitality. Proper watering can help the trees continue to thrive. Deep irrigation is recommended to take place every other week during the dry season. During the dry season, trees typically need deep, infrequent watering. Watering every 2 weeks is sufficient for the retained trees on this site. Applying water slowly and consistently until it penetrates at least 12-18 inches into the soil is recommended. Avoid spraying water directly on the trunks, as this can lead to disease and decay. Mulch is recommended to be maintained with mulch added overtime as needed. Mulch helps retain soil moisture, regulates temperature, and prevents weeds, which can compete with the tree for water. The use of soaker hoses or an inline drip emitter system set up in a grid like manner to provide deep irrigation during the dry season is recommended. The irrigation system should be placed on top of grade and require no excavation. This will help to keep the trees healthy.

Native oak trees- Native oak trees are recommended to only be irrigated during the months of May and September or if their root zones are traumatized. Frequent irrigation during dry summer months can significantly raise the risk of oak trees developing oak root fungus disease and is the leading cause of oak tree death and failure in the urban landscape.

Tree Pruning

Tree pruning during construction is not just about aesthetics and safety; it's also about adhering to best practices and standards set by professional bodies like the International Society of Arboriculture (ISA) and the American National Standards Institute (ANSI A300 Pruning Standards). The ISA sets rigorous standards to ensure trees are cared for sustainably and scientifically. Under these guidelines, and for the well-being of trees during construction, it's imperative to have an expert arborist oversee any pruning. Their knowledge guarantees that only the necessary branches are removed, ensuring both safety and tree health. The guideline to prune no more than 25% of the tree's total foliage is grounded in

sound arboricultural practices. This safeguards the tree's photosynthetic capability, reduces undue stress, and preserves the balance between its roots and canopy. Homeowners should be aware of these standards and ensure they are being met, trusting in the expertise of their arborist and keeping open communication about their tree care decisions. This approach not only ensures the tree's compatibility with new construction aesthetics but also its long-term health and vitality.

Traffic Within TPZs

Strictly prohibit driving vehicles or heavy foot traffic on bare soil within the TPZs of protected trees. Such activities can crush roots directly and compact the soil, impeding oxygen and water infiltration. In areas without existing pavement, use temporary anti-compaction materials, such as wood chips covered with plywood, to prevent damage to tree roots (landscape barrier). Temporary pathways or boardwalks can be constructed to facilitate access while minimizing soil compaction within the TPZ.

Chemical and Material Handling

Store chemicals and construction materials away from TPZs to prevent accidental spills or exposure that may harm tree health. Follow proper handling and disposal procedures for chemicals to ensure compliance with environmental regulations. Minimize the use of toxic materials near trees and opt for environmentally friendly alternatives whenever possible.

Monitoring and Inspection

Regularly monitor and inspect the tree protection measures throughout the construction process to ensure their effectiveness and compliance with the Tree Preservation Plan. Assign a qualified individual, such as a project arborist or certified arborist, to conduct periodic inspections and provide recommendations for any necessary adjustments or improvements. Maintain detailed records of inspections, including dates, findings, and any actions taken.

Post-Construction Maintenance

After construction is completed, continue monitoring the health and condition of preserved trees to address any potential issues promptly. Implement post-construction maintenance practices such as watering, mulching, pruning, and fertilization as needed to support the recovery and long-term health of the trees. Regularly assess the trees for signs of stress, disease, or structural instability and take appropriate measures, including consulting with a certified arborist if necessary.

Compliance with Environmental Laws

Ensure full compliance with all applicable local, state, and federal environmental laws, regulations, and permit requirements pertaining to tree protection during construction. Familiarize yourself with specific regulations regarding tree preservation in your jurisdiction and consult with local authorities or arborists for guidance if needed.

Responsibility

Designate a responsible person or team within the project organization to oversee the implementation and enforcement of the Tree Preservation Plan. Clearly communicate the roles and responsibilities of all parties involved in the construction project regarding tree protection.

Emergency Procedures

Develop clear procedures to follow in the event of emergencies that may impact tree preservation, such as severe storms, accidents, or unexpected tree health issues. Ensure that emergency response plans address prompt actions to mitigate potential risks to trees and contact qualified professionals, such as arborists or tree care companies when needed.

Communication and Training

Facilitate effective communication among all project stakeholders, including contractors, subcontractors, architects, engineers, and landscape professionals, regarding the importance of tree preservation and the specific guidelines to follow. Conduct training sessions or workshops to educate personnel.

PURPOSE & USE OF THE REPORT

This report informs tree management decisions for the construction project and provides recommendations to maximize tree survival. It serves as a valuable resource for stakeholders, facilitating informed discussions and sustainable tree management practices.

TESTING & ANALYSIS

In order to assess the trees, a thorough examination was conducted using a variety of methods. For trees with accessible trunks, precise measurements of the Diameter at Breast Height (DBH) were taken using a specialized diameter tape measure. In cases where the trunks were not readily accessible, visual estimations were employed to determine the DBH. As part of the inventory process, all trees exceeding a specific DBH threshold stated in city code were included.

To evaluate the health of the trees, multiple factors were considered, including their overall appearance and our team's extensive experiential knowledge of each species. This holistic approach ensured a comprehensive understanding of the tree's well-being.

To accurately document the location of each tree, a GPS smartphone application was utilized during the data collection process. This enabled us to create detailed maps that are included in this report. However, it is important to note that despite our efforts to minimize errors, inherent limitations of GPS data collection, coupled with slight discrepancies between GPS data and CAD drawings, may result in approximate tree locations depicted on the map.

