City Ventures
Auburn Grove Development

Preliminary Tree Preservation Report

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Summary

City Ventures Construction, Inc. is developing five lots for residential housing on either side of Woodland Avenue near Auburn Street in San Rafael California. City Ventures Construction had asked Bartlett Tree Experts to prepare a Preliminary Tree Preservation Report as part of their permit application submittal to the City of San Rafael.

On developed sites, the County of Marin Municipal Code Chapter 22.27 (*Native Tree Protection and Preservation*) protects certain tree species from removal or destruction. Native oaks and native willows with trunk diameters of 6 inches or greater, are designated as *Protected Trees*. Native oaks and native willows with trunk diameters 18 inches or greater are designated as *Heritage Trees*. Based on this definition, 8 trees meet the definition as Heritage, and 11 qualify as Protected. The protected status of each tree is provided in **Table 1: Tree Disposition**.

Trees will have to be removed to complete construction as planned. Preservation of Protected Trees will depend on the final project design, construction materials chosen, and impact mitigation strategies employed. Results of this evaluation are listed in the **Tree Disposition Table** on page 8, and in the **Tree Inventory Table** found in Appendix II of this report.

Based on my evaluation of impacts:

- Forty-two (42) trees will be removed.
- Four (4) trees may be preserved.
- Four (4) trees may potentially be preserved.

Of the forty-two trees to be removed, all will be removed to accommodate the proposed construction. Twenty-six of these were in poor condition.

Successful retention of trees is predicated on the care with which work is performed and the commitment of all parties to the **Tree Preservation Guidelines** found within this report.

Introduction

City Ventures Construction is developing five lots for housing along Woodland Avenue at Auburn Street in San Rafael California. The site is currently vacant with the Smart Train corridor to the north and residential housing and one commercial site surrounding the site to the south. The site is populated with established native and exotic trees in an unmaintained open space. As part of their design review process, the County of Marin requests a tree preservation plan. The project managers at City Ventures Construction had asked Bartlett Tree Experts to perform a tree inventory and prepare a Tree Preservation Report for the project as part of their submission to the City of San Rafael.

This report communicates the anticipated impacts on trees from construction to the city and to the client. The report is designed to provide the project design team with details they will need to prepare a Tree Preservation Plan to meet that requirement, including:

- Map showing location of trees.
- Tree descriptions including ID number, species, trunk diameter (measured at 54 inches)
- Observations of the health and structural condition of the trees (good, fair, poor, dead)
- Suitability for preservation (high, moderate, low)
- Observed conditions of concern/defects
- Evaluation of the impacts to trees based on development plans, and
- Guidelines for tree preservation throughout the development process

Marin County Tree Protection Requirements

On developed sites, the County of Marin Municipal Code Chapter 22.27 (*Native Tree Protection and Preservation*) protects certain tree species from removal or destruction. Native oaks and native willows with trunk diameters of 6 inches or greater, are designated as *Protected Trees*. Native oaks and native willows with trunk diameters 18 inches or greater are designated as *Heritage Trees*. In most cases, removal of these trees requires a permit from Marin County. In specific circumstances, *Protected* and *Heritage trees* may be removed without triggering a requirement for a permit. For example, a maximum of two *Protected Trees* may be removed within a one-year timeframe, and trees determined to be in poor condition by the Project Arborist qualify for permit exemption regardless of their protection status (22.62.040).

Based on this definition, 8 trees meet the definition as Heritage, and 11 qualify as Protected. The protected status of each tree is provided in **Table 1: Tree Disposition**.

Observations

I visited the site to prepare for this report May 17, 2024. The site was divided by Woodland Avenue with a long & narrow portion to the north along the Smart Train corridor and a deeper lot with residential and one commercial lot surrounding the southern half of the site. A mixture of native and exotic trees and vegetation grew on the site with upland annual grasses & plants and a low-lying seasonal wetland on the west and southern portion of the site.

The north portion of the site had one Bailey acacia and many mature American elm trees in the east corner at the intersection of Woodland Avenue and Auburn Street.

The south portion of the site had coast live oak, valley oak and many mature cherry plum trees.

All 50 trees evaluated grew in open areas with 6 trees in good condition, 14 trees in fair condition and 30 trees in poor condition. (Table 1).

Photo 1: North side of Woodland Avenue had a grove of American elm (Ulmus americana) #29, 31-45 in the northeast corner of the site at the corner of Woodland Avenue and Auburn Street.

Photo 2: South side of Woodland Avenue had 16 native oaks including coast live oak #26 (right) and valley oak #27 (left) and many mature nonnative plum trees.

TABLE 1: TREE SPECIES AND CONDITION

Common Name	Scientific Name	Dead	Poor	Fair	Good	Total
Bailey acacia	*Acacia baileyana*	-	2	-	-	2
Blackwood acacia	*Acacia melanoxylon*	-	1	-	-	1
Monterey pine	*Pinus radiata*	-	1	-	-	1
European white poplar	*Poplus alba*	-	1	-	-	1
Cherry plum	*Prunus cerasifera*	-	12	-	-	12
Coast live oak	*Quercus agrifolia*	-	4	4	3	11
Valley oak	*Quercus lobata*	-	-	2	3	5
Willow	*Salix sp.*	-	1	-	-	1
American elm	*Ulmus americana*	-	9	7	-	16
Total		**-**	**30**	**14**	**6**	**50**

Description of Trees

Two native oak species were the most common genus on the site. There were 11 coast live oak (Quercus agrifolia) and 5 valley oak (Quercus lobata) in varying conditions (Table 1). Six of these oaks were in fair condition, six were in good condition and four in poor condition. The two coast live oaks (#3 & 4) in poor condition were suppressed (photo 3). Semi-mature Valley oak #7 and coast live oak #22 were in good condition (photos 4 & 5).

