DUDEK

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October 22, 2018 11244

Candice Bigley
Project Manager
PMB | Advancing Healthcare Real Estate
3394 Carmel Mountain Road, Suite 200
San Diego, CA 92121

Subject: Arborist Report for the Soquel Avenue Property (APN 029-021-47), Santa Cruz, California

Dear Ms. Bigley:

This report summarizes Dudek's recent evaluation of trees within or directly adjacent to the subject property in unincorporated Santa Cruz County, California. This report includes a discussion of tree evaluation methods, a summary of findings, identification of anticipated impacts, and recommendations for tree protection during construction. The primary focus of our field effort was identification and inventory of all trees on or adjacent to the project site which may be affected by proposed development.

SUMMARY

A total of 29 trees were included in the tree inventory conducted in support of this letter report (8 on-site and 21 off-site but on or adjacent to property lines. The County of Santa Cruz regulates tree removal in the coastal zone (County Code Section 16.34); however, the property is located outside of the coastal zone. It is anticipated that five (5) on-site trees may require removal to accommodate site development. It is anticipated that the remaining 24 trees will not require removal. This report provides construction-related tree protection recommendations for on and off-site trees to be retained.

ASSIGNMENT

A Dudek International Society of Arboriculture (ISA) Certified Arborist performed the following key tasks:

- Assessed all trees with trunk diameters measuring 6-inches and greater and located on or adjacent to the property line for species, general health, general structural condition, size, and presence of pests. Off-site trees were included in the assessment if canopies extended over the property line or the trees may require pruning to accommodate construction.

- Confirmed tree impact status based on preliminary site development plans.
- Prepared a tree location exhibit.
- Prepared a tree information matrix that details individual tree attributes.
- Developed a letter report documenting site observations and providing tree protection recommendations.

PROJECT SETTING

Location

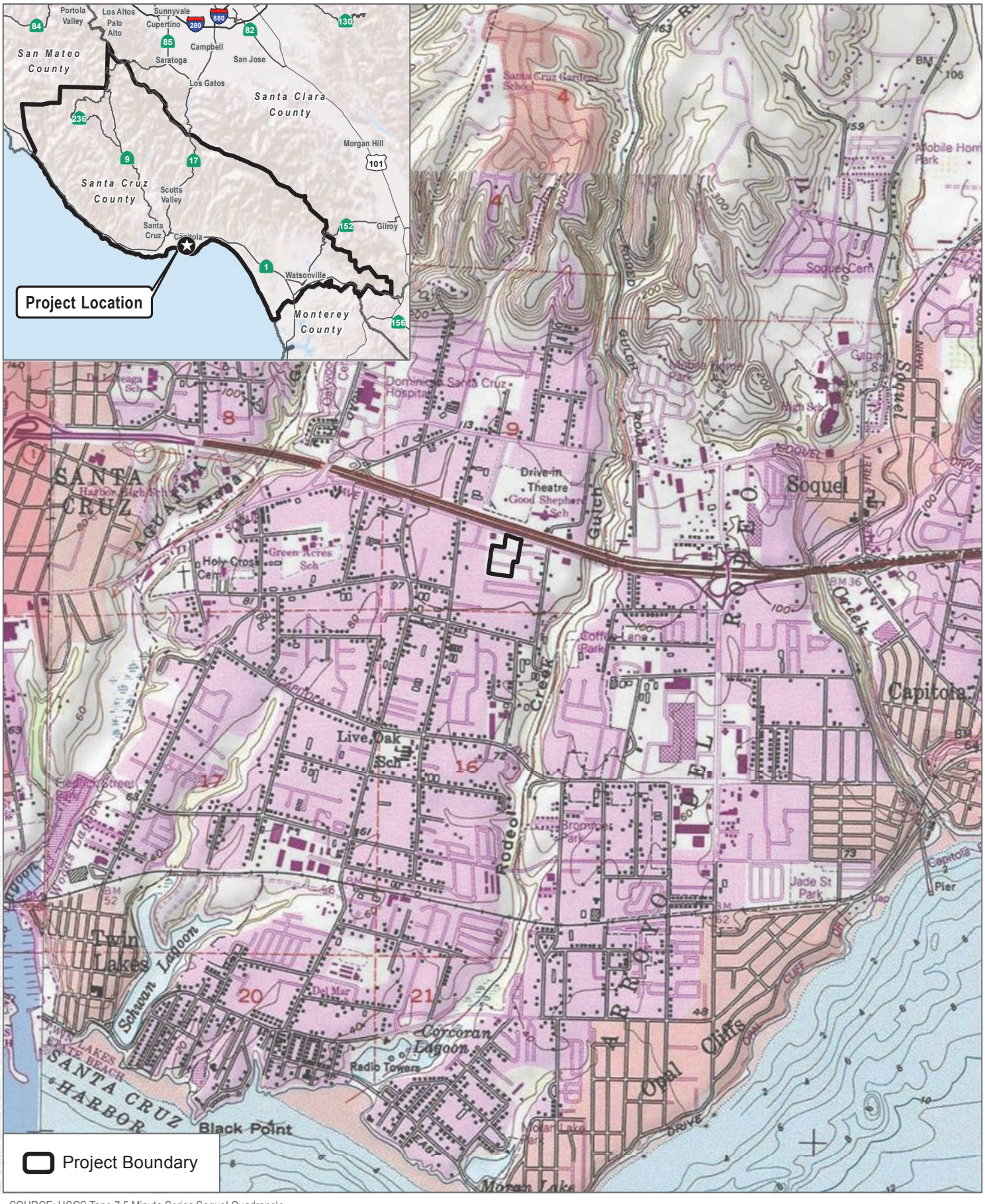
The property is located in unincorporated Santa Cruz County, south of Soquel Avenue between Chanticleer Avenue and Mattison Lane (Figure 1). The property is approximately 4.98 acres and is bounded by Soquel Avenue to the north, commercial development to the west, residential development to the south, and storage and landscape supply facilities to the east. The property encompasses Assessor's Parcel Number (APN) 029-021-47 and is located within the County's Urban Service Boundary.

