

Terrace at Scotts Valley
Scotts Valley Drive at Bean Creek Road
APN 022-162-69

Tree Resource Evaluation/
Construction Impact Assessment/
Tree Protection Plan



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Prepared for
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TABLE OF CONTENTS

Assignment/Scope of Services.....	Page 1
Summary.....	Pages 1 and 2
Background.....	Pages 3 and 4
Tree Inventory Methodology.....	Pages 5 and 6
Description of Development Impacts.....	Pages 6 and 7
Required Procedures.....	Pages 8, 9 and 10
Tree Removal and Replacement.....	Pages 9, 10 and 11
Tree Preservation and Protection.....	Page 12
Appraised Value of Preserved Trees.....	Pages 12 and 13
Tree Preservation Specifications.....	Page 14

Attachments

Tree Appraisal Worksheet	
Tree Resource Inventory	
Tree Location Map File	
Construction Impact Assessment	File A, Sheets 1 through 5
Tree Protection Plan	File B, Sheets 1 through 5

ASSIGNMENT/SCOPE OF SERVICES

Apple Homes Development proposes to build 20 townhomes on a currently undeveloped 2.3-acre parcel located on Scotts Valley Drive near the intersection of Bean Creek Road, APN 022-162-69. Tree resources on this site include native conifer and mixed hardwood species many of which meet “protected” criteria. A large number of acacia trees grow on the property that do not meet “protected” criteria. To ensure the protection of the tree resources and meet City requirements, Corrie Kates of the Scotts Valley Planning Department has requested the following tasks be completed.

- Locate, catalog and map trees/tree groups greater than 6 inches in trunk diameter growing within 20 feet of the Limits of Grading
 - NOTE: acacia trees will not be inventoried
- Identify trees as to size, species and trunk diameter
- Rate individual tree health/structure and preservation suitability as “good, fair or poor”
- Map Critical Root Zones
- Review grading, utility, drainage, building and landscape construction plans to determine potential impacts to trees
- Identify trees with active disease organisms or structural weakness that present risk to the redefined use of the site
- Provide recommendations for remedial treatments and maintenance to improve tree condition and decrease risk in preparation for construction
- Create tree preservation specifications including a protection-fencing plan
- Determine tree replacement requirements for “Protected” trees removed as outlined by Scotts Valley Municipal Code Section 17.44.080
- Appraise the value of “Protected” trees to be preserved
- Provide all findings in the form of a report accompanied by a Tree Location Map/Preservation Plan

SUMMARY

Plans for this project have been reviewed and the known impacts to one hundred forty-five trees/tree groups within twenty feet of proposed grading limits have been assessed. In order to construct this project extensive grading, slope retention systems, drainage structures and site stabilization procedures are necessary. To construct the improvements as currently defined the removal of 71 trees/tree groups, 56 of which meet Protected criteria is necessary. Of the total number proposed for removal, 61 trees/tree groups are required to be removed due to construction impacts. The remaining 10 trees that comprise this removal total are dead, diseased, have fallen or are structurally unsound and should be removed to eliminate the risk to the redefined use of the site (see Summary Table on page 9).

Tree removal quantities were calculated anticipating the most dramatic level of impacts and greatest number of trees to be removed. Tree removal quantities may change once grade stakes are in place and actual impacts are known. If so, an addendum to this report will be submitted documenting actual totals of trees to be removed/preserved and necessary replacement tree planting.

City approved tree removal may require additional California Department of Forestry (CalFIRE) permits.

When all plans are finalized and grade stakes are in place, an accurate determination of construction impacts will be defined and necessary procedures within the Special Treatment Areas will be determined. Specific tree protection treatments and maintenance requirements will be identified at that time. All recommended treatments and procedures including the installation of protection fencing and rice straw bales are to be installed and inspected prior to grading equipment being brought on-site.

Compensation for the removal of 56 trees necessary to construct the project will include:

- Preservation and protection of retained trees/tree groups during construction
- Plan modifications to allow the preservation of Trees #20, 30, 31, 35, 44, 45 and 47 through 107
- Implementation of Special Treatments
- Tree planting as a component of the planned landscape to be maintained in perpetuity
- The planting of native shrubs between the project and Scotts Valley Drive for visual buffering/screening, air purification and noise attenuation
- Reforestation
 - Coast live oak acorns will be collected and propagated by the Project Developer in the Fall of 2014
 - The propagated seedlings along with acorns collected in the fall of 2015 will be planted during the 2015 winter

Replacement trees will be planted at a minimum 2:1 ratio, two trees replanted for each “Protected” tree removed as outlined by Scotts Valley Municipal Code Section 17.44.080.

The exact quantity of replacement trees will be determined after tree removal is completed in order to meet City mitigation requirements. Nursery stock and planting specifications, a Maintenance and Monitoring Plan and defined Success Criteria have been designed and should be implemented to insure the successful restoration of the lost canopy.

The total appraised value of the trees to be preserved is \$178,906. A retention bond in this amount shall be posted by the developer and held in trust by the City of Scotts Valley, as required by Scotts Valley Municipal Code Section 17.44.080.

In the event project management fails to implement recommended procedures and/or otherwise damage trees, the cost of implementation of recommended tree preservation treatments or appraised value of damage to these protected trees, resulting from construction activities shall be determined by the Project Arborist, monetary costs/fines assessed and deducted from the retention funds.

Site inspections will be performed by the Project Arborist¹ at defined intervals. Monitoring reports will be submitted to the City of Scotts Valley Planning Department at regular intervals.

The implementation of Special Treatments as defined within this document along with adherence to Tree Preservation Specifications are required to safeguard trees proposed for retention.

¹ **Project Arborist:** The Consulting Arborist as an authorized representative of the owner and City, with the responsibility of periodic inspection of the project, contractor and subcontractors and contractor’s equipment to determine compliance with the project specifications, the City of Scotts Valley tree preservation requirements and the cited professional standards.

BACKGROUND

To complete the assessment, numerous site inspections were performed during the months of July and August, 2014. A preliminary grading plan dated June 20, 2014 was provided by David Dauphin, C2G Engineers with tree location data for approximately 30% of the trees inventoried. The remaining trees inventoried were “field located” by measuring or approximating distance from known features; existing buildings at the Shell Gas station, hardscape elements, the unimproved access road etc. and plotting the approximate tree trunk location on the map file. Numbered metal tags have been attached to the each tree’s trunk at six feet above grade. The corresponding numbers and tree locations are documented on the attached *Construction Impact Assessment Tree Location Map file “A”*.

After the initial site inspection was completed, it was determined that several key trees would be severely damaged by necessary grading. Chris Perri, the Project Developer was made aware of this information and scheduled a meeting with Becky Dees the Project Geotechnical Engineer, David Dauphin of C2G the Project Civil Engineer and I to determine plan modifications to decrease tree related impacts. The decisions made at this meeting resulted a 15-foot buffer being created between grading limits and trees along the western boundary, adjacent to Scotts Valley Drive and the Shell Station. Additionally, grading limits were adjusted near **Trees #20, 31, 32, 40 and 41** to allow the retention of these trees. This plan dated August 20, 2014 was reviewed as the final grading plan for this project.

Detailed site, biotic, wildlife and forest system descriptions are provided in *The Terrace at Scotts Valley, Biological Report* prepared by Biotic Resources Group; Kathleen Lyons, Plant Ecologist with Dana Bland, Wildlife Biologist, August 20, 2014. For purposes of clarity and brevity, the information provided in the *Biological Report* will not be restated in this document.

Several of the inventoried trees stand along the southwestern property boundary belonging to the Shell Gas Station and Car Wash.



Many of these trees are in poor condition and unstable due to structural deficiencies, poor pruning practices and suppressed growing conditions. Several of the trees lean dramatically over the area where cars wait to enter and then exit the car wash facility. These trees present a High Risk of falling and injuring people and property.

Tree health and structural integrity were evaluated visually from the root crown (where the trunk meets natural grade), to the foliar canopy while standing on the ground. While more thorough techniques are available for inspection and evaluation, they were neither requested nor considered necessary or appropriate at this time. Periodic inspections to varying degrees are to be implemented before, during and after construction as detailed within this report.

Landscape plans, construction detail, utility and drainage plans as well as the soils report were not finalized and available for my review as of this date. These plans will be reviewed and commented on at a later date.

Based on this review, the impacts to the tree resources resulting from the proposed grading and construction have been assessed. Necessary tree removal was quantified at the most dramatic level, expecting the highest level of impacts and largest number of trees to be removed. It is anticipated the level of impacts will change when grade stakes are placed delineating actual grading limits. The exact locations of the proposed grading and other improvements will be reviewed and evaluated once the site staking is in place. There is a possibility that tree classification and recommended procedures will change once the exact positions of the proposed improvements are known. If additional tree removal is necessary or if tree removal requirements decrease, a confirming addendum will be prepared and submitted to the Scotts Valley City Planning Department.

OBSERVATIONS

Tree Descriptions

This site is populated with Ponderosa pine and oak woodland, oak/acacia woodland forest systems. The site, plant communities and biotic resources are described in detail the *Biological Report* prepared for this project by Biotic Resources Group dated August 20 of this year.

Native tree species inventoried on this site include:

- ponderosa pine (*Pinus ponderosa*)
- coast live oak (*Quercus agrifolia*)
- Pacific madrone (*Arbutus menziesii*)

Non-native tree species on the site include:

- acacia (*Acacia sp*)
- walnut (*Juglans sp.*)
- plum (*Prunus sp.*)

TREE INVENTORY METHODOLOGY

The appended inventory lists information on 145 trees/tree groups growing within the 20 feet of the known limits of grading including; species, trunk diameter, health, structure, suitability for preservation, Critical Root Zone (CRZ) radius, construction impacts, observations, required procedures and whether the tree meets “protected” criteria per the Scotts Valley Municipal Code Section 17.44.080.

Diameter: is the width of the trunk measured at 4.5 feet above natural grade (ground level). This inventory comprises of individuals with diameters ≥ 6 inches and groups (sum of diameters) with diameters ≥ 10 inches at 4.5 feet above natural grade. For trees that were unable to be measured at 4.5 feet above natural grade, measurement heights are provided.

Health, Structure and Preservation Suitability Inventory ratings are based on the following criteria:

Tree health and structure are separate issues that are related since both are revealed by tree anatomy. A tree’s vascular system is confined in a thin layer of tissue between the bark and wood layers. This thin layer is responsible for transport of nutrients and water between the root system and the foliar canopy. When this tissue layer is functioning properly a tree has the ability to produce foliage (leaves). As long as the tree maintains a connected vascular system it may appear to be in good health.

When conditions conducive to decay are present, fungi, bacteria or poor compartmentalization, wood strength is degraded. As decay advances, the tree’s ability to continue standing is compromised. Thus, a tree can appear to be in good health, but have poor structure.

Tree Health: This rating is determined visually. Annual growth rates, leaf size and coloration are examined. Indications of insect activity, decay and dieback percentages are also used to define health ratings.

Trees in “**good**” health are full canopied, with dark green leaf coloration. Areas of foliar dieback or discoloration are less than 10% of the canopy. Dead material in the tree is limited to small twigs and branches less than one inch in diameter. There is no evidence of insects, disease or decay.

Trees with a “**fair**” health rating have from 10% to 30% foliar dieback, with faded coloration, dead wood larger than one inch, and/or visible insect activity, disease or decay.

Trees rated as having “**poor**” health have greater than 30% foliar dieback, dead wood greater than two inches, severe decay, disease or insect activity.

Tree Structure: This rating is determined by visually assessing the roots, root crown (where the trunk meets the ground), supporting trunk, and branch structure. The presence of decay can affect both health and structural ratings.

Trees that receive a “**good**” structural rating are well rooted, with visible taper in the lower trunk, leading to buttress root development. These qualities indicate that the tree is solidly rooted in the growing site. No structural defects such as codominant stems (two stems of equal size that emerge from the same point), poorly attached branches, cavities, or decay are present.

Trees that receive a “**fair**” structural rating may have defects such as poor taper in the trunk, inadequate root development or growing site limitations. They may have multiple trunks, included bark (where bark turns inward at an attachment point), or suppressed canopies. Decay or previous limb loss (less than 2 inches in diameter) may be present in these trees. Trees with fair structure may be improved through proper maintenance procedures.

Poorly structured trees display serious defects that may lead to limb, trunk or whole tree failure due to uprooting. Trees in this condition may have had root loss or severe decay that has weakened their support structure. Trees in this condition can present a risk to people and structures. Maintenance procedures may reduce, but not eliminate these defects.

Suitability for preservation: This rating evaluates tree health, structure, species characteristics, age and potential longevity.

Trees with a “**good**” rating have adequate health and structure with the ability to tolerate moderate impacts and thrive for their safe, useful life expectancy.

A “**fair**” rating indicates health or structural problems have the ability to be corrected. They will require more monitoring and intense management with an expectation that their lifespan will be shortened by construction impacts.

Trees with a “**poor**” rating possess health or structural defects that cannot be corrected through treatment. Trees with poor suitability can be expected to continue to decline regardless of remedies provided. Species characteristics may not be compatible with redefined use of the area. Species which are non-native and unusually aggressive are considered to have a poor suitability rating.

Critical Root Zone: Individual tree root systems provide anchorage, absorption of water/minerals, storage of food reserves and synthesis of certain organic materials necessary for tree health and stability. The Critical Root Zone (CRZ) is the species-specific amount of roots necessary to continue to supply these elements essential for each tree to stand upright and maintain vigor. This distance reflects the minimum footage measurement from the trunk required for the protection of the tree’s root zone. Construction activities proposed within these areas are subject to specific review and the implementation of recommended special treatments.

DESCRIPTION OF DEVELOPMENT IMPACTS

This section describes what procedures are proposed near the individual tree. The influences the proposed construction activities will have on the tree are classified as **None, Low, Moderate** or **High**. These classifications are defined as follows:

NONE, the tree is not near the impact area of the proposed construction.

LOW, adverse affects from the proposed construction activities are minimal.

MODERATE, this level of impacts will result in loss in tree vigor and/or stability. Recommended procedures must be implemented to decrease these impacts.

HIGH, requiring tree removal or the understanding that premature tree mortality can be anticipated. Mitigation is required for trees subject to this level of impacts.

