



California Tree and Landscape Consulting, Inc.

411 Grass Valley Hwy, #1050, Auburn, CA 95603

(530) 745-4086

August 15, 2025, Revised January 28, 2026

Equity Smart Investments LP

Attn: Eric Nuttall

5701 Lonetree Blvd, #102

Mill Valley, CA 95765

Phone: (916) 802-3374

Via Email: eric.nuttall10@gmail.com

UPDATED PRELIMINARY ARBORIST REPORT AND TREE INVENTORY

RE: Alta Way, County of Marin, California [APN 049-041-50]

EXECUTIVE SUMMARY

Eric Nuttall contacted California Tree and Landscape Consulting, Inc. to document the trees on the property for a better understanding of the existing resource and any potential improvement obstacles that may arise. Eric Nuttall requested an Arborist Report and Tree Inventory suitable for submittal to the County of Marin. This is a Preliminary Arborist Report and Tree Inventory for the initial filing of plans to develop the property.

Thomas M. Stein, ISA Certified Arborist WE-12854A and Edwin E. Stirtz ISA Certified Arborist WE 0510A, visited the property on June 21, 2022, to provide species identification, measurements of DBH and canopy, field condition notes, recommended actions, ratings, and approximate locations for the trees. Edwin Stirtz revisited the site on July 29, 2025 to confirm any tree death or failures since the time of the previous site visit. There were no significant changes noted. There were 85 trees evaluated, 23 of which are protected according to the County of Marin. Ten trees are located off the parcel but were included in the inventory because they may be impacted by development of the parcel. See Appendices for specific information on each tree.

TABLE 1

Tree Species	Total Trees Inventoried	Trees on this Site ¹	Protected Trees	Total Proposed for Removal	Trees to be Removed Requiring Permit and Mitigation ²	Total Proposed for Retention
California Bay Laurel, <i>Umbellularia californica</i>	15	14	10	15	5	0
California Toyon, <i>Heteromeles arbutifolia</i>	2	2	0	2	0	0
Coast Live Oak, <i>Quercus agrifolia</i>	19	18	13	17	6	2
Eucalyptus, <i>Eucalyptus sp.</i>	45	38	0	24	0	21
Madrone, <i>Arbutus</i>	1	1	0	1	0	0
Prunus, <i>Prunus sp.</i>	3	2	0	3	0	0

¹ CalTLC, Inc. is not a licensed land surveyor. Tree locations are approximate and we do not determine tree ownership. Trees which appear to be on another parcel are listed as off-site and treated as the property of that parcel.

² Protected trees in poor condition which have an arborist rating of a 2 or lower do not require removal permits or replacement/fees.

Tree Species	Total Trees Inventoried	Trees on this Site ¹	Protected Trees	Total Proposed for Removal	Trees to be Removed Requiring Permit and Mitigation ²	Total Proposed for Retention
TOTAL	85	75	23	62	11	23

62 trees are proposed for removal. 21 trees proposed for removal are considered protected by the County of Marin Tree Preservation ordinance, 11 of which require a permit and replacement or fee². The in lieu fee is \$500.00 per protected tree. The total fee for the removal of the 21 protected trees is \$5,500.00.

ASSIGNMENT

Perform an examination of the site to document the presence and condition of trees protected by the County of Marin. The study area for this effort includes the deeded parcel as delineated in the field by the property fences and any significant or protected trees overhanging from adjacent parcels.

Prepare a report of findings. All trees protected by the County of Marin are included in the inventory.

METHODS

Appendix 2 in this report is the detailed inventory and recommendations for the trees. The following terms and Table A – Ratings Descriptions will further explain our findings.

The protected trees evaluated as part of this report have a numbered tag that was placed on each one that is 1-1/8" x 1-3/8", green anodized aluminum, "acorn" shaped, and labeled: CalTLC, Auburn, CA with 1/4" pre-stamped tree number and Tree Tag. They are attached with a natural-colored aluminum 10d nail, installed at approximately 6 feet above ground level on the approximate north side of the tree. The tag should last ~10-20+ years depending on the species, before it is enveloped by the trees' normal growth cycle.

TERMS

Species of trees is listed by our local common name and botanical name by genus and species.

DBH (diameter breast high) is normally measured at 4'6" (54" above the average ground height, but if that varies then the location where it is measured is noted here. A steel diameter tape was used to measure the trees.

Canopy radius is measured in feet. It is the farthest extent of the crown composed of leaves and small twigs measured by a steel tape. This measurement often defines the Critical Root Zone (CRZ) or Protection Zone (PZ), which is a circular area around a tree with a radius equal to this measurement.

Actions listed are recommendations to improve health or structure of the tree. Trees in public spaces require maintenance. If a tree is to remain and be preserved, then the tree may need some form of work to reduce the likelihood of failure and increase the longevity of the tree. Preservation requirements and actions based on a proposed development plan are not included here.

Arborist Rating is subjective to condition and is based on both the health and structure of the tree. All of the trees were rated for condition, per the recognized national standard as set up by the Council of Tree and Landscape Appraisers and the International Society of Arboriculture (ISA) on a numeric scale of 5 (being the highest) to 0 (the worst condition,

dead). The rating was done in the field at the time of the measuring and inspection.

Table A – Ratings Descriptions

No problem(s)	5	excellent
No apparent problem(s)	4	good
Minor problem(s)	3	fair
Major problem(s)	2	poor
Extreme problem(s)	1	hazardous, non-correctable
Dead	0	dead

Rating #0: This indicates a tree that has no significant sign of life.

Rating #1: The problems are extreme. This rating is assigned to a tree that has structural and/or health problems that no amount of work or effort can change. The issues may or may not be considered a dangerous situation.

Rating #2: The tree has major problems. If the option is taken to preserve the tree, its condition could be improved with correct arboricultural work including, but not limited to: pruning, cabling, bracing, bolting, guying, spraying, mistletoe removal, vertical mulching, fertilization, etc. If the recommended actions are completed correctly, hazard can be reduced and the rating can be elevated to a 3. If no action is taken the tree is considered a liability and should be removed.

Rating #3: The tree is in fair condition. There are some minor structural or health problems that pose no immediate danger. When the recommended actions in an arborist report are completed correctly the defect(s) can be minimized or eliminated.

Rating #4: The tree is in good condition and there are no apparent problems that a Certified Arborist can see from a visual ground inspection. If potential structural or health problems are tended to at this stage future hazard can be reduced and more serious health problems can be averted.

Rating #5: No problems found from a visual ground inspection. Structurally, these trees have properly spaced branches and near perfect characteristics for the species. Highly rated trees are not common in natural or developed landscapes. No tree is ever perfect especially with the unpredictability of nature, but with this highest rating, the condition should be considered excellent.

Notes indicate the health, structure and environment of the tree and explain why the tree should be removed or preserved. Additional notes may indicate if problems are minor, extreme or correctible.

Remove is the recommendation that the tree be removed. The recommendation will normally be based either on poor structure or poor health and is indicated as follows:

Yes H – Tree is unhealthy

Yes S – Tree is structurally unsound

OBSERVATIONS AND CONCLUSIONS

The site is located in an existing subdivision with a street and utilities to the front of the property. The site is currently fairly dense with Eucalyptus trees and a few protected trees. The topography of the lot requires significant grading to accommodate any improvements. This will require removal of 21 protected trees and clean up, fire safe vegetation management for the ungraded areas.

Refer to Appendix 2 – Tree Data for details.

CONSTRUCTION IMPACT ASSESSMENT

This Arborist Report and Tree Inventory is intended to provide to Eric Nuttall, the County of Marin, and other members of the development team a detailed *pre-development review* of the species, size, and current structure and vigor of the

trees within and/or overhanging the proposed project area. At this time, grading plans prepared by GUIDE Engineering indicate that 62 trees will be removed and 23 trees will be protected in place. The trees to be protected will sustain negligible to moderate encroachment (specifically identified in the inventory data) and may require root pruning and/or supplemental irrigation. This should be determined by the project arborist at the time of grading. Tree protection fencing shall be installed between the limits of grading and retained trees.

The area of retained trees requires clean up of all debris and woody material beneath the trees to reduce fire risk. All trees shall be pruned to a height of 15' above grade (15' due to slope of terrain) and eucalyptus bark should be removed.

