

SUMMARY

There are thirty-two (32) trees near the work limits that have root and/or branch conflicts. The branch pruning should cause no significant harm to the trees. Twelve (12) trees will likely have root conflicts which require pruning. Of these, six (6) should be considered for removal due to the resulting structural instability issues. The Tree Protection recommendations should be adequate to protect the remaining trees.

ASSIGNMENT

I was contacted by Nuvis Landscape Architecture to provide a Tree Protection Assessment for the Sunset Complex Reservoir project. The existing reservoir tanks will be removed and replaced with new tanks. The parking area on the west side will also be lowered, a retaining wall installed, and the entire parking area will be repaved. Around the edge of the complex are trees, many of which are Protected Species. The trees need to be evaluated and Tree Protection Recommendations provided. Nuvis has requested an independent Arboricultural opinion on the trees near or within the Work Limits. The Scope of this written Report will include:

1. Documenting trees that will likely be affected by construction activities.
2. Tree Protection Recommendations based upon the City of Pasadena Tree Protection Guidelines.
3. Recommendations for pruning or removal based upon current conditions and Project Plans.

On 14 June 2021 I met with Mr. Michael King, an Arborist for the City. We walked the site and I explained what I understood about the Project. We had a discussion on the best way to protect trees under this construction design, and elements for this report. I then walked the site and documented the trees likely to be effected during construction.

LIMITS OF THE ASSIGNMENT

This report documents the trees outside the Work Limits likely affected by construction activities and recommends Tree Protection procedures. Trees with trunks further than ten (10) feet from the Work Limits (or ends of branches outside of the Work Limits), shrubs, bushes and other vegetation, are not included in this report. Also, Trees within the Work Limits likely to be Removed are also not the focus of the Scope of this Assignment.

The City of Pasadena Tree Protection Plans (CPTPP) are utilized for direction in creating this report. Due to the nature of the existing conditions on this Project, not all of the elements will be applicable. However, the main philosophy is incorporated. Additionally, the Project Plans provided were at 60% completion. Further information and design decisions may affect the Recommendations given in this report. Nothing in this report is implied to limit increasing Tree Protection as necessary.

The author recognizes the authority of the City of Pasadena, and their Forestry Department, have the final decision-making authority on the disposition of the trees. While the City, and the Contractors on the Project, are encouraged to follow this Report's Recommendations (as the design stands on this date), the City may choose to change or ignore them based upon their own observations and conclusions.

The author presumes there are specific State and County Codes, and Engineering elements, that are required for the construction of a reservoir, and that these are reflected the Project Plans. These design features necessary for the project, outside the expertise of the author, may require certain trees to be removed. This report's recommendations are subject to change per these requirements.

This report is limited to a visual ground inspection. No climbing occurred, and no aerial lift was utilized. No boring, sounding, or root crown exposure was performed. This report documents the health and structural stability condition on the date given.

PURPOSE AND USE OF THE REPORT

The guiding philosophy of this report is to retain and protect all trees not in direct conflict with or prohibiting the reasonable development of the new reservoirs and will not become structurally unstable due to necessary root pruning. This report is for Nuvis Landscape Architecture, Kennedy Jenks, the City of Pasadena Forestry Department and the Project Arborist to make informed decisions for the trees. It also may be provided to a Tree Care Contractor who is contracted to perform work on the trees.

ASSESSMENT METHODS

Trees with trunks further than ten (10) feet from the Work Limits (or ends of branches outside of the Work Limits) are beyond the Scope and not included in this report. These particular trees will likely not be significantly affected by the construction activities. The

Tree Protection measures recommended should keep them from being substantially affected as well.

Tree branches will need to be pruned to provide clearance for retaining wall installation and construction activities. The pruning recommended will not significantly harm the trees. To leave these branches in place will complicate and interfere with reasonable construction activities, and potentially leave the branches vulnerable to damage from equipment or contact with new structures. The trees will need to be evaluated prior to work in this area by the Project Arborist and the contractors to determine exact clearance needed, the pruning that may or may not be needed, and how best to incorporate the greatest amount of Tree Protection possible.

The west side parking area will be lowered and a retaining wall installed. This will likely expose and damage the roots of some trees during demolition and construction activities. A solid Root Protection Zone will not be possible. Additionally some trees may have structural stability issues if roots are pruned due to their structural conditions. If pruning the roots results in a significant increase of a tree failure within the next 2 years I will recommend the tree to be removed. If there may be a slight decline in tree health due to root loss, I will not recommend removal.

Using the Plan Pages provided¹ I assessed the trees and their likelihood of being damaged by construction activities. Branches overhanging the work limits below approx. 12 ft. were evaluated for their tolerance to pruning. Trees with trunks within 10 ft. were evaluated on their tolerance to potential root pruning. This also included a structural stability assessment. Tolerant of branch and/or root pruning is primarily based upon the condition of the individual tree. Trees in a weakened or declined state, or with significant disease or defects, may not tolerate the necessary branch or root pruning.

The assessment involves observations of three areas for potential issues:

Canopy - foliage color, percentage of twig and limb dieback, and branch defects

Trunks - significant leans, sap leakage, cavities, decay and damage

Root Crown - decay and damage

¹ DS-121-122, DC-001-003, C-004-017. Plan Development is not complete at this date - @ 60%

Any issues were noted, and an overall rating was calculated. The rating scale is defined as follows:

Good: No significant observable defects. The canopy, trunk and root crown area appear normal for the species. The tree may have minor signs or defects that could be corrected or are not relevant to the assessment.

Fair: The tree exhibits signs of disease, stress, decay, insect infestation or damage. Signs may include thinning or yellowing foliage, dieback, decay, insect damage, or sap leakage. The tree may contain noteworthy defects such as branch/trunk damage, decay, cavities or a lean.

Poor: More than 50% of the overall health or structure of the tree is affected by disease, stress, decay, insect damage or decay. The decline is not likely reversible.

The Tree Protection recommendations are based on these observable observations of the trees.

Tree Protection Plans often include a procedure for determining the Tree Protection Zone (TPZ),² which includes the Root Protection Zone (RPZ). This may be based upon the dripline,³ or a formula that creates a certain distance from the trunk.⁴ Per the Plans the new construction is within both of these methods. Therefore, the author is utilizing “as far as possible from the tree” formula.

Certain Grading, Paving and Yard Piping Plan sheets do not show certain existing trees within the WL as retained, especially on the south side. They show one Street Tree on Sunset Avenue to be removed to create a new driveway, and one on Mountain Street where a new pipeline will be installed. These trees and the ones currently located by the existing reservoirs that will likely be removed are not included in the Tree Matrix. Existing trees on the edge of or outside the work limits that may be removed in the future will still be documented in this report with recommendations. A final decision on tree removals can be made between the City and the Design Team.

² The extent of protected area around the tree

³ Outer edge of the crown

⁴ Often used is the 1 ft. per each trunk diameter inch. A 15 in. diameter tree would have a Tree Protection Zone extending 15 ft. from the base of the tree in all directions.

OBSERVATIONS AND DISCUSSION

I walked the boundaries of the work limits starting at the northeast corner and continuing in a counterclockwise direction. For this report I gave a number to trees that will need branch pruning and/or potentially root pruning. These numbers coordinate with the Pictures in Appendix A. This number is strictly for report clarity, no tags were placed, and no official numbering system is implied. Additionally there are trees on the site with numbered tags. These are noted under my numbering system. The details for these trees are contained in the Tree Survey Matrix below.

The tree species observed in the Project area are Oak (*Quercus agrifolia*), Chinese Elm (*Ulmus parvifolia*), Carrotwood (*Cupaniopsis anacardioides*), Fan Palm (*Washingtonia robusta*), Crape Myrtle (*Lagerstroemia indica*), Brachychiton (*B. populneus*) and Walnut (*Juglans californica*). They are generally in Good condition with some in Fair condition. Several Crape Myrtle are dead.

These are my general observations, separated into four areas. I am primarily using Plan pgs. DC-001-003 for the tree locations. These start at the northeast end and follow the edge of the work limits in a counterclockwise direction. Individual tree specifics are contained in the Tree Survey Matrix. The Matrix follows this order, as do the associated pictures in Appendix A.

North End – DC-001

From my understanding the northeast upper parking will only be repaved. On the east side are two large Fan Palms (WR₁₋₂) which should not be impacted. On the northwest and west side the trees are outside the work limits (WL). There potentially may be pruning necessary for one Mulberry tree (*Morus alba* – M₁) and a Canary palm (*Phoenix canariensis* – CP₁). At the southwest corner is a Carrotwood tree (CW₁) with branches extending into the work area. These may be pruned back to the WL as necessary.

Turning the corner to the west there are several branches from an Oak (#1) extending into the WL. One 3-4 in. branch and additional small stems may be pruned back to an appropriate location. No retaining wall is scheduled to be installed in this area, and no grade lowering.

West Side – DC-001-002

At the northwest corner are 1-2 in. Oak branches (#2) that may be raised. Roots should not be affected. This is near where the retaining wall will be installed per Plan pg. C-010,⁵ and approx. where the grade reduction will begin. In the west median is a Crape Myrtle (CM1) that is dead and may be removed. The center median to the east has a multi-stem Crape Myrtle (CM2) that could be retained. Per the Paving Plan C-007 this median is redesigned. Retention of the tree is recommended.

Further south are two Oaks (#3-4) that have 1-2 in. branches that may be pruned back to the WL. They are more than 10 ft. from the work limits so their roots should not be affected. South of here is a Crape Myrtle (CM3) that is dead and can be removed. By the parking lot fence are 3 Oaks (#5-7) that will need 1-2” stems raised and pruned back. Trees #5 and #6 are 8.5 ft. from the WL. Roots will potentially be encountered.

North of the bridge walkway are two Oaks (#8-9) with 1-2” branches raised. The Oaks are 6 ft. and 3 ft. back of WL. Roots will likely be encountered.

South of the bridge are 3 Oaks (#10-12, tags #1621-1623) that are 2 ft., 6 ft. and 7 ft. back of WL respectively. The crowns have been raised and should not be in conflict. There will be root issues, especially with #10. These are upslope holding roots, and the tree is in Fair condition. Additionally, per Plan sheets C-008, -011, -016 show an access ramp to be installed immediately east of this tree. Tree #10 should be considered for removal due to holding and support roots being removed. There will be no Tree Protection procedures that will adequately protect its roots. Trees #11-12 should be evaluated for potential significant root loss.

Across the parking area is a median with a large Fan Palm and a small Oak (<2 in. DSH). These will be removed per the Paving and Grading Plan sheets (C-008, 011).

Further south are 3 Oaks (#13-15, tags #1617-1619) that sit 21 ft. back of the WL. There should be no conflicts. The retaining wall installation ends south of this location.

On a mound facing Mountain St are 3 Chinese Elm (#16-18). #16 is 10+ ft. back of WL. #17 has a significant lean towards Mountain St and is 6 ft. back of WL. #18 is 4 ft. back of WL,

⁵ I used the existing railing as the approx. location for the retaining wall.

has a significant vertical cavity, and has an off-center crown on the south side towards Mountain St. Additionally, per the Grading and the Yard Piping Plan sheets (C-011, -016) there will be new pipeline installed where these trees are located. Trees #17 and #18 should be removed due to holding and support roots likely being removed. There will be no Tree Protection procedures that will adequately protect their roots.

Across from these Elms to the north is a *Brachychiton* in a median. Per the Grading and Paving Plans (C-008, -011) this tree will be removed.

South Side – DC-003

Per the current Plan sheets (C-009, -012, -017) the only site trees shown to retain are the ones in the Monument area at the corner of Sunset Ave and Mountain St. The Historical Monument and Landscape Conceptual Design Sheet (Nuvis 6-3-2021) has a note: REMOVE EXISTING TREES PER CITY ARBORIST AS NEEDED TO ACCOMMODATE RESERVOIR CONSTRUCTION. I will describe the trees around this portion that may be in conflict based upon demolition and new construction work limits at the current retaining wall. Those trees with branches and/or roots not in potential direct conflict may not be specifically mentioned or described. I will recommend trees potentially in conflict to be pruned or removed. Removals are based on the tree not tolerating the likely redesign of the area per the current plans. The final decision will be made by the Design Team and the City Arborist.

South of the Mountain St driveway are two Chinese Elm (#19-20, tags #1607, 1608). #19 is <1 ft. back of WL and has a lean towards Mountain St. #20 is <1 ft. inside the WL. Tree #19 should be removed due to holding and support roots likely being removed. Tree #20 should be removed as it is within the work limits. Significant holding and support roots will be removed during construction activities. There will be no Tree Protection procedures that will adequately protect its roots.

South of the Pump House is a Chinese Elm (#21, tag #1606). It is 20 ft. back of WL. Potential for some minor limb pruning.

Going around the southern end in a counterclockwise direction are various species. They are outside of the WL and should not be in conflict unless entire area is being removed.