General Physical Characteristics

The approximately 5-acre property is flat and provides yard space for numerous businesses, including those for towing, landscaping, and storage. Structures on the property consist of small, scattered, modular units and numerous vehicles are parked and stored across the property. The few trees on site are concentrated primarily in the central and southern portion of the property. Off-site and boundary line trees are located along the property's southern and western boundaries.

METHODS

An International Society of Arboriculture (ISA) Certified Arborist conducted a site evaluation on October 15, 2018 to document tree location and attribute information. Tree attribute information was collected for all on-site trees and for trees along the property's perimeter where canopies overhang the property line. Tree attribute data collected during the site evaluation included species, trunk diameter, tree height, canopy spread, general health condition, structural condition and presence of observable pests or other tree maladies. Trunk diameters were measured using a



SOURCE: USGS Topo 7.5 Minute Series Soquel Quadrangle
Township 11S / Range 1W / Sections 09

DUDEK

0 1,000 2,000 Feet
0 285 570 Meters
1:24,000

FIGURE 1

Project Location

Soquel Avenue Property (APN 029-021-47)

diameter tape which provides adjusted figures[1] for diameter measurements when wrapping the tape around a tree's circumference. Where access to trunks was infeasible (e.g., for off-site trees located behind fences), visual estimates of trunk diameter were made. Diameter measurements were made at 4.5 feet above grade, consistent with County Code (Section 16.34.030).

Pursuant to the Guide for Plant Appraisal[2], tree health and structure were evaluated with respect to five distinct tree components: roots, trunk, scaffold branches, small branches, and foliage. Each tree component was assessed with regard to health factors such as insect, fungal or pathogen damage, mechanical damage, presence of decay, presence of wilted or dead leaves, and wound closure. Components were graded as *good*, *fair*, *poor*, and *dead* with 'good' representing no apparent problems, and 'dead' representing a dying and/or dead tree. This method of tree condition rating is comprehensive and results in ratings that are useful for determining the status of trees based on common urban forestry standards.

Concurrent with individual tree attribute measurement and assessment, the location of each individual tree was hand-mapped on a geo-referenced aerial photo base map. Collected tree data and tree identification numbers correspond with the individual tree locations presented in Attachment A (Tree Location Exhibit) and the individual tree data presented in Attachment B (Tree Information Matrix).