DISCUSSION

Trees need to be protected from normal construction practices if they are to remain healthy and viable on the site. Our recommendations are based on experience, and County ordinance requirements, so as to enhance tree longevity. This requires their root zones remain intact and viable, despite heavy equipment being on site, and the need to install foundations, driveways, underground utilities, and landscape irrigation systems. Simply walking and driving on soil has serious consequences for tree health.

Following is a summary of Impacts to trees during construction and Tree Protection measures that should be incorporated into the site plans in order to protect the trees. Once the plans are approved, they become the document that all contractors will follow. ***The plans become the contract between the owner and the contractor, so that only items spelled out in the plans can be expected to be followed. Hence, all protection measures, such as fence locations, mulch requirements and root pruning specifications must be shown on the plans.***

RECOMMENDATIONS: SUMMARY OF TREE PROTECTION MEASURES

Hire a Project Arborist to help ensure protection measures are incorporated into the site plans and followed. The Project Arborist should, in cooperation with the Engineers and/or Architects:

- Identify the Root Protection Zones on the final construction drawings, prior to bidding the project.
- Show the placement of tree protection fences, as well as areas to be irrigated, fertilized and mulched on the final construction drawings.
- Clearly show trees for removal on the plans and mark them clearly on site. A Contractor who is a Certified Arborist should perform tree and stump removal, or alternatively the project arborist may direct these activities.. All stumps within the root zone of trees to be preserved shall be ground out using a stump router or left in place. **No trunk within the root zone of other trees shall be removed using a backhoe or other piece of grading equipment.**
- Prior to any grading, or other work on the site that will come within 50' of any tree to be preserved:
 1. . Erect Tree Protection Fences. Place boards against trees located within 3' of construction zones, even if fenced off.
 3. Remove lower foliage on retained trees that may interfere with equipment PRIOR to having grading or other equipment on site. The Project Arborist should approve the extent of foliage elevation, and oversee the pruning, performed by a contractor who is an ISA Certified Arborist.
- For grade cuts, expose roots by hand digging, potholing or using an air spade and then cut roots cleanly prior to further grading outside the tree protection zones.
- For fills, if a cut is required first, follow as for cuts.

- Where possible, specify geotextile fabric and/or thickened paving, re-enforced paving, and structural soil in lieu of compacting, and avoid root cutting as much as possible, prior to placing fills on the soil surface. Any proposed retaining wall or fill soil shall be discussed with the engineer and arborist in order to reduce impacts to trees to be preserved.
- Clearly designate an area on the site outside the drip line of all trees where construction materials may be stored, and parking can take place. No materials or parking shall take place within the root zones of protected trees.
- Design utility and irrigation trenches to minimize disturbance to tree roots. Where possible, dig trenches with hydro-vac equipment or air spade, placing pipes underneath the roots, or bore the deeper trenches underneath the roots.
- Include on the plans an Arborist inspection schedule to monitor the site during (and after) construction to ensure protection measures are followed and make recommendations for care of the trees on site, as needed.

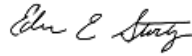
General Tree protection measures are included as Appendix 3. These measures need to be included on the Site, Grading, Utility and Landscape Plans. A final report of recommendations specific to the plan can be completed as part of, and in conjunction with, the actual plans. This will require the arborist working directly with the engineer and architect for the project. If the above recommendations are followed, the amount of time required by the arborist for the final report should be minimal.

Report Prepared by:



Caroline Nicholas
Arborist Assistant

Project Arborist:

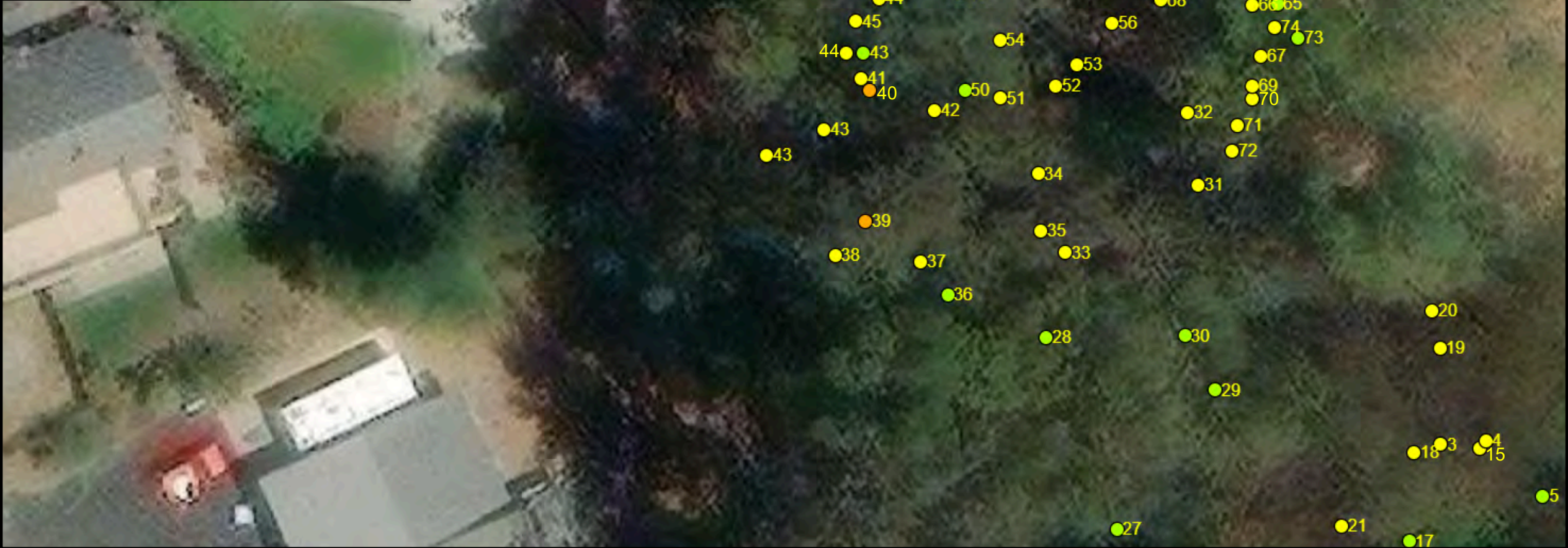
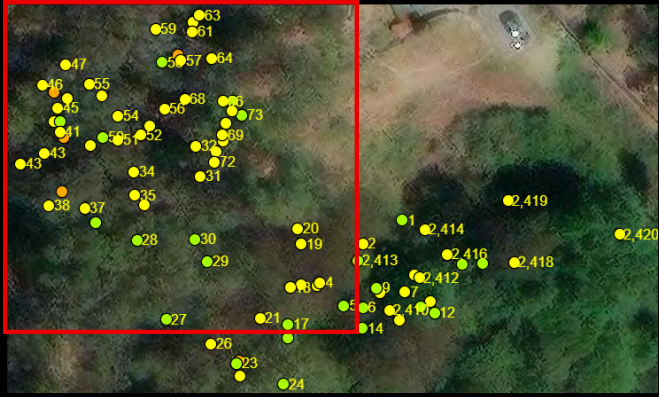