East Side – DC-001-003

Just past the group of Chinese Elms in the southeast corner, heading north, is another Elm (#22) that may need <1” stems pruned.

North of that Elm tree is a Walnut and a Brachychiton (#23-24). Interfering stems <1 in. may be pruned back as needed.

Street Trees on Sunset Ave.

These street trees are Oak (*Quercus agrifolia*) and Pacific Madrone (*Arbutus menziesii*). They are to be Protected. There are branches from several of these trees that extend into the WL. Additionally there is one Madrone scheduled to be removed for the creation of a new driveway.

North of the Walnut is a street tree Oak (#25) with branches extending into the WL. Interfering stems <1 in. may be pruned back as needed.

The second street tree north of it is a Pacific Madrone (#26). A long 4-inch branch extends into the work area. This branch may be removed at the parent branch.

The second and third street tree north are Oaks (#27-28). Both may have 1-2 in. stems raised and pruned back.

The second tree north of these is a Madrone which may also need some 1-2 in. stems pruned back.

The second tree north of this one, a Madrone, is scheduled to be removed for the creation of a new driveway.

Next is an Oak and then a Madrone. Both may have 1-2 in. stems pruned back as necessary. Just north of this Madrone the other driveway will be installed.

The last tree is a large Oak south of the existing entrance. The branches should not be in conflict.

TREE SURVEY MATRIX

This matrix contains my assigned tree number, picture number(s), species, common name, DSH⁶, approx. height (ft.), condition, tag number (if observed), and notes. The DSH and Height of the tree were attained only if there is potential root conflict. The trees start on the northeast corner and goes clockwise around the site. This matrix does not include trees assumed to be removed per the existing plans.

T#	Pic	Species	Common Name	D"	H'	Cond	Tag#	Notes
1	14-16	<i>Quercus agrifolia</i>	Coast Live Oak	*	*	G		Prune 1 3-4" + small stems
2	17-19	<i>Quercus agrifolia</i>	Coast Live Oak	*	*	G		Raise 1-2" stems
3	22-23	<i>Quercus agrifolia</i>	Coast Live Oak	*	*	G		Prune 1-2" stems
4	24-25	<i>Quercus agrifolia</i>	Coast Live Oak	*	*	G		Prune <1" stems
5	27-33	<i>Quercus agrifolia</i>	Coast Live Oak	18	25	G		8.5 ft. back of work limits Prune <1" stems
6	27-33	<i>Quercus agrifolia</i>	Coast Live Oak	13/13	35	G		8.5 ft. back of work limits Prune <1" stems
7	27-33	<i>Quercus agrifolia</i>	Coast Live Oak	*	*	G		Prune 1-2" stems
8	34-37	<i>Quercus agrifolia</i>	Coast Live Oak	12	15	G		6 ft. back of work limits Prune <1" stems
9	34-37	<i>Quercus agrifolia</i>	Coast Live Oak	16	25	G		3 ft. back of work limits Prune <1" stems
10	38-45	<i>Quercus agrifolia</i>	Coast Live Oak	24	35	F	1623	2 ft. back of work limits CONSIDER FOR REMOVAL
11	38-45	<i>Quercus agrifolia</i>	Coast Live Oak	13	30	G	1622	6 ft. back of work limits
12	38-45	<i>Quercus agrifolia</i>	Coast Live Oak	19	45	G	1621	7 ft. back of work limits
13	46-47	<i>Quercus agrifolia</i>	Coast Live Oak	*	*	G	1619	21 ft. back of work limits
14	46-47	<i>Quercus agrifolia</i>	Coast Live Oak	*	*	G	1618	21 ft. back of work limits
15	46-47	<i>Quercus agrifolia</i>	Coast Live Oak	*	*	G	1617	21 ft. back of work limits
16	50-53	<i>Ulmus parvifolia</i>	Chinese Elm	Dbl trunk	25	G		POTENTIAL REMOVAL
17	50-53	<i>Ulmus parvifolia</i>	Chinese Elm	14	35	F		Significant lean CONSIDER FOR REMOVAL
18	50-53	<i>Ulmus parvifolia</i>	Chinese Elm	22	40	F		Trunk decay CONSIDER FOR REMOVAL
19	54-58	<i>Ulmus parvifolia</i>	Chinese Elm	22	45	F	1608	Significant lean CONSIDER FOR REMOVAL
20	54-58	<i>Ulmus parvifolia</i>	Chinese Elm	21	45	G	1607	Inside work limits CONSIDER FOR REMOVAL
21	59	<i>Ulmus parvifolia</i>	Chinese Elm	21	50	G	1606	20 ft. back of work limits Potential for minor limb pruning
22	66	<i>Ulmus parvifolia</i>	Chinese Elm	*	*	G		Prune <1" stems
23	67-68	<i>Juglans californica</i>	Walnut	*	*	G		Prune <1" stems
24	67-68	<i>Brachychiton populneus</i>	Bottle tree	*	*	F		Prune <1" stems
25	69-70	<i>Quercus agrifolia</i>	Coast Live Oak	*	*	G		Prune <1" stems
26	71-72	<i>Arbutus menziesii</i>	Pacific Madrone	*	*	G		Remove 4 in. branch at parent stem
27	73	<i>Quercus agrifolia</i>	Coast Live Oak	*	*	G		Prune <1" stems
28	74-75	<i>Quercus agrifolia</i>	Coast Live Oak	*	*	G		Prune 1-2" stems

⁶ Diameter at Standard Height, measured approx. 4.5 ft. above the base of the tree.

29	76	<i>Arbutus menziesii</i>	Pacific Madrone	*	*	G		Prune 1-2" stems
30	77-78	<i>Quercus agrifolia</i>	Coast Live Oak	*	*	G		Prune 1-2" stems
31	79	<i>Arbutus menziesii</i>	Pacific Madrone	*	*	G		Prune 1-2" stems
32	80	<i>Quercus agrifolia</i>	Coast Live Oak	*	*	G		No pruning likely needed
WR1-2	1-3	<i>Washingtonia robusta</i>	Fan Palm	*	*	G		No conflicts likely
M1	5, 7	<i>Morus alba</i>	Mulberry	*	*	P		Potential pruning
CP1	5, 8	<i>Phoenix canariensis</i>	Canary Palm	*	*	G		Potential pruning
CW1	6, 10-13	<i>Cupaniopsis anacardioides</i>	Carrotwood	*	*	G		Pruning likely necessary
CM1	20	<i>Lagerstroemia indica</i>	Crape Myrtle	6	10	D		Dead
CM2	21	<i>Lagerstroemia indica</i>	Crape Myrtle	Multi	10	G		Recommend retain
CM3	26	<i>Lagerstroemia indica</i>	Crape Myrtle	5	8	D		Dead

* No DSH or Height are listed as there is a low or no Likelihood of root issues

TREE PROTECTION RECOMMENDATIONS

A Project Arborist shall be acquired to oversee and monitor the Tree Protection. This may be a Pasadena City Forestry Arborist or an independent contractor. The Arborist should be ISA Certified or a Registered Consulting Arborist, having attained a Tree Risk Assessment Qualification. The Arborist shall have 3 or more years of experience with similar projects.

The Project Arborist shall walk the site with the Contractor prior to the start of work to determine the branch pruning that will be needed. Root Protection and Root Pruning procedures should be discussed and a plan agreed upon.

The applicable portions of the City's Tree Protection Guidelines should be implemented and monitored for compliance by the Project Arborist. Due to the nature of this Project, Tree Protection fencing should be placed as far from the trunks as possible.

STREET TREES

The trees on Sunset Avenue should be evaluated for proper street clearance. There will be large trucks going up and down this road, and likely parking. The trees should be evaluated to prevent damage through contact with the large trucks and equipment.

The new driveway entrance, according to current plans, will be just north of an existing Madrone. This tree should be evaluated when the roots are exposed. Proper pruning per the City's Tree Protection Guidelines should occur.

TREE PRUNING PROCEDURES

All tree pruning should be under the direction of an ISA Certified Arborist and follow ANSIA A300 Pruning Standards and the City's Tree Protection Guidelines. The Project Arborist will evaluate each tree and make the Pruning Specifications for that tree. Included will be:

- Prune only what is necessary to achieve clearance, and no more than 15% of the live crown shall be removed.
- The Minimal amount of cuts to achieve the desired results is preferred.
- Only use pruning tools designed to make clean cuts. Hand saws, chain saws, pole pruners that have been sharpened and cleaned.

ROOT PRUNING PROCEDURES

All tree root pruning should be under the direction of an ISA Certified Arborist. While there are trees listed as Likely to need root pruning, the trees on this site 10-feet or more outside of the work limits may possibly have roots that will be exposed or damaged. All roots encountered should come under these procedures.

A Root Protection Plan shall be developed by the Project Arborist. This will be discussed with the Contractor to determine the best methods to implement the Plan. The Plan will include the following elements:

1. The minimal amount of roots as possible should be pruned.
2. Work near existing roots shall be done with hand tools. Concrete and asphalt may be broken by mechanical means but should be cleared away from the roots by hand.
3. Roots should be exposed by hand tools or an Air Spade.
4. The Project Arborist will determine if the roots required to be pruned will result in structural instability of the tree. Additional methods or adjustment of the Plan Design should be considered to avoid pruning the significant roots. If additional methods or adjustment to the design is not practical or reasonable, then removal of the tree should be considered.
5. The Project Arborist and the Contractor will determine the number of roots to be cut and the location to make the cuts.
6. Roots will be pruned with sharp, cleaned tools designed for this purpose, such as hand and chain saws. No chopping, ripping or tearing is allowed.
7. Cut root ends will not be left exposed overnight. Cover with moist native soil or burlap.
8. Damaged roots will be cut cleanly back from the damaged area.

APPENDIX A - PICTURES

1. Northeast corner of the site.



2, 3. The two Fan Palms (WR1-2). They should not be in conflict with repaving activities.



4. Looking north at the north end.



5. Northwest side of the north parking area.



6. The northwest corner of the north parking and north side of the west parking area.



7. M1 in the Norwest corner. Is in Poor condition. Likely will need clearance pruning for paving.



8. CP1 will likely need clearance pruning for paving operations.



9. Trees south of CP1 will likely not be in conflict with paving operations.



10. Trees at corner of north parking. CW1 (arrow) will likely need clearance pruning.



11, 12. Looking southwest and north at the branches to be clearance pruned. Orange line marks the location of the work limits which is approx. where the metal rail fence is located.



13. Looking north at CW1 and the branches to be clearance pruned.



14. Looking north at #1.



15. Looking east at the overhanging branches (blue arrows) to be raised and pruned back. Orange arrow marks the approx. location of the work limits.



16. If necessary, branch may be pruned back to a location with a lateral branch (red line).



17. #2 in northwest corner of west parking area.



18. Looking north and south at the branches to be pruned on #2. The railing is the approx. location of the work limits.



19. Looking up at the branches of #2.



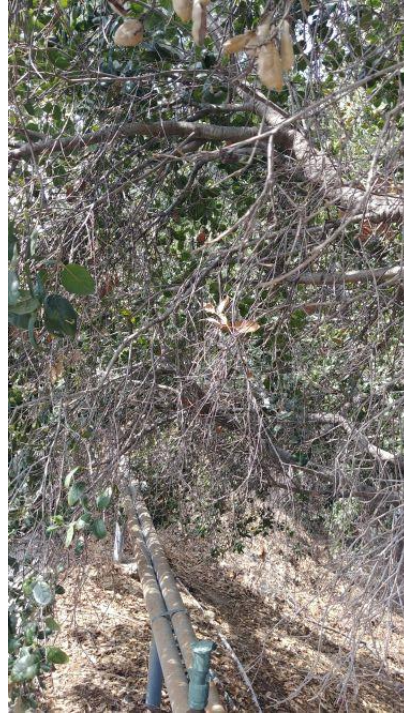
20. CM1 is dead.



21. CM2 may be retained.



22, 23. #3 location and the small stems to be pruned.



24, 25. The tips of small branches from #4.



26. CM3 is dead.



27. Tree's #5-7.



28. Trunks of trees #5-7 (R-L). #5-6 are 8.5 ft. back of the work limits, #7 is 10+ ft.



29. Trees #5-6 (R-L).



30. #7.



31-33. Branches potentially to be pruned on #5-7.



34. Trees # 8-9.



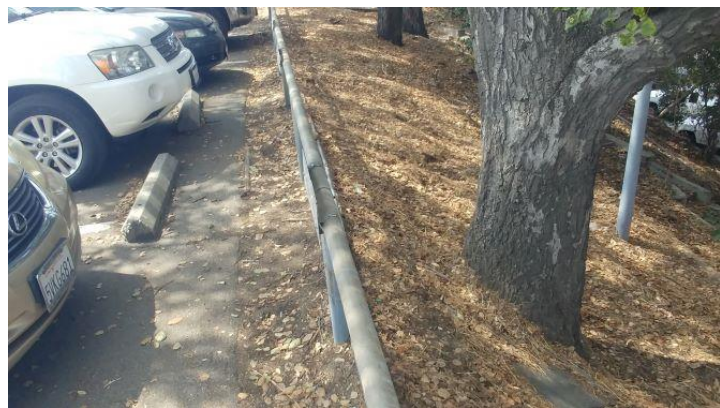
35, 36. Trees #8-9, 6 and 3 ft. back of WL respectively.