Photo 3: The large, mature, multi-stem valley oak #2 (left) was in good condition and suppressed the two small coast live oaks #3 & 4 which were in poor condition.

Photo 4: Valley oak #7 was semi-mature and in good condition.

Photo 5: Coast live oak #22 was semi-mature, in good condition and grew near Woodland Avenue.

Coast live oaks #12 and #13 were moderately vigorous, displayed dark green foliage and had cracked branches, cavities in the stems, and a sweep with poor structure (photos 6 & 7). One mature valley oak #21 had low vigor, good form and poor structure with minor dieback, co-dominant stems and gall insects (photo 9).

Photo 6: Two coast live oaks #12 (right) and #13 (left) were in poor condition with asymmetrical crowns and cavities in the main stem.

Photo 7: Coast live oak #13 had a large wound in the main stem.

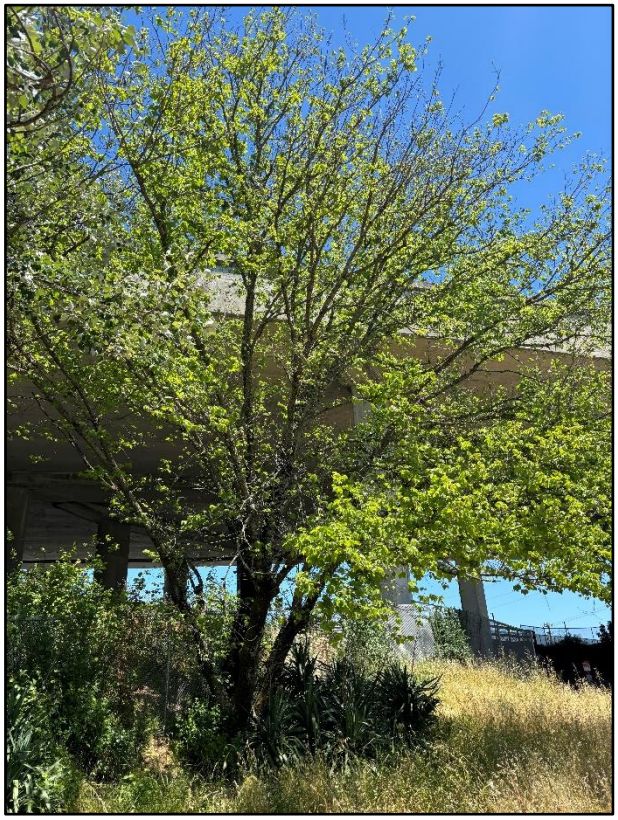

Photo 8: American elm #29 was multi stem and in fair condition growing away from the Smart Train chain link fencing.

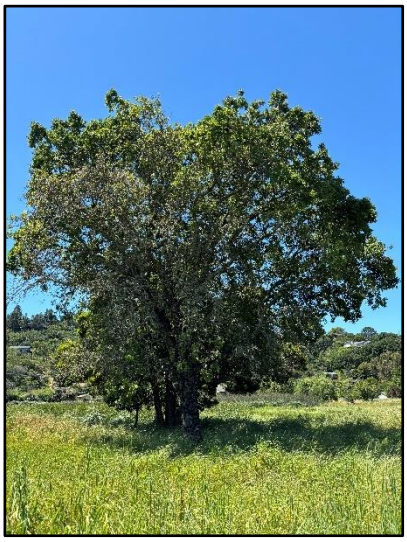

Photo 9: Mature valley oak #21 displayed low vigor and was in fair condition.

The next most common trees on the site were the American elm (Ulmus americana). One (1) was in good condition, 5 was in fair condition and 10 were in poor condition. Five of these elm trees had moderate to severe dieback and three were suppressed with poor form and

structure. Most of the elms were growing along the Smart Train chain link fence and four of them were interacting with the fence (photos 1 & 8).

The third most common species was cherry plum (Prunus cerasifera) located throughout the property. All 12 trees were small, mature in poor condition, with poor branch structure, decay and dieback (photo 10). Cherry plum tree #9 was engulfed in poison oak.

Bailey's acacia (Acacia baileyana) was represented by two trees: tree #10 grew within the seasonal wetland on the west side of the property (photo 12) and the other grew on the north side of Woodland Avenue near the Smart Train fence (tree #46). Both trees were over-mature and in poor condition, showing stem failure and root flare cavities.

The remaining species were represented by individual trees:

- The European white poplar #31 leaned over the Smart Train chain-link fence where its crown grew completely within the Smart Train easement. It had root decay, dead branches over 2 inch diameter and was in poor condition (photo 11).

Photo 10: Cherry plum #5 was in poor condition with co-dominant stems, included bark, and moderate dieback. It was typical of all cherry plums on site.

Photo 11: European white poplar (Populus alba) #31 leaned over the Smart Train fence and easement (yellow arrow).