Edwin E. Stirtz
Consulting Arborist
ISA Certified Arborist #WE-0510AM, TRAQ

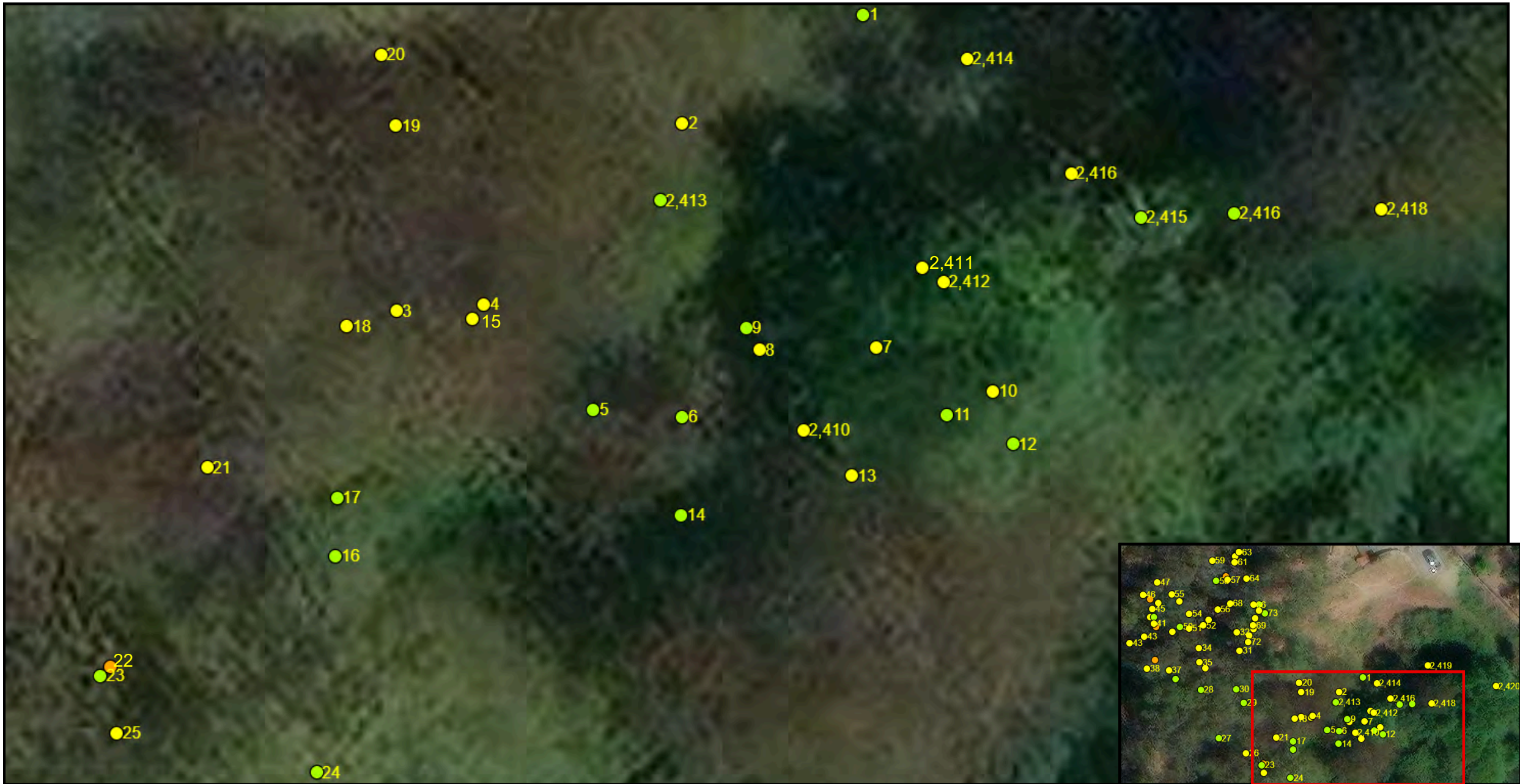
Enc.: Appendix 1 – Tree Inventory Field Exhibit & Site Plans
Appendix 2 – Tree Data
Appendix 3 – General Practices for Tree Protection



 California Tree & Landscape Consulting, Inc. 411 Grass Valley Hwy #1050 Auburn, CA 95603	MAP OF PROPERTY SHOWING APPROXIMATE TREE LOCATIONS The GIS locations used in this exhibit were collected using IOS and Android technology and are not surveyed locations. Due to the age of the aerial imagery provided by ESRI there are times when vegetation that appears in the aerial image had in fact been previously removed.	Arborist Rating ● 0-Dead ● 1-Extreme structure or health problems ● 2-Major Structure or health problems ● 3-Minor Problems ● 4-No Apparent Problems ● 5- Excellent ▲ Unprotected	 Sheet No. 1	Alta Way, APN 049-041-50	
	County of Marin, CA				
	Prepared for: Equity Smart Invenstments LP				
	Date: 8/15/2025				



 California Tree & Landscape Consulting, Inc. 411 Grass Valley Hwy #1050 Auburn, CA 95603	MAP OF PROPERTY SHOWING APPROXIMATE TREE LOCATIONS	Arborist Rating: ● 0-Dead ● 1-Extreme structure or health problems ● 2-Major Structure or health problems ● 3-Minor Problems ● 4-No Apparent Problems ● 5-Excellent ▲ Unprotected	 Sheet No. 2	Alta Way, APN 049-041-50
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California Tree &
Landscape Consulting, Inc.

411 Grass Valley Hwy #1050
Auburn, CA 95603

MAP OF PROPERTY SHOWING APPROXIMATE TREE LOCATIONS

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- Arborist Rating:
- 0-Dead
 - 1-Extreme structure or health problems
 - 2-Major Structure or health problems
 - 3-Minor Problems
 - 4-No Apparent Problems
 - 5-Excellent
 - Unprotected