Project Limitations

This report presents site tree information as observed in the field on October 15, 2018. No root crown excavations or investigations, internal probing, or aerial canopy inspections were performed during the tree assessments. Therefore, the presence or absence of internal decay or other hidden or inaccessible inferiorities in individual trees could not be confirmed. It is recommended that any large tree proposed for preservation in an urban setting be thoroughly inspected for internal or subterranean decay by a qualified arborist before finalizing preservation plans.

FINDINGS/RESULTS

There are a total of 29 trees located on or adjacent to subject property, including 9 different species, as presented in Table 1. Representative site photographs are presented in Attachment C.

1 Circumference measurement (inches) divided by 3.14 (π) provides diameter measurement in inches.

2 International Society of Arboriculture (ISA). 2000. Guide for Plant Appraisal (9th Edition).

Table 1
Summary of Trees – Soquel Avenue Property

Botanical Name	Common Name	Total
Acacia baileyana	Bailey acacia	2
Eucalyptus globulus	Blue gum	3
Fraxinus velutina	Arizona ash	6
Fraxinus angustifolia	Raywood ash	3
Pinus radiata	Monterey pine	2
Platanus acerifolia	London planetree	9
Quercus agrifolia	Coast live oak	1
Salix lasiolepis	Arroyo willow	2
Sequoia sempervirens	Coast redwood	1
	Total:	**29**

Overall, the on-site trees are in fair to poor health and structural condition. Off-site trees are generally in fair condition, likely a result of their locations in maintained landscape areas. It should also be noted that tree health assessments consider a number of observable tree characteristics. For example, a tree with a 'Fair' health rating is one that exhibits average overall health. There is nothing necessarily wrong with a tree given a 'Fair' rating, but it is simply not exhibiting better than average health. Trees with 'Fair' ratings can live for a very long time. Structural condition relates to the architecture of the tree. Trees with 'Poor' structural ratings usually have trunk issues (cavities, cracks, etc.), poor branch attachments that can lead to branch failure, or other structural soundness issues. This relates to the risk of a tree or tree part failing.

PROJECT-RELATED TREE IMPACTS

Based on a review of the preliminary site plan, it is assumed that the majority of the site will need to be graded to accommodate the construction of buildings, driveways, and the placement of necessary infrastructure, although proposed landscape areas may allow for retention of some trees. Landscape areas provide a buffer from development that could allow for retention of on-site trees in the southern portion of the property. The following summarizes anticipated tree impacts:

- 3 on-site trees may be retained (# 1, 3, and 4).
- 21 boundary line/off-site trees will be retained (# 2, 5-7, 13-29).
- 5 on-site trees will require removal (# 8-12).

RECOMMENDATIONS

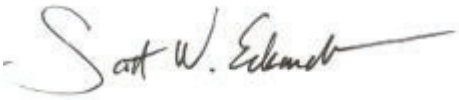
Retained trees (on and off-site) should be protected from construction-related impacts. Tree protection recommendations are provided in Attachment D. Pruning of any retained trees to accommodate construction should be conducted according to ANSI A300 tree pruning standards. Tree removal may become necessary due to site plan changes; where pruning of a tree's root system exceeds 25% of the estimated root zone; or pruning of a tree's canopy exceeds 25% of the existing tree canopy. The project applicant should consult with an ISA Certified Arborist to determine whether the root or canopy impact thresholds are exceeded.

CONCLUSION

Dudek inventoried and evaluated 29 trees on or adjacent to the subject property on October 15, 2018. Five of these trees will require removal, and the remaining 24 trees may be retained on-site. This report recommends implementing tree protection measures during construction for all retained on- and off-site trees to minimize potential construction-related impacts.

This report provides conclusions and recommendations based on an examination of the trees and surrounding site by an ISA Certified Arborist. 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 the risk of living near trees. Arborists cannot detect every condition that could possibly lead to the failure of a tree. Trees are living organisms that fail in ways not fully understood. 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. There are no guarantees that a tree's condition will not change over a short or long period due to weather or cultural or environmental conditions. Trees can be managed but not controlled. To live near trees is to accept some degree of risk. I would be pleased to answer any questions or respond to any comments regarding this tree evaluation.