Site inspections and review of the plans as presented identified numerous construction impacts to individuals. The construction of this project as presented requires the following procedures:

- **Grading for site stabilization, parking lot and building construction as well as trenching for retaining wall, foundation, drainage and utility line construction.** These procedures require alteration of natural grade in the form of cut and/or fill (described below) at the defined “Limits of Grading”. Roots shattered during this process provide openings for opportunistic decay causing organisms degrading tree support systems and vigor.
- **Alteration of natural grade**
 - Cuts, lowering of natural grade, require the removal of soil until the desired elevation is reached. A cut within the trees Critical Root Zone can remove non-woody and woody roots. Non-woody (absorbing) roots are responsible for transporting moisture and nutrients necessary for maintaining tree health. More significant cuts remove woody roots that provide structural support, compromising the tree’s ability to stand upright.
 - Fill, increasing natural grade, often requires an initial cut to “knit in” and stabilize the material. This material is applied in layers and compacted in the process. Compaction breaks down soil structure by removing air and adding moisture. Anaerobic conditions may develop, promoting decay. Absorbing roots can suffocate from lack of oxygen. Structural roots may be compromised as a result of the decay.
- **Drainage structures and Utility line placement.** Necessary drainage structures and utility lines are to be consciously placed to avoid the Critical Root Zones of the preserved trees or brought to the attention of the Project Arborist to allow for preconstruction root severance along placement lines.
- **Planned Landscape Installation** typically requires the import of topsoil, rototilling the top 8 inches of native soils, digging planting holes, trenching for irrigation lines and increased water supply for establishing new plantings. Increased disturbance in the Critical Root Zone and elevated water levels will stress mature trees. It is recommended that landscape features planned within Critical Root Zones avoid the above-described procedures.

REQUIRED PROCEDURES

The following are procedures are recommended within Special Treatment Areas defined on the attached to maintain tree vigor while reducing construction related impacts. Procedures will be determined by the Project Arborist once grade stakes have been set and impacts are understood.

Special Treatments

Reduce Grading Limits within Critical Root Zones where possible.

Preconstruction root exploration is necessary for trees adjacent to trenching, grade reduction or retaining wall systems that require exposure or removal of soil from designated Critical Root Zones. Roots should be located using non-invasive procedures. Exploration can be done either with a probe, by hand, using small tools or an AirSpade[®]. This tool uses compressed air to displace soil, exposing roots, without damage. Once exposed, roots can be examined and determinations can be made regarding the feasibility of removal or severance. If roots encountered are less than two inches in diameter, they can be pruned following the guidelines defined below and traditional footings may be used. If roots encountered are greater than two diameter inches are unearthed they must be preserved, protected and bridged.

Preconstruction root pruning is to be performed by skilled labor. Roots are to be pruned off cleanly. Bark should adhere to the wood without tearing. Wood fibers should remain intact without shattering. When completed, the pruned portions should be covered with untreated burlap or similar absorptive material and kept constantly moist. The following tools (only) may be used for pruning of roots:

- Hand-pruners
- Loppers
- Handsaw
- Reciprocating saw
- Chainsaw

Mulching

A 4-6 inch layer of tree chip mulch shall be applied within the Tree Preservation Zones (TPZ). Maintain a 12-inch distance from tree trunks that is free of chips or organic material or excess soil accumulation

Supplemental Irrigation shall be provided using “soaker” hoses or similar method of slow delivery to maintain soil moisture levels. If a recycled water supply line is not available, a water trunk can apply irrigation. Supplemental irrigation requirements shall be determined by the Project Arborist and will be required prior to and after completion of the grading.

Maintenance procedures are those, which are necessary to decrease risk of falling branches, provide re-enforcement for weak branch junctures and improve tree health/stability.

- **Stabilization Cabling** has been recommended for **Trees # 20, 36, 68, 81, 83, 85, 89 and 102.**
 - Cables should be installed between the weakly attached stems using the following or comparable hardware:
 - 5/8 or 3/4 inch “eye” lag bolts
 - 1/4 inch Extra High Strength cable
 - Pre-formed grips with thimbles
- **Pruning** to remove dead branches has been recommended to reduce potential health and safety hazards that persisting dead branches pose, such as decay, attracting harmful insects and injury from falling branches.
 - Each tree to be preserved should have dead/broken branches greater than 2-inches in diameter removed
- **Clearance pruning** may be required to allow vertical space for equipment access and building construction. A minimum number of branches are to be removed to provide this space. Individual trees requiring clearance pruning will be identified by the Project Arborist after the vertical elements are defined.
 - Pruning should not remove more foliage than absolutely necessary to accommodate proposed construction as determined by the Project Arborist.

Monitor Stability is recommended for trees with obvious structural weaknesses

Necessary Tree Removal is to be performed in a sectional manner in order to avoid damaging surrounding trees and landscape. Locations of trees to be removed are documented in the Inventory and on the *Construction Impact Assessment Tree Location Map file “A”*.

- **Removal due to Construction Impacts** is required for trees that are in direct conflict with the proposed building footprints where plans cannot be modified.
- **Removals due to Condition** recommendations are based upon the combination of current health, structural stability, preservation suitability ratings, failure potential and general species characteristics. There are currently several trees at risk of failure and present extreme hazards to people and property.

**Terrace at Scotts Valley
Tree Removal Summary Table 2014**

Number of trees/tree groups inventoried	Trees proposed for removal	Number of trees proposed for Removal due to Construction Impacts	Number of trees proposed for Removal due to Construction Impacts that meet "Protected" criteria	Number of Trees proposed for Removal due to poor condition, disease or instability	Trees/Tree Groups proposed for Removal due to Condition that meet "Protected" criteria	Trees/Tree Groups proposed that meet "Protected" criteria that require replacement at a 2:1 ratio
145	71	61	50	10, 4 are dead	6	56

Stump removal will be performed on each tree removed by "grinding" to a minimum depth of 18 inches or digging them out with the backhoe or an excavator when in conflict with proposed grading. If removed trees are outside of grading limits, stumps may be left in place.

City approved tree removal may require additional California Department of Forestry permits.

Tree Maintenance Contractors qualifications:

A qualified Certified Arborist, state licensed and insured for general liability and workers compensation should be contracted to perform the above-described work in compliance with the most current versions of the following industry standards:

- American National Standards Institute, *A300 for Tree Care Operations-Tree, Shrub and Other Woody Plant Maintenance-Standard Practices.*
 - (Part 1)-2001 Pruning
 - (Part 3)-2007 Support Systems, Cabling, Bracing and Guying
- American National Standards Institute *Z133.1-1994 for Tree Care Operations- Pruning, Trimming, Repairing, Maintaining, and Removing Trees and Cutting Brush-Safety Requirements*
- International Society of Arboriculture: *Best Management Practices* (Pruning & Cabling)

TREE REPLACEMENT

Compensation for tree removal necessary to construct the project will include:

- Preservation and protection of retained trees/tree groups during construction
- Plan modifications to allow the preservation of Trees #20, 30, 31, 35, 44, 45 and 47 through 107
- Implementation of Special Treatments
- Tree planting as a component of the planned landscape to be maintained in perpetuity
- The planting of native shrubs between the project and Scotts Valley Drive for visual buffering/screening, air purification and noise attenuation
- Reforestation
 - Coast live oak acorns will be collected and propagated by the Project Developer in the fall of 2014.
 - The propagated seedlings along with acorns collected in the fall of 2015 will be planted during the 2015 winter season.

Replacement trees will be planted at a minimum 2:1 ratio, two trees replanted for each “Protected” tree removed as outlined by Scotts Valley Municipal Code Section 17.44.080.

A defined Success Criteria will be followed to insure appropriate growth rates of the newly planted trees and the restoration of the lost canopy.

Nursery stock selected shall be standard (single-trunk), with low branching intact. Planting stock shall be well formed and absent of co-dominant, weakly attached stems. Trees shall be disease free and absent of circling or girdling roots.

Replacement tree planting should be performed by qualified professionals to the following guidelines:

- Prepare the planting site by excavating the planting hole to 3 times the rootball width and 2 inches shallower depth of the rootball. Finished rootball grade at the trunk should be approximately 2” above the surrounding grade.
- Prune any visible matted or circling roots to remove or straighten them. Cut the root ball vertically on opposite sides at least half the distance to the trunk.
- Free exterior roots from the root by ball breaking away some soil to provide better contact between the root ball and the backfill soil.
- Backfill with native soil only.
- After backfilling, a four-inch layer of amended tree chip mulch should be applied to the soil layer. Maintain a 12-inch radius from the tree trunk that is free of tree chips.
- Stakes, for support, installed only where necessary for support, should be installed on opposite sides of the root ball and driven into the soil. The tree can be secured to the stakes using “Arbortape” or by using the “ReadyStake” system or flexible materials such as recycled bicycle tubing. Secure to both stakes at two vertical locations, with the highest being only as high as necessary to hold the top substantially upright. Some ability for trunk movement is mandatory.

Irrigation

Irrigation will be provided the new trees by means of a temporary “drip” emitter system for a period of two (2) years. This system shall be designed, installed and maintained by a qualified professional to ensure adequate, consistent soil moisture levels while avoiding saturation.

Success Criteria

To insure the survival and adequate growth of replacement trees, Success Criteria will be defined and implemented as follows.

- A qualified professional will monitor the newly planted tree at six (6) month intervals for a period of five years.
- Tree health and growth rates will be monitored and recorded
- Trees suffering poor growth rates or declining health will be identified.
- Invigoration treatments will be provided
- Dead trees or trees in an irreversible state of decline will be replaced with the same species and size.
- At the end of the five-year period, the status of the new plantings will be assessed to insure that the Success Criteria has been met and all mitigation trees planted are performing well.
- Implementation of these Success Criteria shall be a condition of final project approval.

TREE PRESERVATION AND PROTECTION

Tree Preservation Specifications included in this report, outline specifics for tree protection fencing and other procedures that will provide the best opportunity for their long-term survivability. The exact locations for these procedures are documented on the attached Tree Location map file “B”.

Tree Preservation Zone: This area is the protected area that allows the majority of the Critical Root Zone to be undisturbed while still facilitating necessary grading, the construction of buildings and associated construction related activities. Tree Preservation Zones are identified in the Tree Location Map file “B” attached to this report.

Inspections To ensure the successful implementation of the recommended procedures Site Inspections are recommended by the Project Arborist. Site inspections will take place at the following intervals throughout the course of the project:

- During all tree removal activities in proximity to trees to be preserved.
- During demolition
- Following on-site placement of grade stakes.
- During preconstruction root exploration and severance procedures.
- After Tree Preservation fencing locations have been staked.
- Following Tree Protection fencing installation and prior to the commencement of grading.
- As necessary during the grading activities, construction and landscape installation to ensure compliance with all conditions of project approval.

Site monitoring forms will be submitted to the City of Scotts Valley Planning Department at regular intervals.

APPRAISED VALUE OF PRESERVED TREES

Preserved trees that meet “Protected” criteria that grow adjacent to proposed impacts have been valued using Trunk Formula Method, as prescribed in the publication *Guide for Plant Appraisal, Ninth Edition*, authored by the Council of Tree and Landscape Appraisers, published in 2000 by the International Society of Arboriculture.

This method is based upon tree size (cross-section of trunk), and extrapolates a Basic Value from regionally developed costs. The Basic Value is depreciated by factors for Species, Condition, Location and extent of Damage to establish total value or the appraised value of the loss. Detailed appraisal calculations for individual trees are included on an attached spreadsheet.

The appraised value of “protected” trees within proximity to the Limits of Grading is **\$178,906**. A retention bond in this amount shall be posted by the developer and held in trust by the City of Scotts Valley. If project management fails to implement recommended procedures, the contract cost of implementation of necessary tree preservation treatments shall be deducted from the retention funds. If trees are damaged the appraised value of damage to these preserved trees, resulting from construction activities shall be determined by the Project Arborist, monetary costs/fines assessed and deducted from the retention funds and may include any of the following:

- Unauthorized pruning by contractor or sub contractor, branch size dependent per occurrence:
 - 1 inch diameter branch: \$1000
 - 1 to 2 diameter inch branch: \$2000
 - 2-3 inch diameter branch: \$4000
 - Branches greater than 3 diameter inches: \$5000
- Any further disturbance or cutting of structural roots beyond the currently established limit of excavation (final line of disturbance) and/or within a tree's Critical Root Zone: \$5000
- Unauthorized intrusion into the defined tree protection exclusionary zone.
 - \$1000 per occurrence

CONCLUSION

The construction of the proposed development project as presented will require the removal of 61 trees/tree groups and the protection of all retained trees.

The detrimental impacts to the remaining trees may be reduced using the methods described in this report. The tree preservation specifications designed for this site and contained in this report must be enforced to protect the remainder of the forest system.

The replanting program for this site will compensate for trees required to be removed to accommodate constructing the project. Planting locations shall allow appropriate space for growth. The defined Success Criteria for replacement trees will be a condition of project approval.

Please contact me at 831-426-6603 with any questions regarding this project

Respectfully submitted,

James P. Allen
Registered Consulting Arborist® No. 390

Tree Preservation Specifications

Terrace at Scotts Valley

APN 022-162-69

These guidelines should be printed on all pages of the development plans. Contractors and sub contractors should be aware of tree protection guidelines and restrictions. Contracts should incorporate tree protection language that includes “damage to trees will be appraised using the Guide to Plant Appraisal 9th Edition and result in mitigation costs and monetary fines assessed”.

