

Addendum to:

ARBORIST REPORT-
Tree Resource Evaluation & Project Impact Analysis

Peace Church
900 High Street
Santa Cruz, CA
APN: 001-022-40

9/25/2022
Addendum Date 12/13/2025

Prepared for:

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Prepared by:



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Background

This addendum describes revisions to the preliminary construction impact assessment on trees surveyed in the arborist report dated 9/25/2022. That arborist report was based on the *Concept Site Plan & Plan Packet*, dated 5/23/2022, by HBA Architecture. Since that report, revisions to the plan set have been made, and the footprint of the main building has been revised. Based on the revised plan set, I have identified changes to the anticipated construction impacts to several *heritage trees*. This addendum describes the criteria used to evaluate construction impacts for the revised plan set. Because the impacts to some trees have been revised, the tree disposition recommendations have also been revised, and are discussed in the summary below.

Based on the anticipated impacts to heritage trees, I have assigned mitigation specifications, to reduce construction impacts to retained trees that will be moderately affected by construction elements. A tree protection plan sheet containing graphic representations of the mitigation specifications has been developed, and is attached to this addendum.

Summary

A residential building and other site amenities are proposed on property owned by the Peace Church at 900 High Street. The project plans have been revised, and this report is based on the *Planning Progress Set*, dated 11/19/2025.

Based on the current plan set, twenty-five *Heritage trees* will have low or moderate impacts, and they can be retained. Eleven *Heritage trees* will be highly impacted, and their removal will be necessary. Three *Heritage trees* are in poor condition, and their removal is recommended.

The total number of *heritage trees* recommended for incorporation into the project has increased because six Heritage trees not surveyed in the initial arborist report have been added to this addendum, and all six trees can be retained. The total number of *Heritage trees* recommended for removal remains the same as in the initial report.

Table #4, Tree Disposition Categories – *Heritage Trees*, from the arborist report dated 9/25/2022, has been updated, and is contained in this addendum. The Tree Assessment Chart spreadsheet, and Sheet T2, Tree Protection Plan, (Heritage Tree Removal Plan from 9/22 arborist report), was also updated to reflect the revised anticipated construction impacts, and tree disposition. An additional Sheet T3, Tree Protection Plan has been added to the report.

The arborist report dated 9/25/2022, is attached to this addendum.

Construction Impacts to Regulated Trees

This impact evaluation is based on the current plan set. The site plan may be revised based on review and recommendations by the city planning department. Construction impacts to trees may change if the site plan footprint is revised.

I used both the architectural set and civil set to evaluate anticipated impacts to *Heritage trees*. Based on the new architectural site plan the impacts on some trees have changed. These changes are recorded in the updated Tree Assessment Chart, Appendix A.

In addition to the buildings for the proposed housing project, other design elements that will affect trees include driveways and parking spaces, retaining walls, walkways, patios, retention basins, drainage systems, and utilities.

The elements that will have an impact on the *Heritage trees* include:

- Construction of New Building Foundations
- Retaining Walls
- Driveways and Parking Areas
- Drainage Elements including Retention Basins
- Utilities

Elements from the civil set that may affect trees are utility points of connection, including water, (domestic and fire), sewer, gas, and electrical, drainage lines, and bioswale areas. **Based on the new civil plan set, I have identified six *Heritage trees*, located in the southeast quadrant of the project limits that will be affected by a storm drain installation that terminates at High Street. These trees were not included in the initial arborist report.**

On 12/4/2025, I made a site visit to survey the six *Heritage trees*, (trees T174 to T179), and the data from that survey are included in the updated Tree Assessment Chart, Appendix A, page 8.

Construction Impacts on Heritage Trees, Continued:

In general, the total root loss a tree will incur due to construction impacts determines the negative impacts to the tree. Tree canopy loss impacts can also affect a trees structure, and/or health.

I used the distance between a tree and the element affecting the tree, divided by the trunk diameter, to determine an impact rating for a tree. For example, tree T108, Italian stone pine, is 4 feet from a retaining wall, $4' \times 12" \div 16"$ trunk diameter = 3 X the trunk diameter. This is within the trees critical root zone, *but with mitigation* it is within the trees tolerance for root loss. Construction impacts for this tree would be rated as **Moderate**.

A general industry guideline for impact rating is as follows:

High Impacts:	$< 1 - 2.9 \times$	the trunk diameter.
Moderate Impacts:	$3X - 9 \times$	the trunk diameter
Low Impacts:	$> 9 \times$	the trunk diameter

When rating the construction impacts to trees, other factors are considered such as, the depth of excavation necessary to build the construction element, tree species tolerance to root loss, tree condition, and tree age.

Canopy loss impacts are also evaluated based on the height of the element, and the percentage of canopy loss that will occur as a result of clearance pruning necessary to accommodate construction of the element.

Data obtained for each tree to arrive at the impact rating, and the impact rating for each tree is listed in Appendix A, *Tree Assessment Chart*.

Based on the *Planning Progress Set*, dated 11/19/2025, twenty-five *Heritage trees* will have low or moderate impacts, and they can be retained.

Eleven *Heritage trees* will be highly impacted, and their removal will be necessary. Most of the highly impacted trees are in, or very near, the footprint of the new building. Some trees are highly impacted by retaining walls, utilities, or storm drain systems.

Three *Heritage trees* are in poor condition, and their removal is recommended.

Impact Level

Impact level rates the degree a tree may be impacted by construction activity and is primarily determined by how close the construction procedures occur to the tree. Construction impacts are rated as low, moderate, high. The quantity of trees assigned for each category (low, moderate, high), is indicated below:

Impact Rating

- Low - 10
- Moderate – 18
- High - 11

Table 4 – Tree Disposition Categories – Heritage Trees

Tree Disposition Categories – Heritage Trees		
R.I. –	Remove due to construction impacts	11
R.C. –	Remove due to condition (poor condition)	3
R.T., I.M. -	Retain tree. Preservable, low or moderate impacts that can be mitigated.	25

Mitigation Measures for Retained Trees

The trees retained on this project will require some or all of the following methods to protect them from the impacts described above and to minimize root loss during the construction phases.

- Tree Protection Fencing
- Hand trenching or Ditch Witch and re-pruning roots with a Sawzall
- Supervised root pruning

The tree protection plan sheets, Appendix E & F shall be included with the final plan set submittal.

Regulated Tree Removal and Replacement Trees

This report is an evaluation of construction impacts on trees based on the latest plan set. The final disposition of the regulated trees will be determined after planning department review. If changes are required to the site plan, the impacts to some trees may change.

As mitigation for trees removed, replacement trees will be required for *Heritage Trees* recommended for removal.

The replacement requirements may vary for the category of tree replaced. In general, two 15-gallon replacement trees are required for each *Heritage Tree* removed.

In some circumstances, applicants may elect to pay an in-lieu fee to the tree trust fund for off-site mitigation. (Contribution to the Tree Trust Fund are used to purchase street trees, trees for projects, etc.)

Replacement trees should be planted away from structures where they have enough room to develop. Do not install trees where overhead wire exist. The trees must receive supplemental irrigation equal to their establishment requirements for the first two years.

CONCLUSION

- A multi- story residential building is proposed on property owned by the Peace Church at 900 High Street. I surveyed a total of seventy-nine trees including thirty-nine *Heritage trees* within or near the project area.
- The thirty-nine *Heritage trees* range in condition from good to fair to poor.
- Eleven *Heritage trees*, including trees T117 to T121, T123, T135, and T139 blue gum eucalyptus, T125 and T138, acacia, and T116 stone pine will be highly impacted by the proposed construction, and their removal will be necessary
- Three *Heritage trees*, including T142, T144, and T153, blue gum eucalyptus are in poor condition and their removal is recommended.
- Twenty-five *Heritage trees* are in good or fair condition, will have low or moderate construction impacts, and they can be incorporated into the project.
- Replacement trees will be required for *Heritage Trees* approved for removal.
- The *Tree Assessment Chart*, Appendix A is the condensed reference guide to inform all tree management decisions for the trees evaluated.

RECOMMENDATIONS

1. Obtain all necessary permits prior to removing or significantly altering any trees on site.
2. Remove trees highly impacted by the project, and those in poor condition.
3. Replant trees to compensate for *Heritage Trees* removed.

Respectfully submitted,

Kurt Fouts

Kurt Fouts ISA Certified Arborist WE0681
 ISA Tree Risk Assessment Qualification (TRAQ)



Peace Church - 900 High Street, Santa Cruz

Tree Assessment Chart - Appendix A

Suitability for Preservation Ratings:

Good: Trees in good health and structural condition with potential for longevity on the site

Fair: Trees in fair health and/or with structural defects that may be reduced with treatment procedures

Poor: Trees in poor health and/or with poor structure that cannot be effectively abated with treatment

Disposition Category:

RT: Retain Tree

RI: Remove Due to Construction Impacts

I.M. Impacts Can Be Mitigated With Pre-Construction Treatments

R.C. Remove Due to Condition

Protected Tree City of Santa Cruz Any tree 14 inches or greater in diameter measured at 4.5 feet above grade. Street trees regardless of size.

Tree #	Species	Trunk Diameter @ 54 inches a.g.	Heritage Tree	Crown Height & Spread (diameter)	Health Rating	Structural Rating	Age	Suitability for Preservation (Based Upon Condition & Species)	Tree Protection Zone (in radius feet)	Construction Impacts (Rating & Description)	Tree Disposition	Comments
T101	Italian stone pine (Pinus pinea)	17",11"	Yes	40'X20'	Fair	Fair	Mature	Fair	15'	Moderate (Root Loss)	R.T., I.M.	6' from edge of new curb. May require canopy clearance pruning for construction of new retaining wall.
T102	Italian stone pine	23"	Yes	40'X10'	Fair	Fair	Mature	Fair	10'	Low	R.T., I.M.	Co-dominant trunks at 6' above grade. Limited foliar canopy.
T103	Italian stone pine	18"	Yes	40'x15'	Fair	Fair	Mature	Fair	15'	Moderate (Root Loss)	R.T., I.M.	
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Tree Assessment Chart - Appendix A