Photo 12: Bailey acacia (Acacia baileyana) #10 grew vigorously beside the seasonal wetland. Two stems grew from its failed main stem (yellow arrows).

- Monterey pine (Pinus radiata) #28 was mature, and grew along a wood fence near Woodland Avenue (photo 13). It had low vigor with moderate dieback and dead branches over 2 inches diameter with a sweep to the west.

- Blackwood acacia (Acacia melanoxylon) was overmature and in poor condition with a decaying main stem and decay in the root flare.

- Willow (Salix sp.) grew above the seasonal wetland on the south portion of the site (photo 14). It was in poor condition with severe dieback, a cavity in the main stem and dead branches over 2 inches diameter.

Photo 13: Monterey pine (Pinus radiata) had low vigor, moderate dieback and was in poor condition.

Photo 14: Willow (Salix sp.) #49 had severe dieback and was in poor condition.

Suitability for Preservation

Before evaluating the impacts that could occur during development, it is important to consider the quality of the tree resource itself and the potential for individual trees to function well over an extended length of time. Trees that are preserved on development sites must be carefully selected to perform well in the post-project landscape. We recommend preserving trees in good condition that are tolerant of construction impacts and adapt well to a new environment.

Each tree was rated for suitability for preservation based upon its age, health, structural condition, and ability to safely coexist within a development environment (see Table 1: Tree Species and Condition, and Appendix II: Tree Inventory Table). We recommend using the suitability for preservation ratings offered within this report to inform your planning decisions. We consider trees with high suitability for preservation to be the best candidates for preservation. We do not generally recommend retention of trees with low suitability for preservation in areas where people or property will be present. Retention of trees with moderate suitability for preservation depends upon the intensity of proposed site changes.

Preliminary Evaluation of Tree Impacts

To evaluate impact to trees, I reviewed the *Preliminary Grading and Drainage* Plan (sheet C-3, dated April 8, 2024) and the *Base Map Exhibit - Marin County A* (dated February 16, 2024) by CBG Civil Engineers and the *Illustrative Site Plan* (sheet G-5) by Hunt Hale Jones Architects, C2 Collaborative and Fournier Design Studio, dated April 8, 2024 for City Ventures Construction's *Auburn Grove* development located at Auburn Street and Woodland Avenue, San Rafael, California.

Trees will have to be removed to implement the plan for the construction of the buildings as proposed in the plans listed above. Preservation of Protected Trees will depend on the final project design, construction materials chosen, and impact mitigation strategies employed. Results of this evaluation are listed in the **Tree Disposition Table** on page 8, and in the **Tree Inventory Table** found in Appendix II of this report.

Based on my evaluation of impacts:

- Forty-two (42) trees will be removed.
- Four (4) trees may be preserved.
- Four (4) trees may potentially be preserved.

Of the forty-two trees to be removed, all will be removed to accommodate the proposed construction. Twenty-six of these were in poor condition.

Of the 4 trees to be preserved, three were in good condition and one was in fair condition. (American elm #29, off site). Coast live oak tree #48 is outside the project area. Coast live oak #2 is within 5 feet of the project area and valley oak #18 is within 10 feet. Construction is planned within the calculated Tree Protection Zones of trees #2 and 18. I anticipate the presence of roots (>1") in this area. Measures to mitigate damage to these trees, including soil compaction, must be taken as detailed within the specific recommendations below.

Of the four trees that may potentially be preserved, tree #15 was in fair condition and within 5 feet of the proposed construction. One half of its TPZ was within the area of disturbance. Trees #47, 49 and 50 were growing outside of the project area but were in poor condition.

Successful retention of trees is predicated on the care with which work is performed and the commitment of all parties to the **Tree Preservation Guidelines** found within this report.

Tree Disposition Table

ID	Species	DBH (Inches per Stem)*/ Collective Diameter	Protected Status	Preservation Suitability	Disposition**	Calculated Tree Protection Zone***	Comments
1	Prunus cerasifera	8,7,5,8/28	-	Low	Preserve	18	Offsite; outside project area; tree in poor condition.
2	Quercus lobata	12	Protected	High	Preserve	9	Within 5 feet of project area; tree in good condition
3	Quercus agrifolia	6	Protected	Low	Remove	5	Within 10 feet of project area; tree in poor condition
4	Quercus agrifolia	6	Protected	Low	Remove	5	Within 10 feet of project area; tree in poor condition
5	Prunus cerasifera	5,4,3,3,2,2/19	-	Low	Remove	N/A	Within project area; tree in poor condition.
6	Prunus cerasifera	7,7,3,2,2/21	-	Low	Remove	14	Outside project area; tree in poor condition.
7	Quercus lobata	24	Heritage Tree	High	Remove	N/A	Within project area; tree in good condition.
8	Prunus cerasifera	6,5,3,3,1,1/19	Protected	Low	Remove	N/A	Within project area; tree in poor condition.
9	Prunus cerasifera	6,6,3,2,2/19	Protected	Moderate	Remove	12	Outside project area; tree in poor condition.
10	Acacia baileyana	10,4/14	-	Moderate	Remove	N/A	Outside project area; tree in poor condition.
11	Prunus cerasifera	6,5,4,2,2/19	-	Low	Remove	N/A	Within project area; tree in poor condition.
12	Quercus agrifolia	13	Protected	Low	Remove	N/A	Within project area; tree in poor condition.
13	Quercus agrifolia	12	Protected	Low	Remove	N/A	Within 5 feet of project area; tree in poor condition
14	Quercus agrifolia	16	Protected	High	Preserve	8	Within 5 feet of project area; tree in good condition
15	Quercus agrifolia	16	Protected	Moderate	Potentially Preserve	8	Within 5 feet of project area; tree in fair condition
16	Prunus cerasifera	6,5,3,3,2,2/21	-	Low	Remove	N/A	Within 5 feet of project area; tree in poor condition
17	Acacia melanoxylon	12,20,14/46	-	Low	Remove	N/A	Within 10 feet of project area; tree in poor condition
18	Quercus lobata	7	Protected	High	Preserve	5	Within 10 feet of project area; tree in good condition

