

751 Vista Drive Emerald Hills, CA Arborist Report 2024



Prepared For:
Raymond Tang

Site: 751 Vista Drive
Emerald Hills, CA 94062



Submitted by:
David Beckham
Certified Arborist
WE#10724A
TRAQ Qualified



DAVID BECKHAM
WE#10724A



DAVID BECKHAM
WE#10724A

KIELTY

ARBORISTS SERVICES LLC

Certified Arborist WE#10724A TRAQ Qualified
P.O. Box 6187 San Mateo, CA 94403
650- 532-4418

October 10, 2024

Attn: Raymond Tang

Subject: Tree protection plan for 751 Vista Drive, Emerald Hills, CA 94062

INTRODUCTION AND OVERVIEW

Kiely Arborists Services LLC visited the property at 751 Vista Drive, Emerald Hills, on September 3, 2024, to evaluate the trees present with respect to the proposed construction project. The report below contains an analysis of the site visit. Raymond Tang is planning the construction of a new home with outdoor patios and landscaping. The site consisted of a residential home, driveway, landscaping, and mixed tree species. The findings and recommendations presented in this report are based on the landscape design plans titled *Residential Site Landscaping sheets L1-L5* by LK Design Studio Landscape Architecture. These plans were electronically provided to us via email and are dated September 12, 2024. By thoroughly analyzing these plans in conjunction with our field observations, we have developed an accurate and reliable assessment of the tree conditions and how best to mitigate potential impacts.

Data Summary:

Total Trees	Total Street Trees	Neighboring Trees	Significant (Protected) Trees		Non-Protected Trees		Overall Condition Rating		
			Total	Proposed for Removal	Total	Proposed for Removal	<50%	50%-69%	70-100%
27	1	1	21	1	6	0	8	19	0

There are 26 trees on the property, 21 of which are protected (#1, 3-11, 15, 16, 19, and 21-27). One tree included in the survey is protected and located on neighboring property (#20). Tree #21 is proposed for removal, as it conflicts with the proposed project features. Trees #1, 4, 5, 11, 16, 17, 26, and 27 were assigned poor condition ratings due to visible condition issues, including deadwood, decay, prior topping cuts, crown dieback, and improper past maintenance.

All other significant trees were assigned Fair condition ratings and should be retained and protected, as detailed in the recommendations below. Proper protection and cultural practices ensure that all retained trees survive and thrive during and after construction.

ASSIGNMENT

At the request of Raymond Tang, Kiely Arborists Services LLC conducted a site visit on September 3, 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 County of San Mateo.

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 County of San Mateo requires the following tree reporting elements for development projects:

- The diameter and height of the tree.*
- The type of trees (e.g., coniferous, evergreen hardwood and deciduous hardwood).*
- A map or accurate sketch of location and trees proposed to be cut (show other significant trees, shrubs, buildings, or proposed buildings within 25 feet of any trees proposed to be cut including any of the parcel; photographs may be used to show the area).*
- Method for marking the tree proposed to be trimmed, cut down, removed, or destroyed.*
- Description of method to be used in removing or trimming the tree.*
- Description of tree planting or replacement program, including detailed plans for an irrigation program, if required.*
- Reasons for proposing removal or trimming of the tree.*
- Street address where the tree is located.*
- General health of trees to be trimmed, cut down or removed, as documented by a licensed arborist. The arborist report shall assess the condition and health of the tree proposed for removal, the actions that could be taken to avoid removal, and the recommended course of action. The submitted arborist report shall be subject to the review of an independent arborist, who shall provide a recommendation to the Community Development Director and other decision making bodies on whether to deny or conditionally approve the application.*
- Other pertinent information which the Community Development Director may require.*

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 54 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 #:	Protected Tree:
Identification number for individual trees.	Specifies whether the tree is protected by the city or county ordinance.
Height (ft.) / Canopy Spread (ft.):	Trunk (in.):
Measures both the height of the tree and the spread of its canopy.	Measures the primary trunk's diameter at the required height.
Comments:	Tree Picture:
Any additional notes or observations about the tree.	A photograph of the tree for visual assessment and record-keeping.
Preserve or Remove:	Common Name / Scientific Name:
Indicates the recommended action based on the tree's condition.	Specifies the name of the tree, both in common terms and scientific nomenclature.
If more than 1 Trunks, Total Diameter:	6 ,8, 10 Times the Diameter (ft.):
If the tree has multiple trunks, this field indicates the combined diameter of all trunks.	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