Tree #	Species	Trunk Diameter @ 54 inches a.g.	Heritage Tree	Crown Height (feet)& Spread (diameter feet)	Health Rating	Structural Rating	Age	Suitability for Preservation (Based Upon Condition & Species)	Tree Protection Zone (in radius feet)	Construction Impacts (Rating & Description)	Tree Disposition	Comments
T104	Italian stone pine	10"	No	20'X10'	Fair	Fair	Semi-mature	Fair	10'	Low	R.T.	Co-dominant trunks at 7' above grade.
T105	Italian stone pine	18",18",15"	Yes	65'X30'	Fair	Fair	Mature	Fair	20'	Low	R.T.	Minimal foliar canopy.
T106	Douglas fir (<i>Pseudotsuga menziesii</i>)	7"	No	40'X10'	Fair	Fair	Young	Fair	10'	Moderate (Root Loss)	R.T., I.M.	Crowded growing conditions.
T107	Monterey pine (<i>Pinus radiata</i>)	17"	Yes	50'X15'	Fair	Fair	Mature	Fair	15'	Low	R.T.	Minor infestation of red turpentine beetle.
T108	Italian stone pine	16"	Yes	40'X20'	Fair	Fair	Mature	Fair	15'	Moderate to High (Root Loss)	R.T., I.M.	Limited branching structure. Suppressed by larger adjacent trees. 3.5' from edge of drainage system behind wall. May require canopy clearance pruning for construction of new retaining wall. May require removal depending on field staking location of retaining wall.
T109	Italian stone pine	17", 15"	Yes	40'X20'	Good	Fair	Mature	Fair	15'	Moderate to High (Root Loss)	R.T., I.M.	Co-dominant trunks at 5' above grade with included bark. 6' from edge of drainage system behind wall. May require canopy clearance pruning for construction of new retaining wall. May require removal depending on field staking location of retaining wall.
T110	Monterey pine	10"	No	40'x10'	Fair	Fair	Semi-mature	Fair	10'	Low	R.T.	5 degree trunk lean.
T111	Italian stone pine	18"	Yes	40'X20'	Fair	Fair	Mature	Fair	10'	Low	R.T.	Co-dominant trunks at 5' above grade. All live growth in upper half of canopy.
T112	Douglas fir	6"	No	35'X10'	Good	Fair	Young	Fair	10'	Moderate (Root Loss)	R.T.	
T113	Italian stone pine	8"	No	20'x10'	Good	Fair	Young	Fair	10'	Low	R.T.	
T114	Italian stone pine	8"	No	15'X10'	Fair	Fair	Young	Fair	10'	Low	R.T.	
T115	Italian stone pine	10"	No	20'x10'	Good	Fair	Semi-mature	Fair	10'	Moderate (Root Loss)	R.T.	
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T116	Italian stone pine	14"	Yes	20'x10'	Good	Fair	Mature	Fair	10'	High (Within building footprint)	R.I.	Unbalanced canopy.
T117	blue gum eucalyptus (Eucalyptus globulus)	32",24",22",18 "	Yes	80'x30'	Good	Fair	Mature	Fair	30'	High (Within building footprint)	R.I.	Four co-dominant trunks at grade.
T118	blue gum eucalyptus	25"	Yes	60'X30'	Good	Fair	Mature	Fair	20'	High (Near building footprint)	R.I.	In building footprint.
T119	blue gum eucalyptus	29"	Yes	85'X10'	Fair	Fair	Mature	Fair	25'	High (Within retaining wall footprint)	R.I.	
T120	blue gum eucalyptus	27",10"	Yes	40'X20'	Fair	Fair	Mature	Fair	20'	High (Within building footprint)	R.I.	Trunk bows.
T121	blue gum eucalyptus	26"	Yes	85'x10'	Poor	Fair	Mature	Poor	20'	High (Root loss)	R.I.	Minimal live canopy.
T122	blackwood acacia (Acacia melanoxlon)	10"	No	40'x15'	Fair	Fair	Semi-mature	Fair	10'	High (Root Loss)	R.I.	
T123	blue gum eucalyptus	43"	Yes	90'X30'	Good	Fair	Mature	Fair	30'	High (In footprint of hardscape)	R.I.	Unbalanced canopy with weight bias to southwest.
T124	blackwood acacia	11"	No	40'X15'	Good	Fair	Semi-mature	Fair	15'	High (Within building footprint)	R.I.	
T125	silver wattle acacia (Acacia dealbata)	14",10"	Yes	50'x10'	Fair-Poor	Poor	Mature	Poor	15'	High (In footprint of hardscape)	R.I.,R.C.	Co-dominant trunks at grade. 15 degree trunk lean. Unbalanced canopy with weight bias to south. Thin canopy density
T126	blackwood acacia	9",8"	No	40'X15'	Poor	Fair	Mature	Poor	15'	High (Within building footprint)	R.C.	Co-dominant trunks at grade. Minimal live canopy.
T127	blackwood acacia	10",9",6"	No	40'X10'	Fair	Fair	Mature	Fair	15'	High (Within building footprint)	R.I.	
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Tree Assessment Chart - Appendix A

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T128	blackwood acacia	8",4",4",4"	No	15'X10'	Poor	Poor	Semi-mature	Poor	15'	High (Within building footprint)	R.C.	Co-dominant trunks at grade. Trunk leader dead at 8' above grade.
T129	blackwood acacia	9"	No	40'X10'	Fair	Poor	Semi-mature	Poor	15'	High (Within building footprint)	R.C.	15 degree trunk lean. Unbalanced canopy with weight bias to south.
T130	blackwood acacia	6",4",3",3"	No	15'X5'	Poor	Poor	Semi-mature	Poor	10'	High (Root Loss)	R.C.	Co-dominant trunks at grade. Minimal live canopy.
T131	blackwood acacia	7"	No	15'X5'	Poor	Poor	Semi-mature	Poor	10'	High (Root Loss)	R.C.	Minimal live canopy.
T132	blackwood acacia	6",5"	No	15'X10'	Fair	Poor	Semi-mature	Poor	10'	Moderate (Root Loss)	R.C.	Co-dominant trunks at grade.
T133	blue gum eucalyptus	17"	Yes	55'X10'	Fair	Fair	Mature	Fair	20'	Moderate (Root Loss)	R.T., I.M.	9' from storm drain lateral, 16' from utility trench, 14' from v-ditch and drainage work.
T134	Italian stone pine	10"	No	20'X10'	Good	Good	Semi-mature	Good	10'	Moderate (Root Loss)	R.T., I.M.	
T135	blue gum eucalyptus	19",19" 17",15",14", 14"	Yes	75'x30'	Good	Fair	Mature	Fair	30'	High (Within footprint of retention basin)	R.I.	Co-dominant trunks at 2' above grade.
T136	blackwood acacia	12"	No	35'X15'	Fair	Fair	Semi-mature	Fair	15'	High (Within building footprint)	R.I.	
T137	blackwood acacia	8"	No	40'X10'	Good	Good	Semi-mature	Good	10'	Moderate (Root Loss)	R.T., I.M.	
T138	blackwood acacia	18"	Yes	20'x10'	Poor	Poor	Mature	Poor	15'	High (Root Loss)	R.I., R.C.	Deadwood and decay in trunk. Tip and branch dieback. In footprint of utility trench.
T139	blue gum eucalyptus	22",12"	Yes	65'X15'	Poor	Fair	Mature	Poor	20'	High (Root Loss)	R.I., R.C.	Co-dominant trunks at 1' above grade. Tip dieback. Epicormic growth. 2' from utility trench.
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Tree Assessment Chart - Appendix A

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T140	Monterey pine	7"	No	40'X10'	Fair	Fair	Young	Fair	10'	Moderate (Root Loss)	R.T., I.M.	
T141	blue gum eucalyptus	25"	Yes	75'X20'	Fair	Fair	Mature	Fair	15'	Moderate (Root Loss)	R.T., I.M.	
T142	blue gum eucalyptus	20"	Yes	40'x15'	Fair-Poor	Fair-Poor	Mature	Poor	15'	Moderate (Root Loss)	R.C.	Co-dominant trunks at 7' above grade. Tip dieback. Unbalanced canopy with weight bias to northeast.
T143	blue gum eucalyptus	9"	No	30'X5'	Poor	Poor	Young	Poor	10'	Moderate (Root Loss)	R.C.	Minimal live canopy.
T144	blue gum eucalyptus	26",23"	Yes	50'X30'	Fair-Poor	Fair	Mature	Poor	20'	Low	R.C.	Tip dieback. Thin canopy density. One trunk leans 35 degrees to northeast.
T145	Monterey pine	9"	No	35'X5'	Fair	Fair	Young	Fair	10'	High (Within building footprint)	R.I.	
T146	Monterey pine	8"	No	25'X10'	Fair	Fair	Young	Fair	10'	Moderate (Root Loss)	R.T., I.M.	Tunk canker.
T147	Monterey pine	9",7"	No	40'X10'	Good	Fair	Young	Fair	10'	High (Root Loss)	R.I.	Co-dominant at 1' above grade.
T148	Monterey pine	9"	No	35'X10'	Fair	Fair	Young	Fair	10'	Low	R.T.	
T149	blue gum eucalyptus	36"	Yes	85'x15'	Fair	Fair	Mature	Fair	25'	Low	R.T.	
T150	blue gum eucalyptus	50"	Yes	85'X15'	Fair	Fair	Mature	Fair	30'	Low	R.T.	
T151	blue gum eucalyptus	45",20"	Yes	75'X20'	Fair	Fair	Mature	Fair	30'	Low	R.T.	
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Tree Assessment Chart - Appendix A

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T152	blue gum eucalyptus	70"	Yes	90'X35'	Fair	Fair	Mature	Fair	30'	Moderate (Root Loss)	R.T.,I.M.	Co-dominant trunks with included bark at 12' above grade. Tip dieback.	
T153	blue gum eucalyptus	17"	Yes	65'X10'	Fair-Poor	Poor	Mature	Poor	15'	Low	R.C.	Trunk bow. Limited branch structure.	
T154	blue gum eucalyptus	53"	Yes	75'x20'	Fair	Fair	Mature	Fair	25'	Moderate (Root Loss)	R.T., I.M.	Tip dieback. Unbalanced canopy with weight bias to southwest.	
T155	blue gum eucalyptus	28"	Yes	75'X10'	Fair	Fair	Mature	Fair	20'	Low	R.T.	Tip dieback. 21' from drainage system behind retaining wall.	
T156	Italian stone pine	8"	No	30'X10'	Fair	Fair	Young	Fair	10'	Low	R.T.	At top of slope.	
T157	Italian stone pine	6"	No	30'X5'	Fair	Fair	Young	Fair	10'	High (Within building footprint)	R.I.	At top of slope.	
T158	Italian stone pine	14"	Yes	30'X10'	Fair	Fair	Mature	Fair	15'	Low	R.T.	At top of slope.	
T159	Italian stone pine	6"	No	25'X5'	Fair	Fair	Young	Fair	10'	Low	R.T.		
T160	Italian stone pine	8"	No	25'X5'	Fair	Fair	Young	Fair	10'	Low	R.T.		
T161	Italian stone pine	12"	No	30'X10'	Fair	Fair	Semi-mature	Fair	10'	Low	R.T.		
T162	Italian stone pine	11"	No	30'x10'	Fair	Fair	Semi-mature	Fair	10'	Low	R.T.		
T163	Italian stone pine	12"	No	30'X5'	Fair	Fair	Semi-mature	Fair	10'	Moderate (Root Loss)	R.T., I.M.		
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Tree Assessment Chart - Appendix A

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T164	Italian stone pine	11"	No	35'X5'	Fair	Fair	Semi-mature	Fair	10'	Moderate (Root Loss)	R.T., I.M.	
T165	Italian stone pine	10"	No	20'x10'	Fair	Fair	Semi-mature	Fair	10'	High (Within building footprint)	R.I.	
T166	coast live oak (<i>Quercus agrifolia</i>)	15",14",14",9"	Yes	40'X45'	Good	Good	Mature	Good	30'	Low	R.T.	Co-dominant trunks at 3' above grade. Minor bark beetle infestation. Average canopy density with well attached limbs.
T167	flowering ornamental pear (<i>Pyrus calleryana</i>)	10"	No	20'x15'	Good	Fair	Semi-mature	Good	10'	High (Within building footprint)	R.I.	
T168	flowering ornamental pear	4"	No	15'X10'	Fair	Fair	Young	Fair	10'	High (Within building footprint)	R.I.	
T169	blackwood acacia	12"	No	30'X20'	Good	Fair	Mature	Fair	10'	High (Within building footprint)	R.I.	
T170	Italian stone pine	11"	No	20'X5'	Fair	Fair	Semi-mature	Fair	10'	Low	R.T.	
T171 No Tag	silver wattle acacia	16"	Yes	40'X30'	Fair	Fair	Semi-mature	Fair	15'	Moderate (Root Loss)	R.T., I.M.	On neighboring property. 6' from fence line. Approximately 10'-14' from drain line.
T172	coast live oak	3"	No	10'X5'	Good	Good	Young	Good	5'	Moderate - High (Root loss)	R.T., I.M.	Approximately 2-6' from drain line.
T173	coast live oak	13"	No	35'X15'	Good	Good	Semi-mature	Good	10'	Moderate (Root Loss)	R.T., I.M.	Approximately 8-12" from drain line.
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T174 (No tag)	cedar (<i>Cedrus spp.</i>)	26"	Yes	70'X25'	Good	Good	Mature	Good	20'	Low	R.T.	23' to new storm drain
T175 (No tag)	Monterey pine	60"	Yes	85'X35'	Fair to Poor	Fair	Mature	Fair	25'	Moderate (Root loss, excavation)	R.T., I.M.	Two codominant trunks. Dieback over 40% of canopy. Most dieback is on one trunk. May be declining and its condition should be monitored periodically regarding future tree disposition.
T176 (No tag)	blue gum eucalyptus	30"	Yes	35'X25'	Fair	Poor	Mature	Fair	20'	Moderate (Root loss, excavation)	R.T., I.M.	Topped for power line clearance at 25' above grade.
T177 (No tag)	blue gum eucalyptus	27"	Yes	30'x20'	Fair	Poor	Mature	Fair	15'	Moderate (Root loss, excavation)	R.T., I.M.	Topped for power line clearance at 25' above grade.
T178 (No tag)	blue gum eucalyptus	29"	Yes	30'x20'	Fair	Poor	Mature	Fair	15'	Moderate (Root loss, excavation)	R.T., I.M.	Topped for power line clearance at 25' above grade.
T179 (No tag)	blue gum eucalyptus	8"-20"	Yes	20'-30'X5'-10'	Fair to Poor	Poor	Young to Maturing	Fair	15'	Moderate (Root loss, excavation)	R.T., I.M.	Group of about 14 trees, and some are protected size. The trees provide screening. Topped for power line clearance at 25' above grade. 7' from asphalt widening, 11' from storm drain line. Poor location for this species, crowded spacing, and under power lines.
 826 Monterey Avenue Capitola, CA 95010 831-359-3607 kurtfouts1@outlook.com								Page 8 of 8			12/13/2025	

APPENDIX B – CRITERIA FOR TREE ASSESSMENT CHART

Following is an explanation of the data used in the tree evaluations. The data is incorporated in the *Tree Assessment Chart, Appendix A*.