1. **Pre construction meeting with the Project Arborist:** A meeting with the Project Arborist, Project Manager and all contractors involved with the project shall take place prior to demolition All tree preservation specifications will be reviewed and discussed.
2. **Field decisions:** The Project Arborist, Soils Engineer and Grading Contractor will work together to determine the most effective construction methods required to preserve and protect trees.
3. **Tree Preservation Zone (TPZ) establishment:** TPZ’s shall be established as indicated on the attached map. The TPZ’s shall be delineated by chain link fencing, no less than 72 inches in height with metal stakes embedded in the ground. Rice straw bales shall be placed circumventing the fence perimeters where necessary as defined by the Project Arborist. Bales shall be stabilized by driving metal stakes or sections of #5 rebar through the bales 12 to 18 inches into the soil surface, one at each end of bale. The fencing will be installed prior to the onset of demolition under the supervision of the Project Arborist and shall not be moved.
4. **Restrictions within the Tree Preservation Zone (TPZ):** No storage of construction materials, debris or excess soil will be allowed within the TPZ. Parking of vehicles or construction equipment in this area is prohibited. Solvents, liquids or phytotoxic materials of any type shall never be stored or disposed of within the any TPZ, and shall only be disposed of as prescribed by law.
5. **Grade Alterations:** Maintain the natural grade around all trees to be preserved. If tree roots are encountered during the construction process, the Project Arborist will be notified immediately. Exposed roots will be immediately covered with moistened burlap (or similar material) until the Project Arborist makes a determination as to required mitigation methods and extent of damage.
6. **Trenching requirements:** Any areas of where trenching is proposed will be evaluated with the Project Arborist and the Contractor prior to excavation or construction.
7. **Tree canopy alterations:** Unauthorized pruning of any tree on this site will not be allowed. Tree canopy alterations will be performed to the specifications established by the Project Arborist.
8. **Supplemental irrigation:** Irrigation shall be provided using “soaker” hoses or similar method of slow delivery. Supplemental irrigation requirements shall be determined by the Project Arborist and will be required prior to and after completion of the grading.
9. **Mulch Layer:** A 4-6 inch layer of tree chip mulch shall be applied within the Tree Preservation Zones (TPZ). Maintain a 12-inch distance from tree trunks that is free of chips or organic material or excess soil accumulation





The Terrace at Scotts Valley Appraised Value of Preserved Trees

Dedicated to the Preservation of Trees

James P. Allen
Associates

Trunk Formula Method

Tree #	Species	Diameter (inches)	Basic Tree Cost	Rating Percentages %					Nursery Group	Replacement Stock			Stock Price	Installation Cost	Installed Tree Cost	Appraised Trunk Area TAA (in ²)	Appraised Trunk Increase TAINCR	Appraised Value
				Species	Condition	Site	Contribution	Placement		Trunk Diameter (in)	Trunk Area (in ²)	Basic Price cost/trunk in ²						
5	Ponderosa pine	14.2	\$5,928	70%	68%	45%	65%	65%	4	2.46	4.75	\$36.36	\$172.73	\$172.73	\$345.46	158.29	153.54	\$1,646
6	madrone	12.6	\$9,774	50%	46%	45%	35%	35%	2	1.69	2.24	\$77.04	\$172.73	\$172.73	\$345.46	124.63	122.38	\$862
9	Ponderosa pine	32.6	\$30,507	70%	74%	45%	35%	35%	4	2.46	4.75	\$36.36	\$172.73	\$172.73	\$345.46	834.27	829.52	\$6,058
10	madrone	6.3	\$2,573	50%	32%	45%	35%	35%	2	1.69	2.24	\$77.04	\$172.73	\$172.73	\$345.46	31.16	28.91	\$158
11	Ponderosa pine	32.6	\$30,507	70%	68%	45%	35%	35%	4	2.46	4.75	\$36.36	\$172.73	\$172.73	\$345.46	834.27	829.52	\$5,567
12	coast live oak	14.5	\$7,676	90%	68%	45%	35%	35%	3	2.2	3.8	\$45.46	\$172.73	\$172.73	\$345.46	165.05	161.25	\$1,801
13	coast live oak	13.2	\$6,391	90%	52%	45%	35%	35%	3	2.2	3.8	\$45.46	\$172.73	\$172.73	\$345.46	136.78	132.98	\$1,147
14	coast live oak	27.5	\$27,160	90%	52%	45%	35%	35%	3	2.2	3.8	\$45.46	\$172.73	\$172.73	\$345.46	593.66	589.86	\$4,873
20	coast live oak	28.3	\$28,753	90%	56%	45%	35%	35%	3	2.2	3.8	\$45.46	\$172.73	\$172.73	\$345.46	628.70	624.90	\$5,555
30	Ponderosa pine	12.3	\$4,491	70%	42%	45%	35%	35%	4	2.46	4.75	\$36.36	\$172.73	\$172.73	\$345.46	118.76	114.01	\$506
31	coast live oak	32.4	\$37,635	90%	68%	45%	35%	35%	3	2.2	3.8	\$45.46	\$172.73	\$172.73	\$345.46	824.06	820.26	\$8,829
32	coast live oak	14.3	\$7,470	90%	32%	45%	35%	35%	3	2.2	3.8	\$45.46	\$172.73	\$172.73	\$345.46	160.52	156.73	\$825
33	coast live oak	32.6	\$38,098	90%	46%	45%	35%	35%	3	2.2	3.8	\$45.46	\$172.73	\$172.73	\$345.46	834.27	830.47	\$6,046
34	coast live oak	28.6	\$29,363	90%	32%	45%	35%	35%	3	2.2	3.8	\$45.46	\$172.73	\$172.73	\$345.46	642.10	638.30	\$3,242
35	coast live oak	6.1	\$1,501	90%	62%	45%	35%	35%	3	2.2	3.8	\$45.46	\$172.73	\$172.73	\$345.46	29.21	25.41	\$321
36	Ponderosa pine	25.2	\$18,298	70%	56%	45%	35%	35%	4	2.46	4.75	\$36.36	\$172.73	\$172.73	\$345.46	498.51	493.76	\$2,750
37	Ponderosa pine	23	\$15,272	70%	74%	45%	35%	35%	4	2.46	4.75	\$36.36	\$172.73	\$172.73	\$345.46	415.27	410.51	\$3,033
38	coast live oak	23.7	\$20,217	90%	56%	45%	35%	35%	3	2.2	3.8	\$45.46	\$172.73	\$172.73	\$345.46	440.93	437.13	\$3,906
40	coast live oak	10.2	\$3,886	90%	46%	45%	35%	35%	3	2.2	3.8	\$45.46	\$172.73	\$172.73	\$345.46	81.67	77.87	\$617
42	coast live oak	14.3	\$7,470	90%	46%	45%	35%	35%	3	2.2	3.8	\$45.46	\$172.73	\$172.73	\$345.46	160.52	156.73	\$1,185
44	coast live oak	23.5	\$19,880	90%	56%	45%	65%	65%	3	2.2	3.8	\$45.46	\$172.73	\$172.73	\$345.46	433.52	429.72	\$5,845
45	coast live oak	8.3	\$2,631	90%	56%	45%	65%	65%	3	2.2	3.8	\$45.46	\$172.73	\$172.73	\$345.46	54.08	50.28	\$774
47	coast live oak	8.5	\$2,751	90%	32%	45%	65%	65%	3	2.2	3.8	\$45.46	\$172.73	\$172.73	\$345.46	56.72	52.92	\$462
48	coast live oak	17	\$10,486	90%	42%	45%	65%	65%	3	2.2	3.8	\$45.46	\$172.73	\$172.73	\$345.46	226.87	223.07	\$2,312
49	coast live oak	12.6	\$5,838	90%	56%	45%	65%	65%	3	2.2	3.8	\$45.46	\$172.73	\$172.73	\$345.46	124.63	120.83	\$1,716
50	coast live oak	11.8	\$5,142	90%	28%	45%	65%	65%	3	2.2	3.8	\$45.46	\$172.73	\$172.73	\$345.46	109.30	105.50	\$756
51	coast live oak	13	\$6,204	90%	28%	45%	65%	65%	3	2.2	3.8	\$45.46	\$172.73	\$172.73	\$345.46	132.67	128.87	\$912
52	coast live oak	35.9	\$46,165	90%	68%	45%	65%	65%	3	2.2	3.8	\$45.46	\$172.73	\$172.73	\$345.46	1011.72	1007.92	\$16,481
53	coast live oak	9.4	\$3,326	90%	38%	45%	65%	65%	3	2.2	3.8	\$45.46	\$172.73	\$172.73	\$345.46	69.36	65.56	\$664
55	coast live oak	8.1	\$2,514	90%	28%	45%	65%	65%	3	2.2	3.8	\$45.46	\$172.73	\$172.73	\$345.46	51.50	47.70	\$370
56	coast live oak	10.5	\$4,107	90%	28%	45%	65%	65%	3	2.2	3.8	\$45.46	\$172.73	\$172.73	\$345.46	86.55	82.75	\$604
57	coast live oak	10.5	\$4,107	90%	28%	45%	65%	65%	3	2.2	3.8	\$45.46	\$172.73	\$172.73	\$345.46	86.55	82.75	\$604
58	coast live oak	16.4	\$9,771	90%	32%	45%	65%	65%	3	2.2	3.8	\$45.46	\$172.73	\$172.73	\$345.46	211.13	207.33	\$1,642
59	coast live oak	8.5	\$2,751	90%	28%	45%	65%	65%	3	2.2	3.8	\$45.46	\$172.73	\$172.73	\$345.46	56.72	52.92	\$404
60	coast live oak	19	\$13,055	90%	56%	45%	65%	65%	3	2.2	3.8	\$45.46	\$172.73	\$172.73	\$345.46	283.39	279.59	\$3,838
61	coast live oak	19	\$13,055	90%	28%	45%	65%	65%	3	2.2	3.8	\$45.46	\$172.73	\$172.73	\$345.46	283.39	279.59	\$1,919
63	coast live oak	28.6	\$29,363	90%	32%	45%	65%	65%	3	2.2	3.8	\$45.46	\$172.73	\$172.73	\$345.46	642.10	638.30	\$4,933
65	coast live oak	7	\$1,921	90%	32%	45%	65%	65%	3	2.2	3.8	\$45.46	\$172.73	\$172.73	\$345.46	38.47	34.67	\$323
67	coast live oak	14.1	\$7,267	90%	32%	45%	65%	65%	3	2.2	3.8	\$45.46	\$172.73	\$172.73	\$345.46	156.07	152.27	\$1,221
68	coast live oak	27.8	\$27,752	90%	56%	45%	65%	65%	3	2.2	3.8	\$45.46	\$172.73	\$172.73	\$345.46	606.68	602.88	\$8,159
69	coast live oak	26.8	\$25,804	90%	62%	45%	65%	65%	3	2.2	3.8	\$45.46	\$172.73	\$172.73	\$345.46	563.82	560.02	\$8,399
78	coast live oak	11.2	\$4,649	90%	52%	45%	65%	65%	3	2.2	3.8	\$45.46	\$172.73	\$172.73	\$345.46	98.47	94.67	\$1,269
79	coast live oak	11.7	\$5,058	90%	52%	45%	65%	65%	3	2.2	3.8	\$45.46	\$172.73	\$172.73	\$345.46	107.46	103.66	\$1,381
80	coast live oak	11.5	\$4,892	90%	48%	45%	65%	65%	3	2.2	3.8	\$45.46	\$172.73	\$172.73	\$345.46	103.82	100.02	\$1,233
81	coast live oak	13.5	\$6,677	90%	42%	45%	65%	65%	3	2.2	3.8	\$45.46	\$172.73	\$172.73	\$345.46	143.07	139.27	\$1,472
82	coast live oak	21	\$15,910	90%	42%	45%	65%	65%	3	2.2	3.8	\$45.46	\$172.73	\$172.73	\$345.46	346.19	342.39	\$3,508
83	coast live oak	16.8	\$10,245	90%	58%	45%	65%	65%	3	2.2	3.8	\$45.46	\$172.73	\$172.73	\$345.46	221.56	217.76	\$3,120
85	coast live oak	28.7	\$29,567	90%	42%	45%	65%	65%	3	2.2	3.8	\$45.46	\$172.73	\$172.73	\$345.46	646.60	642.80	\$6,520
86	coast live oak	13.3	\$6,485	30%	28%	45%	65%	65%	3	2.2	3.8	\$45.46	\$172.73	\$172.73	\$345.46	138.86	135.06	\$318
87	coast live oak	11.2	\$4,649	60%	32%	45%	65%	65%	3	2.2	3.8	\$45.46	\$172.73	\$172.73	\$345.46	98.47	94.67	\$521
89	coast live oak	25.6	\$23,730	90%	48%	45%	65%	65%	3	25%	3.8	\$45.46	\$172.73	\$172.73	\$345.46	514.46	514.41	\$5,980
90	coast live oak	10.4	\$4,033	90%	32%	45%	65%	65%	3	2.2	3.8	\$45.46	\$172.73	\$172.73	\$345.46	84.91	81.11	\$678
93	coast live oak	11.4	\$4,811	90%	32%	45%	65%	65%	3	2.2	3.8	\$45.46	\$172.73	\$172.73	\$345.46	102.02	98.22	\$808
95	coast live oak	18.9	\$12,920	90%	62%	45%	65%	65%	3	2.2	3.8	\$45.46	\$172.73	\$172.73	\$345.46	280.41	276.61	\$4,205



The Terrace at Scotts Valley Appraised Value of Preserved Trees

Dedicated to the Preservation of Trees

James P. Allen
Associates

Trunk Formula Method

Tree #	Species	Diameter (inches)	Basic Tree Cost	Rating Percentages %					Nursery Group	Replacement Stock			Stock Price	Installation Cost	Installed Tree Cost	Appraised Trunk Area TAA (in ²)	Appraised Trunk Increase TAINCR	Appraised Value
				Species	Condition	Site	Contribution	Placement		Trunk Diameter (in)	Trunk Area (in ²)	Basic Price cost/trunk in ²						
96	coast live oak	11.4	\$4,811	90%	32%	45%	65%	65%	3	2.2	3.8	\$45.46	\$172.73	\$172.73	\$345.46	102.02	98.22	\$808
97	coast live oak	9.1	\$3,128	90%	32%	45%	65%	65%	3	2.2	3.8	\$45.46	\$172.73	\$172.73	\$345.46	65.01	61.21	\$526
98	coast live oak	15	\$8,202	90%	36%	45%	65%	65%	3	2.2	3.8	\$45.46	\$172.73	\$172.73	\$345.46	176.63	172.83	\$1,550
99	coast live oak	19.6	\$13,882	90%	68%	45%	65%	65%	3	2.2	3.8	\$45.46	\$172.73	\$172.73	\$345.46	301.57	297.77	\$4,956
100	coast live oak	16.7	\$8,133	90%	32%	45%	65%	65%	4	2.46	4.75	\$36.36	\$172.73	\$172.73	\$345.46	218.93	214.18	\$1,366
101	coast live oak	8.7	\$2,333	90%	32%	45%	65%	65%	4	2.46	4.75	\$36.36	\$172.73	\$172.73	\$345.46	59.42	54.67	\$392
102	coast live oak	25.8	\$19,172	90%	46%	45%	65%	65%	4	2.46	4.75	\$36.36	\$172.73	\$172.73	\$345.46	522.53	517.78	\$4,630
103	coast live oak	23.7	\$20,217	90%	62%	45%	65%	65%	3	2.2	3.8	\$45.46	\$172.73	\$172.73	\$345.46	440.93	437.13	\$6,581
104	coast live oak	15.5	\$7,030	90%	42%	45%	65%	65%	4	2.46	4.75	\$36.36	\$172.73	\$172.73	\$345.46	188.60	183.85	\$1,550
105	coast live oak	22.6	\$14,751	90%	48%	45%	65%	65%	4	2.46	4.75	\$36.36	\$172.73	\$172.73	\$345.46	400.95	396.20	\$3,717
106	coast live oak	8.6	\$2,284	90%	46%	45%	65%	65%	4	2.46	4.75	\$36.36	\$172.73	\$172.73	\$345.46	58.06	53.31	\$552