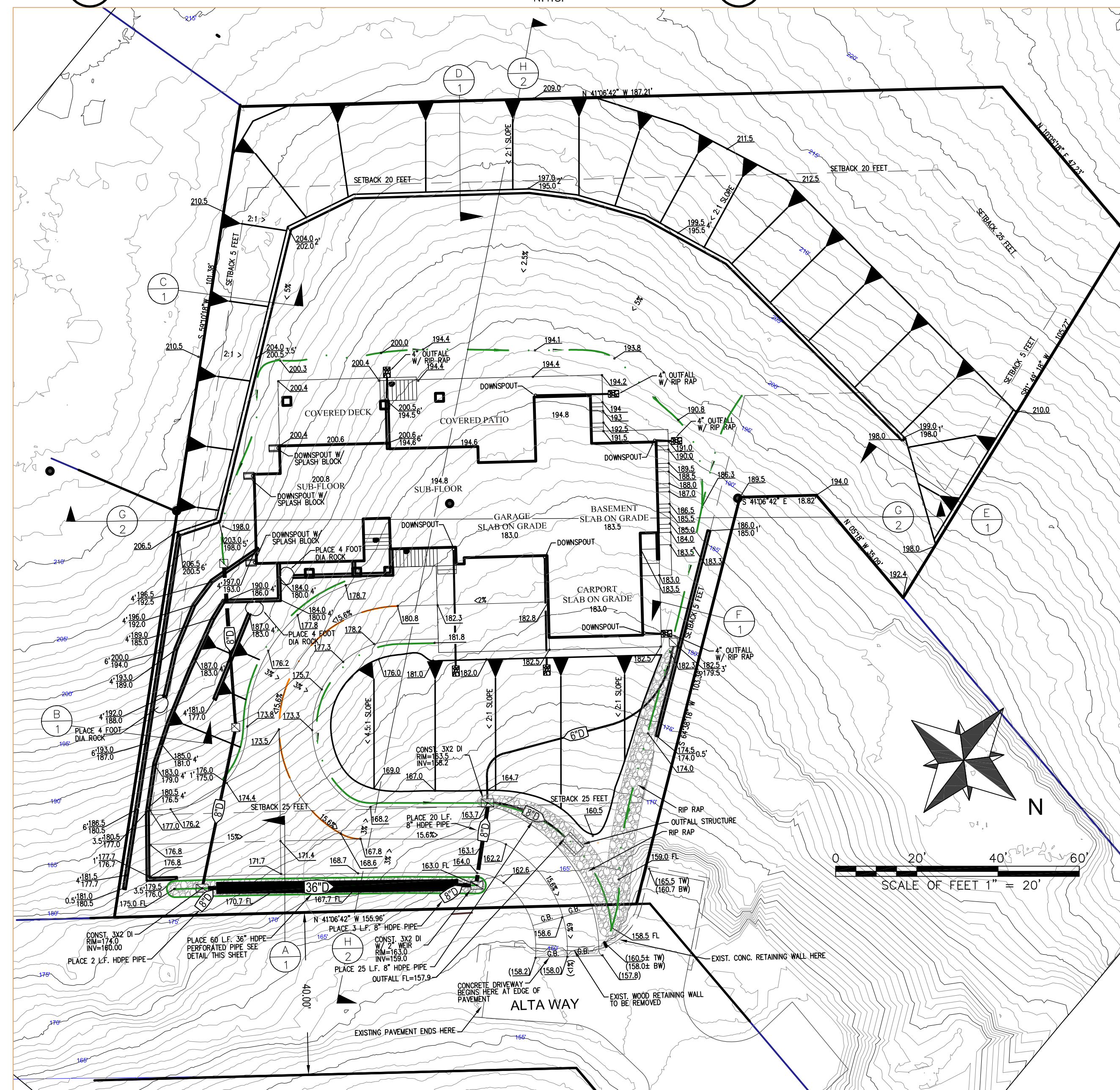
Sheet No.
3

Alta Way, APN 049-041-50

County of Marin, CA

Prepared for: Equity Smart Invenstments LP

Date: 8/15/2025



SHEET 1 OF 6



TREE	TAG	DBH	NAME	REMOVAL
1	8		BAY LAUREL	YES
2	5		COAST LIVE OAK	YES
3	4		COAST LIVE OAK	YES
4	4		COAST LIVE OAK	YES
5	9		BAY LAUREL	YES
6	9		BAY LAUREL	YES
7	8		MADRONE	YES
8	4		BAY LAUREL	YES
9	10		BAY LAUREL	YES
10	7		COAST LIVE OAK	YES
11	22		COAST LIVE OAK	YES
12	16		BAY LAUREL	YES
13	6		CALIFORNIA TOYON	YES
14	18		COAST LIVE OAK	YES
15	37		EUCALYPTUS	YES
16	7		COAST LIVE OAK	YES
17	17		BAY LAUREL	YES
18	18		COAST LIVE OAK	YES
19	6		PRUNUS	YES
20	17		BAY LAUREL	YES
21	4		COAST LIVE OAK	YES
22	5		BAY LAUREL	YES
23	10		COAST LIVE OAK	YES
24	15		COAST LIVE OAK	YES
25	7		COAST LIVE OAK	YES
26	38		BAY LAUREL	YES
27	49		EUCALYPTUS	YES
28	37		EUCALYPTUS	YES
29	9		COAST LIVE OAK	YES
30	5		COAST LIVE OAK	YES
31	9		PRUNUS	YES
32	31		EUCALYPTUS	YES
33	18		EUCALYPTUS	YES
34	5		COAST LIVE OAK	YES
35	14		EUCALYPTUS	YES
36	41		EUCALYPTUS	NO
37	26		EUCALYPTUS	NO
38	40		EUCALYPTUS	NO
39	16		EUCALYPTUS	NO
40	40		EUCALYPTUS	NO
41	8		EUCALYPTUS	NO
42	13		EUCALYPTUS	NO
43	20		EUCALYPTUS	NO
44	11		EUCALYPTUS	NO
45	10		EUCALYPTUS	NO
46	9		EUCALYPTUS	NO
47	37		EUCALYPTUS	NO
48	6		EUCALYPTUS	NO
49	6		EUCALYPTUS	YES
50	8		EUCALYPTUS	YES
51	11		EUCALYPTUS	YES
52	22		EUCALYPTUS	YES
53	22		EUCALYPTUS	YES
54	22		BAY LAUREL	YES
55	15		EUCALYPTUS	NO
56	16		EUCALYPTUS	YES
57	10		EUCALYPTUS	YES
58	28		EUCALYPTUS	YES
59	11		EUCALYPTUS	YES
60	9		EUCALYPTUS	YES
61	31		EUCALYPTUS	YES
62	9		EUCALYPTUS	YES
63	24		EUCALYPTUS	YES
64	15		EUCALYPTUS	NO
65	8		COAST LIVE OAK	NO
66	9		EUCALYPTUS	NO
67	4		EUCALYPTUS	YES
68	8		EUCALYPTUS	YES
69	35		EUCALYPTUS	YES
70	31		EUCALYPTUS	YES
71	22		EUCALYPTUS	YES
72	32		EUCALYPTUS	YES
73	37		EUCALYPTUS	NO
74	22		EUCALYPTUS	NO
2410	12		COAST LIVE OAK	YES
2411	6		PRUNUS	YES
2412	7		COAST LIVE OAK	YES
2413	21		BAY LAUREL	YES
2414	8		CALIFORNIA TOYON	YES
2415	12		COAST LIVE OAK	YES
2416	28		EUCALYPTUS	YES
2417	17		BAY LAUREL	YES
2418	77		BAY LAUREL	YES
2419	39		BAY LAUREL	YES

CIVIL IMPROVEMENT PLANS
ALTA WAY
TREE REMOVAL PLAN
MARIN COUNTY, CALIFORNIA

PREPARED UNDER THE
DIRECTION OF:

NOT APPROVED FOR
CONSTRUCTION UNLESS
SIGNED BY THE ENGINEER
PROJECT NUMBER:
2022-015-016

DATE:
DEC. 2024
SCALE:
DRAWN BY:
DESIGNED BY:
CHECKED BY:

NO.
REVISION
APPROVED BY
DATE

Guide
ENGINEERING
LAND ENGINEERING AND PLANNING
3000 CALIFORNIA STREET, SUITE 200
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PHONE: 916-797-0248
projects@guide-engineering.com

ENGINEERING

SHEET 5 OF 6

APPENDIX 2 – TREE DATA

Tag #	Old Tag #	Protected By Code	Heritage Tree	Offsite	Common Name	Scientific Name	Multi-Stems	DBH (in.)	Measured At (in.)	Measured Canopy Radius (ft.)	Arborist Rating	Dvlpmt Status	Notes
1		No	No	No	California Bay Laurel	<i>Umbelluria californica</i>		8	54	9	3 Fair - Minor Problems	Remove	Slightly southeast lower canopy suppressed.
2		No	No	No	Coast Live Oak	<i>Quercus agrifolia</i>		5	54	4	2 Major Structure or Health Problems	Remove	Suppressed. Above average amount of dead branches.
3		No	No	No	Coast Live Oak	<i>Quercus agrifolia</i>		4	54	4	2 Major Structure or Health Problems	Remove	Suppressed. Above average amount of dead branches.
4		No	No	No	Coast Live Oak	<i>Quercus agrifolia</i>		4	54	6	2 Major Structure or Health Problems	Remove	Suppressed. Above average amount of dead branches.
5		No	No	No	California Bay Laurel	<i>Umbelluria californica</i>		9	54	15	3 Fair - Minor Problems	Remove	Codominant at 18 feet above grade. Leans slightly north. Suppressed lower canopy.
6		No	No	No	California Bay Laurel	<i>Umbelluria californica</i>		9	54	16	3 Fair - Minor Problems	Remove	Leans slightly southeast. Suppressed lower canopy.
7	2011	No	No	No	Madrone	<i>Arbutus</i>		8	54	12	2 Major Structure or Health Problems	Remove	Dead branch south side, 5 feet above grade. Trunk bends to the southeast. Extremely Sparse canopy.
8		No	No	No	California Bay Laurel	<i>Umbelluria californica</i>		4	54	13	2 Major Structure or Health Problems	Remove	Trunk has bend to southwest. Lower canopy suppressed.
9		Yes	No	No	California Bay Laurel	<i>Umbelluria californica</i>	5,5	10	54	17	3 Fair - Minor Problems	Remove	Branches at grade. North branch bends west.
10		Yes	No	No	Coast Live Oak	<i>Quercus agrifolia</i>		7	54		2 Major Structure or Health Problems	Remove	Crook in trunk at 3 feet. Old wounds with slight decay.
11	2016	Yes	Yes	No	Coast Live Oak	<i>Quercus agrifolia</i>	7,15	22	54		3 Fair - Minor Problems	Remove	Branches at 3 feet above grade. North stems grafted for 4 feet. Leans moderately north.