Trunk Diameter and Number of Trunks:

Trunk diameter as measured at 4.5 feet above grade. The number of trunks refers to a single or multiple trunked tree. Multiple trunks are measured at 4.5 feet above grade.

Health Ratings:

Good: A healthy, vigorous tree, reasonably free of signs and symptoms of disease

Fair: Moderate vigor, moderate twig and small branch dieback, crown may be thinning and leaf color may be poor

Poor: Tree in severe decline, dieback of scaffold branches and/or trunk, most of foliage from epicormics

Structure Ratings:

Good: No significant structural defects. Growth habit and form typical of the species

Fair: Moderate structural defects that might be mitigated with regular care

Poor: Extensive structural defects that cannot be abated.

Suitability for Preservation Ratings:

Rating factors:

Tree Health: Healthy vigorous trees are more tolerant of construction impacts such as root loss, grading and soil compaction, than are less vigorous specimens.

Structural integrity: Preserved trees should be structurally sound and absent of defects or have defects that can be effectively reduced, especially near structures or high use areas.

Tree Age: Over mature trees have a reduced ability to tolerate construction impacts, generate new tissue and adjust to an altered environment. Young to maturing specimens are better able to respond to change.

Species response: There is a wide variation in the tolerance of individual tree species to construction impacts.

Rating Scale:

Good: Trees in good health and structural condition with potential for longevity on the site

Fair: Trees in fair health and/or with structural defects that may be reduced with treatment procedures.

Poor: Trees in poor health and/or with poor structure that cannot be effectively abated with treatment. Trees can be expected to decline or fail regardless of construction impacts or management . The species or individual may possess characteristics that are incompatible or undesirable in landscape settings or unsuited for the intended use of the site.

Construction Impacts:

Rating Scale:

High: Development elements proposed that are located within the Tree Protection Zone that would severely impact the health and /or stability of the tree. The tree impacts cannot be mitigated without design changes. The tree may be located within the building footprint.

Moderate: Development elements proposed that are located within the Tree Protection Zone that will impact the health and/or stability of the tree and can be mitigated with tree protection treatments.

Low: Development elements proposed that are located within or near the Tree Protection Zone that will have a minor impact on the health of the tree and can be mitigated with tree protection treatments.

None: Development elements will have no impact on the health and stability of the Tree.

Tree Protection Zone (TPZ):

Defined area within which certain activities are prohibited or restricted to prevent or minimize potential injury to designated trees, particularly during construction or development.



Image #1 – Tree T174, cedar. The cedar is in good condition.



Image #2 – Tree T175, Monterey pine. The pine is in fair condition. Note trunk on right has several areas of canopy dieback.



Image #3 – Trees T177 and T178, blue gum eucalyptus. The two eucalypti are in fair condition. Note that both trees have been topped at 25' above grade for overhead power line clearance.



Image #4 – Tree T179. This is a hedge row of about 14 trees that have all been maintained as a screening hedge. Because of their close spacing and use as a hedge, the individual trees are all counted as one tree, T179. Within this hedge there are a handful of Heritage size trees.

Tree Protection Specifications & Recommended Sequence

These specifications are listed on Sheets T2 & T3, Tree Protection Plan sheets.

Demolition Phase:

The Project Arborist shall meet on-site with the contractor and review all tree removal work. The Project Arborist shall work with the Tree Removal Contractor on site to ensure the specified trees are removed, canopy clearance pruning is completed as necessary, and safety requirements are adhered to.

1. **Tree Removal** – Remove all trees marked for removal and approved for removal by approval authority. Stump grind trees and grub roots. Removals shall be performed using industry standards of workmanship as established in the Best Management Practices of the International Society of Arboriculture (ISA), and the American National Standards Institute, Safety Requirements in Arboriculture Operations ANSI Z133-2017. Contractor licensing and insurance coverage shall be verified.
2. **Tree Canopy Clearance Pruning** – A Licensed Tree Care company shall be used for all tree pruning work, if necessary for stone pine trees T101, T108 and T109. Targeted canopy clearance pruning, to achieve enough clearance for equipment operation, shall be performed using industry standards of workmanship as established in the Best Management Practices of the International Society of Arboriculture (ISA), and the American National Standards Institute, Safety Requirements in Arboriculture Operations ANSI Z133-2017.
3. **Tree Protection Fencing** - Install Tree Protection Fencing, in location indicated on Sheets T 3 and T4, Tree Protection Plan, prior to move-in and demolition. Install fencing type as specified on sheet T4.

Construction Phase:

Work performed that impacts trees as described below shall be supervised by the Project Arborist. The Project Arborist shall be contacted a minimum of 72 hours to prior scheduled work. Work undertaken shall be documented in the form of a follow-up letter and submitted to the City Arborist.

4. **Retaining Walls** - Excavation for the retaining wall adjacent to trees T101, T108 and T109, stone pine, shall be by hand methods. See Tree Protection Plan, sheet T1 for location. Any roots found less than 2" in diameter, shall be cleanly pruned with loppers, hand saw or Sawzall. If roots are encountered 2" in diameter or greater, they shall be pruned under supervision of the Project Arborist. Roots shall be pruned by methods indicated on Tree Protection Plan.
5. **Utilities / Gas, Sewer, Water or Electrical** – Any excavation for a utility line that is within the canopy dripline of a protected tree, shall be by hand methods. Any roots found less than 2" in diameter, shall be cleanly pruned with loppers, hand saw or Sawzall. If roots are encountered 2" in diameter or greater, the root shall be retained with the root "bridging" the trench, and the pipe shall be installed under or over the root.
6. **Storm Drain Lines**
 - A. Stake trenching location for new drain line installation and flag Work Area Perimeter.
 - B. Pre-construction trenching to be performed between the drain line installation and the retained trees, T133 eucalyptus, (Sheet T2), and T176, T177, T178 and T179 eucalyptus, and T175 Monterey pine.
 - C. Pre-construction machine trenching to a depth of 24" shall be performed in areas indicated on Sheets T2, and T3, Tree Protection Plan. This procedure will pre-cut any roots from adjacent trees.
 - D. Use of any of the following equipment to machine trench is permissible:
 - a. Vermeer, Imants or Dosko Root Pruner
 - b. Ditch Witch RT45 Trencher, or equivalent. Use of an MT12 Microtrencher attachment for first 12" of depth is preferred.
 - E. Any torn roots found in trench shall be cleanly pruned with Sawzall, loppers, or hand saw. Roots shall be pruned by methods indicated on Tree Protection Plan Sheet T1,, **Pre-Construction Root Pruning**. Once roots have been cleanly pruned, backfill trenches. If trench is not backfilled the same day, roots should be kept moist with damp burlap until trench is backfilled.

Heritage Tree to Retain

Non-Heritage Tree to Retain

Heritage Tree to Remove

Non-Heritage Tree to Remove

Tree Number, Species Abbreviation & Trunk Diameter

Canopy Extents

ISP

EUC

BAC

MP

DF

OP

CLO

SWA

T101 ISP

16"

KEY TO TREE SPECIES

ITALIAN STONE PINE

BLUE GUM EUCALYPTUS

BLACKWOOD ACACIA

MONTEREY PINE

DOUGLAS FIR

ORNAMENTAL PEAR

COAST LIVE OAK

SILVER WATTLE ACACIA

ISP

EUC

BAC

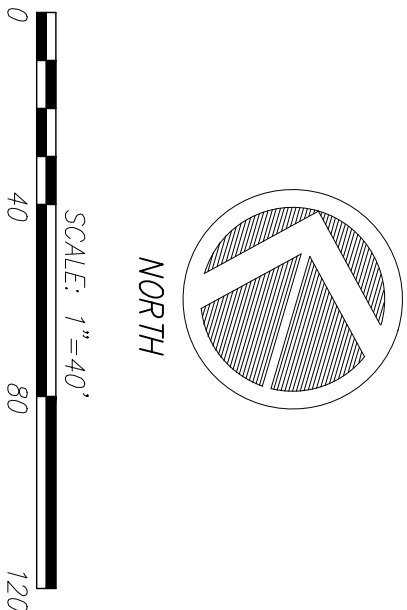
MP

DF

OP

CLO

SWA



Base map provided by CZG Civil Consultants Group, Scotts Valley, CA

826 Monterey Avenue

Capitola, CA 95010

831-359-3607

kurfouts1@outlook.com

Tree Location Plan

900 High Street, Santa Cruz, Ca.

Sheet T1

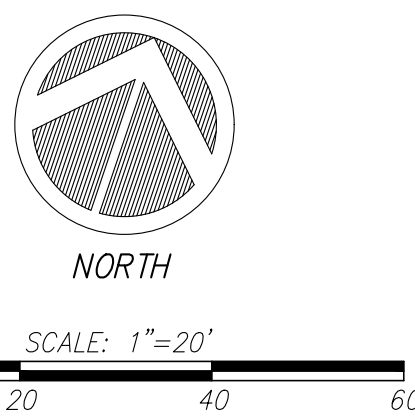
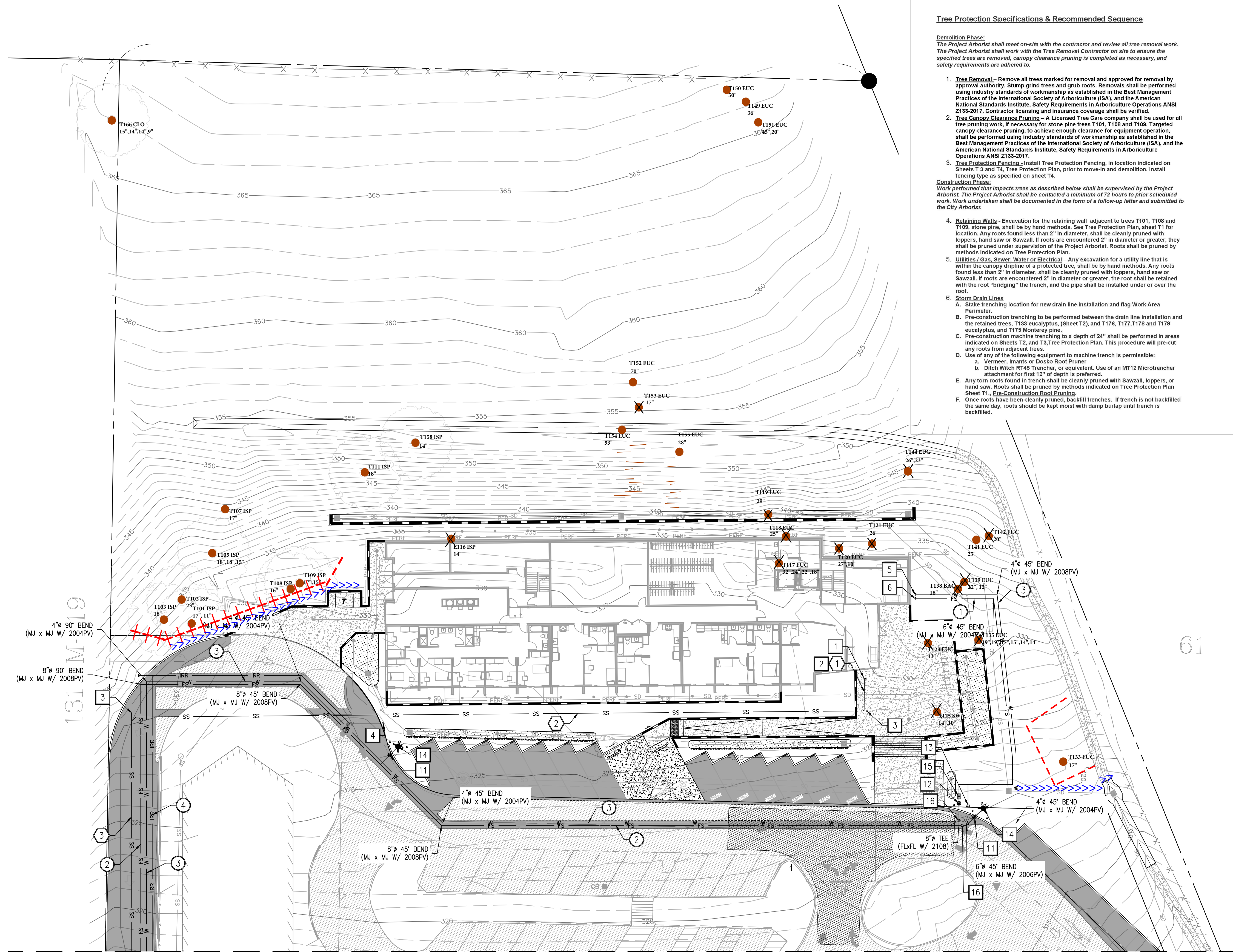
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K.F.