**TOTAL VALUE
OF
PRESERVED
TREES** **\$178,906**



Terrace at Scotts Valley Tree Resource Inventory Constuction Impact Assessment

Dedicated to the Preservation of Trees

James P. Allen
Associates

TREE/TREE GROUPS #	SPECIES	DIAMETER @ 4.5ft ABOVE NATURAL GRADE (INCHES)	HEALTH	STRUCTURE	SUITABILITY	Critical Root Zone (Radial ft.)	IMPACTS LEVEL/ Description	OBSERVATIONS RECOMMENDED PROCEDURES MEETS "PROTECTED" CRITERIA
1	Ponderosa pine	14	Fair	Poor	Poor	12	HIGH/ Within Proposed Grading	<ul style="list-style-type: none"> • Tall suppressed tree • Large diameter dead branches • Remove Due to Construction Impacts • Yes
2	Ponderosa pine	7.6	Fair	Poor	Poor	8	NONE	<ul style="list-style-type: none"> • Small young tree • Dead branches • Preserve and Protect • Remove dead branches • No
3	Ponderosa pine	7.2	Fair	Poor	Poor	8	NONE	<ul style="list-style-type: none"> • Small young tree • Dead branches • Preserve and Protect • Remove dead branches • No
4	Ponderosa pine	6.1	Fair	Poor	Poor	8	NONE	<ul style="list-style-type: none"> • Small young tree • Dead branches • Preserve and Protect • Remove dead branches • No
5	Ponderosa pine	14.2	Fair	Fair	Fair	12	NONE	<ul style="list-style-type: none"> • Tall suppressed tree • Preserve and Protect • Yes



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TREE/TREE GROUPS #	SPECIES	DIAMETER @ 4.5ft ABOVE NATURAL GRADE (INCHES)	HEALTH	STRUCTURE	SUITABILITY	Critical Root Zone (Radial ft.)	IMPACTS LEVEL/ Description	OBSERVATIONS RECOMMENDED PROCEDURES MEETS "PROTECTED" CRITERIA
6	madrone	12.6	Fair	Poor	Poor	14	MODERATE/ Proximity to Proposed Grading	<ul style="list-style-type: none"> • Exposed surface roots Leans to North and West • Preserve and Protect • Yes
7	Pondersa pine	7.8	N/A	N/A	N/A	N/A	NONE	<ul style="list-style-type: none"> • Dead • Remove Due to Condition • No
8	Pondersa pine	11.6	N/A	N/A	N/A	N/A	NONE	<ul style="list-style-type: none"> • Dead • Remove Due to Condition • No
9	Pondersa pine	32.6	Fair	Fair	Fair	22	NONE	<ul style="list-style-type: none"> • Trunk swoops gently to South and West • Preserve and Protect • Yes
10	madrone	Double Trunk 5.6, 6.3	Fair	Fair	Fair	8	NONE	<ul style="list-style-type: none"> • Small double trunk tree • Preserve and Protect • No
11	Pondersa pine	32.6	Fair	Fair	Fair	18	NONE	<ul style="list-style-type: none"> • Declining branches in lower canopy Large diameter dead branches • Preserve and Protect Remove dead branches • Yes



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TREE/TREE GROUPS #	SPECIES	DIAMETER @ 4.5ft ABOVE NATURAL GRADE (INCHES)	HEALTH	STRUCTURE	SUITABILITY	Critical Root Zone (Radial ft.)	IMPACTS LEVEL/ Description	OBSERVATIONS RECOMMENDED PROCEDURES MEETS "PROTECTED" CRITERIA
12	coast live oak	14.5	Fair	Poor	Good	14	NONE	<ul style="list-style-type: none"> • Leans to South • Preserve and Protect • Yes
13	coast live oak	13.2	Fair	Poor	Fair	14	NONE	<ul style="list-style-type: none"> • Divides at 5 feet above grade Decayed wound sites Canopy swoops to West • Preserve and Protect • Yes
14	coast live oak	27.5	Fair	Poor	Fair	18	NONE	<ul style="list-style-type: none"> • Evidence of sycamore borer in lower trunk Poor trunk-stem attachment at 18 feet Canopy bows severely to South and West Minor branch dieback • Preserve and Protect • Yes
15	madrone	15.8	Fair	Poor	Poor	18	NONE	<ul style="list-style-type: none"> • Trunk leans dramatically to West Canker caused decay at 20 feet above grade High Failure Potential • Remove Due to Condition • Yes
16	coast live oak	Double Trunk 11, 21.5	Fair	Poor	Poor	20	HIGH/ Within Proposed Grading	<ul style="list-style-type: none"> • Trunk leans horizontal to ground Large diameter dead branches • Remove Due to Construction Impacts • Yes



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TREE/TREE GROUPS #	SPECIES	DIAMETER @ 4.5ft ABOVE NATURAL GRADE (INCHES)	HEALTH	STRUCTURE	SUITABILITY	Critical Root Zone (Radial ft.)	IMPACTS LEVEL/ Description	OBSERVATIONS RECOMMENDED PROCEDURES MEETS "PROTECTED" CRITERIA
17	coast live oak	19.5	Fair	Poor	Poor	22	NONE	<ul style="list-style-type: none"> • Uprooted tree • Large diameter dead branches • Remove Due to Condition • Yes
18	madrone	13.2	N/A	N/A	N/A	N/A	NONE	<ul style="list-style-type: none"> • Dead • Remove Due to Condition • No
19	coast live oak	Double Trunk 19.9, 21.8	Fair	Poor	Poor	18	NONE	<ul style="list-style-type: none"> • Poor trunk-stem attachment • Evidence of sycamore borer • Decayed pruning wound at 8 feet • Previous branch failures at 20 feet • Severe decay columns • Remove Due to Condition • Yes
20	coast live oak	28.3	Fair	Poor	Poor	16	HIGH/ Within Proposed Grading	<ul style="list-style-type: none"> • Evidence of sycamore borer • Divides at 8 feet • Asymmetrical canopy • Swoops to South • Suppressed to North • Preserve and protect Special Treatment Area • Monitor stability • Decrease grading limits • Yes



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TREE/TREE GROUPS #	SPECIES	DIAMETER @ 4.5ft ABOVE NATURAL GRADE (INCHES)	HEALTH	STRUCTURE	SUITABILITY	Critical Root Zone (Radial ft.)	IMPACTS LEVEL/ Description	OBSERVATIONS RECOMMENDED PROCEDURES MEETS "PROTECTED" CRITERIA
21	Pondersa pine	40.7	Fair	Fair	Fair	24	NONE	<ul style="list-style-type: none"> • Severely decayed trunk • Previous stem failure at 30 feet • High Failure Potential • Remove Due to Condition • Yes
22	coast live oak	11	Poor	Poor	Poor	12	HIGH/ Within Proposed Grading	<ul style="list-style-type: none"> • Severe decay in lower canopy • Dead and dying branches • Trunk swoops dramatically to West • Remove Due to Construction Impacts • Yes
23	coast live oak	8.1	Fair	Poor	Fair	10	HIGH/ Within Proposed Grading	<ul style="list-style-type: none"> • Lower trunk leans to South and West • Suppressed young tree • Remove Due to Construction Impacts • Yes
24	coast live oak	7.1	Fair	Poor	Poor	8	HIGH/ Within Proposed Grading	<ul style="list-style-type: none"> • Dead branches • Canopy swoops to West • Poison oak co-mingling with canopy • Remove Due to Construction Impacts • No
25	coast live oak	7.9	Poor	Poor	Poor	8	HIGH/ Within Proposed Grading	<ul style="list-style-type: none"> • Branch failure at 15 feet • Small diameter sprout growth • Remove Due to Construction Impacts • No



Terrace at Scotts Valley Tree Resource Inventory Constuction Impact Assessment

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TREE/TREE GROUPS #	SPECIES	DIAMETER @ 4.5ft ABOVE NATURAL GRADE (INCHES)	HEALTH	STRUCTURE	SUITABILITY	Critical Root Zone (Radial ft.)	IMPACTS LEVEL/ Description	OBSERVATIONS RECOMMENDED PROCEDURES MEETS "PROTECTED" CRITERIA
26	coast live oak	11.2	Fair	Poor	Poor	12	HIGH/ Within Proposed Grading	<ul style="list-style-type: none"> • Trunk leans dramatically to West • Remove Due to Construction Impacts • Yes
27	coast live oak	15.4	Fair	Poor	Poor	16	HIGH/ Within Proposed Grading	<ul style="list-style-type: none"> • Trunk leans dramatically to West • Remove Due to Construction Impacts • Yes
28	coast live oak	Double Trunk 14.6, 13.8	Fair	Poor	Poor	14	HIGH/ Within Proposed Grading	<ul style="list-style-type: none"> • Large diameter wound in lower trunk area • Suppressed to North and East • Canopy swoops to West • Large diameter dead branches • Remove Due to Construction Impacts • Yes
29	coast live oak	28.6 at 6" above grade	Fair	Poor	Fair	18	HIGH/ Within Proposed Grading	<ul style="list-style-type: none"> • Divideas at 3 feet above grade • Poor trunk-stem attachment • Suppressed to North and West • Large diameter dead branches • Remove Due to Construction Impacts • Yes
30	Pondersa pine	12.3	Fair	Poor	Poor	10	HIGH/ Within Proposed Grading	<ul style="list-style-type: none"> • Tall suppressed tree • Dead branches • Preserve and Protect Special Treatment Area • Reduce grading limits • Yes



Terrace at Scotts Valley Tree Resource Inventory Constuction Impact Assessment

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Associates

TREE/TREE GROUPS #	SPECIES	DIAMETER @ 4.5ft ABOVE NATURAL GRADE (INCHES)	HEALTH	STRUCTURE	SUITABILITY	Critical Root Zone (Radial ft.)	IMPACTS LEVEL/ Description	OBSERVATIONS RECOMMENDED PROCEDURES MEETS "PROTECTED" CRITERIA
31	coast live oak	32.4 at 12" above grade	Good	Fair	Good	18	HIGH/ Within Proposed Grading	<ul style="list-style-type: none"> • Poor trunk-stem attachment Divides into five secondary trunks at 3 feet above grade Canopy suppressed to North and East Dead branches • Preserve and Protect Special Treatment Area Reduce grading limits Remove dead branches Raise lower canopy • Yes
32	coast live oak	Double Trunk 14.3, 12	Fair	Poor	Fair	14	MODERATE/ Proximity to Proposed Grading	<ul style="list-style-type: none"> • Divides at 6 inches above grade Poor trunk-stem attachment Suppressed to North and West Large diameter dead branches • Preserve and Protect Remove dead branches • Yes
33	coast live oak	32.6 at 1' above grade	Fair	Poor	Fair	18	LOW/ Proximity to Proposed Grading	<ul style="list-style-type: none"> • Divides into 3 trunks at 3 feet above grade Poor trunk-stem attachment Low live crown ratio Long swooping branches Suppressed to North Wet wood infection at 28 feet • Preserve and Protect • Yes



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TREE/TREE GROUPS #	SPECIES	DIAMETER @ 4.5ft ABOVE NATURAL GRADE (INCHES)	HEALTH	STRUCTURE	SUITABILITY	Critical Root Zone (Radial ft.)	IMPACTS LEVEL/ Description	OBSERVATIONS RECOMMENDED PROCEDURES MEETS "PROTECTED" CRITERIA
34	coast live oak	28.6 at grade	Fair	Poor	Fair	18	LOW/ Proximity to Proposed Grading	<ul style="list-style-type: none"> • Divides into 4 secondary trunks between 1 and 3 feet above grade • Poor trunk-stem attachment • Dead and dying branches • Suppressed to North • Preserve and Protect • Remove dead branches • Yes
35	coast live oak	Double Trunk 4.3, 6.1	Good	Fair	Fair	8	HIGH/ Within Proposed Grading	<ul style="list-style-type: none"> • Poor trunk-stem attachment • Slightly suppressed to North • Preserve and Protect • Reduce grading limits • Yes
36	Ponderosa pine	25.2	Fair	Poor	Good	18	NONE	<ul style="list-style-type: none"> • Poor trunk-stem attachment at 30 feet above grade • Preserve and Protect • Install simple direct cable • Yes
37	Ponderosa pine	23	Good	Fair	Good	18	NONE	<ul style="list-style-type: none"> • Slightly suppressed to East • Large diameter dead branches • Preserve and Protect • Remove dead branches • Yes
38	coast live oak	Double Trunk 23.7, 11.4	Good	Poor	Fair	18	NONE	<ul style="list-style-type: none"> • Canopy swoops to South • Suppressed to North • Preserve and Protect • Yes



Terrace at Scotts Valley Tree Resource Inventory Constuction Impact Assessment

Dedicated to the Preservation of Trees

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Associates

TREE/TREE GROUPS #	SPECIES	DIAMETER @ 4.5ft ABOVE NATURAL GRADE (INCHES)	HEALTH	STRUCTURE	SUITABILITY	Critical Root Zone (Radial ft.)	IMPACTS LEVEL/ Description	OBSERVATIONS RECOMMENDED PROCEDURES MEETS "PROTECTED" CRITERIA
39	pine	6.1	Fair	Fair	Fair	8	NONE	<ul style="list-style-type: none"> • Suppressed to North and East • Preserve and Protect • No
40	coast live oak	10.2	Fair	Poor	Poor	8	HIGH/ Proximity to Proposed Grading	<ul style="list-style-type: none"> • Leans to North and West • Preserve and Protect Special Treatment Area • Reduce grading limits • Yes
41	coast live oak	7.8	Fair	Poor	Poor	8	HIGH/ Proximity to Proposed Grading	<ul style="list-style-type: none"> • Suppressed to South • Leans to North • Preserve and Protect Special Treatment Area • Reduce grading limits • No
42	coast live oak	14.3	Fair	Poor	Poor	12	HIGH/ Proximity to Proposed Grading	<ul style="list-style-type: none"> • Wet wood infection • Poor trunk-stem attachment • Preserve and Protect Special Treatment Area • Reduce grading limits • Yes
43	coast live oak	Double Trunk 8.7, 8.3	Fair	Poor	Fair	12	HIGH/ Within Proposed Grading	<ul style="list-style-type: none"> • Poor trunk-stem attachment • Remove Due to Construction Impacts • Yes