Tag #	Old Tag #	Protected By Code	Heritage Tree	Offsite	Common Name	Scientific Name	Multi-Stems	DBH (in.)	Measured At (in.)	Measured Canopy Radius (ft.)	Arborist Rating	Dvlpmt Status	Notes
12	2015	Yes	No	No	California Bay Laurel	<i>Umbellularia californica</i>	7,9	16	54	19	3 Fair - Minor Problems	Remove	Branches of 2 feet above grade. Lower canopy suppressed.
13		No	No	No	California Toyon	<i>Heteromeles arbutifolia</i>		6	54	10	2 Major Structure or Health Problems	Remove	Trunk has crook at 3 feet above grade. Bends at 7 feet to south. Suppressed.
14	2013	Yes	Yes	No	Coast Live Oak	<i>Quercus agrifolia</i>		18	54	25	3 Fair - Minor Problems	Remove	Secondary lateral to east has broken off 7 feet above grade. Out of balance northeast. Codominant branching 8 feet above grade.
15		No	No	Yes	Eucalyptus	<i>Eucalyptus sp.</i>		37	54	31	2 Major Structure or Health Problems	Remove	Leans slightly southeast. Sparse upper canopy.
16		Yes	No	No	Coast Live Oak	<i>Quercus agrifolia</i>		7	54	11	3 Fair - Minor Problems	Remove	Sparse lower canopy. Leans west. Suppressed.
17	2064	Yes	No	Yes	California Bay Laurel	<i>Umbellularia californica</i>	4,5,8	17	54	12	3 Fair - Minor Problems	Remove	Branches at grade. Suppressed. Northeast stem leans moderately northeast.
18		Yes	Yes	No	Coast Live Oak	<i>Quercus agrifolia</i>	9,9	18	54	24	2 Major Structure or Health Problems	Retain, protect in place. Minor to moderate encroachment for grading.	Branches one foot above grade. Above average amount of deadwood in lower canopy. South stem has extreme lean south.
19		No	No	Yes	Prunus	<i>Prunus sp.</i>		6	54	11	2 Major Structure or Health Problems	Remove	Suppressed. One-sided north.
20	17	Yes	No	No	California Bay Laurel	<i>Umbellularia californica</i>	8,9	17	54	20	2 Major Structure or Health Problems	Remove	Branches at 3 feet above grade with included bark. Moderate lean southeast. Suppressed lower canopy.
21		No	No	No	Coast Live Oak	<i>Quercus agrifolia</i>		4	54	9	2 Major Structure or Health Problems	Remove	Suppressed lower canopy.
22		No	No	No	California Bay Laurel	<i>Umbellularia californica</i>		5	54	8	1 Extreme Structure or Health Problems	Remove	Trunk is broken and decayed 2 feet above grade and leaning on adjacent tree.

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23	2063	Yes	No	No	Coast Live Oak	<i>Quercus agrifolia</i>		10	54		3 Fair - Minor Problems	Remove	Leans slightly east.
24		Yes	No	No	Coast Live Oak	<i>Quercus agrifolia</i>		15	54	25	3 Fair - Minor Problems	Remove	Trunk bends north at 9 feet. Multiple partially callused pruning wounds.
25	2059	Yes	No	No	Coast Live Oak	<i>Quercus agrifolia</i>		7	54	7	2 Major Structure or Health Problems	Remove	Suppressed lower canopy. Moderate lean southeast.
26	2065	Yes	Yes	No	California Bay Laurel	<i>Umbellularia californica</i>	6,8,9,15	38	54	29	2 Major Structure or Health Problems	Remove	Branches at 3-4 feet above grade with inclusions. Leans southeast. Root collar obscured by debris.
27		No	No	No	Eucalyptus	<i>Eucalyptus sp.</i>		49	54	35	3 Fair - Minor Problems	Remove	Overburdened lateral branches to south.
28		No	No	No	Eucalyptus	<i>Eucalyptus sp.</i>		37	54	30	3 Fair - Minor Problems	Remove	Root crown obscured by debris. Leans slightly east.
29		No	No	No	Eucalyptus	<i>Eucalyptus sp.</i>		9	54	12	3 Fair - Minor Problems	Remove	Lower trunk root crown obscured by debris.
30		No	No	No	Coast Live Oak	<i>Quercus agrifolia</i>		5	54	6	3 Fair - Minor Problems	Remove	Out of balance southwest.
31		No	No	No	Prunus	<i>Prunus sp.</i>		9	54	9	2 Major Structure or Health Problems	Remove	Lower lateral attachments at 3 feet above grade. Bends at 5 feet above grade to north.
32		No	No	No	Eucalyptus	<i>Eucalyptus sp.</i>		31	54	28	2 Major Structure or Health Problems	Remove	Previous leader failure, has regrown.
33		No	No	No	Eucalyptus	<i>Eucalyptus sp.</i>		18	24	18	2 Major Structure or Health Problems	Remove	Branches 4 feet above grade. Leaning moderately to the southwest.
34		No	No	No	Coast Live Oak	<i>Quercus agrifolia</i>		5	54	9	2 Major Structure or Health Problems	Remove	Moderate lean/bending southeast. Deadwood and lower canopy suppressed.

Tag #	Old Tag #	Protected By Code	Heritage Tree	Offsite	Common Name	Scientific Name	Multi-Stems	DBH (in.)	Measured At (in.)	Measured Canopy Radius (ft.)	Arborist Rating	Dvlpmt Status	Notes
35		No	No	No	Eucalyptus	<i>Eucalyptus sp.</i>		14	54	22	2 Major Structure or Health Problems	Remove	Moderate lean southeast. Lower canopy suppressed. Dead tree leaning on it.
36		No	No	No	Eucalyptus	<i>Eucalyptus sp.</i>		41	54	30	3 Fair - Minor Problems	Retain, protect in place. Minor to moderate encroachment for grading. Root prune as necessary.	Codominant branching at 6 feet above grade with inclusion. Broken Eucalyptus caught in crotch. Out of balance south.
37		No	No	No	Eucalyptus	<i>Eucalyptus sp.</i>	6,6,14	26	54	22	2 Major Structure or Health Problems	Retain, protect in place. Minor to moderate encroachment for grading. Root prune as necessary.	Branches at grade. Root crown obscured by debris. Suppressed lower canopy.
38		No	No	No	Eucalyptus	<i>Eucalyptus sp.</i>		40	54	15	2 Major Structure or Health Problems	Retain, protect in place.	DBH/DLR estimated. Codominant branching at 6 feet above grade with inclusion. Tree is in state of decline.
39		No	No	No	Eucalyptus	<i>Eucalyptus sp.</i>		16	54	9	1 Extreme Structure or Health Problems	Retain, protect in place.	Codominant at 7 feet above grade with inclusions. Sparse upper canopy.
40		No	No	No	Eucalyptus	<i>Eucalyptus sp.</i>		40	54	12	1 Extreme Structure or Health Problems	Retain, protect in place.	Leans moderately east. Sparse canopy and overall suppressed.
41		No	No	No	Eucalyptus	<i>Eucalyptus sp.</i>		8	54	13	2 Major Structure or Health Problems	Retain, protect in place.	Suppressed lower canopy.
42		No	No	No	Eucalyptus	<i>Eucalyptus sp.</i>		13	54	10	2 Major Structure or Health Problems	Retain, protect in place. Minor to moderate encroachment for grading. Root prune as necessary.	Dimensions estimated because tree is covered in poison oak vines. Suppressed.
43		No	No	No	Eucalyptus	<i>Eucalyptus sp.</i>		20	54	8	2 Major Structure or Health Problems	Retain, protect in place.	Dieback in upper canopy. Root crown obscured by debris.
44		No	No	No	Eucalyptus	<i>Eucalyptus sp.</i>	5,6	11	54	8	2 Major Structure or	Retain, protect in place.	Branches 6 inches above grade. Sparse canopy.

Tag #	Old Tag #	Protected By Code	Heritage Tree	Offsite	Common Name	Scientific Name	Multi-Stems	DBH (in.)	Measured At (in.)	Measured Canopy Radius (ft.)	Arborist Rating	Dvlpmnt Status	Notes
											Health Problems		
45		No	No	No	Eucalyptus	<i>Eucalyptus sp.</i>		10	54	9	2 Major Structure or Health Problems	Retain, protect in place.	Root crown obscured by debris. Moderate lean west.
46		No	No	No	Eucalyptus	<i>Eucalyptus sp.</i>		9	54	9	2 Major Structure or Health Problems	Retain, protect in place.	Dimensions estimated. Lower trunk/root crown obscured by debris. Moderate lean east.
47		No	No	No	Eucalyptus	<i>Eucalyptus sp.</i>		37	54	19	2 Major Structure or Health Problems	Retain, protect in place.	Lower trunk obscured by debris. Leans slightly east. DLR estimated.
48		No	No	No	Eucalyptus	<i>Eucalyptus sp.</i>		6	54	6	1 Extreme Structure or Health Problems	Retain, protect in place.	Broken at 7 feet above grade.
49		No	No	No	Eucalyptus	<i>Eucalyptus sp.</i>		6	54	7	2 Major Structure or Health Problems	Remove	Leans slightly east. Dead branches in mid canopy.
50		No	No	No	Eucalyptus	<i>Eucalyptus sp.</i>		8	54	9	3 Fair - Minor Problems	Remove	Low live crown ratio.
51		No	No	No	Eucalyptus	<i>Eucalyptus sp.</i>		11	54	11	2 Major Structure or Health Problems	Remove	Dimensions estimated.
52		No	No	No	Eucalyptus	<i>Eucalyptus sp.</i>		22	54	18	2 Major Structure or Health Problems	Remove	Dimensions estimated. Low live crown ratio. Leans slightly south.
53		No	No	No	Eucalyptus	<i>Eucalyptus sp.</i>	8,14	22	54	21	2 Major Structure or Health Problems	Remove	Branches at 2.5 feet above grade. Lower trunk/root crown obscured. Low live crown ratio.
54	2056	Yes	No	No	California Bay Laurel	<i>Umbellularia californica</i>	7,7,8	22	54	18	2 Major Structure or	Remove	Branches at 1-2 feet above grade. Suppressed. Dimensions estimated.