12/13/2025

APN: 001-

022-40



Tree Protection Specifications & Recommended Sequence

Demolition Phase:
The Project Arborist shall meet on-site with the contractor and review all tree removal work. The Project Arborist shall work with the Tree Removal Contractor on site to ensure the specified trees are removed, canopy clearance pruning is completed as necessary, and safety requirements are adhered to.

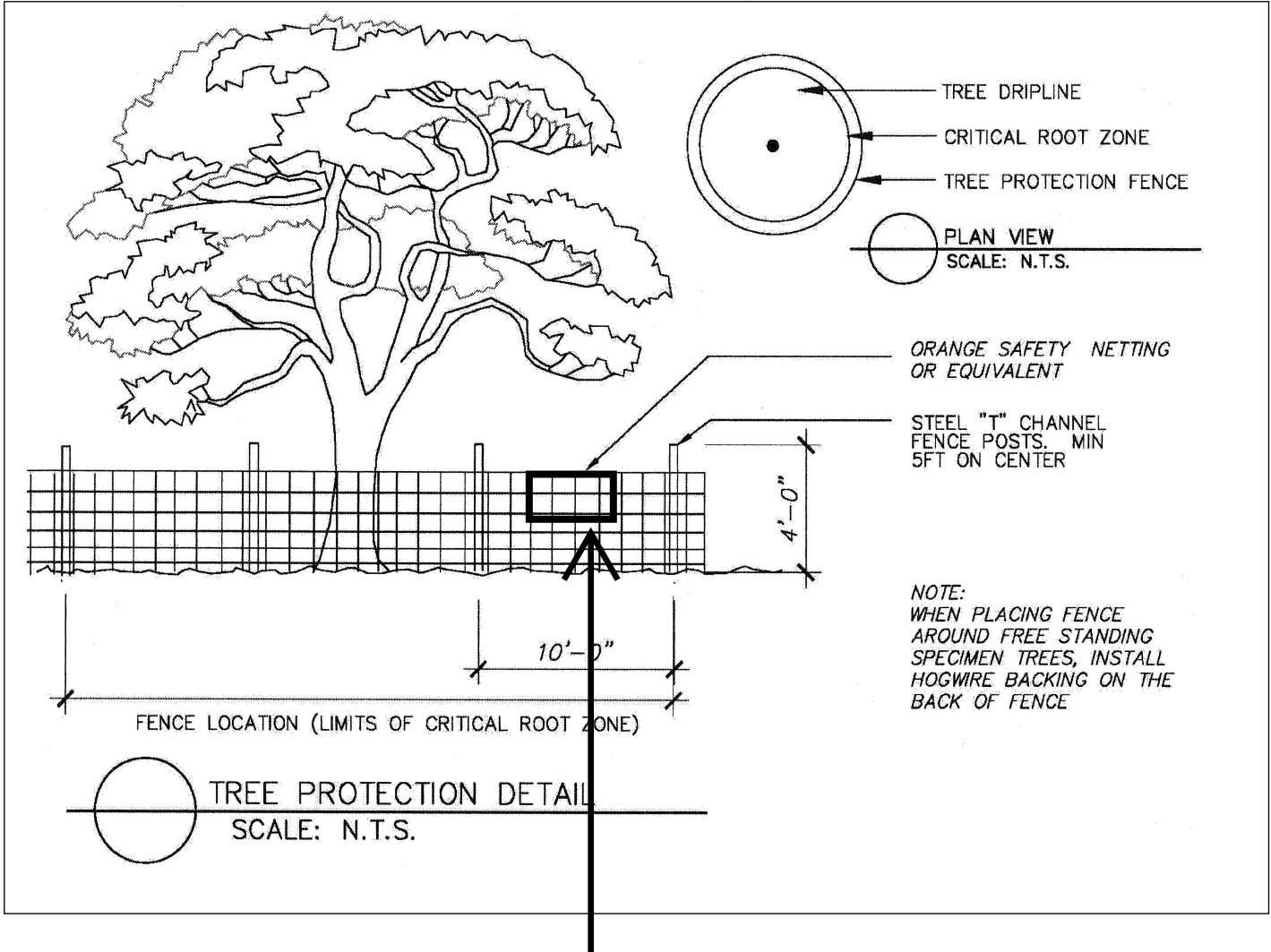
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- Tree Protection Fencing** - Install Tree Protection Fencing, in location indicated on Sheets T3 and T4, Tree Protection Plan, prior to move-in and demolition. Install fencing type as specified on sheet T4.

Construction Phase:
Work performed that impacts trees as described below shall be supervised by the Project Arborist. The Project Arborist shall be contacted a minimum of 72 hours prior scheduled work. Work undertaken shall be documented in the form of a follow-up letter and submitted to the City Arborist.

- Retaining Walls** - Excavation for the retaining wall adjacent to trees T101, T108 and T109, stone pine, shall be by hand methods. See Tree Protection Plan, sheet T1 for location. Any roots found less than 2" in diameter, shall be cleanly pruned with loppers, hand saw or Sawzall. If roots are encountered 2" in diameter or greater, they shall be pruned under supervision of the Project Arborist. Roots shall be pruned by methods indicated on Tree Protection Plan.
- Utilities (Gas, Sewer, Water or Electrical)** - Any excavation for a utility line that is within the canopy drip line of a protected tree, shall be by hand methods. Any roots found less than 2" in diameter, shall be cleanly pruned with loppers, hand saw or Sawzall. If roots are encountered 2" in diameter or greater, the root shall be retained with the root "bridging" the trench, and the pipe shall be installed under or over the root.
- Storm Drain Lines**
 - Stake trenching location for new drain line installation and flag Work Area Perimeter.
 - Pre-construction trenching to be performed between the drain line installation and the retained trees, T133 eucalyptus, (Sheet T2), and T176, T177, T178 and T179 eucalyptus, and T175 Monterey pine.
 - Pre-construction machine trenching to a depth of 24" shall be performed in areas indicated on Sheets T2, and T3, Tree Protection Plan. This procedure will pre-cut any roots from adjacent trees.
 - Use of any of the following equipment to machine trench is permissible:
 - Vermorel, Inantis or Dosko Root Pruner
 - Ditch Witch RT45 Trencher, or equivalent. Use of an MT12 Microtrencher attachment for first 12" of depth is preferred.
 - Any torn roots found in trench shall be cleanly pruned with Sawzall, loppers, or hand saw. Roots shall be pruned by methods indicated on Tree Protection Plan Sheet T1, Pre-Construction Root Pruning.
 - Once roots have been cleanly pruned, backfill trenches. If trench is not backfilled the same day, roots should be kept moist with damp burlap until trench is backfilled.

Legend

- Protected Tree Location
- Tree Protection Fencing
- Tree Canopy Extents
- Mechanical & Hand Root Pruning
- Remove Tree



Warning
Tree Protection Zone
Keep Out

NOTICE: PROTECTIVE FENCING IS REQUIRED ON THIS JOB SITE. NO STORAGE OF MATERIALS OF ANY TYPE IS ALLOWED WITHIN THE FENCED AREA.

This sign must be prominently displayed. Fencing may not be moved or removed without permission of the Project Arborist. Failure to comply with all precautions may result in a STOP WORK order being issued by the regulating agency.

No Entry without Project Arborist Authorization
Kurt Fouts - Arborist Consultant - 831 - 359-3607

KEY TO TREE SPECIES

ITALIAN STONE PINE	ISP
BLUE GUM EUCALYPTUS	EUC
BLACKWOOD ACACIA	BAC
MONTEREY PINE	MP
DOUGLAS FIR	DF
ORNAMENTAL PEAR	OP
COAST LIVE OAK	CLO
SILVER WATTLE ACACIA	SWA

Base map from Sheet C3.1, *Utility Plan*, dated 11/19/2025, by C2G/Civil Consultants Group, Inc.

K.F.
12/13/2025
APN: 001 -
022-40

Sheet T2
of 3 sheets

Tree Protection Plan

900 High Street, Santa Cruz, Ca



K.F.
12/13/2025
APN: 001-022-40

Sheet T3
of 3 sheets

Tree Protection Plan
900 High Street, Santa Cruz, Ca

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ARBORIST REPORT-
Tree Resource Evaluation &
Project Impact Analysis

Peace Church
900 High Street
Santa Cruz, CA
APN:001-022-40
September 25, 2022

Prepared for:

Envision I, LLC
189 Walnut Avenue
Santa Cruz, CA 95060

Prepared by:



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ISA Certified Arborist WE0681A
ISA Tree Risk Assessment Qualification (TRAQ)

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Attachments: Appendix A - H

Appendix A – Tree Assessment Chart

Appendix B – Criteria for Tree Assessment Chart

Appendix C - Sheet T1 - Tree Location Plan

Appendix D- Sheet T2 – Heritage Tree Removal Plan

Appendix E – Aerial Image (Google Earth), Tree Inventory

Appendix F – Glossary of Terms

Appendix G – Bibliography

Appendix H - Assumptions & Limiting Conditions

SUMMARY

This report provides the following information:

1. A summary of the health and structural condition of 70 trees.
2. A preliminary evaluation of anticipated construction impacts to the trees.
3. Recommendations for retention or removal of assessed trees based on their condition, construction impacts, and future uses.

A multi- story residential building is proposed on property owned by the Peace Church at 900 High Street. I surveyed seventy (73), trees on or near the property, including 33 *Heritage Trees*.. A Heritage Tree is protected as defined by the City of Santa Cruz, Municipal Code, 9.56.040, *Heritage Tree and Shrub Designation*.

Most *Heritage* trees are in good or fair condition.

Extensive grading of the sloped project site will be necessary. Eight existing *Heritage Trees* are in direct conflict with the proposed development, and their removal will be necessary. Six Heritage Trees are recommended for removal due to poor condition. Impacts to nineteen Heritage Trees will be low or moderate, and they can be incorporated into the project.

Construction activities have the potential to seriously damage trees. To minimize damage, construction should occur outside of the Critical Root zone (CRZ)¹, whenever possible. Since proposed construction is planned within the CRZ of some trees included in this survey, design considerations to minimize disturbances should be implemented where possible. If design modifications cannot be made to avoid disturbances within the CRZ, then direct onsite supervision by the Project Arborist, and various mitigation measures may be required, depending on City of Santa Cruz plan review direction.

¹ CRZ: the area of soil around a tree where the minimum number of roots that are biologically essential to the structural stability and health of the tree are located. There are no universally accepted methods to calculate the CRZ. I have used five times the trunk diameter to estimate it.