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44	coast live oak	23.5	Fair	Fair	Good	18	LOW/ Proximity to Proposed Grading	<ul style="list-style-type: none"> • Grows on neighboring property Fractured bark in lower trunk Severe wet wood infection 3 secondary trunks divide at 12 feet above grade Large diameter dead branches • Preserve and Protect Remove dead branches • Yes
45	coast live oak	8.3	Fair	Poor	Poor	10	LOW/ Proximity to Proposed Grading	<ul style="list-style-type: none"> • Grows on neighboring property Smaller suppressed tree Leans over storage shed • Preserve and Protect • Yes
46	coast live oak	Triple Trunk 12, 12.7, 18.8	Fair	Poor	Fair	18	HIGH/ Within Proposed Grading	<ul style="list-style-type: none"> • Poor trunk-stem attachment One upright central trunk Remaining trunks lean dramatically to West and North Large diameter dead branches • Remove Due to Construction Impacts • Yes
47	coast live oak	8.5	Poor	Poor	Poor	8	MODERATE/ Proximity to Proposed Grading	<ul style="list-style-type: none"> • Grows on neighboring property Canopy co-mingles with acacia • Preserve and Protect • Yes



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48	coast live oak	17	Fair	Poor	Poor	12	MODERATE/ Proximity to Proposed Grading	<ul style="list-style-type: none"> • Grows on neighboring property Trunk bows dramatically to West Heavy end weight • Preserve and Protect Reduce end weight • Yes
49	coast live oak	12.6	Fair	Poor	Poor	12	MODERATE/ Proximity to Proposed Grading	<ul style="list-style-type: none"> • Grows on neighboring property Leans dramatically to West over dumpster enclosure • Preserve and Protect • Yes
50	coast live oak	11.8	Fair	Poor	Poor	10	MODERATE/ Proximity to Proposed Grading	<ul style="list-style-type: none"> • Grows on neighboring property Poorly pruned • Preserve and Protect • Yes
51	coast live oak	13	Fair	Poor	Poor	12	MODERATE/ Proximity to Proposed Grading	<ul style="list-style-type: none"> • Grows on neighboring property Trunk is growing over nursery stake Lower branch removed • Preserve and Protect • Yes
52	coast live oak	35.9	Good	Fair	Good	18	MODERATE/ Proximity to Proposed Grading	<ul style="list-style-type: none"> • Grows on neighboring property Large diameter well attached lateral branches Developed near grade Canopy develops in all compass directions Long-weighted scaffold branches • Preserve and Protect • Yes



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53	coast live oak	9.4	Fair	Poor	Poor	8	MODERATE/ Proximity to Proposed Grading	<ul style="list-style-type: none"> • Grows on neighboring property Trunk swoops to left • Preserve and Protect • Yes
54	coast live oak	13.7	Fair	Poor	Poor	12	NONE	<ul style="list-style-type: none"> • Grows on neighboring property Long-weighted branches go over entry to carwash • High Branch Failure Potential • Remove Due to Condition • Yes
55	coast live oak	8.1	Fair	Poor	Poor	8	MODERATE/ Proximity to Proposed Grading	<ul style="list-style-type: none"> • Grows on neighboring property Poorly pruned, suppressed tree • Preserve and Protect • Yes
56	coast live oak	10.5	Fair	Poor	Poor	8	MODERATE/ Proximity to Proposed Grading	<ul style="list-style-type: none"> • Grows on neighboring property Poorly pruned, suppressed tree • Preserve and Protect • Yes
57	coast live oak	10.5	Fair	Poor	Poor	8	MODERATE/ Proximity to Proposed Grading	<ul style="list-style-type: none"> • Grows on neighboring property Trunk bows dramatically to East • Preserve and Protect • Yes



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58	coast live oak	16.4	Fair	Poor	Poor	12	MODERATE/ Proximity to Proposed Grading	<ul style="list-style-type: none"> • Grows on neighboring property • Heavily weighted canopy leans dramatically over carwash entry • Preserve and Protect • Reduce branch end length • Yes
59	coast live oak	8.5	Fair	Poor	Poor	8	MODERATE/ Proximity to Proposed Grading	<ul style="list-style-type: none"> • Grows on neighboring property • Suppressed tree • Dead and dying branches • Preserve and Protect • Remove dead branches • Yes
60	coast live oak	19	Fair	Fair	Fair	16	MODERATE/ Proximity to Proposed Grading	<ul style="list-style-type: none"> • Grows on neighboring property • Large diameter dead branches • Preserve and Protect • Remove dead branches • Yes
61	coast live oak	19	Good	Poor	Poor	18	MODERATE/ Proximity to Proposed Grading	<ul style="list-style-type: none"> • Grows on neighboring property • Leans dramatically over entry to carwash • Preserve and Protect • Reduce branch end weight • Yes



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62	plum	12.4	Poor	Poor	Poor	8	NONE	<ul style="list-style-type: none"> • Grows on neighboring property Severly decayed trunk Low vigor Leans dramatically over carwash entry • Remove Due to Condition • Yes
63	coast live oak	28.6	Fair	Poor	Fair	18	MODERATE/ Proximity to Proposed Grading	<ul style="list-style-type: none"> • Grows on neighboring property Previous branch failure Severly decayed wound sites • Preserve and Protect Monitor stability • Yes
64	walnut	16.2	Fair	Fair	Fair	12	HIGH/ Proximity to Proposed Grading	<ul style="list-style-type: none"> • Rodent guard on lower trunk Dead and dying branches • Remove due to Construction Impacts • Yes
65	coast live oak	7 at 2' above grade	Fair	Poor	Fair	8	HIGH/ Proximity to Proposed Grading	<ul style="list-style-type: none"> • Suppressed young tree Divides at 5 feet above grade • Preserve and Protect • No
66	coast live oak	7	Fair	Poor	Fair	8	HIGH/ Within Proposed Grading	<ul style="list-style-type: none"> • Suppressed young tree • Remove Due to Construction Impacts • No



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67	coast live oak	14.1	Fair	Poor	Poor	12	MODERATE/ Proximity to Proposed Grading	<ul style="list-style-type: none"> Grows on neighboring property Trunk leans dramatically to East Divides into 2 secondary trunks at 12 feet above grade Preserve and Protect Yes
68	coast live oak	27.8	Fair	Poor	Good	18	MODERATE/ Proximity to Proposed Grading	<ul style="list-style-type: none"> Grows on neighboring property at top of slope Poor trunk-stem attachment Preserve and Protect Install simple direct cable Yes
69	coast live oak	26.8	Fair	Fair	Good	18	MODERATE/ Proximity to Proposed Grading	<ul style="list-style-type: none"> Grows on neighboring property Large diameter lower branch may be in way of proposed grading Well-attached branches Dead and dying branches Preserve and Protect Requires clearance pruning Remove dead and dying branches Yes
70	coast live oak	6.8	Fair	Poor	Fair	8	HIGH/ Within Proposed Grading	<ul style="list-style-type: none"> Suppressed young tree Divides at 5 feet above grade Remove Due to Construction Impacts No
71	coast live oak	7.8	Fair	Poor	Fair	8	HIGH/ Within Proposed Grading	<ul style="list-style-type: none"> Suppressed young tree Divides at 5 feet above grade Remove Due to Construction Impacts No



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72	coast live oak	9.3	Good	Fair	Good	12	HIGH/ Within Proposed Grading	<ul style="list-style-type: none"> • Symmetrical canopy • Poor trunk-stem attachment • Remove Due to Construction Impacts • Yes
73	coast live oak	13.7	Fair	Poor	Fair	12	HIGH/ Within Proposed Grading	<ul style="list-style-type: none"> • Poor trunk-stem attachment • Remove Due to Construction Impacts • Yes
74	coast live oak	12.2	Fair	Poor	Poor	12	HIGH/ Within Proposed Grading	<ul style="list-style-type: none"> • Suppressed tree leans to South • Remove Due to Construction Impacts • Yes
75	coast live oak	21.2 at 1' above grade	Fair	Fair	Good	18	HIGH/ Within Proposed Grading	<ul style="list-style-type: none"> • Well-formed tree • Strong branch attachments • Remove Due to Construction Impacts • Possible relocation candidate • Yes
76	coast live oak	9.2	Fair	Poor	Fair	12	HIGH/ Within Proposed Grading	<ul style="list-style-type: none"> • Poor trunk-stem attachment • Remove Due to Construction Impacts • Yes
77	coast live oak	9, 9.7, 9.1, 8.3, 9.2, 8.3, 6.3, 7.1, 6.8, 7.4	Fair	Poor	Poor	8	HIGH/ Within Proposed Grading	<ul style="list-style-type: none"> • Group of 10 smaller diameter trees • Remove Due to Construction Impacts • Yes; 6 trees meet protection criteria



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78	coast live oak	11.2	Fair	Poor	Fair	12	HIGH/ Proximity to Proposed Excavation	<ul style="list-style-type: none"> • Grows on neighboring property • Poor trunk-stem attachment • Suppressed to North • Preserve and Protect Special Treatment Area • Yes
79	coast live oak	11.7	Fair	Poor	Fair	12	HIGH/ Proximity to Proposed Grading	<ul style="list-style-type: none"> • Poor trunk-stem attachment • Suppressed to North • Preserve and Protect • Yes
80	coast live oak	11.5	Fair	Poor	Poor	12	HIGH/ Proximity to Proposed Grading	<ul style="list-style-type: none"> • Canopy swoops dramatically to South • Canopy conflicts with proposed grading • Preserve and Protect • Yes
81	coast live oak	13.5	Fair	Poor	Poor	14	HIGH/ Proximity to Proposed Grading	<ul style="list-style-type: none"> • Poor trunk-stem attachment • Suppressed tree • Low live crown ratio • Preserve and Protect • Install cable support system • Yes



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82	coast live oak	21	Fair	Poor	Good	16	HIGH/ Proximity to Proposed Grading	<ul style="list-style-type: none"> • Grows on neighboring property • Poor trunk-stem attachment • Suppressed to East • Preserve and Protect Special Treatment Area • Install simple direct cable • Yes
83	coast live oak	Double Trunk 16.8, 13.7	Fair	Fair	Good	14	HIGH/ Proximity to Proposed Grading	<ul style="list-style-type: none"> • Reaction wound in lower trunk area of larger trunk • Canopy swoops to East • Preserve and Protect • Install cable support system • Branch end weight reduction • Yes
84	coast live oak	8	Fair	Poor	Poor	8	MODERATE/ Proximity to Proposed Grading	<ul style="list-style-type: none"> • Suppressed canopy swoops to East • Preserve and Protect • Branch end weight reduction • Yes
85	coast live oak	28.7	Fair	Poor	Good	16	MODERATE/ Proximity to Proposed Grading	<ul style="list-style-type: none"> • Poor trunk-stem attachment at 10 feet above grade • Suppressed to East • Large diameter dead and dying branches • Preserve and Protect • Remove dead branches • Install cable system to support weak branches • Yes



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86	coast live oak	13.3	Fair	Poor	Poor	12	MODERATE/ Proximity to Proposed Grading	<ul style="list-style-type: none"> Tall suppressed tree Canopy swoops to North and East Dead branches Preserve and Protect Remove dead branches Yes
87	coast live oak	11.2	Fair	Poor	Poor	14	MODERATE/ Proximity to Proposed Grading	<ul style="list-style-type: none"> Trunk develops parallel to ground Trunk bows dramatically to East Possible canopy conflicts Preserve and Protect Yes
88	coast live oak	Double Trunk 9, 11	Fair	Poor	Poor	12	HIGH/ Within Proposed Grading	<ul style="list-style-type: none"> Poor trunk-stem attachment Trunk swoops dramatically to South Remove due to Construction Impacts Yes
89	coast live oak	25.6	Fair	Fair	Good	16	MODERATE/ Proximity to Proposed Grading	<ul style="list-style-type: none"> Poor trunk-stem attachment Large diameter dead branches Preserve and Protect Remove dead branches Install cable support system Yes
90	coast live oak	10.4 at 3' above grade	Fair	Poor	Poor	8	MODERATE/ Proximity to Proposed Grading	<ul style="list-style-type: none"> Leans dramatically to East Possible canopy conflicts Preserve and Protect Yes



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91	coast live oak	7	Fair	Poor	Poor	8	MODERATE/ Proximity to Proposed Grading	<ul style="list-style-type: none"> • Leans dramatically to East • Possible canopy conflicts • Preserve and Protect • No
92	coast live oak	6.5	Fair	Poor	Poor	8	MODERATE/ Proximity to Proposed Grading	<ul style="list-style-type: none"> • Leans dramatically to East • Possible canopy conflicts • Preserve and Protect • No
93	coast live oak	11.4	Fair	Poor	Poor	8	MODERATE/ Proximity to Proposed Grading	<ul style="list-style-type: none"> • Leans dramatically to East • Possible canopy conflicts • Preserve and Protect • Yes
94	coast live oak	7.7	Fair	Poor	Poor	8	HIGH/ Within Proposed Grading	<ul style="list-style-type: none"> • Trunk bows dramatically to South parallel to ground level • Canopy conflicts with proposed grading • Remove Due to Construction Impacts • No
95	coast live oak	18.9	Fair	Fair	Fair	14	MODERATE/ Proximity to Proposed Grading	<ul style="list-style-type: none"> • Trunk encircled by large diameter poison oak vine • Suppressed to South • Preserve and Protect • Yes



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96	coast live oak	11.4	Fair	Poor	Poor	12	MODERATE/ Proximity to Proposed Grading	<ul style="list-style-type: none"> • Trunk bows to South Suppressed tree Large diameter dead branches • Preserve and Protect • Remove dead branches • Yes
97	coast live oak	9.1	Fair	Fair	Fair	8	MODERATE/ Proximity to Proposed Grading	<ul style="list-style-type: none"> • Suppressed tree • Preserve and Protect • Yes
98	coast live oak	15	Fair	Poor	Fair	12	MODERATE/ Proximity to Proposed Grading	<ul style="list-style-type: none"> • Developed trunk swoops dramatically over Scotts Valley Drive • Preserve and Protect • Reduce end weight • Yes
99	coast live oak	19.6	Fair	Fair	Good	16	MODERATE/ Proximity to Proposed Grading	<ul style="list-style-type: none"> • Trunk encircled by large diameter poison oak vine Stout trunk Good trunk-stem attachments Well-spaced branching Large diameter dead branches • Preserve and Protect • Remove posion oak • Remove dead branches • Yes
100	coast live oak	16.7	Fair	Poor	Fair	12	MODERATE/ Proximity to Proposed Grading	<ul style="list-style-type: none"> • Trunk swoops and bows dramatically over Scotts Valley Drive • Preserve and Protect • Reduce branch end weight • Yes