37. Potential branches to be pruned.



38, 39. Tree #10.



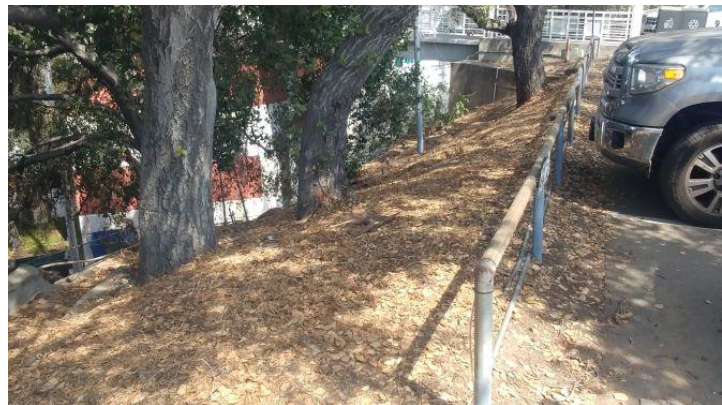
40, 41. Trees #11-12.



42. Tree #12.



43. Trees #10-12 (R-L).



44, 45. Trees #10-12. Crowns should not need clearance pruning.



46. Trees 13-15.



47. Trees 13-15. The closest is 21 ft. behind the WL.



48, 49. Fan Palm, small Oak and Brachychiton to be removed per plans.



50. Trees #16-18 (R-L). Note lean on #17 and decay cavity on #18.



51. Trees 16-18. Note significant lean on #17.



52. Looking northwest.



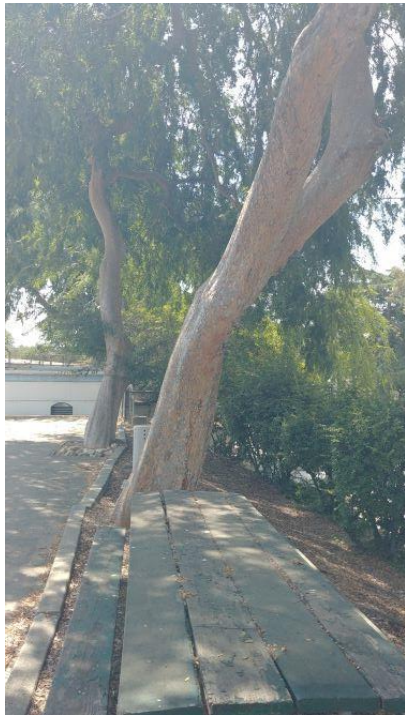
53. Trees #16-17.



54. Trees #19-20.



55, 56. Note significant lean of #19, and close proximity to curb.



57, 58. Tree #20. Note slight lean to east and tree well.



59. Tree # 21. Possibly minor crown raising.



South Side Trees Outside of Work Limits – Likely No Conflicts

60, 61.



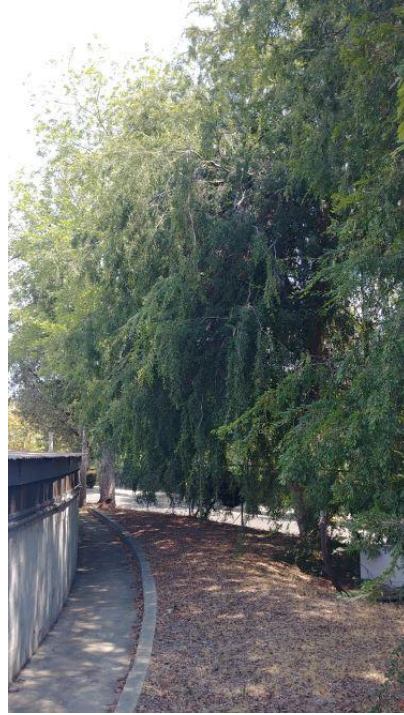
62-64.



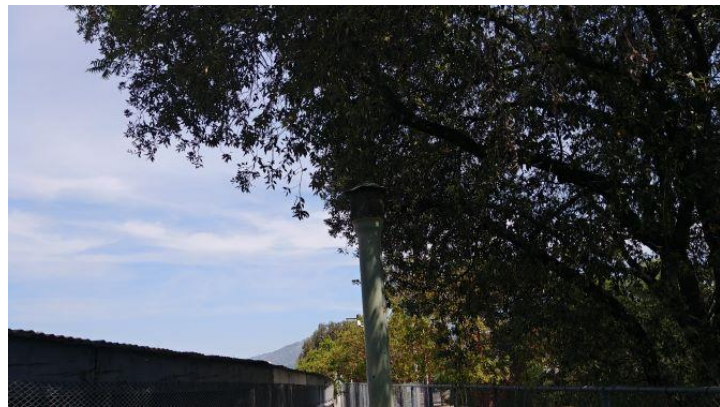
65. Chinese Elms in Southeast corner.



66. Tree #22.



67, 68. Trees #23-24.



69, 70. Tree #25 (Street Tree Oak).



71. Tree #26 (Street Tree Madrone).



72. 4-inch branch may be pruned at parent stem (arrow).



73. Tree #27 with #28 in the background.



74. Tree #28.



75. Looking up at crown of #28.



76. Tree #29. The second tree to the north (arrow) is scheduled to be removed for a driveway installation.



77. Tree #30.



78. Closer view of #30.



79. Tree #31.



80. Tree #32.



APPENDIX B - ASSUMPTIONS AND LIMITING CONDITIONS

1. Loss or alteration of any part of this report invalidates the entire report.

2. The report and the opinions expressed herein represent the professional opinion of the author. The fee generated from this report is not contingent upon any prior or future outcome or subsequent event. Any future work done by this author related to this tree or other trees of the client shall be billed separately from this work.

3. Possession of this report or a copy thereof does not imply right of publication or use for any other purpose by any other than the person to whom it is addressed, without the prior expressed written or verbal consent of the author.

4. The author does not have any financial or business associations with any commercial arborist performing work for the client. Any future work done by a commercial arborist shall be performed via a separate contract between the client and the arborist.

5. Sketches, diagrams, graphs and photographs provided in the Appendixes of this report are provided as a visual aid, are not necessarily to scale, and shall not be construed as an engineering or architectural reports or surveys.

6. Care has been taken to obtain information from reliable sources. The author cannot guarantee the accuracy nor be responsible for the information provided by others.

7. Unless otherwise specified, the information contained in this report covers only those items that were examined and reflects the condition of those items at the time of inspection. The inspection is limited as stated in the text of this report. There is no warranty or guarantee that problems or deficiencies of the tree in question will not rise in the future.

8. The author shall not be required to give testimony or attend court by reason of this report unless subsequent contractual arrangements are made. This includes payment of an additional fee for such services as described in a subsequent contract for services.

APPENDIX C – CERTIFICATE OF PERFORMANCE

I, Eric Gorsuch, certify that:

- I have personally inspected the subject tree of this report and I have stated my findings accurately;
- That the analysis, opinions and conclusions stated herein are my own;
- That my analysis, opinions and conclusions were developed and this report has been prepared according to commonly accepted arboricultural practices and standards;
- That no one provided significant professional assistance to the author, unless specified therein;
- That my compensation is not dependent upon the reporting of a predetermined conclusion or opinion that favors my cause, my client, or any other party;
- I have no current or prospective interest in the tree or the property that is the subject of this report, and have no personal interest or bias with respect to the party(ies) involved.

I further certify that I am a member in good standing of the American Society of Consulting Arborists and the International Society of Arboriculture. I have been a Certified Arborist since 2005 and Tree Risk Assessment Qualified since 2013.



Eric Gorsuch, Registered Consulting Arborist #575

Date _____



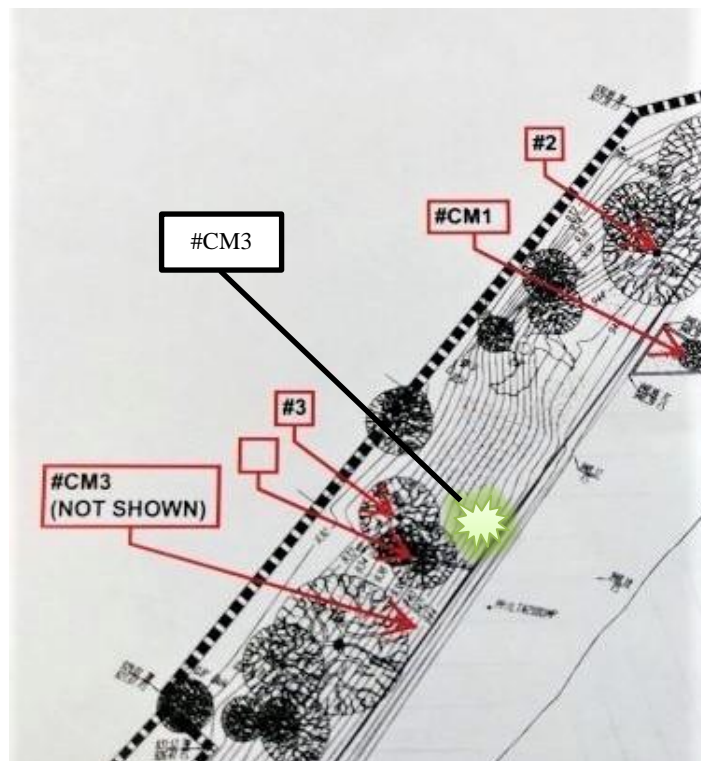
ADDENDUM 11-5-21

5 November 2021
Nuvis Landscape Architecture
RE: Sunset Reservoir, Pasadena

This Addendum to the 22 June 2021 report is to reflect the updated information provided. I have updated the count with three (3) additional trees and created a new list of nineteen (19) trees likely to be removed due to the new construction design (#Rxx). This Addendum should provide information on the questions raised regarding the tree recommendations. Each of these points contain views of the Plan Sheets with KJ comments and my responses for clarification.