Sincerely,



Scott Eckardt
ISA Certified Arborist #WE-5914A

Att: Attachment A – Tree Location Exhibit
Attachment B – Tree Information Matrix
Attachment C – Representative Photographs
Attachment D – Tree Protection Measures

ATTACHMENT A

Tree Location Exhibit

SOURCE: ESRI 2018

DUDEK

0 25 50 Feet

ATTACHMENT A

Tree Location Exhibit

Soquel Avenue Property (APN 029-021-47)

ATTACHMENT B

Tree Information Matrix

Tree Information Matrix & Impact Status																
Tree Number	Scientific Name	Common Name	Quantity of Stems	Diameter at Breast Height (in.)						Height (ft.)	Canopy Extent (ft.)	Health Condition	Structural Condition	Location	Impact	Notes
				Stem 1	Stem 2	Stem 3	Stem 4	Stem 5	Stem 6							
1	*Quercus agrifolia*	Coast live oak	1	12						20	25	fair	fair	On-site	Retain	behind chain link fence, adjacent to storage containers
2	*Sequoia sempervirens*	Coast redwood	1	60						60	30	good	fair	Property line	Retain	behind wood fence, on property line
3	*Salix lasiolepis*	Arroyo willow	4	8	6	6	5			20	20	fair	poor	On-site	Retain	poor pruning, sooty mold
4	*Salix lasiolepis*	Arroyo willow	6	8	8	8	6	6	4	25	25	fair	poor	On-site	Retain	poor pruning, sooty mold
5	*Eucalyptus globulus*	Blue gum	2	14	8					35	20	fair	fair	Property line	Retain	on property line, growing against wire fence, tortoise beetle damage
6	*Eucalyptus globulus*	Blue gum	2	4	3					15	8	poor	poor	Property line	Retain	suppressed
7	*Eucalyptus globulus*	Blue gum	1	6						20	8	fair	poor	Property line	Retain	suppressed
8	*Acacia baileyana*	Bailey acacia	1	17						25	20	fair	fair-poor	On-site	Remove	poor pruning, fence wire grown into trunk
9	*Acacia baileyana*	Bailey acacia	3	10	6	6				20	20	fair	poor	On-site	Remove	poor pruning, fence wire grown into trunk, trunk weep
10	*Fraxinus angustifolia*	Raywood ash	1	7						18	15	fair	fair	On-site	Remove	near landscape business trailer
11	*Fraxinus angustifolia*	Raywood ash	1	6						15	12	fair	fair	On-site	Remove	near landscape business trailer
12	*Fraxinus angustifolia*	Raywood ash	1	6						15	5	poor	poor	On-site	Remove	near landscape business trailer
13	*Pinus radiata*	Monterey pine	1	28						60	25	fair	fair	Off-site	Retain	near project entry
14	*Pinus radiata*	Monterey pine	1	32						55	30	fair	fair	Off-site	Retain	near project entry
15	*Platanus acerifolia*	London planetree	1	8						20	18	fair	fair	Off-site	Retain	on opposite side of wall in landscape area on adjacent property
16	*Platanus acerifolia*	London planetree	1	8						20	18	fair	fair	Off-site	Retain	on opposite side of wall in landscape area on adjacent property
17	*Platanus acerifolia*	London planetree	1	8						15	18	fair	fair	Off-site	Retain	on opposite side of wall in landscape area on adjacent property
18	*Fraxinus velutina*	Arizona ash	1	8						25	20	fair	fair	Off-site	Retain	on opposite side of wall in landscape area on adjacent property
19	*Fraxinus velutina*	Arizona ash	1	8						25	20	fair	fair	Off-site	Retain	on opposite side of wall in landscape area on adjacent property
20	*Fraxinus velutina*	Arizona ash	1	8						25	20	fair	fair	Off-site	Retain	on opposite side of wall in landscape area on adjacent property
21	*Platanus acerifolia*	London planetree	1	7						20	15	fair	fair	Off-site	Retain	on opposite side of wall in landscape area on adjacent property
22	*Platanus acerifolia*	London planetree	1	7						20	15	fair	fair	Off-site	Retain	on opposite side of wall in landscape area on adjacent property
23	*Platanus acerifolia*	London planetree	1	7						20	15	fair	fair	Off-site	Retain	on opposite side of wall in landscape area on adjacent property
24	*Fraxinus velutina*	Arizona ash	1	8						18	15	fair	fair	Off-site	Retain	on opposite side of wall in landscape area on adjacent property
25	*Fraxinus velutina*	Arizona ash	1	8						18	15	fair	fair	Off-site	Retain	on opposite side of wall in landscape area on adjacent property
26	*Fraxinus velutina*	Arizona ash	1	8						18	15	fair	fair	Off-site	Retain	on opposite side of wall in landscape area on adjacent property
27	*Platanus acerifolia*	London planetree	1	6						18	12	fair	fair	Off-site	Retain	on opposite side of wall in landscape area on adjacent property
28	*Platanus acerifolia*	London planetree	1	6						18	12	fair	fair	Off-site	Retain	on opposite side of wall in landscape area on adjacent property
29	*Platanus acerifolia*	London planetree	1	6						18	12	fair	fair	Off-site	Retain	on opposite side of wall in landscape area on adjacent property