ID	Species	DBH (Inches per Stem)*/ Collective Diameter	Protected Status	Preservation Suitability	Disposition**	Calculated Tree Protection Zone***	Comments
19	Prunus cerasifera	8,6/14	-	Low	Remove	N/A	Within project area; tree in poor condition.
20	Prunus cerasifera	8,7,6/21	-	Low	Remove	N/A	Within project area; tree in poor condition.
21	Quercus lobata	22	Heritage Tree	Moderate	Remove	N/A	Within project area; tree in fair condition.
22	Quercus agrifolia	18	Heritage Tree	High	Remove	N/A	Within project area; tree in good condition.
23	Prunus cerasifera	6,5,5/16	-	Low	Remove	N/A	Within project area; tree in poor condition.
24	Quercus agrifolia	9	Protected	Moderate	Remove	N/A	Within project area; tree in fair condition.
25	Quercus agrifolia	11,8/19	Heritage Tree	Moderate	Remove	N/A	Within project area; tree in fair condition.
26	Quercus agrifolia	21	Heritage Tree	Moderate	Remove	N/A	Within project area; tree in fair condition.
27	Quercus lobata	20,19/39	Heritage Tree	Moderate	Remove	N/A	Within project area; tree in fair condition.
28	Pinus radiata	28	-	Low	Remove	N/A	Within project area; tree in poor condition.
29	Ulmus americana	14,11,7,10/42	-	Moderate	Preserve	19	Offsite; outside project area; tree in poor condition
30	Populus alba	23	-	Low	Remove	N/A	Within project grading area; tree in poor condition.
31	Ulmus americana	3	-	Low	Remove	N/A	Within project grading area; tree in poor condition.
32	Ulmus americana	15,14/29	-	Low	Remove	N/A	Within project grading area; tree in poor condition.
33	Ulmus americana	14	-	Moderate	Remove	N/A	Within project grading area; tree in fair condition.
34	Ulmus americana	17	-	Low	Remove	N/A	Within project grading area; tree in poor condition.
35	Ulmus americana	9	-	Moderate	Remove	N/A	Within project grading area; tree in good condition
36	Ulmus americana	7	-	Moderate	Remove	N/A	Within project grading area; tree in fair condition.
37	Ulmus americana	7	-	Low	Remove	N/A	Within project area; tree in poor condition.
38	Ulmus americana	6	-	Moderate	Remove	N/A	Within project grading area; tree in fair condition.

ID	Species	DBH (Inches per Stem)*/ Collective Diameter	Protected Status	Preservation Suitability	Disposition**	Calculated Tree Protection Zone***	Comments
39	Ulmus americana	8,4,10/22	-	Low	Remove	N/A	Within project area; tree in poor condition.
40	Ulmus americana	17	-	Low	Remove	N/A	Within project area; tree in poor condition.
41	Ulmus americana	7	-	Moderate	Remove	N/A	Within project area; tree in fair condition.
42	Ulmus americana	8	-	Low	Remove	N/A	Within project area; tree in poor condition.
43	Ulmus americana	8	-	Low	Remove	N/A	Within project area; tree in poor condition.
44	Ulmus americana	24	-	Moderate	Remove	N/A	Within project area; tree in fair condition.
45	Ulmus americana	26	-	Low	Remove	N/A	Within project area; tree in poor condition.
46	Acacia baileyana	13	-	Low	Remove	N/A	Within project area; tree in poor condition.
47	Prunus cerasifera	8,6,5,5,4,3/31	-	Moderate	Potentially preserve	13	Outside project area; tree in poor condition
48	Quercus agrifolia	18	Heritage Tree	High	Preserve	14	Outside project area; tree in good condition.
49	Salix sp.	11	Heritage Tree	Moderate	Potentially preserve	11	Outside project area; in poor condition; wetland species.
50	Prunus cerasifera	7,5,4,3,2/21	-	Moderate	Potentially preserve	13	Outside project area; tree in poor condition.

*The trunk diameters of trees assessed were measured at 54 inches above natural grade. Trunk diameters of low branching trees were measured at the narrowest point below the lowest branch. For multi-stemmed trees, the DBH was calculated as the sum of stem diameters.

**Preservation of these trees is dependent on project design.

***The *Calculated Tree Protection Zone* in feet, measured radially outward from the trunk surface, and based on tree health, age, and species tolerance to development activity, or canopy dripline, whichever is greater. For multi-stemmed trees, the DBH was calculated as the square root of combined squared stem diameters (sum of squares). These recommendations are preliminary and subject to review and modification.