Tree Tag #	Protected Tree	Preserve or Remove	Common Name / Scientific Name	Trunk (in.)	Height (ft.) / Canopy Spread (ft.)	Health Rating	Structural Rating	Form Rating	Suitability for Preservation	Overall Condition (0-100%)	Summary	Tree Picture #1
1	Yes	(P)	myoporum <i>Myoporum laetum</i>	8	15/15	Fair-Poor	Poor	Poor	Poor	40	At property boundary. Deadwood. Decay along lateral and at base.	
2	No	(P)	California bay laurel <i>Umbellularia californica</i>	4.5	15/15	Fair	Fair	Fair	Fair	50	Topped in past. Suppressed by adjacent oak.	
3	Yes	(P)	coast live oak <i>Quercus agrifolia</i>	24	30/30	Fair-Poor	Fair	Fair	Fair	45	Topped in past. Deadwood. Water sprouts. Decay along lateral.	
4	Yes	(P)	California bay laurel <i>Umbellularia californica</i>	12	15/12	Fair	Poor	Poor	Fair	40	At fence, in easement. Topped in past. Deadwood.	
5	Yes	(P)	American elderberry <i>Sambucus canadensis</i>	12	25/20	Fair-Poor	Poor	Poor	Poor	30	Codominant at grade. Decay at base and along laterals. Codominant leader is dead.	
6	Yes	(P)	coast live oak <i>Quercus agrifolia</i>	26	50/40	Fair	Fair	Fair	Fair	50	At retaining wall. Codominant at 6 feet. Decay along lateral.	

Tree Tag #	Protected Tree	Preserve or Remove	Common Name / Scientific Name	Trunk (in.)	Height (ft.) / Canopy Spread (ft.)	Health Rating	Structural Rating	Form Rating	Suitability for Preservation	Overall Condition (0-100%)	Summary	Tree Picture #1
7	Yes	(P)	coast live oak <i>Quercus agrifolia</i>	12	20/15	Fair	Fair	Fair	Fair	50	At retaining wall, topped in past.	
8	Yes	(P)	coast live oak <i>Quercus agrifolia</i>	26	50/40	Good	Fair	Good	Good	60	At rear of property. Dominant tree.	
9	Yes	(P)	coast live oak <i>Quercus agrifolia</i>	18	60/40	Fair	Fair	Fair	Fair	50	At retaining wall. Deadwood.	
10	Yes	(P)	coast live oak <i>Quercus agrifolia</i>	8	20/20	Fair	Fair	Fair	Fair	50	Young tree. Suppressed, sparse foliage.	
11	Yes	(P)	California bay laurel <i>Umbellularia californica</i>	18, 12, 6, 6.	60/50	Fair	Poor	Poor	Fair	40	In easement, behind wire fence. Decay on laterals. Deadwood, die back. Codominant at grade.	
12	No	(P)	California bay laurel <i>Umbellularia californica</i>	3	40/10	Good	Fair	Fair	Fair	55	Young tree. Surrounding dominant oak tree #8.	