TREE WORK STANDARDS AND QUALIFICATIONS

To ensure high-quality tree work, including removal, pruning, and planting, the following standards and qualifications will be adhered to:

- **Industry Standards:** All tree work will be performed in accordance with industry standards established by the International Society of Arboriculture (ISA). These standards encompass best practices and guidelines for tree care and maintenance.
- **Contractor Licensing and Insurance:** The contractor undertaking the tree work must possess a valid State of California Contractors License for Tree Service (C61-D49) or Landscaping (C-27). Additionally, they must have comprehensive general liability, worker's compensation, and commercial auto/equipment insurance coverage.
- **Workmanship Standards:** Contractors must adhere to the current Best Management Practices of the International Society of Arboriculture (ISA) and the American National Standards Institute (ANSI). These standards, including ANSI A300 and Z133.1, outline guidelines for tree pruning, fertilization, and safety. Compliance with these standards ensures the use of proper techniques and practices throughout the tree work process.

By adhering to these established standards and qualifications, we can ensure the provision of professional and safe tree services that meet the industry's best practices and promote the health and longevity of the trees.

SCHEDULE OF INSPECTIONS

Kielty Arborists Services LLC:

We will conduct the following inspections as needed for the project:

- **Pre-Equipment Mobilization, Delivery of Materials, Tree Removal, and Site Work:** Our project arborist will meet with the general contractor and owners to review tree protection measures. We will identify and mark tree-protection zone fencing, specify equipment access routes and storage areas, and assess the existing conditions of trees to determine any additional necessary protection measures.
- **Inspection after Installation of Tree-Protection Fencing:** Upon completion of tree-protection fencing installation, our project arborist will inspect the site to ensure that all protection measures are correctly implemented. We will also review any contractor requests for access within the tree protection zones and assess any changes in tree health since the previous inspection.
- **Inspection during Soil Excavation or Work Potentially Affecting Protected Trees:** During any work within non-intrusion zones of protected trees, our project arborist will inspect the site and document the implemented recommendations. We will assess any changes in tree health since the previous inspection to monitor the well-being of the trees.
- **Final Site Inspection:** Prior to project completion, our project arborist will conduct a final site inspection to evaluate tree health and provide necessary recommendations to promote their longevity. A comprehensive letter report summarizing our findings and conclusions will be provided to the City of Mountain View.

Our inspections aim to ensure proper tree protection, health, and adherence to project requirements.

ASSUMPTIONS AND LIMITING CONDITIONS

- **Legal Descriptions and Titles:** The consultant/arborist assumes the accuracy of any legal description and titles provided. No responsibility is assumed for any legal due diligence. The consultant/arborist shall not be held liable for any discrepancies or issues arising from incorrect legal descriptions or faulty titles.
- **Compliance with Laws and Regulations:** The property is assumed to be in compliance with all applicable codes, ordinances, statutes, or other government regulations. The consultant/arborist is not responsible for identifying or rectifying any non-compliance.
- **Reliability of Information:** Though diligent efforts have been made to obtain and verify information, the consultant/arborist is not responsible for inaccuracies or incomplete data provided by external sources. The client accepts full responsibility for any decisions or actions taken based on this data.
- **Testimony or Court Attendance:** The consultant/arborist has no obligation to provide testimony or attend court regarding this report unless mutually agreed upon through separate written agreements, which may incur additional fees.
- **Report Integrity:** Unauthorized alteration, loss, or reproduction of this report renders it invalid. The consultant/arborist shall not be liable for any interpretations or conclusions made from altered reports.
- **Restricted Publication and Use:** This report is exclusively for the use of the original client. Any other use or dissemination, without prior written consent from the consultant/arborist, is strictly prohibited.
- **Non-disclosure to Public Media:** The client is prohibited from using any content of this report, including the consultant/arborist's identity, in any public communication without prior written consent.
- **Opinion-based Report:** The report represents the independent, professional judgment of the consultant/arborist. The fee is not contingent upon any predetermined outcomes, values, or events.
- **Visual Aids Limitation:** Visual aids are for illustrative purposes and should not be considered precise representations. They are not substitutes for formal engineering, architectural, or survey reports.
- **Inspection Limitations:** The consultant/arborist's inspection is limited to visible and accessible components. Non-invasive methods are used. There is no warranty or guarantee that problems will not develop in the future.

ARBORIST DISCLOSURE STATEMENT

Arborists specialize in the assessment and care of trees using their education, knowledge, training, and experience.

- **Limitations of Tree Assessment:** Arborists cannot guarantee the detection of all conditions that could compromise a tree's structure or health. The consultant/arborist makes no warranties regarding the future condition of trees and shall not be liable for any incidents or damages resulting from tree failures.
- **Remedial Treatments Uncertainty:** Remedial treatments for trees have variable outcomes and cannot be guaranteed.
- **Considerations Beyond Scope:** The consultant/arborist's services are confined to tree assessment and care. The client assumes responsibility for matters involving property boundaries, ownership, disputes, and other non-arboricultural considerations.
- **Inherent Risks:** Living near trees inherently involves risks. The consultant/arborist is not responsible for any incidents or damages arising from such risks.
- **Client's Responsibility:** The client is responsible for considering the information and recommendations provided by the consultant/arborist and for any decisions made or actions taken.

The client acknowledges and accepts these Assumptions and Limiting Conditions and Arborist Disclosure Statement, recognizing that reliance upon this report is at their own risk. The consultant/arborist disclaims all warranties, express or implied.

CERTIFICATION

I hereby certify that all the statements of fact in this report are true, complete, and correct to the best of my knowledge and belief, and are made in good faith.

David Beckham

Signature of Consultant

David Beckham

Certified Arborist

WE#10724A TRAQ Qualified

Date: May 30th, 2024

Revised: October 7, 2024

Revised on January 6, 2025

Revised May 12th, 2025

Revised June 1st, 2025