Tree Preservation Guidelines

Tree preservation is intended to not only foster tree survival during development, but also to promote maintenance of tree health and beauty into the future. Retained trees that are injured or damaged during construction or are insufficiently maintained afterward become a liability rather than an asset. How individual trees respond to disturbances will depend on the extent of excavation and grading, the care with which demolition is undertaken, and the construction methods employed. Coordinating any construction activity inside the Tree Protection Zone (TPZ) can minimize these impacts.

The following recommendations will reduce impacts to trees from development and maintain and improve their health and vitality through the clearing, grading, and construction phases.

Photo 15: Coast live oak tree (#14) will be preserved. Special protection measures for all trees to be preserved must be enacted if trees are to survive construction without significant impacts.

Tree Protection Zone

1. For design purposes, the **Tree Protection Zone** shall be defined as an exclusion zone surrounding the tree. No grading, excavation, construction, or storage of materials shall occur within that zone. The limits of the **Tree Protection Zone** may be adjusted following review of grading and construction plans.
2. The ***Calculated*** **Tree Protection Zone** shall be understood as the root zone area extending radially from the surface of the trunk to the outer edge of the tree canopy (dripline), or as indicated in Tree Disposition Table.
3. The ***Specified*** **Tree Protection Zone** shall be understood as the root zone area described or delineated on plans by the Project Arborist.
4. Maintain a minimum 6 inch layer of shredded wood chip material in **Tree Protection Zones** to protect tree roots from soil from compaction.
5. Temporary access to may be permitted where construction activities must take place within the Tree Protection Zone. Construction activities within the **Tree Protection Zone** shall be monitored by the Project Arborist.
6. Tree protection warning signs are required to be installed and maintained at all times until all construction activities are completed.
7. Required tree protection shall remain in place until all construction activities are completed. No changes to tree protection can be made unless a revised tree protection plan is submitted and approved by the City of San Rafael.

Example of Tree Protection Fence Signage

Design Recommendations

1. Any changes to the plans affecting the trees should be reviewed by the Project Arborist with regard to tree impacts. These include, but are not limited to, site plans, improvement plans, construction details, utility and drainage plans, grading plans, landscape and irrigation plans, and demolition plans.
2. Plan for tree preservation by designing adequate space around trees to be preserved. This **Tree Protection Zone** is effectively an exclusion zone.
3. Excavation and grading planned within *specified* **Tree Protection Zones** shall not exceed depths of existing structures or hardscape.
4. Tree Preservation Guidelines prepared by the Project Arborist, which include specifications for tree protection during demolition and construction, should be included on all plans.
5. Any herbicides placed under paving materials must be safe for use around trees and labeled for that use.
6. As trees withdraw water from the soil, expansive soils may shrink within the root area. Therefore, foundations, footings and pavements on expansive soils near trees should be designed to withstand differential displacement.

Pre-demolition and pre-construction treatments and recommendations

1. The demolition and construction superintendents shall meet with the Project Arborist before beginning work to review all work procedures, access routes, storage areas, and tree protection measures.
3. Tie back branches and wrap trunks with protective materials (trunk protection devices) to protect from injury where possible.
4. All tree work shall comply with the Migratory Bird Treaty Act as well as California Fish and Wildlife code 3503-3513 to not disturb nesting birds. To the extent feasible tree pruning and removal should be scheduled outside of the breeding season. Breeding bird surveys should be conducted prior to tree work. Qualified biologists should be involved in establishing work buffers for active nests.

Trunk protection devices used to protect trees within established Tree Protection Zones, or adjacent to project areas.

Recommendations for tree protection during construction

1. Demolition of existing structures or hardscape within *calculated* **Tree Protection Zones** shall be accomplished with the smallest available equipment.
2. Debris to be removed from within *specified* **Tree Protection Zones** shall be performed with hand tools or air-excavation equipment. Heavy machinery such as loaders or trenching equipment will not be permitted within *specified* **Tree Protection Zones**.
3. Spoils from excavation or grading moved from the project area shall not be deposited within the canopy dripline root zone areas of any tree on site, neither temporarily nor permanently.
4. No chemicals, debris, equipment or other materials shall be dumped or stored within the *specified* **Tree Protection Zone.**
5. Construction trailers, traffic and storage areas must remain outside the *specified* **Tree Protection Zone** at all times.
6. Temporary access may be permitted where debris must take place within *specified* **Tree Protection Zones**. Activities within *specified* **Tree Protection Zone** shall be monitored by the Project Arborist.
7. Excavation and grading planned within *specified* **Tree Protection Zones** shall not exceed depths of existing structures or hardscape.
8. Any root pruning required for construction purposes shall receive prior approval of the Project Arborist. Roots should be cut at 90 degree angles with a clean, sharp saw to provide a flat and smooth cut. Do not cut roots with an axe, hatchet, or other dull instrument. Removal of roots larger than 2-inches in diameter should be avoided.
9. If roots 2-inches and greater in diameter are encountered during site work and must be cut to complete the construction, the Project Arborist must be consulted to evaluate effects on the health and stability of the tree and recommend treatment.
10. All contractors shall conduct operations in a manner that will prevent damage to protected trees.
11. If injury should occur to any tree during construction, it should be evaluated as soon as possible by the Project Arborist so that appropriate treatments can be applied.
12. Tree protection devices are to remain until all site work has been completed within the work area. Fences or other protection devices may not be relocated or removed without permission of the Project Arborist.
13. All parties shall adhere to the tree preservation and protection guidelines outlined in this report.