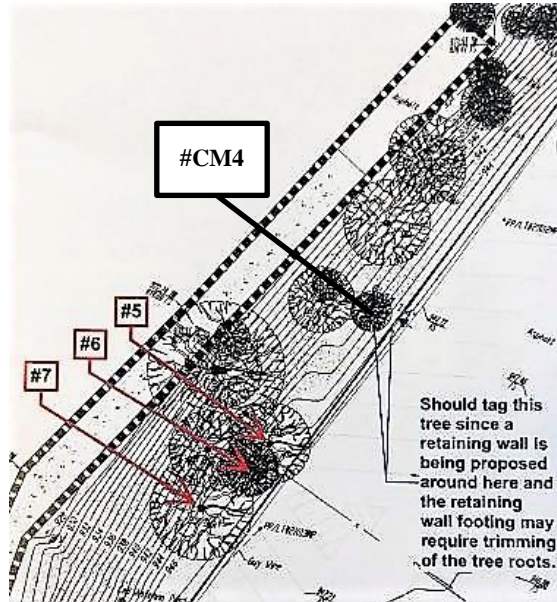
UPDATES

1. Correct placement of #CM3 (Sheet C-004).

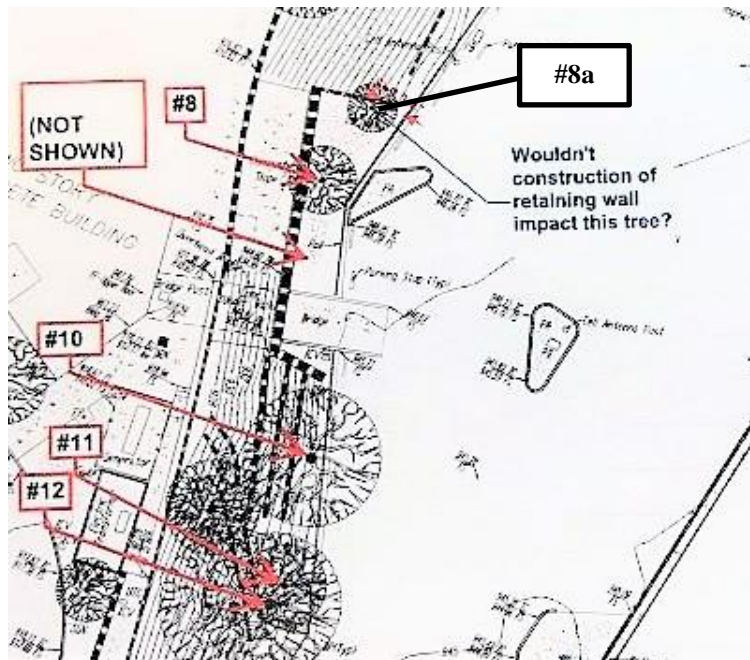




2. Added one Crape Myrtle (CM#4, Sheet C-004).



3. Added one Oak (#8a, Sheet C-005).

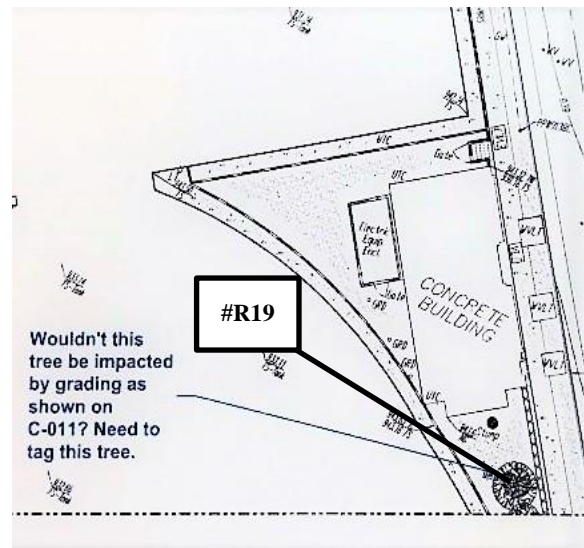
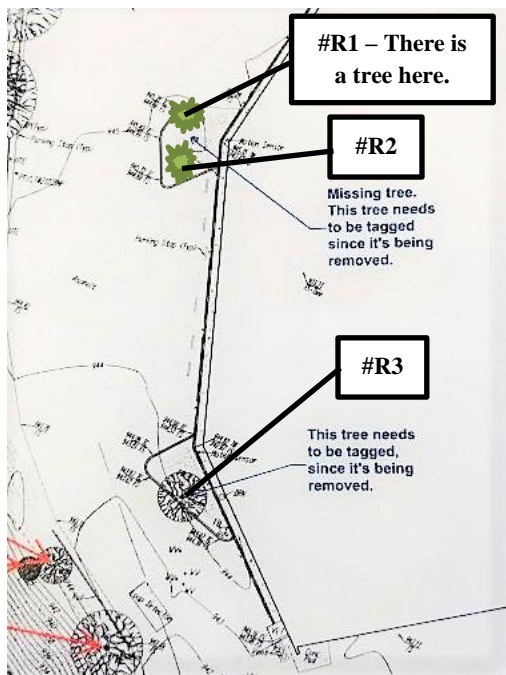




4. Confirm placement of tree #9 (Sheet C-005).

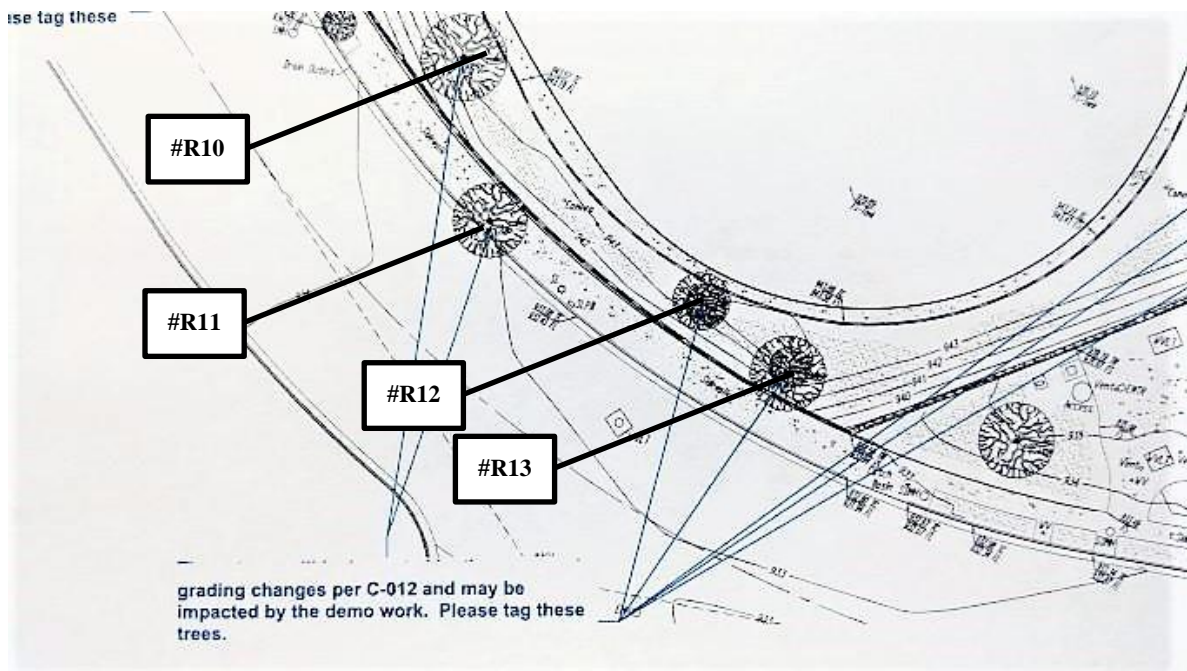
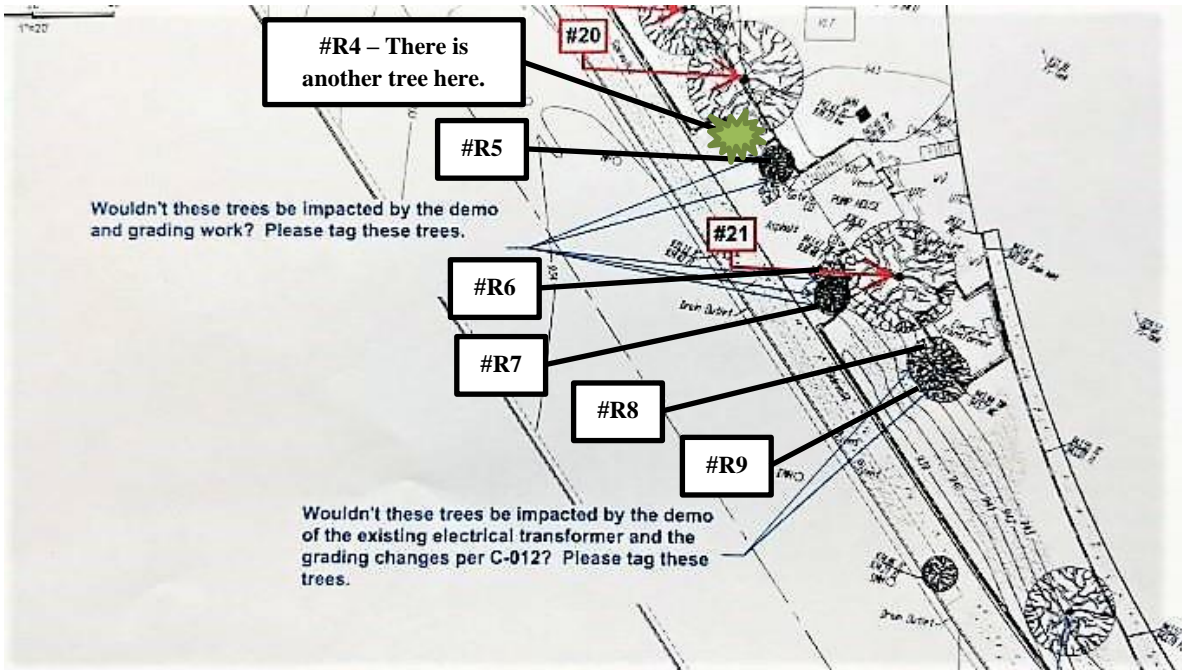


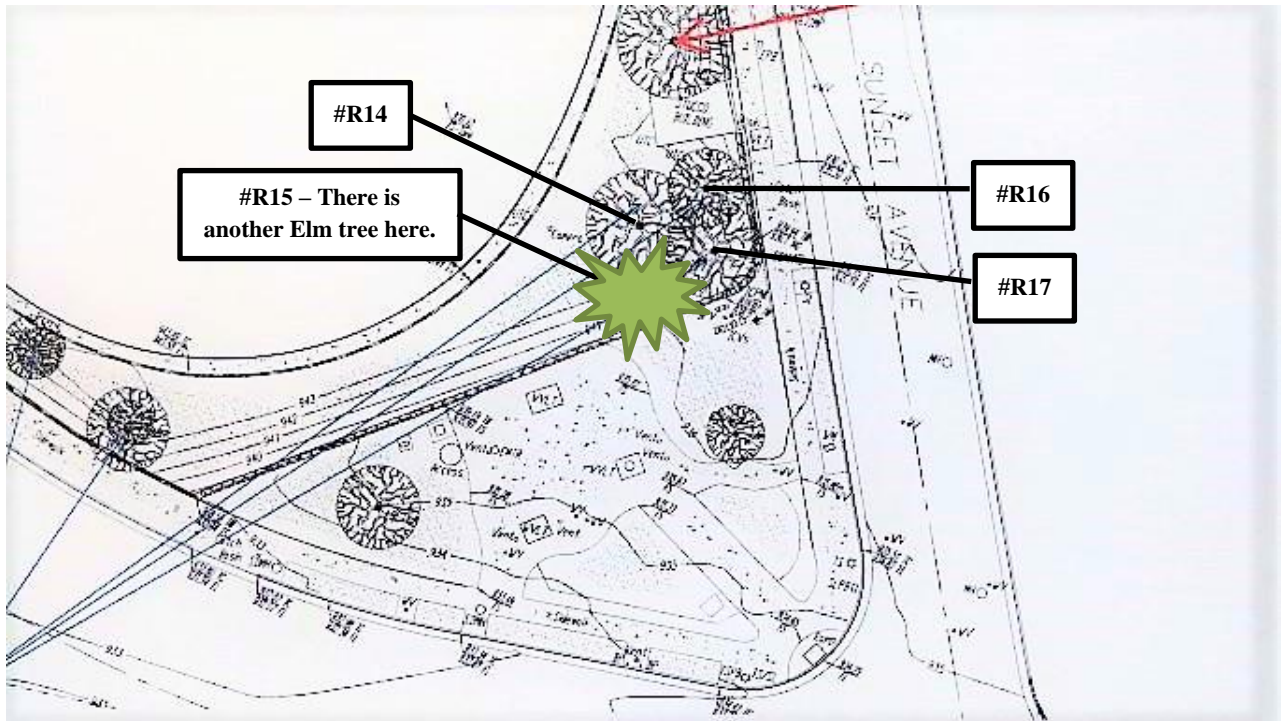
5. Three (4) trees to be removed (Sheet C-005).