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101	coast live oak	8.7	Fair	Poor	Fair	12	MODERATE/ Proximity to Proposed Grading	<ul style="list-style-type: none"> • Trunk swoops and bows dramatically over Scotts Valley Drive • Preserve and Protect • Reduce branch end weight • Yes
102	coast live oak	25.8	Fair	Poor	Good	18	MODERATE/ Proximity to Proposed Grading	<ul style="list-style-type: none"> • Poor trunk-stem attachment • Poison oak co-mingling in canopy • Large diameter dead branches • Preserve and Protect • Install simple direct cable • Remove dead branches • Yes
103	coast live oak	23.7	Fair	Fair	Good	14	MODERATE/ Proximity to Proposed Grading	<ul style="list-style-type: none"> • Bowed trunk • Good trunk-stem attachments • Well-spaced branching • Dead branches • Preserve and Protect • Clearance pruning may be required • Remove dead branches • Yes
104	coast live oak	15.5	Fair	Poor	Fair	14	MODERATE/ Proximity to Proposed Grading	<ul style="list-style-type: none"> • Trunk swoops to North and West • Canopy extends over Scotts Valley Drive • Preserve and Protect • Remove branch end weight • Yes



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105	coast live oak	22.6	Fair	Poor	Good	16	MODERATE/ Proximity to Proposed Grading	<ul style="list-style-type: none"> • Trunk leans to East • Large diameter dead branches • Preserve and Protect • Remove dead branches • Yes
106	coast live oak	8.6	Fair	Fair	Fair	10	MODERATE/ Proximity to Proposed Grading	<ul style="list-style-type: none"> • Smaller suppressed tree • Preserve and Protect • Yes
107	coast live oak	6	Fair	Poor	Fair	8	MODERATE/ Proximity to Proposed Grading	<ul style="list-style-type: none"> • Leans to East • Dead branches • Preserve and Protect • No
108	coast live oak	Double Trunk 8.7, 9.3	Fair	Poor	Fair	8	HIGH/ Within Proposed Grading	<ul style="list-style-type: none"> • Suppressed tree • Large diameter dead and dying branches • Remove Due to Construction Impacts • Yes
109	coast live oak	19.7	Fair	Poor	Good	14	HIGH/ Within Proposed Grading	<ul style="list-style-type: none"> • Grows from steep slope • Damaged supporting roots on North side of tree • Potential uprooting • Remove Due to Construction Impacts • Yes
110	Ponderosa pine	7.2	N/A	N/A	N/A	N/A	NONE	<ul style="list-style-type: none"> • Dead • Remove Due to Condition • No



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111	Ponderosa pine	37	Fair	Good	Good	22	HIGH/ Within Proposed Grading	<ul style="list-style-type: none"> • Excellent form and structure • Large diameter dead lower branches • Remove Due to Construction Impacts • Yes
112	madrone	11.9	Fair	Poor	Poor	12	HIGH/ Within Proposed Grading	<ul style="list-style-type: none"> • Leans to East • Remove Due to Construction Impacts • Yes
113	coast live oak	6	Fair	Poor	Poor	8	HIGH/ Within Proposed Grading	<ul style="list-style-type: none"> • Small suppressed tree • Remove Due to Construction Impacts • No
114	coast live oak	6	Fair	Poor	Poor	8	HIGH/ Within Proposed Grading	<ul style="list-style-type: none"> • Small suppressed tree • Remove Due to Construction Impacts • No
115	coast live oak	10.8	Fair	Poor	Poor	10	HIGH/ Within Proposed Grading	<ul style="list-style-type: none"> • Trunk bows dramatically to West • Remove Due to Construction Impacts • Yes
116	coast live oak	7.4	Fair	Poor	Poor	10	HIGH/ Within Proposed Grading	<ul style="list-style-type: none"> • Trunk bows dramatically to West • Remove Due to Construction Impacts • No
117	coast live oak	8.2	Fair	Poor	Poor	8	HIGH/ Within Proposed Grading	<ul style="list-style-type: none"> • Tall suppressed young tree • Remove Due to Construction Impacts • Yes



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118	coast live oak	8.3	Fair	Poor	Poor	10	HIGH/ Within Proposed Grading	<ul style="list-style-type: none"> • Bows dramatically to South and West • Remove Due to Construction Impacts • Yes
119	Ponderosa pine	7.2	Poor	Poor	Poor	8	HIGH/ Within Proposed Grading	<ul style="list-style-type: none"> • Tall suppressed young tree • Remove Due to Construction Impacts • No
120	madrone	6.6	Poor	Poor	Poor	8	HIGH/ Within Proposed Grading	<ul style="list-style-type: none"> • Suppressed asymmetrical canopy • Remove Due to Construction Impacts • No
121	coast live oak	6.6	Poor	Poor	Poor	8	HIGH/ Within Proposed Grading	<ul style="list-style-type: none"> • Suppressed asymmetrical canopy • Remove Due to Construction Impacts • No
122	Ponderosa pine	37.5	Fair	Poor	Poor	22	HIGH/ Within Proposed Grading	<ul style="list-style-type: none"> • Poor trunk-stem attachment at 12 feet above grade • Previous large diameter stem failure at 15 feet above grade • Remove Due to Construction Impacts • Yes
123	coast live oak	13.3	Fair	Poor	Poor	14	HIGH/ Within Proposed Grading	<ul style="list-style-type: none"> • Bowed trunk • Low live crown ratio • Remove Due to Construction Impacts • Yes



Terrace at Scotts Valley Tree Resource Inventory Constuction Impact Assessment

Dedicated to the Preservation of Trees

James P. Allen
Associates

TREE/TREE GROUPS #	SPECIES	DIAMETER @ 4.5ft ABOVE NATURAL GRADE (INCHES)	HEALTH	STRUCTURE	SUITABILITY	Critical Root Zone (Radial ft.)	IMPACTS LEVEL/ Description	OBSERVATIONS RECOMMENDED PROCEDURES MEETS "PROTECTED" CRITERIA
124	coast live oak	8.4	Fair	Poor	Poor	12	HIGH/ Within Proposed Grading	<ul style="list-style-type: none"> • Tall suppressed young tree • Remove Due to Construction Impacts • Yes
125	Ponderosa pine	14.9	Fair	Fair	Fair	12	HIGH/ Within Proposed Grading	<ul style="list-style-type: none"> • Slightly suppressed to East • Remove Due to Construction Impacts • Yes
126	coast live oak	6.9	Fair	Poor	Poor	6	HIGH/ Within Proposed Grading	<ul style="list-style-type: none"> • Small suppressed tree • Remove Due to Construction Impacts • No
127	Ponderosa pine	14.8	Fair	Fair	Fair	16	HIGH/ Within Proposed Grading	<ul style="list-style-type: none"> • Suppressed to South and East • Large diameter dead branches • Remove Due to Construction Impacts • Yes
128	coast live oak	7.4	Fair	Poor	Poor	8	HIGH/ Within Proposed Grading	<ul style="list-style-type: none"> • Trunk bows dramatically to North • Remove Due to Construction Impacts • No
129	coast live oak	11.6	Fair	Poor	Poor	12	HIGH/ Within Proposed Grading	<ul style="list-style-type: none"> • Tall suppressed tree • Remove Due to Construction Impacts • Yes
130	coast live oak	6.3	Fair	Poor	Poor	8	HIGH/ Within Proposed Grading	<ul style="list-style-type: none"> • Trunk bows dramatically to North • Remove Due to Construction Impacts • No



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131	coast live oak	21.8	Fair	Poor	Fair	16	HIGH/ Within Proposed Grading	<ul style="list-style-type: none"> • Poor trunk-stem attachment • Large diameter scaffold branch developing at 2.5 feet above grade • Large diameter dead branches • Remove Due to Construction Impacts • Yes
132	coast live oak	15.5	Fair	Poor	Fair	16	HIGH/ Within Proposed Grading	<ul style="list-style-type: none"> • Poor trunk-stem attachment • Leans to West • Large diameter scaffold branch developing at 2.5 feet above grade • Large diameter dead branches • Remove Due to Construction Impacts • Yes
133	coast live oak	11.7	Fair	Poor	Fair	12	HIGH/ Within Proposed Grading	<ul style="list-style-type: none"> • Bowed trunk swoops to North and West • Large diameter dead and dying branches • Remove Due to Construction Impacts • Yes
134	coast live oak	23.6 at 6" above grade	Fair	Poor	Poor	14	HIGH/ Within Proposed Grading	<ul style="list-style-type: none"> • Develops into two secondary trunks at 18 feet above grade • Poor trunk-stem attachment • Suppressed to North and East • Possible wood rat nest in western canopy section • Remove Due to Construction Impacts • Yes
135	coast live oak	10.6	Fair	Poor	Poor	12	HIGH/ Within Proposed Grading	<ul style="list-style-type: none"> • Suppressed tree • Remove Due to Construction Impacts • Yes



Terrace at Scotts Valley Tree Resource Inventory Constuction Impact Assessment

Dedicated to the Preservation of Trees

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TREE/TREE GROUPS #	SPECIES	DIAMETER @ 4.5ft ABOVE NATURAL GRADE (INCHES)	HEALTH	STRUCTURE	SUITABILITY	Critical Root Zone (Radial ft.)	IMPACTS LEVEL/ Description	OBSERVATIONS RECOMMENDED PROCEDURES MEETS "PROTECTED" CRITERIA
136	coast live oak	Double Trunk 8.9, 11.2	Fair	Poor	Poor	12	HIGH/ Within Proposed Grading	<ul style="list-style-type: none"> • Poor trunk-stem attachment • Suppressed tree • Remove Due to Construction Impacts • Yes
137	coast live oak	11.2	Fair	Poor	Poor	12	HIGH/ Within Proposed Grading	<ul style="list-style-type: none"> • Poor trunk-stem attachment • Suppressed tree • Remove Due to Construction Impacts • Yes
138	coast live oak	9.9 at 2' above grade	Fair	Poor	Poor	12	HIGH/ Within Proposed Grading	<ul style="list-style-type: none"> • Divides at 3 feet above grade • Canopy swoops to North and West • Remove Due to Construction Impacts • Yes
139	coast live oak	10.8 at 3' above grade	Fair	Poor	Poor	12	HIGH/ Within Proposed Grading	<ul style="list-style-type: none"> • Bowed trunk divides at 4.5 feet above grade • Canopy swoops to North and West • Remove Due to Construction Impacts • Yes
140	coast live oak	Double Trunk 6.1, 6.1	Fair	Poor	Poor	8	HIGH/ Within Proposed Grading	<ul style="list-style-type: none"> • Canopy swoops to North • Remove Due to Construction Impacts • Yes
141	coast live oak	6.1	Fair	Poor	Poor	6	HIGH/ Within Proposed Grading	<ul style="list-style-type: none"> • Suppressed young tree • Leans to North and West • Remove Due to Construction Impacts • No

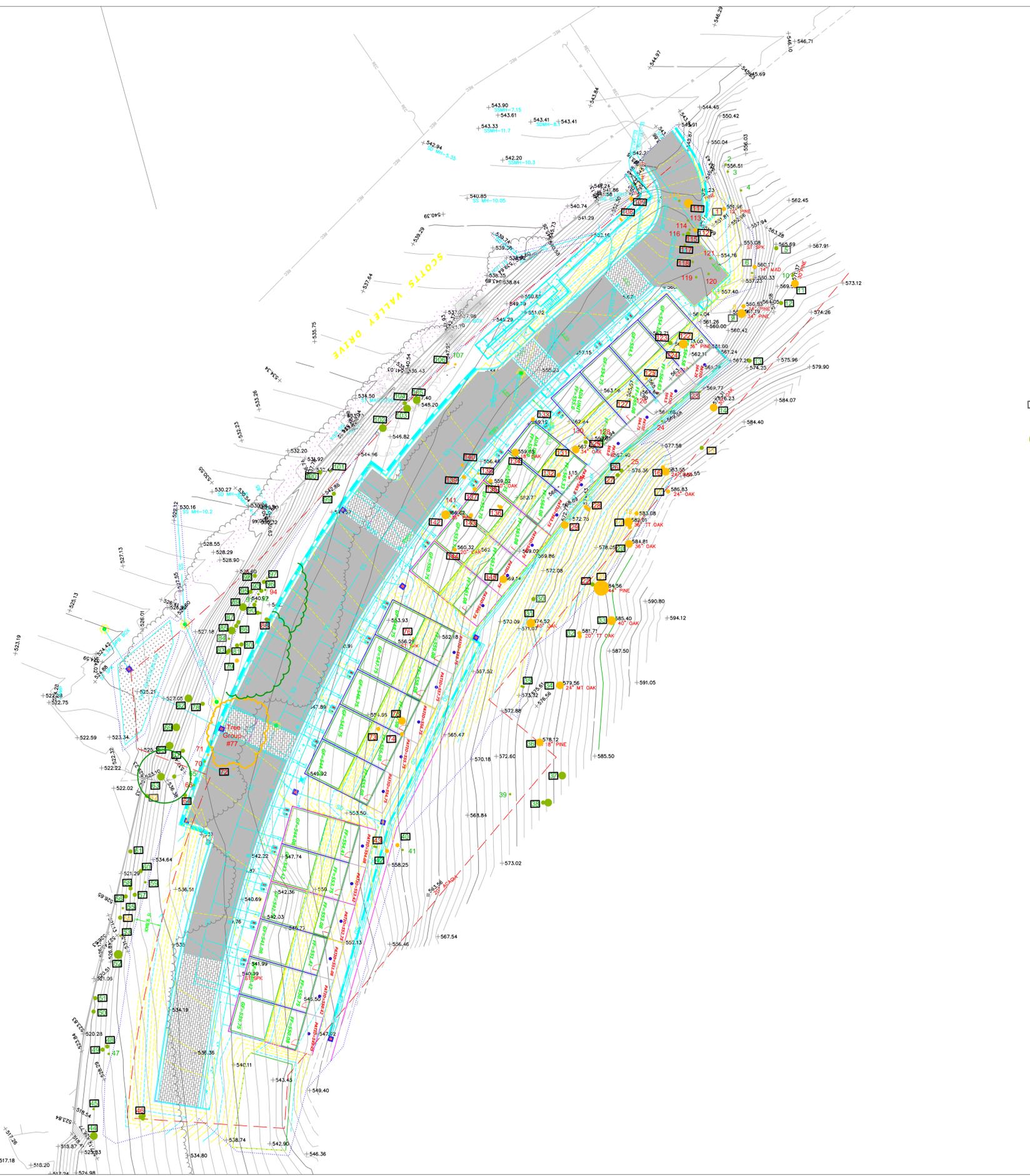
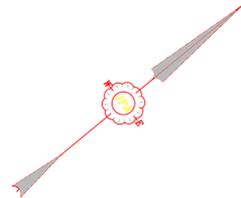