Maintenance of Impacted Trees

Preserved trees will experience a physical environment different from that of the pre-development conditions. As a result, tree health and structural stability should be monitored. Occasional pruning, fertilization, mulch, pest management, replanting and irrigation may be required. In addition, provisions for monitoring both tree health and structural stability following construction must be made a priority. Inspect trees annually and following major storms to identify conditions requiring treatment to manage risk associated with tree failure.

Our procedures included inspecting trees for observable defects in structure. This is not to say that trees without significant defects will not fail. Failure of apparently defect-free trees does occur, especially during storm events. Wind forces, for example, can exceed the strength of

defect-free wood causing branches and trunks to break. Wind forces coupled with rain can saturate soils, reducing their ability to hold roots, and blow over defect-free trees. Although we cannot predict all failures, identifying those trees with observable defects is a critical component of enhancing public safety.

Furthermore, trees change over time. Our inspections represent the condition of the tree at the time of inspection. As trees age, the likelihood of failure of branches or entire trees increases. Annual tree inspections are recommended to identify changes to tree health and structure. In addition, trees should be inspected after storms of unusual severity to evaluate damage and structural changes. Initiating these inspections is the responsibility of the client and/or tree owner.

If you have any questions about my observations or recommendations, please contact me.

Douglas Wildman

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Appendix I – Tree Inventory Map

Inventory Map Key:

1 Tree Number

● Preserve

● Potentially Preserve

● Remove

○ Specified TPZ

The locations of features depicted on this Tree Inventory Map were plotted on plans prepared by CBG Civil Engineers dated April 8, 2024, *(Preliminary Grading and Drainage* Plan*, Auburn Grove, Auburn Street and Woodland Avenue, San Rafael, California*, (sheet C-3). Locations of trees unidentified on the civil plan above were collected with Trimble® Catalyst DA2 hardware or estimated visually in the field.

Not To Scale

Appendix II – Tree Inventory Table

ID	Species	DBH (Inches per Stem)*/ Collective Diameter	Age Class	Height Class**	Condition Class***	Location Value	Comments 1=poor 5=excellent
1	Cherry plum (Prunus cerasifera)	8,7,5,8/28	Mature	Small	Poor	Good	Vigor 3; form 2; structure 2; Dead/dying stem; dead branches >2; poor branch structure
2	Valley oak (Quercus lobata)	12	Mature	Large	Good	Good	Vigor 3; form 4; structure 4; powdery mildew.
3	Coast live oak (Quercus agrifolia)	6	Young	Small	Poor	Poor	Vigor 3; form 2; structure 2; Suppressed; cracked branch; uneven crown
4	Coast live oak (Quercus agrifolia)	5	Young	Small	Poor	Poor	Vigor 2; form 2; structure 2; Suppressed; cavity-stems; cavity root flare; sweep; poor branch structure
5	Cherry plum (Prunus cerasifera)	5,4,3,3,2,2/ 19	Mature	Small	Poor	Good	Vigor 2; form 2; structure 2; Co-dominant stems; included bark; decay in branch
6	Cherry plum (Prunus cerasifera)	7,7,3,2,2/21	Mature	Small	Poor	Good	Vigor 3; form 2; structure 2; Co-dominant stems; included bark; Dead branches < = 2 inches.
7	Valley oak (Quercus lobata)	24	Semi-mature	Large	Good	Good	Vigor 4; form 4; structure 4; Dead branches > 2 inches; gall insects.
8	Cherry plum (Prunus cerasifera)	6,5,3,3,1,1/ 19	Mature	Small	Poor	Good	Vigor 2; form 2; structure 2; Co-dominance; included bark; dead twigs and branches dead branches < 2 inches.
9	Cherry plum (Prunus cerasifera)	6,6,3,2,2/19	Mature	Small	Poor	Good	Vigor 2; form 2; structure 2; Co-dominant stems; included bark; poisonous plant throughout (poison oak); dead branches > 2 inches.
10	Baileys acacia (Acacia baileyana)	10,4/14	Mature	Small	Poor	Good	Vigor 3; form 2; structure 2; Root failure; cracked stem; dead branches.
11	Cherry plum (Prunus cerasifera)	6,5,4,2,2/19	Mature	Small	Poor	Good	Vigor 2; form 2; structure 2; Decayed root flare; codominant stems; included bark.
12	Coast live oak (Quercus agrifolia)	13	Young	Small	Poor	Good	Vigor 3; form 2; structure 2; Cavity in stem; sweep; dead branches < 2 inches.
13	Coast live oak (Quercus agrifolia)	12	Young	Small	Poor	Good	Vigor 3; form 3; structure 2; Cavity in stem; cracked branch; sweep; dead branches < 2 inches.
14	Coast live oak (Quercus agrifolia)	16	Semi-mature	Small	Good	Good	Vigor 3; form 3; structure 3; Dead branches < 2 inches.