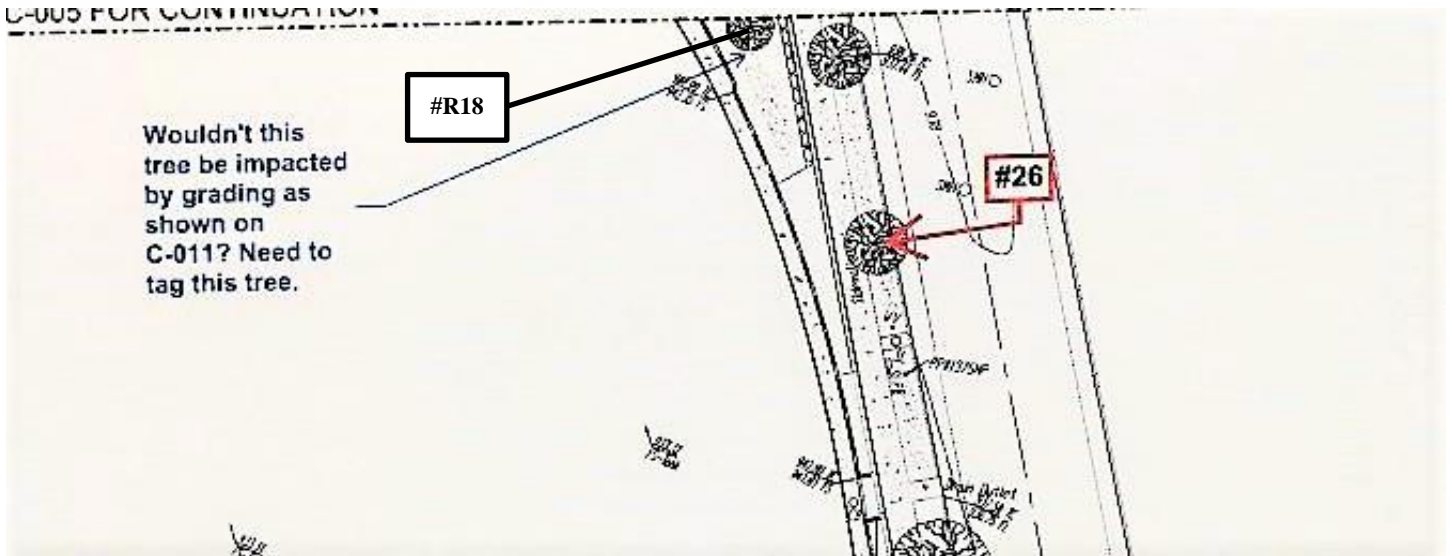


6. Sixteen (15) trees to be removed (Sheet C-006).



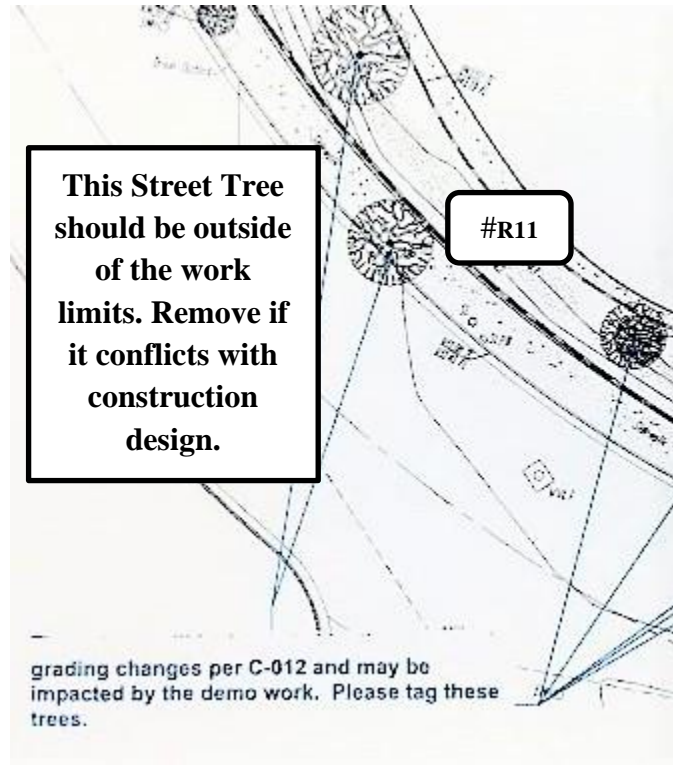


C-005 FOR CONTINUATION

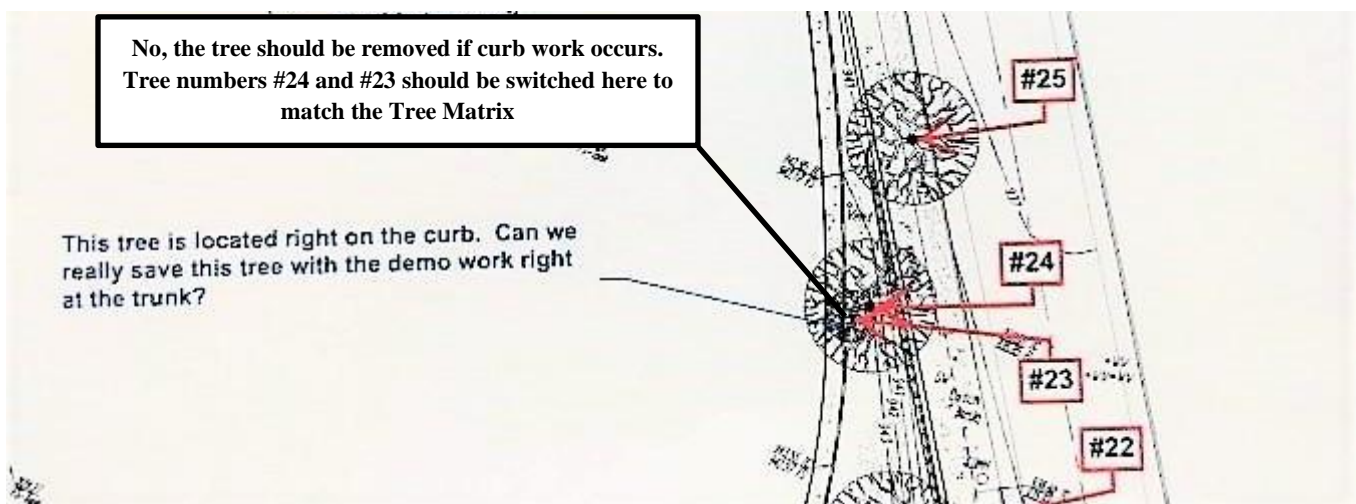




7. Comment on tagging Street Tree on Montana potentially impacted by demo work (Sheet C-006).

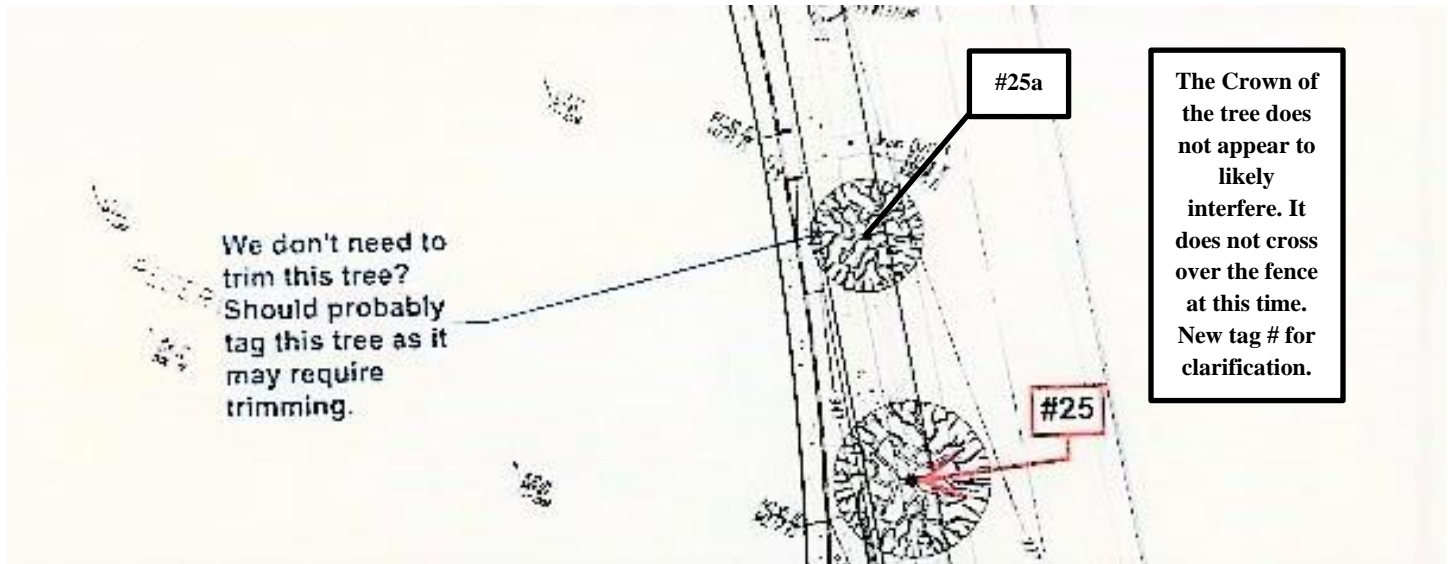


8. Comment on #24 impacted by demo work, and correct numbering (shown as #23 - Sheet C-006).





9. Comment on tagging Street Tree on Sunset potentially to be pruned (Sheet C-006).



UPDATED TREE SURVEY MATRIX

Updated information is in **bold**. “Consider for Removal” is defined as trees that will likely not tolerate the necessary root pruning likely to occur, but are not specifically called out to remove.

T#	Species	Common Name	D"	H'	Cond	Tag#	Notes
1	<i>Quercus agrifolia</i>	Coast Live Oak	*	*	G		Prune 1 3-4" + small stems
2	<i>Quercus agrifolia</i>	Coast Live Oak	*	*	G		Raise 1-2" stems
3	<i>Quercus agrifolia</i>	Coast Live Oak	*	*	G		Prune 1-2" stems
4	<i>Quercus agrifolia</i>	Coast Live Oak	*	*	G		Prune <1" stems
5	<i>Quercus agrifolia</i>	Coast Live Oak	18	25	G		8.5 ft. back of work limits Prune <1" stems
6	<i>Quercus agrifolia</i>	Coast Live Oak	13/13	35	G		8.5 ft. back of work limits Prune <1" stems
7	<i>Quercus agrifolia</i>	Coast Live Oak	*	*	G		Prune 1-2" stems
8	<i>Quercus agrifolia</i>	Coast Live Oak	12	15	G		6 ft. back of work limits Prune <1" stems
8a	<i>Quercus agrifolia</i>	Coast Live Oak	7	15	G		6.5 ft. back of work limits Prune <1" stems
9	<i>Quercus agrifolia</i>	Coast Live Oak	16	25	G		3 ft. back of work limits Prune <1" stems
10	<i>Quercus agrifolia</i>	Coast Live Oak	24	35	F	1623	2 ft. back of work limits CONSIDER FOR REMOVAL
11	<i>Quercus agrifolia</i>	Coast Live Oak	13	30	G	1622	6 ft. back of work limits
12	<i>Quercus agrifolia</i>	Coast Live Oak	19	45	G	1621	7 ft. back of work limits





13	<i>Quercus agrifolia</i>	Coast Live Oak	*	*	G	1619	21 ft. back of work limits
14	<i>Quercus agrifolia</i>	Coast Live Oak	*	*	G	1618	21 ft. back of work limits
15	<i>Quercus agrifolia</i>	Coast Live Oak	*	*	G	1617	21 ft. back of work limits
16	<i>Ulmus parvifolia</i>	Chinese Elm	Dbl trunk	25	G		CONSIDER FOR REMOVAL
17	<i>Ulmus parvifolia</i>	Chinese Elm	14	35	F		Significant lean CONSIDER FOR REMOVAL
18	<i>Ulmus parvifolia</i>	Chinese Elm	22	40	F		Trunk decay CONSIDER FOR REMOVAL
19	<i>Ulmus parvifolia</i>	Chinese Elm	22	45	F	1608	Significant lean CONSIDER FOR REMOVAL
20	<i>Ulmus parvifolia</i>	Chinese Elm	21	45	G	1607	Inside work limits CONSIDER FOR REMOVAL
21	<i>Ulmus parvifolia</i>	Chinese Elm	21	50	G	1606	20 ft. back of work limits Potential for minor limb pruning
22	<i>Ulmus parvifolia</i>	Chinese Elm	*	*	G		Prune <1" stems
23	<i>Juglans californica</i>	Walnut	*	*	G		Prune <1" stems
24	<i>Brachychiton populneus</i>	Bottle tree	*	*	F		Conflict with demolition RECOMMEND REMOVAL
25	<i>Quercus agrifolia</i>	Coast Live Oak	*	*	G		Prune <1" stems
25a	<i>Arbutus menziesii</i>	Pacific Madrone	*	*	G		No conflicts likely
26	<i>Arbutus menziesii</i>	Pacific Madrone	*	*	G		Remove 4 in. branch at parent stem
27	<i>Quercus agrifolia</i>	Coast Live Oak	*	*	G		Prune <1" stems
28	<i>Quercus agrifolia</i>	Coast Live Oak	*	*	G		Prune 1-2" stems
29	<i>Arbutus menziesii</i>	Pacific Madrone	*	*	G		Prune 1-2" stems
30	<i>Quercus agrifolia</i>	Coast Live Oak	*	*	G		Prune 1-2" stems
31	<i>Arbutus menziesii</i>	Pacific Madrone	*	*	G		Prune 1-2" stems
32	<i>Quercus agrifolia</i>	Coast Live Oak	*	*	G		No pruning likely needed
WR1-2	<i>Washingtonia robusta</i>	Fan Palm	*	*	G		No conflicts likely
M1	<i>Morus alba</i>	Mulberry	*	*	P		Potential pruning
CP1	<i>Phoenix canariensis</i>	Canary Palm	*	*	G		Potential pruning
CW1	<i>Cupaniopsis anacardioides</i>	Carrotwood	*	*	G		Pruning likely necessary
CM1	<i>Lagerstroemia indica</i>	Crape Myrtle	6	10	D		Dead
CM2	<i>Lagerstroemia indica</i>	Crape Myrtle	Multi	10	G		Recommend retain
CM3	<i>Lagerstroemia indica</i>	Crape Myrtle	5	8	D		Dead
CM4	<i>Lagerstroemia indica</i>	Crape Myrtle	5	8	F		Conflict with new construction RECOMMEND REMOVAL
R1	<i>Quercus agrifolia</i>	Coast Live Oak	<4	5	G		Removal
R2	<i>Washingtonia robusta</i>	Fan Palm		40	G		Removal
R3	<i>Brachychiton populneus</i>	Bottle Tree	12	20	G		Removal
R4	<i>Ligustrum spp.</i>	Privet	Multi	15	G		Removal
R5	<i>Ligustrum spp.</i>	Privet	Multi	15	G		Removal
R6	<i>Ligustrum spp.</i>	Privet	Multi	15	G		Removal
R7	<i>Ligustrum spp.</i>	Privet	Multi	15	G		Removal
R8	<i>Brachychiton populneus</i>	Bottle Tree	16	30	G		Removal



R9	<i>Brachychiton populneus</i>	Bottle Tree	16	30	G		Removal
R10	<i>Ligustrum spp.</i>	Privet	17	35	G		Removal
R11	<i>Eucalyptus halepensis</i>	Eucalyptus	16	30	F		STREET TREE - Appears outside of limits - Remove if conflicts with construction design
R12	<i>Schinus terebinthifolius</i>	Brazilian Pepper	18	25	F		Removal
R13	<i>Pistacia chinensis</i>	Pistache	24	35	G		Removal
R14	<i>Ulmus parvifolia</i>	Chinese Elm	17	40	G		Removal
R15	<i>Ulmus parvifolia</i>	Chinese Elm	17	40	G		Removal
R16	<i>Ulmus parvifolia</i>	Chinese Elm	15	35	G		Removal
R17	<i>Ulmus parvifolia</i>	Chinese Elm	13	30	F		Removal
R18	<i>Prunus spp.</i>	Cherry	12	15	P		Removal
R19	<i>Prunus spp.</i>	Cherry	20	10	P		Removal

Thank you for the additional information and clarifications. Please contact me if you have any questions.