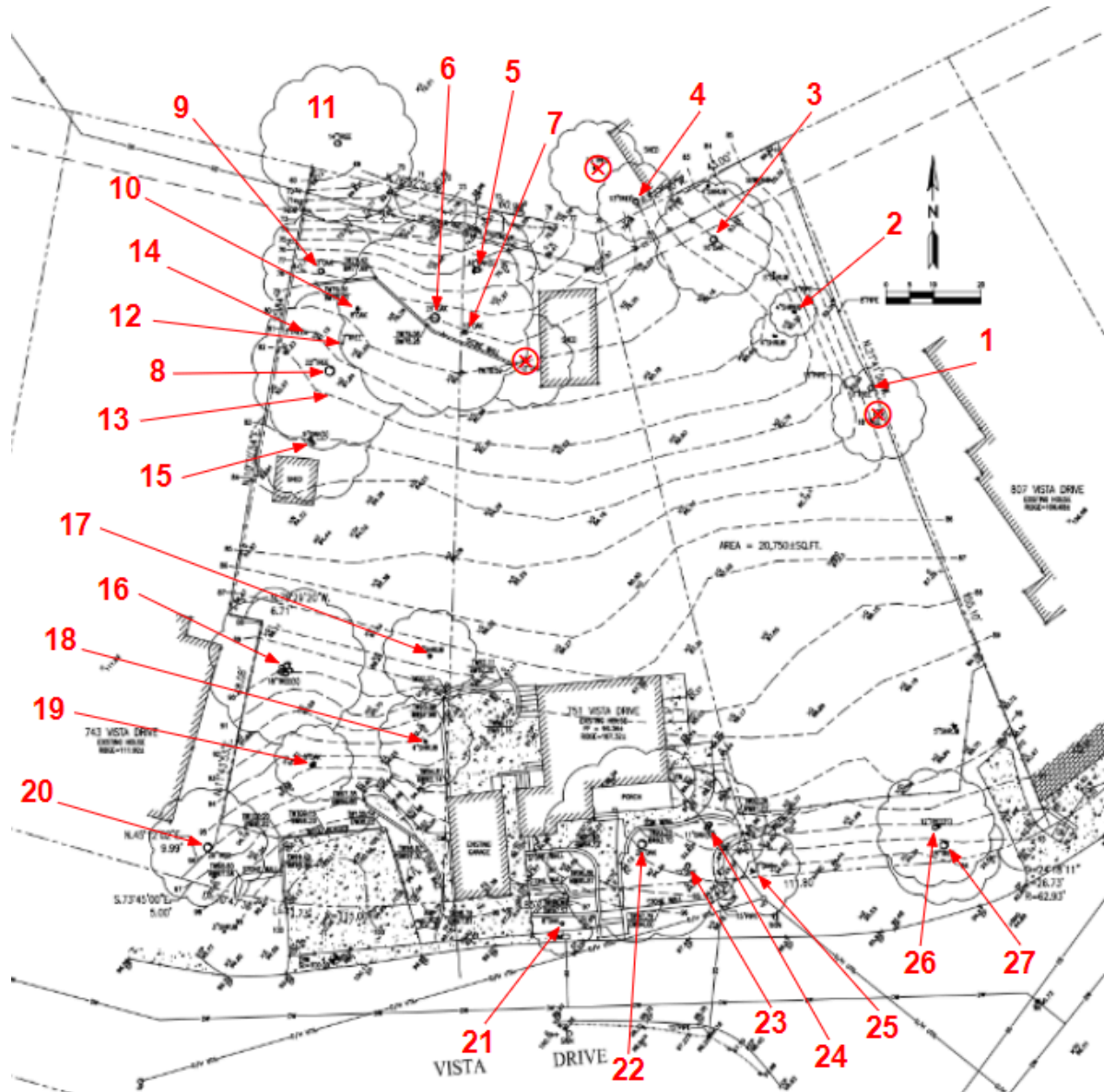
Tree Tag #	Protected Tree	Preserve or Remove	Common Name / Scientific Name	Trunk (in.)	Height (ft.) / Canopy Spread (ft.)	Health Rating	Structural Rating	Form Rating	Suitability for Preservation	Overall Condition (0-100%)	Summary	Tree Picture #1
13	No	(P)	California bay laurel <i>Umbellularia californica</i>	3	40/10	Good	Fair	Fair	Fair	55	Young tree. Surrounding dominant oak tree #8.	
14	No	(P)	California bay laurel <i>Umbellularia californica</i>	3	40/10	Good	Fair	Fair	Fair	55	Young tree. Surrounding dominant oak tree #8.	
15	Yes	(P)	coast live oak <i>Quercus agrifolia</i>	12,10	40/20	Good	Fair	Good	Good	60	Codominant at 18 inches. Deadwood.	
16	Yes	(P)	California bay laurel <i>Umbellularia californica</i>	12, 14, 18, 20, 22, 18.	55/40	Good	Poor	Fair	Fair	40	Codominant at grade. Decay at base. Topped in past. Included bark on two laterals.	
17	No	(P)	European plum <i>Prunus domestica</i>	3, 3, 2"x5, 2.5	12/12	Fair	Poor	Fair	Fair	45	Codominant at grade.	
18	No	(P)	California bay laurel <i>Umbellularia californica</i>	3"x6, 4"x3	25/15	Good	Poor	Fair	Fair	50	Next to existing patio. Codominant at grade	