ID	Species	DBH (Inches per Stem)*/ Collective Diameter	Age Class	Height Class**	Condition Class***	Location Value	Comments 1=poor 5=excellent
15	Coast live oak (Quercus agrifolia)	16	Semi-mature	Medium	Fair	Good	Vigor 3; form 3; structure 3; Cavity in stem; broken branches; dead branches < = 2 inches.
16	Cherry plum (Prunus cerasifera)	6,5,3,3,2,2/ 21	Mature	Small	Poor	Good	Vigor 3; form 2; structure 2; Co-dominant stems; included bark; dead branches > 2 inches.
17	Blackwood acacia (Acacia melanoxylon)	12,20,14/46	Over-mature	Medium	Poor	Good	Vigor 3; form 2; structure 2; Dead/dying stem; decayed root flare; cavity in stem; dead branches > 2 inches
18	Valley oak (Quercus lobata)	7	Young	Medium	Good	Good	Vigor 4; form 4; structure 4; dead branches and twigs < = 2 inches.
19	Cherry plum (Prunus cerasifera)	8,6/14	Mature	Small	Poor	Good	Vigor 2; form 2; structure 2; Cracked stem; decayed root flare; dead branches > 2 inches.
20	Cherry plum (Prunus cerasifera)	8,7,6/21	Mature	Small	Poor	Poor	Vigor 3; form 2; structure 2; Co-dominant stems; included bark; poor branch structure; growing through fence.
21	Valley oak (Quercus lobata)	22	Semi-mature	Large	Fair	Good	Vigor 2; form 3; structure 2; codominant stems; low vigor; dead branches < = 2 inches; gall insects.
22	Coast live oak (Quercus agrifolia)	17	Semi-mature	Medium	Good	Good	Vigor 4; form 3; structure 3; Good vigor; dead branches < = 2 inches.
23	Cherry plum (Prunus cerasifera)	6,5,5/16	Mature	Small	Poor	Good	Vigor 3; form 2; structure 2; Broken branches; codominant stem; dead branches < = 2 inches.
24	Coast live oak (Quercus agrifolia)	9	Young	Small	Fair	Fair	Vigor 2; form 2; structure 2; Suppressed; poor branch structure; decay root flare; cavity in stem; dead branches < = 2 inches.
25	Coast live oak (Quercus agrifolia)	11,8/19	Young	Small	Fair	Good	Vigor 3; form 3; structure 3; Cavity in stem.
26	Coast live oak (Quercus agrifolia)	21	Semi-mature	Large	Fair	Good	Vigor 3; form 3; structure 2; Cavity in stem; dead branches < = 2 inches; codominant stems; included bark.
27	Valley oak (Quercus lobata)	20,19/39	Semi-mature	Large	Fair	Good	Vigor 3; form 3; structure 3; Dead branches; codominant stems; gall insects.
28	Monterey pine (Pinus radiata)	28	Mature	Large	Poor	Poor	Vigor 2; form 3; structure 2; Dieback (moderate); sweep; dieback (moderate); dead branches > 2 inches.
29	American elm (Ulmus americana)	14,11,7,10/ 42	Mature	Large	Poor	Good	Vigor 3; form 2; structure 2; Co-dominant stems; dieback (moderate); poor branch structure; overextended branches; dead branches >2 inches.

ID	Species	DBH (Inches per Stem)*/ Collective Diameter	Age Class	Height Class**	Condition Class***	Location Value	Comments 1=poor 5=excellent
30	European white poplar (Populus alba)	23	Mature	Large	Poor	Poor	Vigor 3; form 2; structure 2; Lean; decayed root flare; dead branches >2 inches.
31	American elm (Ulmus americana)	3	Mature	Large	Poor	Good	Vigor 3; form 2; structure 3; dieback (moderate); cavity in stem; overextended branches; dead branches >2 inches.
32	American elm (Ulmus americana)	15,14/29	Mature	Large	Poor	Good	Vigor 3; form 2; structure 2; Co-dominant stems; included bark; dieback (moderate); overextended branches; dead branches >2 inches.
33	American elm (Ulmus americana)	14	Semi-mature	Large	Fair	Good	Vigor 4; form 3; structure 3; Dead branches >2 inches.
34	American elm (Ulmus americana)	17	Mature	Large	Poor	Fair	Vigor 3; form 3; structure 3; Cavity in stem and branch; dead branches < = 2 inches.
35	American elm (Ulmus americana)	9	Semi-mature	Large	Good	Fair	Vigor 4; form 4; structure 4; Good vigor, form and structure; cavity in branch; dead branches < = 2 inches.
36	American elm (Ulmus americana)	7	Young	Medium	Fair	Fair	Vigor 4; form 3; structure 3; Dead branches < = 2 inches
37	American elm (Ulmus americana)	7	Young	Medium	Poor	Good	Vigor 3; form 3; structure 2; Co-dominant stems; dead branches < = 2 inches.
38	American elm (Ulmus americana)	6	Young	Medium	Fair	Good	Vigor 3; form 3; structure 2; Dead branches < = 2 inches.
39	American elm (Ulmus americana)	8,4,10/22	Semi-mature	Large	Poor	Good	Vigor 3; form 2; structure 1; Cavity in root flare; co-dominant stems; dead branches < = 2 inches.
40	American elm (Ulmus americana)	17	Mature	Large	Poor	Good	Vigor 3; form 2; structure 2; Dieback (moderate) co-dominant stems; included bark; wound in root flare; dead branches < = 2 inches.
41	American elm (Ulmus americana)	7	Young	Medium	Fair	Poor	Vigor 4; form 3; structure 3; Suppressed; dead branches < = 2 inches.
42	American elm (Ulmus americana)	8	Young	Small	Poor	Poor	Vigor 2; form 2; structure 2; Cavity in stem; suppressed; sweep; dead branches < = 2 inches.
43	American elm (Ulmus americana)	8	Young	Small	Poor	Poor	Vigor 2; form 2; structure 2; Suppressed; sweep; cavity in stem; co-dominant stems; included bark.
44	American elm (Ulmus americana)	24	Mature	Large	Fair	Good	Vigor 4; form 3; structure 2; Cavity in stem; overextended branches; dead branches > 2 inches.