ATTACHMENT C

Representative Photographs

ATTACHMENT C
Representative Photographs

Photo 1: Tree #1 Coast redwood along southern property line.

Photo 2: Trees #5-7 (left to right), blue gum trees along western property boundary line.

Photo 3: Trees #13-14 ,Monterey pines off-site, near property entrance.

Photo 4: Trees #17-20 (left to right), non-regulated trees on adjacent property with canopies overhanging property line.

ATTACHMENT D

Tree Protection Measures

Attachment D
Tree Management Recommendations and Protection Measures

The following sections are included as general guidelines for tree protection from construction impacts. The measures presented should be monitored by arborists and enforced by contractors and developers for maximum benefit to the trees.

Tree Protection Measures Prior to Construction

Prior to any grading activity, preserved trees with canopies that fall within 30 feet of construction activity shall be protected by fencing and signage. All contractors shall be made aware of the tree protection measures. A project arborist shall be assigned to monitor tree health and construction activity near retained trees on site. The project arborist shall be an International Society of Arboriculture (ISA) Certified Arborist.

Inspection: Any large tree proposed for preservation on site should be thoroughly inspected for internal or subterranean decay by a qualified arborist prior to construction activity to determine if retention/protection on site is a viable management option.

Site Preparation: Tree removal, pruning, and inspection should be conducted during site preparation activities. Where permitted by the County, tree removal and pruning activity should be conducted according to industry standards (ANSI A300).

Fencing and Signage: A 6-foot high, chain link fence with tree protection signs shall be erected around all trees (or tree groups) to be preserved. The protective fence should be installed at a distance from the trunk that is equal to the dripline radius, or a distance approved by the County Arborist. This will delineate the tree protection zone and prevent unwanted activity in and around the trees in order to reduce soil compaction in the root zones of the trees and other damage from heavy equipment. Fences are to be mounted on two-inch diameter galvanized iron posts, driven into the ground to a depth of at least 2-feet at no more than 10-foot spacing. In areas where fencing is located on paving or concrete that will not be demolished, then the posts may be supported by an appropriate grade level concrete base. Tree protection signs should be attached to every fourth post. The contractor shall maintain the fence to keep it upright, taut, and aligned at all times. Fencing shall be removed only after all construction activities are complete.

Pre-Construction Meeting: A pre-construction meeting shall be held between all contractors (including grading, tree removal/pruning, builders, etc.) and the arborist. The arborist will instruct the contractors on tree protection practices and answer any questions. All equipment operators and spotters, assistants, or those directing operators from the ground, shall provide written acknowledgement of their receiving tree protection training. This training shall include information on the location and marking of protected trees, the necessity of preventing damage, and the discussion of work practices that will accomplish such.

Protection and Maintenance during Construction

Once construction activities have begun the following measures shall be adhered to:

Avoidance: Signs, ropes, cables, or any other items shall not be attached to any preserved tree.

Equipment Operation and Storage: Operating heavy machinery around the root zones of trees will increase soil compaction, which decreases soil aeration and subsequently reduces water penetration in the soil. All heavy equipment and vehicles shall stay out of the fenced tree protection zone, unless where specifically approved in writing by the County Arborist and under the supervision of an ISA Certified Arborist.

Storage and Disposal: Do not store or discard any supply or material, including paint, lumber, concrete overflow, etc. within the fenced tree protection zone. Remove all foreign debris within the fenced tree protection zone; it is important to leave the duff, mulch, chips, and leaves around the retained trees for water retention and nutrients. Avoid draining or leakage of equipment fluids near retained trees. Fluids such as: gasoline, diesel, oils, hydraulics, brake and transmission fluids, paint, paint thinners, and glycol (anti-freeze) should be disposed of properly. Keep equipment parked outside of the fenced tree protection zone of retained trees to avoid the possibility of leakage of equipment fluids into the soil. The effect of toxic equipment fluids on the retained trees could lead to decline and death.