Data Summary

General		
Total Trees Inventoried		Count
Total		73
Species (8)		
Italian stone pine (<i>Pinus pinea</i>)		24
blue gum eucalyptus (<i>Eucalyptus globulus</i>)		20
blackwood acacia (<i>Acacia melanoxylon</i>)		13
Monterey pine (<i>Pinus radiata</i>)		7
Douglas fir (<i>Pseudotsuga menziesii</i>)		2
flowering ornamental pear (<i>Pyrus calleryana</i>)		2
coast live oak (<i>Quercus agrifolia</i>)		3
silver wattle acacia (<i>Acacia dealbata</i>)		2
Regulated Trees		
Heritage Trees		
All trees $\geq 14"$ trunk diameter		33
Tree Disposition Categories – All Trees		
R.I. –	Remove due to construction impacts	19
R.C. –	Remove due to condition (poor condition)	13
R.T., I.M. -	Retain tree. Preservable, low or moderate impacts that can be mitigated.	41

Replacement trees will be required for Heritage Trees approved for removal.

Background

Preliminary plans for an apartment complex have been prepared for Peace Church, on their property at 900 High Street. Mr. Belal Kaddoura, Development Manager at Workbench, requested my services to assess the condition of seventy trees within or near the project limits, and the construction impacts that may affect them. Further, to provide a report with my findings, and recommendations to meet the City of Santa Cruz requirements.

Assignment

Provide an arborist report that includes an assessment of the trees within the project area. The assessment is to include the species, size (trunk diameter, height and canopy spread), condition (health and structure), and suitability for preservation ratings. Review preliminary development plans, assess potential impacts to trees, and provide recommendations for retention or removal.

To complete this assignment, the following services were performed:

- **Tree Survey, Assessment & Recommendations:** Inventory, evaluate and make recommendations for subject trees.
- **Plan Review: Reviewed provided plans including:** *Preliminary Site Plan*, Sheet C0.1, dated 8/15/2022, by C2G Civil Consultants.

Limits of the Assignment

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 on July 11, July 12, 2022 and September 24, 2022.

The inspection is limited to visual examination of accessible items without climbing, dissection, excavation, probing, or coring. There is no warranty or guarantee, expressed or implied, that problems or deficiencies of the trees in questions may not arise in the future.

Purpose and use of the report

The report is intended to provide a condition evaluation and management recommendations for the trees inventoried.

This report is to be used by the applicant, their agents, and the City of Santa Cruz as a reference for existing tree conditions, and to help satisfy City of Santa Cruz planning requirements.

Resources

All information within this report is based on site plans as of the date of this report. Resources are as follows:

- *Preliminary Site Plan*, Sheet C0.1, dated 8/15/2022, by C2G Civil Consultants.
- Topographic Survey, dated 6/22/2022, by C2G Civil Consultants Group.
- Site Visit, Tree Inventory & Condition Evaluation, Peace: Church, 900 High Street. Santa Cruz, on 7/7/2022, 8/6/2022 & 9/24/2022.
- City of Santa Cruz Municipal Code – Chapter 9.56 *Preservation of Heritage Trees* (applicable sections).

City of Santa Cruz

9.56.040 HERITAGE TREE AND HERITAGE SHRUB DESIGNATION.

Any tree, grove of trees, shrub or group of shrubs, growing on public or private property within the city limits of the city of Santa Cruz which meet(s) the following criteria shall have the “heritage” designation:

- (a) Any tree which has a trunk with a circumference of forty-four inches (**approximately fourteen inches in diameter or more**), measured at fifty-four inches above existing grade;
- (b) Any tree, grove of trees, shrub or group of shrubs which have historical significance, including but not limited to those which were/are:
 - (1) Planted as a commemorative;
 - (2) Planted during a particularly significant historical era; or
 - (3) Marking the spot of an historical event.
- (c) Any tree, grove of trees, shrub or group of shrubs which have horticultural significance, including but not limited to those which are:
 - (1) Unusually beautiful or distinctive;
 - (2) Old (determined by comparing the age of the tree or shrub in question with other trees or shrubs of its species within the city);
 - (3) Distinctive specimen in size or structure for its species (determined by comparing the tree or shrub to average trees and shrubs of its species within the city);
 - (4) A rare or unusual species for the Santa Cruz area (to be determined by the number of similar trees of the same species within the city);
 - (5) Providing a valuable habitat; or
 - (6) Identified by the city council as having significant arboricultural value to the citizens of the city

OBSERVATIONS

The 2 acre project boundary is located at the back of the Peace Church property, (Image #1).



Image #1 – Proposed apartment complex site. Project boundary in red outline.

The project site sits behind the Peace Church campus located on 900 High Street. Westlake Elementary School grounds are to the west, a townhome complex is to the north and a greenbelt with planted redwoods is to the east.

The site consists of a sloped section between two level areas. The lower area is an existing parking lot above which the parcel slopes steeply, leading to an upper terrace that is nearly flat. The upper area consists of cut annual grass, with trees mostly at the perimeter. Many trees grow on the sloped area. A portion of the sloped area consists of a dense grove of young acacia trees with trunk diameters less than 6-inches. These trees were not surveyed.

I surveyed 70 trees including 32 Heritage Trees. All trees 6-inches in diameter or larger were inventoried and tagged with numbered aluminum tags at 5-6 feet above grade. I performed a Level 1 Limited Visual Assessment of each tree, identifying obvious structural defects, pest or pathogen activity and other health issues to arrive at an overall tree condition rating.

The most commonly planted species were Italian stone pine (*Pinus pinea*), 24 trees, blue gum eucalyptus, (*Eucalyptus globulus*), 20 trees, and blackwood acacia, (*Acacia melanoxylon*), 13 trees. Seven Monterey pine (*Pinus radiata*), and a handful of other tree species including one coast live oak (*Quercus agrifolia*), round out the plant species list.

Most of the Italian stone pine grow on the west side of the sloped area, (Image #2).



Image #2 – Italian stone pine. Grow at southwest corner of project site.

Most stone pine are mature or semi-mature trees. Some young stone pine grow on the slope behind the mature pines.

The pines are in good or fair condition.

Many large, mature, blue gum eucalyptus grow along the eastern perimeter of the parcel, (Image #3).



Image #3 – Blue gum eucalyptus, taller background trees, growing along the east perimeter of the parcel.

The blue gum species make up the largest group of *Heritage Trees*. Many have structural defects including co-dominant trunks with included bark², trunk leans, unbalanced canopies, and over extended limbs.

Of the defects listed, overextended limbs are the defect most likely to result in failure. Overextended limbs grow beyond the main canopy and may have poor taper relative to their length. Such limbs are more likely to fail due to excessive mechanical stress on the limb.

Two-thirds of the blue gums are in fair condition, with one-third in poor condition.

² Included bark: Bark that becomes imbedded in a union between trunks. Lacks auillary wood and causes a weak structure.

Blue gum eucalyptus in poor condition have tip dieback, (Image #4), and in some cases, thin canopy density.



Image #4 – Blue gum eucalyptus in poor condition, (circled). Note tip dieback on limbs.

Tip dieback in eucalyptus may be caused by root disease. Soil borne fungi such as *phytophthora spp.*, are know to cause tip and branch dieback in the eucalyptus species. Tip dieback can also occur due to water deficit.

Two groups of blue gums grow in the upper terrace, (Images #5 & #6).



Image #5 – Tree T152, T153 & T154, blue gum eucalyptus. The trees grow on the upper terrace.

Blue gums T152 and T154 are in fair condition. Tree T153 has a trunk bow, limited branch structure, and is in poor condition.



Image #6 – Trees T149, T150 & T151, blue gum eucalyptus, (circled).

Blue gums T149 – T151, grow in the northeast corner of the parcel, and are in fair condition.

Blackwood acacia are the third most common species, and they grow in the southeast corner of the project, (Image #7).



Image #7 – Blackwood acacia growing in southeast corner of project. Tree T133, blue gum eucalyptus, (circled), grows at the southeast corner of the project limits.

One of the blackwood acacia is heritage size and it is in poor condition. Most of the non-heritage acacias are in poor condition.

The remainder of the trees I surveyed were non-heritage size trees. The condition of these trees ranged from good to fair to poor.

One heritage size coast live oak grows at the northwest corner of the parcel, (Image #8).



Image #8 – Tree T166, coast live oak , grows in northwest corner of project limits.

Limbs are well attached and the oak is in good condition.

The remainder of the the trees I surveyed were non heritage size trees. The condition of these trees ranged from good to fair to poor.

DISCUSSION

Species List

Table 2 – Heritage Trees

HERITAGE TREES		
Common Name	Botanical Name	Count
Italian stone pine	(<i>Pinus pinea</i>)	9
blue gum eucalyptus	(<i>Eucalyptus globulus</i>)	19
Monterey pine	(<i>Pinus radiata</i>)	1
coast live oak	(<i>Quercus agrifolia</i>)	1
silver wattle acacia	(<i>Acacia dealbata</i>)	2
Blackwood acacia		1
Total Heritage Tree Count		33

Table 3 – All Trees Inventoried

ALL TREES		
Common Name	Botanical Name	Count
Italian stone pine	(<i>Pinus pinea</i>)	24
blue gum eucalyptus	(<i>Eucalyptus globulus</i>)	20
blackwood acacia	(<i>Acacia melanoxylon</i>)	13
Monterey pine	(<i>Pinus radiata</i>)	7
Douglas fir	(<i>Pseudotsuga menziesii</i>)	2
flowering ornamental pear	(<i>Pyrus calleryana</i>)	2
coast live oak	(<i>Quercus agrifolia</i>)	3
silver wattle acacia	(<i>Acacia dealbata</i>)	2
Total Tree Count		73

Tree Evaluation and Recording Methods

Site evaluations were made on 7/11/2022, 7/12/2022 and 9/24/2022. *The inventory included all trees on the property or adjacent properties, near the project limits.* The health and structural **condition** of each tree was assessed and recorded. Based on the trees health and structural condition, each trees **suitability for preservation** was rated and recorded.

Appendix A - Tree Assessment Chart, contains the tree survey data. *Appendix B* contains criteria used to assess and rate trees. **To correlate the data in the Tree Assessment Chart to the tree's location on the site, refer to Appendix C - Sheet T1- Tree Location Plan**

Condition Rating- Heritage Trees

A trees condition is determined by an assessing both the **health** and **structure**, then combining the two factors to reach a *condition rating*. Tree condition is rated as poor, fair or good. The quantity of trees assigned for each category (good, fair or poor), is indicated below:

Tree Condition Rating

- Good - 7
- Fair - 19
- Poor - 7

Suitability for Preservation- Heritage Trees

A trees suitability for preservation is determined based on its health, structure, age, species characteristics and longevity using a scale of good, fair or poor. The quantity of trees assigned to each category (good, fair or poor), is listed below.

Suitability Rating

- Good - 1
- Fair – 25
- Poor - 7

Tree Protection Zone

The tree protection zone (TPZ), is a defined area (radius from trunk), within which certain activities are prohibited or restricted to minimize potential injury to designated trees during construction.

The size of the optimal TPZ can be determined by a formula based on 1) trunk diameter 2) species tolerance to construction impacts, and 3) tree age (Matheny, N. and Clark, J 1998). In some instances, tree drip line is used as the TPZ. Development constraints can also influence the final size of the tree protection zone.

Fencing is installed to delineate the (TPZ), and to protect tree roots, trunk, and scaffold branches from construction equipment. *The fenced protection area may be smaller than the optimal or designated TPZ area in some circumstances.* Tree protection may also involve the armoring of the tree trunk and/or scaffold limbs with barriers to prevent mechanical damage from construction equipment. *See Tree Protection Guidelines & Restrictions – Appendix E.*

Once the TPZ is delineated and fenced (prior to any site work, equipment and materials move in), construction activities are only to be permitted within the TPZ if allowed for and specified by the project arborist.

Where tree protection fencing cannot be used, or as an additional protection from heavy equipment, tree wrap may be used. Wooden slats at least one inch thick are to be bound securely, edge to edge, around the trunk. A single layer or more of orange plastic construction fencing is to be wrapped and secured around the outside of the wooden slats. Major scaffold limbs may require protection as determined by the City arborist or Project arborist. Straw wattle may also be used as a trunk wrap and secured with orange plastic fencing.