Tree Tag #	Protected Tree	Preserve or Remove	Common Name / Scientific Name	Trunk (in.)	Height (ft.) / Canopy Spread (ft.)	Health Rating	Structural Rating	Form Rating	Suitability for Preservation	Overall Condition (0-100%)	Summary	Tree Picture #1
19	Yes	(P)	coast live oak <i>Quercus agrifolia</i>	6,9,9	30/25	Good	Fair	Fair	Good	55	Codominant at 2 feet. Growing at angle, suppressed by bay #16.	
20*	Yes	(P)	California bay laurel <i>Umbellularia californica</i>	20	40/15	Good	Fair	Fair	Good	55	Neighboring tree, limited visual inspection.	
21	Yes	(R)	coast live oak <i>Quercus agrifolia</i>	10	30/15	Good	Fair	Fair	Good	55	Suppressed by dominant oak. 3 feet from road.	
22	Yes	(P)	coast live oak <i>Quercus agrifolia</i>	26	45/35	Good	Fair	Fair	Good	55	Dominant oak in front yard. Approximately 6 feet from existing home. Sycamore borer. Codominant at 7 feet with included bark. Grows over home.	
23	Yes	(P)	coast live oak <i>Quercus agrifolia</i>	11	30/15	Good	Fair	Fair	Good	55	Suppressed by dominant oak.	
24	Yes	(P)	coast live oak <i>Quercus agrifolia</i>	12,13	35/20	Fair-Poor	Fair	Fair	Good	55	Deadwood, in decline. Trees along front of property.	

Tree Tag #	Protected Tree	Preserve or Remove	Common Name / Scientific Name	Trunk (in.)	Height (ft.) / Canopy Spread (ft.)	Health Rating	Structural Rating	Form Rating	Suitability for Preservation	Overall Condition (0-100%)	Summary	Tree Picture #1
25	Yes	(P)	valley oak <i>Quercus lobata</i>	11	40/20	Good	Fair	Fair	Good	55	At front of property. 12 feet from road. Near utility pole, growing under utility lines.	
26	Yes	(P)	California pepper tree <i>Schinus molle</i>	10	35/20	Fair	Fair	Poor	Fair	45	15 feet from road. Leaning towards road. Covered in Ivy.	
27	Yes	(P)	California pepper tree <i>Schinus molle</i>	20	40/30	Fair	Fair	Poor	Fair	45	16 feet from road. Leaning towards road. Covered in Ivy.	

* next to a tree tag number indicates a neighboring tree.

TREE MAP



OBSERVATIONS

Species List:

27 trees were surveyed on the property and consist of the following species:

- myoporum - *Myoporum laetum*
- (8) California bay laurel - *Umbellularia californica*
- (12) coast live oak - *Quercus agrifolia*
- American elderberry - *Sambucus canadensis*
- European plum - *Prunus domestica*
- (2) California pepper tree - *Schinus molle*
- valley oak - *Quercus lobata*

One tree located on neighboring property was included in the survey, and consists of the following species:

- California bay laurel - *Umbellularia californica*

Trees Proposed For Removal:

Total Removed Trees	Significant / Protected Trees	Non-Protected Trees
1	1	0

Protected trees to be removed:



Tree tag #21 - coast live oak was assigned a Fair condition rating. The tree is located 3 feet from the road and is suppressed by dominant oak #22.

The proposed construction of a new driveway is expected to take place where the tree is located on the landscape.