Grade Changes: Grade changes of more than 2 feet, including adding fill, are not permitted within 30 feet of a tree's drip line, without special written authorization and under supervision by an ISA Certified Arborist. Lowering the grade within 30 feet of a tree's dripline will necessitate cutting main support and feeder roots, jeopardizing the health and structural integrity of the tree(s). Adding soil, even temporarily, on top of the existing grade will compact the soil further, and decrease both water and air availability to the trees' roots.

Moving Construction Materials: Care will be taken when moving equipment or supplies near the trees, especially overhead. Avoid damaging the tree(s) when transporting or moving construction materials and working around retained trees (even outside of the fenced tree protection zone). Above ground tree parts that could be damaged (e.g., low limbs, trunks) should be flagged with red flagging. If contact with the tree crown is unavoidable, prune the conflicting branch(es) using ISA or ANSI A300 standards.

Trenching: All trenching shall be outside of the fenced tree protection zone. Roots primarily extend in a horizontal direction forming a support base to the tree similar to the base of a wineglass. Where trenching is necessary in areas that contain tree roots, prune the roots using a root pruner. All cuts should be clean and sharp, to minimize ripping, tearing, and fracturing of the root system. The trench should be made no deeper than necessary.

Irrigation: Trees that have been substantially root pruned (30% or more of their root zone) will require irrigation for the first twelve months. The first irrigation should be within 48 hours of root pruning. They should be deep watered every two to four weeks during the summer and once a month during the winter (adjust accordingly with rainfall). One irrigation cycle should thoroughly soak the root zones of the trees to a depth of 3 feet. The soil should dry out between watering; avoid keeping a consistently wet soil. Designate one person to be responsible for irrigating (deep watering) the trees. Check soil moisture with a soil probe before irrigating. Irrigation is best accomplished by installing a temporary above ground micro-spray system that will distribute water slowly (to avoid runoff) and evenly throughout the fenced tree protection zone ***but never soaking the area located within 6- feet of the tree trunk, especially during warmer months***. For trees not subject to root pruning activity, the amount of irrigation provided shall not be changed from that which was provided prior to the commencement of construction activity.

Canopy Pruning: All pruning shall be completed under the direction of an ISA Certified Arborist and using ISA guidelines. Only conflicting limbs and dead wood shall be removed from tree canopies.

Washing: Periodic washing of the foliage is recommended during construction but no more than once every two weeks. Washing should include the upper and lower leaf surfaces and the tree bark. This should continue beyond the construction period at a less frequent rate with a high-powered hose only in the early morning hours. Washing will help control dirt/dust buildup that can lead to mite and insect infestations.

Maintenance after Construction

Once construction is complete the tree protection fencing may be removed and the following measures performed to sustain and enhance the vigor of the preserved trees.

Mulch: Provide a 4-inch mulch layer under the canopy of trees. Mulch should include clean, organic mulch that will provide long-term soil conditioning, soil moisture retention, and soil temperature control.

Pruning: Pruning should *only* be done to maintain clearance and remove broken, dead or diseased branches. Pruning shall only take place following a recommendation by an ISA Certified Arborist and performed under the supervision of an ISA Certified Arborist. No more than 15% of the canopy shall be removed at any one time. All pruning shall conform to ISA or ANSI A300 standards.

Watering: Retained trees on site shall be watered as they were prior to the commencement of construction activity. Supplemental irrigation may be necessary for twelve months following substantial root pruning.

Watering Adjacent Plant Material: All plants near the trees shall be compatible with water requirements of said trees. Watering regime included in the site's landscape plan shall be developed with consideration for the water needs of retained trees.

Spraying: If the trees are maintained in a healthy state, regular spraying for insect or disease control should not be necessary. If a problem does develop, an ISA Certified Arborist should be consulted; the trees may require application of insecticides to prevent the intrusion of bark-boring beetles and other invading pests. All chemical spraying should be performed by a licensed applicator under the direction of a licensed pest control advisor.