Data has been entered in the *Tree Assessment Chart – Appendix A*, which indicates the optimal Tree Protection Zone for each tree.

Additional general tree protection guidelines are included in *Tree Protection Guidelines & Restrictions – Appendix G*.

Critical Root Zone

The CRZ is the biological limit of a tree's capacity to recover from root loss. It is "the area of soil around a tree where the minimum number of roots that are biologically essential to the structural stability and health of the tree are located. There are no universally accepted methods to calculate the CRZ." (Clark, Metheny, Smiley, et al, *The Tree Protection Zone & the Critical Root Zone*, 12/2021). The methods utilized to determine the Critical Root Zone are varied and can be based on professional guidelines and/or industry standards. Criteria such as trunk diameter, tree age and vigor, species tolerance, tree architecture and existing site constraints are commonly used criteria.

Critical Root Zone, Continued:

Using this information, the arborist can find the distance from the trunk that should be protected per unit of trunk diameter. The CRZ does not always represent a radius around the tree. When necessary, the area can be offset or shaped in a manner that accepts tree canopy constraints or existing conditions.

For purposes of this report the CRZ is the minimum tolerable distance between the trunk, and excavation that requires root cutting. I have estimated it to be five times the trunk Diameter at Breast Height, (DBH is 4.5' above grade). For example, if a tree has a one-foot trunk diameter, the CRZ extends to five feet from the trunk.

If encroachment into the CRZ or TPZ is required to retain the tree during development, the arborist must provide alternative construction methods or preconstruction treatments to reduce impacts.

Root Disturbance Distance

No one can estimate and predict with absolute certainty what distance from a tree, a soil disturbance such as excavation for construction should be, to ensure it will not significantly affect tree stability or health. Or to what degree, (low, moderate or high), a tree might be impacted. There are simply too many variables involved that we cannot see or anticipate. However, three times the D.B.H. (diameter at breast height), is a widely accepted minimum used in the industry for root disturbance, *on one side of the trunk*, and is supported by several research studies including (Smiley, Fraedich & Hendrickson 2002, Bartlett Tree Research Laboratories). This distance is often used during the design and planning phases of a project in order to estimate root loss due to construction activities. This distance is a guideline only and should be increased for trees with significant leans, decay or other structural problems.

The ISA, International Society of Arboriculture- Root Management (2017) publication recommends, "cutting roots at a distance greater than six times the trunk diameter (DBH) minimizes the likelihood of affecting both health and stability. This recommendation is given further direction by the companion publication, A.N.S.I. (*American National Standard*) A300 (Part 8)- 2013 Root Management, when roots are cut in a *non-selective* manner, i.e. in a straight line on one side of a tree. It says, if the cutting is "within six times the trunk diameter (DBH), mitigation shall be recommended". Further, A.N.S.I. recommends the "minimum distance from the trunk for root cutting should be adjusted according to trunk diameter, species tolerance to root loss, tree age, health and site condition".

In general, root cutting that occurs at a distance less than ten times the diameter of a tree should be undertaken by hand digging and hand (or Sawzall), root pruning. These methods help mitigate root loss impacts.

Construction Impacts to Heritage Trees

Based on the preliminary site plan, 8 of the 33 *Heritage Trees* are within or near the building footprint, impacts will be high, and their removal will be necessary. Most *Heritage Trees* within the building footprint are blue gum eucalyptus species.

Proposed construction will occur within the critical root zone of seven *Heritage Trees*, including four Italian stone pine and three blue gum eucalyptus. If design modifications cannot be made, then direct onsite supervision by the Project Arborist and mitigation methods such as root pruning will be necessary if these trees are to be retained.

Mitigation methods will be necessary for construction of a 4" valley gutter proposed within the critical root zone of *Heritage* Italian stone pines, T101, T102, T109, and T110.

Mitigation will be necessary for grading, excavation and construction of the residential building foundation and raised flow through planter, within the critical root zone of *Heritage* blue gum eucalyptus, T152, T154 and T155.

Tree T152 a 70" diameter eucalyptus is approximately 8-feet from the flow through planter. This is within the critical root zone, $8' \times 12" \div 70" \text{ trunk diameter} = 1.4X \text{ the trunk diameter}$. Depending on placement in the field of grading stakes, impacts to the tree from the flow through planter, may exceed root loss tolerances, the tree could become destabilized, and its removal may be necessary. To retain this tree, the planter should be a minimum of 15 feet, (2.6X trunk diameter), from this tree. If retained, mitigation methods to reduce root loss impacts would be necessary.

Impact Level

Impact level rates the degree a tree may be impacted by construction activity and is primarily determined by how close the construction procedures occur to the tree. Construction impacts are rated as low, moderate, high. The quantity of trees assigned for each category (low, moderate, high), is indicated below:

Impact Rating

- | | |
|--------------|----|
| ▪ Low - | 6 |
| ▪ Moderate – | 14 |
| ▪ High - | 13 |

Tree Removal- Heritage Trees

A total of 14 *Heritage Trees* is recommended to be removed for the project. Of the fourteen trees, eight will have high impacts and six are in poor condition.

Nineteen *Heritage Trees* are in good condition, will have low or moderate impacts and can be incorporated into the project.

Table 4 – Tree Disposition Categories – Heritage Trees

Tree Disposition Categories – Heritage Trees		
R.I. –	Remove due to construction impacts	8
R.C. –	Remove due to condition (poor condition)	6
R.T., I.M. -	Retain tree. Preservable, low or moderate impacts that can be mitigated.	19

Replacement Trees

As mitigation for trees removed, replacement trees will be required for *Heritage Trees* recommended for removal.

The replacement requirements may vary for the category of tree replaced. In general, two 15-gallon replacement trees are required for each *Heritage Tree* removed.

In some circumstances, applicants may elect to pay an in-lieu fee to the tree trust fund for off-site mitigation. (Contribution to the Tree Trust Fund are used to purchase street trees, trees for projects, etc.)

Replacement trees should be planted away from structures and where they have enough room to develop. Do not install trees where overhead wire exist. The trees must receive supplemental irrigation equal to their establishment requirements for the first two years.

Certificate of Performance

I, Kurt Fouts, certify:

That I have personally inspected the tree(s) and/or the property referred to in this report and have stated my findings accurately to the best of my professional judgement.

- That I have no current interest in the vegetation or the property that is the subject of this report, and I have no personal interest or bias with respect to the parties involved;
- That the analysis, opinions and conclusions stated herein are my own, and were developed and prepared according to commonly accepted arboricultural practices.
- That my compensation is not contingent upon the reporting of a predetermined conclusion that favors the cause of the client or any other party, nor upon the results of the assessment, the attainment of stipulated results, or the occurrence of any subsequent events;
- That my analysis, opinions, and conclusions were developed and this report has been prepared according to commonly accepted arboricultural practices;
- That no one provided significant professional assistance to the consultant, except as indicated within the report.

I further certify that I am an International Society of Arboriculture Certified Arborist and carry an International Society of Arboriculture Tree Risk Assessment Qualification. I have been involved in the practice of arboriculture and the care and study of trees for more than 20 years.

Signed: Kurt Fouts

Date: 9/25/2022

CONCLUSION

Seventy (73), trees on or near the property, including 33 *Heritage Trees* were surveyed. Most trees are in good or fair condition

Extensive grading of the sloped project site will be necessary. Impacts to eight existing *Heritage Trees* will be high, and their removal will be necessary. Six *Heritage Trees* are recommended for removal due to poor condition. Impacts to nineteen *Heritage Trees* will be low or moderate, and they can be incorporated into the project.

Replacement trees will be required for *Heritage Trees* approved for removal.

RECOMMENDATIONS

1. Obtain all necessary permits prior to removing or significantly altering any trees on site.
2. Remove trees highly impacted by the project, and those in poor condition.
3. Replant trees to compensate for *Heritage Trees* removed.

Respectfully submitted,

Kurt Fouts

Kurt Fouts ISA Certified Arborist WE0681
ISA Tree Risk Assessment Qualification (TRAQ)



Peace Church - 900 High Street, Santa Cruz

Tree Assessment Chart - Appendix A

Suitability for Preservation Ratings:

Good: Trees in good health and structural condition with potential for longevity on the site

Fair: Trees in fair health and/or with structural defects that may be reduced with treatment procedures

Poor: Trees in poor health and/or with poor structure that cannot be effectively abated with treatment

Disposition Category:

RT: Retain Tree

RI: Remove Due to Construction Impacts

I.M. Impacts Can Be Mitigated With Pre-Construction Treatments

R.C. Remove Due to Condition

Protected Tree City of Santa Cruz Any tree 14 inches or greater in diameter measured at 4.5 feet above grade. Street trees regardless of size.

Tree #	Species	Trunk Diameter @ 54 inches a.g.	Heritage Tree	Crown Height & Spread (diameter)	Health Rating	Structural Rating	Age	Suitability for Preservation (Based Upon Condition & Species)	Tree Protection Zone (in radius feet)	Construction Impacts (Rating & Description)	Retention or Removal Code	Comments
T101	Italian stone pine (<i>Pinus pinea</i>)	17",11"	Yes	40'X20'	Fair	Fair	Mature	Fair	15'	Moderate (Root Loss)	R.T., I.M.	
T102	Italian stone pine	23"	Yes	40'X10'	Fair	Fair	Mature	Fair	10'	Moderate (Root Loss)	R.T., I.M.	Co-dominant trunks at 6' above grade. Limited foliar canopy.
T103	Italian stone pine	18"	Yes	40'x15'	Fair	Fair	Mature	Fair	15'	Low	R.T.	
 Kurt Fouts Arborist Consultant 826 Monterey Avenue Capitola, CA 95010 831-359-3607 kurtfouts1@outlook.com								Page 1 of 7				9/25/2022

Peace Church - 900 High Street, Santa Cruz

Tree Assessment Chart - Appendix A

Tree #	Species	Trunk Diameter @ 54 inches a.g.	Heritage Tree	Crown Height (feet)& Spread (diameter feet)	Health Rating	Structural Rating	Age	Suitability for Preservation (Based Upon Condition & Species)	Tree Protection Zone (in radius feet)	Construction Impacts (Rating & Description)	Retention or Removal Code	Comments
T104	Italian stone pine	10"	No	20'X10'	Fair	Fair	Semi-mature	Fair	10'	Low	R.T.	Co-dominant trunks at 7' above grade.
T105	Italian stone pine	18",18",15"	Yes	65'X30'	Fair	Fair	Mature	Fair	20'	Moderate (Root Loss)	R.T.	Minimal foliar canopy.
T106	Douglas fir (<i>Pseudotsuga menziesii</i>)	7"	No	40'X10'	Fair	Fair	Young	Fair	10'	Moderate (Root Loss)	R.T., I.M.	Crowded growing conditions.
T107	Monterey pine (<i>Pinus radiata</i>)	17"	Yes	50'X15'	Fair	Fair	Mature	Fair	15'	Moderate (Root Loss)	R.T., I.M.	Minor infestation of red terpentine beetle.
T108	Italian stone pine	16"	Yes	40'X20'	Fair	Fair	Mature	Fair	15'	Moderate (Root Loss)	R.T., I.M.	Limited branching structure. Suppressed by larger adjacent trees.
T109	Italian stone pine	17", 15"	Yes	40'X20'	Good	Fair	Mature	Fair	15'	Moderate (Root Loss)	R.T., I.M.	Co-dominant trunks at 5' above grade with included bark.
T110	Monterey pine	10"	No	40'x10'	Fair	Fair	Semi-mature	Fair	10'	Low	R.T.	5 degree trunk lean.
T111	Italian stone pine	18"	Yes	40'X20'	Fair	Fair	Mature	Fair	10'	Low	R.T.	Co-dominant trunks at 5' above grade. All live growth in upper half of canopy.
T112	Douglas fir	6"	No	35'X10'	Good	Fair	Young	Fair	10'	Moderate (Root Loss)	R.T.	
T113	Italian stone pine	8"	No	20'x10'	Good	Fair	Young	Fair	10'	Low	R.T.	
T114	Italian stone pine	8"	No	15'X10'	Fair	Fair	Young	Fair	10'	Low	R.T.	
T115	Italian stone pine	10"	No	20'x10'	Good	Fair	Semi-mature	Fair	10'	Moderate (Root Loss)	R.T.	
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Peace Church - 900 High Street, Santa Cruz