Tag #	Old Tag #	Protected By Code	Heritage Tree	Offsite	Common Name	Scientific Name	Multi-Stems	DBH (in.)	Measured At (in.)	Measured Canopy Radius (ft.)	Arborist Rating	Dvlpmnt Status	Notes
											Health Problems		
55		No	No	No	Eucalyptus	<i>Eucalyptus sp.</i>		15	54	12	2 Major Structure or Health Problems	Retain, protect in place. Minor to moderate encroachment for grading. Root prune as necessary.	Dimensions estimated. Low live crown ratio.
56		No	No	No	Eucalyptus	<i>Eucalyptus sp.</i>		16	54	14	2 Major Structure or Health Problems	Remove	Leans slightly south. Low live crown ratio.
57		No	No	No	Eucalyptus	<i>Eucalyptus sp.</i>		10	54	9	2 Major Structure or Health Problems	Remove	Dimensions estimated. Sparse upper canopy.
58		No	No	No	Eucalyptus	<i>Eucalyptus sp.</i>	9,19	28	54	15	3 Fair - Minor Problems	Remove	Branches at grade. Lower trunk/root crown obscured by debris. Slight lean east.
59		No	No	Yes	Eucalyptus	<i>Eucalyptus sp.</i>		11	54	7	2 Major Structure or Health Problems	Retain, protect in place. Minor to moderate encroachment for grading. Root prune as necessary.	Dimensions estimated.
60		No	No	No	Eucalyptus	<i>Eucalyptus sp.</i>		9	54	5	1 Extreme Structure or Health Problems	Remove	Broken leader at ~13 feet above grade.
61		No	No	No	Eucalyptus	<i>Eucalyptus sp.</i>		31	54	15	2 Major Structure or Health Problems	Remove	DLR estimated. Lower trunk/root crown obscured by debris. Low live crown ratio.
62		No	No	Yes	Eucalyptus	<i>Eucalyptus sp.</i>		9	54	9	2 Major Structure or Health Problems	Retain, protect in place. Minor to moderate encroachment for grading. Root prune as necessary.	Dimensions estimated. Root crown obscured by debris. Suppressed.
63		No	No	Yes	Eucalyptus	<i>Eucalyptus sp.</i>		24	54	18	2 Major Structure or Health Problems	Retain, protect in place. Minor to moderate encroachment for grading. Root prune as necessary.	Dimensions estimated. Growing ~12 feet west of property line. Out of balance northwest. Dimensions estimated.
64		No	No	No	Eucalyptus	<i>Eucalyptus sp.</i>		15	54	12	2 Major Structure or	Retain, protect in place. Minor to moderate	Leans slightly east. Low live crown ratio.

Tag #	Old Tag #	Protected By Code	Heritage Tree	Offsite	Common Name	Scientific Name	Multi-Stems	DBH (in.)	Measured At (in.)	Measured Canopy Radius (ft.)	Arborist Rating	Dvlpmnt Status	Notes
											Health Problems	encroachment for grading. Root prune as necessary.	
65		Yes	No	Yes	Coast Live Oak	<i>Quercus agrifolia</i>		8	54	10	3 Fair - Minor Problems	Retain, protect in place. Minor to moderate encroachment for grading. Root prune as necessary.	Lateral branches at 3-5 feet above grade. Suppressed lower canopy.
66		No	No	Yes	Eucalyptus	<i>Eucalyptus sp.</i>		9	54	12	2 Major Structure or Health Problems	Retain, protect in place. Minor to moderate encroachment for grading. Root prune as necessary.	Dimensions estimated. Low live crown ratio.
67		No	No	No	Eucalyptus	<i>Eucalyptus sp.</i>		4	54	7	2 Major Structure or Health Problems	Remove	Lateral branch at 3 feet above grade. Sparse canopy.
68		No	No	No	Eucalyptus	<i>Eucalyptus sp.</i>		8	54	9	2 Major Structure or Health Problems	Remove	Trunk bends east at 22 feet above grade. Sparse canopy.
69		No	No	No	Eucalyptus	<i>Eucalyptus sp.</i>		35	54	16	2 Major Structure or Health Problems	Remove	Dimensions estimated. Leans slightly southwest. Low live crown ratio.
70		No	No	No	Eucalyptus	<i>Eucalyptus sp.</i>		31	54	15	2 Major Structure or Health Problems	Remove	Dimensions estimated. Slightly south. Trunk bends moderate south at 35 feet above grade.
71		No	No	No	Eucalyptus	<i>Eucalyptus sp.</i>		22	54	13	2 Major Structure or Health Problems	Remove	Dimensions estimated. Trunk bends northeast.
72		No	No	No	Eucalyptus	<i>Eucalyptus sp.</i>	5,9,18	32	54	17	2 Major Structure or Health Problems	Remove	Branches at 2-3 feet above grade. Low live crown ratio. Hanging dead branch on south side.
73		No	No	Yes	Eucalyptus	<i>Eucalyptus sp.</i>		37	54	28	3 Fair - Minor Problems	Retain, protect in place. Minor to moderate encroachment for grading. Root prune as necessary.	DLR estimated. Out of balance south.

Tag #	Old Tag #	Protected By Code	Heritage Tree	Offsite	Common Name	Scientific Name	Multi-Stems	DBH (in.)	Measured At (in.)	Measured Canopy Radius (ft.)	Arborist Rating	Dvlpmnt Status	Notes
74		No	No	Yes	Eucalyptus	<i>Eucalyptus sp.</i>		22	54	8	2 Major Structure or Health Problems	Retain, protect in place. Minor to moderate encroachment for grading. Root prune as necessary.	Low live crown ratio. Sparse canopy.
2410		Yes	No	No	Coast Live Oak	<i>Quercus agrifolia</i>		12	54	15	2 Major Structure or Health Problems	Remove	Trunk has moderate lean southwest, straightening at 6 feet.
2411		No	No	No	Prunus	<i>Prunus sp.</i>		6	54	12	2 Major Structure or Health Problems	Remove	Slightly northeast. Codominant branching at 4.5 feet above grade. Sparse canopy.
2412	2010	Yes	No	No	Coast Live Oak	<i>Quercus agrifolia</i>		7	54	15	2 Major Structure or Health Problems	Remove	Leaning northeast. Sparse canopy. Codominant at 16 feet above grade. Dimensions estimated.
2413	Over-grown	Yes	No	No	California Bay Laurel	<i>Umbelluria californica</i>		21	54	24	3 Fair - Minor Problems	Remove	Lateral branching at 7&9 feet above grade with inclusions.
2414		No	No	No	California Toyon	<i>Heteromeles arbutifolia</i>	4,4	8	54	8	2 Major Structure or Health Problems	Remove	Extreme lean north. East branch at grade trunks is grafted at 3 feet above grade.
2415	2008	Yes	No	No	Coast Live Oak	<i>Quercus agrifolia</i>		12	54	15	3 Fair - Minor Problems	Remove	DLR estimated. Bending trunk at 9 feet, straightening out 20 feet above grade. Low live crown ratio.
2416		No	No	No	Eucalyptus	<i>Eucalyptus sp.</i>	8,8,12	28	54	18	2 Major Structure or Health Problems	Remove	Branches one foot above grade. Root collar obscured by debris. Sparse mid canopy.
2417	2007	Yes	No	No	California Bay Laurel	<i>Umbelluria californica</i>		17	54	22	3 Fair - Minor Problems	Remove	DLR estimated.
2418	2005	Yes	Yes	No	California Bay Laurel	<i>Umbelluria californica</i>	24,25,28	77	54	31	2 Major Structure or Health Problems	Remove	Branches 3 feet above grade with inclusions. Basal cavity northeast side with a depth greater than 3 feet. Ganoderma conk on northeast side.
2419	2006	Yes	Yes	No	California Bay Laurel	<i>Umbelluria californica</i>	19,20	39	54	12	2 Major Structure or	Remove	Branches at grade. North stem has moderate lean northeast. Dimensions estimated.