Coast live oak #21 is requested for removal and aligns with criteria set forth by the County of San Mateo Criteria for Permit Approval; (6) *is too closely located to existing or proposed structures consistent with LCP Policy 8.9(a); and The required action is necessary (2) to allow reasonable economic or other enjoyment of the property.*

Replacement Tree Plan:

The *Conditions of Approval* as seen in *The Significant Tree Ordinance of San Mateo County* was used to establish the number of replacement trees required on site.

- Tree #21 - coast live oak (protected), 15' wide canopy. Replacement trees needed: (3) or more trees, as determined by the Community Development Director, of the same species using at least five (5) gallon-size stock.

According to the County of San Mateo, *the Community Development Director, Planning Commission, or Board of Supervisors may attach reasonable conditions to ensure compliance with the intent and purpose of this ordinance including, but not limited to:*

(a) Outside of the RH/DR District, replacement of trees removed shall be with plantings of trees acceptable to the Community Development Director.

(b) In the RH/DR District, replacement shall be in a manner and quantity prescribed by the Design Review Committee but shall not exceed the following specifications:

- 1. For each loss of a significant indigenous tree in the RH/DR District, there shall be a replacement with three (3) or more trees, as determined by the Community Development Director, of the same species using at least five (5) gallon-size stock.*
- 2. For each loss of a significant exotic tree in the RH/DR District, there shall be a replacement with three (3) or more trees, as determined by the Community Development Director, from a list maintained by the Community Development Director. Substitutes for trees listed by the Community Development Director may be considered but only when good reason and data are provided which show that the substitute tree can survive and flourish in the regional climatic conditions.*
- 3. Replacement trees for trees removed in the RH/DR District shall require a surety deposit for both performance (installation of tree, staking, and providing an irrigation system) and maintenance. Maintenance shall be required for no less than two (2) and no more than five (5) years as determined by the Community Development Director.*
- 4. Loss of any particular replacement prior to the termination of the maintenance period shall require the landowner at his/her expense to replace the lost tree or trees. Under such circumstances, the maintenance period will be automatically extended for a period of two (2) additional years.*
- 5. Release of either the performance or maintenance surety shall only be allowed upon the satisfactory installation or maintenance and upon inspection by the County.*

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.

Landscape plans titled *Residential Site Landscaping, sheets L1-L5* by LK Design Studio Landscape Architecture, dated September 12, 2024 were reviewed for the finding in this report. Work proposed for the site will consist of the construction of a new home with outdoor patios and landscaping.

All trees on site are to be protected by Type I Tree Protection Fencing. Where work is shown within the dripline of a protected tree on site, tree protection fencing must be placed as close as possible to the

proposed work while still allowing the work to continue safely. All work within the dripline of a protected tree will also require hand excavation under the project arborist supervision. Notes are required to be shown on all plans indicating areas of hand excavation. Protected tree #1 shall be surrounded by a Landscape Barrier Zone due to the proximity of proposed construction.

Demolition of existing structures and hardscapes:

Demolition of the existing home, structures on site, and hardscapes within the dripline of all protected trees are required to be carefully demolished by hand under the direct supervision of project arborist. Hand tools must be used to ensure roots are not damaged by heavy machinery. A jackhammer can be used to break the material down into small hand manageable sized pieces. Any roots encountered during this process must remain as damage free as possible. All existing base rock shall be removed by hand when roots are encountered. Exposed roots to be left exposed for longer than 1 day shall be covered in layers of wetted down burlap to help avoid root desiccation. Areas where roots were encountered are recommended to be backfilled as soon as possible and irrigated. Impacts from the demolition of the existing hardscapes are expected to be minor to non-existent. Protected trees #22 - #26 will have demolition of hardscapes performed within their driplines. Tree protection fencing will need to be placed as close as possible to the proposed demolition.

Driveway construction near protected trees:

Installation of the new driveway is proposed within the dripline of protected trees #22 - #26. The proposed plan does a good job of placing the driveway where existing hardscapes and rock retaining walls are located. The existing hardscapes, rock walls, and home foundation have likely helped to discourage root growth in the area of proposed work. All excavation when within the dripline of the trees is required to be done by hand under the project arborist supervision. The grade for the driveway should match existing grades as close as possible or be higher up to reduce excavation depth. Impacts are expected to be minor to moderate. Grading and scarifying the soil will need to be done by hand under the Project Arborist supervision when working within the dripline of protected trees #22 - #26. Any exposed roots during the driveway work will need to be kept moist by covering roots in layers of wetted down burlap to help avoid root desiccation. Exposed roots will be required to be documented by the Project Arborist. Before the driveway work is to start, the tree protection zones are recommended to be heavily irrigated using 50 gallons of water. The top foot of the soil within the tree protection zone is recommended to be saturated.