Eric Gorsuch
ASCA Registered Consulting Arborist #575
ISA Certified Arborist WE-7438A
ISA Tree Risk Assessment Qualified
TCIA Certified Treecare Safety Professional 00144
714-222-2735



V & E Tree Service, Inc.
P.O. Box 3280 Orange, CA 92857 714-997-0903 Fax 714-637-4070





ADDENDUM 3-17-22

17 March 2022

Nuvis Landscape Architecture

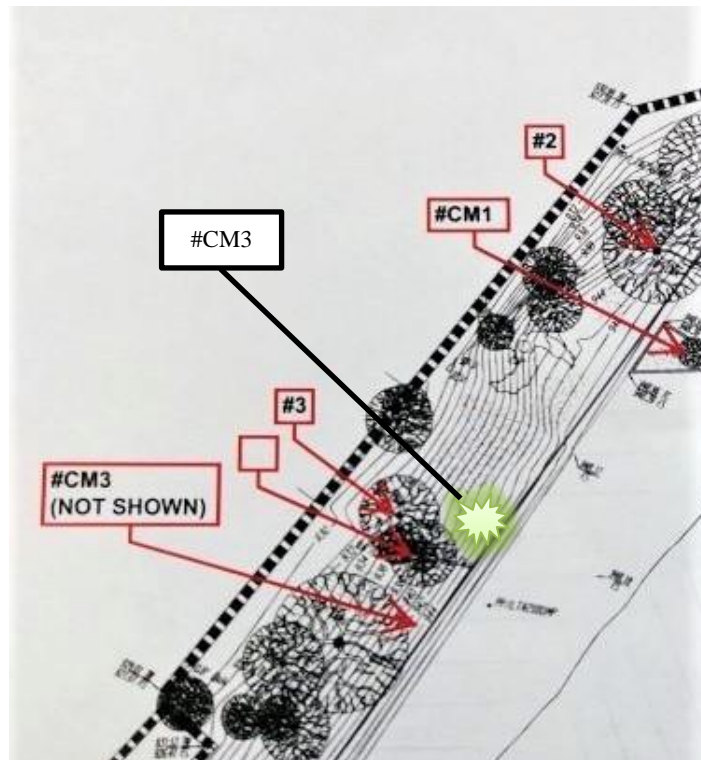
RE: Sunset Reservoir, Pasadena

This Addendum to the 22 June 2021 report is to reflect the updated information provided. It includes corrections to *Addendum 11-5-21* and replaces it. Comments in **bold** are corrections to *Addendum 11-5-21*.

ADDENDUM 11-5-21

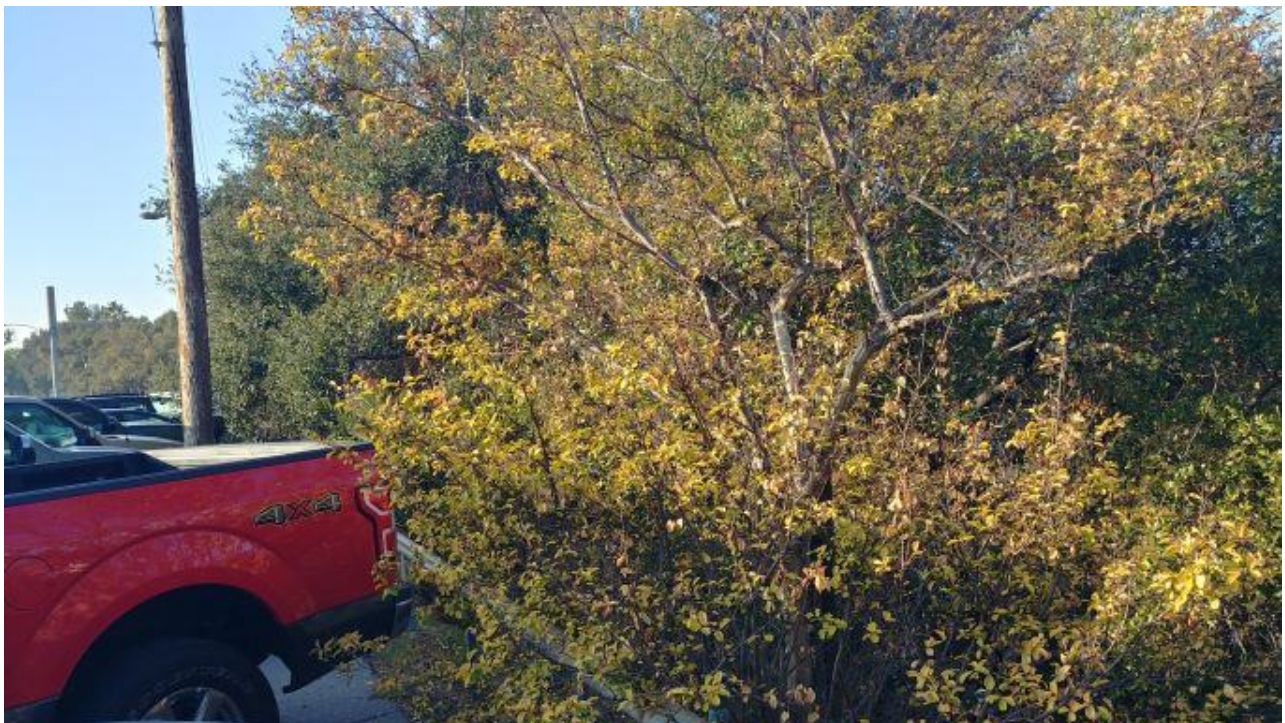
I have updated the count with three (3) additional trees and created a new list of nineteen (19) trees likely to be removed due to the new construction design (#Rxx). This Addendum should provide information on the questions raised regarding the tree recommendations. Each of these points contain views of the Plan Sheets with KJ comments and my responses for clarification.

1. Correct placement of #CM3 (Sheet C-004).



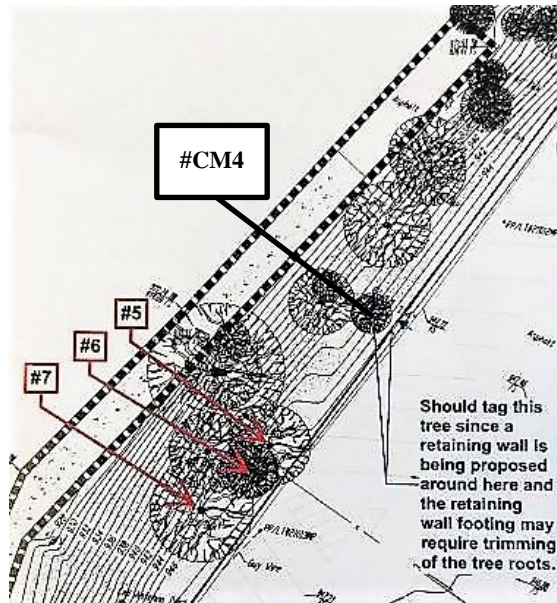


(a, b). Correct photos of #CM3. Tree is in conflict with new construction.





2. Added one Crape Myrtle (CM#4, Sheet C-004).

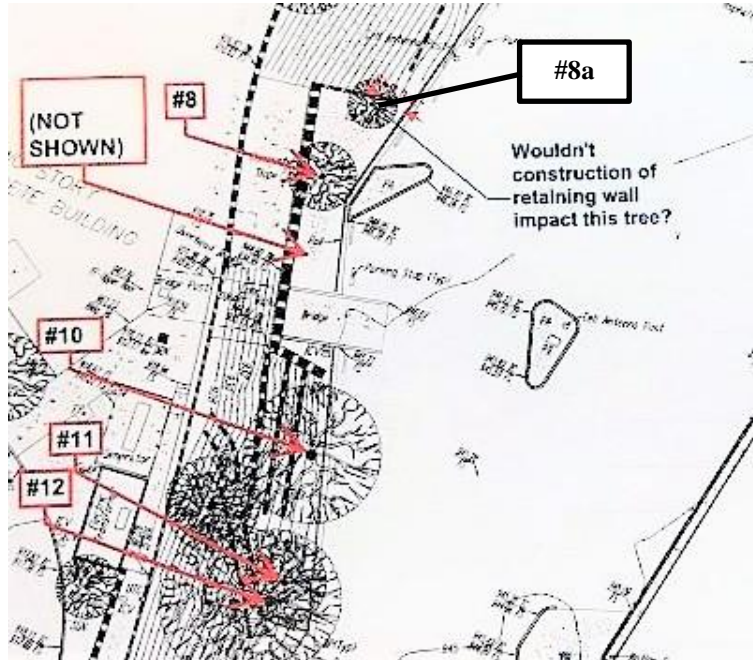


(a). Correct photo of #CM4.

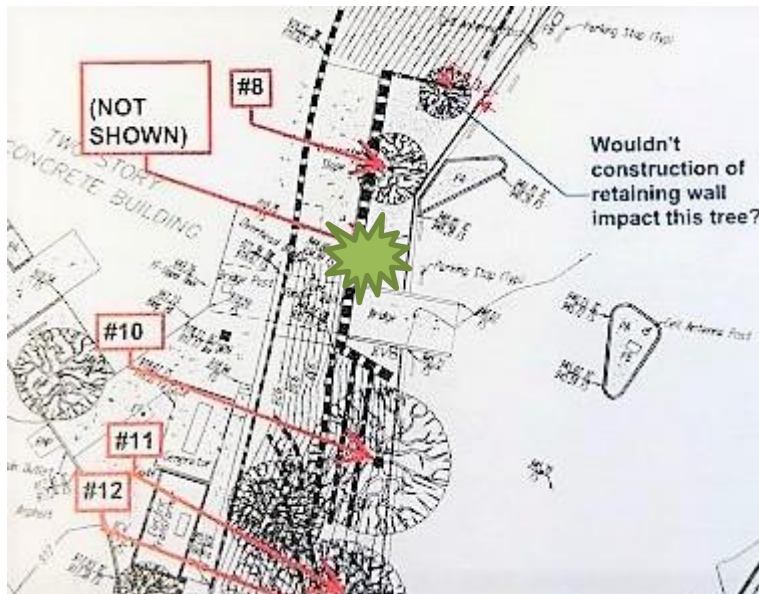




3. Added one Oak (#8a, Sheet C-005).

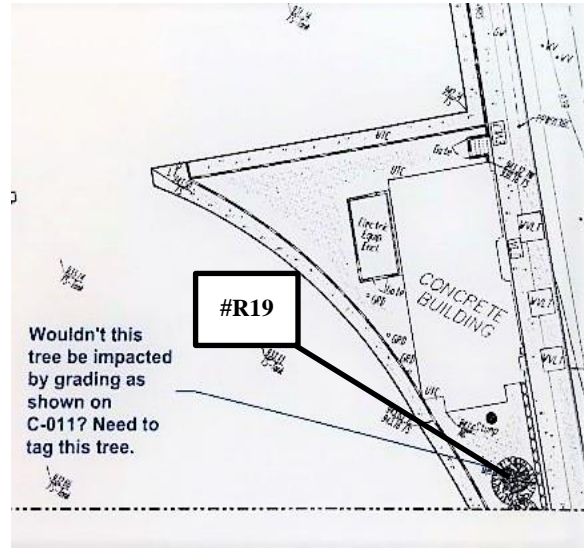
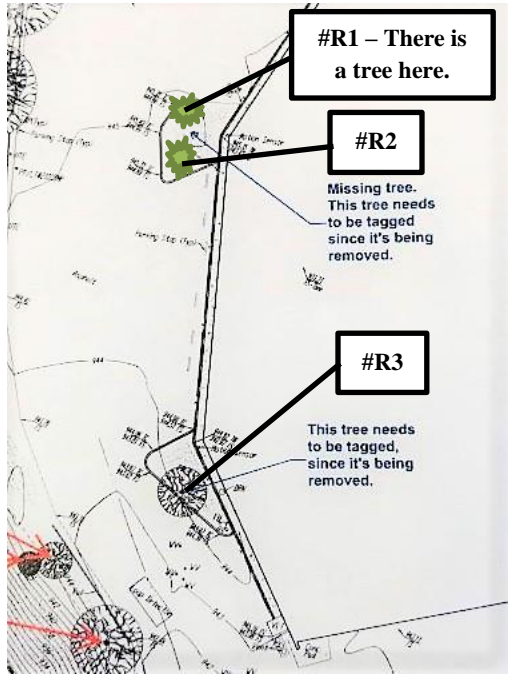