Terrace at Scotts Valley Tree Resource Inventory Constuction Impact Assessment

Dedicated to the Preservation of Trees

James P. Allen
Associates

TREE/TREE GROUPS #	SPECIES	DIAMETER @ 4.5ft ABOVE NATURAL GRADE (INCHES)	HEALTH	STRUCTURE	SUITABILITY	Critical Root Zone (Radial ft.)	IMPACTS LEVEL/ Description	OBSERVATIONS RECOMMENDED PROCEDURES MEETS "PROTECTED" CRITERIA
142	Ponderosa pine	30.2	Fair	Good	Good	22	HIGH/ Within Proposed Grading	<ul style="list-style-type: none"> • Excellent form and structure • Large diameter dead lower branches • Remove Due to Construction Impacts • Yes
143	coast live oak	11.7	Fair	Poor	Poor	12	HIGH/ Within Proposed Grading	<ul style="list-style-type: none"> • Poor trunk-stem attachment • Tall suppressed tree • Remove Due to Construction Impacts • Yes
144	coast live oak	18.2	Fair	Poor	Poor	14	HIGH/ Within Proposed Grading	<ul style="list-style-type: none"> • Suppressed to East • Dead and dying branches • Remove Due to Construction Impacts • Yes
145	coast live oak	22.1	Fair	Fair	Poor	16	HIGH/ Within Proposed Grading	<ul style="list-style-type: none"> • Stout trunk divides into four scaffold branches at 5 feet above grade • Good trunk attachments • Branches bow to West • Remove Due to Construction Impacts • Yes



Map Key / Legend

- Surveyed Tree Trunk Location
- Field Located Tree Trunk Location
- 2** Assigned Tree Number
- 2 Meets "Protected" Criteria
- 2 Remove due to Construction Impacts
- 2 Remove due to Condition
- 2 Preserve and Protect

Tree Resource Analysis/ Construction Impact Assessment Tree Location Map

Entire Site at 30 Scale

Terrace at Scotts Valley

APN 022-162-69

Tree Location Map

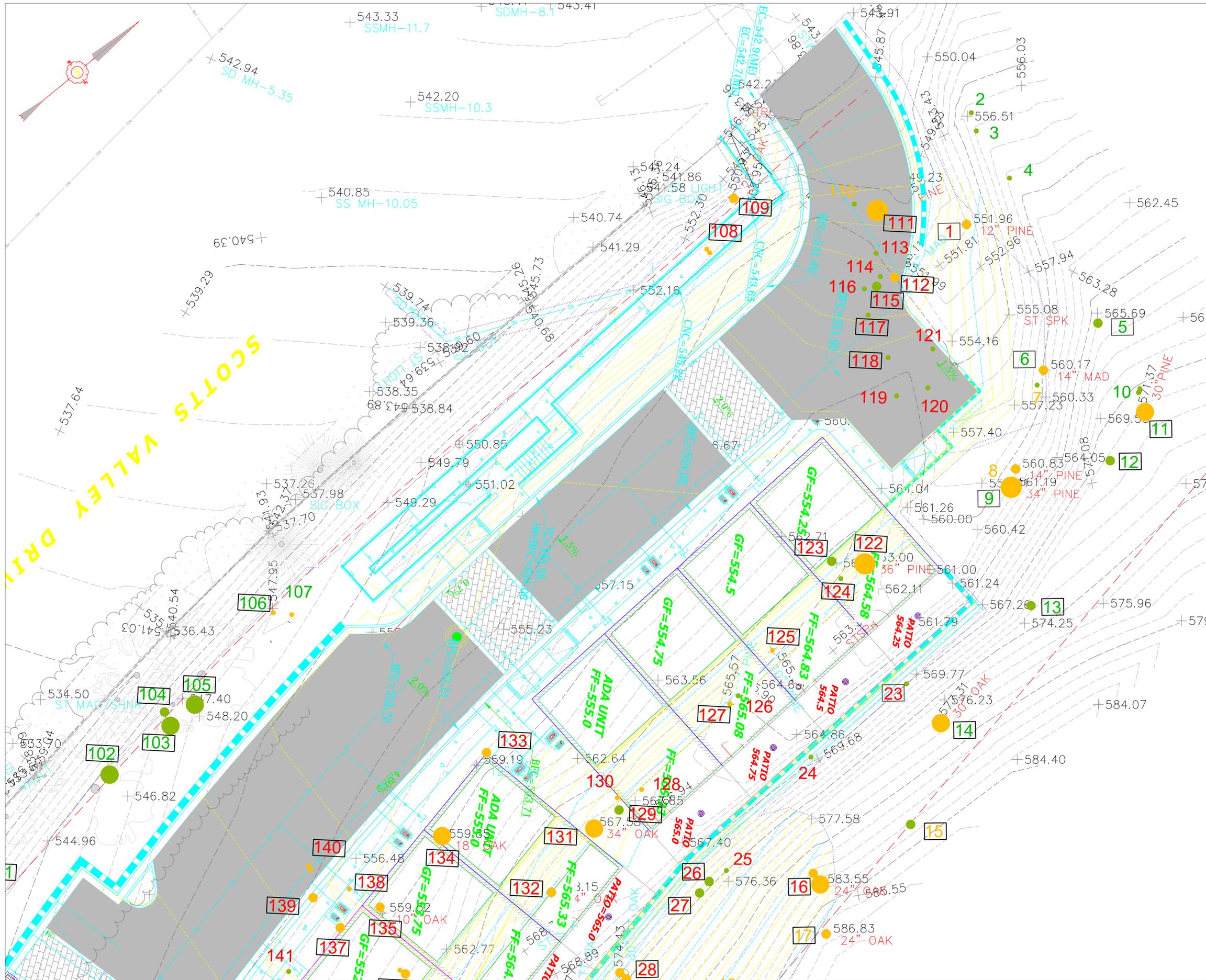


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Date: 09/2/14
Revision: XX/XX/XX
Revision: XX/XX/XX



Map Key / Legend

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- 2 Remove due to Condition
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Tree Resource Analysis/ Construction Impact Assessment Tree Location Map

Trees/Tree Groups
#1-14, 23-24, 102-135, 137-141
at 10 Scale

Terrace at Scotts Valley

APN 022-162-69

Tree Location Map

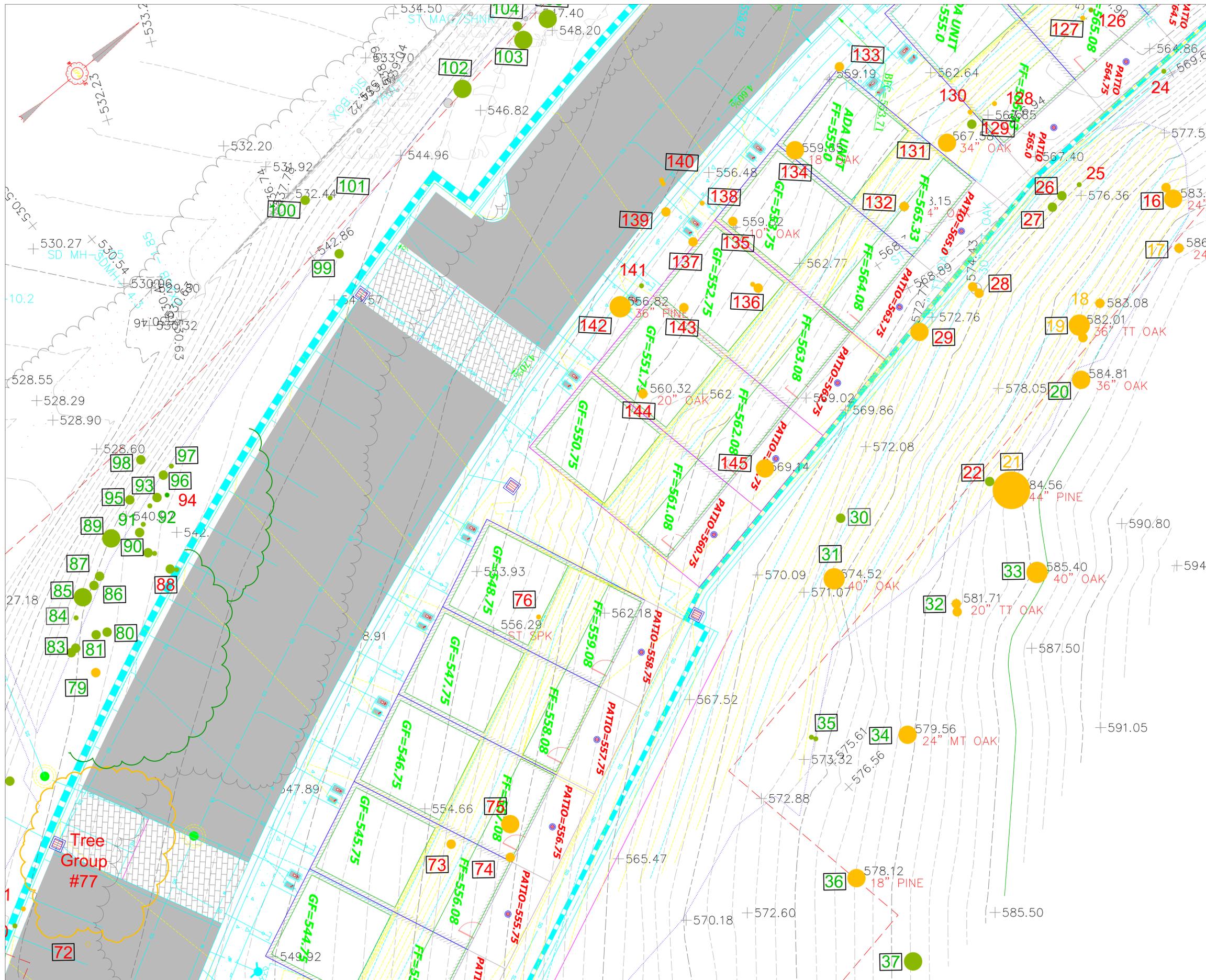


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Tree Resource Analysis/ Construction Impact Assessment Tree Location Map

Trees/Tree Groups
#16-22, 24-37, 72-76, 79-81,
83-104, 126-145
at 10 Scale

Terrace at Scotts Valley

APN 022-162-69

Tree Location Map

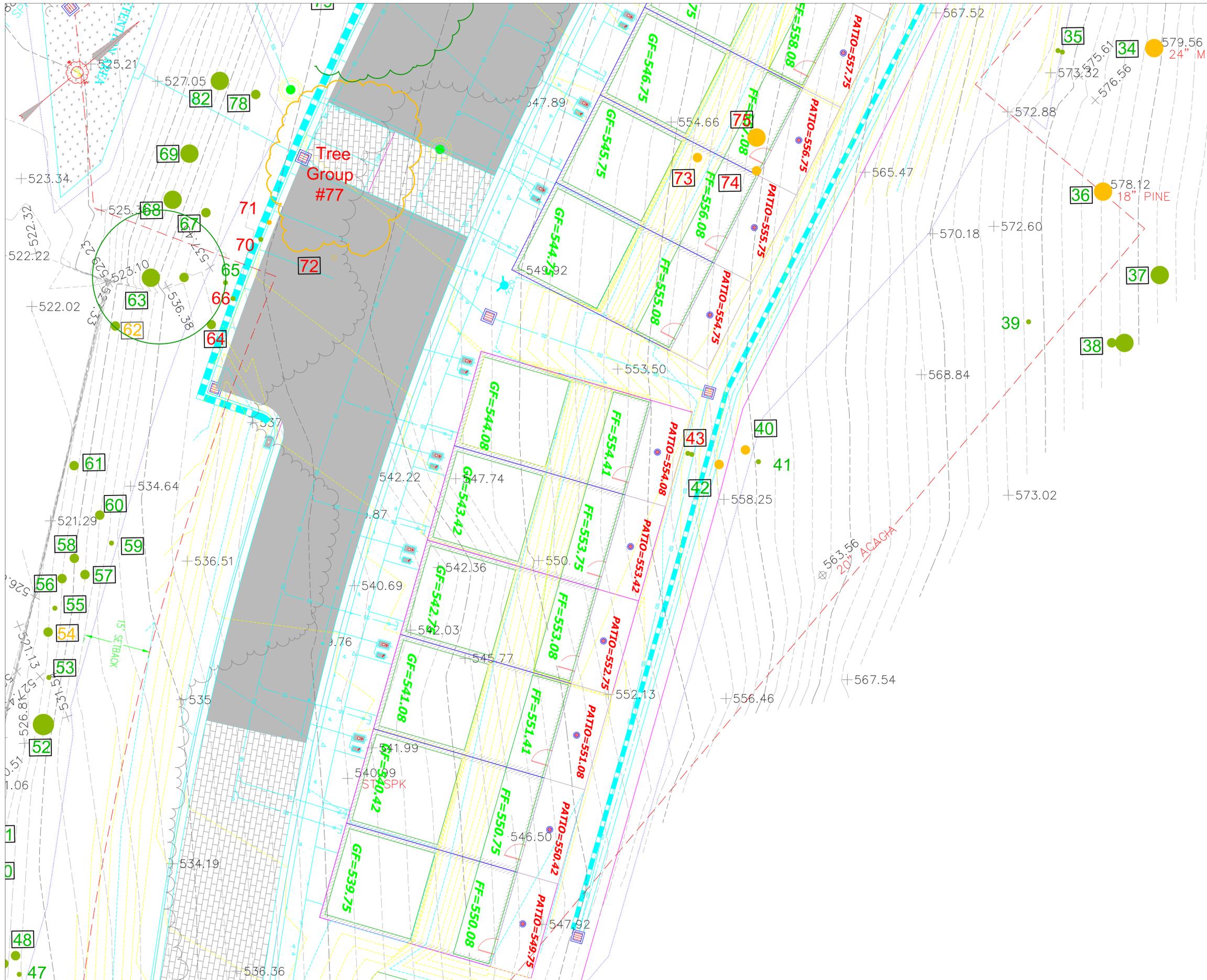


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Tree Resource Analysis/ Construction Impact Assessment Tree Location Map