Showing trees #22 - #26 located at the front of the property.

Special considerations must be taken into account for demolition, grading, excavation, and construction occurring within tree protection zones of all trees on site. Impacts to retained trees are expected to be minor to non-existent. To ensure the health and resilience of trees impacted by construction activities, a meticulously planned approach is essential. This comprehensive strategy is designed to mitigate stress, promote root and shoot growth, and ensure long-term tree vitality.

Concerns regarding soil grading near protected trees:

Grading and excavation should not occur within the tree driplines where possible.

Grading often involves the use of heavy machinery and equipment, which can result in soil compaction. Compacted soil restricts the movement of air, water, and nutrients within the soil, making it difficult for tree roots to access essential resources. Compacted soil can also inhibit root growth and development, leading to poor tree health and vitality. For these reasons, it is recommended that grading take place outside the dripline of the retained trees.

Root damage: During grading activities, tree roots may be inadvertently severed, injured, or exposed. Tree roots are critical for anchoring the tree and absorbing water and nutrients from the soil. Damage to the root system can disrupt the tree's ability to take up essential resources, weakening its overall health and stability.

Soil Erosion: Grading can disrupt the natural drainage patterns of the land, leading to increased soil erosion. When soil erodes, it can expose tree roots, destabilize the tree's base, and affect the tree's ability to acquire nutrients. Excessive soil erosion can also result in the loss of topsoil, which is rich in organic matter and essential for healthy tree growth.

Changes in Water Availability: Altering the topography through grading can impact water availability and drainage around trees. If grading changes the natural flow of water, it can cause water logging or excessive water runoff, both of which can have detrimental effects on tree health. Insufficient water availability can lead to drought stress, while excessive water accumulation can lead to root suffocation and fungal diseases.

Structural damage: Grading activities near trees can cause physical damage to the tree's trunk, branches, or canopy. Machinery, equipment, or debris may inadvertently come into contact with the tree, leading to wounds or injuries. Structural damage weakens the tree's integrity and can create entry points for pests, diseases, or decay.

To ensure the health and resilience of trees impacted by construction activities, a meticulously planned approach that includes both pre-construction and post-construction care is essential. This comprehensive strategy is designed to mitigate stress, promote root and shoot growth, and ensure long-term tree vitality.

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. After the first year, oak trees on site should be deep-watered during the months of May and September to combat drought stresses. 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**Detailed Tree Protection Plan**

For the aforementioned tree protection plan, this detailed guide has been designed by Kielty Arborists Services LLC. The following section offers an in-depth perspective on the recommended tree preservation guidelines. The aim is to ensure the conservation, vitality, and beauty of trees during construction and developmental endeavors, mitigating any potential detrimental effects. Adherence to these guidelines is essential to uphold both the ecological significance and visual allure of trees within the designated project vicinity. Effective tree protection during construction or development projects requires the use of fencing to demarcate and protect sensitive areas around trees. Should you have any questions or require further clarification, please contact Kielty Arborists Services directly.

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.