ID	Species	DBH (Inches per Stem)*/ Collective Diameter	Age Class	Height Class**	Condition Class***	Location Value	Comments 1=poor 5=excellent
45	American elm (Ulmus americana)	26	Mature	Large	Poor	Good	Vigor 2; form 4; structure 3; Dieback (severe); decay in stem; dead branches > 2 inches.
46	Acacia baileyana	13	Mature	Medium	Poor	Good	Vigor 2; form 2; structure 2; Sweep; cavity in root flare; co-dominant stems; included bark; dead branches < = 2 inches.
47	Cherry plum (Prunus cerasifera)	8,6,5,5,4,3/ 31	Mature	Small	Poor	Good	Vigor 2; form 2; structure 2; Dieback (moderate); co-dominant stems; dead branches > 2 inches.
48	Coast live oak (Quercus agrifolia)	18	Semi-mature	Medium	Good	Good	Vigor 4; form 4; structure 4; root collar 3; Good vigor, form and structure; dead branches < = 2 inches.
49	Red willow (Salix laevigata)	11	Semi-mature	Small	Poor	Good	Vigor 3; form 5; structure 3; Dieback (severe); sweep; cavity in stem; dead branches > 2 inches.
50	Cherry plum (Prunus cerasifera)	7,5,4,3,2/21	Mature	Small	Poor	Good	Vigor 3; form 2; structure 2; Dieback (moderate); dead branches < = 2 inches.

*The trunk diameters of trees assessed were measured at 54 inches above natural grade. Trunk diameters of low branching trees were measured at the narrowest point below the lowest branch. For multi-stemmed trees, the DBH was calculated as the sum of stem diameters.

**Height Class was determined as follows: Small = <15 feet; Medium = 15 to 40 feet; Large = greater than 40 feet.

***Condition Class was determined by synthesizing the qualitative attributes evaluated within the Tree Inventory Table.

Appendix III – Methods and Limits of Assignment

Trees were assessed on May 17, 2024. The assessment included all trees 6 inches and greater in diameter plotted on plans provided by City Ventures, Inc.

Methods

1. Affix a sequentially numbered tag to the main trunk of each accessible tree;
2. Identifying the species of tree;
3. Measuring the trunk diameter at a point 54" above grade;
4. Evaluating the health and structural condition:

   Good A healthy tree that may have a slight decline in vigor, small amount of twig dieback, minor structural defects that could be corrected;

   Fair Tree with moderate vigor, moderate twig and small branch dieback, thinning of crown, poor leaf color, moderate structural defects that might be mitigated with regular care;

   Poor Tree in decline, epicormic growth, extensive dieback of medium to large branches, significant structural defects that cannot be abated;

5. Rating the suitability for preservation as "high", "moderate" or "low". Suitability for preservation considers the health, age and structural condition of the tree, and its potential to remain an asset to the site for years to come.

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

   Moderate Trees with somewhat declining health and/or structural defects that can be abated with treatment. The tree will require more intense management and monitoring and may have shorter life span than those in 'high' category.

   Low Tree in poor health or with significant structural defects that cannot be mitigated. Tree is expected to continue to decline, regardless of treatment. The species or individual may have characteristics that are undesirable for landscapes and generally are unsuited for use areas.

Limits of the Assignment

The conclusions and recommendations within this report were based on one site visit with visual assessment from the ground. I visited the site on May 17, 2024 to assess the trees. The site plans provided to Bartlett Tree Experts were created CBG Civil Engineers dated April 8, 2024, *(Preliminary Grading and Drainage* Plan*, Auburn Grove, Auburn Street and Woodland Avenue, San Rafael, California*, sheet C-3). The construction plans for this project are conceptual in nature, without a high level of detail.

The tree assessment was performed from the ground for visual conditions. This preliminary tree preservation report is not a tree risk assessment. As such, no trees were assessed for risk in accordance with industry standards, nor are there any tree risk ratings or risk mitigation recommendations provided within this report.

Care has been taken to obtain all information from reliable sources. All data has been verified insofar as possible; however, the consultant can neither guarantee nor be responsible for the accuracy of information provided by others.

Illustrations, diagrams, graphs, and photographs in this report, being intended as visual aids, are not necessarily to scale and should not be construed as engineering or architectural reports or surveys.

Information contained in this report covers only those items that were examined and reflects the condition of those items at the time of inspection. There is no warranty or guarantee, expressed or implied, that problems of deficiencies of the plans or property in question may not arise in the future.

There is no guarantee for the preservation of the trees contained in this report, however, the preservation plan is made with the best interest intended for the trees being preserved.