4. Confirm placement of tree #9 (Sheet C-005).



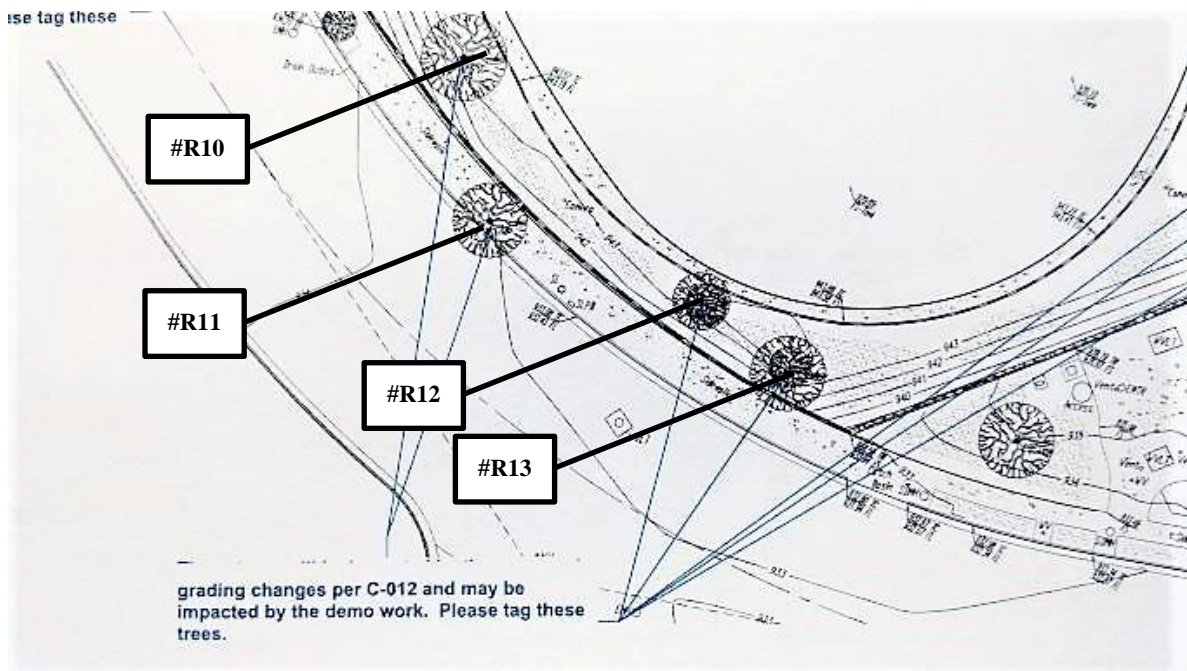
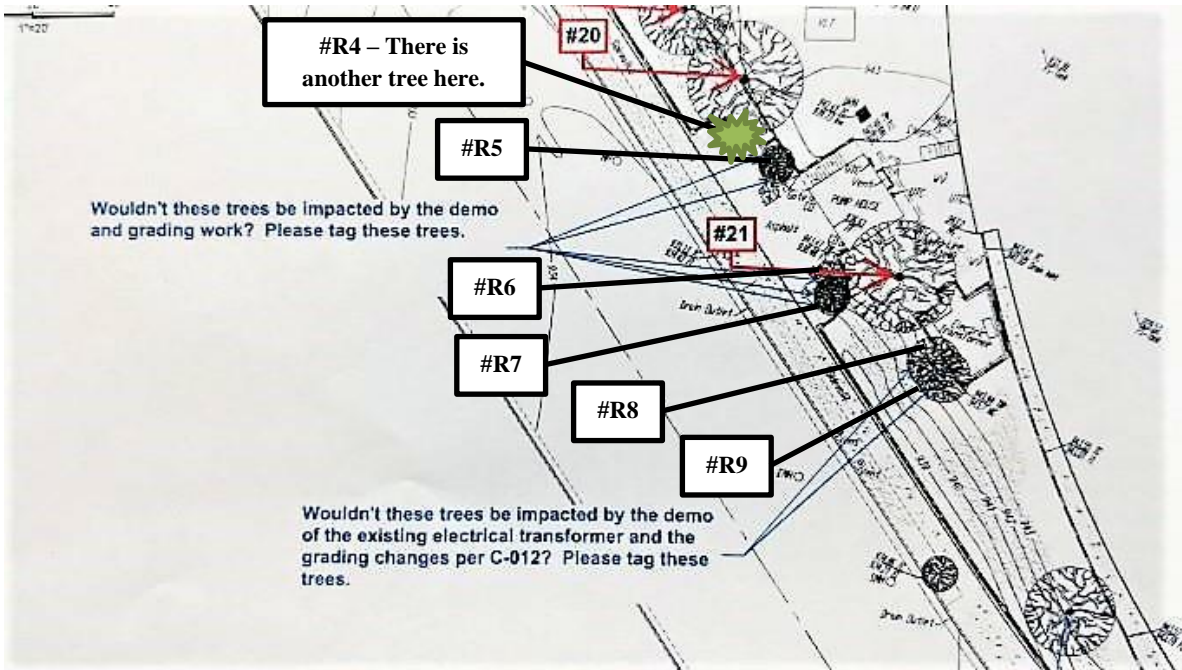


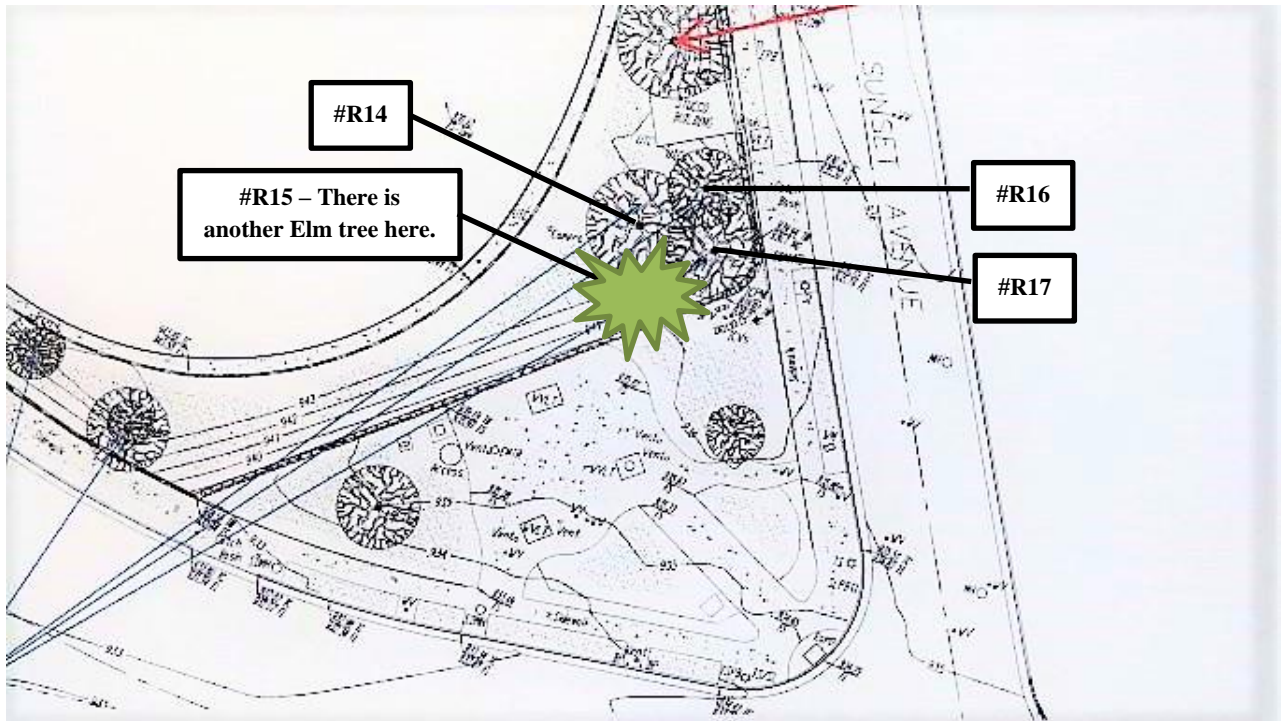
5. Three (4) trees to be removed (Sheet C-005).