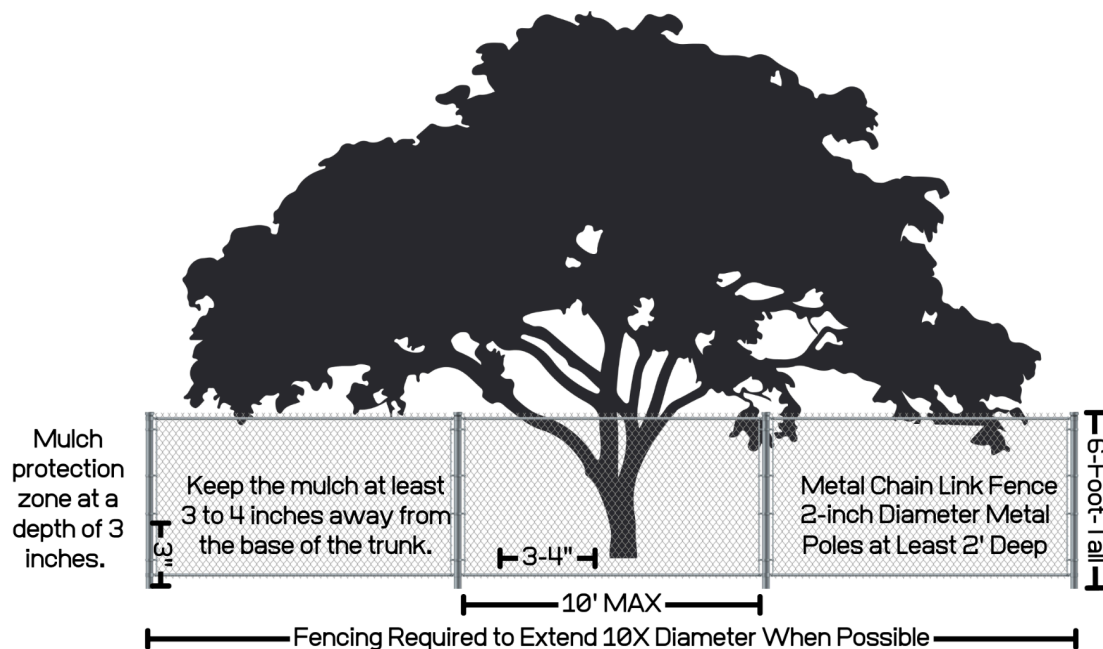
Type I Tree Protection:

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:

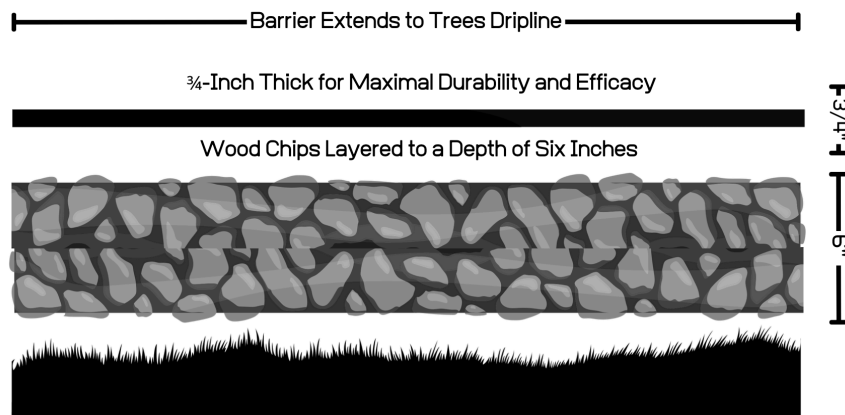
The fencing shall remain intact throughout the duration of the project or until activities within the TPZ are finalized. Tree protection fencing should be a 6-foot-tall metal chain link type supported by 2-inch thick diameter metal posts pounded into the ground to a depth of no less than 2 feet, ensuring 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 10x the tree diameters where possible (TPZ). All other non-protected trees are recommended to be protected by fencing placed at the drip line. 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. Trees (#1, 3-11, 15, 16, 19, and 22-27) are required to be protected by Type I Tree Protection Fencing.