Trees/Tree Groups
#34-42, 47-48, 52-75, 77-78, 82
at 10 Scale

Terrace at Scotts Valley

APN 022-162-69

Tree Location Map

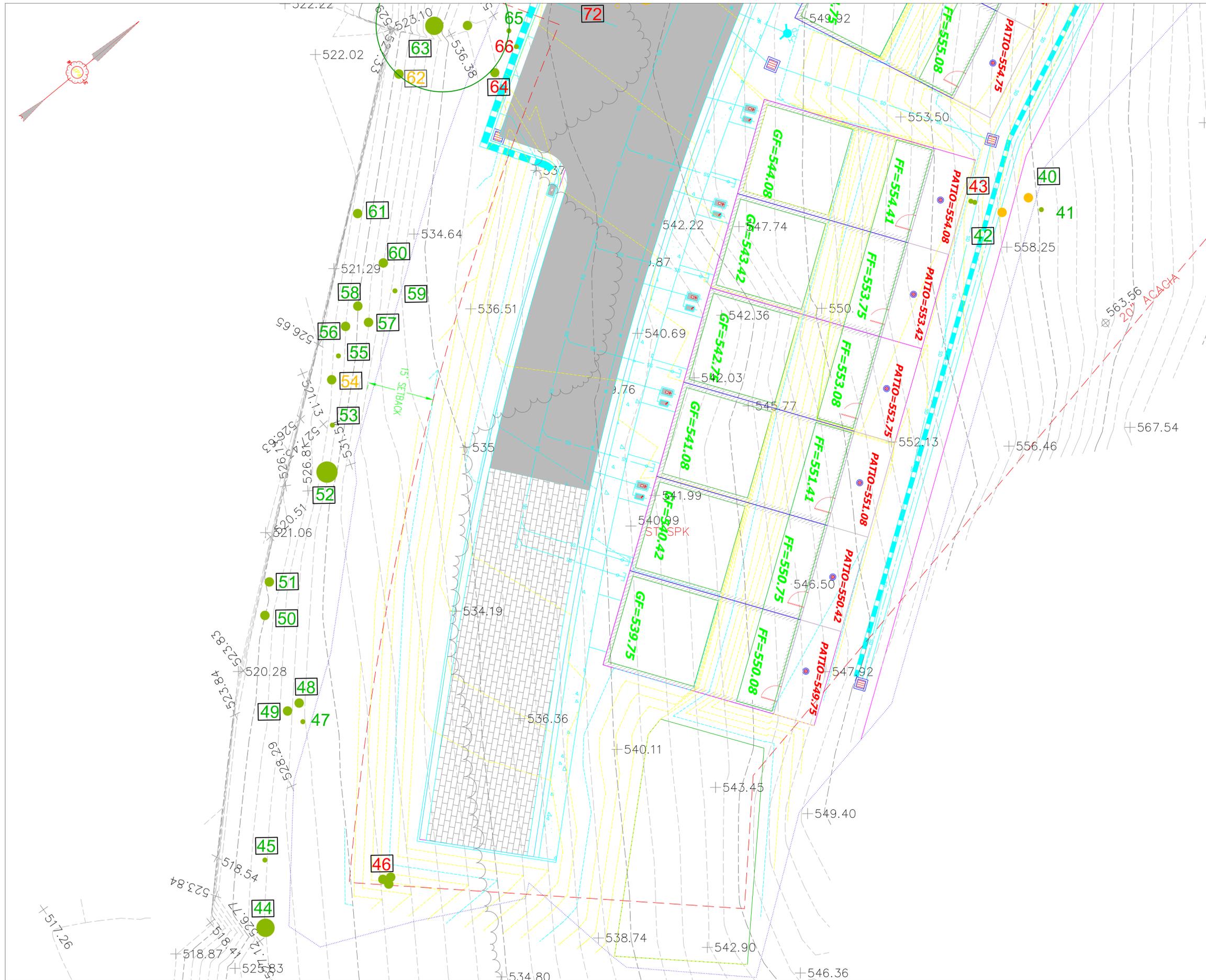


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- 2 Remove due to Condition
- 2 Preserve and Protect

Tree Resource Analysis/ Construction Impact Assessment Tree Location Map

Trees/Tree Groups
#40-64
at 10 Scale

Terrace at Scotts Valley
APN 022-162-69

Tree Location Map

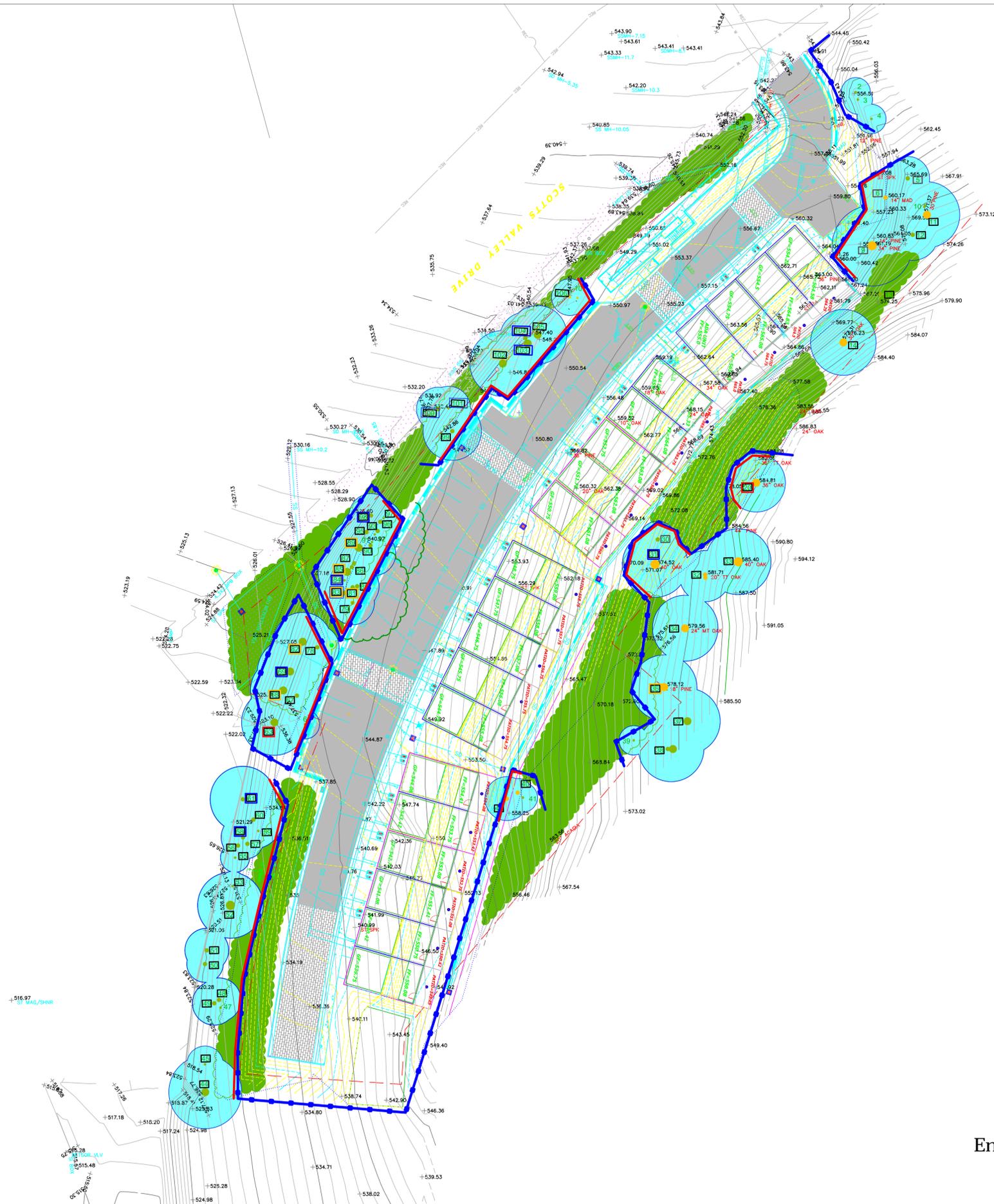
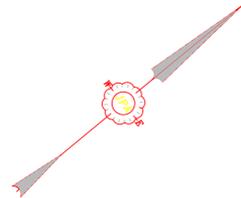


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Map Key / Legend

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- 2** Assigned Tree Number
- 2 Meets "Protected" Criteria
- 2 Preserve and Protect
- Critical Root Zone
- Tree Preservation Zone
- Tree Preservation Fencing
With Straw Bales where deemed necessary by the Project Arborist
- Special Treatment Area
Treatments to be Determined by Project Arborist after grade stakes are set.
- Treatments may include:
 - Decrease Grading Limits
 - Pre-Construction Root Pruning
 - Mulching
 - Supplemental Irrigation
 - Canopy Clearance Pruning
 - Stabilization Treatments
 - Alternative Construction Methods
- Stabilization Procedures Required
- Clearance/Maintenance Pruning
- Monitor Stability
- Reforestation Area
Coast live oak acorns and saplings, native shrubs and understory plants will be planted during the 2015 winter months

Tree Protection Plan/ Reforestation and Replanting Program

Terrace at Scotts Valley

APN 022-162-69

Scotts Valley, CA
Tree Location Map



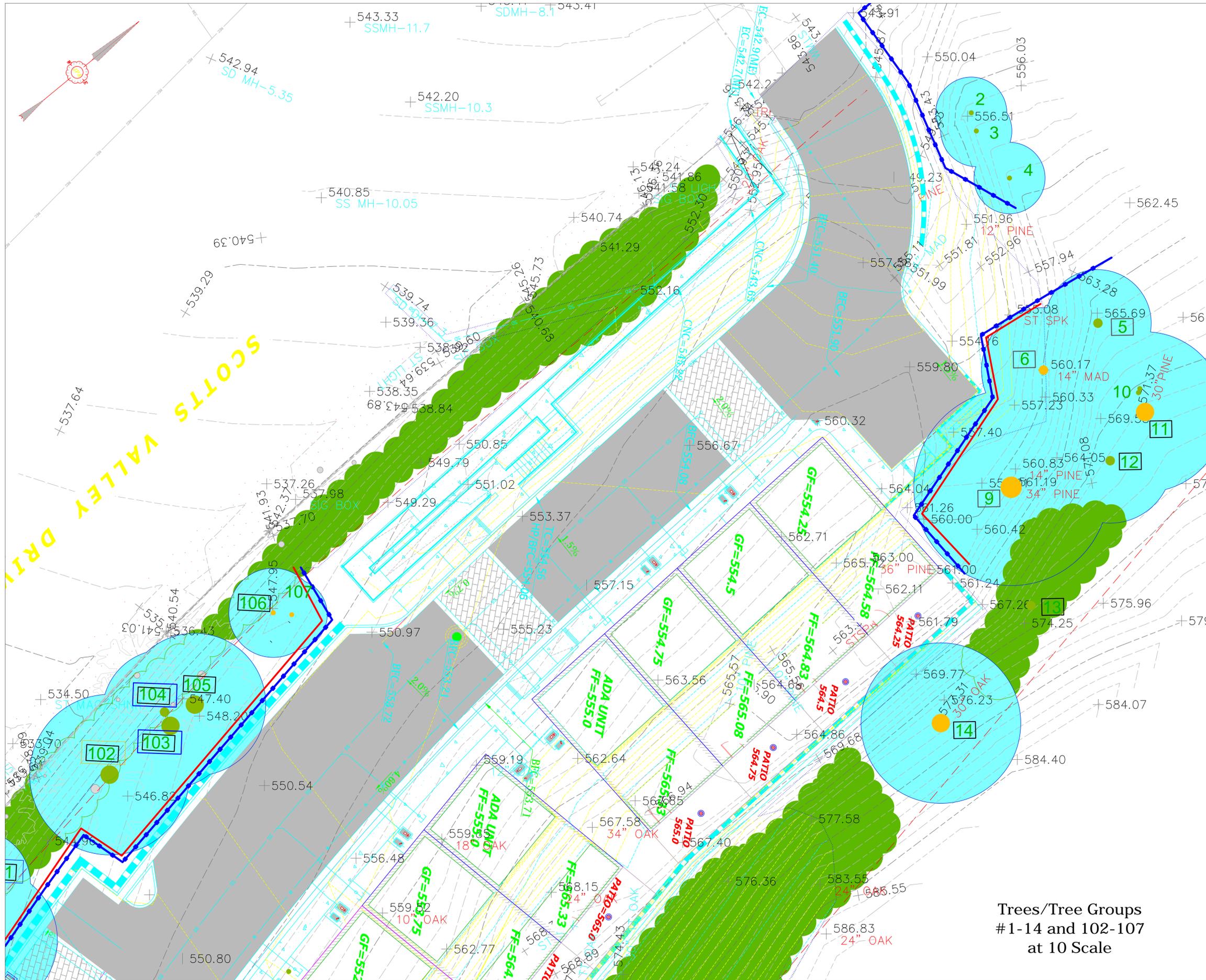
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Entire Site at 30 Scale



Map Key / Legend

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 - Alternative Construction Methods
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Tree Protection Plan/ Reforestation and Replanting Program

Terrace at Scotts Valley

APN 022-162-69

Scotts Valley, CA
Tree Location Map



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Trees/Tree Groups
#1-14 and 102-107
at 10 Scale



Map Key / Legend

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Tree Protection Plan/ Reforestation and Replanting Program

Terrace at Scotts Valley
APN 022-162-69
Scotts Valley, CA
Tree Location Map



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Trees/Tree Groups
#20-37 and 79-104
at 10 Scale



Map Key / Legend

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- 2** Assigned Tree Number
- 2 Meets "Protected" Criteria
- 2 Preserve and Protect
- Critical Root Zone
- Tree Preservation Zone
- Tree Preservation Fencing
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 - Pre-Construction Root Pruning
 - Mulching
 - Supplemental Irrigation
 - Canopy Clearance Pruning
 - Stabilization Treatments
 - Alternative Construction Methods
- Stabilization Procedures Required
- Clearance/Maintenance Pruning
- Monitor Stability
- Reforestation Area
Coast live oak acorns and saplings, native shrubs and understory plants will be planted during the 2015 winter months

Trees/Tree Groups
#34-42 and 47-82
at 10 Scale

Tree Protection Plan/ Reforestation and Replanting Program

Terrace at Scotts Valley
APN 022-162-69
Scotts Valley, CA
Tree Location Map



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Map Key / Legend

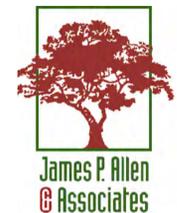
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- Tree Preservation Zone
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Tree Protection Plan/ Reforestation and Replanting Program

Terrace at Scotts Valley

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Scotts Valley, CA
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Trees/Tree Groups
#40, 41, 42 and 44-63
at 10 Scale