Tag #	Old Tag #	Protected By Code	Heritage Tree	Offsite	Common Name	Scientific Name	Multi-Stems	DBH (in.)	Measured At (in.)	Measured Canopy Radius (ft.)	Arborist Rating	Dvlpmt Status	Notes
											Health Problems		
2420	2004	Yes	No	No	Coast Live Oak	Quercus agrifolia		12	54	24	2 Major Structure or Health Problems	Remove	Two feet west of property corner. Moderately in Northeast. Bending to greater bend to the north east at 20 feet above grade.

Highlighted trees require a removal permit and replacement or fee

APPENDIX 3 – GENERAL PRACTICES FOR TREE PROTECTION

Definitions:

Root zone: The roots of trees grow fairly close to the surface of the soil, and spread out in a radial direction from the trunk of tree. A general rule of thumb is that they spread 2 to 3 times the radius of the canopy, or 1 to 1½ times the height of the tree. It is generally accepted that disturbance to root zones should be kept as far as possible from the trunk of a tree.

Inner Bark: The bark on large valley oaks and coast live oaks is quite thick, usually 1" to 2". If the bark is knocked off a tree, the inner bark, or cambial region, is exposed or removed. The cambial zone is the area of tissue responsible for adding new layers to the tree each year, so by removing it, the tree can only grow new tissue from the edges of the wound. In addition, the wood of the tree is exposed to decay fungi, so the trunk present at the time of the injury becomes susceptible to decay. Tree protection measures require that no activities occur which can knock the bark off the trees.

Methods Used in Tree Protection:

No matter how detailed Tree Protection Measures are in the initial Arborist Report, they will not accomplish their stated purpose unless they are applied to individual trees and a Project Arborist is hired to oversee the construction. The Project Arborist should have the ability to enforce the Protection Measures. The Project Arborist should be hired as soon as possible to assist in design and to become familiar with the project. He must be able to read and understand the project drawings and interpret the specifications. He should also have the ability to cooperate with the contractor, incorporating the contractor's ideas on how to accomplish the protection measures, wherever possible. It is advisable for the Project Arborist to be present at the Pre-Bid tour of the site, to answer questions the contractors may have about Tree Protection Measures. This also lets the contractors know how important tree preservation is to the developer.

Root Protection Zone (RPZ): Since in most construction projects it is not possible to protect the entire root zone of a tree, a Root Protection Zone is established for each tree to be preserved. The minimum Root Protection Zone is the area underneath the tree's canopy (out to the dripline, or edge of the canopy), plus 1'. The Project Arborist must approve work within the RPZ.

Irrigate, Fertilize, Mulch: Supplemental irrigation, fertilization and or addition of mulch may be required at some point in time during the course of construction. The project arborist will recommend any or all of these mitigation measures as necessary during the course of construction.

Fence: Fence around the Root Protection Zone and restrict activity therein to prevent soil compaction by vehicles, foot traffic or material storage. The fenced area shall be off limits to all construction equipment, unless there is express written notification provided by the Project Arborist, and impacts are discussed and mitigated prior to work commencing.

No storage or cleaning of equipment or materials, or parking of any equipment can take place within the fenced off area, known as the RPZ.

The fence should be highly visible, and stout enough to keep vehicles and other equipment out. I recommend the fence be made of orange plastic protective fencing, kept in place by t-posts set no farther apart than 6'.

In areas of intense impact, a 6' chain link fence is preferred.

In areas with many trees, the RPZ can be fenced as one unit, rather than separately for each tree.

Where tree trunks are within 3' of the construction area, place 2" by 4" boards vertically against the tree trunks, even if fenced off. Hold the boards in place with wire. Do not nail them directly to the tree. The purpose of the boards is to protect the trunk, should any equipment stray into the RPZ.

Elevate Foliage: Where indicated, remove lower foliage from a tree to prevent limb breakage by equipment. Low foliage can usually be removed without harming the tree, unless more than 25% of the foliage is removed. Branches need to be removed at the anatomically correct location in order to prevent decay organisms from entering the trunk. For this reason, a contractor who is an ISA Certified Arborist should perform all pruning on protected trees.³

Expose and Cut Roots: Breaking roots with a backhoe, or crushing them with a grader, causes significant injury, which may subject the roots to decay. Ripping roots may cause them to splinter toward the base of the tree, creating much more injury than a clean cut would make. At any location where the root zone of a tree will be impacted by a trench or a cut (including a cut required for a fill and compaction), the roots shall be exposed with either a backhoe digging radially to the trunk, by hand digging, or by a hydraulic air spade, and then cut cleanly with a sharp instrument, such as chainsaw with a carbide chain. Once the roots are severed, the area behind the cut should be moistened and mulched. A root protection fence should also be erected to protect the remaining roots, if it is not already in place. Further grading or backhoe work required outside the established RPZ can then continue without further protection measures.

Protect Roots in Deeper Trenches: The location of utilities on the site can be very detrimental to trees. Design the project to use as few trenches as possible, and to keep them away from the major trees to be protected. Wherever possible, in areas where trenches will be very deep, consider boring under the roots of the trees, rather than digging the trench through the roots. This technique can be quite useful for utility trenches and pipelines.

Protect Roots in Small Trenches: After all construction is complete on a site, it is not unusual for the landscape contractor to come in and sever a large number of "preserved" roots during the installation of irrigation systems. The Project Arborist must therefore approve the landscape and irrigation plans. The irrigation system needs to be designed so the main lines are located outside the root zone of major trees, and the secondary lines are either laid on the surface (drip systems), or carefully dug with a hydraulic or air spade, and the flexible pipe fed underneath the major roots.

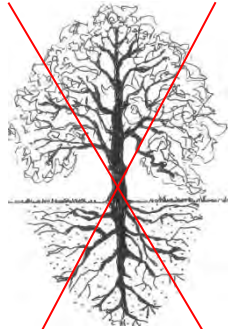
Design the irrigation system so it can slowly apply water (no more than ¼" to ½" of water per hour) over a longer period of time. This allows deep soaking of root zones. The system also needs to accommodate infrequent irrigation settings of once or twice a month, rather than several times a week.

Monitoring Tree Health During and After Construction: The Project Arborist should visit the site at least twice a month during construction to be certain the tree protection measures are being followed, to monitor the health of impacted trees, and make recommendations as to irrigation or other needs. After construction is complete, the arborist should monitor the site monthly for one year and make recommendations for care where needed. If longer term monitoring is required, the arborist should report this to the developer and the planning agency overseeing the project.

³ International Society of Arboriculture (ISA), maintains a program of Certifying individuals. Each Certified Arborist has a number and must maintain continuing education credits to remain Certified.

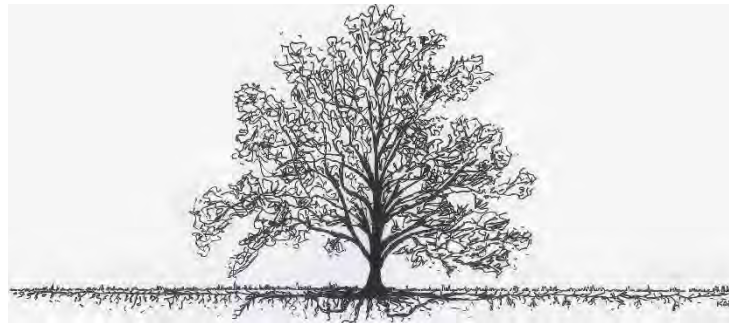
Root Structure

The majority of a tree's roots are contained in a radius from the main trunk outward approximately two to three times the canopy of the tree. These roots are located in the top 6" to 3' of soil. It is a common misconception that a tree underground resembles the canopy (see Drawing A below). The correct root structure of a tree is in Drawing B. All plants' roots need both water and air for survival. Surface roots are a common phenomenon with trees grown in compacted soil. Poor canopy development or canopy decline in mature trees is often the result of inadequate root space and/or soil compaction.