Type I Fencing

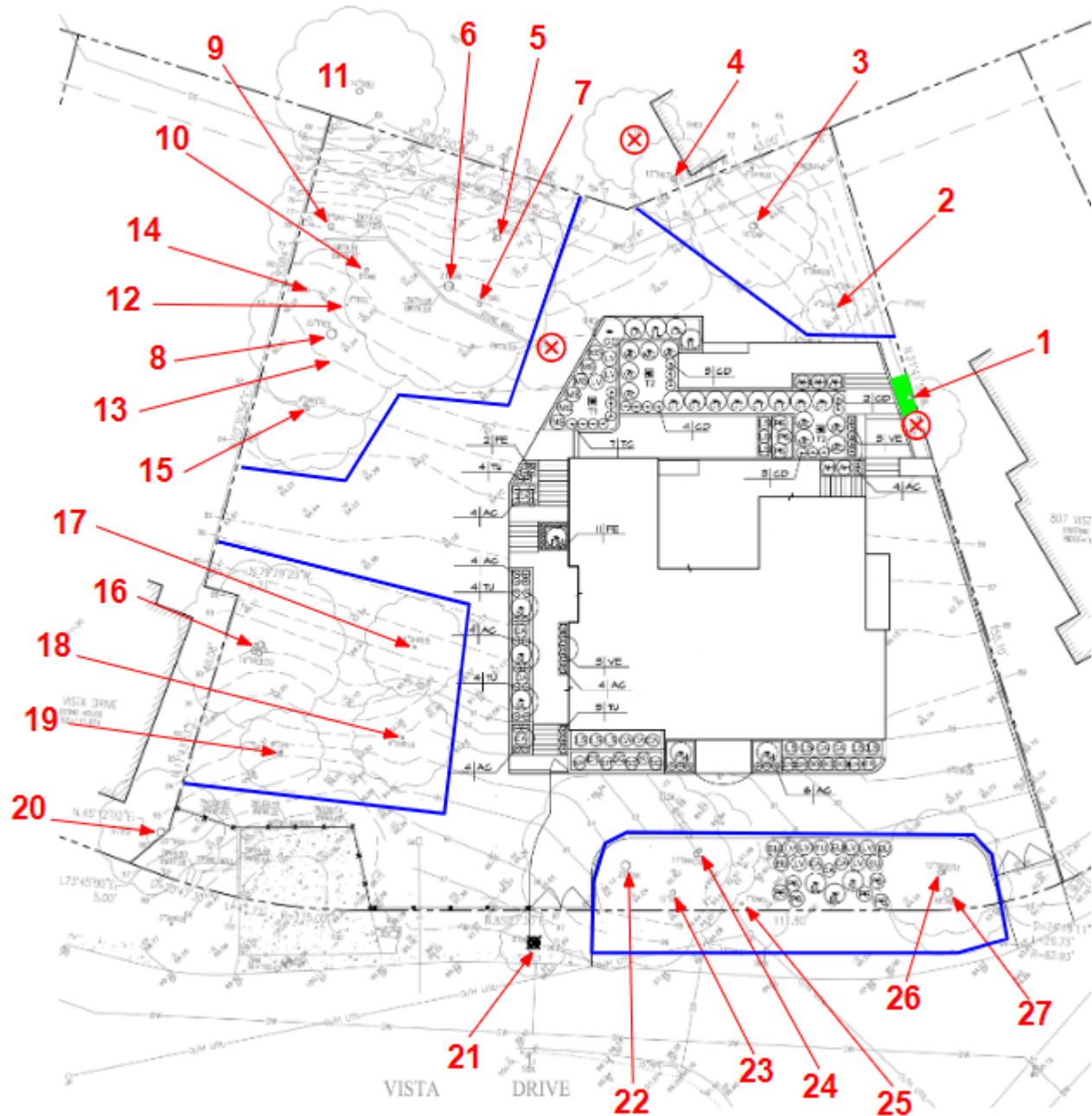
Landscape Barrier Zone

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. Tree #1 will require protection with a Landscape Barrier.



Landscape Barrier Zone

TREE PROTECTION MAP



Approximate placement area of Type 1 Tree Protection Fencing shown outlined in **BLUE**.
 Landscape Barrier Zone placement area for tree #1 shown in **GREEN**.

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.

Roots and Foundations

Recognize that tree roots typically do not grow under existing houses or buildings due to compacted soil and limited moisture availability during foundation installation. Ensure that foundations are correctly installed to minimize the risk of tree root intrusion. Avoid situations where trees are planted too close to existing or planned structures, as this can result in potential conflicts between roots and foundations. If tree roots are in direct contact with a foundation, consult with a certified arborist to assess the situation and recommend appropriate measures to protect both the tree and the structure.

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

Kiely 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 County of San Mateo.

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

October 10, 2024