Tree Assessment Chart - Appendix A

Tree #	Species	Trunk Diameter @ 54 inches a.g.	Heritage Tree	Crown Height (feet)& Spread (diameter feet)	Health Rating	Structural Rating	Age	Suitability for Preservation (Based Upon Condition & Species)	Tree Protection Zone (in radius feet)	Construction Impacts (Rating & Description)	Retention or Removal Code	Comments
T116	Italian stone pine	14"	Yes	20'x10'	Good	Fair	Mature	Fair	10'	Moderate (Root Loss)	R.T., I.M.	Unbalanced canopy.
T117	blue gum eucalyptus (Eucalyptus globulus)	32",24",22",18"	Yes	80'x30'	Good	Fair	Mature	Fair	30'	High (Root Loss)	R.I.	Four co-dominant trunks at grade.
T118	blue gum eucalyptus	25"	Yes	60'X30'	Good	Fair	Mature	Fair	20'	High (Within building footprint)	R.I.	
T119	blue gum eucalyptus	29"	Yes	85'X10'	Fair	Fair	Mature	Fair	25'	High (Within building footprint)	R.I.	
T120	blue gum eucalyptus	27",10"	Yes	40'X20'	Fair	Fair	Mature	Fair	20'	High (Within building footprint)	R.I.	Trunk bows.
T121	blue gum eucalyptus	26"	Yes	85'x10'	Poor	Fair	Mature	Poor	20'	High (Within building footprint)	R.I.	Minimal live canopy.
T122	blackwood acacia (Acacia melanoxlon)	10"	No	40'x15'	Fair	Fair	Semi-mature	Fair	10'	High (Root Loss)	R.I.	
T123	blue gum eucalyptus	43"	Yes	90'X30'	Good	Fair	Mature	Fair	30'	High (Root Loss)	R.I.	Unbalanced canopy with weight bias to southwest.
T124	blackwood acacia	11"	No	40'X15'	Good	Fair	Semi-mature	Fair	15'	High (Within building footprint)	R.I.	
T125	silver wattle acacia (Acacia dealbata)	14",10"	Yes	50'x10'	Fair-Poor	Poor	Mature	Poor	15'	High (Root loss)	R.I.,R.C.	Co-dominant trunks at grade. 15 degree trunk lean. Unbalanced canopy with weight bias to south. Thin canopy density
T126	blackwood acacia	9",8"	No	40'X15'	Poor	Fair	Mature	Poor	15'	High (Within building footprint)	R.C.	Co-dominant trunks at grade. Minimal live canopy.
T127	blackwood acacia	10",9",6"	No	40'X10'	Fair	Fair	Mature	Fair	15'	High (Within building footprint)	R.I.	
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Peace Church - 900 High Street, Santa Cruz

Tree Assessment Chart - Appendix A

Tree #	Species	Trunk Diameter @ 54 inches a.g.	Heritage Tree	Crown Height (feet)& Spread (diameter feet)	Health Rating	Structural Rating	Age	Suitability for Preservation (Based Upon Condition & Species)	Tree Protection Zone (in radius feet)	Construction Impacts (Rating & Description)	Retention or Removal Code	Comments
T128	blackwood acacia	8",4",4",4"	No	15'X10'	Poor	Poor	Semi-mature	Poor	15'	High (Within building footprint)	R.C.	Co-dominant trunks at grade. Trunk leader dead at 8' above grade.
T129	blackwood acacia	9"	No	40'X10'	Fair	Poor	Semi-mature	Poor	15'	High (Within building footprint)	R.C.	15 degree trunk lean. Unbalanced canopy with weight bias to south.
T130	blackwood acacia	6",4",3",3"	No	15'X5'	Poor	Poor	Semi-mature	Poor	10'	High (Root Loss)	R.C.	Co-dominant trunks at grade. Minimal live canopy.
T131	blackwood acacia	7"	No	15'X5'	Poor	Poor	Semi-mature	Poor	10'	High (Root Loss)	R.C.	Minimal live canopy.
T132	blackwood acacia	6",5"	No	15'X10'	Fair	Poor	Semi-mature	Poor	10'	Moderate (Root Loss)	R.C.	Co-dominant trunks at grade.
T133	blue gum eucalyptus	17"	Yes	55'X10'	Fair	Fair	Mature	Fair	20'	Moderate (Root Loss)	R.T., I.M.	
T134	Italian stone pine	10"	No	20'X10'	Good	Good	Semi-mature	Good	10'	Moderate (Root Loss)	R.T., I.M.	
T135	blue gum eucalyptus	19",19" 17",15",14", 14"	Yes	75'x30'	Good	Fair	Mature	Fair	30'	High (Root Loss)	R.I.	Co-dominant trunks at 2' above grade.
T136	blackwood acacia	12"	No	35'X15'	Fair	Fair	Semi-mature	Fair	15'	High (Within building footprint)	R.I.	
T137	blackwood acacia	8"	No	40'X10'	Good	Good	Semi-mature	Good	10'	Moderate (Root Loss)	R.T., I.M.	
T138	blackwood acacia	18"	Yes	20'x10'	Poor	Poor	Mature	Poor	15'	High (Within building footprint)	R.I.,R.C.	Deadwood and decay in trunk. Tip and branch dieback.
T139	blue gum eucalyptus	22",12"	Yes	65'X15'	Poor	Fair	Mature	Poor	20'	High (Within building footprint)	R.I.,R.C.	Co-dominant trunks at 1' above grade. Tip dieback. Epicormic growth.
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Tree Assessment Chart - Appendix A

Tree #	Species	Trunk Diameter @ 54 inches a.g.	Heritage Tree	Crown Height (feet)& Spread (diameter feet)	Health Rating	Structural Rating	Age	Suitability for Preservation (Based Upon Condition & Species)	Tree Protection Zone (in radius feet)	Construction Impacts (Rating & Description)	Retention or Removal Code	Comments
T140	Monterey pine	7"	No	40'X10'	Fair	Fair	Young	Fair	10'	Moderate (Root Loss)	R.T., I.M.	
T141	blue gum eucalyptus	25"	Yes	75'X20'	Fair	Fair	Mature	Fair	15'	High (Root Loss)	R.I.	
T142	blue gum eucalyptus	20"	Yes	40'x15'	Fair-Poor	Fair-Poor	Mature	Poor	15'	Moderate (Root Loss)	R.C.	Co-dominant trunks at 7' above grade. Tip dieback. Unbalanced canopy with weight bias to northeast.
T143	blue gum eucalyptus	9"	No	30'X5'	Poor	Poor	Young	Poor	10'	Moderate (Root Loss)	R.C.	Minimal live canopy.
T144	blue gum eucalyptus	26",23"	Yes	50'X30'	Fair-Poor	Fair	Mature	Poor	20'	High (Root Loss)	R.I.,R.C.	Tip dieback. Thin canopy density. One trunk leans 35 degrees to northeast.
T145	Monterey pine	9"	No	35'X5'	Fair	Fair	Young	Fair	10'	High (Within building footprint)	R.I.	
T146	Monterey pine	8"	No	25'X10'	Fair	Fair	Young	Fair	10'	Moderate (Root Loss)	R.T., I.M.	Tunk canker.
T147	Monterey pine	9",7"	No	40'X10'	Good	Fair	Young	Fair	10'	High (Root Loss)	R.I.	Co-dominant at 1' above grade.
T148	Monterey pine	9"	No	35'X10'	Fair	Fair	Young	Fair	10'	Low	R.T.	
T149	blue gum eucalyptus	36"	Yes	85'x15'	Fair	Fair	Mature	Fair	25'	Low	R.T.	
T150	blue gum eucalyptus	50"	Yes	85'X15'	Fair	Fair	Mature	Fair	30'	Low	R.T.	
T151	blue gum eucalyptus	45",20"	Yes	75'X20'	Fair	Fair	Mature	Fair	30'	Low	R.T.	
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Tree Assessment Chart - Appendix A

Tree #	Species	Trunk Diameter @ 54 inches a.g.	Heritage Tree	Crown Height (feet)& Spread (diameter feet)	Health Rating	Structural Rating	Age	Suitability for Preservation (Based Upon Condition & Species)	Tree Protection Zone (in radius feet)	Construction Impacts (Rating & Description)	Retention or Removal Code	Comments
T152	blue gum eucalyptus	70"	Yes	90'X35'	Fair	Fair	Mature	Fair	30'	Moderate-High (Root Loss)	R.T.	Co-dominant trunks with included bark at 12' above grade. Tip dieback. Needs pre-construction root exploration after placement of grading stakes.
T153	blue gum eucalyptus	17"	Yes	65'X10'	Fair-Poor	Poor	Mature	Poor	15'	Moderate (Root Loss)	R.C.	Trunk bow. Limited branch structure.
T154	blue gum eucalyptus	53"	Yes	75'x20'	Fair	Fair	Mature	Fair	25'	Moderate (Root Loss)	R.T.	Tip dieback. Unbalanced canopy with weight bias to southwest.
T155	blue gum eucalyptus	28"	Yes	75'X10'	Fair	Fair	Mature	Fair	20'	Moderate (Root Loss)	R.T.	Tip dieback.
T156	Italian stone pine	8"	No	30'X10'	Fair	Fair	Young	Fair	10'	Low	R.T.	At top of slope.
T157	Italian stone pine	6"	No	30'X5'	Fair	Fair	Young	Fair	10'	High (Within building footprint)	R.I.	At top of slope.
T158	Italian stone pine	14"	Yes	30'X10'	Fair	Fair	Mature	Fair	15'	Moderate (Root Loss)	R.T.	At top of slope.
T159	Italian stone pine	6"	No	25'X5'	Fair	Fair	Young	Fair	10'	Low	R.T.	
T160	Italian stone pine	8"	No	25'X5'	Fair	Fair	Young	Fair	10'	Low	R.T.	
T161	Italian stone pine	12"	No	30'X10'	Fair	Fair	Semi-mature	Fair	10'	Low	R.T.	
T162	Italian stone pine	11"	No	30'x10'	Fair	Fair	Semi-mature	Fair	10'	Low	R.T.	
T163	Italian stone pine	12"	No	30'X5'	Fair	Fair	Semi-mature	Fair	10'	Moderate (Root Loss)	R.T., I.M.	
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Tree Assessment Chart - Appendix A

Tree #	Species	Trunk Diameter @ 54 inches a.g.	Heritage Tree	Crown Height (feet)& Spread (diameter feet)	Health Rating	Structural Rating	Age	Suitability for Preservation (Based Upon Condition & Species)	Tree Protection Zone (in radius feet)	Construction Impacts (Rating & Description)	Retention or Removal Code	Comments
T164	Italian stone pine	11"	No	35'X5'	Fair	Fair	Semi-mature	Fair	10'	Moderate (Root Loss)	R.T., I.M.	
T165	Italian stone pine	10"	No	20'x10'	Fair	Fair	Semi-mature	Fair	10'	High (Within building footprint)	R.I.	
T166	coast live oak (<i>Quercus agrifolia</i>)	15",14",14",9"	Yes	40'X45'	Good	Good	Mature	Good	30'	Low	R.T.	Co-dominant trunks at 3' above grade. Minor bark beetle infestation. Average canopy density with well attached limbs.
T167	flowering ornamental pear (<i>Pyrus calleryana</i>)	10"	No	20'x15'	Good	Fair	Semi-mature	Good	10'	High (Within building footprint)	R.I.	
T168	flowering ornamental pear	4"	No	15'X10'	Fair	Fair	Young	Fair	10'	High (Within building footprint)	R.I.	
T169	blackwood acacia	12"	No	30'X20'	Good	Fair	Mature	Fair	10'	High (Within building footprint)	R.I.	
T170	Italian stone pine	11"	No	20'X5'	Fair	Fair	Semi-mature	Fair	10'	Low	R.T.	
T171 No Tag	silver wattle acacia	16"	Yes	40'X30'	Fair	Fair	Semi-mature	Fair	15'	Moderate (Root Loss)	R.T., I.M.	On neighboring property. 6' from fence line. Approximately 10'-14' from drain line.
T172	coast live oak	3"	No	10'X5'	Good	Good	Young	Good	5'	Moderate - High (Root loss)	R.T., I.M.	Approximately 2-6' from drain line.
T173	coast live oak	13"	No	35'X15'	Good	Good	Semi-mature	Good	10'	Moderate (Root Loss)	R.T., I.M.	Approximately 8-12" from drain line.
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APPENDIX B – CRITERIA FOR TREE ASSESSMENT CHART

Following is an explanation of the data used in the tree evaluations. The data is incorporated in the *Tree Assessment Chart, Appendix A*.