Drawing A

Common misconception of where tree roots are assumed to be located



Drawing B

The reality of where roots are generally located

Structural Issues

Limited space for canopy development produces poor structure in trees. The largest tree in a given area, which is 'shading' the other trees is considered Dominant. The 'shaded' trees are considered Suppressed. The following picture illustrates this point. Suppressed trees are more likely to become a potential hazard due to their poor structure.

Dominant Tree

Growth is upright

Canopy is balanced by limbs and foliage equally

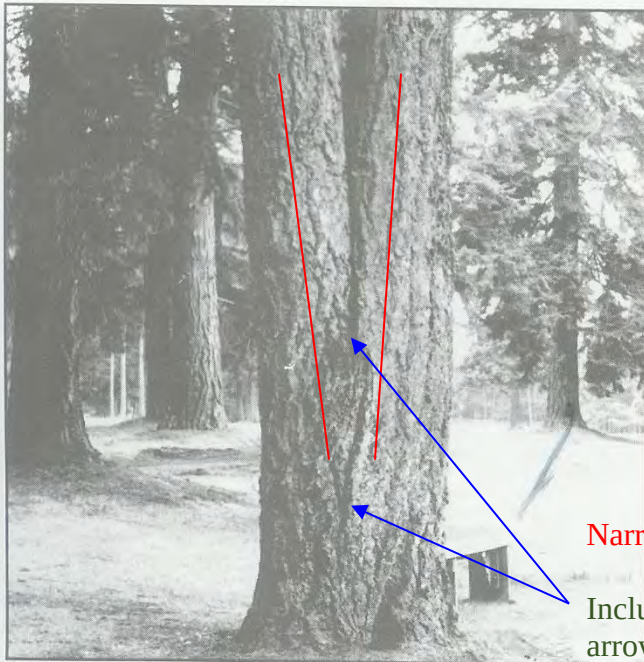


Suppressed Tree

Canopy weight all to one side

Limbs and foliage grow away from dominant tree

Co-dominant leaders are another common structural problem in trees.



The tree in this picture has a co-dominant leader at about 3' and included bark up to 7 or 8'. Included bark occurs when two or more limbs have a narrow angle of attachment resulting in bark between the stems – instead of cell to cell structure. This is considered a critical defect in trees and is the cause of many failures.

Narrow Angle

Included Bark between the arrows

Figure 6. Codominant stems are inherently weak because the stems are of similar diameter.

Photo from Evaluation of Hazard Trees in Urban Areas by Nelda P. Matheny and James R. Clark, 1994 International Society of Arboriculture

Pruning Mature Trees for Risk Reduction

There are few good reasons to prune mature trees. Removal of deadwood, directional pruning, removal of decayed or damaged wood, and end-weight reduction as a method of mitigation for structural faults are the only reasons a mature tree should be pruned. Live wood over 3" should not be pruned unless absolutely necessary. Pruning cuts should be clean and correctly placed. Pruning should be done in accordance with the American National Standards Institute (ANSI) A300 standards. It is far better to use more small cuts than a few large cuts as small pruning wounds reduce risk while large wounds increase risk.

Pruning causes an open wound in the tree. Trees do not "heal" they compartmentalize. Any wound made today will always remain, but a healthy tree, in the absence of decay in the wound, will 'cover it' with callus tissue. Large, old pruning wounds with advanced decay are a likely failure point. Mature trees with large wounds are a high failure risk.

Overweight limbs are a common structural fault in suppressed trees. There are two remedial actions for overweight limbs (1) prune the limb to reduce the extension of the canopy, or (2) cable the limb to reduce movement. Cables do not hold weight they only stabilize the limb and require annual inspection.



Normal limb structure

Over weight, reaching limb with main stem diameter small compared with amount of foliage present

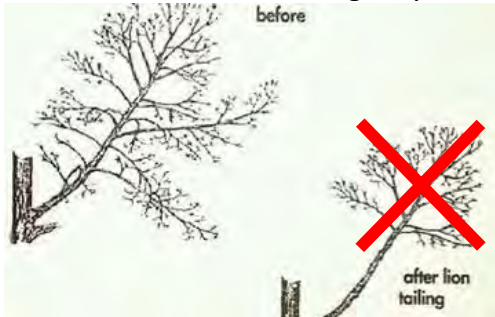


Photo of another tree – not at this site

Photo of another tree – not at this site.

Lion's – Tailing is the pruning practice of removal of “an excessive number of inner and/or lower lateral branches from parent branches. Lion's tailing is not an acceptable pruning practice” ANSI A300 (part 1) 4.23. It increases the risk of failure.

Pruning – Cutting back trees changes their natural structure, while leaving trees in their natural form enhances longevity.



Arborist Classifications

There are different types of Arborists:

Tree Removal and/or Pruning Companies. These companies may be licensed by the State of California to do business, but they do not necessarily know anything about trees;

Arborists. Arborist is a broad term. It is intended to mean someone with specialized knowledge of trees but is often used to imply knowledge that is not there.

ISA Certified Arborist: An International Society of Arboriculture Certified Arborist is someone who has been trained and tested to have specialized knowledge of trees. You can look up certified arborists at the International Society of Arboriculture website: isa-arbor.org.

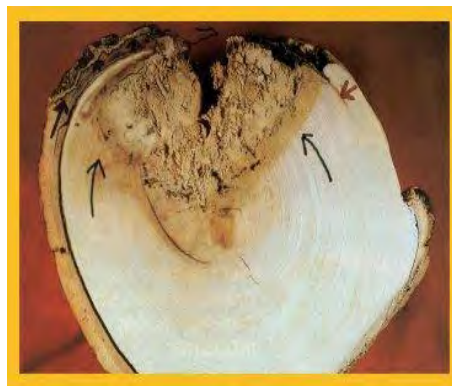
Consulting Arborist: An American Society of Consulting Arborists Registered Consulting Arborist is someone who has been trained and tested to have specialized knowledge of trees and trained and tested to provide high quality reports and documentation. You can look up registered consulting arborists at the American Society of Consulting Arborists website: <https://www.asca-consultants.org/>

Decay in Trees

Decay (in General): Fungi cause all decay of living trees. Decay is considered a disease because cell walls are altered, wood strength is affected, and living sapwood cells may be killed. Fungi decay wood by secreting enzymes. Different types of fungi cause different types of decay through the secretion of different chemical enzymes. Some decays, such as white rot, cause less wood strength loss than others because they first attack the lignin (causes cell walls to thicken and reduces susceptibility to decay and pest damage) secondarily the cellulose (another structural component in a cell walls). Others, such as soft rot, attack the cellulose chain and cause substantial losses in wood strength even in the initial stages of decay. Brown rot causes wood to become brittle and fractures easily with tension. Identification of internal decay in a tree is difficult because visible evidence may not be present.



According to Evaluation of Hazard Trees in Urban Areas (Matheny, 1994) decay is a critical factor in the stability of the tree. As decay progresses in the trunk, the stem becomes a hollow tube or cylinder rather than a solid rod. This change is not readily apparent to the casual observer. Trees require only a small amount of bark and wood to transport water, minerals and sugars. Interior heartwood can be eliminated (or degraded) to a great degree without compromising the transport process. Therefore, trees can contain significant amounts of decay without showing decline symptoms in the crown.



additional cells. The weakest of the vertical wall. Accordingly, while a progression inward at large are more than one pruning cut trunk of the tree, the likelihood of decay progression and the associated structural loss of integrity of the internal wood is high.

Compartmentalization of decay in trees is a biological process in which the cellular tissue around wounds is changed to inhibit fungal growth and provide a barrier against the spread of decay agents into barrier zones is the formation of the tree may be able to limit decay pruning cuts, in the event that there located vertically along the main

Oak Tree Impacts

Our native oak trees are easily damaged or killed by having the soil within the Critical Root Zone (CRZ) disturbed or compacted. All of the work initially performed around protected trees that will be saved should be done by people rather than by wheeled or track type tractors. Oaks are fragile giants that can take little change in soil grade, compaction, or warm season watering. Don't be fooled into believing that warm season watering has no adverse effects on native oaks. Decline and eventual death can take as long as 5-20 years with poor care and inappropriate watering. Oaks can live hundreds of years if treated properly during construction, as well as later with proper pruning, and the appropriate landscape/irrigation design.