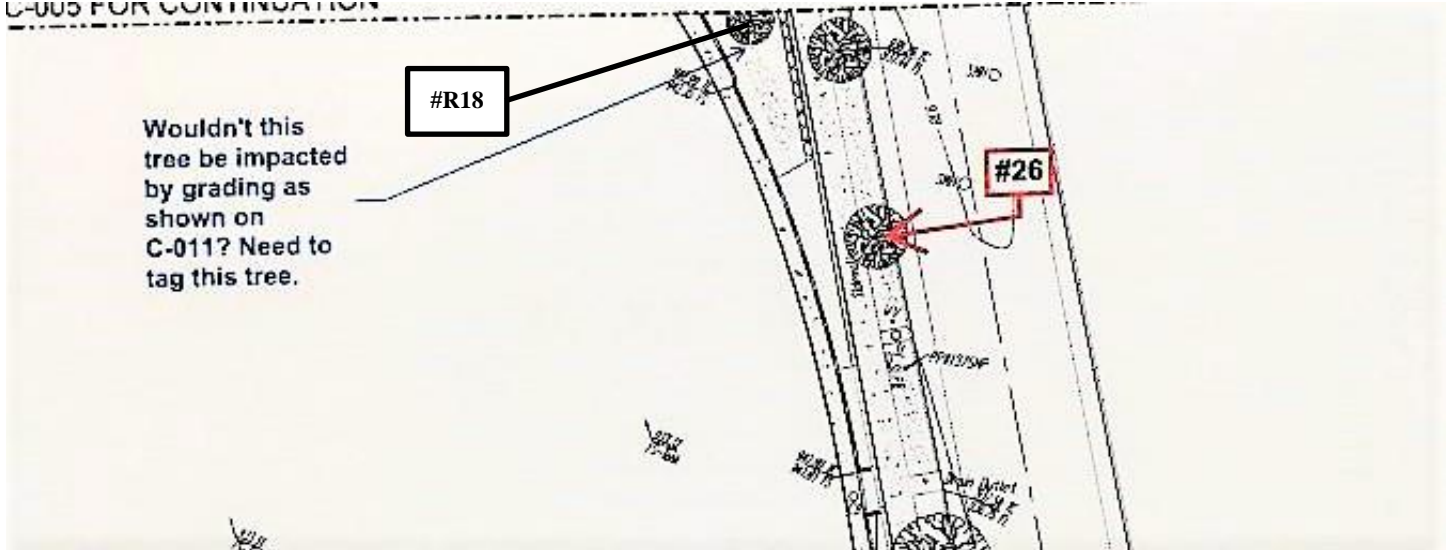


6. Sixteen (16) trees to be removed (Sheet C-006).



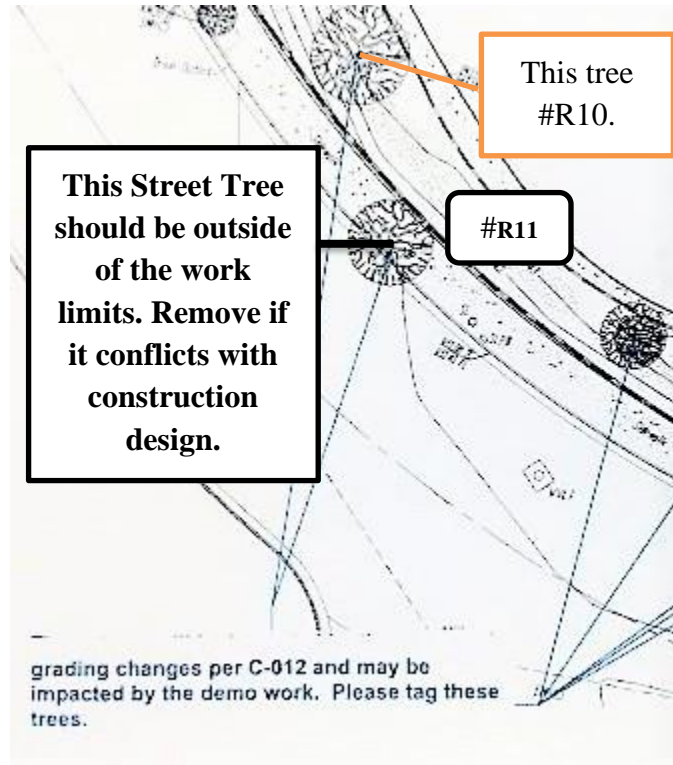


C-005 FOR CONTINUATION

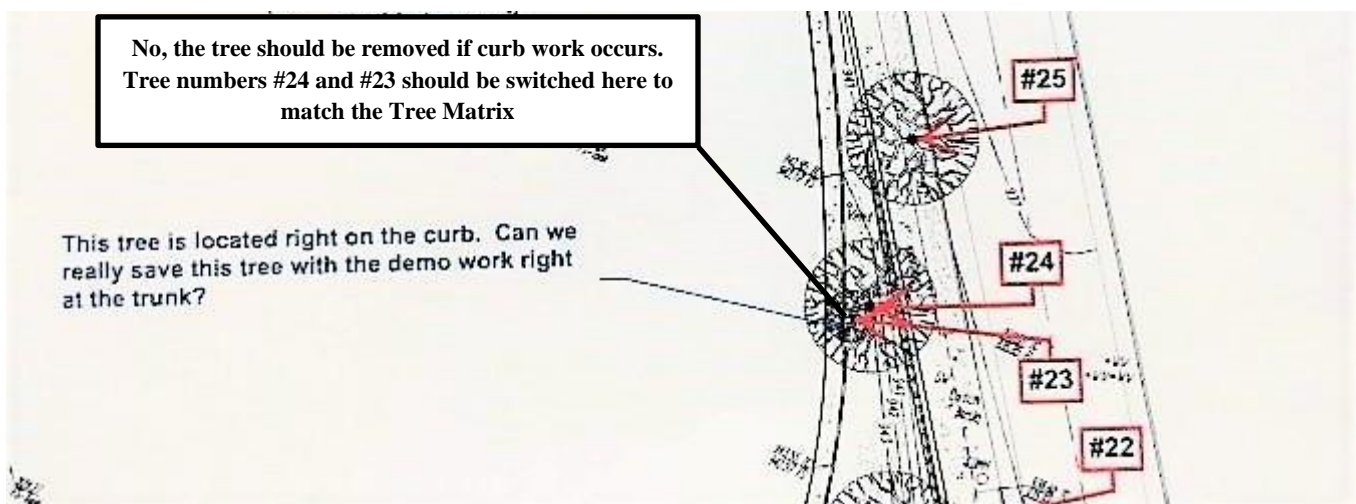




7. Comment on tagging Street Tree on Montana potentially impacted by demo work (Sheet C-006).

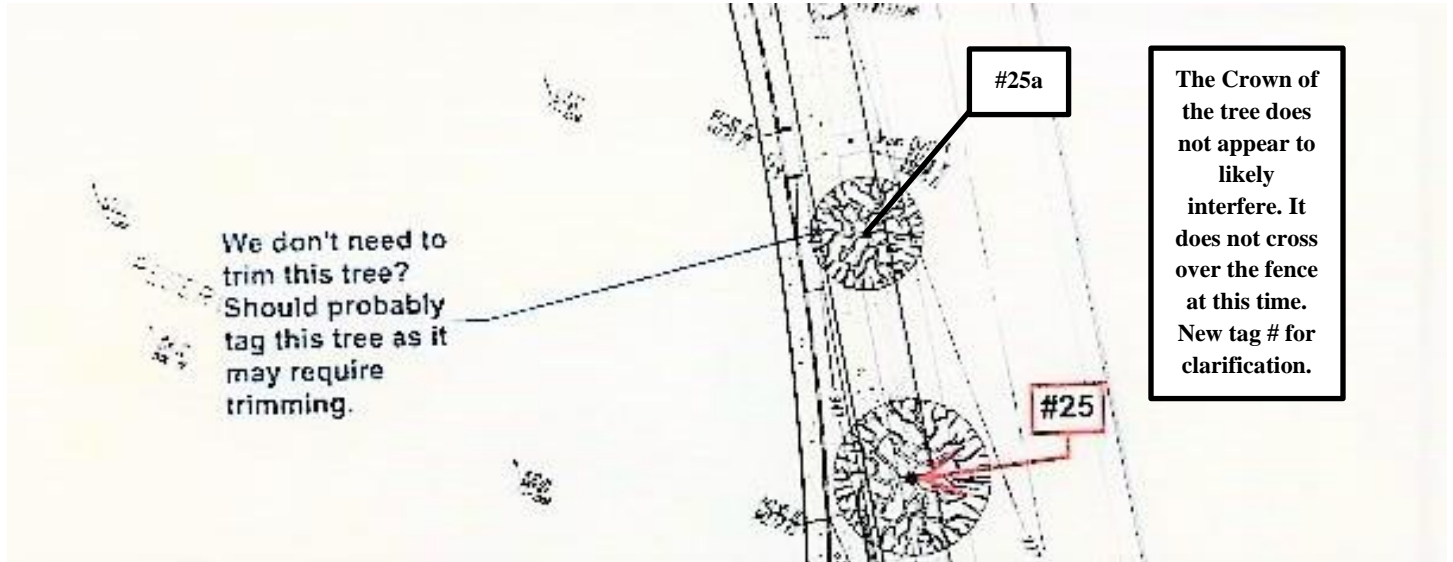


8. Comment on #24 impacted by demo work, and correct numbering (shown as #23 - Sheet C-006).





9. Comment on tagging Street Tree on Sunset potentially to be pruned (Sheet C-006).





ADDENDUM 3-17-22

These are answers to the questions on Plan Sheets C-004-6 not already corrected above in *Addendum 11-5-21*.

C-004

1. The North end parking area will only be repaved with no retaining wall installed and no grade lowering. I only documented the trees in that area that should be pruned.
2. The small immature palms around #CM3 and south of it do not need to be noted or tagged. They may be removed as they will interfere with construction.

C-005

3. The missing tree by the cell tower is a shrub.

C-006

4. The missing tree by the fence line is a shrub.

UPDATED TREE SURVEY MATRIX

Updated information is in **bold**. "Consider for Removal" is defined as trees that will likely not tolerate the necessary root pruning likely to occur, but are not specifically called out to remove.

T#	Species	Common Name	D"	H'	Cond	Tag#	Notes
1	<i>Quercus agrifolia</i>	Coast Live Oak	*	*	G		Prune (1) 3-4" + small stems
2	<i>Quercus agrifolia</i>	Coast Live Oak	*	*	G		Raise 1-2" stems
3	<i>Quercus agrifolia</i>	Coast Live Oak	*	*	G		Prune 1-2" stems
4	<i>Quercus agrifolia</i>	Coast Live Oak	*	*	G		Prune <1" stems
5	<i>Quercus agrifolia</i>	Coast Live Oak	18	25	G		8.5 ft. back of work limits Prune <1" stems
6	<i>Quercus agrifolia</i>	Coast Live Oak	13/13	35	G		8.5 ft. back of work limits Prune <1" stems
7	<i>Quercus agrifolia</i>	Coast Live Oak	*	*	G		Prune 1-2" stems
8	<i>Quercus agrifolia</i>	Coast Live Oak	12	15	G		6 ft. back of work limits Prune <1" stems
8a	<i>Quercus agrifolia</i>	Coast Live Oak	7	15	G		6.5 ft. back of work limits Prune <1" stems
9	<i>Quercus agrifolia</i>	Coast Live Oak	16	25	G		3 ft. back of work limits Prune <1" stems
10	<i>Quercus agrifolia</i>	Coast Live Oak	24	35	F	1623	2 ft. back of work limits CONSIDER FOR REMOVAL





11	<i>Quercus agrifolia</i>	Coast Live Oak	13	30	G	1622	6 ft. back of work limits
12	<i>Quercus agrifolia</i>	Coast Live Oak	19	45	G	1621	7 ft. back of work limits
13	<i>Quercus agrifolia</i>	Coast Live Oak	*	*	G	1619	21 ft. back of work limits
14	<i>Quercus agrifolia</i>	Coast Live Oak	*	*	G	1618	21 ft. back of work limits
15	<i>Quercus agrifolia</i>	Coast Live Oak	*	*	G	1617	21 ft. back of work limits
16	<i>Ulmus parvifolia</i>	Chinese Elm	Dbl trunk	25	G		CONSIDER FOR REMOVAL
17	<i>Ulmus parvifolia</i>	Chinese Elm	14	35	F		Significant lean CONSIDER FOR REMOVAL
18	<i>Ulmus parvifolia</i>	Chinese Elm	22	40	F		Trunk decay CONSIDER FOR REMOVAL
19	<i>Ulmus parvifolia</i>	Chinese Elm	22	45	F	1608	Significant lean CONSIDER FOR REMOVAL
20	<i>Ulmus parvifolia</i>	Chinese Elm	21	45	G	1607	Inside work limits CONSIDER FOR REMOVAL
21	<i>Ulmus parvifolia</i>	Chinese Elm	21	50	G	1606	20 ft. back of work limits Potential for minor limb pruning
22	<i>Ulmus parvifolia</i>	Chinese Elm	*	*	G		Prune <1" stems
23	<i>Juglans californica</i>	Walnut	*	*	G		Prune <1" stems
24	<i>Brachychiton populneus</i>	Bottle tree	*	*	F		Conflict with demolition RECOMMEND REMOVAL
25	<i>Quercus agrifolia</i>	Coast Live Oak	*	*	G		Prune <1" stems
25a	<i>Arbutus menziesii</i>	Pacific Madrone	*	*	G		No conflicts likely
26	<i>Arbutus menziesii</i>	Pacific Madrone	*	*	G		Remove 4 in. branch at parent stem
27	<i>Quercus agrifolia</i>	Coast Live Oak	*	*	G		Prune <1" stems
28	<i>Quercus agrifolia</i>	Coast Live Oak	*	*	G		Prune 1-2" stems
29	<i>Arbutus menziesii</i>	Pacific Madrone	*	*	G		Prune 1-2" stems
30	<i>Quercus agrifolia</i>	Coast Live Oak	*	*	G		Prune 1-2" stems
31	<i>Arbutus menziesii</i>	Pacific Madrone	*	*	G		Prune 1-2" stems
32	<i>Quercus agrifolia</i>	Coast Live Oak	*	*	G		No pruning likely needed
WR1-2	<i>Washingtonia robusta</i>	Fan Palm	*	*	G		No conflicts likely
M1	<i>Morus alba</i>	Mulberry	*	*	P		Potential pruning
CP1	<i>Phoenix canariensis</i>	Canary Palm	*	*	G		Potential pruning
CW1	<i>Cupaniopsis anacardioides</i>	Carrotwood	*	*	G		Pruning likely necessary
CM1	<i>Lagerstroemia indica</i>	Crape Myrtle	6	10	D		Declining
CM2	<i>Lagerstroemia indica</i>	Crape Myrtle	Multi	10	G		Recommend retain
CM3	<i>Lagerstroemia indica</i>	Crape Myrtle	5	8	D		Conflict with new construction RECOMMEND REMOVAL
CM4	<i>Lagerstroemia indica</i>	Crape Myrtle	5	8	F		Conflict with new construction RECOMMEND REMOVAL
R1	<i>Quercus agrifolia</i>	Coast Live Oak	<4	5	G		Removal
R2	<i>Washingtonia robusta</i>	Fan Palm		40	G		Removal
R3	<i>Brachychiton populneus</i>	Bottle Tree	12	20	G		Removal
R4	<i>Ligustrum spp.</i>	Privet	Multi	15	G		Removal
R5	<i>Ligustrum spp.</i>	Privet	Multi	15	G		Removal
R6	<i>Ligustrum spp.</i>	Privet	Multi	15	G		Removal



R7	<i>Ligustrum spp.</i>	Privet	Multi	15	G		Removal
R8	<i>Brachychiton populneus</i>	Bottle Tree	16	30	G		Removal
R9	<i>Brachychiton populneus</i>	Bottle Tree	16	30	G		Removal
R10	<i>Ligustrum spp.</i>	Privet	17	35	G		Removal
R11	<i>Eucalyptus halepensis</i>	Eucalyptus	16	30	F		STREET TREE - Appears outside of limits - Remove if conflicts with construction design
R12	<i>Schinus terebinthifolius</i>	Brazilian Pepper	18	25	F		Removal
R13	<i>Pistacia chinensis</i>	Pistache	24	35	G		Removal
R14	<i>Ulmus parvifolia</i>	Chinese Elm	17	40	G		Removal
R15	<i>Ulmus parvifolia</i>	Chinese Elm	17	40	G		Removal
R16	<i>Ulmus parvifolia</i>	Chinese Elm	15	35	G		Removal
R17	<i>Ulmus parvifolia</i>	Chinese Elm	13	30	F		Removal
R18	<i>Prunus spp.</i>	Cherry	12	15	P		Removal
R19	<i>Prunus spp.</i>	Cherry	20	10	P		Removal

Thank you for the additional information and clarifications. Please contact me if you have any questions.

Eric Gorsuch

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