Trunk Diameter and Number of Trunks:

Trunk diameter as measured at 4.5 feet above grade. The number of trunks refers to a single or multiple trunked tree. Multiple trunks are measured at 4.5 feet above grade.

Health Ratings:

Good: A healthy, vigorous tree, reasonably free of signs and symptoms of disease

Fair: Moderate vigor, moderate twig and small branch dieback, crown may be thinning and leaf color may be poor

Poor: Tree in severe decline, dieback of scaffold branches and/or trunk, most of foliage from epicormics

Structure Ratings:

Good: No significant structural defects. Growth habit and form typical of the species

Fair: Moderate structural defects that might be mitigated with regular care

Poor: Extensive structural defects that cannot be abated.

Relative Age:

I estimated tree age as young, semi-mature, mature, or over-mature.

Suitability for Preservation Ratings:

Rating factors:

Tree Health: Healthy vigorous trees are more tolerant of construction impacts such as root loss, grading, and soil compaction, then are less vigorous specimens.

Structural integrity: Preserved trees should be structurally sound and absent of defects or have defects that can be effectively reduced, especially near structures or high use areas.

Tree Age: Over mature trees have a reduced ability to tolerate construction impacts, generate new tissue and adjust to an altered environment. Young to maturing specimens are better able to respond to change.

Species response: There is a wide variation in the tolerance of individual tree species to construction impacts.

Rating Scale:

Good: Trees in good health and structural condition with potential for longevity on the site

Fair: Trees in fair health and/or with structural defects that may be reduced with treatment procedures.

Poor: Trees in poor health and/or with poor structure that cannot be effectively abated with treatment. Trees can be expected to decline or fail regardless of construction impacts or management . The species or individual may possess characteristics that are incompatible or undesirable in landscape settings or unsuited for the intended use of the site.

Construction Impacts:

Rating Scale:

High: Development elements proposed that are located within the Tree Protection Zone that would severely impact the health and /or stability of the tree. The tree impacts cannot be mitigated without design changes. The tree may be located within the building footprint.

Moderate: Development elements proposed that are located within the Tree Protection Zone that will impact the health and/or stability of the tree and can be mitigated with tree protection treatments.

Low: Development elements proposed that are located within or near the Tree Protection Zone that will have a minor impact on the health of the tree and can be mitigated with tree protection treatments.

None: Development elements will have no impact on the health and stability of the Tree.

Tree Protection Zone (TPZ):

Defined area within which certain activities are prohibited or restricted to prevent or minimize potential injury to designated trees, particularly during construction or development.

Heritage Tree to Retain

Non-Heritage Tree to Retain

Heritage Tree to Remove

Non-Heritage Tree to Remove

Tree Number, Species Abbreviation & Trunk Diameter

Canopy Extents

T101 ISP

16"

ITALIAN STONE PINE

BLUE GUM EUCALYPTUS

BLACKWOOD ACACIA

MONTEREY PINE

DOUGLAS FIR

ORNAMENTAL PEAR

COAST LIVE OAK

SILVER WATTLE ACACIA

ISP

EUC

BAC

MP

DF

OP

CLO

SWA

Base map provided by CZG Civil Consultants Group, Scotts Valley, CA

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Tree Location Plan

900 High Street, Santa Cruz, Ca.

Sheet T1

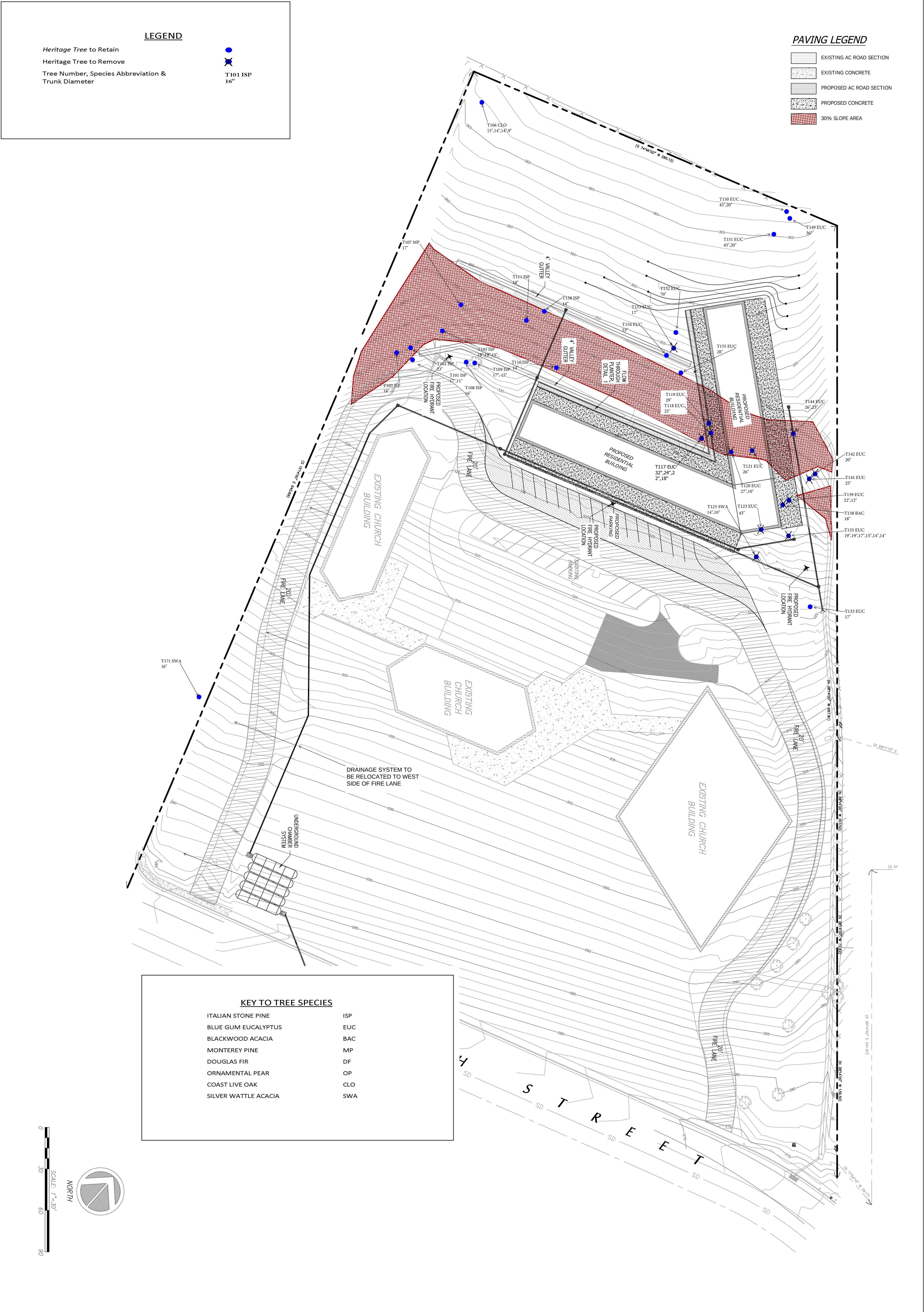
of 2 sheets

K.F.

9/25/2022

APN: 001-

022-40



Tree Inventory
Peace Church- 900 High St. Santa Cruz
08/08/22

Legend

- Heritage Tree
- Non Heritage Tree



Glossary of Terms

Basal rot: decay of the lower trunk, trunk flare, or buttress roots.

Canker: Localized diseased area on stems, roots and branches. Often sunken and discolored.

Critical Root Zone (CRZ): Area of soil around a tree where a minimum number of roots considered critical to the structural stability or health of the tree are located. CRZ determination is sometimes based on the drip line or a multiple of the DBH, but because root growth can be asymmetric due to site conditions, on-site investigation may be required.

Codominant branches/stems: Forked branches (or trunks), nearly the same size in diameter, arising from a common junction and lacking a normal branch union, may have included bark.

Crown: Upper part of a tree, measured from the lowest branch, including all branches and foliage.

Defect: An imperfection, weakness, or lack of something necessary. In trees defects are injuries, growth patterns, decay, or other conditions that reduce the tree's structural strength.

Diameter at breast height (DBH): Measurement of trunk diameter at 4.5 feet above grade.

Frass: Fecal material and/or wood shavings produced by insects.

Included Bark Attachments (crotches): Branch/limb or limb /trunk, or codominant trunks originating at acute angles from each other. Bark remains between such crotches, preventing the development of axillary wood. The inherent weakness of such attachments increases with time, through the pressure of opposing growth and increasing weight of wood and foliage, often resulting in failure.

Live Crown Ratio (LCR): Ratio of the the crown length (live foliage), to total tree height.

Scaffold branches: Permanent or structural branches that form the scaffold architecture or structure of a tree.

Suppressed: Trees that have been overtopped and occupy an understory position within a group or grove of trees. Suppressed trees often have poor structure.

Tree Protection Zones (TPZ): Defined area within which certain activities are prohibited or restricted to prevent or minimize potential injury to designated trees, especially during construction or development.

Trunk flare: Transition zone from trunk to roots where the trunk expands into the buttress or structural roots.

This Glossary of Terms was adapted from the *Glossary of Arboricultural Terms* (ISA, 2015)

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ASSUMPTIONS AND LIMITING CONDITIONS

1. Any legal description provided by the appraiser/consultant is assumed to be correct. No responsibility is assumed for matters legal in character nor is any opinion rendered as the quality of any title.
2. The appraiser/consultant can neither guarantee nor be responsible for accuracy of information provided by others.
3. The appraiser/consultant shall not be required to give testimony or to attend court by reason of this appraisal unless subsequent written arrangements are made, including payment of an additional fee for services.
4. Loss or removal of any part of this report invalidates the entire appraisal/evaluation.
5. Possession of this report or a copy thereof does not imply right of publication or use for any purpose by any other than the person(s) to whom it is addressed without written consent of this appraiser/consultant.
6. This report and the values expressed herein represent the opinion of the appraiser/consultant, and the appraiser/consultant's fee is in no way contingent upon the reporting of a specified value nor upon any finding to be reported.
7. Sketches. Diagrams. Graphs. Photos. Etc., in this report, being intended as visual aids, are not necessarily to scale and should not be construed as engineering reports or surveys.
8. This report has been made in conformity with acceptable appraisal/evaluation/diagnostic reporting techniques and procedures, as recommended by the International Society of Arboriculture.
9. When applying any pesticide, fungicide, or herbicide, always follow label instructions.
10. No tree described in this report was climbed, unless otherwise stated. We cannot take responsibility for any defects which could only have been discovered by climbing. A full root collar inspection, consisting of excavating around the tree to uncover the root collar and major buttress roots, was not performed, unless otherwise stated. We cannot take responsibility for any root defects which could only have been discovered by such an inspection.

CONSULTING ARBORIST DISCLOSURE STATEMENT

Arborists are tree specialists who use their education, knowledge, training, and experience to examine trees, recommend measures to enhance the beauty and health of trees, and attempt to reduce risk of living near trees. Clients may choose to accept or disregard the recommendations of the arborist, or to seek additional advice.

Arborists cannot detect every condition that could possibly lead to the structural failure of a tree. Trees are living organisms that fail in ways we do not fully understand. Conditions are often hidden within trees and below ground. Arborists cannot guarantee that a tree will be healthy or safe under all circumstances, or for a specified period of time. Likewise, remedial treatments, like medicine, cannot be guaranteed.

Trees can be managed, but they cannot be controlled. To live near trees is to accept some degree of risk. The only way to eliminate all risk associated with trees is to eliminate all trees.

